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MUSKRAT FALLS CORPORATION

and

Astaldi Canada Inc.

CIVIL WORKS AGREEMENT

Construction of Intake and Powerhouse, Spillway and Transition Dams

Agreement No. CH0007

DATED AS OF NOVEMBER 29, 2013

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THIS AGREEMENT MADE and executed as of November 29, 2013

BETWEEN:

MUSKRAT FALLS CORPORATION, a body corporate constituted pursuant to the *Corporations Act*, RSNL 1990, c. C-36, as amended, solely in its own right and not as agent of the Crown in right of the Province of Newfoundland and Labrador, and having its head office at the City of St. John's, Province of Newfoundland and Labrador (hereinafter referred to as "**Company**")

- and -

Alstaldi Canada Inc. a corporation duly incorporated pursuant to the laws of Canada having its head office at the City of Montreal, Province of Quebec (hereinafter referred to as "**Contractor**")

WHEREAS Company desires the performance of certain Work described in this Agreement;

WHEREAS Contractor is engaged in the business of performing such Work and will provide all expertise, equipment, material and personnel to perform the Work;

WHEREAS Company and Contractor wish to set out the terms and conditions on which Contractor shall carry out the Work;

Whereas compensation for the Work is based on the actual cost of labour subject to a target cost of labour and a guaranteed maximum cost of labour, and lump sums and unit prices for non-labour components of the Work, all as further set out in the Agreement;

NOW THEREFORE the Parties, each in consideration of the promises and agreements of the other, hereby agree as follows:

ARTICLE 1 INTERPRETATION

- 1.1 The intent of this Agreement is to include all equipment, material, labour, products and services necessary for Contractor to perform the Work in accordance with this Agreement and any equipment, material, labour, products and services properly inferable therefrom. Contractor will not supply products or perform work inconsistent with, not covered by or in contravention of this Agreement.
- 1.2 Capitalized words and phrases used herein shall, for all purposes of this Agreement and the Schedules hereto (unless there is something in the subject matter or context inconsistent therewith or unless otherwise defined herein), have the meaning set out below:



- (a) **"Acceptance"** means express acceptance, concurrence or consent in writing by Engineer and **"Accepted"**, **"Acceptable"** and **"Accept"** shall be construed accordingly.
- (b) **"Aconex"** means a cloud based computer software program for communication that can be accessed via an internet connection and a web browser.
- (c) **"Affiliate"** or **"Affiliate(s)"** has the meaning given to affiliate in the *Canada Business Corporations Act*, R.S.C. 1985, c. C-44 and includes any limited partnership whose general partner is an affiliate of Company under that statute.
- (d) **"Affiliate Assignee"** has the meaning ascribed thereto in **Article 35.1**.
- (e) **"Affiliate Assignment"** has the meaning ascribed thereto in **Article 35.1**.
- (f) **"Agent Party"** means initially the Security Trustee, and from time to time any agent or other person designated by the Security Trustee to enforce the Security Interests, or any receiver of the Affiliate Assignee or any person appointed as a receiver by the Security Trustee for the assets of the Affiliate Assignee. At any point in time there shall only be one Agent Party and the Security Trustee shall inform the Contractor each time there is a change in the designation of the Agent Party.
- (g) **"Agreement"** means the Articles of Agreement together with the Exhibits as referenced in **Article 1.16** originally executed or as they may from time to time be supplemented, amended, revised or otherwise modified in accordance with the applicable provisions of the Articles of Agreement and the Exhibits.
- (h) **"Applicable Laws"** means all laws, statutes, regulations, standards, codes, orders, by-laws, ordinances, directives or other rules enacted or issued from time to time by any duly constituted Authority having jurisdiction over Contractor or Company or the activities carried out under this Agreement, including safety, occupational health, customs and excise, taxation, workers compensation, labour and environmental protection laws, statutes, regulations, standards, codes, orders, directives and other rules.
- (i) **"Approval"** means express acceptance, concurrence or consent in writing and **"Approve"** and **"Approved"** shall be construed accordingly.
- (j) **"Articles of Agreement"** means this document containing the terms and conditions of the Agreement but excluding the Exhibits.
- (k) **"Authority"** means any:
- (i) government or government department or agency;
 - (ii) municipality, local government authority or council;
 - (iii) other statutory authority;

(iv) fiscal or judicial body, commission, board, tribunal or agency; or

(v) other regulatory person or body;

(excluding the Company) having jurisdiction or authority in any way over Contractor or Company or the subject matter of the Agreement, including a right to impose a requirement or whose Approval is required with respect to the LCP or the Work.

(l) **"Billing Information"** has the meaning ascribed thereto in **Article 12.6**.

(m) **"Breach"** has the meaning ascribed thereto in **Article 35.2**.

(n) **"Business Day"** means a day that is not a Saturday, Sunday or any other day which is a statutory holiday in the Province of Newfoundland and Labrador.

(o) **"Change"** means any of the following:

(i) An addition, revision or modification in the Work to be performed;

(ii) A deletion of any part of the Work;

(iii) A revision or modification to any part of the Work already completed;

(iv) A variation to a Milestone Date;

(v) A variation to an Interface Date; or

(vi) A modification in, variation to or deviation from the requirements set out in Exhibit 1 – Scope of Work;

but for greater certainty, a Change shall not include:

(i) modifications, revisions or deviations to the requirements of the Agreement that are necessary to make the Work satisfy the performance requirements set out in Exhibit 1 – Scope of Work;

(ii) any items that can reasonably be inferred as being included in the Work, including the advancement and development of the design of any element of the Work within the Contractor's responsibility under the Agreement;

(iii) modifications, revisions or deviations to the requirements of Exhibit 1 – Scope of Work or any additional services that are requested by Company that are necessary because of delays attributable to the Contractor Group;

(iv) corrections or additional services that are required because of Contractor's breach of any of its representations, covenants, warranties, guarantees or other obligations under this Agreement, including corrections or additional services made necessary due to noncompliance with the Agreement, Applicable laws or the requirements of Authorities;

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- (v) the supply of any services, materials or equipment required to rectify any omissions, defects or deficiencies in the Work; or
 - (vi) matters that might otherwise be grounds for alteration of a Milestone Date but which coincide with any concurrent delay or other matter within Contractor's responsibility under this Agreement.
- (p) **"Change Order"** means an order or directive for a Change issued in the form set out in Exhibit 3 – Coordination Procedures and signed by Company.
- (q) **"Change Request"** means a request for a Change issued in the form set out in Exhibit 3 – Coordination Procedures.
- (r) **"Claim"** means damages (including punitive and exemplary damages), expenses, costs, losses, injuries, liabilities, claims, liens, judgments, settlements, awards, remedies, debts, expenses, causes of action, demands, court costs, legal fees or disbursements.
- (s) **"Company"** means the Person identified as Company on the first page of this Agreement and its successors and assigns.
- (t) **"Company Group"** means collectively Company and Company's Other Contractors (including Engineer), and the respective Affiliates and Personnel of each of the foregoing.
- (u) **"Company's Other Contractors"** means all contractors and subcontractors of Company or its Affiliates, including all of their contractors and consultants (including any inspector) except Contractor and Subcontractors.
- (v) **"Company Representative"** means the person designated in accordance with Article 10.4.
- (w) **"Company Supplied Data"** means those documents listed in Exhibit 11 – Company Supplied Documents, together with such other documents to be provided by Company as shall be designated by Company in writing from time to time.
- (x) **"Confidential Information"** has the meaning ascribed thereto in Article 33.1.
- (y) **"Construction Schedule"** means the schedule for the Contractor's performance of the Work referenced in Article 8.1 and described in Exhibit 3 – Coordination Procedures.
- (z) **"Contract Price"** means:
- (a) for all purposes other than those described in paragraphs (b) and (c) below, the amounts identified in Section 1.1 of Exhibit 2 - Compensation, as the same may be adjusted from time to time by agreement between the Parties or in accordance with the terms of the Agreement, being the consideration for the satisfactory performance of the Work by Contractor in accordance with the Agreement;

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- (b) for the purposes of the project insurance requirements in **Article 20**, the Contract Price shall be the sum in Canadian dollars specified in Exhibit 2 - Compensation, Appendix A – "Schedule of Price Breakdown", at row N - "Total Estimated Contract Price";
- (c) for the purposes of the limitation of liability in **Article 30** and limits on liquidated damages in **Article 26.1**, the Contract Price shall be the greater of the amount referenced in paragraph (b) above or the sum of the amounts referenced in paragraph (a); and, for greater certainty, Contract Price does not include HST.
- (aa) "**Contractor**" means the Person(s) identified as Contractor on the first page of this Agreement and its (or their) successors and permitted assigns.
- (bb) "**Contractor Group**" means Contractor and Subcontractors (including Subcontractor's subcontractors of every tier) and their vendors and suppliers and the respective Affiliates and respective Personnel of each of the foregoing.
- (cc) "**Contractor's Items**" means all machinery, systems, fittings, parts, spare parts, apparatus, tools, materials, supplies and any other equipment, material or items which are necessary to be supplied by Contractor Group at their cost to perform the Work but which are not incorporated into and form part of the completed Work.
- (dd) "**Contractor's Personnel**" means the Personnel to be provided by Contractor Group from time to time to perform the Work.
- (ee) "**Contractor's Representative**" means the person nominated by Contractor to represent Contractor in accordance with **Article 5.5**.
- (ff) "**Cost Sharing**" has the meaning ascribed thereto in Section 2.2 of Exhibit 2 – Compensation.
- (gg) "**Court**" means a court of competent jurisdiction and includes the Supreme Court of Canada.
- (hh) "**Cure Period**" has the meaning ascribed thereto in **Article 35.2**.
- (ii) "**Defect**" means any error, omission, deficiency, defect and/or failure in design, materials, engineering, workmanship, manufacture and/or installation.
- (jj) "**Dispute**" has the meaning ascribed thereto in **Article 31.1**.
- (kk) "**Dispute Review Board**" and "**DRB**" means a panel nominated in accordance with the procedures set out in Exhibit 16 - Dispute Resolution Procedures to review Disputes from time to time in order to assist the Parties to resolve Disputes in a timely manner.
- (ll) "**Drawings**" means the plans, drawings, renderings, sketches and any other pictorial documents listed in "Technical Document List – 505573 – CH0007- 40AL – I - 0001" contained in Exhibit 1 – Scope of Work.

- (mm) **"Effective Date"** means the date of execution of this Agreement as written on the first page of these Articles of Agreement.
- (nn) **"Engineer"** means Lower Churchill Management Corporation or such other Person designated as Engineer by Company in writing from time to time by giving Notice to Contractor, and any successors or assigns.
- (oo) **"Exhibits"** means the Exhibits forming part of this Agreement and identified in Article 1.16.
- (pp) **"Final Completion"** means that point in time when the conditions set out in Article 25.6 have been satisfied.
- (qq) **"Final Completion Certificate"** means the certificate issued in accordance with Article 25.7.
- (rr) **"Force Majeure"** has the meaning ascribed thereto in Article 29.1.
- (ss) **"HST"** means all amounts exigible pursuant to Part IX of the *Excise Tax Act* (Canada), R.S.C. 1985, c. E-15, including, for greater certainty, the taxes commonly referred to as the goods and services tax (GST) and the harmonized sales tax (HST).
- (tt) **"Intellectual Property"** has the meaning ascribed thereto in Article 37.3.
- (uu) **"Interface"** means those items listed in Exhibit 9 – Interface and Milestone Schedule, as the same may be adjusted from time to time in accordance with the terms of this Agreement, for:
- (i) the supply or delivery of products, components or materials by Company's Other Contractors for use or installation by Contractor in the performance of the Work; and
 - (ii) the supply, provision or construction of any erection, structure or opening by Company's Other Contractors necessary for Contractor's performance of the Work.
- (vv) **"Interface Date"** means the date that is specified in Exhibit 9 – Interface and Milestone Schedule for the start or completion of an Interface.
- (ww) **"Key Personnel"** means those individuals identified in Section 3 of Exhibit 3 - Coordination Procedures.
- (xx) **"LCP"** means lower Churchill projects which include hydroelectric power developments on the lower Churchill River located in the Labrador portion of the Province of Newfoundland and Labrador and associated power transmission facilities.
- (yy) **"LEG2/96"** means the 1996 "Model 'Consequences' Defects Wording" published by the London Engineering Group.

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- (zz) "Lender" means any financial institution providing financing to Company or any of Company's Affiliates for the Work or for the LCP.
- (aaa) "Lower Churchill Construction Projects Benefits Strategy" means the policy, strategy, obligations and procedures set out in the document located at www.NR.Gov.NL.CA/NR/Energy/LCP_Benefits_Strategy.pdf.
- (bbb) "Milestone" means the start or completion of an activity in the performance of the Work and which is identified as such in Exhibit 9 – Interface and Milestone Schedule, as the same may be adjusted from time to time in accordance with the terms of this Agreement.
- (ccc) "Milestone Date" means the date that is specified in Exhibit 9 – Interface and Milestone Schedule for the completion of a Milestone, as the same may be adjusted from time to time in accordance with the terms of the Agreement.
- (ddd) "Notice" means a written communication that is required to be delivered in accordance with Article 40.
- (eee) "Parent Guarantee" means the guarantee referenced in Article 7.1.
- (fff) "Party" means Company or Contractor, as the context requires, and "Parties" means Company and Contractor collectively.
- (ggg) "Payment Certificate" means the certificate described in Article 12.8.
- (hhh) "Payment Milestone" means a Milestone identified in Exhibit 2 – Compensation for which payment of a portion of the Contract Price is to be made by Company to Contractor.
- (iii) "Performance Bond" means the bond described in Article 7.4.
- (jjj) "Person" means an individual, a partnership, a corporation, a trust, an unincorporated organization, a union, a government or any department or agency thereof and the heirs, executors, administrators, successors, assigns or other legal representatives of an individual, and words importing persons have a similar meaning.
- (kkk) "Personnel" means the directors, officers, employees, consultants, non-employed representatives and agents of a Person.
- (lll) "Privacy Law" means the *Access to Information and Protection of Privacy Act*, S.N.L. 2002 c. A 1.1, and all other applicable federal or provincial laws relating to the privacy, confidentiality or use of any information about individuals.
- (mmm) "Project Labour Agreement" has the meaning ascribed thereto in Section 8.2 of Exhibit 2 – Compensation.

- (nnn) **"Project Manager"** means the person designated to represent Contractor in accordance with Article 9.4 and Article 9.5.
- (ooo) **"Punch List"** means a list of Defects or items of the Work that are not complete.
- (ppp) **"Quality Plan"** means the plan described in Exhibit 7 – Quality Requirements.
- (qqq) **"Rights"** has the meaning ascribed thereto in Article 37.4.
- (rrr) **"Security Interests"** means the following rights granted by Affiliate Assignee to the Security Trustee:
- (i) any right of set-off or combination of accounts intended to secure the payment or performance of an obligation,
 - (ii) any interest in property securing an obligation owed to, or a claim by, a Person other than the owner (which for the purposes hereof shall include a possessor under a title retention agreement and a lessee under a capital lease or in a sale and leaseback transaction), including by way of mortgage, pledge, charge, lien, assignment by way of security, hypothecation, security interest, hire purchase agreement, conditional sale agreement, deposit arrangement, deemed trust, title retention, capital lease, discount, factoring or securitization arrangement deemed trust, on recourse terms,
 - (iii) any preference, priority, adverse claim, levy, execution, seizure, attachment, garnishment or other encumbrance which binds property, and
 - (iv) any agreement to grant any of the foregoing rights or interests.
- (sss) **"Security Trustee"** means the collateral trustee under a deed of trust and mortgage relating to senior secured bonds of the Affiliate Assignee, for and on behalf of the holders of such bonds from time to time, and any successor or assignee thereof.
- (ttt) **"Shop Drawings"** has the meaning ascribed thereto in Article 38.1.
- (uuu) **"Site"** means the location for the performance of Work at the power plant, dam and/or immediate vicinity at Muskrat Falls, located in the Labrador portion of the Province of Newfoundland and Labrador as may be further described in Exhibit 1 – Scope of Work.
- (vvv) **"Standard of a Prudent Contractor"** means good faith performance of contractual obligations and exercising that degree of care, skill, diligence, prudence, workmanship and foresight expected from a skilled and experienced contractor engaged in the same type of undertaking, in similar circumstances or conditions and in compliance with all Applicable Laws and to the satisfaction of Authorities.
- (www) **"Subcontract"** means an agreement (including any written supplement or amendment) entered into between Contractor and any Person in the manner and to the extent

permitted under the terms of the Agreement by which Contractor engages such Person to perform any part of the Work.

- (xxx) "**Subcontractor**" means any Person engaged by Contractor, other than employees of Contractor, to perform any part of the Work pursuant to a Subcontract, and shall include the successors and permitted assigns of any such Person.
- (yyy) "**Substantial Completion**" means that the Work has been completed to the extent specified in **Article 25.1**.
- (zzz) "**Substantial Completion Certificate**" means the certificate issued in accordance with **Article 25.2**.
- (aaaa) "**Suspension Expenses**" has the meaning ascribed thereto in **Article 28.2**.
- (bbbb) "**Suspension Period**" has the meaning ascribed thereto in **Article 28.1**.
- (cccc) "**Target Cost of Labour**" has the meaning ascribed thereto in Section 2.2.3 of Exhibit 2 – Compensation.
- (dddd) "**Tax**" or "**Taxes**" means any tax, fee, levy, rental, duty (including, for greater certainty, all customs duties, anti-dumping duties and countervailing duties), charge, royalty or similar charge including, for greater certainty, any federal, state, provincial, municipal, local, aboriginal, foreign or any other assessment, governmental charge, imposition or tariff wherever imposed, assessed or collected, and whether based on or measured by gross receipts, income, profits, sales, use and occupation or otherwise, and including, without limitation, any income tax, capital gains tax, fuel tax, capital tax, goods and services tax, harmonized sales tax, value added tax, sales tax, withholding tax, property tax, business tax, ad valorem tax, transfer tax, franchise tax, payroll tax or excise tax, together with all interest, penalties, fines or additions imposed, assessed or collected with respect to any such amounts.
- (eeee) "**Technical Requirements**" means specifications, drawings, plans or other documentation of a technical or scientific nature, and tests, set out or referenced in the Exhibits.
- (ffff) "**Technical Specifications**" or "**Specifications**" means the document entitled "Technical Specification – 505573 - 3331 - 41EF – 0001" contained in Exhibit 1 – Scope of Work.
- (gggg) "**Term**" has the meaning ascribed thereto in **Article 1.17**.
- (hhhh) "**Warranty**" means the Contractor's obligations set out in **Article 17**.
- (iiii) "**WHSCC**" means the Workplace Health, Safety and Compensation Commission of the Province of Newfoundland and Labrador.
- (jjjj) "**Work**" means all labour, supervision, engineering, design services and obligations to be performed and materials, equipment and products to be supplied by Contractor under

the terms of this Agreement, as more particularly described in but not limited to Article 3 and Exhibit 1 – Scope of Work, including Changes and the provision of all Personnel, Contractor's Items, facilities, documentation, records and other items necessary to the performance of such services and obligations.

(kkkk) "Worksite" means any lands, waters and any other places on, under, over, in or through which the Work is to be performed, including design offices, workshops, onshore facilities, factories, fabrication facilities and places where Contractor Items are obtained, stored or used for the purposes of this Agreement.

- 1.3 Headings, recitals and the provision of a table of contents are inserted for convenience of reference only and shall not affect the construction or interpretation of this Agreement.
- 1.4 Unless otherwise expressly stated, reference in this Agreement to an Article is a reference to a clause, sub clause or other subdivision in the Articles of Agreement and reference in this Agreement to a Section is a reference to a clause, sub clause or other subdivision in an Exhibit.
- 1.5 Words importing the singular only shall include the plural and vice versa, words importing any gender shall include other genders and words importing persons shall include individuals, partnerships, associations, trusts, unincorporated organizations and corporations and vice versa where a word is defined in this Agreement a derivative of that word shall have a corresponding meaning.
- 1.6 Any reference in this Agreement to all or any part of any statute, regulation, by-law or other legislative enactment shall, unless otherwise expressly stated, be a reference to that statute, regulation, by-law or legislative enactment or relevant part thereof as amended, substituted, replaced or re-enacted from time to time.
- 1.7 Whenever an amount of money is referred to in this Agreement, such amount shall, unless otherwise expressly stated, be deemed to be Canadian dollars.
- 1.8 Time shall be of the essence with respect to Milestone Dates.
- 1.9 Except with respect to Milestone Dates and Interface Dates, if the last day of any period of days set out in this Agreement falls on a day which is not a Business Day, such period of days shall be extended to the first Business Day immediately following the last day of such period of days. If anything in this Agreement falls to be done or held on a day which is not a Business Day, the same shall be done or held on the next succeeding Business Day.
- 1.10 Where reference is made to a direction, response, act, decision, determination, consent, waiver, approval, notice, request or other communication of Company or to matters which must be satisfactory to Company, then, unless otherwise expressly stated, that matter is to be conducted or carried out at the sole discretion of Company.
- 1.11 Any waiver by any Party of all or any part of any provision, or the breach of any provision of this Agreement, shall affect only the matter specifically identified in the instrument granting the waiver and shall not extend to any other matter, provision or breach. Any waiver by any Party of all or any part of any provision, or the breach of any provision of this Agreement, shall extend



only to the Party to whom such waiver is expressly granted and shall not be construed as a waiver in favour of any other Party in respect of such provision or breach and shall not prejudice the rights of any other Party from insisting upon performance of such provision. The acceptance by any Party of payment or performance of any obligation after the breach or non-fulfilment by the other Party of any provision of this Agreement shall not constitute a waiver of the provisions of this Agreement.

- 1.12 If any portion of this Agreement or the application thereof to any circumstance shall be held invalid or unenforceable, unless such invalid provision is fundamental to the efficacy of this Agreement, the remainder of the provision in question, or its application to any circumstance other than that to which it has been held invalid or unenforceable, and the remainder of this Agreement shall not be affected thereby and shall be valid and enforceable to the fullest extent permitted by Applicable Laws.
- 1.13 Except as otherwise defined in this Agreement, words and abbreviations which have well known technical or trade meanings are used in the Agreement in accordance with such recognized meanings.
- 1.14 If any provision in the Exhibits conflicts with a provision in the Articles of this Agreement, the provision in the Articles of this Agreement shall prevail. In the event that any provision in any of the Exhibits conflict with any other provision in the Exhibits, priority shall be given in the order listed as follows:
- (a) Exhibit 1 - Scope of Work
 - (b) Exhibit 9 – Interface and Milestone Schedule
 - (c) Exhibit 2 – Compensation
 - (d) Exhibit 7 - Quality Requirements
 - (e) Exhibit 3 - Coordination Procedures
 - (f) Exhibit 11 - Company Supplied Documents
 - (g) the remaining Exhibits in their numerical order by Exhibit number

except in respect of Technical Requirements, in which case the more stringent provision will prevail.

- 1.15 Subject to Article 26.5 and Article 30, the rights and recourse of Company and Contractor contained in the Agreement are cumulative and not in the alternative unless otherwise provided. The exercise of any such rights or recourse shall not constitute a waiver or renunciation of any other rights or recourse. Except as expressly provided in the Agreement, the obligations imposed by the Agreement and the rights and remedies available thereunder are in addition to and not a limitation of any obligations, rights and remedies otherwise imposed or available by law.

1.16 The following Exhibits are attached hereto and shall form and be read and construed as an integral part of this Agreement:

| Exhibit | Description | SLI Document No. |
|---------|---|--|
| 1 | Scope of Work , including Technical Document List Technical Specification Drawings | 505573-3331-41EW-0001 Rev. 09 505573-CH0007-40AL-I-0001 Rev. 10 Per Technical Document List Per Technical Document List |
| 2 | Compensation, including Appendix A Schedule of Price Breakdown Appendix B Monthly Payment Forecast Schedule Appendix C Small Tools, Consumables and PPE Appendix D Equipment Rate Schedule Appendix E Escalation Data Appendix F Wages and Benefits of Contractor's Work Force Not Covered By The Collective Agreement Appendix G Contractor Share of Labour Cost Difference Appendix H Sworn Declaration Appendix I Target Cost of Labour Breakdown Appendix J Fully Executed LNTP with Amendment No. 1 Attachment 1 Measurement and Payment | 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-0007-51AF-I-2135 Rev. T5 505573-CH0007 Rev. 09 |
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| 7 | Quality Requirements | LCP-PT-MD-0000-SC-FR-2039-01 Rev. B1 |
| 8 | Subcontractors, Manufacturers and Material Sources | 505573-0007-51AF-I-2141 Rev. 02 |
| 9 | Interface and Milestone Schedule Agreed Revised Sequence of Installation of Primary Anchors by CH0007 Pre-award Record of Site Inspection and Status of Site Conditions | 505573-CH0007-51AF-I-2142 Rev. 10 505573-CH0007 Rev 00 Site Inspection and Status Rev 3 |
| 10 | Declaration of Residency | 505573-0000-51AF-I-2143 Rev 01/2116 Rev 00 |
| 11 | Company Supplied Documents | 505573-CH0007-51AF-I-2144 Rev. 04 |
| 12 | Site Conditions | 505573-CH0007-51AF-I-2145 Rev. 07 |
| 13 | Provincial Benefits | 505573-0000-51AF-I-2146 Rev. 03 |
| 14 | Performance Security | 505573-0007-51AF-I-2147 Rev. 05 |
| 15 | Supplementary Data | Not Used |
| 16 | Dispute Resolution Procedures | Exhibit 16 15850834.4 |
| 17 | Mutual Release | 505573-CH0007 Rev 00 |

- 1.17 This Agreement shall be effective from the Effective Date and shall remain in full force and effect until the Work is complete, a Final Completion Certificate has been issued pursuant to **Article 25.7** and all Warranty obligations have been satisfied (the "Term"), unless earlier terminated in accordance with the provisions of this Agreement.
- 1.18 The words "includes" and "including", whether or not used with the words "without limitation" or "but not limited to", shall not be construed to be limited by the specific enumeration of items but shall in all cases be without limitation and construed and interpreted to mean "includes without limitation" and "including without limitation".
- 1.19 This Agreement shall be construed and the relations between the Parties determined in accordance with the Applicable Laws of Newfoundland and Labrador and Canada, including any limitation periods, and reference to such Applicable Laws shall not, by application of conflict of laws rules or otherwise, require the application of the Applicable Laws in force in any jurisdiction other than Newfoundland and Labrador. Except for Disputes required to be resolved in accordance with **Article 31**, the Parties hereby irrevocably attorn to the Courts of the Province of Newfoundland and Labrador and Canada for the resolution of any dispute arising hereunder.
- 1.20 If the Standard of a Prudent Contractor conflicts with any other provision in this Agreement, the other provision in the Agreement shall prevail. Contractor shall give Notice to Company of any standard or requirement in this Agreement that Contractor considers is less stringent than the Standard of a Prudent Contractor.
- 1.21 The language of this Agreement shall be English and all communications and dealings under and the resolution of any disputes concerning this Agreement shall be conducted in the English language. All information, data or documentation of any nature that Contractor prepares in the performance of the Work, is required to submit to Company or is requested by Company to submit, shall be prepared in English.
- 1.22 The doctrine of *contra proferentem* shall not apply in the interpretation of this Agreement, meaning that if there is any ambiguous language in this Agreement it shall not be interpreted more strongly against the Party who prepared or drafted the ambiguous language.
- 1.23 Company is entering into this Agreement, and Contractor acknowledges that Company is entering into this Agreement, solely in its own right and not on behalf of or as agent of the Crown in right of the Province of Newfoundland and Labrador.
- 1.24 If Contractor is a joint venture or partnership of two or more Persons, all such Persons shall be jointly and severally liable to Company for all liabilities, indemnities and obligations of Contractor under, and relating to, this Agreement. Such Persons shall designate in writing one of them to act as a partner in charge with authority to bind the joint venture or partnership, as the case may be. The composition or the constitution of the joint venture or partnership, as the case may be, shall not be altered without the prior consent of Company. If requested by Company, Contractor shall provide to Company a copy of the joint venture agreement or partnership agreement, as applicable, excluding its financial terms, and such agreement shall be subject to the provisions of **Article 33**.

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ARTICLE 2
GENERAL COVENANTS OF CONTRACTOR

- 2.1 Contractor shall maintain in good standing its corporate existence and shall remain duly qualified to own its assets. Contractor acknowledges that it shall be carrying on business in the Province of Newfoundland and Labrador during the performance of the Work and agrees to comply with the registration and other relevant provisions of the *Corporations Act*, RSNL 1990, c. C-36.
- 2.2 Without limitation, Contractor shall undertake the Work in accordance with Applicable Laws and this Agreement and as required by any Authority having jurisdiction over the subject matter at issue. Contractor shall be subject to Company's environmental assessment obligations. For clarification, if any environmental effects or compliance monitoring or other measures are required by any Authority, the costs of such required measures shall be the responsibility of Contractor.
- 2.3 Contractor shall take such action as Company may specify to enable Company to comply with all Applicable Laws and in particular, Applicable Laws governing the use of local personnel, goods and services, which are in effect or which may come into effect during the Term.
- 2.4 Contractor shall promptly pay and discharge all amounts due and payable by Contractor to any and all creditors of Contractor (including all fees payable to obtain or maintain the Approvals and any fines, penalties or judgments resulting from any violation of the terms and conditions of the Approvals or breach of Applicable Laws relating to the LCP) except that Contractor shall not be required to pay any amounts due and payable to such creditors in respect of any amounts the validity of which is being contested in mediation, arbitration or litigation, provided an amount sufficient to satisfy the amount of the Claim, including interest and penalties, or security satisfactory to the Court has been paid into or delivered to the Court or to a trustee, or alternate provision therefor has been made on terms satisfactory to Company.
- 2.5 Contractor shall maintain the Work free and clear of all security interests other than security interests Approved by Company for financing of Contractor's performance of the Work. If a security interest is filed or registered against the Work that has not been Approved by Company, Contractor shall forthwith pay and discharge such security interest and an amount sufficient to satisfy the amount secured by the security interest, including interest and penalties, or security satisfactory to the Court has been paid into or delivered to the Court or alternate provision therefore has been made on terms satisfactory to Company.
- 2.6 Contractor shall give Notice to Company of any action, suit or proceeding pending or, to the knowledge of Contractor, threatened before any Authority, or before any arbitrator, mediator or referee that materially adversely affects or would reasonably be expected to materially adversely affect the Work.
- 2.7 Contractor shall preserve, protect and defend the Work from and against any action, suit or proceeding that materially adversely affects or, if successful, would reasonably be expected to materially adversely affect the Work. Contractor acknowledges that Company shall have the right, in its sole discretion, to defend its interests in the Work from and against any such action, suit or proceeding and, should Company elect to separately defend, Contractor shall pay all of

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Company's costs of such defence and Contractor shall instruct its counsel to make full disclosure to Company.

2.8 Contractor represents and warrants that during the Term:

- (a) it has the required skills, experience, facilities, equipment, Personnel and capacity to perform the Work in a timely manner and in accordance with the terms of this Agreement, Applicable Laws, the Standard of a Prudent Contractor and sound industry accepted practices;
- (b) each of Contractor's Items is of good quality, in good working condition, is in compliance with all Applicable Laws and is fit for its intended use as contemplated in this Agreement; and
- (c) the making and performance of this Agreement are within its powers, have been duly authorized by all necessary action and do not and will not violate any Applicable Law or any provision of its governing documents.

2.9 Contractor covenants that during the Term it:

- (a) shall perform the Work in a diligent, safe, efficient and timely manner and in accordance with the Standard of a Prudent Contractor;
- (b) shall perform the Work continuously and in accordance with this Agreement, using only Contractor's Personnel and Subcontractors Approved by Company;
- (c) shall use quality assurance programs in performing the Work which comply with the requirements of Exhibit 7 – Quality Requirements, all Applicable Laws and industry accepted practices;
- (d) shall schedule all long lead time equipment or products for manufacture at the earliest possible date;
- (e) shall maintain, at its sole risk, cost and expense, all Contractor's Items throughout the Term;
- (f) shall comply with, and ensure Contractor's Personnel and Subcontractors comply with, all health and safety requirements set out in Exhibit 5 – Health and Safety Requirements and Applicable Laws;
- (g) shall comply with, and ensure Contractor's Personnel and Subcontractors comply with, all environment and regulatory requirements set out in Exhibit 6 – Environment and Regulatory Compliance Requirements and Applicable Laws;
- (h) shall take all steps necessary to maintain good labour relations with Contractor's Personnel to the extent that such requirement is consistent with sound business practice;

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- (i) shall, to enable Company to satisfy itself that Contractor is complying with the terms of this Agreement, provide such reports, records, and other information relating to the performance of the Work as Company may request from time to time, including copies of the qualifications and credentials of Contractor's Personnel and Subcontractors and information relating to quality assurance programs, and permit Company to inspect Contractor's Items and Worksites; and
 - (j) shall implement and maintain a cost effectiveness program ensuring all techniques proposed for the performance of the Work are or have been reviewed to ensure that they are cost effective.
- 2.10 Contractor shall maintain, at its sole risk, cost and expense, all Contractor's Items throughout the Term in the manner necessary to ensure that the representations and warranties in Article 2.8 shall be true and accurate at all times during the Term. If any of Contractor's Items do not at any time conform to the representations and warranties given in Article 2.8, Contractor shall, at Contractor's sole expense, repair such Contractor's Items or replace with items which conform in all respects to such representations and warranties.
- 2.11 Contractor shall be responsible, at its cost, for maintaining such inventories of Contractor's Items as necessary so as to avoid interruptions in the performance of the Work.
- 2.12 Contractor acknowledges and agrees that:
- (a) the success of the construction of the Work is dependent upon the timely performance by Contractor of all of its obligations under this Agreement and upon Company's ability to enforce its rights and remedies under this Agreement;
 - (b) except as expressly set forth in Article 13 and Article 14, the financial obligations of Company to Contractor in respect of the Work are limited to the payment of the Contract Price in accordance with the terms of this Agreement;
 - (c) Company makes no representations and warranties and gives no undertakings concerning the Tax consequences of or other effects of Applicable Laws on the Work or any corporate structure utilized by Contractor with respect to the Work;
 - (d) Contractor is solely responsible for obtaining its own independent financial, legal, Tax, accounting and technical advice with respect to all aspects of the Work;
 - (e) except as otherwise expressly provided for in this Agreement, Contractor is solely responsible for:
 - (i) the examination and review of all documents and information submitted by Contractor;
 - (ii) the geotechnical and hydrological conditions of the Sites;
 - (iii) obtaining any required Tax rulings; and

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- (iv) all other matters which in any way relate to or affect the Work, the Contract Price or the time for completion of Milestones; and
 - (f) Contractor shall carry out its obligations hereunder independently and without reliance on Company in any manner whatsoever.
- 2.13 Contractor, in performing its obligations under this Agreement, shall establish and maintain appropriate business standards, procedures and controls including those necessary to avoid any real or apparent impropriety or adverse impact on the interests of Company and its Affiliates. Company reserves the right to review such standards and procedures at any time during the Term.
- 2.14 Contractor agrees to perform the Work and to conduct its operations in a manner which is consistent with the highest of ethical standards, including the Nalcor Code of Business Conduct and Ethics set out in Exhibit 11 – Company Supplied Documents, and to avoid any unlawful or unethical intervention in the political affairs of any country. Contractor agrees to cause all Subcontractors to adopt and enforce the foregoing policy.
- 2.15 Contractor shall not pay any commission or fee, or grant any rebate or make any loan to any Personnel of Company Group or government official, or favour any Personnel of Company Group or government official with any gift or entertainment of significant value or enter into any business arrangement with any Personnel of Company Group or government official. Contractor agrees to cause all Subcontractors engaged in the performance of the Work to adopt and enforce the foregoing policy.
- 2.16 Whenever in this Agreement reference is made to Company or Engineer providing assistance, services, reviews, Approvals, Acceptances or consents or to Company inspecting the Work or the books or records of Contractor or conducting tests, observations and inspections, such undertaking by Company and Engineer shall not relieve, insulate or exempt Contractor from or represent a waiver of any requirement, liability, covenant or obligation under this Agreement or at law or in equity and shall not create or impose any requirement, liability, covenant, agreement or obligation on Company not otherwise created or imposed pursuant to the express provisions of this Agreement. In no event shall such undertaking by Company be a representation that there has been or will be compliance by Contractor with this Agreement.
- 2.17 All transactions, including those contemplated pursuant to this Agreement, with any Person which is not at arm's length (as that term is defined for purposes of the *Income Tax Act* (Canada) R.S.C. 1985, c.1 (5th Supp.)) from Contractor shall be on terms not less favourable to Contractor than competitive terms available to Contractor in comparable transactions with Persons that are at arm's length from Contractor.
- 2.18 Contractor warrants and acknowledges that it has reviewed and understands the Applicable Laws and Lower Churchill Construction Projects Benefits Strategy governing the use of personnel, goods and services in the Work. Contractor shall, throughout the Term, take such action as Company may specify to enable Company to comply with all Applicable Laws regarding the use of Canadian and Newfoundland and Labrador personnel, goods and services, including any Newfoundland and Labrador Benefits requirements and those requirements set forth in Exhibit 13 - Provincial Benefits of this Agreement. Where Contractor is permitted to

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subcontract, Contractor shall ensure that Subcontractors comply with such requirements. In addition, Contractor shall provide reports in the manner and format described in Exhibit 13 - Provincial Benefits of this Agreement throughout the Term.

**ARTICLE 3
CONTRACTOR'S WORK OBLIGATIONS**

- 3.1 Contractor shall carry out all of its obligations under this Agreement and shall perform the Work, including:
- (a) all procurement, fabrication, construction, testing, transport, delivery, maintenance, storage, documentation, preservation, installation, testing, commissioning, repair and remediation of the Work;
 - (b) provision of all supervision, services, labour, trades, drafting, accounting, purchasing, expediting, inspection, testing, Personnel, Contractor's Items, transportation, mobilization and demobilization required for the compliance with and fulfillment of all Contractor's obligations under this Agreement;
 - (c) provision and installation of all equipment, products and materials required by this Agreement at a Site;
 - (d) ensuring the Work conforms strictly as to quality and description with the particulars stated in Exhibit 1 – Scope of Work and Company Supplied Data and complies with all Applicable Laws;
 - (e) any design or engineering which is the responsibility of Contractor under this Agreement;
 - (f) satisfaction of the performance requirements set out in Exhibit 1 – Scope of Work;
 - (g) provision of all documents as required under, and in accordance with, the terms of this Agreement;
 - (h) provision of any work not expressly detailed in this Agreement but which is necessary for the performance of the Work in accordance with this Agreement;
 - (i) rectification of any and all Defects in the Work as noted by Company, Engineer or any Authority; and
 - (j) completing the Work, and portions thereof, in accordance with the relevant Milestone Dates.
- 3.2 Contractor shall review and verify the details contained in Exhibit 1 - Scope of Work and Exhibit 11 - Company Supplied Documents, and represents that it has a full knowledge and understanding of the nature and the scope of the Work, and including weather and all other conditions at Worksites. Contractor shall :



- (a) advise Engineer of any errors, omissions and inconsistencies in this Agreement and shall not proceed with any part of the Work affected by such until resolved by Engineer; and
- (b) promptly report to Engineer any error, inconsistency or omission or any non-compliance with Applicable Laws which Contractor may discover and not proceed with the affected work until Engineer has received corrected or missing information from Contractor;

provided that if any such error, inconsistency or omission or any non-compliance requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with **Articles 14.7 or 14.8.**

- 3.3 Contractor shall ensure the work it performs is sufficient to encompass all matters necessary for the proper and efficient fulfillment of Contractor's obligations under this Agreement.
- 3.4 Products and materials provided by Contractor shall be new. Products or materials which are not specified shall be of a quality consistent with those specified, fit for their intended use and Acceptable to Engineer.
- 3.5 All equipment, material, products, services, labour and other items required for completion of the Work are to be provided by Contractor and included in this Agreement, regardless of whether they are included in or differ from the quantities of equipment, material, labour and other items shown or described in Exhibit 1 – Scope of Work.
- 3.6 Contractor shall perform the Work to the Standard of a Prudent Contractor and shall ensure that Contractor Group shall perform to the same standard. Any material failure or any refusal or inability of Contractor to comply with the foregoing requirements shall constitute a breach of this Agreement. Contractor shall be solely responsible for any operations comprising the Work performed by Contractor Group.
- 3.7 Subject to **Article 10.3**, Contractor shall obtain and maintain all directions, guidelines, permits, certificates, authorizations, dispensations and licences of any type whatsoever necessary for the performance of the Work and shall comply with all Applicable Laws and requirements of Authorities. Contractor shall assist Company and provide necessary information and documents to support Company fulfilling Company's obligations set out in **Article 10.3** and if such assistance impacts the Contract Price and/or impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with **Articles 14.7 or 14.8.** Contractor shall promptly notify Company in writing upon any discovery of a failure to adhere to the foregoing requirements in connection with the performance of the Work and shall defend, indemnify and hold Company Group harmless from and against all fines and penalties, as well as costs, expenses, rates and charges of Contractor Group and third parties, resulting from the failure of Contractor Group to comply with the foregoing requirements.
- 3.8 Contractor shall comply with all lawful instructions of Company pertaining to the performance of the Work, as communicated through the Company Representative, Engineer or otherwise in accordance with this Agreement. The absence of instructions from Company shall not permit Contractor to avoid its duty to perform its obligations under this Agreement. If Contractor fails to comply with a lawful instruction, then Company may at Contractor's sole risk and cost take whatever measures Company considers necessary to implement the instruction.

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- 3.9 When work is performed by Company's Other Contractors at a Site at which Contractor is performing Work, Contractor shall:
- (a) afford Company and Company's Other Contractors reasonable opportunity to introduce and store their products and use their construction machinery and equipment to execute their work;
 - (b) co-ordinate and schedule the Work with the work of Company's Other Contractors;
 - (c) participate with Company's Other Contractors and Engineer in reviewing their construction schedules when directed to do so;
 - (d) where part of the Work is affected by or depends upon for its proper execution the work of Company's Other Contractors, promptly report to Engineer in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work (failure by Contractor to so report will constitute a waiver of claims against Company by reason of the deficiencies in the work of Company's Other Contractors except for those deficiencies not then reasonably discoverable); and
 - (e) comply with the requirements of **Article 32**.

provided that if the acts of Company's Other Contractors are impeding the performance of the Work and as a result impacts the Contract Price, a Milestone Date or an Interface Date then Contractor may proceed in accordance with **Articles 14.7 or 14.8**.

- 3.10 At Company's option, Contractor shall transfer all unused excess materials, if any, to Company at the completion of the Work or sell such excess materials and any amounts realized from such sales shall be credited to Company as a deduction from the Contract Price.
- 3.11 Contractor shall direct and supervise the Work effectively to ensure conformity with the Agreement. Contractor will have sole responsibility for construction and installation means, methods, techniques, sequences and procedures and for coordinating the various parts of the Work under this Agreement.
- 3.12 Contractor will have the sole responsibility for the design, erection, operation, maintenance and removal of temporary supports, structures and facilities and the design and execution of construction methods required in their use.
- 3.13 Contractor will engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in **Articles 3.1(e) and 3.12** where required by Applicable Laws or by the Agreement and in all cases where such temporary supports, structures and facilities and their method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 3.14 Contractor Group will confine construction machinery and equipment, storage of products and operations of Contractor Group to limits indicated by Applicable Laws, permits or the Agreement and will not unreasonably encumber the Work with products, materials, or equipment.

- 3.15 Contractor will not load or permit to be loaded any part of the Work with a weight or force that will endanger the safety of Personnel or the Work. Contractor shall be responsible for all aspects of lifting activities for the performance of the Work unless otherwise stated in Exhibit 1 – Scope of Work.
- 3.16 Where the Work and work of Company's Other Contractors is to be joined, connected, incorporated or merged, Contractor will do the cutting and remedial work required to make the several parts of the Work and the work performed by Company's Other Contractors come together properly. Contractor is responsible for:
- (a) the integration of the Work with existing work or on-going work being carried out by Company's Other Contractors;
 - (b) coordinating the Work to ensure that this requirement is kept to a minimum;
 - (c) performing any cutting and remedial work in a manner to neither damage nor endanger the Work;
- provided that if the work of Company's Other Contractors does not comply with what is required by Exhibit 1- Scope of Work and requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with **Articles 14.7 or 14.8.**
- 3.17 Contractor will maintain the Work in a tidy condition and free from accumulation of waste products and debris, other than that caused by Company, Company's Other Contractors or their Personnel.
- 3.18 Contractor will remove waste products and debris, other than that resulting from the work of Company, Company's Other Contractors or their Personnel, and will leave the Work clean and suitable for use by Company before attainment of Substantial Completion. Contractor will remove products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- 3.19 Prior to application for a Final Completion Certificate for payment, Contractor will remove all products, tools, construction machinery and equipment and waste products and debris, other than that resulting from the work of Company, Company's Other Contractors or their Personnel.
- 3.20 Contractor shall provide and pay for labour, products, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work unless expressly stated in an Exhibit that one or more of such items is to be provided by Company.
- 3.21 Subject to a Change to the relevant Milestone Date made pursuant to **Article 14**, Contractor agrees to :
- (a) complete the Work for each Milestone by the relevant Milestone Date; and

- (b) take all measures and act diligently in order that Contractor Group may timely comply with the duties and obligations imposed on Contractor under this Agreement.
- 3.22 Except as expressly provided in this Agreement, Contractor shall bear all costs, risk and liability in relation to the planning, procuring, construction, commissioning and completion of the Work including risk in delay, cost overruns and third party claims.
- 3.23 Contractor shall cause to be documented any archaeological finds located in or under the Worksites. Any artefacts exposed and/or recovered as a result of the excavation of a Site shall, as between Contractor and Company, become the property of Company. If the discovery of any fossils and/or archaeological finds requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with Articles 14.7 or 14.8.
- 3.24 Contractor acknowledges Company's right pursuant to Article 10.11 to request Contractor to perform additional scopes of work and agrees to negotiate in good faith with Company the particulars of the scopes of work, the price of such work and the time for completion of such work.

ARTICLE 4 REPORTING AND MEETINGS

- 4.1 Contractor shall attend and participate in the meetings described in Exhibit 3 – Coordination Procedures and shall ensure, unless otherwise required by Engineer, that all relevant Subcontractors shall also attend when the subject matter of the meeting involves, relates to or impacts Subcontract work of that Subcontractor.
- 4.2 Contractor shall prepare and deliver to Engineer the progress and other reports set out in Exhibit 3 – Coordination Procedures.
- 4.3 Contractor agrees that Contractor's submission of a progress or other report is for Company's information only, and Company's receipt of such reports shall not bind Company in any manner. Company's receipt of a progress or other report shall not imply that Company:
- (a) approves Contractor's Construction Schedule;
 - (b) agrees that Contractor has the capacity or ability to complete the Work in accordance with the Construction Schedule;
 - (c) agrees that the Work can or will be completed in accordance with the Milestone Dates;
 - (d) consents to any changes in scheduling or agrees to any extension of time;
 - (e) has been given Notice of any thing for which Notice is required under this Agreement; or
 - (f) waives any of the terms or conditions of this Agreement.

- 4.4 Contractor shall also attend any meeting which may be required by Company, acting reasonably, from time to time in connection with the Work, provided that Contractor has had at least twenty-four (24) hours notice of such meeting. Company and Engineer shall have the right of direct access to Contractor Personnel responsible for the functions of planning, constructing, commissioning, and environmental management.
- 4.5 Contractor shall inform Engineer in a timely manner of:
- (a) all emergencies;
 - (b) the status of the Approval processes;
 - (c) the occurrence of all uncontrollable material events; and
 - (d) any other significant information as would be expected under customary and prudent business practices given the nature of the Work.

**ARTICLE 5
CONTRACTOR'S PERSONNEL**

- 5.1 Contractor shall be solely responsible to furnish and procure the numbers and classifications of Contractor's Personnel required to perform the Work; for greater certainty, subject to this Article 5.1, Contractor has the complete responsibility for this obligation, without any dependence or reliance on Company or on information obtained from Company. Contractor shall comply with the provisions of article 7 of the Project Labour Agreement for procuring trades labour. Provided Contractor has diligently and in a timely manner sought sufficient trades to perform the Work, if Contractor is required to procure trades labour from outside Canada then Contractor may proceed in accordance with Articles 14.7 or 14.8 to request an extension to a Milestone Date or an Interface Date provided that each of the following conditions are satisfied:
- (a) the time from the submission of all necessary labour market opinions to Authorities for work permits for the trades labour to the date of receipt of such work permits exceeds fourteen (14) weeks, and
 - (b) the delay in the receipt of the work permits impacts a Milestone Date or Interface Date.
- 5.2 Contractor shall ensure that throughout the Term each of Contractor's Personnel has the qualifications, training and experience, and holds valid licenses and certifications necessary to carry out assigned duties in the performance of the Work (including visas and work permits). Contractor shall furnish records of competence for all of Contractor's Personnel when requested to do so by Company.
- 5.3 Contractor shall immediately remove and/or replace, at Contractor's own expense, any of Contractor's Personnel if, in the sole judgment of Company, any of Contractor's Personnel:
- (a) ceases to carry out his or her duties in a manner satisfactory to Company or engages in misconduct, unsafe activities, or is incompetent or negligent;

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- (b) is certified by a medical practitioner as being medically unfit for the duties required of him or her; or
 - (c) risks impairing his or her usefulness in the performance of his or her duties through the use of alcohol or drugs.
- 5.4 Unless otherwise Approved by Company, Contractor shall replace, or cause to be replaced, at Contractor's own expense any of Contractor's Personnel who is transferred or dismissed by Contractor or any Subcontractor, or leaves Contractor's or Subcontractor's employ.
- 5.5 Contractor shall nominate in writing one of Contractor's Personnel as Contractor's Representative. Contractor's Representative shall:
- (a) be in charge of Contractor's Personnel and shall supervise Contractor's Personnel and maintain strict discipline in order to ensure the timely and efficient performance of the Work;
 - (b) shall notify Company in writing of the occurrence of or threat of any labour dispute involving Contractor's Personnel;
 - (c) have full authority to act on behalf of and bind Contractor on all labour and Contractor's Personnel issues which arise between Company and Contractor;
 - (d) supervise the performance of the Work;
 - (e) have the authority to commit Contractor to any course of action consistent with Contractor's rights and obligations under this Agreement; and
 - (f) be authorized to receive on behalf of Contractor any Notices, information or decisions of Company made pursuant to this Agreement.
- 5.6 The positions of Contractor's Personnel of key importance to the performance of the Work are listed in Exhibit 3 – Coordination Procedures and, Contractor shall not change any Personnel in such positions without the prior Approval of Company. In the event any such Key Personnel leave the service of Contractor, Contractor shall promptly use reasonable best efforts to retain replacement Key Personnel with equivalent experience. Contractor shall not retain such replacement Key Personnel on a permanent basis without first obtaining Company's Approval, which shall not be unreasonably withheld or delayed.
- 5.7 Contractor acknowledges and agrees that:
- (a) the Key Personnel are critical for the management, supervision and performance of the Work, and Company has relied on the Contractor's representations that Contractor will use and make the Key Personnel available as provided in the Agreement;
 - (b) the Parties have specified rates of liquidated damages in Exhibit 2 – Compensation to be payable by Contractor to avoid the difficulty of proving the precise loss suffered by Company if Contractor fails to comply with its obligations in respect of Key Personnel;

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- (c) the liquidated damages described in Exhibit 2 – Compensation with respect to Key Personnel are representative and reflective of the actual costs and damages that would be sustained by Company arising out of the removal or replacement of Key Personnel without Company Approval;
 - (d) it waives any and all right whatsoever to dispute or challenge such liquidated damages in any legal or other proceeding for the enforcement of payment of or set off of such amounts by Contractor to Company;
 - (e) it will pay Company liquidated damages at the agreed rates set out in Exhibit 2 - Compensation for removal by Contractor of Key Personnel without the Approval of Company unless such removal is due to:
 - (i) death, retirement, resignation or termination of employment from Contractor and all of its Affiliates, illness of that individual or any immediate family member, disability, injury, maternity or paternity leave or compassionate leave and has provided evidence satisfactory to Company thereof; or
 - (ii) is directed by Company under Article 5.3.
- 5.8 Contractor shall be responsible for, and shall defend, protect, release, indemnify and hold Company Group harmless from and against all Claims of any nature incurred by Company Group in connection with the payment of Contractor's Personnel, including all compensation, medical costs, Taxes (including all Canadian and foreign payroll and withholding Taxes and remittances), unemployment insurance premiums, Canada pension plan contributions and other benefits of whatever nature or as may be applicable in any jurisdiction (including any jurisdiction where the Work is performed or where the Personnel reside or are employed).
- 5.9 Contractor shall be responsible for, and shall defend, protect, release, indemnify and hold Company Group harmless from and against all Claims of any nature incurred by Company Group, including Claims by third parties and Company's Other Contractors, and against any damage to Company Group property arising from any act or omission by Contractor's Personnel.

ARTICLE 6 SUBCONTRACTS

- 6.1 Subject to Articles 6.2 and 6.3, Contractor may enter into Subcontracts for the performance of its obligations as set out in this Agreement provided, however, that Contractor shall not be relieved of any of its obligations to Company as set forth in this Agreement.
- 6.2 Contractor shall not Subcontract the whole of the Work and shall not Subcontract the performance of any portion of the Work, or its obligations under this Agreement, without Company's prior Approval.
- 6.3 Subcontractors that are identified in Exhibit 8 – Subcontractors, Manufacturers and Material Sources are Approved by Company. Contractor shall not be entitled to replace or add one or



more Subcontractors listed in Exhibit 8 – Subcontractors, Manufacturers and Material Sources without the prior Approval of Company, which Approval shall not be unreasonably withheld.

- 6.4 Contractor agrees that:
- (a) each Subcontract shall be in writing, in form and substance satisfactory to Engineer;
 - (b) upon written request by Engineer, Contractor shall deliver to Engineer a copy of the executed Subcontract (which may omit pricing details only);
 - (c) no Subcontract shall be amended, varied or terminated without the prior Acceptance of Engineer provided, however, Engineer's Acceptance is not required for amendments or variations which impact on the Work but which do not cause the Work to vary from the Technical Requirements;
 - (d) for any Subcontract delivered to Engineer, Contractor shall deliver to Engineer a copy of all amendments or variations to the Subcontract forthwith upon execution thereof; and
 - (e) Contractor shall obtain or cause to be obtained from each Subcontractor a consent by such Subcontractor permitting the assignment to Company of the Subcontract.
- 6.5 Contractor will preserve and protect the rights of the Company under this Agreement with respect to work to be performed under Subcontract and will:
- (a) incorporate the terms and conditions of the Agreement into all contracts or written agreements with Subcontractors; and
 - (b) be as fully responsible to Company for acts and omissions of Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by Contractor.
- 6.6 Company may, in Company's sole discretion, at any time object to the use of a Subcontractor and require Contractor to employ another Subcontractor.
- 6.7 Company may provide to a Subcontractor information as to the percentage of such Subcontractor's work which has been certified for payment.
- 6.8 Contractor shall be responsible for all acts, defaults, and neglects whether occurring in relation to workmanship under contract, tort or statute of any Subcontractor, agent, servant, supplier, manufacturer and/or workman employed, retained or used by Contractor as fully as if they were acts, defaults or neglects of Contractor directly.
- 6.9 Contractor will maintain good order and discipline among Contractor Group and their respective Personnel or agents engaged on the Work and will not employ on the Work anyone not skilled in the tasks assigned.
- 6.10 Nothing contained in this Agreement will create any contractual relationship between or among:

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- (a) Company and a Subcontractor (and any agent, employee and consultant thereof), a vendor or supplier to Contractor or a Subcontractor, or any of their agents, employees or other Persons performing any of the Work; or
 - (b) Company and any design or engineering consultant retained or hired by Contractor Group or their agent, employee or other person performing any of the Work.
- 6.11 Contractor shall immediately upon receipt of notice of any claim by any member of Contractors Group or any vendor or supplier to Contractor Group for a lien under the *Mechanics' Lien Act*, R.S.N.L. 1990, c. M-3, or otherwise, affecting or purporting to affect the Work, the LCP or the Site:
- (a) give Notice to Company; and
 - (b) take or cause to be taken on behalf of Company such measures as shall be necessary to procure the discharge thereof, including legal proceedings, if required.

However, in the event of a bona fide dispute with the lien claimant as to the validity of any claim for such lien, Contractor, subject to the Approval of Company, shall defend on behalf of Company, after first taking such steps on behalf of Company as may be necessary to remove all registrations in connection with such lien from title to the Work, the LCP and the Worksites, and shall indemnify Company pursuant to the provisions of **Article 21**. To the extent necessary to implement the foregoing, Company hereby authorizes Contractor to make such applications and to commence or participate in any legal or other proceedings in the name of Company as may be considered by Contractor to be necessary to perform the aforesaid obligations.

ARTICLE 7 PERFORMANCE SECURITY

- 7.1 Company requires Contractor to deliver to Company, upon executing this Agreement, a guarantee duly executed by Astaldi S.p.A. in the form which is attached to and forms part of Exhibit 14 – Performance Security ("Parent Guarantee").
- 7.2 The Parent Guarantee required by **Article 7.1** shall provide that Astaldi S.p.A. undertakes and guarantees that, if for any reason Contractor becomes unable or otherwise fails to carry out its obligations under this Agreement, Astaldi S.p.A. shall provide such financial or other support as may be required by Company to ensure that all Contractor's obligations under this Agreement continue to be fulfilled.
- 7.3 Company requires Contractor to deliver to Company three (3) irrevocable letters of credit issued by a bank listed in Schedule 1 to the *Bank Act*, S.C. 1991, c.46, with a minimum credit rating of A- by Standard & Poor's, or equivalent rating by another rating agency Approved by Company, as security for the proper performance of Contractor's obligations under this Agreement in the form and with the content specified in Exhibit 14 – Performance Security, the values and duration of which shall be:
- (a) equal to the amount of the advance payment set out in **Article 12.3(a)**, delivered and commencing within ten (10) Business Days of executing this Agreement and to remain in

effect until full credit for the advance payment has been received by Company and Notice of such receipt has been issued by Company to Contractor;

- (b) equal to Canadian one hundred million dollars (\$100,000,000.00), delivered and commencing within ten (10) Business Days of executing this Agreement and to remain in effect until a Substantial Completion Certificate has been issued pursuant to **Article 25.2**, and then equal to twenty million dollars (\$20,000,000.00) from the issuance of the Substantial Completion Certificate until a Final Completion Certificate has been issued pursuant to **Article 25.7**; and thereafter
- (c) equal to Canadian ten million dollars (\$10,000,000.00), delivered seven days prior to the last day the letter of credit in paragraph (b) is effective, covering the warranty period set out in **Article 17**.

7.4 Company requires Contractor to deliver to Company, within ten (10) Business Days of executing this Agreement, a performance bond to guarantee to Company performance of the Work ("**Performance Bond**"). Contractor represents and warrants to and in favour of Company that the Performance Bond shall:

- (a) be in effect as of delivery of the Performance Bond to Company;
- (b) bond all of Contractor's obligations under this Agreement;
- (c) strictly conform to the form of performance bond in Exhibit 14 – Performance Security;
- (d) be in the face amount of one hundred fifty million dollars (\$150,000,000.00), prepaid and non-cancellable by the surety;
- (e) be issued by a surety which has a minimum credit rating of A- by Standard & Poor's, or equivalent rating by another rating agency Approved by Company.

7.5 Company may claim and have recourse to the performance security required by this **Article 7** in any combination, if Contractor has not performed its obligations in accordance with the Agreement or if Company otherwise has a Claim against Contractor.

ARTICLE 8 CONSTRUCTION SCHEDULE

8.1 Contractor shall prepare and maintain a schedule for the performance of the Work in accordance with the requirements set out in Exhibit 3 – Coordination Procedures ("**Construction Schedule**").

8.2 Contractor represents and warrants to and in favour of Company that the Construction Schedule:

- (a) includes all elements of the Work;
- (b) is consistent with this Agreement;

- (c) provides that each Milestone shall be achieved on or before the associated Milestone Date;
 - (d) includes critical start and finish dates and commissioning periods for each element of the Work;
 - (e) includes all Interface Dates; and
 - (f) includes an appropriate allocation of time for completion of each item of Work.
- 8.3 The Construction Schedule shall be updated as necessary and in any event shall be updated by Contractor at least monthly and delivered to Engineer not more than seven (7) days after the end of the preceding month. Updates to the Construction Schedule shall comply with the requirements of this Article 8 and the other terms of this Agreement.
- 8.4 Contractor shall use computer-based critical path methodology in maintaining and updating the Construction Schedule which shall estimate and schedule the time required to complete each element of the Work. The Construction Schedule shall, at all times, show all significant construction and related activities in support of all Milestone Dates established under this Agreement, sufficiently detailed so that each of the following will be included and will be readily apparent:
- (a) the construction activities necessary to complete the Work;
 - (b) the dates for delivery of all material, machinery, equipment and fixtures forming part of the Work;
 - (c) Subcontractor interfaces and requirements;
 - (d) Milestone Dates, which shall include allowances for normal delays and difficulties that may be encountered in work of this nature, including weather and holidays; and
 - (e) Interface Dates.
- 8.5 To the extent a Change impacts a Milestone Date or an Interface Date such date or dates shall be extended to reflect additional time required for the Work occasioned by the Change. Such extension of time shall require a Change Order and be treated in accordance with the provisions of Article 14. For greater certainty, for all purposes in this Agreement a Change shall only impact a Milestone Date or an Interface Date when the available float in the Construction Schedule leading to the Milestone Date or Interface Date has been or will be consumed in its entirety as a result of the performance of the work for the Change.

ARTICLE 9 CONSTRUCTION SUPERVISION

- 9.1 Contractor will be solely responsible for construction safety at the Worksites and for compliance with the rules, regulations and practices required by the applicable construction health and



safety legislation and will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work.

- 9.2 Unless otherwise agreed in writing by Company, Contractor shall carry out or arrange for security for the Worksites and establish sufficient lighting and sign posting sufficient to ensure protection against damage or injury to persons or to the Work.
- 9.3 Contractor shall be responsible for all costs related to safety measures necessary for the prevention of accidents, the occupation of land, traffic, access to adjacent properties and the observation of all health and safety requirements under the Applicable Law.
- 9.4 Contractor will employ a competent Project Manager, site supervisor and necessary assistants. The site supervisor and necessary assistants will be in attendance at the Worksites while Work is being performed. The Project Manager or site supervisor will not be changed except for valid reason and only then with the prior Approval of Company. Company will be entitled by Notice to Contractor to object to any representative or person employed by Contractor (including persons other than Contractor's supervisor) in the execution of the Work who, in the opinion of Company, misconducts himself or herself, or is incompetent or negligent, and Contractor shall remove such person from the Work.
- 9.5 The Project Manager will represent Contractor generally and the site supervisor will represent Contractor at the Site. Instructions and notices given by Company to the Project Manager or to the site supervisor at the Site will be deemed received by Contractor.
- 9.6 For the purposes of the Applicable Laws, Contractor will be deemed to have control and management of the Worksites.

ARTICLE 10 COMPANY'S OBLIGATIONS AND RIGHTS

- 10.1 Subject to the provisions of this Agreement, Company agrees to engage Contractor to perform the Work in accordance with the terms of this Agreement.
- 10.2 Company, through the Company Representative or Engineer, shall provide to Contractor such instructions, information, authorizations, Acceptances and Approvals which can only be provided by Company. The provision of any such instructions, information, authorizations, Acceptances and Approvals shall not in any way relieve Contractor of any of its obligations under this Agreement. Contractor acknowledges and agrees that Company makes no representations or warranties in relation to the fullness or accuracy of such instructions, information, authorizations, Acceptances and Approvals. Subject to any express written disclaimer, exclusion or limitation in any instruction, information, authorizations, Acceptances or Approvals provided by Company, if such instructions, information, authorizations, Acceptances or Approvals contains material errors that requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date, then the provisions of **Articles 14.7 and 14.8** shall apply.
- 10.3 Company shall obtain all authorizations, permits and licenses required by Applicable Laws for the performance of the Work and which are required to be and can only be obtained in

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Company's name. If any delay or failure to obtain such authorizations, permits and licences requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date, then the provisions of Articles 14.7 and 14.8 shall apply.

- 10.4 Company shall designate a Company Representative who shall have authority to act on behalf of Company regarding all matters under the Agreement, receive and issue Notices and perform such other duties and acts reserved to the Company Representative under this Agreement.
- 10.5 Company Representative shall at all times during the Term have access to the Contractor's Items and Worksites and may without limitation monitor the performance of the Work.
- 10.6 The Company Representative, by Notice to Contractor, may delegate any of his or her respective authority to any nominated deputy. Such Notice shall specify the precise authority of such deputy.
- 10.7 Company may change the Company Representative at any time at its sole discretion by Notice to Contractor.
- 10.8 The dates for the supply, delivery or completion of Interfaces by Company's Other Contractors are set out in Exhibit 9 – Interface and Milestone Schedule. Company shall inform Contractor of any Changes to Interface Dates, and if such Change requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date, the provisions of Articles 14.7 and 14.8 shall apply. For all Interfaces, Contractor shall:
- (a) afford Company's Other Contractors reasonable opportunity to introduce and store their products and use their construction equipment to execute their work;
 - (b) co-ordinate and schedule the Work with the work for Interfaces by Company's Other Contractors and connect as specified or shown in the Technical Specifications;
 - (c) participate with Company's Other Contractors in reviewing their schedules when directed to do so by Engineer.
- 10.9 Where part of the Work is affected by or depends upon for its proper execution the work by Company's Other Contractors, Contractor shall promptly report to Engineer in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work by Company's Other Contractors. Failure by the Contractor to so report shall invalidate any claims against Company by reason of the deficiencies in the work of Company's Other Contractors except those deficiencies not then reasonably discoverable
- 10.10 Company is not obligated to supply any equipment, products or materials unless expressly stated in the Exhibits that Company will supply specific equipment, products or materials. If any such equipment, products or materials are supplied by Company to Contractor, the equipment, products and materials shall be in the care and custody of Contractor but shall remain the property of Company. Contractor shall not use any such equipment, products and materials supplied by Company except for the purpose for which they were intended under this Agreement, and Contractor shall be responsible for the proper care, handling and maintenance of all such equipment and materials and shall indemnify Company against any loss or damage.

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- 10.11 Company has the right to award contracts in connection with the LCP to Company's Other Contractors.
- 10.12 If Company, in its sole and absolute discretion, is satisfied with the performance of Contractor in executing the Work, then Company intends to negotiate certain scopes of work in addition to that contemplated within Exhibit 1 – Scope of Work. Any such additional scopes of work shall be performed in accordance with the provisions of this Agreement, *mutatis mutandis*, except that Company agrees to negotiate in good faith the particulars of such work, the price for the performance of such work and the time for completion of such work. For greater certainty, any additional scopes of work referenced in this Article 10.12 means work that does not constitute a Change because it is not described in and is fundamentally different from the Work in Exhibit 1 – Scope of Work. If Company, in its sole and absolute discretion, is not satisfied with pricing, Company reserves the right to invite competitive proposals.

ARTICLE 11
ROLE AND RESPONSIBILITIES OF ENGINEER

- 11.1 Engineer has been retained by Company to provide procurement, construction management and contract administrations services. Engineer shall have such powers, discretions, functions and authorities as are specified in or as may be implied from this Agreement and shall carry out such duties (including issuing instructions, decisions, orders and Acceptance). Whenever Engineer is required to exercise discretion by the giving of a decision, opinion or Acceptance, or to determine the cost or value of any matter which may affect the rights or obligations of a Party, Engineer shall exercise such discretion impartially within the terms of this Agreement, having regard to all circumstances.
- 11.2 Contractor shall comply with the decisions, orders and instructions given by Engineer in accordance with this Agreement.
- 11.3 Engineer shall confirm any decision, order or instruction in writing and any decision, order or instruction shall not be effective until such written confirmation has been received by Contractor.
- 11.4 Engineer shall be the interpreter of first instance of the Technical Requirements.
- 11.5 Contractor agrees that all Contractor's Items may be subject to inspection and Acceptance from time to time by Engineer or an Authority. Any Contractor Item which is rejected for not performing to standards set out in this Agreement or by Applicable Laws shall be immediately removed from the Worksite by Contractor and replaced with Contractor's Items Acceptable to Engineer at Contractor's cost.
- 11.6 Contractor shall not commence any Work involving permanent installation of any equipment, materials or products until the Contractor has submitted to Engineer and Engineer has Accepted the health, safety and environmental plans required by Article 15 and Engineer has issued drawings marked "Approved for Construction" for the part of the Work to be performed.

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- 11.7 Engineer shall notify Contractor when the Site is available for permanent installation of any equipment, materials or products as part of the Work, and Contractor shall not commence any Work at the Site until such notification has been given.
- 11.8 Where the Agreement calls for the Acceptance by Engineer or Approval by Company with respect to design, manufacture, installation, testing and commissioning of the Work, any such Acceptance or Approval is for general compliance with the Technical Requirements and does not relieve Contractor from satisfying all Technical Requirements. No inspection, review or Acceptance by Engineer or Approval by Company shall release Contractor from compliance with Contractor's obligations under this Agreement or Applicable Law.

ARTICLE 12
COMPENSATION AND TERMS OF PAYMENT

- 12.1 As full compensation for the performance by Contractor of all its obligations under this Agreement, Company shall pay Contractor the Contract Price in accordance with the terms of this Agreement including Article 12, Exhibit 2 – Compensation and Exhibit 3 – Coordination Procedures. Only those rates and prices specifically identified in Exhibit 2 – Compensation shall be paid by Company and any costs not specifically identified in Exhibit 2 - Compensation shall be deemed to be included in such rates and prices. Company shall have no obligation to pay Contractor for the purchase of any goods or performance of any services which have not been Approved by Company prior to delivery of such goods or prior to performance of such services.
- 12.2 Within thirty (30) days of the Effective Date, Engineer, on behalf of Company, shall provide Contractor with a pro forma invoice that sets out all relevant Company cost codes and required information. Contractor shall utilize said pro forma invoice and cost codes when billing Company.
- 12.3 Compensation to Contractor shall be paid:
- (a) an advance payment of ten percent (10%) of the Contract Price ,
 - (b) monthly based on progress, and/or
 - (c) upon achieving a Payment Milestone,
- as further specified in Exhibit 2 – Compensation. Contractor shall be paid the portion of the Contract Price applicable to monthly progress or to a Payment Milestone following Approval by Company of a Payment Certificate and in accordance with the provisions of this Article 12. Any compensation payable to Contractor pursuant to the Cost Sharing provisions of Section 2.7 of Exhibit 2 – Compensation shall be determined as of Final Completion.
- 12.4 Contractor shall provide, maintain and issue to Engineer, a detailed listing of the invoiced amounts of the Work and cash flow requirements regarding unbilled portions of the Work in accordance with the requirements set out in Exhibit 3 – Coordination Procedures. Contractor shall develop and present a format for the listing for Company Approval.

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12.5 Contractor's invoices shall comply in all respects with Company's invoicing instructions as provided for in this Agreement, including those set out in Exhibit 2 – Compensation, Exhibit 3 – Coordination Procedures and Exhibit 13 - Provincial Benefits.

12.6 Contractor's invoices shall be accompanied by:

- (a) all relevant supporting documentation as Company or Engineer may require to verify completion of the Work, the accuracy of the fees, charges and third party charges invoiced including copies of any relevant third party invoices, receipts, purchase orders and receiving reports;
- (b) a summary page of all third party invoices, complete with summary sheet cross referring to all backup information;
- (c) a sworn declaration, in the form set out in Exhibit 2 - Compensation, that Contractor has paid Subcontractors, vendors and suppliers all amounts properly due for work, services, materials and equipment supplied or performed and billed by the Subcontractors, vendors and suppliers carried in Contractor's invoices for which a Payment Certificate have been Approved by Company; and
- (d) any other documentation Company may reasonably require.

(All invoicing requirements, information and documentation described in this Article 12 shall hereinafter be referred to as the "Billing Information". Billing Information should always comprise a summary sheet with cross referencing to all backup information which demonstrates a clear audit trail substantiating all charges presented on the invoice.)

12.7 Company shall not be responsible for delays in payment due to Contractor not providing complete Billing Information.

12.8 Contractor shall submit an application for payment as follows:

- (a) For compensation based on monthly progress, Contractor shall issue to Engineer on the 25th day of each month during the performance of the Work, for Company's Approval, a Payment Certificate in the form set forth in Exhibit 3 – Coordination Procedures, that sets out:
 - (i) for Work items paid on a unit price basis, the number of units completed in that month together with the unit price and total claimed for each unit price item;
 - (ii) for Work items paid on a lump sum basis, the percentage completed as of the 25th of the month together with the amount claimed for each lump sum item based on the percentage completed less any amounts previously paid by Company for each such item;
 - (iii) for Work paid on a reimbursable basis, the information required by Section 4 of Exhibit 2 – Compensation; and

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- (iv) all relevant supporting documentation as Engineer or Company may reasonably require to verify the progress achieved.
 - (b) For compensation based on Payment Milestones, when Contractor considers that a Payment Milestone has been completed and the criteria for completion of that particular Milestone have been achieved, it shall issue to Engineer, for Company's Approval, a Payment Certificate in the form set forth in Exhibit 3 – Coordination Procedures, together with all relevant supporting documentation as Engineer or Company may reasonably require to verify the successful completion of the relevant Milestone criteria and achievement of the Payment Milestone.
- 12.9 Where payment is made for Work items on a unit price basis, the quantities of unit priced items in Exhibit 2 - Compensation (Appendix A – Schedule of Price Breakdown) are estimated quantities only, and any increase or decrease in the quantities of Work performed in respect of those items shall not result in a change in the unit price for those items.
- 12.10 Within ten (10) Business Days of receipt of a Payment Certificate, Engineer shall review it and the supporting documentation and make a determination as set out in paragraphs (a) and (b) below; if Engineer determines that:
 - (a) for Work compensated on a monthly progress basis:
 - (i) the progress claimed in the Payment Certificate has been achieved, Engineer shall recommend to Company that the Payment Certificate may be Approved; or
 - (ii) the progress claimed has not been achieved, Engineer shall amend the Payment Certificate to reflect the progress actually achieved and advise Contractor in writing the reasons for the revision, and recommend to Company that the revised Payment Certificate may be Approved; and
 - (b) for Work compensated on a Payment Milestone basis:
 - (i) the Milestone has been achieved, Engineer shall recommend to Company that the Payment Certificate may be Approved; or
 - (ii) the Milestone has not been achieved, Engineer shall reject the Payment Certificate and advise Contractor in writing the reasons why the Milestone has not been achieved.
- 12.11 Upon receipt of a Payment Certificate Approved by Company, Contractor shall submit an invoice for the amount due as determined in accordance with Exhibit 2 – Compensation and the requirements of Exhibit 3 – Coordination Procedures. The invoice shall be supported by the Approved Payment Certificate and all Billing Information as Engineer or Company may reasonably require.

12.12 Contractor shall address invoices to:

Muskrat Falls Corporation

Handwritten initials/signatures

350 Torbay Road Plaza, Suite No. 2
St. John's, NL
A1A 4E1
Attention: Lower Churchill Project Accounts Payable

- 12.13 If any Change affects the Contract Price, Contractor may issue an invoice for the Work completed pursuant to the applicable Change Order, as follows:
- (a) For Change Orders carried out on a lump sum basis, Contractor shall comply with the requirements outlined in Articles 12.5 through 12.12 in the same manner as if the completion of the Change Order Work is payable by monthly progress or constitutes a Payment Milestone.
 - (b) For Change Orders carried out on a reimbursable basis, Contractor shall include in its application for payment pursuant to Article 12.8(a) that portion of the Change completed in the previous month accompanied by all Billing Information including, an executed copy of the relevant Change Order, a copy of Company authorized time sheets, daily progress reports and any other information as Engineer may require to verify the progress, completion and associated charges pertaining to the Change. The final invoice for reimbursable Changes shall also include any information as Engineer may reasonably require to verify the successful completion of the Change.
- 12.14 If Contractor fails to comply with the requirements of Article 12.6, the Work shall be deemed incomplete and Company may withhold monies otherwise payable to Contractor and/or return invoices to Contractor for resubmission until such Billing Information has been provided to the satisfaction of Company.
- 12.15 Within thirty (30) days following Engineer's receipt of a properly prepared invoice, accompanied by acceptable Billing Information in accordance with Article 12, Company shall pay to Contractor the amount stated to be due, subject to the following:
- (a) Company shall be entitled to withhold from such payment any amounts required by Applicable Laws or permitted hereunder.
 - (b) notwithstanding the foregoing, if Engineer disputes any item charged in any invoice, Engineer shall notify Contractor of the disputed item specifying the reason therefor. Payment of such disputed item shall be withheld until settlement of the dispute, provided that payment shall be made on the undisputed portion.
 - (c) Company shall be entitled to set off amounts which it owes to Contractor under this Agreement or any other agreement against amounts which Contractor owes to Company under this Agreement or any other agreement.
 - (d) for any payments made by Company to Contractor by electronic transfer, Contractor shall provide Company with the necessary banking information to facilitate electronic transfer of funds to Contractor's bank. Any changes in Contractor's banking information or payment instructions shall be submitted in writing to the Company Representative.

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Company shall not be held liable or responsible for errors or delays resulting from incorrect or delayed submission of changes in banking instructions.

- 12.16 For the purposes of the *Mechanics' Lien Act*, R.S.N.L 1990, c.M-3:
- (a) prior to the first payment by Company to Contractor under this Agreement, Contractor shall provide Company with a holdback release bond in a form and from a surety acceptable to Company that secures Company for all Company's obligations with respect to holdback funds under the *Mechanics' Lien Act*, R.S.N.L 1990, c.M-3; and
 - (b) the holdback release bond described in **Article 12.16(a)** shall remain in place and be effective until the later of forty-five (45) days from the date of Final Completion shown on the Final Completion Certificate or all liens registered against Company property in respect of the Work have been vacated by order of a Court.
- 12.17 Company shall be entitled to withhold payment, or to deduct from Contractor's compensation, any amounts associated with:
- (a) invoiced items reasonably disputed by Company;
 - (b) Contractor's failure to make payments promptly to Subcontractors, agents, or suppliers;
 - (c) Contractor's failure to remit or pay any Tax or make any other payment required under Applicable Laws where Company, acting reasonably, determines that any such remittance or payment may be assessed against the Company;
 - (d) Defects in the Work not remedied;
 - (e) liens or claims filed or registered against property, or reasonable evidence indicating to Company the probability of claims or liens being filed or registered, with respect to the Work; and
 - (f) any other matter as permitted or required by Applicable Laws or as expressly provided in Exhibit 2 – Compensation, or elsewhere in this Agreement.
- 12.18 Company's obligation to pay any amounts to Contractor under this Agreement is subject to the following terms and conditions, which are inserted for the sole benefit of Company and may be waived by Company in whole or in part in respect of any payment, without prejudicing the rights of Company at any time to assert such terms or conditions in respect of any subsequent payment, namely:
- (a) no notice of claim for lien shall have been given in connection with the Work or if a notice of such a claim for lien shall have been given, such claim shall have been released, vacated or, if applicable, removed from title or the claim shall have been secured through the delivery of a bond in respect of the full amount of the claim;
 - (b) there shall exist no default, or any event which, with the passage of time or the giving of notice or both, would constitute a default on the part of Contractor; and

- (c) Company shall have received such other documents or satisfied such other conditions as Company or its project lenders may reasonably require and which are material to the Work.
- 12.19 If either Party fails to make payments as they become due under the terms of this Agreement or under an award by arbitration or Court, interest at the three (3) month Treasury Bill rate, as published by the Bank of Canada for the period in question, on unpaid amounts will also be due and payable until payment. Interest will apply at the rate and in the manner prescribed by this Article on the amount of any claim settled pursuant to Article 31 from the date the amount would have been due and payable under this Agreement, had it not been in dispute, until the date it is paid.
- 12.20 For greater certainty, Contractor and Company acknowledge that, notwithstanding any other provision of this Agreement, any amounts payable by Company to Contractor pursuant to this Article 12 are exclusive of any HST as payable pursuant to section 165 of the *Excise Tax Act* (Canada), R.S.C. 1985, c. E-15. If Contractor is required to collect from Company an amount of HST with respect to the provision of any goods or services supplied pursuant to this Agreement, then Company, subject to compliance by Contractor with Articles 12.21 and 12.22, shall pay the amount of such HST to Contractor.
- 12.21 Contractor represents and warrants that it is now and shall remain registered for the purposes of the HST in accordance with Part IX of the *Excise Tax Act* (Canada), R.S.C. 1985, c. E-15, for the Term and that its HST Registration number is **82924 7709 RT0001**.
- 12.22 Contractor shall provide, at all times when any HST is required to be collected, such documents and particulars relating to the supply as may be required by Company to substantiate a claim for any input tax credits as may be permitted pursuant to the *Excise Tax Act* (Canada), R.S.C. 1985, c. E-15, in respect of such HST. Without limiting the foregoing, Contractor shall include on all invoices issued pursuant to this Article 12 all of the following particulars:
- (a) HST registration number of Contractor;
 - (b) the subtotal of all taxable supplies;
 - (c) the applicable HST rate(s) and the amount of HST charged on such taxable supplies; and
 - (d) a subtotal of any amounts charged for any "exempt" or "zero-rated" supplies as defined in Part IX of the *Excise Tax Act* (Canada), R.S.C. 1985, c. E-15.

**ARTICLE 13
TAXES**

- 13.1 Contractor acknowledges that it shall be carrying on business in the Province of Newfoundland and Labrador (and elsewhere as applicable) during the performance of the Work and agrees to prepare and to file in a timely manner all Tax returns or declarations required by any applicable Authority or Applicable Laws having jurisdiction over this Agreement or any portion thereof. Contractor shall lawfully discharge its Tax obligations.



- 13.2 Subject to the obligation of the Company to pay HST pursuant to **Article 12.20**, Contractor shall pay all Tax and shall use its best efforts to ensure payment by Subcontractors of all Tax which may be lawfully assessed upon Contractor or any Subcontractor by any Authority having jurisdiction over Contractor, Subcontractor or this Agreement.
- 13.3 Contractor represents that Contractor's residence status for the purposes of Canadian income tax legislation is as set forth in Exhibit 10 – Declaration of Residency. Contractor shall advise Company of the country where Contractor is a resident for income tax purposes and shall give thirty (30) days Notice to Company and obtain its prior written consent before making or allowing any change to its tax residency status. If Contractor obtains, and provides to Company a copy of, an income tax waiver from the Canada Revenue Agency (CRA) waiving a non-resident tax source deduction as may be required by Canadian income tax legislation, Company agrees not to withhold any such income tax deduction to the extent waived so long as the waiver is and remains in force. In any event, Contractor further agrees to be liable for all such Taxes and shall indemnify Company in respect thereof pursuant to **Article 21.7** of this Agreement.
- 13.4 If required by the Applicable Laws of any country having jurisdiction, Company shall have the right to withhold amounts, at the withholding rate specified by such Applicable Laws, from any compensation payable for the Work performed by Contractor Group, and any such amounts paid by Company to an Authority pursuant to such Applicable Laws shall, to the extent of such payment, be credited against and deducted from amounts otherwise owing to Contractor hereunder. Contractor shall note on each invoice whether any portion of the Work covered by such invoice was performed inside or outside of Canada for the purposes of Canadian income tax legislation or such other information requested or required by Company to properly assess withholding requirements. At the request of the Contractor, Company shall deliver to Contractor properly documented evidence of all amounts so withheld which were paid to the proper Authority for the account of Contractor.
- 13.5 Contractor shall supply and arrange for all Contractor's Personnel to supply Company with all information relating to the activities under this Agreement that is necessary to enable Company or its Affiliates to comply with the lawful demand for information by any Authority. In the event Contractor does not supply or take all steps to arrange for any Subcontractor to supply such information and, as a result, an Authority imposes a Tax or fine upon Company or any of its Affiliates, Contractor shall forthwith pay or reimburse Company or any of its Affiliates for such Tax or fine.
- 13.6 Subject to the obligation of Company to pay HST pursuant to **Article 12.20**, the Contract Price shall include, and Contractor shall be responsible for, all Taxes which Contractor or Company is obliged pursuant to Applicable Laws to pay and does pay, for the purchase, sale, importation and exportation of the Work, or Contractor's Items, or personal property of any member of Contractor Group. Except as expressly otherwise provided herein, Contractor shall be the "importer of record" for the purpose of importing into Canada all Contractor's Items and the Work, or any part thereof, and shall pay all Taxes payable in respect of all such importations.
- 13.7 Contractor shall obtain for the benefit of Company all available exemptions from or recoveries of Taxes and shall employ all prudent mitigation strategies to minimize the amounts of Taxes required to be paid in accordance with Applicable Laws. In the event Contractor obtains any

rebate, refund or recovery in respect of any such Taxes, it shall immediately be paid to Company to the extent that such amounts were paid by Company or reimbursed to Contractor by Company.

- 13.8 Notwithstanding any other provision of this Agreement, Contractor Group shall not make any statement, representation, filing, return or settlement regarding Taxes on behalf of Company to an Authority without the prior Approval of Company.
- 13.9 For greater certainty, Contractor and Company acknowledge that, notwithstanding any other provision of this Agreement, any amounts payable by Contractor to Company pursuant to this Agreement are exclusive of any HST payable pursuant to the *Excise Tax Act* (Canada), R.S.C. 1985, c. E-15 or any other Taxes exigible in respect of such amounts payable. If Company is required to collect from Contractor an amount of HST or other Taxes with respect to any such amounts payable pursuant to this Agreement, then Contractor shall pay the amount of such HST or other Taxes to Company. If the amounts payable by Contractor to the Company pursuant to this Agreement are deemed by any Applicable Law to include an amount of HST or other Taxes, the amount otherwise payable pursuant to this Agreement shall be increased to the extent necessary so that the amount payable to the Company, net of such HST or other Taxes, is equal to the amount that would have been payable to the Company if such HST or other Taxes were not deemed to have been included in such amount.
- 13.10 For greater certainty, anti-dumping duties, countervailing duties and the like imposed as a result of Contractor's actions in the performance of the Work shall, in all cases, be borne by Contractor.

ARTICLE 14 CHANGES IN THE WORK

- 14.1 Company has the right to make a Change at any time and from time to time during the performance of the Work by issuing a Change Order. Contractor shall implement all Changes required by Company. Compensation for a Change shall be determined in accordance with Exhibit 2 – Compensation and Exhibit 3 – Coordination Procedures.
- 14.2 Contractor shall not perform and shall not be entitled to any compensation for a Change without a Change Order issued by the Company to the Contractor for the Change.
- 14.3 Contractor shall commence with and shall execute all Changes with all due diligence immediately upon receipt of a Change Order issued by Company.
- 14.4 Contractor shall comply with the requirements of Exhibit 3 – Coordination Procedures in the development of the pricing, impacts on resources and schedule as it relates to a Change and present a comprehensive proposal covering the Change to Company for Approval.
- 14.5 Except to the extent expressly provided in a Change Order, no Changes shall vitiate or invalidate or be deemed to amend or be deemed to constitute a waiver of any provision of this Agreement. All Changes shall be governed by all the provisions of this Agreement. Changes will not result in any limitation of Contractor's Warranty under Article 17.

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- 14.6 In the event the Parties fail to reach agreement on the pricing and impacts on resources and schedule with respect to a Change, Contractor shall perform the work specified in the Change Order as issued by Company and either Party may give a Notice of the Dispute which will be handled in accordance with Article 31 but in no case shall the price of any Change exceed an amount determined in accordance with Article 14.10.
- 14.7 If Contractor considers that a Change is necessary or desirable, Contractor may request a Change Order by submitting a Change Request in writing to Engineer in accordance with the procedure set out in Exhibit 3 – Coordination Procedures.
- 14.8 If Contractor considers or ought to have known, acting reasonably, that an occurrence has taken place which constitutes a Change, then Contractor shall, within ten (10) Business Days of the occurrence, or of Contractor becoming aware of the occurrence, as the case may be, give notice in writing of such occurrence to Engineer. Within twenty (20) Business Days of such notice in writing to Engineer, Contractor shall request a Change Order, by submitting a Change Request to Engineer in accordance with the procedure set out in Exhibit 3 – Coordination Procedures. If Company:
- (a) agrees, acting reasonably, that the occurrence constitutes a Change, then Company shall issue a Change Order in respect of the Change;
 - (b) disagrees, acting reasonably, that the occurrence constitutes a Change, Contractor shall proceed with the Work without delay and such continuation of the Work shall be without prejudice to Contractor's rights to advance a Dispute under Article 31.

If Contractor fails to comply with the conditions of this Article 14.8, it will relinquish its right to request a Change Order and waives any claim it may have for additional compensation and for an extension of time to complete a Milestone arising from the occurrence.

- 14.9 Changes shall be invoiced and paid for in accordance with Article 12, Exhibit 2 – Compensation and Exhibit 3 – Coordination Procedures. Cost of the work carried out under a Change Order will reflect any discounts, rebates, refunds or free material credits earned with purchase of material or other goods and services charged under a Change.
- 14.10 The adjustment in the Contract Price for a Change carried out prior to agreement by Contractor and Company on the price for the Change shall be determined on the basis of the cost of expenditures and savings to perform the work attributable to the Change as determined in accordance with Articles 14.11 and 14.12(a) plus overhead and profit as follows:
- (a) to the extent rates and prices in Exhibit 2 – Compensation apply, there shall be no allowance for overhead and profit;
 - (b) to the extent rates and prices in Exhibit 2 – Compensation do not apply:
 - (i) if a Change results in a net increase in the Contract Price, an allowance of seven percent (7%) for overhead and profit will be included;

- (ii) if a Change results in a net decrease in the Contract Price, the amount of the credit to Company will be the net cost of the decrease with a corresponding seven percent (7%) deduction for overhead and profit; and
- (iii) when both additions and deletions covering related work or substitutions are involved in a change in the Work, the allowance or deduction for overhead and profit will be calculated on the basis of the net increase or decrease, if any, with respect to that change in the Work.

14.11 Contractor shall keep and present in such form as Company may require an itemized accounting of the cost of expenditures and savings referred to in Article 14.10 together with supporting data. The cost of performing the work attributable to the Change shall be limited to the actual cost incurred by Contractor for the performance of the work attributable to the Change, using any applicable rates and prices in Exhibit 2 – Compensation, where the actual cost shall be limited to:

- (a) wages (including applicable Taxes) and benefits paid for labour in the direct employ of Contractor under applicable collective bargaining agreements;
- (b) the cost (including cost of transportation) of all equipment, material products incorporated into the Work less any trade discounts;
- (c) the cost (including cost of transportation) of materials, supplies, equipment and maintenance thereof, which are consumed, less any trade discounts and less salvage value on such items used but not consumed and which remain the property of Contractor;
- (d) rental cost of all tools, machinery and equipment, exclusive of hand tools, whether rented from or provided by Contractor or others;
- (e) deposits lost;
- (f) the amounts of all costs arising out of Subcontracts;
- (g) the cost of quality assurance such as independent inspection and testing services;
- (h) any adjustment in duties, and bonding and/or insurance costs for which Contractor is liable; and
- (i) the cost of removal and disposal of waste products and debris.

14.12 If the quantity of the Work is decreased or any part of the Work is deleted:

- (a) to the extent possible, the value of any deletion or reduction in the Work shall be determined using the rates and prices set out in Exhibit 2 – Compensation; and
- (b) Contractor shall not be entitled to claim any indirect or consequential damages, including loss of profits or loss of revenue.

- 14.13 If at any time after the start of the work directed by a Change Order for which there was no agreement on price, Company and Contractor reach agreement on the adjustment to the Contract Price and any adjustment to Exhibit 9 – Interface and Milestone Schedule, this agreement will be recorded in an amendment to the Change Order signed by Company and Contractor.
- 14.14 Either Party may advise the other Party of any change in Applicable Laws which makes a Change necessary or advisable. The Parties shall thereafter jointly develop a proposal for such Changes as may be required as a result of the change in Applicable Law. On receipt of such proposal, Contractor shall prepare and provide to Company the following:
- (a) details of the effect, if any, on the cost of the Work;
 - (b) details of the impact, if any, on Milestone Dates, Interface Dates and/or the Technical Requirements; and
 - (c) details of the impact on the Contract Price,

following which the provisions of this Article 14 shall apply *mutatis mutandis*.

ARTICLE 15
HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION

- 15.1 Contractor shall be responsible for ensuring the health and safety of all Contractor's Personnel who are engaged in the performance of the Work and shall also be responsible for environmental management. Without limiting the foregoing, Contractor shall:
- (a) ensure that all Contractor's Items and equipment within Contractor's control are maintained in safe, sound and proper condition and capable of performing the function for which each is intended and meets all industry standards and Applicable Laws;
 - (b) cease all activities in the area of any identified health, safety or environmental problem until such problem is resolved;
 - (c) immediately report to Engineer all health, safety and environmental problems and hazards;
 - (d) provide sufficient supervision, instruction and resources to ensure that Contractor Group's Work execution and Worksites comply with all Applicable Laws and good environmental practices;
 - (e) at its own expense and in accordance with Applicable Laws, supply and maintain Contractor's Personnel with personal protective equipment which shall be worn and used on all occasions as indicated by notices, instructions, good practice or as required by risk assessment;

- (f) conduct such drills and tests of Contractor's Items, equipment, Personnel and procedures to ensure that they are available, trained and in place, respectively, for immediate and effective action in the event of emergency;
- (g) comply with Company's emergency response requirements as described in Exhibit 11 – Company Supplied Documents;
- (h) cooperate fully and comply with any directions given by Authorities, including the police, safety and environment regulatory officials and fire authorities; and
- (i) report to Engineer monthly training compliance and safety statistics as identified by Engineer.

15.2 Contractor shall develop and submit to Engineer for Acceptance a detailed health and safety plan for the Work which demonstrates that, in connection with Contractor's performance of the Work, Contractor has identified risks pertaining to the health and safety of Contractor's Personnel, and that effective controls are implemented to prevent accidents and health and safety threats. Contractor's plan shall:

- (a) satisfy the requirements of Exhibit 5 – Health and Safety Requirements;
- (b) be structured in accordance with various elements within the Work such as fabrication, transportation, installation and commissioning;
- (c) include measurable, achievable targets for health and safety performance, including: lost time frequency; total recordable frequency; injury severity data; and first aid cases;
- (d) comply with Company's safety policies and procedures set out or described in Exhibit 11 – Company Supplied Documents; and
- (e) comply with Applicable Laws and Exhibit 3 – Coordination Procedures.

15.3 Contractor shall develop and submit to Engineer for Acceptance a detailed environmental protection plan for the Work which demonstrates that, in connection with Contractor's performance of the Work, Contractor has identified risks pertaining to the environment and that effective controls are implemented to prevent threats and damage to the environment. Contractor's plan shall:

- (a) satisfy the requirements of Exhibit 6 – Environmental and Regulatory Compliance Requirements;
- (b) be structured in accordance with various elements within the Work such as fabrication, transportation, installation and commissioning;
- (c) include measurable, achievable targets for performance, including: performance criteria for environmental emissions and waste, and hazardous materials; and



- (d) include an environmental management plan that satisfies the Technical Requirements and Applicable Laws.
- 15.4 Engineer, on behalf of Company, shall Accept Contractor's plans required by Articles 15.2 and 15.3 provided the plans comply with this Agreement, Applicable Laws and any ordinances, orders and decrees of any Authority having jurisdiction over health, safety and environmental compliance of the Work or the Worksite and any other requirements of Company.
- 15.5 Contractor shall comply with all such standards and the provisions of the plans required by Articles 15.2 and 15.3, along with any changes thereto as Contractor may be notified from time to time by Engineer, and all Applicable Laws relating to occupational health, safety and environmental protection. Contractor shall ensure that all Contractor's Personnel involved in the performance of the Work comply with the provisions of Contractor's health, safety and environmental plans and all Applicable Laws relating to occupational health, safety, and environmental protection. Contractor shall appoint a safety officer who shall assist Contractor in safety matters relating to Contractor's Personnel.
- 15.6 Contractor shall promptly investigate and report to Engineer and Authorities having jurisdiction any near miss incidents or any accidents resulting in injury, death or illness to any of Contractor's Personnel engaged in the performance of the Work, any criminal acts, any damage to property or any adverse impact on the environment and any release of substances hazardous to the environment.
- 15.7 Contractor shall submit to Engineer for Acceptance Contractor's drug and alcohol policy which shall be in compliance with Applicable Laws. Contractor shall ensure that Contractor's Personnel who are engaged in the performance of the Work, are familiar with, and comply with, Contractor's drug and alcohol policy.
- 15.8 Company shall have the right to suspend performance of the Work for as long as necessary to prevent or stop any violation of this Article 15. During such period of suspension, Contractor shall not demobilize from the Worksite. No compensation shall be payable to Contractor by Company and the Contractor shall not be entitled to compensation for any costs it incurs as a result of the suspension.
- 15.9 Company reserves the right to audit and inspect the Worksites to verify compliance with this Agreement, which audits and inspections may be performed by Engineer or such other third party as Company may direct.
- 15.10 Notwithstanding Article 40.6, in the event Company declares an emergency with respect to any matter affecting health, safety, the environment or potential damage to or loss of property, Contractor shall comply with verbal instructions issued by Company or Engineer with respect to such emergency. Company or Engineer shall confirm such instructions in writing at the first reasonable opportunity.
- 15.11 Contractor shall exercise all diligence to conduct operations under this Agreement in a manner that will prevent any adverse impact to the environment including seepage, discharge or escape of pollutants, hazardous substances, debris and damage to or destruction of habitat. Contractor shall be responsible for all risks and costs to:

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- (a) handle, dispose and/or cleanup those hazardous substances, if any, to the extent identified in Exhibit 11 – Company Supplied Documents in respect of the Site;
- (b) handle, dispose and/or cleanup those hazardous substances disposed of or discharged on the Worksites by Contractor Group in connection with or incidental to the performance of or default in any of Contractor's obligations under this Agreement;
- (c) remediate any environmental damage arising from Contractor's performance of the Work including the removal and cleanup of any pollution, debris and hazardous substances;
- (d) take such measures as are necessary in the circumstances to prevent or mitigate any environmental damage resulting from any pollution, seepage or discharge or escape of pollutants, debris and hazardous substances; and
- (e) subject to the paragraph immediately below, take such measures that Contractor or Company is under instructions to take from any Authority having jurisdiction to so instruct

provided however that Company shall be responsible for all risks and costs relating to the handling, disposal and/or clean-up of any hazardous substance which (i) existed on or under the Site prior to the date of commencement of the Work to the extent not disclosed in Exhibit 11 – Company Supplied Documents or (ii) is discharged or improperly disposed of by Company, Engineer, Company's Other Contractors, or any person under their respective control.

15.12 If Contractor:

- (a) encounters hazardous substances at the Site; or
- (b) has reasonable grounds to believe that hazardous substances are present in or on or under any of the Worksites which are not disclosed in the Exhibit 11 – Company Supplied Documents or are present in or on or under or migrating from any other sites;

Contractor shall:

- (c) take all reasonable steps to secure such Site, including stopping the Work, to ensure that no individual suffers an injury, sickness or death and that no property is injured or destroyed as a result of exposure to the presence of the hazardous substances;
- (d) immediately report the circumstances to Engineer in writing; and
- (e) report the circumstances to Authorities as required by Applicable Laws.

15.13 If hazardous substances are encountered during the Work, Contractor shall employ best practices and methods so as to minimize the costs of any work which may be required to handle and dispose of the hazardous substances and any environmental cleanup and to meet the

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requirements of Applicable Laws or Authorities as a result thereof. Provided that Contractor has complied with Article 15.12 and the hazardous substances were not brought to Site by Contractor, if Contractor's handling and/or disposal of hazardous substances requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date, Contractor may proceed in accordance with Articles 14.7 or 14.8.

ARTICLE 16
ACCESS, INSPECTION, TESTING, AUDIT

16.1 Contractor shall:

- (a) keep one copy of the current Agreement, submittals, reports, construction documents (including working plans or drawings, "Approved for Construction" Drawings, Technical Specifications and Shop Drawings) and records of meetings at the Worksites, in good order and available for inspection by Company and Engineer; and
- (b) maintain, and shall require each Subcontractor to maintain, in accordance with generally accepted accounting principles and practices satisfactory to Company, books, records, expense accounts and accounts pertaining to the provision of the Work, including Contractor's and Subcontractors' personnel records, correspondence, instructions, receipts, vouchers, memoranda, tapes, data, models, data stored in computer libraries and such other documentation and related systems of controls necessary for an accurate audit and verification of costs of the Work provided and general contract compliance.

16.2 The Company Group may:

- (a) at any time, without notice, have access to all Work being conducted on the Worksites;
- (b) upon reasonable notice, have access to any and all other premises where Contractor or any Subcontractor carries on any activity in any way relating to the Work, the LCP or this Agreement or where any test results, samples, books, records, accounts and documents are kept relating to the Work or this Agreement; and
- (c) upon reasonable notice, have access to such test results, samples, books, records, accounts and documents and be authorized to examine and make copies, including electronic copies, of all such test results, samples, books, records and documents and such other documents and systems as may be related to this Agreement and shall be authorized to interview Contractor's Personnel as may be necessary for an accurate audit and verification of costs of the Work provided and general contract compliance.

16.3 Contractor shall provide, and shall cause the Subcontractors to provide, Company and Engineer with all requested information and documentation with respect to the Work and this Agreement, and access thereto on a timely basis.

16.4 Company's rights of access, inspection, testing and audit pursuant to this Agreement shall expire seven (7) years after the satisfaction of all of the obligations of Contractor pursuant to this Agreement.

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- 16.5 The existence or exercise by Company or Engineer of its rights of access, inspection and audit shall not in any manner reduce or limit the obligations and responsibilities of Contractor pursuant to this Agreement.
- 16.6 Contractor shall provide sufficient, safe and proper facilities at all times for the inspection and testing activities by Company Group and all inspection and testing activities by Authorities.
- 16.7 Contractor shall:
- (a) prepare and maintain at all times copies of all test results and samples and, in accordance with generally accepted accounting principles and practices satisfactory to Company, proper, accurate and complete books, records, accounts and documents in which fair and proper entries shall be made of all activities and transactions in respect of the Work and this Agreement;
 - (b) ensure that Company Group Personnel has access to such test results, samples, books, records, accounts and documents in accordance with Article 16.2 in order that Company and Engineer may exercise rights of inspection and audit; and
 - (c) ensure that such test results, samples, books, records, accounts and documents shall not be destroyed until Company's rights of access, inspection and audit have expired or, if arbitration or Court proceedings to which such test results, samples, books, records, accounts and documents are relevant have been commenced, until such arbitration or Court proceedings have been finally concluded.
- 16.8 Company and Engineer shall each have the right at any time to conduct such on-site observations and inspections and such civil, structural, mechanical, electrical or other tests of the Work as Company or Engineer deem desirable to ascertain whether the Work complies with this Agreement. Company shall pay for any test, observation or inspection requested by Company, and the costs of such tests, observations or inspections (including the cost of any work reasonably necessary to restore any aspect of the Work to a condition or state that existed prior to the conduct of such test, observation or inspection) shall be borne by Company unless such test, observation or inspection reveals the failure of the Work to comply with this Agreement, in which event Contractor shall correct the Work and reimburse Company for the costs of such tests, observations and inspections.
- 16.9 Contractor shall give Engineer reasonable notice of its schedule with respect to inspections or testing of the Work in progress prior to its covering or completion, which notice shall be sufficient to afford Engineer a reasonable opportunity to conduct a full inspection of such Work.
- 16.10 Contractor shall, at Engineer's request, take apart or uncover for inspection or testing any previously covered or completed Work. The cost of uncovering, taking apart or replacing such Work shall be borne as follows:
- (a) by Contractor, if such observation or test reveals that the Work does not comply with this Agreement; or

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- (b) by Company, if such observation or test reveals that the Work complies with this Agreement and if the uncovering, taking apart or replacing impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with Articles 14.7 or 14.8.
- 16.11 Within five (5) Business Days of Notice by Company to Contractor, Contractor shall deliver to Company the most recent annual audited financial statements of Contractor.

**ARTICLE 17
WARRANTY**

- 17.1 Contractor agrees that for a period of three (3) years following the date of Final Completion shown on the Final Completion Certificate, it shall at its own expense promptly:
- (a) correct any Work which is not in accordance with this Agreement;
 - (b) rectify and make good or cause to be rectified and made good all Defects in the Work which are detected and discovered; and
 - (c) have available at the Worksites or at a proximate location to the Worksites all necessary equipment, spare parts and labour to comply with the foregoing obligations.
- 17.2 Contractor shall provide to Company a products and workmanship warranty on any products, materials, and equipment incorporated into the Work to remain in effect for three (3) years from the date of Final Completion shown on the Final Completion Certificate. Such warranties shall provide for replacement of the component parts of such products or equipment or replacement of materials and shall cover incidental direct costs incurred by Company arising out of Defects in or failure of the warranted product, materials, or equipment.
- 17.3 Company shall notify Contractor of any Defects in the Work or any such failure in respect of any item of Work as soon as practicable after Company becomes aware of them and shall stipulate a reasonable period of time within which the Defect or failure is to be rectified. Contractor shall rectify any such Defect or any such failure within the time stipulated therein. Notice of any Defect discovered during the period set out in Article 17.1 must be given to Contractor no more than sixty (60) days after the end of the period in Article 17.1.
- 17.4 Contractor shall secure for the benefit of Company, written warranties from the Subcontractors who provide or cause to be provided equipment, materials and/or systems which warranties shall include the terms set forth in Article 17.2.
- 17.5 Contractor will correct or pay for damage resulting from corrections made under the requirements of Article 17.
- 17.6 No payment by Company under this Agreement nor partial or entire use or occupancy of the Work by Company shall constitute an Approval of any portion of the Work which is not in accordance with this Agreement or a waiver by Company of any of the requirements of this Agreement.



- 17.7 Nothing in this Article shall be construed so as to prejudice, restrict, limit, waive or otherwise diminish the rights and remedies of Company at law with respect to latent Defects. Without limiting the foregoing, nothing in this Article shall be construed so as to restrict, limit, waive or otherwise diminish Contractor's warranty of adequacy of the Work and Contractor guarantees that:
- (a) all material will be new and free from Defects;
 - (b) all Work will be of a good and workmanlike quality;
 - (c) to the extent that Contractor is responsible for design under this Agreement, the Work applicable to such design shall be fit for purpose, as more specifically set forth in this Agreement, and where no purpose is specified, fit for its intended use; and
 - (d) the Work shall be free from Defects, including latent Defects.
- 17.8 If Contractor does not fulfill its requirements under this Article 17 or fails to fulfill its requirements within the period set by Company, within five (5) Business Days of Notice to Contractor by Company, Company may have the Work which is the subject of the Notice from Company corrected by a third party at the sole cost of Contractor. Such recourse shall in no way relieve Contractor from its Warranty obligations.

ARTICLE 18 CONTRACTOR INSURANCE

- 18.1 Contractor will procure insurance policies in accordance with the requirements of Article 18.3 from a financially sound insurance company and which is acceptable to Company. If Contractor fails to procure such policies or fails to provide certificates of insurance confirming such coverage in a form and with content acceptable to Company within the time specified in Article 18.2, or if any insurance is cancelled and not immediately replaced with comparable insurance to the satisfaction of the Company, then Company may at any time by Notice to Contractor terminate the Agreement.
- 18.2 Prior to commencing work at the Site or within ten (10) Business Days following the date of execution of this Agreement, whichever is earlier, Contractor shall submit to Company certificates of insurance or such other documentation as Company may require evidencing the insurance required by Article 18.3. Failure of Company to advise Contractor of any insurance deficiencies shall not relieve Contractor of any liability related to its obligations under this Article 18. On written request by the Company to the Contractor, the Contractor shall provide copies of insurance policies obtained by the Contractor in accordance with Article 18.3.
- 18.3 Contractor shall at all times while conducting the Work carry at least the following insurance, with limits not less than those specified below, covering property and liability outside the scope of insurance supplied by Company pursuant to Article 20.1. The cost of insurance procured by Contractor, including deductibles or self-insurance or policy retentions, shall be for the sole account of Contractor.
- (a) Workers' Compensation

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Workers' Compensation coverage for all of its Personnel engaged in the Work in accordance with the Applicable Laws of the jurisdictions in which the Work is performed. Contractor shall further ensure that non-residents are fully covered by Workers' Compensation insurance and Employer's Liability insurance with such coverage including an extraterritorial benefits extension providing benefits at least equal to those provided by the jurisdiction in which the Work is performed.

(b) Employer's Liability

Employer's Liability insurance, with limits as required by Applicable Laws, but not less than Canadian five million dollars (\$5,000,000.00) covering each employee engaged in the Work.

(c) Comprehensive General Liability

Comprehensive General Liability insurance written on an occurrence basis with limits of not less than Canadian five million dollars (\$5,000,000.00) per occurrence for bodily injury and/or property damage including contractual liability, sudden and accidental pollution liability for risks assumed by Contractor, broad form property damage, personal injury, contractor's protective liability, completed operations for a period of not less than twenty-four (24) months, contingent employer's liability and incidental medical malpractice.

(d) Automobile Liability Insurance

When not otherwise covered by Contractor's Comprehensive General Liability policy, Contractor shall obtain and maintain in effect automobile liability insurance covering all licensed vehicles whether owned, non-owned, leased or hired. Such insurance will provide a minimum combined single limit of liability for bodily injury and property damage of Canadian five million dollars (\$5,000,000.00) per occurrence.

(e) Owned and Non-owned Aircraft

To the extent that aircraft are used in the performance of the Work, owned and/or non-owned aircraft liability insurance with a combined single limit of not less than Canadian ten million dollars (\$10,000,000.00).

(f) Property

"All risks" property insurance covering all real and personal property which Contractor owns, leases or has in its care, custody or control including all machinery and equipment to be used for the Work but not forming part of the Work.

(g) Property in Transit

If required by Exhibit 2 – Compensation, Contractor shall provide property insurance coverage for the full value of equipment, goods, products and materials to be incorporated into the Work with such coverage to apply during transportation from

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Contractor's plant, factory or distribution centre to the location for delivery, with a maximum deductible of Canadian twenty-five thousand dollars (\$25,000.00).

(h) Subcontractors

Contractor is required to ensure that each of the Subcontractors provides insurance similar to the foregoing, as well as insurance which:

- (i) is required by Applicable Laws; or
- (ii) is reasonably appropriate in respect of the Work to be performed.

When requested to do so by Company, Contractor shall provide or cause to be provided to Company certified copies of such Subcontractor insurance policies or such other evidence of insurance acceptable in form and content to Company acting reasonably. Contractor Group shall not perform the Work during any period when any required policy of insurance is not in effect.

(i) Other

In addition to the insurance coverage specified above, Contractor shall carry such other insurance policies and in such amounts:

- (i) as may be required in order to comply with Applicable Laws; and
- (ii) as directed by Company with regard to liabilities assumed under the Agreement or in respect of specific activities performed for the Work.

- 18.4 All insurance policies required to be obtained by Contractor in accordance with Article 18.3 shall be endorsed to waive insurer's rights of subrogation against Company Group and their Personnel, stockholders, successors, assigns and Affiliates. All liability policies required above shall name Company Group and their Personnel, stockholders, successors, assigns and Affiliates as additional Insureds and shall contain cross liability and severability of interest provisions. Except with respect to the insurance coverage to be procured by Company pursuant to Article 20.1, all insurance policies obtained by Contractor shall operate as primary to any insurance policies maintained by Company and their Personnel, stockholders, successors, assigns and Affiliates.
- 18.5 All policies obtained by Contractor in accordance with Article 18.3 shall be further endorsed to provide Company thirty (30) days prior Notice of cancellation or any material change in coverage.
- 18.6 Company may reduce or waive all or any portion of Contractor's insurance requirements under this Article 18 under circumstances where the Work to be performed does not require equivalent insurance coverage. Such reduction or waiver shall be obtained in writing and shall in no way reduce or waive Contractor's responsibility or liability for the Work.

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- 18.7 Nothing in this Article 18 shall or is intended to limit the liability of Contractor under any other provision of this Agreement. The provisions of this Article 18 will not be interpreted as relieving Contractor of any of its obligations under this Agreement. Contractor may purchase, at its own expense, any additional insurance it deems necessary.
- 18.8 Contractor shall give Company prompt notification of any claim involving the Work with respect to any of the insurance policies referred to in Article 18.3, accompanied by full details of the incident giving rise to such claim. Contractor agrees to do all acts, matters and things as may be reasonably necessary or required to expedite the adjustment of any loss or damage covered by insurance so as to expedite the release and disposition of such insurance in the manner and for the purposes contemplated in this Agreement. If requested by Company, Contractor shall advise Company in writing of the final resolution of any such insurance claims.

**ARTICLE 19
WORKERS' COMPENSATION**

- 19.1 Prior to the commencement of any Work, Contractor and all Subcontractors shall provide written confirmation to Engineer from the WHSCC of compliance with or exemption from workers' compensation requirements and confirmation that all required assessments that are due and payable have been paid.
- 19.2 Upon completion of Subcontract work, each Subcontractor shall deliver to Engineer a clearance certificate from the WHSCC.
- 19.3 Upon completion of the Work, Contractor shall deliver to Engineer a clearance certificate from the WHSCC and all Subcontractors which have not previously provided evidence of compliance with Article 19.2 shall deliver to Engineer a clearance certificate from the WHSCC.
- 19.4 Contractor shall at all times pay, or cause to be paid, any assessment or contribution required to be paid pursuant to Applicable Laws relating to workers' compensation in respect of Contractor's Personnel and, upon failure to do so, authorizes Company, in addition to any other rights of Company under this Agreement, to withhold and remit on behalf of Contractor an amount equal to such assessment or contribution, including any interest and penalty assessed thereon.

**ARTICLE 20
PROJECT INSURANCE**

- 20.1 The following insurance coverages shall be procured by Company. Policies will cover Company Group, Contractor and subcontractors of every tier (but not including vendors and suppliers except to the extent a vendor or supplier performs operations at the Site) as their interests and/or liabilities may appear:
- (a) Construction All Risk (CAR) insurance, including design defect coverage to LEG2/96 or better, subject to a limit of not less than the total Contract Price, attaching on or in place and in effect as of the date Contractor commences work at the Site.



- (b) Wrap-up liability insurance, with Company as the named insured and its Personnel, stockholders, successors, assigns and Affiliates as additional insureds, written on an occurrence basis with limits not less than Canadian fifty million dollars (\$50,000,000.00) per occurrence for bodily injury and/or property damage including contractual liability, broad form property damage, personal injury, contractor's protective liability, completed operations for a period of not less than twenty-four (24) months, contingent employer's liability, incidental medical malpractice, cross liability and severability of interest provisions.
- (c) Pollution liability insurance, with Company as the named insured and its Personnel, stockholders, successors, assigns and Affiliates as additional insureds, written with limits not less than Canadian ten million dollars (\$10,000,000.00) per occurrence and in the aggregate.

20.2 All insurance policies required by Article 20.1 shall:

- (a) be endorsed to waive insurer's rights of subrogation against Contractor and subcontractors of every tier (but not including vendors and suppliers except to the extent a vendor or supplier performs operations at the Site) and their Personnel, stockholders, successors, assigns and Affiliates
- (b) include Contractor and subcontractors of every tier (but not including vendors and suppliers except to the extent a vendor or supplier performs operations at the Site) as additional insureds.

20.3 Contractor shall be responsible for deductibles under the Construction All Risk (CAR) policy of Canadian two million dollars (\$2,000,000.00), under the Wrap-up Liability policy of Canadian one hundred thousand dollars (\$100,000.00), under the pollution liability policy of Canadian two hundred fifty thousand dollars (\$250,000.00), up to a maximum of five percent (5%) of the Contract Price for any one claim, provided that:

- (i) Contractor shall not be responsible for deductibles arising from claims for damage or loss caused by earth quake;
- (ii) Contractor shall not be responsible for deductibles arising from claims for damage or loss caused by flood except Contractor shall be responsible for deductibles where the flood was caused or exacerbated by the acts or omissions of Contractor; and
- (iii) to the extent a claim for damage or loss was caused by the negligence of Company, Company shall be responsible for that portion of the deductible which represents the proportion of fault attributable to Company.

20.4 The insurance policies required by this Article 20 shall be in place and shall be maintained until a Final Completion Certificate has been issued, with any completed operations coverage to continue after the issuance of the Final Completion Certificate as set out in the policy.

**ARTICLE 21
INDEMNITY**

- 21.1 The Parties hereby agree and acknowledge that if a provision in this Article 21 conflicts with any other provision in this Agreement, then, subject to the provisions of Article 26.5 and Article 30, the provisions in this Article 21 shall prevail.
- 21.2 For the purposes of this Agreement, any liability assumed or indemnity given by either Party for the benefit of the other Party shall be deemed to be given by the indemnifying Party for the benefit of other Party, its successors and assigns, Affiliates and Personnel.
- 21.3 It is agreed and understood that the exculpatory clauses and indemnity obligations of each Party as provided in this Agreement shall apply to any and all Claims whatsoever incurred by the indemnified Party.
- 21.4 Except to the extent caused or contributed to by Contractor's breach of this Agreement or by Contractor's negligent act or omission, Company shall defend, indemnify, keep indemnified and shall hold Contractor harmless from and against any and all Claims, including legal costs on a substantial indemnity basis, which the Contractor may at any time sustain or incur by reason of or in consequence of any one or more of the following:
- (a) any negligent act or omission or wilful misconduct of Company or any licensee, invitee or Person acting on behalf of any of them in connection with or incidental to the performance of or default in any of Company's obligations under this Agreement;
 - (b) any inaccuracy in any representation or warranty made by Company;
 - (c) any breach or non-performance by Company, or any licensee, invitee or Person acting on behalf of Company of any of the obligations of Company in respect its obligations under this Agreement;
 - (d) any Claims by any third party in contract, tort, under any statute or otherwise at law or in equity with respect to any bodily injury or death, damage to or loss of property, damages, losses, costs, and expenses arising out of a breach of contract or negligent actions or omissions or wilful misconduct of Company, or any invitee or Person acting on behalf of Company in connection with or incidental to the performance of Company's obligations under this Agreement;
 - (e) any reasonable action taken by Contractor to mitigate or cure a breach or non-performance by Company of any covenant or inaccuracy in any representation or warranty pursuant to the Agreement;
 - (f) any non-payment of amounts due and payable to Company's Other Contractors resulting from furnishing of services, material, equipment, labour or otherwise in connection with the performance of Work;



- (g) any Claim in respect of loss or damage to the property of Contractor caused by a breach of contract or negligent acts or omissions or wilful misconduct of Company or any invitee, or Person acting on its behalf;
- (h) any Claims in respect of personal injury or death of Personnel of Contractor caused by a breach of contract or negligent acts or omissions or wilful misconduct of Company or any invitee, or Person acting on its behalf;
- (i) any representation or holding out by Company that it is an agent of Contractor;
- (j) all Claims (including any fine, penalty or demand of any Authority) which may be brought against or suffered by Contractor or which Contractor may sustain, pay or incur, arising out of any failure by Company to comply with its obligations, or any negligence or failure to comply with Applicable Law in carrying out its obligations, with respect to the environment under Article 15.

21.5 Except to the extent caused or contributed to by Company's breach of this Agreement or by Company's negligent act or omission, Contractor shall defend, indemnify, keep indemnified and shall hold Company harmless from and against any and all Claims, including legal costs on a substantial indemnity basis, which Company may at any time sustain or incur by reason of or in consequence of any one or more of the following:

- (a) any negligent act or omission or wilful misconduct of Contractor Group or any licensee, invitee or Person acting on behalf of any of them in connection with or incidental to the performance of or default in any of Contractor's obligations under this Agreement;
- (b) any inaccuracy in any representation or warranty made by Contractor;
- (c) any breach or non-performance by Contractor, or any licensee, invitee or Person acting on behalf of Contractor of any of the obligations of Contractor in respect of the performance of the Work or its obligations under this Agreement;
- (d) any Claims by any third party in contract, tort, under any statute or otherwise at law or in equity with respect to any bodily injury or death, damage to or loss of property, damages, losses, costs, and expenses arising out of a breach of contract or negligent actions or omissions or wilful misconduct of Contractor Group, or any invitee or Person acting on behalf of Contractor Group in connection with or incidental to the performance of the Contractor's obligations under this Agreement;
- (e) any reasonable action taken by Company to mitigate or cure a breach or non-performance by Contractor of any covenant or inaccuracy in any representation or warranty pursuant to the Agreement;
- (f) any non-payment of amounts due and payable to Subcontractors, Subcontractors' subcontractors of every tier, vendors and suppliers resulting from furnishing of services, material, equipment, labour or otherwise in connection with the performance of Work;

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- (g) any Claim in respect of loss or damage to the property of Company caused by a breach of contract or negligent acts or omissions or wilful misconduct of Contractor Group or any invitee, or Person acting on its behalf;
 - (h) any Claims in respect of personal injury or death of Personnel of Company caused by a breach of contract or negligent acts or omissions or wilful misconduct of Contractor Group or any invitee, or Person acting on its behalf;
 - (i) any representation or holding out by Contractor that it is an agent of Company;
 - (j) all Claims (including any fine, penalty or demand of any Authority) which may be brought against or suffered by Company or which Company may sustain, pay or incur, arising out of any failure by the Contractor to comply with its obligations, or any negligence or failure to comply with Applicable Law in carrying out its obligations, with respect to the environment under **Article 15**.
- 21.6 Contractor shall include in all of its Subcontracts, a provision stating that Subcontractors shall defend, protect, release, indemnify and hold Company harmless from and against all Claims for the death of or bodily injury to Subcontractors and their respective Personnel, and for damage to or loss of the property of Subcontractors or their respective Personnel, except to the extent that the Claims were caused by the negligence or wilful act or omission by Company.
- 21.7 Without limiting the generality of **Article 21.5**, and subject to the obligation of Company to pay HST pursuant to **Article 12.20**, Contractor shall be liable for and defend, protect, release, indemnify and hold Company harmless from and against:
- (a) any and all Taxes imposed by any Authority on any of Contractor Group in respect of this Agreement, and any and all Claims including payment of Taxes which may be brought against or suffered by Company or which Company may sustain, pay or incur in conjunction with the foregoing as a result of the failure by Contractor to pay any and all Taxes imposed as stated herein;
 - (b) any and all Taxes imposed by any in respect of the Work, or Contractor's Items, or any other items used by Contractor Group in the performance of the Work, or in respect of any services performed by Contractor's Group in respect of this Agreement, and any and all Claims (including Taxes) which may be brought against or suffered by Company or which Company may sustain, pay or incur in conjunction with the foregoing as a result of the failure by any member of Contractor Group to pay any and all Taxes imposed as stated herein; and
 - (c) all Claims of any nature in connection with the payment of any of Contractor Group, including all compensation, medical costs, Taxes (including all Canadian and foreign payroll and withholding Taxes and remittances), unemployment insurance premiums, Canada pension plan contributions and other benefits of whatever nature or as may be applicable in any jurisdiction (including any jurisdiction where the Work is performed or where the Personnel of the foregoing reside or are employed).
- 21.8 The liability and indemnities specified in this **Article 21** shall apply:



- (a) whether or not any Claim is asserted to have arisen by virtue of tort, contract, quasi-contract, statutory duty, strict liability or any Applicable Laws;
- (b) whether or not any Claim is made or enjoyed by the Person sustaining the injury or loss or by the dependents, heirs, claimants, executors, administrators, successors, survivors or assigns of such Person.

21.9 The indemnities given in this Article 21 shall apply in respect of the full liability of the indemnified Party for Claims, notwithstanding that the indemnified Party may be entitled to contribution thereto from any other Person and notwithstanding such liability may relate to the negligence of a third party, provided that in such case the indemnifying Party shall be fully subrogated to the rights of the indemnified Party against such third party.

21.10 If a Claim by a third party is asserted in circumstances which gives or may give rise to indemnification under this Article, the indemnified Party shall forthwith give Notice thereof to the indemnifying Party and, at the discretion of the indemnified Party, the indemnifying Party shall undertake the defence of such Claim. The Parties shall consult and cooperate in respect of such Claim and in determining whether such Claim and any legal proceedings relating thereto should be resisted, compromised or settled. Each Party shall make available to the other all information in its possession or to which it has access, and which it is legally entitled to disclose, which is or may be relevant to the particular Claim. The indemnifying Party shall provide the indemnified Party with reasonable information as to the progress of such Claim on a regular basis. No such Claim shall be settled or compromised without the written consent of the indemnifying Party. Notwithstanding the foregoing, if the indemnifying Party, within a reasonable time after Notice of any such Claim is given to it by the indemnified Party, fails to defend such Claim, the indemnified Party shall have the right to undertake the defence and compromise or settle such Claim on behalf of and for the account of the indemnifying Party.

21.11 During the period commencing at the time that Contractor has possession of, or control over, Work in which title has vested in Company, including items and/or services free issued by Company's Other Contractors, and until such time as Company takes care, custody and control of those items, Contractor shall:

- (a) be liable to Company for all Claims which Company may suffer, sustain, pay or incur directly or indirectly on account of damage to or loss of such Work or items or any other items free issued to Contractor; and
- (b) defend, protect, release, indemnify and hold Company harmless from and against all Claims which may be brought against or suffered by Company or which Company may sustain, pay or incur directly or indirectly on account of damage to or loss of such Work or items or any other items free issued to Contractor,

except to the extent to which any such Claims, damage or loss have been caused by any breach of contract or negligent acts or omissions or wilful misconduct of Company or any Person acting on its behalf, or any Company invitee.

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ARTICLE 22
SITE AND TRANSPORT CONDITIONS

- 22.1 Contractor shall inform itself fully as to the risks and contingencies and all other data, matters and things, local or otherwise, respecting a Site, transportation routes and any other aspects of the Work necessary to satisfactorily perform the Contractor's obligations under this Agreement. Contractor shall be deemed to have been satisfied as to the suitability and availability of such Site, transportation routes including access routes to the Site, and such other aspects of the Work.
- 22.2 Contractor acknowledges and agrees that utilities and service connections may not be located as exactly shown on drawings provided by Company or Engineer. Contractor shall satisfy itself fully as to the exact location of all utilities and service connections and shall, at no additional cost, make such alterations to the Work as may be required to avoid conflicts in or damage to utilities and connections.
- 22.3 Contractor shall be solely responsible for determining the transport route for shipment of all equipment and materials for use at a Site. Contractor shall conduct its own tests or investigations to satisfy itself as to all transport route conditions, including obstructions, road conditions, weight restrictions, size limitations and utilities. Contractor accepts all risks and contingencies associated with the transport of all equipment, materials, and Personnel for the Work at and to a Site.
- 22.4 Contractor waives its right to any claim against Company for additional compensation or any extension to a Milestone Date based on, resulting from or arising out of any differences between transport route conditions that may exist and those conditions that may have been assumed or anticipated by Contractor, including resulting from any assumptions, anticipations, misunderstandings or misinterpretation by Contractor of port, bridge or road conditions or from any information provided by Company or Engineer.
- 22.5 Contractor shall bear all costs and charges for special and/or temporary rights which Contractor may require, including those for transport of components of the Work and access to a Site. Contractor shall also obtain, at Contractor's cost, any additional facilities outside a Site which Contractor may require for purposes of Work.
- 22.6 Contractor shall be solely responsible for and assumes all risks associated with the transportation of all Contractor's Personnel to, and within, the location specified in Exhibit 12 - Site Conditions, and the cost of such transportation shall be included in the Contract Price.
- 22.7 Subject to Article 29, Contractor shall be solely responsible for and assumes all risks associated with river and weather conditions at the Site, and the cost of performing the Work under all river and weather conditions experienced at the Site shall be included in the Contract Price. For greater certainty, a failure or overtopping of a Company supplied coffer dam shall not be a Force Majeure occurrence and if any such coffer dam failure or overtopping requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with Articles 14.7 or 14.8.

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**ARTICLE 23
SUBSURFACE CONDITIONS**

- 23.1 If, during the course of the Work, Contractor encounters unforeseen geological or geotechnical conditions, including ground water, which it believes may impact upon its ability to complete the Work by the Milestone Dates, Contractor shall immediately provide notice in writing to Engineer, which notice shall contain such information as is reasonably available to Contractor at that time relating to the nature of the unforeseen geological or geotechnical conditions.
- 23.2 Within ten (10) Business days of a notice delivered pursuant to Article 23.1, Contractor shall determine the length of the delay resulting solely and directly from the unforeseen geological or geotechnical conditions, if any, and Contractor shall prepare and deliver to Engineer for Acceptance a revised Construction Schedule showing the impact.
- 23.3 Contractor agrees that the timing of any Payment Milestone may be adjusted by Engineer to reflect the time by which Contractor is solely and directly delayed or prevented from proceeding with the Work as a result of unforeseen geological or geotechnical conditions.
- 23.4 If Contractor disputes Engineer's decision regarding the delay, it may give a Notice of Dispute respect to the matter and thereafter refer the matter for resolution pursuant to the Dispute resolution procedures in Article 31.
- 23.5 Contractor shall at all times use all reasonable efforts and take all reasonable steps as may be required to eliminate or mitigate the impact on the Construction Schedule due to unforeseen geological, groundwater or geotechnical conditions.
- 23.6 To the extent unforeseen geological or geotechnical conditions may constitute a Change, the provisions of Article 14 shall apply.

**ARTICLE 24
DEFAULT AND TERMINATION**

- 24.1 The following events shall constitute defaults by Contractor:
- (a) if Contractor does not properly prosecute the Work or fails in the performance or observance of any of its obligations under this Agreement and such failure has a material adverse effect on Company or the Work except to the extent that the failure in performance or observance is excused by reason of Force Majeure or is caused by Contractor or any Person under its control; or
 - (b) if any representation or warranty made by Contractor herein or in any certificate, statement or document given pursuant to the terms thereof shall prove to be false or intentionally misleading in any material respect as of the date on which it was made, and any material adverse consequences to Company directly caused thereby shall have not been remedied within five (5) days after notice thereof shall have been given to Contractor by Company; or



- (c) if Contractor fails to make prompt payment when due to any Subcontractor or supplier except to the extent that such payments are being contested through mediation, arbitration or litigation and provided that Company has paid Contractor those amounts due and payable pursuant to this Agreement; or
- (d) if Contractor fails to comply with the Applicable Laws and such failure has a material adverse effect on the Work, this Agreement or the interests of Company therein; or
- (e) if Contractor has made an assignment of this Agreement without the Approval of Company; or
- (f) if there is an abandonment of the Work or any part thereof unless such abandonment is demobilization pursuant to Article 29.6; or
- (g) if the Work is discontinued or ceases for a single continuous period of seven (7) days or more, unless:
 - (i) contemplated by the Construction Schedule,
 - (ii) due to seasonal interruptions which are customary in the usual and ordinary course of the construction of the Work,
 - (iii) it is with the prior Approval of Company (not to be unreasonably withheld),
 - (iv) as a result of a suspension pursuant to Article 28, or
 - (v) caused by an event of Force Majeure;or
- (h) if there is an adverse departure from the Technical Requirements; or
- (i) if Contractor consents to an appointment of or the taking of possession by a receiver, trustee, custodian or liquidator of itself or of a substantial part of its property, or fails or admits in writing its inability to pay its debts generally as they become due or makes a general assignment for the benefit of creditors; or
- (j) if Contractor files a petition in bankruptcy or seeks reorganization and a proceeding under any applicable bankruptcy or insolvency law (as may now or hereafter come into effect) or seeks relief by voluntary petition under the provisions of any existing or future bankruptcy or insolvency or other laws providing for the liquidation, reorganization or winding-up of corporations or form of agreement of extension or adjustment with its creditors; or
- (k) if Contractor has a substantial part of its properties made subject to the appointment of a receiver, trustee, liquidator or custodian by court order and such order shall remain in effect for more than five (5) days or Contractor is declared bankrupt or insolvent or has

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any property sequestered by a court order and such order shall remain in undisputed effect for a period of more than fourteen (14) days; or

- (l) Contractor fails to procure or maintain the performance security required in accordance with **Article 7** provided that such failure shall not constitute a default if caused by the reduction in the amount or cancellation of such performance security through no fault of Contractor by the surety or issuer thereof, or by the bankruptcy, insolvency, winding up or downgrade of the credit rating of such surety or issuer, and Contractor is diligently seeking to replace the performance security required by **Article 7** and delivers evidence of same to Company.

24.2 In the event of a default by Contractor (other than a default as described in **Articles 24.1(i), 24.1(j), 24.1(k) and 24.1(l)**), Company shall give a Notice of the default to Contractor and any surety. Contractor shall remedy the default to the satisfaction of Company within fourteen (14) days of receipt of such Notice or, if such default cannot reasonably be remedied within such fourteen (14) day period, Contractor shall promptly begin to remedy the default within the fourteen (14) day period and thereafter diligently prosecute to conclusion all acts necessary to remedy the default.

24.3 On the occurrence of a default by Contractor as described in **Articles 24.1(i), 24.1(j), 24.1(k) and 24.1(l)**), Company may elect to terminate this Agreement and, if Company so elects, shall give Contractor two (2) days' Notice of such termination. Contractor shall have no right to dispute the termination. On such termination Contractor shall cease all Work.

24.4 If Contractor fails to remedy a default, in accordance with **Article 24.2**, Company shall have the right, at its election, to exercise any or all of the following remedies:

- (a) terminate in whole or in part, the rights or obligations of Contractor under this Agreement;
- (b) take possession of the Work, Worksites and Contractor's Items and, subject to **Article 24.8**, finish the Work by whatever method Company deems expedient;
- (c) remedy or cause to be remedied the default;
- (d) call upon the performance security required in accordance with **Article 7**;
- (e) require the performance of the Work to be stopped (in whole or in part); and
- (f) bring any proceedings in the nature of specific performance, injunction, or other equitable remedy, it being acknowledged that damages at law may be an inadequate remedy for default by Contractor under this Agreement.

24.5 If Company does not elect to terminate this Agreement pursuant to **Article 24.3** or **Article 24.4(a)**, the remedies available in this **Article 24** with respect to a default pursuant to **Article 24.1** shall not be construed as limiting Company's rights or remedies at law or in equity with respect to a breach of this Agreement and any such rights or remedies of Company whether at law or in equity or under this Agreement:

- (a) may be exercised individually or together with any one or more of its other rights or remedies and as often or in such order as Company deems expedient; and
 - (b) are cumulative and are in addition to and not in substitution for any other rights and remedies.
- 24.6 All costs of a Party, including expenses to remedy a default, relating to or arising out of the lawful exercise by such Party of any of its remedies under this Agreement:
- (a) shall constitute a debt by the other Party to such Party which shall immediately become due and payable;
 - (b) shall bear interest at the three (3) month Treasury Bill rate, as published by the Bank of Canada for the period in question, until payment is made;
 - (c) in circumstances of payments owing to Company, may be deducted by Company from the Contract Price; and
 - (d) failing payment by Contractor of amounts owing to Company, shall entitle Company to enforce and recover from the performance security required in accordance with **Article 7**.
- 24.7 Notwithstanding anything to the contrary contained in this Agreement, if in the reasonable opinion of Company there is a real or apprehended danger of material injury or damage to Persons, property or the environment arising out of or in connection with any matter, state, condition or thing relating to the Work, whether as a result of a breach by Contractor of this Agreement or otherwise, Company may, without notice and without prejudice to other remedies (but without obligation to do so), rectify any such matter, state, condition or thing, in which event Contractor shall be responsible for all costs reasonably incurred by Company in connection therewith to the extent that such rectification was required as a result of a breach by Contractor of this Agreement and Company has, in rectifying such matter, state, condition or thing, done so in a manner which complies, to the extent possible, with the standards, terms and conditions applicable to such Work as set forth in this Agreement. Company shall forthwith advise Contractor of any action Company takes in reliance on this **Article 24.7**.
- 24.8 Where Company has, pursuant to **Article 24.3** or **Article 24.4** terminated the rights or obligations of Contractor under this Agreement by reason of default of Contractor, Company shall, within thirty (30) days of the termination, advise Contractor as to whether or not Company shall complete or cause the Work to be completed. If Company elects to complete or cause the Work to be completed, Company shall use reasonable efforts to ensure that the Work is completed in a cost efficient and timely manner and shall cause the Work to be completed in accordance with this Agreement.
- 24.9 In the circumstances contemplated in **Article 24.4**, but subject to the provisions of **Article 30**, if Company elects to complete the Work (or cause the Work to be completed), Company is not obliged to pay Contractor for any Work in connection with the completion of the Work until the date of Final Completion, in which event the amount to be paid to Contractor will be the Contract Price for such Work less:

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- (a) one hundred ten percent (110%) of the costs of completing the Work actually incurred by Company; and
- (b) any amounts previously paid to Contractor on account of Work performed.

24.10 In the circumstances contemplated in Article 24.9, but subject to the provisions of Article 30, Company shall, as soon as practicable after the date of Final Completion, determine the total costs incurred and accrued in completing the Work including additional overhead and reasonable legal fees on a solicitor-client basis. If the total costs incurred by Company in completing the Work in accordance with the terms of this Agreement exceed the balance of the Contract Price unpaid at the time of delivery of the Default Notice, then Contractor shall be responsible and shall forthwith pay to Company the amount of such excess costs.

24.11 Notwithstanding any other provision of this Agreement:

- (a) if Company does not anticipate receiving or has not received confirmation of financing for the LCP from Lenders by March 31, 2014, Company may terminate this Agreement in its sole and absolute discretion, effective immediately or effective at a future date specified in the Notice, provided that a future date shall not be later than fifteen (15) Business Days from delivery of the Notice, upon:
 - (i) giving Notice to Contractor, and
 - (ii) payment of the amounts described in paragraphs (a), (b), (c), (d) and (e) of Article 24.18 plus a termination for convenience fee equal to ten percent (10%) of the total of such Article 24.18 amounts to a maximum of:
 - A. sixty seven million five hundred thousand dollars (\$67,500,000.00) if the Notice to terminate is issued prior to or on January 2, 2014;
 - B. eighty eight million two hundred thousand dollars (\$88,200,000.00) if the Notice to terminate is issued after January 2, 2014 and prior to or on February 3 2014; or
 - C. one hundred eleven million six hundred thousand dollars (\$111,600,000.00) if the Notice to terminate is issued after February 3, 2014 and prior to or on March 3, 2014;

and, subject to indemnity obligations for third party Claims pursuant to Article 21, upon the payment of the relevant amount described in subparagraph (ii) above, each Party and its Affiliates shall be released from, and the other Party waives, any and all Claims a Party may have against the other Party and/or its Affiliates arising from or relating to this Agreement;

- (b) at any time during the Term, Company may, in its sole and absolute discretion and for any reason, including convenience of Company and without any fault or default on the part of Contractor, terminate this Agreement effective immediately or effective at a future date specified in the Notice upon:

- (i) giving Notice to Contractor, and
- (ii) payment of a termination for convenience fee equal to the unpaid Labour Profit (as defined in Exhibit 2 - Compensation) plus the amounts described in paragraphs (a), (b), (c), (d) and (e) of Article 24.18;

and, subject to indemnity obligations for third party Claims pursuant to Article 21, upon the payment of the relevant amount described in subparagraph (ii) above, each Party and its Affiliates shall be released from, and the other Party waives, any and all Claims a Party may have against the other Party and/or its Affiliates arising from or relating to this Agreement;

- (c) and, for greater certainty, Contractor shall only be entitled to compensation for termination under this Article 24.11 by the provisions of either Article 24.11(a) or Article 24.11(b), and not both;
- (d) in the event Company, at any time during the twenty-four (24) months following termination under this Article 24.11(a) contemplates or initiates a process to contract with a contractor to undertake works in respect of the LCP substantially analogous to the Work, the Parties agree to negotiate in good faith the particulars of a new agreement substantially similar to this Agreement, with such changes to milestone dates and to prices as may be required in the circumstances. If Company, in its sole and absolute discretion, is not satisfied with pricing and milestone dates, Company reserves the right to invite proposals from other contractors; and
- (e) within forty-five (45) days from the date of termination pursuant to Article 24.11(a) or (b), Company shall release:
 - (i) the letter of credit provided pursuant to Article 7.3(b);
 - (ii) Performance Bond provided pursuant to Article 7.4; and
 - (iii) the holdback release bond provided pursuant to Article 12.16.

24.12 If Company terminates this Agreement pursuant to Article 24.11 or pursuant to Articles 24.3 or 24.4(a) and, in the case of termination pursuant to Articles 24.3 or 24.4(a) Company elects not to complete the Work, Contractor is not entitled to further payment for any of the Work; provided however, Contractor is entitled to any amounts payable on account of Work it performed and, subject to an accounting for the advance payment pursuant to Section 10 of Exhibit 2 – Compensation, to retain any amounts previously paid to Contractor.

24.13 Where this Agreement has been terminated pursuant to this Article 24, Contractor shall:

- (a) stop the performance of all Work and services hereunder except as may be necessary to carry out such termination;

- (b) assign to Company, upon Company's request, all rights of Contractor under such of the Subcontracts entered into by Contractor in connection with this Agreement as Company may specify;
- (c) terminate all Subcontracts as Company may specify in writing;
- (d) provide to Company a detailed list of all tangible and intangible property relating in any way to the Work including all equipment, machinery, fixtures, supplies, designs, concepts, plans, drawings, specifications, schedules, models, samples, patents, technology leases, licenses, books and records;
- (e) be deemed to have granted to Company for Company purposes a non-exclusive, perpetual license or other right to use any and all intellectual property, subject to the terms and conditions set forth in **Article 37**;
- (f) deliver or cause to be delivered to Company executed copies of all Subcontracts and related agreements to which it is a party, and shall use its best efforts to deliver or cause to be delivered copies of all documents and agreements relating to the Work which are in the possession or control of any Subcontractors;
- (g) deliver or cause to be delivered record drawings for the portion of the Work which has been completed to that date;
- (h) remove from the Site all material, debris, equipment and supplies that have not been incorporated in the Work and that are designated in writing by Company to be so removed;
- (i) do all such acts, execute and deliver to Company all such documents, conveyances, deeds, assignments, transfers, bills of sale, assurances and certificates and take all actions as may be required by Company to exercise its rights hereunder;
- (j) quit the Site;
- (k) surrender possession and control of the Site and the Work and deliver to Company or its nominee the Work (except those owned by third parties) free and clear of any and all security interests;
- (l) provide Company with such evidence or assurances as Company may reasonably require that title to the Work is unencumbered, and indemnify Company in connection therewith as provided for in **Article 21**, including an indemnification for any outstanding actions, suits or proceedings;
- (m) remove and dispose of such of the Work as is designated in writing by Company to be so removed and decommission or mothball the Work as reasonably required by Company; and
- (n) take any other action towards termination of the Work which Company shall request in writing.

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- 24.14 Company and Contractor each agree that, upon the request of the other, it will do all such acts and execute all such further documents, conveyances, deeds, assignments, transfers, assurances, certificates and the like as may be necessary or desirable to effect the purpose of this **Article 24**, whether before or after this Agreement is terminated.
- 24.15 To the extent Contractor does not perform its obligations under **Article 37**, **Articles 24.13** or **24.14**, Contractor hereby irrevocably nominates, constitutes and appoints Company as Contractor's true and lawful attorney in fact and agent for, in the name of and on behalf of Contractor to execute and deliver all such assignments, transfers, deeds, instruments, conveyances and other documents as may be necessary to give effect to the provisions of **Article 37** and this **Article 24**, as the case may be. Such appointment and power of attorney, being coupled with an interest, shall not be revoked by the dissolution, winding-up, bankruptcy, insolvency or subsequently in the capacity of Contractor, and Contractor hereby ratifies and confirms and agrees to ratify and confirm all that Company may lawfully do or cause to be done by virtue of the provision hereof.
- 24.16 Contractor may by Notice to Company declare Company in default of this Agreement for any of the following reasons:
- (a) Company has failed to pay Contractor within forty-five (45) days of the date that any payment becomes due and payable to Contractor in accordance with the terms of this Agreement, unless Company is bona fide disputing liability to make such payment and has provided Notice to the Contractor of the basis of its dispute in accordance with the provisions of **Article 31**;
 - (b) Company or Engineer substantially fails in the performance or observance of any of its material obligations under this Agreement and such failure has a material adverse effect on Contractor or the Work, except to the extent such failure in performance or observance is caused, in whole or in part, by Contractor or any Person under its control, or by reason of Force Majeure, or a Change, and such failure continues for a period of ten (10) Business Days following Notice thereof by Contractor to Company or Company has not begun rectifying such failure within such ten (10) Business Day period.
- 24.17 If Company fails to remedy the default within the cure periods established in accordance with **Article 24.16(b)**, Contractor may:
- (a) suspend in accordance with **Article 28.6**; or
 - (b) terminate this Agreement.
- 24.18 If Contractor terminates this Agreement in accordance with **Article 24.17(b)**, Contractor shall be entitled to retain any amounts previously paid to Contractor on account of Work previously performed and Company shall pay to the Contractor within thirty (30) days of such termination:
- (a) in accordance with the terms of this Agreement for all Work satisfactorily performed to the date of termination for which Contractor has not been paid;



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- (b) expenses of the Contractor that are directly related to the termination and reasonable in the circumstances, including the Contractor's obligations to other parties (not including any financing costs) to the extent related to the LCP, including as a result of Contractor fulfilling its obligations pursuant to **Article 24.13**;
- (c) the cost of plant and materials ordered for the Work which have been delivered to the Contractor, or for which Contractor is liable to accept delivery, and which have been paid or are payable by Contractor;
- (d) the cost of removal of any temporary works and of Contractor's Items from the Site and the return of these items to Contractor's operational areas; and
- (e) the cost of repatriation of Contractor's staff and labour employed wholly in connection with the Work at the date of termination.

In addition to the above, Company shall release the performance securities and the holdback release bond in accordance with **Article 24.11(e)**.

- 24.19 If Company terminates the Agreement in accordance with **Article 29.5**, Contractor shall be entitled to retain any amounts previously paid to Contractor on account of Work performed prior to termination and Company shall pay to the Contractor the amounts specified in **Article 24.18**.
- 24.20 On termination of this Agreement for any reason in accordance with this **Article 24** Contractor shall, concurrently with calculation and payment of amounts due to Contractor by Company, reimburse Company the portion of any advance payment made pursuant to **Article 12.3(a)** for which Company has not received reimbursement from Contractor in accordance with Section 10 of Exhibit 2 – Compensation.

ARTICLE 25 SUBSTANTIAL AND FINAL COMPLETION

- 25.1 Substantial Completion shall have occurred if and only if all of the items in paragraphs (a) to (h), inclusive, of this **Article 25.1** have occurred to the satisfaction of Engineer in accordance with this Agreement.
 - (a) The Work is ready for use or is being used for the purpose intended and is capable of achieving Final Completion at a cost of not more than two percent (2%) of the Contract Price.
 - (b) Contractor has delivered to Engineer all documents required in Exhibit 4 – Supplier Document Requirements List, with the exception of the drawings referenced in **Article 25.6(d)**.
 - (c) Engineer has prepared and delivered an updated Punch List to Contractor, which includes any minor items with respect to which Engineer has notified Contractor are incomplete or which have Defects.

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- (d) Contractor has delivered to Engineer a certificate:
 - (i) detailing all outstanding Claims of Contractor under this Agreement with documentation sufficient in the opinion of Engineer to support such Claims, and Company shall not be liable to Contractor for any Claim under this Agreement which is not identified within that Notice and supported by sufficient documentation; or
 - (ii) certifying that there are no such outstanding Claims.
 - (e) Contractor has delivered to Engineer the latest available clearance certificate from the WHSCC that no assessments or other amounts are owing to the date therein specified.
 - (f) Contractor has removed all Contractor Group's Personnel, supplies, equipment, materials, rubbish and temporary facilities, except those reasonably required for completion of outstanding Punch List items, from the Site so that the Site is neat, clean and safe.
 - (g) Contractor shall have assigned to Company all representations, warranties, guarantees and obligations which Contractor received from Subcontractors, manufacturers or suppliers subject to Contractor's right to retain the benefit of all Subcontractors that Contractor requires to complete the Work.
 - (h) There being no liens filed or registered pursuant to the *Mechanics' Lien Act*, R.S.N.L. 1990, c.M-3 with respect to or arising from the Work at that time.
- 25.2 When Contractor believes the requirements of Substantial Completion have been met, Contractor shall request from Engineer a Substantial Completion Certificate. Such request shall contain a declaration by Contractor that all the requirements of Substantial Completion have been met and a report of the results of any required tests for the Work with sufficient detail to enable Engineer to determine whether Substantial Completion has been achieved. If all requirements of Substantial Completion have been met to the satisfaction of Engineer, the date of Substantial Completion shall be the later of (i) the date specified in Contractor's request, and (ii) the date when the requirements of Substantial Completion were met to the satisfaction of Engineer. Promptly after Substantial Completion has been achieved as provided above, Engineer shall issue a Substantial Completion Certificate to Contractor, which states the date of Substantial Completion and Contractor shall turn over control and operation of the Work to Company.
- 25.3 Within forty-five (45) days of the date of Final Completion, Company shall release the holdback release bond provided pursuant to Article 12.16, provided that:
- (a) if applicable, the appropriate time period stipulated in the *Mechanics' Lien Act*, R.S.N.L. 1990, c.M-3 has lapsed; and
 - (b) Contractor delivers a certificate of one of its senior officers that all accounts for all Subcontracts and all other indebtedness which may have been incurred by Contractor in

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connection with the Work have been paid in full (except for amounts properly retained as a holdback or as an identified amount in dispute); and

- (c) Contractor delivers a certificate that its Subcontractors have paid or discharged their obligations in connection with the performance of the Work referred to in the certificate which certificate shall have attached thereto such releases and waivers of liens which are in the possession of the Subcontractors as may reasonably be requested by Company in order to establish such payment or discharge; provided however that if a Subcontractor is unable to provide a certificate that a lien has been discharged, such Subcontractor or Contractor shall furnish a bond or other instrument acceptable to Company to indemnify Company against any such lien claim; and provided further that if any such lien claim remains unsatisfied after all payments are made, Contractor shall refund to Company all monies that Company may be compelled to pay in discharging such lien including reasonable legal fees on a solicitor-client basis; and
- (d) there shall exist no event of default, or an event which, with the passage of time or the giving of notice or both would constitute an event of default as described in Article 24; and
- (e) Contractor has delivered to Engineer evidence satisfactory to Engineer that Contractor and all Subcontractors engaged in the Work are then assessed with the WHSCC and that their respective accounts are current.

25.4 If any item of Work on the Punch List is not completed by the date specified on the Punch List for such item, Company may complete or employ others to complete the item and Contractor shall be liable for and pay Company all costs to complete such item, plus ten percent (10%), and Company may deduct such amount from any amount otherwise owing to Contractor, without affecting any Warranty.

25.5 Contractor's access to and continued presence at the Site after the date of Substantial Completion shall be for the sole purpose of achieving Final Completion. In performing such work Contractor will use its best efforts not to inconvenience or interfere with Company and Company's Other Contractors.

25.6 Final Completion of the Work shall have occurred if and only if all of the following have occurred to the satisfaction of Engineer in accordance with this Agreement:

- (a) Substantial Completion shall have occurred and a Certificate of Substantial Completion has been issued;
- (b) all other outstanding obligations of Contractor under this Agreement have been fulfilled;
- (c) Contractor shall have delivered the warranties from Subcontractors as referred to in Article 17;
- (d) Contractor shall have delivered to Engineer electronic copies and reproducible hard copies of the record drawings for the Work; and



- (e) all Punch List items have been remedied to the satisfaction of Engineer.
- 25.7 When Contractor believes the requirements of Final Completion have been satisfied, Contractor shall request by Notice a Final Completion Certificate. Such Notice shall contain a declaration by Contractor that all the requirements of Final Completion have been met. If all requirements of Final Completion have been met to the satisfaction of Engineer, the date of Final Completion shall be the later of (i) the date specified in Contractor's request, and (ii) the date when the requirements of Final Completion were met to the satisfaction of Engineer. Promptly after Final Completion has been achieved as provided above, Company shall issue a Final Completion Certificate to Contractor, which states the date of Final Completion.
- 25.8 By submission of the Notice to Company for confirmation that Contractor has fully performed all of the Work pursuant to **Article 25.7**, Contractor agrees that, as of the date of the issuance of the Notice, Contractor waives, remises, releases and discharges Company of any and all Claims as of the date of the Notice that are known, ought to have been known or discoverable by reasonable means by Contractor, which Contractor has or may have relating to or arising out of this Agreement and the subject matter of this Agreement, and all facts and circumstances related to the Work, save and except:
- (a) any Claims previously submitted in writing prior to the date of the Notice, and remaining unresolved; and
- (b) the balance of the Contract Price payable, if any, upon the issuance of the Final Completion Certificate.
- 25.9 A Final Completion Certificate shall not be conclusive evidence of the value of the Work or that the Work is in accordance with the Agreement or that the Contractor has performed all its obligations under the Agreement:
- (a) to the extent that fraud or dishonesty relates to or affects any matter dealt with in the Notice of Final Completion; or
- (b) to the extent that any latent Defect is discovered.
- 25.10 Within thirty (30) Business Days following issuance of a Final Completion Certificate, Company shall pay the balance of the Contract Price for the Work, including any holdback retained by Company pursuant to the *Mechanics' Lien Act*, R.S.N.L. 1990, c.M-3, less:
- (a) an amount to satisfy any liens registered against the property of Company arising out of Contractor Group's performance of the Work;
- (b) any amount Company is entitled to set off against payment to Contractor;
- (c) any amount payable to Company pursuant to the provisions of this Agreement; and
- (d) any amounts required or permitted to be withheld by Company by Applicable Laws or this Agreement.



ARTICLE 26
LIQUIDATED DAMAGES FOR DELAY

- 26.1 For each Milestone specified in Exhibit 2 – Compensation as being subject to liquidated damages, if Contractor fails to deliver that part of the Work to achieve the Milestone by the Milestone Date (as may be revised in accordance with Article 14), Contractor shall pay Company as liquidated damages the full amount stipulated in Exhibit 2 – Compensation for each calendar day, including any part thereof, of the delay of that Milestone, from the date the delay commenced to the date the Milestone is achieved, unless the failure to achieve the Milestone is due to an event of Force Majeure or a Suspension Period. Contractor's limit of liability for liquidated damages payable by Contractor to Company pursuant to this Article 26.1 shall be a maximum of seven and one half percent (7.5 %) of the Contract Price.
- 26.2 Contractor acknowledges that Company's damages for which Contractor is responsible as determined in accordance with Article 26.1 are difficult to ascertain, and that the remedies of Company described therein are fair and reasonable in the circumstances, and Contractor agrees that it will not challenge the validity of any such remedies in any legal proceedings or otherwise claim or assert that any such remedies are invalid or unenforceable. Contractor agrees that Company may plead this Article 26.2 in any legal proceedings as an estoppel and complete answer in defence to any challenge, claim or assertion.
- 26.3 Company shall have the right to payment by Contractor of liquidated damages from time to time by giving Notice to Contractor. Any such Notice shall specify the amount of such damages and Contractor shall pay the amount so specified within ten (10) Business Days of the date of such Notice. Failure by Company to give Contractor a Notice shall not constitute a waiver of Company's right to claim all liquidated damages under this Article 26.
- 26.4 Company has the right to set off any amount of liquidated damages, plus interest determined in accordance with Article 26.1, owed by Contractor to Company against any amount due or to become due from Company to Contractor under the Agreement.
- 26.5 Subject to Company's rights of termination pursuant to Article 24.3 and Article 24.4(a) but otherwise notwithstanding anything contained in this Agreement, the payment of liquidated damages in accordance with this Article 26 shall constitute the sole and exclusive remedy of Company for any failure by the Contractor to deliver any part of the Work by the dates specified in Exhibit 2 – Compensation to the exclusion of any other remedy existing pursuant to this Agreement, at law or in equity. For greater certainty, Articles 26.1 and 26.2 shall not be construed as restricting the rights or remedies of Company with respect to any other breach of this Agreement:
- (a) with respect to the exercise by Company of any remedy otherwise available under this Agreement or at law; or
 - (b) in respect of any Claim by Company that a breach of this Agreement by Contractor has occurred; or
 - (c) as to the amount or value of any damages incurred or suffered by Company as a result of any breach by Contractor.

ARTICLE 27
TITLE AND RISK

- 27.1 Contractor warrants good title to all Contractor's Items, consumables, goods and other items furnished by it under this Agreement and that they are free from any liens or encumbrances in favour of third parties. Risk of and in Contractor's Items shall remain with Contractor throughout the Term.
- 27.2 Title to the Work (or any part of the Work) performed, including all Contractor's documentation related to the Work, shall vest in Company as and when performed or prepared. Title to all equipment, materials and products to be supplied by Contractor or its Subcontractors for incorporation into the Work shall vest in Company as and when identified and designated for incorporation into the Work. Title to any items free issued to Contractor by Company shall always remain vested in Company.
- 27.3 Company shall have the right, without prejudice to any other right it may have under the Agreement, to decline to pay for any part of the Work if Contractor is unable to provide evidence reasonably satisfactory to Company that title to the same has passed to Contractor or shall pass unconditionally to Company as provided in the Agreement, free from any liens or encumbrances in favour of any third parties.
- 27.4 Contractor shall cause the inclusion of terms consistent with the terms of **Articles 27.1, 27.2 and 27.3** in all Subcontracts so that Company and Contractor shall have the rights herein set forth with respect to each Subcontractor involved in the performance of the Work.
- 27.5 Subject to **Article 17**, risk of and in the Work shall be assumed by Company upon issuance of a Substantial Completion Certificate, and Contractor shall assume the risk of and undertake the care and control of the Work until such time as the Substantial Completion Certificate is issued in accordance with **Article 25.2**.
- 27.6 Contractor shall make available to Company all data relating to the operation and performance of the Work in electronic media for use by Company during the Term and during the operation of the Work. Contractor shall undertake all reasonable efforts to ensure data is provided in a form fully useable to Company with well recognized industry standard applications, including the requirements of Exhibit 3 - Coordination Procedures and Exhibit 11 - Company Supplied Documents.
- 27.7 Company, at its discretion and upon Notice to Contractor, may take temporary possession of or temporarily use Work, and/or any part of the Work, at any time prior to Substantial Completion of such Work provided that such possession or use does not have a material adverse effect on such Work, any remaining Work or the Warranty. Any such temporary possession or use of any part of the Work by Company, whether or not contemplated in Exhibit 1 - Scope of Work, shall not be deemed to be an Approval of that part of the Work and Contractor shall not be relieved of any of its obligations under this Agreement with respect to such part of the Work or the balance of the Work. If any such temporary possession by Company requires Contractor to perform extra work which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with **Articles 14.7 or 14.8**.

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- 27.8 If Company takes permanent possession of or permanently uses the Work or any part thereof following a Notice pursuant to **Article 27.7** where the possession or use is not contemplated by Exhibit 1 – Scope of Work:
- (a) Engineer shall prepare a Punch List for that part of the Work used or possessed prior to Substantial Completion and upon completion of the Punch List items for compliance with this Agreement, that part of the Work used or possessed shall be deemed to be Approved by Company;
 - (b) the Warranty shall apply except that the Warranty shall commence upon use of that part of the Work to which the Notice applies, notwithstanding the time for commencement in **Article 17.1**, and continue for the duration specified in **Article 17**;
 - (c) Contractor shall not be relieved of its responsibilities and obligations under this Agreement; and
 - (d) Contractor shall cease to be liable for the care of the Work and responsibility for that part used and possessed, which shall therefore pass to the Company.

**ARTICLE 28
SUSPENSION**

- 28.1 Company may at any time during the Term, at Company's sole discretion for any reason, suspend performance of the Work, or any part thereof, by giving Notice to Contractor (such period of suspension hereinafter "**Suspension Period**"). The Work shall be resumed by Contractor on a date as may be specified by Company in a Notice to Contractor. During the Suspension Period, Contractor shall properly protect and secure the Work as Approved in advance by Company.
- 28.2 Subject to **Article 28.3** and **Article 28.4**, Company shall reimburse Contractor its reasonable expenses (which Contractor shall use its best efforts to mitigate) incurred in compliance with any suspension order and associated reinstatement order, which reasonable expenses shall include all fixed costs (including employee expenses, accommodation costs, and the like) and stand-by costs incurred during or as a result of the suspension (including equipment, vehicles, third party transportation services, and the like) (the "**Suspension Expenses**"). Any such Suspension Expenses are to be subject to audit in accordance with **Article 16**. In no event shall Contractor be entitled to any compensation for indirect or consequential losses, including lost profits and revenue that may have resulted from such suspension or reinstatement order.
- 28.3 Company shall have the right to suspend performance of the Work for as long as necessary to prevent or stop any contravention of **Article 15**. During such period of suspension, no Suspension Expenses shall be payable to Contractor by Company.
- 28.4 In case of suspension due to Contractor's failure to perform the Work in accordance with **Article 3**, Contractor shall not be entitled to Suspension Expenses incurred from the moment the Notice of suspension was given until a reinstatement order (if any) is given by Company but shall remain liable, without prejudice to Company's other rights under this Agreement.



- 28.5 Contractor shall cause all terms of this Article to be inserted in all Subcontracts so that Company and Contractor shall have the rights herein set forth with respect to all Subcontractors.
- 28.6 Contractor may at any time during the Term, suspend performance of the Work, or any part thereof, by giving Notice to Company, where:
- (a) Engineer fails to make a determination regarding the Approval of a Payment Certificate in accordance with Article 12.10 within ten (10) Business Days of a Notice thereof from Contractor to Company; or
 - (b) Company fails to submit reasonable evidence of its financial arrangements in accordance with Article 35.1; or
 - (c) any payment to Contractor is delayed for any reason other than as specifically permitted pursuant to this Agreement and such payment is not received within 10 Business Days of a Notice thereof from Contractor to Company.

Company shall reimburse Contractor the Suspension Expenses incurred as a result of Contractor's suspension of Work pursuant to this Article 28.6. Following any suspension by Contractor, the Work shall be resumed by Contractor within ten (10) Business Days of receipt of such determination, evidence or payment.

- 28.7 Except for suspensions pursuant to Articles 28.3 and 28.4, if a Suspension Period impacts a Milestone Date or an Interface Date then Contractor may proceed in accordance with Articles 14.7 or 14.8.

ARTICLE 29 FORCE MAJEURE

- 29.1 For the purposes of this Agreement, Force Majeure shall mean and be limited to the following, including events or occurrences of a similar nature:
- (a) acts of God, riot, civil unrest, civil disturbance (including blockades to and from the Site), war, acts of civil or military authority, epidemics, quarantine restrictions, acts of terrorism;
 - (b) earthquake; flood (unless caused by Contractor Group and other than caused by the failure or overtopping of the Company provided coffer dam); fire; hurricanes; tornadoes; weather conditions or storms in excess of a fifty (50) year storm; or other natural physical disaster but excluding other weather conditions as such regardless of severity;
 - (c) strikes or industrial disputes, at a sectoral, provincial or national level, which affect a substantial or essential portion of the Work which have not been caused directly or indirectly by Contractor;
 - (d) a change in Applicable Law or the interpretation thereof (recognized by relevant courts or relevant government authorities) which change could not on the Effective Date

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reasonably have been foreseen and which materially affects a substantial or essential portion of the Work;

- (e) maritime and aviation disasters;
- (f) blockade or embargo of any port upon which provision of the Work depends;
- (g) nuclear, radioactive, ionizing radiation, chemical or biological contamination;
- (h) pressure waves caused by objects travelling at supersonic speeds.

29.2 Neither Contractor nor Company shall be responsible for any failure to fulfil any term or condition of this Agreement if and to the extent that such fulfilment has been delayed or rendered impossible by a Force Majeure occurrence of which the other Party has been notified in accordance with this **Article 29** and which is beyond the control and without the fault or negligence of the Party affected, and which by the exercise of reasonable diligence the said Party is unable to provide against.

29.3 A Party may not rely upon the provisions of **Article 29.2**:

- (a) unless it shall immediately upon being made aware of the Force Majeure occurrence notify the other Party of such Force Majeure and of the obligations expected to be affected thereby;
- (b) unless it shall immediately take all such steps as may be commercially reasonable in the circumstances to minimize the effect of, the Force Majeure occurrence and resume performance of the obligation affected by the Force Majeure as soon as reasonably possible; and
- (c) to the extent that and for so long as there would be concurrent delay to Work resulting from pre-existing matters within the responsibility or obligation of the Contractor under this Agreement.

29.4 Where Company claims Force Majeure and is entitled to rely upon the provisions of **Article 29.2**, then no compensation in respect of the Contract Price shall be payable to Contractor during the period that the Force Majeure occurrence continues to prevent performance by Company. Where Contractor claims Force Majeure and is entitled to rely on the provisions of **Article 29.2**, then Contractor shall be entitled to an extension to the Milestone Dates affected equal to the duration of the Force Majeure occurrence but no compensation in respect of the Contract Price shall be payable to Contractor during the period that the Force Majeure occurrence continues to prevent performance by Contractor.

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- 29.5 If Contractor is prevented from or delayed in performing any of its obligations as a result of an event of Force Majeure for a cumulative period of more than one hundred twenty (120) days over a period of twenty-four (24) consecutive months or a consecutive period of more than ninety (90) days during the Term, Company shall have the right thereafter to immediately terminate this Agreement upon giving Notice thereof to Contractor and Company shall have no further liability whatsoever to Contractor (except payment of the amounts contemplated in **Article 24.19**).
- 29.6 During any period in which the performance of the Work is prevented because of Force Majeure, Contractor and Company shall mutually agree either (1) to continue maintaining Contractor's Items and Personnel at or near the Worksite, in which case Company will reimburse Contractor at the rates outlined in Exhibit 2 - Compensation which is intended to cover only those expenses incurred by Contractor as a direct result of such prevention of performance, or (2) to demobilize Contractor's Items and Personnel at Company's expense until this Agreement is terminated in accordance with **Article 24**.
- 29.7 Notwithstanding any payment pursuant to **Article 29.6**, Force Majeure occurrence shall in no circumstances entitle Contractor to an increase in the Contract Price or to the Target Cost of Labour. For greater certainty, any payment by Company to Contractor pursuant to **Article 29.6** shall not be considered or deemed to be part of or included in the Contract Price or Target Cost of Labour.

ARTICLE 30
LIMITATION OF LIABILITY

- 30.1 Notwithstanding anything contained in this Agreement:
- (a) other than liquidated damages payable pursuant to **Article 26**, neither Party shall have any responsibility and shall not be liable under this Agreement to the other Party for any indirect or consequential damages or losses, including and whether or not the following are determined in any proceeding to be direct damages, any Claim in respect of loss of profit, loss of revenue, business interruption, loss of use, loss of opportunity, loss of goodwill, cost of capital, cost of replacement power, whether foreseeable or not, resulting from, arising out of or in connection with the performance or non-performance of any obligation pursuant to this Agreement howsoever caused, provided however, for clarity, that such limitation shall not apply in respect of Claims by third parties (outside of the Company Group or the Contractor Group); and
 - (b) the maximum aggregate liability of the Contractor toward the Company for all Claims arising out of or connected with the Work or performance or breach of this Agreement shall be limited to the sum of fifty percent (50%) of the Contract Price and actual insurance proceeds received from insurance to be maintained under this Agreement, provided however that such limitation shall not apply in cases of:
 - (i) Claims for personal injury (including death) suffered by third parties;
 - (ii) Claims for property damage or loss suffered by third parties;

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- (iii) Contractor's wilful, deliberate or intentional breach of this Agreement;
- (iv) Taxes, fines and/or penalties (including in respect of breaches of environmental laws) imposed by any Authority for which Contractor is liable under this Agreement; and
- (v) Claims for infringement of patents and/or other intellectual property rights.

**ARTICLE 31
DISPUTE RESOLUTION**

- 31.1 If any dispute, controversy, claim, question or difference of opinion arises between the Parties under this Agreement including an interpretation, enforceability, performance, breach, termination or validity of this Agreement ("Dispute"), the Party raising the Dispute shall give Notice to the other Party in writing within thirty (30) days of the Dispute arising, and such Notice shall provide all relevant particulars of the Dispute.
- 31.2 Upon issuance of Notice of Dispute, the Parties shall, acting in good faith and a commercially reasonable manner, attempt to resolve the Dispute in the following manner:
- (a) Within fifteen (15) days of the Notice, the senior project managers for each of the Company and the Contractor shall meet;
 - (b) If not resolved by senior project managers, the project sponsors or representative Vice Presidents for each of the Company and Contractor shall meet within thirty (30) days following the meeting of the project managers; and
 - (c) If not resolved by project sponsors or representative Vice Presidents, the Chief Executive Officers for each of the Company and Contractor shall meet within thirty (30) days following the meeting of the project sponsors or representative Vice Presidents.
- 31.3 If the Dispute is not resolved by the Parties within ninety (90) days from the date of delivery of the Notice of Dispute then a Party may forward the Dispute to the Dispute Review Board and the Parties shall participate in the review in accordance with the process set out in Exhibit 16 - Dispute Resolution Procedures.
- 31.4 If the Dispute is not resolved with the assistance of the Dispute Review Board, a Party may by Notice to the other Party require the Dispute to be resolved by binding arbitration in accordance with Exhibit 16 - Dispute Resolution Procedures.
- 31.5 Notwithstanding that a matter or matters have been referred to be resolved by application of the Dispute resolution procedures in this Article 31, each of Company and Contractor shall, to the extent reasonably possible or unless advised in writing by Company to suspend or discontinue Work in accordance with Article 28 or, in the case of a suspension under Article 28.6, by Contractor, continue to perform their obligations under this Agreement without interruption or delay and the continuation of such performance shall in no way amount to a waiver of, or in any way prejudice, positions taken by the Parties in the dispute being arbitrated under this Agreement. There shall be no extension to any date for completion of a Milestone by

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reason that a matter or matters have been referred to be resolved pursuant to the Dispute resolution procedures in Article 31.

**ARTICLE 32
LABOUR RELATIONS**

- 32.1 Contractor acknowledges that some or all of Company's Other Contractors and their Subcontractors at a Worksite may be union or non-union and that the Company requires Contractor to ensure that labour peace shall be maintained. Contractor shall take all necessary precautions to avoid labour disputes and to minimize the disruption in the event of any dispute.
- 32.2 Contractor shall at all times promptly take all steps necessary to maintain good labour relations with Contractor Personnel to the extent that such requirement is consistent with sound business practice in accordance with the Standard of a Prudent Contractor. Subject to Article 29.1(c), the existence of any labour disturbance relating to Contractor Personnel shall not relieve Contractor of its obligations under this Agreement.
- 32.3 Contractor represents and warrants that no collective or other agreement with its Personnel or between its Subcontractors and their workers, and no expiry or termination of any such agreement, will adversely affect labour peace at the Worksites or delay the Contractor's performance of the Work.
- 32.4 Contractor represents and warrants that it and its Subcontractors, if unionized, have written agreements with the unions representing the workers employed by them that include provisions that non-affiliation rights in any collective agreement or pursuant to any statutory right will not be exercised in connection with the Work. Any and all such agreements shall be submitted to Engineer within five (5) Business Days of the date of execution of this Agreement for existing collective agreements and of the date an agreement comes into effect for future collective agreements.
- 32.5 Whenever the Contractor has knowledge that any actual or potential labour dispute is delaying or threatening to delay the schedule and performance of the Work, the Contractor shall immediately advise Engineer in writing, including all relevant information with respect to such dispute or potential dispute and potential impact on the schedule and performance of the Work.
- 32.6 Without restricting the generality of Company's right to terminate the Agreement, Company may, but is not obligated to, give Notice to Contractor requiring Contractor to terminate any Subcontract by giving five (5) days Notice to the Subcontractor if:
- (a) the workers of the Subcontractor, or anyone employed by or through the Subcontractor:
 - (i) declare or engage in a strike, a work stoppage or a refusal to supply material; or
 - (ii) engage in a slowdown or other concerted activity which restricts or limits or, is likely to restrict or limit, the progress or performance of the Work;



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- (iii) picket or cause picketing to occur or support picketing by the refusal to Work, or continue to Work at or in the Worksites whether in support of lawful strike or for any other reason; or
 - (iv) do not comply with **Article 2.14**.
 - (b) the Subcontractor, or anyone engaged by or through the Subcontractor, imposes a lockout, lawful or unlawful, against their workers engaged in performing the Work.
- 32.7 Contractor shall ensure that all Subcontracts allow termination in each of the events set out in **Article 32.6**.
- 32.8 The sole cost and expense of preventing, avoiding or removing any of the matters or events giving rise to a labour disruption shall be borne by Contractor, who shall prevent, avoid and remove any and all such labour disruptions within five (5) days of the commencement of such disruptions, including making any necessary applications for injunctive or other relief to the Court.
- 32.9 Except for strikes, labour disputes or industrial disputes referenced in **Article 29.1(c)**, delays in the performance of the Work as a result of any strike, industrial dispute, labour disruption or labour dispute are to be considered as a delay attributable to Contractor, and for which the Contractor shall not be entitled to compensation or an extension to a Milestone Date.

ARTICLE 33 CONFIDENTIALITY

- 33.1 The term "**Confidential Information**" shall mean all information and data, in whatever form, which Company provides to Contractor in connection with this Agreement (including events witnessed by Contractor Group in connection with the performance of the Work). Confidential Information does not include information which:
- (a) prior to the time of disclosure or acquisition is lawfully in the public domain;
 - (b) after disclosure or acquisition becomes part of the public domain, through no act or omission on the part of a Party;
 - (c) prior to disclosure or acquisition was already lawfully in a Party's possession without limitation on disclosure to others;
 - (d) was obtained by a Party from a third party who is lawfully in possession of such information and is not subject to a contractual or fiduciary relationship with the other Party with respect to such information; or
 - (e) was independently developed by the receiving Party without the use of Confidential Information.
- 33.2 No Party shall disclose Confidential Information (including photographs of activities of Company) to any third party nor use any of the other Party's Confidential Information without the

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Approval of the disclosing Party. Notwithstanding the foregoing, either Party may disclose the other Party's Confidential Information if required by Applicable Laws or rules of any stock exchange on which shares of either Party or any Affiliate of such Party are traded. The disclosing Party shall promptly notify the other Party in advance of any such intended disclosure. The Parties shall adopt and follow precautionary measures with respect to Confidential Information to ensure that it is not disclosed to third parties without the Approval of the other Party. Any Approval in respect of confidential Information shall apply only to the specific request for Approval made by a Party in respect of such Confidential Information. Each Party shall ensure that its respective Subcontractors or Company's Other Contractors that the provisions of this Article 33.2 are complied with *mutatis mutandis*.

- 33.3 Either Party may disclose Confidential Information received from the other Party to their respective Affiliates, Engineer and the directors, officers, employees, contractors, subcontractors, legal counsel, consultants and advisors of the foregoing to whom disclosure is required to enable such Party to perform its obligations hereunder or to any other Person if such disclosure is required by Applicable Laws, provided the disclosing Party has taken such reasonable and necessary precautions to prevent any of the foregoing parties from disclosing such information to any third party. Company may disclose such necessary Contractor's information to Company's bankers and to financial institutions from which Company may seek financing for the LCP. Contractor may disclose such Confidential Information to Contractor's bankers and to financial institutions from which Contractor requires financing or security in respect of this Agreement.
- 33.4 To the extent Company is subject to the provisions of the Privacy Law, all documents and other records in the custody of or under the control of the Company and its Affiliates, and in relation to the Work in the custody of or under the control of Contractor, will be subject to the Privacy Law. Contractor acknowledges that Company is subject to the access to information and Privacy Law pursuant to which the public may have access to Company's records.
- 33.5 If Contractor discloses Confidential Information to its Personnel, Contractor shall ensure that any such Personnel are informed of the confidential nature of the information disclosed and that such Personnel comply with the Contractor's obligations under this Article 33.
- 33.6 This Article 33 does not apply to the disclosure of Confidential Information by Contractor in order to comply with any Applicable Law or legally binding order of any Court or Authority, as long as prior to such disclosure Contractor gives Notice to Company with full particulars of the proposed disclosure.
- 33.7 If requested by Company, whether prior to or after the expiry or earlier termination of the Agreement, Contractor shall promptly deliver to Company all Confidential Information in the custody, possession or control of Contractor or any of its Personnel.
- 33.8 The breach of any of the conditions contained in this Article 33 will be deemed to be a material breach of the Agreement.

**ARTICLE 34
GENERAL**

- 34.1 Nothing in this Agreement, nor the conduct of any Party, shall in any manner whatsoever constitute or be intended to constitute Contractor as the agent or representative or fiduciary of Company or any other Party, nor constitute or be intended to constitute a partnership or joint venture between Company and Contractor or any other Party, but rather as between Company and Contractor each Party shall be severally responsible, liable and accountable for its own obligations under this Agreement or otherwise for any conduct arising therefrom and for all Claims, demands, actions and causes of action arising directly or indirectly therefrom. Neither Party shall have the authority to make nor shall it make any statements, representations or commitments of any kind, or take any action, that will bind the other Party, except as expressly provided in this Agreement or as otherwise authorized in writing by the applicable Party.
- 34.2 Contractor shall, for all purposes under this Agreement and in relation to any aspect of the performance of its obligations in respect of the Work, be an independent contractor and shall have responsibility for and control over the details and means of performing such obligations in accordance with the terms and conditions of this Agreement.
- 34.3 Contractor agrees and shall cause the Subcontractors to agree at all times to highlight the independent nature of the relationship between Company and Contractor wherever possible, including through the use of on-site signage and identifiable logo, letterhead, colour schemes and equipment identification.
- 34.4 Each of the Parties shall, from time to time, at its own cost and expense, execute or cause to be executed all such further documents and do or cause to be done all things which are necessary to give effect to the provisions of this Agreement.
- 34.5 This Agreement embodies the entire agreement between Contractor and Company with respect to the Work and comprises all matters relating to the planning, procurement, construction, testing, inspection, commissioning and completion of the Work. Unless otherwise expressly stated, this Agreement supersedes all prior agreements, understandings or writings among the Parties, whether written or oral and whether legally enforceable or not. Subject to Applicable Laws, no Party shall be bound by or be liable for any statement, representation, promise, warranty, inducement, agreement, obligation or understanding of any kind or nature not set forth in this Agreement.
- 34.6 No modification of this Agreement by Contractor or Company, either before or after the execution of this Agreement, shall be of any force or effect unless such modification is in writing, is expressly stated to be a modification of this Agreement and is signed by duly authorized representatives of each of the Parties, with the exception of the following Exhibits where changes to same may be issued solely by Company:
- (a) Exhibit 3 – Coordination Procedures;
 - (b) Exhibit 5 – Health and Safety Requirements;
 - (c) Exhibit 6 – Environment and Regulatory Compliance Requirements;

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- (d) Exhibit 10 – Declaration of Residency;
 - (e) Exhibit 11 – Company Supplied Documents;
 - (f) Exhibit 12 – Site Conditions;
 - (g) Exhibit 13 – Provincial Benefits.
- 34.7 Contractor agrees that all public relation matters arising out of or in connection with the Work shall be the sole responsibility of Company. Contractor shall obtain Company's Approval of the text of any announcement, publication or other type of communication concerning the Work.
- 34.8 Contractor shall not advertise or issue any information, publication, document or article (including photographs or film) for publication or media releases or other publicity relating to the Work, the Agreement, the LCP or Company's business and activities without Approval of Company except as may be required by Applicable Law. Contractor shall refer to Company any enquiries from the media concerning the Work, the Agreement, the LCP or Company's business and activities. Contractor shall include in each Subcontract a provision that incorporates the terms of Article 33.7 and this Article 34.8 such that those terms shall apply to each Subcontractor.
- 34.9 This Agreement shall be binding upon and shall enure to the benefit of the Parties hereto and their respective successors and assigns.
- 34.10 The following provisions of this Agreement shall survive the termination or expiration of this Agreement and remain in full force and effect: Articles 1.11, 1.12, 1.14, 1.15, 1.19, 3.7, 5.1, 5.7, 5.8, 6.11, Article 7, Articles 10.7, 12.15, 12.19, 12.20, 12.22, Article 13, Article 17 (in cases of termination for Contractor's default pursuant to Articles 24.3 and 24.4(a)), Article 17.4, Article 21, Articles 24.2, 24.6, 24.8, 24.9, 24.10, 24.11, 24.12, 24.13, 24.14, 24.15, 24.18, 24.19, 24.20, Article 25 (for the purposes of determining the dates of Substantial Completion and Final Completion and the Parties' surviving obligations pursuant thereto), Article 26, Article 30, Article 31, Article 33, Articles 34.4, 34.5, 34.8, 34.9, 34.10, 35.1, 35.2, 35.3, Article 36, Articles 37.3, 37.4, 37.5, 37.6 and Article 40.

ARTICLE 35 ASSIGNMENT

- 35.1 Company may, without the Approval of Contractor, assign this Agreement, or any part thereof, to:
- (a) any Affiliate of Company (an "Affiliate Assignee") provided, however, that notwithstanding any such assignment to an Affiliate Assignee (an "Affiliate Assignment"), Company shall remain jointly and severally liable for all obligations of the Affiliate Assignee under this Agreement until:
 - (i) the lender's agent or Security Trustee of the lenders to the Affiliate Assignee has delivered a confirmation to Contractor that the Affiliate Assignee has credit facilities



available to it to finance those costs of the LCP which include the Work in the form set out in Exhibit 3 - Coordination Procedures - Appendix H; and

(ii) Company has delivered to Contractor a confirmation in the form set out in Exhibit 3 - Coordination Procedures - Appendix E that Company's payment obligations to Contractor for the Work are included in the credit facilities available to Company referenced in paragraph (ii) above; or

- (b) any successor to or replacement corporation of Company or similar entity in connection with any merger, consolidation or other reorganization of Company or transfer of all or substantially all of Company's assets other than as contemplated in paragraph (a) above upon delivery of the documents and confirmations contemplated in Article 35.1(a); or
- (c) any entity that has provided or provides financing for those costs of the LCP (which includes the Work) to Company, the Affiliate Assignee or their respective Affiliates, successors and replacements.

35.2 In the event of an assignment pursuant to Article 35.1(c), Contractor agrees that:

- (a) prior to the exercise by Contractor of any rights it may have under the Agreement arising by reason of any breach by Company of the Agreement (any such breach, a "Breach"), including cancellation or suspension of the Contractor's performance thereunder, Contractor shall give to the Agent Party at such time, written notice of the Breach at the time such notice is provided to Company. Upon receipt of such notice, such Agent Party shall be entitled, but shall in no way be obligated, to cure or cause to be cured such Breach and curable breaches which arose prior to such notice within sixty (60) days following the receipt by such Agent Party of such notice ("Cure Period"), provided that:
 - (i) such Cure Period will automatically be extended for the period of time the Contractor is precluded by Applicable Laws or by virtue of any debt reorganization, insolvency or bankruptcy proceedings, from cancelling the Contract; and
 - (ii) during the Cure Period, Contractor will not be obligated to supply goods or services or otherwise perform prospective obligations under the Agreement unless Contractor receives immediate payment for such goods, services or obligations;
- (b) it shall not exercise any rights of cancellation or suspension under the Agreement before the expiry of the Cure Period, unless the Agent Party at such time, expressly notifies the Contractor in writing that such Agent Party shall not:
 - (i) cure or cause to be cured the Breach specified in the relevant notice if such Breach is of a curable nature, or
 - (ii) observe and perform the obligations of Company under the Agreement, including curing curable breaches which arose prior to such notice.

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- 35.3 Immediately and automatically upon delivery of the copy of the documents referenced in subparagraphs (i) and (ii) of **Article 35.1(a)**, Company shall be fully and finally released and discharged from all liabilities, obligations, any and all actions, causes of action and covenants, whether expressed or implied, Claims or demands for damages, sums due, indemnity, costs (including without limitation legal fees and disbursements), expenses, interest, loss or injury of every nature and kind whatsoever and howsoever arising, which Contractor may heretofore have had, may now have, or may hereinafter have, in any way relating to or under this Agreement, both past and future, and Contractor acknowledges and agrees that the Affiliate Assignee shall thereupon be the sole obligor for all past and any future obligations under this Agreement in the same manner and to the same extent as if it was the sole obligor and original party hereto in the place and stead of Company under this Agreement, the whole without any further action, Approval, notice or document being taken, obtained, sent or executed by or to any of the Parties at any time. Any Affiliate Assignment shall become effective immediately upon delivery to Contractor of a Notice from Company and the Affiliate Assignee in the form set out in Exhibit 3 – Coordination Procedures – Appendix I.
- 35.4 Company shall not assign this Agreement or any of its benefits or obligations thereunder to any third party, other than those described in **Article 35.1**, without Contractor's Approval, which Approval shall not be unreasonably withheld, conditioned or delayed.
- 35.5 Following any assignment by Company pursuant to this **Article 35**, this Agreement may be re-assigned to that Company without Contractor's Approval.
- 35.6 Contractor shall not assign any of its interest in this Agreement without the Approval of Company. Such Approval shall not release or relieve Contractor from any representation or warranty given by Contractor or any obligation to be performed on the part of Contractor under this Agreement. Notwithstanding the foregoing, Contractor may at any time assign its interest in this Agreement to an Affiliate, provided that:
- (a) Contractor shall remain liable for any obligation to be performed on the part of Contractor under this Agreement, including Performance Guarantees, if such Affiliate fails to fulfill any such obligation;
 - (b) the Parent Guarantee and/or any letter of credit shall remain in place, remain effective and available to Company in the event the Affiliate fails to fulfill the Contractor's obligation under this Agreement; and
 - (c) if the Affiliate has a tax residency status that is different than the tax residency status of Contractor as declared to Company in accordance with **Article 13.3** (or such subsequent tax residency Approved by Company), Contractor has obtained the prior written approval of Company of the proposed assignment to the Affiliate.
- 35.7 In the event of a transfer by sale, assignment, amalgamation, merger, trust, operation of law or otherwise of any shares, interest or voting rights of Contractor which may result in the change of identity of the Person exercising *de facto* or *de jure* control over Contractor, the provisions of **Article 35.6** shall apply.



**ARTICLE 36
LIENS AND CLAIMS**

- 36.1 Without prejudice to the provisions of this Article 36, Contractor shall prevent the imposition of any liens, claims, encumbrances or attachments by or on behalf of any third party against Contractor's Items, the Work, and Company property wherever located, or any portion thereof and any liens or attachments which nevertheless are imposed shall be promptly vacated and removed from title by Contractor, at Contractor's sole cost, and Contractor shall indemnify, defend and hold Company Group harmless from and against the same.
- 36.2 Contractor shall defend, protect, release, indemnify and hold Company Group harmless from and against, and shall keep Contractor's Items, Company's property, Site and Work thereon free and clear of all liens, charges, claims, assessments, fines and levies suffered, created, or committed by Contractor Group, save only liens or encumbrances created with the prior written consent of Company voluntarily in favour of financial organizations in connection with Contractor's obtaining reasonable, prudent and necessary financing. Company may post on any of Contractor's property such notices as it may desire to protect itself against such liens, claims, assessments, fines and levies.
- 36.3 Notwithstanding the efforts of Contractor hereunder, if Company suffers costs or expenses or becomes liable for payment as a result of the imposition of such liens or attachments, then without prejudice to any other rights or remedies available to Company, Company shall have the right to withhold and set off an amount equal to any such costs, expenses or payments incurred or made by Company from any payments due to Contractor hereunder.

**ARTICLE 37
CONTRACTOR'S DOCUMENTS AND INTELLECTUAL PROPERTY**

- 37.1 Contractor, on or before the time set forth herein, shall prepare and deliver to Engineer all documents listed in Exhibit 4 – Supplier Document Requirements List.
- 37.2 Contractor shall provide Engineer, without charge or cost, copies of all documents required by this Agreement whether obtained by or prepared by or on behalf of Contractor.
- 37.3 All plans, specifications and other documents conceived of or produced or caused to be prepared, conceived of or produced and delivered in the performance of this Agreement by or on behalf of Contractor ("**Intellectual Property**") and which are particular to the Work shall be the property of Company.
- 37.4 Subject as is hereinafter provided, Contractor hereby grants to Company the exclusive, perpetual license or other right to use all such Intellectual Property and all patents, copyrights and other industrial and intellectual property rights, including trade secrets, arising in relation to the Intellectual Property ("**Rights**"), if any, that are held by Contractor. Contractor also agrees to obtain a non-exclusive, perpetual licence or other right to use such Intellectual Property and Rights from any other Persons who hold any rights and interests in the Intellectual Property and Rights and agrees to assign to Company the right to use all such Intellectual Property and Rights for all purposes in relation to the LCP.

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- 37.5 Contractor shall execute any and all written documentation which Company, Engineer and/or Lender may require to evidence the grant and assignment of the Rights.
- 37.6 Contractor shall not be liable in any manner whatsoever for Claims arising as a result of the use by Company or Engineer of the Intellectual Property or Rights other than in connection with the LCP.

ARTICLE 38
SHOP DRAWINGS

- 38.1 Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, product and other data (including data in electronic form) which Contractor provides to illustrate details of a portion of the Work.
- 38.2 Shop Drawings shall be based on the design Drawings and Specifications.
- 38.3 Contractor will provide Shop Drawings as described in the Agreement or as Engineer may reasonably request.
- 38.4 Contractor will review all Shop Drawings prior to submission to Engineer. Contractor represents by this review that Contractor has determined and verified all field measurements and field construction conditions, product requirements, catalogue numbers and similar data and that Contractor has checked and coordinated each Shop Drawing with the requirements of the Work and of the Agreement. Contractor will confirm this review of each Shop Drawing by stamp, date and signature of the person responsible. At the time of submission Contractor will notify Engineer in writing of any deviations in the Shop Drawings from the requirements of the Agreement.
- 38.5 Contractor will submit Shop Drawings to Engineer to review in orderly sequence and sufficiently in advance so as to cause no delay in the Work or in the work of Company's Other Contractors. Upon request of Engineer, Contractor and Engineer will jointly prepare a schedule of the dates for submission and return of Shop Drawings. Any Shop Drawings which require Approval of any Authority will be submitted to such Authority by Contractor for Approval.
- 38.6 Contractor will submit Shop Drawings in the form specified in the Agreement or as Engineer may direct. Engineer will review and return Shop Drawings in accordance with the schedule agreed upon or otherwise with reasonable promptness. Engineer's review is for conformity to the design concept and for general arrangement only. Engineer's review will not relieve Contractor of responsibility for errors or omissions in any Shop Drawing submitted by Contractor or for meeting all requirements of the Agreement unless Engineer expressly notes the Acceptance of a deviation on the Shop Drawings.
- 38.7 Upon Engineer's request, Contractor will revise and resubmit Shop Drawings which Engineer rejects as inconsistent with the Agreement unless otherwise directed by Engineer. Contractor will notify Engineer in writing of any revisions to the resubmission other than those requested by Engineer. Except as otherwise contemplated herein, Contractor will not be entitled to any extension to a Milestone Date nor any adjustment to the Contract Price as a result of complying with its obligations to resubmit Shop Drawings under this paragraph.



**ARTICLE 39
APPROVAL OF EQUIPMENT**

- 39.1 For equipment types identified in Exhibit 1 – Scope of Work, Contractor shall provide Engineer with a detailed list of the equipment that the Contractor proposes to use in the performance of the Work. The list of equipment provided by Contractor shall include manufacturer, model and a summary specification for each item listed.
- 39.2 Contractor shall not use any type of equipment required to be listed in accordance with Article 39.1 unless the specific equipment has been Accepted by Engineer. If Contractor seeks to use different equipment from that listed and Accepted by Engineer, Contractor shall notify Engineer and provide Engineer with such information as Engineer may require.
- 39.3 Engineer may, on reasonable grounds, object to any item of equipment proposed by Contractor in the equipment list. If each alternative make, manufacturer or model is rejected by Company for any item, type or class of equipment set out in the proposed list of equipment then Contractor shall resubmit the proposed list of equipment with further alternatives for the rejected item, type or class of equipment.

**ARTICLE 40
NOTICES**

- 40.1 Unless otherwise specified in the Agreement, any Notice given or made pursuant to the Agreement shall:
- (a) be in writing;
 - (b) be marked to the attention of the Contractor's Project Manager, in the case of the Contractor, or to the Company Representative, in the case of the Company;
 - (c) where given by Company, be signed or authorized by either Company Representative, an officer, a director or company secretary of Company, or a duly authorized representative of Company;
 - (d) where given by the Contractor, be signed or authorized by either Project Manager, an officer, a director or company secretary of the Contractor, or a duly authorized representative of the Contractor; and
 - (e) be delivered by prepaid post, by hand, by Aconex or by facsimile to the Party to whom the Notice is addressed at its address specified in Article 40.3 or such other address as that Party may have notified to the other Party.
- 40.2 A Notice will be taken to be duly given:
- (a) in the case of delivery by hand, when delivered;

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- (b) in the case of delivery by post, five (5) Business Days after the date of posting (if posted to an address in the same country) or twenty (20) Business Days after the date of posting (if posted to an address in another country);
 - (c) in the case of delivery by facsimile, on receipt by the sender of a transmission control report from the sending machine showing the relevant number of pages and the correct destination facsimile machine number or name of the recipient and indicating that the transmission has been made without error;
 - (d) in the case of delivery by Aconex, at the time and date recorded by Aconex for delivery to the recipient.
- 40.3 Any Notice given or made under the Agreement shall be delivered to the intended recipient by hand, post, Aconex or facsimile to the address or facsimile number below or the address or facsimile number last notified by the intended recipient to the sender:

(i) to Company:

Muskrat Falls Corporation 350 Torbay Road Plaza, Suite No. 2
St. John's, NL
Canada A1A 4E1
Re: Lower Churchill Project
Attention: Project Manager, Component I
Facsimile No.: (709) 754-0787
E-mail: ScottO'Brien@lowerchurchillproject.ca

(ii) to the Contractor:

Astaldi Canada Inc.

Attention: Ken Chyssolor
Facsimile No.: (709) 896-1179
E-mail: k.chyssolor@astaldi.com

- 40.4 Except where Notice is given using Aconex in accordance with **Articles 40.2 and 40.3**, if the Parties use any other form of electronic mail for day to day communication such electronic mail shall not be used for and will not constitute Notice under the Agreement where the Agreement expressly requires that a Notice be given.
- 40.5 Any technical communications pertaining to the Work shall be between Engineer and Contractor's Project Manager. Engineer shall, subject to the terms of this Agreement, be authorized to act on behalf of Company in all technical matters concerning the Work but not to commit or bind Company to a Change or amendment of the Agreement.
- 40.6 Except where expressly provided otherwise in the Agreement, verbal communications will not constitute formal communication or Notice under the Agreement and neither Party has any obligation to act on any verbal communication or instruction unless and until it is confirmed in writing. Any action taken by a Party based on verbal communications, instructions or

assurances will be at that Party's sole risk and will be without liability to or recourse against the other Party.

40.7 A Party may, from time to time, give Notice to the other Party of any change to its address.

**ARTICLE 41
EXECUTION**

41.1 This Agreement may be executed in any number of counterparts and any Party may transmit by facsimile or email in portable document format to the other Party a copy of this Agreement executed by that Party, the receipt of which shall have the same force and effect as if the original thereof had in fact been delivered at the same time.

41.2 Any original, facsimile copy, portable document format or photocopy of this Agreement bearing one or more signatures on behalf of a Party shall be admissible against that Party in any legal proceeding as evidence of the execution and delivery of this Agreement by that Party and without the requirement to produce an executed original of the Agreement.

41.3 Each person signing the Agreement as an authorized representative of a Party hereby represents and warrants that he or she is duly authorized to sign the Agreement for that Party and that the Agreement, upon having been so executed, shall be binding on that Party in accordance with its terms.

EXECUTED AS AN AGREEMENT:

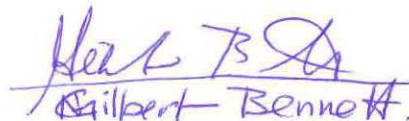
For and on behalf of Muskrat Falls Corporation



Signature of Authorized Representative

Ed Martin CEO

Name of Authorized Representative


Gilbert Bennett
Vice President

For and on behalf of Astaldi Canada Inc.



Signature of Authorized Representative

MARIO LANGIANI
PRESIDENT

Name of Authorized Representative

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EXHIBIT 1

SCOPE OF WORK

Exhibit 2 Attachment 1
Measurement and Payment – Revision 09
Agreement No.: CH0007-001

EXHIBIT 2 – ATTACHMENT 1

MEASUREMENT AND PAYMENT

Exhibit 2 Attachment 1
Measurement and Payment – Revision 09
Agreement No.: CH0007-001

1. PURPOSE AND PRINCIPLES OF APPLICATION

1.1. Purpose

- 1.1.1. This Attachment 1 - Measurement and Payment – specifies the 396 price items to be used to price the Work (as listed in the Schedule of Price Breakdown), the pricing method (i.e. lump sum or unit price) for each price item, the principles governing the application of the price items, and how the price items are to be measured and paid.
- 1.1.2. The numerical cross references, between Sections of this Attachment 1 and the price Item numbers, are as listed in the Schedule of Price Breakdown under the Heading “PRICE ITEM”.
- 1.1.3. Structure of the Contract Price
 - 1.1.3.1. Each price item is broken down into a Labour Component and a Non-Labour Component as defined in Section 2 of Exhibit 2.
 - 1.1.3.2. Payment for the Labour Component is based on Reimbursable Cost of Labour, with a Target Cost of Labour, Cost Sharing, LMAX and Labour Profit; all in accordance with Section 2 of Exhibit 2. Consequently, this Attachment 1 serves only to define the price items and the pricing method (i.e. lump sum or unit price) that determines the Target Cost of Labour.
 - 1.1.3.3. The Non-Labour Component is based on fixed prices and payment for the component shall be for actual progress. This Attachment 1, specifies how each fixed price item is to be measured and paid; and shall apply, in its entirety, to the Non-Labour Component.
 - 1.1.3.4. Schedule of Price Breakdown
 - a. Pricing has been inserted in the Schedule of Price Breakdown in accordance with this Attachment 1, Exhibit 2 - Compensation -, as follows:
 - i. Under the Heading “Labour Component” of the Schedule of Price Breakdown: For each price item of the Schedule of Price Breakdown, an estimate of the Reimbursable Cost of Labour (as defined in Exhibit 2) has been inserted. The summation of the price items shall define the Target Cost of Labour and includes for all Wages and Benefits of Contractor’s Work Force to perform the Work as of the Effective Date; it also includes an estimate of the escalation on the Reimbursable Cost of Labour over the period of the Work. Labour Profit, which is part of the Labour Component is not included in the Reimbursable Cost of Labour but is calculated separately in row (j) of the Schedule of Price Breakdown.
 - ii. Under the Heading “Non-Labour Component” of the Schedule of Price Breakdown: With the exception of Price item 19A, fixed prices have been inserted in the Schedule of Price Breakdown in accordance with this Attachment 1 and Exhibit 2. Price Item 19A (Travel Allowances – Trades Labour) is an estimate. The Non-Labour Component includes for all costs, overhead and profit to perform the Work, with the exception only of the Labour Component and Travel Allowances – Trades Labour. The fixed prices inserted include for profit on the Non Labour Component.

Exhibit 2 Attachment 1
Measurement and Payment – Revision 09
Agreement No.: CH0007-001

The pricing for the Non Labour Component has been inserted under the following sub categories of the Schedule of Price Breakdown:

Column D - Materials for the Work, including fuel, lubricants and spare parts;

Column E - Equipment to perform the Work; and

Column F - Other: This includes:

- Flats Rentals, Hotel expenses and local and international flight tickets, for management and staff, under Price Item 6;
- Price Items 13, 14, 15, 16, and 18;
- Transportation costs of plant and equipment under Price Item 1 – Mobilization;
- Profit on each Price Item.

- 1.1.4 Before issuing its first Payment Certificate under the Agreement, Contractor shall submit to the Engineer a Schedule of values of the various parts of the Work totaling the full amount of the fixed lump sum price portion of the Contract price. The Schedule of values shall define, for each lump sum, percentage completion as a function of identifiable points of completion. The Schedule shall be use as a guideline for applications for payments.

1.2. Quality of Materials and Workmanship and Tests

- 1.2.1. All materials and workmanship shall be of the respective kinds described in Technical Specification and in accordance with the Engineer's instructions. Materials and Workmanship shall be subjected from time to time to tests as the Engineer may direct; these tests may take place at the place of manufacture or fabrication, or on the Site or at such other place or places as may be specified in the Agreement or by the Engineer, or at all or any such places. Contractor shall provide assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used and shall supply samples of materials before incorporation in the Work for testing as may be selected and required by the Engineer.
- 1.2.2. All samples shall be supplied by Contractor at its own costs if the supply thereof is clearly intended by or provided for in the Agreement, but if not, then at the cost of Company.
- 1.2.3. The cost of making any test shall be borne by Contractor if such test is clearly intended by or provided for in the Agreement; and, in the cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfill, is particularized in the Agreement in sufficient detail to enable Contractor to price or allow for the same in its Proposal.
- 1.2.4. If any test is ordered by the Engineer which is either:
- not so intended by or provided for; or
 - in the cases above mentioned, is not so particularized; or
 - though so intended or provided for is ordered by the Engineer to be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested;

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then the cost of such test shall be borne by Contractor, if the test shows the workmanship or materials not to be in accordance with the provisions of the Agreement or the Engineer's instructions, but otherwise by Company.

1.3. Units

| Unit | Abbreviation | Unit | Abbreviation |
|-----------------------|------------------------|-------------------|--------------------------|
| Cubic metre | m ³ or cu m | millimetre | mm |
| Hectare | ha | month | mon |
| Hour | h | number | nr |
| Kilogram | kg | square metre | m ² or sq m |
| Lump sum | LS | square millimetre | mm ² or sq mm |
| Metre | m | week | wk |
| Metric ton (1,000 kg) | t | Unit | unit |

1.4. Quantities

- 1.4.1. The quantities set out in the Schedule of Price Breakdown are the estimated quantities for the Work, and they are not to be taken as the final and correct quantities of the Work to be executed by Contractor in fulfillment of its obligations under the Agreement.
- 1.4.2. Contractor shall include in the most appropriate Price Items the cost of all work required in the Technical Specification and, or, shown on the Drawings, and not specifically identified in the Schedule of Price Breakdown.
- 1.3.3 Contractor shall be paid for actual quantities only for unit price items. Any increase or decrease in quantities of unit price items from the estimated quantities shall not result in a change in the unit price for those items. Company shall not be liable for any costs or losses arising from any difference between an estimated quantity and the actual quantity.

1.5. Price Items

- 1.5.1. Measurement of Price Items shall be undertaken in accordance with the requirements of this Attachment 1 to Exhibit 2. The cost of each Price Item shall comprise solely the direct cost of manpower (including burdens and escalation), equipment, material and consumables engaged to execute the specific work described herein plus profit. Any other cost, not directly incurred to execute the specific work of the Price Item, shall be included in the most

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appropriate Price Item under Indirect Costs.

- 1.5.2. The Contractor shall include all work required in the Technical Specification and, or, shown on the Drawings, but not specifically identified in the Schedule of Price Breakdown, in the most appropriate Price Items.

1.6. Tools

- 1.6.1. Notwithstanding any other provision of this Agreement no payment shall be made to Contractor for or in respect of tools or equipment that are tools of the trade or office equipment.

1.7. Excavation

- 1.7.1. All prices of excavation work will apply to quantities based on the following principles.
- 1.7.1.1. A joint survey by the Engineer and Contractor prior to commencement of any work shall define the "initial state" of the work site and shall cover the area of permanent Work and its immediate vicinity.
- 1.7.1.2. Excavation levels are defined in the "Approved for Construction Drawings", or from adaptations to those Drawings provided in writing to Contractor by the Engineer. No over- excavation, compared with excavation profiles shown on the Drawings will be paid.
- 1.7.1.3. Where, in the opinion of the Engineer, excavation lines have not been adequately defined on the Approved for Construction (AFC) Drawings, by prior agreement between these parties, measurement may be made on the as-constructed differences between levels measured before and after completion of the excavation.
- 1.7.1.4. Prices for excavation works apply regardless of the geometry of the excavation, even if they are narrow, and inaccessible to heavy construction equipment.
- 1.7.1.5. All transportation of materials removed from the excavation areas of the permanent Work will be deemed to be made over a maximum radius of 2.5km, measured in a straight line, from the center of the excavation to the place of disposal.
- 1.7.1.6. No separate measurement or payment will be made for the removal of snow and ice. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.7.1.7. No separate measurement and payment will be made for excavation for Contractor's own construction purposes. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.7.1.8. No separate measurement and payment will be made for construction and removal of working platforms or access ramps. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.7.1.9. If, before the commencement of the excavation in a given area, the Engineer requires a relocation of the excavation lines beyond the position shown on the Drawings, payment for the additional excavation will be made at the Price Item for the adjacent excavation.

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1.8. Embankment

- 1.8.1. No measurement for payment will be made for removal and transportation to the spoil disposal area of materials not conforming to the requirements of the Technical Specification.
- 1.8.2. No measurement for payment will be made for additional materials required to compensate for fill and foundation settlements.
- 1.8.3. No measurement for payment will be made for test sections, if Contractor proposes to use rollers other than those specified, to demonstrate that the proposed equipment will produce equal or greater compaction than that produced by the specified equipment.

1.9. Foundation Preparation

- 1.9.1. No separate measurement and payment will be made for clean-up and treatment of foundations on overburden. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.9.2. No separate measurement and payment will be made for cleaning to bedrock of foundations and for the materials removed and disposed of. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.9.3. No separate measurement and payment will be made for concrete which is not required for foundation preparation. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.9.4. No separate measurement and payment will be made for admixtures. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.9.5. No separate measurement and payment will be made for mix development and field tests required as per Technical Specification. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.9.6. No separate measurement and payment will be made for supply, install and remove of formwork. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

1.10. Drilling, Pressure Grouting And Drainage

- 1.10.1. No separate payment will be made for washing and cleaning drill holes. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.10.2. No separate payment will be made for re-drilling, reaming and re-flushing of holes. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.10.3. No separate payment will be made for furnishing, installing, operating, maintaining and dismantling accessories such as pipes, fittings, valves, gauges, gauge savers, pipe caps and appurtenant equipment, for moving of equipment and supplies on the site, for help in keeping records and for communication systems and like items. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.10.4. No separate payment will be made for heating water and materials to be used in grout mixes,

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nor for the generation of steam or hot water to thaw the rock, nor for heated shelters for personnel and equipment. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

- 1.10.5. No separate payment will be made for mix development and field tests required as per Technical Specification. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.10.6. No separate payment will be made for PVC pipe sleeves installed in the concrete for grouting, water pressure test, drainage, instrumentation and exploratory holes. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

1.11. Concrete Work

- 1.11.1. Overbreak concrete and Backfill Concrete is computed between the actual rock surface and the minimal excavation line. All other types of concrete are computed from the dimensions shown on the Drawings.
- 1.11.2. No deduction will be made for chamfers, embedded parts, pipes and conduits of a volume less than 0.15 m^3 or of a cross section less than 0.10 m^2 and for reinforcing bars.
- 1.11.3. No separate payment will be made for design, supply, construction, erection, maintenance and removal of all formwork. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.11.4. No separate payment will be made for removal, repair or replacement of concrete not conforming to the Technical Specification requirements. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.11.5. No separate payment will be made for removal of the existing chain link wire mesh on the rock faces including scaling of the walls before concreting. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.11.6. No separate payment will be made for removal of the existing temporary safety fence around the top of the rock excavations in the structure areas. Contractor shall incorporate the costs thereof in the most appropriate Price Items.
- 1.11.7. No separate payment will be made for mix design. Contractor shall incorporate the costs thereof in the Price Items for the placing of concrete.

1.12. Waterstop

- 1.12.1. No separate payment will be made for any increase of quantity resulting from a modification of the construction joints requested by Contractor and Accepted by the Engineer.
- 1.12.2. No separate payment will be made for supports and ties required for installing the waterstops. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

1.13. Reinforcement Including Dowels

- 1.13.1. No separate payment will be made for supplying and placing of tie wires, spacers, supports and other items. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

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1.13.2. No separate payment will be made for additional quantities resulting from bar list modifications requested by Contractor.

1.13.3. No separate payment will be made for cutting (including loss), bending, handling and cleaning of reinforcement steel. Contractor shall incorporate the costs thereof in the most appropriate Price Item.

1.14. Structural Steel And Miscellaneous Metal

1.14.1. No payment will be made for repairing or replacing items which Contractor has damaged or lost.

1.14.2. No payment will be made for work necessary to relocate parts which have been displaced in the course of concreting.

1.14.3. No separate payment will be made for connections and other parts necessary for the temporary support. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

1.15. Electrical Work

1.15.1. No separate payment will be made for materials necessary to secure and support the conduits, connections or plates. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

1.16. Mechanical Work

1.16.1. No separate payment will be made for all supports and anchors necessary for positioning piping in the formwork. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

2. INDIRECT COSTS

For this section 2.0 - Indirect Costs, "Period of the Agreement" shall mean the period starting on completion of Mobilization (as defined in Section 2.1.1 below) and ending on the Milestone Date for Final Completion.

2.1. Mobilization

2.1.1. "Mobilization" means each and every activity required for Contractor to mobilize labour, and to transport equipment, materials, and similar items required for performance of the Work, to the Site; and each and every activity required to make said labour, equipment, materials, and similar items ready to perform the Work, to the satisfaction of Engineer. Mobilization shall include organizational and project management, equipment transportation, setting up and all preparation necessary for performing the Work, including all costs associated with Contractor's personnel attending Engineer's safety orientation courses. Mobilization includes all travel costs of personnel not covered by the Collective Agreement. Travel Allowances for Trades Labour are covered under Section 2.19A.

2.1.2. Payment for Mobilization will be made as a lump sum, as indicated in the Schedule

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of Price Breakdown, upon mobilization of personnel and equipment to Site in order to complete the tasks set forth in the Technical Specification. Progress payments on the lump sum for Mobilization will be distributed, in equal monthly installments, as per dates in Contractor's Construction Schedule. Contractor must submit the Construction Schedule, Accepted by the Engineer, before Contractor will be compensated.

- 2.1.3. Contractor shall provide to the Engineer a list of tasks and mobilization schedule prior to Mobilization which must be Accepted by the Engineer.

2.2. Site Installation

- 2.2.1. "Site Installation" means all temporary buildings needed for the Work, but not involved directly in its execution, such as Site offices, lunch trailers, warehouses, stores, garage, carpenter shop, workshops and laboratories; it includes also the furniture needed for the offices (desks, chairs, bookcases, etc.) and the equipment normally needed to make each of the other buildings fully functional for its purpose.

- 2.2.2. Payment for Site Installation will be made as a lump sum, as indicated in the Schedule of Price Breakdown; progress payments on the lump sum amount shall be: 70% of the Lump Sum distributed in equal monthly installments over the Site installation period; 30% of the Lump Sum distributed in equal monthly installments over the remaining Period of the Agreement.

2.3. Contractor Equipment for Indirects

- 2.3.1. "Contractor Equipment for Indirects" means equipment used to service the laydown areas, the bus for transportation from the Accommodation Complex to Site and back, pickup trucks, and other items such as flat bed trucks, mobile crane, forklift, etc. This item excludes the equipment covered under Item 2.17.

- 2.3.2. Payment for Contractor Equipment for Indirects shall be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum amount shall be distributed in equal monthly installments over the Period of Agreement.

2.4. Temporary Works

- 2.4.1. "Temporary Works" means all labour, materials and equipment used to carry out the work of construction of new temporary roads and access ramps, including if required overburden and rock excavation, supply and installation of culverts, transportation of materials and backfilling, their displacement when required, and their removal on completion of the Work. "Temporary Works" also includes items such as traffic control, fencing, signage, stairways and ladders.

- 2.4.2. Payment for Temporary Works will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be distributed in equal monthly installments over the Period of Agreement.

2.5. Winter Protection

- 2.5.1. "Winter Protection" means local hoarding and any other temporary structures needed to protect the work from the cold temperature during winter time, and cold periods, including

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heaters and associated consumables, as required.

- 2.5.2. Payment for Winter Protection will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 70% of the lump sum distributed in equal monthly installments over the installation period; 30% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement.

2.6. Management and Staff

- 2.6.1. "Management and Staff" means Contractor's Representative, managers, superintendents, other site supervisors, engineers and their assistants, quantity surveyor, clerks, typists, security watchmen, surveyors and all such other personnel. This item excludes the staff included in items:

2.6.1.1. Design and Technical Assistance

2.6.1.2. Health and Safety Requirements;

2.6.1.3. Environmental Requirements;

2.6.1.4. Quality Assurance/Quality Control;

- 2.6.2. Payment for Management and Staff will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 75% of the lump sum distributed in equal monthly installments over the first 42 months; 25% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement.

2.6A. Design and Technical Assistance

- 2.6A.1. "Design and Technical Assistance" means all staff required for the design of temporary structures and items required for the Work.

- 2.6A.2. Payment for Design and Technical Assistance will be made as a lump sum as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 85% of the lump sum distributed in equal monthly installments over the first 42 months; 15% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement.

2.7. Attendant Labour

- 2.7.1. "Attendant Labour" means the personnel involved in unloading and distribution, working in the laydown area, removing waste, cleaning, repairing vehicles, driving the bus and other driving, and all such other labour. It does not include labour to maintain the access roads and laydown area, and keeping the Site clear of obstructions; this is covered under item 2.17 – Site Maintenance.

- 2.7.2. Payment for Attendant Labour will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 75% of the lump sum distributed in equal monthly installments over the first 42 months; 25% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement.

2.8. Services

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2.8.1. “Services” means the cost of power, lighting and heating, potable and industrial water, stationary, computer equipment, drafting equipment, telephones, fax machines, telecommunication costs and any other costs of this nature. It does not include heating of the Powerhouse which is covered under section 3.5 (Price item 29).

2.8.2. Payment for Services will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 75% of the lump sum distributed in equal monthly installments over the first 42 months; 25% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement.

2.9. Employee Training

2.9.1. “Employee Training” means the costs of the manhours expended in training personnel to meet the Health and Safety Requirements; and any other training requirements.

2.9.2. Payment for Employee Training will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 75% of the lump sum distributed in equal monthly installments over the first 42 months; 25% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement

2.10. Health and Safety Requirements

2.10.1. “Health and Safety Requirements” means all of the requirements of Exhibit 5 – Health and Safety Requirements, including the staff required to administer these requirements.

2.10.2. Payment for Health and Safety Requirements will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be: 75% of the lump sum distributed in equal monthly installments over the first 42 months; 25% of the lump sum distributed in equal monthly installments over the remaining Period of the Agreement

2.11. Environmental Requirements

2.11.1. “Environmental Requirements” means all of the environmental requirements of Exhibit 6 – Environmental and Regulatory Compliance Requirements, and of the Technical Specification, including the administration staff required to administer these requirements; including also the operation and maintenance of sediment ponds 1 and 2 and the construction, operation and maintenance of any other sediment ponds required to conform, to the environmental requirements.

2.11.2. Payment for Environmental Requirements will be made as a lump sum as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum will be distributed in equal monthly installments over the Period of the Agreement.

2.12. Quality Assurance/Quality Control

2.12.1. “Quality Assurance/Quality Control” means all of the requirements of Exhibit 7 – Quality Requirements, including the staff to administer these requirements.

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2.12.2. Payment for Quality Assurance/Quality Control will be made as a lump sum as listed in the Schedule of Price Breakdown. Progress payments on the lump sum will be distributed in equal monthly installments over the Period of the Agreement.

2.13. Letters of Credit

2.13.1. “Letters of Credit”: means the letters of credit required under Article 7 of the Articles of Agreement and the Section 9 or 10 (depending On the Option) of Exhibit 2 – Compensation.

2.13.2. Payment for the Letters of Credit will be made as a lump sum as listed in the Schedule of Price Breakdown. Progress payments on the lump sum will be distributed in equal monthly installments over the Period of the Agreement.

2.14. Parent Guarantee

2.14.1. “Parent Guarantee” means the Parent Guarantee required under Article 7 of the Articles of Agreement.

2.14.2. Payment for Parent Guarantee will be made as a lump sum as listed in the Schedule of Price Breakdown. Progress payments on the lump sum will be distributed in equal monthly installments over the Period of the Agreement.

2.15. Contractor Insurance

2.15.1. “Contractor Insurance” means the insurance required under Article 18 of the Articles of Agreement.

2.15.2. Payment for Contractor Insurance will be made as a lump sum as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum will be distributed in equal monthly installments over the Period of the Agreement.

2.16. Warranty

2.16.1. “Warranty” means the Warranty required under Article 17 of the Articles of Agreement.

2.16.2. Payment for Warranty will be made as a lump sum. Payment Milestone for Warranty will have been achieved on issue of the Final Completion Certificate.

2.17. Site Maintenance

2.17.1. “Site Maintenance” means all labour, materials and equipment used to carry out the work of maintenance, dust control, snow clearing and ice control, sanding and emergency repairs of all temporary and permanent roads and their related waterways and drains; access ramps; work areas; parking areas; the South Side Access Road (Station 0+000 to 21+893); Contractor’s and Company’s laydown areas; and Accommodations Complex Site (excluding walkways) during the Period of the Agreement. Payment for “Site Maintenance” materials will be as per Items 2.17A., 2.17B. and 2.17C.

2.17.2. Payment for Site Maintenance will be made as a lump sum as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum shall be distributed in equal monthly installments over the Period of Agreement. In addition, payment will include the

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following prices for supply of materials:

- 2.17A. Payment for the supply of Maintenance Grade No. 3 Material will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown;
- 2.17B. Payment for the supply of Coarse Sand will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown;
- 2.17C. Payment for the supply of calcium chloride will be made at the price per 20 kg bag as indicated in the Schedule of Price Breakdown.

2.18. Financing, Contingency, Head Office Overhead and Consultant Fees.

- 2.18.1. “Financing, Contingency, Head Office Overhead and Consultants Fees” means all Contractor’s cost of financing the execution of the Agreement, all Head Office Overheads of whatever nature, and any fees for Consultants hired by the Contractor to assist/advise on the execution of its Work.
- 2.18.2. Payment for Financing, Contingency, Head Office Overheads and Consultant Fees will be made as a lump sum, as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum will be distributed in equal monthly installments over the Period of the Agreement.

2.19. Demobilization

- 2.19.1. “Demobilization” means that the Certificate of Substantial Completion has been issued and that Contractor has removed from Site all remaining labour and Contractor’s Items from the Site, and completed any outstanding items of final clean up, all to the satisfaction of the Engineer. Demobilization includes all travel costs of personnel not covered by the Collective Agreement. Travel Allowances for Trades Labour are covered under Section 2.19A.
- 2.19.2. Payment for Demobilization will be made as a lump sum as indicated in the Schedule of Price Breakdown. Progress payments on the lump sum for Demobilization shall be distributed in equal monthly installments as per the dates indicated in Contractor’s Construction Schedule. The demobilization of personnel and equipment that is no longer required for the Work must be presented to the Engineer for review prior to such taking place.

2.19A. Estimate of Travel Allowances – Trades Labour

- 2.19A.1. “Travel Allowances for Trades Labour” means the travel allowances /air transportation incurred by Contractor for Contractor’s Work Force, working at Site, and covered by the Collective Agreement between Muskrat Falls Employer’s Association Inc. and Resource Development Trades Council of Newfoundland and Labrador (the “Collective Agreement”). All such travel allowances/air transportation shall be strictly in accordance with the stipulations of the Collective Agreement: arrangements for air transportation must be made at least two weeks in advance; travel time is not reimbursable per the Collective Agreement; and Company shall not pay any mark-up on the travel allowances/cost of air transportation.
- 2.19A.2 Price Item 19A shall include Contractor’s estimate of the Travel Allowances for Trades Labour to be paid by Contractor until Final Completion of the Work.
- 2.19A.3 Company shall pay the actual Travel Allowances for Trades Labour paid by Contractor, without

mark-up of any kind.

3. GENERAL

3.1. Access Roads to Spillway, Access Ramps and Pads for Company's Other Contractors

This Item covers all labour, materials and equipment used to carry out the work of the construction of the permanent access roads to the Spillway and the construction of access ramps and construction pads for Company's Other Contractors. This includes, if required, overburden and rock excavation, supply and installation of culverts, transportation of materials and backfilling, their displacement when required, and their removal on completion of the Work. The construction of temporary roads for Contractor's use is covered under Section 2.4.

3.1.1. Overburden Excavation

3.1.1.1. Measurement for payment of overburden excavation will be made according to the number of cubic metres of material measured in place and removed between the actual ground surface and the rock surface, or the lines and slopes shown on the Drawings or as required by the Engineer.

3.1.1.2. Payment for the overburden excavation will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price includes excavating, loading, transporting, unloading and spreading of the overburden materials at the designated stockpiles or spoil disposal areas.

3.1.2. Zone 3C Material

3.1.2.1. Measurement for payment of Zone 3C material will be made according to the number of cubic metres of placed and compacted material, as computed between the surveyed foundation (as Accepted by Engineer) and the lines, grades and elevations of the embankments as shown on the Drawings or as required by the Engineer.

3.1.2.2. Payment for the Zone 3C material will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include selection of the material from the required excavations or the stockpile areas, loading, transporting, unloading, placing and compacting material.

3.1.3. Zone 3D Material

3.1.3.1. Measurement for payment of Zone 3D material will be made according to the number of cubic metres of placed and compacted material, as computed between the surveyed foundation (as Accepted by Engineer) and the lines, grades and elevations of the embankments as shown on the Drawings or as required by the Engineer.

3.1.3.2. Payment for the Zone 3D material will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include selection of the material from the required excavations or the stockpile areas, loading, transporting, unloading, placing and compacting material.

3.1.4. Granular “B” Material

3.1.4.1. Measurement for payment of Granular “B” material will be made according to the number of cubic metres of placed and compacted material, as computed between the surveyed foundation (as Accepted by Engineer) and the lines, grades and elevations of the embankments as shown on the Drawings or as required by the Engineer.

3.1.4.2. Payment for the Granular “B” material will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include selection of the material from the required excavations or the stockpile areas, processing, loading, transporting, unloading, placing and compacting material.

3.1.5. Granular “C” Material

3.1.5.1. Measurement for payment of Granular “C” material will be made according to the number of cubic metres of placed and compacted material, as computed between the surveyed foundation (as Accepted by Engineer) and the lines, grades and elevations of the embankments as shown on the Drawings or as required by the Engineer.

3.1.5.2. Payment for the Granular “C” material will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include selection of the material from the required excavations or the stockpile areas, processing, loading, transporting, unloading, placing and compacting material.

3.1.6. Concrete Culvert 600 mm

3.1.6.1. Measurement for payment of Concrete Culvert will be made according to the length in metres of installed concrete culvert.

3.1.6.2. Payment for construction of concrete culvert will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include preparation of the foundation, supply and installation of the concrete culvert.

3.2. Dewatering of Structure Areas

3.2.1. Structure Areas

3.2.1.1. Measurement for payment of the dewatering systems required to execute the works in the dry condition at structures areas consists of verifying that the operation as well as maintenance and performance of the existing dewatering systems and the equipment, capacity, installation, operation as well as maintenance and performance of the additional dewatering systems, if required, conform to the requirements specified in the Technical Specification.

3.2.1.2. Payment for dewatering systems will be made at a lump sum as indicated in the Schedule of Price Breakdown. This price shall include all labour, materials and equipment used to carry out the Work of dewatering and all costs involved in obtaining and conforming to the conditions of required permits, including the monitoring of the quality of the discharged waters in the watercourses. This price shall also include the cost of the dismantlement of the system at the end of the Work.

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3.2.1.3. No separate measurement for payment will be made for the interception and removal of surface, artesian and seepage water in Contractor's laydown area, borrow pits, stockpile areas, spoil disposal areas, and road footprints. Contractor shall incorporate the costs thereof in the most appropriate Price Items.

3.3. Temporary Bridge

3.3.1. Temporary Downstream Bridge over Spillway

3.3.1.1. Measurement for payment of the Temporary Downstream Bridge consists of verifying that the Temporary Downstream Bridge is constructed according to the Drawings and Technical Specification and is completed at the satisfaction of the Engineer.

3.3.1.2. Payment for construction of Temporary Downstream Bridge will be made at a lump sum as indicated in the Schedule of Price Breakdown. This price shall include design, supply, installation, subsequent dismantlement and handover of Temporary Downstream Bridge over the spillway.

3.4. Construction Crane

3.4.1. Powerhouse – Construction Crane

3.4.1.1. Measurement for payment of the Construction Crane in Powerhouse consists of verifying that the equipment, capacity, installation, operation as well as maintenance of the Construction Crane conform to the crane requirements.

3.4.1.2. Payment for Construction Crane in Powerhouse will be made at a lump sum as indicated in the Schedule of Price Breakdown. This price shall include the supply, installation, operation, maintenance, dismantlement and removal from site of a construction crane. The use of this crane by Contractor will not be exclusive and it could be used, if required, by Company's Other Contractors.

3.5. Temporary Heating, Ventilating and Lighting

3.5.1. Temporary Heating, Ventilating and Lighting of Powerhouse

3.5.1.1. This Price Item shall be a lump sum. The price comprises all equipment, material, labour and consumables to supply, install, operate and transfer to Company's Other Contractors a complete temporary heating, ventilating and lighting system in compliance with Applicable Laws and regulations on issue of the Substantial Completion Certificate.

3.5.1.2. Payment for the supply, install, operate and transfer of the complete temporary heating, ventilating and lighting system will be a lump sum, paid in pro-rated monthly installments from the commencement of temporary heating until the Milestone Date for Substantial Completion.

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3.6. Chain Link Fences and Gates

3.6.1. Chain Link Fences and Gates in the Powerhouse Parking and Contractor's Laydown Areas

3.6.1.1. Measurement for payment of Chain Link Fences and Gates will be made according to the length in metres of installed Fences according to the requirements of the Technical Specification and as shown on the drawing or required by the Engineer.

3.6.1.2. Payment for Chain Link Fences and Gates will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying of all components of chain link fences and gates, transporting, storing, drilling and concreting of the fences and gates posts, galvanization, grounding and installing the Chain Link fences and Gates in the powerhouse parking and Contractor's laydown areas.

3.7. Temporary Lateral Support and Bracings

3.7.1. Temporary Lateral Support and Bracings for Piers of the Spillway

3.7.1.1. Measurement for payment of the Temporary Lateral Support and Bracings for Piers of the Spillway consists of verifying that the Lateral Support and Bracings are constructed according to the drawings and specifications and is completed to the satisfaction of the Engineer.

3.7.1.2. Payment for construction of Temporary Lateral Support and Bracings for Piers of the Spillway will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supply, installation and subsequent removal and handover of Temporary Lateral Support and Bracings for Piers of the Spillway.

3.8. Anchor Points

3.8.1. Anchor points at Powerhouse and Spillway

3.8.1.1. Measurement for payment of the Anchor Points at Powerhouse and Spillway consists of verifying that the Anchor Point assembly is installed according to the manufacturers' instructions in conformity with the specified load and material's characteristics or as requested by the Engineer.

3.8.1.2. Payment for the Anchor Points at the Powerhouse and Spillway will be made at the price per each Anchor Point as indicated in the Schedule of Price Breakdown. This price shall include supply of Anchor Point assembly consisting of steel host ring, steel attachment/base plate, anchors/bolts, clamps, grout and all required materials and equipment and the installation of Anchor Point on concrete walls, floors, ceilings, and steel beams or columns. Hoist ring and all steel to be stainless steel. Anchor Point assembly, including steel hoist ring, to have a working load of 22.2 kN (5,000 lb).

4. TRANSITION DAMS

4.1. North Transition Dam

4.1.1. Fill Excavation (Sand Layer for Winter Protection)

4.1.1.1. Measurement for payment of fill excavation will be made according to the number of cubic metres of material measured in place and removed between the fill surface and the rock surface as required by the Engineer.

4.1.1.2. Payment for fill excavation will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price include excavating, loading, transporting, unloading and spreading of the fill excavated materials at the designated stockpiles or spoil disposal areas or structures on site.

4.1.2. Dental Excavation

4.1.2.1. Measurement for payment of Dental Excavation and Scaling will be made according to the number of cubic metres of removed rock measured in place, calculated between the rock surfaces before and after Dental Excavation and Scaling, all as Accepted by the Engineer.

4.1.2.2. Payment for rock Dental Excavation and Scaling will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price shall include dental excavation, scaling, loading, transporting, unloading and spreading of excavated rock at the disposal area.

4.1.3. Scaling and Water/Air Jet Cleaning of Bedrock

4.1.3.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.

4.1.3.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil area.

4.1.4. Dental Concrete

4.1.4.1. Measurement for payment of the dental concrete (Class B Concrete) will be made according to the number of cubic metres computed between the foundation lines, as Accepted by the Engineer and finished surfaces of the dental concrete as required by the Engineer.

4.1.4.2. Payment for dental concrete (Class B Concrete) will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling, placing, finishing and curing of concrete as required by the Engineer.

4.1.5. Dry Pack

4.1.5.1. Measurement for payment of dry pack will be made according to the number of cubic metres of dry pack placed on the foundation as directed by the Engineer.

4.1.5.2. Payment for dry pack will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, mixing, transporting and placing of dry pack as required by the Engineer.

4.1.6. Grouting Holes

4.1.6.1. Measurement for payment of rotary/percussion drilling for grouting will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.1.6.2. Payment for rotary/percussion drilling grout holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.1.7. Grouting - Successful Connections

4.1.7.1. Measurement for payment of Successful Connections for grouting will be made according to the number of Successful Connections made as specified in the Technical Specification.

4.1.7.2. Payment for Successful Connections for grouting will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.

4.1.8. Dry Cement for Grouting

4.1.8.1. Measurement for payment of contact, consolidation and curtain grouting will be made according to the weight of dry Portland cement in kilogram actually injected into the holes.

4.1.8.2. Payment for dry cement will be made at the price per kilogram of dry cement as indicated in the Schedule of Price Breakdown. This price shall include supplying, loading, transporting, unloading, mixing cement, water, sand and admixtures, grouting and backfilling of holes.

4.1.9. Water Pressure Tests (Lugeon)

4.1.9.1. Measurement for payment of Water Pressure Tests will be made according to the number of hours water pressure testing is carried out in the drill holes. Time is measured from beginning to completion of water pressure testing and is measured to the nearest 5 minutes.

4.1.9.2. Payment for water pressure testing will be made at the price per hour as indicated in the Schedule of Price Breakdown.

4.1.10. Water Pressure Tests - Successful Connections

4.1.10.1. Measurement for payment of Successful Connections for Water Pressure Tests will be made according to the number of Successful Connections made as specified in the Technical Specification.

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4.1.10.2. Payment for Successful Connections for Water Pressure Tests will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.

4.1.11. Uplift Gauges

4.1.11.1. Measurement for payment of Uplift Gauges will be made according to the number of metres of gauge rod installed below the foundation surface to the satisfaction of the Engineer.

4.1.11.2. Payment for supplying, drilling holes, installing, monitoring and removing of Uplift Gauges will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.1.12. Thermistors

4.1.12.1. Measurement for payment of Thermistors will be made according to the number of unit installed in the rock foundation as specified in the Technical Specification and shown on the Drawings.

4.1.12.2. Payment for supplying, installing, monitoring and removing of Thermistors will be made at the price per each Thermistor as indicated in the Schedule of Price Breakdown.

4.1.13. Rotary/Percussion Drill Check Holes

4.1.13.1. Measurement for payment of Rotary/Percussion Drill Check Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.1.13.2. Payment for Rotary/Percussion Drill Check Holes, including backfilling of holes, will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.1.14. Cored (Diamond Drill) Holes

4.1.14.1. Measurement for payment of Cored (Diamond Drill) Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.1.14.2. Payment for Cored (Diamond Drill) Holes, including drilling, core logging, photos, wooden or plastic boxes and storage in a place designated by Engineer, will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.1.15. Drainage Holes

4.1.15.1. Measurement for payment of Drainage Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.1.15.2. Payment for Drainage Holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

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4.1.16. PVC Caps for Drainage Holes

4.1.16.1. Measurement for payment of PVC Caps for drainage holes will be made according to the number of PVC caps installed at the collar of the drainage holes as shown on the Drawings or as required by the Engineer.

4.1.16.2. Payment for PVC Caps for drainage holes will be made at the price per each PVC cap as indicated in the Schedule of Price Breakdown.

4.1.17. Survey Monuments

4.1.17.1. Measurement for payment of Survey Monuments will be made according to the number of Survey Monuments installed, as shown on the Drawings or as required by the Engineer.

4.1.17.2. Payment for Survey Monuments will be made at the price per each Survey Monument as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing the materials, as well as drilling and grouting holes into the concrete mass.

4.1.18. Concrete

4.1.18.1. Measurement for payment of concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

4.1.18.2. Payment for concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of concrete.

4.1.18A. PVC Waterstop – Type A (150 mm width)

4.1.18A.1. Measurement for payment of PVC Waterstop – Type A (150 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.1.18A.2. Payment for PVC Waterstop – Type A (150 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.1.19. PVC Waterstop – Type B (225 mm width)

4.1.19.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.1.19.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.1.20. Hydrophilic Waterstop

4.1.20.1. Measurement for payment of Hydrophilic Waterstop will be made according to the number of

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metres of waterstop installed in accordance with the Drawings or as required by the Engineer.

4.1.20.2. Payment for Hydrophilic Waterstop will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.1.21. Bituminous Coating at Contraction Joints

4.1.21.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

4.1.21.2. Payment for Bituminous Coating at Contraction Joints will be made at the prices per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

4.1.22. Reinforcement including Dowels

4.1.22.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilogram of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

4.1.22.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

4.1.23. Galvanized Miscellaneous Steel

4.1.23.1. Measurement for payment of Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Miscellaneous Steel installed as shown on the Drawings or as required by the Engineer.

4.1.23.2. Payment for Galvanized Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Miscellaneous Steel.

4.1.24. Galvanized Grating

4.1.24.1. Measurement for payment of Galvanized Grating will be made according to the weight in kilograms of Galvanized Grating installed as shown on the Drawings or as required by the Engineer.

4.1.24.2. Payment for Galvanized Grating will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Grating.

4.1.25. Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.)

4.1.25.1. Measurement for payment of Embedded Miscellaneous Steel will be made according to the weight in kilograms of Embedded Miscellaneous Steel installed in concrete as shown on the Drawings or as required by the Engineer.

4.1.25.2. Payment for Embedded Miscellaneous Steel will be made at the price per kilogram as indicated

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in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Embedded Miscellaneous Steel.

4.1.26. Anchor Bolts Grade 55 ASTM F1554

4.1.26.1. Measurement for payment of Anchor Bolts Grade 55 ASTM F1554 will be made according to the weight in kilograms of Anchor Bolts installed in concrete in conformity with the Drawings or as required by the Engineer.

4.1.26.2. Payment for Anchor Bolts Grade 55 ASTM F1554 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Anchor Bolts.

4.1.27. Exothermic Connections

4.1.27.1. Measurement for payment of Exothermic Connections will be made according to the number of Exothermic Connections installed in concrete in conformity with the Drawings or as required by the Engineer.

4.1.27.2. Payment for Exothermic Connections will be made at the price per each exothermic connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of exothermic connection.

4.1.27A. Mechanical Connections

4.1.27A.1. Measurement for payment of Mechanical Connections will be made according to the number of Mechanical Connections installed in conformity with the Drawings or as required by the Engineer.

4.1.27A.2. Payment for Mechanical Connections will be made at the price per each Mechanical Connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Mechanical Connections.

4.1.28. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil

4.1.28.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

4.1.28.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

4.1.29. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG

4.1.29.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

4.1.29.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be

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made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

4.1.30. Embedded Copper Grounding Plates

4.1.30.1. Measurement for payment of Embedded Copper Grounding Plates will be made according to the number of Embedded Copper Grounding Plates installed in concrete in conformity with the Drawings or as required by the Engineer.

4.1.30.2. Payment for Embedded Copper Grounding Plates will be made at the price per each plate as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Embedded Copper Grounding Plates.

4.1.31. Rigid PVC Conduit, size 129mm

4.1.31.1. Measurement for payment of Rigid PVC Conduit, size 129mm, will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.

4.1.31.2. Payment for Rigid PVC Conduit, size 129mm, will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.

4.2. Centre Transition Dam

4.2.1. Fill Excavation (Sand Layer for Winter Protection)

4.2.1.1. Measurement for payment of fill excavation will be made according to the number of cubic metres of material measured in place and removed between the ground surface and the rock surface as required by the Engineer.

4.2.1.2. Payment for fill excavation will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price includes excavating, loading, transporting, unloading and spreading of the fill excavated materials at the designated stockpiles or spoil disposal areas or structures on site.

4.2.2. Dental Excavation

4.2.2.1. Measurement for payment of Dental Excavation and Scaling will be made according to the number of cubic metres of rock measured in place, calculated between the rock surfaces before and after Dental Excavation and Scaling, all as Accepted by the Engineer.

4.2.2.2. Payment for rock Dental Excavation and scaling will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price shall include dental excavation, scaling, loading, transporting, unloading and spreading of excavated rock at the disposal area.

4.2.3. Scaling and Water/Air Jet Cleaning of Bedrock

4.2.3.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made

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according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.

- 4.2.3.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil area.
- 4.2.4. Dental Concrete
 - 4.2.4.1. Measurement for payment of the dental concrete (Class B Concrete) will be made according to the number of cubic metres computed between the foundation lines, as Accepted by the Engineer and finished surfaces of the dental concrete as required by the Engineer.
 - 4.2.4.2. Payment for dental concrete (Class B Concrete) will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, mixing, transporting, handling, placing, finishing and curing as required by the Engineer.
- 4.2.5. Dry Pack
 - 4.2.5.1. Measurement for payment of dry pack will be made according to the number of cubic metres of dry pack placed on the foundation as directed by the Engineer.
 - 4.2.5.2. Payment for dry pack will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, mixing, transporting and placing of dry pack as required by the Engineer.
- 4.2.6. Grouting Holes
 - 4.2.6.1. Measurement for payment of rotary/percussion drilling for grouting will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 4.2.6.2. Payment for rotary/percussion drilling grout holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 4.2.7. Grouting - Successful Connections
 - 4.2.7.1. Measurement for payment of Successful Connections for grouting will be made according to the number of Successful Connections made as specified in the Technical Specification.
 - 4.2.7.2. Payment for Successful Connections for grouting will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.
- 4.2.8. Dry Cement for Grouting
 - 4.2.8.1. Measurement for payment of contact, consolidation and curtain grouting will be made according to the weight of dry Portland cement in kilogram actually injected into the holes.

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- 4.2.8.2. Payment for dry cement will be made at the price per kilogram of dry cement as indicated in the Schedule of Price Breakdown. This price shall include supplying, loading, transporting, unloading, mixing cement, water, sand and admixtures, if any, in grout mixes, grouting and backfilling of holes.
- 4.2.9. Water Pressure Tests (Lugeon)
- 4.2.9.1. Measurement for payment of Water Pressure Tests will be made according to the number of hours water pressure testing is carried out in the drill holes. Time is measured from beginning to completion of water pressure testing and is measured to the nearest 5 minutes.
- 4.2.9.2. Payment for water pressure testing will be made at the price per hour as indicated in the Schedule of Price Breakdown.
- 4.2.10. Water Pressure Tests - Successful Connections
- 4.2.10.1. Measurement for payment of Successful Connections for Water Pressure Tests will be made according to the number of Successful Connections made as specified in the Technical Specification.
- 4.2.10.2. Payment for Successful Connections for Water Pressure Tests will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.
- 4.2.11. Uplift Gauges
- 4.2.11.1. Measurement for payment of Uplift Gauges will be made according to the number of metres of gauge rod installed below the foundation surface to the satisfaction of the Engineer.
- 4.2.11.2. Payment for supplying, installing, monitoring and removing of Uplift Gauges will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 4.2.12. Thermistors
- 4.2.12.1. Measurement for payment of Thermistors will be made according to the number of unit installed in the rock foundation as specified in the Technical Specification and shown on the Drawings.
- 4.2.12.2. Payment for supplying, installing, monitoring and removing of Thermistors will be made at the price per each Thermistor as indicated in the Schedule of Price Breakdown.
- 4.2.13. Rotary/Percussion Drill Check Holes
- 4.2.13.1. Measurement for payment of Rotary/Percussion Drill Check Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
- 4.2.13.2. Payment for Rotary/Percussion Drill Check Holes, including backfilling of holes, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 4.2.14. Cored (Diamond Drill) Holes
- 4.2.14.1. Measurement for payment of Cored (Diamond Drill) Holes will be made according to the length

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in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.2.14.2. Payment for Cored (Diamond Drill) Holes, including drilling, core logging, photos, wooden or plastic boxes and storage in a place designated by Engineer, will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.2.15. Drainage Holes

4.2.15.1. Measurement for payment of Drainage Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.2.15.2. Payment for Drainage Holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.2.16. PVC Caps for Drainage Holes

4.2.16.1. Measurement for payment of PVC Caps for drainage holes will be made according to the number of PVC caps installed at the collar of the drainage holes as shown on the Drawings or as required by the Engineer.

4.2.16.2. Payment for PVC Caps for drainage holes will be made at the price per each PVC cap as indicated in the Schedule of Price Breakdown.

4.2.17. Survey Monuments

4.2.17.1. Measurement for payment of Survey Monuments will be made according to the number of Survey Monuments installed, as shown on the Drawings or as required by the Engineer.

4.2.17.2. Payment for Survey Monuments will be made at the price per each Survey Monument as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing the materials, as well as drilling and grouting holes into the concrete mass.

4.2.18. Hydraulic Piezometers

4.2.18.1. Measurement for payment of Hydraulic Piezometers will be made according to the number of Hydraulic Piezometers installed in the rock foundation, as shown on the Drawings or as required by the Engineer.

4.2.18.2. Payment for Hydraulic Piezometers will be made at the price per each Hydraulic Piezometer as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing all materials, as well as drilling, filling and grouting holes in bedrock.

4.2.19. V-Notch Weirs

4.2.19.1. Measurement for payment of V-Notch Weirs will be made according to the number of V-Notch Weirs installed in the drainage galleries of structures, as shown on the Drawings or as required by the Engineer.

4.2.19.2. Payment for V-Notch Weirs will be made at the price per each V-Notch Weir as indicated in the

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Schedule of Price Breakdown. This price shall include supplying and installing all required materials.

4.2.20. Concrete Below El. 42.00 m

4.2.20.1. Measurement for payment of concrete will be made according to the volume in cubic metres of the concrete placed below El. 42.00 m and computed from the dimensions shown on the Drawings or required by the Engineer.

4.2.20.2. Payment for concrete Below El. 42.00 m will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

4.2.21. Concrete Above El. 42.00 m

4.2.21.1. Measurement for payment of concrete above El. 42.00 m will be made according to the volume in cubic metres of the concrete placed above El. 42.00 m and computed from the dimensions shown on the Drawings or required by the Engineer.

4.2.21.2. Payment for concrete above El. 42.00 m will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

4.2.22. Concrete Slab on Steel Deck

4.2.22.1. Measurement for payment of Concrete Slab on Steel Deck will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

4.2.22.2. Payment for Concrete Slab on Steel Deck will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

4.2.23. Grout

4.2.23.1. Measurement for payment of Grout will be made according to the volume in cubic metres of grout placed as shown on the Drawing or as required by the Engineer.

4.2.23.2. Payment for Grout will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling, mixing and spreading.

4.2.23A. PVC Waterstop – Type A (150 mm width)

4.2.23A.1. Measurement for payment of PVC Waterstop – Type A (150 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.2.23A.2. Payment for PVC Waterstop – Type A (150 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.2.24. PVC Waterstop – Type B (225 mm width)

4.2.24.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.2.24.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.2.25. Bituminous Coating at Contraction Joints

4.2.25.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

4.2.25.2. Payment for Bituminous Coating at Contraction Joints will be made at the prices per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of Bituminous Coating.

4.2.26. Reinforcement including Dowels

4.2.26.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilogram of Reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

4.2.26.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of Reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

4.2.27. Painted Structural Steel

4.2.27.1. Measurement for payment of Painted Structural Steel will be made according to the weight in kilograms of Painted Structural Steel installed as shown on the Drawings or as required by the Engineer.

4.2.27.2. Payment for Painted Structural Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Painted Structural Steel.

4.2.28. Galvanized Miscellaneous Steel

4.2.28.1. Measurement for payment of Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Miscellaneous Steel installed as shown on the Drawings or as required by the Engineer.

4.2.28.2. Payment for Galvanized Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Miscellaneous Steel.

4.2.29. Galvanized Grating

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- 4.2.29.1. Measurement for payment of Galvanized Grating will be made according to the weight in kilograms of Galvanized Grating installed as shown on the Drawings or as required by the Engineer.
- 4.2.29.2. Payment for Galvanized Grating will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Grating.
- 4.2.30. Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.)
- 4.2.30.1. Measurement for payment of Embedded Miscellaneous Steel will be made according to the weight in kilograms of Embedded Miscellaneous Steel installed in concrete as shown on the Drawings or as required by the Engineer.
- 4.2.30.2. Payment for Embedded Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Embedded Miscellaneous Steel.
- 4.2.31. Steel deck type RD 306 (t=0.91 mm)
- 4.2.31.1. Measurement for payment of Steel deck type RD 306 (t=0.91 mm) will be made according to the number of square metres of Steel deck as Accepted by the Engineer.
- 4.2.31.2. Payment for Steel deck type RD 306 (t=0.91 mm) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and installation.
- 4.2.32. Shear Studs
- 4.2.32.1. Measurement for payment of Shear Studs will be made according to the weight in kilograms of Shear Studs installed in concrete in conformity with the Drawings or as required by the Engineer.
- 4.2.32.2. Payment for Shear Studs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Shear Studs.
- 4.2.33. Rails for Trash Cleaning System
- 4.2.33.1. Measurement for payment of Rails for Trash Cleaning System will be made according to the length in metres of rails installed in concrete as shown on the Drawings or as required by the Engineer.
- 4.2.33.2. Payment for Rails for Trash Cleaning System will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Rails for Trash Cleaning System.
- 4.2.34. Anchor Bolts Grade 55 ASTM F1554
- 4.2.34.1. Measurement for payment of Anchor Bolts Grade 55 ASTM F1554 will be made according to

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the weight in kilograms of Anchor Bolts installed in concrete in conformity with the Drawings or as required by the Engineer.

4.2.34.2. Payment for Anchor Bolts Grade 55 ASTM F1554 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Anchor Bolts.

4.2.35. Elastomeric Bearing Pads

4.2.35.1. Measurement for payment of Elastomeric Bearing Pads will be made according to the number of installed Elastomeric Bearing Pads as shown on the Drawings or as required by the Engineer.

4.2.35.2. Payment for Elastomeric Bearing Pads will be made at the price per each Elastomeric Bearing Pad as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Elastomeric Bearing Pads.

4.2.36. Exothermic Connections

4.2.36.1. Measurement for payment of Exothermic Connections will be made according to the number of Exothermic Connections installed in concrete in conformity with the Drawings or as required by the Engineer.

4.2.36.2. Payment for Exothermic Connections will be made at the price per each exothermic connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Exothermic Connection.

4.2.36A. Mechanical Connections

4.2.36A.1. Measurement for payment of Mechanical Connections will be made according to the number of Mechanical Connections installed in conformity with the Drawings or as required by the Engineer.

4.2.36A.2. Payment for Mechanical Connections will be made at the price per each Mechanical Connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Mechanical Connections.

4.2.37. Embedded Copper Grounding Plates

4.2.37.1. Measurement for payment of Embedded Copper Grounding Plates will be made according to the number of Embedded Copper Grounding Plates installed in concrete in conformity with the Drawings or as required by the Engineer.

4.2.37.2. Payment for Embedded Copper Grounding Plates will be made at the price per each plate as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Embedded Copper Grounding Plates.

4.2.38. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil

4.2.38.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made according to the length of Copper Conductor installed in conformity

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with the Drawings or as required by the Engineer.

4.2.38.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

4.2.39. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG

4.2.39.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

4.2.39.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

4.2.40. Rigid PVC Conduit, size 41mm

4.2.40.1. Measurement for payment of Rigid PVC Conduit, size 41mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.

4.2.40.2. Payment for Rigid PVC Conduit, size 41mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.

4.2.40A. Rigid PVC Conduit, size 53mm

4.2.40A.1. Measurement for payment of Rigid PVC Conduit, size 53mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.

4.2.40A.2. Payment for Rigid PVC Conduit, size 53mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.

4.2.41. Rigid PVC Conduit, size 78mm

4.2.41.1. Measurement for payment of Rigid PVC Conduit, size 78mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.

4.2.41.2. Payment for Rigid PVC Conduit, size 78mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.

4.2.42. Rigid PVC Conduit, size 129mm

4.2.42.1. Measurement for payment of Rigid PVC Conduit, size 129mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the

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Engineer.

- 4.2.42.2. Payment for Rigid PVC Conduit, size 129mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 4.2.43. Junction Box, size 200 x 200 x 150 mm Complete with Traffic Rated Cover
 - 4.2.43.1. Measurement for payment of Junction Box, size 200 x 200 x 150 mm Complete with Traffic Rated Cover will be made according to the number of Junction Boxes installed in concrete in conformity with the Drawings or as required by the Engineer.
 - 4.2.43.2. Payment for Junction Box, size 200 x 200 x 150 mm Complete with Traffic Rated Cover will be made at the price per each Junction Box as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Junction Box.

4.3. South Transition Dam

- 4.3.1. Fill Excavation (Sand Layer for Winter Protection)
 - 4.3.1.1. Measurement for payment of fill excavation will be made according to the number of cubic metres of material measured in place and removed between the fill surface and the rock surface as required by the Engineer.
 - 4.3.1.2. Payment for fill excavation will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price includes excavating, loading, transporting, unloading and spreading of the fill excavated materials at the designated stockpiles or spoil disposal areas or structures on site.
- 4.3.2. Dental Excavation
 - 4.3.2.1. Measurement for payment of Dental Excavation and Scaling will be made according to the number of cubic metres of rock measured in place, calculated between the rock surfaces before and after Dental Excavation and Scaling, all as Accepted by the Engineer.
 - 4.3.2.2. Payment for rock Dental Excavation and scaling will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price shall include dental excavation, scaling, loading, transporting, unloading and spreading of excavated rock at the disposal area.
- 4.3.3. Scaling and Water/Air Jet Cleaning of Bedrock
 - 4.3.3.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.
 - 4.3.3.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil area.

4.3.4. Dental Concrete

4.3.4.1. Measurement for payment of the dental concrete (Class B Concrete) will be made according to the number of cubic metres computed between the foundation lines, as Accepted by the Engineer and finished surfaces of the dental concrete as required by the Engineer.

4.3.4.2. Payment for dental concrete (Class B Concrete) will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, mixing, transporting, handling, placing, finishing and curing as required by the Engineer.

4.3.5. Dry Pack

4.3.5.1. Measurement for payment of dry pack will be made according to the number of cubic metres of dry pack placed on the foundation as directed by the Engineer.

4.3.5.2. Payment for dry pack will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, mixing, transporting and placing of dry pack as required by the Engineer.

4.3.6. Grouting Holes

4.3.6.1. Measurement for payment of rotary/percussion drilling for grouting will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

4.3.6.2. Payment for rotary/percussion drilling grout holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.3.7. Grouting - Successful Connections

4.3.7.1. Measurement for payment of Successful Connections for grouting will be made according to the number of Successful Connections made as specified in the Technical Specification.

4.3.7.2. Payment for Successful Connections for grouting will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.

4.3.8. Dry Cement for Grouting

4.3.8.1. Measurement for payment of contact, consolidation and curtain grouting will be made according to the weight of dry Portland cement in kilogram actually injected into the holes.

4.3.8.2. Payment for dry cement will be made at the price per kilogram of dry cement as indicated in the Schedule of Price Breakdown. This price shall include supplying, loading, transporting, unloading, mixing cement, water, sand and admixtures, if any, in grout mixes, grouting and backfilling of holes.

4.3.9. Water Pressure Tests (Lugeon)

4.3.9.1. Measurement for payment of Water Pressure Tests will be made according to the number of hours water pressure testing is carried out in the drill holes. Time is measured from beginning to completion of water pressure testing and is measured to the nearest 5 minutes.

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- 4.3.9.2. Payment for water pressure testing will be made at the price per hour as indicated in the Schedule of Price Breakdown.
- 4.3.10. Water Pressure Tests - Successful Connections
- 4.3.10.1. Measurement for payment of Successful Connections for Water Pressure Tests will be made according to the number of Successful Connections made as specified in the Technical Specification.
- 4.3.10.2. Payment for Successful Connections for Water Pressure Tests will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.
- 4.3.11. Uplift Gauges
- 4.3.11.1. Measurement for payment of Uplift Gauges will be made according to the number of metres of gauge rod installed below the foundation surface to the satisfaction of the Engineer.
- 4.3.11.2. Payment for supplying, installing, monitoring and removing of Uplift Gauges will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 4.3.12. Thermistors
- 4.3.12.1. Measurement for payment of Thermistors will be made according to the number of unit installed in the rock foundation as specified in the Technical Specification and shown on the Drawings.
- 4.3.12.2. Payment for supplying, installing, monitoring and removing of Thermistors will be made at the price per unit as indicated in the Schedule of Price Breakdown.
- 4.3.13. Rotary/Percussion Drill Check Holes
- 4.3.13.1. Measurement for payment of Rotary/Percussion Drill Check Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
- 4.3.13.2. Payment for Rotary/Percussion Drill Check Holes, including backfilling of holes, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 4.3.14. Cored (Diamond Drill) Holes
- 4.3.14.1. Measurement for payment of Cored (Diamond Drill) Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
- 4.3.14.2. Payment for Cored (Diamond Drill) Holes, including drilling, core logging, photos, wooden or plastic boxes and storage in a place designated by Engineer, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 4.3.15. Drainage Holes
- 4.3.15.1. Measurement for payment of Drainage Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the

bottom of the holes.

4.3.15.2. Payment for Drainage Holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

4.3.16. PVC Caps for Drainage Holes

4.3.16.1. Measurement for payment of PVC Caps for drainage holes will be made according to the number of PVC caps installed at the collar of the drainage holes as shown on the Drawings or as required by the Engineer.

4.3.16.2. Payment for PVC Caps for drainage holes will be made at the price per each PVC cap as indicated in the Schedule of Price Breakdown.

4.3.17. Survey Monuments

4.3.17.1. Measurement for payment of Survey Monuments will be made according to the number of Survey Monuments installed, as shown on the Drawings or as required by the Engineer.

4.3.17.2. Payment for Survey Monuments will be made at the price per each Survey Monument as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing the materials, as well as drilling and grouting holes into the concrete mass.

4.3.18. Hydraulic Piezometers

4.3.18.1. Measurement for payment of Hydraulic Piezometers will be made according to the number of Hydraulic Piezometers installed in the rock foundation, as shown on the Drawings or as required by the Engineer.

4.3.18.2. Payment for Hydraulic Piezometers will be made at the price per each Hydraulic Piezometer as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing all materials, as well as drilling, filling and grouting holes in bedrock.

4.3.19. V-Notch Weirs

4.3.19.1. Measurement for payment of V-Notch Weirs will be made according to the number of V-Notch Weirs installed in the drainage galleries of structures, as shown on the Drawings or as required by the Engineer.

4.3.19.2. Payment for V-Notch Weirs will be made at the price as per each V-Notch Weir indicated in the Schedule of Price Breakdown. This price shall include supplying and installing all required materials.

4.3.20. Concrete

4.3.20.1. Measurement for payment of concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

4.3.20.2. Payment for concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing,

finishing and curing of the concrete.

4.3.20A. PVC Waterstop – Type A (150 mm width)

4.3.20A.1. Measurement for payment of PVC Waterstop – Type A (150 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.3.20A.2. Payment for PVC Waterstop – Type A (150 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.3.21. PVC Waterstop – Type B (225 mm width)

4.3.21.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.3.21.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.3.22. Hydrophilic Waterstop

4.3.22.1. Measurement for payment of Hydrophilic Waterstop will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.3.22.2. Payment for Hydrophilic Waterstop will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.3.23. Bituminous Coating at Contraction Joints

4.3.23.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

4.3.23.2. Payment for Bituminous Coating at Contraction Joints will be made at the prices per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of Bituminous Coating.

4.3.24. Reinforcement including Dowels

4.3.24.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilograms of Reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

4.3.24.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of Reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

4.3.25. Galvanized Miscellaneous Steel

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4.3.25.1. Measurement for payment of Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Miscellaneous Steel installed as shown on the Drawings or as required by the Engineer.

4.3.25.2. Payment for Galvanized Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Miscellaneous Steel.

4.3.26. Galvanized Grating

4.3.26.1. Measurement for payment of Galvanized Grating will be made according to the weight in kilograms of Galvanized Grating installed as shown on the Drawings or as required by the Engineer.

4.3.26.2. Payment for Galvanized Grating will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Grating.

4.3.27. Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.)

4.3.27.1. Measurement for payment of Embedded Miscellaneous Steel will be made according to the weight in kilograms of Embedded Miscellaneous Steel installed in concrete as shown on the Drawings or as required by the Engineer.

4.3.27.2. Payment for Embedded Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Embedded Miscellaneous Steel.

4.3.28. Anchor Bolts Grade 55 ASTM F1554

4.3.28.1. Measurement for payment of Anchor Bolts Grade 55 ASTM F1554 will be made according to the weight in kilograms of Anchor Bolts installed in concrete in conformity with the Drawings or as required by the Engineer.

4.3.28.2. Payment for Anchor Bolts Grade 55 ASTM F1554 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Anchor Bolts.

4.3.29. Exothermic Connections

4.3.29.1. Measurement for payment of Exothermic Connections will be made according to the number of Exothermic Connections installed in concrete in conformity with the Drawings or as required by the Engineer.

4.3.29.2. Payment for Exothermic Connections will be made at the price per each exothermic connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Exothermic Connection.

4.3.29A. Mechanical Connections

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- 4.3.29A.1. Measurement for payment of Mechanical Connections will be made according to the number of Mechanical Connections installed in conformity with the Drawings or as required by the Engineer.
- 4.3.29A.2. Payment for Mechanical Connections will be made at the price per each Mechanical Connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Mechanical Connections.
- 4.3.30. Embedded Copper Grounding Plates
- 4.3.30.1. Measurement for payment of Embedded Copper Grounding Plates will be made according to the number of Embedded Copper Grounding Plates installed in concrete in conformity with the Drawings or as required by the Engineer.
- 4.3.30.2. Payment for Embedded Copper Grounding Plates will be made at the price per each plate as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Embedded Copper Grounding Plates.
- 4.3.31. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil
- 4.3.31.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.
- 4.3.31.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.
- 4.3.32. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG
- 4.3.32.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0AWG will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.
- 4.3.32.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.
- 4.3.33. Rigid PVC Conduit, size 53 mm
- 4.3.33.1. Measurement for payment of Rigid PVC Conduit, size 53 mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
- 4.3.33.2. Payment for Rigid PVC Conduit, size 53 mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.

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4.4. Separation Wall

4.4.1. Dental Excavation

4.4.1.1. Measurement for payment of Dental Excavation and Scaling will be made according to the number of cubic metres of excavated rock measured in place, calculated between the rock surfaces before and after Dental Excavation and Scaling, all as Accepted by the Engineer.

4.4.1.2. Payment for rock Dental Excavation and Scaling will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price shall include dental excavation, scaling, loading, transporting, unloading and spreading of excavated rock at the disposal area.

4.4.2. Scaling and Water/Air Jet Cleaning of Bedrock

4.4.2.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.

4.4.2.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil area.

4.4.3. Dental Concrete

4.4.3.1. Measurement for payment of the dental concrete (Class B Concrete) will be made according to the number of cubic metres computed between the foundation lines, as Accepted by the Engineer and finished surfaces of the dental concrete as required by the Engineer.

4.4.3.2. Payment for dental concrete (Class B Concrete) will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling, placing, finishing and curing as required by the Engineer.

4.4.4. Dry Pack

4.4.4.1. Measurement for payment of dry pack will be made according to the number of cubic metres of dry pack placed on the foundation as directed by the Engineer.

4.4.4.2. Payment for dry pack will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, mixing, transporting and placing of dry pack as required by the Engineer.

4.4.5. Concrete - Separation Wall

4.4.5.1. Measurement for payment of concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

4.4.5.2. Payment for concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing,

finishing and curing of the concrete.

4.4.6. PVC Waterstop – Type B (225 mm width)

4.4.6.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.4.6.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.4.7. Hydrophilic Waterstop

4.4.7.1. Measurement for payment of Hydrophilic Waterstop will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

4.4.7.2. Payment for Hydrophilic Waterstop will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

4.4.8. Bituminous Coating at Contraction Joints

4.4.8.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

4.4.8.2. Payment for Bituminous Coating at Contraction Joints will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

5. SPILLWAY

5.1. Spillway Structure

5.1.1. Fill Excavation (Sand Layer for Winter Protection)

5.1.1.1. Measurement for payment of fill excavation will be made according to the number of cubic metres of material measured in place and removed between the fill surface and the rock surface as required by the Engineer.

5.1.1.2. Payment for fill excavation will be made at the price per cubic metre indicated in the Schedule of Price Breakdown. This price shall include excavating, loading, transporting, unloading and spreading of the fill excavated materials at the designated stockpiles or spoil disposal areas or structures on site.

5.1.2. Grouting Holes

5.1.2.1. Measurement for payment of rotary/percussion drilling for grouting will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

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- 5.1.2.2. Payment for rotary/percussion drilling grout holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 5.1.3. Grouting - Successful Connections
 - 5.1.3.1. Measurement for payment of Successful Connections for grouting will be made according to the number of Successful Connections made as specified in the Technical Specification.
 - 5.1.3.2. Payment for Successful Connections for grouting will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.
- 5.1.4. Dry Cement for Grouting
 - 5.1.4.1. Measurement for payment of contact, consolidation and curtain grouting will be made according to the weight of dry Portland cement in kilogram actually injected into the holes.
 - 5.1.4.2. Payment for dry cement will be made at the price per kilogram of dry cement as indicated in the Schedule of Price Breakdown. This price shall include supplying, loading, transporting, unloading, mixing cement, water, sand and admixtures, grouting and backfilling of holes.
- 5.1.5. Water Pressure Tests (Lugeon)
 - 5.1.5.1. Measurement for payment of Water Pressure Tests will be made according to the number of hours water pressure testing is carried out in the drill holes. Time is measured from beginning to completion of water pressure testing and is measured to the nearest 5 minutes.
 - 5.1.5.2. Payment for water pressure testing will be made at the price per hour as indicated in the Schedule of Price Breakdown.
- 5.1.6. Water Pressure Tests - Successful Connections
 - 5.1.6.1. Measurement for payment of Successful Connections for Water Pressure Tests will be made according to the number of Successful Connections made as specified in the Technical Specification.
 - 5.1.6.2. Payment for Successful Connections for Water Pressure Tests will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.
- 5.1.7. Uplift Gauges
 - 5.1.7.1. Measurement for payment of Uplift Gauges will be made according to the number of metres of gauge rod installed below the foundation surface to the satisfaction of the Engineer.
 - 5.1.7.2. Payment for supplying, installing, monitoring and removing of Uplift Gauges will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 5.1.8. Thermistors
 - 5.1.8.1. Measurement for payment of Thermistors will be made according to the number of units installed in the rock foundation as specified in Technical Specification and shown on the

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Drawings.

- 5.1.8.2. Payment for supplying, installing, monitoring and removing of Thermistors will be made at the price per each Thermistor as indicated in the Schedule of Price Breakdown.
- 5.1.9. Rotary/Percussion Drill Check Holes
 - 5.1.9.1. Measurement for payment of Rotary/Percussion Drill Check Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 5.1.9.2. Payment for Rotary/Percussion Drill Check Holes, including backfilling of holes, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 5.1.10. Cored (Diamond Drill) Holes
 - 5.1.10.1. Measurement for payment of Cored (Diamond Drill) Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 5.1.10.2. Payment for Cored (Diamond Drill) Holes, including drilling, core logging, photos, wooden or plastic boxes and storage in a place designated by Engineer, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 5.1.11. Survey Monuments
 - 5.1.11.1. Measurement for payment of Survey Monuments will be made according to the number of Survey Monuments installed, as shown on the Drawings or as required by the Engineer.
 - 5.1.11.2. Payment for Survey Monuments will be made at the price per each Survey Monument as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing the materials, as well as drilling and grouting holes into the concrete mass.
- 5.1.12. Scaling and Water/Air Jet Cleaning of rock foundation
 - 5.1.12.1. Measurement for payment of scaling and water/air jet cleaning of rock foundation will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.
 - 5.1.12.2. Payment for scaling and water/air jets cleaning of rock foundation surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet, dewatering and scaling equipment, Supply of all required materials, loading, transporting and spreading of removed materials in the designated spoil area.
- 5.1.13. Concrete - Slabs
 - 5.1.13.1. Measurement for payment of Slab Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

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5.1.13.2. Payment for Slab Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.1.14. Concrete – Piers and Walls

5.1.14.1. Measurement for payment of Piers and Walls Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

5.1.14.2. Payment for Piers and Walls Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.1.15. Concrete – Rollways

5.1.15.1. Measurement for payment of Rollways Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

5.1.15.2. Payment for Rollways Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.1.16. Demolition of Slab for Rollway Key

5.1.16.1. Measurement for payment of demolition of Concrete Slab for Rollway Key will be made according to the volume in cubic metres of excavated concrete measured in place, calculated between the concrete slab surfaces before and after demolition, as shown on the drawing and Accepted by the Engineer.

5.1.16.2. Payment for Demolition of Slab for Rollway Key will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include excavation, loading, transporting, unloading and spreading of excavated concrete at the disposal area.

5.1.17. Overbreak Concrete

5.1.17.1. Measurement for payment of Overbreak Concrete will be made according to the volume in cubic metres of the placed concrete computed between the actual rock surface and the minimal excavation line as shown on the Drawings or required by the Engineer.

5.1.17.2. Payment for Overbreak Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing and curing of the concrete.

5.1.18. Grout

5.1.18.1. Measurement for payment of Grout will be made according to the volume in cubic metres of the grout placed as shown on the drawing or as required by the Engineer.

5.1.18.2. Payment for Grout will be made at the price per cubic metre as indicated in the Schedule of

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Price Breakdown. This price shall include supplying, transporting, handling, mixing and spreading.

5.1.19. PVC Waterstop – Type A (150 mm width)

5.1.19.1. Measurement for payment of PVC Waterstop – Type A (150 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

5.1.19.2. Payment for PVC Waterstop – Type A (150 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

5.1.19A. PVC Waterstop – Type B (225 mm width)

5.1.19A.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

5.1.19A.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

5.1.19B. PVC Waterstop – Type D

5.1.19B.1. Measurement for payment of PVC Waterstop – Type D will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

5.1.19B.2. Payment for PVC Waterstop – Type D will be made at the prices per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

5.1.20. Hydrophilic Waterstop

5.1.20.1. Measurement for payment of Hydrophilic Waterstop will be made according to the number of metres of waterstop installed in accordance with the Drawings or as required by the Engineer.

5.1.20.2. Payment for Hydrophilic Waterstop will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

5.1.21. Bituminous Coating at Contraction Joints

5.1.21.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

5.1.21.2. Payment for Bituminous Coating at Contraction Joints will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

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5.1.22. Reinforcement including Dowels

5.1.22.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilograms of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

5.1.22.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

5.1.23. Drill Holes and Grouting for Rock Dowels

5.1.23.1. Measurement for payment of Drill Holes and Grouting for Rock Dowels will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

5.1.23.2. Payment for Drill Holes and Grouting for Rock Dowels will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include drilling, washing the hole, mixing, grouting and all required testing.

5.1.24. Threaded Rebar with Couplers

5.1.24.1. Measurement for payment of Threaded Rebar with Couplers will be made according to the weight in kilograms of Threaded Rebar with Couplers placed in the concrete as shown on the drawing or as required by the Engineer.

5.1.24.2. Payment for Threaded Rebar with Couplers will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Threaded Rebar with Couplers.

5.1.25. Non Embedded Galvanized Miscellaneous Steel

5.1.25.1. Measurement for payment of Non Embedded Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Miscellaneous Steel installed as shown on the Drawings or as required by the Engineer.

5.1.25.2. Payment for Non Embedded Galvanized Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Miscellaneous Steel.

5.1.26. Non Embedded Galvanized Grating

5.1.26.1. Measurement for payment of Non Embedded Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Grating installed as shown on the Drawings or as required by the Engineer.

5.1.26.2. Payment for Non Embedded Galvanized Grating will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Grating.

5.1.27. Embedded Galvanized Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.)

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- 5.1.27.1. Measurement for payment of Embedded Miscellaneous Steel will be made according to the weight in kilograms of Embedded Miscellaneous Steel installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.27.2. Payment for Embedded Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Embedded Miscellaneous Steel.
- 5.1.28. Bulkhead Formwork - Rollway Joints
- 5.1.28.1. Measurement for payment of Bulkhead Formwork will be made according to the weight in kilograms of Bulkhead Formwork installed in Rollway joints as shown on the Drawings or as required by the Engineer.
- 5.1.28.2. Payment for Bulkhead Formwork will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Bulkhead Formwork.
- 5.1.29. Rails for Trash Cleaning System
- 5.1.29.1. Measurement for payment of Rails for Trash Cleaning System will be made according to the length in metres of rails installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.29.2. Payment for Rails for Trash Cleaning System will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Rails for Trash Cleaning System.
- 5.1.30. Anchor Bolts Grade 55 ASTM F1554
- 5.1.30.1. Measurement for payment of Anchor Bolts Grade 55 ASTM F1554 will be made according to the weight in kilograms of Anchor Bolts installed in concrete in conformity with the Drawings or as required by the Engineer.
- 5.1.30.2. Payment for Anchor Bolts Grade 55 ASTM F1554 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Anchor Bolts.
- 5.1.31. Anchors, Templates and Angles in Primary Concrete for Gates and Rollways (5 Sets)
- 5.1.31.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Gates and Rollways will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.31.2. Payment for Anchors, Templates and Angles in Primary Concrete for Gates and Rollways will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.
- 5.1.32. Anchors, Templates and Angles in Primary Concrete for Upstream Temporary Stoplogs (5 Sets)

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- 5.1.32.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Upstream Temporary Stoplogs will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.32.2. Payment for Anchors, Templates and Angles in Primary Concrete for Upstream Temporary Stoplogs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.
- 5.1.33. Anchors, Templates and Angles in Primary Concrete for Upstream Permanent Stoplogs (5 Sets)
- 5.1.33.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Upstream Permanent Stoplogs will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.33.2. Payment for Anchors, Templates and Angles in Primary Concrete for Upstream Permanent Stoplogs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.
- 5.1.34. Anchors, Templates and Angles in Primary Concrete for Downstream Stoplogs (5 Sets)
- 5.1.34.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Downstream Stoplogs will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.34.2. Payment for Anchors, Templates and Angles in Primary Concrete for Downstream Stoplogs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.
- 5.1.35. Anchors and Templates in Primary Concrete for Hoist Towers (5 Sets)
- 5.1.35.1. Measurement for payment of Anchors and Templates in Primary Concrete for Hoist Towers will be made according to the weight in kilograms of Anchors and Templates installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.35.2. Payment for Anchors and Templates in Primary Concrete for Hoist Towers will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors and Templates.
- 5.1.36. Anchors and Templates in Primary Concrete for Walkways (5 Sets)
- 5.1.36.1. Measurement for payment of Anchors and Templates in Primary Concrete for Walkways will be made according to the weight in kilograms of Anchors and Templates installed in concrete as shown on the Drawings or as required by the Engineer.
- 5.1.36.2. Payment for Anchors and Templates in Primary Concrete for Walkways will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include

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receiving, supplying, storage, handling, installation and alignment of Anchors and Templates.

5.1.37. Liner Plates in Sides of Piers

5.1.37.1. Measurement for payment of Liner Plates will be made according to the number of Liner Plates installed in concrete in conformity with the Drawings or as required by the Engineer.

5.1.37.2. Payment for Liner Plates in Sides of Piers will be made at the price per each Liner Plate as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, and installation of Liner Plates in Sides of Piers.

5.1.38. Exothermic Connections

5.1.38.1. Measurement for payment of Exothermic Connections will be made according to the number of Exothermic Connections installed in concrete in conformity with the Drawings or as required by the Engineer.

5.1.38.2. Payment for Exothermic Connections will be made at the price per each exothermic connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of exothermic connection.

5.1.38A. Mechanical Connections

5.1.38A.1. Measurement for payment of Mechanical Connections will be made according to the number of Mechanical Connections installed in conformity with the Drawings or as required by the Engineer.

5.1.38A.2. Payment for Mechanical Connections will be made at the price per each Mechanical Connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Mechanical Connections.

5.1.39. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil

5.1.39.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

5.1.39.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

5.1.40. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG

5.1.40.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

5.1.40.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

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5.1.41. Rigid Galvanized Steel Conduits, size 53mm

5.1.41.1. Measurement for payment of Rigid Galvanized Steel Conduits, size 53mm will be made according to the length of Rigid Galvanized Steel Conduits installed in conformity with the Drawings or as required by the Engineer.

5.1.41.2. Payment for Rigid Galvanized Steel Conduits, size 53mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid Galvanized Steel Conduits.

5.2. Spillway Bridges

5.2.1. Concrete – Slab on Bridge Deck

5.2.1.1. Measurement for payment of Slab Concrete on Steel Deck will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

5.2.1.2. Payment for Slab Concrete on Steel Deck will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.2.2. Reinforcement including Dowels

5.2.2.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilogram of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

5.2.2.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

5.2.3. Structural Steel – Painted/Galvanized Sections

5.2.3.1. Measurement for payment of Painted/Galvanized Sections of Structural Steel will be made according to the weight in kilograms of Painted/Galvanized Sections installed as shown on the Drawings or as required by the Engineer.

5.2.3.2. Payment for Painted Sections of Structural Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Painted/Galvanized Sections of Structural Steel.

5.2.4. Non Embedded Galvanized Miscellaneous Steel

5.2.4.1. Measurement for payment of Non Embedded Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Miscellaneous Steel installed as shown on the Drawings or as required by the Engineer.

5.2.4.2. Payment for Non Embedded Galvanized Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying,

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storage, handling and installation of Galvanized Miscellaneous Steel.

5.2.5. Non Embedded Galvanized Grating

5.2.5.1. Measurement for payment of Non Embedded Galvanized Miscellaneous Steel will be made according to the weight in kilograms of Galvanized Grating installed as shown on the Drawings or as required by the Engineer.

5.2.5.2. Payment for Non Embedded Galvanized Grating will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Galvanized Grating.

5.2.6. Embedded Galvanized Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.)

5.2.6.1. Measurement for payment of Embedded Miscellaneous Steel will be made according to the weight in kilograms of Embedded Miscellaneous Steel installed in concrete as shown on the Drawings or as required by the Engineer.

5.2.6.2. Payment for Embedded Miscellaneous Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Embedded Miscellaneous Steel.

5.2.6A. Shear Studs

5.2.6A.1. Measurement for payment of Shear Studs will be made according to the weight in kilograms of Shear Studs installed in concrete in conformity with the Drawings or as required by the Engineer.

5.2.6A.2. Payment for Shear Studs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Shear Studs.

5.2.7. Elastomeric Bearing Pads

5.2.7.1. Measurement for payment of Elastomeric Bearing Pads will be made according to the number of installed Elastomeric Bearing Pads as shown on the Drawings or as required by the Engineer.

5.2.7.2. Payment for Elastomeric Bearing Pads will be made at the price per each Elastomeric Bearing Pad as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Elastomeric Bearing Pads.

5.2.8. Bridge Expansion Joints

5.2.8.1. Measurement for payment of Bridge Expansion Joints will be made according to the number of installed Bridge Expansion Joints as shown on the Drawings or as required by the Engineer.

5.2.8.2. Payment for Bridge Expansion Joints will be made at the price per each Bridge Expansion Joint as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Bridge Expansion Joints.

5.2.9. Anchor Bolts Grade 55 ASTM F1554

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- 5.2.9.1. Measurement for payment of Anchor Bolts Grade 55 ASTM F1554 will be made according to the weight in kilograms of Anchor Bolts installed in concrete in conformity with the Drawings or as required by the Engineer.
- 5.2.9.2. Payment for Anchor Bolts Grade 55 ASTM F1554 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, installation and alignment of Anchor Bolts.

5.3. Spillway Discharge Channel – Phase 1

5.3.1. Scaling and Water/Air Jet Cleaning of Bedrock

- 5.3.1.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.
- 5.3.1.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil area.

5.3.2. Concrete - Slabs

- 5.3.2.1. Measurement for payment of Slab Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.
- 5.3.2.2. Payment for Slab Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.3.3. Concrete - Walls

- 5.3.3.1. Measurement for payment of Walls Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.
- 5.3.3.2. Payment for Walls Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.3.4. Overbreak Concrete

- 5.3.4.1. Measurement for payment of Overbreak Concrete will be made according to the volume in cubic metres of the placed concrete computed between the actual rock surface and the minimal excavation line as shown on the Drawings or required by the Engineer.

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- 5.3.4.2. Payment for Overbreak Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing and curing of the concrete.
- 5.3.5. Reinforcement including Dowels
 - 5.3.5.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilogram of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.
 - 5.3.5.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.
- 5.3.6. Drill Holes and Grouting for Rock Dowels
 - 5.3.6.1. Measurement for payment of Drill Holes and Grouting for Rock Dowels will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 5.3.6.2. Payment for Drill Holes and Grouting for Rock Dowels will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include drilling, washing the hole, mixing, grouting and all required testing.

5.4. Spillway Discharge Channel – Phase 2 - Optional

- 5.4.1. Scaling and Water/Air Jet Cleaning of Bedrock
 - 5.4.1.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.
 - 5.4.1.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil area.
- 5.4.2. Concrete - Slabs
 - 5.4.2.1. Measurement for payment of Slab Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.
 - 5.4.2.2. Payment for Slab Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.
- 5.4.3. Concrete - Walls

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- 5.4.3.1. Measurement for payment of Walls Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.
- 5.4.3.2. Payment for Walls Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.
- 5.4.4. Overbreak Concrete
 - 5.4.4.1. Measurement for payment of Overbreak Concrete will be made according to the volume in cubic metres of the placed concrete computed between the actual rock surface and the minimal excavation line as shown on the Drawings or required by the Engineer.
 - 5.4.4.2. Payment for Overbreak Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing and curing of the concrete.
- 5.4.5. Reinforcement including Dowels
 - 5.4.5.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilogram of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.
 - 5.4.5.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.
- 5.4.6. Drill Holes and Grouting for Rock Dowels
 - 5.4.6.1. Measurement for payment of Drill Holes and Grouting for Rock Dowels will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 5.4.6.2. Payment for Drill Holes and Grouting for Rock Dowels will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include drilling, washing the hole, mixing, grouting and all required testing.
- 5.5. Spillway Discharge Channel – Phase 3 - Optional**
 - 5.5.1. Scaling and Water/Air Jet Cleaning of Bedrock
 - 5.5.1.1. Measurement for payment of scaling and water/air jet cleaning of the bedrock will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.
 - 5.5.1.2. Payment for scaling and water/air jets cleaning of the bedrock surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet equipment, supply of all required materials, supply and pumping water and loading, transporting and spreading of removed materials in the designated spoil

area.

5.5.2. Concrete - Slabs

5.5.2.1. Measurement for payment of Slab Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

5.5.2.2. Payment for Slab Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.5.3. Concrete - Walls

5.5.3.1. Measurement for payment of Walls Concrete will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

5.5.3.2. Payment for Walls Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

5.5.4. Overbreak Concrete

5.5.4.1. Measurement for payment of Overbreak Concrete will be made according to the volume in cubic metres of the placed concrete computed between the actual rock surface and the minimal excavation line as shown on the Drawings or required by the Engineer.

5.5.4.2. Payment for Overbreak Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing and curing of the concrete.

5.5.5. Reinforcement including Dowels

5.5.5.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilogram of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

5.5.5.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

5.5.6. Drill Holes and Grouting for Rock Dowels

5.5.6.1. Measurement for payment of Drill Holes and Grouting for Rock Dowels will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

5.5.6.2. Payment for Drill Holes and Grouting for Rock Dowels will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include drilling, washing the hole, mixing, grouting and all required testing.

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6. INTAKE

6.1. Intake Structure

6.1.1. Grouting Holes

6.1.1.1. Measurement for payment of rotary/percussion drilling for grouting will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

6.1.1.2. Payment for rotary/percussion drilling grout holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

6.1.2. Grouting - Successful Connections

6.1.2.1. Measurement for payment of Successful Connections for grouting will be made according to the number of Successful Connections made as specified in the Technical Specification.

6.1.2.2. Payment for Successful Connections for grouting will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.

6.1.3. Dry Cement for Grouting

6.1.3.1. Measurement for payment of contact, consolidation and curtain grouting will be made according to the weight of dry Portland cement in kilogram actually injected into the holes.

6.1.3.2. Payment for dry cement will be made at the price per kilogram of dry cement as indicated in the Schedule of Price Breakdown. This price shall include supplying, loading, transporting, unloading, mixing cement, water, sand and admixtures, if any, in grout mixes, grouting and backfilling of holes.

6.1.4. Water Pressure Tests (Lugeon)

6.1.4.1. Measurement for payment of Water Pressure Tests will be made according to the number of hours water pressure testing is carried out in the drill holes. Time is measured from beginning to completion of water pressure testing and is measured to the nearest 5 minutes.

6.1.4.2. Payment for water pressure testing will be made at the price per hour as indicated in the Schedule of Price Breakdown.

6.1.5. Water Pressure Tests - Successful Connections

6.1.5.1. Measurement for payment of Successful Connections for Water Pressure Tests will be made according to the number of Successful Connections made as specified in the Technical Specification.

6.1.5.2. Payment for Successful Connections for Water Pressure Tests will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.

6.1.6. Uplift Gauges

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- 6.1.6.1. Measurement for payment of Uplift Gauges will be made according to the number of metres of gauge rod installed below the foundation surface to the satisfaction of the Engineer.
- 6.1.6.2. Payment for supplying, installing, monitoring and removing of Uplift Gauges will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 6.1.7. Thermistors
 - 6.1.7.1. Measurement for payment of Thermistors will be made according to the number of unit installed in the rock foundation as specified in Technical Specification and shown on the Drawings.
 - 6.1.7.2. Payment for supplying, installing, monitoring and removing of Thermistors will be made at the price per each Thermistor as indicated in the Schedule of Price Breakdown.
- 6.1.8. Rotary/Percussion Drill Check Holes
 - 6.1.8.1. Measurement for payment of Rotary/Percussion Drill Check Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 6.1.8.2. Payment for Rotary/Percussion Drill Check Holes, including backfilling of holes, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 6.1.9. Cored (Diamond Drill) Holes
 - 6.1.9.1. Measurement for payment of Cored (Diamond Drill) Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 6.1.9.2. Payment for Cored (Diamond Drill) Holes, including drilling, core logging, photos, wooden or plastic boxes and storage in a place designated by Engineer, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 6.1.10. Drainage Holes
 - 6.1.10.1. Measurement for payment of Drainage Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 6.1.10.2. Payment for Drainage Holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 6.1.11. PVC Caps for Drainage Holes
 - 6.1.11.1. Measurement for payment of PVC Caps for drainage holes will be made according to the number of PVC caps installed at the collar of the drainage holes as shown on the Drawings or as required by the Engineer.
 - 6.1.11.2. Payment for PVC Caps for drainage holes will be made at the price per each PVC cap as indicated in the Schedule of Price Breakdown.

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6.1.12. Scaling and Water/Air Jet Cleaning of Rock Foundation

6.1.12.1. Measurement for payment of scaling and water/air jet cleaning of rock foundation will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.

6.1.12.2. Payment for scaling and water/air jets cleaning of rock foundation surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet, dewatering and scaling equipment, Supply of all required materials, loading, transporting and spreading of removed materials in the designated spoil area.

6.1.13. Survey Monuments

6.1.13.1. Measurement for payment of Survey Monuments will be made according to the number of Survey Monuments installed, as shown on the Drawings or as required by the Engineer.

6.1.13.2. Payment for Survey Monuments will be made at the price per each Survey Monument as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing the materials, as well as drilling and grouting holes into the concrete mass.

6.1.14. V-Notch Weirs

6.1.14.1. Measurement for payment of V-Notch Weirs will be made according to the number of V-Notch Weirs installed in the drainage galleries of structures, as shown on the Drawings or as required by the Engineer.

6.1.14.2. Payment for V-Notch Weirs will be made at the price per each V-Notch Weir as indicated in the Schedule of Price Breakdown. This price shall include supplying and installing all required materials.

6.1.15. Concrete - Substructure Below El. 45.5 m

6.1.15.1. Measurement for payment of Substructure Concrete below El. 45.5 m will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

6.1.15.2. Payment for Substructure Concrete below El. 45.5 m will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

6.1.16. Concrete - Gate Hoist Building and Elevator Room Above El. 45.5 m

6.1.16.1. Measurement for payment of Concrete of Gate Hoist Building and Elevator Room above El. 45.5 m will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

6.1.16.2. Payment for Gate Hoist Building and Elevator Room above El. 45.5 m will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include

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fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

6.1.17. Overbreak Concrete

6.1.17.1. Measurement for payment of Overbreak Concrete including Backfill Concrete will be made according to the volume in cubic metres of the placed concrete computed between the actual rock surface and the minimal excavation line as shown on the Drawings or required by the Engineer.

6.1.17.2. Payment for Overbreak Concrete including Backfill Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing and curing of the concrete.

6.1.18. Grout

6.1.18.1. Measurement for payment of Grout will be made according to the volume in cubic metres of the grout placed as shown on the drawing or as required by the Engineer.

6.1.18.2. Payment for Grout will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling, mixing and spreading.

6.1.19. PVC Waterstop – Type A (150 mm width)

6.1.19.1. Measurement for payment of PVC Waterstop – Type A (150 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

6.1.19.2. Payment for PVC Waterstop – Type A (150 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

6.1.20. PVC Waterstop – Type B (225 mm width)

6.1.20.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstop installed in accordance with the Drawings or as required by the Engineer.

6.1.20.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

6.1.21. Sealing of Joints

6.1.21.1. Measurement for payment of Joints Sealing will be made according to the number of metres of joints sealed as Accepted by the Engineer.

6.1.21.2. Payment for Joints Sealing will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

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6.1.22. Bituminous Coating at Contraction Joints

6.1.22.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

6.1.22.2. Payment for Bituminous Coating at Contraction Joints will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

6.1.22A. Elastomeric Polyurea Membrane

6.1.22A.1. Measurement for payment of Elastomeric Polyurea Membrane will be made according to the number of square metres of covered surface as Accepted by the Engineer.

6.1.22A.2. Payment for Elastomeric Polyurea Membrane will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

6.1.23. Reinforcement including Dowels

6.1.23.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilograms of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

6.1.23.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

6.1.24. Anchors, Templates and Angles in Primary Concrete for Intake Gates (12 Sets)

6.1.24.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Intake Gates will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.

6.1.24.2. Payment for Anchors, Templates and Angles in Primary Concrete for Intake Gates will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.

6.1.25. Anchors and Templates in Primary Concrete for Intake Trashracks (12 Sets)

6.1.25.1. Measurement for payment of Anchors and Templates in Primary Concrete for Intake Trashracks will be made according to the weight in kilograms of Anchors and Templates installed in concrete as shown on the Drawings or as required by the Engineer.

6.1.25.2. Payment for Anchors and Templates in Primary Concrete for Intake Trashracks will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors and Templates.

6.1.26. Anchors, Templates and Angles in Primary Concrete for Intake Stoplogs (12 Sets)

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6.1.26.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Intake Stoplogs will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.

6.1.26.2. Payment for Anchors, Templates and Angles in Primary Concrete for Intake Stoplogs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.

6.2. Intake - Electrical Work

6.2.1. Exothermic Connections

6.2.1.1. Measurement for payment of Exothermic Connections will be made according to the number of Exothermic Connections installed in concrete in conformity with the Drawings or as required by the Engineer.

6.2.1.2. Payment for Exothermic Connections will be made at the price per each exothermic connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of exothermic connection.

6.2.1A. Mechanical Connections

6.2.1A.1. Measurement for payment of Mechanical Connections will be made according to the number of Mechanical Connections installed in conformity with the Drawings or as required by the Engineer.

6.2.1A.2. Payment for Mechanical Connections will be made at the price per each Mechanical Connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Mechanical Connections.

6.2.2. Embedded Copper Grounding Plates

6.2.2.1. Measurement for payment of Embedded Copper Grounding Plates will be made according to the number of Embedded Copper Grounding Plates installed in concrete in conformity with the Drawings or as required by the Engineer.

6.2.2.2. Payment for Embedded Copper Grounding Plates will be made at the price per each plate as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Embedded Copper Grounding Plates.

6.2.3. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil

6.2.3.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

6.2.3.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

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- 6.2.4. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG
 - 6.2.4.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.
 - 6.2.4.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.
- 6.2.5. Rigid PVC Conduit, size 35 mm
 - 6.2.5.1. Measurement for payment of Rigid PVC Conduit, size 35 mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 6.2.5.2. Payment for Rigid PVC Conduit, size 35 mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 6.2.6. Rigid PVC Conduit, size 78 mm
 - 6.2.6.1. Measurement for payment of Rigid PVC Conduit, size 78 mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 6.2.6.2. Payment for Rigid PVC Conduit, size 78 mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 6.2.7. Rigid PVC Conduit, size 129 mm
 - 6.2.7.1. Measurement for payment of Rigid PVC Conduit, size 129 mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 6.2.7.2. Payment for Rigid PVC Conduit, size 129 mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 6.2.8. Heat Tracing of Drains – Heat Tracing Cable plus Accessories
 - 6.2.8.1. Measurement for payment of Heat Tracing Cable plus Accessories will be made according to the length of Heat Traced Cable and Accessories installed for Heat Tracing of Drain pipes, in conformity with the Drawings or as required by the Engineer.

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6.2.8.2. Payment for Heat Tracing Cable plus Accessories will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Heat Tracing Cable and Accessories.

6.2.9. Heat Tracing of Drains – Heat Tracing Controllers

6.2.9.1. Measurement for payment of Heat Tracing Controllers will be made according to the number of Heat Tracing Controllers installed in conformity with the Drawings or as required by the Engineer.

6.2.9.2. Payment for Heat Tracing Controllers will be made at the unit price per each Controller as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Heat Tracing Controllers.

7. POWERHOUSE

7.1. Substructure

7.1.1. Grouting Holes

7.1.1.1. Measurement for payment of rotary/percussion drilling for grouting will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

7.1.1.2. Payment for rotary/percussion drilling grout holes will be made at the price per metre as indicated in the Schedule of Price Breakdown.

7.1.2. Grouting - Successful Connections

7.1.2.1. Measurement for payment of Successful Connections for grouting will be made according to the number of Successful Connections made as specified in the Technical Specification.

7.1.2.2. Payment for Successful Connections for grouting will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.

7.1.3. Dry Cement for Grouting

7.1.3.1. Measurement for payment of contact, consolidation and curtain grouting will be made according to the weight of dry Portland cement in kilogram actually injected into the holes.

7.1.3.2. Payment for dry cement will be made at the price per kilogram of dry cement as indicated in the Schedule of Price Breakdown. This price shall include supplying, loading, transporting, unloading, mixing cement, water, sand and admixtures, if any, in grout mixes, grouting and backfilling of holes.

7.1.4. Water Pressure Tests (Lugeon)

7.1.4.1. Measurement for payment of Water Pressure Tests will be made according to the number of hours water pressure testing is carried out in the drill holes. Time is measured from beginning

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to completion of water pressure testing and is measured to the nearest 5 minutes.

- 7.1.4.2. Payment for water pressure testing will be made at the price per hour as indicated in the Schedule of Price Breakdown.
- 7.1.5. Water Pressure Tests - Successful Connections
 - 7.1.5.1. Measurement for payment of Successful Connections for Water Pressure Tests will be made according to the number of Successful Connections made as specified in the Technical Specification.
 - 7.1.5.2. Payment for Successful Connections for Water Pressure Tests will be made at the price per each Successful Connection as indicated in the Schedule of Price Breakdown.
- 7.1.6. Uplift Gauges
 - 7.1.6.1. Measurement for payment of Uplift Gauges will be made according to the number of metres of gauge rod installed below the foundation surface to the satisfaction of the Engineer.
 - 7.1.6.2. Payment for supplying, installing, monitoring and removing of Uplift Gauges will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 7.1.7. Thermistors
 - 7.1.7.1. Measurement for payment of Thermistors will be made according to the number of unit installed in the rock foundation as specified in Technical Specification and shown on the Drawings.
 - 7.1.7.2. Payment for supplying, installing, monitoring and removing of Thermistors will be made at the price per each Thermistor as indicated in the Schedule of Price Breakdown.
- 7.1.8. Rotary/Percussion Drill Check Holes
 - 7.1.8.1. Measurement for payment of Rotary/Percussion Drill Check Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 7.1.8.2. Payment for Rotary/Percussion Drill Check Holes, including backfilling of holes, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 7.1.9. Cored (Diamond Drill) Holes
 - 7.1.9.1. Measurement for payment of Cored (Diamond Drill) Holes will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.
 - 7.1.9.2. Payment for Cored (Diamond Drill) Holes, including drilling, core logging, photos, wooden or plastic boxes and storage in a place designated by Engineer, will be made at the price per metre as indicated in the Schedule of Price Breakdown.
- 7.1.10. Scaling and Water/Air Jet Cleaning of rock foundation

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- 7.1.10.1. Measurement for payment of scaling and water/air jet cleaning of rock foundation will be made according to the number of square metres of the cleaned foundation, measured on a horizontal projection plane, according to the requirements of the Technical Specification.
- 7.1.10.2. Payment for scaling and water/air jets cleaning of rock foundation surface will be made at the price per square metre indicated in the Schedule of Price Breakdown. This price shall include supply and operation of water/air jet, dewatering and scaling equipment, Supply of all required materials, loading, transporting and spreading of removed materials in the designated spoil area.
- 7.1.11. Trench for Interconnection Cables and Pipes - Excavation and Backfill
- 7.1.11.1. Measurement for payment of Excavation and Backfill of the trench consists of verifying that the excavation and backfilling of the trench is conform to the requirements of the Technical Specification and is completed at the satisfaction of the Engineer.
- 7.1.11.2. Payment for Excavation and Backfill of the trench will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include excavation of existing materials, selection of the material, loading, transporting, unloading, placing and compacting materials.
- 7.1.12. Trench for Interconnection Cables and Pipes - Ductbank
- 7.1.12.1. Measurement for payment of Ductbank in the trench consists of verifying that the Ductbank in the trench conforms to the requirements of the Technical Specification and Drawings and is completed at the satisfaction of the Engineer.
- 7.1.12.2. Payment for Ductbank in the trench will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, forming, placing, curing of the concrete as well as supplying and installing all required material.
- 7.1.13. Trench for Interconnection Cables and Pipes - Manholes
- 7.1.13.1. Measurement for payment of Manholes will be made according to the number of Manholes installed in trench as shown on the Drawings and Accepted by the Engineer.
- 7.1.13.2. Payment for supplying and installing of Manholes will be made at the price per each Manhole as indicated in the Schedule of Price Breakdown. This price shall include design, supply and installation of the Manholes in the trench.
- 7.1.14. Concrete - Powerhouse Substructure Below El. 6.5 m
- 7.1.14.1. Measurement for payment of Powerhouse Substructure Concrete below El. 6.5 m will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.
- 7.1.14.2. Payment for Powerhouse Substructure Concrete below El. 6.5 m will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating,

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transporting, handling, forming, placing, finishing and curing of the concrete.

7.1.15. Concrete – Powerhouse Substructure between lines 6 and 7

7.1.15.1. Measurement for payment of Powerhouse Substructure Concrete between lines 6 and 7, including Sump Pit, Shafts for Stair & Elevator up to El. 45.5m will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

7.1.15.2. Payment for Powerhouse Substructure Concrete between lines 6 and 7, including Sump Pit, Shafts for Stair & Elevator up to El. 45.5m will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

7.1.16. Concrete - Slabs and Walls between El. 6.5 and 15.5

7.1.16.1. Measurement for payment of Powerhouse Slabs and Walls Concrete between El. 6.5 and 15.5 including North and South Service Bays, Slab on grade, Basins and Bases for GSU transformer up to El. 16.8 m, Air vent enclosures on Powerhouse tailrace deck and North service Bay, Access enclosure to stair no. 8 and Oil/Water separator will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

7.1.16.2. Payment for Powerhouse Slabs and Walls Concrete between El. 6.5 and 15.5 including North and South Service Bays, Slab on grade, Basins and Bases for GSU transformer up to El. 16.8 m, Air vent enclosures on Powerhouse tailrace deck and North Service Bay, Access enclosure to stair no. 8 and Oil/Water separator will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

7.1.17. Concrete - Slab on Steel Deck including Mezzanines

7.1.17.1. Measurement for payment of Slab Concrete on Steel Deck including Mezzanines will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

7.1.17.2. Payment for Slab Concrete on Steel Deck including Mezzanines will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

7.1.18. Secondary Concrete of Draft Tube Cone Steel Liner

7.1.18.1. Measurement for payment of Secondary (2nd Phase) Concrete of Draft Tube Cone Steel Liner will be made according to the volume in cubic metres of the concrete placed and computed from the dimensions shown on the Drawings or required by the Engineer.

7.1.18.2. Payment for Secondary (2nd Phase) Concrete of Draft Tube Cone Steel Liner will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing, finishing and curing of the concrete.

7.1.19. Overbreak Concrete

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7.1.19.1. Measurement for payment of Overbreak Concrete including Backfill Concrete will be made according to the volume in cubic metres of the placed concrete computed between the actual rock surface and the minimal excavation line as shown on the Drawings or required by the Engineer.

7.1.19.2. Payment for Overbreak Concrete including Backfill Concrete will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, transporting, handling, forming, placing and curing of the concrete.

7.1.20. Grout

7.1.20.1. Measurement for payment of Grout will be made according to the volume in cubic metres of the grout placed as shown on the drawing or as required by the Engineer.

7.1.20.2. Payment for Grout will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling, mixing and spreading of grout.

7.1.21. PVC Waterstop – Type A (150 mm width)

7.1.21.1. Measurement for payment of PVC Waterstop – Type A (150 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

7.1.21.2. Payment for PVC Waterstop – Type A (150 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

7.1.22. PVC Waterstop – Type B (225 mm width)

7.1.22.1. Measurement for payment of PVC Waterstop – Type B (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

7.1.22.2. Payment for PVC Waterstop – Type B (225 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

7.1.22A. PVC Waterstop – Type C (225 mm width)

7.1.22A.1. Measurement for payment of PVC Waterstop – Type C (225 mm width) will be made according to the number of metres of waterstops installed in accordance with the Drawings or as required by the Engineer.

7.1.22A.2. Payment for PVC Waterstop – Type C (225 mm width) will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

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7.1.23. Metallic Waterstop

7.1.23.1. Measurement for payment of Metallic Waterstop will be made according to the number of metres of waterstop installed in accordance with the Drawings or as required by the Engineer.

7.1.23.2. Payment for Metallic Waterstop will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage, installation and reparation, if required.

7.1.24. Sealing of Joints

7.1.24.1. Measurement for payment of Joints Sealing will be made according to the number of metres of joints sealed as Accepted by the Engineer.

7.1.24.2. Payment for Sealing of Joints will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of sealing Joints.

7.1.25. Polyethylene Foam Rod

7.1.25.1. Measurement for payment of Polyethylene Foam Rod will be made according to the number of metres of installed Polyethylene Foam Rod as Accepted by the Engineer.

7.1.25.2. Payment for Polyethylene Foam Rod will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of Polyethylene Foam Rod.

7.1.26. Asphalt Impregnated Fiber Board

7.1.26.1. Measurement for payment of Asphalt Impregnated Fiber Board will be made according to the number of square metres of covered surface as Accepted by the Engineer.

7.1.26.2. Payment for Asphalt Impregnated Fiber Board will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of Asphalt Impregnated Fiber Board.

7.1.27. Bituminous Coating at Contraction Joints

7.1.27.1. Measurement for payment of Bituminous Coating at Contraction Joints will be made according to the number of square metres of covered surface as Accepted by the Engineer.

7.1.27.2. Payment for Bituminous Coating at Contraction Joints will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of Bituminous Coating at Contraction Joints.

7.1.28. Soldrain 500 from Texel/Geosol

7.1.28.1. Measurement for payment of Soldrain 500 will be made according to the number of square metres of covered rock surface as shown on the drawings and as required and accepted by the

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Engineer.

7.1.28.2. Payment for Soldrain 500 will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement of Soldrain 500.

7.1.28A. Elastomeric Polyurea Membrane

7.1.28A.1. Measurement for payment of Elastomeric Polyurea Membrane will be made according to the number of square metres of covered surface as Accepted by the Engineer.

7.1.28A.2. Payment for Elastomeric Polyurea Membrane will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

7.1.28B. Polyflex 202 Membrane

7.1.28B.1. Measurement for payment of Polyflex 202 Membrane will be made according to the number of square metres of covered surface as Accepted by the Engineer.

7.1.28B.2. Payment for Polyflex 202 Membrane will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include supply, transportation, storage and placement.

7.1.29. Prefabricated Concrete Longitudinal Sandwich Fire Walls

7.1.29.1. Measurement for payment of Prefabricated Concrete Longitudinal Sandwich Fire Walls will be made according to the surface in square metres of the placed concrete as shown on the Drawings or required by the Engineer.

7.1.29.2. Payment for Prefabricated Concrete Longitudinal Sandwich Fire Walls will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include all labour, material, equipment, inspection and testing services for the connection design, detailed design of precast concrete panels, shop drawing, supply, fabrication of reinforcement, concrete, steel, steel painting, transportation to the site and installation of Prefabricated Concrete Longitudinal Sandwich Fire Walls (along line A) with interior fire rating and exterior sealants.

7.1.30. Prefabricated Transversal Concrete Fire Walls

7.1.30.1. Measurement for payment of prefabricated transversal concrete Fire Walls will be made according to the surface in square metres of the placed prefabricated transversal concrete Fire Walls as shown on the Drawings or required by the Engineer.

7.1.30.2. Payment for prefabricated transversal concrete Fire Walls will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include all labour, material, equipment, inspection and testing services for the connection design, detailed design of precast concrete panels, shop drawing, supply, fabrication of reinforcement, concrete, steel, transportation to the site and installation of prefabricated transversal concrete Fire Walls with interior fire rating and exterior sealants.

7.1.31. Reinforcement including Dowels

7.1.31.1. Measurement for payment of Reinforcement and Dowels will be made according to the weight in kilograms of reinforcing bars including dowels placed in the concrete. The weight is computed from the bar lists using the nominal weights indicated in CSA G30.12M.

7.1.31.2. Payment for Reinforcement and Dowels will be made at the price per kilogram of reinforcing bars including dowels as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, forming and placing of Reinforcement including Dowels.

7.1.32. Drill Holes and Grouting for Rock Dowels

7.1.32.1. Measurement for payment of Drill Holes and Grouting for Rock Dowels will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the rock or concrete surface to the bottom of the holes.

7.1.32.2. Payment for Drill Holes and Grouting for Rock Dowels will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include drilling, washing the hole, mixing and grouting.

7.1.33. Drill Holes for Anchors with Epoxy

7.1.33.1. Measurement for payment of Drill Holes for Anchors with Epoxy will be made according to the length in metres of holes drilled, measured to the nearest 1/10 metre from the concrete surface to the bottom of the holes.

7.1.33.2. Payment for Drill Holes for Anchors with Epoxy will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include drilling, washing the hole and epoxy adhesive HIT-RE-500.

7.1.34. Threaded Rebar (Dia. 35 mm) with Couplers

7.1.34.1. Measurement for payment of Threaded Rebar with Couplers will be made according to the weight in kilograms of Threaded Rebar with Couplers placed in the concrete as shown on the drawing or as required by the Engineer.

7.1.34.2. Payment for Threaded Rebar with Couplers will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and installation of Threaded Rebar with Couplers.

7.1.35. Anchors, Templates and Angles in Primary Concrete for Draft Tube Stoplogs (8 Sets)

7.1.35.1. Measurement for payment of Anchors, Templates and Angles in Primary Concrete for Draft Tube Stoplogs will be made according to the weight in kilograms of Anchors, Templates and Angles installed in concrete as shown on the Drawings or as required by the Engineer.

7.1.35.2. Payment for Anchors, Templates and Angles in Primary Concrete for Draft Tube Stoplogs will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price

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shall include receiving, storage, handling, installation and alignment of Anchors, Templates and Angles.

7.1.36. Anchors and Embedded Parts in Primary Concrete for T/G Units

7.1.36.1. Measurement for payment of Anchors and Templates in Primary Concrete for T/G Units will be made according to the weight in kilograms of Anchors and Templates installed in concrete as shown on the Drawings or as required by the Engineer.

7.1.36.2. Payment for Anchors and Templates in Primary Concrete for T/G Units will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include storage, handling, installation and alignment of Anchors and Templates.

7.1.37. Installation of the lower portion of the circular passage for all 4 T/G Units (Optional)

7.1.37.1. Measurement for payment of the installation of the lower portion of the circular passage for all four (4) T/G Units will be made according to the weight in kilograms of the lower portion of the circular passage installed as shown on the Drawings from T/G Contractor or as required by the Engineer.

7.1.37.2. Payment for the installation of the lower portion of the circular passage for all four (4) T/G Units will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include labour, storage, handling, preparation and assembly of circular passages, welding including NDT and repairs, spiders assembly & installation and painting, and installation in pit and alignment of circular passages for all four (4) T/G Units.

7.2. Superstructure

7.2.1. Beams Under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, girt channels, steel connection for prefabricated concrete panels and building attachment steel to upstream wall)

7.2.1.1. Measurement for payment of Beams under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, girt channels, steel connection for prefabricated concrete panels and building attachment steel to upstream wall) will be made according to the weight in kilograms of Beams installed as shown on the Drawings or as required by the Engineer.

7.2.1.2. Payment for Beams under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, girt channels, steel connection for prefabricated concrete panels and building attachment steel to upstream wall) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.2. Beams from 61 to 150 kg/m

7.2.2.1. Measurement for payment of Beams from 61 to 150 kg/m will be made according to the weight in kilograms of Beams installed as shown on the Drawings or as required by the Engineer.

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- 7.2.2.2. Payment for Beams from 61 to 150 kg/m will be made at the Price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the beams.
- 7.2.3. Beams Over 150 kg/m
 - 7.2.3.1. Measurement for payment of Beams over 150 kg/m will be made according to the weight in kilograms of Beams installed as shown on the Drawings or as required by the Engineer.
 - 7.2.3.2. Payment for Beams over 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the beams.
- 7.2.3A. W Beam Stiffener (For Generator Floor Beams)
 - 7.2.3A.1. Measurement for payment of W Beam Stiffener (For Generator Floor Beams) will be made according to the weight in kilograms of W Beam Stiffener (For Generator Floor Beams) installed as shown on the Drawings or as required by the Engineer.
 - 7.2.3A.2. Payment for W Beam Stiffener (For Generator Floor Beams) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the W Beam Stiffener (For Generator Floor Beams).
- 7.2.3B. W Beam Bearing Plate (For Generator Floor Beams)
 - 7.2.3B.1. Measurement for payment of W Beam Bearing Plate (For Generator Floor Beams) will be made according to the weight in kilograms of W Beam Bearing Plate (For Generator Floor Beams) installed as shown on the Drawings or as required by the Engineer.
 - 7.2.3B.2. Payment for W Beam Bearing Plate (For Generator Floor Beams) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the W Beam Bearing Plate (For Generator Floor Beams).
- 7.2.4. W Shape Columns Under 60kg/m
 - 7.2.4.1. Measurement for payment of W Shape Columns under 60 kg/m will be made according to the weight in kilograms of Columns installed as shown on the Drawings or as required by the Engineer.
 - 7.2.4.2. Payment for W Shape Columns under 60 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the columns.
- 7.2.5. W Shape Columns from 61 to 150 kg/m
 - 7.2.5.1. Measurement for payment of W Shape Columns from 61 to 150 kg/m will be made according to the weight in kilograms of Columns installed as shown on the Drawings or as

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required by the Engineer.

7.2.5.2. Payment for W Shape Columns from 61 to 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the columns.

7.2.6. W Shape Columns Over 150 kg/m

7.2.6.1. Measurement for payment of W Shape Columns over 150 kg/m will be made according to the weight in kilograms of Columns installed as shown on the Drawings or as required by the Engineer.

7.2.6.2. Payment for W Shape Columns over 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the columns.

7.2.6A. Grade WT Beams Under 60 kg/m

7.2.6A.1. Measurement for payment of Grade WT Beams Under 60 kg/m will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.6A.2. Payment for Grade WT Beams Under 60 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.6B. Grade WT Beams From 61 to 150 kg/m

7.2.6B.1. Measurement for payment of Grade WT Beams From 61 to 150 kg/m will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.6B.2. Payment for Grade WT Beams From 61 to 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.6C. Grade WT Beams Over 150 kg/m

7.2.6C.1. Measurement for payment of Grade WT Beams Over 150 kg/m will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.6C.2. Payment for Grade WT Beams Over 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.6D. Grade WT Beams Bearing Plates

7.2.6D.1. Measurement for payment of Grade WT Beams Bearing Plates will be made according to the weight in kilograms of Beams Bearing Plates installed according to the Technical Specification

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and as shown on the Drawings or as required by the Engineer.

7.2.6D.2. Payment for Grade WT Beams Bearing Plates will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the Beams Bearing Plates.

7.2.6E. Grade WT Beams Stiffener

7.2.6E.1. Measurement for payment of Grade WT Beams Stiffener will be made according to the weight in kilograms of Beams Stiffener installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.6E.2. Payment for Grade WT Beams Stiffener will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation of the Beams Stiffener.

7.2.7. W Beams Under 60 kg/m, Painted with Intumescent Paint

7.2.7.1. Measurement for payment of Beams under 60 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.7.2. Payment for Beams under 60 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.8. W Beams from 61 to 150 kg/m, Painted with Intumescent Paint

7.2.8.1. Measurement for payment of Beams from 61 to 150 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.8.2. Payment for Beams from 61 to 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with Intumescent Paint, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.9. W Beams Over 150 kg/m, Painted with Intumescent Paint

7.2.9.1. Measurement for payment of Beams over 150 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.9.2. Payment for Beams over 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.10. W Beam stiffeners and Bent Plate at Openings, Painted with Intumescent Paint

7.2.10.1. Measurement for payment of Beam stiffeners and Bent Plate at Openings, painted with

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intumescent paint will be made according to the weight in kilograms of Beam stiffeners and Bent Plate installed as shown on the Drawings or as required by the Engineer.

7.2.10.2. Payment for Beam stiffeners and Bent Plate at Openings will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the Beam stiffeners and Bent Plate at Openings.

7.2.11. W Beam Base Plate, Painted with Intumescent Paint

7.2.11.1. Measurement for payment of Beam Base Plate, painted with intumescent paint will be made according to the weight in kilograms of Beam Base Plate installed as shown on the Drawings or as required by the Engineer.

7.2.11.2. Payment for Beam Base Plate will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transport to the site, storage, handling and installation of the Beam stiffeners and Bent Plate at Openings.

7.2.12. WT Beams Under 60 kg/m, Painted with Intumescent Paint

7.2.12.1. Measurement for payment of Beams under 60 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.12.2. Payment for Beams under 60 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.13. WT Beams Over 150 kg/m, Painted with Intumescent Paint

7.2.13.1. Measurement for payment of Beams over 150 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Beams installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.13.2. Payment for Beams over 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the beams.

7.2.14. WT Beam Base Plate, Painted with Intumescent Paint

7.2.14.1. Measurement for payment of Beam Base Plate, painted with intumescent paint will be made according to the weight in kilograms of Beam Base Plate installed as shown on the Drawings or as required by the Engineer.

7.2.14.2. Payment for Beam Base Plate will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the Beam stiffeners and Bent Plate at Openings.

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7.2.15. Columns from 61 to 150 kg/m, Painted with Intumescent Paint

7.2.15.1. Measurement for payment of Columns from 61 to 150 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Columns installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.15.2. Payment for Columns from 61 to 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with Intumescent Paint, supplying and transportation to the site, storage, handling and installation of the Columns.

7.2.16. Columns Over 150 kg/m, Painted with Intumescent Paint

7.2.16.1. Measurement for payment of Columns over 150 kg/m, painted with intumescent paint will be made according to the weight in kilograms of Columns installed according to the Technical Specification and as shown on the Drawings or as required by the Engineer.

7.2.16.2. Payment for Columns over 150 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation of the Columns.

7.2.17. Main Building Columns, in Rolled Shapes & Plates, Welded Continuously and Painted with Intumescent Paint

7.2.17.1. Measurement for payment of Main building columns, painted with intumescent paint will be made according to the weight in kilograms of Main building columns installed as shown on the Drawings or as required by the Engineer.

7.2.17.2. Payment for Main building columns will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting with intumescent paint, supplying and transportation to the site, storage, handling and installation.

7.2.18. Crane Girders in Welded Plates, 700-800 kg/m

7.2.18.1. Measurement for payment of Crane girders in welded plates, 700-800 kg/m will be made according to the weight in kilograms of Crane girders in welded plates installed as shown on the Drawings or as required by the Engineer.

7.2.18.2. Payment for Crane girders in welded plates, 700-800 kg/m will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation.

7.2.19. Main Building Columns, in Rolled Shapes & Plates, Welded Continuously

7.2.19.1. Measurement for payment of Main building columns will be made according to the weight in kilograms of Main building columns installed as shown on the Drawings or as required by the Engineer.

7.2.19.2. Payment for Main building columns will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and

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transportation to the site, storage, handling and installation.

7.2.20. Roof Trusses and Wind Trusses

7.2.20.1. Measurement for payment of Roof Trusses and Wind trusses will be made according to the weight in kilograms of Roof Trusses and Wind trusses installed as shown on the Drawings or as required by the Engineer.

7.2.20.2. Payment for Roof Trusses and Wind trusses will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation.

7.2.21. Horizontal Bracing (WT Shapes) for roof and mezzanines

7.2.21.1. Measurement for payment of Horizontal bracing (WT Shapes) for roof and mezzanines will be made according to the weight in kilograms of Horizontal bracing installed as shown on the Drawings or as required by the Engineer.

7.2.21.2. Payment for Horizontal bracing (WT Shapes) for roof and mezzanines will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transportation to the site, storage, handling and installation.

7.2.22. HSS Square Shape for Vertical Bracing, Horizontal Bracing, Struts and HSS Columns (HSS Columns not covered in price item 304 (ref 7.2.25))

7.2.22.1. Measurement for payment of HSS Square Shape for Vertical Bracing, Horizontal Bracing, Struts and HSS Columns (HSS Columns not covered in price item 304 (ref 7.2.25)) will be made according to the weight in kilograms of installed HSS as shown on the Drawings or as required by the Engineer.

7.2.22.2. Payment for HSS Square Shape for Vertical Bracing, Horizontal Bracing, Struts and HSS Columns (HSS Columns not covered in price item 304 (ref 7.2.25)) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, painting, supplying and transporting to the site, storage, handling and installation.

7.2.23. Nelson Studs (Dia. 19 and 13 mm) Welded Mezzanine Beams

7.2.23.1. Measurement for payment of Nelson Studs (Dia. 19 and 13 mm) Welded Mezzanine Beams will be made according to the weight in kilograms of installed Nelson studs as shown on the Drawings or as required by the Engineer.

7.2.23.2. Payment for Nelson Studs (Dia. 19 and 13 mm) Welded Mezzanine Beams will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Nelson Studs.

7.2.24. Nelson Studs (Dia. 19 and 22 mm) Welded to Generator Floor Beams

7.2.24.1. Measurement for payment of Nelson Studs (Dia. 19 and 22 mm) Welded to Generator Floor Beams will be made according to the weight in kilograms of installed Nelson studs as shown on the Drawings or as required by the Engineer.

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- 7.2.24.2. Payment for Nelson Studs (Dia. 19 and 22 mm) Welded to Generator Floor Beams will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Nelson Studs.
- 7.2.25. Stair Stringers in Channels (incl. Galvanized Beams and Columns for the stairs)
- 7.2.25.1. Measurement for payment of Stair Stringers in Channels (incl. Galvanized Beams and Columns for the stairs) will be made according to the weight in kilograms of installed Stair stringers as shown on the Drawings or as required by the Engineer.
- 7.2.25.2. Payment for Stair Stringers in Channels (incl. Galvanized Beams and Columns for the stairs) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Stair Stringers in Channels.
- 7.2.26. Stair Treads in Grating (308 mm by 914 mm), hot dip galvanized, Bent Checkered Plate Nosing, type "FLOWFORGE"
- 7.2.26.1. Measurement for payment of Stair Treads in Grating will be made according to the number of installed Stair Treads in Grating as shown on the Drawings or as required by the Engineer.
- 7.2.26.2. Payment for Stair Treads in Grating will be made at the price per each Stair treads installed as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Stair Treads in Grating.
- 7.2.27. Gratings for Landings at Stairs, type 24-102, Bearing Bars (of approx. 32X4.8)
- 7.2.27.1. Measurement for payment of Gratings for landings at stairs and Bearing Bars will be made according to the weight in kilograms of installed Gratings for landings at stairs as shown on the Drawings or as required by the Engineer.
- 7.2.27.2. Payment for Gratings for Landings at Stairs and Bearing Bars will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Gratings for Landings at Stairs and Bearing Bars.
- 7.2.28. Bent Plate at Floor 15.5
- 7.2.28.1. Measurement for payment of Bent Plate at Floor 15.5 will be made according to the weight in kilograms of installed Bent Plate as shown on the Drawings or as required by the Engineer.
- 7.2.28.2. Payment for Bent Plate at Floor 15.5 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Bent Plate at Floor 15.5.
- 7.2.29. Steel Angle L102x102x7.9 at Floor 15.5
- 7.2.29.1. Measurement for payment of Steel Angle L102x102x7.9 at Floor 15.5 will be made according to

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the weight in kilograms of installed Steel Angle as shown on the Drawings or as required by the Engineer.

7.2.29.2. Payment for Steel Angle L102x102x7.9 at Floor 15.5 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Steel Angle L102x102x7.9 at Floor 15.5.

7.2.30. Roof Deck type RD 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (Building roof and 10m door roof)

7.2.30.1. Measurement for payment of Roof deck type RD 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (Building roof and 10m door roof) will be made according to the number of square metres of installed Roof deck as shown on the Drawings or as required by the Engineer.

7.2.30.2. Payment for Roof deck type RD 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (Building roof and 10m door roof) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Roof deck type RD 306 (t=0.91mm).

7.2.31. Roof Deck type RD 938 (t=0.76 mm) by VICWEST, Galvanized Z 275 (mezzanine roof)

7.2.31.1. Measurement for payment of Roof Deck type RD 938 (t=0.76 mm) by VICWEST, Galvanized Z 275 (mezzanine roof) will be made according to the number of square metres of installed Roof deck as shown on the Drawings or as required by the Engineer.

7.2.31.2. Payment for Roof deck type RD 938 (t=0.76 mm) by VICWEST, Galvanized Z 275 (mezzanine roof) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Roof Deck type RD 938 (t=0.76 mm).

7.2.31A. Roof Deck type RD 306 (t=1.22mm) VICWEST, Galvanized Z 275 (Main entrance roof)

7.2.31A.1. Measurement for payment of Roof Deck type RD 306 (t=1.22mm) VICWEST, Galvanized Z 275 (Main entrance roof) will be made according to the number of square metres of installed Roof deck as shown on the Drawings or as required by the Engineer.

7.2.31A.2. Payment for Roof Deck type RD 306 (t=1.22mm) VICWEST, Galvanized Z 275 (Main entrance roof) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Roof Deck type RD 306 (t=1.22mm).

7.2.32. Floor Deck type HB 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 - Exterior (cover 3)

7.2.32.1. Measurement for payment of Floor Deck type HB 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 - Exterior (cover 3) will be made according to the number of square metres of installed Floor deck as shown on the Drawings or as required by the Engineer.

7.2.32.2. Payment for Floor Deck type HB 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 - Exterior (cover

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3) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Floor Deck type HB 306 (t=1.22 mm).

7.2.32A. Floor Deck type HB 938 (t=0.91mm) by VICWEST, Galvanized Z 275 (Stair 10 roof)

7.2.32A.1. Measurement for payment of Floor Deck type HB 938 (t=0.91mm) by VICWEST, Galvanized Z 275 (Stair 10 roof) will be made according to the number of square metres of installed Floor deck as shown on the Drawings or as required by the Engineer.

7.2.32A.2. Payment for Floor Deck type HB 938 (t=0.91mm) by VICWEST, Galvanized Z 275 (Stair 10 roof) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Floor Deck type HB 938 (t=0.91mm).

7.2.32B. Floor Deck type HB 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (mezzanine floors)

7.2.32B.1. Measurement for payment of Floor Deck type HB 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (mezzanine floors) will be made according to the number of square metres of installed Floor deck as shown on the Drawings or as required by the Engineer.

7.2.32B.2. Payment for Floor Deck type HB 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (mezzanine floors) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Floor Deck type HB 306 (t=0.91mm).

7.2.33. Floor Deck type RD 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 (Generator Floor)

7.2.33.1. Measurement for payment of Floor Deck type RD 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 (Generator Floor) will be made according to the number of square metres of installed Floor deck as shown on the Drawings or as required by the Engineer.

7.2.33.2. Payment for Floor Deck type RD 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 (Generator Floor) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Floor Deck type RD 306 (t=1.22 mm).

7.2.33A. Cladding CL508 (t=0.76mm) by VICWEST, Galvanized Z 275 (Cover C8)

7.2.33A.1. Measurement for payment of Cladding CL508 (t=0.76mm) by VICWEST, Galvanized Z 275 (Cover C8) will be made according to the number of square metres of installed Cladding as shown on the Drawings or as required by the Engineer.

7.2.33A.2. Payment for Cladding CL508 (t=0.76mm) by VICWEST, Galvanized Z 275 (Cover C8) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Cladding CL508 (t=0.76mm).

7.2.34. Tie-Back Linkage Assemblies

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- 7.2.34.1. Measurement for payment of Tie-Back Linkage Assemblies will be made according to the number of installed Tie-Back Linkage Assemblies as shown on the Drawings or as required by the Engineer.
- 7.2.34.2. Payment for Tie-back linkage assemblies including plates, angles, shims, "O" rings and bolts will be made at the price per each Tie-Back Linkage Assembly as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling, installation and permanent lubrication of Tie-Back Linkage Assemblies.
- 7.2.35. Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 19 and 25 mm), Nuts A563.
- 7.2.35.1. Measurement for payment of Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 19 and 25 mm), U-Bolt assembly and Nuts A563 will be made according to the weight in kilograms of installed Anchor bolts steel as shown on the Drawings or as required by the Engineer.
- 7.2.35.2. Payment for Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 19 and 25 mm), U-Bolt assembly and Nuts A563 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 19 and 25 mm), U-Bolt assembly and Nuts A563.
- 7.2.36. Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 28, 38 and 51 mm), Nuts A563, hot dip galvanized, by PORTLAND or equal
- 7.2.36.1. Measurement for payment of Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 28, 38 and 51 mm), Nuts A563, hot dip galvanized, by PORTLAND or equal will be made according to the weight in kilograms of installed Anchor bolts steel as shown on the Drawings or as required by the Engineer.
- 7.2.36.2. Payment for Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 28, 38 and 51 mm), Nuts A563, hot dip galvanized, by PORTLAND or equal will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 28, 38 and 51 mm), Nuts A563, hot dip galvanized, by PORTLAND or equal.
- 7.2.37. Guardrails in Pipes for Mezzanine, Stairs and Covers, with Kick Plate, Posts in DN32-XS and Railings in DN32-Std (in miscellaneous and Structural Steel Drawings)
- 7.2.37.1. Measurement for payment of Guardrails in Pipes for Mezzanine, Stairs and Covers, with Kick Plate, Posts in DN32-XS and Railings in DN32-Std (in miscellaneous and Structural Steel Drawings) will be made according to the weight in kilograms of installed Guardrails as shown on the Drawings or as required by the Engineer.
- 7.2.37.2. Payment for Guardrails in Pipes for Mezzanine, Stairs and Covers, with Kick Plate, Posts in DN32-XS and Railings in DN32-Std (in miscellaneous and Structural Steel Drawings) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Guardrails in Pipes for Mezzanine, Stairs and Covers, with Kick Plate, Posts in DN32-XS and Railings in DN32-Std (in miscellaneous and Structural Steel Drawings).

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7.2.38. Guardrails of Intake Deck (W and HSS Shapes)

7.2.38.1. Measurement for payment of Guardrails of Intake Deck (W and HSS Shapes) will be made according to the weight in kilograms of installed Guardrails as shown on the Drawings or as required by the Engineer.

7.2.38.2. Payment for Guardrails of Intake Deck (W and HSS Shape) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabrication, galvanization, supplying and transportation to the site, storage, handling and installation of Guardrails of Intake Deck (W and HSS Shape).

7.2.39. Hilti KWIK Bolts 3 (Dia. 25 mm) 304 SS

7.2.39.1. Measurement for payment of Hilti KWIK Bolts 3 (Dia. 25 mm) 304 SS will be made according to the number of installed Hilti KWIK bolts as shown on the Drawings or as required by the Engineer.

7.2.39.2. Payment for Hilti KWIK Bolts 3 (Dia. 25 mm) 304 SS will be made at the price per each Hilti KWIK bolts as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling, and installation of Hilti KWIK Bolts 3 (Dia. 25 mm) 304 SS.

7.2.40. Hilti KWIK Bolts 3 (Dia. 10 mm and 19 mm), Hot Dip Galvanized

7.2.40.1. Measurement for payment of Hilti KWIK Bolts 3 (Dia. 10 mm and 19 mm) will be made according to the number of installed Hilti KWICK Bolts as shown on the Drawings or as required by the Engineer.

7.2.40.2. Payment for Hilti KWIK Bolts 3 (Dia. 10 mm and 19 mm) will be made at the price per each Hilti KWIK Bolts as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling and installation of Hilti KWIK Bolts 3 (Dia. 10 mm and 19 mm).

7.2.41. Hilti Adhesive Anchors, HAS Rods (Dia. 19 mm) HIT RE-500, Hot Dip Galvanized

7.2.41.1. Measurement for payment of Hilti Adhesive Anchors, HAS Rods (Dia. 19 mm) HIT RE-500 will be made according to the number of used Hilti Adhesive Anchors.

7.2.41.2. Payment for Hilti HIT adhesive anchors will be made at the price per each Hilti Adhesive Anchors as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling and application of Hilti Adhesive Anchors.

7.2.42. Steel Joists

7.2.42.1. Measurement for payment of Steel Joists will be made according to the weight in kilograms of installed Steel Joists as shown on the Drawings or as required by the Engineer.

7.2.42.2. Payment for Steel Joists will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transporting to the site,

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storage, handling and installation of Steel Joists.

7.2.43. Elastomeric Pad at Attachment Axis E

7.2.43.1. Measurement for payment of Elastomeric Pad at Attachment Axis E will be made according to the number of installed Elastomeric Pad as shown on the Drawings or as required by the Engineer.

7.2.43.2. Payment for Elastomeric Pad at Attachment Axis E will be made at the price per each Elastomeric pad as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Elastomeric Pad at Attachment Axis E.

7.2.43A. Intumescent Paint (for application on Steel Beams and Columns)

7.2.43A.1. Measurement for payment of Intumescent Paint (for application on Steel Beams and Columns) will be made according to the surface in square metres of Steel Surface to cover as shown on the drawings or required by the Engineer.

7.2.43A.2. Payment for Intumescent Paint (for application on Steel Beams and Columns) will be made at the price per square metre of applied Paint as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling and application of Paint.

7.2.44. Miscellaneous Structural Steel - Embedded

7.2.44.1. Measurement for payment of Embedded Miscellaneous Structural Steel will be made according to the weight in kilograms of installed Embedded Miscellaneous Structural Steel as shown on the Drawings or as required by the Engineer.

7.2.44.2. Payment for Embedded Miscellaneous Structural Steel will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transporting to the site, storage, handling and installation of Embedded Miscellaneous Structural Steel.

7.2.45. Miscellaneous Structural Steel, L Shapes, Plates, Eye bolts, Crosby Type Pieces, Bent Plates and W shapes (in miscellaneous steel section drawings)

7.2.45.1. Measurement for payment of Miscellaneous Structural Steel, L Shapes, Plates, Eye bolts, Crosby Type Pieces, Bent Plates and W shapes (in miscellaneous steel section drawings) will be made according to the weight in kilograms of installed Miscellaneous Structural Steel as shown on the Drawings or as required by the Engineer.

7.2.45.2. Payment for Miscellaneous Structural Steel, L Shapes, Plates, Eye bolts, Crosby Type Pieces, Bent Plates and W shapes (in miscellaneous steel section drawings) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transporting to the site, storage, handling and installation of Miscellaneous Structural Steel.

7.2.46. Checkered Plates.

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- 7.2.46.1. Measurement for payment of Checkered Plates will be made according to the weight in kilograms of installed Checkered Plates as shown on the Drawings or as required by the Engineer.
- 7.2.46.2. Payment for Checkered Plates will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Checkered Plates.
- 7.2.47. Embedded angles related to typical detail for steel deck.
- 7.2.47.1. Measurement for payment of Embedded angles related to typical detail for steel deck will be made according to the weight in kilograms of installed Embedded angles as shown on the Drawings MFA-SN-CD-3320-ST-DD-0005-01 (505573-3334-43DD-0051-SH1) or as required by the Engineer.
- 7.2.47.2. Payment for Embedded Angles related to typical detail for steel deck will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Embedded Angles.
- 7.2.48. Contraction joint related to section E-E on drawing: MFA-SN-CD-3300-CV-DD-0003-01
- 7.2.48.1. Measurement for payment of Contraction joint will be made according to the length in metres of Contraction joint installed as shown drawing : MFA-SN-CD-3300-CV-DD-0003-01, section E-E or as required by the Engineer.
- 7.2.48.2. Payment for Contraction joint will be made at the price per metre as indicated in the Schedule of price Breakdown. This price shall include supplying and transporting, storage, handling and installation of the contraction joint.
- 7.2.49. Contraction joint related to section F-F on the drawing: MFA-SN-CD-3300-CV-DD-0003-01
- 7.2.49.1. Measurement for payment of Contraction joint will be made according to the length in metres of Contraction joint installed as shown drawing : MFA-SN-CD-3300-CV-DD-0003-01, section F-F or as required by the Engineer.
- 7.2.49.2. Payment for Contraction joint will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting, storage, handling and installation of the contraction joint.
- 7.2.50. Contraction joint related to section K-K on the drawing: MFA-SN-CD-3300-CV-DD-0003-01
- 7.2.50.1. Measurement for payment of Contraction joint will be made according to the length in metres of Contraction joint installed as shown drawing : MFA-SN-CD-3300-CV-DD-0003-01, section K-K or as required by the Engineer.
- 7.2.50.2. Payment for Contraction joint will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting, storage, handling and installation of the contraction joint.
- 7.2.51. Miscellaneous Stainless Steel for MK1, MK2 and Covers C9, C10, C11 and C11A

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- 7.2.51.1. Measurement for payment of Miscellaneous Stainless Steel for MK1, MK2 and Covers C9, C10, C11 and C11A will be made according to the weight in kilograms of installed Miscellaneous Stainless Steel as shown on the Drawings or as required by the Engineer.
- 7.2.51.2. Payment for Miscellaneous Stainless Steel for MK1, MK2 and Covers C9, C10, C11 and C11A will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installation of Miscellaneous Stainless Steel.
- 7.2.52. Rail type BETH 175
- 7.2.52.1. Measurement for payment of Rail type BETH 175 will be made according to the length in metres of rails installed as shown on the Drawings or as required by the Engineer.
- 7.2.52.2. Payment for Rails BETH 175 including Splices and Aluminothermic Welds for Crane Girders and for Trash Cleaner will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting, storage, handling and installation of Rail type BETH 175.
- 7.2.53. Rail type BETH 104 with Aluminothermic welds
- 7.2.53.1. Measurement for payment of Rail type BETH 104 will be made according to the length in metres of rails installed as shown on the Drawings or as required by the Engineer.
- 7.2.53.2. Payment for Rails BETH 104 with aluminothermic welds will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting, storage, handling and installation.
- 7.2.54. GANTREX Rail Clip Type WELDLOK 43 with Rubber Nosing for Crane Girders and Trash Cleaner
- 7.2.54.1. Measurement for payment of GANTREX rail clip type WELDLOK 43 will be made according to the number of GANTREX rail clip type WELDLOK 43 as shown on the drawing or required by the Engineer.
- 7.2.54.2. Payment for GANTREX rail clip type WELDLOK 43 will be made at the price per each GANTREX rail clip as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling and installation of GANTREX Rail Clip Type WELDLOK 43.
- 7.2.55. GANTREX rail clip type WELDLOK 24 with Rubber Nosing, Hot Dip Galvanized
- 7.2.55.1. Measurement for payment of GANTREX rail clip type WELDLOK 24 will be made according to the number of GANTREX rail clip type WELDLOK 24 as shown on the drawing or required by the Engineer.
- 7.2.55.2. Payment for GANTREX rail clip type WELDLOK 24 will be made at the price per each GANTREX rail clip as indicated in the Schedule of Price Breakdown. This price shall include supplying and transporting to the site, storage, handling and installing of GANTREX rail clip type WELDLOK 24.

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- 7.2.56. Ladders with or without Cage, and Self-Closing Gates (in miscellaneous and structural steel drawings)
- 7.2.56.1. Measurement for payment of Ladders with or without Cage, and Self-Closing Gates (in miscellaneous and structural steel drawings) will be made according to the weight in kilograms of installed ladders with cage and gates as shown on the Drawings or as required by the Engineer.
- 7.2.56.2. Payment for Ladders with or without Cage, and Self-Closing Gates (in miscellaneous and structural steel drawings) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transporting to the site, storage, handling and installation of Ladders with or without Cage, and Self-Closing Gates (in miscellaneous and structural steel drawings).
- 7.2.57. Plates 350 x 20, under rails BETH 175, Painted with Primer Plates 300 x 20 under Rails BETH 175, Hot Dip Galvanized
- 7.2.57.1. Measurement for payment of Plates 350 x 20 and Plates 300 x 20 under Rails BETH 175 will be made according to the weight in kilograms of installed plates as shown on the Drawings or as required by the Engineer.
- 7.2.57.2. Payment for Plates 350 x 20 and Plates 300 x 20 under Rails BETH 175 will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, painting or galvanizing, supplying and transporting to the site, storage, handling and installation of Plates 350 x 20 and Plates 300 x 20 under Rails BETH 175.
- 7.2.58. All types of grating not covered in price item 305 (ref 7.2.26) and price item 306 (ref 7.2.27) (in miscellaneous and structural steel drawings)
- 7.2.58.1. Measurement for payment of All types of grating not covered in price item 305 (ref 7.2.26) and price item 306 (ref 7.2.27) (in miscellaneous and structural steel drawings) will be made according to the weight in kilograms of installed gratings as shown on the Drawings or as required by the Engineer.
- 7.2.58.2. Payment for All types of grating not covered in price item 305 (ref 7.2.26) and price item 306 (ref 7.2.27) (in miscellaneous and structural steel drawings) will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transporting to the site, storage, handling and installation of All types of grating not covered in price item 305 (ref 7.2.26) and price item 306 (ref 7.2.27) (in miscellaneous and structural steel drawings).
- 7.2.59. Grating at El. 45.5 on intake Deck, Special Order
- 7.2.59.1. Measurement for payment of Grating at El. 45.5 on intake Deck will be made according to the weight in kilograms of installed grating as shown on the Drawings or as required by the Engineer.
- 7.2.59.2. Payment for Grating at El. 45.5 on intake Deck will be made at the price per kilogram as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and

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transporting to the site, storage, handling and installation of Grating at El. 45.5 on intake Deck.

7.2.60. Insulated Metal Wall Panels

7.2.60.1. Measurement for payment of Insulated Metal Wall Panels will be made according to the number of square metres of installed Insulated Metal Wall Panels as shown on the Drawings or as required by the Engineer.

7.2.60.2. Payment for Insulated Metal Wall Panels will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include, supplying and transportation to the site, storage, handling and installation of Insulated Metal Wall Panels.

7.2.61. Preformed Metal Siding

7.2.61.1. Measurement for payment of Preformed Metal Siding will be made according to the number of square metres of installed Preformed Metal Siding as shown on the Drawings or as required by the Engineer.

7.2.61.2. Payment for Preformed Metal Siding will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include, supplying and transportation to the site, storage, handling and installation of Preformed Metal Siding.

7.2.62. Preformed Metal Siding & Framing (for Snow Baffles over louvers)

7.2.62.1. Measurement for payment of Preformed Metal Siding & Framing (for Snow Baffles over louvers) will be made according to the number of square metres of installed Preformed Metal Siding as shown on the Drawings or as required by the Engineer.

7.2.62.2. Payment for Preformed Metal Siding & Framing (for Snow Baffles over louvers) will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include, supplying and transportation to the site, storage, handling and installation of Preformed Metal Siding & Framing (for Snow Baffles over louvers).

7.2.63. Metal Liner Panel, Insulation & Z-Bars (attached to interior of pre-cast concrete fire wall)

7.2.63.1. Measurement for payment of Metal Liner Panel, Insulation & Z-Bars will be made according to the number of square metres of installed Preformed Metal Liner Panel, Insulation & Z-Bars as shown on the Drawings or as required by the Engineer.

7.2.63.2. Payment for Preformed Metal Liner Panel, Insulation & Z-Bars will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include, supplying and transportation to the site, storage, handling and installation of Metal Liner Panel, Insulation & Z-Bars.

7.2.64. Modified Bituminous Membrane Roofing System

7.2.64.1. Measurement for payment of Modified Bituminous Membrane Roofing System will be made according to the number of square metres of Modified Bituminous Membrane Roofing System as shown on the Drawings or as required by the Engineer.

7.2.64.2. Payment for Modified Bituminous Membrane Roofing System will be made at the price per

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square metre as indicated in the Schedule of Price Breakdown. This price shall include, supplying and transportation to the site, storage, handling and application of Modified Bituminous Membrane Roofing System.

7.2.65. Sealants (including for roofing and wall systems and pre-cast concrete fire wall joints)

7.2.65.1. Measurement for payment of Sealants consists of verifying that Sealants, including for roofing, wall systems and pre-cast concrete fire wall joints, conform to the Drawings and to the requirements specified in the Technical Specification or as required by the Engineer.

7.2.65.2. Payment for Sealants will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling and placing of sealants.

7.2.66. Signage (Nalcor & Logo, Muskrat Falls Generating Station)

7.2.66.1. Measurement for payment of Signage consists of verifying that Signage conforms to the Drawings and to the requirements specified in the Technical Specification or as required by the Engineer.

7.2.66.2. Payment for Signage will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling and installation of signage.

7.2.67. Roof Curb for Exhaust Fans

7.2.67.1. Measurement for payment of Roof Curb for Exhaust Fans will be made according to the number of installed Roof Curb for Exhaust Fans as shown on the Drawings or as required by the Engineer.

7.2.67.2. Payment for Roof Curb for Exhaust Fans will be made at the price per each Roof Curb as indicated in the Schedule of Price Breakdown. This price shall include supplying, transportation to the site, storage, handling and installation of Roof Curb for Exhaust Fans.

7.2.68. Roof Curb for Exhaust Hood

7.2.68.1. Measurement for payment of Roof Curb for Exhaust Hood will be made according to the number of installed Roof Curb for Exhaust Hood as shown on the Drawings or as required by the Engineer.

7.2.68.2. Payment for Roof Curb for Exhaust Hood will be made at the price per each Roof Curb as indicated in the Schedule of Price Breakdown. This price shall include supplying, transportation to the site, storage, handling and installation of Roof Curb for Exhaust Hood.

7.2.69. Roof Curb for Chimney

7.2.69.1. Measurement for payment of Roof Curb for Chimney will be made according to the number of installed Roof Curb for Chimney as shown on the Drawings or as required by the Engineer.

7.2.69.2. Payment for Roof Curb for Chimney will be made at the price per each Roof Curb as indicated in the Schedule of Price Breakdown. This price shall include supplying, transportation to the site, storage, handling and installation of Roof Curb for Chimney.

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7.2.70. Flashing for Roof Drains

7.2.70.1. Measurement for payment of Flashing for Roof Drains will be made according to the number of installed Flashing for Roof Drains as shown on the Drawings or as required by the Engineer.

7.2.70.2. Payment for Flashing for Roof Drains will be made at the price per each Flashing for Roof Drain as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling and installation of Flashing for Roof Drains.

7.2.71. Flashing for Plumbing Vents

7.2.71.1. Measurement for payment of Flashing for Plumbing Vents will be made according to the number of installed Flashing for Plumbing Vents as shown on the Drawings or as required by the Engineer.

7.2.71.2. Payment for Flashing for Plumbing Vents will be made at the price per each Flashing for Plumbing Vent as indicated in the Schedule of Price Breakdown. This price shall include supplying, transporting, handling and placing of sealants.

7.2.72. Exterior Metal Insulated Doors - Double

7.2.72.1. Measurement for payment of Exterior Metal Insulated Doors - Double will be made according to the number of installed Exterior Metal Insulated double Doors as shown on the Drawings or as required by the Engineer.

7.2.72.2. Payment for Exterior Metal Insulated Doors - Double will be made at the price per each set of Exterior Metal Insulated double doors as indicated in the Schedule of Price Breakdown. This price shall include fabrication, supplying and transportation to the site, storage, handling, installation and final field paint coat of Exterior Metal Insulated Doors - Double.

7.2.73. Exterior Metal Insulated Doors - Single

7.2.73.1. Measurement for payment of Exterior Metal Insulated Doors - Single will be made according to the number of installed Exterior Metal Insulated Doors as shown on the Drawings or as required by the Engineer.

7.2.73.2. Payment for Exterior Metal Insulated Doors - Single will be made at the price per each Exterior Metal Insulated Doors as indicated in the Schedule of Price Breakdown. This price shall include fabrication, supplying and transportation to the site, storage, handling, and installation of Exterior Metal Insulated Doors - Single.

7.2.74. Aluminum Entrance Door (Insulated)

7.2.74.1. Measurement for payment of Aluminum Entrance Door will be made according to the number of installed Aluminum Entrance Door as shown on the Drawings or as required by the Engineer.

7.2.74.2. Payment for Aluminum Entrance Door will be made at the price per each Aluminum Entrance Door as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transportation to the site, storage, handling, and installation of Aluminum Entrance Door.

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7.2.75. Sectional Metal Insulated Door

7.2.75.1. Measurement for payment of Sectional Metal Insulated Door will be made according to the number of installed Sectional Metal Insulated Door as shown on the Drawings or as required by the Engineer.

7.2.75.2. Payment for Sectional Metal Insulated Door will be made at the price per each Sectional Metal Insulated Door as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling, and installation of Sectional Metal Insulated Door.

7.2.76. Aluminum Windows

7.2.76.1. Measurement for payment of Aluminum Windows will be made according to the number of square metres of Windows including frames as shown on the Drawings or as required by the Engineer.

7.2.76.2. Payment for Aluminum Windows will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include fabricating, supplying and transportation to the site, storage, handling and installation Aluminum Windows.

7.2.77. Concrete Unit Masonry (Exterior)

7.2.77.1. Measurement for payment of Concrete Unit Masonry will be made according to the number of square metres of installed of Concrete Unit Masonry as shown on the Drawings or as required by the Engineer.

7.2.77.2. Payment for Concrete Unit Masonry will be made at the price per square metre as indicated in the Schedule of Price Breakdown. This price shall include, supplying and transportation to the site, storage, handling and placement of Concrete Unit Masonry.

7.2.78. Roof Anchors and Safety Restraints

7.2.78.1. Measurement for payment of Roof Anchors and Safety Restraints will be made according to the number of installed Roof Anchors and Safety Restraints as shown on the Drawings or as required by the Engineer.

7.2.78.2. Payment for Roof Anchors and Safety Restraints will be made at the price per each Roof Anchors and Safety Restraints as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling, and installation of Roof Anchors and Safety Restraints.

7.2.79. Multi-Leaf Vertical Lift Metal Insulated Door

7.2.79.1. Measurement for payment of Multi-Leaf Vertical Lift Metal Insulated Door will be made according to the number of installed Insulated Doors as shown on the Drawings or as required by the Engineer.

7.2.79.2. Payment for Multi-Leaf Vertical Lift Metal Insulated Door will be made at the price per each Insulated Door as indicated in the Schedule of Price Breakdown. This price shall include

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fabrication, supplying and transportation to the site, storage, handling, and installation of Multi-Leaf Vertical Lift Metal Insulated Door.

7.2.80 Exterior Building Lighting

7.2.80.1 Measurement for payment of Exterior Building Lighting will be made according to the number of installed exterior lighting fixtures and accessories as shown on the Drawings.

7.2.80.2 Payment for Exterior Building Lighting will be made at the price per each lighting fixtures as indicated in the Schedule of Price Breakdown. This price shall include supplying, transportation to the site, storage, handling, installation and wiring of lighting fixtures, junction boxes and accessories required and field testing for the exterior building lighting.

7.2.81 Roof Metal Sleeves for power cable passage for roof exhaust fans

7.2.81.1 Measurement for payment of Roof Metal Sleeves for power cable passage for roof exhaust fans will be made according to the number of installed metal sleeves and accessories as shown on the Drawings.

7.2.81.2 Payment for roof metal sleeves for power cable passage for roof exhaust fans will be made at the price per each metal sleeve for power cable passage for the roof exhaust fans as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling, installation and temporary sealing of metal sleeves for power cable passage for roof exhaust fans.

7.2.82 Sleeve in metal siding wall complete with conduit, junction box and JB mounting plates

7.2.82.1 Measurement for payment of sleeves in metal siding walls of the Powerhouse for the passage of cables for the CCTV, communications, intrusion and fire alarms signaling systems will be made according to the number of installed sleeves and accessories as shown on the Drawings.

7.2.82.2 Payment for sleeves in metal siding walls of the Powerhouse for the passage of cables for the CCTV, communications, intrusion and fire alarms signaling systems will be made at the price per each sleeve as indicated in the Schedule of Price Breakdown. This price shall include supplying and transportation to the site, storage, handling, installation and temporary sealing of sleeves in metal siding wall of the powerhouse.

7.2.83 Sleeve in metal siding wall on the right jamb of the multi-leaf door complete with conduit, junction box and JB mounting plates

7.2.83.1 Measurement for payment of sleeves in metal siding walls of the Powerhouse for the passage of cables for the CCTV, communications, intrusion and fire alarms signaling systems will be made according to the number of installed sleeves and accessories as shown on the Drawings.

7.2.83.2 Payment for sleeves in metal siding walls of the Powerhouse for the passage of cables for the CCTV, communications, intrusion and fire alarms signaling systems will be made at the price per each sleeve as indicated in the Schedule of Price Breakdown. This price shall include

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supplying and transportation to the site, storage, handling, installation and temporary sealing of sleeves in metal siding wall of the powerhouse.

8. TURBINE GENERATOR AND ANCILLARIES

8.1. Electrical work

8.1.1. Exothermic Connections

8.1.1.1. Measurement for payment of Exothermic Connections will be made according to the number of Exothermic Connections installed in concrete in conformity with the Drawings or as required by the Engineer.

8.1.1.2. Payment for Exothermic Connections will be made at the price per each exothermic connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of exothermic connection.

8.1.1A. Mechanical Connections

8.1.1A.1. Measurement for payment of Mechanical Connections will be made according to the number of Mechanical Connections installed in conformity with the Drawings or as required by the Engineer.

8.1.1A.2. Payment for Mechanical Connections will be made at the price per each Mechanical Connection as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Mechanical Connections.

8.1.2. Embedded Copper Grounding Plates

8.1.2.1. Measurement for payment of Embedded Copper Grounding Plates will be made according to the number of Embedded Copper Grounding Plates installed in concrete in conformity with the Drawings or as required by the Engineer.

8.1.2.2. Payment for Embedded Copper Grounding Plates will be made at the price per each plate as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Embedded Copper Grounding Plates.

8.1.3. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil

8.1.3.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.

8.1.3.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.

8.1.4. Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG

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- 8.1.4.1. Measurement for payment of Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made according to the length of Copper Conductor installed in conformity with the Drawings or as required by the Engineer.
- 8.1.4.2. Payment for Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Copper Conductor.
- 8.1.4A. Rigid PVC Conduit, size 53mm
 - 8.1.4A.1. Measurement for payment of Rigid PVC Conduit, size 53mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 8.1.4A.2. Payment for Rigid PVC Conduit, size 53mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 8.1.5. Rigid PVC Conduit, size 78mm
 - 8.1.5.1. Measurement for payment of Rigid PVC Conduit, size 78mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 8.1.5.2. Payment for Rigid PVC Conduit, size 78mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 8.1.6. Rigid PVC Conduit, size 129mm
 - 8.1.6.1. Measurement for payment of Rigid PVC Conduit, size 129mm will be made according to the length of Rigid PVC Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 8.1.6.2. Payment for Rigid PVC Conduit, size 129mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid PVC Conduit.
- 8.1.7. Rigid Galvanized Steel Conduits, size 103mm
 - 8.1.7.1. Measurement for payment of Rigid Galvanized Steel Conduit, size 103mm will be made according to the length of Rigid Galvanized Steel Conduit installed in conformity with the Drawings or as required by the Engineer.
 - 8.1.7.2. Payment for Rigid Galvanized Steel Conduit, size 103mm will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Rigid Galvanized Steel Conduit.
- 8.1.8. High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp

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- 8.1.8.1. Measurement for payment of High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp will be made according to the number of High Bay Light Fixtures installed as shown on the Drawings or as required by the Engineer.
- 8.1.8.2. Payment for High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp will be made at the price per each light fixture as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of High Bay Light Fixtures.
- 8.1.9. High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp and Quartz auxiliary lamp
 - 8.1.9.1. Measurement for payment of High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp and Quartz auxiliary lamp will be made according to the number of High Bay Light Fixtures installed as shown on the Drawings or as required by the Engineer.
 - 8.1.9.2. Payment for High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp and Quartz auxiliary lamp will be made at the price per each light fixture as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of High Bay Light Fixtures.
- 8.1.10. Panelboard, 600/347 Vac, 3 phase, 4 wire, 42 circuit, surface mounted sprinkler-proof enclosure, complete with breakers as indicated
 - 8.1.10.1. Measurement for payment of Panelboard, 600/347 Vac, 3 phase, 4 wire, 42 circuit, surface mounted sprinkler-proof enclosure, complete with breakers as indicated will be made according to the number of Panelboards installed as shown on the Drawings or as required by the Engineer.
 - 8.1.10.2. Payment for Panelboard, 600/347 Vac, 3 phase, 4 wire, 42 circuit, surface mounted sprinkler-proof enclosure, complete with breakers as indicated will be made at the price per each Panelboard as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Panelboards.
- 8.1.11. Dry-Type Transformer, 75 kVA, 600-600/347 Vac
 - 8.1.11.1. Measurement for payment of Dry-Type Transformer, 75 kVA, 600-600/347 Vac will be made according to the number of Transformers installed as shown on the Drawings or as required by the Engineer.
 - 8.1.11.2. Payment for Dry-Type Transformer, 75 kVA, 600-600/347 Vac will be made at the price per each Transformer as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Transformers.
- 8.1.12. Disconnect Switch, 600 V, 3 phase, complete with fuses
 - 8.1.12.1. Measurement for payment of Disconnect Switch, 600 V, 3 phase, complete with fuses will be made according to the number of Disconnect Switches installed as shown on the Drawings or as required by the Engineer.
 - 8.1.12.2. Payment for Disconnect Switch, 600 V, 3 phase, complete with fuses will be made at the price

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per each Disconnect Switch as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Disconnect Switches.

8.1.13. Lighting Contactor Control Panel

8.1.13.1. Measurement for payment of Lighting Contactor Control Panel will be made according to the number of Control Panels installed as shown on the Drawings or as required by the Engineer.

8.1.13.2. Payment for Lighting Contactor Control Panel will be made at the price per each Control Panel as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Control Panels.

8.1.14. ON-OFF Pushbutton Control Station

8.1.14.1. Measurement for payment of ON-OFF Pushbutton Control Station will be made according to the number of Control Stations installed as shown on the Drawings or as required by the Engineer.

8.1.14.2. Payment for ON-OFF Pushbutton Control Station will be made at the price per each Control Station as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Control Stations.

8.1.15. Teck Cables, 2C # 12 AWG

8.1.15.1. Measurement for payment of Teck Cables, 2C # 12 AWG will be made according to the length in metres of Cable installed measured to the nearest 1/10 metre, as shown on the Drawings or as required by the Engineer.

8.1.15.2. Payment for Teck Cables, 2C # 12 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Teck Cable.

8.1.16. Teck Cables, 3C # 12 AWG

8.1.16.1. Measurement for payment of Teck Cables, 3C # 12 AWG will be made according to the length in metres of Cable installed measured to the nearest 1/10 metre, as shown on the Drawings or as required by the Engineer.

8.1.16.2. Payment for Teck Cables, 3C # 12 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Teck Cable.

8.1.17. Teck Cables, 2C # 10 AWG

8.1.17.1. Measurement for payment of Teck Cables, 2C # 10 AWG will be made according to the length in metres of Cable installed measured to the nearest 1/10 metre, as shown on the Drawings or as required by the Engineer.

8.1.17.2. Payment for Teck Cables, 2C # 10 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Teck Cable.

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8.1.18. Teck Cables, 4C # 10 AWG

8.1.18.1. Measurement for payment of Teck Cables, 4C # 10 AWG will be made according to the length in metres of Cable installed measured to the nearest 1/10 metre, as shown on the Drawings or as required by the Engineer.

8.1.18.2. Payment for Teck Cables, 4C # 10 AWG will be made at the price per metre as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Teck Cable.

8.1.19. Temporary Feeder Cables to lighting transformers/panelboards, etc.

8.1.19.1. Measurement for payment of Temporary Feeder Cables to lighting transformers/panelboards, etc. consists of verifying that the installed Temporary Feeder Cable conforms to the requirements of the Technical Specification or as required by the Engineer.

8.1.19.2. Payment for Temporary Feeder Cables to lighting transformers/panelboards, etc. will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, storage, handling, and installation of Temporary Feeder Cables.

8.2. Mechanical Work

8.2.1. HVAC System

8.2.1.1. Measurement for payment of HVAC System consists of verifying that the installed piping, louvers, wall sleeves, flashing and framing conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.1.2. Payment for HVAC System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.2. Domestic Wastewater System

8.2.2.1. Measurement for payment of Domestic Water System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.2.2. Payment for Domestic Water System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.3. Wastewater System

8.2.3.1. Measurement for payment of Wastewater System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.3.2. Payment for Wastewater System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing

and testing.

8.2.4. Low Pressure Compressed Air System

8.2.4.1. Measurement for payment of Low Pressure Compressed Air System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.4.2. Payment for Low Pressure Compressed Air System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.5. Fire Protection System

8.2.5.1. Measurement for payment of Fire Protection System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.5.2. Payment for Fire Protection System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.6. Clear Water Drainage System

8.2.6.1. Measurement for payment of Clear Water Drainage System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.6.2. Payment for Clear Water Drainage System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.7. Dewatering System

8.2.7.1. Measurement for payment of Clear Water Drainage System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.7.2. Payment for Clear Water Drainage System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.8. Oily Water Drainage System

8.2.8.1. Measurement for payment of Oily Water Drainage System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.8.2. Payment for Oily Water Drainage System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

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8.2.9. Raw and Cooling Water System

8.2.9.1. Measurement for payment of Raw and Cooling Water System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.9.2. Payment for Raw and Cooling Water System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.10. Service Water System

8.2.10.1. Measurement for payment of Service Water System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.10.2. Payment for Service Water System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

8.2.11. Piezometer and Water Level System

8.2.11.1. Measurement for payment of Piezometer and Water Level System consists of verifying that the installed piping conforms to the Drawings and to the requirements specified in the Technical Specification.

8.2.11.2. Payment for Piezometer and Water Level System will be made at a Lump Sum as indicated in the Schedule of Price Breakdown. This price shall include supplying, fabricating, transporting, handling, installing and testing.

9. WORK EXECUTED FOR COMPANY'S OTHER CONTRACTOR

9.1. Supply of Concrete to Company's Other Contractor at the Batch Plant (excluding delivery from the Batch Plant to the Pour Location)

9.1.1. Supply of Secondary Concrete - Class A2

9.1.1.1. Measurement for payment of Supply of Secondary Concrete Class A2 at the Batch Plant for gate guide embedment of Spillway, Intake and Powerhouse will be made according to the volume in cubic metres of the placed concrete as shown on the Drawings or required by the Engineer.

9.1.1.2. Payment for Supply of Secondary Concrete Class A2 at the Batch Plant for gate guide embedment will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall only include the design, mix test and fabrication of the concrete for Company's Other Contractor. Unless indicated otherwise by Company, the delivery of this Concrete from the Batch Plant to the Pour Location will be done by Company's Other Contractor.

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9.1.2. Supply of Concrete - Class A

9.1.2.1. Measurement for payment of Supply of Concrete Class A other than Secondary Concrete Class A2 (Price Item 389) at the Batch Plant will be made according to the volume in cubic metres of the placed concrete as shown on the Drawings or required by the Engineer.

9.1.2.2. Payment for Supply of Concrete Class A other than Secondary Concrete Class A2 (Price Item 389) at the Batch Plant will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall only include the design, mix test and fabrication of the Concrete for Company's Other Contractor.

9.1.3. Supply of Secondary Concrete - Class B

9.1.3.1. Measurement for payment of Supply of Secondary Concrete Class B at the Batch Plant will be made according to the volume in cubic metres of the placed concrete as shown on the Drawings or required by the Engineer.

9.1.3.2. Payment for Supply of Concrete Class B at the Batch Plant will be made at the price per cubic metre as indicated in the Schedule of Price Breakdown. This price shall only include the design, mix test and fabrication of the Concrete for Company's Other Contractor.

10. MISCELLANEOUS

10.1. HILTI Adhesive Anchors

10.1.1. HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 16 mm), hot dip galvanized

10.1.1.1. Measurement for payment of HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 16 mm), will be made according to the number of HILTI Bolts supplied and installed in the concrete as required by the Engineer.

10.1.1.2. Payment for HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 16 mm), will be made at the price per each HILTI Adhesive Anchors as indicated in the Schedule of Price Breakdown. This price shall include supply, storage, handling and installation of hot dip galvanized HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 16 mm).

10.1.2. HILTI adhesive anchors, HIT RE-500; HAS rods (Dia. 19 mm), hot dip galvanized

10.1.2.1. Measurement for payment of HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 19 mm), will be made according to the number of HILTI Bolts supplied and installed in the concrete as required by the Engineer.

10.1.2.2. Payment for HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 19 mm), will be made at the price per each HILTI Adhesive Anchors as indicated in the Schedule of Price Breakdown. This price shall include supply, storage, handling and installation of hot dip galvanized HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 19 mm).

10.1.3. HILTI adhesive anchors, HIT RE-500; HAS rods (Dia. 25 mm), hot dip galvanized

10.1.3.1. Measurement for payment of HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 25 mm), will

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be made according to the number of HILTI Bolts supplied and installed in the concrete as required by the Engineer.

10.1.3.2. Payment for HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 25 mm), will be made at the price per each HILTI Adhesive Anchors as indicated in the Schedule of Price Breakdown. This price shall include supply, storage, handling and installation of hot dip galvanized HILTI Adhesive Anchors, HIT RE-500; HAS Rods (Dia. 25 mm).

10.2. Not used

10.2.1. Not Used

10.2.1.1. Not used.

10.2.1.2. Not used.

10.3. Delivery of Concrete to Company's Other Contractors from the Batch Plant to the Pour Location

10.3.1. Hourly rates for different volumes of Concrete delivered to Company's Other Contractors from the Batch Plant to the Pour Location

10.3.1.1. Measurement for payment of Delivery of different volumes of Concrete to Company's Other Contractors (excluding Concrete Supply) will be made according to the number of hours spent delivering Concrete between the Batch Plant and the Pour Location. Time is measured from the moment the Concrete truck is loaded until its load is poured and is measured to the nearest five (5) minutes, including overtime and waiting time.

10.3.1.2. Payment for Delivery of different volumes of Concrete to Company's Other Contractors (excluding Concrete Supply) will be made at the price per hour as indicated in the Schedule of Price Breakdown.

EXHIBIT 2

COMPENSATION

LABOUR COMPONENT WITH TARGET COST OF LABOUR AND LMAX

and

FIXED PRICE FOR NON LABOUR COMPONENT

(As of 29 November 2013)

1 GENERAL

- 1.1 Company shall compensate Contractor for the Work, in accordance with the provisions of this Agreement. The Contract Price, as calculated in Appendix A – Schedule of Price Breakdown, shall consist of:
- the total of the Reimbursable Cost of Labour, subject to a cost sharing adjustment based on a comparison of the total to the Final Adjusted Target Cost of Labour, and subject also to the constraint of a guaranteed maximum (LMAX) for the total of the Reimbursable Cost of Labour; and the Labour Profit; all in accordance with Section 2 of this Exhibit 2;
 - the actual travel costs of trades labour as stipulated in the Collective Agreement between the Muskrat Falls Employer’s Association Inc. and the Resource Development Trades Council of Newfoundland and Labrador (i.e. the “Collective Agreement”); all in accordance with Section 3.1 of this Exhibit 2 (these costs are flow through expenses without mark-up; travel time is not a reimbursable cost as per the Collective Agreement);
 - the fixed lump sum amounts and unit prices as listed in the Non Labour Component of Appendix A - Schedule of Price Breakdown; all in accordance with Section 4 of this Exhibit 2; and
 - any adjustment in compensation pursuant to Article 14 – Changes in the Work, or Section 11 (Escalation for Materials) of this Exhibit 2.
- 1.2 The Contractor commits to use its best efforts to ensure that the total of the Reimbursable Cost of Labour does not exceed the Target Cost of Labour.
- 1.3 The fixed lump sum amounts, and fixed unit prices stated in this Exhibit 2 for the Non Labour Component (excluding Price Item 19A), together with the provisions for reimbursement of the Reimbursable Cost of Labour, Labour Profit and travel costs, shall be all-inclusive to meet all requirements outlined in this Agreement, or reasonably inferred from the nature of the Work.
- 1.4 Consistent with Article 1.4 of the Articles of Agreement, reference in this Exhibit 2 to an Article is a reference to a clause, subclause or subdivision in the Articles of Agreement and reference in this Exhibit 2 to a Section is a reference to a Section of an Exhibit as identified.
- 1.5 Invoices shall be issued by Contractor in accordance with Article 12 – Compensation and Terms of Payment, this Exhibit 2 – Compensation, and Exhibit 3 – Coordination Procedures.
- 1.6 The currency of payment of the Agreement is Canadian dollars (CAD).

1A LIMITED NOTICE TO PROCEED WITH RESPECT TO THIS AGREEMENT

- 1A.1 While this Agreement was being finalized, the Parties signed a Limited Notice To Proceed (LNTP) with Amendment No. 1 to permit "Initial Work" as defined in the LNTP to commence. That Limited Notice To Proceed with Amendment No. 1 is recorded in Appendix J to this Exhibit 2.
- 1A.2 The Parties agree that the remuneration paid to the Contractor pursuant to the LNTP with respect to the Initial Work is included in, and forms a part of, the Contract Price pursuant to this Agreement for the Work and will not be an extra above and beyond the Contract Price. Such remuneration shall be credited against the Contract Price following the signing of this Agreement. For greater certainty, the sum of the Contractor's compensation for performing the Initial Work under the LNTP and for performing the Work under this Agreement shall not exceed the Contract Price.
- 1A.3 The amounts paid under the LNTP to be deducted from the Contract Price of this Agreement are recorded in Section 9.2 of this Exhibit 2.

2 LABOUR COMPONENT

- 2.1 The provisions of this Section 2 define the total compensation for the Labour Component, including the Reimbursable Cost of Labour, Labour Profit, Cost Sharing in relation to the Target Cost of Labour and LMAX.
- 2.2 **Definitions**
- 2.2.1 "Labour Component" means the Reimbursable Cost of Labour and Labour Profit. For greater certainty, the Labour Component excludes all other costs, including, all overheads, mark-ups including mark-ups by Subcontractors on the cost of Wages and Benefits, travel costs and board associated with the Work, and any costs of head office personnel visiting the Site.
- 2.2.2 "Non Labour Component" means all costs, overhead and profit which are required to perform the Work, excluding the Labour Component and travel costs of trades labour.
- 2.2.3 "Target Cost of Labour" means the Contractor's estimate of the Reimbursable Cost of Labour for the performance of the Work as of the Effective Date, being the summation of the lump sums, and the products of the manpower costs per unit and quantities, for all price items of the Labour Component, as listed in Appendix A - Schedule of Price Breakdown. The lump sums and the unit prices include escalation of the Wages and Benefits.

The Target Cost of Labour includes a reduction as listed under Price Item 391A of Appendix A – Schedule of Price Breakdown. This reduction is subject to the conditions listed in Section 2.8 of this Exhibit 2; and shall only apply if the conditions are met.

- 2.2.4 “Adjusted Target Cost of Labour” means the Target Cost of Labour adjusted for the effect of Change Orders issued by Company after the Effective Date. Adjusted Target Cost of Labour at any time after the Effective Date is the summation of the Target Cost of Labour and the estimated Reimbursable Cost of Labour related to each Change Order issued to that time.
- 2.2.5 “Final Adjusted Target Cost of Labour” means the Adjusted Target Cost of Labour after inclusion of the effect of all Change Orders, and adjusted after Final Completion for the actual quantities installed of each unit price item in Appendix A - Schedule of Price Breakdown.
- 2.2.6 “Reimbursable Cost of Labour” means the Actual Cost of Labour minus Disallowed Items.
- 2.2.7 “Actual Cost of Labour” means actual Wages and Benefits paid by Contractor to Contractor’s Work Force working to perform the Work; plus the government burdens associated with such Wages and Benefits which the Contractor is required to pay for Canada Pension Plan (CPP), Canada Employment Insurance (EI), Newfoundland Health and Post Secondary Education (HAPSET), and Newfoundland Workplace, Health, Safety and Compensation (WHSCC).
- 2.2.8 “Contractor’s Work Force” means
- all Contractor trades labour at Site;
 - Contractor’s management and staff at Site, up to and including the project director;
 - trades labour and staff of Subcontractors (including Subcontractor’s subcontractors of every tier) at Site, who are covered by the Collective Agreement. For greater clarity, with the exception of the Subcontractors who have been specifically named in Appendix F of this Exhibit 2, the cost of management and staff of all remaining Subcontractors (including Subcontractor’s subcontractors of every tier) who are not covered by the Collective Agreement, are included in the Non Labour Component);
 - The three persons working at the Contractor’s Goose Bay office and the four persons working in the Contractor’s St John’s office (these are the only off-Site persons who are included in the Actual Cost of Labour).

- 2.2.9 “Wages and Benefits” means the wages and benefits paid by Contractor to Contractor’s Work Force in accordance with the Collective Agreement. In the case of Contractor’s Work Force not covered by the Collective Agreement, Wages and Benefits means the wages and payroll burden of these personnel as listed in Appendix F – Wages and Benefits of Contractor’s Work Force Not Covered by the Collective Agreement - of this Exhibit 2. In all cases, whether under the Collective Agreement or under Appendix F, Wages and Benefits does not include: 1) any mark-up or profit of any kind, bonuses, incentives or special allowances paid to the Contractor’s Work Force; 2) with the exception of HAPSET, any taxes including tax equalization payments for Contractor’s Work Force.
- 2.2.10 “Disallowed Items” means
- the cost of labour to correct Work which has not been executed in accordance with the Technical Requirements prior to Final Completion;
 - the cost of labour to satisfy Warranty obligations;
 - any labour costs incurred for Contractor’s Work Force off-Site (with the exception of the persons working in the Contractor’s Goose Bay and St. John’s offices as mentioned in Section 2.2.8 of this Exhibit 2);
 - any labour costs incurred by Contractor in the preparation and resolution of a claim: after a Company decision to proceed with a Change Order under Article 14.6; or after a Company decision under Article 14.8 b); or for anything related to Article 31 – Dispute Resolution;
 - any labour costs covered by insurance, or by an equipment service agreement;
 - Labour costs which cannot be reasonably justified from the Contractor’s records.
- 2.2.11 “Labour Profit” means the compensation for profit on the Reimbursable Cost of Labour, calculated in accordance with Section 2.6 of this Exhibit 2.
- 2.2.12 “LMAX” means the maximum value of the Reimbursable Cost of Labour to be compensated by Company as determined pursuant to Section 2.5 of this Exhibit 2. Contractor shall be responsible, and assumes the risk, for the Reimbursable Cost of Labour which exceeds this maximum.
- 2.2.13 “Labour Cost Difference” means the absolute value of the Final Adjusted Target Cost of Labour minus the total of the Reimbursable Cost of Labour.
- 2.2.14 “Collective Agreement” has the meaning ascribed thereto in Section 8 of this Exhibit 2.
- 2.2.15 “Cost Sharing” means the sharing of the Labour Cost Difference by Company and Contractor in accordance with Tables 1 and 2 of Appendix G – Contractor Share of Labour Cost Difference – of this Exhibit 2.

2.3 Reimbursable Cost of Labour

- 2.3.1 As full compensation for the Labour Component, and subject to Sections 2.4 to 2.7 of this Exhibit 2, Company will pay Contractor the total of the Reimbursable Cost of Labour, and the Labour Profit.
- 2.3.2 Daily time sheets shall be prepared in triplicate by Contractor showing breakdown of hours in accordance with Company's costing system and listing the names, category and hours worked for each member of Contractor's Work Force, and these shall be submitted daily to Engineer for checking. One copy of these time sheets, when signed by Engineer, shall be retained by Company. The Contractor's monthly billing for the Labour Component shall be substantiated with copies of these approved time sheets.
- 2.3.3 Contractor shall keep proper accounts and records, in such form and with such detail as shall be satisfactory to Company, of the cost to Contractor of the Wages and Benefits of Contractor's Work Force; and such accounts and records shall at all times be open to audit in accordance with Article 16 – Access, Inspection, Testing, Audit. Contractor shall furnish Company or its authorized representative with all such information about the accounts as it or they may require.
- 2.3.4 Contractor shall submit a cost management plan, as required under Section 6 of Exhibit 3 – Coordination Procedures. The plan shall incorporate the requirements of this Section 2.3 and such other elements that may be required by Company to ensure that costs charged to Company are in accordance with this Agreement and have actually been paid by Contractor.

2.4 Target Cost of Labour and Cost Sharing

- 2.4.1 As of Effective Date, the Target Cost of Labour is **CAD \$ 507,598,340.87**.
- 2.4.2 An Adjusted Target Cost of Labour shall be calculated with the issue of each Change Order.
- 2.4.3 On issuance of the Final Completion Certificate, the Final Adjusted Target Cost of Labour shall be calculated.
- 2.4.4 If the total of the Reimbursable Cost of Labour as of Final Completion is less than the Final Adjusted Target Cost of Labour, Company will pay Contractor the Contractor's share of the Labour Cost Difference as listed in this Exhibit 2 Appendix G, Table 1. Such sharing and payment shall be paid on issuance of the Final Completion Certificate in accordance with Section 2.7 of this Exhibit 2.

2.4.5 Subject to Section 2.5 of this Exhibit 2, if the total of the Reimbursable Cost of Labour as of Final Completion is greater than the Final Adjusted Target Cost of Labour, Contractor shall credit Company Contractor's share of the Labour Cost Difference listed in Exhibit 2, Appendix G, Table 2. Company will begin making deductions of the credit owing as soon as the cumulative Reimbursable Cost of Labour exceeds the Adjusted Target Cost of Labour, and a reconciliation of final amount to be credited shall be determined on issuance of the Final Completion Certificate, in accordance with Section 2.7 of this Exhibit 2.

2.5 **LMAX**

2.5.1 As of Effective Date, LMAX is equal to Target Cost of Labour plus sixty-four Million, three hundred thousand **CAD \$ 571,898,340.87**.

2.5.2 On issuance of the Final Completion Certificate the LMAX shall be adjusted to equal the Final Adjusted Target Cost of Labour plus sixty-four Million, three hundred thousand CAD.

2.5.3 Company shall have no responsibility for the portion of the total value of Reimbursable Cost of Labour which exceeds LMAX as adjusted on Final Completion.

2.5.4 If, at any time, the cumulative value of Reimbursable Cost of Labour exceeds the Adjusted Target Cost of Labour Plus sixty-four million three hundred thousand, the Company shall cease payments for the Reimbursable Cost of Labour. Any further adjustments, calculated in accordance with Section 2.5.2 of this Exhibit 2, shall be determined after issuance of the Final Certificate, as described in Section 2.7.1 of this Exhibit 2.

2.6 **Labour Profit**

2.6.1 Labour Profit shall be fixed at seven percent (7%) of the Target Cost of Labour plus seven percent (7%) of the difference between the Final Adjusted Target Cost of Labour and the Target Cost of Labour.

2.6.2 As of Effective Date, the Labour Profit is **CAD \$ 35,531,883.86**,
being seven percent (7%) of **CAD \$ 507,598,340.87**.

2.6.3 Labour Profit, calculated as of Effective Date, shall be paid monthly based on the progress of installation of concrete over the Period of the Agreement; the proportion of labour profit paid each month shall be in the in the same proportion as the total concrete actually installed each month is of the estimated quantity of concrete to be installed as of Effective Date.

2.6.4 On Final Completion, total Labour Profit due under the Agreement shall be calculated as seven percent (7%) of the Final Adjusted Target Cost of Labour. Any unpaid amount, or overpayment, shall be included in the computation under Section 2.7 of this Exhibit 2.

2.7 Final Completion

2.7.1 Following issuance of the Final Completion Certificate the Final Adjusted Target Cost of Labour, LMAX based on Final Adjusted Target Cost of Labour, Cost Sharing and Labour Profit shall be calculated, and an adjusting payment or deduction to complete the obligations specified under this Section 2 shall be computed, for inclusion in the balance of the Contract Price as described under Article 25.10.

2.8 Reduction in the Target Cost of Labour

2.8.1 Contractor agrees to reduce the amount of the Target Cost of Labour - as recorded under price Item 391A of Appendix A – Schedule of Price Breakdown – by forty (40) million Canadian dollars, subject to Sections 2.8.1 to 2.8.4 of this Exhibit 2. Consistent with this change, the LMAX will be reduced by the same amount (refer to Section 2.5.1 of this Exhibit 2) and the Labour Profit will be reduced by 2.8 million Canadian dollars (refer to Section 2.6.2 of this Exhibit 2). Cost Sharing, as defined in Section 2.2.15 and Appendix G (Tables 1 and 2) of this Exhibit 2, remains unchanged.

2.8.2 Company agrees to contract the work for the Main Dam (i.e. the North RCC dam, the South Rockfill Dam and associated cofferdams) and the North Spur Stabilization Work to Contractor, provided the Parties are able to agree on pricing and schedule for the work.

2.8.3 The Parties agree that they will work together, per dates set by Company, to agree to the price and schedule for construction of the Main Dam and the North Spur Stabilization Work. The Parties will build their joint price estimate and schedule for the Main Dam and the North Spur Stabilization Work using an open book with full transparency on the following principles:

- direct labour required to perform the work will be agreed;
- indirect labour is largely covered under the Agreement for package CH0007;
- equipment for this work is largely covered by the Agreement for package CH0007;
- material will be estimated at actual cost;
- Site overheads are already covered as part of the Agreement for package CH0007;
- Contractor home office overheads are already covered by the Agreement for package CH0007;

- Profit at a fixed percentage;

2.8.4 The Parties agree that if they are not able to achieve agreement on the price or schedule to perform the work for each of the Main Dam and the North Spur Stabilization Work, then the reductions consented by Contractor, as per Section 2.8.1 above, will be revoked and Company will be free to award a contract for this work to contractors of its choice.

3 TRAVEL COSTS

3.1 Travel Allowances - Trades Labour: Company shall pay the actual travel allowances /air transportation of the Contractor's Work Force covered by the Collective Agreement and working at Site. All such travel allowances/air transportation shall be strictly in accordance with the stipulations of the Collective Agreement: arrangements for air transportation must be made at least two weeks in advance; travel time is not reimbursable per the Collective Agreement; and Company shall not pay any mark-up on the travel allowances/cost of air transportation.

3.2 Contractor's Work Force Not Covered by the Collective Agreement: For Contractor's Work Force not covered by the Collective Agreement working at Site or in the Goose Bay and St John's offices, travel costs are included in the Non Labour Component:

- travel costs, including any travel time, to mobilize on commencement of the Work and to demobilize on completion of the Work are included in the lump sums for mobilization and demobilization under price items 1 and 19 respectively in Appendix A - Schedule of Price Breakdown;
- travel costs for rotational leave during the execution of the Work are included in Appendix A - Schedule of Price Breakdown - under price items 6 and 6A, under "Profit and Other".

4 LUMP SUMS AND UNIT PRICES FOR THE NON LABOUR COMPONENT

This Section 4 covers the Non Labour Component of the Contract Price. The lump sums and unit prices of the Non Labour Component of Appendix A – Schedule of Price Breakdown - include for the entire Contract Price, with the exception only of the Labour Component (covered under Section 2 of this Exhibit 2) and travel costs of trades labour (covered under Section 3.1 of this Exhibit 2 and price item 19A of the Schedule of Price Breakdown).

4.1 **Fixed Lump Sums**

- 4.1.1 The following provisions in this Section 4.1 apply only to Work completed on a lump sum basis.
- 4.1.2 Subject to Section 11 (Escalation For Materials) of this Exhibit 2, all of the lump sum payment items stated in Appendix A – Schedule of Price Breakdown of this Agreement are fixed price and their aggregate total will form the fixed lump sum price portion of the Contract Price.
- 4.1.3 Each lump sum item stated in Appendix A – Schedule of Price Breakdown shall include all elements necessary to achieve completion of the item, whether specifically identified, or whether inherent in the Work.
- 4.1.4 Pursuant to Article 12 – Compensation and Terms of Payment, payment for each lump sum item shall be monthly based on progress as the Contractor has satisfied the requirements of each payment item.
- 4.1.5 Before issuing its first Payment Certificate under the Agreement, the Contractor shall submit to the Engineer a schedule of values of the various parts of the Work totalling the full amount of the fixed lump sum price portion of the Contract Price. The schedule shall be used as a guideline for applications for payment.
- 4.1.6 Measurement of lump sum price items shall be undertaken on a monthly basis by Contractor and Engineer. Progress achieved against each item from the schedule of values, and Accepted by Engineer, shall form the basis of interim measurement for payment of each lump sum item on a Payment Certificate. Only Company Approved lump sum progress payments shall be invoiced by Contractor.

4.2 **Fixed Unit Prices**

- 4.2.1 The following provisions in this Section 4.2 apply only to Work completed on a unit price basis.
- 4.2.2 The full compensation for unit price Work shall be determined in accordance with the unit prices set forth in Appendix A – Schedule of Price Breakdown.
- 4.2.3 Subject to Section 11 (Escalation For Materials) of this Exhibit 2, all of the unit price payment items stated in Appendix A – Schedule of Price Breakdown - are fixed prices.
- 4.2.4 Each unit price item stated in Appendix A – Schedule of Price Breakdown shall include all elements necessary to achieve completion of the item, whether specifically identified, or whether inherent in the Work.
- 4.2.5 Quantities of units estimated by Company are not guaranteed, as independent circumstances shall control actual quantities performed. Payment for unit price items

shall only be for the actual quantities of Work completed in accordance with the Agreement and not estimated quantities. There will be no adjustment of any unit price due to variances from the estimated quantities (whether increases/decreases).

- 4.2.6 The quantities of unit price items for inclusion on a Payment Certificate shall be determined on a monthly basis by Contractor and Engineer. Such determination shall form the basis for all progress and final payments for unit price Work. Only Company Approved quantities on a Payment Certificate for unit price items shall be invoiced by Contractor.
- 4.2.7 Unless otherwise specifically stated, all unit prices shall be complete and inclusive of all costs required for the Work (including profit).

5 REIMBURSABLE CHANGE ORDERS

- 5.1 The following provisions in this Section 5 apply only to Work resulting from a Change Order which has been determined to be completed on a cost reimbursable basis.
- 5.2 This Section, with the exception of Section 5.3 (a) and 5.3 (b), is to be interpreted in accordance with Articles 14.10 and 14.11.
- 5.3 Full compensation to Contractor for complete performance of any Change Order performed on a reimbursable basis shall be the sum of the following costs and mark-ups:
- (a) the total Reimbursable Cost of Labour for trades labour working directly on the work of the Change Order; the total shall be added to the Adjusted Target Cost of Labour and profit on the labour shall be covered by the calculation for Labour Profit (refer to Section 2.6.4 of this Exhibit 2).
 - (b) a price addition on each of the trades labour hours certified under (a) above of \$2.30 to cover consumables, personal protective equipment and small tools (with a value less than \$2,000 Canadian dollars) as further illustrated in Appendix C.
 - (c) the Sum of Contractor's equipment rates, as detailed in Appendix D – Equipment Rate Schedule - , multiplied by Company Approved hours of use as detailed on timesheets; these rates include for profit and overhead and consequently they shall be treated as meeting the requirements of Article 14.10 (a).
 - (d) Company Approved material expenses, travel and mileage expenses, and third party expenses.

Contractor shall advise Company in writing when it has expended seventy-five percent (75%) of the total estimated price for any item of Change Order Work to be compensated on a reimbursable basis, along with a forecast of the cost to complete the item of Work.

- 5.4 When Contractor is requested to purchase materials on a reimbursable basis:

- (a) All actual costs to Contractor for materials supplied for incorporation into the permanent facility shall be at actual invoiced cost to Contractor (exclusive of tax), including transportation to Site, as substantiated by invoices certified paid or by such documentation as may be required by Company, plus the mark-up as listed in Article 14.10 (b) (i).
- (b) Contractor shall solicit a minimum of three bids for material purchases of \$30,000.00 Canadian and greater.
- (c) Contractor shall supply a copy of supplier's invoice with each Invoice.
- (d) Company reserves the right to provide, at no cost to Contractor, materials, equipment, services, supplies or incidentals required to perform the Work.
- (e) This Section does not include consumables, personal protection equipment, and small tools which cost Contractor less than \$2,000 Canadian dollars; all as illustrated in Appendix C. These are covered under Section 5.3 (b).

5.5 When Contractor is requested to supply equipment on a reimbursable basis:

- (a) All costs of Contractor for Contractor-owned equipment shall be at the rates set forth in Appendix D – Equipment Rate Schedule.
- (b) When Contractor's equipment does not resemble the equipment having rental rates listed in Appendix D – Equipment Rate Schedule – the agreed rental rate shall be incorporated into the Agreement by Change Order prior to rental.
- (c) All costs of Contractor for equipment which is rented from third parties and does not resemble the equipment having rental rates listed in Appendix D – Equipment Rate Schedule – must be Approved by Company in writing prior to rental and shall be at actual cost to Contractor, including transportation to Site, as substantiated by invoices certified paid or by such documentation as may be required by Company plus the mark-up as listed in Article 14.10 (b) (i).
- (d) For reimbursable Work, Company reserves the right to substitute and provide, at no cost to Contractor, equipment to perform the Work. Contractor shall not be allowed to claim for loss of profit and/or any other of its own costs resulting from such substitution by Company.

5.6 When Contractor requires third party services to assist with Work being performed on a reimbursable basis:

- (a) Contractor shall secure Company pre-approval of any third party services, including materials, tools, supplies and consumables, that are required for the performance of the Work and are additional to that which is included in the rates and lump sum prices outlined herein. Company shall reimburse Contractor for the actual, documented and necessary costs of such third party services.

- (b) All third party services provided for performance of the Work which has been previously Approved by Company shall be at actual cost to Contractor of such third party service provided by others plus the mark-up as listed in Article 14.10 (b) (i).
 - (c) In no instance shall the third party rates plus mark-up exceed Contractor's rates for similar work or equipment.
 - (d) To be eligible for reimbursement, invoicing for third party services shall be fully supported by Billing Information and any other documentation that Engineer may reasonably require.
- 5.7 Trades travel costs, to and from the Site, will be compensated per the Project Labour Agreement as a pass through expense without any mark-up.
- 5.8 For all Work carried out on a reimbursable basis, Contractor shall prepare time sheets for all personnel, equipment, material and third party services assigned to the performance of the Work which will be reviewed and signed daily by the Engineer . Copies of time sheets shall accompany all Contractor invoices.
- 5.9 When Contractor uses assets of an associated company (such as common ownership, subsidiary, strategic partner, licensee) to undertake reimbursable Work then only one (1) mark-up shall be allowed on the actual associated company base cost for the Work.
- 5.10 The mark-ups referenced in Sections 5.4, 5.5 and 5.6 of this Exhibit 2 take into account that allowances have already been made in the indirect costs (Price Items 1 to 19) for overheads on Change Orders. Refer to Section 9.3 of this Exhibit 2.
- 5.11 For greater certainty, extra work added as a result of the understanding recorded in Section 2.8 of this Exhibit 2, will not be counted in the cumulative value of Change Orders issued, as mentioned above.
- 5.12 Contractor shall include requests for compensation for Work performed on a reimbursable basis on the Payment Certificate applicable to the time period in which the reimbursable Work was performed.

6 CHANGES

- 6.1 Changes shall be evaluated and agreed by the Parties on the basis of a reasonable estimate of the Reimbursable Cost of Labour for the Change, and a fixed price adjustment to the Non Labour Component. Prices listed in Appendix A – Schedule of Price Breakdown - shall be used wherever they are applicable. Profit for the labour portion of the Change will be covered by the calculation for Labour Profit. Profit on the Non Labour Component will be included in the fixed price.
- 6.2 Each Change Order issued shall record the estimate of the Reimbursable Cost of Labour for the Change, the fixed price for the Non Labour Component for the Change, and the Adjusted Target Cost of Labour as of that Change Order.
- 6.3 In the event the parties cannot agree on overall cost for a Change, Company may direct the Contractor to complete the Work on a cost reimbursable basis as specified in Section 5 of this Exhibit 2, or to proceed with the work and continue to negotiate the value of the Change Order, subject to Article 31, at the discretion of Company.

7 STANDBY TIME

- 7.1 When the Work is suspended by Company for a reason that is not related to the Contractor's performance of the Work, the Company may compensate the Contractor for standby costs which are reasonably incurred by the Contractor. For all standby time Approved by Company, Contractor shall prepare daily time sheets for all labour and equipment assigned to the performance of the Work, which will be reviewed, and if accepted, signed by the Engineer. Copies of time sheets shall accompany all Contractor invoices. Rates outlined in Appendix D – Equipment Standby Rate Schedule shall apply when Contractor submits an invoice for payment of equipment standby costs. Payment for such standby will be limited to not more than eight (8) hours in a twenty-four (24) hour day or forty (40) hours in a week.
- 7.2 No compensation will be allowed for equipment that is inoperable due to breakdown, unavailability, or the like. No payment will be allowed for equipment that is not operating because the work has been suspended in accordance with the Articles of the Agreement or because the work has been suspended by the Contractor for its own reasons.
- 7.3 When Company agrees that standby costs should be compensated these shall be approved under a Change Order and the standby cost of labour shall be recorded as an adjustment to the Target Cost of Labour.

8 PROJECT LABOUR AGREEMENT

- 8.1 This Agreement is based on Newfoundland and Labrador Regulation 67/13 - a Special Project Order under the Labour Relations Act of Newfoundland and Labrador - , and the associated Project Labour Agreement (PLA) which has been negotiated for the Lower Churchill Project.
- 8.2 In this Agreement, "Project Labour Agreement" means the "Collective Agreement between Muskrat Falls Employer's Association Inc. and Resource Development Trades Council of Newfoundland and Labrador" (also called the "Collective Agreement"). Any reference to the Collective Agreement is a reference to the Project Labour Agreement.
- 8.3 The Contractor shall be bound to the terms of the PLA, become a member of the Project Employers' Association and name at least one (1) staff person to be responsible for daily labour relations matters at the Site. Prior to working at Site, all Contractor's Personnel will be required to attend an LCP Site orientation session that includes health, safety and environment obligations; human resources policies, including respectful workplace, cultural sensitivity, gender equity and diversity; and labour relations, including PLA overview, site standards, corrective action and dispute resolution.

9 COMPENSATION

- 9.1 Pursuant to Article 12.3, Contractor shall invoice each month: for the Reimbursable Cost of Labour and the actual travel costs of trades labour incurred in that month; for the pro-rated portion of Labour Profit; and for the actual progress on the Non labour Component for the month. Contractor shall be paid the costs incurred and monthly progress following Approval by Company of a Payment Certificate and in accordance with the provisions of Article 12 – Compensation and Terms of Payment. Payment of the Reimbursable Cost of Labour is subject to Sections 2.3 to 2.5 and 2.7 of this Exhibit 2.
- 9.2 Pursuant to Section 1A of this Exhibit 2 and Appendix J to this Exhibit 2, the following disbursements made under the LNTP are to be credited to Company in accordance with Article 12.15 (c) of the Agreement:

(Insert a list of payments made under the LNTP)

- 9.3 If the cumulative value of all Change Orders Approved plus variances (as mentioned in Section 4.2.5 of this Exhibit 2) exceeds seventeen and one half percent (17.5%) of the Contract Price as of Effective Date (excluding travel costs), the Parties shall analyse and agree the impact of the excess above seventeen and one half percent on the indirect costs (Price Items 1 to 19).

10 ADVANCE PAYMENT

- 10.1 Company will make an advance payment to Contractor in the amount of one hundred and two million, four hundred and twenty-nine thousand, two hundred and fifty-five Canadian dollars (**\$CAD 102,429,255.00**), representing ten percent (10%) of the Contract Price as of Effective Date. The advance payment will be delivered by Company to Contractor within thirty (30) Business Days of receipt of an irrevocable Letter of Credit and invoice from Contractor, for the same amount. The letter of credit shall be in the format provided for the advance payment letter of credit in Exhibit 14 – Performance Security.
- 10.2 The bank issuing the Letter of Credit must be listed in Schedule I of the Bank Act (Canada), S.C. 1991, c.46, as amended or replaced from time to time, and the bank must have and maintain a senior, unsecured long-term credit rating of not less than A- or equivalent from any one of Standard & Poor's, or Fitch, or not less than A3 or equivalent from Moody's. In addition, the bank issuing the letter of credit must be acceptable to Company.
- 10.3 Contractor shall reimburse Company the full amount of the advance payment through deductions from each invoice Approved by Company. The first deduction shall be made after the cumulative invoices for the Work have reached twenty percent (20%) of the Contract Price (calculated as of Effective Date). The first deduction, and each successive deduction thereafter, shall be at the rate of fifteen percent (15%) of the value of the invoice Approved by Company, until the full amount of the advance payment has been reimbursed.
- 10.4 In the event that this Agreement is terminated for any reason in accordance with the terms of this Agreement prior to reimbursement of the advance payment pursuant to Section 10.3 herein, the outstanding balance of the advance payment shall become immediately payable by Contractor to Company.

11 ESCALATION FOR MATERIALS

The Contract Price, as of the Effective Date, shall be subject to escalation as follows:

- 11.1 General
- (a) "**Escalation**" means the amount by which the Contract Price will be adjusted for the variations in the cost of cement, rebar, structural steel and fuel. Escalation for the cost of labour has already been included in the pricing.
- (b) Escalation Period:
- Escalation will be calculated for each quarter of the calendar year (e.g. Jan. to March; April to June), hereinafter referred to as "**Escalation Period**". With the exception of cement, the first such Escalation Period shall be the calendar

quarter starting after the Effective Date of Agreement. In the case of cement, the first such Escalation Period shall be the calendar quarter January to March 2015.

(c) Indexes:

“**Index**” means the defined indicator to be used to calculate the Escalation.

The Indexes to be used for each of the designated commodities, shall be as specified in Section 11.2 of this Exhibit 2.

(d) Index Numbers:

“**Index Numbers**” shall mean one or both, as the context requires, of the following defined terms:

- With the exception of cement, the “**Base Index Number**” used to calculate Escalation for an Index shall be the final published index number for the given Index for the month of July 2013. In the case of cement the **Base Index Number** shall be the average of the final published index numbers for the given Index for the 12 months of 2014.
- The “**Actual Cost Index Number**” used to calculate escalation for an Index shall be the average of the final published numbers applicable to each month of the Escalation Period.

11.2 Escalation Calculation for Materials

11.2.1 Escalation of Cement, Rebar and Structural Steel

Escalation for cement, rebar and structural steel shall be calculated for a particular Escalation Period using the following formula and the quarterly cost of the commodity for the particular Escalation Period, as declared in Table 1 of Appendix E of this Exhibit 2.

$$EL_{CRS} = e \times [(C_a - C_b) / C_b] + f \times [(S_a - S_b) / S_b] + g \times [(R_a - R_b) / R_b]$$

In which:

EL_{CRS} = Escalation for cement, structural steel and rebar, calculated for the particular Escalation Period.

e = cost of cement to be purchased in the particular Escalation Period, as listed in Table 1 of Appendix E.

C = Index for cement (Statistics Canada, Consumer Price Index for Newfoundland – special aggregates, all items excluding energy),

where:

- C_a = Actual Cost Index Number of cement
- C_b = Base Index Number of cement

f = cost of structural steel to be purchased in the particular Escalation Period, as listed in Table 1 of Appendix E.

S = Index for structural steel (Statistics Canada, v53433892),
 where:

- S_a = Actual Cost Index Number of structural steel
- S_b = Base Index Number of structural steel

g = cost of rebar to be purchased in the particular Escalation Period as listed in Table 1 of Appendix E.

R = Index for rebar (Statistics Canada, V53433771),
 where:

- R_a = Actual Cost Index Number for rebar
- R_b = Base Index Number for rebar

11.2.2 Escalation of Cost of Fuel

Escalation for fuel shall be calculated using the following formula.

$$EL_F = [H - (h \times P_b)]$$

In which:

EL_F = Escalation for fuel, calculated for the particular Escalation Period.

H = Actual cost of the fuel purchased at the Company fuel station at Company's laydown area during the particular Escalation Period.

h = actual number of litres of fuel purchased at the Company fuel station during the particular Escalation Period.

P_b = Base Index Number for fuel = \$CAD 1.40/litre.

11.3 Payment of Quarterly Escalation

Escalation ($EL_{CRS} + EL_F$), whether an increase or a decrease, for a given Escalation Period shall be invoiced in the second month following the end of the Escalation Period; or the month at which all Index Numbers are available, whichever is later.

11.4 Escalation shall not apply after the Milestone Date for Substantial Completion.

12 MONTHLY PAYMENT FORECAST SCHEDULE

12.1 Appendix B of this Exhibit 2 includes the Monthly Payment Forecast Schedule. The Schedule is meant as a forecast only. Company will pay the Contractor monthly for actual costs incurred and progress achieved. Contractor shall update the Monthly Payment Forecast Schedule as required, to keep it current.

13 LIQUIDATED DAMAGES FOR DELAY

13.1 Contractor is responsible to achieve completion of all Milestones in accordance with the Interface and Milestone Schedule and Company has made a genuine pre-estimate of damages that it would suffer (liquidated damages) if the Milestone Dates are not achieved. For each Milestone listed below, if Contractor fails to achieve the Milestone by the associated Milestone Date, Contractor shall pay Company, as liquidated damages and not as a penalty, the amount listed for each and every calendar day by which the completion of such Milestone is delayed.

| <u>Milestone No.</u> | <u>Milestone</u> | <u>Liquidated Damages per calendar day of delay</u> |
|----------------------|--|---|
| M2 | Substantial Completion of the Work. | \$20,000 |
| | Spillway, North Transition Dam, Separation Wall | |
| M4A | Spillway and Related Works required for Company’s Supply and Installation of Hydro Mechanical Equipment Contractor (CH0032) for Upstream Guides installation and concreting, including: <ul style="list-style-type: none"> - Completion of Spillway Invert; - Completion of Spillway piers and walls (upstream 2/3 portion only), including Upstream Bridge; - Spillway Upstream Channel free for Company’s Other Contractor (CH0032) occupation. (Refer to sketch attached to Exhibit 9) | \$45,000.00 |

| <u>Milestone No.</u> | <u>Milestone</u> | <u>Liquidated Damages per calendar day of delay</u> |
|----------------------|--|---|
| M4B | Spillway and related works required for Company's Other Contractor (CH0032) installation of Downstream Stoplog Guides, Gates and Hoists as well as for Company's Construction of North and South Dams Contractor (CH0009) for construction of Intake Channel Upstream Cofferdam and Spillway Upstream Channel Temporary Bridges, and all works required for diversion including: <ul style="list-style-type: none"> - Completion of Spillway piers and walls (downstream 1/3 remaining portion), including both Downstream Bridges; - Completion of North Transition Dam; - Completion of Northern 2 monoliths of Center Transition Dam including the Electrical Building Platform; - Completion of Spillway Discharge Channel Phase 1; - Completion of Separation Wall; - Spillway Discharge Channel free for Company's Other Contractor (CH0032) occupation; (Refer to sketch attached to Exhibit 9) | \$50,000.00 |
| | | |
| | Powerhouse, Draft Tube Cone | |
| M22 | Unit 1 – Ready for Installation of Draft Tube Cone by Company's Supply and Installation of Turbines and Generators Contractor (CH0030). | \$25,000.00 |
| M30 | Unit 2 – Ready for Installation of Draft Tube Cone by Company Other Contractor (CH0030). | \$25,000.00 |
| M38 | Unit 3 – Ready for Installation of Draft Tube Cone by Company's Other Contractor (CH0030). | \$25,000.00 |
| M46 | Unit 4 – Ready for Installation of Draft Tube Cone by Company's Other Contractor (CH0030). | \$25,000.00 |
| | | |
| | Powerhouse, Generator Floor Completed | |
| M24 | Unit 1 – Generator Floor Completed, including Pit Free for Unit 1. | \$40,000.00 |
| M32 | Unit 2 – Generator Floor Completed, including Pit Free for unit 2 | \$20,000.00 |
| M40 | Unit 3 – Generator Floor Completed, including Pit Free for Unit 3 | \$20,000.00 |
| M48 | Unit 4 – Generator Floor Completed, including Pit Free for Unit 4. | \$20,000.00 |

| <u>Milestone No.</u> | <u>Milestone</u> | <u>Liquidated Damages per calendar day of delay</u> |
|----------------------|--|---|
| | | |
| | Service Bays | |
| M18 | South Service Bay Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors. This includes: <ul style="list-style-type: none"> - South Service Bay Mezzanines, Ready for Start of Work by Company's other Contractors. - South Service Bay Structural Steel Ready for Setting Powerhouse Crane on Rails. - Service Bay Draft Tube Gallery, Ready for Installation of Gantry Crane by Company's Other Contractor (CH0032). | \$5,000.00 |
| M53 | North Service Bay Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors. | \$5,000.00 |
| | | |
| | Powerhouse, Draft Tube Structure | |
| M26 | Unit 1 – Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors, including: <ul style="list-style-type: none"> - Unit 1 – Draft Tube, Structure Complete for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). - Unit 1 – Mezzanines, Ready for start of Work by Company's Supply and Installation of Mechanical and Electrical Auxiliaries Contractor (CH0031). | \$5,000.00 |
| M34 | Unit 2 - Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors, including: <ul style="list-style-type: none"> - Unit 2 – Draft Tube, Structure Complete for start of hydro-mechanical works by Company's Other Contractor (CH0032). - Unit 2 – Mezzanines, Ready for start of Work by Company's Other Contractor (CH0031). | \$5,000.00 |

| <u>Milestone No.</u> | <u>Milestone</u> | <u>Liquidated Damages per calendar day of delay</u> |
|----------------------|---|---|
| M42 | Unit 3 - Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors, including - Unit 3 - Draft Tube, Structure Complete for start of hydro-mechanical works by Company's Other Contractor (CH0032). - Unit 3 – Mezzanines, Ready for start of Work by Company's Other Contractor (CH0031). | \$5,000.00 |
| M50 | Unit 4 - Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors, including - Unit 4 – Draft Tube, Structure Complete for start of hydro-mechanical works by Company's Other Contractor (CH0032). - Unit 4 – Mezzanines, Ready for start of Work by Company's Other Contractor (CH0031). | \$5,000.00 |
| | | |
| | Powerhouse, Intake Structure | |
| M28 | Unit 1 – Intake Structure Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| M36 | Unit 2 – Intake Structure Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| M44 | Unit 3 – Intake Structure Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| M52 | Unit 4 – Intake Structure Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| | | |
| | Center and South Transition Dam | |
| M54 | Center Transition Dam complete including Trashrack cleaner rails installed. | \$5,000.00 |
| M55 | South Transition Dam Complete | \$5,000.00 |

| <u>Milestone No.</u> | <u>Milestone</u> | <u>Liquidated Damages per calendar day of delay</u> |
|----------------------|---|---|
| | Rollways | |
| M12 | Bay No. 1 Rollway Construction Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| M13 | Bay No. 2 & 4 Rollway Construction Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| M14 | Bay No.3 & 5 Rollway Construction Complete and Ready for start of hydro-mechanical works by Company's Other Contractor (CH0032). | \$5,000.00 |
| M16A/M2A | Completion of Phase 2 of Spillway Discharge Channel Lining and Final Completion of the Work | \$5,000.00 |

13.2 The period of delay for a Milestone shall exclude each day of extension of time to the Milestone Date granted by Company in accordance with Article 14 – Changes in the Work.

14 LIQUIDATED DAMAGES FOR KEY PERSONNEL

14.1 Contractor shall not remove any Key Personnel (as listed below or any Approved successors) from the Work without first obtaining Approval from Company. Such Approval shall be at Company's sole and absolute discretion and provided that Contractor has satisfied the following conditions:

- (a) requesting Approval by Company at least 60 days in advance of the date of the proposed removal of individual Key Personnel;
- (b) providing curricula vitae for replacement candidates, who must have qualifications and experience at least equivalent to those of the Key Personnel Contractor proposes to replace;
- (c) arranging a minimum 14 day hand-over period between Key Personnel to be replaced and the Company accepted replacements; and
- (d) accepting that all costs associated with reassignments initiated by Contractor, including mobilization and demobilization, to replace Key Personnel shall be at the sole expense of Contractor if Key Personnel are removed before the projected end date for Key Personnel.

14.2 Contractor shall pay Company liquidated damages of one million Canadian dollars (\$1,000,000) per instance if Contractor replaces Key Personnel without following the requirements in Section 14.1. Such amount is agreed as a genuine pre-estimate of the disruptive effect on the Work due to Contractor’s unauthorized withdrawal of individual Key Personnel. This provision shall not limit Company’s other rights under the Agreement in the event of recurrent unauthorized withdrawal of Key Personnel by Contractor.

| Key Personnel Position Description | Name of Key Person | Liquidated Damages \$ |
|---|-------------------------------|------------------------------|
| Project Director | Guido Venturini | \$1,000,000 |
| Project Manager | Ken Chryssolor | \$1,000,000 |
| Construction Manager | Vittorio Robiati | \$1,000,000 |
| Planner | Pierre Cianni | \$1,000,000 |
| General Superintendent | Marvin Bennett | \$1,000,000 |
| General Superintendent | Yves Gagnon | \$1,000,000 |
| Formwork Superintendent | Yves Gauthier | \$1,000,000 |
| | | |

EXHIBIT 2 - APPENDIX A
SCHEDULE OF PRICE BREAKDOWN

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|--|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|------------------------------------|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | | | | | | | |
| 2 0000 INDIRECT COSTS | | | | | | | | | | | | | | |
| 1 | 2.1 | 0000.01 | | Mobilization | LS | 1 | 0 | 0 | 0 | 0 | 326,400 | 8,000,592 | 8,326,992 | 8,326,992 |
| 2 | 2.2 | 0000.02 | | Site Installation | LS | 1 | 71,519 | 5,668,063 | 5,668,063 | 3,969,685 | 15,846,507 | 20,028,886 | 20,028,886 | 20,028,886 |
| 3 | 2.3 | 0000.03 | | Contractor Equipment for Indirects | LS | 1 | 164,938 | 13,197,861 | 13,197,861 | 6,100,405 | 4,204,459 | 2,342,450 | 12,647,314 | 12,647,314 |
| 4 | 2.4 | 0000.04 | | Temporary Works | LS | 1 | 40,873 | 3,246,714 | 3,246,714 | 710,139 | 283,000 | 1,065,868 | 1,065,868 | 1,065,868 |
| 5 | 2.5 | 0000.05 | | Winter Protection | LS | 1 | 68,850 | 5,531,277 | 5,531,277 | 15,981,361 | 663,939 | 1,165,171 | 17,810,471 | 17,810,471 |
| 6 | 2.6 | 0000.06 | | Management and Staff | LS | 1 | 1,982,044 | 172,483,726 | 172,483,726 | 0 | 0 | 10,263,111 | 10,263,111 | 10,263,111 |
| 6A | 2.6A | 0000.06A | | Design and Technical Assistance | LS | 1 | 131,000 | 10,508,344 | 10,508,344 | 0 | 0 | 1,334,825 | 1,334,825 | 1,334,825 |
| 7 | 2.7 | 0000.07 | | Attendant Labour | LS | 1 | 736,610 | 58,375,032 | 58,375,032 | 0 | 0 | 0 | 0 | 0 |
| 8 | 2.8 | 0000.08 | | Services | LS | 1 | 50,821 | 3,960,856 | 3,960,856 | 7,631,783 | 370,697 | 7,360,807 | 15,363,286 | 15,363,286 |
| 9 | 2.9 | 0000.09 | | Employee Training | LS | 1 | 31,450 | 2,420,324 | 2,420,324 | 0 | 0 | 0 | 0 | 0 |
| 10 | 2.10 | 0000.10 | | Health and Safety Requirements | LS | 1 | 116,000 | 8,845,020 | 8,845,020 | 0 | 0 | 2,732,513 | 2,732,513 | 2,732,513 |
| 11 | 2.11 | 0000.11 | | Environmental Requirements | LS | 1 | 32,400 | 2,556,203 | 2,556,203 | 0 | 0 | 24,075 | 24,075 | 24,075 |
| 12 | 2.12 | 0000.12 | | Quality Assurance / Quality Control | LS | 1 | 175,800 | 13,799,281 | 13,799,281 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2.13 | 0000.13 | | Letters of Credit | LS | 1 | NA | NA | NA | NA | NA | 31,723,429 | 31,723,429 | 31,723,429 |
| 14 | 2.14 | 0000.14 | | Parent Guarantee | LS | 1 | NA | NA | NA | NA | NA | 0 | 0 | 0 |
| 15 | 2.15 | 0000.15 | | Contractor Insurance, per Article 18 of the Agreement | LS | 1 | NA | NA | NA | NA | NA | 5,576,498 | 5,576,498 | 5,576,498 |
| 16 | 2.16 | 0000.16 | | Warranty, per Article 17 of the Agreement | LS | 1 | NA | NA | NA | NA | NA | 2,235,825 | 2,235,825 | 2,235,825 |
| 17 | 2.17 | 0000.17 | | Site Maintenance | LS | 1 | 86,693 | 6,970,927 | 6,970,927 | 3,898,037 | 920,111 | 924,968 | 5,743,115 | 5,743,115 |
| 17A | 2.17A | 0000.17A | | Maintenance Grade No. 3 Material | m ³ | 7,200 | 0.270 | 21.68 | 156,110 | 6.58 | 8.21 | 1.04 | 15.82 | 113,934 |
| 17B | 2.17B | 0000.17B | | Coarse Sand | m ³ | 2,900 | 0.282 | 22.67 | 65,734 | 6.87 | 1.08 | 1.54 | 47,972 | |
| 17C | 2.17C | 0000.17C | | Calcium Chloride (20 kg bag) | each | 12,500 | - | 0.00 | - | 15.00 | - | 1.05 | 16.05 | 200,625 |
| 18 | 2.18 | 0000.18 | | Financing, Contingency, Head Office Overheads, & Consultant Fees | LS | 1 | NA | NA | NA | NA | NA | 55,358,052 | 55,358,052 | 55,358,052 |
| 19 | 2.19 | 0000.19 | | Demobilization | LS | 1 | NA | 0.00 | 0.00 | 0.00 | 0.00 | 6,480,990 | 6,480,990 | 6,480,990 |
| 19A | 2.19A | 0000.19A | | Estimate of Travel Allowances - Trades Labour | NA | NA | NA | NA | NA | NA | NA | 0.00 | 0.00 | 0.00 |
| SUB-TOTAL INDIRECT COSTS | | | | | | | | | \$ 307,785,475 | | | | | \$ 197,077,782 |
| 3 0000 GENERAL | | | | | | | | | | | | | | |
| 3.1 1110 ACCESS ROADS TO SPILLWAY, ACCESS RAMPS AND PADS FOR COMPANY'S OTHER CONTRACTORS | | | | | | | | | | | | | | |
| 20 | 3.1.1 | 1110.01 | | Overburden Excavation | m ³ | 6,400 | 0.107 | 8.48 | 54,265.60 | 2.219 | 1.37 | 0.25 | 3.84 | 24,563.78 |
| 21 | 3.1.2 | 1110.02 | | Zone 3C Material | m ³ | 3,960 | 0.220 | 17.46 | 69,153.48 | 4.34 | 3.01 | 0.51 | 7.86 | 31,126.47 |
| 22 | 3.1.3 | 1110.03 | | Zone 3D Material | m ³ | 8,360 | 0.220 | 17.46 | 145,990.68 | 4.34 | 3.01 | 0.51 | 7.86 | 65,711.44 |
| 23 | 3.1.4 | 1110.04 | | Granular "B" Material | m ³ | 1,250 | 0.393 | 31.56 | 39,451.25 | 8.77 | 9.18 | 1.26 | 19.21 | 24,006.79 |
| 24 | 3.1.5 | 1110.05 | | Granular "C" Material | m ³ | 1,250 | 0.393 | 31.56 | 39,451.25 | 8.77 | 9.18 | 1.26 | 19.21 | 24,006.79 |
| 25 | 3.1.6 | 1110.06 | | Concrete Culvert 600 mm | m | 45 | 0.167 | 13.47 | 606.33 | 5.13 | 4.56 | 0.68 | 10.37 | 466.57 |
| 3.2 1120 DEWATERING OF STRUCTURE AREAS | | | | | | | | | | | | | | |
| 26 | 3.2.1 | 1120.01 | | Structure Areas | LS | 1 | 10,862,527 | 866,271.09 | 866,271.09 | 190,418.49 | 584,916.66 | 54,273.46 | 829,608.61 | 829,608.61 |
| 3.3 1150 TEMPORARY BRIDGE | | | | | | | | | | | | | | |
| 27 | 3.3.1 | 1150.01 | | Temporary Downstream Bridge over the Spillway | LS | 1 | 7,952,611 | 598,480.18 | 598,480.18 | 737,089.48 | 20,082.11 | 73,867.01 | 831,038.60 | 831,038.60 |
| 3.4 1170 CONSTRUCTION CRANE | | | | | | | | | | | | | | |
| 28 | 3.4.1 | 1170.01 | | Powerhouse – Construction Crane | LS | 1 | 9,936,300 | 816,282.58 | 816,282.58 | 78,034.62 | 497,510.63 | 67,038.17 | 642,583.41 | 642,583.41 |
| 3.5 1180 Temporary Heating, Ventilating and Lighting of Powerhouse | | | | | | | | | | | | | | |
| 29 | 3.5.1 | 1180.01 | | Temporary Heating, Ventilating and Lighting of Powerhouse | LS | 1 | 1,800,988 | 141,040.89 | 141,040.89 | 3,541,374.83 | 920,870.80 | 312,357.19 | 4,774,602.82 | 4,774,602.82 |
| 3.6 1190 Chain Link Fences and Gates | | | | | | | | | | | | | | |
| 30 | 3.6.1 | 1190.01 | | Chain Link fences and gates in the Powerhouse Parking and Contractor's Laydown Areas | m | 50 | 1,300 | 100.98 | 5,049.00 | 157.60 | 1.01 | 11.10 | 169.71 | 8,485.37 |
| 3.7 1200 Temporary Lateral Support and Bracings | | | | | | | | | | | | | | |
| 31 | 3.7.1 | 1200.01 | | Temporary Lateral Support and Bracings for Piers of the Spillway | LS | 1 | 290,210 | 23,432.79 | 23,432.79 | 49,229.39 | 2,490.79 | 3,620.41 | 55,340.59 | 55,340.59 |
| 3.8 1210 Anchor Points | | | | | | | | | | | | | | |
| 32 | 3.8.1 | 1210.01 | | Anchor Points at Powerhouse and Spillway | each | 50 | 7,453 | 601.77 | 30,088.35 | 110.76 | 63.97 | 7,453 | 186.96 | 9,348.00 |
| SUB-TOTAL GENERAL | | | | | | | | | \$ 2,829,563 | | | | | \$ 7,320,889 |
| 4 2360 TRANSITION DAMS | | | | | | | | | | | | | | |
| 4.1 2361 NORTH TRANSITION DAM | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | |
| 33 | 4.1.1 | 2361.01 | | Fill Excavation (Sand Layer for Winter Protection) | m ³ | 650 | 0.339 | 27.20 | 17,678.70 | 7.52 | 7.67 | 1.06 | 16.26 | 10,568.12 |
| Foundation Preparation | | | | | | | | | | | | | | |
| 34 | 4.1.2 | 2361.02 | | Dental Excavation | m ³ | 30 | 0.277 | 22.31 | 669.18 | 7.47 | 2.62 | 0.71 | 10.80 | 323.89 |
| 35 | 4.1.3 | 2361.03 | | Scaling and Water/Air Jet Cleaning of Bedrock | m ² | 430 | 0.124 | 9.85 | 4,236.79 | 0.72 | 0.45 | 0.08 | 1.24 | 533.72 |
| 36 | 4.1.4 | 2361.04 | | Dental Concrete | m ³ | 70 | 1.846 | 145.44 | 10,180.45 | 158.80 | 28.11 | 13.08 | 199.99 | 13,999.56 |
| 37 | 4.1.5 | 2361.05 | | Dry Pack | m ³ | 3 | 1.963 | 153.66 | 460.98 | 251.32 | 31.22 | 19.78 | 302.32 | 906.97 |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | |
| 38 | 4.1.6 | 2361.06 | | Grouting Holes | m | 200 | 0.889 | 72.56 | 14,512.60 | 37.13 | 118.99 | 10.93 | 167.05 | 33,409.04 |
| 39 | 4.1.7 | 2361.07 | | Grouting - Successful Connections | each | 40 | 3.375 | 275.50 | 11,019.92 | 109.47 | 480.84 | 41.32 | 631.63 | 25,265.35 |
| 40 | 4.1.8 | 2361.08 | | Dry Cement for Grouting | kg | 7,000 | 0.045 | 3.67 | 25,711.00 | 1.09 | 1.50 | 0.18 | 2.77 | 19,406.59 |
| 41 | 4.1.9 | 2361.09 | | Water Pressure Tests (Lugeon) | hour | 4 | 10,060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 |
| 42 | 4.1.10 | 2361.10 | | Water Pressure Tests - Successful Connections | each | 10 | 1,450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 |
| 43 | 4.1.11 | 2361.11 | | Uplift Gauges | m | 25 | 1,060 | 86.53 | 2,163.20 | 180.00 | 30.00 | 14.70 | 224.70 | 5,617.50 |
| 44 | 4.1.12 | 2361.12 | | Thermistors | each | 1 | 22,940 | 1,872.59 | 1,872.59 | 3,960.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 |
| 45 | 4.1.13 | 2361.13 | | Rotary/Perussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 |
| 46 | 4.1.14 | 2361.14 | | Cored (Diamond drill) holes | m | 25 | 2,680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 |
| 47 | 4.1.15 | 2361.15 | | Drainage Holes | m | 65 | 0.740 | 60.41 | 3,926.39 | 108.00 | 9.00 | 8.19 | 125.19 | 8,137.35 |
| 48 | 4.1.16 | 2361.16 | | PVC Caps for Drainage Holes | each | 5 | 0.820 | 66.94 | 334.69 | 150.00 | 30.00 | 12.60 | 192.60 | 963.00 |
| 49 | 4.1.17 | 2361.17 | | Survey Monuments | each | 1 | 1,810 | 147.75 | 147.75 | 331.00 | 66.00 | 27.79 | 424.79 | 424.79 |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | | |
|--|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|------------------------------------|----------------------------------|-------------------------------|-----------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT | | DATE: 28-OCT-2013 | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G=(D+E+F) | UNIT PRICE (\$ CAD) H=A x G | TOTAL PRICE (\$ CAD) H= A x G |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 50 | 4.1.18 | | 2361.18 | Concrete | m³ | 9,130 | 3.898 | 296.56 | 2,707,565.41 | 158.61 | 53.10 | 14.82 | 226.53 | 2,068,196.62 | |
| 50A | 4.1.18A | | 2361.19 | PVC Waterstop - TYPE A (150 mm width) | m | 30 | 0.267 | 21.14 | 694.17 | 11.02 | 0.13 | 0.78 | 11.93 | 357.88 | |
| 51 | 4.1.19 | | 2361.20 | PVC Waterstop - TYPE B (225 mm width) | m | 315 | 0.267 | 21.14 | 6,658.79 | 17.94 | 0.13 | 1.26 | 19.33 | 6,089.82 | |
| 52 | 4.1.20 | | 2361.21 | Hydrophilic Waterstop | m | 22 | 0.267 | 21.14 | 465.06 | 21.48 | 0.13 | 1.51 | 23.12 | 508.68 | |
| 53 | 4.1.21 | | 2361.22 | Bituminous Coating at Contraction Joints | m² | 570 | 0.528 | 39.37 | 22,441.47 | 14.67 | 0.13 | 1.04 | 15.84 | 9,028.96 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 54 | 4.1.22 | | 2361.23 | Reinforcement including Dowels | kg | 55,000 | 0.021 | 1.56 | 85,855.00 | 1.38 | 0.07 | 0.10 | 1.55 | 85,332.50 | |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | | |
| Supply and Installation of Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | | |
| 55 | 4.1.23 | | 2361.24 | Galvanized Miscellaneous Steel | kg | 10,600 | 0.040 | 3.24 | 34,312.20 | 8.62 | 0.34 | 0.63 | 9.58 | 101,590.29 | |
| 56 | 4.1.24 | | 2361.25 | Galvanized Grating | kg | 5,100 | 0.029 | 2.38 | 12,122.70 | 10.29 | 0.25 | 0.74 | 11.27 | 57,494.95 | |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | | |
| 57 | 4.1.25 | | 2361.26 | Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.) | kg | 190 | 0.059 | 4.74 | 900.98 | 8.93 | 0.49 | 0.66 | 10.08 | 1,914.68 | |
| 58 | 4.1.26 | | 2361.27 | Anchor Bolts Grade 55 ASTM F1554 | kg | 535 | 0.059 | 4.74 | 2,536.97 | 2.60 | 0.49 | 0.22 | 3.31 | 1,771.73 | |
| ELECTRICAL WORK | | | | | | | | | | | | | | | |
| 59 | 4.1.27 | | 2361.28 | Exothermic Connections | each | 30 | 2.400 | 234.24 | 7,027.20 | 146.48 | 0.00 | 10.25 | 156.74 | 4,702.10 | |
| 59A | 4.1.27A | | 2361.29 | Mechanical Connections | each | 4 | 2.300 | 224.48 | 897.92 | 211.64 | 0.00 | 14.81 | 226.46 | 905.83 | |
| 60 | 4.1.28 | | 2361.30 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 200 | 0.414 | 40.42 | 8,083.20 | 60.28 | 0.00 | 4.22 | 64.50 | 12,899.71 | |
| 61 | 4.1.29 | | 2361.31 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 30 | 0.224 | 21.88 | 656.40 | 27.71 | 0.00 | 1.94 | 29.65 | 889.56 | |
| 61A | 4.1.30 | | 2361.32 | Embedded Copper Grounding Plates | each | 1 | 4.000 | 390.40 | 390.40 | 453.87 | 0.00 | 31.77 | 485.64 | 485.64 | |
| 61B | 4.1.31 | | 2361.33 | Rigid PVC Conduit, size 129mm | m | 75 | 5.400 | 527.04 | 39,528.00 | 95.00 | 30.00 | 8.75 | 133.75 | 10,031.25 | |
| SUB-TOTAL NORTH TRANSITION DAM | | | | | | | | | | \$ 3,034,335.86 | | \$ 2,506,016.20 | | | |
| CENTRE TRANSITION DAM | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | | |
| 62 | 4.2.1 | | 2362.01 | Fill Excavation (Sand Layer for Winter Protection) | m³ | 2,100 | 0.339 | 27.20 | 57,115.80 | 7.52 | 7.67 | 1.06 | 16.26 | 34,143.17 | |
| Foundation Preparation | | | | | | | | | | | | | | | |
| 63 | 4.2.2 | | 2362.02 | Dental Excavation | m³ | 80 | 0.277 | 22.31 | 1,784.48 | 7.47 | 2.62 | 0.71 | 10.80 | 863.70 | |
| 64 | 4.2.3 | | 2362.03 | Scaling and Water/Air Jet Cleaning of Bedrock | m² | 1,430 | 0.124 | 9.85 | 14,089.79 | 0.72 | 0.45 | 0.08 | 1.24 | 1,774.92 | |
| 65 | 4.2.4 | | 2362.04 | Dental Concrete | m³ | 215 | 1.846 | 145.44 | 31,268.53 | 158.80 | 28.11 | 13.08 | 199.99 | 42,998.65 | |
| 66 | 4.2.5 | | 2362.05 | Dry Pack | m³ | 10 | 1.925 | 150.65 | 1,506.47 | 246.40 | 30.61 | 19.39 | 296.40 | 2,963.96 | |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | | |
| 67 | 4.2.6 | | 2362.06 | Grouting Holes | m | 600 | 0.889 | 72.56 | 43,537.80 | 37.13 | 118.99 | 10.93 | 167.05 | 100,227.11 | |
| 68 | 4.2.7 | | 2362.07 | Grouting - Successful Connections | each | 120 | 3.375 | 275.50 | 33,059.76 | 109.47 | 480.84 | 41.32 | 631.63 | 75,796.06 | |
| 69 | 4.2.8 | | 2362.08 | Dry Cement for Grouting | kg | 20,000 | 0.045 | 3.67 | 73,460.00 | 1.09 | 1.50 | 0.18 | 2.77 | 55,447.40 | |
| 70 | 4.2.9 | | 2362.09 | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 | |
| 71 | 4.2.10 | | 2362.10 | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 | |
| 72 | 4.2.11 | | 2362.11 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 | |
| 73 | 4.2.12 | | 2362.12 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | |
| 74 | 4.2.13 | | 2362.13 | Rotary/Perussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 | |
| 75 | 4.2.14 | | 2362.14 | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 | |
| 76 | 4.2.15 | | 2362.15 | Drainage Holes | m | 200 | 0.740 | 60.41 | 12,081.20 | 108.00 | 9.00 | 8.19 | 125.19 | 25,038.00 | |
| 77 | 4.2.16 | | 2362.16 | PVC Caps for Drainage Holes | each | 20 | 0.820 | 66.94 | 1,338.74 | 150.00 | 30.00 | 12.60 | 192.60 | 3,852.00 | |
| Geotechnical Instrumentation | | | | | | | | | | | | | | | |
| 78 | 4.2.17 | | 2362.17 | Survey Monuments | each | 5 | 1.810 | 147.75 | 738.75 | 331.00 | 66.00 | 27.79 | 424.79 | 2,123.95 | |
| 79 | 4.2.18 | | 2362.18 | Hydraulic piezometers | each | 3 | 2.831 | 219.98 | 659.94 | 6,066.21 | 2.65 | 455.62 | 6,964.48 | 20,893.45 | |
| 80 | 4.2.19 | | 2362.19 | V-Notch Weirs | each | 1 | 2.831 | 219.98 | 219.98 | 1,576.21 | 2.65 | 110.52 | 1,689.38 | 1,689.38 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 81 | 4.2.20 | | 2362.20 | Concrete Below El. 42.00 m | m³ | 26,900 | 4.174 | 316.93 | 8,525,282.50 | 159.34 | 50.34 | 14.68 | 224.36 | 6,035,248.22 | |
| 82 | 4.2.21 | | 2362.21 | Concrete Above El. 42.00 m | m³ | 2,150 | 4.124 | 313.23 | 798,736.50 | 172.51 | 50.27 | 15.59 | 238.37 | 607,849.27 | |
| 83 | 4.2.22 | | 2362.22 | Concrete - Slab on Steel Deck | m³ | 150 | 3.958 | 300.79 | 45,118.35 | 171.31 | 26.84 | 13.87 | 212.02 | 31,803.72 | |
| 84 | 4.2.23 | | 2362.23 | Grout | m³ | 17 | 2.337 | 184.95 | 3,144.22 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 22,486.51 | |
| 84A | 4.2.23A | | 2362.24 | PVC Waterstop - TYPE A (150 mm width) | m | 135 | 0.267 | 21.14 | 2,853.77 | 11.02 | 0.13 | 0.78 | 11.93 | 1,610.33 | |
| 85 | 4.2.24 | | 2362.25 | PVC Waterstop - TYPE B (225 mm width) | m | 629 | 0.267 | 21.14 | 13,296.43 | 17.94 | 0.13 | 1.26 | 19.33 | 12,160.31 | |
| 86 | 4.2.25 | | 2362.26 | Bituminous Coating at Contraction Joint | m² | 3,060 | 0.528 | 39.37 | 120,475.26 | 14.67 | 0.13 | 1.04 | 15.84 | 48,471.26 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 87 | 4.2.26 | | 2362.27 | Reinforcement including Dowels | kg | 145,000 | 0.021 | 1.56 | 226,345.00 | 1.38 | 0.07 | 0.10 | 1.55 | 224,967.50 | |
| SUPPLY AND INSTALLATION OF STRUCTURAL STEEL | | | | | | | | | | | | | | | |
| 88 | 4.2.27 | | 2362.28 | Painted Structural Steel | kg | 79,400 | 0.024 | 1.95 | 154,591.80 | 6.86 | 0.21 | 0.49 | 7.56 | 600,143.31 | |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | | |
| Supply and Installation of Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | | |
| 89 | 4.2.28 | | 2362.29 | Galvanized Miscellaneous Steel | kg | 37,000 | 0.040 | 3.24 | 119,769.00 | 8.62 | 0.34 | 0.63 | 9.58 | 354,607.63 | |
| 90 | 4.2.29 | | 2362.30 | Galvanized Grating | kg | 1,745 | 0.029 | 2.38 | 4,147.87 | 10.29 | 0.25 | 0.74 | 11.27 | 19,672.29 | |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | | |
| 91 | 4.2.30 | | 2362.31 | Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.) | kg | 16,870 | 0.059 | 4.74 | 79,997.54 | 8.93 | 0.49 | 0.66 | 10.08 | 170,003.38 | |
| Metal Decking including Shear Studs (Galvanized) | | | | | | | | | | | | | | | |
| 92 | 4.2.31 | | 2362.32 | Steel deck type RD 306 (t=0.91 mm) | m² | 400 | 0.500 | 39.27 | 15,709.20 | 166.74 | 5.50 | 12.06 | 184.30 | 73,720.43 | |
| 93 | 4.2.32 | | 2362.33 | Shear Studs | kg | 375 | 0.059 | 4.74 | 1,778.25 | 2.55 | 0.49 | 0.21 | 3.25 | 1,220.60 | |
| Crane Rails including Fastening System and Accessories | | | | | | | | | | | | | | | |
| 94 | 4.2.33 | | 2362.34 | Rails for Trash Cleaning System | m | 140 | 1.400 | 113.04 | 15,824.90 | 347.44 | 12.34 | 25.18 | 384.96 | 53,894.00 | |
| 95 | 4.2.34 | | 2362.35 | Anchor Bolts Grade 55 ASTM F1554 | kg | 4,850 | 0.059 | 4.74 | 22,998.70 | 2.60 | 0.49 | 0.22 | 3.31 | 16,061.50 | |
| 96 | 4.2.35 | | 2362.36 | Elastomeric Bearing Pads | each | 21 | 0.331 | 26.59 | 558.37 | 81.45 | 2.64 | 5.89 | 89.98 | 1,889.48 | |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | | EXHIBIT 2 - APPENDIX A | | | | |
|--|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|-------------------------------|--------------|--------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | | |
| ELECTRICAL WORK | | | | | | | | | | | | | | | | |
| 97 | 4.2.36 | | 2362.37 | Exothermic Connections. | each | 140 | 2.400 | 234.24 | | 32,793.60 | 146.48 | 0.00 | 10.25 | 156.74 | 21,943.15 | |
| 97A | 4.2.36A | | 2362.38 | Mechanical Connections | each | 17 | 2.300 | 224.48 | | 3,816.16 | 211.64 | 0.00 | 14.81 | 226.46 | 3,849.75 | |
| 98 | 4.2.37 | | 2362.39 | Embedded Copper Grounding Plates | each | 2 | 4.000 | 390.40 | | 780.80 | 453.87 | 0.00 | 31.77 | 485.64 | 971.29 | |
| 99 | 4.2.38 | | 2362.40 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 500 | 0.414 | 40.42 | | 20,208.00 | 60.28 | 0.00 | 4.22 | 64.50 | 32,249.27 | |
| 100 | 4.2.39 | | 2362.41 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 225 | 0.224 | 21.88 | | 4,923.00 | 27.71 | 0.00 | 1.94 | 29.65 | 6,671.66 | |
| 101 | 4.2.40 | | 2362.42 | Rigid PVC Conduit, size 41mm | m | 0 | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 101A | 4.2.40A | | 2362.43 | Rigid PVC Conduit, size 53mm | m | 3 | 2.000 | 195.20 | | 585.60 | 108.25 | 0.00 | 7.58 | 115.82 | 347.47 | |
| 102 | 4.2.41 | | 2362.44 | Rigid PVC Conduit, size 78mm | m | 0 | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 103 | 4.2.42 | | 2362.45 | Rigid PVC Conduit, size 129mm | m | 110 | 5.400 | 527.04 | | 57,974.40 | 95.00 | 30.00 | 8.75 | 133.75 | 14,712.50 | |
| 104 | 4.2.43 | | 2362.46 | Junction Box, size 200 x 200 x 150 mm Complete with Traffic Rated Cover | each | 0 | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| SUB-TOTAL CENTRE TRANSITION DAM | | | | | | | | | | \$ | 10,558,384.64 | | | | \$ | 8,755,368.19 |
| 4.3 2363.00 SOUTH TRANSITION DAM | | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | | | |
| 105 | 4.3.1 | | 2363.01 | Fill Excavation (Sand Layer for Winter Protection) | m³ | 1,350 | 0.339 | 27.20 | | 36,717.30 | 7.52 | | 7.67 | 1.06 | 16.26 | 21,949.18 |
| Foundation Preparation | | | | | | | | | | | | | | | | |
| 106 | 4.3.2 | | 2363.02 | Dental Excavation | m³ | 45 | 0.277 | 22.31 | | 1,003.77 | 7.47 | | 2.62 | 0.71 | 10.80 | 485.83 |
| 107 | 4.3.3 | | 2363.03 | Scaling and Water/Air Jet Cleaning of Bedrock | m² | 900 | 0.124 | 9.85 | | 8,867.70 | 0.72 | | 0.08 | 1.24 | 1,117.08 | |
| 108 | 4.3.4 | | 2363.04 | Dental Concrete | m³ | 135 | 1.846 | 145.44 | | 19,633.73 | 158.80 | 28.11 | 13.08 | 199.99 | 26,999.18 | |
| 109 | 4.3.5 | | 2363.05 | Dry Pack | m³ | 6 | 1.925 | 150.65 | | 903.88 | 246.40 | 30.61 | 19.39 | 296.40 | 1,778.38 | |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | | | |
| 110 | 4.3.6 | | 2363.06 | Grouting Holes | m | 500 | 0.889 | 72.56 | | 36,281.50 | 37.13 | 118.99 | 10.93 | 167.05 | 83,522.60 | |
| 111 | 4.3.7 | | 2363.07 | Grouting - Successful Connections | each | 100 | 3.375 | 275.50 | | 27,549.80 | 109.47 | 480.84 | 41.32 | 631.63 | 63,163.38 | |
| 112 | 4.3.8 | | 2363.08 | Dry Cement for Grouting | kg | 18,000 | 0.045 | 3.67 | | 66,114.00 | 1.09 | 1.50 | 0.18 | 2.77 | 49,902.66 | |
| 113 | 4.3.9 | | 2363.09 | Water Pressure Tests (Lugeon) | hour | 5 | 10.060 | 821.20 | | 4,105.99 | 29.00 | 565.50 | 41.62 | 636.12 | 3,180.58 | |
| 114 | 4.3.10 | | 2363.10 | Water Pressure Tests - Successful Connections | each | 12 | 1.450 | 118.36 | | 1,420.37 | 120.00 | 57.00 | 12.39 | 189.39 | 2,272.68 | |
| 115 | 4.3.11 | | 2363.11 | Uplift Gauges | m | 30 | 1.060 | 86.53 | | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 | |
| 116 | 4.3.12 | | 2363.12 | Thermistors | each | 1 | 22.940 | 1,872.59 | | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | |
| 117 | 4.3.13 | | 2363.13 | Rotary/Per percussion Drill Check Holes | m | 30 | 0.690 | 56.33 | | 1,689.75 | 117.00 | 19.50 | 9.56 | 146.06 | 4,381.65 | |
| 118 | 4.3.14 | | 2363.14 | Cored (Diamond drill) holes | m | 30 | 2.680 | 218.77 | | 6,563.04 | 390.00 | 32.50 | 29.58 | 452.08 | 13,562.25 | |
| 119 | 4.3.15 | | 2363.15 | Drainage Holes | m | 225 | 0.740 | 60.41 | | 13,591.35 | 108.00 | 9.00 | 8.19 | 125.19 | 28,167.75 | |
| 120 | 4.3.16 | | 2363.16 | PVC Caps for Drainage Holes | each | 15 | 0.820 | 66.94 | | 1,004.06 | 150.00 | 30.00 | 12.60 | 192.60 | 2,889.00 | |
| Geotechnical Instrumentation | | | | | | | | | | | | | | | | |
| 121 | 4.3.17 | | 2363.17 | Survey Monuments | each | 4 | 1.810 | 147.75 | | 591.00 | 331.00 | 66.00 | 27.79 | 424.79 | 1,699.16 | |
| 122 | 4.3.18 | | 2363.18 | Hydraulic piezometers | each | 2 | 2.831 | 219.98 | | 439.96 | 6,506.21 | 2.65 | 455.62 | 6,964.48 | 13,928.96 | |
| 123 | 4.3.19 | | 2363.19 | V-Notch Weirs | each | 1 | 2.831 | 219.98 | | 219.98 | 1,576.21 | 2.65 | 110.52 | 1,689.38 | 1,689.38 | |
| CONCRETE WORK | | | | | | | | | | | | | | | | |
| 124 | 4.3.20 | | 2363.20 | Concrete | m³ | 9,700 | 3.974 | 302.32 | | 2,932,474.90 | 158.57 | 48.67 | 14.51 | 221.75 | 2,150,975.10 | |
| 124A | 4.3.20A | | 2363.21 | PVC Waterstop - TYPE A (150 mm width) | m | 130 | 0.267 | 21.14 | | 2,748.07 | 11.02 | 0.13 | 0.78 | 11.93 | 1,550.69 | |
| 125 | 4.3.21 | | 2363.22 | PVC Waterstop - TYPE B (225 mm width) | m | 170 | 0.267 | 21.14 | | 3,593.63 | 17.94 | 0.13 | 1.26 | 19.33 | 3,286.57 | |
| 126 | 4.3.22 | | 2363.23 | Hydrophilic Waterstop | m | 0 | | | | | | | | | | |
| 127 | 4.3.23 | | 2363.24 | Bituminous Coating at Contraction Joints | m² | 380 | 0.528 | 39.37 | | 14,960.98 | 14.67 | 0.13 | 1.04 | 15.84 | 6,019.31 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | |
| 128 | 4.3.24 | | 2363.25 | Reinforcement including Dowels | kg | 283,300 | 0.020 | 1.47 | | 417,300.90 | 1.37 | 0.02 | 0.10 | 1.49 | 421,352.09 | |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | | | |
| Supply and Installation of Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | | | |
| 129 | 4.3.25 | | 2363.26 | Galvanized Miscellaneous Steel | kg | 14,850 | 0.040 | 3.24 | | 48,069.45 | 8.62 | 0.34 | 0.63 | 9.58 | 142,322.25 | |
| 130 | 4.3.26 | | 2363.27 | Galvanized Grating | kg | 230 | 0.029 | 2.38 | | 546.71 | 10.29 | 0.25 | 0.74 | 11.27 | 2,592.91 | |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | | | |
| 131 | 4.3.27 | | 2363.28 | Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.) | kg | 110 | 0.040 | 3.24 | | 356.07 | 8.62 | 0.34 | 0.63 | 9.58 | 1,054.24 | |
| 132 | 4.3.28 | | 2363.29 | Anchor Bolts Grade 55 ASTM F1554 | kg | 1,350 | 0.059 | 4.74 | | 6,401.70 | 2.60 | 0.49 | 0.22 | 3.31 | 4,470.73 | |
| ELECTRICAL WORK | | | | | | | | | | | | | | | | |
| 133 | 4.3.29 | | 2363.30 | Exothermic Connections. | each | 100 | 2.400 | 234.24 | | 23,424.00 | 146.48 | 0.00 | 10.25 | 156.74 | 15,673.68 | |
| 133A | 4.3.29A | | 2363.31 | Mechanical Connections | each | 12 | 2.300 | 224.48 | | 2,693.76 | 211.64 | 0.00 | 14.81 | 226.46 | 2,717.47 | |
| 134 | 4.3.30 | | 2363.32 | Embedded Copper Grounding Plates | each | 2 | 4.000 | 390.40 | | 780.80 | 453.87 | 0.00 | 31.77 | 485.64 | 971.29 | |
| 135 | 4.3.31 | | 2363.33 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 300 | 0.414 | 40.42 | | 12,124.80 | 60.28 | 0.00 | 4.22 | 64.50 | 19,349.56 | |
| 136 | 4.3.32 | | 2363.34 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 150 | 0.224 | 21.88 | | 3,282.00 | 27.71 | 0.00 | 1.94 | 29.65 | 4,447.78 | |
| 137 | 4.3.33 | | 2363.35 | Rigid PVC Conduit, size 53mm | m | 5 | 2.000 | 195.20 | | 976.00 | 108.25 | 0.00 | 7.58 | 115.82 | 579.12 | |
| SUB-TOTAL SOUTH TRANSITION DAM | | | | | | | | | | \$ | 3,700,899.38 | | | | \$ | 3,109,661.94 |
| 4.4 2364 SEPARATION WALL | | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | | |
| Foundation Preparation | | | | | | | | | | | | | | | | |
| 138 | 4.4.1 | | 2364.01 | Dental Excavation | m³ | 50 | 0.277 | 22.31 | | 1,115.30 | 7.47 | | 2.62 | 0.71 | 10.80 | 539.82 |
| 139 | 4.4.2 | | 2364.02 | Scaling and Water/Air Jet Cleaning of Bedrock | m² | 900 | 0.124 | 9.85 | | 8,867.70 | 0.72 | | 0.08 | 1.24 | 1,117.08 | |
| 140 | 4.4.3 | | 2364.03 | Dental Concrete | m³ | 130 | 1.846 | 145.44 | | 18,906.55 | 158.80 | 28.11 | 13.08 | 199.99 | 25,999.18 | |
| 141 | 4.4.4 | | 2364.04 | Dry Pack | m³ | 6 | 1.925 | 150.65 | | 903.88 | 246.40 | 30.61 | 19.39 | 296.40 | 1,778.38 | |
| CONCRETE WORK | | | | | | | | | | | | | | | | |
| 142 | 4.4.5 | | 2364.05 | Concrete - Separation Wall | m³ | 10,850 | 4.968 | 375.86 | | 4,078,091.85 | 161.08 | 78.02 | 16.74 | 255.83 | 2,775,738.57 | |
| 143 | 4.4.6 | | 2364.06 | PVC Waterstop - TYPE B (225 mm width) | m | 60 | 0.267 | 21.14 | | 1,268.34 | 17.94 | 0.13 | 1.26 | 19.33 | 1,159.97 | |
| 144 | 4.4.7 | | 2364.07 | Hydrophilic Waterstop | m | 15 | 0.267 | 21.14 | | 317.09 | 21.48 | 0.13 | 1.51 | 23.12 | 346.81 | |
| 145 | 4.4.8 | | 2364.08 | Bituminous Coating at Contraction Joint | m² | 810 | 0.528 | 39.37 | | 31,890.51 | 14.67 | 0.13 | 1.04 | 15.84 | 12,830.63 | |
| SUB-TOTAL SEPARATION WALL | | | | | | | | | | \$ | 4,141,361.22 | | | | \$ | 2,819,510.43 |

Exhibit 2 - Appendix A –Option 2 - FPTCL
Schedule of Price Breakdown
Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | | | | |
|--|--------------------------|----------|---------|--|-----------------|-------------------------------|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------|------------------------------------|--|--|--|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | | | |
| 5.2400 | | | | SPILLWAY | | | | | | | | | | | | | |
| 5.1 | | | | 2410 SPILLWAY STRUCTURE | | | | | | | | | | | | | |
| | | | | CIVIL WORK | | | | | | | | | | | | | |
| | | | | Excavation and Backfill | | | | | | | | | | | | | |
| 146 | 5.1.1 | | 2410.01 | Fill Excavation (Sand Layer for Winter Protection) | m³ | 7,600 | 0.339 | 27.20 | 206,704.80 | 7.52 | 7.67 | 1.06 | 16.26 | 123,295.74 | | | |
| | | | | Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | |
| 147 | 5.1.2 | | 2410.02 | Grouting Holes | m | 650 | 0.889 | 72.56 | 47,165.95 | 37.13 | 118.99 | 10.93 | 167.05 | 108,579.37 | | | |
| 148 | 5.1.3 | | 2410.03 | Grouting - Successful Connections | each | 130 | 3.375 | 275.50 | 35,814.74 | 109.47 | 480.84 | 41.32 | 631.63 | 82,112.40 | | | |
| 149 | 5.1.4 | | 2410.04 | Dry Cement for Grouting | kg | 23,000 | 0.045 | 3.67 | 84,479.00 | 1.09 | 1.50 | 0.18 | 2.77 | 63,764.51 | | | |
| 150 | 5.1.5 | | 2410.05 | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 | | | |
| 151 | 5.1.6 | | 2410.06 | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 | | | |
| 152 | 5.1.7 | | 2410.07 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 | | | |
| 153 | 5.1.8 | | 2410.08 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | | | |
| 154 | 5.1.9 | | 2410.09 | Rotary/Percussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 | | | |
| 155 | 5.1.10 | | 2410.10 | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 | | | |
| | | | | Instrumentation | | | | | | | | | | | | | |
| 156 | 5.1.11 | | 2410.11 | Survey Monuments | each | 6 | 1.810 | 147.75 | 886.50 | 331.00 | 66.00 | 27.79 | 424.79 | 2,548.74 | | | |
| | | | | Foundation preparation | | | | | | | | | | | | | |
| 157 | 5.1.12 | | 2410.12 | Scaling and Water/Air Jet Cleaning of rock foundation | m² | 5,100 | 0.124 | 9.85 | 50,250.30 | 0.72 | 0.45 | 0.08 | 1.24 | 6,330.12 | | | |
| | | | | CONCRETE WORK | | | | | | | | | | | | | |
| | | | | Spillway and Related Structures including Retaining Walls | | | | | | | | | | | | | |
| 158 | 5.1.13 | | 2410.13 | Concrete - Slabs | m³ | 13,100 | 2.728 | 207.29 | 2,715,459.70 | 187.77 | 35.25 | 15.61 | 238.63 | 3,126,099.37 | | | |
| 159 | 5.1.14 | | 2410.14 | Concrete - Piers and Walls | m³ | 32,900 | 7.469 | 557.93 | 18,356,028.60 | 216.35 | 111.58 | 22.96 | 350.89 | 11,544,154.99 | | | |
| 160 | 5.1.15 | | 2410.15 | Concrete - Rollways | m³ | 19,500 | 2.689 | 204.43 | 3,986,424.00 | 198.35 | 33.80 | 16.25 | 248.40 | 4,843,851.48 | | | |
| 161 | 5.1.16 | | 2410.16 | Demolition of Slab for Rollway Key | m³ | 200 | 0.474 | 37.50 | 7,499.40 | 7.51 | 3.22 | 0.75 | 11.48 | 2,296.01 | | | |
| 162 | 5.1.17 | | 2410.17 | Overbreak Concrete | m³ | 3,000 | 2.078 | 159.68 | 479,040.00 | 196.06 | 26.34 | 15.57 | 237.96 | 713,884.74 | | | |
| 163 | 5.1.18 | | 2410.18 | Grout | m³ | 20 | 2.337 | 184.95 | 3,699.08 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 26,454.72 | | | |
| 164 | 5.1.19 | | 2410.19 | PVC Waterstop - TYPE A (150 mm width) | m | 4,100 | 0.267 | 21.14 | 86,669.90 | 11.02 | 0.13 | 0.78 | 11.93 | 48,906.28 | | | |
| 164A | 5.1.19A | | 2410.20 | PVC Waterstop - TYPE B (225 mm width) | m | 1,000 | 0.267 | 21.14 | 21,139.00 | 17.94 | 0.13 | 1.26 | 19.33 | 19,332.76 | | | |
| 164B | 5.1.19B | | 2410.21 | PVC Waterstop - TYPE D | m | 550 | 0.267 | 21.14 | 11,626.45 | 40.69 | 0.13 | 2.86 | 43.68 | 24,021.39 | | | |
| 165 | 5.1.20 | | 2410.22 | Hydrophilic Waterstop | m | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| 166 | 5.1.21 | | 2410.23 | Bituminous Coating at Contraction Joint | m² | 950 | 0.528 | 39.37 | 37,402.45 | 14.67 | 0.13 | 1.04 | 15.84 | 15,048.27 | | | |
| | | | | REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | |
| 167 | 5.1.22 | | 2410.24 | Reinforcement including Dowels | kg | 3,850,000 | 0.020 | 1.47 | 5,671,050.00 | 1.37 | 0.02 | 0.10 | 1.49 | 5,726,105.00 | | | |
| 168 | 5.1.23 | | 2410.25 | Drill Holes and Grouting for Rock Dowels | m | 1,200 | 2.244 | 170.72 | 204,864.00 | 20.95 | 6.81 | 1.94 | 29.69 | 35,631.00 | | | |
| 169 | 5.1.24 | | 2410.26 | Threaded Rebars with Couplers | kg | 117,000 | 0.044 | 3.31 | 387,387.00 | 2.75 | 0.08 | 0.20 | 3.02 | 353,411.37 | | | |
| | | | | STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | |
| | | | | Non Embedded Miscellaneous Metal | | | | | | | | | | | | | |
| 170 | 5.1.25 | | 2410.27 | Non Embedded Galvanized Miscellaneous Steel | kg | 10,900 | 0.059 | 4.74 | 51,687.80 | 9.55 | 0.49 | 0.70 | 10.74 | 117,073.19 | | | |
| 171 | 5.1.26 | | 2410.28 | Non Embedded Galvanized Grating | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | | | | Embedded Miscellaneous Metals | | | | | | | | | | | | | |
| 172 | 5.1.27 | | 2410.29 | Embedded Galvanized Miscellaneous Steel (Frames, LShapes, Sleeves, etc.) | kg | 430 | 0.040 | 3.24 | 1,391.91 | 8.62 | 0.34 | 0.63 | 9.58 | 4,121.12 | | | |
| 173 | 5.1.28 | | 2410.30 | Bulkhead Formwork - Rollway Joints | kg | 13,500 | 0.045 | 3.67 | 49,504.50 | 9.11 | 0.38 | 0.66 | 10.15 | 137,039.72 | | | |
| | | | | Crane Rails including Fastening System and Accessories | | | | | | | | | | | | | |
| 174 | 5.1.29 | | 2410.31 | Rails for Trash Cleaning System | m | 150 | 1.400 | 113.04 | 16,955.25 | 348.68 | 12.34 | 25.27 | 386.29 | 57,943.55 | | | |
| 175 | 5.1.30 | | 2410.32 | Anchor Bolts Grade 55 ASTM F1554 | kg | 2,520 | 0.059 | 4.74 | 11,949.84 | 2.60 | 0.49 | 0.22 | 3.31 | 8,435.36 | | | |
| | | | | ANCHORS AND EMBEDDED PARTS PROVIDED BY OTHERS | | | | | | | | | | | | | |
| 176 | 5.1.31 | | 2410.33 | Anchors, Templates and Angles in Primary Concrete for Gates and Rollways (5 Sets) | kg | 91,135 | 0.016 | 1.31 | 119,204.58 | 4.12 | 0.15 | 0.30 | 4.56 | 415,801.61 | | | |
| 177 | 5.1.32 | | 2410.34 | Anchors, Templates and Angles in Primary Concrete for Upstream Temporary Stoplogs (5 Sets) | kg | 75,160 | 0.016 | 1.31 | 98,309.28 | 4.12 | 0.15 | 0.30 | 4.56 | 342,916.00 | | | |
| 178 | 5.1.33 | | 2410.35 | Anchors, Templates and Angles in Primary Concrete for Upstream Permanent Stoplogs (5 Sets) | kg | 42,492 | 0.016 | 1.31 | 55,579.54 | 4.12 | 0.15 | 0.30 | 4.56 | 193,868.90 | | | |
| 179 | 5.1.34 | | 2410.36 | Anchors, Templates and Angles in Primary Concrete for Downstream Stoplogs (5 Sets) | kg | 15,497 | 0.016 | 1.31 | 20,270.08 | 4.12 | 0.15 | 0.30 | 4.56 | 70,704.75 | | | |
| 180 | 5.1.35 | | 2410.37 | Anchors and Templates in Primary Concrete for Hoist Towers (5 Sets) | kg | 430 | 0.016 | 1.31 | 562.44 | 4.12 | 0.15 | 0.30 | 4.56 | 1,961.87 | | | |
| 181 | 5.1.36 | | 2410.38 | Anchors and Templates in Primary Concrete for Walkways (5 Sets) | kg | 200 | 0.016 | 1.31 | 261.60 | 4.12 | 0.15 | 0.30 | 4.56 | 912.50 | | | |
| 182 | 5.1.37 | | 2410.39 | Liner Plates in sides of Piers | each | 10 | 1.472 | 118.89 | 1,188.85 | 374.03 | 13.43 | 27.12 | 414.58 | 4,145.79 | | | |
| | | | | ELECTRICAL WORK | | | | | | | | | | | | | |
| 183 | 5.1.38 | | 2410.40 | Exothermic Connections. | each | 290 | 2.400 | 234.24 | 67,929.60 | 146.48 | 0.00 | 10.25 | 156.74 | 45,453.67 | | | |
| 183A | 5.1.38A | | 2410.41 | Mechanical Connections | each | 45 | 2.300 | 224.48 | 10,101.60 | 211.64 | 0.00 | 14.81 | 226.46 | 10,190.51 | | | |
| 184 | 5.1.39 | | 2410.42 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 2,200 | 0.414 | 40.42 | 88,915.20 | 60.28 | 0.00 | 4.22 | 64.50 | 141,896.77 | | | |
| 185 | 5.1.40 | | 2410.43 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 550 | 0.224 | 21.88 | 12,034.00 | 27.71 | 0.00 | 1.94 | 29.65 | 16,308.51 | | | |
| 186 | 5.1.41 | | 2410.44 | Rigid Galvanized Steel Conduits, size 53mm | m | 50 | 9.600 | 936.96 | 46,848.00 | 49.00 | 40.00 | 6.23 | 95.23 | 4,761.50 | | | |
| | | | | SUB-TOTAL SPILLWAY STRUCTURE | | | | | | | | | | | | | |
| | | | | 5.2 2411 SPILLWAY BRIDGES | | | | | | | | | | | | | |
| | | | | CONCRETE WORK | | | | | | | | | | | | | |
| 187 | 5.2.1 | | 2411.01 | Concrete - Slab on Bridge Deck | m³ | 460 | 3.596 | 274.03 | 126,051.50 | 189.44 | 26.50 | 15.12 | 231.06 | 106,287.14 | | | |
| | | | | REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | |
| 188 | 5.2.2 | | 2411.02 | Reinforcement including Dowels | kg | 122,150 | 0.020 | 1.47 | 179,926.95 | 1.37 | 0.02 | 0.10 | 1.49 | 181,673.70 | | | |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | | |
|--|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--|----------------------------------|-------------------------------|-------------------------------|--------------|
| ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G=(D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | | |
| Structural Steel | | | | | | | | | | | | | | | |
| 189 | 5.2.3 | | 2411.03 | Structural Steel - Painted/Galvanized Sections | kg | 263,500 | 0.021 | 1.73 | 456,382.00 | 5.46 | 0.19 | 0.40 | 6.04 | 1,591,579.53 | |
| Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | | |
| 190 | 5.2.4 | | 2411.04 | Non Embedded Galvanized Miscellaneous Steel | kg | 58,500 | 0.059 | 4.74 | 277,407.00 | 9.55 | 0.49 | 0.70 | 10.74 | 628,328.61 | |
| 191 | 5.2.5 | | 2411.05 | Non Embedded Galvanized Grating | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | | |
| 192 | 5.2.6 | | 2411.06 | Embedded Galvanized Miscellaneous Steel (Frames, L Shapes, Sleeves, etc...) | kg | 12,850 | 0.040 | 3.24 | 41,595.45 | 8.62 | 0.34 | 0.63 | 9.58 | 123,154.27 | |
| 192A | 5.2.6A | | 2411.07 | Shear Studs | kg | 3,420 | 0.059 | 4.74 | 16,217.64 | 2.55 | 0.49 | 0.21 | 3.25 | 11,131.89 | |
| 193 | 5.2.7 | | 2411.08 | Elastomeric Bearing Pads | each | 110 | 0.331 | 26.59 | 2,924.79 | 64.31 | 2.64 | 4.69 | 71.64 | 7,880.37 | |
| 194 | 5.2.8 | | 2411.09 | Bridge Expansion Joints | each | 12 | 0.331 | 26.59 | 319.07 | 64.92 | 2.64 | 4.73 | 72.29 | 867.47 | |
| 195 | 5.2.9 | | 2411.10 | Anchor Bolts Grade 55 ASTM F1554 | kg | 13,000 | 0.059 | 4.74 | 61,646.00 | 2.60 | 0.49 | 0.22 | 3.31 | 43,051.45 | |
| SUB-TOTAL SPILLWAY BRIDGES | | | | | | | | | | | | | | | |
| | | | | | | | | | | \$ | 1,162,470.40 | | | \$ | 2,693,954.43 |
| 5.3 2430 SPILLWAY DISCHARGE CHANNEL - PHASE 1 | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 196 | 5.3.1 | | 2430.01 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 2,880 | 0.124 | 9.85 | 28,376.64 | 0.72 | 0.45 | 0.08 | 1.24 | 3,574.66 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 197 | 5.3.2 | | 2430.02 | Concrete - Slabs (CVC) | m ³ | 1,725 | 4.159 | 319.87 | 551,777.48 | 211.00 | 51.99 | 18.41 | 281.39 | 485,404.56 | |
| 198 | 5.3.3 | | 2430.03 | Concrete - Walls (CVC) | m ³ | 700 | 6.660 | 500.87 | 350,606.90 | 213.97 | 99.04 | 21.91 | 334.92 | 234,445.99 | |
| 199 | 5.3.4 | | 2430.04 | Overbreak Concrete | m ³ | 1,600 | 1.964 | 154.00 | 246,401.60 | 206.39 | 27.26 | 16.36 | 250.00 | 400,001.95 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 200 | 5.3.5 | | 2430.05 | Reinforcement including Dowels | kg | 145,000 | 0.020 | 1.47 | 213,585.00 | 1.37 | 0.02 | 0.10 | 1.49 | 215,658.50 | |
| 201 | 5.3.6 | | 2430.06 | Drill Holes and Grouting for Rock Dowels | m | 3,650 | 2.244 | 170.72 | 623,128.00 | 20.95 | 6.81 | 1.94 | 29.69 | 108,377.63 | |
| SUB-TOTAL SPILLWAY DISCHARGE CHANNEL - PHASE 1 | | | | | | | | | | | | | | | |
| | | | | | | | | | | \$ | 2,013,875.62 | | | \$ | 1,447,463.28 |
| 5.4 2431 SPILLWAY DISCHARGE CHANNEL - PHASE 2 - OPTIONAL | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 202 | 5.4.1 | | 2431.01 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 1,440 | 0.124 | 9.85 | 14,188.32 | 0.72 | 0.45 | 0.08 | 1.24 | 1,787.33 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 203 | 5.4.2 | | 2431.02 | Concrete - Slabs (CVC) | m ³ | 750 | 2.728 | 207.29 | 155,465.25 | 187.77 | 35.25 | 15.61 | 238.63 | 178,975.16 | |
| 204 | 5.4.3 | | 2431.03 | Concrete - Walls (CVC) | m ³ | 300 | 9.686 | 695.53 | 208,659.60 | 228.89 | 193.36 | 29.56 | 451.81 | 135,542.57 | |
| 205 | 5.4.4 | | 2431.04 | Overbreak Concrete | m ³ | 700 | 2.078 | 159.68 | 111,776.00 | 196.06 | 26.34 | 15.57 | 237.96 | 166,573.11 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 206 | 5.4.5 | | 2431.05 | Reinforcement including Dowels | kg | 90,000 | 0.020 | 1.47 | 132,570.00 | 1.37 | 0.02 | 0.10 | 1.49 | 133,857.00 | |
| 207 | 5.4.6 | | 2431.06 | Drill Holes and Grouting for Rock Dowels | m | 1,900 | 2.244 | 170.72 | 324,368.00 | 20.95 | 6.81 | 1.94 | 29.69 | 56,415.75 | |
| SUB-TOTAL SPILLWAY DISCHARGE CHANNEL - PHASE 2 | | | | | | | | | | | | | | | |
| | | | | | | | | | | \$ | 947,027.17 | | | \$ | 673,150.91 |
| 5.5 2432 SPILLWAY DISCHARGE CHANNEL - PHASE 3 - OPTIONAL | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 208 | 5.5.1 | | 2432.01 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 3,400 | 0.124 | 9.85 | 33,500.20 | 0.72 | 0.45 | 0.08 | 1.24 | 4,220.08 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 209 | 5.5.2 | | 2432.02 | Concrete - Slabs (CVC) | m ³ | 2,000 | 2.728 | 207.29 | 414,574.00 | 187.77 | 35.25 | 15.61 | 238.63 | 477,267.08 | |
| 210 | 5.5.3 | | 2432.03 | Concrete - Walls (CVC) | m ³ | 200 | 9.686 | 695.53 | 139,106.40 | 228.89 | 193.36 | 29.56 | 451.81 | 90,361.71 | |
| 211 | 5.5.4 | | 2432.04 | Overbreak Concrete | m ³ | 2,000 | 2.078 | 159.68 | 319,360.00 | 196.06 | 26.34 | 15.57 | 237.96 | 475,923.16 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 212 | 5.5.5 | | 2432.05 | Reinforcement including Dowels | kg | 160,000 | 0.020 | 1.47 | 235,680.00 | 1.37 | 0.02 | 0.10 | 1.49 | 237,968.00 | |
| 213 | 5.5.6 | | 2432.06 | Drill Holes and Grouting for Rock Dowels | m | 4,600 | 2.244 | 170.72 | 785,312.00 | 20.95 | 6.81 | 1.94 | 29.69 | 136,585.50 | |
| SUB-TOTAL SPILLWAY DISCHARGE CHANNEL - PHASE 3 | | | | | | | | | | | | | | | |
| | | | | | | | | | | \$ | 1,927,532.60 | | | \$ | 1,422,325.53 |
| 6 3200 INTAKE | | | | | | | | | | | | | | | |
| 6.1 3220 INTAKE STRUCTURE | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | | |
| 214 | 6.1.1 | | 3220.01 | Grouting Holes | m | 2,000 | 0.889 | 72.56 | 145,126.00 | 37.13 | 118.99 | 10.93 | 167.05 | 334,090.38 | |
| 215 | 6.1.2 | | 3220.02 | Grouting - Successful Connections | each | 400 | 3.375 | 275.50 | 110,199.20 | 109.47 | 480.84 | 41.32 | 631.63 | 252,653.54 | |
| 216 | 6.1.3 | | 3220.03 | Dry Cement for grouting | kg | 70,000 | 0.045 | 3.67 | 257,110.00 | 1.09 | 1.50 | 0.18 | 2.77 | 194,065.90 | |
| 217 | 6.1.4 | | 3220.04 | Water Pressure Tests (Lugeon) | hour | 8 | 10.060 | 821.20 | 6,569.58 | 29.00 | 565.50 | 41.62 | 636.12 | 5,088.92 | |
| 218 | 6.1.5 | | 3220.05 | Water Pressure Tests - Successful Connections | each | 20 | 1.450 | 118.36 | 2,367.28 | 120.00 | 57.00 | 12.39 | 189.39 | 3,787.80 | |
| 219 | 6.1.6 | | 3220.06 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 | |
| 220 | 6.1.7 | | 3220.07 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | |
| 221 | 6.1.8 | | 3220.08 | Rotary/Percussion Drill Check Holes | m | 50 | 0.690 | 56.33 | 2,816.25 | 117.00 | 19.50 | 9.56 | 146.06 | 7,302.75 | |
| 222 | 6.1.9 | | 3220.09 | Cored (Diamond drill) holes | m | 50 | 2.680 | 218.77 | 10,938.40 | 390.00 | 32.50 | 29.56 | 452.08 | 22,663.75 | |
| 223 | 6.1.10 | | 3220.10 | Drainage Holes | m | 800 | 0.740 | 60.41 | 48,324.80 | 108.00 | 9.00 | 8.19 | 125.19 | 100,152.00 | |
| 224 | 6.1.11 | | 3220.11 | PVC Caps for Drainage Holes | each | 50 | 0.820 | 66.94 | 3,346.85 | 150.00 | 30.00 | 12.60 | 192.60 | 9,630.00 | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 225 | 6.1.12 | | 3220.12 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 4,900 | 0.124 | 9.85 | 48,279.70 | 0.72 | 0.45 | 0.08 | 1.24 | 6,081.88 | |
| Geotechnical Instrumentation | | | | | | | | | | | | | | | |
| 226 | 6.1.13 | | 3220.13 | Survey Monuments | each | 4 | 1.810 | 147.75 | 591.00 | 331.00 | 66.00 | 27.79 | 424.79 | 1,699.16 | |
| 227 | 6.1.14 | | 3220.14 | V-Notch Weirs | each | 2 | 2.831 | 219.98 | 439.96 | 1,576.21 | 2.65 | 110.52 | 1,689.38 | 3,378.76 | |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | | |
|--|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--|----------------------------------|--------------------------------|-------------------------------|---------------|
| ISSUED FOR: AGREEMENT | | | | DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| CONCRETE INTAKE & GATE HOIST BUILDING | | | | | | | | | | | | | | | |
| 228 | 6.1.15 | 3220.15 | | Concrete - Substructure below El. 45.5 m | m ² | 143,305 | 4.615 | 350.33 | 50,204,613.87 | 183.57 | 62.10 | 17.20 | 262.87 | 37,670,754.45 | |
| 229 | 6.1.16 | 3220.16 | | Concrete - Gate Hoist Building and Elevator Room above El. 45.5 m | m ² | 1,646 | 9.934 | 744.03 | 1,224,678.32 | 192.27 | 113.91 | 21.43 | 327.61 | 539,243.29 | |
| 230 | 6.1.17 | 3220.17 | | Overbreak Concrete | m ² | 3,000 | 1.991 | 151.59 | 454,767.00 | 182.81 | 27.24 | 14.70 | 224.75 | 674,263.71 | |
| 231 | 6.1.18 | 3220.18 | | Grout | m ³ | 30 | 2.337 | 184.95 | 5,548.62 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 39,682.08 | |
| 232 | 6.1.19 | 3220.19 | | PVC Waterstop - TYPE A (150 mm width) | m | 8,611 | 0.267 | 21.14 | 182,027.93 | 11.02 | 0.13 | 0.78 | 11.93 | 102,715.11 | |
| 233 | 6.1.20 | 3220.20 | | PVC Waterstop - TYPE B (225 mm width) | m | 876 | 0.267 | 21.14 | 18,517.76 | 17.94 | 0.13 | 1.26 | 19.33 | 16,935.50 | |
| 234 | 6.1.21 | 3220.21 | | Sealing of Joints | m | 100 | 0.267 | 21.14 | 2,113.90 | 7.29 | 0.13 | 0.52 | 7.94 | 793.73 | |
| 235 | 6.1.22 | 3220.22 | | Bituminous Coating at Construction Joints | m ² | 6,020 | 0.528 | 39.37 | 237,013.42 | 14.67 | 0.13 | 1.04 | 15.84 | 95,358.49 | |
| 235A | 6.1.22A | 3220.23 | | Elastomeric Polyurea Membrane | m ² | 5,803 | 0.564 | 44.34 | 257,299.22 | 88.28 | 0.45 | 6.21 | 94.94 | 550,918.37 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 236 | 6.1.23 | 3220.24 | | Reinforcement including Dowels | kg | 10,647,650 | 0.025 | 1.92 | 20,400,897.40 | 1.54 | 0.20 | 0.12 | 1.86 | 19,801,008.80 | |
| INSTALLATION OF ANCHORS AND EMBEDDED PARTS PROVIDED BY OTHERS | | | | | | | | | | | | | | | |
| 237 | 6.1.24 | 3220.25 | | Anchors, Templates and Angles in Primary Concrete for Intake Gates (12 Sets) | kg | 173,672 | 0.016 | 1.30 | 225,773.60 | 2.17 | 0.18 | 0.16 | 2.51 | 435,769.10 | |
| 238 | 6.1.25 | 3220.26 | | Anchors and Templates in Primary Concrete for Intake Trashracks (12 Sets) | kg | 82,000 | 0.016 | 1.30 | 106,600.00 | 2.17 | 0.18 | 0.16 | 2.51 | 205,750.30 | |
| 239 | 6.1.26 | 3220.27 | | Anchors, Templates and Angles in Primary Concrete for Intake Stoplogs (12 Sets) | kg | 151,021 | 0.016 | 1.30 | 196,327.30 | 2.17 | 0.18 | 0.16 | 2.51 | 378,934.34 | |
| INTAKE - ELECTRICAL WORK | | | | | | | | | | | | | | | |
| 240 | 6.2.1 | 3290.01 | | Exothermic Connections. | each | 600 | 2.400 | 234.24 | 140,544.00 | 146.48 | 0.00 | 10.25 | 156.74 | 94,042.09 | |
| 240A | 6.2.1A | 3290.02 | | Mechanical Connections | each | 104 | 2.300 | 224.48 | 23,345.92 | 211.64 | 0.00 | 14.81 | 226.46 | 23,551.41 | |
| 241 | 6.2.2 | 3290.03 | | Embedded Copper Grounding Plates | each | 6 | 4.000 | 390.40 | 2,342.40 | 453.87 | 0.00 | 31.77 | 485.64 | 2,913.86 | |
| 242 | 6.2.3 | 3290.04 | | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 2,100 | 0.414 | 40.42 | 84,873.60 | 60.28 | 0.00 | 4.22 | 64.50 | 135,446.91 | |
| 243 | 6.2.4 | 3290.05 | | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 1,900 | 0.224 | 21.88 | 41,572.00 | 27.71 | 0.00 | 1.94 | 29.65 | 56,338.50 | |
| 243A | 6.2.5 | 3290.06 | | Rigid PVC Conduit, size 35mm | m | 9 | 1.500 | 146.40 | 1,317.60 | 66.31 | 0.00 | 4.64 | 70.95 | 638.58 | |
| 243B | 6.2.6 | 3290.07 | | Rigid PVC Conduit, size 78mm | m | 26 | 1.050 | 102.48 | 2,049.60 | 75.29 | 0.00 | 5.27 | 80.56 | 1,611.25 | |
| 243C | 6.2.7 | 3290.06 | | Rigid PVC Conduit, size 129mm | m | 300 | 5.400 | 527.04 | 158,112.00 | 95.00 | 30.00 | 8.75 | 133.75 | 40,125.00 | |
| Heat Tracing of Drains | | | | | | | | | | | | | | | |
| 243D | 6.2.8 | 3290.07 | | Heat Tracing Cable plus Accessories | m | 224 | 1.800 | 140.89 | 31,560.03 | 182.13 | 0.00 | 12.75 | 194.88 | 43,653.88 | |
| 243E | 6.2.9 | 3290.08 | | Heat Tracing Controllers | each | 16 | 9.000 | 704.47 | 11,271.46 | 1,368.17 | 0.00 | 95.77 | 1,463.94 | 23,423.10 | |
| 243E | 6.2.9 | 3290.08 | | Heat Tracing Controllers | each | 16 | 9.000 | 704.47 | 11,271.46 | 1,368.17 | 0.00 | 95.77 | 1,463.94 | 23,423.10 | |
| SUB-TOTAL INTAKE STRUCTURE | | | | | | | | | \$ | 74,653,744.40 | | | | \$ | 61,886,016.18 |
| POWERHOUSE | | | | | | | | | | | | | | | |
| SUBSTRUCTURE | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | | |
| 244 | 7.1.1 | 3310.01 | | Grouting Holes | m | 800 | 0.889 | 72.56 | 58,050.40 | 37.13 | 118.99 | 10.93 | 167.05 | 133,636.15 | |
| 245 | 7.1.2 | 3310.02 | | Grouting - Successful Connections | each | 160 | 3.375 | 275.50 | 44,079.68 | 109.47 | 480.84 | 41.32 | 631.63 | 101,061.41 | |
| 246 | 7.1.3 | 3310.03 | | Dry Cement for Grouting | kg | 28,000 | 0.045 | 3.67 | 102,844.00 | 1.09 | 1.50 | 0.18 | 2.77 | 77,626.36 | |
| 247 | 7.1.4 | 3310.04 | | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 | |
| 248 | 7.1.5 | 3310.05 | | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 | |
| 249 | 7.1.6 | 3310.06 | | Uplift Gauges | m | 25 | 1.060 | 86.53 | 2,163.20 | 180.00 | 30.00 | 14.70 | 224.70 | 5,617.50 | |
| 250 | 7.1.7 | 3310.07 | | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | |
| 251 | 7.1.8 | 3310.08 | | Rotary/Per percussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 | |
| 252 | 7.1.9 | 3310.09 | | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 253 | 7.1.10 | 3310.10 | | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 10,400 | 0.124 | 9.85 | 102,471.20 | 0.72 | 0.45 | 0.08 | 1.24 | 12,908.48 | |
| Trench for Interconnection Cables and Pipes | | | | | | | | | | | | | | | |
| 254 | 7.1.11 | 3310.11 | | Excavation and Backfill | LS | 1 | 4,632.948 | 369,237.21 | 369,237.21 | 72,617.97 | 45,957.12 | 8,300.26 | 126,875.34 | 126,875.34 | |
| 255 | 7.1.12 | 3310.12 | | Ductbank | LS | 1 | 6,012.412 | 433,959.01 | 433,959.01 | 111,829.00 | 7,614.31 | 8,361.03 | 127,804.35 | 127,804.35 | |
| 256 | 7.1.13 | 3310.13 | | Manholes | each | 3 | 2.308 | 175.13 | 525.38 | 456.02 | 2.89 | 32.12 | 491.03 | 1,473.09 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 257 | 7.1.14 | 3310.14 | | Concrete - Powerhouse Substructure below El. 6.5 m | m ² | 131,135 | 3.628 | 277.69 | 36,414,615.88 | 180.80 | 73.57 | 17.81 | 272.17 | 35,691,646.33 | |
| 258 | 7.1.15 | 3310.15 | | Concrete - Substructure between lines 6 and 7, including Sump Pit, Shafts for Stair & Elevator up to El. 45.5m | m ² | 14,882 | 10.543 | 790.85 | 11,769,429.70 | 193.05 | 137.54 | 23.14 | 353.73 | 5,264,276.98 | |
| 259 | 7.1.16 | 3310.16 | | Concrete - Slabs and Walls between El. 6.5 and 15.5, including North and South Service Bays, Slab on grade, Basins and Bases for GSU transformer up to El. 16.8 m. Air vent enclosures on Powerhouse tailrace deck and North Service Bay. Access enclosure to stair no. 8 and Oil/Water separator enclosure. | m ² | 6,692 | 9.971 | 748.36 | 5,008,051.89 | 191.17 | 131.23 | 22.57 | 344.96 | 2,308,497.21 | |
| 260 | 7.1.17 | 3310.17 | | Concrete - Slab on Steel Deck including Mezzanines | m ² | 3,718 | 1.839 | 144.83 | 538,481.66 | 187.97 | 36.83 | 15.74 | 240.53 | 894,296.93 | |
| 261 | 7.1.18 | 3310.18 | | Secondary Concrete of Draft Tube Cone Steel liner | m ² | 2,420 | 4.032 | 305.06 | 738,233.10 | 169.91 | 207.60 | 26.43 | 403.94 | 977,529.57 | |
| 262 | 7.1.19 | 3310.19 | | Overbreak Concrete | m ² | 8,500 | 1.970 | 155.47 | 1,321,469.50 | 184.58 | 39.47 | 15.68 | 239.74 | 2,037,752.94 | |
| 263 | 7.1.20 | 3310.20 | | Grout | m ³ | 15 | 2.337 | 184.95 | 2,774.31 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 19,841.04 | |
| 264 | 7.1.21 | 3310.21 | | PVC Waterstop - TYPE A (150 mm width) | m | 9,746 | 0.267 | 21.14 | 206,020.69 | 11.02 | 0.13 | 0.78 | 11.93 | 116,253.80 | |
| 265 | 7.1.22 | 3310.22 | | PVC Waterstop - TYPE B (225 mm width) | m | 1,404 | 0.267 | 21.14 | 29,679.16 | 17.94 | 0.13 | 1.26 | 19.33 | 27,143.20 | |
| 265A | 7.1.22A | 3310.23 | | PVC Waterstop - TYPE C (225 mm width) | m | 25 | 0.267 | 21.14 | 528.48 | 17.94 | 0.13 | 1.26 | 19.33 | 483.32 | |
| 266 | 7.1.23 | 3310.24 | | Metallic Waterstop | m | 27 | 0.267 | 21.14 | 570.75 | 33.59 | 0.13 | 2.36 | 36.08 | 974.11 | |
| 267 | 7.1.24 | 3310.25 | | Sealing of Joints | m | 300 | 0.267 | 21.14 | 6,341.70 | 7.29 | 0.13 | 0.52 | 7.94 | 2,381.18 | |
| 268 | 7.1.25 | 3310.26 | | Polyethylene Foam Rod | m | 140 | 0.267 | 21.14 | 2,959.46 | 7.19 | 0.13 | 0.51 | 7.83 | 1,096.24 | |
| 269 | 7.1.26 | 3310.27 | | Asphalt Impregnated Fibre Board | m ² | 70 | 0.528 | 39.37 | 2,755.97 | 320.69 | 0.13 | 22.46 | 343.28 | 24,029.27 | |
| 270 | 7.1.27 | 3310.28 | | Bituminous Coating at Construction Joint | m ² | 6,300 | 0.528 | 39.37 | 248,037.30 | 14.67 | 0.13 | 1.04 | 15.84 | 99,793.76 | |
| 271 | 7.1.28 | 3310.29 | | Soldrain 500 from Texel/Geosol | m ² | 170 | - | 0.00 | 0.00 | 9.89 | 0.00 | 0.69 | 10.58 | 1,798.99 | |
| 271A | 7.1.28A | 3310.30 | | Elastomeric Polyurea Membrane | m ² | 678 | 0.564 | 44.34 | 30,061.84 | 88.28 | 0.45 | 6.21 | 94.94 | 64,367.16 | |
| 271B | 7.1.28B | 3310.31 | | Polyflex 202 Membrane | m ² | 2,400 | 0.714 | 56.08 | 134,592.00 | 109.87 | 0.45 | 7.72 | 118.04 | 283,291.49 | |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | | | |
|--|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--|----------------------------------|-------------------------------|-------------------------------|---------------|---------------|
| ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G=(D+E+F) | TOTAL PRICE (\$ CAD) H= A X G | | |
| Fire Walls at Tailrace Deck (Transformer Deck) | | | | | | | | | | | | | | | | |
| 272 | 7.1.29 | | 3310.32 | Prefabricated Concrete Longitudinal Sandwich Fire Walls (Refer to attached sketches) | m ² | 2,520 | 0.531 | 42.88 | | 108,065.16 | 1,187.91 | 5.57 | 83.54 | 1,277.03 | 3,218,107.56 | |
| 273 | 7.1.30 | | 3310.33 | Prefabricated Transversal Concrete Fire Walls | m ² | 860 | 0.177 | 14.29 | | 12,292.84 | 991.97 | 1.86 | 69.57 | 1,063.40 | 914,521.45 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | |
| 274 | 7.1.31 | | 3310.34 | Reinforcement including Dowels | kg | 10,918,631 | 0.025 | 1.92 | | 20,920,097.00 | 1.54 | 0.20 | 0.12 | 1.86 | 20,304,941.33 | |
| 275 | 7.1.32 | | 3310.35 | Drill Holes and Grouting for Rock Dowels | m | 700 | 2.244 | 170.72 | | 119,504.00 | 20.95 | 6.81 | 1.94 | 29.69 | 20,784.75 | |
| 276 | 7.1.33 | | 3310.36 | Drill Holes for Anchors Diam. 25 mm. with Epoxy Adhesive HIT-RE-500 | m | 100 | 2.244 | 170.72 | | 17,072.00 | 20.95 | 6.81 | 1.94 | 29.69 | 2,969.25 | |
| 277 | 7.1.34 | | 3310.37 | Threaded Rebar (Dia. 35 mm) with Couplers | kg | 800 | 0.023 | 1.75 | | 1,400.00 | 1.38 | 0.01 | 0.10 | 1.48 | 1,182.99 | |
| INSTALLATION OF ANCHORS AND EMBEDDED PARTS PROVIDED BY OTHERS | | | | | | | | | | | | | | | | |
| 278 | 7.1.35 | | 3310.38 | Anchors, Templates and Angles in Primary Concrete for Draft Tube Stoplogs (8 Sets) | kg | 55,370 | 0.016 | 1.30 | | 71,981.00 | 2.17 | 0.18 | 0.16 | 2.51 | 138,931.64 | |
| 279 | 7.1.36 | | 3310.39 | Anchors and Embedded Parts in Primary Concrete for T/G Units | kg | 64,000 | 0.016 | 1.30 | | 83,200.00 | 2.17 | 0.18 | 0.16 | 2.51 | 160,585.60 | |
| 279A | 7.1.37 | | 3310.40 | Installation of the lower portion of the circular passage for all 4 T/G Units - Optional (Refer to attached sketches) | kg | 59,200 | 0.061 | 4.93 | | 291,678.40 | 0.68 | 0.88 | 0.11 | 1.67 | 99,133.36 | |
| SUB-TOTAL POWERHOUSE - SUBSTRUCTURE | | | | | | | | | | \$ | 79,206,442.22 | | | | \$ | 73,287,874.24 |
| 7.2 SUPERSTRUCTURE (Intake and Powerhouse) | | | | | | | | | | | | | | | | |
| 3320 STRUCTURAL STEEL | | | | | | | | | | | | | | | | |
| Beams - Rolled Sections, Painted | | | | | | | | | | | | | | | | |
| 280 | 7.2.1 | | 3320.01 | Beams Under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, girt channels, steel connections for prefab concrete panels and building attachment steel to upstream wall) | kg | 618,443 | 0.024 | 1.94 | | 1,196,687.21 | 5.54 | 0.26 | 0.41 | 6.20 | 3,832,101.65 | |
| 281 | 7.2.2 | | 3320.02 | Beams From 61 to 150 kg/m | kg | 359,270 | 0.019 | 1.51 | | 541,779.16 | 5.04 | 0.20 | 0.37 | 5.61 | 2,015,892.71 | |
| 282 | 7.2.3 | | 3320.03 | Beams Over 150 kg/m | kg | 316,266 | 0.016 | 1.29 | | 409,248.20 | 4.53 | 0.17 | 0.33 | 5.03 | 1,592,193.74 | |
| 282A | 7.2.3A | | 3320.04 | W Beam Stiffener (For Generator Floor Beams) | kg | 34,000 | 0.066 | 5.37 | | 182,410.00 | 17.10 | 0.70 | 1.25 | 19.05 | 647,709.52 | |
| 282B | 7.2.3B | | 3320.05 | W Shape Columns - Rolled Sections, Painted | kg | 11,200 | 0.048 | 3.87 | | 43,332.80 | 14.12 | 0.51 | 1.02 | 15.65 | 175,313.94 | |
| 283 | 7.2.4 | | 3320.06 | W Shape Columns Under 60 kg/m | kg | 1,697 | 0.024 | 1.94 | | 3,283.70 | 6.73 | 0.26 | 0.49 | 7.47 | 12,681.48 | |
| 284 | 7.2.5 | | 3320.07 | W Shape Columns from 61 to 150 kg/m | kg | 89,054 | 0.019 | 1.51 | | 134,293.43 | 5.59 | 0.20 | 0.41 | 6.19 | 551,525.67 | |
| 285 | 7.2.6 | | 3320.08 | W Shape Columns Over 150 kg/m | kg | 216,296 | 0.017 | 1.38 | | 297,839.59 | 5.22 | 0.23 | 0.38 | 5.83 | 1,261,330.12 | |
| Grade WT Beams - Rolled Sections, Galvanized | | | | | | | | | | | | | | | | |
| 285A | 7.2.6A | | 3320.09 | Grade WT Beams Under 60 kg/m | kg | 1,700 | 0.024 | 1.94 | | 3,289.50 | 19.49 | 0.26 | 1.38 | 21.13 | 35,925.25 | |
| 285B | 7.2.6B | | 3320.10 | Grade WT Beams From 61 to 150 kg/m | kg | 34,000 | 0.019 | 1.51 | | 51,272.00 | 11.60 | 0.20 | 0.83 | 12.63 | 429,502.28 | |
| 285C | 7.2.6C | | 3320.11 | Grade WT Beams Over 150 kg/m | kg | 267,300 | 0.022 | 1.75 | | 468,042.30 | 7.67 | 0.28 | 0.56 | 8.51 | 2,273,787.45 | |
| 285D | 7.2.6D | | 3320.12 | Grade WT Beams Bearing Plates | kg | 15,800 | 0.048 | 3.87 | | 61,130.20 | 14.12 | 0.51 | 1.02 | 15.65 | 247,317.87 | |
| 285E | 7.2.6E | | 3320.13 | Grade WT Beams Stiffener | kg | 11,200 | 0.066 | 5.37 | | 60,088.00 | 17.10 | 0.70 | 1.25 | 19.05 | 213,363.14 | |
| W Beams - Rolled Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | | | |
| 286 | 7.2.7 | | 3320.14 | W Beams Under 60 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 287 | 7.2.8 | | 3320.15 | W Beams from 61 to 150 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 288 | 7.2.9 | | 3320.16 | W Beams Over 150 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 289 | 7.2.10 | | 3320.17 | W Beam Stiffeners and Bent Plate at Openings | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 290 | 7.2.11 | | 3320.18 | W Beam Base Plate | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| WT Beams - Rolled Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | | | |
| 291 | 7.2.12 | | 3320.19 | WT Beams Under 60 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 292 | 7.2.13 | | 3320.20 | WT Beams Over 150 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 293 | 7.2.14 | | 3320.21 | WT Beam base plate | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Columns - Rolled Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | | | |
| 294 | 7.2.15 | | 3320.22 | Columns from 61 to 150 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 295 | 7.2.16 | | 3320.23 | Columns Over 150 kg/m | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Columns, Built-up Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | | | |
| 296 | 7.2.17 | | 3320.24 | Main Building Columns, in Rolled Shapes & Plates, Welded Continuously. | kg | 0 | - | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Columns & Girders - Built up Sections, Painted | | | | | | | | | | | | | | | | |
| 297 | 7.2.18 | | 3320.25 | Crane Girders in Welded Plates, 700-800 kg/m | kg | 385,449 | 0.013 | 1.08 | | 416,670.13 | 5.38 | 0.15 | 0.39 | 5.92 | 2,281,151.41 | |
| 298 | 7.2.19 | | 3320.26 | Main Building Columns, in Rolled Shapes & Plates, Welded Continuously. | kg | 875,566 | 0.013 | 1.08 | | 946,486.85 | 5.26 | 0.15 | 0.38 | 5.78 | 5,060,894.06 | |
| Trusses, Painted | | | | | | | | | | | | | | | | |
| 299 | 7.2.20 | | 3320.27 | Roof trusses and Wind Trusses | kg | 275,598 | 0.024 | 1.94 | | 533,281.75 | 5.71 | 0.26 | 0.42 | 6.38 | 1,758,721.89 | |
| Bracings, Struts and HSS Columns Painted | | | | | | | | | | | | | | | | |
| 300 | 7.2.21 | | 3320.28 | Horizontal Bracing (WT Shapes) for roof and mezzanines | kg | 76,964 | 0.029 | 2.36 | | 181,865.93 | 6.24 | 0.31 | 0.46 | 7.01 | 539,402.19 | |
| 301 | 7.2.22 | | 3320.29 | HSS Square Shapes for Vertical Bracing, Horizontal Bracing, Struts and HSS Columns (HSS Columns not covered in price item 304 (ref 7.2.25)) | kg | 189,724 | 0.029 | 2.36 | | 448,317.59 | 6.19 | 0.31 | 0.45 | 6.95 | 1,318,920.74 | |
| Nelson Studs, not painted | | | | | | | | | | | | | | | | |
| 302 | 7.2.23 | | 3320.30 | Nelson Studs (Dia. 19 and 13 mm) Welded Mezzanine Beams | kg | 3,305 | 0.058 | 4.71 | | 15,576.47 | 14.94 | 0.61 | 1.09 | 16.64 | 54,997.32 | |
| 303 | 7.2.24 | | 3320.31 | Nelson Studs (Dia. 19 and 22 mm) Welded to Generator Floor Beams | kg | 15,000 | 0.058 | 4.71 | | 70,695.00 | 10.09 | 0.61 | 0.75 | 11.45 | 171,751.05 | |
| Stairs, Hot dip Galvanized | | | | | | | | | | | | | | | | |
| 304 | 7.2.25 | | 3320.32 | Stair Stringers in Channels (incl. Galvanized Beams and Columns for the stairs) | kg | 62,410 | 0.093 | 7.56 | | 472,069.24 | 10.28 | 1.09 | 0.80 | 12.16 | 758,873.15 | |
| 305 | 7.2.26 | | 3320.33 | Stair Treads in Grating (308 mm by 914 mm), hot dip galvanized, Bent Checkered Plate Nosing, type "FLOWFORGE" by FISHER & LUDLOW or equal | each | 1,624 | 1.588 | 128.23 | | 208,237.40 | 118.93 | 16.33 | 9.47 | 144.72 | 235,033.38 | |
| Landings and Walkways, Hot dip Galvanized | | | | | | | | | | | | | | | | |
| 306 | 7.2.27 | | 3320.34 | Gratings for Landings at Stairs, type 24-102, Bearing Bars (of approx. 32x4.8) by FISHER and LUDLOW or equal | kg | 48,820 | 0.029 | 2.36 | | 115,361.66 | 12.80 | 0.31 | 0.92 | 14.03 | 684,780.08 | |
| 307 | 7.2.28 | | 3320.35 | Bent Plate at Floor 15.5 | kg | 53,000 | 0.029 | 2.36 | | 125,239.00 | 3.97 | 0.31 | 0.30 | 4.58 | 242,888.93 | |
| 308 | 7.2.29 | | 3320.36 | Steel Angle L102x102x7.9 at Floor 15.5 | kg | 2,400 | 0.029 | 2.36 | | 5,671.20 | 5.03 | 0.31 | 0.37 | 5.72 | 13,723.39 | |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|--|--------------------------|----------|---------|---|-----------------|-------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= [D+E+F] | TOTAL PRICE (\$ CAD) H= A x G |
| Steel Decking | | | | | | | | | | | | | | |
| 309 | 7.2.30 | | 3320.37 | Roof Deck type RD 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (Building roof and 10m door roof) | m² | 8,250 | 0.362 | 28.40 | 234,333.00 | 112.63 | 13.00 | 8.79 | 134.42 | 1,108,954.69 |
| 310 | 7.2.31 | | 3320.38 | Roof Deck type RD 938 (t=0.76mm) by VICWEST, Galvanized Z 275 (mezzanine roof) | m² | 1,640 | 0.362 | 28.40 | 46,582.56 | 109.21 | 13.00 | 8.55 | 130.77 | 214,459.37 |
| 310A | 7.2.31A | | 3320.39 | Roof Deck type RD 306 (t=1.22mm) VICWEST, Galvanized Z 275 (Main entrance roof) | m² | 245 | 0.774 | 60.77 | 14,887.67 | 169.86 | 15.50 | 12.98 | 198.34 | 48,592.91 |
| 311 | 7.2.32 | | 3320.40 | Floor Deck type HB 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 - Exterior (cover 3) | m² | 1,550 | 0.774 | 60.77 | 94,187.30 | 169.86 | 15.50 | 12.98 | 198.34 | 307,424.54 |
| 311A | 7.2.32A | | 3320.41 | Floor Deck type HB 938 (t=0.91mm) by VICWEST, Galvanized Z 275 (Stair 10 roof) | m² | 55 | 0.362 | 28.40 | 1,562.22 | 112.63 | 13.00 | 8.79 | 134.42 | 7,393.03 |
| 311B | 7.2.32B | | 3320.42 | Floor Deck type HB 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (mezzanine floors) | m² | 3,550 | 0.362 | 28.40 | 100,834.20 | 112.63 | 13.00 | 8.79 | 134.42 | 477,186.56 |
| 312 | 7.2.33 | | 3320.43 | Floor Deck type RD 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 (Generator Floor) | m² | 5,150 | 0.774 | 60.77 | 312,944.90 | 187.17 | 15.50 | 14.19 | 216.86 | 1,116,829.57 |
| 312A | 7.2.33A | | 3320.44 | Cladding CL508 (t=0.76mm) by VICWEST, Galvanized Z 275 (Cover C8) | m² | 275 | 0.362 | 28.40 | 7,811.10 | 162.68 | 13.00 | 12.30 | 187.98 | 51,693.55 |
| Crane Rails Accessories | | | | | | | | | | | | | | |
| 313 | 7.2.34 | | 3320.45 | Tie-Back Linkage Assemblies by GANTREX, type TL123GP, includes Plates, Angles, Shims, "O" Rings, Bolts and Permanent Lubrication | each | 96 | 0.184 | 14.87 | 1,427.33 | 1,514.53 | 2.03 | 106.16 | 1,622.71 | 155,780.43 |
| Anchor Bolts | | | | | | | | | | | | | | |
| 314 | 7.2.35 | | 3320.46 | Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 19 and 25 mm), U-Bolt assembly and Nuts A563, hot dip galvanized, by PORTLAND or equal | kg | 5,960 | 0.058 | 4.71 | 28,089.48 | 2.68 | 0.61 | 0.23 | 3.52 | 20,980.99 |
| 315 | 7.2.36 | | 3320.47 | Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 28, 38 and 51 mm), Nuts A563, hot dip galvanized, by PORTLAND or equal | kg | 22,800 | 0.058 | 4.71 | 107,456.40 | 3.21 | 0.61 | 0.27 | 4.09 | 93,217.12 |
| Guardrails in Pipes, Hot dip Galvanized | | | | | | | | | | | | | | |
| 316 | 7.2.37 | | 3320.48 | Guardrails in Pipes for Mezzanine, Stairs and Covers, with Kick Plate, Posts in DN32 XS and Railings in DN32-Std (in miscellaneous and Structural Steel Drawings) | kg | 47,250 | 0.064 | 5.14 | 242,912.25 | 12.97 | 0.66 | 0.95 | 14.59 | 689,300.96 |
| 317 | 7.2.38 | | 3320.49 | Guardrails of Intake Deck (W and HSS shapes) | kg | 17,750 | 0.080 | 6.42 | 114,008.25 | 14.94 | 0.83 | 1.10 | 16.87 | 299,435.76 |
| Hilti Bolts | | | | | | | | | | | | | | |
| 318 | 7.2.39 | | 3320.50 | Hilti KWIK Bolts 3 (Dia. 25 mm) 304 SS | each | 525 | 0.000 | 0.03 | 17.33 | 32.82 | 0.00 | 2.30 | 35.12 | 18,438.88 |
| 319 | 7.2.40 | | 3320.51 | Hilti KWIK Bolts 3 (Dia. 10 mm and 19 mm) hot dip galvanized | each | 630 | 0.000 | 0.02 | 12.60 | 6.63 | 0.00 | 0.46 | 7.10 | 4,472.65 |
| 320 | 7.2.41 | | 3320.52 | Hilti Adhesive Anchors, HAS rods (Dia. 19 mm) HIT RE-500 , hot dip galvanized | each | 200 | 0.000 | 0.02 | 4.00 | 13.26 | 0.00 | 0.93 | 14.19 | 2,838.28 |
| Joists | | | | | | | | | | | | | | |
| 321 | 7.2.42 | | 3320.53 | Steel Joists, by CANAM or equal | kg | 2,100 | 0.058 | 4.71 | 9,897.30 | 6.86 | 0.61 | 0.52 | 7.99 | 16,776.10 |
| Elastomeric pad | | | | | | | | | | | | | | |
| 322 | 7.2.43 | | 3320.54 | Elastomeric Pad at Attachment Axis E | each | 40 | 0.330 | 26.46 | 1,058.32 | 82.55 | 3.18 | 6.00 | 91.73 | 3,669.33 |
| Intumescent Paint (for application on Steel Beams and Columns) | | | | | | | | | | | | | | |
| 322A | 7.2.43A | | 3320.55 | Intumescent Paint | m² | 3,550 | 3.017 | 236.94 | 841,119.25 | 185.19 | 0.13 | 12.97 | 198.29 | 703,930.42 |
| MISCELLANEOUS STEEL | | | | | | | | | | | | | | |
| Miscellaneous Structural Steel, Hot dip Galvanized | | | | | | | | | | | | | | |
| 323 | 7.2.44 | | 3320.56 | Miscellaneous Structural Steel - Embedded | kg | 104,968 | 0.040 | 3.22 | 337,682.06 | 8.67 | 0.42 | 0.64 | 9.73 | 1,020,837.94 |
| 324 | 7.2.45 | | 3320.57 | Miscellaneous Structural Steel, L Shapes, Plates, Eye bolts, Crosby Type Pieces, Bent Plates and W shapes in miscellaneous steel section drawings | kg | 189,908 | 0.058 | 4.71 | 895,036.40 | 9.00 | 0.61 | 0.67 | 10.29 | 1,953,579.80 |
| 325 | 7.2.46 | | 3320.58 | Checkered Plates | kg | 102,014 | 0.016 | 1.29 | 132,006.12 | 6.25 | 0.17 | 0.45 | 6.88 | 701,648.21 |
| 326 | 7.2.47 | | 3320.59 | Embedded angles related to typical detail for stel deck on dwg : MFA-SN-CD-3320-ST-DD-0005-01 | kg | 832 | 0.040 | 3.22 | 2,676.54 | 8.92 | 0.42 | 0.65 | 9.99 | 8,315.73 |
| 327 | 7.2.48 | | 3320.60 | Contraction joint related to section E-E on the drawing : MFA-SN-CD-3300-CV-DD-0003-01 | m | 40 | 0.267 | 21.14 | 845.56 | 20.99 | 0.13 | 1.48 | 22.60 | 903.85 |
| 328 | 7.2.49 | | 3320.61 | Contraction joint related to section F-F on the drawing: MFA-SN-CD-3300-CV-DD-0003-01 | m | 50 | 0.267 | 21.14 | 1,056.95 | 25.89 | 0.13 | 1.82 | 27.84 | 1,391.96 |
| 329 | 7.2.50 | | 3320.62 | Contraction joint related to section K-K on the drawing: MFA-SN-CD-3300-CV-DD-0003-01 | m | 122 | 0.267 | 21.14 | 2,578.96 | 28.54 | 0.13 | 2.01 | 30.67 | 3,742.32 |
| Miscellaneous Stainless steel | | | | | | | | | | | | | | |
| 330 | 7.2.51 | | 3320.63 | Miscellaneous Stainless Steel for MK1, MK2 and Covers C9, C10, C11 and C11A | kg | 4,721 | 0.132 | 10.70 | 50,499.03 | 13.20 | 1.37 | 1.02 | 15.59 | 73,597.72 |
| Crane Rails, rust preventive coating | | | | | | | | | | | | | | |
| 331 | 7.2.52 | | 3320.64 | Rail type BETH 175, includes Splices and Aluminothermic Welds, for Crane Girders and for Trash Cleaner | m | 720 | 1.391 | 112.35 | 80,894.16 | 349.24 | 15.14 | 25.51 | 389.89 | 280,718.35 |
| 332 | 7.2.53 | | 3320.65 | Rail type Beth 104 with Aluminothermic Welds | m | 315 | 0.827 | 66.78 | 21,036.65 | 175.30 | 9.00 | 12.90 | 197.21 | 62,120.00 |
| Crane Rails Accessories | | | | | | | | | | | | | | |
| 333 | 7.2.54 | | 3320.66 | GANTREX Rail Clip type WELDLOK 43 with Rubber Nosing for Crane Girders and Trash Cleaner | each | 2,160 | 0.056 | 4.55 | 9,830.16 | 46.95 | 0.63 | 3.33 | 50.91 | 109,962.27 |
| 334 | 7.2.55 | | 3320.67 | GANTREX rail clip type WELDLOK 24 with Rubber Nosing, hot dip galvanized | each | 1,060 | 0.015 | 1.18 | 1,253.98 | 22.88 | 0.16 | 1.61 | 24.66 | 26,135.37 |
| Ladders, Hot dip Galvanized | | | | | | | | | | | | | | |
| 335 | 7.2.56 | | 3320.68 | Ladders with or without Cage, and Self-Closing Gates (in miscellaneous and structural steel drawings) | kg | 15,000 | 0.053 | 4.29 | 64,290.00 | 5.32 | 0.56 | 0.41 | 6.28 | 94,229.55 |
| Plates, Painted / Hot dip Galvanized | | | | | | | | | | | | | | |
| 336 | 7.2.57 | | 3320.69 | Plates 350 x 20, Under Rails BETH 175, Painted with Primer Plates 300 x 20 Under Rails BETH 175, hot dip galvanized | kg | 35,500 | 0.066 | 5.35 | 190,067.00 | 7.89 | 0.69 | 0.60 | 9.18 | 325,797.35 |
| Landings, Walkways and Covers, Hot dip Galvanized | | | | | | | | | | | | | | |
| 337 | 7.2.58 | | 3320.70 | All types of grating not covered in price item 305 (ref 7.2.26) and price item 306 (ref 7.2.27) (in miscellaneous and structural steel drawings) | kg | 81,748 | 0.066 | 5.35 | 437,678.79 | 6.44 | 0.69 | 0.50 | 7.63 | 624,013.55 |
| 338 | 7.2.59 | | 3320.71 | Grating at EL 45.5 on Intake Deck, Special Order | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Exhibit 2 - Appendix A –Option 2 - FPTCL
Schedule of Price Breakdown
Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|--|--------------------------|----------|---------|---|-----------------|-------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|----------------------------------|-------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G=(D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | | | | | | | |
| ARCHITECTURE WORKS | | | | | | | | | | | | | | |
| METAL CLADDING & ROOFING | | | | | | | | | | | | | | |
| 339 | 7.2.60 | | 3320.72 | Insulated Metal Wall Panels (Sandwiched Panels. VicWest & Kingspan; refer to them as Composite Metal Building Panels) | m² | 7,323 | 2,919 | 233.17 | 1,707,467.30 | 210.81 | 67.29 | 19.47 | 297.56 | 2,179,028.29 |
| 340 | 7.2.61 | | 3320.73 | Preformed Metal Siding (Vertical Metal Siding fastened to Steel Stud Wall) | m² | 508 | 3,473 | 276.68 | 140,554.96 | 159.91 | 21.16 | 12.68 | 193.75 | 98,425.67 |
| 341 | 7.2.62 | | 3320.74 | Preformed Metal Siding & Framing (for Snow Baffles over louvers) | m² | 112 | 3,473 | 276.68 | 30,988.50 | 148.99 | 21.16 | 11.91 | 182.07 | 20,391.50 |
| 342 | 7.2.63 | | 3320.75 | Metal Liner Panel, Insulation & Z-Bars (attached to interior of pre-cast concrete fire wall) | m² | 460 | 2,919 | 233.17 | 107,255.90 | 229.14 | 87.29 | 22.15 | 338.58 | 155,745.86 |
| 343 | 7.2.64 | | 3320.76 | Modified Bituminous Membrane Roofing System | m² | 8,416 | 0.221 | 17.87 | 150,377.09 | 327.85 | 2.32 | 23.11 | 353.28 | 2,973,220.47 |
| 344 | 7.2.65 | | 3320.77 | Sealants (including for roofing & wall systems and pre-cast concrete fire wall joints) | LS | 1 | 639.876 | 51,666.28 | 51,666.28 | 14,350.84 | 6,715.50 | 1,474.64 | 22,540.98 | 22,540.98 |
| 345 | 7.2.66 | | 3320.78 | Signage (Nalcor & Logo, Muskrat Falls Generating Station) | LS | 1 | 195.178 | 15,759.51 | 15,759.51 | 4,819.86 | 2,048.39 | 480.78 | 7,349.03 | 7,349.03 |
| 346 | 7.2.67 | | 3320.79 | Roof Curb for Exhaust Fans | each | 9 | 13.277 | 1,072.08 | 9,648.68 | 1,242.08 | 139.35 | 96.70 | 1,478.13 | 13,303.13 |
| 347 | 7.2.68 | | 3320.80 | Roof Curb for Exhaust Hood | each | 1 | 13.277 | 1,072.08 | 1,072.08 | 1,870.36 | 139.35 | 140.68 | 2,150.38 | 2,150.38 |
| 348 | 7.2.69 | | 3320.81 | Roof Curb for Chimney | each | 1 | 13.277 | 1,072.08 | 1,189.39 | 139.35 | 93.01 | 1,421.75 | 1,421.75 | |
| 349 | 7.2.70 | | 3320.82 | Flashing for Roof Drains | each | 25 | 1.593 | 128.65 | 3,216.23 | 254.77 | 16.72 | 19.00 | 7,262.44 | 7,262.44 |
| 350 | 7.2.71 | | 3320.83 | Flashing for Plumbing Vents | each | 6 | 1.593 | 128.65 | 771.89 | 166.97 | 16.72 | 12.86 | 196.55 | 1,179.25 |
| OPENINGS | | | | | | | | | | | | | | |
| 351 | 7.2.72 | | 3320.84 | Exterior Metal Insulated Doors - Double | each | 7 | 7,966 | 643.25 | 4,502.72 | 1,157.65 | 83.61 | 86.89 | 9,297.04 | 9,297.04 |
| 352 | 7.2.73 | | 3320.85 | Exterior Metal Insulated Doors - Single | each | 14 | 5,311 | 428.83 | 6,003.62 | 919.84 | 55.74 | 68.29 | 1,043.87 | 14,614.20 |
| 353 | 7.2.74 | | 3320.86 | Aluminium Entrance Door (Insulated) | each | 1 | 7,966 | 643.25 | 6,432.50 | 1,902.69 | 83.64 | 139.04 | 2,125.34 | 2,125.34 |
| 354 | 7.2.75 | | 3320.87 | Sectional Metal Insulated Door | each | 2 | 26,555 | 2,144.15 | 4,288.30 | 8,221.80 | 278.69 | 595.03 | 9,095.53 | 18,191.06 |
| 355 | 7.2.76 | | 3320.88 | Aluminium Windows (32 Windows max) | m² | 154 | 5,311 | 428.83 | 66,039.82 | 1,635.61 | 55.74 | 118.39 | 1,809.75 | 278,701.15 |
| 356 | 7.2.77 | | 3320.89 | Concrete Unit Masonry (Exterior) | m² | 21 | 5,311 | 428.83 | 9,005.43 | 429.66 | 55.74 | 33.98 | 519.37 | 10,906.80 |
| FIRE & SAFETY ITEMS | | | | | | | | | | | | | | |
| 357 | 7.2.78 | | 3320.90 | Roof Anchors & Safety Restraints | each | 45 | 6.639 | 536.04 | 24,121.71 | 476.67 | 69.67 | 38.24 | 584.59 | 26,306.46 |
| SPECIAL DOORS | | | | | | | | | | | | | | |
| 358 | 7.2.79 | | 3320.91 | Multi-Leaf Vertical Lift Metal Insulated Door | each | 1 | 5,311 | 428.83 | 428.83 | 2,938.65 | 55.74 | 209.61 | 3,204.00 | 3,204.00 |
| ELECTRICAL WORK | | | | | | | | | | | | | | |
| EXTERIOR BUILDING LIGHTING | | | | | | | | | | | | | | |
| 358A | 7.2.80 | | 3320.92 | Exterior lighting fixtures, HPS, 347 V AC, complete with conduit, junction box, wiring and JB mounting plates | each | 23 | 51,000 | 4,977.60 | 114,484.80 | 3,944.04 | 650.00 | 321.58 | 4,915.62 | 113,059.23 |
| ROOF METAL SLEEVE | | | | | | | | | | | | | | |
| 358B | 7.2.81 | | 3320.93 | Metal sleeves for cable passage for roof exhaust fans | each | 9 | 9,500 | 927.20 | 8,344.80 | 615.65 | 110.00 | 50.80 | 776.45 | 6,988.03 |
| SLEEVE IN METAL SIDING WALL OF THE POWERHOUSE | | | | | | | | | | | | | | |
| 358C | 7.2.82 | | 3320.94 | Sleeve in metal siding wall complete with conduit, junction box and JB mounting plates as per detail 1 on DWG MFA-SN-CD-3340-EL-EL-0001-02 | each | 13 | 10,000 | 976.00 | 12,688.00 | 835.33 | 100.00 | 65.47 | 1,000.81 | 13,010.50 |
| 358D | 7.2.83 | | 3320.95 | Sleeve in metal siding wall on the right jamb of the multi-leaf door complete with conduit, junction box and JB mounting plates as per detail 2 on DWG MFA-SN-CD-3340-EL-EL-0001-02 | each | 1 | 20,000 | 1,952.00 | 1,952.00 | 1,265.78 | 100.00 | 95.60 | 1,461.38 | 1,461.38 |
| SUB-TOTAL POWERHOUSE - SUPERSTRUCTURE | | | | | | | | | \$ 13,851,099.86 | | | | | \$ 43,018,035.50 |
| TURBINE GENERATOR AND ANCILLARIES | | | | | | | | | | | | | | |
| ELECTRICAL WORK | | | | | | | | | | | | | | |
| 359 | 8.1.1 | 3400 | 3430 | Exothermic Connections | each | 1225 | 2,400 | 234.24 | 286,944.00 | 146.48 | 0.00 | 10.25 | 156.74 | 192,002.59 |
| 359A | 8.1.1A | | 3430.02 | Mechanical Connections | each | 40 | 2,300 | 224.48 | 8,979.20 | 211.64 | 0.00 | 14.81 | 226.46 | 9,058.23 |
| 360 | 8.1.2 | | 3430.03 | Embedded Copper Grounding Plates | each | 65 | 4,000 | 390.40 | 25,376.00 | 453.87 | 0.00 | 31.77 | 485.64 | 31,566.80 |
| 361 | 8.1.3 | | 3430.04 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 5,200 | 0.414 | 40.42 | 210,163.20 | 60.28 | 0.00 | 4.22 | 64.50 | 335,392.36 |
| 362 | 8.1.4 | | 3430.05 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 1,800 | 0.224 | 21.88 | 39,384.00 | 27.71 | 0.00 | 1.94 | 29.65 | 53,373.31 |
| 362A | 8.1.4A | | 3430.06 | Rigid PVC Conduit, size 53mm | m | 15 | 2,000 | 195.20 | 2,928.00 | 108.25 | 0.00 | 7.58 | 115.82 | 1,737.35 |
| 363 | 8.1.5 | | 3430.07 | Rigid PVC Conduit, size 78mm | m | 500 | 1,050 | 102.48 | 5,124.00 | 75.29 | 0.00 | 5.27 | 80.56 | 4,028.12 |
| 364 | 8.1.6 | | 3430.08 | Rigid PVC Conduit, size 129mm | m | 325 | 2,200 | 214.72 | 69,784.00 | 155.89 | 25.00 | 12.66 | 193.55 | 62,903.80 |
| 365 | 8.1.7 | | 3430.09 | Rigid Galvanized Steel Conduits, size 103 mm | m | 100 | 5,400 | 527.04 | 52,704.00 | 95.00 | 30.00 | 8.75 | 133.75 | 13,375.00 |
| 366 | 8.1.8 | | 3430.10 | High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp | each | 46 | 21,850 | 2,132.56 | 98,097.76 | 1,933.80 | 0.00 | 135.37 | 2,069.17 | 95,181.73 |
| 367 | 8.1.9 | | 3430.11 | High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp and Quartz auxiliary lamp | each | 23 | 22,604 | 2,206.13 | 50,741.06 | 1,961.94 | 0.00 | 137.34 | 2,099.27 | 48,283.27 |
| 368 | 8.1.10 | | 3430.12 | Panelboard, 600/347 Vac, 3 phase, 4 wire, 42 circuit, surface mounted sprinkler-proof enclosure, complete with breakers as indicated | each | 3 | 35,000 | 3,416.00 | 10,248.00 | 6,037.77 | 0.00 | 422.64 | 6,460.42 | 19,381.25 |
| 369 | 8.1.11 | | 3430.13 | Dry-Type Transformer, 75 kVA, 600-600/347 Vac | each | 3 | 39,087 | 3,814.93 | 11,444.80 | 9,117.28 | 0.00 | 638.21 | 9,755.49 | 29,266.46 |
| 370 | 8.1.12 | | 3430.14 | Disconnect Switch, 600 V, 3 phase, complete with fuses | each | 3 | 12,322 | 1,202.63 | 3,607.88 | 1,581.01 | 0.00 | 110.67 | 1,691.68 | 5,075.03 |
| 371 | 8.1.13 | | 3430.15 | Lighting Contactor Control Panel | each | 2 | 16,063 | 1,567.74 | 3,135.48 | 2,437.34 | 0.00 | 170.61 | 2,607.95 | 5,215.90 |
| 372 | 8.1.14 | | 3430.16 | ON-OFF Pushbutton Control Station | each | 4 | 11,377 | 1,110.35 | 4,441.39 | 1,039.28 | 0.00 | 72.75 | 1,112.03 | 4,448.13 |
| 373 | 8.1.15 | | 3430.17 | Teck Cables, 2C # 12 AWG | m | 900 | 0.204 | 19.89 | 17,901.90 | 17.63 | 0.00 | 1.23 | 18.87 | 16,981.54 |
| 374 | 8.1.16 | | 3430.18 | Teck Cables, 3C # 12 AWG | m | 500 | 0.221 | 21.56 | 10,779.00 | 18.71 | 0.00 | 1.31 | 20.02 | 10,008.78 |
| 375 | 8.1.17 | | 3430.19 | Teck Cables, 2C # 10 AWG | m | 400 | 0.221 | 21.56 | 8,623.20 | 19.78 | 0.00 | 1.38 | 21.16 | 8,465.84 |
| 376 | 8.1.18 | | 3430.20 | Teck Cables, 4C # 10 AWG | m | 500 | 0.272 | 26.51 | 13,255.00 | 25.06 | 0.00 | 1.75 | 26.81 | 13,404.95 |
| 377 | 8.1.19 | | 3430.21 | Temporary Feeder Cables to lighting transformers/panelboards, etc. | LS | 1 | 61,789 | 6,030.64 | 6,030.64 | 4,421.97 | 0.00 | 309.54 | 4,731.51 | 4,731.51 |
| SUB-TOTAL POWERHOUSE - ELECTRICAL WORK | | | | | | | | | \$ 939,692.50 | | | | | \$ 963,881.97 |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | | |
|--|--------------------------|----------|---------|---|------------------------|-------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|----------------------------------|--------------------------------|-------------------------------|--|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| 8.2 | | | | 3440 | MECHANICAL WORK | | | | | | | | | | |
| 378 | 8.2.1 | | 3351 | HVAC System | LS | 1 | 2,164.000 | 187,556.04 | 187,556.04 | 845,720.64 | 33,000.00 | 61,510.44 | 940,231.08 | 940,231.08 | |
| | | | 3351.01 | Pipe and Fittings NPS 6, Piping Specification PA03 | m | 86 | | | | | | | | | |
| | | | 3351.02 | Pipe and Fittings NPS 21, Piping Specification PA03 | m | 81 | | | | | | | | | |
| | | | 3351.03 | Pipe and Fittings NPS 24, Piping Specification PA03 | m | 101 | | | | | | | | | |
| | | | 3351.04 | HVAC Louvers | LS | 1 | | | | | | | | | |
| | | | | | | | | | | | | | | See Note 1 | |
| 379 | 8.2.2 | | 3352 | Domestic Wastewater System | LS | 1 | 9,218.000 | 798,933.28 | 798,933.28 | 1,415,813.91 | 253,100.00 | 116,823.97 | 1,785,737.88 | 1,785,737.88 | |
| | | | 3352.01 | Pipe and Fittings NPS 3, Piping Specification PA04 (HDPE-DR11) | m | 900 | | | | | | | | | |
| | | | 3352.02 | Equipments and Other Components | LS | 1 | | | | | | | | | |
| | | | 3352.03 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | See Note 1 | |
| 380 | 8.2.3 | | 3353 | Wastewater System | LS | 1 | 1,820.000 | 157,741.22 | 157,741.22 | 873,501.11 | 55,000.00 | 64,995.08 | 993,496.19 | 993,496.19 | |
| | | | 3353.01 | Pipe and Fittings NPS 1 1/2, Piping Specification PA01 | m | 2 | | | | | | | | | |
| | | | 3353.02 | Pipe and Fittings NPS 2, Piping Specification PA01 | m | 2 | | | | | | | | | |
| | | | 3353.03 | Pipe and Fittings NPS 3, Piping Specification PA01 | m | 10 | | | | | | | | | |
| | | | 3353.04 | Pipe and Fittings NPS 4, Piping Specification PA01 | m | 29 | | | | | | | | | |
| | | | 3353.05 | Pipe and Fittings NPS 3, Piping Specification PA04 (HDPE-DR11) | m | 160 | | | | | | | | | |
| | | | 3353.06 | Flexible corrugated perforated HDPE Pipe NPS 4, covered With A Geotextile | m | 100 | | | | | | | | | |
| | | | 3353.07 | NPS 4, PERFORATED SOLVENT WELD SEWER PIPE CERTIFIED: CSA B182.1 AND BNQ NQ3624-050 | m | 250 | | | | | | | | See Note 1 | |
| | | | 3353.08 | NPS 4, SOLVENT WELD SEWER PIPE CERTIFIED: CSA B182.1 | m | 35 | | | | | | | | | |
| | | | 3353.09 | Septic Tile Field | LS | 1 | | | | | | | | | |
| | | | 3353.10 | Roof vent | each | 2 | | | | | | | | | |
| | | | 3353.11 | Equipments and Other Components | LS | 1 | | | | | | | | | |
| | | | 3353.12 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | | |
| 381 | 8.2.4 | | 3441 | Low Pressure Compressed Air System | LS | 1 | 235.000 | 20,367.69 | 20,367.69 | 121,060.17 | 30,000.00 | 10,574.21 | 161,634.38 | 161,634.38 | |
| | | | 3441.01 | Pipe and Fittings NPS 2, Piping Specification SB11 | m | 49 | | | | | | | | | |
| | | | 3441.02 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | See Note 1 | |
| 382 | 8.2.5 | | 3443 | Fire Protection System | LS | 1 | 917.000 | 79,477.31 | 79,477.31 | 129,850.75 | 60,000.00 | 13,289.55 | 203,140.31 | 203,140.31 | |
| | | | 3443.01 | Pipe and Fittings NPS 8, Piping Specification CB12 | m | 10 | | | | | | | | | |
| | | | 3443.02 | Pipe and Fittings NPS 10, Piping Specification CB12 | m | 60 | | | | | | | | | |
| | | | 3443.03 | Pipe and Fittings NPS 2 1/2, Piping Specification SB12 | m | 37 | | | | | | | | See Note 1 | |
| | | | 3443.04 | Pipe and Fittings NPS 4, Piping Specification SB12 | m | 2 | | | | | | | | | |
| | | | 3443.05 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | | |
| 383 | 8.2.6 | | 3444 | Clear Water Drainage System | LS | 1 | 18,499.200 | 1,603,344.16 | 1,603,344.16 | 1,934,632.68 | 456,360.00 | 167,369.49 | 2,558,362.17 | 2,558,362.17 | |
| | | | 3444.01 | Pipe and Fittings NPS 3, Piping Specification PA01 | m | 3 | | | | | | | | | |
| | | | 3444.02 | Pipe and Fittings NPS 4, Piping Specification PA01 | m | 121 | | | | | | | | | |
| | | | 3444.03 | Pipe and Fittings NPS 6, Piping Specification PA01 | m | 330 | | | | | | | | | |
| | | | 3444.04 | Pipe and Fittings NPS 8, Piping Specification PA02 | m | 664 | | | | | | | | | |
| | | | 3444.05 | Pipe and Fittings NPS 2, Piping Specification CB11 | m | 79 | | | | | | | | | |
| | | | 3444.06 | Pipe and Fittings NPS 3, Piping Specification CB11 | m | 420 | | | | | | | | | |
| | | | 3444.07 | Pipe and Fittings NPS 4, Piping Specification CB11 | m | 1,146 | | | | | | | | | |
| | | | 3444.08 | Pipe and Fittings NPS 6, Piping Specification CB11 | m | 875 | | | | | | | | | |
| | | | 3444.09 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 149 | | | | | | | | See Note 1 | |
| | | | 3444.10 | Pipe and Fittings NPS 10, Piping Specification CB11 | m | 139 | | | | | | | | | |
| | | | 3444.11 | Pipe and Fittings NPS 12, Piping Specification CB11 | m | 130 | | | | | | | | | |
| | | | 3444.12 | Pipe and Fittings NPS 16, Piping Specification CB11 | m | 19 | | | | | | | | | |
| | | | 3444.13 | Pipe and Fittings NPS 24, Piping Specification CB11 | m | 20 | | | | | | | | | |
| | | | 3444.14 | Equipments and Other Components | LS | 1 | | | | | | | | | |
| | | | 3444.15 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | | |
| | | | 3444.16 | Roof drains and accessories | each | 32 | | | | | | | | | |
| 384 | 8.2.7 | | 3445 | Dewatering System | LS | 1 | 9,009.000 | 780,819.04 | 780,819.04 | 1,260,888.84 | 330,000.00 | 111,362.22 | 1,702,251.06 | 1,702,251.06 | |
| | | | 3445.01 | Pipe and Fittings NPS 3/4, Piping Specification SB11 | m | 1 | | | | | | | | | |
| | | | 3445.02 | Pipe and Fittings NPS 1, Piping Specification SB11 | m | 3 | | | | | | | | | |
| | | | 3445.03 | Pipe and Fittings NPS 2, Piping Specification SB11 | m | 12 | | | | | | | | | |
| | | | 3445.04 | Pipe and Fittings NPS 4, Piping Specification CB11 | m | 32 | | | | | | | | | |
| | | | 3445.05 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 33 | | | | | | | | | |
| | | | 3445.06 | Pipe and Fittings NPS 12, Piping Specification CB11 | m | 242 | | | | | | | | See Note 1 | |
| | | | 3445.07 | Pipe and Fittings NPS 20, Piping Specification CB11 | m | 235 | | | | | | | | | |
| | | | 3445.08 | Pipe and Fittings NPS 24, Piping Specification CB11 | m | 110 | | | | | | | | | |
| | | | 3445.09 | Pipe and Fittings NPS 30, Piping Specification CB11 | m | 39 | | | | | | | | | |
| | | | 3445.10 | Equipment and Other Components | LS | 1 | | | | | | | | | |
| | | | 3445.11 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | | |
| 385 | 8.2.8 | | 3447 | Oil/Water Drainage System | LS | 1 | 3,721.000 | 322,502.79 | 322,502.79 | 443,849.32 | 252,000.00 | 48,709.45 | 744,558.77 | 744,558.77 | |
| | | | 3447.01 | Pipe and Fittings NPS 3, Piping Specification CB11 | m | 9 | | | | | | | | | |
| | | | 3447.02 | Pipe and Fittings NPS 4, Piping Specification CB11 | m | 6 | | | | | | | | | |
| | | | 3447.03 | Pipe and Fittings NPS 6, Piping Specification CB11 | m | 30 | | | | | | | | | |
| | | | 3447.04 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 19 | | | | | | | | | |
| | | | 3447.05 | Pipe and Fittings NPS 14, Piping Specification CB11 | m | 70 | | | | | | | | See Note 1 | |
| | | | 3447.06 | Pipe and Fittings NPS 16, Piping Specification CB11 | m | 146 | | | | | | | | | |
| | | | 3447.07 | Equipments and Other Components | LS | 1 | | | | | | | | | |
| | | | 3447.08 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | | |
| 386 | 8.2.9 | | 3448 | Raw and Cooling Water System | LS | 1 | 2,101.250 | 182,117.44 | 182,117.44 | 265,621.46 | 50,200.00 | 22,107.50 | 337,928.97 | 337,928.97 | |
| | | | 3448.01 | Pipe and Fittings NPS 14, Piping Specification CB11 | m | 243 | | | | | | | | See Note 1 | |

Exhibit 2 - Appendix A –Option 2 - FPTCL
 Schedule of Price Breakdown
 Agreement No: CH0007-001

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--|----------------------------------|--------------------------------|-------------------------------|
| ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS A | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | | | | | | | |
| 387 | 8.2.10 | 3449 | | Service Water System | LS | 1 | 1,642,000 | 142,313.78 | 142,313.78 | 409,384.69 | 174,000.00 | 40,836.93 | 624,221.61 | 624,221.61 |
| | | 3449.01 | | Pipe and Fittings NPS 4, Piping Specification PA04 (HDPE-DR11) | m | 880 | | | | | | | | |
| | | 3449.02 | | Pipe and Fittings NPS 6, Piping Specification CB11 | m | 60 | | | | | | | | |
| | | 3449.03 | | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 67 | | | | | | | | |
| | | 3449.04 | | Pipe and Fittings NPS 3/4, Piping Specification SB11 | m | 36 | | | | | | | | |
| | | 3449.05 | | Pipe and Fittings NPS 2, Piping Specification SB11 | m | 66 | | | | | | | | |
| | | 3449.06 | | Pipe and Fittings NPS 4, Piping Specification SB11 | m | 27 | | | | | | | | |
| | | 3449.07 | | Equipments and Other Components | LS | 1 | | | | | | | | |
| | | 3449.08 | | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 388 | 8.2.11 | 344C | | Piezometer and Water Level System | LS | 1 | 15,346.000 | 1,330,053.17 | 1,330,053.17 | 1,654,021.79 | 157,000.00 | 126,771.53 | 1,937,793.32 | 1,937,793.32 |
| | | 344C.01 | | Pipe and Fittings NPS 6, Piping Specification SA11 | m | 55 | | | | | | | | |
| | | 344C.02 | | Pipe and Fittings NPS 3, Piping Specification SB11 | m | 1,924 | | | | | | | | |
| | | 344C.03 | | Pipe and Fittings NPS 1/2, Piping Specification JD01 | m | 1,924 | | | | | | | | |
| SUB-TOTAL POWERHOUSE - MECHANICAL WORKS | | | | | | | | | | | | | | \$ 11,989,355.74 |
| WORK EXECUTED FOR COMPANY'S OTHER CONTRACTOR | | | | | | | | | | | | | | |
| Supply of Concrete to Company's Other Contractors at the Batch Plant (excluding delivery from the Batch Plant to the Pour Location) | | | | | | | | | | | | | | |
| 389 | 9.1.1 | 3510.01 | | Supply of Secondary Concrete - Class A2 | m³ | 7,500 | 1.18 | 94.74 | 710,580.00 | 179.00 | 22.69 | 14.12 | 215.81 | 1,618,538.18 |
| 390 | 9.1.2 | 3510.02 | | Supply of Concrete - Class A | m³ | 1,000 | 1.18 | 94.74 | 94,744.00 | 179.00 | 22.69 | 14.12 | 215.81 | 215,805.09 |
| 391 | 9.1.3 | 3510.03 | | Supply of Concrete - Class B | m³ | 14,500 | 1.18 | 94.74 | 1,373,788.00 | 159.60 | 22.69 | 12.76 | 195.05 | 2,828,260.38 |
| SUB-TOTAL SUBCONTRACTING WORKS FOR OTHERS | | | | | | | | | | | | | | \$ 4,662,603.65 |
| DISCOUNT PER MEETING OF 14TH SEPTEMBER | | | | | | | | | | | | | | |
| 391A | | | | Discount as per the Minutes of Meeting dated 14 September 2013 between Astaldi Canada Inc. and Nalcor Energy | | | | | \$ (40,000,000.00) | | | | | NA |
| | | | | | | | | | | | | | | \$ (40,000,000.00) |
| (I) - TARGET COST OF LABOUR FOR THE WORK (BASED ON APPROXIMATE QUANTITIES), AS DETAILED IN PRICE ITEMS 1 TO 391A | | | | | | | | | | | | | | \$ 507,598,340.87 |
| (J) - LABOUR PROFIT ON TARGET COST OF LABOUR = (BIDDER'S FACTOR, AS SUBMITTED IN SECTION 1.2.1 OF BIDDER'S PROPOSAL FORM LETTER) X (I) | | | | | | | | | | | | | | \$ 35,531,883.86 |
| (K) - TOTAL ESTIMATED PRICE FOR LABOUR COMPONENT = (I) + (J) | | | | | | | | | | | | | | \$ 543,130,224.73 |
| (L) - ESTIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR (PRICE ITEM 19A) | | | | | | | | | | | | | | 29,057,891.00 |
| (M) - TOTAL LUMP SUMS AND EXTENDED UNIT PRICES FOR NON LABOUR COMPONENT, AS DETAILED IN PRICE ITEMS 1 TO 391, EXCLUDING PRICE ITEM 19A | | | | | | | | | | | | | | \$ 452,104,434.08 |
| (N) - TOTAL ESTIMATED CONTRACT PRICE - (K) + (L) + (M), TAXES EXCLUDED | | | | | | | | | | | | | | \$ 1,024,292,549.81 |
| MISCELLANEOUS - RATE ONLY | | | | | | | | | | | | | | |
| 392 | 10.1.1 | 3610 | | Hilti Adhesive Anchors | | | | | | | | | | N/A |
| | | 3610.01 | | Hilti adhesive anchors, HIT RE-500; HAS rods (Dia. 16 mm), hot dip galvanized | each | 100 | | | | | | | | N/A |
| 393 | 10.1.2 | 3610.02 | | Hilti adhesive anchors, HIT RE-500; HAS rods (Dia. 19 mm), hot dip galvanized | each | 100 | | | | | | | | N/A |
| 394 | 10.1.3 | 3610.03 | | Hilti adhesive anchors, HIT RE-500; HAS rods (Dia. 25 mm), hot dip galvanized | each | 100 | | | | | | | | N/A |
| 395 | 10.2.1 | 3620 | | Precast Sandwich-Insulated Panel | | | | | | | | | | N/A |
| | | 3620.01 | | Precast Sandwich-Insulated Panel | m³ | 2,520 | | | | | | | | N/A |
| Delivery of Concrete to Company's Other Contractors from the Batch Plant to the Pour Location | | | | | | | | | | | | | | |
| 396 | 10.3.1 | 3630 | | Hourly rates for different volumes of Concrete delivered to Company's Other Contractors from the Batch Plant to the Pour Location | | | | | | | | | | N/A |
| | | 3631.01 | | Delivery of 5 m³ of concrete with concrete truck | hour | N/A | | | | | | | | N/A |
| | | 3631.02 | | Delivery of 7.5 m³ of concrete with concrete truck | hour | N/A | | | | | | | | N/A |
| | | 3631.03 | | Delivery of 10 m³ of concrete with concrete truck | hour | N/A | | | | | | | | N/A |

FOR THE LOWER CHURCHILL PROJECT - MUSKRAT FALLS

This Appendix forms part of the Proposal submitted by:

Name of Bidder:

Request For Proposal no: 505573-CH0007

Signature:

Date of Proposal:

Note 1: The quantities inserted by the Engineer are meant to indicate the order of magnitude of the requirements, the Bidder remains responsible for the quantities actually needed and to make any necessary revisions. Any modification request to the Lump Sum price, after Contract award, based on these information will not be considered.

Note 2: If there has been an error in the calculation to establish the total of Column C (Cost of Labour) or of Column H (Total Price), then the figures of the Column B (Manpower Cost/Unit) and Column G (Unit Price) and A (Estimated Quantity) shall prevail.

Note 3: This Document is provided to the bidders in Native Excel File format. It is the bidders responsibility to verify cell formats and formulas.

Exhibit 2 - Appendix B –Option 2 - FPTCL
Monthly Payment Forecast Schedule
Agreement No: CH0007-001

EXHIBIT 2 - APPENDIX B
MONTHLY PAYMENT FORECAST SCHEDULE

Exhibit 2 - Appendix B –Option 2 - FPTCL
 Monthly Payment Forecast Schedule
 Agreement No: CH0007-001

Monthly Payment Forecast Schedule

| Month | Work Progress (1 month lag) | LNTP | LNTP Holdback | Travel allowances | Advance payment | Advance payment repayment | Net Payment |
|---------------|--------------------------------|------------------|------------------|----------------------|--------------------|---------------------------------|----------------------|
| 1-Sep-13 | - | - | - | - | 15,000,000 | - | 15,000,000 |
| 1-Oct-13 | - | 1,895,033 | - | - | - | - | 1,895,033 |
| 1-Nov-13 | - | 5,008,895 | - | - | 87,429,255 | - | 92,438,150 |
| 1-Dec-13 | 12,852,514 | - | 690,393 | 729,929 | - | - | 14,272,836 |
| 1-Jan-14 | 12,222,881 | - | - | 175,368 | - | - | 12,398,249 |
| 1-Feb-14 | 12,183,051 | - | - | 386,195 | - | - | 12,569,246 |
| 1-Mar-14 | 13,670,407 | - | - | 457,092 | - | - | 14,127,498 |
| 1-Apr-14 | 19,083,040 | - | - | 782,009 | - | - | 19,865,049 |
| 1-May-14 | 20,803,621 | - | - | 859,052 | - | - | 21,662,674 |
| 1-Jun-14 | 29,109,581 | - | - | 1,181,133 | - | - | 30,290,714 |
| 1-Jul-14 | 29,665,431 | - | - | 941,873 | - | - | 30,607,304 |
| 1-Aug-14 | 27,023,845 | - | - | 1,005,064 | - | - | 28,028,909 |
| 1-Sep-14 | 26,287,446 | - | - | 967,303 | - | 928,863 | 26,325,887 |
| 1-Oct-14 | 25,801,435 | - | - | 941,505 | - | 4,459,825 | 22,283,115 |
| 1-Nov-14 | 26,010,940 | - | - | 951,819 | - | 4,496,038 | 22,466,720 |
| 1-Dec-14 | 24,509,490 | - | - | 870,555 | - | 4,236,510 | 21,143,536 |
| 1-Jan-15 | 26,852,014 | - | - | 992,142 | - | 4,641,419 | 23,202,737 |
| 1-Feb-15 | 26,716,660 | - | - | 985,089 | - | 4,618,023 | 23,083,726 |
| 1-Mar-15 | 24,348,064 | - | - | 860,767 | - | 4,208,607 | 21,000,223 |
| 1-Apr-15 | 26,823,514 | - | - | 991,041 | - | 4,636,493 | 23,178,062 |
| 1-May-15 | 27,881,452 | - | - | 1,047,331 | - | 4,819,360 | 24,109,423 |
| 1-Jun-15 | 29,304,821 | - | - | 1,122,281 | - | 5,065,391 | 25,361,710 |
| 1-Jul-15 | 30,114,266 | - | - | 1,165,414 | - | 5,205,306 | 26,074,374 |
| 1-Aug-15 | 26,840,805 | - | - | 992,045 | - | 4,639,482 | 23,193,368 |
| 1-Sep-15 | 25,018,274 | - | - | 895,693 | - | 4,324,454 | 21,589,513 |
| 1-Oct-15 | 24,402,778 | - | - | 863,667 | - | 4,218,064 | 21,048,380 |
| 1-Nov-15 | 24,895,701 | - | - | 889,729 | - | 4,303,267 | 21,482,162 |
| 1-Dec-15 | 20,783,101 | - | - | 672,099 | - | 3,592,397 | 17,862,803 |
| 1-Jan-16 | 17,388,026 | - | - | 492,545 | - | 3,005,552 | 14,875,019 |
| 1-Feb-16 | 17,649,134 | - | - | 506,558 | - | 3,050,685 | 15,105,008 |
| 1-Mar-16 | 17,544,958 | - | - | 501,407 | - | 3,032,678 | 15,013,686 |
| 1-Apr-16 | 14,819,248 | - | - | 360,258 | - | 2,561,534 | 12,617,972 |
| 1-May-16 | 14,088,578 | - | - | 321,737 | - | 2,435,236 | 11,975,079 |
| 1-Jun-16 | 16,440,218 | - | - | 445,531 | - | 2,841,722 | 14,044,028 |
| 1-Jul-16 | 16,350,310 | - | - | 440,767 | - | 2,826,181 | 13,964,896 |
| 1-Aug-16 | 16,534,192 | - | - | 450,850 | - | 2,857,965 | 14,127,077 |
| 1-Sep-16 | 14,987,640 | - | - | 368,561 | - | 2,590,641 | 12,765,559 |
| 1-Oct-16 | 14,107,966 | - | - | 322,000 | - | 2,438,588 | 11,991,379 |
| 1-Nov-16 | 15,472,588 | - | - | 393,962 | - | 2,674,465 | 13,192,085 |
| 1-Dec-16 | 15,510,879 | - | - | 395,964 | - | 2,681,084 | 13,225,760 |
| 1-Jan-17 | 15,760,841 | - | - | 409,163 | - | 1,039,427 | 15,130,577 |
| 1-Feb-17 | 15,710,251 | - | - | 406,629 | - | - | 16,116,881 |
| 1-Mar-17 | 13,659,920 | - | - | 298,627 | - | - | 13,958,547 |
| 1-Apr-17 | 12,478,564 | - | - | 236,016 | - | - | 12,714,580 |
| 1-May-17 | 8,664,912 | - | - | 34,642 | - | - | 8,699,554 |
| 1-Jun-17 | 7,620,783 | - | - | 32,525 | - | - | 7,653,309 |
| 1-Jul-17 | 9,584,418 | - | - | 136,099 | - | - | 9,720,517 |
| 1-Aug-17 | 8,746,580 | - | - | 91,972 | - | - | 8,838,551 |
| 1-Sep-17 | 8,655,081 | - | - | 87,105 | - | - | 8,742,186 |
| 1-Oct-17 | 7,850,270 | - | - | 44,852 | - | - | 7,895,122 |
| 1-Nov-17 | 7,404,856 | - | - | 21,198 | - | - | 7,426,054 |
| 1-Dec-17 | 7,837,211 | - | - | 43,714 | - | - | 7,880,925 |
| 1-Jan-18 | 8,090,627 | - | - | 57,001 | - | - | 8,147,628 |
| 1-Feb-18 | 8,047,014 | - | - | 54,687 | - | - | 8,101,701 |
| 1-Mar-18 | 7,993,000 | - | - | 51,662 | - | - | 8,044,661 |
| 1-Apr-18 | 9,088,472 | - | - | 106,007 | - | - | 9,194,478 |
| 1-May-18 | 8,968,604 | - | - | 99,846 | - | - | 9,068,451 |
| 1-Jun-18 | 9,034,069 | - | - | 103,175 | - | - | 9,137,243 |
| 1-Jul-18 | 7,331,991 | - | - | 16,641 | - | - | 7,348,632 |
| 1-Aug-18 | 7,004,668 | - | - | - | - | - | 7,004,668 |
| 1-Sep-18 | 7,004,668 | - | - | - | - | - | 7,004,668 |
| 1-Oct-18 | 7,004,668 | - | - | - | - | - | 7,004,668 |
| Totals | 987,640,339 | 6,903,928 | 690,393 | 29,057,891 | 102,429,255 | 102,429,255 | 1,024,292,551 |

Notes:

- 1) This monthly payment forecast schedule serves to provide an appreciation of payment flow throughout the period of the work. Actual payment shall be in accordance with Article 12 and Exhibit 2
- 2) The forecast does not include for escalation of material.

Exhibit 2 - Appendix C – Option 2 - FPTCL
Small Tools, Consumables and PPE
Agreement No: CH0007-001

EXHIBIT 2 - APPENDIX C
SMALL TOOLS, CONSUMABLES AND PPE

For reimbursable Change Order Work only (i.e., Section 5 of this Exhibit 2), a cost of \$2.30 per hour will be added to reimbursable trade labour rates for small tools, consumables and personnel protective equipment (PPE).

The following lists include, but are not limited to, items that Company classifies as "Personal Protective Equipment", "Consumables", and "Small Tools", whether recoverable or non-recoverable.

1. PERSONAL PROTECTIVE EQUIPMENT

All personal protective equipment shall meet the requirements of Occupational Health and Safety Regulations.

| | |
|------------------------------------|---|
| APRON, WELDERS | HALF FACE or FULL FACE RESPIRATOR WITH CARTRIDGES – ALL TYPES |
| BELT, SAFETY | HARD HAT |
| BLANKET, FIRE | HEARING PROTECTION |
| BLOCK, WELDING HELMET | HOOD, WELDING |
| BOOT, SAFETY, ALL TYPES | INSECTICIDE |
| BRACKET, FOR FACE SHIELD | LANYARD FOR SAFETY BELTS |
| BRACKET, FIBER BROW, SAFETY SHIELD | LENS, WELDING |
| CAPS, PLASTIC SAFETY (FOR REBAR) | LIFE LINE |
| CURTAIN, WELDER | LOCKS |
| DUST MASK | MOUNTING VISOR AND KWIK-KLIP |
| DISPOSABLE MASK | PULLER, FUSE SAFETY |
| EYESHIELD, FOR BENCH GRINDER | RAIN WEAR, JACKET AND OVERALLS |
| FIRST AID SUPPLIES | SAFETY HARNESS |
| FLARE, ROAD, NON-ELECTRIC | SIREN, ELECTRIC |
| GLASSES, SAFETY | STRAP, CHIN |
| GLOVES, WORK, ALL TYPES | SWEAT BANDS |
| GOGGLES, SAFETY | TABLET, SALT |
| GUARDS, SHIN | VISOR, SHIELD, CLEAR |
| GUARDS, TOE, METAL W/STRAP | WELDING SHIELDS |

2. CONSUMABLES

| | | | | |
|-------------------------------------|---|-----|-------------------------------|----------------------------|
| ABRASIVES | EXPANDER, TUBEROLLS | AND | PAD, POLISHING | WASHERS |
| ACID | MANDRELS | | PADLOCKS | WASHING POWDER |
| ADAPTORS, TOOL – all types | FASTENERS | | PAINT (for erection marking) | WASHROOM SUPPLIES |
| ADHESIVE | FEELER STOCK | | PAINT STICK | WASTE – Cotton |
| ALCOHOL | FILE, METAL CUTTING | | PAN, DRAIN | WATER CANS |
| ANTIFREEZE | FILE, WOOD CUTTING | | PAPER – sand, toilet | WELD ROD |
| ANTI-SPLATTER SPRAY | FILTER – for vacuum cleaner | | PASTE – solder | WELDING GASES |
| APRON, WELDERS | FILTERS | | PATTERNS | WHEEL, DEPRESSED |
| ARBORS, HOLE SAW | FISHTAPE, HAND | | PENCIL, CARPENTER | CENTER |
| AUGER, HAND - post hole digger | FITTINGS, ALEMITE & HOSE | | PENS, WRITING, MARKING | WHEELBARROW, All Types |
| BADGES | FLAMBEAU, KEROSENE | | PETROLEUM JELLY | WHEEL ABRASIVE |
| BAG, DUST – for belt sander | FLASHLIGHT | | PICK, CLAY | WHEEL, WIRE |
| BAG, BOLT | FLINT | | PLUG, PIPE TEST | WICKS, LANTERN |
| BANDS, SAFETY HAT | FLUID CLEANING | | PLUNGER, BATHROOM | WIRE - tie & miscellaneous |
| BARRELS, WATER or TRASH | FLUX - brazing, welding | | POCKET, LINEMAN’S | WOOL – steel |
| BATTERY – flashlight and lantern | FORK, SEED | | POUCH, CANVAS | WRAP AROUNDS |
| BELTING, BELT DRESSING | FORM TIES | | POUCH, ROD | |
| BINS, TRASH | FRAME, HACKSAW | | POWDER, SCOURING | |
| BITS – small hand tool, all types | FUELS (for construction equipment) | | PULLER, WIRE | |
| BLADES – small hand tool, all types | FUNNELS, ALL TYPES | | PUMICE | |
| BLANKET – wool, rubber | FUSE (except for permanent plant use) | | PUNCH AND CHISEL SETS | |
| BOX, CARDBOARD | GARBAGE BAGS | | PUNCH, CONDUIT | |
| BRACKET, FLOAT HANDLE | GASKETS, HOSE | | PUNCH, PIN SET | |
| BRICK, RUBBING | GLOVES, WORK, all types | | PUTTY | |
| BROOM – all types | GLUE | | RAGS | |
| BRUSH – all types | GLYCERINE | | RAKE, GARDEN | |
| BUCKET – all types | GOGGLES, WORK, all types | | RAKE, CONCRETE | |
| BULB – blow out, dust | GRAPHITE | | RAKE, ROAD | |
| BULB – flashlight, lantern, light | GREASE | | REAMER, TAPER PIN (Hand Only) | |
| BURLAP | GRIPS, PLASTIC for pliers | | RIGGING HOOKS | |
| CABLES, RIGGING | GROMMETS | | ROPE, MANILA | |
| CAN, OIL | GUIDE, HINGE-BUTT for router | | ROPE, POLYPROPYLENE | |
| CAN, SAFETY | GUN, CAULKING | | ROPE, WIRE | |
| CARBIDE | GUN, GREASE | | RULE - Extension, Wood, | |
| CARBORUNDUM – Blocks, Stones Walk | HASPS | | Fiberglass, Folding | |
| CHAIN, SAFETY | HATCHET | | RULE, TAPE | |
| CHAIN, LOADBINDER | HINGES | | RUST PREVENTIVE | |
| CHALK | HOE | | SANDBLAST NOZZLES | |
| CHALK LINE BOX | HOOK, SNAP | | SCISSORS, ELECTRICIAN | |
| CHAMOIS | HOOK, TIMBER | | SCRAPER, HAND | |
| CHARCOAL AND COKE | HOSE, AIR, ¾” /Dia. Max. (Air Tools Only) | | SCRAPER, SIDEWALK | |
| CHISEL – all types | HOSE WATER to ¾” | | SCRAPER, WALL | |
| CHOKER – all types | HOSE, GREASE, GUN | | SCREEN CLOTH – Wire | |
| CHUCKS, TOOL – all types | HOSE, TWIN WELDING | | SCREW RUNNER | |
| CLAMP, CABLE | ICE | | SCREW STARTER | |
| CLAMP, HOSE | INK, LAYOUT – for Millwrights | | SCREWDRIVER, All Types | |
| CLEANER, DRAIN | IRON, CAULKING | | SHACKLES | |
| CLEANER, HAND | IRON, PACKING | | SHEATH, PLUMB BOB | |
| CLEANER, TIP | IRON, YARNING | | SHIMS | |
| CLIPS, WIRE ROPE | JAW, BOLT CUTTER REPLACEMENT | | SILICONE SPRAY | |
| CLOTH, DROP, PAINTER’S | JITTERBUG – Concrete Hand | | SOAP | |
| CLOTH, EMERY | JOINT RUNNER | | SOAP STONE | |
| | KEEL (lumber crayon) | | SOLDER | |
| | | | SOLVENT | |

Exhibit 2 - Appendix C – Option 2 - FPTCL
 Small Tools, Consumables and PPE
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| | | |
|---|--|---|
| CLOTH, STRAINING | KEY, CHUCK | SPONGE |
| COAL and COKE | KEY, EJECTOR for Roto Hammers | STAKE - survey |
| COMPOUND - cleaning, pipe, thread grinding | KEY, HEX | STAPLES |
| COMPOUND, SWEEPING | LASHING, WIRE ROPE | STRING, NYLON |
| COMPOUND, WIRE PULLING | LATCHES | TACKS |
| CONNECTORS – Cord, Cotter Pins | LATTERNS, 6 VOLT LENS - Welding | TAG, BLANK, WIRE TWIST |
| CORD, PLUMB BOB | LIGHTER, SPARK | TARPAULIN |
| CORD, SASH | LIME, MARKING | TAP, TAPER, HAND |
| CORK | LINE, FISH | TAPE - adhesive, masking, friction, rubber, plumbers, etc. |
| CRAYON, LUMBER | LITHARGE | TEMPIL STICKS |
| CRAYON - Temperature Indicating | LUBRICANT – thread cutting, electric wire pulling | THIMBLES, WIRE ROPE |
| CREOSOTE | LUGS | TIP, TORCH WELDING |
| CUP – drinking | MARKER, METAL | TOOL BOXES, BINS |
| CUTTER WHEELS – tools, all types | MARKER, PIPE CONTOUR | TOOL, BRUSHING for Vacuum cleaner |
| DIE NUTS – Hexagon Rethread | MENDERS, HOSE | TOOL, CREVICE, 15” for Vacuum |
| DIES, BUTTON | MIRROR, INSPECTION | TOOL, MAJOR FLOOR, 14” |
| DIES, KNOCKOUT | MOP | TOOL STEEL |
| DIES, PIPE – for Hand Threaders Only | NAILS | TOWEL – Paper |
| DIES, TMB – 8, Compression Tools | NIPPLES, HOSE | TORCH, HEATING |
| DIPPERS | NOZZLE, WATER | TORCH, CUTTING |
| DISC, GRINDING | NUT RUNNER | TROWEL, HAND |
| DISINFECTANT | NUT SETTER | TRUNBUCKLES |
| DISPENSER, PAPER CUP | OFFICE SUPPLIES | TURPENTINE |
| DRESSING, BELT | OIL - all types | TWINE |
| DRILL BIT – Small Hand Tool, All Types | PACKING MATERIAL | VISQUEEN – Non-reinforced |
| EDGER, CONCRETE HAND | | |
| ELECTRODE HOLDERS | | |

Exhibit 2 - Appendix C – Option 2 - FPTCL
 Small Tools, Consumables and PPE
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3. SMALL TOOLS

| | | | |
|--|---|---|--|
| ADAPTER - hose, pipe thread | DOOR HANGING KIT | MOVER - freight car, hand | SOLDERING IRON |
| ADZE | DRESSER - grinding wheel | NAILER, AIR | SPADE |
| ANVIL | DRILL - all types: hand, electric, | NIBBLER, SHEET METAL | SPEED, PORTABLE |
| APRON | pneumatic | NIPPER | SPIKE- marlin |
| ARBOUR | DRILL PRESS | NOTCHER, PIPE | SPRAYER, ORCHARD |
| AUGER, GASOLINE (Post Hole Digger) | DRILL STAND - bench | NOZZLE - hose, weld | SPREADER, FLANGE |
| AWL | DYNAMOMETER | NUT - die, driver | SQUARE- combination, framing, etc. |
| AXE | ELCOMETER - paint thickness gauge | OILER - can, hand | SQUEEGEE |
| BABBITT | EMBOSSER, TAPE, HAND | OVEN - welding rod | STAND, DRILL |
| BANDING MACHINE – Hand Type | ETCHER, ELECTRIC | PAIL | STAND, GRINDER |
| BAR- claw, crow, pinch, etc. | EXPANDER- tube | PEDESTAL, GRINDER | STAND, PIPE |
| BARREL- trash | EXTENSION, SOCKET SET | PIN, BARREL | STAND, REEL, TELESCOPING SCREW |
| BASE, MAGNETIC/DAILY TEST INDICATOR | EXTENSION CORD | PIN, BULL | STAPLE- tackler |
| BELT- safety w/strap | EXTRACTOR - pipe & screw | PIN, DRAFT | STAPLER, ELECTRIC OR HAND |
| BENDER - hydraulic, manual | FAN - electric | PINCEP | STAR DRILL |
| BENDER, CABLE | FILE - hand | PLANE – wood | STEAM HEATER |
| BENDER, PIPE | FLARING TOOL | PLANE, BENCH JACK | STENCIL- steel, brass, paper |
| BENDER, TUBING | FLASHLIGHT - c/w bulb & batteries | PLANE, BLOCK | STONE - OIL |
| BENDER, LOAD | FLATTER - blacksmith | PLANE, ELECTRIC | STRAIGHT EDGE |
| BEVEL | FLOAT, CONCRETE – Hand Only | PLANE, VERSI | STRAINER- air line |
| BEVELLER - load | FORGE - blacksmith | PLANNER, POWER BLOCK – Electric | STRAPPER |
| BINDER - load | FORK - barn | HD | STRIPPER- wire |
| BIT - auger, carpenter | FULLER - blacksmith | PLIERS – all types | SUPPORT, PIPE – Roller type |
| BLOCK - chain, rope, cable, etc. | FURNACE, PROPANE – Melting | PLUMB BOB | SWEDGING TOOL KIT |
| BLOCKS, WOOD | GAD | POINT - trammel | SWIVEL |
| BLOCKS, METAL – Snatch | GAUGE- drill, feeler, wire thickness, tire, etc. | POLE - pike, range | TACHOMETER |
| BLOWER – Pneumatic Powered | GRINDER- electric, pneumatic | POT - melting, fire, welding rod, lead | TAMPER- hand, pneumatic |
| BOB, PLUMB | GRAB, PIPE OF 20” | POUCH - tool | TANK, LP – 20# only |
| BOSUN CHAIRS | GRINDER, ELECTRIC | PROTRACTOR | TAP- bolt, pipe, wrench |
| BOX - tool box or tool bag | GRIP- cable | PULLER, FUSE SAFETY | TAPE- steel measuring |
| BOX, GANG (Craft Storage) | GROOVING, TOOL | PULLER, WHEEL GEAR | TAPEWRITER, EMBOSSING – Hand type |
| BRACE - ratchet | GUN- grease caulking, paint, heat (115V), pop rivet, powder actuated, soldering | PULLER- nail, wire, spike road | TAPPER |
| BROOMS | HACKSAW, POWER | PULLEY, CABLE | TELEPHONE- hand set, electrician’s testing |
| BURNER, WEED | HAMMERS - all types: pneumatic, hand | PULLEY, WELL | TEMPLATE, HINGE-BUTT |
| CABLE - welding, electrode, ground, etc. | HANDLES - all types | PUMP- hand, barrel, sump, test | TESTER- battery, hardness, antifreeze, |
| CALLIPERS | HATCHET & HANDLE - for hand threader sets | PUNCH- center, back out, arch, knockout, hob, gasket, sheet metal, stud, etc. | circuit, insulation, motor rotation, etc. |
| CANS | HATCHET, WRENCH | RADIO- portable, 2 way, intercom | THIMBLE- pipe |
| CART - concrete | HEATER - portable: fuel, electric (115V), LP, Kerosene | RASP | THREADER- pipe chain, etc. |
| CART, WELDING BOTTLE 2 | HOD - brick, mortar | REAMER- pipe, bridge burring, etc. | TONGS, BRICK CARRIER |
| CASTERS | HOE | REAMER, INNER, OUTER – for copper tubing | TONGS, CHAIN |
| CAULKING TOOL - yarning iron | HOIST - portable, all types | REAMER, STRAIGHT – Pipe only | TONGS, PIPE |
| CENTER FINDER SET - Wiggler | HOOD - welding, sandblasting | REEL, TIE WIRE | TONGS, SHEET METAL |
| CHAIN - surveyor, measuring, steel loading | HOOK - packing, eye, cant, lug, etc. | REGULATOR- welding gas | TONG- blacksmith, pipe, |
| CHAIR, BOSUN’S | HORSES - mason, saw | RESPIRATOR- dusts c/w refill | TOOL, FLARING |
| CHARGER - battery | INDICATOR - dial, test | RIGGERS ROPE- manila, wire | TOOL, PICK UP, MAG |
| CHUCK - taper, drill | IRON - tire | RIVERTER, HAND | TOOL, SOIL PIPE ASSEMBLY |
| CLAMP - pipe, aligning, saw, carpenter, etc. | JACK - flange, hydraulic, mechanical, screw | ROLLER, PIPE | TOOL- clamping (hose) |
| CLIMBER – Adjustable w/Pad and Straps | JIG - weld coupon bending test | ROLLER, paint | TOOLS- cement worker |
| CLIPPER - bolt | KEY - welding, gas tank | ROUTER, ELECTRIC | TORCH- blow, soldering |
| COOLER - drinking water | KNIFE - draw, putty | RULES- all types | Cutting, propane, acetylene, prestolite |
| COMBINATION SETS – 6” to 18” | KNOCKOUT, HAND | RUSH DRILL | TRANSFORMER- dry type |
| CONNECTOR - welding, cable | LADDER - steel, extension, etc. | SANDER - disc, belt | TROLLEY |
| CONVEYOR - gravity, roller | LADLE - melting, lead | SAW - portable, all types: hand, power | TROWEL |
| CORD - electric extension | LANTERNS - all types | SCALER, NEEDLE | TRUCK- hand |
| COUPLING - hose | LEAD JOINT RUNNER | SCRAPER- bearing, miscellaneous | TURNBUCKLE |
| CREEPER, FLOOR | LEVEL - hand, line, etc. | SCREW STOP | TWISTER- wire |

Exhibit 2 - Appendix C – Option 2 - FPTCL
 Small Tools, Consumables and PPE
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| | | | |
|--|-------------------------------|---|---|
| CRIMPER, BAND | LIGHT - portable, flood, drop | SCREW PLANE (set) | UMBRELLA |
| CRIMPER - electrician's | LINE - mason, chalk | SCRIBER SET- nail, rivet | UNIVERSAL – for socket sets |
| CRIMPING TOOL - Wire | LUBRICATOR - air line | SHARPENER, DRILL BIT | VACUUM CLEANER, HD |
| CUTTER - bar, wire, pipe-hand, pipe-gearred, gasket, etc. | MALLET | SHEAR- bar, tanners | VIBRATOR, CONCRETE- pneumatic, Electric |
| CYLINDER, HYDRAULIC – for Porta Powers | MANDREL - all types | SHEAR, ANGLE IRON | WISE, MACHINIST |
| DIE- pipe, bolt, c/w head, stock | MARKER, LIME, ROLLING | SHEARS, ELECTRIC, HAND | WISE, PIPE |
| DIGGER - hand, pneumatic | MATTOCK | SHEARS, TRIMMING, ROTARY | WEDGE |
| DIVIDER – wing | MAUL | SHEAVES, CABLE, TRAY METAL | WELDING TOOLS |
| DIVIDER, SPRING TYPE | MEGGER METER | SHEETING- plastic, paper | WELDING & CUTTING OUTFIT (Oxy/Acetelyne) |
| DOLLY, BARREL | METER - vibration | SHIELD- face | WHEEL- grinding |
| DOLLY, BEAM | METER, AMP – Clamp-on w/Case | SHOVEL | WHEELBARROW |
| DOLLY, CATERPILLAR | METER, MILLIVOLT | SIREN, ELECTRIC | WINCH- hand |
| DOLLY, MACHINE | METER, MOISTURE | SLEEVE- morse, taper, shank | WRENCHES- all types |
| DOLLY, PIPE | METER, VOLT | SLING- canvas, pipe, wire, rope, nylon | |
| DOLLY, PRY | MICROMETER | SNIP- tinner | |
| DOLLY, WAREHOUSE | MIRROR, INSEPTION | SNIPS, AVIATION, HAND | |
| DOLLY BAR - pivot | MITER BOX – Electric or hand | SNIPS, METAL CUT, HAND | |
| | MORTISER, LOCK - Electric | SNIPS, TRIM HAND | |
| | | SOCKET for hand tools only | |
| | | SOCKET SET | |

Exhibit 2 - Appendix D – Option 2 - FPTCL
Equipment Rate Schedule
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EXHIBIT 2 - APPENDIX D
EQUIPMENT RATE SCHEDULE

Exhibit 2 - Appendix D – Option 2 - FPTCL
Equipment Rate Schedule
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EQUIPMENT RATE SCHEDULE



REVISED EQUIPMENT RATE SCHEDULE ACC. TO ACTION ITEM 4th September 2013

| Equipment Type | Manufacturer and Model Number | Size | Year | Quantity Available | First Shift | | | | Second Shift | | | |
|----------------------------------|--------------------------------------|-------------------|---------------|--------------------|-------------|--------------|---------------|---------------|--------------|--------------|---------------|---------------|
| | | | | | Hour | Day | Week | Month | Hour | Day | Week | Month |
| Hydraulic Track Excavator | CAT 330/LN | 2.2 m3, HP 243 | New or As New | 1 | CAD 145,96 | CAD 1,094,70 | CAD 6,889,28 | CAD 29,830,58 | CAD 145,96 | CAD 1,094,70 | CAD 6,889,28 | CAD 29,830,58 |
| Wheel loader | CAT 966H STD | 3.1 m3, HP 260 | New or As New | 2 | CAD 135,94 | CAD 1,019,55 | CAD 6,416,34 | CAD 27,782,74 | CAD 135,94 | CAD 1,019,55 | CAD 6,416,34 | CAD 27,782,74 |
| Wheel loader | CAT 950 H STD | 2.5 m3, HP 196 | New or As New | 1 | CAD 117,50 | CAD 881,25 | CAD 5,545,97 | CAD 24,014,06 | CAD 117,50 | CAD 881,25 | CAD 5,545,97 | CAD 24,014,06 |
| Backhoe loader | CAT 434 AWS | HP 93 | New or As New | 1 | CAD 91,52 | CAD 686,40 | CAD 4,319,72 | CAD 18,704,40 | CAD 91,52 | CAD 686,40 | CAD 4,319,72 | CAD 18,704,40 |
| Crawler dozer | CAT D8PS & Ripper | HP 310 | New or As New | 1 | CAD 192,08 | CAD 1,440,60 | CAD 9,066,13 | CAD 39,256,35 | CAD 192,08 | CAD 1,440,60 | CAD 9,066,13 | CAD 39,256,35 |
| Crawler dozer | CAT D7PS | HP 240 | New or As New | 1 | CAD 154,12 | CAD 1,155,90 | CAD 7,274,43 | CAD 31,498,28 | CAD 154,12 | CAD 1,155,90 | CAD 7,274,43 | CAD 31,498,28 |
| Motorgrader | CAT 14M STD | HP 220 | New or As New | 1 | CAD 142,34 | CAD 1,067,55 | CAD 6,718,42 | CAD 29,090,74 | CAD 142,34 | CAD 1,067,55 | CAD 6,718,42 | CAD 29,090,74 |
| Rear dumper | DP 255 | 25Tn, HP 306 | New or As New | 3 | CAD 117,30 | CAD 879,75 | CAD 5,536,53 | CAD 23,973,19 | CAD 117,30 | CAD 879,75 | CAD 5,536,53 | CAD 23,973,19 |
| Self-prop. Smooth v. roller | CAT-302D | 12,6Tn, HP 120 | New or As New | 1 | CAD 117,40 | CAD 880,50 | CAD 5,541,25 | CAD 23,993,63 | CAD 117,40 | CAD 880,50 | CAD 5,541,25 | CAD 23,993,63 |
| Road dumper | Astra HD8/c 64-38 | 25Tn, HP 380 | New or As New | 3 | CAD 117,01 | CAD 877,58 | CAD 5,522,88 | CAD 23,914,06 | CAD 117,01 | CAD 877,58 | CAD 5,522,88 | CAD 23,914,06 |
| Semitrailer Truck | Astra HD8 84-42 | 40Tn, HP 420 | New or As New | 3 | CAD 109,11 | CAD 818,33 | CAD 5,150,00 | CAD 22,299,49 | CAD 109,11 | CAD 818,33 | CAD 5,150,00 | CAD 22,299,49 |
| Truck mixer | Astra HD8 64-38 | 8m3, HP 380 | New or As New | 8 | CAD 117,77 | CAD 883,28 | CAD 5,558,75 | CAD 24,069,38 | CAD 117,77 | CAD 883,28 | CAD 5,558,75 | CAD 24,069,38 |
| Truck concrete pump | Iveco AD380T45 | 90m3/hr, HP 360 | New or As New | 1 | CAD 151,77 | CAD 1,138,28 | CAD 7,163,54 | CAD 31,018,13 | CAD 151,77 | CAD 1,138,28 | CAD 7,163,54 | CAD 31,018,13 |
| Water tank Truck | Astra HD8 64-38 | 20 Tn., HP 410 | New or As New | 1 | CAD 93,92 | CAD 704,40 | CAD 4,433,00 | CAD 19,194,90 | CAD 93,92 | CAD 704,40 | CAD 4,433,00 | CAD 19,194,90 |
| Flat bed truck | Astra HD8 64-41 | 7,0Tn., HP 410 | New or As New | 3 | CAD 105,16 | CAD 788,70 | CAD 4,963,53 | CAD 21,492,08 | CAD 105,16 | CAD 788,70 | CAD 4,963,53 | CAD 21,492,08 |
| Flat bed Truck With Crane | Iveco ML 145E 25K | 7,0Tn., HP 250 | New or As New | 10 | CAD 84,07 | CAD 630,53 | CAD 3,968,12 | CAD 17,181,94 | CAD 84,07 | CAD 630,53 | CAD 3,968,12 | CAD 17,181,94 |
| Workshop truck | Astra HD8 42.31 | HP 130 | New or As New | 1 | CAD 87,58 | CAD 656,85 | CAD 4,133,76 | CAD 17,899,16 | CAD 87,58 | CAD 656,85 | CAD 4,133,76 | CAD 17,899,16 |
| Lubricant truck | Astra HD8 42.33 | HP 330 | New or As New | 1 | CAD 89,03 | CAD 667,73 | CAD 4,202,23 | CAD 18,195,64 | CAD 89,03 | CAD 667,73 | CAD 4,202,23 | CAD 18,195,64 |
| Low loaders Truck | Astra HD8 64-42 +Bertoja SBT 60E/20' | 60 Tn., HP 420 | New or As New | 1 | CAD 120,57 | CAD 904,28 | CAD 5,690,91 | CAD 24,641,63 | CAD 120,57 | CAD 904,28 | CAD 5,690,91 | CAD 24,641,63 |
| Bus 55 seats | Iveco Bus Domino 55 | HP 420 | New or As New | 5 | CAD 99,68 | CAD 747,94 | CAD 4,707,06 | CAD 20,371,68 | CAD 99,68 | CAD 747,94 | CAD 4,707,06 | CAD 20,371,68 |
| Minibus 12 seats | Iveco Daily 35/80 | HP 80 | New or As New | 5 | CAD 39,84 | CAD 298,92 | CAD 1,881,20 | CAD 8,127,36 | CAD 39,84 | CAD 298,92 | CAD 1,881,20 | CAD 8,127,36 |
| Pick up 4 x 4 single/double cab. | Toyota Hylux | HP 360 | New or As New | 60 | CAD 18,85 | CAD 141,44 | CAD 890,13 | CAD 3,852,39 | CAD 18,85 | CAD 141,44 | CAD 890,13 | CAD 3,852,39 |
| Hydr. Wheel crane | Liebherr LTM 1090 | 90 Tn., HP 355 | New or As New | 3 | CAD 201,68 | CAD 1,512,60 | CAD 9,519,25 | CAD 41,218,35 | CAD 201,68 | CAD 1,512,60 | CAD 9,519,25 | CAD 41,218,35 |
| Hydr. Wheel crane | Locatelli Grill 8600 | 60 Tn., HP 200 | New or As New | 2 | CAD 159,78 | CAD 1,198,35 | CAD 7,541,58 | CAD 32,655,04 | CAD 159,78 | CAD 1,198,35 | CAD 7,541,58 | CAD 32,655,04 |
| Hydr. Wheel crane | Locatelli Grill 8300 | 30 Tn., HP 150 | New or As New | 3 | CAD 145,66 | CAD 1,092,45 | CAD 6,875,12 | CAD 29,769,26 | CAD 145,66 | CAD 1,092,45 | CAD 6,875,12 | CAD 29,769,26 |
| Fork lift | Manitou MSI 31 | 3 Tn., HP 60 | New or As New | 5 | CAD 23,76 | CAD 178,20 | CAD 1,121,47 | CAD 4,855,95 | CAD 23,76 | CAD 178,20 | CAD 1,121,47 | CAD 4,855,95 |
| Fixed Electric air compressor | Atlas GA 160/10 bar | 24m3/1', HP 215 | New or As New | 4 | CAD 8,73 | CAD 65,48 | CAD 412,09 | CAD 1,784,33 | CAD 8,73 | CAD 65,48 | CAD 412,09 | CAD 1,784,33 |
| Mobile Diesel air compressor | Atlas XAS186 DD | 11m3/1', HP107 | New or As New | 4 | CAD 36,54 | CAD 274,05 | CAD 1,724,68 | CAD 7,467,86 | CAD 36,54 | CAD 274,05 | CAD 1,724,68 | CAD 7,467,86 |
| Electric Generators | Perkins | 1200 KW, HP 1800 | New or As New | 1 | CAD 314,06 | CAD 2,355,45 | CAD 14,823,56 | CAD 64,186,01 | CAD 314,06 | CAD 2,355,45 | CAD 14,823,56 | CAD 64,186,01 |
| Electric Generators | Perkins | 525 KW, HP 800 | New or As New | 2 | CAD 138,25 | CAD 1,036,88 | CAD 6,525,40 | CAD 28,254,98 | CAD 138,25 | CAD 1,036,88 | CAD 6,525,40 | CAD 28,254,98 |
| El. subm. water pump | Flygt W5P73 | 20m3/1', HP 73 | New or As New | 15 | CAD 6,24 | CAD 46,80 | CAD 294,53 | CAD 1,275,30 | CAD 6,24 | CAD 46,80 | CAD 294,53 | CAD 1,275,30 |
| El. subm. water pump | Flygt B52670 IMT 226 | 3,6m3/1', HP 27 | New or As New | 1 | CAD 4,35 | CAD 32,63 | CAD 205,35 | CAD 889,17 | CAD 4,35 | CAD 32,63 | CAD 205,35 | CAD 889,17 |
| Diesel water pump | Elecal | 4m3/1', HP 30 | New or As New | 2 | CAD 23,41 | CAD 175,58 | CAD 1,104,98 | CAD 4,784,56 | CAD 23,41 | CAD 175,58 | CAD 1,104,98 | CAD 4,784,56 |
| Diesel pumpcrete | Putzmaister BSA1407D | 100 M3/hr, HP 250 | New or As New | 4 | CAD 105,04 | CAD 787,80 | CAD 4,957,86 | CAD 21,467,55 | CAD 105,04 | CAD 787,80 | CAD 4,957,86 | CAD 21,467,55 |
| Truck Spitz beton | Pas307 D/E CSS3-3T | 30m3/hr, HP 180 | New or As New | 2 | CAD 147,29 | CAD 1,104,68 | CAD 6,952,09 | CAD 30,102,53 | CAD 147,29 | CAD 1,104,68 | CAD 6,952,09 | CAD 30,102,53 |
| Electr. water blaster | Karcher K2.26 1500PSI | 480bar, HP 59 | New or As New | 4 | CAD 46,62 | CAD 349,65 | CAD 2,200,45 | CAD 9,527,96 | CAD 46,62 | CAD 349,65 | CAD 2,200,45 | CAD 9,527,96 |
| Jack hammer | - | - | New or As New | 1 | CAD 2,52 | CAD 18,90 | CAD 118,94 | CAD 515,03 | CAD 2,52 | CAD 18,90 | CAD 118,94 | CAD 515,03 |
| Hand drill | - | - | New or As New | 7 | CAD 5,01 | CAD 37,58 | CAD 236,50 | CAD 1,024,06 | CAD 5,01 | CAD 37,58 | CAD 236,50 | CAD 1,024,06 |
| Vibrating plates | - | HP 3.3 | New or As New | 1 | CAD 5,31 | CAD 39,83 | CAD 250,66 | CAD 1,085,37 | CAD 5,31 | CAD 39,83 | CAD 250,66 | CAD 1,085,37 |
| Diesel welding machine | - | HP 35 | New or As New | 16 | CAD 16,70 | CAD 125,25 | CAD 788,24 | CAD 3,413,06 | CAD 16,70 | CAD 125,25 | CAD 788,24 | CAD 3,413,06 |
| El. Welding machine | - | HP 15 | New or As New | 36 | CAD 3,97 | CAD 29,78 | CAD 187,41 | CAD 811,51 | CAD 3,97 | CAD 29,78 | CAD 187,41 | CAD 811,51 |

NOTES

1. The listed rates apply to reimbursable Change Order Work only (i.e., this 5 of Exhibit 2)
2. The rates include, but are not limited to, the cost of equipment rental, fuel, lubricants, tires, expendable parts, calibration, repairs, storage, insurance, licenses, depreciation, interest, taxes, overhead, mark-up and profit.
3. The rates include spare parts.
4. The rates exclude operator's labour costs.
5. Rates are applicable only to actual operating time.
6. For any equipment not listed, rental rates will be agreed to in writing by Company prior to the deployment and use of such equipment. Equipment rented or leased from a Third party shall be compensated at actual documented invoice cost plus a markup of 7%. Third Party leasing shall be approved by Company in advance of the deployment and use of such equipment. In the event of Third Party leased equipment requires operation and maintenance then the appropriate rate for same shall be approved by Company in advance of the deployment and use of such equipment.
7. If approved by Company, the time required to mobilize and demobilize equipment not located at the Work Site and which is to be deployed at the Work Site on Change Order Work will be compensated. Compensation will include loading and transportation costs where this is more efficient than travelling the equipment. The cost of demobilizing the equipment will not be compensated if such equipment is used at the Work Site on Lump Sum or Unit Price Work.

Exhibit 2 - Appendix D – Option 2 - FPTCL
 Equipment Rate Schedule
 Agreement No: CH0007-001

EQUIPMENT STANDBY RATE SCHEDULE



REVISED EQUIPMENT STAND BY SCHEDULE ACC. TO ACTION ITEMS 4th September 2013

| Equipment | Manufacturer and Model Number | Size | Year | Quantity Available | Hour | Day | Week | Month |
|----------------------------------|-------------------------------------|-------------------|---------------|--------------------|-----------|------------|--------------|---------------|
| Hydraulic Trak Excavator | CAT 330/LN | 2.2 m3, HP 243 | New or As New | 1 | CAD 25,45 | CAD 381,80 | CAD 2.402,78 | CAD 10.404,05 |
| Wheel loader | CAT 966H STD | 3.1 m3, HP 260 | New or As New | 2 | CAD 24,42 | CAD 366,31 | CAD 2.305,30 | CAD 9.981,95 |
| Wheel loader | CAT 950 H STD | 2.5 m3, HP 196 | New or As New | 1 | CAD 17,38 | CAD 260,71 | CAD 1.640,73 | CAD 7.104,35 |
| Backhoe loader | CAT 434 AWS | HP 93 | New or As New | 1 | CAD 9,21 | CAD 138,18 | CAD 869,61 | CAD 3.765,41 |
| Crawler dozer | CAT D8PS & Ripper | HP 310 | New or As New | 1 | CAD 54,09 | CAD 811,37 | CAD 5.106,20 | CAD 22.109,83 |
| Crawler dozer | CAT D7PS | HP 240 | New or As New | 1 | CAD 36,05 | CAD 540,75 | CAD 3.403,10 | CAD 14.735,44 |
| Motorgrader | CAT 14M STD | HP 220 | New or As New | 1 | CAD 42,07 | CAD 631,01 | CAD 3.971,14 | CAD 17.195,02 |
| Rear dumper | DP 255 | 25Tn, HP 306 | New or As New | 3 | CAD 26,06 | CAD 390,91 | CAD 2.460,11 | CAD 10.652,30 |
| Self-prop. Smooth v. roller | CAT-302D | 12,6Tn, HP 120 | New or As New | 1 | CAD 11,28 | CAD 169,18 | CAD 1.064,70 | CAD 4.610,16 |
| Road dumper | Astra HD8/c 64-38 | 25Tn, HP 380 | New or As New | 3 | CAD 7,73 | CAD 115,98 | CAD 729,90 | CAD 3.160,46 |
| Semitrailer Truck | Astra HD8 84-42 | 40Tn, HP 420 | New or As New | 3 | CAD 9,99 | CAD 149,85 | CAD 943,05 | CAD 4.083,41 |
| Truck mixer | Astra HD8 64-38 | 8m3, HP 380 | New or As New | 8 | CAD 10,88 | CAD 163,26 | CAD 1.027,44 | CAD 4.448,84 |
| Truck concrete pump | Iveco AD380T45 | 90m3/hr, HP 360 | New or As New | 1 | CAD 28,03 | CAD 420,46 | CAD 2.646,08 | CAD 11.457,54 |
| Water tank Truck | Astra HD8 64-38 | 20 Tn., HP 410 | New or As New | 1 | CAD 11,47 | CAD 172,05 | CAD 1.082,76 | CAD 4.688,36 |
| Flat bed truck | Astra HD8 64-41 | 20 Tn., HP 410 | New or As New | 3 | CAD 8,94 | CAD 134,03 | CAD 843,49 | CAD 3.652,32 |
| Flat bed Truck With Crane | Iveco ML 145E 25K | 7,0Tn., HP 250 | New or As New | 10 | CAD 14,12 | CAD 211,83 | CAD 1.333,11 | CAD 5.772,37 |
| Workshop truck | Astra HD8 42.31 | HP 310 | New or As New | 1 | CAD 14,30 | CAD 214,54 | CAD 1.350,17 | CAD 5.846,22 |
| Lubricant truck | Astra HD8 42.33 | HP 330 | New or As New | 1 | CAD 14,59 | CAD 218,86 | CAD 1.377,35 | CAD 5.963,94 |
| Low loaders Truck | Astra HD8 64-42+Bertoja SBT 60E/20" | 60 Tn., HP 420 | New or As New | 1 | CAD 12,10 | CAD 181,48 | CAD 1.142,11 | CAD 4.945,33 |
| Bus 55 seats | Iveco Bus Domino 55 | HP 420 | New or As New | 5 | CAD 9,68 | CAD 145,20 | CAD 913,79 | CAD 3.949,44 |
| Minibus 12 seats | Iveco Daily 35/80 | HP 80 | New or As New | 5 | CAD 4,83 | CAD 72,51 | CAD 456,14 | CAD 1.970,61 |
| Pick up 4 x 4 single/double cab. | Toyota Hylux | HP 360 | New or As New | 60 | CAD 4,37 | CAD 65,55 | CAD 412,31 | CAD 1.782,96 |
| Hydr. Wheel crane | Liebherr LTM 1090 | 90 Tn., HP 355 | New or As New | 3 | CAD 55,59 | CAD 833,90 | CAD 5.247,98 | CAD 22.723,78 |
| Hydr. Wheel crane | Locatelli Gril 8600 | 60 Tn., HP 200 | New or As New | 2 | CAD 23,71 | CAD 355,60 | CAD 2.237,90 | CAD 9.690,10 |
| Hydr. Wheel crane | Locatelli Gril 8300 | 30 Tn., HP 150 | New or As New | 3 | CAD 16,68 | CAD 250,17 | CAD 1.574,40 | CAD 6.817,13 |
| Fork lift | Manitou MSI 31 | 3 Tn., HP 60 | New or As New | 5 | CAD 3,99 | CAD 59,91 | CAD 377,03 | CAD 1.632,55 |
| Fixed Electric air compressor | Atlas GA 160/10 bar | 24m3/1', HP 215 | New or As New | 4 | CAD 3,82 | CAD 57,35 | CAD 360,92 | CAD 1.562,79 |
| Mobile Diesel air compressor | Atlas XAS186 DD | 11m3/1', HP107 | New or As New | 4 | CAD 4,29 | CAD 64,38 | CAD 405,16 | CAD 1.754,36 |
| Electric Generators | Perkins | 1200 KW, HP 1800 | New or As New | 1 | CAD 22,11 | CAD 331,64 | CAD 2.087,11 | CAD 9.037,19 |
| Electric Generators | Perkins | 525 KW, HP 800 | New or As New | 2 | CAD 5,21 | CAD 78,12 | CAD 491,63 | CAD 2.128,77 |
| El. subm. water pump | Flygt WSP73 | 20m3/1', HP 73 | New or As New | 15 | CAD 3,47 | CAD 52,08 | CAD 327,76 | CAD 1.419,18 |
| El. subm. water pump | Flygt BS2670 MT 226 | 3,6m3/1', HP 27 | New or As New | 1 | CAD 0,98 | CAD 14,70 | CAD 92,51 | CAD 400,58 |
| Diesel water pump | Elecal | 4m3/1', HP 30 | New or As New | 2 | CAD 1,74 | CAD 26,04 | CAD 163,88 | CAD 709,59 |
| Diesel pumpcrete | Putzmeister BSA1407D | 100 M3/hr, HP 250 | New or As New | 4 | CAD 32,76 | CAD 491,39 | CAD 3.092,47 | CAD 13.390,38 |
| Truck Spitz beton | Pas307 D/E CSS3-3T | 30m3/hr, HP 180 | New or As New | 2 | CAD 22,82 | CAD 342,34 | CAD 2.154,45 | CAD 9.328,77 |
| Electr. water blaster | Karcher K2.26 1500PSI | 480bar, HP 59 | New or As New | 4 | CAD 2,39 | CAD 35,78 | CAD 225,17 | CAD 975,01 |
| Jack hammer | - | - | New or As New | 1 | CAD 0,61 | CAD 9,11 | CAD 57,33 | CAD 248,25 |
| Hand drilller | - | - | New or As New | 7 | CAD 2,78 | CAD 41,69 | CAD 262,37 | CAD 1.136,05 |
| Vibrating plates | - | HP 3.3 | New or As New | 1 | CAD 1,16 | CAD 17,41 | CAD 109,57 | CAD 474,42 |
| Diesel welding machine | - | HP 35 | New or As New | 16 | CAD 3,94 | CAD 59,11 | CAD 372,00 | CAD 1.610,75 |
| El. Welding machine | - | HP 15 | New or As New | 36 | CAD 1,81 | CAD 27,16 | CAD 170,93 | CAD 740,11 |

STANDBY RATE NOTES

1. The following rates apply to reimbursable Change Order Work only (i.e., Section 5 of this Exhibit 2).
2. The standby rates include cost of equipment rental, insurance, licenses, depreciation, interest, taxes (excluding HST), overhead, mark-up and profit.
3. The standby rates exclude operator's labour costs.

Exhibit 2 – Appendix E
Escalation Data
Agreement No: CH0007-001

EXHIBIT 2 - APPENDIX E

ESCALATION DATA




EXHIBIT 2 - APPENDIX E
Table E-1
ACCORDING TO ACTION ITEM N° 32 4th Sept.2013
Present Day Cost of Cement, Rebar and Structural Steel Contained in Proposal Price,
and Distribution over the Period of the Work - Dollars

| | YEAR and QUARTER | | | | | | | | | | | | | | | | | | | | Total Cost | | |
|------------------|------------------|-------|------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|------|---------------|------|------------|
| | 2013 | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | | 2018 | | | | |
| | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| Cement | 0.00 | 59.46 | 251,838.29 | 3,245,681.00 | 6,342,070.62 | 4,344,827.08 | 3,599,004.69 | 4,020,996.63 | 3,587,732.32 | 1,330,388.53 | 177,026.73 | 1,200,130.97 | 1,409,979.33 | 2,085,034.99 | 468,294.42 | 518,830.82 | 562,711.36 | 354,142.13 | 321,019.52 | 0.00 | 0.00 | 0.00 | 33,819,769 |
| Rebar | 0.00 | 0.00 | 181,706.14 | 3,515,559.91 | 7,441,816.98 | 6,006,940.07 | 5,497,990.19 | 5,594,119.92 | 3,736,059.45 | 1,267,018.91 | 0.00 | 1,374,931.53 | 384,920.12 | 539,439.30 | 89,858.69 | 93,143.82 | 167,820.88 | 76,347.80 | 0.00 | 0.00 | 0.00 | 0.00 | 35,967,674 |
| Structural Steel | 0.00 | 0.00 | 7,698.00 | 1,102,400.00 | 1,664,054.06 | 1,714,005.99 | 2,532,013.52 | 5,024,777.54 | 10,655,031.00 | 8,092,952.85 | 3,528,532.51 | 1,151,571.45 | 546,474.52 | 329,714.39 | 320,052.55 | 141,641.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 36,810,920 |

Exhibit 2 – Appendix E
Escalation Data
Agreement No: CH0007-001

| PRICE ITEM | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS | MATERIALS COST/UNIT (CAD) | COST OF MATERIALS | CEMENT PORTION | REBAR PORTION | STRUCTURAL STEEL PORTION | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | 2018 | | | | | | |
|--|---|------------------------|-----------------|-----------------------------|---------------------------|-------------------|----------------|---------------|--------------------------|------|----|-----------|------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|--------------|------------|--------------|--------------|------------|------|
| | | | | | | | | | | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Structural Steel | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 189 | Structural Steel - Painted/Galvanized Sections | kg | 263,500 | 5.46 | 1,438,710 | NA | NA | 1,320,029.60 | | | | | 503,583.30 | 162,695.50 | 485,042.40 | 168,710.40 | | | | | | | | | | |
| Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 190 | Non Embedded Galvanized Miscellaneous Steel | kg | 58,500 | 9.55 | 558,675 | NA | NA | 413,995.00 | | | | | 154,964.53 | 50,065.47 | 154,741.77 | 53,823.23 | | | | | | | | | | |
| Embedded Miscellaneous Metal | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 192 | Embedded Galvanized Miscellaneous Steel (Frames, L Shapes, Sleeves, etc.) | kg | 12,800 | 8.02 | 110,767 | NA | NA | 77,871.00 | | | | | 29,511.49 | 5,470.51 | 29,000.03 | 10,086.97 | | | | | | | | | | |
| 192A | Shear Studs | kg | 3,420 | 2.55 | 8,721 | NA | NA | 4,110.50 | | | | | 1,618.83 | 388.97 | 1,266.38 | 480.44 | | | | | | | | | | |
| 193 | Electric Bearing Pads | each | 110 | 64.31 | 7,074 | NA | NA | 6,338.00 | | | | | 776.27 | 2,338.61 | 820.39 | | | | | | | | | | | |
| 194 | Bridge Expansion Joints | each | 12 | 64.92 | 779 | NA | NA | 700.54 | | | | | | 85.33 | 259.88 | 90.39 | | | | | | | | | | |
| 195 | Anchor Bolts Grade 55 ASTM F1554 | kg | 11,000 | 2.60 | 28,800 | NA | NA | 16,149.90 | | | | | 6,103.16 | 1,971.79 | 5,991.09 | 2,083.86 | | | | | | | | | | |
| SPILLWAY DISCHARGE CHANNEL - PHASE 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 197 | Concrete - Slabs [CVC] | m ² | 1,725 | 211.00 | 363,975 | 124,183.31 | NA | NA | | | | 75,290.52 | 48,872.79 | | | | | | | | | | | | | |
| 198 | Concrete - Walls [CVC] | m ² | 700 | 213.97 | 149,779 | 50,385.11 | NA | NA | | | | | 48,785.58 | 1,599.53 | | | | | | | | | | | | |
| 199 | Overbreak Concrete | m ² | 1,600 | 206.39 | 330,224 | 128,583.37 | NA | NA | | | | | 128,583.37 | | | | | | | | | | | | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | Reinforcement including Dowels | kg | 145,000 | 1.37 | 198,650 | NA | 195,641.25 | NA | | | | | 134,925.00 | 0.00 | 0.00 | 58,788.75 | 1,937.50 | | | | | | | | | |
| SPILLWAY DISCHARGE CHANNEL - PHASE 2 - OPTIONAL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 203 | Concrete - Slabs [CVC] | m ² | 700 | 187.77 | 131,439 | 53,984.05 | NA | NA | | | | | | | | | | | | | | | | | | |
| 204 | Concrete - Walls [CVC] | m ² | 300 | 228.89 | 68,667 | 21,593.62 | NA | NA | | | | | | | | | | | | | | | | | | |
| 205 | Overbreak Concrete | m ² | 700 | 196.06 | 137,242 | 53,879.34 | NA | NA | | | | | | | | | | | | | | | | | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 206 | Reinforcement including Dowels | kg | 90,000 | 1.37 | 123,300 | NA | 121,452.50 | NA | | | | | | | | | | | | | | | | | | |
| SPILLWAY DISCHARGE CHANNEL - PHASE 3 - OPTIONAL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 209 | Concrete - Slabs [CVC] | m ² | 2,000 | 187.77 | 375,540 | 143,957.49 | NA | NA | | | | | | | | | | | | | | | | | | |
| 210 | Concrete - Walls [CVC] | m ² | 200 | 228.89 | 45,778 | 14,399.75 | NA | NA | | | | | | | | | | | | | | | | | | |
| 211 | Overbreak Concrete | m ² | 2,000 | 196.06 | 392,120 | 153,740.98 | NA | NA | | | | | | | | | | | | | | | | | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 212 | Reinforcement including Dowels | kg | 160,000 | 1.37 | 219,200 | NA | 215,880.00 | NA | | | | | | | | | | | | | | | | | | |
| INTAKE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| INTAKE STRUCTURE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE INTAKE & GATE HOIST BUILDING | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 228 | Concrete - Substructure below El. 45.5 m | m ² | 143,305 | 183.57 | 26,306,499 | 9,844,716.69 | NA | NA | | | | | 299,418.00 | 1,255,236.71 | 1,751,229.05 | 1,706,894.14 | 1,729,061.60 | 1,649,640.78 | 676,609.43 | 0.00 | 748,890.25 | 27,736.68 | | | | |
| 229 | Concrete - Gate Hoist Building and Elevator Room above El. 45.5 m | m ² | 1,646 | 192.27 | 316,476 | 106,325.51 | NA | NA | | | | | | | | | | | | | | | | | | |
| 230 | Overbreak Concrete | m ² | 3,000 | 182.81 | 548,430 | 216,356.24 | NA | NA | | | | | 7,144.17 | 29,331.14 | 39,455.90 | 38,457.02 | 38,956.46 | 37,031.99 | 15,173.26 | 0.00 | 10,431.94 | 386.37 | | | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 236 | Reinforcement including Dowels | kg | 10,647,650 | 1.54 | 16,397,383 | NA | 14,366,341.76 | NA | | | | | 427,686.79 | 1,792,971.89 | 2,501,444.10 | 2,438,116.40 | 2,469,780.25 | 2,336,336.08 | 866,464.48 | 0.00 | 1,363,038.13 | 50,483.63 | | | | |
| POWERHOUSE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBSTRUCTURE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257 | Concrete - Powerhouse Substructure below El. 6.5 m | m ² | 131,135 | 180.80 | 23,709,208 | 9,006,666.30 | NA | NA | | | | | 120,813.77 | 1,201,229.41 | 1,753,822.17 | 1,047,358.82 | 959,634.30 | 728,773.70 | 363,033.93 | 60,102.23 | 0.00 | 0.00 | 1,060,675.24 | 1,501,230.45 | 209,927.27 | |
| 258 | Concrete - Substructure between lines 6 and 7, including Sump Pit, Shafts for Stair & Elevator up to El. 65.5m | m ² | 14,882 | 193.05 | 2,872,970 | 961,322.10 | NA | NA | | | | | 15,759.38 | 62,249.55 | 46,805.00 | 231,642.04 | 184,287.72 | 36,049.58 | 0.00 | 0.00 | 66,090.89 | 187,057.26 | 131,880.69 | | | |
| 259 | Concrete - Slabs and Walls between El. 6.3 and 15.5, including North and South Service Bays, Slab on grade, Beams and Bases for GSI transformer up to El. 18.8 m, Air vent enclosures on Powerhouse tailrace deck and North Service Bay. Access enclosure to stair no. 8 and Oil/Water separator enclosure. | m ² | 6,892 | 193.17 | 1,329,310 | 432,278.42 | NA | NA | | | | | 7,086.53 | 27,991.80 | 21,046.84 | 104,162.65 | 82,868.79 | 16,210.44 | 0.00 | 0.00 | 29,719.14 | 84,114.18 | 59,078.05 | | | |
| 260 | Concrete - Slab on Steel Deck including Mezzanines | m ² | 3,718 | 187.97 | 698,872 | 287,616.92 | NA | NA | | | | | | | | | | | | | | | | | | |
| 261 | Secondary Concrete of Draft Tube Cone Steel Liner | m ² | 2,420 | 189.91 | 457,182 | 156,323.04 | NA | NA | | | | | | | | | | | | | | | | | | |
| 262 | Overbreak Concrete | m ² | 8,500 | 184.58 | 1,566,598 | 613,037.68 | NA | NA | | | | | 7,560.71 | 87,206.18 | 108,816.20 | 119,399.37 | 111,085.43 | 88,720.42 | 44,403.10 | 7,245.33 | 0.00 | 0.00 | 13,915.88 | 22,445.79 | 3,738.98 | |
| 272 | Prefabricated Concrete Longitudinal Sandwich Fire Walls (refer to attached sketches) | m ² | 2,500 | 1,187.91 | 2,993,333 | 908,345.24 | NA | NA | | | | | 11,202.91 | 129,214.76 | 181,234.85 | 176,915.82 | 184,596.45 | 128,494.04 | 65,792.44 | 11,476.25 | 0.00 | 0.00 | 36,817.63 | 33,259.61 | 5,540.08 | |
| 273 | Prefabricated Transverse Concrete Fire Walls | m ² | 880 | 991.97 | 873,694 | 280,434.59 | NA | NA | | | | | 3,211.86 | 37,051.04 | 48,226.56 | 50,723.23 | 47,191.20 | 96,840.68 | 18,863.32 | 3,290.43 | 0.00 | 0.00 | 5,369.85 | 5,525.99 | 1,388.49 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274 | Reinforcement including Dowels | kg | 10,918,631 | 1.54 | 16,814,892 | NA | 14,731,962.88 | NA | | | | | 181,692.83 | 2,095,667.53 | 2,614,967.93 | 2,869,393.24 | 2,665,503.70 | 2,083,984.37 | 1,067,053.33 | 186,128.07 | 0.00 | 0.00 | 334,411.99 | 539,399.78 | 89,852.11 | |
| 277 | Threaded Rebar (Dia. 33 mm) with Couplers | kg | 800 | 1.38 | 1,104 | NA | 1,079.40 | NA | | | | | 13.31 | 155.55 | 191.61 | 210.23 | 195.59 | 152.69 | 78.13 | 13.64 | | | | 24.49 | 99.52 | 6.58 |
| SUBSTRUCTURE (Intake and Powerhouse) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STRUCTURAL STEEL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Beams - Rolled Sections, Painted | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Beams Under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, and girt channels, steel connections for prefab concrete panels and building attachment steel to girders/wall) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 280 | Beams Under 60 kg/m | kg | 618,443 | 5.54 | 3,426,174 | NA | NA | 2,404,915.61 | | | | | | 0.00 | 467,602.91 | 1,213,035.12 | 643,062.66 | 81,114.82 | | | | | | | | |
| Beams From 61 to 150 kg/m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 281 | Beams From 61 to 150 kg/m | kg | 359,270 | 5.04 | 1,810,721 | NA | NA | 1,288,162.59 | | | | | | 0.00 | 250,476.06 | 649,779.93 | 344,462.67 | 43,449.93 | | | | | | | | |
| 282 | Beams Over 150 kg/m | kg | 316,266 | 4.53 | 1,432,685 | NA | NA | 1,022,171.71 | | | | | | 0.00 | 198,755.61 | 515,803.03 | 273,335.06 | 34,478.61 | | | | | | | | |
| 282A | W beam Stiffener (for Generator Floor Beams) | kg | 34,000 | 17.18 | 584,160 | NA | NA | 412,080.00 | | | | | | 0.00 | 80,126.67 | 207,861.06 | 120,132.79 | 13,899.53 | | | | | | | | |
| 282B | W beam Bearing plate (for Generator Floor Beams) | kg | 11,200 | 14.12 | 158,144 | NA | NA | 113,120.00 | | | | | | 0.00 | 21,995.56 | 57,059.90 | 30,248.99 | 3,615.56 | | | | | | | | |
| W shape Columns - Rolled Sections Painted | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Columns Under 60 kg/m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 283 | Columns Under 60 kg/m | kg | 1,697 | 6.73 | 11,421 | NA | NA | 8,141.36 | | | | | | 0.00 | 1,582.89 | 4,106.75 | 2,177.10 | 274.62 | | | | | | | | |
| 284 | Columns from 61 to 150 kg/m | kg | 89,054 | 5.59 | 497,812 | NA | NA | 356,216.00 | | | | | | 0.00 | 69,264.22 | 179,828.19 | 95,254.37 | 12,015.22 | | | | | | | | |
| 285 | Columns Over 150 kg/m | kg | 236,296 | 5.22 | 1,239,063 | NA | NA | 811,110.00 | | | | | | 0.00 | 157,715.83 | 409,139.45 | 238,895.85 | 27,358.87 | | | | | | | | |
| Grade W Beams - Rolled Sections Galvanized | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 285A | Grade WT Beams Under 60 kg/m | kg | 1,700 | 18.49 | 31,433 | NA | NA | 24,690.46 | | | | | | 0.00 | 4,800.92 | 12,454.34 | 6,602.38 | 832.81 | | | | | | | | |
| 285B | Grade WT Beams From 61 to 150 kg/m | kg | 34,000 | 11.60 | 394,400 | NA | NA | 291,890.00 | | | | | | 0.00 | 56,756.39 | 147,234.92 | 78,053.20 | 9,845.50 | | | | | | | | |
| 285C | Grade WT Beams Over 150 kg/m | kg | 291,900 | 7.67 | 2,239,163 | NA | NA | 1,484,611.00 | | | | | | 0.00 | 38,721.12 | 768,987.29 | 397,054.90 | 50,034.28 | | | | | | | | |
| 285D | Grade WT Beams Bearing Plates | kg | 15,800 | 14.12 | 223,096 | NA | NA | 159,580.00 | | | | | | 0.00 | 31,029.44 | 80,495.21 | 42,672.68 | 5,382.66 | | | | | | | | |
| 285E | Grade WT Beams Stiffener | kg | 11,200 | 17.10 | 191,520 | NA | NA | 135,744.00 | | | | | | 0.00 | 28,194.67 | 68,471.88 | 36,298.79 | 4,578.67 | | | | | | | | |
| Columns & Girders - Built up Sections, Painted | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 292 | Crane Girders in Welded Plates, 700-800 kg/m | kg | 385,449 | 5.38 | 2,073,716 | NA | NA | 1,516,496.68 | | | | | | 0.00 | 293,767.62 | 763,923.55 | 403,916.21 | 50,949.30 | | | | | | | | |
| 298 | Main Building Columns, in Rolled Shapes & Plates, Welded Continuously. | kg | | | | | | | | | | | | | | | | | | | | | | | | |

Exhibit 2 - Appendix F
Contractor's Work Force not Covered by the Collective Agreement
Agreement No: CH0007-001

EXHIBIT 2 - APPENDIX F

WAGES AND BENEFITS

OF

CONTRACTOR'S WORK FORCE NOT COVERED BY THE COLLECTIVE AGREEMENT

Exhibit 2 - Appendix F
Contractor's Work Force not Covered by the Collective Agreement
Agreement No: CH0007-001

WAGES AND BENEFITS OF CONTRACTOR'S WORK FORCE NOT COVERED BY THE COLLECTIVE AGREEMENT

1. PURPOSE

- 1.1 This Appendix F lists the Wages and Benefits to be charged by Contractor for Contractor's Work Force who are not covered by the Collective Agreement. Tables 1.1, 1.2 and 1.3 list each position, and the associated Wages and Benefits to be charged for that position.
- 1.2 Positions not identified in this Appendix F, will not be reimbursable. Any changes to the positions listed in the Tables must be approved by Company, which approval shall be solely at Company discretion.
- 1.3 Contractor will be required to submit proof of payment made to each worker.

2. APPLICABLE WORK FORCE

- 2.1 The Wages and Benefits listed in Table 1.1 apply to staff of the Contractor, executing the Work at Site, who are not covered by the Collective Agreement.
- 2.2 Subject to Section 2.3 below, Wages and Benefits of staff of Contractor's Subcontractors (and their subcontractors of every tier), executing Work at Site, who are not covered by the Collective Agreement, are included in the Non Labour Component of the Contract Price.
- 2.3 Wages and Benefits of staff of the following Subcontractors only, who are executing Work at Site and are not covered by the Collective Agreement are to be included in the Reimbursable Cost of Labour and are to be paid in accordance with the rates listed in Table 1.3.

Subcontractor 1: Spillway Preparation
Subcontractor 2: Concrete Production

As of Effective Date, the Subcontracts for the above work have not yet been finalized. Consequently, Contractor shall submit names and rates of Subcontractor staff when these details have been finalized. The number of staff and their rates shall be subject to the approval of Company. If Contractor decides to self-perform the above itemized work, the Subcontract for that work will be deleted from Table 1.3.

- 2.4 Wages and Benefits of the Contractor's staff who are executing Work in its office in Goose Bay (three persons only) and in its office in St John's (four persons only) are to be included

in the Reimbursable Cost of Labour and are to be paid in accordance with the rates listed in Table 1.2.

3.0 DEFINITIONS

3.1 Regular Time Labour Rate means the Wages and Benefits to be charged for the first eight hours worked on Monday to Friday.

3.2 OT1 Labour Rate means the Wages and Benefits to be charged for hours worked in excess of eight hours Monday to Friday, and all hours worked on Saturday.

3.3 OT2 Labour Rate means the Wages and Benefits to be charged for hours worked on Sunday.

4.0 APPLICABLE PERIOD FOR RATES LISTED AND ESCALATION

4.1 The rates listed in this Appendix F apply to hours worked in 2013. These rates shall be increased by 5% per year in successive years. Consequently, the factor to be applied to the rates for 2013 for hours worked in each successive year shall be as listed below. Factor shall be applied from the first day of the year.

| YEAR | FACTOR FOR THE YEAR |
|------|---------------------|
| 2014 | 1.0500 |
| 2015 | 1.1025 |
| 2016 | 1.1576 |
| 2017 | 1.2155 |
| 2018 | 1.2763 |

5.0 ADJUSTMENTS FOR BURDENS

5.1 The burden listed in Column (4) of Table 1 contains both Contractor burden and the government burdens for CPP, EI, HAPSET and WHSCC. The amount included for government CPP, EI and WHSCC, assumes that the maximum annual earnings for the worker for the year have not been reached. However, once the maximum for the year has been reached the burden listed in column (4) should include only the Contractor's portion of burden plus HAPSET.

5.2 Contractor and Company agree to use the burdens as listed in column (4) throughout the period of the Work; on Final Completion an audit will be made to identify any

Exhibit 2 - Appendix F
Contractor's Work Force not Covered by the Collective Agreement
Agreement No: CH0007-001

overpayments for each worker and the total amount of overpayment shall be a set off against payments owing to Contractor in accordance with Article 25.10 (b).

- 5.3 Colum (4) of Table 1 includes the government burdens for CPP, EI, HAPSET and WHSCC based on the 2013 rates. Should these rates change in future years the burden in column (4) will be adjusted in accordance with the applicable rate.

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 Contractor's Work Force not Covered by the Collective Agreement
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TABLE 1.1
CONTRACTOR'S WORK FORCE AT SITE
NOT COVERED BY THE COLLECTIVE AGREEMENT
RATES FOR 2013

| <i>Astaldi at Site</i> (1) | <i>Category</i> (2) | <i>Wage per Hour</i> (3) | <i>Burden</i> (4) | <i>Total Rate per hour</i> (5) | <i>Overtime 1</i> (6) | <i>Overtime 2</i> (7) | <i>Reference Sheet with Complete Details</i> (8) |
|-------------------------------|--|-----------------------------|----------------------|-----------------------------------|--------------------------|--------------------------|---|
| Project Q.A. manager | <i>Management</i> | \$68.00 | \$8.66 | \$76.66 | \$112.16 | \$147.67 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Site Agent (Project Manager) | <i>Management</i> | \$79.33 | \$8.89 | \$88.22 | \$129.50 | \$170.78 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Deputy Project Manager | <i>Management</i> | \$85.54 | \$9.10 | \$94.64 | \$139.13 | \$183.62 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Quality Control Responsible | <i>Project Supervision / Project Quality Assurance</i> | \$54.40 | \$8.39 | \$62.79 | \$91.35 | \$119.92 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Third party Q.A. Inspector | <i>Contract Administration</i> | \$44.20 | \$8.18 | \$52.38 | \$75.75 | \$99.11 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Contract Adm. Responsible | <i>Contract Administration</i> | \$54.40 | \$8.39 | \$62.79 | \$91.35 | \$119.92 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Contract Adm. Assistant | <i>Contract Administration</i> | \$44.20 | \$8.18 | \$52.38 | \$75.75 | \$99.11 | Appendix I, 1.1, Rates and Hours Sheets for Staff |

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 Contractor's Work Force not Covered by the Collective Agreement
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| <i>Astaldi at Site</i> (1) | <i>Category</i> (2) | <i>Wage per Hour</i> (3) | <i>Burden</i> (4) | <i>Total Rate per hour</i> (5) | <i>Overtime 1</i> (6) | <i>Overtime 2</i> (7) | <i>Reference Sheet with Complete Details</i> (8) |
|-----------------------------------|-----------------------------|-----------------------------|----------------------|-----------------------------------|--------------------------|--------------------------|---|
| Project Control Responsible | <i>Project Control</i> | \$66.41 | \$8.85 | \$75.26 | \$110.06 | \$144.87 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Project Control Assistant | <i>Project Control</i> | \$45.33 | \$8.21 | \$53.54 | \$77.48 | \$101.42 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Technical Staff | <i>Quality Control</i> | \$44.20 | \$8.18 | \$52.38 | \$75.75 | \$99.11 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Safety Responsible | <i>Health & Safety</i> | \$51.57 | \$8.33 | \$59.90 | \$87.02 | \$114.15 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Safety Officer | <i>Health & Safety</i> | \$44.20 | \$8.18 | \$52.38 | \$75.75 | \$99.11 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Representative Office Responsible | <i>Public Relations</i> | \$56.67 | \$8.43 | \$65.10 | \$94.83 | \$124.55 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Representative Office Assistant | <i>Public Relations</i> | \$44.61 | \$8.18 | \$52.79 | \$76.36 | \$99.93 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Technical Manager | <i>Technical Department</i> | \$56.67 | \$8.43 | \$65.10 | \$94.83 | \$124.55 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Tech. Office Responsible | <i>Technical Department</i> | \$51.68 | \$8.33 | \$60.01 | \$87.19 | \$114.37 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Tech. Office Assistant | <i>Technical Office</i> | \$44.61 | \$8.19 | \$52.80 | \$76.38 | \$99.95 | Appendix I, 1.1, Rates and Hours Sheets for Staff |

Exhibit 2 - Appendix F
 Contractor's Work Force not Covered by the Collective Agreement
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| <i>Astaldi at Site</i> (1) | <i>Category</i> (2) | <i>Wage per Hour</i> (3) | <i>Burden</i> (4) | <i>Total Rate per hour</i> (5) | <i>Overtime 1</i> (6) | <i>Overtime 2</i> (7) | <i>Reference Sheet with Complete Details</i> (8) |
|---------------------------------|-----------------------------------|-----------------------------|----------------------|-----------------------------------|--------------------------|--------------------------|---|
| Draftman/CAD Operator | <i>Technical Office</i> | \$49.74 | \$8.29 | \$58.03 | \$84.22 | \$110.41 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Qty. Surveyor Responsible | <i>Quantity Survey Office</i> | \$54.40 | \$8.39 | \$62.79 | \$91.35 | \$119.92 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Qty. Surveyor Assistant | <i>Quantity Survey Office</i> | \$49.74 | \$8.29 | \$58.03 | \$84.22 | \$110.41 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Surveyor Responsible | <i>Survey Office</i> | \$54.40 | \$8.39 | \$62.79 | \$91.35 | \$119.92 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Senior Engineer | <i>Environment</i> | \$51.57 | \$8.33 | \$59.90 | \$87.02 | \$114.15 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Engineer | <i>Environment</i> | \$44.20 | \$7.99 | \$52.19 | \$75.46 | \$98.73 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Planning Responsible | <i>Planning</i> | \$51.57 | \$8.33 | \$59.90 | \$87.02 | \$114.15 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Planning Assistant | <i>Planning</i> | \$44.20 | \$8.18 | \$52.38 | \$75.75 | \$99.11 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Permanent Materials Responsible | <i>Permanent Materials Office</i> | \$54.40 | \$8.39 | \$62.79 | \$91.35 | \$119.92 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Administrative Manager | <i>Administration Management</i> | \$67.72 | \$8.74 | \$76.46 | \$111.86 | \$147.27 | Appendix I, 1.1, Rates and Hours Sheets for Staff |

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 Contractor's Work Force not Covered by the Collective Agreement
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| <i>Astaldi at Site</i> (1) | <i>Category</i> (2) | <i>Wage per Hour</i> (3) | <i>Burden</i> (4) | <i>Total Rate per hour</i> (5) | <i>Overtime 1</i> (6) | <i>Overtime 2</i> (7) | <i>Reference Sheet with Complete Details</i> (8) |
|-------------------------------|--|-----------------------------|----------------------|-----------------------------------|--------------------------|--------------------------|---|
| Personnel Office Responsible | <i>Human Resources</i> | \$51.57 | \$8.33 | \$59.90 | \$87.02 | \$114.15 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Computer Operat./Programmer | <i>EDP Main frame</i> | \$37.40 | \$8.05 | \$45.45 | \$65.34 | \$85.24 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Purchasing Responsible | <i>Purchasing & Custom Clearance</i> | \$51.57 | \$8.33 | \$59.90 | \$87.02 | \$114.15 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Warehouse Responsible | <i>Warehouse</i> | \$52.74 | \$8.49 | \$61.23 | \$89.02 | \$116.81 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| General Services Responsible | <i>General Services</i> | \$44.20 | \$8.18 | \$52.38 | \$75.75 | \$99.11 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Procurement Manager | <i>Procurement</i> | \$63.21 | \$8.65 | \$71.86 | \$104.96 | \$138.07 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Production Manager | <i>Production Management</i> | \$94.40 | \$9.27 | \$103.67 | \$152.68 | \$201.69 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Deputy Production Manager | <i>Production Management</i> | \$59.50 | \$8.49 | \$67.99 | \$99.16 | \$130.33 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Prod. Section Chief | <i>Production Management</i> | \$51.68 | \$8.33 | \$60.01 | \$87.19 | \$114.37 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Planning Assistant | <i>Planning</i> | \$66.41 | \$9.45 | \$75.86 | \$110.97 | \$146.07 | Appendix I, 1.1, Rates and Hours Sheets for Staff |

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 Contractor's Work Force not Covered by the Collective Agreement
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| <i>Astaldi at Site</i> (1) | <i>Category</i> (2) | <i>Wage per Hour</i> (3) | <i>Burden</i> (4) | <i>Total Rate per hour</i> (5) | <i>Overtime 1</i> (6) | <i>Overtime 2</i> (7) | <i>Reference Sheet with Complete Details</i> (8) |
|-------------------------------|---------------------------------------|-----------------------------|----------------------|-----------------------------------|--------------------------|--------------------------|---|
| Plant Manager | <i>Plant Management</i> | \$56.67 | \$8.43 | \$65.10 | \$94.83 | \$124.55 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Mech. W/shop Section Chief | <i>General Mechanical Workshop</i> | \$51.68 | \$8.39 | \$60.07 | \$87.27 | \$114.48 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Mech. W/shop Section Chief | <i>General Mechanical Workshop</i> | \$52.74 | \$8.44 | \$61.18 | \$88.94 | \$116.71 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Elec. W/shop Section Chief | <i>Electrical Mechanical Workshop</i> | \$51.68 | \$8.33 | \$60.01 | \$87.19 | \$114.37 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| Plant Section Chief | <i>Plants</i> | \$52.74 | \$8.44 | \$61.18 | \$88.94 | \$116.71 | Appendix I, 1.1, Rates and Hours Sheets for Staff |
| | | | | | | | |

Exhibit 2 - Appendix F
 Contractor's Work Force not Covered by the Collective Agreement
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TABLE 1.2
CONTRACTOR'S WORK FORCE OFF SITE OFFICES
NOT COVERED BY THE COLLECTIVE AGREEMENT
RATES FOR 2013

| <i>Astaldi at Goose Bay</i> | <i>Category</i> | <i>Wage per Hour</i> | <i>Burden</i> | <i>Total Rate per hour</i> | <i>Overtime 1</i> | <i>Overtime 2</i> | <i>Reference Sheet with Complete Details</i> |
|-----------------------------|--|----------------------|---------------|----------------------------|-------------------|-------------------|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Purchasing Responsible | <i>Purchasing & Custom Clearance</i> | \$51.57 | \$8.33 | \$ 59.90 | \$ 87.02 | \$ 114.15 | Est Hours = 11,200 Included in Price Item 6 |
| Purchaser | <i>Oper. Eng. - Clerical Group 3</i> | | | \$ 57.21 | (i) \$ 85.81 | \$ 114.42 | Est. Hours = 10,200 Included in Price Item 6 |
| Secretary | <i>Oper. Eng. - Clerical Group 2</i> | | | \$ 55.40 | (ii) \$ 83.09 | \$ 110.79 | Est. Hours = 11,200 Included in Price Item 6 |

| <i>Astaldi at St John's</i> | <i>Category</i> | <i>Wage per Hour</i> | <i>Burden</i> | <i>Total Rate per hour</i> | <i>Overtime 1</i> | <i>Overtime 2</i> | <i>Reference Sheet with Complete Details</i> |
|-----------------------------------|---|----------------------|---------------|----------------------------|-------------------|-------------------|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Representative Office Responsible | <i>Public Relations</i> | \$56.67 | \$8.43 | \$ 65.10 | \$ 94.83 | \$ 124.55 | Est. Hours = 11,200 Included in Price Item 6 |
| Representative Office Assistant | <i>Public Relations</i> | \$44.61 | \$8.18 | \$ 52.79 | \$ 76.36 | \$ 99.93 | Est. Hours = 10,600 Included in Price Item 6 |
| Clerk | <i>Operating Engineers - Clerical Group 2</i> | | | \$ 55.40 | \$ 83.09 | \$ 110.79 | Est. Hours = 11,200 Included in Price Item 6 |
| Secretary | <i>Oper. Eng. - Clerical Group 2</i> | | | \$ 55.40 | \$ 83.09 | \$ 110.79 | Est. Hours = 11,200 Included in Price Item 6 |

Note, for the record: The hours listed in column (8) of this Table 1.2 were originally a part of the Rates and Hours Sheet for Table 1.1 above (Refer to Appendix I-1.1). Since these hours apply to Off-Site offices, they have been listed separately.

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 Contractor's Work Force not Covered by the Collective Agreement
 Agreement No: CH0007-001

TABLE 1.3
SUBCONTRACTOR'S WORK FORCE AT SITE
NOT COVERED BY THE COLLECTIVE AGREEMENT
RATES FOR 2013

| <i>Subcontractor 1 at Site</i> | <i>Category</i> | <i>Wage per Hour</i> | <i>Burden</i> | <i>Total Rate per hour</i> | <i>Overtime 1</i> | <i>Overtime 2</i> | <i>Reference Sheet with Complete Details</i> |
|--------------------------------|-----------------|----------------------|---------------|----------------------------|-------------------|-------------------|--|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | | | | |
| | | | | | | | |

| <i>Subcontractor 2 at Site</i> | <i>Category</i> | <i>Wage per Hour</i> | <i>Burden</i> | <i>Total Rate per hour</i> | <i>Overtime 1</i> | <i>Overtime 2</i> | <i>Reference Sheet with Complete Details</i> |
|--------------------------------|-----------------|----------------------|---------------|----------------------------|-------------------|-------------------|--|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | | | | |
| | | | | | | | |

Note for the record: The rates and hours listed in this Table 1.3 were never included in the Rates and Hours Sheet for Table 1.1 above (Refer to Appendix I-1.1). They have been added as a concession to the Contractor, and it is to be expected that there will be a reduction in Contractor's own supervision because of these additions.

Exhibit 2 - Appendix -G
Contractor Share of Labour Cost Difference
Agreement No: CH0007-001

EXHIBIT 2 - APPENDIX G

CONTRACTOR SHARE OF LABOUR COST DIFFERENCE

Table 1 - Contractor Share of Labour Cost Difference if
 Total Reimbursable Cost of Labour is Less than the Final Adjusted Target Cost of Labour

| | Labour Cost Difference CAD Million | Company Share of Saving CAD Million | Company Cumulative Share of Saving CAD Million | Contractor Share of Saving CAD Million | Contractor Cumulative Share of Saving CAD Million |
|--|---------------------------------------|---|---|--|--|
| Amount by which Total Reimbursable Cost of Labour is Less than Final Adjusted Target Cost of Labour | First Portion From 0 to \$10 | \$10.00 | \$10.00 | 0 | \$0 |
| | Next Portion From \$10 to \$25 | 14.55 | \$24.55 | \$.45 | \$0.45 |
| | Next Portion From \$25 to \$50 | \$22.25 | \$46.80 | \$2.75 | \$3.2 |
| | Next Portion From \$50 to \$75 | \$17.50 | \$64.30 | \$7.50 | \$10.70 |
| | Next Portion From \$75 to \$100 | \$12.50 | \$76.80 | \$12.50 | \$23.20 |
| | Next Portion From \$100 to \$125 | \$6.00 | \$82.80 | \$19.00 | \$42.20 |
| | Next Portion From \$125 to \$150 | \$.50 | \$83.30 | \$24.50 | \$66.70 |
| | Greater than \$150 | All | \$83.30 + All in excess of \$150.00 | 0.00 | \$66.70 |

Note: Any sharing for a part portion shall be pro rated according to the part portion.

Table 2 - Contractor Share of Labour Cost Difference (i.e. Credit to Company) if
 Total Reimbursable Cost of Labour is Greater than the Final Adjusted Target Cost of Labour

| | Labour Cost Difference CAD Million | Company Share of Excess CAD Million | Company Cumulative Share of Excess CAD Million | Contractor Credit to Company CAD Million | Contractor Cumulative Credit to Company CAD Million |
|---|---------------------------------------|---|---|--|--|
| Amount by which Total Reimbursable Cost of Labour Is Greater than Final Adjusted Target Cost of Labour | First Portion From 0 to \$10 | \$10.00 | \$10.00 | 0 | \$0 |
| | Next Portion From \$10 to \$25 | 14.55 | \$24.55 | .45 | \$0.45 |
| | Next Portion From \$25 to \$50 | \$22.25 | \$46.80 | 2.75 | \$3.2 |
| | Next Portion From \$50 to \$75 | \$17.50 | \$64.30 | 7.50 | \$10.70 |
| | Greater than \$75 | 0.00 (Note 2) | \$64.30 (Note 2) | All (Note 2) | \$10.70 + All in excess of \$75 |

Note (1): Any sharing for a part portion shall be pro rated according to the part portion.

Note (2) Contractor shall take the risk for all costs in excess of LMAX.

Exhibit 2 - Appendix H
Sworn Declaration
Agreement No: CH0007

APPENDIX H
SWORN DECLARATION

SWORN DECLARATION – ACCOMPANYING INVOICE FOR PAYMENT

CANADA) IN THE MATTER OF THE AGREEMENT
) BETWEEN COMPANY AND
 PROVINCE OF NEWFOUNDLAND) **[CONTRACTOR]**
 AND LABRADOR) DATED AS OF **[DATE]** FOR THE
) **[DESCRIPTION OF WORK]**
) BEING AGREEMENT NO. **[INSERT NO.]**
) (the “Agreement”)

I, **[●]**, of the City of **[●]**, in the **[Province]/[State]** of **[●],[Country]**, do solemnly declare that:

1. I am the **[title]** of **[full legal name of Contractor]** and as such have personal knowledge of the facts set out in this Declaration.
2. Defined terms used in this sworn Declaration but not defined in this Declaration have the meanings given to those terms in the Agreement.
3. All (a) payments due to Subcontractors, (b) wages and benefit payments due to any of the Contractor’s Personnel, and (c) Taxes, contributions, premiums, allowances and remittances due to any Authority, pension fund, benefit plan or union fund in accordance with a collective agreement or Applicable Laws, have been paid in a timely manner on or before the date of the Invoice and associated Payment Certificate to which this Declaration relates, subject to any withholdings or holdbacks required by Applicable Laws.
4. Title to the applicable part of the Work will pass to Company in accordance with Article 27 of the Agreement.
5. (a) There are no known outstanding Claims under the Agreement, including Claims by Contractor against Company, except for those Claims which have already been communicated to Company in a timely manner in the form of Notice required by the Agreement and which are described and listed in the Appendix to this Declaration, including an estimate of the value of each such Claim;

or

- 14.2.1 (b) There are outstanding Claims, including Claims by Contractor against Company, which have not been communicated to Company and each of these Claims is described and listed in the Appendix to this Declaration and is delivered to Company in a timely manner, and there are no other known outstanding Claims under the Agreement, except for those Claims which have already been communicated to Company in a timely manner in the form of Notice required by the Agreement and which are

Exhibit 2 - Appendix H
Sworn Declaration
Agreement No: CH0007

described and listed in the Appendix to this Declaration, including an estimate of the value of each such Claim.

6. The last application for payment for which we have received payment is No. _____ dated the _____ day of _____, 20__.

14.2.2 I make this Declaration conscientiously believing it to be true and knowing it is of the same force as if made under oath.

DECLARED before me at the City of _____)
[●], _____)
in the [Province]/[State] of _____)
[●], _____)
[Country] _____)
on [Month], [Date], 20[●] _____)
_____)
_____)

Name: Declarant
A Commissioner, etc.

APPENDIX TO SWORN DECLARATION
[Date]

(a) Claims previously communicated to Company:

Description

Estimated Value

(b) Claims not previously communicated to Company:

Description:

Estimated Value:

APPENDIX I

TARGET COST OF LABOUR

- 1) BREAKDOWN BY ESTIMATED CATEGORIES OF CONTRACTOR WORK FORCE, COST, AND TIME DISTRIBUTION**
- 2) ESTIMATED DISTRIBUTION OF CONTRACTOR WORKFORCE BY MONTH AND YEAR**
- 3) INDIRECT COSTS BREAKDOWN**

1) TARGET COST OF LABOUR**BREAKDOWN OF CONTRACTOR WORK FORCE BY CATEGORIES OF LABOUR,
ESTIMATED HOURS PER YEAR, RATES, AND TIME DISTRIBUTION****SUMMARY**

| | Target Cost of Labour | Total Estimated Hours in Target Cost of Labour |
|---|------------------------------|---|
| Reference: Appendix A Schedule of Price Breakdown | \$547,598,340 (1) | 6,826,478 (2) |
| 1.1 Total: Rates and Hours Sheets for Work Force not Covered by Collective Agreement | \$87,813,738 | 1,043,200 |
| 1.2 Total: Rates and Hours Sheets for Work Force Covered by Collective Agreement | \$459,782,815 | 5,783,277 |
| TOTAL 2.1 + 2.1 | \$547,596,553 | 6,826,477 |

Notes:

- 1) From Row (j) Appendix A, excluding the discount of \$40,000,000.
- 2) As calculated from Man hours per unit and quantities, for each of the Price Items of Appendix A
- 3) The purpose of the Rates and Hours Sheets is to ensure that the Target Cost of Labour, as stated in Appendix A, is based on the hours listed in Appendix A and the rates of the Collective Agreement and Appendix F, Table 1.1. As such, the Rates and Hours Sheets are not meant to be a contractual fixing in time of how the hours are going to be distributed. They represent Contractor's demonstration that it has submitted a Target Cost of Labour which is based on the rates of the Collective Agreement and Appendix F Table 1.1, and the hours of Appendix A. The Target Cost of Labour is Contractor's estimate of the Reimbursable Cost of Labour to perform the Work while respecting the Milestone Dates; and the distribution in time will be related to Contractor's Approved Construction Schedule which has yet to be submitted; Changes will be in accordance with the Articles and Exhibit 2.

1.1 Total: Rates and Hours Sheets for Work Force Not Covered by Collective Agreement

1.1.1 Sheet: 1) Instructions

| | |
|--|--|
| 1) General | |
| 1.1 By completing these tables Bidder is to demonstrate that it has included for all costs of staff in the "Target Cost of Labour" including escalation. | |
| 1.2 Bidder to enter data in the following sheets: | |
| 3) Total Rates and Hours | |
| 4) Escalation and Hrs Allocation | |
| 1.3 Where information has been provided by Bidder we have included our understanding of what the Bidder has submitted. Bidder should complete any error in our understanding. Yellow highlighted cells indicate where Bidder is to enter data | |
| 1.4 Each sheet within the Excel Workbook is described below, with completion instructions as required. | |
| 1.5 Colour Coding: | |
| Yellow shaded cells are where Bidder is to enter new data as per this request. | |
| Orange shaded cells contain information provided by Bidder in previous response to Commercial Clarification Set No. 3, Question 3 for which no updating is required. | |
| Green shaded cells contain information provided by Bidder in previous response that may require editing in this information request. | |
| 2) Fixed Amounts Sheet | |
| Contains rates for government burdens as well as for Bidder burdens. Information on this sheet was completed by Bidder in previous response to Commercial Clarification Set No. 3, Question 3. | |
| 3) Total Rates and Hours Sheet | |
| This sheet was provided by Bidder in response to Commercial Clarification Set No.3, Question 3. The total hours in this sheet are used as the base against which the annual allocations of hours are applied. | |
| The rates included in this sheet (both base wage and Company burdens) were provided by Bidder in previous response and are an average rate for the entire time period from 2013 to 2018. Bidder must revise these rates to the rates for 2013. | |
| Bidder to adjust the total hours as required to remove positions covered by the Collective Agreement or otherwise ,make any other necessary adjustments. | |
| Bidder to change the Base Rate and Company Burden rate to reflect 2013 rates and to ensure consistency with Appendix A2.9. | |
| LCP added additional rows in case any new position names are required. These are noted as positions Staff01 through Staff07 in Rows 61 to 67. | |
| Any changes to staff positions or titles must be done in this sheet and these changes will flow throughout the remaining sheets. | |
| If a position is no longer required or is re-allocated to trades labour, do not delete the position. Instead, enter zeroes for hours and rates. | |
| 4) Escalation and Hrs Allocation Sheet | |
| Contains assumptions on annual escalation rates and the allocation of total hours for each staff member by calendar year. Bidder to revise as required. | |
| Bidder to complete the yellow-shaded cells | |
| Annual allocations are applied to the total hours as provided by Bidder in the Total Rates and Hours sheet. | |
| 5) 2013Rates through 10) 2018Rates Sheets | |
| No further data entry is required in these sheets. | |
| 11) Cost Summary | |
| Summarizes total hours, costs and average hourly cost each year making up the staff component of the Target Cost of Labour. | |
| 12) Schedule Assumptions | |
| From previous sheet provided to Bidder under Commercial Clarification Set No. 3, Question 3. | |
| No further data required for this sheet. | |

1.1.2 Sheet: 2) Fixed Amounts

| 1) Govt Burdens | Rate | Max Annual Earnings | Max Annual Contribution |
|--|-------|---------------------|-------------------------|
| CPP | 4.95% | 47,600 | 2,356.20 |
| EI | 2.63% | 47,400 | 1,247.57 |
| HAPSET | 2.00% | NA | NA |
| WHSCC | 3.03% | 54,155 | 1,640.90 |
| Notes | | | |
| Rates for CPP, EI and HAPSET are fixed based on 2013 rates. Should they change in future years, applicable adjustments will be made. | | | |
| Bidder to enter appropriate WHSCC rate. The rate provided is for companies classified as Heavy Industrial | | | |
| 2) Bidder Burdens | | | |
| Bidder to list and provide details of Bidder burdens in the Box below. | | | |
| Details of Bidder Burdens | | | |
| <p>The amount shown as Bidder Burden has been determined following indications from our Consultants experience in similar situations and according to Market Investigations in order to establish a monthly salary able to attract qualified personnel to the Project</p> | | | |
| 3) Overtime | | | |
| Reg Time Rate refers to the rate for which the standard rate is applicable | | | |
| OT1 Rate refers to the rate for which the first level OT rate is applicable. Bidder to enter the percentage increase for the OT1 rate below. | | | |
| OT1 rate % over Reg Time Rate | 50% | | |
| OT2 Rate refers to the rate for which the second level OT rate is applicable, if Bidder has such a second level. Bidder to enter the percentage increase for the OT2 rate below | | | |
| OT2 rate % over Reg Time Rate | 100% | | |
| Notes | | | |
| Bidder to provide details of when overtime applies and how it is to be calculated, in the Box below. | | | |
| Details of Overtime Rates and How Overtime Hours are Determined | | | |
| <p>We consider a shift of 20 days work , 10 day off. There will be 3 working Saturdays and Sundays. There will be consequently 20 days x 10 hrs = 200 hours out of which 140 hours of regular time, 30 hours of working Saturdays (equivalent to 15% of 200 hours) and 30 of working Sundays (equivalent to 15% of 200 hours).</p> | | | |

1.1.3 Sheet: 3) Total Rates and Hours

| Position ID | Position and Level | Estimated Hours | | | % of Hrs Expected to Exceed Govt Burden Maximums | Wage Rates (\$ per hour) | | | | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | | | | | | | | | | | | | | | | | |
|-------------|-----------------------------------|--------------------|-----------|-----------|--|--------------------------|------|------|--------|---|--------------------|----------------|--|-----------------------|-------|----------------|---------------------------------------|----------------|-------|----------------|---------------------------------------|---------------------|-------|----------------|-----------------|-------------------|--------------|--------------|--------------|------------|----------------------------|--|--|--|---|--|--|---|--|--|--|---|--|--|--|
| | | Regular Time Hours | OT1 Hours | OT2 Hours | | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5 x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2 x OT Rate | Reg Hrs Cost | OT1 Hrs Cost | OT2 Hrs Cost | Total Cost | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Bidder to enter 2013 rates | | | | Bidder to enter 2013 rate for company burdens | | | Bidder to enter 2013 rate for company burdens | | | | Bidder to enter 2013 rate for company burdens | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Bidder to enter 2013 rates | | | | Bidder to enter 2013 rate for company burdens | | | Bidder to enter 2013 rate for company burdens | | | | Bidder to enter 2013 rate for company burdens | | | |
| 1 | Project Q.A. manager | 6,160 | 3,360 | 1,680 | 77% | 68.00 | 0.77 | 0.41 | 1.36 | 0.47 | 3.01 | 8.66 | 76.66 | 68.00 | 5.65 | 3.01 | 76.66 | 102.00 | 5.65 | 4.51 | 112.16 | 136.00 | 5.65 | 6.01 | 147.67 | 472,223 | 376,866 | 248,078 | 1,097,167 | | | | | | | | | | | | | | | | |
| 2 | Site Agent (Project Manager) | 6,160 | 3,360 | 1,680 | 80% | 79.33 | 0.77 | 0.41 | 1.59 | 0.47 | 3.23 | 8.89 | 88.22 | 79.33 | 5.65 | 3.23 | 88.22 | 119.00 | 5.65 | 4.85 | 129.50 | 158.66 | 5.65 | 6.46 | 170.78 | 513,412 | 435,111 | 286,908 | 1,235,430 | | | | | | | | | | | | | | | | |
| 3 | Deputy Project Manager | 5,810 | 3,060 | 1,530 | 81% | 85.54 | 0.81 | 0.43 | 1.71 | 0.49 | 3.44 | 9.10 | 94.64 | 85.54 | 5.65 | 3.44 | 94.64 | 128.31 | 5.65 | 5.16 | 139.13 | 171.08 | 5.65 | 6.89 | 183.63 | 530,914 | 425,734 | 280,939 | 1,237,587 | | | | | | | | | | | | | | | | |
| 4 | Quality Control Responsible | 11,880 | 6,480 | 3,240 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 745,918 | 591,978 | 386,545 | 1,726,441 | | | | | | | | | | | | | | | | |
| 5 | Third Party Q.A. Inspector | 89,320 | 48,720 | 24,360 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 4,678,889 | 3,690,451 | 2,414,390 | 10,783,730 | | | | | | | | | | | | | | | | |
| 6 | Contract Adm. Responsible | 7,040 | 3,840 | 1,920 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 442,025 | 350,802 | 230,249 | 1,023,076 | | | | | | | | | | | | | | | | |
| 7 | Contract Adm. Assistant | 4,400 | 2,400 | 1,200 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 230,487 | 181,796 | 118,935 | 531,218 | | | | | | | | | | | | | | | | |
| 8 | Project Control Responsible | 6,160 | 3,360 | 1,680 | 73% | 66.41 | 0.87 | 0.46 | 1.33 | 0.53 | 3.20 | 8.85 | 75.26 | 66.41 | 5.65 | 3.20 | 75.26 | 99.62 | 5.65 | 4.70 | 110.06 | 132.82 | 5.65 | 6.39 | 144.87 | 463,607 | 369,816 | 243,378 | 1,076,801 | | | | | | | | | | | | | | | | |
| 9 | Project Control Assistant | 5,170 | 2,820 | 1,410 | 66% | 45.33 | 0.77 | 0.41 | 0.91 | 0.47 | 2.55 | 8.21 | 53.54 | 45.33 | 5.65 | 2.55 | 53.54 | 68.00 | 5.65 | 3.83 | 77.48 | 90.66 | 5.65 | 5.10 | 101.42 | 276,781 | 218,485 | 142,999 | 638,265 | | | | | | | | | | | | | | | | |
| 10 | Technical Staff | 45,980 | 25,080 | 12,540 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 2,408,591 | 1,899,764 | 1,242,876 | 5,551,231 | | | | | | | | | | | | | | | | |
| 11 | Safety Responsible | 7,040 | 3,840 | 1,920 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 421,704 | 334,175 | 219,165 | 975,043 | | | | | | | | | | | | | | | | |
| 12 | Safety Officer | 57,640 | 31,440 | 15,720 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 3,019,382 | 2,381,522 | 1,558,055 | 6,958,959 | | | | | | | | | | | | | | | | |
| 13 | Representative Office Responsible | 12,320 | 6,720 | 3,360 | 73% | 56.67 | 0.77 | 0.41 | 1.13 | 0.47 | 2.78 | 8.43 | 65.10 | 56.67 | 5.65 | 2.78 | 65.10 | 85.01 | 5.65 | 4.17 | 94.83 | 113.34 | 5.65 | 5.56 | 124.55 | 802,071 | 637,243 | 418,496 | 1,857,810 | | | | | | | | | | | | | | | | |
| 14 | Representative Office Assistant | 9,900 | 5,400 | 2,700 | 65% | 44.61 | 0.76 | 0.41 | 0.89 | 0.47 | 2.53 | 8.18 | 52.79 | 44.61 | 5.65 | 2.53 | 52.79 | 66.92 | 5.65 | 3.80 | 76.36 | 89.22 | 5.65 | 5.06 | 99.93 | 522,665 | 412,369 | 269,824 | 1,204,858 | | | | | | | | | | | | | | | | |
| 15 | Technical Manager | 6,160 | 3,360 | 1,680 | 75% | 56.67 | 0.77 | 0.41 | 1.13 | 0.47 | 2.78 | 8.43 | 65.10 | 56.67 | 5.65 | 2.78 | 65.10 | 85.01 | 5.65 | 4.17 | 94.83 | 113.34 | 5.65 | 5.56 | 124.55 | 401,036 | 318,621 | 209,248 | 928,905 | | | | | | | | | | | | | | | | |
| 16 | Tech. Office Responsible | 5,500 | 3,000 | 1,500 | 70% | 51.68 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 8.33 | 60.01 | 51.68 | 5.65 | 2.68 | 60.01 | 77.52 | 5.65 | 4.02 | 87.19 | 103.36 | 5.65 | 5.36 | 114.37 | 330,072 | 261,578 | 171,558 | 763,209 | | | | | | | | | | | | | | | | |
| 17 | Tech. Office Assistant | 30,690 | 16,740 | 8,370 | 65% | 44.61 | 0.77 | 0.41 | 0.89 | 0.47 | 2.54 | 8.19 | 52.80 | 44.61 | 5.65 | 2.54 | 52.80 | 66.92 | 5.65 | 3.81 | 76.38 | 89.22 | 5.65 | 5.08 | 99.95 | 1,620,479 | 1,278,523 | 836,574 | 3,735,576 | | | | | | | | | | | | | | | | |
| 18 | Draftman/CAD Operator | 33,330 | 18,180 | 9,090 | 69% | 49.74 | 0.77 | 0.41 | 0.99 | 0.47 | 2.64 | 8.29 | 58.03 | 49.74 | 5.65 | 2.64 | 58.03 | 74.61 | 5.65 | 3.96 | 84.22 | 99.48 | 5.65 | 5.28 | 110.41 | 1,934,287 | 1,531,204 | 1,003,671 | 4,469,162 | | | | | | | | | | | | | | | | |
| 19 | Qty. Surveyor Responsible | 6,160 | 3,360 | 1,680 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 386,772 | 306,951 | 201,468 | 895,192 | | | | | | | | | | | | | | | | |
| 20 | Qty. Surveyor Assistant | 6,050 | 3,300 | 1,650 | 69% | 49.74 | 0.77 | 0.41 | 0.99 | 0.47 | 2.64 | 8.29 | 58.03 | 49.74 | 5.65 | 2.64 | 58.03 | 74.61 | 5.65 | 3.96 | 84.22 | 99.48 | 5.65 | 5.28 | 110.41 | 351,108 | 277,941 | 182,184 | 811,234 | | | | | | | | | | | | | | | | |
| 21 | Surveyor Responsible | 6,380 | 3,480 | 1,740 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 400,586 | 317,914 | 208,663 | 927,163 | | | | | | | | | | | | | | | | |
| 22 | Senior Engineer | 25,960 | 14,160 | 7,080 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 1,555,032 | 1,232,269 | 806,169 | 3,595,407 | | | | | | | | | | | | | | | | |
| 23 | Engineer | 3,960 | 2,160 | 1,080 | 69% | 44.20 | 0.68 | 0.36 | 0.88 | 0.41 | 2.34 | 8.05 | 52.19 | 44.20 | 5.65 | 2.34 | 52.19 | 66.30 | 5.65 | 3.50 | 75.46 | 88.40 | 5.65 | 4.67 | 98.73 | 206,672 | 162,989 | 106,624 | 476,284 | | | | | | | | | | | | | | | | |
| 24 | Planning Responsible | 6,490 | 3,540 | 1,770 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 388,758 | 308,067 | 202,042 | 898,868 | | | | | | | | | | | | | | | | |
| 25 | Planning Assistant | 6,160 | 3,360 | 1,680 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 322,682 | 254,514 | 166,510 | 743,706 | | | | | | | | | | | | | | | | |
| 26 | Permanent Materials Responsible | 5,170 | 2,820 | 1,410 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 324,612 | 257,620 | 169,089 | 751,322 | | | | | | | | | | | | | | | | |
| 27 | Administrative Manager | 7,040 | 3,840 | 1,920 | 76% | 67.72 | 0.81 | 0.43 | 1.35 | 0.49 | 3.09 | 8.74 | 76.46 | 67.72 | 5.65 | 3.09 | 76.46 | 101.58 | 5.65 | 4.63 | 111.86 | 135.44 | 5.65 | 6.17 | 147.27 | 538,283 | 429,557 | 282,753 | 1,250,593 | | | | | | | | | | | | | | | | |
| 28 | Personnel Office Responsible | 20,240 | 11,040 | 5,520 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 1,212,398 | 960,752 | 630,098 | 2,803,248 | | | | | | | | | | | | | | | | |
| 29 | Computer Operat./Programmer | 11,440 | 6,240 | 3,120 | 59% | 37.40 | 0.77 | 0.41 | 0.75 | 0.47 | 2.39 | 8.05 | 45.45 | 37.40 | 5.65 | 2.39 | 45.45 | 56.10 | 5.65 | 3.59 | 65.34 | 74.80 | 5.65 | 4.79 | 85.24 | 519,919 | 407,748 | 265,952 | 1,193,618 | | | | | | | | | | | | | | | | |
| 30 | Purchasing Responsible | 18,480 | 10,080 | 5,040 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 1,106,972 | 877,208 | 575,307 | 2,559,487 | | | | | | | | | | | | | | | | |
| 31 | Warehouse Responsible | 6,160 | 3,360 | 1,680 | 68% | 52.74 | 0.83 | 0.44 | 1.05 | 0.51 | 2.84 | 8.49 | 61.23 | 52.74 | 5.65 | 2.84 | 61.23 | 79.11 | 5.65 | 4.25 | 89.02 | 105.48 | 5.65 | 5.67 | 116.81 | 377,174 | 299,098 | 196,232 | 872,504 | | | | | | | | | | | | | | | | |
| 32 | General Services Responsible | 6,160 | 3,360 | 1,680 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 322,682 | 254,514 | 166,510 | 743,706 | | | | | | | | | | | | | | | | |
| 33 | Procurement Manager | 5,720 | 3,120 | 1,560 | 74% | 63.21 | 0.81 | 0.43 | 1.26 | 0.49 | 3.00 | 8.65 | 71.86 | 63.21 | 5.65 | 3.00 | 71.86 | 94.82 | 5.65 | 4.50 | 104.96 | 126.42 | 5.65 | 5.99 | 138.07 | 411,044 | 327,488 | 215,385 | 953,917 | | | | | | | | | | | | | | | | |
| 34 | Production Manager | 7,040 | 3,840 | 1,920 | 83% | 94.40 | 0.81 | 0.43 | 1.89 | 0.49 | 3.62 | 9.27 | 103.67 | 94.40 | 5.65 | 3.62 | 103.67 | 141.60 | 5.65 | 5.43 | 152.68 | 188.80 | 5.65 | 7.24 | 201.69 | 729,867 | 586,308 | 387,254 | 1,703,430 | | | | | | | | | | | | | | | | |
| 35 | Deputy Production Manager | 4,730 | 2,580 | 1,290 | 74% | 59.50 | 0.77 | 0.41 | 1.19 | 0.47 | 2.84 | 8.49 | 67.99 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

1.1.4 Sheet: 4) Escalation and Hrs Allocation

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|--------------------------------------|------------------------------------|-------|-------|-------|-------|------|--------|
| % Change to base rate | 0.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | |
| % Change to Company burdens | 0.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | |
| Position ID | Hours per year (% of total) | | | | | | |
| 1 Project Q.A. manager | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 2 Site Agent (Project Manager) | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 3 Deputy Project Manager | 16.9% | 19.0% | 21.9% | 22.0% | 15.4% | 4.8% | 100.0% |
| 4 Quality Control Responsible | 8.7% | 20.9% | 24.1% | 24.2% | 16.9% | 5.2% | 100.0% |
| 5 Third party Q.A. Inspector | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 6 Contract Adm. Responsible | 13.8% | 19.8% | 22.7% | 22.8% | 15.9% | 5.0% | 100.0% |
| 7 Contract Adm. Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 8 Project Control Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 9 Project Control Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 10 Technical Staff | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 11 Safety Responsible | 13.8% | 19.8% | 22.7% | 22.8% | 15.9% | 5.0% | 100.0% |
| 12 Safety Officer | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 13 Representative Office Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 14 Representative Office Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 15 Technical Manager | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 16 Tech. Office Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 17 Tech. Office Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 18 Draftman/CAD Operator | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 19 Qty. Surveyor Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 20 Qty. Surveyor Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 21 Surveyor Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 22 Senior Engineer | 8.1% | 21.1% | 24.2% | 24.3% | 17.0% | 5.3% | 100.0% |
| 23 Engineer | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 24 Planning Responsible | 14.8% | 19.5% | 22.5% | 22.5% | 15.7% | 5.0% | 100.0% |
| 25 Planning Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 26 Permanent Materials Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 27 Administrative Manager | 13.8% | 19.8% | 22.7% | 22.8% | 15.9% | 5.0% | 100.0% |
| 28 Personnel Office Responsible | 10.0% | 20.6% | 23.7% | 23.8% | 16.6% | 5.3% | 100.0% |
| 29 Computer Operat./Programmer | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 30 Purchasing Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 31 Warehouse Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 32 General Services Responsible | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 33 Procurement Manager | 16.6% | 19.1% | 22.0% | 22.1% | 15.4% | 4.8% | 100.0% |
| 34 Production Manager | 13.8% | 19.8% | 22.7% | 22.8% | 15.9% | 5.0% | 100.0% |
| 35 Deputy Production Manager | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 36 Prod. Section Chief | 6.2% | 21.5% | 24.8% | 24.8% | 17.3% | 5.4% | 100.0% |
| 37 Planning Assistant | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 38 Plant Manager | 16.0% | 19.2% | 22.1% | 22.2% | 15.5% | 5.0% | 100.0% |
| 39 Mech. W/shop Section Chief | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 40 Mech. W/shop Section Chief | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 41 Elec. W/shop Section Chief | 1.4% | 22.6% | 26.0% | 26.1% | 18.2% | 5.7% | 100.0% |
| 42 Plant Section Chief | 13.8% | 19.8% | 22.7% | 22.8% | 15.9% | 5.0% | 100.0% |

Bidder to enter annual escalation factors
and
Annual allocation of hours per employee
The percentages provided in these cells are for illustrative purposes only.

1.1.5 Sheet: 5) 2013 Rates

| Position ID | 2013 Rates Position and Level | Estimated Hours | | | % of Hrs Expected to Exceed Govt Burden Maximums | Wage Rates (\$ per hour) | | | | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | | |
|-------------|-----------------------------------|--------------------|-----------|-----------|--|--------------------------|------|------|--------|---|--------------------|----------------|---------------|--|-------|----------------|--------------|---------------------------------------|--------|----------------|--------------|---------------------------------------|--------|----------------|--------------|-------------------|--------------|----------------|----------------|------------|----------|
| | | Regular Time Hours | OT1 Hours | OT2 Hours | | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Wage Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5 x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2 x OT Rate | Reg Hrs Cost | OT1 Hours Cost | OT2 Hours Cost | Total Cost | Avg rate |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project Q.A. manager | 86 | 47 | 24 | 77% | 68.00 | 0.77 | 0.41 | 1.36 | 0.47 | 3.01 | 5.65 | 8.66 | 76.66 | 68.00 | 5.65 | 3.01 | 76.66 | 102.00 | 5.65 | 4.51 | 112.16 | 136.00 | 5.65 | 6.01 | 147.67 | 6,611 | 5,276 | 3,473 | 15,360 | 97.96 |
| 2 | Site Agent (Project Manager) | 86 | 47 | 24 | 80% | 79.33 | 0.77 | 0.41 | 1.59 | 0.47 | 3.23 | 5.65 | 8.89 | 88.22 | 79.33 | 5.65 | 3.23 | 88.22 | 119.00 | 5.65 | 4.85 | 129.50 | 158.66 | 5.65 | 6.46 | 170.78 | 7,608 | 6,092 | 4,017 | 17,716 | 112.98 |
| 3 | Deputy Project Manager | 948 | 517 | 259 | 81% | 85.54 | 0.81 | 0.43 | 1.71 | 0.49 | 3.44 | 5.65 | 9.10 | 94.64 | 85.54 | 5.65 | 3.44 | 94.64 | 128.31 | 5.65 | 5.16 | 139.13 | 171.08 | 5.65 | 6.89 | 183.62 | 89,725 | 71,949 | 47,479 | 209,152 | 121.33 |
| 4 | Quality Control Responsible | 1,034 | 564 | 282 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 5.65 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 64,895 | 51,502 | 33,803 | 150,200 | 79.93 |
| 5 | Third party Q.A. Inspector | 1,250 | 682 | 341 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 5.65 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 65,504 | 51,666 | 33,801 | 150,972 | 66.40 |
| 6 | Contract Adm. Responsible | 972 | 530 | 265 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 5.65 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 61,000 | 48,411 | 31,774 | 141,185 | 79.93 |
| 7 | Contract Adm. Assistant | 62 | 34 | 17 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 5.65 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 3,227 | 2,545 | 1,665 | 7,437 | 66.40 |
| 8 | Project Control Responsible | 86 | 47 | 24 | 73% | 66.41 | 0.87 | 0.46 | 1.33 | 0.53 | 3.20 | 5.65 | 8.85 | 75.26 | 66.41 | 5.65 | 3.20 | 75.26 | 99.62 | 5.65 | 4.80 | 110.06 | 132.82 | 5.65 | 6.39 | 144.87 | 6,490 | 5,177 | 3,407 | 15,075 | 96.14 |
| 9 | Project Control Assistant | 72 | 39 | 20 | 66% | 45.33 | 0.77 | 0.41 | 0.91 | 0.47 | 2.55 | 5.65 | 8.21 | 53.54 | 45.33 | 5.65 | 2.55 | 53.54 | 68.00 | 5.65 | 3.83 | 77.48 | 90.66 | 5.65 | 5.10 | 101.42 | 3,875 | 3,059 | 2,002 | 8,936 | 67.90 |
| 10 | Technical Staff | 644 | 351 | 176 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 5.65 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 33,720 | 26,597 | 17,400 | 77,717 | 66.40 |
| 11 | Safety Responsible | 972 | 530 | 265 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 5.65 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 58,195 | 46,116 | 30,245 | 134,556 | 76.18 |
| 12 | Safety Officer | 807 | 440 | 220 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 5.65 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 42,771 | 33,341 | 21,813 | 97,425 | 66.40 |
| 13 | Representative Office Responsible | 172 | 94 | 47 | 73% | 56.67 | 0.77 | 0.41 | 1.13 | 0.47 | 2.78 | 5.65 | 8.43 | 65.10 | 56.67 | 5.65 | 2.78 | 65.10 | 85.01 | 5.65 | 4.17 | 94.83 | 113.34 | 5.65 | 5.56 | 124.55 | 11,229 | 8,921 | 5,859 | 26,009 | 82.94 |
| 14 | Representative Office Assistant | 139 | 76 | 38 | 65% | 44.61 | 0.76 | 0.41 | 0.89 | 0.47 | 2.53 | 5.65 | 8.18 | 52.79 | 44.61 | 5.65 | 2.53 | 52.79 | 66.92 | 5.65 | 3.80 | 76.36 | 89.22 | 5.65 | 5.08 | 99.95 | 7,317 | 5,773 | 3,778 | 16,868 | 66.94 |
| 15 | Technical Manager | 86 | 47 | 24 | 73% | 56.67 | 0.77 | 0.41 | 1.13 | 0.47 | 2.78 | 5.65 | 8.43 | 65.10 | 56.67 | 5.65 | 2.78 | 65.10 | 85.01 | 5.65 | 4.17 | 94.83 | 113.34 | 5.65 | 5.56 | 124.55 | 5,614 | 4,461 | 2,929 | 13,005 | 82.94 |
| 16 | Tech. Office Responsible | 77 | 42 | 21 | 70% | 51.68 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 5.65 | 8.33 | 60.01 | 51.68 | 5.65 | 2.68 | 60.01 | 77.52 | 5.65 | 4.02 | 87.19 | 103.36 | 5.65 | 5.36 | 114.37 | 4,621 | 3,662 | 2,402 | 10,685 | 76.32 |
| 17 | Tech. Office Assistant | 430 | 234 | 117 | 65% | 44.61 | 0.77 | 0.41 | 0.89 | 0.47 | 2.54 | 5.65 | 8.19 | 52.80 | 44.61 | 5.65 | 2.54 | 52.80 | 66.92 | 5.65 | 3.81 | 76.38 | 89.22 | 5.65 | 5.08 | 99.95 | 22,687 | 17,899 | 11,712 | 52,298 | 66.95 |
| 18 | Draftman/CAD Operator | 467 | 255 | 127 | 69% | 49.74 | 0.77 | 0.41 | 0.99 | 0.47 | 2.64 | 5.65 | 8.29 | 58.03 | 49.74 | 5.65 | 2.64 | 58.03 | 74.61 | 5.65 | 3.96 | 84.22 | 99.48 | 5.65 | 5.28 | 110.41 | 27,080 | 21,437 | 14,051 | 62,568 | 73.75 |
| 19 | Qty. Surveyor Responsible | 86 | 47 | 24 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 5.65 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 5,415 | 4,297 | 2,821 | 12,533 | 79.93 |
| 20 | Qty. Surveyor Assistant | 85 | 46 | 23 | 69% | 49.74 | 0.77 | 0.41 | 0.99 | 0.47 | 2.64 | 5.65 | 8.29 | 58.03 | 49.74 | 5.65 | 2.64 | 58.03 | 74.61 | 5.65 | 3.96 | 84.22 | 99.48 | 5.65 | 5.28 | 110.41 | 4,916 | 3,891 | 2,551 | 11,357 | 73.75 |
| 21 | Surveyor Responsible | 89 | 49 | 24 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 5.65 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 5,608 | 4,451 | 2,921 | 12,980 | 79.93 |
| 22 | Senior Engineer | 2,103 | 1,147 | 573 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 5.65 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 125,958 | 99,814 | 65,462 | 291,233 | 76.18 |
| 23 | Engineer | 55 | 30 | 15 | 69% | 44.20 | 0.68 | 0.36 | 0.88 | 0.41 | 2.34 | 5.65 | 7.99 | 52.19 | 44.20 | 5.65 | 2.34 | 52.19 | 66.30 | 5.65 | 3.50 | 75.46 | 88.40 | 5.65 | 4.67 | 98.73 | 2,893 | 2,282 | 1,493 | 6,668 | 66.15 |
| 24 | Planning Responsible | 961 | 524 | 262 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 5.65 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 57,536 | 45,594 | 29,902 | 133,032 | 76.18 |
| 25 | Planning Assistant | 86 | 47 | 24 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 5.65 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 4,518 | 3,563 | 2,381 | 10,412 | 66.40 |
| 26 | Permanent Materials Responsible | 72 | 39 | 20 | 71% | 54.40 | 0.77 | 0.41 | 1.09 | 0.47 | 2.73 | 5.65 | 8.39 | 62.79 | 54.40 | 5.65 | 2.73 | 62.79 | 81.60 | 5.65 | 4.10 | 91.35 | 108.80 | 5.65 | 5.47 | 119.92 | 4,545 | 3,607 | 2,367 | 10,519 | 79.93 |
| 27 | Administrative Manager | 972 | 530 | 265 | 76% | 67.72 | 0.81 | 0.43 | 1.35 | 0.49 | 3.09 | 5.65 | 8.74 | 76.46 | 67.72 | 5.65 | 3.09 | 76.46 | 101.58 | 5.65 | 4.63 | 111.86 | 135.44 | 5.65 | 6.17 | 147.27 | 74,283 | 59,279 | 39,020 | 172,582 | 97.70 |
| 28 | Personnel Office Responsible | 2,024 | 1,104 | 552 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 5.65 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 121,240 | 96,075 | 63,010 | 280,325 | 76.18 |
| 29 | Computer Operat./Programmer | 160 | 87 | 44 | 59% | 37.40 | 0.77 | 0.41 | 0.75 | 0.47 | 2.39 | 5.65 | 8.05 | 45.45 | 37.40 | 5.65 | 2.39 | 45.45 | 56.10 | 5.65 | 3.59 | 65.34 | 74.80 | 5.65 | 4.79 | 85.24 | 7,279 | 5,708 | 3,723 | 16,711 | 57.39 |
| 30 | Purchasing Responsible | 259 | 141 | 71 | 70% | 51.57 | 0.77 | 0.41 | 1.03 | 0.47 | 2.68 | 5.65 | 8.33 | 59.90 | 51.57 | 5.65 | 2.68 | 59.90 | 77.36 | 5.65 | 4.02 | 87.02 | 103.14 | 5.65 | 5.35 | 114.15 | 15,498 | 12,281 | 8,054 | 35,833 | 76.18 |
| 31 | Warehouse Responsible | 86 | 47 | 24 | 68% | 52.74 | 0.83 | 0.44 | 1.05 | 0.51 | 2.84 | 5.65 | 8.49 | 61.23 | 52.74 | 5.65 | 2.84 | 61.23 | 79.11 | 5.65 | 4.25 | 89.02 | 105.48 | 5.65 | 5.67 | 116.81 | 5,280 | 4,187 | 2,747 | 12,215 | 77.90 |
| 32 | General Services Responsible | 86 | 47 | 24 | 65% | 44.20 | 0.77 | 0.41 | 0.88 | 0.47 | 2.53 | 5.65 | 8.18 | 52.38 | 44.20 | 5.65 | 2.53 | 52.38 | 66.30 | 5.65 | 3.79 | 75.75 | 88.40 | 5.65 | 5.06 | 99.11 | 4,518 | 3,563 | 2,381 | 10,412 | 66.40 |
| 33 | Procurement Manager | 950 | 518 | 259 | 74% | 63.21 | 0.81 | 0.43 | 1.26 | 0.49 | 3.00 | 5.65 | 8.65 | 71.86 | 63.21 | 5.65 | 3.00 | 71.86 | 94.82 | 5.65 | 4.50 | 104.96 | 126.42 | 5.65 | 5.99 | 138.07 | 68,233 | 54,363 | 35,754 | 158,350 | 91.72 |
| 34 | Production Manager | 972 | 530 | 265 | 83% | 94.40 | 0.81 | 0.43 | 1.89 | 0.49 | 3.62 | 5.65 | 9.27 | 103.67 | 94.40 | 5.65 | 3.62 | 103.67 | 141.60 | 5.65 | 5.43 | 152.68 | 188.80 | 5.65 | 7.24 | 201.69 | 100,722 | 80,911 | 53,441 | 235,073 | 133.08 |
| 35 | Deputy Production Manager | 66 | 36 | 18 | 74% | 59.50 | 0.77 | 0.41 | 1.19 | 0.47 | 2.84 | 5.65 | 8.49 | 67.99 | 59.50 | | | | | | | | | | | | | | | | |

1.1.6 Sheet: 6) 2014 Rates

| Position ID | 2014 Rates Position and Level | Estimated Hours | | | | Wage Rates (\$ per hour) | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | Avg rate | |
|-------------|-----------------------------------|-----------------------|--------------|--------------|---|--------------------------|---|------|--------|-------|--------------------------|-------------------|------------------|--|-------|-------------------|-----------------|---------------------------------------|--------|-------------------|-----------------|---------------------------------------|--------|-------------------|-----------------|---------------------|--------------|-------------------|-------------------|-----------|------------|
| | | Regular Time Hours | OT1 Hours | OT2 Hours | % of Hrs Expected to Exceed Govt Burdens Maximums | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Wage Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2x OT Rate | Reg Hrs Cost | OT1 Hours Cost | OT2 Hours Cost | | Total Cost |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project Q.A. manager | 1,392 | 759 | 380 | 77% | 71.40 | 0.81 | 0.43 | 1.43 | 0.49 | 3.16 | 5.94 | 9.09 | 80.49 | 71.40 | 5.94 | 3.16 | 80.49 | 107.10 | 5.94 | 4.73 | 117.77 | 142.80 | 5.94 | 6.31 | 155.05 | 112,059 | 89,430 | 58,869 | 260,358 | 102.86 |
| 2 | Site Agent (Project Manager) | 1,392 | 759 | 380 | 80% | 83.30 | 0.81 | 0.43 | 1.67 | 0.49 | 3.39 | 5.94 | 9.33 | 92.63 | 83.30 | 5.94 | 3.39 | 92.63 | 124.94 | 5.94 | 5.09 | 135.97 | 166.59 | 5.94 | 6.79 | 179.32 | 128,952 | 103,252 | 68,083 | 300,287 | 118.63 |
| 3 | Deputy Project Manager | 1,066 | 581 | 291 | 81% | 89.82 | 0.85 | 0.45 | 1.80 | 0.52 | 3.62 | 5.94 | 9.55 | 99.37 | 89.82 | 5.94 | 3.62 | 99.37 | 134.73 | 5.94 | 5.42 | 146.09 | 179.63 | 5.94 | 7.23 | 192.80 | 105,917 | 84,934 | 56,047 | 246,899 | 127.40 |
| 4 | Quality Control Responsible | 2,483 | 1,354 | 677 | 71% | 57.12 | 0.81 | 0.43 | 1.14 | 0.49 | 2.87 | 5.94 | 8.81 | 65.93 | 57.12 | 5.94 | 2.87 | 65.93 | 85.68 | 5.94 | 4.31 | 95.92 | 114.24 | 5.94 | 5.74 | 125.92 | 163,692 | 129,909 | 85,266 | 378,867 | 83.92 |
| 5 | Third party Q.A. Inspector | 20,186 | 11,011 | 5,505 | 65% | 46.41 | 0.81 | 0.43 | 0.93 | 0.49 | 2.66 | 5.94 | 8.59 | 55.00 | 46.41 | 5.94 | 2.66 | 55.00 | 69.62 | 5.94 | 3.98 | 79.54 | 92.82 | 5.94 | 5.31 | 104.07 | 1,110,300 | 875,744 | 572,935 | 2,558,979 | 69.72 |
| 6 | Contract Adm. Assistant | 1,394 | 760 | 380 | 71% | 57.12 | 0.81 | 0.43 | 1.14 | 0.49 | 2.87 | 5.94 | 8.81 | 65.93 | 57.12 | 5.94 | 2.87 | 65.93 | 85.68 | 5.94 | 4.31 | 95.92 | 114.24 | 5.94 | 5.74 | 125.92 | 91,897 | 72,932 | 47,869 | 212,698 | 83.92 |
| 7 | Contract Adm. Assistant | 994 | 542 | 271 | 65% | 46.41 | 0.81 | 0.43 | 0.93 | 0.49 | 2.66 | 5.94 | 8.59 | 55.00 | 46.41 | 5.94 | 2.66 | 55.00 | 69.62 | 5.94 | 3.98 | 79.54 | 92.82 | 5.94 | 5.31 | 104.07 | 54,695 | 43,140 | 28,223 | 126,058 | 69.72 |
| 8 | Project Control Responsible | 1,392 | 759 | 380 | 73% | 69.73 | 0.92 | 0.49 | 1.39 | 0.56 | 3.36 | 5.94 | 9.29 | 79.02 | 69.73 | 5.94 | 3.36 | 79.02 | 104.60 | 5.94 | 5.04 | 115.57 | 139.46 | 5.94 | 6.71 | 152.11 | 110,014 | 87,757 | 57,754 | 255,525 | 100.95 |
| 9 | Project Control Assistant | 1,168 | 637 | 319 | 66% | 47.60 | 0.81 | 0.43 | 0.95 | 0.49 | 2.68 | 5.94 | 8.62 | 56.21 | 47.60 | 5.94 | 2.68 | 56.21 | 71.39 | 5.94 | 4.02 | 81.35 | 95.19 | 5.94 | 5.36 | 106.49 | 65,680 | 51,846 | 33,934 | 151,460 | 71.30 |
| 10 | Technical Staff | 10,391 | 5,668 | 2,834 | 65% | 46.41 | 0.81 | 0.43 | 0.93 | 0.49 | 2.66 | 5.94 | 8.59 | 55.00 | 46.41 | 5.94 | 2.66 | 55.00 | 69.62 | 5.94 | 3.98 | 79.54 | 92.82 | 5.94 | 5.31 | 104.07 | 571,559 | 450,814 | 294,934 | 1,317,307 | 69.72 |
| 11 | Safety Responsible | 1,394 | 760 | 380 | 70% | 54.15 | 0.81 | 0.43 | 1.08 | 0.49 | 2.81 | 5.94 | 8.75 | 62.90 | 54.15 | 5.94 | 2.81 | 62.90 | 81.22 | 5.94 | 4.22 | 91.38 | 108.30 | 5.94 | 5.62 | 119.86 | 87,672 | 69,475 | 45,564 | 202,711 | 79.98 |
| 12 | Safety Officer | 13,027 | 7,105 | 3,553 | 65% | 46.41 | 0.81 | 0.43 | 0.93 | 0.49 | 2.66 | 5.94 | 8.59 | 55.00 | 46.41 | 5.94 | 2.66 | 55.00 | 69.62 | 5.94 | 3.98 | 79.54 | 92.82 | 5.94 | 5.31 | 104.07 | 716,499 | 565,135 | 369,726 | 1,651,361 | 69.72 |
| 13 | Representative Office Responsible | 2,784 | 1,519 | 759 | 73% | 59.50 | 0.81 | 0.43 | 1.19 | 0.49 | 2.92 | 5.94 | 8.85 | 68.36 | 59.50 | 5.94 | 2.92 | 68.36 | 89.26 | 5.94 | 4.38 | 99.57 | 119.01 | 5.94 | 5.84 | 130.78 | 190,332 | 151,218 | 99,309 | 440,858 | 87.08 |
| 14 | Representative Office Assistant | 2,237 | 1,220 | 610 | 65% | 46.84 | 0.80 | 0.43 | 0.94 | 0.49 | 2.66 | 5.94 | 8.59 | 55.43 | 46.84 | 5.94 | 2.66 | 55.43 | 70.26 | 5.94 | 3.99 | 80.18 | 93.68 | 5.94 | 5.31 | 104.93 | 124,028 | 97,855 | 64,029 | 285,913 | 70.28 |
| 15 | Technical Manager | 1,392 | 759 | 380 | 73% | 59.50 | 0.81 | 0.43 | 1.19 | 0.49 | 2.92 | 5.94 | 8.85 | 68.36 | 59.50 | 5.94 | 2.92 | 68.36 | 89.26 | 5.94 | 4.38 | 99.57 | 119.01 | 5.94 | 5.84 | 130.78 | 95,166 | 75,609 | 49,655 | 220,429 | 87.08 |
| 16 | Tech. Office Responsible | 1,243 | 678 | 339 | 70% | 54.26 | 0.81 | 0.43 | 1.09 | 0.49 | 2.81 | 5.94 | 8.75 | 63.01 | 54.26 | 5.94 | 2.81 | 63.01 | 81.40 | 5.94 | 4.22 | 91.55 | 108.53 | 5.94 | 5.63 | 120.09 | 78,326 | 62,073 | 40,711 | 181,110 | 80.14 |
| 17 | Tech. Office Assistant | 6,936 | 3,783 | 1,892 | 65% | 46.84 | 0.81 | 0.43 | 0.94 | 0.49 | 2.66 | 5.94 | 8.60 | 55.44 | 46.84 | 5.94 | 2.66 | 55.44 | 70.26 | 5.94 | 4.00 | 80.19 | 93.68 | 5.94 | 5.33 | 104.95 | 384,540 | 303,393 | 198,519 | 886,452 | 70.29 |
| 18 | Draftman/CAD Operator | 7,533 | 4,109 | 2,054 | 69% | 52.23 | 0.81 | 0.43 | 1.04 | 0.49 | 2.77 | 5.94 | 8.71 | 60.94 | 52.23 | 5.94 | 2.77 | 60.94 | 78.34 | 5.94 | 4.16 | 88.44 | 104.45 | 5.94 | 5.54 | 115.94 | 459,006 | 363,355 | 238,171 | 1,060,532 | 77.44 |
| 19 | Qty. Surveyor Responsible | 1,392 | 759 | 380 | 71% | 57.12 | 0.81 | 0.43 | 1.14 | 0.49 | 2.87 | 5.94 | 8.81 | 65.93 | 57.12 | 5.94 | 2.87 | 65.93 | 85.68 | 5.94 | 4.31 | 95.92 | 114.24 | 5.94 | 5.74 | 125.92 | 91,781 | 72,840 | 47,808 | 212,429 | 83.92 |
| 20 | Qty. Surveyor Assistant | 1,367 | 746 | 373 | 69% | 52.23 | 0.81 | 0.43 | 1.04 | 0.49 | 2.77 | 5.94 | 8.71 | 60.94 | 52.23 | 5.94 | 2.77 | 60.94 | 78.34 | 5.94 | 4.16 | 88.44 | 104.45 | 5.94 | 5.54 | 115.94 | 85,955 | 65,955 | 43,232 | 192,506 | 77.44 |
| 21 | Surveyor Responsible | 1,442 | 786 | 393 | 71% | 57.12 | 0.81 | 0.43 | 1.14 | 0.49 | 2.87 | 5.94 | 8.81 | 65.93 | 57.12 | 5.94 | 2.87 | 65.93 | 85.68 | 5.94 | 4.31 | 95.92 | 114.24 | 5.94 | 5.74 | 125.92 | 93,059 | 75,441 | 49,516 | 220,016 | 83.92 |
| 22 | Senior Engineer | 5,478 | 2,988 | 1,494 | 70% | 54.15 | 0.81 | 0.43 | 1.08 | 0.49 | 2.81 | 5.94 | 8.75 | 62.90 | 54.15 | 5.94 | 2.81 | 62.90 | 81.22 | 5.94 | 4.22 | 91.38 | 108.30 | 5.94 | 5.62 | 119.86 | 344,517 | 273,009 | 179,506 | 796,576 | 79.98 |
| 23 | Engineer | 895 | 488 | 244 | 69% | 46.41 | 0.71 | 0.38 | 0.93 | 0.44 | 2.45 | 5.94 | 8.39 | 54.80 | 46.41 | 5.94 | 2.45 | 54.80 | 69.62 | 5.94 | 3.68 | 79.23 | 92.82 | 5.94 | 4.91 | 103.66 | 49,043 | 38,677 | 25,302 | 113,022 | 69.46 |
| 24 | Planning Responsible | 1,266 | 690 | 345 | 70% | 54.15 | 0.81 | 0.43 | 1.08 | 0.49 | 2.81 | 5.94 | 8.75 | 62.90 | 54.15 | 5.94 | 2.81 | 62.90 | 81.22 | 5.94 | 4.22 | 91.38 | 108.30 | 5.94 | 5.62 | 119.86 | 79,598 | 63,077 | 41,368 | 184,043 | 79.98 |
| 25 | Planning Assistant | 1,392 | 759 | 380 | 65% | 46.41 | 0.81 | 0.43 | 0.93 | 0.49 | 2.66 | 5.94 | 8.59 | 55.00 | 46.41 | 5.94 | 2.66 | 55.00 | 69.62 | 5.94 | 3.98 | 79.54 | 92.82 | 5.94 | 5.31 | 104.07 | 76,572 | 60,396 | 39,513 | 176,481 | 69.72 |
| 26 | Permanent Materials Responsible | 1,168 | 637 | 319 | 71% | 57.12 | 0.81 | 0.43 | 1.14 | 0.49 | 2.87 | 5.94 | 8.81 | 65.93 | 57.12 | 5.94 | 2.87 | 65.93 | 85.68 | 5.94 | 4.31 | 95.92 | 114.24 | 5.94 | 5.74 | 125.92 | 77,031 | 61,133 | 40,125 | 178,289 | 83.92 |
| 27 | Administrative Manager | 1,394 | 760 | 380 | 76% | 71.11 | 0.85 | 0.45 | 1.42 | 0.52 | 3.24 | 5.94 | 9.18 | 80.28 | 71.11 | 5.94 | 3.24 | 80.28 | 106.66 | 5.94 | 4.86 | 117.46 | 142.21 | 5.94 | 6.48 | 154.63 | 111,909 | 89,305 | 58,784 | 259,998 | 102.59 |
| 28 | Personnel Office Responsible | 4,169 | 2,274 | 1,137 | 70% | 54.15 | 0.81 | 0.43 | 1.08 | 0.49 | 2.81 | 5.94 | 8.75 | 62.90 | 54.15 | 5.94 | 2.81 | 62.90 | 81.22 | 5.94 | 4.22 | 91.38 | 108.30 | 5.94 | 5.62 | 119.86 | 262,242 | 207,811 | 136,290 | 606,343 | 79.98 |
| 29 | Computer Operat./Programmer | 2,585 | 1,410 | 705 | 59% | 39.27 | 0.81 | 0.43 | 0.79 | 0.49 | 2.51 | 5.94 | 8.45 | 47.72 | 39.27 | 5.94 | 2.51 | 47.72 | 58.91 | 5.94 | 3.77 | 68.61 | 78.54 | 5.94 | 5.03 | 89.50 | 123,377 | 96,759 | 63,110 | 283,246 | 60.25 |
| 30 | Purchasing Responsible | 4,176 | 2,278 | 1,139 | 70% | 54.15 | 0.81 | 0.43 | 1.08 | 0.49 | 2.81 | 5.94 | 8.75 | 62.90 | 54.15 | 5.94 | 2.81 | 62.90 | 81.22 | 5.94 | 4.22 | 91.38 | 108.30 | 5.94 | 5.62 | 119.86 | 262,685 | 208,162 | 136,520 | 607,366 | 79.98 |
| 31 | Warehouse Responsible | 1,392 | 759 | 380 | 68% | 55.38 | 0.87 | 0.46 | 1.11 | 0.53 | 2.98 | 5.94 | 8.91 | 64.29 | 55.38 | 5.94 | 2.98 | 64.29 | 83.07 | 5.94 | 4.47 | 93.47 | 110.75 | 5.94 | 5.95 | 122.65 | 89,503 | 70,976 | 46,566 | 207,045 | 81.80 |
| 32 | General Services Responsible | 1,392 | 759 | 380 | 65% | 46.41 | 0.81 | 0.43 | 0.93 | 0.49 | 2.66 | 5.94 | 8.59 | 55.00 | 46.41 | 5.94 | 2.66 | 55.00 | 69.62 | 5.94 | 3.98 | 79.54 | 92.82 | 5.94 | 5.31 | 104.07 | 76,572 | 60,396 | 39,513 | 176,481 | 69.72 |
| 33 | Procurement Manager | 1,093 | 596 | 298 | 74% | 66.37 | 0.85 | 0.45 | 1.33 | 0.52 | 3.15 | 5.94 | 9.08 | 75.45 | 66.37 | 5.94 | 3.15 | 75.45 | 99.56 | 5.94 | 4.72 | 110.21 | 132.7 | | | | | | | | |

1.1.7 Sheet: 7) 2015 Rates

| Position ID | 2015 Rates Position and Level | Estimated Hours | | | | Wage Rates (\$ per hour) | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | Avg rate | | |
|-------------|-----------------------------------|--------------------|-----------|-----------|---|--------------------------|---|------|------|--------|-------|--------------------|--|---------------|----------------------------|-------|---------------------------------------|--------------|----------------|-------|---------------------------------------|--------------|---------------------|-------|-----------------|--------------|-------------------|--------------|----------|----------------|----------------|
| | | Regular Time Hours | OT1 Hours | OT2 Hours | % of Hrs Expected to Exceed Govt Burden | | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Wage Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5 x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2 x OT Rate | Reg Hrs Cost | | OT1 Hours Cost | OT2 Hours Cost |
| 1 | Project Q.A. manager | 1,602 | 874 | 437 | 77% | 74.97 | 0.85 | 0.45 | 1.50 | 0.52 | 3.31 | 6.23 | 9.55 | 84.52 | 74.97 | 6.23 | 3.31 | 84.52 | 112.46 | 6.23 | 4.97 | 123.66 | 149.94 | 6.23 | 6.63 | 162.80 | 135,363 | 108,029 | 71,111 | 314,503 | 108.00 |
| 2 | Site Agent (Project Manager) | 1,602 | 874 | 437 | 80% | 87.46 | 0.85 | 0.45 | 1.75 | 0.52 | 3.56 | 6.23 | 9.80 | 97.26 | 87.46 | 6.23 | 3.56 | 97.26 | 131.19 | 6.23 | 5.35 | 142.77 | 174.92 | 6.23 | 7.13 | 188.28 | 155,769 | 124,724 | 82,242 | 362,735 | 124.57 |
| 3 | Deputy Project Manager | 1,229 | 670 | 335 | 81% | 94.31 | 0.89 | 0.47 | 1.89 | 0.55 | 3.80 | 6.23 | 10.03 | 104.34 | 94.31 | 6.23 | 3.80 | 104.34 | 141.46 | 6.23 | 5.69 | 153.39 | 188.62 | 6.23 | 7.59 | 202.44 | 128,188 | 102,792 | 67,832 | 298,812 | 133.77 |
| 4 | Quality Control Responsible | 2,863 | 1,562 | 781 | 71% | 59.98 | 0.85 | 0.45 | 1.20 | 0.52 | 3.01 | 6.23 | 9.25 | 69.22 | 59.98 | 6.23 | 3.01 | 69.22 | 89.96 | 6.23 | 4.52 | 100.72 | 119.95 | 6.23 | 6.03 | 132.21 | 198,192 | 157,290 | 103,237 | 458,720 | 88.12 |
| 5 | Third party Q.A. Inspector | 23,223 | 12,667 | 6,334 | 65% | 48.73 | 0.85 | 0.45 | 0.97 | 0.52 | 2.79 | 6.23 | 9.02 | 57.75 | 48.73 | 6.23 | 2.79 | 57.75 | 73.10 | 6.23 | 4.18 | 83.51 | 97.46 | 6.23 | 5.58 | 109.27 | 1,341,204 | 1,057,868 | 692,085 | 3,091,156 | 73.21 |
| 6 | Contract Adm. Responsible | 1,598 | 872 | 436 | 71% | 59.98 | 0.85 | 0.45 | 1.20 | 0.52 | 3.01 | 6.23 | 9.25 | 69.22 | 59.98 | 6.23 | 3.01 | 69.22 | 89.96 | 6.23 | 4.52 | 100.72 | 119.95 | 6.23 | 6.03 | 132.21 | 110,625 | 87,794 | 57,624 | 256,043 | 88.12 |
| 7 | Contract Adm. Assistant | 1,144 | 624 | 312 | 65% | 48.73 | 0.85 | 0.45 | 0.97 | 0.52 | 2.79 | 6.23 | 9.02 | 57.75 | 48.73 | 6.23 | 2.79 | 57.75 | 73.10 | 6.23 | 4.18 | 83.51 | 97.46 | 6.23 | 5.58 | 109.27 | 66,609 | 52,112 | 34,093 | 152,724 | 73.21 |
| 8 | Project Control Responsible | 1,602 | 874 | 437 | 73% | 73.22 | 0.96 | 0.51 | 1.46 | 0.59 | 3.52 | 6.23 | 9.76 | 82.98 | 73.22 | 6.23 | 3.52 | 82.98 | 109.83 | 6.23 | 5.29 | 121.35 | 146.43 | 6.23 | 7.05 | 159.72 | 132,893 | 106,008 | 69,764 | 308,665 | 106.00 |
| 9 | Project Control Assistant | 1,344 | 733 | 367 | 66% | 49.98 | 0.85 | 0.45 | 1.00 | 0.52 | 2.81 | 6.23 | 9.05 | 59.02 | 49.98 | 6.23 | 2.81 | 59.02 | 74.96 | 6.23 | 4.22 | 85.42 | 99.55 | 6.23 | 5.63 | 111.81 | 79,339 | 62,629 | 40,991 | 182,959 | 74.86 |
| 10 | Technical Staff | 11,955 | 6,521 | 3,260 | 65% | 48.73 | 0.85 | 0.45 | 0.97 | 0.52 | 2.79 | 6.23 | 9.02 | 57.75 | 48.73 | 6.23 | 2.79 | 57.75 | 73.10 | 6.23 | 4.18 | 83.51 | 97.46 | 6.23 | 5.58 | 109.27 | 690,423 | 544,567 | 356,270 | 1,591,260 | 73.21 |
| 11 | Safety Responsible | 1,598 | 872 | 436 | 70% | 56.86 | 0.85 | 0.45 | 1.14 | 0.52 | 2.95 | 6.23 | 9.19 | 66.04 | 56.86 | 6.23 | 2.95 | 66.04 | 85.28 | 6.23 | 4.43 | 95.94 | 113.71 | 6.23 | 5.90 | 125.85 | 105,539 | 83,633 | 54,850 | 244,022 | 83.98 |
| 12 | Safety Officer | 14,986 | 8,174 | 4,087 | 65% | 48.73 | 0.85 | 0.45 | 0.97 | 0.52 | 2.79 | 6.23 | 9.02 | 57.75 | 48.73 | 6.23 | 2.79 | 57.75 | 73.10 | 6.23 | 4.18 | 83.51 | 97.46 | 6.23 | 5.58 | 109.27 | 865,506 | 682,663 | 446,616 | 1,994,786 | 73.21 |
| 13 | Representative Office Responsible | 3,203 | 1,747 | 874 | 73% | 62.48 | 0.85 | 0.45 | 1.25 | 0.52 | 3.06 | 6.23 | 9.30 | 71.78 | 62.48 | 6.23 | 3.06 | 71.78 | 93.72 | 6.23 | 4.60 | 104.55 | 124.96 | 6.23 | 6.13 | 137.32 | 229,914 | 182,666 | 119,962 | 532,541 | 91.44 |
| 14 | Representative Office Assistant | 2,574 | 1,404 | 702 | 65% | 49.18 | 0.84 | 0.45 | 0.98 | 0.52 | 2.79 | 6.23 | 9.02 | 58.21 | 49.18 | 6.23 | 2.79 | 58.21 | 73.77 | 6.23 | 4.18 | 84.19 | 98.37 | 6.23 | 5.58 | 110.18 | 149,822 | 118,206 | 77,345 | 345,373 | 73.80 |
| 15 | Technical Manager | 1,602 | 874 | 437 | 73% | 62.48 | 0.85 | 0.45 | 1.25 | 0.52 | 3.06 | 6.23 | 9.30 | 71.78 | 62.48 | 6.23 | 3.06 | 71.78 | 93.72 | 6.23 | 4.60 | 104.55 | 124.96 | 6.23 | 6.13 | 137.32 | 114,957 | 91,333 | 59,981 | 266,271 | 91.44 |
| 16 | Tech. Office Responsible | 1,430 | 780 | 390 | 70% | 56.98 | 0.85 | 0.45 | 1.14 | 0.52 | 2.95 | 6.23 | 9.19 | 66.16 | 56.98 | 6.23 | 2.95 | 66.16 | 85.47 | 6.23 | 4.43 | 96.13 | 113.95 | 6.23 | 5.91 | 126.10 | 94,615 | 74,981 | 49,177 | 218,774 | 84.14 |
| 17 | Tech. Office Assistant | 7,979 | 4,352 | 2,176 | 65% | 49.18 | 0.85 | 0.45 | 0.98 | 0.52 | 2.80 | 6.23 | 9.03 | 58.21 | 49.18 | 6.23 | 2.80 | 58.21 | 73.77 | 6.23 | 4.20 | 84.20 | 98.37 | 6.23 | 5.60 | 110.19 | 464,510 | 366,489 | 239,804 | 1,070,803 | 73.81 |
| 18 | Draftman/CAD Operator | 8,666 | 4,727 | 2,363 | 69% | 54.84 | 0.85 | 0.45 | 1.10 | 0.52 | 2.91 | 6.23 | 9.14 | 63.98 | 54.84 | 6.23 | 2.91 | 63.98 | 82.26 | 6.23 | 4.37 | 92.86 | 109.68 | 6.23 | 5.82 | 121.73 | 554,463 | 438,920 | 287,702 | 1,281,085 | 81.31 |
| 19 | Qty. Surveyor Responsible | 1,602 | 874 | 437 | 71% | 59.98 | 0.85 | 0.45 | 1.20 | 0.52 | 3.01 | 6.23 | 9.25 | 69.22 | 59.98 | 6.23 | 3.01 | 69.22 | 89.96 | 6.23 | 4.52 | 100.72 | 119.95 | 6.23 | 6.03 | 132.21 | 110,868 | 87,988 | 57,751 | 256,607 | 88.12 |
| 20 | Qty. Surveyor Assistant | 1,573 | 858 | 429 | 69% | 54.84 | 0.85 | 0.45 | 1.10 | 0.52 | 2.91 | 6.23 | 9.14 | 63.98 | 54.84 | 6.23 | 2.91 | 63.98 | 82.26 | 6.23 | 4.37 | 92.86 | 109.68 | 6.23 | 5.82 | 121.73 | 100,645 | 79,672 | 52,223 | 232,540 | 81.31 |
| 21 | Surveyor Responsible | 1,659 | 905 | 452 | 71% | 59.98 | 0.85 | 0.45 | 1.20 | 0.52 | 3.01 | 6.23 | 9.25 | 69.22 | 59.98 | 6.23 | 3.01 | 69.22 | 89.96 | 6.23 | 4.52 | 100.72 | 119.95 | 6.23 | 6.03 | 132.21 | 114,828 | 91,130 | 59,813 | 265,771 | 88.12 |
| 22 | Senior Engineer | 6,282 | 3,427 | 1,713 | 70% | 56.86 | 0.85 | 0.45 | 1.14 | 0.52 | 2.95 | 6.23 | 9.19 | 66.04 | 56.86 | 6.23 | 2.95 | 66.04 | 85.28 | 6.23 | 4.43 | 95.94 | 113.71 | 6.23 | 5.90 | 125.85 | 414,890 | 328,776 | 215,624 | 959,289 | 83.98 |
| 23 | Engineer | 1,030 | 562 | 281 | 69% | 48.73 | 0.75 | 0.40 | 0.97 | 0.46 | 2.58 | 6.23 | 8.81 | 57.54 | 48.73 | 6.23 | 2.58 | 57.54 | 73.10 | 6.23 | 3.86 | 83.19 | 97.46 | 6.23 | 5.15 | 108.85 | 59,242 | 46,721 | 30,564 | 136,527 | 72.93 |
| 24 | Planning Responsible | 1,460 | 797 | 398 | 70% | 56.86 | 0.85 | 0.45 | 1.14 | 0.52 | 2.95 | 6.23 | 9.19 | 66.04 | 56.86 | 6.23 | 2.95 | 66.04 | 85.28 | 6.23 | 4.43 | 95.94 | 113.71 | 6.23 | 5.90 | 125.85 | 96,436 | 76,420 | 50,119 | 222,975 | 83.98 |
| 25 | Planning Assistant | 1,602 | 874 | 437 | 65% | 48.73 | 0.85 | 0.45 | 0.97 | 0.52 | 2.79 | 6.23 | 9.02 | 57.75 | 48.73 | 6.23 | 2.79 | 57.75 | 73.10 | 6.23 | 4.18 | 83.51 | 97.46 | 6.23 | 5.58 | 109.27 | 92,497 | 72,956 | 47,730 | 213,183 | 73.21 |
| 26 | Permanent Materials Responsible | 1,344 | 733 | 367 | 71% | 59.98 | 0.85 | 0.45 | 1.20 | 0.52 | 3.01 | 6.23 | 9.25 | 69.22 | 59.98 | 6.23 | 3.01 | 69.22 | 89.96 | 6.23 | 4.52 | 100.72 | 119.95 | 6.23 | 6.03 | 132.21 | 93,050 | 73,847 | 48,469 | 215,366 | 88.12 |
| 27 | Administrative Manager | 1,598 | 872 | 436 | 76% | 74.66 | 0.89 | 0.47 | 1.49 | 0.55 | 3.40 | 6.23 | 9.64 | 84.30 | 74.66 | 6.23 | 3.40 | 84.30 | 111.99 | 6.23 | 5.10 | 123.33 | 149.32 | 6.23 | 6.81 | 162.36 | 134,715 | 107,504 | 70,764 | 312,983 | 107.72 |
| 28 | Personnel Office Responsible | 4,797 | 2,616 | 1,308 | 70% | 56.86 | 0.85 | 0.45 | 1.14 | 0.52 | 2.95 | 6.23 | 9.19 | 66.04 | 56.86 | 6.23 | 2.95 | 66.04 | 85.28 | 6.23 | 4.43 | 95.94 | 113.71 | 6.23 | 5.90 | 125.85 | 316,791 | 251,037 | 164,640 | 732,468 | 83.98 |
| 29 | Computer Operat./Programmer | 2,974 | 1,622 | 811 | 59% | 41.23 | 0.85 | 0.45 | 0.82 | 0.52 | 2.64 | 6.23 | 8.87 | 50.11 | 41.23 | 6.23 | 2.64 | 50.11 | 61.85 | 6.23 | 3.96 | 72.04 | 82.47 | 6.23 | 5.28 | 93.98 | 149,035 | 116,881 | 76,235 | 342,151 | 63.27 |
| 30 | Purchasing Responsible | 4,805 | 2,621 | 1,310 | 70% | 56.86 | 0.85 | 0.45 | 1.14 | 0.52 | 2.95 | 6.23 | 9.19 | 66.04 | 56.86 | 6.23 | 2.95 | 66.04 | 85.28 | 6.23 | 4.43 | 95.94 | 113.71 | 6.23 | 5.90 | 125.85 | 317,314 | 251,452 | 164,912 | 733,677 | 83.98 |
| 31 | Warehouse Responsible | 1,602 | 874 | 437 | 66% | 58.15 | 0.92 | 0.49 | 1.16 | 0.56 | 3.13 | 6.23 | 9.36 | 67.51 | 58.15 | 6.23 | 3.13 | 67.51 | 87.22 | 6.23 | 4.69 | 98.14 | 116.29 | 6.23 | 6.25 | 128.78 | 108,117 | 85,736 | 56,250 | 250,103 | 85.89 |
| 32 | General Services Responsible | 1,602 | 874 | 437 | 65% | 48.73 | 0.85 | 0.45 | 0.97 | 0.52 | 2.79 | 6.23 | 9.02 | 57.75 | 48.73 | 6.23 | 2.79 | 57.75 | 73.10 | 6.23 | 4.18 | 83.51 | 97.46 | 6.23 | 5.58 | 109.27 | 92,497 | 72,956 | 47,730 | 213,183 | 73.21 |
| 33 | Procurement Manager | 1,258 | 686 | 343 | 74% | 69.69 | 0.89 | 0.47 | 1.39 | 0.55 | 3.30 | 6.23 | 9.54 | 79.23 | 69.69 | 6.23 | 3.30 | 79.23 | 104.53 | 6.23 | 4.96 | 115.72 | 139.38 | 6.23 | 6.61 | 152.22 | 99,699 | 79,432 | 52,242 | 231,373 | 101.12 |
| 34 | Production Manager | 1,598 | 872 | 436 | 83% | 104.08 | 0.89 | 0.47 | 2.08 | 0.55 | 3.99 | 6.23 | 10.22 | 114.30 | 104.08 | 6.23 | 3.99 | 114.30 | 156.11 | 6.23 | 5.99 | 168.33 | 208.15 | 6.23 | 7.98 | 222.37 | 182,662 | 146,73 | | | |

1.1.8 Sheet: 8) 2016 Rates

| Position ID | 2016 Rates Position and Level | Estimated Hours | | | | Wage Rates (\$ per hour) | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | Avg rate | | | |
|-------------|-----------------------------------|--------------------|-----------|-----------|---|--------------------------|---|------|------|--------|-------|--------------------|--|---------------|----------------------------|-------|---------------------------------------|--------------|----------------|-------|---------------------------------------|--------------|---------------------|-------|-----------------|--------------|-------------------|--------------|----------|----------------|----------------|------------|
| | | Regular Time Hours | OT1 Hours | OT2 Hours | % of Hrs Expected to Exceed Govt Burden | | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Wage Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5 x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2 x OT Rate | Reg Hrs Cost | | OT1 Hours Cost | OT2 Hours Cost | Total Cost |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project Q.A. manager | 1,608 | 877 | 438 | 77% | 78.72 | 0.89 | 0.47 | 1.57 | 0.54 | 3.48 | 6.55 | 10.29 | 88.74 | 78.72 | 6.55 | 3.48 | 88.74 | 118.08 | 6.55 | 5.22 | 129.84 | 157.44 | 6.55 | 6.96 | 170.94 | 142,678 | 118,866 | 74,954 | 331,498 | 113.40 | |
| 2 | Site Agent (Project Manager) | 1,608 | 877 | 438 | 80% | 91.83 | 0.89 | 0.47 | 1.84 | 0.54 | 3.74 | 6.55 | 10.29 | 102.12 | 91.83 | 6.55 | 3.74 | 102.12 | 137.75 | 6.55 | 5.61 | 149.91 | 183.67 | 6.55 | 7.48 | 197.70 | 164,186 | 131,464 | 86,686 | 382,337 | 130.79 | |
| 3 | Deputy Project Manager | 1,234 | 673 | 337 | 81% | 99.02 | 0.94 | 0.50 | 1.98 | 0.57 | 3.99 | 6.55 | 10.53 | 109.55 | 99.02 | 6.55 | 3.99 | 109.55 | 148.53 | 6.55 | 5.98 | 161.06 | 198.05 | 6.55 | 7.97 | 212.56 | 135,212 | 108,425 | 71,549 | 315,186 | 140.46 | |
| 4 | Quality Control Responsible | 2,875 | 1,568 | 784 | 71% | 62.97 | 0.89 | 0.47 | 1.26 | 0.54 | 3.16 | 6.55 | 9.71 | 72.68 | 62.97 | 6.55 | 3.16 | 72.68 | 94.46 | 6.55 | 4.75 | 105.75 | 125.95 | 6.55 | 6.33 | 138.82 | 208,965 | 165,840 | 108,849 | 483,654 | 92.53 | |
| 5 | Third party Q.A. Inspector | 23,313 | 12,716 | 6,358 | 65% | 51.17 | 0.89 | 0.47 | 1.02 | 0.54 | 2.93 | 6.55 | 9.47 | 60.64 | 51.17 | 6.55 | 2.93 | 60.64 | 76.75 | 6.55 | 4.39 | 87.69 | 102.33 | 6.55 | 5.86 | 114.74 | 1,413,680 | 1,115,033 | 729,484 | 3,258,198 | 76.87 | |
| 6 | Contract Adm. Responsible | 1,605 | 876 | 438 | 71% | 62.97 | 0.89 | 0.47 | 1.26 | 0.54 | 3.16 | 6.55 | 9.71 | 72.68 | 62.97 | 6.55 | 3.16 | 72.68 | 94.46 | 6.55 | 4.75 | 105.75 | 125.95 | 6.55 | 6.33 | 138.82 | 116,668 | 92,590 | 60,772 | 270,029 | 92.53 | |
| 7 | Contract Adm. Assistant | 1,148 | 626 | 313 | 65% | 51.17 | 0.89 | 0.47 | 1.02 | 0.54 | 2.93 | 6.55 | 9.47 | 60.64 | 51.17 | 6.55 | 2.93 | 60.64 | 76.75 | 6.55 | 4.39 | 87.69 | 102.33 | 6.55 | 5.86 | 114.74 | 69,639 | 54,928 | 35,935 | 160,502 | 76.87 | |
| 8 | Project Control Assistant | 1,608 | 877 | 438 | 73% | 76.88 | 1.01 | 0.54 | 1.54 | 0.62 | 3.70 | 6.55 | 10.25 | 87.12 | 76.88 | 6.55 | 3.70 | 87.12 | 115.32 | 6.55 | 5.55 | 127.41 | 153.76 | 6.55 | 7.40 | 167.70 | 140,074 | 111,736 | 73,534 | 325,345 | 111.30 | |
| 9 | Project Control Responsible | 1,349 | 736 | 368 | 66% | 52.48 | 0.89 | 0.47 | 1.05 | 0.54 | 2.95 | 6.55 | 9.50 | 61.97 | 52.48 | 6.55 | 2.95 | 61.97 | 78.71 | 6.55 | 4.43 | 89.69 | 104.95 | 6.55 | 5.91 | 117.40 | 83,627 | 66,013 | 43,206 | 192,845 | 78.60 | |
| 10 | Technical Staff | 12,001 | 6,546 | 3,273 | 65% | 51.17 | 0.89 | 0.47 | 1.02 | 0.54 | 2.93 | 6.55 | 9.47 | 60.64 | 51.17 | 6.55 | 2.93 | 60.64 | 76.75 | 6.55 | 4.39 | 87.69 | 102.33 | 6.55 | 5.86 | 114.74 | 727,732 | 573,995 | 375,523 | 1,677,250 | 76.87 | |
| 11 | Safety Responsible | 1,605 | 876 | 438 | 70% | 59.70 | 0.89 | 0.47 | 1.19 | 0.54 | 3.10 | 6.55 | 9.64 | 69.34 | 59.70 | 6.55 | 3.10 | 69.34 | 89.55 | 6.55 | 4.65 | 100.74 | 119.40 | 6.55 | 6.20 | 132.14 | 111,304 | 88,202 | 57,846 | 257,351 | 88.18 | |
| 12 | Safety Officer | 15,044 | 8,206 | 4,103 | 65% | 51.17 | 0.89 | 0.47 | 1.02 | 0.54 | 2.93 | 6.55 | 9.47 | 60.64 | 51.17 | 6.55 | 2.93 | 60.64 | 76.75 | 6.55 | 4.39 | 87.69 | 102.33 | 6.55 | 5.86 | 114.74 | 912,276 | 719,553 | 470,751 | 2,102,581 | 76.87 | |
| 13 | Representative Office Responsible | 3,216 | 1,754 | 877 | 72% | 65.60 | 0.89 | 0.47 | 1.31 | 0.54 | 3.22 | 6.55 | 9.76 | 75.37 | 65.60 | 6.55 | 3.22 | 75.37 | 98.40 | 6.55 | 4.83 | 109.78 | 131.21 | 6.55 | 6.43 | 144.18 | 242,338 | 192,537 | 126,444 | 561,319 | 96.01 | |
| 14 | Representative Office Assistant | 2,584 | 1,409 | 705 | 65% | 51.64 | 0.88 | 0.47 | 1.03 | 0.54 | 2.93 | 6.55 | 9.47 | 61.12 | 51.64 | 6.55 | 2.93 | 61.12 | 77.46 | 6.55 | 4.39 | 88.40 | 103.28 | 6.55 | 5.86 | 115.69 | 157,918 | 124,593 | 81,525 | 364,036 | 77.49 | |
| 15 | Technical Manager | 1,608 | 877 | 438 | 73% | 65.60 | 0.89 | 0.47 | 1.31 | 0.54 | 3.22 | 6.55 | 9.76 | 75.37 | 65.60 | 6.55 | 3.22 | 75.37 | 98.40 | 6.55 | 4.83 | 109.78 | 131.21 | 6.55 | 6.43 | 144.18 | 121,169 | 96,268 | 63,222 | 280,660 | 96.01 | |
| 16 | Tech. Office Responsible | 1,436 | 783 | 392 | 70% | 59.83 | 0.89 | 0.47 | 1.20 | 0.54 | 3.10 | 6.55 | 9.65 | 69.47 | 59.83 | 6.55 | 3.10 | 69.47 | 89.74 | 6.55 | 4.65 | 100.94 | 119.65 | 6.55 | 6.20 | 132.40 | 99,728 | 79,033 | 51,835 | 230,596 | 88.35 | |
| 17 | Tech. Office Assistant | 8,010 | 4,369 | 2,185 | 65% | 51.64 | 0.89 | 0.47 | 1.03 | 0.54 | 2.94 | 6.55 | 9.48 | 61.12 | 51.64 | 6.55 | 2.94 | 61.12 | 77.46 | 6.55 | 4.41 | 88.41 | 103.28 | 6.55 | 5.88 | 115.70 | 489,612 | 386,293 | 252,763 | 1,128,667 | 77.50 | |
| 18 | Draftsman/CAD Operator | 8,699 | 4,745 | 2,372 | 69% | 57.58 | 0.89 | 0.47 | 1.15 | 0.54 | 3.06 | 6.55 | 9.60 | 67.18 | 57.58 | 6.55 | 3.06 | 67.18 | 86.37 | 6.55 | 4.58 | 97.50 | 115.16 | 6.55 | 6.11 | 127.82 | 584,426 | 462,638 | 303,249 | 1,350,313 | 85.37 | |
| 19 | Qty. Surveyor Responsible | 1,608 | 877 | 438 | 71% | 62.97 | 0.89 | 0.47 | 1.26 | 0.54 | 3.16 | 6.55 | 9.71 | 72.68 | 62.97 | 6.55 | 3.16 | 72.68 | 94.46 | 6.55 | 4.75 | 105.75 | 125.95 | 6.55 | 6.33 | 138.82 | 116,859 | 92,742 | 60,872 | 270,473 | 92.53 | |
| 20 | Qty. Surveyor Assistant | 1,579 | 861 | 431 | 69% | 57.58 | 0.89 | 0.47 | 1.15 | 0.54 | 3.06 | 6.55 | 9.60 | 67.18 | 57.58 | 6.55 | 3.06 | 67.18 | 86.37 | 6.55 | 4.58 | 97.50 | 115.16 | 6.55 | 6.11 | 127.82 | 106,084 | 83,977 | 55,045 | 245,106 | 85.37 | |
| 21 | Surveyor Responsible | 1,665 | 908 | 454 | 71% | 62.97 | 0.89 | 0.47 | 1.26 | 0.54 | 3.16 | 6.55 | 9.71 | 72.68 | 62.97 | 6.55 | 3.16 | 72.68 | 94.46 | 6.55 | 4.75 | 105.75 | 125.95 | 6.55 | 6.33 | 138.82 | 121,033 | 96,055 | 63,046 | 280,133 | 92.53 | |
| 22 | Senior Engineer | 6,308 | 3,441 | 1,720 | 70% | 59.70 | 0.89 | 0.47 | 1.19 | 0.54 | 3.10 | 6.55 | 9.64 | 69.34 | 59.70 | 6.55 | 3.10 | 69.34 | 89.55 | 6.55 | 4.65 | 100.74 | 119.40 | 6.55 | 6.20 | 132.14 | 437,435 | 346,641 | 227,340 | 1,011,416 | 88.18 | |
| 23 | Engineer | 1,034 | 564 | 282 | 69% | 51.17 | 0.78 | 0.42 | 1.02 | 0.48 | 2.70 | 6.55 | 9.25 | 60.42 | 51.17 | 6.55 | 2.70 | 60.42 | 76.75 | 6.55 | 4.06 | 87.35 | 102.33 | 6.55 | 5.41 | 114.29 | 62,444 | 49,245 | 32,215 | 143,905 | 76.58 | |
| 24 | Planning Responsible | 1,460 | 797 | 398 | 70% | 59.70 | 0.89 | 0.47 | 1.19 | 0.54 | 3.10 | 6.55 | 9.64 | 69.34 | 59.70 | 6.55 | 3.10 | 69.34 | 89.55 | 6.55 | 4.65 | 100.74 | 119.40 | 6.55 | 6.20 | 132.14 | 101,258 | 80,241 | 52,625 | 234,124 | 88.18 | |
| 25 | Planning Assistant | 1,608 | 877 | 438 | 65% | 51.17 | 0.89 | 0.47 | 1.02 | 0.54 | 2.93 | 6.55 | 9.47 | 60.64 | 51.17 | 6.55 | 2.93 | 60.64 | 76.75 | 6.55 | 4.39 | 87.69 | 102.33 | 6.55 | 5.86 | 114.74 | 97,495 | 76,899 | 50,309 | 224,703 | 76.87 | |
| 26 | Permanent Materials Responsible | 1,349 | 736 | 368 | 71% | 62.97 | 0.89 | 0.47 | 1.26 | 0.54 | 3.16 | 6.55 | 9.71 | 72.68 | 62.97 | 6.55 | 3.16 | 72.68 | 94.46 | 6.55 | 4.75 | 105.75 | 125.95 | 6.55 | 6.33 | 138.82 | 98,078 | 77,837 | 51,089 | 227,004 | 92.53 | |
| 27 | Administrative Manager | 1,605 | 876 | 438 | 76% | 78.39 | 0.94 | 0.50 | 1.57 | 0.57 | 3.57 | 6.55 | 10.12 | 88.51 | 78.39 | 6.55 | 3.57 | 88.51 | 117.59 | 6.55 | 5.36 | 129.50 | 156.79 | 6.55 | 7.15 | 170.48 | 142,074 | 113,377 | 74,629 | 330,080 | 113.10 | |
| 28 | Personnel Office Responsible | 4,817 | 2,628 | 1,314 | 70% | 59.70 | 0.89 | 0.47 | 1.19 | 0.54 | 3.10 | 6.55 | 9.64 | 69.34 | 59.70 | 6.55 | 3.10 | 69.34 | 89.55 | 6.55 | 4.65 | 100.74 | 119.40 | 6.55 | 6.20 | 132.14 | 334,034 | 264,701 | 173,601 | 772,336 | 88.18 | |
| 29 | Computer Operat./Programmer | 2,986 | 1,629 | 814 | 59% | 43.30 | 0.89 | 0.47 | 0.87 | 0.54 | 2.77 | 6.55 | 9.32 | 52.61 | 43.30 | 6.55 | 2.77 | 52.61 | 64.94 | 6.55 | 4.16 | 75.64 | 86.59 | 6.55 | 5.54 | 98.68 | 157,088 | 123,197 | 80,355 | 360,640 | 66.43 | |
| 30 | Purchasing Responsible | 4,823 | 2,631 | 1,315 | 70% | 59.70 | 0.89 | 0.47 | 1.19 | 0.54 | 3.10 | 6.55 | 9.64 | 69.34 | 59.70 | 6.55 | 3.10 | 69.34 | 89.55 | 6.55 | 4.65 | 100.74 | 119.40 | 6.55 | 6.20 | 132.14 | 334,461 | 265,040 | 173,823 | 773,324 | 88.18 | |
| 31 | Warehouse Responsible | 1,608 | 877 | 438 | 68% | 61.05 | 0.96 | 0.51 | 1.22 | 0.59 | 3.28 | 6.55 | 9.83 | 70.88 | 61.05 | 6.55 | 3.28 | 70.88 | 91.58 | 6.55 | 4.92 | 103.05 | 122.11 | 6.55 | 6.56 | 135.22 | 113,959 | 90,370 | 59,290 | 263,619 | 90.18 | |
| 32 | General Services Responsible | 1,608 | 877 | 438 | 65% | 51.17 | 0.89 | 0.47 | 1.02 | 0.54 | 2.93 | 6.55 | 9.47 | 60.64 | 51.17 | 6.55 | 2.93 | 60.64 | 76.75 | 6.55 | 4.39 | 87.69 | 102.33 | 6.55 | 5.86 | 114.74 | 97,495 | 76,899 | 50,309 | 224,703 | 76.87 | |
| 33 | Procurement Manager | 1,264 | 690 | 345 | 74% | 73.17 | 0.94 | 0.50 | 1.46 | 0.57 | 3.47 | 6.55 | 10.01 | 83.19 | 73.17 | 6.55 | 3.47 | 83.19 | 109.76 | 6.55 | 5.20 | 121.51 | 146.35 | 6.55 | 6.94 | 158.83 | 105,159 | 83,783 | 55,103 | | | |

1.1.9 Sheet: 9) 2017 Rates

| Position | 2017 Rates | | | | Estimated Hours | % of Hrs Expected to Exceed Govt Burden | Wage Rates (\$) | | | | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | | | |
|----------|-----------------------------------|--------------------|--------------------|-----------|-----------------|---|-----------------|-----------|------|------|---|-------|--------------------|----------------|--|----------------------------|-------|----------------|---------------------------------------|----------------|-------|----------------|---------------------------------------|---------------------|-------|----------------|-----------------|-------------------|--------------|----------------|----------------|------------|----------|
| | ID | Position and Level | Regular Time Hours | OT1 Hours | | | OT2 Hours | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Wage Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5 x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2 x OT Rate | Reg Hrs Cost | OT1 Hours Cost | OT2 Hours Cost | Total Cost | Avg rate |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project Q.A. manager | 1,121 | 612 | 306 | 77% | 82.65 | 0.93 | 0.50 | 1.65 | 0.57 | 3.65 | 6.87 | 10.53 | 93.18 | 82.65 | 6.87 | 3.65 | 93.18 | 123.98 | 6.87 | 5.48 | 136.33 | 165.31 | 6.87 | 7.31 | 179.49 | 104,466 | 83,371 | 54,880 | 242,718 | 119.07 | | |
| 2 | Site Agent (Project Manager) | 1,121 | 612 | 306 | 80% | 96.43 | 0.93 | 0.50 | 1.93 | 0.57 | 3.93 | 6.87 | 10.80 | 107.23 | 96.43 | 6.87 | 3.93 | 107.23 | 144.64 | 6.87 | 5.89 | 157.40 | 192.83 | 6.87 | 7.86 | 207.58 | 120,215 | 96,256 | 63,470 | 279,941 | 137.33 | | |
| 3 | Deputy Project Manager | 864 | 471 | 236 | 81% | 103.97 | 0.98 | 0.52 | 2.08 | 0.60 | 4.19 | 6.87 | 11.06 | 115.03 | 103.97 | 6.87 | 4.19 | 115.03 | 156.96 | 6.87 | 6.28 | 169.11 | 205.95 | 6.87 | 8.37 | 223.19 | 99,381 | 79,692 | 52,588 | 231,661 | 147.48 | | |
| 4 | Quality Control Responsible | 2,008 | 1,095 | 548 | 71% | 66.12 | 0.93 | 0.50 | 1.32 | 0.57 | 3.32 | 6.87 | 10.20 | 76.32 | 66.12 | 6.87 | 3.32 | 76.32 | 99.19 | 6.87 | 4.98 | 111.04 | 132.25 | 6.87 | 6.65 | 145.77 | 153,227 | 121,604 | 79,815 | 354,646 | 97.15 | | |
| 5 | Third party Q.A. Inspector | 16,256 | 8,867 | 4,434 | 65% | 53.73 | 0.93 | 0.50 | 1.07 | 0.57 | 3.07 | 6.87 | 9.95 | 63.67 | 53.73 | 6.87 | 3.07 | 63.67 | 80.59 | 6.87 | 4.61 | 92.07 | 107.45 | 6.87 | 6.15 | 120.47 | 1,035,074 | 816,409 | 534,117 | 2,385,600 | 80.71 | | |
| 6 | Contract Adm. Responsible | 1,119 | 611 | 305 | 71% | 66.12 | 0.93 | 0.50 | 1.32 | 0.57 | 3.32 | 6.87 | 10.20 | 76.32 | 66.12 | 6.87 | 3.32 | 76.32 | 99.19 | 6.87 | 4.98 | 111.04 | 132.25 | 6.87 | 6.65 | 145.77 | 85,428 | 67,798 | 44,499 | 197,725 | 97.15 | | |
| 7 | Contract Adm. Assistant | 801 | 437 | 218 | 65% | 53.73 | 0.93 | 0.50 | 1.07 | 0.57 | 3.07 | 6.87 | 9.95 | 63.67 | 53.73 | 6.87 | 3.07 | 63.67 | 80.59 | 6.87 | 4.61 | 92.07 | 107.45 | 6.87 | 6.15 | 120.47 | 50,989 | 40,217 | 26,311 | 117,517 | 80.71 | | |
| 8 | Project Control Responsible | 1,121 | 612 | 306 | 73% | 80.72 | 1.06 | 0.56 | 1.61 | 0.65 | 3.89 | 6.87 | 10.76 | 91.48 | 80.72 | 6.87 | 3.89 | 91.48 | 121.08 | 6.87 | 5.83 | 133.78 | 161.44 | 6.87 | 7.77 | 176.09 | 102,560 | 81,812 | 53,841 | 238,212 | 116.86 | | |
| 9 | Project Control Assistant | 941 | 513 | 257 | 66% | 55.10 | 0.93 | 0.50 | 1.10 | 0.57 | 3.10 | 6.87 | 9.97 | 65.07 | 55.10 | 6.87 | 3.10 | 65.07 | 82.65 | 6.87 | 4.65 | 94.17 | 110.20 | 6.87 | 6.20 | 123.27 | 61,230 | 48,334 | 31,635 | 141,198 | 82.53 | | |
| 10 | Technical Staff | 8,368 | 4,565 | 2,282 | 65% | 53.73 | 0.93 | 0.50 | 1.07 | 0.57 | 3.07 | 6.87 | 9.95 | 63.67 | 53.73 | 6.87 | 3.07 | 63.67 | 80.59 | 6.87 | 4.61 | 92.07 | 107.45 | 6.87 | 6.15 | 120.47 | 532,834 | 420,270 | 274,952 | 1,228,055 | 80.71 | | |
| 11 | Safety Responsible | 1,119 | 611 | 305 | 70% | 62.68 | 0.93 | 0.50 | 1.25 | 0.57 | 3.25 | 6.87 | 10.13 | 72.81 | 62.68 | 6.87 | 3.25 | 72.81 | 94.03 | 6.87 | 4.88 | 105.78 | 125.37 | 6.87 | 6.51 | 138.75 | 81,501 | 64,584 | 42,357 | 188,442 | 92.59 | | |
| 12 | Safety Officer | 10,490 | 5,722 | 2,861 | 65% | 53.73 | 0.93 | 0.50 | 1.07 | 0.57 | 3.07 | 6.87 | 9.95 | 63.67 | 53.73 | 6.87 | 3.07 | 63.67 | 80.59 | 6.87 | 4.61 | 92.07 | 107.45 | 6.87 | 6.15 | 120.47 | 667,954 | 526,845 | 344,676 | 1,539,476 | 80.71 | | |
| 13 | Representative Office Responsible | 2,242 | 1,223 | 612 | 73% | 68.88 | 0.93 | 0.50 | 1.38 | 0.57 | 3.38 | 6.87 | 10.25 | 79.13 | 68.88 | 6.87 | 3.38 | 79.13 | 103.32 | 6.87 | 5.07 | 115.26 | 137.77 | 6.87 | 6.76 | 151.39 | 177,436 | 140,972 | 92,581 | 410,989 | 100.81 | | |
| 14 | Representative Office Assistant | 1,802 | 983 | 491 | 65% | 54.22 | 0.93 | 0.49 | 1.08 | 0.57 | 3.08 | 6.87 | 9.95 | 64.17 | 54.22 | 6.87 | 3.08 | 64.17 | 81.34 | 6.87 | 4.61 | 92.82 | 108.45 | 6.87 | 6.15 | 121.47 | 115,625 | 91,225 | 59,691 | 266,541 | 81.36 | | |
| 15 | Technical Manager | 1,121 | 612 | 306 | 73% | 68.88 | 0.93 | 0.50 | 1.38 | 0.57 | 3.38 | 6.87 | 10.25 | 79.13 | 68.88 | 6.87 | 3.38 | 79.13 | 103.32 | 6.87 | 5.07 | 115.26 | 137.77 | 6.87 | 6.76 | 151.39 | 88,718 | 70,486 | 46,290 | 205,494 | 100.81 | | |
| 16 | Tech. Office Responsible | 1,001 | 546 | 273 | 70% | 62.82 | 0.93 | 0.50 | 1.26 | 0.57 | 3.26 | 6.87 | 10.13 | 72.95 | 62.82 | 6.87 | 3.26 | 72.95 | 94.23 | 6.87 | 4.88 | 105.98 | 125.63 | 6.87 | 6.51 | 139.02 | 73,019 | 57,867 | 37,953 | 168,839 | 92.77 | | |
| 17 | Tech. Office Assistant | 5,586 | 3,047 | 1,523 | 65% | 54.22 | 0.93 | 0.50 | 1.08 | 0.57 | 3.08 | 6.87 | 9.96 | 64.18 | 54.22 | 6.87 | 3.08 | 64.18 | 81.34 | 6.87 | 4.63 | 92.83 | 108.45 | 6.87 | 6.17 | 121.49 | 358,486 | 282,838 | 185,069 | 826,392 | 81.37 | | |
| 18 | Draftman/CAD Operator | 6,066 | 3,309 | 1,654 | 69% | 60.46 | 0.93 | 0.50 | 1.21 | 0.57 | 3.21 | 6.87 | 10.08 | 70.54 | 60.46 | 6.87 | 3.21 | 70.54 | 90.69 | 6.87 | 4.81 | 102.38 | 120.92 | 6.87 | 6.42 | 134.21 | 427,907 | 338,736 | 222,034 | 988,677 | 89.64 | | |
| 19 | Qty. Surveyor Responsible | 1,121 | 612 | 306 | 71% | 66.12 | 0.93 | 0.50 | 1.32 | 0.57 | 3.32 | 6.87 | 10.20 | 76.32 | 66.12 | 6.87 | 3.32 | 76.32 | 99.19 | 6.87 | 4.98 | 111.04 | 132.25 | 6.87 | 6.65 | 145.77 | 85,563 | 67,904 | 44,569 | 198,036 | 97.15 | | |
| 20 | Qty. Surveyor Assistant | 1,101 | 601 | 300 | 69% | 60.46 | 0.93 | 0.50 | 1.21 | 0.57 | 3.21 | 6.87 | 10.08 | 70.54 | 60.46 | 6.87 | 3.21 | 70.54 | 90.69 | 6.87 | 4.81 | 102.38 | 120.92 | 6.87 | 6.42 | 134.21 | 77,673 | 61,487 | 40,303 | 179,463 | 89.64 | | |
| 21 | Surveyor Responsible | 1,161 | 633 | 317 | 71% | 66.12 | 0.93 | 0.50 | 1.32 | 0.57 | 3.32 | 6.87 | 10.20 | 76.32 | 66.12 | 6.87 | 3.32 | 76.32 | 99.19 | 6.87 | 4.98 | 111.04 | 132.25 | 6.87 | 6.65 | 145.77 | 88,618 | 70,330 | 46,161 | 205,109 | 97.15 | | |
| 22 | Senior Engineer | 4,413 | 2,407 | 1,204 | 70% | 62.68 | 0.93 | 0.50 | 1.25 | 0.57 | 3.25 | 6.87 | 10.13 | 72.81 | 62.68 | 6.87 | 3.25 | 72.81 | 94.03 | 6.87 | 4.88 | 105.78 | 125.37 | 6.87 | 6.51 | 138.75 | 321,326 | 254,631 | 166,997 | 742,954 | 92.59 | | |
| 23 | Engineer | 721 | 393 | 197 | 69% | 53.73 | 0.82 | 0.44 | 1.07 | 0.50 | 2.84 | 6.87 | 9.71 | 63.44 | 53.73 | 6.87 | 2.84 | 63.44 | 80.59 | 6.87 | 4.26 | 91.72 | 107.45 | 6.87 | 5.68 | 120.00 | 45,720 | 36,057 | 23,588 | 105,365 | 80.41 | | |
| 24 | Planning Responsible | 1,019 | 556 | 278 | 70% | 62.68 | 0.93 | 0.50 | 1.25 | 0.57 | 3.25 | 6.87 | 10.13 | 72.81 | 62.68 | 6.87 | 3.25 | 72.81 | 94.03 | 6.87 | 4.88 | 105.78 | 125.37 | 6.87 | 6.51 | 138.75 | 74,188 | 58,790 | 38,557 | 171,535 | 92.59 | | |
| 25 | Planning Assistant | 1,121 | 612 | 306 | 65% | 53.73 | 0.93 | 0.50 | 1.07 | 0.57 | 3.07 | 6.87 | 9.95 | 63.67 | 53.73 | 6.87 | 3.07 | 63.67 | 80.59 | 6.87 | 4.61 | 92.07 | 107.45 | 6.87 | 6.15 | 120.47 | 71,384 | 56,304 | 36,836 | 164,524 | 80.71 | | |
| 26 | Permanent Materials Responsible | 941 | 513 | 257 | 71% | 66.12 | 0.93 | 0.50 | 1.32 | 0.57 | 3.32 | 6.87 | 10.20 | 76.32 | 66.12 | 6.87 | 3.32 | 76.32 | 99.19 | 6.87 | 4.98 | 111.04 | 132.25 | 6.87 | 6.65 | 145.77 | 71,811 | 56,991 | 37,406 | 166,209 | 97.15 | | |
| 27 | Administrative Manager | 1,119 | 611 | 305 | 78% | 82.81 | 0.98 | 0.52 | 1.65 | 0.60 | 3.75 | 6.87 | 10.62 | 92.94 | 82.81 | 6.87 | 3.75 | 92.94 | 123.47 | 6.87 | 5.63 | 135.97 | 164.63 | 6.87 | 7.50 | 179.00 | 104,031 | 83,019 | 54,646 | 241,697 | 118.76 | | |
| 28 | Personnel Office Responsible | 3,360 | 1,833 | 916 | 70% | 62.68 | 0.93 | 0.50 | 1.25 | 0.57 | 3.25 | 6.87 | 10.13 | 72.81 | 62.68 | 6.87 | 3.25 | 72.81 | 94.03 | 6.87 | 4.88 | 105.78 | 125.37 | 6.87 | 6.51 | 138.75 | 244,630 | 193,855 | 127,137 | 565,623 | 92.59 | | |
| 29 | Computer Operat./Programmer | 2,082 | 1,136 | 568 | 59% | 45.46 | 0.93 | 0.50 | 0.91 | 0.57 | 2.91 | 6.87 | 9.78 | 55.24 | 45.46 | 6.87 | 2.91 | 55.24 | 68.19 | 6.87 | 4.36 | 79.43 | 90.92 | 6.87 | 5.82 | 103.61 | 115,018 | 90,203 | 58,834 | 264,055 | 69.75 | | |
| 30 | Purchasing Responsible | 3,363 | 1,835 | 917 | 70% | 62.68 | 0.93 | 0.50 | 1.25 | 0.57 | 3.25 | 6.87 | 10.13 | 72.81 | 62.68 | 6.87 | 3.25 | 72.81 | 94.03 | 6.87 | 4.88 | 105.78 | 125.37 | 6.87 | 6.51 | 138.75 | 244,887 | 194,058 | 127,271 | 566,215 | 92.59 | | |
| 31 | Warehouse Responsible | 1,121 | 612 | 306 | 68% | 64.11 | 1.01 | 0.54 | 1.28 | 0.62 | 3.45 | 6.87 | 10.32 | 74.42 | 64.11 | 6.87 | 3.45 | 74.42 | 96.16 | 6.87 | 5.17 | 108.20 | 128.21 | 6.87 | 6.89 | 141.08 | 83,439 | 66,167 | 43,411 | 193,017 | 94.69 | | |
| 32 | General Services Responsible | 1,121 | 612 | 306 | 65% | 53.73 | 0.93 | 0.50 | 1.07 | 0.57 | 3.07 | 6.87 | 9.95 | 63.67 | 53.73 | 6.87 | 3.07 | 63.67 | 80.59 | 6.87 | 4.61 | 92.07 | 107.45 | 6.87 | 6.15 | 120.47 | 71,384 | 56,304 | 36,836 | 164,524 | 80.71 | | |
| 33 | Procurement Manager | 881 | 480 | 240 | 74% | 76.83 | 0.98 | 0.52 | 1.54 | 0.60 | 3.64 | 6.87 | 10.52 | 87.35 | 76.83 | 6.87 | 3.64 | 87.35 | 115.25 | 6.87 | 5.46 | 127.58 | 153.66 | 6.87 | 7.29 | 167.82 | 76,942 | 61,302 | | | | | |

1.1.10 Sheet: 10) 2018 Rates

| Position ID | 2018 Rates | Estimated Hours | | | % of Hrs Expected to Exceed Govt Burden Maximums | Wage Rates (\$) | | | | | Govt and Bidder Burdens at Regular Rate (\$ per hour) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | OT1 Labour Rate Summary (\$ per hour) | | | | OT2 Labour Rate Summary (\$ per hour) | | | | Total Cost (\$) | | | | |
|-------------|-----------------------------------|--------------------|-----------|-----------|--|-----------------|------|------|--------|-------|---|----------------|---------------|---------------------------|--|----------------|--------------|----------------|---------------------------------------|----------------|--------------|---------------------|---------------------------------------|----------------|--------------|-------------------|-----------------|----------------|----------------|------------|----------|
| | | Regular Time Hours | OT1 Hours | OT2 Hours | | Base Rate | CPP | EI | HAPSET | WHSCC | Total Govt Burdens | Bidder Burdens | Total Burdens | Total Reg Cost (Reg Time) | Wages | Bidder Burdens | Govt Burdens | Total Reg Rate | Wages | Bidder Burdens | Govt Burdens | Total 1.5 x OT Rate | Wages | Bidder Burdens | Govt Burdens | Total 2 x OT Rate | Reg Hrs Cost | OT1 Hours Cost | OT2 Hours Cost | Total Cost | Avg rate |
| 1 | Project Q.A. manager | 351 | 192 | 96 | 77% | 86.79 | 0.98 | 0.52 | 1.74 | 0.60 | 3.84 | 7.22 | 11.05 | 97.84 | 86.79 | 7.22 | 3.84 | 97.84 | 130.18 | 7.22 | 5.75 | 148.15 | 172.57 | 7.22 | 6.23 | 188.46 | 34,333 | 27,416 | 18,047 | 79,817 | 123.03 |
| 2 | Site Agent (Project Manager) | 351 | 192 | 96 | 69% | 105.25 | 0.98 | 0.52 | 2.02 | 0.60 | 3.42 | 7.22 | 11.84 | 112.99 | 105.25 | 7.22 | 3.42 | 112.99 | 150.77 | 7.22 | 4.89 | 165.27 | 202.49 | 7.22 | 8.23 | 249.46 | 39,433 | 33,653 | 20,872 | 144,220 | 149.20 |
| 3 | Deputy Project Manager | 269 | 147 | 73 | 81% | 109.17 | 1.03 | 0.55 | 2.18 | 0.63 | 4.39 | 7.22 | 11.61 | 120.78 | 109.17 | 7.22 | 4.39 | 120.78 | 163.76 | 7.22 | 6.59 | 177.57 | 218.35 | 7.22 | 8.79 | 234.35 | 32,525 | 26,081 | 17,211 | 75,816 | 154.85 |
| 4 | Quality Control Responsible | 618 | 337 | 168 | 71% | 69.43 | 0.98 | 0.52 | 1.39 | 0.60 | 3.49 | 7.22 | 10.71 | 80.13 | 69.43 | 7.22 | 3.49 | 80.13 | 104.14 | 7.22 | 5.23 | 115.59 | 138.86 | 7.22 | 6.98 | 153.05 | 49,504 | 39,288 | 25,786 | 114,578 | 102.01 |
| 5 | Third party Q.A. Inspector | 5,091 | 2,777 | 1,389 | 65% | 56.41 | 0.98 | 0.52 | 1.13 | 0.60 | 3.23 | 7.22 | 10.44 | 66.86 | 56.41 | 7.22 | 3.23 | 66.86 | 84.62 | 7.22 | 4.84 | 96.68 | 112.82 | 7.22 | 6.46 | 126.50 | 340,380 | 268,473 | 175,642 | 784,495 | 84.75 |
| 6 | Contract Adm. Responsible | 352 | 192 | 96 | 71% | 69.43 | 0.98 | 0.52 | 1.39 | 0.60 | 3.49 | 7.22 | 10.71 | 80.13 | 69.43 | 7.22 | 3.49 | 80.13 | 104.14 | 7.22 | 5.23 | 115.59 | 138.86 | 7.22 | 6.98 | 153.05 | 28,207 | 22,386 | 14,693 | 65,287 | 102.01 |
| 7 | Contract Adm. Assistant | 251 | 137 | 68 | 65% | 56.41 | 0.98 | 0.52 | 1.13 | 0.60 | 3.23 | 7.22 | 10.44 | 66.86 | 56.41 | 7.22 | 3.23 | 66.86 | 84.62 | 7.22 | 4.84 | 96.68 | 112.82 | 7.22 | 6.46 | 126.50 | 16,767 | 13,225 | 8,652 | 38,645 | 84.75 |
| 8 | Project Control Responsible | 351 | 192 | 96 | 73% | 84.76 | 1.11 | 0.59 | 1.70 | 0.68 | 4.08 | 7.22 | 11.30 | 96.05 | 84.76 | 7.22 | 4.08 | 96.05 | 127.14 | 7.22 | 6.12 | 140.47 | 169.52 | 7.22 | 8.16 | 184.89 | 33,727 | 26,903 | 17,705 | 78,335 | 122.71 |
| 9 | Project Control Assistant | 295 | 161 | 80 | 66% | 57.85 | 0.98 | 0.52 | 1.16 | 0.60 | 3.26 | 7.22 | 10.47 | 68.33 | 57.85 | 7.22 | 3.26 | 68.33 | 86.78 | 7.22 | 4.89 | 98.88 | 115.71 | 7.22 | 6.51 | 129.44 | 20,135 | 15,894 | 10,403 | 46,433 | 86.66 |
| 10 | Technical Staff | 2,521 | 1,430 | 715 | 65% | 56.41 | 0.98 | 0.52 | 1.13 | 0.60 | 3.23 | 7.22 | 10.44 | 66.86 | 56.41 | 7.22 | 3.23 | 66.86 | 84.62 | 7.22 | 4.84 | 96.68 | 112.82 | 7.22 | 6.46 | 126.50 | 175,200 | 138,204 | 90,417 | 403,841 | 84.75 |
| 11 | Safety Responsible | 352 | 192 | 96 | 70% | 65.82 | 0.98 | 0.52 | 1.32 | 0.60 | 3.42 | 7.22 | 10.63 | 76.45 | 65.82 | 7.22 | 3.42 | 76.45 | 98.73 | 7.22 | 5.13 | 111.07 | 131.64 | 7.22 | 6.83 | 145.69 | 26,911 | 21,325 | 13,986 | 62,221 | 97.22 |
| 12 | Safety Officer | 3,285 | 1,792 | 896 | 65% | 56.41 | 0.98 | 0.52 | 1.13 | 0.60 | 3.23 | 7.22 | 10.44 | 66.86 | 56.41 | 7.22 | 3.23 | 66.86 | 84.62 | 7.22 | 4.84 | 96.68 | 112.82 | 7.22 | 6.46 | 126.50 | 219,654 | 173,251 | 113,345 | 506,251 | 84.75 |
| 13 | Representative Office Responsible | 702 | 383 | 192 | 73% | 72.33 | 0.98 | 0.52 | 1.45 | 0.60 | 3.55 | 7.22 | 10.76 | 83.09 | 72.33 | 7.22 | 3.55 | 83.09 | 108.49 | 7.22 | 5.32 | 121.03 | 144.65 | 7.22 | 7.09 | 158.96 | 58,349 | 46,358 | 30,445 | 135,152 | 105.85 |
| 14 | Representative Office Assistant | 564 | 308 | 154 | 65% | 56.93 | 0.98 | 0.52 | 1.14 | 0.60 | 3.23 | 7.22 | 10.45 | 67.38 | 56.93 | 7.22 | 3.23 | 67.38 | 85.40 | 7.22 | 4.84 | 97.46 | 113.87 | 7.22 | 6.46 | 127.55 | 38,023 | 29,999 | 19,629 | 87,651 | 85.43 |
| 15 | Technical Manager | 351 | 192 | 96 | 73% | 72.33 | 0.98 | 0.52 | 1.45 | 0.60 | 3.55 | 7.22 | 10.76 | 83.09 | 72.33 | 7.22 | 3.55 | 83.09 | 108.49 | 7.22 | 5.32 | 121.03 | 144.65 | 7.22 | 7.09 | 158.96 | 29,175 | 23,179 | 15,222 | 67,576 | 105.85 |
| 16 | Tech. Office Responsible | 314 | 171 | 86 | 70% | 65.96 | 0.98 | 0.52 | 1.32 | 0.60 | 3.42 | 7.22 | 10.64 | 76.59 | 65.96 | 7.22 | 3.42 | 76.59 | 98.94 | 7.22 | 5.13 | 111.28 | 131.92 | 7.22 | 6.84 | 145.97 | 24,012 | 19,029 | 12,481 | 55,522 | 97.41 |
| 17 | Tech. Office Assistant | 1,749 | 954 | 477 | 65% | 65.96 | 0.98 | 0.52 | 1.14 | 0.60 | 3.23 | 7.22 | 10.45 | 67.38 | 65.96 | 7.22 | 3.24 | 67.38 | 85.40 | 7.22 | 4.86 | 97.48 | 113.87 | 7.22 | 6.46 | 127.56 | 117,887 | 93,010 | 60,859 | 271,756 | 85.44 |
| 18 | Draftsman/CAD Operator | 1,900 | 1,036 | 518 | 69% | 63.48 | 0.98 | 0.52 | 1.27 | 0.60 | 3.37 | 7.22 | 10.59 | 74.07 | 63.48 | 7.22 | 3.37 | 74.07 | 95.22 | 7.22 | 5.05 | 107.49 | 126.96 | 7.22 | 6.74 | 140.92 | 140,716 | 111,392 | 73,015 | 325,123 | 94.12 |
| 19 | Qty. Surveyor Responsible | 351 | 192 | 96 | 71% | 69.43 | 0.98 | 0.52 | 1.39 | 0.60 | 3.49 | 7.22 | 10.71 | 80.13 | 69.43 | 7.22 | 3.49 | 80.13 | 104.14 | 7.22 | 5.23 | 115.59 | 138.86 | 7.22 | 6.98 | 153.05 | 28,137 | 22,330 | 14,656 | 65,123 | 102.01 |
| 20 | Qty. Surveyor Assistant | 345 | 188 | 94 | 69% | 63.48 | 0.98 | 0.52 | 1.27 | 0.60 | 3.37 | 7.22 | 10.59 | 74.07 | 63.48 | 7.22 | 3.37 | 74.07 | 95.22 | 7.22 | 5.05 | 107.49 | 126.96 | 7.22 | 6.74 | 140.92 | 25,542 | 20,220 | 13,254 | 59,016 | 94.12 |
| 21 | Surveyor Responsible | 364 | 198 | 99 | 71% | 69.43 | 0.98 | 0.52 | 1.39 | 0.60 | 3.49 | 7.22 | 10.71 | 80.13 | 69.43 | 7.22 | 3.49 | 80.13 | 104.14 | 7.22 | 5.23 | 115.59 | 138.86 | 7.22 | 6.98 | 153.05 | 29,142 | 23,128 | 15,180 | 67,449 | 102.01 |
| 22 | Senior Engineer | 1,376 | 750 | 375 | 70% | 65.82 | 0.98 | 0.52 | 1.32 | 0.60 | 3.42 | 7.22 | 10.63 | 76.45 | 65.82 | 7.22 | 3.42 | 76.45 | 98.73 | 7.22 | 5.13 | 111.07 | 131.64 | 7.22 | 6.83 | 145.69 | 105,187 | 83,354 | 54,667 | 243,208 | 97.22 |
| 23 | Engineer | 226 | 123 | 62 | 69% | 56.41 | 0.98 | 0.48 | 1.13 | 0.53 | 2.98 | 7.22 | 10.20 | 66.61 | 56.41 | 7.22 | 2.98 | 66.61 | 84.62 | 7.22 | 4.47 | 96.31 | 112.82 | 7.22 | 5.96 | 126.00 | 15,035 | 11,857 | 7,757 | 34,649 | 84.43 |
| 24 | Planning Responsible | 325 | 177 | 89 | 70% | 65.82 | 0.98 | 0.52 | 1.32 | 0.60 | 3.42 | 7.22 | 10.63 | 76.45 | 65.82 | 7.22 | 3.42 | 76.45 | 98.73 | 7.22 | 5.13 | 111.07 | 131.64 | 7.22 | 6.83 | 145.69 | 24,808 | 19,659 | 12,893 | 57,360 | 97.22 |
| 25 | Planning Assistant | 564 | 308 | 154 | 65% | 56.41 | 0.98 | 0.52 | 1.13 | 0.60 | 3.23 | 7.22 | 10.44 | 66.86 | 56.41 | 7.22 | 3.23 | 66.86 | 84.62 | 7.22 | 4.84 | 96.68 | 112.82 | 7.22 | 6.46 | 126.50 | 23,474 | 18,515 | 12,113 | 54,103 | 84.75 |
| 26 | Permanent Materials Responsible | 295 | 161 | 80 | 71% | 69.43 | 0.98 | 0.52 | 1.39 | 0.60 | 3.49 | 7.22 | 10.71 | 80.13 | 69.43 | 7.22 | 3.49 | 80.13 | 104.14 | 7.22 | 5.23 | 115.59 | 138.86 | 7.22 | 6.98 | 153.05 | 23,615 | 18,741 | 12,301 | 54,657 | 102.01 |
| 27 | Administrative Manager | 352 | 192 | 96 | 76% | 86.43 | 1.03 | 0.55 | 1.73 | 0.63 | 3.94 | 7.22 | 11.16 | 97.59 | 86.43 | 7.22 | 3.94 | 97.59 | 129.64 | 7.22 | 5.91 | 142.77 | 172.86 | 7.22 | 7.88 | 187.95 | 34,350 | 27,412 | 18,044 | 79,805 | 124.70 |
| 28 | Personnel Office Responsible | 1,073 | 585 | 293 | 70% | 65.82 | 0.98 | 0.52 | 1.32 | 0.60 | 3.42 | 7.22 | 10.63 | 76.45 | 65.82 | 7.22 | 3.42 | 76.45 | 98.73 | 7.22 | 5.13 | 111.07 | 131.64 | 7.22 | 6.83 | 145.69 | 82,010 | 64,988 | 42,622 | 189,620 | 97.22 |
| 29 | Computer Operat./Programmer | 652 | 356 | 178 | 59% | 47.73 | 0.98 | 0.52 | 0.95 | 0.60 | 3.05 | 7.22 | 10.27 | 58.00 | 47.73 | 7.22 | 3.05 | 58.00 | 71.60 | 7.22 | 4.58 | 83.40 | 95.47 | 7.22 | 6.11 | 108.79 | 37,823 | 29,663 | 19,347 | 86,833 | 73.24 |
| 30 | Purchasing Responsible | 1,053 | 575 | 287 | 70% | 65.82 | 0.98 | 0.52 | 1.32 | 0.60 | 3.42 | 7.22 | 10.63 | 76.45 | 65.82 | 7.22 | 3.42 | 76.45 | 98.73 | 7.22 | 5.13 | 111.07 | 131.64 | 7.22 | 6.83 | 145.69 | 80,530 | 63,815 | 41,852 | 186,198 | 97.22 |
| 31 | Warehouse Responsible | 351 | 192 | 96 | 68% | 67.31 | 1.06 | 0.56 | 1.85 | 0.65 | 3.62 | 7.22 | 10.84 | 78.15 | 67.31 | 7.22 | 3.62 | 78.15 | 100.97 | 7.22 | 5.43 | 113.61 | 134.62 | 7.22 | 7.24 | 149.08 | 27,419 | 21,759 | 14,276 | 63,473 | 96.43 |
| 32 | General Services Responsible | 351 | 192 | 96 | 65% | 56.41 | 0.98 | 0.52 | 1.13 | 0.60 | 3.23 | 7.22 | 10.44 | 66.86 | 56.41 | 7.22 | 3.23 | 66.86 | 84.62 | 7.22 | 4.84 | 96.68 | 112.82 | 7.22 | 6.46 | 126.50 | 23,474 | 18,515 | 12,113 | 54,103 | 84.75 |
| 33 | Procurement Manager | 275 | 150 | 75 | 74% | 80.67 | 1.03 | 0.55 | 1.61 | 0.63 | 3.82 | 7.22 | 11.04 | 91.71 | 80.67 | 7.22 | 3.82 | 91.71 | 121.01 | 7.22 | 5.74 | 113.96 | 141.35 | 7.22 | 7.65 | 176.21 | 25,181 | 20,062 | 13,195 | 58,438 | 117.06 |
| 34 | Production Manager | 352 | 192 | 96 | 83% | 120.48 | 1.03 | 0.55 | 2.41 | 0.63 | 4.62 | 7.22 | 11.84 | 132.32 | 120.48 | 7.22 | 4.62 | 132.32 | 180.72 | 7.22 | 6.93 | 194.87 | 240.96 | 7.22 | 9.24 | 257.42 | 46,576 | 37,415 | 24,712 | 108,703 | 169.85 |
| 35 | Deputy Production Manager | 270 | 147 | 74 | 74% | 75.94 | | | | | | | | | | | | | | | | | | | | | | | | | |

1.2 Total: Rates and Hours Sheets for Work Force Covered by Collective Agreement

1.2.1 Sheet 1) Instructions (1 of 3)

| 1) General | | | |
|--|----------|--|--|
| Bidder to enter data in the following sheets: (at Bidder option, Bidder may enter hours only in Rates and Hours May 2013 sheet accompanied by a calculation of escalation until Substantial Completion.) | | | |
| 2) Fixed Amounts | | | |
| 3) Rates and Hours May 2013 | | | |
| 4) Rates and Hours May 2014 | | | |
| 5) Rates and Hours May 2015 | | | |
| 6) Rates and Hours May 2016 | | | |
| 7) Rates and Hours May 2017 | | | |
| Only enter data in yellow-shaded cells within these sheets. All other cells are locked for editing. | | | |
| All known amounts such as union-prescribed rates, work schedules, overtime (OT) hours, travel allowances and common government (govt) deductions are provided. | | | |
| Bidder should refer to the Project Labour Agreement for any clarification. | | | |
| The effective date for the rates are May 1 each year. The May 2013 rates are effective up until April 30, 2014, etc. | | | |
| Although set up to print, the sheets are designed for direct entry. | | | |
| Each sheet within the Excel Workbook is described below, with completion instructions as required. | | | |
| 2) Fixed Amounts Sheet | | | |
| Contains union-specific rates for vacation pay, holiday, pensions, H&W and other add-ons as well as rates for government burdens. | | | |
| Bidder to enter its rate for WHSCC premiums in this sheet. The rate is industry- and company-specific. The default rate is for heavy industrial companies. | | | |
| If Bidder has a different rate, enter it in the yellow-shaded cell in this sheet. | | | |
| 3-7) Rates and Hours Sheets | | | |
| A list of the columns in the Rates and Hours sheet and instructions for completing the columns are provided below; yellow shaded cells are those to be completed by Bidder. | | | |
| Do not enter data in rows below the row marked "End" in the Rates and Hours sheets. If extra rows are required, insert them before the End row. | | | |
| Rates and Hours Sheets Columns | | | |
| Column Group | Column # | Column Name | Description and Notes for Completion by Bidder |
| | 1 | Position and Level | Select from dropdown list; includes all Journey person, foreperson and apprentices for each union; Bidder should consult the Project Labour Agreement for classification and position descriptions. Selected positions and hours are included in the May 2013 sheet are for illustrative purposes only |
| | 2 | Union | Formula which completes automatically after Position and Level selected. Do not enter anything in this cell. |
| Estimated Hours | 3 | Total Hours | Enter the total expected amount of hours for each position. |
| | 4 | Shift (Day/Night) | Select Day or Night from the dropdown list to identify if the hours are for daytime shifts or if they are for night or second shifts for which the shift premium will be applicable. If the trade has both day and night hours, use two separate rows. |
| | 5 | % of Hrs Expected to Exceed Govt Burden Maximums | The Company and Bidder acknowledge that many long-term workers will exceed the maximum payroll threshold for CPP, EI and WHSCC premiums. As such, Bidder is asked to provide an estimate of the % of total hours that are expected to exceed the maximum individual payroll thresholds for these deductions. The maximum payroll thresholds for 2013 are: CPP (47,600), EI (47,400) and WHSCC (54,155). As an example, a journey person carpenter who works a 14 and 7 schedule will work approximately 2,400 hours in a year at an average rate of pay of \$51.06 (including OT), which equates to over \$122,000 per year or over 2.5 times the maximum threshold for EI and CPP deductions. |
| Bidder Schedule | 6 | Shift Schedule | Select the shift schedule that the Bidder is proposing to use from the dropdown list. These schedules are identified in the Project Labour Agreement in Articles 19.03 and 19.04. If different schedules are to be worked by the same trade classification, enter them as separate row items. |
| | 7 | Start Day | Select the start day for the schedule from the dropdown list. In certain schedules, the start day affects the percentage of total hours that will be applicable for OT rates. For the Regular shift schedules ("5 and 2" or "4 and 3"), the start day can only occur on a Monday. Entering any other start day for these schedules will result in an error. |
| | 8 | Schedule Long Name | Formula. Do not enter anything in this field. |
| Project Labour Agreement Rates (per hour) | 9 | Base Rate | Formulae which complete automatically after Position and Level are selected. Do not enter anything in these cells. |
| | 10 | Vacation Pay | |
| | 11 | Holiday Pay | |
| | 12 | LCP Premium | |
| | 13 | Health and Welfare (H&W) | |
| | 14 | Pension | |
| | 15 | Other Add-ons | |
| | 16 | Shift Premium | |

1.2.1 Sheet 1) Instructions (2 of 3)

| Rates and Hours Sheets Columns | | | |
|---|----------|--|--|
| Column Group | Column # | Column Name | Description and Notes for Completion by Bidder |
| Govt Burdens or MERCs (per hour) | 17 | Canada Pension Plan (CPP) | MERCs are govt burdens or mandatory employment related costs. Formulae which complete automatically after the Position and Level are selected. Do not enter anything in these cells. Links to guides for CPP, EI deductions and the HAPSET are provided in the links below. http://www.cra-arc.gc.ca/E/pub/tg/t4001/README.html http://www.cra-arc.gc.ca/E/pub/tg/t4032nl/README.html http://www.fin.gov.nl.ca/fin/tax_programs_incentives/business/education.html |
| | 18 | Employment Insurance (EI) | |
| | 19 | Health and Post-secondary Education Tax (HAPSET) | |
| | | | |
| | | | |
| | 20 | Workplace Health, Safety and Compensation Commission (WHSCC) | Formula which completes automatically after Position and Level selected. Do not enter anything in this cell (links back to assumptions entered by Bidder in the Fixed Amounts sheet). See link below to the WHSCC 2013 employer's guide. http://www.whscc.nf.ca/forms.aspx?type=Publications |
| Premiums (\$ per hour) | 21 | Height | Calculates the amount of premiums to be added to the base rate based on the percentages assumed by the Bidder in Columns 66 to 82. |
| | 22 | Heavy lifting | |
| | 23 | Boom | |
| | 24 | Tool | |
| Daytime Rates | 25 | All-in Regular Time Rate | Formulae which complete automatically after Position and Level selected. Do not enter anything in these cells. |
| | 26 | All-in 1.5 x Overtime (OT) Rate | |
| | 27 | All-in 2 x OT Rate | |
| Hours by Rate | 28 | Regular Time Hrs | Formula that calculates total amount of hours applicable to the regular time rate based on the selected schedule and start date. |
| | 29 | 1.5 x OT hours | Formula that calculates total amount of hours applicable to the 1.5 x OT rate based on the selected schedule and start date. |
| | 30 | 2 x OT hours | Formula that calculates total amount of hours applicable to the 2 x OT rate based on the selected schedule and start date. |
| Total Cost | 31 | Regular Hrs - Cost | Formula that calculates total all-in cost for Regular Time hours. |
| | 32 | 1.5 x OT Hours - Cost | Formula that calculates total all-in cost for 1.5 x OT hours. |
| | 33 | 2 x OT Hours - Cost | Formula that calculates total all-in cost for 2 x OT hours. |
| | 34 | Total Labour Cost | Formula that calculates total Labour cost for all hours. |
| Regular Time Labour Rate Summary | 35 | Wages | Formulae that summarize the total hourly regular time labour costs. |
| | 36 | Premiums | |
| | 37 | Union Add-ons | |
| | 38 | MERCs | |
| | 39 | Total Reg Rate | |
| Labour Rate Summary (1.5 x OT) | 40 | Wages | Formulae that summarize the total hourly 1.5 x OT labour costs. |
| | 41 | Premiums | |
| | 42 | Union Add-ons | |
| | 43 | MERCs | |
| | 44 | Total 1.5 x OT Rate | |
| Labour Rate Summary (2 x OT) | 45 | Wages | Formulae that summarize the total hourly 2 x OT labour costs. |
| | 46 | Premiums | |
| | 47 | Union Add-ons | |
| | 48 | MERCs | |
| | 49 | Total 2 x OT Rate | |
| | 50 | Avg Blended Rate (including OT based on selected schedule) | The weighted average labour cost for each position based on the selected work schedule and factoring in the prescribed OT rates as per the Project Labour Agreement |
| Height Premiums from Project Labour Agreement (\$ per hour) | 51 | > 40 feet | Height premium amounts for the various trades covered in the Project Labour Agreement. Amounts are pre-set in sheet and appear when the particular trade is selected. |
| | 52 | 40-100 feet | |
| | 53 | > 100 feet | |
| | 54 | > 50 feet | |
| | 55 | 40-64 feet | |
| | 56 | 65-89 feet | |
| | 57 | 90-124 feet | |
| | 58 | >125 feet | |
| | 59 | 15-30 metres | |
| | 60 | > 30 metres | |

1.2.1 Sheet 1) Instructions (3 of 3)

| Rates and Hours Sheets Columns | | | | |
|--|----------------------------|--|---|--|
| Column Group | Column # | Column Name | Description and Notes for Completion by Bidder | |
| Heavy Lifting Premiums from Project Labour Agreement (\$ per hour) | 61 62 63 64 65 | 225-300 tons 300-350 tons 350-400 tons 400-450 tons 450-500 tons | Heavy lifting premium amounts covered in the Project Labour Agreement. Applicable to crane operators only. Amounts are pre-set in sheet and appear when the particular trade is selected. | |
| Boom Premiums from Project Labour Agreement (\$ per hour) | 66 67 | 140 to 200 feet > 200 feet | | |
| Tool Premium | 68 | | | Tool premium which applies to OE Group 1 Equipment Mechanics only. |
| Height Premiums from Project Labour Agreement (\$ per hour) | 69 | > 40 feet | | Bidder to enter an estimate for the percentage of total hours for each position for which the height premium will apply. |
| | 70 | 40-100 feet | | |
| | 71 | > 100 feet | | |
| | 72 | > 50 feet | | |
| | 73 | 40-64 feet | | |
| | 74 | 65-89 feet | | |
| | 75 | 90-124 feet | | |
| Heavy Lifting Premiums from Project Labour Agreement (\$ per hour) | 76 | >125 feet | Bidder to enter an estimate for the percentage of total hours for each position for which the heavy lifting premium will apply. | |
| | 77 | 15-30 metres | | |
| | 78 | > 30 metres | | |
| | 79 | 225-300 tons | | |
| Boom Premiums from Project Labour Agreement (\$ per hour) | 80 | 300-350 tons | Bidder to enter an estimate for the percentage of total hours for each position for which the boom premium will apply. | |
| | 81 | 350-400 tons | | |
| | 82 | 400-450 tons | | |
| | 83 | 450-500 tons | | |
| Tool Premium | 84 85 | 140 to 200 feet > 200 feet | Bidder to enter an estimate for the percentage of total hours for each position for which the tool premium applies. | |
| | 86 | | | |
| 8) Premium Sheet | | | | |
| Lists the various premiums included in the project labour Agreement. Bidder should consult the Agreement if any clarifications are required. Locked for editing. | | | | |
| 9) Positions and Base Rates Sheet | | | | |
| Lists all positions and levels covered in the Project Labour Agreement and includes base wage rates for the life of the Project Labour Agreement and is locked for editing. | | | | |
| 10) Schedules Sheet | | | | |
| Lists all work schedules contained in the Project Labour Agreement and calculates the share of Regular, 1.5 x OT and 2 x OT hours for each work schedule based on the start day of the week. It is locked for editing. | | | | |
| 11) Schedule Summary Sheet | | | | |
| Summarizes the schedules and the OT hours calculated in the Schedules sheet. It is locked for editing. | | | | |
| 12) Start Days Sheet | | | | |
| Lists the start days of the week and is locked for editing. It is used as a look-up reference for other sheets. | | | | |
| 13) Night Day Sheet | | | | |
| It is used as a look-up reference for other sheets and locked for editing. | | | | |

1.2.2 Sheet 2) Fixed Amounts (1 of 3)

| May-13 | | | | | | | | | | | | |
|--------------------------|--------------|-------------|---------------------------|-------------------|-----------------------|-----------------------------|-----------------------------|-------|-------|-------------|-------|-------|
| Union | Vacation Pay | Holiday Pay | LCP Premium (\$ per hour) | H&W (\$ per hour) | Pension (\$ per hour) | Other Add-ons (\$ per hour) | Shift Premium (\$ per hour) | CPP | EI | Payroll Tax | WHSCC | |
| Carpenters | 10.0% | 3.0% | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.33 |
| Hotel and Restaurant | 8.0% | 5.0% | 1.00 | 3.00 | 7.50 | 2.99 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 13.49 |
| Ironworkers | 10.0% | 3.5% | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.18 |
| Linespersons | 10.0% | 3.0% | 3.50 | 1.00 | 4.55 | 0.60 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 6.15 |
| Labourers | 10.0% | 3.0% | 3.50 | 2.39 | 5.25 | 2.65 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.29 |
| Operating Engineers | 9.0% | 4.0% | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.85 |
| Teamsters | 9.0% | 4.0% | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 5.35 |
| Bricklayers | 8.0% | 2.0% | 3.50 | 1.90 | 5.00 | 1.85 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.75 |
| Boilermakers | 8.0% | 4.0% | 3.50 | 2.25 | 7.50 | 3.08 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 12.83 |
| Electricians | 10.0% | 3.0% | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.84 |
| Millwrights | 10.0% | 3.0% | 3.50 | 1.78 | 6.93 | 1.55 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.26 |
| Plumbers and Pipefitters | 10.0% | 0.0% | 3.50 | 2.50 | 6.00 | 2.93 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.43 |
| Painters | 10.0% | 3.0% | 3.50 | 2.15 | 5.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.85 |
| Insulators | 10.0% | 3.0% | 3.50 | 2.05 | 5.00 | 2.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.15 |
| Sheet Metal | 10.0% | 3.0% | 3.50 | 2.00 | 6.50 | 0.56 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.06 |
| Elevator Constructors | 8.0% | 4.0% | 3.50 | 1.18 | 2.25 | 0.66 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 4.09 |
| Null | 0.0% | 0.0% | - | - | - | - | - | 0.00% | - | 0.00% | - | |
| May-14 | | | | | | | | | | | | |
| Union | Vacation Pay | Holiday Pay | LCP Premium (\$ per hour) | H&W (\$ per hour) | Pension (\$ per hour) | Other Add-ons (\$ per hour) | Shift Premium (\$ per hour) | CPP | EI | Payroll Tax | WHSCC | |
| Carpenters | 10.0% | 3.0% | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.33 |
| Hotel and Restaurant | 8.0% | 5.0% | 1.00 | 3.00 | 7.50 | 2.99 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 13.49 |
| Ironworkers | 10.0% | 3.5% | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.18 |
| Linespersons | 10.0% | 3.0% | 3.50 | 1.00 | 4.55 | 0.60 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 6.15 |
| Labourers | 10.0% | 3.0% | 3.50 | 2.39 | 5.25 | 2.65 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.29 |
| Operating Engineers | 9.0% | 4.0% | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.85 |
| Teamsters | 9.0% | 4.0% | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 5.35 |
| Bricklayers | 8.0% | 2.0% | 3.50 | 1.90 | 5.00 | 1.85 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.75 |
| Boilermakers | 8.0% | 4.0% | 3.50 | 2.25 | 7.50 | 3.08 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 12.83 |
| Electricians | 10.0% | 3.0% | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.84 |
| Millwrights | 10.0% | 3.0% | 3.50 | 1.78 | 7.38 | 1.55 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.71 |
| Plumbers and Pipefitters | 10.0% | 0.0% | 3.50 | 2.50 | 6.00 | 2.93 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.43 |
| Painters | 10.0% | 3.0% | 3.50 | 2.25 | 5.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.95 |
| Insulators | 10.0% | 3.0% | 3.50 | 2.05 | 5.00 | 2.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.15 |
| Sheet Metal | 10.0% | 3.0% | 3.50 | 2.00 | 6.50 | 0.56 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.06 |
| Elevator Constructors | 8.0% | 4.0% | 3.50 | 1.18 | 2.25 | 0.66 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 4.09 |
| Null | 0.0% | 0.0% | - | - | - | - | - | 0.00% | - | 0.00% | - | |

1.2.2 Sheet 2) Fixed Amounts (2 of 3)

| May-15 | | | | | | | | | | | | |
|--------------------------|--------------|-------------|---------------------------|-------------------|-----------------------|-----------------------------|-----------------------------|-------|-------|-------------|-------|-------|
| Union | Vacation Pay | Holiday Pay | LCP Premium (\$ per hour) | H&W (\$ per hour) | Pension (\$ per hour) | Other Add-ons (\$ per hour) | Shift Premium (\$ per hour) | CPP | EI | Payroll Tax | WHSCC | |
| Carpenters | 10.0% | 3.0% | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.33 |
| Hotel and Restaurant | 8.0% | 5.0% | 1.00 | 3.00 | 7.50 | 2.99 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 13.49 |
| Ironworkers | 10.0% | 3.5% | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.18 |
| Linespersons | 10.0% | 3.0% | 3.50 | 1.00 | 4.55 | 0.60 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 6.15 |
| Labourers | 10.0% | 3.0% | 3.50 | 2.39 | 5.25 | 2.65 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.29 |
| Operating Engineers | 9.0% | 4.0% | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.85 |
| Teamsters | 9.0% | 4.0% | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 5.35 |
| Bricklayers | 8.0% | 2.0% | 3.50 | 1.90 | 5.00 | 1.85 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.75 |
| Boilermakers | 8.0% | 4.0% | 3.50 | 2.25 | 7.50 | 3.08 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 12.83 |
| Electricians | 10.0% | 3.0% | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.84 |
| Millwrights | 10.0% | 3.0% | 3.50 | 1.78 | 7.74 | 1.55 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.07 |
| Plumbers and Pipefitters | 10.0% | 0.0% | 3.50 | 2.50 | 6.00 | 2.93 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.43 |
| Painters | 10.0% | 3.0% | 3.50 | 2.35 | 5.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.05 |
| Insulators | 10.0% | 3.0% | 3.50 | 2.05 | 5.00 | 2.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.15 |
| Sheet Metal | 10.0% | 3.0% | 3.50 | 2.00 | 6.50 | 0.56 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.06 |
| Elevator Constructors | 8.0% | 4.0% | 3.50 | 1.18 | 2.25 | 0.66 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 4.09 |
| Null | 0.0% | 0.0% | - | - | - | - | - | 0.00% | - | 0.00% | - | |
| May-16 | | | | | | | | | | | | |
| Union | Vacation Pay | Holiday Pay | LCP Premium (\$ per hour) | H&W (\$ per hour) | Pension (\$ per hour) | Other Add-ons (\$ per hour) | Shift Premium (\$ per hour) | CPP | EI | Payroll Tax | WHSCC | |
| Carpenters | 10.0% | 3.0% | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.33 |
| Hotel and Restaurant | 8.0% | 5.0% | 1.00 | 3.00 | 7.50 | 2.99 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 13.49 |
| Ironworkers | 10.0% | 3.5% | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.18 |
| Linespersons | 10.0% | 3.0% | 3.50 | 1.00 | 4.55 | 0.60 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 6.15 |
| Labourers | 10.0% | 3.0% | 3.50 | 2.39 | 5.25 | 2.65 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.29 |
| Operating Engineers | 9.0% | 4.0% | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.85 |
| Teamsters | 9.0% | 4.0% | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 5.35 |
| Bricklayers | 8.0% | 2.0% | 3.50 | 1.90 | 5.00 | 1.85 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.75 |
| Boilermakers | 8.0% | 4.0% | 3.50 | 2.25 | 7.50 | 3.08 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 12.83 |
| Electricians | 10.0% | 3.0% | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.84 |
| Millwrights | 10.0% | 3.0% | 3.50 | 1.78 | 8.19 | 1.55 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.52 |
| Plumbers and Pipefitters | 10.0% | 0.0% | 3.50 | 2.50 | 6.00 | 2.93 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.43 |
| Painters | 10.0% | 3.0% | 3.50 | 2.45 | 5.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.15 |
| Insulators | 10.0% | 3.0% | 3.50 | 2.05 | 5.00 | 2.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.15 |
| Sheet Metal | 10.0% | 3.0% | 3.50 | 2.00 | 6.50 | 0.56 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.06 |
| Elevator Constructors | 8.0% | 4.0% | 3.50 | 1.18 | 2.25 | 0.66 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 4.09 |
| Null | 0.0% | 0.0% | - | - | - | - | - | 0.00% | - | 0.00% | - | |

1.2.2 Sheet 2) Fixed Amounts (3 of 3)

| May-17 | | | | | | | | | | | | |
|--------------------------|-------|-------------|---------------------------|-------------------|-----------------------|-----------------------------|-----------------------------|-------|-------|-------------|-------|-------|
| Union | 0 | Holiday Pay | LCP Premium (\$ per hour) | H&W (\$ per hour) | Pension (\$ per hour) | Other Add-ons (\$ per hour) | Shift Premium (\$ per hour) | CPP | EI | Payroll Tax | WHSCC | |
| Carpenters | 10.0% | 3.0% | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.33 |
| Hotel and Restaurant | 8.0% | 5.0% | 1.00 | 3.00 | 7.50 | 2.99 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 13.49 |
| Ironworkers | 10.0% | 3.5% | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.18 |
| Linespersons | 10.0% | 3.0% | 3.50 | 1.00 | 4.55 | 0.60 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 6.15 |
| Labourers | 10.0% | 3.0% | 3.50 | 2.39 | 5.25 | 2.65 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 10.29 |
| Operating Engineers | 9.0% | 4.0% | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.85 |
| Teamsters | 9.0% | 4.0% | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 5.35 |
| Bricklayers | 8.0% | 2.0% | 3.50 | 1.90 | 5.00 | 1.85 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.75 |
| Boilermakers | 8.0% | 4.0% | 3.50 | 2.25 | 7.50 | 3.08 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 12.83 |
| Electricians | 10.0% | 3.0% | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 8.84 |
| Millwrights | 10.0% | 3.0% | 3.50 | 1.78 | 8.55 | 1.55 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.88 |
| Plumbers and Pipefitters | 10.0% | 0.0% | 3.50 | 2.50 | 6.00 | 2.93 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 11.43 |
| Painters | 10.0% | 3.0% | 3.50 | 2.55 | 5.00 | 1.70 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.25 |
| Insulators | 10.0% | 3.0% | 3.50 | 2.05 | 5.00 | 2.10 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.15 |
| Sheet Metal | 10.0% | 3.0% | 3.50 | 2.00 | 6.50 | 0.56 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 9.06 |
| Elevator Constructors | 8.0% | 4.0% | 3.50 | 1.18 | 2.25 | 0.66 | 3.00 | 4.95% | 2.63% | 2.00% | 3.03% | 4.09 |
| Null | 0.0% | 0.0% | - | - | - | - | - | 0.00% | - | 0.00% | - | |

1.2.3 Sheet 3) Rates and Hours May 2013 (1 of 6)

| 1 | 2 | Estimated Hours (May 1, 2013 - April 30, 2014) | | | Bidder Schedule | | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | Govt Burdens or MERCs (\$ per hour) | | | | Premium Costs (\$ per hour) | | | | |
|---|--------------|--|-------------------|--|---------------------|-----------|----------------------------|--|--------------|---------|-------------|------|---------|--------------|---------------|-------------------------------------|------|-------------|-------|-----------------------------|---------------|------|------|---|
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| Position and Level | Union | Total Hours | Shift (Day/Night) | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base Rate | Vacation Pay | Holiday | LCP Premium | H&W | Pension | Other Add-on | Shift Premium | CPP | EI | Payroll Tax | WHSCC | Height | Heavy Lifting | Boom | Tool | |
| Rates Effective May 2013 - April 2014 | | | | | | | | | | | | | | | | | | | | | | | | |
| Carpenters - Apprentice - 1 | Carpenters | 3,680 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 20.62 | 2.06 | 0.62 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.67 | 0.36 | 0.54 | 0.41 | 0.35 | - | - | - | - |
| Carpenters - Apprentice - 1 | Carpenters | 3,680 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 20.62 | 2.06 | 0.62 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.75 | 0.40 | 0.60 | 0.46 | 0.35 | - | - | - | - |
| Carpenters - Apprentice - 2 | Carpenters | 734 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 22.21 | 2.22 | 0.67 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.72 | 0.38 | 0.58 | 0.44 | 0.35 | - | - | - | - |
| Carpenters - Apprentice - 2 | Carpenters | 734 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 22.21 | 2.22 | 0.67 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.79 | 0.42 | 0.64 | 0.48 | 0.35 | - | - | - | - |
| Carpenters - Apprentice - 3 | Carpenters | 3,427 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.38 | 2.54 | 0.76 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.81 | 0.43 | 0.65 | 0.49 | 0.35 | - | - | - | - |
| Carpenters - Apprentice - 3 | Carpenters | 3,427 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.38 | 2.54 | 0.76 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.88 | 0.47 | 0.71 | 0.54 | 0.35 | - | - | - | - |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | 4,641 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.73 | 3.17 | 0.95 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.98 | 0.52 | 0.79 | 0.60 | 0.35 | - | - | - | - |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | 4,641 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.73 | 3.17 | 0.95 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.06 | 0.56 | 0.85 | 0.65 | 0.35 | - | - | - | - |
| Carpenters - Working foreperson | Carpenters | 2,041 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.90 | 3.49 | 1.05 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | 0.35 | - | - | - | - |
| Carpenters - Working foreperson | Carpenters | 2,041 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.90 | 3.49 | 1.05 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | 0.35 | - | - | - | - |
| Carpenters - General foreperson | Carpenters | 8,475 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.08 | 3.81 | 1.14 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - | - |
| Carpenters - General foreperson | Carpenters | 8,475 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.08 | 3.81 | 1.14 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.23 | 0.65 | 0.99 | 0.75 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 333 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | 1.95 | - | - | - | - |
| Electricians - Journeyman | Electricians | 333 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.20 | 0.64 | 0.97 | 0.73 | 1.95 | - | - | - | - |
| Electricians - Journeyman | Electricians | 306 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | 1.95 | - | - | - | - |
| Electricians - Journeyman | Electricians | 306 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.20 | 0.64 | 0.97 | 0.73 | 1.95 | - | - | - | - |
| Electricians - Journeyman | Electricians | 500 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | 1.95 | - | - | - | - |
| Electricians - Journeyman | Electricians | 500 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.20 | 0.64 | 0.97 | 0.73 | 1.95 | - | - | - | - |
| Electricians - Journeyman | Electricians | 500 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 500 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - | - |
| Electricians - Apprentice - 3rd year | Electricians | 1,055 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.77 | 2.88 | 0.74 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.78 | 0.41 | 0.63 | 0.48 | - | - | - | - | - |
| Electricians - Apprentice - 3rd year | Electricians | 1,055 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.77 | 2.48 | 0.74 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.85 | 0.45 | 0.69 | 0.52 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 1,055 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 1,055 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.54 | 1.06 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - | - |
| Electricians - Non-working foreperson | Electricians | 366 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.93 | 3.89 | 1.17 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.18 | 0.62 | 0.95 | 0.72 | - | - | - | - | - |
| Electricians - Non-working foreperson | Electricians | 366 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.93 | 3.89 | 1.17 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - | - |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 1,868 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 22.52 | 2.25 | 0.79 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.72 | 0.39 | 0.59 | 0.44 | 0.20 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 1,868 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 22.52 | 2.25 | 0.79 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.80 | 0.42 | 0.65 | 0.49 | 0.20 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 600 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 23.32 | 2.33 | 0.82 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.82 | 0.44 | 0.66 | 0.50 | 0.20 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 600 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 23.32 | 2.33 | 0.82 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | 0.20 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 1,342 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 28.95 | 2.90 | 1.01 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.98 | 0.52 | 0.79 | 0.60 | 0.20 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 1,342 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 28.95 | 2.90 | 1.01 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.06 | 0.56 | 0.86 | 0.61 | 0.20 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 2,016 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.99 | 3.00 | 1.05 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.93 | 0.50 | 0.75 | 0.57 | 0.20 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 2,016 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.99 | 3.00 | 1.05 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.01 | 0.54 | 0.81 | 0.62 | 0.20 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 306 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.99 | 3.00 | 1.05 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.93 | 0.50 | 0.75 | 0.57 | 0.20 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 306 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.99 | 3.00 | 1.05 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.00 | 0.54 | 0.81 | 0.61 | 0.20 | - | - | - | - |
| Ironworkers - Rebar Journeyman | Ironworkers | 2,475 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.17 | 3.22 | 1.13 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.07 | 0.57 | 0.86 | 0.65 | 0.20 | - | - | - | - |
| Ironworkers - Rebar Journeyman | Ironworkers | 2,475 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.17 | 3.22 | 1.13 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.07 | 0.57 | 0.86 | 0.65 | 0.20 | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 2,408 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.32 | 3.33 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.02 | 0.54 | 0.83 | 0.63 | - | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 2,408 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.32 | 3.33 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.10 | 0.58 | 0.89 | 0.67 | - | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 184 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.32 | 3.33 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.02 | 0.54 | 0.83 | 0.63 | - | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 184 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.32 | 3.33 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.10 | 0.58 | 0.89 | 0.67 | - | - | - | - | - |
| Ironworkers - Rebar foreperson | Ironworkers | 713 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.00 | 3.70 | 1.29 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - | - |
| Ironworkers - Rebar foreperson | Ironworkers | 713 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.00 | 3.70 | 1.29 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.20 | 0.64 | 0.97 | 0.73 | - | - | - | - | - |
| Ironworkers - Structural foreperson | Ironworkers | 758 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.32 | 3.83 | 1.34 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - | - |
| Ironworkers - Structural foreperson | Ironworkers | 758 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.32 | 3.83 | 1.34 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - | - |
| Ironworkers - Structural foreperson | Ironworkers | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (2 | | | | | | | | | | | | | | | | | |

1.2.3 Sheet 3) Rates and Hours May 2013 (4 of 6)

| 1 | 2 | 3 Estimated Hours (May 1, 2013 - April 30, 2014) | | | 4 Bidder Schedule | | 5 Project Labour Agreement Rates (\$ per hour) | | | | | | | | | | 6 Govt Burdens or MERCs (\$ per hour) | | | | 7 Premium Costs (\$ per hour) | | | |
|--|---------------------|--|-------------------|--|---------------------|-----------|--|-----------|--------------|-------------|-------------|------|---------|---------|---------------|------|---------------------------------------|-------------|-------|--------|-------------------------------|------|------|--|
| | | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | | | | |
| Position and Level | Union | Total Hours | Shift (Day/Night) | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base Rate | Vacation Pay | Holiday Pay | LCP Premium | H&W | Pension | Add-ons | Other Premium | CPP | El | Payroll Tax | WHSCC | Height | Heavy Lifting | Boom | Tool | |
| Rates Effective May 2013 - April 2014 | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Engineers - Group 3 - JP | Operating Engineers | 2,148 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.40 | 2.92 | 1.30 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.99 | 0.53 | 0.80 | 0.61 | - | - | - | - | |
| Operating Engineers - Group 3 - JP | Operating Engineers | 2,148 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.40 | 2.92 | 1.30 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.86 | 0.65 | - | - | - | - | |
| Operating Engineers - Group 1 - JP | Operating Engineers | 12,721 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.81 | 3.04 | 1.35 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.83 | 0.63 | - | - | - | - | |
| Operating Engineers - Group 1 - JP | Operating Engineers | 12,721 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.81 | 3.04 | 1.35 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.11 | 0.59 | 0.89 | 0.68 | - | - | - | - | |
| Operating Engineers - Group 3 - JP | Operating Engineers | 2,855 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.40 | 2.92 | 1.30 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.99 | 0.53 | 0.80 | 0.61 | - | - | - | - | |
| Operating Engineers - Group 3 - JP | Operating Engineers | 2,855 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.40 | 2.92 | 1.30 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.86 | 0.65 | - | - | - | - | |
| Operating Engineers - Group 5 - JP | Operating Engineers | 7,287 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.67 | 2.76 | 1.23 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.94 | 0.50 | 0.76 | 0.58 | - | - | - | - | |
| Operating Engineers - Group 5 - JP | Operating Engineers | 7,287 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.67 | 2.76 | 1.23 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.02 | 0.54 | 0.82 | 0.62 | - | - | - | - | |
| Operating Engineers - Group 4 - JP | Operating Engineers | 8,122 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.41 | 2.83 | 1.26 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.51 | 0.78 | 0.59 | - | - | - | - | |
| Operating Engineers - Group 4 - JP | Operating Engineers | 8,122 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.41 | 2.83 | 1.26 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | - | - | - | - | |
| Operating Engineers - Group 2 - JP | Operating Engineers | 1,087 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.81 | 2.95 | 1.31 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.00 | 0.53 | 0.81 | 0.61 | - | - | - | - | |
| Operating Engineers - Group 2 - JP | Operating Engineers | 1,087 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.81 | 2.95 | 1.31 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - | |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 4,287 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.88 | 3.50 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.95 | 0.72 | - | - | - | - | |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 4,287 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.88 | 3.50 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - | |
| Operating Engineers - Group 5 - JP | Operating Engineers | 125 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.67 | 2.76 | 1.23 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.94 | 0.50 | 0.76 | 0.58 | - | - | - | - | |
| Operating Engineers - Group 5 - JP | Operating Engineers | 125 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.67 | 2.76 | 1.23 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.02 | 0.54 | 0.82 | 0.62 | - | - | - | - | |
| Operating Engineers - Group 4 - JP | Operating Engineers | 3,765 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.41 | 2.83 | 1.26 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.51 | 0.78 | 0.59 | - | - | - | - | |
| Operating Engineers - Group 4 - JP | Operating Engineers | 3,765 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.41 | 2.83 | 1.26 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | - | - | - | - | |
| Operating Engineers - Group 2 - JP | Operating Engineers | 3,556 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.81 | 2.95 | 1.31 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.00 | 0.53 | 0.81 | 0.61 | - | - | - | - | |
| Operating Engineers - Group 2 - JP | Operating Engineers | 3,556 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.81 | 2.95 | 1.31 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - | |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 1,297 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.88 | 3.50 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.95 | 0.72 | - | - | - | - | |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 1,297 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.88 | 3.50 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - | |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 6,613 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.57 | 3.65 | 1.62 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - | |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 6,613 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.57 | 3.65 | 1.62 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - | |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 2,218 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.57 | 3.65 | 1.62 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - | |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 2,218 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.57 | 3.65 | 1.62 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - | |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 739 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.01 | 2.61 | 1.16 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | - | - | - | - | |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 3,432 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.45 | 2.29 | 1.02 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.80 | 0.42 | 0.65 | 0.49 | - | - | - | - | |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 739 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.45 | 2.29 | 1.02 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.80 | 0.42 | 0.65 | 0.49 | - | - | - | - | |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,706 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.01 | 2.61 | 1.16 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | - | - | - | - | |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,363 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.01 | 2.61 | 1.16 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | - | - | - | - | |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,363 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.01 | 2.61 | 1.16 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.60 | - | - | - | - | |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 4,152 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.01 | 2.61 | 1.16 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | - | - | - | - | |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 2,442 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.45 | 2.29 | 1.02 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.80 | 0.42 | 0.65 | 0.49 | - | - | - | - | |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 8,659 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.67 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | - | - | - | - | |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 819 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.67 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | - | - | - | - | |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 819 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.67 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.93 | 0.50 | 0.76 | 0.57 | - | - | - | - | |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 739 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.01 | 2.61 | 1.16 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | - | - | - | - | |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 2,851 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.67 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | - | - | - | - | |
| Painters - Group 2 | Painters | 827 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.54 | 3.45 | 1.04 | 3.50 | 2.15 | 5.00 | 1.70 | 3.00 | 1.05 | 0.56 | 0.85 | 0.64 | - | - | - | - | |
| Painters - Group 2 | Painters | 827 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.54 | 3.45 | 1.04 | 3.50 | 2.15 | 5.00 | 1.70 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - | |
| Teamsters - Group 3 teamster | Teamsters | 2,894 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.06 | 3.07 | 1.36 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | - | - | - | - | |
| Teamsters - Group 3 teamster | Teamsters | 2,894 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.06 | 3.07 | 1.36 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - | |
| Teamsters - Group 1 teamster | Teamsters | 10,915 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.49 | 3.10 | 1.38 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.05 | 0.56 | 0.85 | 0.64 | - | - | - | - | |
| Teamsters - Group 1 teamster | Teamsters | 10,915 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.49 | 3.10 | 1.38 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - | |
| Teamsters - Group 3 teamster | Teamsters | 5,320 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.06 | 3.07 | 1.36 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | - | - | - | - | |
| Teamsters - Group 3 teamster | Teamsters | 5,320 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.06 | 3.07 | 1.36 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - | |
| Teamsters - Group 1 teamster | Teamsters | 5,773 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.49 | 3.10 | 1.38 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.05 | 0.56 | 0.85 | 0.64 | - | - | - | - | |
| Teamsters - Group 1 teamster | Teamsters | 5,773 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | | | | | | | | | | | | | | | | | |

1.2.4 Sheet 4) Rates and Hours May 2014 (1 of 6)

| 1 | 2 | Estimated Hours (May 1, 2014 - April 30, 2015) | | | Bidder Schedule | | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | Govt Burdens or MERCs (\$ per hour) | | | | Premium Costs (\$ per hour) | | | | |
|---|--------------|--|-------|---|---------------------|-----------|----------------------------|--|----------|---------|---------|------|---------|---------|-------|-------------------------------------|------|-------------|-------|-----------------------------|---------------|------|------|---|
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| Position and Level | Union | Total Hours (Day/Night) | Shift | % of Hrs Expected to Exceed Govt Maxims | Shift Schedule | Start Day | Schedule Long Name | Base | Vacation | Holiday | ICP | H&W | Pension | Other | Shift | CPP | EI | Payroll Tax | WHSCC | Height | Heavy Lifting | Boom | Tote | |
| | | | | | | | | Rate | Pay | Pay | Premium | | | Premium | | | | | | | | | | |
| Rates Effective May 2014 - April 2015 | | | | | | | | | | | | | | | | | | | | | | | | |
| Carpenters - Apprentice - 1 | Carpenters | 86,206 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 22.06 | 2.21 | 0.66 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.73 | 0.39 | 0.59 | 0.44 | 0.88 | - | - | - | - |
| Carpenters - Apprentice - 1 | Carpenters | 86,206 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 22.06 | 2.21 | 0.66 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.80 | 0.43 | 0.65 | 0.49 | 0.88 | - | - | - | - |
| Carpenters - Apprentice - 2 | Carpenters | 67 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 23.76 | 2.38 | 0.71 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.77 | 0.41 | 0.62 | 0.47 | 0.88 | - | - | - | - |
| Carpenters - Apprentice - 2 | Carpenters | 67 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 23.76 | 2.38 | 0.71 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.85 | 0.45 | 0.68 | 0.52 | 0.88 | - | - | - | - |
| Carpenters - Apprentice - 3 | Carpenters | 63,472 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.15 | 2.72 | 0.81 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.87 | 0.46 | 0.70 | 0.53 | 0.88 | - | - | - | - |
| Carpenters - Apprentice - 3 | Carpenters | 63,472 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.15 | 2.72 | 0.81 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.94 | 0.50 | 0.76 | 0.58 | 0.88 | - | - | - | - |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | 129,113 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.94 | 3.39 | 1.02 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.06 | 0.56 | 0.85 | 0.65 | 0.88 | - | - | - | - |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | 129,113 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.94 | 3.39 | 1.02 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | 0.88 | - | - | - | - |
| Carpenters - Working foreperson | Carpenters | 37,101 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.34 | 3.73 | 1.12 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.15 | 0.61 | 0.93 | 0.71 | 0.88 | - | - | - | - |
| Carpenters - Working foreperson | Carpenters | 37,101 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.34 | 3.73 | 1.12 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.23 | 0.65 | 0.99 | 0.75 | 0.88 | - | - | - | - |
| Carpenters - General foreperson | Carpenters | 33,384 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.73 | 4.07 | 1.22 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.23 | 0.65 | 0.99 | 0.75 | - | - | - | - | - |
| Carpenters - General foreperson | Carpenters | 33,384 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.73 | 4.07 | 1.22 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.30 | 0.69 | 1.05 | 0.80 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 4,606 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.40 | 0.74 | 1.13 | 0.86 | 10.53 | - | - | - | - |
| Electricians - Journeyman | Electricians | 4,606 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.82 | 0.44 | 0.65 | 0.50 | 10.53 | - | - | - | - |
| Electricians - Journeyman | Electricians | 7,910 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.40 | 0.74 | 1.13 | 0.86 | 10.53 | - | - | - | - |
| Electricians - Journeyman | Electricians | 7,910 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.47 | 0.78 | 1.19 | 0.90 | 10.53 | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.40 | 0.74 | 1.13 | 0.86 | 10.53 | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.47 | 0.78 | 1.19 | 0.90 | 10.53 | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - | - |
| Electricians - Apprentice - 3rd year | Electricians | 3,289 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.82 | 0.44 | 0.65 | 0.50 | - | - | - | - | - |
| Electricians - Apprentice - 3rd year | Electricians | 3,289 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.90 | 0.48 | 0.72 | 0.55 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 3,289 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 3,289 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.76 | 1.13 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - | - |
| Electricians - Non-working foreperson | Electricians | 1,099 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.36 | 4.14 | 1.24 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - | - |
| Electricians - Non-working foreperson | Electricians | 1,099 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.36 | 4.14 | 1.24 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.32 | 0.70 | 1.06 | 0.81 | - | - | - | - | - |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 61,186 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.06 | 2.41 | 0.84 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.77 | 0.41 | 0.63 | 0.47 | 0.50 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 61,186 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.06 | 2.41 | 0.84 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.80 | 0.42 | 0.64 | 0.49 | 0.50 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 3,612 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.87 | 2.49 | 0.87 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.80 | 0.42 | 0.64 | 0.49 | 0.50 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 3,612 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.87 | 2.49 | 0.87 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.87 | 0.46 | 0.70 | 0.53 | 0.50 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 37,047 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.94 | 3.09 | 1.08 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.97 | 0.51 | 0.78 | 0.59 | 0.50 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 37,047 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.94 | 3.09 | 1.08 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | 0.50 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 4,695 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.97 | 3.20 | 1.12 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.00 | 0.53 | 0.81 | 0.61 | 0.50 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 4,695 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.97 | 3.20 | 1.12 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | 0.50 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 7,910 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.97 | 3.20 | 1.12 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.00 | 0.53 | 0.81 | 0.61 | 0.50 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 7,910 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.97 | 3.20 | 1.12 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | 0.50 | - | - | - | - |
| Ironworkers - Rebar Journeyman | Ironworkers | 74,052 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.37 | 3.44 | 1.20 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.06 | 0.57 | 0.86 | 0.65 | 0.50 | - | - | - | - |
| Ironworkers - Rebar Journeyman | Ironworkers | 74,052 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.37 | 3.44 | 1.20 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | 0.50 | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 8,265 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.52 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | 8,265 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.52 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | 5,823 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.52 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | 5,823 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.52 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - | |
| Ironworkers - Rebar foreperson | Ironworkers | 18,532 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.53 | 3.95 | 1.38 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.20 | 0.64 | 0.97 | 0.73 | - | - | - | - | |
| Ironworkers - Rebar foreperson | Ironworkers | 18,532 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.53 | 3.95 | 1.38 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.27 | 0.68 | 1.03 | 0.78 | - | - | - | - | |
| Ironworkers - Structural foreperson | Ironworkers | 1,823 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.85 | 4.09 | 1.43 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.23 | 0.66 | 1.00 | 0.76 | - | - | - | - | |
| Ironworkers - Structural foreperson | Ironworkers | 1,823 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.85 | 4.09 | 1.43 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.31 | 0.70 | 1.06 | 0.80 | - | - | | | |

1.2.4 Sheet 4) Rates and Hours May 2014 (4 of 6)

| | | Estimated Hours (May 1, 2014 - April 30, 2015) | | | Bidder Schedule | | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | Govt Burdens or MERCs (\$ per hour) | | | | Premium Costs (\$ per hour) | | | |
|--|---------------------|--|-------|--|---------------------|-----------|----------------------------|--|----------|---------|---------|------|---------|---------|-------|-------------------------------------|------|------|-------|-----------------------------|---------------|------|------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Rates Effective May 2014 - April 2015 | | | | | | | | | | | | | | | | | | | | | | | |
| Position and Level | Union | Total Hours (Day/Night) | Shift | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base | Vacation | Holiday | LCP | H&W | Pension | Other | Shift | CPP | El | Tax | WHSCC | Height | Heavy Lifting | Boom | Tool |
| | | | | | | | | Rate | Pay | Pay | Premium | | | Premium | | | | | | | | | |
| Operating Engineers - Group 3 - JP | Operating Engineers | 7,145 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.61 | 3.12 | 1.38 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.05 | 0.56 | 0.85 | 0.65 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 7,145 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.61 | 3.12 | 1.38 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 50,667 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.02 | 3.24 | 1.44 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.09 | 0.58 | 0.88 | 0.67 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 50,667 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.02 | 3.24 | 1.44 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.94 | 0.72 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 11,246 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.61 | 3.12 | 1.38 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.05 | 0.56 | 0.85 | 0.65 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 11,246 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.61 | 3.12 | 1.38 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 19,234 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.88 | 2.96 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.81 | 0.62 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 19,234 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.88 | 2.96 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 24,980 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.62 | 3.03 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.83 | 0.63 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 24,980 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.62 | 3.03 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.10 | 0.59 | 0.89 | 0.67 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 19,234 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.02 | 3.15 | 1.40 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.86 | 0.65 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 19,234 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.02 | 3.15 | 1.40 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 19,234 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.43 | 3.73 | 1.66 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 19,234 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.43 | 3.73 | 1.66 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.32 | 0.70 | 1.07 | 0.81 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 25 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.88 | 2.96 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.81 | 0.62 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 25 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.88 | 2.96 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 12,175 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.62 | 3.03 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.83 | 0.63 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 12,175 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.62 | 3.03 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.10 | 0.59 | 0.89 | 0.67 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 12,133 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.02 | 3.15 | 1.40 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.86 | 0.65 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 12,133 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.02 | 3.15 | 1.40 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 4,067 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.43 | 3.73 | 1.66 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 4,067 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.43 | 3.73 | 1.66 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.32 | 0.70 | 1.07 | 0.81 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 26,052 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.23 | 3.89 | 1.73 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 26,052 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.23 | 3.89 | 1.73 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.37 | 0.73 | 1.11 | 0.84 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 8,736 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.23 | 3.89 | 1.73 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 8,736 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.23 | 3.89 | 1.73 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.37 | 0.73 | 1.11 | 0.84 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,912 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.22 | 2.81 | 1.25 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.96 | 0.51 | 0.78 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 13,520 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.66 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 2,912 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.66 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 10,660 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.22 | 2.81 | 1.25 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.96 | 0.51 | 0.78 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 9,308 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.22 | 2.81 | 1.25 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.96 | 0.51 | 0.78 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 9,308 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.22 | 2.81 | 1.25 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.84 | 0.63 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 8,476 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.22 | 2.81 | 1.25 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.96 | 0.51 | 0.78 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 9,620 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.66 | 2.49 | 1.11 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 34,112 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.88 | 2.69 | 1.20 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.92 | 0.49 | 0.75 | 0.56 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 3,224 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.88 | 2.69 | 1.20 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.92 | 0.49 | 0.75 | 0.56 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 3,224 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.88 | 2.69 | 1.20 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.00 | 0.53 | 0.81 | 0.61 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,912 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.22 | 2.81 | 1.25 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.96 | 0.51 | 0.78 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 11,232 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.88 | 2.69 | 1.20 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.92 | 0.49 | 0.75 | 0.56 | - | - | - | - |
| Painters - Group 2 | Painters | 2,667 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.67 | 3.67 | 1.10 | 3.50 | 2.25 | 5.00 | 1.70 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Painters - Group 2 | Painters | 2,667 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.67 | 3.67 | 1.10 | 3.50 | 2.25 | 5.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 11,794 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.27 | 3.26 | 1.45 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.10 | 0.59 | 0.89 | 0.67 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 11,794 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.27 | 3.26 | 1.45 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.18 | 0.62 | 0.95 | 0.72 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 26,997 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.70 | 3.30 | 1.47 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 26,997 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.70 | 3.30 | 1.47 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 19,734 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.27 | 3.26 | 1.45 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.10 | 0.59 | 0.89 | 0.67 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 19,734 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.27 | 3.26 | 1.45 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.18 | 0.62 | 0.95 | 0.72 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 22,743 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.70 | 3.30 | 1.47 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 22,743 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.70 | 3.30 | 1.47 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 2,507 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.70 | 3.30 | 1.47 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 2,507 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.70 | 3.30 | 1.47 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Totals | | 2,349,240 | | | | | | | | | | | | | | | | | | | | | |

1.2.4 Sheet 4) Rates and Hours May 2014 (5 of 6)

| 1 | All-in Rates (\$ per hour) | | | Hours by Rate | | | Total Cost (\$) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | Avg Blended Rate (based on selected schedule) | | | | |
|--|----------------------------|----------------------|--------------------|---------------|----------------|--------------|-----------------|---------------------|-------------------|-------------------|--|---------|-------|-------|--|-------|---------|-------|--|---------------------|--------|---------|---|-------|--------|-------------------|-------|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | | 47 | 48 | 49 | 50 |
| | All-in Reg Time Rate | All-in 1.5 x OT Rate | All-in 2 x OT Rate | Reg Hrs | 1.5 x OT Hours | 2 x OT Hours | Reg Hrs Cost | 1.5 x OT Hours Cost | 2 x OT Hours Cost | Total Labour Cost | Wages | Premium | Union | MERCs | Total Reg Rate | Wages | Premium | Union | MERCs | Total 1.5 x OT Rate | Wages | Premium | | Union | MERCs | Total 2 x OT Rate | |
| Rates Effective May 2014 - April 2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Engineers - Group 3 - JP | 55.58 | 83.36 | 111.15 | 3,930 | 1,072 | 2,144 | 218,396 | 89,344 | 238,251 | 545,991 | 42.61 | - | 9.85 | 3.11 | 55.58 | 63.92 | - | 14.78 | 4.67 | 83.36 | 85.22 | - | 19.70 | 6.23 | 111.15 | | 76.42 |
| Operating Engineers - Group 3 - JP | 58.79 | 88.19 | 117.59 | 3,930 | 1,072 | 2,144 | 231,047 | 94,519 | 252,051 | 577,617 | 45.61 | - | 9.85 | 3.33 | 58.79 | 68.42 | - | 14.78 | 5.00 | 88.19 | 91.22 | - | 19.70 | 6.66 | 117.59 | | 80.84 |
| Operating Engineers - Group 1 - JP | 57.28 | 85.93 | 114.57 | 27,867 | 7,600 | 15,200 | 1,596,332 | 653,045 | 1,741,453 | 3,990,830 | 44.21 | - | 9.85 | 3.23 | 57.28 | 66.31 | - | 14.78 | 4.84 | 85.93 | 88.41 | - | 19.70 | 6.46 | 114.57 | | 78.77 |
| Operating Engineers - Group 1 - JP | 60.50 | 90.76 | 121.01 | 27,867 | 7,600 | 15,200 | 1,686,040 | 689,743 | 1,839,316 | 4,215,099 | 47.21 | - | 9.85 | 3.45 | 60.50 | 70.81 | - | 14.78 | 5.17 | 90.76 | 94.41 | - | 19.70 | 6.90 | 121.01 | | 83.19 |
| Operating Engineers - Group 3 - JP | 55.58 | 83.36 | 111.15 | 6,185 | 1,687 | 3,374 | 343,749 | 140,625 | 374,999 | 859,372 | 42.61 | - | 9.85 | 3.11 | 55.58 | 63.92 | - | 14.78 | 4.67 | 83.36 | 85.22 | - | 19.70 | 6.23 | 111.15 | | 76.42 |
| Operating Engineers - Group 3 - JP | 58.79 | 88.19 | 117.59 | 6,185 | 1,687 | 3,374 | 363,660 | 148,770 | 396,720 | 909,151 | 45.61 | - | 9.85 | 3.33 | 58.79 | 68.42 | - | 14.78 | 5.00 | 88.19 | 91.22 | - | 19.70 | 6.66 | 117.59 | | 80.84 |
| Operating Engineers - Group 5 - JP | 53.48 | 80.22 | 106.95 | 10,579 | 2,885 | 5,770 | 565,721 | 231,431 | 617,151 | 1,414,303 | 40.66 | - | 9.85 | 2.97 | 53.48 | 60.99 | - | 14.78 | 4.46 | 80.22 | 81.31 | - | 19.70 | 5.94 | 106.95 | | 73.53 |
| Operating Engineers - Group 5 - JP | 56.70 | 85.04 | 113.39 | 10,579 | 2,885 | 5,770 | 599,776 | 245,363 | 654,301 | 1,499,440 | 43.66 | - | 9.85 | 3.19 | 56.70 | 65.49 | - | 14.78 | 4.78 | 85.04 | 87.31 | - | 19.70 | 6.38 | 113.39 | | 77.96 |
| Operating Engineers - Group 4 - JP | 54.37 | 81.56 | 108.75 | 13,739 | 3,747 | 7,494 | 747,039 | 305,607 | 814,952 | 1,867,597 | 41.49 | - | 9.85 | 3.03 | 54.37 | 62.24 | - | 14.78 | 4.55 | 81.56 | 82.99 | - | 19.70 | 6.06 | 108.75 | | 74.77 |
| Operating Engineers - Group 4 - JP | 57.59 | 86.39 | 115.19 | 13,739 | 3,747 | 7,494 | 791,266 | 323,700 | 863,200 | 1,978,166 | 44.49 | - | 9.85 | 3.25 | 57.59 | 66.74 | - | 14.78 | 4.88 | 86.39 | 88.99 | - | 19.70 | 6.50 | 115.19 | | 79.19 |
| Operating Engineers - Group 2 - JP | 56.07 | 84.11 | 112.14 | 10,579 | 2,885 | 5,770 | 593,172 | 242,661 | 647,096 | 1,482,929 | 43.08 | - | 9.85 | 3.15 | 56.07 | 64.61 | - | 14.78 | 4.72 | 84.11 | 86.15 | - | 19.70 | 6.29 | 112.14 | | 77.10 |
| Operating Engineers - Group 2 - JP | 59.29 | 88.94 | 118.58 | 10,579 | 2,885 | 5,770 | 627,227 | 256,593 | 684,247 | 1,568,066 | 46.08 | - | 9.85 | 3.37 | 59.29 | 69.11 | - | 14.78 | 5.05 | 88.94 | 92.15 | - | 19.70 | 6.73 | 118.58 | | 81.53 |
| Operating Engineers - Group 1 - Non-Working foreperson | 63.84 | 95.76 | 127.67 | 10,579 | 2,885 | 5,770 | 675,309 | 276,263 | 736,701 | 1,688,273 | 50.31 | - | 9.85 | 3.68 | 63.84 | 75.47 | - | 14.78 | 5.51 | 95.76 | 100.62 | - | 19.70 | 7.35 | 127.67 | | 87.78 |
| Operating Engineers - Group 1 - Non-Working foreperson | 67.06 | 100.58 | 134.11 | 10,579 | 2,885 | 5,770 | 709,364 | 290,194 | 773,852 | 1,773,410 | 53.31 | - | 9.85 | 3.89 | 67.06 | 79.97 | - | 14.78 | 5.84 | 100.58 | 106.62 | - | 19.70 | 7.79 | 134.11 | | 92.20 |
| Operating Engineers - Group 5 - JP | 53.48 | 80.22 | 106.95 | 14 | 4 | 8 | 735 | 301 | 802 | 1,838 | 40.66 | - | 9.85 | 2.97 | 53.48 | 60.99 | - | 14.78 | 4.46 | 80.22 | 81.31 | - | 19.70 | 5.94 | 106.95 | | 73.53 |
| Operating Engineers - Group 5 - JP | 56.70 | 85.04 | 113.39 | 14 | 4 | 8 | 780 | 319 | 850 | 1,949 | 43.66 | - | 9.85 | 3.19 | 56.70 | 65.49 | - | 14.78 | 4.78 | 85.04 | 87.31 | - | 19.70 | 6.38 | 113.39 | | 77.96 |
| Operating Engineers - Group 5 - JP | 54.37 | 81.56 | 108.75 | 6,696 | 1,826 | 3,652 | 364,092 | 148,947 | 397,191 | 910,229 | 41.49 | - | 9.85 | 3.03 | 54.37 | 62.24 | - | 14.78 | 4.55 | 81.56 | 82.99 | - | 19.70 | 6.06 | 108.75 | | 74.77 |
| Operating Engineers - Group 4 - JP | 57.59 | 86.39 | 115.19 | 6,696 | 1,826 | 3,652 | 385,647 | 157,765 | 420,706 | 964,118 | 44.49 | - | 9.85 | 3.25 | 57.59 | 66.74 | - | 14.78 | 4.88 | 86.39 | 88.99 | - | 19.70 | 6.50 | 115.19 | | 79.19 |
| Operating Engineers - Group 2 - JP | 56.07 | 84.11 | 112.14 | 6,673 | 1,820 | 3,640 | 374,163 | 153,067 | 408,178 | 935,408 | 43.08 | - | 9.85 | 3.15 | 56.07 | 64.61 | - | 14.78 | 4.72 | 84.11 | 86.15 | - | 19.70 | 6.29 | 112.14 | | 77.10 |
| Operating Engineers - Group 2 - JP | 59.29 | 88.94 | 118.58 | 6,673 | 1,820 | 3,640 | 395,644 | 161,855 | 431,612 | 989,111 | 46.08 | - | 9.85 | 3.37 | 59.29 | 69.11 | - | 14.78 | 5.05 | 88.94 | 92.15 | - | 19.70 | 6.73 | 118.58 | | 81.53 |
| Operating Engineers - Group 1 - Non-Working foreperson | 63.84 | 95.76 | 127.67 | 2,237 | 610 | 1,220 | 142,776 | 58,408 | 155,755 | 356,939 | 50.31 | - | 9.85 | 3.68 | 63.84 | 75.47 | - | 14.78 | 5.51 | 95.76 | 100.62 | - | 19.70 | 7.35 | 127.67 | | 87.78 |
| Operating Engineers - Group 1 - Non-Working foreperson | 67.06 | 100.58 | 134.11 | 2,237 | 610 | 1,220 | 149,576 | 61,354 | 163,610 | 374,939 | 53.31 | - | 9.85 | 3.89 | 67.06 | 79.97 | - | 14.78 | 5.84 | 100.58 | 106.62 | - | 19.70 | 7.79 | 134.11 | | 92.20 |
| Operating Engineers - Group 1 - General foreperson | 66.02 | 99.03 | 132.04 | 14,329 | 3,908 | 7,816 | 945,584 | 386,993 | 1,031,982 | 2,364,959 | 52.35 | - | 9.85 | 3.82 | 66.02 | 78.52 | - | 14.78 | 5.74 | 99.03 | 104.69 | - | 19.70 | 7.65 | 132.04 | | 90.78 |
| Operating Engineers - Group 2 - General foreperson | 69.24 | 103.86 | 138.48 | 14,329 | 3,908 | 7,816 | 992,110 | 405,863 | 1,082,302 | 2,480,275 | 55.35 | - | 9.85 | 4.04 | 69.24 | 83.02 | - | 14.78 | 6.07 | 103.86 | 110.69 | - | 19.70 | 8.09 | 138.48 | | 95.20 |
| Operating Engineers - Group 1 - General foreperson | 66.02 | 99.03 | 132.04 | 4,805 | 1,310 | 2,621 | 317,216 | 129,770 | 346,054 | 793,040 | 52.35 | - | 9.85 | 3.82 | 66.02 | 78.52 | - | 14.78 | 5.74 | 99.03 | 104.69 | - | 19.70 | 7.65 | 132.04 | | 90.78 |
| Operating Engineers - Group 1 - General foreperson | 69.24 | 103.86 | 138.48 | 4,805 | 1,310 | 2,621 | 332,684 | 136,098 | 362,928 | 831,709 | 55.35 | - | 9.85 | 4.04 | 69.24 | 83.02 | - | 14.78 | 6.07 | 103.86 | 110.69 | - | 19.70 | 8.09 | 138.48 | | 95.20 |
| Operating Engineers - Clerical Group 3 | 51.46 | 77.20 | 102.93 | 1,602 | 437 | 874 | 82,426 | 33,720 | 89,919 | 206,064 | 38.78 | - | 9.85 | 2.83 | 51.46 | 58.17 | - | 14.78 | 4.25 | 77.20 | 77.56 | - | 19.70 | 5.67 | 102.93 | | 70.76 |
| Operating Engineers - Clerical Group 1 | 47.15 | 70.72 | 94.30 | 7,436 | 2,028 | 4,056 | 350,591 | 143,424 | 382,463 | 876,479 | 34.76 | - | 9.85 | 2.54 | 47.15 | 52.14 | - | 14.78 | 3.81 | 70.72 | 69.52 | - | 19.70 | 5.08 | 94.30 | | 64.83 |
| Operating Engineers - Clerical Group 1 | 47.15 | 70.72 | 94.30 | 1,602 | 437 | 874 | 75,512 | 30,891 | 82,377 | 188,780 | 34.76 | - | 9.85 | 2.54 | 47.15 | 52.14 | - | 14.78 | 3.81 | 70.72 | 69.52 | - | 19.70 | 5.08 | 94.30 | | 64.83 |
| Operating Engineers - Clerical Group 3 | 51.46 | 77.20 | 102.93 | 5,863 | 1,599 | 3,198 | 301,737 | 123,438 | 329,167 | 754,342 | 38.78 | - | 9.85 | 2.83 | 51.46 | 58.17 | - | 14.78 | 4.25 | 77.20 | 77.56 | - | 19.70 | 5.67 | 102.93 | | 70.76 |
| Operating Engineers - Clerical Group 3 | 51.46 | 77.20 | 102.93 | 5,119 | 1,396 | 2,792 | 263,468 | 107,782 | 287,419 | 658,669 | 38.78 | - | 9.85 | 2.83 | 51.46 | 58.17 | - | 14.78 | 4.25 | 77.20 | 77.56 | - | 19.70 | 5.67 | 102.93 | | 70.76 |
| Operating Engineers - Clerical Group 3 | 54.68 | 82.03 | 109.37 | 5,119 | 1,396 | 2,792 | 279,348 | 114,524 | 305,398 | 699,870 | 41.78 | - | 9.85 | 3.05 | 54.68 | 62.67 | - | 14.78 | 4.58 | 82.03 | 83.56 | - | 19.70 | 6.11 | 109.37 | | 75.19 |
| Operating Engineers - Clerical Group 3 | 51.46 | 77.20 | 102.93 | 4,662 | 1,271 | 2,543 | 239,917 | 98,148 | 261,728 | 599,794 | 38.78 | - | 9.85 | 2.83 | 51.46 | 58.17 | - | 14.78 | 4.25 | 77.20 | 77.56 | - | 19.70 | 5.67 | 102.93 | | 70.76 |
| Operating Engineers - Clerical Group 1 | 47.15 | 70.72 | 94.30 | 5,291 | 1,443 | 2,886 | 249,459 | 102,052 | 272,137 | 623,648 | 34.76 | - | 9.85 | 2.54 | 47.15 | 52.14 | - | 14.78 | 3.81 | 70.72 | 69.52 | - | 19.70 | 5.08 | 94.30 | | 64.83 |
| Operating Engineers - Clerical Group 2 | 49.84 | 74.76 | 99.68 | 18,762 | 5,117 | 10,234 | 935,073 | 382,530 | 1,020,080 | 2,337,683 | 37.27 | - | 9.85 | 2.72 | 49.84 | 55.90 | - | 14.78 | 4.08 | 74.76 | 74.53 | - | 19.70 | 5.45 | 99.68 | | 68.53 |
| Operating Engineers - Clerical Group 2 | 49.84 | 74.76 | 99.68 | 1,773 | 484 | 967 | 88,376 | 36,154 | 96,410 | 220,940 | 37.27 | - | 9.85 | 2.72 | 49.84 | 55.90 | - | 14.78 | 4.08 | 74.76 | 74.53 | - | 19.70 | 5.45 | 99.68 | | 68.53 |
| Operating Engineers - Clerical Group 2 | 53.06 | 79.59 | 106.12 | 1,773 | 484 | 967 | 94,084 | 38,489 | 102,637 | 235,210 | 40.27 | - | 9.85 | 2.94 | 53.06 | 60.40 | - | 14.78 | 4.41 | 79.59 | 80.53 | - | 19.70 | 5.88 | 106.12 | | 72.96 |
| Operating Engineers - Clerical Group 3 | 51.46 | 77.20 | 102.93 | 1,602 | 437 | 874 | 82,426 | 33,720 | 89,919 | 206,064 | 38.78 | - | 9.85 | 2.83 | 51.46 | 58.17 | - | 14.78 | 4.25 | 77.20 | 77.56 | - | 19.70 | 5.67 | 102.93 | | 70.76 |

1.2.5 Sheet 5) Rates and Hours May 2015 (1 of 6)

| | | Estimated Hours (May 1, 2015 - April 30, 2016) | | | Bidder Schedule | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | | | Govt Burdens or MERCS (\$ per hour) | | | | Premium Costs (\$ per hour) | | | |
|---|--------------|--|-------------------|--|---------------------|-----------|--|----------|----------|-------------|-------------|------|---------|---------------|---------------|------|-------------------------------------|-------------|-------|--------|-----------------------------|------|-------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| Rates Effective May 2015 - April 2016 | | Total Hours | Shift (Day/Night) | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base Pay | Vacation | Holiday Pay | LCP Premium | H&W | Pension | Other Add-ons | Shift Premium | CPP | El | Payroll Tax | WISCC | Height | Heavy Lifting | Boom | Trawl | |
| Carpenters - Apprentice - 1 | Carpenters | 40,029 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 23.21 | 2.32 | 0.70 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.75 | 0.40 | 0.61 | 0.46 | 0.70 | - | - | - | - |
| Carpenters - Apprentice - 1 | Carpenters | 40,029 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 23.21 | 2.32 | 0.70 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.83 | 0.44 | 0.67 | 0.51 | 0.70 | - | - | - | - |
| Carpenters - Apprentice - 2 | Carpenters | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.00 | 2.50 | 0.75 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.80 | 0.43 | 0.65 | 0.49 | 0.70 | - | - | - | - |
| Carpenters - Apprentice - 2 | Carpenters | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.00 | 2.50 | 0.75 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.88 | 0.47 | 0.71 | 0.54 | 0.70 | - | - | - | - |
| Carpenters - Apprentice - 3 | Carpenters | 31,679 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 28.57 | 2.86 | 0.86 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | 0.70 | - | - | - | - |
| Carpenters - Apprentice - 3 | Carpenters | 31,679 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 28.57 | 2.86 | 0.86 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.98 | 0.52 | 0.79 | 0.60 | 0.70 | - | - | - | - |
| Carpenters - Journeyman carpenter welder scaffold | Carpenters | 65,380 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.71 | 3.57 | 1.07 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.10 | 0.59 | 0.89 | 0.68 | 0.70 | - | - | - | - |
| Carpenters - Journeyman carpenter welder scaffold | Carpenters | 65,380 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.71 | 3.57 | 1.07 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.18 | 0.63 | 0.95 | 0.70 | 0.70 | - | - | - | - |
| Carpenters - Working foreperson | Carpenters | 18,137 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.28 | 3.93 | 1.18 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.20 | 0.64 | 0.97 | 0.74 | 0.70 | - | - | - | - |
| Carpenters - Working foreperson | Carpenters | 18,137 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.28 | 3.93 | 1.18 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.28 | 0.68 | 1.03 | 0.78 | 0.70 | - | - | - | - |
| Carpenters - General foreperson | Carpenters | 33,491 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.85 | 4.29 | 1.29 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.30 | 0.69 | 1.05 | 0.80 | 0.70 | - | - | - | - |
| Carpenters - General foreperson | Carpenters | 33,491 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.85 | 4.29 | 1.29 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.36 | 0.72 | 1.10 | 0.83 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 2,724 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.40 | 0.75 | 1.13 | 0.86 | 8.66 | - | - | - | - |
| Electricians - Journeyman | Electricians | 2,724 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.48 | 0.79 | 1.19 | 0.90 | 8.66 | - | - | - | - |
| Electricians - Journeyman | Electricians | 3,168 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.40 | 0.75 | 1.13 | 0.86 | 8.66 | - | - | - | - |
| Electricians - Journeyman | Electricians | 3,168 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.48 | 0.79 | 1.19 | 0.90 | 8.66 | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.40 | 0.75 | 1.13 | 0.86 | 8.66 | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.48 | 0.79 | 1.19 | 0.90 | 8.66 | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | - | - | - | - | - |
| Electricians - Apprentice - 3rd year | Electricians | 1,762 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.56 | 2.76 | 0.83 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.86 | 0.46 | 0.69 | 0.52 | - | - | - | - | - |
| Electricians - Apprentice - 3rd year | Electricians | 1,762 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.56 | 2.76 | 0.83 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.93 | 0.50 | 0.75 | 0.57 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 1,762 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - | - |
| Electricians - Journeyman | Electricians | 1,762 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.94 | 1.18 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | - | - | - | - | - |
| Electricians - Non-working foreperson | Electricians | 587 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.31 | 4.33 | 1.30 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - | - |
| Electricians - Non-working foreperson | Electricians | 587 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.31 | 4.33 | 1.30 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.37 | 0.73 | 1.11 | 0.84 | - | - | - | - | - |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 22,152 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.30 | 2.53 | 0.89 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.81 | 0.43 | 0.65 | 0.49 | 0.40 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 22,152 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 25.30 | 2.53 | 0.89 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.88 | 0.47 | 0.71 | 0.54 | 0.40 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 7,884 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 26.10 | 2.61 | 0.91 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.83 | 0.44 | 0.67 | 0.51 | 0.40 | - | - | - | - |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 7,884 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 26.10 | 2.61 | 0.91 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | 0.40 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 13,546 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.52 | 3.25 | 1.14 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.01 | 0.54 | 0.82 | 0.63 | 0.40 | - | - | - | - |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 13,546 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.52 | 3.25 | 1.14 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | 0.40 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 8,224 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.56 | 3.36 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | 0.40 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 8,224 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.56 | 3.36 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | 0.40 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 3,168 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.56 | 3.36 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.04 | 0.55 | 0.84 | 0.64 | 0.40 | - | - | - | - |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 3,168 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.56 | 3.36 | 1.17 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | 0.40 | - | - | - | - |
| Ironworkers - Rebar Journeyman | Ironworkers | 27,091 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.14 | 3.61 | 1.26 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | 0.40 | - | - | - | - |
| Ironworkers - Rebar Journeyman | Ironworkers | 27,091 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.14 | 3.61 | 1.26 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.18 | 0.63 | 0.96 | 0.73 | 0.40 | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 16,107 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.29 | 3.73 | 1.31 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.13 | 0.60 | 0.92 | 0.69 | - | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 16,107 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.29 | 3.73 | 1.31 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 2,431 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.29 | 3.73 | 1.31 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.13 | 0.60 | 0.92 | 0.69 | - | - | - | - | - |
| Ironworkers - Structural Journeyman | Ironworkers | 2,431 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.29 | 3.73 | 1.31 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - | - |
| Ironworkers - Rebar foreperson | Ironworkers | 6,773 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.56 | 4.16 | 1.45 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.25 | 0.67 | 1.01 | 0.77 | - | - | - | - | - |
| Ironworkers - Rebar foreperson | Ironworkers | 6,773 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.56 | 4.16 | 1.45 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.33 | 0.71 | 1.07 | 0.81 | - | - | - | - | - |
| Ironworkers - Structural foreperson | Ironworkers | 4,112 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.88 | 4.29 | 1.50 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.29 | 0.69 | 1.04 | 0.79 | - | - | - | - | - |
| Ironworkers - Structural foreperson | Ironworkers | 4,112 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.88 | 4.29 | 1.50 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.37 | 0.73 | 1.10 | 0.84 | - | - | - | - | - |
| Ironworkers - Structural foreperson | Ironworkers | - | Day | 50% | Sched F (20 and 10) | Tues | | | | | | | | | | | | | | | | | | |

1.2.5 Sheet 5) Rates and Hours May 2015 (2 of 6)

| 1 | All-in Rates (\$ per hour) | | | Hours by Rate | | | Total Cost (\$) | | | 34 | Regular Time Labour Rate Summary (\$ per hour) | | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | | 50 |
|---|----------------------------|----------------------|--------------------|---------------|--------------|------------|-----------------|-------------------|-----------------|-------------------|---|-----------|---------------|-------|----------------|---|-----------|---------------|-------|---------------------|---|-----------|---------------|-------|-------------------|---|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | |
| Position and Level | All-in Reg Time Rate | All-in 1.5 x OT Rate | All-in 2 x OT Rate | Reg Hrs | 1.5 x OT Hrs | 2 x OT Hrs | Reg Hrs Cost | 1.5 x OT Hrs Cost | 2 x OT Hrs Cost | Total Labour Cost | Wages | Premium % | Union Add-ons | MERCs | Total Reg Rate | Wages | Premium % | Union Add-ons | MERCs | Total 1.5 x OT Rate | Wages | Premium % | Union Add-ons | MERCs | Total 2 x OT Rate | |
| Rates Effective May 2015 - April 2016 | | | | | | | | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | | Avg Blended Rate (Including OT based on selected schedule) |
| Carpenters - Apprentice - 1 | 41.98 | 62.98 | 83.97 | 22,016 | 6,004 | 12,009 | 924,305 | 378,125 | 1,008,333 | 2,310,763 | 29.73 | 0.70 | 9.33 | 2.22 | 41.08 | 44.60 | 1.05 | 14.00 | 3.33 | 62.98 | 59.46 | 1.40 | 18.66 | 4.45 | 83.97 | 57.73 |
| Carpenters - Apprentice - 1 | 45.20 | 67.80 | 90.41 | 22,016 | 6,004 | 12,009 | 995,177 | 407,118 | 1,083,648 | 2,487,944 | 32.73 | 0.70 | 9.33 | 2.44 | 45.20 | 49.10 | 1.05 | 14.00 | 3.66 | 67.80 | 65.46 | 1.40 | 18.66 | 4.88 | 90.41 | 62.15 |
| Carpenters - Apprentice - 2 | 44.15 | 66.22 | 88.30 | - | - | - | - | - | - | - | 31.75 | 0.70 | 9.33 | 2.37 | 44.15 | 47.62 | 1.05 | 14.00 | 3.56 | 66.22 | 63.50 | 1.40 | 18.66 | 4.74 | 88.30 | - |
| Carpenters - Apprentice - 2 | 47.37 | 71.05 | 94.74 | - | - | - | - | - | - | - | 34.75 | 0.70 | 9.33 | 2.59 | 47.37 | 52.12 | 1.05 | 14.00 | 3.88 | 71.05 | 69.50 | 1.40 | 18.66 | 5.18 | 94.74 | - |
| Carpenters - Apprentice - 3 | 48.48 | 72.72 | 96.96 | 17,423 | 4,752 | 9,504 | 844,679 | 345,551 | 921,468 | 2,111,698 | 35.78 | 0.70 | 9.33 | 2.67 | 48.48 | 53.68 | 1.05 | 14.00 | 4.00 | 72.72 | 71.57 | 1.40 | 18.66 | 5.33 | 96.96 | 66.66 |
| Carpenters - Apprentice - 3 | 51.70 | 77.55 | 103.40 | 17,423 | 4,752 | 9,504 | 900,768 | 368,496 | 980,256 | 2,252,928 | 38.78 | 0.70 | 9.33 | 2.89 | 51.70 | 58.18 | 1.05 | 14.00 | 4.33 | 77.55 | 77.57 | 1.40 | 18.66 | 5.77 | 103.40 | 78.90 |
| Carpenters - Journeyman carpenter welder scaffolder | 57.14 | 85.71 | 114.28 | 35,959 | 9,807 | 19,614 | 2,054,684 | 840,553 | 2,241,474 | 5,136,711 | 43.85 | 0.70 | 9.33 | 3.26 | 57.14 | 65.78 | 1.05 | 14.00 | 4.88 | 85.71 | 87.71 | 1.40 | 18.66 | 6.55 | 114.28 | 78.57 |
| Carpenters - Journeyman carpenter welder scaffolder | 60.36 | 90.54 | 120.72 | 35,959 | 9,807 | 19,614 | 2,170,442 | 887,908 | 2,367,755 | 5,426,105 | 46.85 | 0.70 | 9.33 | 3.47 | 60.36 | 70.28 | 1.05 | 14.00 | 5.21 | 90.54 | 93.71 | 1.40 | 18.66 | 6.95 | 120.72 | 82.99 |
| Carpenters - Working foreperson | 61.47 | 92.21 | 122.94 | 9,975 | 2,720 | 5,441 | 613,172 | 250,843 | 668,515 | 1,532,930 | 47.89 | 0.70 | 9.33 | 3.55 | 61.47 | 71.84 | 1.05 | 14.00 | 5.33 | 92.21 | 95.78 | 1.40 | 18.66 | 7.10 | 122.94 | 84.52 |
| Carpenters - Working foreperson | 64.69 | 97.03 | 129.38 | 9,975 | 2,720 | 5,441 | 645,283 | 263,980 | 703,946 | 1,613,209 | 50.89 | 0.70 | 9.33 | 3.77 | 64.69 | 76.34 | 1.05 | 14.00 | 5.65 | 97.03 | 101.78 | 1.40 | 18.66 | 7.54 | 129.38 | 88.95 |
| Carpenters - General foreperson | 65.80 | 98.70 | 131.60 | 18,420 | 5,024 | 10,047 | 1,212,035 | 495,832 | 1,322,220 | 3,030,086 | 51.93 | 0.70 | 9.33 | 3.84 | 65.80 | 77.89 | 1.05 | 14.00 | 5.77 | 98.70 | 103.85 | 1.40 | 18.66 | 7.69 | 131.60 | 90.48 |
| Carpenters - General foreperson | 68.27 | 102.40 | 136.54 | 18,420 | 5,024 | 10,047 | 1,257,495 | 514,430 | 1,371,813 | 3,143,738 | 54.93 | - | 9.33 | 4.01 | 68.27 | 82.39 | - | 14.00 | 6.02 | 102.40 | 109.85 | - | 18.66 | 8.03 | 136.54 | 93.87 |
| Electricians - Journeyman | 69.63 | 104.45 | 139.26 | 1,498 | 409 | 817 | 104,322 | 42,677 | 115,800 | 260,805 | 47.99 | 8.66 | 8.84 | 4.14 | 69.63 | 71.99 | 12.99 | 13.26 | 6.21 | 104.45 | 95.98 | 17.32 | 17.68 | 8.28 | 139.26 | 95.74 |
| Electricians - Journeyman | 72.85 | 109.28 | 145.70 | 1,498 | 409 | 817 | 109,145 | 44,658 | 119,067 | 272,862 | 50.99 | 8.66 | 8.84 | 4.36 | 72.85 | 76.49 | 12.99 | 13.26 | 6.54 | 109.28 | 101.98 | 17.32 | 17.68 | 8.72 | 145.70 | 100.17 |
| Electricians - Journeyman | 69.63 | 104.45 | 139.26 | 1,742 | 475 | 950 | 121,307 | 49,626 | 132,335 | 303,267 | 47.99 | 8.66 | 8.84 | 4.14 | 69.63 | 71.99 | 12.99 | 13.26 | 6.21 | 104.45 | 95.98 | 17.32 | 17.68 | 8.28 | 139.26 | 95.74 |
| Electricians - Journeyman | 72.85 | 109.28 | 145.70 | 1,742 | 475 | 950 | 126,915 | 51,920 | 138,453 | 317,288 | 50.99 | 8.66 | 8.84 | 4.36 | 72.85 | 76.49 | 12.99 | 13.26 | 6.54 | 109.28 | 101.98 | 17.32 | 17.68 | 8.72 | 145.70 | 100.17 |
| Electricians - Journeyman | 69.63 | 104.45 | 139.26 | - | - | - | - | - | - | - | 47.99 | 8.66 | 8.84 | 4.14 | 69.63 | 71.99 | 12.99 | 13.26 | 6.21 | 104.45 | 95.98 | 17.32 | 17.68 | 8.28 | 139.26 | - |
| Electricians - Journeyman | 72.85 | 109.28 | 145.70 | - | - | - | - | - | - | - | 50.99 | 8.66 | 8.84 | 4.36 | 72.85 | 76.49 | 12.99 | 13.26 | 6.54 | 109.28 | 101.98 | 17.32 | 17.68 | 8.72 | 145.70 | - |
| Electricians - Journeyman | 60.34 | 90.51 | 120.67 | - | - | - | - | - | - | - | 47.99 | - | 8.84 | 3.51 | 60.34 | 71.99 | - | 13.26 | 5.26 | 90.51 | 95.98 | - | 17.68 | 7.01 | 120.67 | - |
| Electricians - Journeyman | 63.56 | 95.33 | 127.11 | - | - | - | - | - | - | - | 50.99 | - | 8.84 | 3.73 | 63.56 | 76.49 | - | 13.26 | 5.59 | 95.33 | 101.98 | - | 17.68 | 7.45 | 127.11 | - |
| Electricians - Apprentice - 3rd year | 46.01 | 69.02 | 92.03 | 969 | 264 | 528 | 44,580 | 18,237 | 48,633 | 111,450 | 34.64 | - | 8.84 | 2.53 | 46.01 | 51.87 | - | 13.26 | 3.80 | 69.02 | 69.29 | - | 17.68 | 6.08 | 92.03 | 63.27 |
| Electricians - Apprentice - 3rd year | 49.23 | 73.85 | 98.47 | 969 | 264 | 528 | 47,699 | 19,513 | 52,035 | 119,247 | 37.64 | - | 8.84 | 2.75 | 49.23 | 56.47 | - | 13.26 | 4.13 | 73.85 | 75.29 | - | 17.68 | 5.50 | 98.47 | 67.70 |
| Electricians - Journeyman | 60.34 | 90.51 | 120.67 | 969 | 264 | 528 | 58,456 | 23,914 | 63,770 | 146,139 | 47.99 | - | 8.84 | 3.51 | 60.34 | 71.99 | - | 13.26 | 5.26 | 90.51 | 95.98 | - | 17.68 | 7.01 | 120.67 | 82.96 |
| Electricians - Journeyman | 63.56 | 95.33 | 127.11 | 969 | 264 | 528 | 61,575 | 25,190 | 67,172 | 153,937 | 50.99 | - | 8.84 | 3.73 | 63.56 | 76.49 | - | 13.26 | 5.59 | 95.33 | 101.98 | - | 17.68 | 7.45 | 127.11 | 87.39 |
| Electricians - Non-working foreperson | 65.11 | 97.67 | 130.22 | 323 | 88 | 176 | 21,021 | 8,600 | 22,932 | 52,553 | 52.44 | - | 8.84 | 3.83 | 65.11 | 78.66 | - | 13.26 | 5.75 | 97.67 | 104.88 | - | 17.68 | 7.66 | 130.22 | 89.53 |
| Electricians - Non-working foreperson | 68.33 | 102.50 | 136.66 | 323 | 88 | 176 | 22,060 | 9,025 | 24,066 | 55,151 | 55.44 | - | 8.84 | 4.05 | 68.33 | 83.16 | - | 13.26 | 6.08 | 102.50 | 110.88 | - | 17.68 | 8.10 | 136.66 | 93.95 |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | 48.17 | 67.76 | 90.34 | 12,183 | 3,323 | 6,645 | 550,350 | 225,143 | 600,382 | 1,375,875 | 32.21 | 0.40 | 10.18 | 2.38 | 45.17 | 48.31 | 0.60 | 15.27 | 3.57 | 67.76 | 64.42 | 0.80 | 20.36 | 4.76 | 90.34 | 62.11 |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | 48.39 | 72.59 | 96.78 | 12,183 | 3,323 | 6,645 | 589,570 | 241,188 | 643,166 | 1,473,925 | 35.21 | 0.40 | 10.18 | 2.60 | 48.39 | 52.03 | 0.60 | 15.27 | 3.90 | 72.59 | 68.42 | 0.80 | 20.36 | 5.00 | 96.78 | 66.54 |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | 46.15 | 69.23 | 92.31 | 4,336 | 1,183 | 2,365 | 200,115 | 81,865 | 218,307 | 500,288 | 33.12 | 0.40 | 10.18 | 2.45 | 46.15 | 49.69 | 0.60 | 15.27 | 3.67 | 69.23 | 66.25 | 0.80 | 20.36 | 4.90 | 92.31 | 63.46 |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | 49.37 | 74.06 | 98.74 | 4,336 | 1,183 | 2,365 | 214,073 | 87,575 | 233,534 | 535,183 | 36.12 | 0.40 | 10.18 | 2.67 | 49.37 | 54.19 | 0.60 | 15.27 | 4.00 | 74.06 | 72.25 | 0.80 | 20.36 | 5.34 | 98.74 | 67.80 |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | 53.97 | 80.96 | 107.95 | 7,450 | 2,032 | 4,064 | 402,111 | 164,500 | 438,667 | 1,005,279 | 40.14 | 0.40 | 10.18 | 2.98 | 53.97 | 60.62 | 0.60 | 15.27 | 4.47 | 80.96 | 80.83 | 0.80 | 20.36 | 5.96 | 107.95 | 74.21 |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | 57.19 | 85.79 | 114.39 | 7,450 | 2,032 | 4,064 | 426,994 | 174,311 | 464,830 | 1,065,236 | 43.41 | 0.40 | 10.18 | 3.20 | 57.19 | 65.12 | 0.60 | 15.27 | 4.80 | 85.79 | 86.83 | 0.80 | 20.36 | 6.40 | 114.39 | 78.64 |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 55.24 | 82.85 | 110.47 | 4,523 | 1,234 | 2,467 | 249,824 | 102,201 | 272,535 | 624,560 | 41.49 | 0.40 | 10.18 | 3.07 | 55.24 | 62.38 | 0.60 | 15.27 | 4.60 | 82.85 | 83.17 | 0.80 | 20.36 | 6.14 | 110.47 | 75.95 |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 58.45 | 87.68 | 116.91 | 4,523 | 1,234 | 2,467 | 264,384 | 108,157 | 288,419 | 660,960 | 44.59 | 0.40 | 10.18 | 3.29 | 58.45 | 66.88 | 0.60 | 15.27 | 4.93 | 87.68 | 89.17 | 0.80 | 20.36 | 6.57 | 116.91 | 80.37 |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 61.57 | 92.35 | 123.13 | 4,523 | 1,234 | 2,467 | 283,566 | 114,626 | 308,559 | 700,566 | 48.82 | 0.40 | 10.18 | 3.51 | 61.57 | 70.23 | 0.60 | 15.27 | 5.15 | 92.35 | 97.64 | 0.80 | 20.36 | 7.12 | 123.13 | 85.13 |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 58.45 | 87.68 | 116.91 | 1,742 | 475 | 950 | 101,835 | 41,660 | 111,092 | 254,586 | 44.59 | 0.40 | 10.18 | 3.29 | 58.45 | 66.88 | 0.60 | 15.27 | 4.93 | 87.68 | 89.17 | 0.80 | 20.36 | 6.57 | 116.91 | 80.37 |
| Ironworkers - Rebar Journeyman | 58.38 | 87.56 | 116.75 | 14,900 | 4,064 | 8,127 | 869,783 | 355,820 | 948,554 | 2,174,457 | 44.51 | 0.40 | 10.18 | 3.28 | 58.38 | 66.77 | 0.60 | 15.27 | 4.92 | 87.56 | 89.03 | 0.80 | 20.36 | 6.56 | 116.75 | 80.27 |
| Ironworkers - Rebar Journeyman | 61.59 | 92.39 | 123.19 | 14,900 | 4,064 | 8,127 | 917,748 | 375,442 | 1,003,180 | 2,294,370 | 47.51 | 0.40 | | | | | | | | | | | | | | |

1.2.5 Sheet 5) Rates and Hours May 2015 (4 of 6)

| 1 | 2 | 3 Estimated Hours (May 1, 2015 - April 30, 2016) | | | 6 Bidder Schedule | | | 9 Project Labour Agreement Rates (\$ per hour) | | | | | | | | 17 Govt Burdens or MERCS (\$ per hour) | | | | 21 Premium Costs (\$ per hour) | | | |
|--|---------------------|--|--------|--|---------------------|-----------|----------------------------|--|--------------|-------------|-------------|------|---------|---------|---------------|--|------|---------|-------|--------------------------------|---------------|------|---|
| | | 4 | 5 | | 7 | 8 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 18 | 19 | 20 | 22 | 23 | 24 | | | |
| Rates Effective May 2015 - April 2016 | | | | | | | | | | | | | | | | | | | | | | | |
| Position and Level | Union | Shift | | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base Rate | Vacation Pay | Holiday Pay | LCP Premium | H&W | Pension | Add-ons | Shift Premium | CPP | EI | Payroll | | Height | Heavy Lifting | | |
| | | Total Hours (Day/Night) | Burden | | | | | | | | | | | | | | | Tax | WHSCC | | Boom | Tool | |
| Operating Engineers - Group 3 - JP | Operating Engineers | 4,249 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.38 | 3.27 | 1.46 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.10 | 0.59 | 0.89 | 0.68 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 4,249 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.38 | 3.27 | 1.46 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.18 | 0.63 | 0.95 | 0.72 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 55,599 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.79 | 3.40 | 1.51 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 55,599 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.79 | 3.40 | 1.51 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.22 | 0.65 | 0.98 | 0.75 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 11,282 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.38 | 3.27 | 1.46 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.10 | 0.59 | 0.89 | 0.68 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 11,282 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.38 | 3.27 | 1.46 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.18 | 0.63 | 0.95 | 0.72 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 8,765 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.65 | 3.12 | 1.39 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.06 | 0.56 | 0.85 | 0.65 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 8,765 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.65 | 3.12 | 1.39 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 11,363 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.19 | 1.42 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 11,363 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.19 | 1.42 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 8,765 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.79 | 3.31 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 8,765 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.79 | 3.31 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 8,765 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.46 | 3.91 | 1.74 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.80 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 8,765 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.46 | 3.91 | 1.74 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.38 | 0.73 | 1.11 | 0.84 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.65 | 3.12 | 1.39 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.06 | 0.56 | 0.85 | 0.65 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.65 | 3.12 | 1.39 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.13 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 8,427 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.19 | 1.42 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 8,427 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.39 | 3.19 | 1.42 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 8,427 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.79 | 3.31 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 8,427 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.79 | 3.31 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 2,809 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.46 | 3.91 | 1.74 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.80 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 2,809 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 43.46 | 3.91 | 1.74 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.38 | 0.73 | 1.11 | 0.84 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 26,135 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.35 | 4.08 | 1.81 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.35 | 0.72 | 1.09 | 0.83 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 26,135 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.35 | 4.08 | 1.81 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.43 | 0.76 | 1.15 | 0.87 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 8,764 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.35 | 4.08 | 1.81 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.35 | 0.72 | 1.09 | 0.83 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 8,764 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.35 | 4.08 | 1.81 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.43 | 0.76 | 1.15 | 0.87 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,921 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.99 | 2.97 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.82 | 0.62 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 13,563 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.43 | 2.65 | 1.18 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.91 | 0.48 | 0.74 | 0.56 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 2,921 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.43 | 2.65 | 1.18 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.91 | 0.48 | 0.74 | 0.56 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 10,694 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.99 | 2.97 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.82 | 0.62 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 9,338 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.99 | 2.97 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.82 | 0.62 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 9,338 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.99 | 2.97 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 8,503 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.99 | 2.97 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.82 | 0.62 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 9,651 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.43 | 2.65 | 1.18 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.91 | 0.48 | 0.74 | 0.56 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 34,221 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.65 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 3,235 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.65 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 3,235 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.65 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.05 | 0.56 | 0.85 | 0.64 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,921 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 32.99 | 2.97 | 1.32 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.01 | 0.54 | 0.82 | 0.62 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 11,268 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.65 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.59 | - | - | - | - |
| Painters - Group 2 | Painters | 1,572 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.35 | 3.84 | 1.15 | 3.50 | 2.35 | 5.00 | 1.70 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Painters - Group 2 | Painters | 1,572 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.35 | 3.84 | 1.15 | 3.50 | 2.35 | 5.00 | 1.70 | 3.00 | 1.23 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 8,446 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.04 | 3.42 | 1.52 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 8,446 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.04 | 3.42 | 1.52 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 17,989 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.47 | 3.46 | 1.54 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 17,989 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.47 | 3.46 | 1.54 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 19,797 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.04 | 3.42 | 1.52 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 19,797 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.04 | 3.42 | 1.52 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 22,816 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.47 | 3.46 | 1.54 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 22,816 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.47 | 3.46 | 1.54 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 2,515 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.47 | 3.46 | 1.54 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 2,515 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.47 | 3.46 | 1.54 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Totals | | 1,531,495 | | | | | | | | | | | | | | | | | | | | | |

1.2.5 Sheet 5) Rates and Hours May 2015 (5 of 6)

| 1 | All-in Rates (\$ per hour) | | | Hours by Rate | | | Total Cost (\$) | | | | | | | | | | | | | | | | | | | | 50 | | | |
|--|----------------------------|-------------------------|-----------------------|---------------|----------------|--------------|-----------------|------------------------|----------------------|--|-------|--------------|------------------|-------|-------------------|-------|--------------|------------------|-------|--|--------|--------------|------------------|-------|--|-------|----|--|--|---|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | | | | | |
| Rates Effective May 2015 - April 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | | | | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | | Avg Blended Rate (including OT based on selected schedule) |
| Position and Level | All-in Reg Time Rate | All-in 1.5 x OT Rate | All-in 2 x OT Rate | Reg Hrs | 1.5 x OT Hours | 2 x OT Hours | Reg Hrs Cost | 1.5 x OT Hours Cost | 2 x OT Hours Cost | Total Labour Cost | Wages | Premium s | Union Add-ons | MERCs | Total Reg Rate | Wages | Premium s | Union Add-ons | MERCs | Total 1.5 x OT Rate | Wages | Premium s | Union Add-ons | MERCs | Total 2 x OT Rate | | | | | |
| Operating Engineers - Group 3 - JP | 57.72 | 86.58 | 115.44 | 2,337 | 637 | 1,275 | 134,876 | 55,176 | 147,137 | 337,189 | 44.61 | - | 9.85 | 3.26 | 57.72 | 66.92 | - | 14.78 | 4.89 | 86.58 | 89.22 | - | 19.70 | 6.52 | 115.44 | 79.37 | | | | |
| Operating Engineers - Group 3 - JP | 60.94 | 91.41 | 121.88 | 2,337 | 637 | 1,275 | 142,398 | 58,254 | 155,343 | 355,995 | 47.61 | - | 9.85 | 3.48 | 60.94 | 71.42 | - | 14.78 | 5.22 | 91.41 | 95.22 | - | 19.70 | 6.96 | 121.88 | 83.79 | | | | |
| Operating Engineers - Group 1 - JP | 59.43 | 89.15 | 118.86 | 30,579 | 8,340 | 16,680 | 1,817,349 | 743,461 | 1,982,563 | 4,543,374 | 46.21 | - | 9.85 | 3.38 | 59.43 | 69.31 | - | 14.78 | 5.06 | 89.15 | 92.41 | - | 19.70 | 6.75 | 118.86 | 81.72 | | | | |
| Operating Engineers - Group 1 - JP | 62.65 | 93.98 | 125.30 | 30,579 | 8,340 | 16,680 | 1,915,789 | 783,732 | 2,089,952 | 4,789,473 | 49.21 | - | 9.85 | 3.59 | 62.65 | 73.81 | - | 14.78 | 5.39 | 93.98 | 98.41 | - | 19.70 | 7.19 | 125.30 | 86.14 | | | | |
| Operating Engineers - Group 3 - JP | 57.72 | 86.58 | 115.44 | 6,205 | 1,692 | 3,385 | 358,166 | 146,522 | 390,727 | 895,415 | 44.61 | - | 9.85 | 3.26 | 57.72 | 66.92 | - | 14.78 | 4.89 | 86.58 | 89.22 | - | 19.70 | 6.52 | 115.44 | 79.37 | | | | |
| Operating Engineers - Group 3 - JP | 60.94 | 91.41 | 121.88 | 6,205 | 1,692 | 3,385 | 378,141 | 154,694 | 412,518 | 945,354 | 47.61 | - | 9.85 | 3.48 | 60.94 | 71.42 | - | 14.78 | 5.22 | 91.41 | 95.22 | - | 19.70 | 6.96 | 121.88 | 83.79 | | | | |
| Operating Engineers - Group 5 - JP | 55.62 | 83.44 | 111.25 | 4,820 | 1,315 | 2,629 | 268,132 | 109,690 | 292,507 | 670,329 | 42.66 | - | 9.85 | 3.12 | 55.62 | 63.99 | - | 14.78 | 4.67 | 83.44 | 85.31 | - | 19.70 | 6.23 | 111.25 | 76.48 | | | | |
| Operating Engineers - Group 5 - JP | 58.84 | 88.26 | 117.69 | 4,820 | 1,315 | 2,629 | 283,650 | 116,039 | 309,436 | 709,124 | 45.66 | - | 9.85 | 3.34 | 58.84 | 68.49 | - | 14.78 | 5.00 | 88.26 | 91.31 | - | 19.70 | 6.67 | 117.69 | 80.91 | | | | |
| Operating Engineers - Group 4 - JP | 56.52 | 84.78 | 113.04 | 6,250 | 1,704 | 3,409 | 353,235 | 144,505 | 385,348 | 883,088 | 43.49 | - | 9.85 | 3.18 | 56.52 | 65.24 | - | 14.78 | 4.77 | 84.78 | 86.99 | - | 19.70 | 6.36 | 113.04 | 77.72 | | | | |
| Operating Engineers - Group 4 - JP | 59.74 | 89.61 | 119.48 | 6,250 | 1,704 | 3,409 | 373,354 | 152,736 | 407,295 | 933,385 | 46.49 | - | 9.85 | 3.40 | 59.74 | 69.74 | - | 14.78 | 5.10 | 89.61 | 92.99 | - | 19.70 | 6.79 | 119.48 | 82.14 | | | | |
| Operating Engineers - Group 2 - JP | 58.22 | 87.33 | 116.44 | 4,820 | 1,315 | 2,629 | 280,640 | 114,807 | 306,153 | 701,601 | 45.08 | - | 9.85 | 3.29 | 58.22 | 67.61 | - | 14.78 | 4.94 | 87.33 | 90.15 | - | 19.70 | 6.59 | 116.44 | 80.05 | | | | |
| Operating Engineers - Group 2 - JP | 61.44 | 92.16 | 122.88 | 4,820 | 1,315 | 2,629 | 296,158 | 121,156 | 323,082 | 740,396 | 48.08 | - | 9.85 | 3.51 | 61.44 | 72.11 | - | 14.78 | 5.27 | 92.16 | 96.15 | - | 19.70 | 7.02 | 122.88 | 84.48 | | | | |
| Operating Engineers - Group 1 - Non-Working foreperson | 66.30 | 99.46 | 132.61 | 4,820 | 1,315 | 2,629 | 319,620 | 130,754 | 348,677 | 799,051 | 52.61 | - | 9.85 | 3.84 | 66.30 | 78.92 | - | 14.78 | 5.77 | 99.46 | 105.22 | - | 19.70 | 7.69 | 132.61 | 91.17 | | | | |
| Operating Engineers - Group 1 - Non-Working foreperson | 69.52 | 104.29 | 139.05 | 4,820 | 1,315 | 2,629 | 335,138 | 137,102 | 365,605 | 837,846 | 55.61 | - | 9.85 | 4.06 | 69.52 | 83.42 | - | 14.78 | 6.09 | 104.29 | 111.22 | - | 19.70 | 8.13 | 139.05 | 95.60 | | | | |
| Operating Engineers - Group 5 - JP | 55.62 | 83.44 | 111.25 | - | - | - | - | - | - | - | 42.66 | - | 9.85 | 3.12 | 55.62 | 63.99 | - | 14.78 | 4.67 | 83.44 | 85.31 | - | 19.70 | 6.23 | 111.25 | - | | | | |
| Operating Engineers - Group 5 - JP | 58.84 | 88.26 | 117.69 | - | - | - | - | - | - | - | 45.66 | - | 9.85 | 3.34 | 58.84 | 68.49 | - | 14.78 | 5.00 | 88.26 | 91.31 | - | 19.70 | 6.67 | 117.69 | - | | | | |
| Operating Engineers - Group 4 - JP | 56.52 | 84.78 | 113.04 | 4,635 | 1,264 | 2,528 | 261,965 | 107,168 | 285,781 | 654,914 | 43.49 | - | 9.85 | 3.18 | 56.52 | 65.24 | - | 14.78 | 4.77 | 84.78 | 86.99 | - | 19.70 | 6.36 | 113.04 | 77.72 | | | | |
| Operating Engineers - Group 4 - JP | 59.74 | 89.61 | 119.48 | 4,635 | 1,264 | 2,528 | 276,886 | 113,272 | 302,057 | 692,215 | 46.49 | - | 9.85 | 3.40 | 59.74 | 69.74 | - | 14.78 | 5.10 | 89.61 | 92.99 | - | 19.70 | 6.79 | 119.48 | 82.14 | | | | |
| Operating Engineers - Group 2 - JP | 58.22 | 87.33 | 116.44 | 4,635 | 1,264 | 2,528 | 269,834 | 110,386 | 294,364 | 674,584 | 45.08 | - | 9.85 | 3.29 | 58.22 | 67.61 | - | 14.78 | 4.94 | 87.33 | 90.15 | - | 19.70 | 6.59 | 116.44 | 80.05 | | | | |
| Operating Engineers - Group 2 - JP | 61.44 | 92.16 | 122.88 | 4,635 | 1,264 | 2,528 | 284,754 | 116,490 | 310,614 | 711,885 | 48.08 | - | 9.85 | 3.51 | 61.44 | 72.11 | - | 14.78 | 5.27 | 92.16 | 96.15 | - | 19.70 | 7.02 | 122.88 | 84.48 | | | | |
| Operating Engineers - Group 1 - Non-Working foreperson | 66.30 | 99.46 | 132.61 | 1,545 | 421 | 843 | 102,438 | 41,906 | 111,750 | 256,094 | 52.61 | - | 9.85 | 3.84 | 66.30 | 78.92 | - | 14.78 | 5.77 | 99.46 | 105.22 | - | 19.70 | 7.69 | 132.61 | 91.17 | | | | |
| Operating Engineers - Group 1 - Non-Working foreperson | 69.52 | 104.29 | 139.05 | 1,545 | 421 | 843 | 107,411 | 43,941 | 117,176 | 268,527 | 55.61 | - | 9.85 | 4.06 | 69.52 | 83.42 | - | 14.78 | 6.09 | 104.29 | 111.22 | - | 19.70 | 8.13 | 139.05 | 95.60 | | | | |
| Operating Engineers - Group 1 - General foreperson | 68.60 | 102.89 | 137.19 | 14,374 | 3,920 | 7,841 | 986,016 | 403,370 | 1,075,654 | 2,465,040 | 54.75 | - | 9.85 | 4.00 | 68.60 | 82.12 | - | 14.78 | 6.00 | 102.89 | 109.49 | - | 19.70 | 8.00 | 137.19 | 94.32 | | | | |
| Operating Engineers - Group 1 - General foreperson | 71.82 | 107.72 | 143.63 | 14,374 | 3,920 | 7,841 | 1,032,289 | 422,300 | 1,126,134 | 2,580,723 | 57.75 | - | 9.85 | 4.22 | 71.82 | 86.62 | - | 14.78 | 6.33 | 107.72 | 115.49 | - | 19.70 | 8.44 | 143.63 | 98.75 | | | | |
| Operating Engineers - Group 1 - General foreperson | 68.60 | 102.89 | 137.19 | 4,820 | 1,315 | 2,629 | 330,646 | 135,264 | 360,705 | 826,616 | 54.75 | - | 9.85 | 4.00 | 68.60 | 82.12 | - | 14.78 | 6.00 | 102.89 | 109.49 | - | 19.70 | 8.00 | 137.19 | 94.32 | | | | |
| Operating Engineers - Group 1 - General foreperson | 71.82 | 107.72 | 143.63 | 4,820 | 1,315 | 2,629 | 346,164 | 141,612 | 377,633 | 865,409 | 57.75 | - | 9.85 | 4.22 | 71.82 | 86.62 | - | 14.78 | 6.33 | 107.72 | 115.49 | - | 19.70 | 8.44 | 143.63 | 98.75 | | | | |
| Operating Engineers - Clerical Group 3 | 53.61 | 80.42 | 107.22 | 1,607 | 438 | 876 | 86,128 | 35,234 | 93,958 | 215,321 | 40.78 | - | 9.85 | 2.98 | 53.61 | 61.17 | - | 14.78 | 4.47 | 80.42 | 81.56 | - | 19.70 | 5.96 | 107.22 | 73.71 | | | | |
| Operating Engineers - Clerical Group 1 | 49.29 | 73.94 | 98.59 | 7,460 | 2,034 | 4,069 | 367,716 | 150,429 | 401,144 | 919,289 | 36.76 | - | 9.85 | 2.69 | 49.29 | 55.14 | - | 14.78 | 4.03 | 73.94 | 73.52 | - | 19.70 | 5.37 | 98.59 | 67.78 | | | | |
| Operating Engineers - Clerical Group 1 | 49.29 | 73.94 | 98.59 | 1,607 | 438 | 876 | 79,193 | 32,397 | 86,393 | 197,983 | 36.76 | - | 9.85 | 2.69 | 49.29 | 55.14 | - | 14.78 | 4.03 | 73.94 | 73.52 | - | 19.70 | 5.37 | 98.59 | 67.78 | | | | |
| Operating Engineers - Clerical Group 3 | 53.61 | 80.42 | 107.22 | 5,882 | 1,604 | 3,208 | 315,322 | 128,995 | 343,988 | 788,305 | 40.78 | - | 9.85 | 2.98 | 53.61 | 61.17 | - | 14.78 | 4.47 | 80.42 | 81.56 | - | 19.70 | 5.96 | 107.22 | 73.71 | | | | |
| Operating Engineers - Clerical Group 3 | 53.61 | 80.42 | 107.22 | 5,136 | 1,401 | 2,801 | 275,324 | 112,633 | 300,354 | 688,311 | 40.78 | - | 9.85 | 2.98 | 53.61 | 61.17 | - | 14.78 | 4.47 | 80.42 | 81.56 | - | 19.70 | 5.96 | 107.22 | 73.71 | | | | |
| Operating Engineers - Clerical Group 3 | 56.83 | 85.24 | 113.66 | 5,136 | 1,401 | 2,801 | 291,857 | 119,396 | 318,389 | 729,642 | 43.78 | - | 9.85 | 3.20 | 56.83 | 65.67 | - | 14.78 | 4.80 | 85.24 | 87.56 | - | 19.70 | 6.40 | 113.66 | 78.14 | | | | |
| Operating Engineers - Clerical Group 3 | 53.61 | 80.42 | 107.22 | 4,677 | 1,275 | 2,551 | 250,718 | 102,567 | 273,511 | 626,796 | 40.78 | - | 9.85 | 2.98 | 53.61 | 61.17 | - | 14.78 | 4.47 | 80.42 | 81.56 | - | 19.70 | 5.96 | 107.22 | 73.71 | | | | |
| Operating Engineers - Clerical Group 1 | 49.29 | 73.94 | 98.59 | 5,308 | 1,448 | 2,895 | 261,655 | 107,041 | 285,442 | 654,137 | 36.76 | - | 9.85 | 2.69 | 49.29 | 55.14 | - | 14.78 | 4.03 | 73.94 | 73.52 | - | 19.70 | 5.37 | 98.59 | 67.78 | | | | |
| Operating Engineers - Clerical Group 2 | 51.99 | 77.98 | 103.97 | 18,822 | 5,133 | 10,266 | 978,454 | 400,277 | 1,067,405 | 2,446,136 | 39.27 | - | 9.85 | 2.87 | 51.99 | 58.90 | - | 14.78 | 4.30 | 77.98 | 78.53 | - | 19.70 | 5.74 | 103.97 | 71.48 | | | | |
| Operating Engineers - Clerical Group 2 | 51.99 | 77.98 | 103.97 | 1,779 | 485 | 970 | 92,482 | 37,833 | 100,889 | 231,204 | 39.27 | - | 9.85 | 2.87 | 51.99 | 58.90 | - | 14.78 | 4.30 | 77.98 | 78.53 | - | 19.70 | 5.74 | 103.97 | 71.48 | | | | |
| Operating Engineers - Clerical Group 2 | 55.21 | 82.81 | 110.41 | 1,779 | 485 | 970 | 98,208 | 40,176 | 107,136 | 245,521 | 42.27 | - | 9.85 | 3.09 | 55.21 | 63.40 | - | 14.78 | 4.63 | 82.81 | 84.53 | - | 19.70 | 6.18 | 110.41 | 75.91 | | | | |
| Operating Engineers - Clerical Group 3 | 53.61 | 80.42 | 107.22 | 1,607 | 438 | 876 | 86,128 | 35,234 | 93,958 | 215,321 | 40.78 | - | 9.85 | 2.98 | 53.61 | 61.17 | - | 14.78 | 4.47 | 80.42 | 81.56 | - | 19.70 | 5.96 | 107.22 | 73.71 | | | | |
| Operating Engineers - Clerical Group 2 | 51.99 | 77.98 | 103.97 | 6,197 | 1,690 | 3,380 | 322,177 | 131,800 | 351,466 | 805,443 | 39.27 | - | 9.85 | 2.87 | | | | | | | | | | | | | | | | |

1.2.6 Sheet 6) Rates and Hours May 2016 (1 of 6)

| | | Estimated Hours (May 1, 2016 - April 30, 2017) | | | Bidder Schedule | | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | | | Govt Burdens or MERCS (\$ per hour) | | | | Premium Costs (\$ per hour) | | | |
|---|--------------|--|-------|---|---------------------|-----------|----------------------------|--|--------------|-------------|-------------|------|---------|-------|-------|------|------|-------------------------------------|-------|--------|---------------|-----------------------------|------|---|--|
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| | | Total Hours | Shift | % of Hrs Expected to Exceed Govt Burden | Shift Schedule | Start Day | Schedule Long Name | Base Rate | Vacation Pay | Holiday Pay | LCP Premium | H&W | Pension | Other | Shift | CPP | EI | Tax | WHSCC | Height | Heavy Lifting | Boom | Tool | | |
| Rates Effective May 2016 - April 2017 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Position and Level | Union | | | | | | | | | | | | | | | | | | | | | | | | |
| Carpenters - Apprentice - 1 | Carpenters | 25,305 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.65 | 2.47 | 0.74 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.79 | 0.42 | 0.64 | 0.48 | 0.44 | - | - | - | - | |
| Carpenters - Apprentice - 1 | Carpenters | 25,305 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 24.65 | 2.47 | 0.74 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.86 | 0.46 | 0.70 | 0.53 | 0.44 | - | - | - | - | |
| Carpenters - Apprentice - 2 | Carpenters | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 26.55 | 2.65 | 0.80 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.84 | 0.45 | 0.68 | 0.51 | 0.44 | - | - | - | - | |
| Carpenters - Apprentice - 2 | Carpenters | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 26.55 | 2.65 | 0.80 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.91 | 0.49 | 0.74 | 0.56 | 0.44 | - | - | - | - | |
| Carpenters - Apprentice - 3 | Carpenters | 18,840 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.34 | 3.03 | 0.91 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 0.95 | 0.50 | 0.76 | 0.58 | 0.44 | - | - | - | - | |
| Carpenters - Apprentice - 3 | Carpenters | 18,840 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 30.34 | 3.03 | 0.91 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.02 | 0.54 | 0.82 | 0.62 | 0.44 | - | - | - | - | |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | 40,377 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.92 | 3.79 | 1.14 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | 0.44 | - | - | - | - | |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | 40,377 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.92 | 3.79 | 1.14 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.23 | 0.66 | 1.00 | 0.75 | 0.44 | - | - | - | - | |
| Carpenters - Working foreperson | Carpenters | 11,185 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.72 | 4.17 | 1.25 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | 0.44 | - | - | - | - | |
| Carpenters - Working foreperson | Carpenters | 11,185 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.72 | 4.17 | 1.25 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.34 | 0.71 | 1.08 | 0.82 | 0.44 | - | - | - | - | |
| Carpenters - General foreperson | Carpenters | 33,278 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.51 | 4.55 | 1.37 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.36 | 0.72 | 1.10 | 0.83 | - | - | - | - | - | |
| Carpenters - General foreperson | Carpenters | 33,278 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.51 | 4.55 | 1.37 | 3.50 | 1.80 | 6.00 | 1.53 | 3.00 | 1.43 | 0.76 | 1.16 | 0.88 | - | - | - | - | - | |
| Electricians - Journeyman | Electricians | 2,507 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.42 | 0.76 | 1.15 | 0.87 | 7.07 | - | - | - | - | |
| Electricians - Journeyman | Electricians | 2,507 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.50 | 0.80 | 1.21 | 0.92 | 7.07 | - | - | - | - | |
| Electricians - Journeyman | Electricians | 1,545 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.42 | 0.76 | 1.15 | 0.87 | 7.07 | - | - | - | - | |
| Electricians - Journeyman | Electricians | 1,545 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.50 | 0.80 | 1.21 | 0.92 | 7.07 | - | - | - | - | |
| Electricians - Journeyman | Electricians | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.42 | 0.76 | 1.15 | 0.87 | 7.07 | - | - | - | - | |
| Electricians - Journeyman | Electricians | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.50 | 0.80 | 1.21 | 0.92 | 7.07 | - | - | - | - | |
| Electricians - Journeyman | Electricians | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - | - | |
| Electricians - Journeyman | Electricians | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.32 | 0.70 | 1.07 | 0.81 | - | - | - | - | - | |
| Electricians - Apprentice - 3rd year | Electricians | 1,357 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.11 | 2.91 | 0.87 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.90 | 0.48 | 0.73 | 0.55 | - | - | - | - | - | |
| Electricians - Apprentice - 3rd year | Electricians | 1,357 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 29.11 | 2.91 | 0.87 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 0.97 | 0.52 | 0.79 | 0.60 | - | - | - | - | - | |
| Electricians - Journeyman | Electricians | 1,357 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.25 | 0.66 | 1.01 | 0.76 | - | - | - | - | - | |
| Electricians - Journeyman | Electricians | 1,357 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.58 | 4.16 | 1.25 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.32 | 0.70 | 1.07 | 0.81 | - | - | - | - | - | |
| Electricians - Non-working foreperson | Electricians | 452 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.74 | 4.57 | 1.37 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.27 | 0.73 | 1.10 | 0.84 | - | - | - | - | - | |
| Electricians - Non-working foreperson | Electricians | 452 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.74 | 4.57 | 1.37 | 3.50 | 2.00 | 5.95 | 0.89 | 3.00 | 1.44 | 0.77 | 1.16 | 0.88 | - | - | - | - | - | |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 6,149 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 26.84 | 2.68 | 0.94 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.85 | 0.45 | 0.68 | 0.52 | 0.25 | - | - | - | - | |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | 6,149 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 26.84 | 2.68 | 0.94 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.92 | 0.49 | 0.74 | 0.56 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 1,639 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.64 | 2.76 | 0.97 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.87 | 0.46 | 0.70 | 0.53 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | 1,639 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 27.64 | 2.76 | 0.97 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 0.96 | 0.50 | 0.76 | 0.58 | 0.25 | - | - | - | - | |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 3,808 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.50 | 3.45 | 1.21 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.06 | 0.56 | 0.86 | 0.65 | 0.25 | - | - | - | - | |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | 3,808 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 34.50 | 3.45 | 1.21 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.14 | 0.60 | 0.92 | 0.70 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 1,639 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.54 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.09 | 0.58 | 0.88 | 0.67 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 1,639 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.54 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.17 | 0.62 | 0.94 | 0.71 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 1,545 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.54 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.09 | 0.58 | 0.88 | 0.67 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | 1,545 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.54 | 3.55 | 1.24 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.17 | 0.62 | 0.94 | 0.71 | 0.25 | - | - | - | - | |
| Ironworkers - Rebar Journeyman | Ironworkers | 7,616 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.34 | 3.83 | 1.34 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.17 | 0.62 | 0.95 | 0.72 | 0.25 | - | - | - | - | |
| Ironworkers - Rebar Journeyman | Ironworkers | 7,616 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.34 | 3.83 | 1.34 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.24 | 0.66 | 1.01 | 0.76 | 0.25 | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | 3,278 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.49 | 3.95 | 1.38 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.20 | 0.64 | 1.03 | 0.73 | - | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | 3,278 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.49 | 3.95 | 1.38 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.27 | 0.68 | 1.07 | 0.78 | - | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.49 | 3.95 | 1.38 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.20 | 0.64 | 1.03 | 0.73 | - | - | - | - | - | |
| Ironworkers - Structural Journeyman | Ironworkers | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.49 | 3.95 | 1.38 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.27 | 0.68 | 1.03 | 0.78 | - | - | - | - | - | |
| Ironworkers - Rebar foreperson | Ironworkers | 1,904 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 44.09 | 4.41 | 1.54 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.33 | 0.70 | 1.07 | 0.81 | - | - | - | - | - | |
| Ironworkers - Rebar foreperson | Ironworkers | 1,904 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 44.09 | 4.41 | 1.54 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.40 | 0.74 | 1.13 | 0.86 | - | - | - | - | - | |
| Ironworkers - Structural foreperson | Ironworkers | 820 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.41 | 4.54 | 1.59 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.36 | 0.72 | 1.10 | 0.83 | - | - | - | - | - | |
| Ironworkers - Structural foreperson | Ironworkers | 820 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 45.41 | 4.54 | 1.59 | 3.50 | 1.81 | 6.00 | 2.37 | 3.00 | 1.44 | 0.76 | 1.16</ | | | | | | | |

1.2.6 Sheet 6) Rates and Hours May 2016 (2 of 6)

| Position and Level | All-in Rates (\$ per hour) | | | Hours by Rate | | | Total Cost (\$) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | | | | | | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | Avg Blended Rate (including OT based on selected schedule) |
|---|----------------------------|----------------------|--------------------|---------------|--------------|------------|-----------------|-------------------|-----------------|-------------------|--|---------|-------|---------|-------|-----------|-------|---------|-------|---------|--------|---------------------|--|---------|--------|---------|--|--------------|--|--|--|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | | | | | |
| | All-in Reg Time Rate | All-in 1.5 x OT Rate | All-in 2 x OT Rate | Reg Hrs | 1.5 x OT Hrs | 2 x OT Hrs | Reg Hrs Cost | 1.5 x OT Hrs Cost | 2 x OT Hrs Cost | Total Labour Cost | Wages | Premium | Union | add-ons | MERCS | Total Reg | Wages | Premium | Union | add-ons | MERCS | Total 1.5 x OT Rate | Wages | Premium | Union | add-ons | MERCS | Total 2 x OT | | | |
| Rates Effective May 2016 - April 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carpenters - Apprentice - 1 | 43.45 | 65.17 | 86.89 | 13,918 | 3,796 | 7,592 | 604,670 | 247,365 | 659,641 | 1,511,676 | 31.36 | 0.44 | 9.33 | 2.32 | 43.45 | 47.03 | 0.66 | 14.00 | 3.48 | 65.17 | 62.71 | 0.88 | 18.66 | 4.65 | 86.89 | 59.74 | | | | | |
| Carpenters - Apprentice - 2 | 46.67 | 70.00 | 93.33 | 13,918 | 3,796 | 7,592 | 649,474 | 265,694 | 708,517 | 1,623,686 | 34.36 | 0.44 | 9.33 | 2.54 | 46.67 | 51.53 | 0.66 | 14.00 | 3.81 | 70.00 | 68.71 | 0.88 | 18.66 | 5.08 | 93.33 | 64.16 | | | | | |
| Carpenters - Apprentice - 3 | 45.75 | 68.62 | 91.49 | - | - | - | - | - | - | - | 33.50 | 0.44 | 9.33 | 2.48 | 45.75 | 50.25 | 0.66 | 14.00 | 3.72 | 68.62 | 67.00 | 0.88 | 18.66 | 4.96 | 91.49 | - | | | | | |
| Carpenters - Apprentice - 3 | 48.96 | 73.45 | 97.93 | - | - | - | - | - | - | - | 36.50 | 0.44 | 9.33 | 2.70 | 48.96 | 54.75 | 0.66 | 14.00 | 4.05 | 73.45 | 73.00 | 0.88 | 18.66 | 5.40 | 97.93 | - | | | | | |
| Carpenters - Apprentice - 3 | 50.34 | 75.52 | 100.69 | 10,362 | 2,826 | 5,652 | 521,649 | 213,402 | 569,072 | 1,304,124 | 37.78 | 0.44 | 9.33 | 2.79 | 50.34 | 56.68 | 0.66 | 14.00 | 4.19 | 75.52 | 75.57 | 0.88 | 18.66 | 5.58 | 100.69 | 69.22 | | | | | |
| Carpenters - Apprentice - 3 | 53.56 | 80.34 | 107.13 | 10,362 | 2,826 | 5,652 | 555,006 | 227,048 | 605,461 | 1,387,514 | 40.78 | 0.44 | 9.33 | 3.01 | 53.56 | 61.18 | 0.66 | 14.00 | 4.52 | 80.34 | 81.57 | 0.88 | 18.66 | 6.02 | 107.13 | 73.65 | | | | | |
| Carpenters - Journeyman carpenter welder scaffolder | 59.54 | 89.31 | 119.08 | 22,207 | 6,057 | 12,113 | 1,322,249 | 540,920 | 1,442,453 | 3,305,622 | 46.35 | 0.44 | 9.33 | 3.42 | 59.54 | 69.53 | 0.66 | 14.00 | 5.13 | 89.31 | 92.71 | 0.88 | 18.66 | 6.84 | 119.08 | 81.87 | | | | | |
| Carpenters - Journeyman carpenter welder scaffolder | 62.76 | 94.14 | 125.52 | 22,207 | 6,057 | 12,113 | 1,393,738 | 570,166 | 1,520,442 | 3,484,346 | 49.35 | 0.44 | 9.33 | 3.64 | 62.76 | 74.03 | 0.66 | 14.00 | 5.46 | 94.14 | 98.71 | 0.88 | 18.66 | 7.28 | 125.52 | 86.30 | | | | | |
| Carpenters - Working foreperson | 64.14 | 96.21 | 128.28 | 6,152 | 1,678 | 3,356 | 394,571 | 161,415 | 430,441 | 986,428 | 50.64 | 0.44 | 9.33 | 3.73 | 64.14 | 75.96 | 0.66 | 14.00 | 5.60 | 96.21 | 101.28 | 0.88 | 18.66 | 7.46 | 128.28 | 88.19 | | | | | |
| Carpenters - Working foreperson | 67.36 | 101.04 | 134.72 | 6,152 | 1,678 | 3,356 | 414,375 | 169,517 | 452,045 | 1,035,937 | 53.64 | 0.44 | 9.33 | 3.95 | 67.36 | 80.46 | 0.66 | 14.00 | 5.93 | 101.04 | 107.28 | 0.88 | 18.66 | 7.90 | 134.72 | 92.62 | | | | | |
| Carpenters - General foreperson | 68.27 | 102.40 | 136.54 | 18,303 | 4,952 | 9,983 | 1,249,498 | 511,158 | 1,363,088 | 3,123,744 | 54.93 | - | - | - | 68.27 | 82.39 | - | - | - | 102.40 | 109.85 | - | - | - | 136.54 | 93.87 | | | | | |
| Electricians - Journeyman | 71.49 | 107.23 | 142.98 | 18,303 | 4,992 | 9,983 | 1,308,417 | 535,262 | 1,427,346 | 3,271,043 | 57.93 | - | - | - | 71.49 | 86.89 | - | - | - | 107.23 | 115.85 | - | - | - | 142.98 | 98.30 | | | | | |
| Electricians - Journeyman | 70.61 | 105.91 | 141.21 | 1,379 | 376 | 752 | 97,354 | 39,827 | 106,205 | 243,385 | 50.49 | 7.07 | 8.84 | 4.21 | 70.61 | 75.74 | 10.60 | 13.26 | 6.31 | 105.91 | 100.98 | 14.14 | 17.68 | 8.41 | 141.21 | 97.08 | | | | | |
| Electricians - Journeyman | 73.82 | 110.74 | 147.65 | - | - | - | - | - | - | - | 53.49 | 7.07 | 8.84 | 4.42 | 73.82 | 80.24 | 10.60 | 13.26 | 6.64 | 110.74 | 106.98 | 14.14 | 17.68 | 8.85 | 147.65 | 101.51 | | | | | |
| Electricians - Journeyman | 70.61 | 105.91 | 141.21 | - | - | - | - | - | - | - | 50.49 | 7.07 | 8.84 | 4.21 | 70.61 | 75.74 | 10.60 | 13.26 | 6.31 | 105.91 | 100.98 | 14.14 | 17.68 | 8.41 | 141.21 | 97.08 | | | | | |
| Electricians - Journeyman | 73.82 | 110.74 | 147.65 | - | - | - | - | - | - | - | 53.49 | 7.07 | 8.84 | 4.42 | 73.82 | 80.24 | 10.60 | 13.26 | 6.64 | 110.74 | 106.98 | 14.14 | 17.68 | 8.85 | 147.65 | 101.51 | | | | | |
| Electricians - Journeyman | 63.02 | 94.53 | 126.04 | - | - | - | - | - | - | - | 50.49 | - | - | - | 63.02 | 75.74 | - | - | - | 94.53 | 100.98 | - | - | - | 126.04 | - | | | | | |
| Electricians - Journeyman | 66.24 | 99.36 | 132.48 | - | - | - | - | - | - | - | 53.49 | - | - | - | 66.24 | 80.24 | - | - | - | 99.36 | 106.98 | - | - | - | 132.48 | - | | | | | |
| Electricians - Apprentice - 3rd year | 47.89 | 71.84 | 95.78 | 746 | 203 | 407 | 35,731 | 14,617 | 36,980 | 88,328 | 36.39 | - | - | - | 47.89 | 54.59 | - | - | - | 71.84 | 72.79 | - | - | - | 95.78 | 65.85 | | | | | |
| Electricians - Apprentice - 3rd year | 51.11 | 76.67 | 102.22 | 746 | 203 | 407 | 38,133 | 15,600 | 41,600 | 95,333 | 39.39 | - | - | - | 51.11 | 59.09 | - | - | - | 76.67 | 77.79 | - | - | - | 102.22 | 76.28 | | | | | |
| Electricians - Journeyman | 63.02 | 94.53 | 126.04 | 746 | 203 | 407 | 47,017 | 19,234 | 51,292 | 117,543 | 50.49 | - | - | - | 63.02 | 75.74 | - | - | - | 94.53 | 100.98 | - | - | - | 126.04 | 86.65 | | | | | |
| Electricians - Journeyman | 66.24 | 99.36 | 132.48 | 746 | 203 | 407 | 49,419 | 20,217 | 53,912 | 123,547 | 53.49 | - | - | - | 66.24 | 80.24 | - | - | - | 99.36 | 106.98 | - | - | - | 132.48 | 91.08 | | | | | |
| Electricians - Non-working foreperson | 68.06 | 102.09 | 136.12 | 249 | 68 | 136 | 16,920 | 6,922 | 18,458 | 42,300 | 55.19 | - | - | - | 68.06 | 82.78 | - | - | - | 102.09 | 110.38 | - | - | - | 136.12 | 93.58 | | | | | |
| Electricians - Non-working foreperson | 71.28 | 106.92 | 142.56 | 249 | 68 | 136 | 17,720 | 7,249 | 19,331 | 44,301 | 58.19 | - | - | - | 71.28 | 87.28 | - | - | - | 106.92 | 116.38 | - | - | - | 142.56 | 98.01 | | | | | |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | 46.89 | 70.33 | 93.78 | 3,382 | 922 | 1,845 | 158,577 | 64,872 | 172,999 | 396,443 | 33.96 | 0.25 | 10.18 | 2.50 | 46.89 | 50.94 | 0.38 | 15.27 | 3.75 | 70.33 | 67.92 | 0.50 | 20.36 | 5.00 | 93.78 | 64.47 | | | | | |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | 50.11 | 75.16 | 100.22 | 3,382 | 922 | 1,845 | 169,464 | 69,326 | 184,870 | 423,661 | 35.96 | 0.25 | 10.18 | 2.72 | 50.11 | 54.11 | 0.38 | 15.27 | 4.08 | 75.16 | 73.72 | 0.50 | 20.36 | 5.48 | 100.22 | 68.90 | | | | | |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | 47.87 | 71.80 | 95.74 | 901 | 246 | 492 | 43,139 | 17,648 | 47,061 | 107,847 | 34.87 | 0.25 | 10.18 | 2.57 | 47.87 | 52.31 | 0.38 | 15.27 | 3.85 | 71.80 | 69.75 | 0.50 | 20.36 | 5.13 | 95.74 | 65.82 | | | | | |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | 51.09 | 76.63 | 102.18 | 901 | 246 | 492 | 46,404 | 18,835 | 50,225 | 115,100 | 37.87 | 0.25 | 10.18 | 2.79 | 51.09 | 56.81 | 0.38 | 15.27 | 4.18 | 76.63 | 75.75 | 0.50 | 20.36 | 5.57 | 102.18 | 70.25 | | | | | |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | 56.23 | 84.34 | 112.46 | 2,094 | 571 | 1,142 | 117,764 | 48,176 | 128,470 | 294,409 | 42.66 | 0.25 | 10.18 | 3.14 | 56.23 | 63.99 | 0.38 | 15.27 | 4.70 | 84.34 | 83.33 | 0.50 | 20.36 | 6.27 | 112.46 | 77.31 | | | | | |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | 59.45 | 89.17 | 118.89 | 2,094 | 571 | 1,142 | 124,506 | 50,934 | 135,825 | 311,265 | 45.66 | 0.25 | 10.18 | 3.35 | 59.45 | 68.49 | 0.38 | 15.27 | 5.03 | 89.17 | 91.33 | 0.50 | 20.36 | 6.71 | 118.89 | 81.74 | | | | | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 57.49 | 86.23 | 114.98 | 901 | 246 | 492 | 51,807 | 21,194 | 56,517 | 130,518 | 43.84 | 0.25 | 10.18 | 3.22 | 57.49 | 65.76 | 0.38 | 15.27 | 4.83 | 86.23 | 87.67 | 0.50 | 20.36 | 6.44 | 114.98 | 79.05 | | | | | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 60.71 | 91.06 | 121.42 | 901 | 246 | 492 | 54,708 | 22,311 | 59,682 | 136,771 | 46.84 | 0.25 | 10.18 | 3.44 | 60.71 | 69.24 | 0.38 | 15.27 | 5.16 | 91.06 | 92.67 | 0.50 | 20.36 | 6.88 | 121.42 | 83.47 | | | | | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 57.49 | 86.23 | 114.98 | 850 | 232 | 464 | 48,851 | 19,984 | 53,292 | 122,127 | 43.84 | 0.25 | 10.18 | 3.22 | 57.49 | 65.76 | 0.38 | 15.27 | 4.83 | 86.23 | 87.67 | 0.50 | 20.36 | 6.44 | 114.98 | 79.05 | | | | | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 60.71 | 91.06 | 121.42 | 850 | 232 | 464 | 51,586 | 21,104 | 56,276 | 128,966 | 46.84 | 0.25 | 10.18 | 3.44 | 60.71 | 70.26 | 0.38 | 15.27 | 5.16 | 91.06 | 93.67 | 0.50 | 20.36 | 6.88 | 121.42 | 83.47 | | | | | |
| Ironworkers - Rebar Journeyman | 60.90 | 91.35 | 121.79 | 4,189 | 1,142 | 2,285 | 255,086 | 104,354 | 278,276 | 637,716 | 47.01 | 0.25 | 10.18 | 3.45 | 60.90 | 70.52 | 0.38 | 15.27 | 5.18 | 91.35 | 94.03 | 0.50 | 20.36 | 6.91 | 121.79 | 83.73 | | | | | |
| Ironworkers - Rebar Journeyman | 64.12 | 96.17 | 128.23 | 4,189 | 1,142 | 2,285 | 268,571 | 109,870 | 292,987 | 671,427 | 50.01 | 0.25 | 10.18 | 3.67 | 64.12 | 74.02 | 0.38 | 15.27 | 5.51 | 96.17 | 100.03 | 0.50 | 20.36 | 7.34 | 128.23 | 88.16 | | | | | |
| Ironworkers - Structural Journeyman | 62.03 | 93.04 | 124.06 | 1,809 | 492 | 983 | 111,816 | 45,743 | 121,981 | 279,540 | 48.32 | - | - | - | 62.03 | 72.48 | - | - | - | 93.04 | 96.64 | - | - | - | 124.06 | 85.29 | | | | | |
| Ironworkers - Structural Journeyman | 65.25 | 97.87 | 130.50 | 1,809 | 492 | 983 | 117,619 | 48,117 | 128,312 | 294,048 | 51.32 | - | - | - | 65.25 | 76.98 | - | - | - | 97.87 | 102.64 | - | - | - | 130.50 | 89.72 | | | | | |
| Ironworkers - Structural Journeyman | 62.03 | 93.04 | 124.06 | - | - | - | - | - | - | - | 48.32 | - | - | - | 62.03 | 72.48 | - | - | - | 93.04 | 96.64 | - | - | - | 124.06 | - | | | | | |
| Ironworkers - Structural Journeyman | 65.25 | 97.87 | 130.50 | - | - | - | - | - | - | - | 51.32 | - | - | - | 65.25 | 76.98 | - | - | - | 97.87 | 102. | | | | | | | | | | |

1.2.6 Sheet 6) Rates and Hours May 2016 (4 of 6)

| 1 | 2 | Estimated Hours (May 1, 2016 - April 30, 2017) | | | Bidder Schedule | | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | Govt Burdens or MERCs (\$ per hour) | | | | Premium Costs (\$ per hour) | | | |
|--|---------------------|--|-------------------|--|---------------------|-----------|----------------------------|--|--------------|-------------|-------------|------|---------|---------------|---------------|-------------------------------------|------|-------------|-------|-----------------------------|---------------|------|------|
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Rates Effective May 2016 - April 2017 | | | | | | | | | | | | | | | | | | | | | | | |
| Position and Level | Union | Total Hours | Shift (Day/Night) | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base Rate | Vacation Pay | Holiday Pay | LCP Premium | H&W | Pension | Other Add-ons | Shift Premium | CPP | EI | Payroll Tax | WHSCC | Height | Heavy Lifting | Boom | Tool |
| Operating Engineers - Group 3 - JP | Operating Engineers | 4,572 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.59 | 3.47 | 1.54 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 4,572 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.59 | 3.47 | 1.54 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 19,146 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.00 | 3.60 | 1.60 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.21 | 0.64 | 0.97 | 0.74 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 19,146 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.00 | 3.60 | 1.60 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.28 | 0.68 | 1.03 | 0.78 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 11,210 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.59 | 3.47 | 1.54 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 11,210 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.59 | 3.47 | 1.54 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 5,664 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.86 | 3.32 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 5,664 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.86 | 3.32 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 7,339 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.38 | 1.50 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 7,339 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.38 | 1.50 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 5,664 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.00 | 3.51 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.18 | 0.63 | 0.95 | 0.72 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 5,664 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.00 | 3.51 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.67 | 1.01 | 0.77 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 5,664 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 46.01 | 4.14 | 1.84 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.37 | 0.73 | 1.11 | 0.84 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 5,664 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 46.01 | 4.14 | 1.84 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.45 | 0.77 | 1.17 | 0.89 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.86 | 3.32 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.86 | 3.32 | 1.47 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 5,362 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.38 | 1.50 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.14 | 0.61 | 0.92 | 0.70 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 5,362 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 37.60 | 3.38 | 1.50 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 5,362 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.00 | 3.51 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.18 | 0.63 | 0.95 | 0.72 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 5,362 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.00 | 3.51 | 1.56 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.67 | 1.01 | 0.77 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 1,787 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 46.01 | 4.14 | 1.84 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.37 | 0.73 | 1.11 | 0.84 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 1,787 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 46.01 | 4.14 | 1.84 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.45 | 0.77 | 1.17 | 0.89 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 25,969 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.01 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.43 | 0.76 | 1.15 | 0.87 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 25,969 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.01 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.50 | 0.80 | 1.21 | 0.92 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 8,708 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.01 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.43 | 0.76 | 1.15 | 0.87 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 8,708 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.01 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.50 | 0.80 | 1.21 | 0.92 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,903 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.20 | 3.17 | 1.41 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 13,477 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.64 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 2,903 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.64 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 10,626 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.20 | 3.17 | 1.41 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 9,279 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.20 | 3.17 | 1.41 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 9,279 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.20 | 3.17 | 1.41 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.15 | 0.61 | 0.93 | 0.70 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 8,449 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.20 | 3.17 | 1.41 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 9,589 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 31.64 | 2.85 | 1.27 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 0.97 | 0.52 | 0.79 | 0.59 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 34,003 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.86 | 3.05 | 1.35 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.84 | 0.63 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 3,214 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.86 | 3.05 | 1.35 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.84 | 0.63 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 3,214 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.86 | 3.05 | 1.35 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.11 | 0.59 | 0.90 | 0.68 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 2,903 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.20 | 3.17 | 1.41 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.07 | 0.57 | 0.87 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 11,196 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.86 | 3.05 | 1.35 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.03 | 0.55 | 0.84 | 0.63 | - | - | - | - |
| Painters - Group 2 | Painters | 966 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.47 | 4.05 | 1.21 | 3.50 | 2.45 | 5.00 | 1.70 | 3.00 | 1.22 | 0.65 | 0.98 | 0.75 | - | - | - | - |
| Painters - Group 2 | Painters | 966 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.47 | 4.05 | 1.21 | 3.50 | 2.45 | 5.00 | 1.70 | 3.00 | 1.29 | 0.69 | 1.04 | 0.79 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 7,170 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.25 | 3.62 | 1.61 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 7,170 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.25 | 3.62 | 1.61 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.29 | 0.68 | 1.04 | 0.79 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 9,719 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.68 | 3.66 | 1.63 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 9,719 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.68 | 3.66 | 1.63 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 19,671 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.25 | 3.62 | 1.61 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.21 | 0.64 | 0.98 | 0.74 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 19,671 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.25 | 3.62 | 1.61 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.29 | 0.68 | 1.04 | 0.79 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 22,670 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.68 | 3.66 | 1.63 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 22,670 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.68 | 3.66 | 1.63 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 2,499 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.68 | 3.66 | 1.63 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.22 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 2,499 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.68 | 3.66 | 1.63 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.30 | 0.69 | 1.05 | 0.79 | - | - | - | - |
| Totals | | 1,050,375 | | | | | | | | | | | | | | | | | | | | | |

1.2.6 Sheet 6) Rates and Hours May 2016 (5 of 6)

| 1 | All-in Rates (\$ per hour) | | | Hours by Rate | | | Total Cost (\$) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | Avg Blended Rate (including OT based on selected schedule) | | | |
|--|----------------------------|----------------------|--------------------|---------------|----------------|--------------|-----------------|---------------------|-------------------|-------------------|--|---------|-------|-------|--|-------|---------|-------|--|---------------------|--------|---------|--|-------|-------------------|--------|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | | 47 | 48 | 49 |
| Rates Effective May 2016 - April 2017 | All-in Reg Time Rate | All-in 1.5 x OT Rate | All-in 2 x OT Rate | Reg Hrs | 1.5 x OT Hours | 2 x OT Hours | Reg Hrs Cost | 1.5 x OT Hours Cost | 2 x OT Hours Cost | Total Labour Cost | Wages | Premium | Union | MERCs | Total Reg | Wages | Premium | Union | MERCs | Total 1.5 x OT Rate | Wages | Premium | Union | MERCs | Total 2 x OT Rate | |
| Operating Engineers - Group 3 - JP | 60.40 | 90.61 | 120.81 | 2,514 | 686 | 1,371 | 151,875 | 62,131 | 165,682 | 379,688 | 47.11 | - | 9.85 | 3.44 | 60.40 | 70.67 | - | 14.78 | 5.16 | 90.61 | 94.22 | - | 19.70 | 6.88 | 120.81 | 83.06 |
| Operating Engineers - Group 3 - JP | 63.62 | 95.43 | 127.25 | 2,514 | 686 | 1,371 | 159,969 | 65,442 | 174,512 | 399,923 | 50.11 | - | 9.85 | 3.66 | 63.62 | 75.17 | - | 14.78 | 5.49 | 95.43 | 100.22 | - | 19.70 | 7.32 | 127.25 | 87.48 |
| Operating Engineers - Group 1 - JP | 62.11 | 93.17 | 124.23 | 10,530 | 2,872 | 5,744 | 654,058 | 267,569 | 713,518 | 1,635,144 | 48.71 | - | 9.85 | 3.56 | 62.11 | 73.06 | - | 14.78 | 5.34 | 93.17 | 97.41 | - | 19.70 | 7.12 | 124.23 | 85.41 |
| Operating Engineers - Group 1 - JP | 65.33 | 98.00 | 130.67 | 10,530 | 2,872 | 5,744 | 687,956 | 281,436 | 750,497 | 1,719,890 | 51.71 | - | 9.85 | 3.78 | 65.33 | 77.56 | - | 14.78 | 5.67 | 98.00 | 103.41 | - | 19.70 | 7.56 | 130.67 | 89.83 |
| Operating Engineers - Group 3 - JP | 60.40 | 90.61 | 120.81 | 6,166 | 1,682 | 3,363 | 372,420 | 152,354 | 406,277 | 931,051 | 47.11 | - | 9.85 | 3.44 | 60.40 | 70.67 | - | 14.78 | 5.16 | 90.61 | 94.22 | - | 19.70 | 6.88 | 120.81 | 83.06 |
| Operating Engineers - Group 3 - JP | 63.62 | 95.43 | 127.25 | 6,166 | 1,682 | 3,363 | 392,268 | 160,473 | 427,929 | 980,670 | 50.11 | - | 9.85 | 3.66 | 63.62 | 75.17 | - | 14.78 | 5.49 | 95.43 | 100.22 | - | 19.70 | 7.32 | 127.25 | 87.48 |
| Operating Engineers - Group 5 - JP | 58.31 | 87.46 | 116.61 | 3,115 | 850 | 1,699 | 181,635 | 74,305 | 198,148 | 454,088 | 45.16 | - | 9.85 | 3.30 | 58.31 | 67.74 | - | 14.78 | 4.95 | 87.46 | 90.31 | - | 19.70 | 6.60 | 116.61 | 80.17 |
| Operating Engineers - Group 5 - JP | 61.53 | 92.29 | 123.05 | 3,115 | 850 | 1,699 | 191,664 | 78,408 | 209,088 | 479,159 | 48.16 | - | 9.85 | 3.52 | 61.53 | 72.24 | - | 14.78 | 5.28 | 92.29 | 96.31 | - | 19.70 | 7.04 | 123.05 | 84.60 |
| Operating Engineers - Group 4 - JP | 59.20 | 88.81 | 118.41 | 4,036 | 1,101 | 2,202 | 238,956 | 97,755 | 260,679 | 597,389 | 45.99 | - | 9.85 | 3.36 | 59.20 | 68.99 | - | 14.78 | 5.04 | 88.81 | 91.99 | - | 19.70 | 6.72 | 118.41 | 81.40 |
| Operating Engineers - Group 4 - JP | 62.42 | 93.63 | 124.85 | 4,036 | 1,101 | 2,202 | 251,949 | 103,070 | 274,853 | 629,872 | 48.99 | - | 9.85 | 3.58 | 62.42 | 73.49 | - | 14.78 | 5.37 | 93.63 | 97.99 | - | 19.70 | 7.16 | 124.85 | 85.83 |
| Operating Engineers - Group 2 - JP | 60.90 | 91.35 | 121.80 | 3,115 | 850 | 1,699 | 189,719 | 77,612 | 206,966 | 474,297 | 47.58 | - | 9.85 | 3.48 | 60.90 | 71.36 | - | 14.78 | 5.21 | 91.35 | 95.15 | - | 19.70 | 6.95 | 121.80 | 83.74 |
| Operating Engineers - Group 2 - JP | 64.12 | 96.18 | 128.24 | 3,115 | 850 | 1,699 | 199,747 | 81,715 | 217,906 | 499,368 | 50.58 | - | 9.85 | 3.70 | 64.12 | 75.86 | - | 14.78 | 5.54 | 96.18 | 101.15 | - | 19.70 | 7.39 | 128.24 | 88.17 |
| Operating Engineers - Group 1 - Non-Working foreperson | 69.39 | 104.08 | 138.78 | 3,115 | 850 | 1,699 | 216,163 | 88,430 | 235,814 | 540,408 | 55.49 | - | 9.85 | 4.05 | 69.39 | 83.23 | - | 14.78 | 6.08 | 104.08 | 110.97 | - | 19.70 | 8.11 | 138.78 | 95.41 |
| Operating Engineers - Group 1 - Non-Working foreperson | 72.61 | 108.91 | 145.22 | 3,115 | 850 | 1,699 | 226,911 | 92,533 | 246,754 | 565,479 | 58.49 | - | 9.85 | 4.27 | 72.61 | 87.73 | - | 14.78 | 6.41 | 108.91 | 116.97 | - | 19.70 | 8.55 | 145.22 | 99.84 |
| Operating Engineers - Group 5 - JP | 58.31 | 87.46 | 116.61 | - | - | - | - | - | - | - | 45.16 | - | 9.85 | 3.30 | 58.31 | 67.74 | - | 14.78 | 4.95 | 87.46 | 90.31 | - | 19.70 | 6.60 | 116.61 | - |
| Operating Engineers - Group 5 - JP | 61.53 | 92.29 | 123.05 | - | - | - | - | - | - | - | 48.16 | - | 9.85 | 3.52 | 61.53 | 72.24 | - | 14.78 | 5.28 | 92.29 | 96.31 | - | 19.70 | 7.04 | 123.05 | - |
| Operating Engineers - Group 4 - JP | 59.20 | 88.81 | 118.41 | 2,949 | 804 | 1,608 | 174,581 | 71,419 | 190,452 | 436,452 | 45.99 | - | 9.85 | 3.36 | 59.20 | 68.99 | - | 14.78 | 5.04 | 88.81 | 91.99 | - | 19.70 | 6.72 | 118.41 | 81.40 |
| Operating Engineers - Group 4 - JP | 62.42 | 93.63 | 124.85 | 2,949 | 804 | 1,608 | 184,073 | 75,303 | 200,807 | 460,194 | 48.99 | - | 9.85 | 3.58 | 62.42 | 73.49 | - | 14.78 | 5.37 | 93.63 | 97.99 | - | 19.70 | 7.16 | 124.85 | 85.83 |
| Operating Engineers - Group 2 - JP | 60.90 | 91.35 | 121.80 | 2,949 | 804 | 1,608 | 179,587 | 73,467 | 195,913 | 448,966 | 47.58 | - | 9.85 | 3.48 | 60.90 | 71.36 | - | 14.78 | 5.21 | 91.35 | 95.15 | - | 19.70 | 6.95 | 121.80 | 83.74 |
| Operating Engineers - Group 2 - JP | 64.12 | 96.18 | 128.24 | 2,949 | 804 | 1,608 | 189,079 | 77,351 | 206,268 | 472,698 | 50.58 | - | 9.85 | 3.70 | 64.12 | 75.86 | - | 14.78 | 5.54 | 96.18 | 101.15 | - | 19.70 | 7.39 | 128.24 | 88.17 |
| Operating Engineers - Group 1 - Non-Working foreperson | 69.39 | 104.08 | 138.78 | 983 | 268 | 536 | 68,200 | 27,900 | 74,400 | 170,499 | 55.49 | - | 9.85 | 4.05 | 69.39 | 83.23 | - | 14.78 | 6.08 | 104.08 | 110.97 | - | 19.70 | 8.11 | 138.78 | 95.41 |
| Operating Engineers - Group 1 - Non-Working foreperson | 72.61 | 108.91 | 145.22 | 983 | 268 | 536 | 71,364 | 29,194 | 77,851 | 178,409 | 58.49 | - | 9.85 | 4.27 | 72.61 | 87.73 | - | 14.78 | 6.41 | 108.91 | 116.97 | - | 19.70 | 8.55 | 145.22 | 99.84 |
| Operating Engineers - Group 1 - General foreperson | 71.82 | 107.72 | 143.63 | 14,283 | 3,895 | 7,791 | 1,025,733 | 419,618 | 1,118,981 | 2,564,332 | 57.75 | - | 9.85 | 4.22 | 71.82 | 86.62 | - | 14.78 | 6.33 | 107.72 | 115.49 | - | 19.70 | 8.44 | 143.63 | 98.75 |
| Operating Engineers - Group 1 - General foreperson | 75.03 | 112.55 | 150.07 | 14,283 | 3,895 | 7,791 | 1,071,712 | 438,428 | 1,169,140 | 2,679,280 | 60.75 | - | 9.85 | 4.44 | 75.03 | 91.12 | - | 14.78 | 6.66 | 112.55 | 121.49 | - | 19.70 | 8.88 | 150.07 | 103.17 |
| Operating Engineers - Group 1 - General foreperson | 71.82 | 107.72 | 143.63 | 4,789 | 1,306 | 2,612 | 343,352 | 140,707 | 375,220 | 859,879 | 57.75 | - | 9.85 | 4.22 | 71.82 | 86.62 | - | 14.78 | 6.33 | 107.72 | 115.49 | - | 19.70 | 8.44 | 143.63 | 98.75 |
| Operating Engineers - Group 1 - General foreperson | 75.03 | 112.55 | 150.07 | 4,789 | 1,306 | 2,612 | 359,370 | 147,015 | 392,040 | 898,424 | 60.75 | - | 9.85 | 4.44 | 75.03 | 91.12 | - | 14.78 | 6.66 | 112.55 | 121.49 | - | 19.70 | 8.88 | 150.07 | 103.17 |
| Operating Engineers - Clerical Group 3 | 56.29 | 84.44 | 112.59 | 1,597 | 435 | 871 | 89,881 | 36,769 | 98,052 | 224,702 | 43.28 | - | 9.85 | 3.16 | 56.29 | 64.92 | - | 14.78 | 4.74 | 84.44 | 86.56 | - | 19.70 | 6.32 | 112.59 | 77.40 |
| Operating Engineers - Clerical Group 1 | 51.98 | 77.96 | 103.95 | 7,412 | 2,022 | 4,043 | 385,269 | 157,610 | 420,293 | 963,172 | 39.26 | - | 9.85 | 2.87 | 51.98 | 58.89 | - | 14.78 | 4.30 | 77.96 | 78.52 | - | 19.70 | 5.74 | 103.95 | 71.47 |
| Operating Engineers - Clerical Group 1 | 51.98 | 77.96 | 103.95 | 1,597 | 435 | 871 | 82,988 | 33,950 | 90,533 | 207,471 | 39.26 | - | 9.85 | 2.87 | 51.98 | 58.89 | - | 14.78 | 4.30 | 77.96 | 78.52 | - | 19.70 | 5.74 | 103.95 | 71.47 |
| Operating Engineers - Clerical Group 3 | 56.29 | 84.44 | 112.59 | 5,844 | 1,594 | 3,188 | 328,995 | 134,589 | 358,904 | 822,488 | 43.28 | - | 9.85 | 3.16 | 56.29 | 64.92 | - | 14.78 | 4.74 | 84.44 | 86.56 | - | 19.70 | 6.32 | 112.59 | 77.40 |
| Operating Engineers - Clerical Group 3 | 56.29 | 84.44 | 112.59 | 5,103 | 1,392 | 2,784 | 287,275 | 117,521 | 313,391 | 718,187 | 43.28 | - | 9.85 | 3.16 | 56.29 | 64.92 | - | 14.78 | 4.74 | 84.44 | 86.56 | - | 19.70 | 6.32 | 112.59 | 77.40 |
| Operating Engineers - Clerical Group 3 | 59.51 | 89.27 | 119.03 | 5,103 | 1,392 | 2,784 | 303,703 | 124,242 | 331,312 | 759,257 | 46.28 | - | 9.85 | 3.38 | 59.51 | 69.42 | - | 14.78 | 5.07 | 89.27 | 92.56 | - | 19.70 | 6.76 | 119.03 | 81.83 |
| Operating Engineers - Clerical Group 3 | 56.29 | 84.44 | 112.59 | 4,647 | 1,267 | 2,535 | 261,592 | 107,015 | 285,373 | 653,981 | 43.28 | - | 9.85 | 3.16 | 56.29 | 64.92 | - | 14.78 | 4.74 | 84.44 | 86.56 | - | 19.70 | 6.32 | 112.59 | 77.40 |
| Operating Engineers - Clerical Group 1 | 51.98 | 77.96 | 103.95 | 5,274 | 1,438 | 2,877 | 274,122 | 112,141 | 299,042 | 685,305 | 39.26 | - | 9.85 | 2.87 | 51.98 | 58.89 | - | 14.78 | 4.30 | 77.96 | 78.52 | - | 19.70 | 5.74 | 103.95 | 71.47 |
| Operating Engineers - Clerical Group 2 | 54.67 | 82.00 | 109.34 | 18,702 | 5,100 | 10,201 | 1,022,391 | 418,251 | 1,115,336 | 2,555,978 | 41.77 | - | 9.85 | 3.05 | 54.67 | 62.65 | - | 14.78 | 4.58 | 82.00 | 83.53 | - | 19.70 | 6.10 | 109.34 | 75.17 |
| Operating Engineers - Clerical Group 2 | 54.67 | 82.00 | 109.34 | 1,767 | 482 | 964 | 96,622 | 39,527 | 105,406 | 241,556 | 41.77 | - | 9.85 | 3.05 | 54.67 | 62.65 | - | 14.78 | 4.58 | 82.00 | 83.53 | - | 19.70 | 6.10 | 109.34 | 75.17 |
| Operating Engineers - Clerical Group 2 | 57.89 | 86.83 | 115.78 | 1,767 | 482 | 964 | 102,312 | 41,855 | 111,613 | 255,780 | 44.77 | - | 9.85 | 3.27 | 57.89 | 67.15 | - | 14.78 | 4.91 | 86.83 | 89.53 | - | 19.70 | 6.54 | 115.78 | 79.60 |
| Operating Engineers - Clerical Group 3 | 56.29 | 84.44 | 112.59 | 1,597 | 435 | 871 | 89,881 | 36,769 | 98,052 | 224,702 | 43.28 | - | 9.85 | 3.16 | 56.29 | 64.92 | - | 14.78 | 4.74 | 84.44 | 86.56 | - | 19.70 | 6.32 | 112.59 | 77.40 |
| Operating Engineers - Clerical Group 2 | 54.67 | 82.00 | 109.34 | 6,158 | 1,679 | 3,359 | 336,638 | 137,715 | 367,241 | 841,594 | 41.77 | - | 9.85 | 3.05 | 54.67 | 62.65 | - | 14.78 | 4.58 | 82.00 | 83.53 | - | 19.70 | 6.10 | 109.34 | 75.17 |

1.2.7 Sheet 7) Rates and Hours May 2017 (4 of 6)

| 1 | 2 | Estimated Hours (May 1, 2017 - April 30, 2018) | | | Bidder Schedule | | | Project Labour Agreement Rates (\$ per hour) | | | | | | | | Govt Burdens or MERCs (\$ per hour) | | | | Premium Costs (\$ per hour) | | | |
|--|---------------------|--|-------------------|--|---------------------|-----------|----------------------------|--|--------------|-------------|-------------|------|---------|---------------|---------------|-------------------------------------|------|-------------|-------|-----------------------------|---------------|------|------|
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Rates Effective May 2017 - April 2018 | | | | | | | | | | | | | | | | | | | | | | | |
| Position and Level | Union | Total Hours | Shift (Day/Night) | % of Hrs Expected to Exceed Govt Burden Maximums | Shift Schedule | Start Day | Schedule Long Name | Base Rate | Vacation Pay | Holiday Pay | LCP Premium | H&W | Pension | Other Add-ons | Shift Premium | CPP | EI | Payroll Tax | WHSCC | Height | Heavy Lifting | Boom | Tall |
| Operating Engineers - Group 3 - JP | Operating Engineers | 786 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.36 | 3.63 | 1.61 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.22 | 0.65 | 0.98 | 0.74 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 786 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.36 | 3.63 | 1.61 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.29 | 0.69 | 1.04 | 0.79 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 6,424 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.77 | 3.76 | 1.67 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.25 | 0.67 | 1.01 | 0.77 | - | - | - | - |
| Operating Engineers - Group 1 - JP | Operating Engineers | 6,424 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 41.77 | 3.76 | 1.67 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.33 | 0.71 | 1.07 | 0.81 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 6,661 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.36 | 3.63 | 1.61 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.22 | 0.65 | 0.98 | 0.74 | - | - | - | - |
| Operating Engineers - Group 3 - JP | Operating Engineers | 6,661 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.36 | 3.63 | 1.61 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.29 | 0.69 | 1.04 | 0.79 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 1,851 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.63 | 3.48 | 1.55 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | 1,851 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.63 | 3.48 | 1.55 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 2,373 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.54 | 1.57 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 2,373 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.54 | 1.57 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 1,851 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.77 | 3.67 | 1.63 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.23 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 1,851 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.77 | 3.67 | 1.63 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.80 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 1,851 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.04 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.43 | 0.76 | 1.16 | 0.88 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 1,851 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.04 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.50 | 0.80 | 1.22 | 0.92 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | - | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.63 | 3.48 | 1.55 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.17 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Operating Engineers - Group 5 - JP | Operating Engineers | - | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 38.63 | 3.48 | 1.55 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.24 | 0.66 | 1.00 | 0.76 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 2,716 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.54 | 1.57 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.63 | 0.96 | 0.73 | - | - | - | - |
| Operating Engineers - Group 4 - JP | Operating Engineers | 2,716 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 39.37 | 3.54 | 1.57 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 2,716 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.77 | 3.67 | 1.63 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.23 | 0.65 | 0.99 | 0.75 | - | - | - | - |
| Operating Engineers - Group 2 - JP | Operating Engineers | 2,716 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 40.77 | 3.67 | 1.63 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.30 | 0.69 | 1.05 | 0.80 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 906 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.04 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.43 | 0.76 | 1.16 | 0.88 | - | - | - | - |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | 906 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 48.04 | 4.32 | 1.92 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.50 | 0.80 | 1.22 | 0.92 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 15,431 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 50.13 | 4.51 | 2.01 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.49 | 0.79 | 1.20 | 0.91 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 15,431 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 50.13 | 4.51 | 2.01 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.56 | 0.83 | 1.26 | 0.96 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 5,175 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 50.13 | 4.51 | 2.01 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.49 | 0.79 | 1.20 | 0.91 | - | - | - | - |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | 5,175 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 50.13 | 4.51 | 2.01 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.56 | 0.83 | 1.26 | 0.96 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 1,725 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.97 | 3.33 | 1.48 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 8,008 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.41 | 3.01 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.02 | 0.54 | 0.83 | 0.63 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 1,725 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.41 | 3.01 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.02 | 0.54 | 0.83 | 0.63 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 6,314 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.97 | 3.33 | 1.48 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 5,513 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.97 | 3.33 | 1.48 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 5,513 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.97 | 3.33 | 1.48 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.19 | 0.64 | 0.97 | 0.73 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 5,020 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.97 | 3.33 | 1.48 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Clerical Group 1 | Operating Engineers | 5,698 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 33.41 | 3.01 | 1.34 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.02 | 0.54 | 0.83 | 0.63 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 20,205 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.63 | 3.21 | 1.43 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 1,910 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.63 | 3.21 | 1.43 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 1,910 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.63 | 3.21 | 1.43 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.16 | 0.62 | 0.94 | 0.71 | - | - | - | - |
| Operating Engineers - Clerical Group 3 | Operating Engineers | 1,725 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 36.97 | 3.33 | 1.48 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.12 | 0.60 | 0.91 | 0.69 | - | - | - | - |
| Operating Engineers - Clerical Group 2 | Operating Engineers | 6,653 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 35.63 | 3.21 | 1.43 | 3.50 | 2.15 | 6.00 | 1.70 | 3.00 | 1.08 | 0.58 | 0.88 | 0.66 | - | - | - | - |
| Painters - Group 2 | Painters | 846 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.16 | 4.22 | 1.26 | 3.50 | 2.55 | 5.00 | 1.70 | 3.00 | 1.27 | 0.67 | 1.02 | 0.77 | - | - | - | - |
| Painters - Group 2 | Painters | 846 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.16 | 4.22 | 1.26 | 3.50 | 2.55 | 5.00 | 1.70 | 3.00 | 1.34 | 0.71 | 1.08 | 0.82 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 3,642 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.02 | 3.78 | 1.68 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 3,642 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.02 | 3.78 | 1.68 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.34 | 0.71 | 1.08 | 0.82 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 5,905 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.45 | 3.82 | 1.70 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.27 | 0.68 | 1.03 | 0.78 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 5,905 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.45 | 3.82 | 1.70 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.35 | 0.72 | 1.09 | 0.83 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 11,689 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.02 | 3.78 | 1.68 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.26 | 0.67 | 1.02 | 0.77 | - | - | - | - |
| Teamsters - Group 3 teamster | Teamsters | 11,689 | Night | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.02 | 3.78 | 1.68 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.34 | 0.71 | 1.08 | 0.82 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 13,471 | Day | 50% | Sched F (20 and 10) | Tues | Sched F (20 and 10) - Tues | 42.45 | 3.82 | 1.70 | 3.50 | 1.75 | 2.50 | 1.10 | 3.00 | 1.27 | 0.68 | 1.03 | 0.78 | - | - | - | - |
| Teamsters - Group 1 teamster | Teamsters | 13,471 | Night | 50% | Sched F (20 | | | | | | | | | | | | | | | | | | |

1.2.7 Sheet 7) Rates and Hours May 2017 (5 of 6)

| 1 | All-in Rates (\$ per hour) | | | Hours by Rate | | | | Total Cost (\$) | | | | Regular Time Labour Rate Summary (\$ per hour) | | | | 1.5 x OT Labour Rate Summary (\$ per hour) | | | | 2 x OT Labour Rate Summary (\$ per hour) | | | | Avg Blended Rate (including OT based on selected schedule) | | |
|--|----------------------------|----------------------|--------------------|---------------|----------------|--------------|--------------|---------------------|-------------------|-------------------|-------|--|-------|-------|----------------|--|---------|-------|-------|--|--------|---------|-------|--|-------------------|--------|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | | 48 | 49 |
| Rates Effective May 2017 - April 2018 | All-in Reg Time Rate | All-in 1.5 x OT Rate | All-in 2 x OT Rate | Reg Hrs | 1.5 x OT Hours | 2 x OT Hours | Reg Hrs Cost | 1.5 x OT Hours Cost | 2 x OT Hours Cost | Total Labour Cost | Wages | Premium | Union | MERCs | Total Reg Rate | Wages | Premium | Union | MERCs | Total 1.5 x OT Rate | Wages | Premium | Union | MERCs | Total 2 x OT Rate | |
| Operating Engineers - Group 3 - JP | 62.55 | 93.83 | 125.10 | 432 | 118 | 236 | 27,023 | 11,055 | 29,480 | 67,558 | 49.11 | - | 9.85 | 3.59 | 62.55 | 73.67 | - | 14.78 | 5.38 | 93.83 | 98.22 | - | 19.70 | 7.18 | 125.10 | 86.01 |
| Operating Engineers - Group 3 - JP | 65.77 | 98.65 | 131.54 | 432 | 118 | 236 | 28,414 | 11,624 | 30,997 | 71,035 | 52.11 | - | 9.85 | 3.81 | 65.77 | 78.17 | - | 14.78 | 5.71 | 98.65 | 104.22 | - | 19.70 | 7.61 | 131.54 | 90.43 |
| Operating Engineers - Group 1 - JP | 64.26 | 96.39 | 128.52 | 3,533 | 964 | 1,927 | 227,042 | 92,881 | 247,683 | 567,606 | 50.71 | - | 9.85 | 3.70 | 64.26 | 76.06 | - | 14.78 | 5.56 | 96.39 | 101.41 | - | 19.70 | 7.41 | 128.52 | 88.36 |
| Operating Engineers - Group 1 - JP | 67.48 | 101.22 | 134.96 | 3,533 | 964 | 1,927 | 238,416 | 97,534 | 260,091 | 596,041 | 53.71 | - | 9.85 | 3.92 | 67.48 | 80.56 | - | 14.78 | 5.89 | 101.22 | 107.41 | - | 19.70 | 7.85 | 134.96 | 92.78 |
| Operating Engineers - Group 3 - JP | 62.55 | 93.83 | 125.10 | 3,664 | 999 | 1,998 | 229,155 | 93,745 | 249,987 | 572,888 | 49.11 | - | 9.85 | 3.59 | 62.55 | 73.67 | - | 14.78 | 5.38 | 93.83 | 98.22 | - | 19.70 | 7.18 | 125.10 | 86.01 |
| Operating Engineers - Group 3 - JP | 65.77 | 98.65 | 131.54 | 3,664 | 999 | 1,998 | 240,949 | 98,570 | 262,853 | 602,372 | 52.11 | - | 9.85 | 3.81 | 65.77 | 78.17 | - | 14.78 | 5.71 | 98.65 | 104.22 | - | 19.70 | 7.61 | 131.54 | 90.43 |
| Operating Engineers - Group 3 - JP | 60.45 | 90.68 | 120.90 | 1,018 | 278 | 555 | 61,543 | 25,177 | 67,138 | 153,859 | 47.16 | - | 9.85 | 3.45 | 60.45 | 70.74 | - | 14.78 | 5.17 | 90.68 | 94.31 | - | 19.70 | 6.89 | 120.90 | 83.12 |
| Operating Engineers - Group 5 - JP | 63.67 | 95.51 | 127.34 | 1,018 | 278 | 555 | 64,821 | 26,518 | 70,714 | 162,052 | 50.16 | - | 9.85 | 3.66 | 63.67 | 75.24 | - | 14.78 | 5.50 | 95.51 | 100.31 | - | 19.70 | 7.33 | 127.34 | 87.55 |
| Operating Engineers - Group 4 - JP | 61.35 | 92.02 | 122.70 | 1,305 | 356 | 712 | 80,054 | 32,749 | 87,331 | 200,134 | 47.99 | - | 9.85 | 3.51 | 61.35 | 71.99 | - | 14.78 | 5.26 | 92.02 | 95.99 | - | 19.70 | 7.01 | 122.70 | 84.36 |
| Operating Engineers - Group 4 - JP | 64.57 | 96.85 | 129.14 | 1,305 | 356 | 712 | 84,254 | 34,468 | 91,914 | 210,635 | 50.99 | - | 9.85 | 3.73 | 64.57 | 76.49 | - | 14.78 | 5.59 | 96.85 | 101.99 | - | 19.70 | 7.45 | 129.14 | 88.78 |
| Operating Engineers - Group 2 - JP | 63.05 | 94.57 | 126.09 | 1,018 | 278 | 555 | 64,185 | 26,258 | 70,020 | 160,463 | 49.58 | - | 9.85 | 3.62 | 63.05 | 74.36 | - | 14.78 | 5.43 | 94.57 | 99.15 | - | 19.70 | 7.24 | 126.09 | 86.69 |
| Operating Engineers - Group 2 - JP | 66.27 | 99.40 | 132.53 | 1,018 | 278 | 555 | 67,462 | 27,598 | 73,955 | 168,656 | 52.58 | - | 9.85 | 3.84 | 66.27 | 78.86 | - | 14.78 | 5.76 | 99.40 | 105.15 | - | 19.70 | 7.68 | 132.53 | 91.12 |
| Operating Engineers - Group 1 - Non-Working foreperson | 71.86 | 107.79 | 143.72 | 1,018 | 278 | 555 | 73,155 | 29,927 | 79,805 | 182,887 | 57.79 | - | 9.85 | 4.22 | 71.86 | 86.68 | - | 14.78 | 6.33 | 107.79 | 115.57 | - | 19.70 | 8.44 | 143.72 | 98.80 |
| Operating Engineers - Group 1 - Non-Working foreperson | 75.08 | 112.62 | 150.15 | 1,018 | 278 | 555 | 76,432 | 31,268 | 83,381 | 191,080 | 60.79 | - | 9.85 | 4.44 | 75.08 | 91.18 | - | 14.78 | 6.66 | 112.62 | 121.57 | - | 19.70 | 8.88 | 150.15 | 103.23 |
| Operating Engineers - Group 5 - JP | 60.45 | 90.68 | 120.90 | - | - | - | - | - | - | - | 47.16 | - | 9.85 | 3.45 | 60.45 | 70.74 | - | 14.78 | 5.17 | 90.68 | 94.31 | - | 19.70 | 6.89 | 120.90 | - |
| Operating Engineers - Group 5 - JP | 63.67 | 95.51 | 127.34 | - | - | - | - | - | - | - | 50.16 | - | 9.85 | 3.66 | 63.67 | 75.24 | - | 14.78 | 5.50 | 95.51 | 100.31 | - | 19.70 | 7.33 | 127.34 | - |
| Operating Engineers - Group 4 - JP | 61.35 | 92.02 | 122.70 | 1,494 | 407 | 815 | 91,644 | 37,491 | 99,975 | 229,110 | 47.99 | - | 9.85 | 3.51 | 61.35 | 71.99 | - | 14.78 | 5.26 | 92.02 | 95.99 | - | 19.70 | 7.01 | 122.70 | 84.36 |
| Operating Engineers - Group 4 - JP | 64.57 | 96.85 | 129.14 | 1,494 | 407 | 815 | 96,453 | 39,458 | 105,221 | 241,132 | 50.99 | - | 9.85 | 3.73 | 64.57 | 76.49 | - | 14.78 | 5.59 | 96.85 | 101.99 | - | 19.70 | 7.45 | 129.14 | 88.78 |
| Operating Engineers - Group 2 - JP | 63.05 | 94.57 | 126.09 | 1,494 | 407 | 815 | 94,180 | 38,528 | 102,742 | 235,450 | 49.58 | - | 9.85 | 3.62 | 63.05 | 74.36 | - | 14.78 | 5.43 | 94.57 | 99.15 | - | 19.70 | 7.24 | 126.09 | 86.69 |
| Operating Engineers - Group 2 - JP | 66.27 | 99.40 | 132.53 | 1,494 | 407 | 815 | 98,989 | 40,495 | 107,988 | 247,472 | 52.58 | - | 9.85 | 3.84 | 66.27 | 78.86 | - | 14.78 | 5.76 | 99.40 | 105.15 | - | 19.70 | 7.68 | 132.53 | 91.12 |
| Operating Engineers - Group 1 - Non-Working foreperson | 71.86 | 107.79 | 143.72 | 498 | 136 | 272 | 35,787 | 14,640 | 39,040 | 89,467 | 57.79 | - | 9.85 | 4.22 | 71.86 | 86.68 | - | 14.78 | 6.33 | 107.79 | 115.57 | - | 19.70 | 8.44 | 143.72 | 98.80 |
| Operating Engineers - Group 1 - Non-Working foreperson | 75.08 | 112.62 | 150.15 | 498 | 136 | 272 | 37,390 | 15,296 | 40,789 | 93,476 | 60.79 | - | 9.85 | 4.44 | 75.08 | 91.18 | - | 14.78 | 6.66 | 112.62 | 121.57 | - | 19.70 | 8.88 | 150.15 | 103.23 |
| Operating Engineers - Group 1 - General foreperson | 74.39 | 111.59 | 148.78 | 8,487 | 2,315 | 4,629 | 631,356 | 258,282 | 688,752 | 1,578,390 | 60.15 | - | 9.85 | 4.39 | 74.39 | 90.22 | - | 14.78 | 6.59 | 111.59 | 120.29 | - | 19.70 | 8.79 | 148.78 | 102.29 |
| Operating Engineers - Group 1 - General foreperson | 77.61 | 116.41 | 155.22 | 8,487 | 2,315 | 4,629 | 658,677 | 269,459 | 718,557 | 1,646,694 | 63.15 | - | 9.85 | 4.61 | 77.61 | 94.72 | - | 14.78 | 6.92 | 116.41 | 126.29 | - | 19.70 | 9.23 | 155.22 | 106.71 |
| Operating Engineers - Group 1 - General foreperson | 74.39 | 111.59 | 148.78 | 2,846 | 776 | 1,552 | 211,714 | 86,610 | 230,960 | 529,284 | 60.15 | - | 9.85 | 4.39 | 74.39 | 90.22 | - | 14.78 | 6.59 | 111.59 | 120.29 | - | 19.70 | 8.79 | 148.78 | 102.29 |
| Operating Engineers - Group 1 - General foreperson | 77.61 | 116.41 | 155.22 | 2,846 | 776 | 1,552 | 220,875 | 90,358 | 240,955 | 552,188 | 63.15 | - | 9.85 | 4.61 | 77.61 | 94.72 | - | 14.78 | 6.92 | 116.41 | 126.29 | - | 19.70 | 9.23 | 155.22 | 106.71 |
| Operating Engineers - Clerical Group 3 | 58.44 | 87.66 | 116.88 | 949 | 259 | 518 | 55,444 | 22,682 | 60,485 | 138,611 | 45.28 | - | 9.85 | 3.31 | 58.44 | 67.92 | - | 14.78 | 4.96 | 87.66 | 90.56 | - | 19.70 | 6.62 | 116.88 | 80.35 |
| Operating Engineers - Clerical Group 1 | 54.12 | 81.18 | 108.25 | 4,404 | 1,201 | 2,402 | 238,378 | 97,518 | 260,049 | 595,945 | 41.26 | - | 9.85 | 3.01 | 54.12 | 61.89 | - | 14.78 | 4.52 | 81.18 | 82.52 | - | 19.70 | 6.03 | 108.25 | 74.42 |
| Operating Engineers - Clerical Group 1 | 54.12 | 81.18 | 108.25 | 949 | 259 | 518 | 51,349 | 21,006 | 56,017 | 128,372 | 41.26 | - | 9.85 | 3.01 | 54.12 | 61.89 | - | 14.78 | 4.52 | 81.18 | 82.52 | - | 19.70 | 6.03 | 108.25 | 74.42 |
| Operating Engineers - Clerical Group 3 | 58.44 | 87.66 | 116.88 | 3,473 | 947 | 1,894 | 202,943 | 83,022 | 221,392 | 507,357 | 45.28 | - | 9.85 | 3.31 | 58.44 | 67.92 | - | 14.78 | 4.96 | 87.66 | 90.56 | - | 19.70 | 6.62 | 116.88 | 80.35 |
| Operating Engineers - Clerical Group 3 | 58.44 | 87.66 | 116.88 | 3,032 | 827 | 1,654 | 177,197 | 72,490 | 193,306 | 442,993 | 45.28 | - | 9.85 | 3.31 | 58.44 | 67.92 | - | 14.78 | 4.96 | 87.66 | 90.56 | - | 19.70 | 6.62 | 116.88 | 80.35 |
| Operating Engineers - Clerical Group 3 | 61.66 | 92.49 | 123.32 | 3,032 | 827 | 1,654 | 186,958 | 76,483 | 203,954 | 467,395 | 48.28 | - | 9.85 | 3.53 | 61.66 | 72.42 | - | 14.78 | 5.29 | 92.49 | 96.56 | - | 19.70 | 7.05 | 123.32 | 84.78 |
| Operating Engineers - Clerical Group 3 | 58.44 | 87.66 | 116.88 | 2,761 | 753 | 1,506 | 161,351 | 66,007 | 176,020 | 403,378 | 45.28 | - | 9.85 | 3.31 | 58.44 | 67.92 | - | 14.78 | 4.96 | 87.66 | 90.56 | - | 19.70 | 6.62 | 116.88 | 80.35 |
| Operating Engineers - Clerical Group 1 | 54.12 | 81.18 | 108.25 | 3,134 | 855 | 1,709 | 169,615 | 69,388 | 185,035 | 424,038 | 41.26 | - | 9.85 | 3.01 | 54.12 | 61.89 | - | 14.78 | 4.52 | 81.18 | 82.52 | - | 19.70 | 6.03 | 108.25 | 74.42 |
| Operating Engineers - Clerical Group 2 | 56.81 | 85.22 | 113.63 | 11,113 | 3,031 | 6,062 | 631,367 | 258,286 | 688,764 | 1,578,117 | 43.77 | - | 9.85 | 3.20 | 56.81 | 65.65 | - | 14.78 | 4.80 | 85.22 | 87.53 | - | 19.70 | 6.40 | 113.63 | 78.12 |
| Operating Engineers - Clerical Group 2 | 56.81 | 85.22 | 113.63 | 1,050 | 286 | 573 | 59,668 | 24,410 | 65,093 | 149,170 | 43.77 | - | 9.85 | 3.20 | 56.81 | 65.65 | - | 14.78 | 4.80 | 85.22 | 87.53 | - | 19.70 | 6.40 | 113.63 | 78.12 |
| Operating Engineers - Clerical Group 3 | 60.03 | 90.05 | 120.07 | 1,050 | 286 | 573 | 63,049 | 25,793 | 68,781 | 157,622 | 46.77 | - | 9.85 | 3.42 | 60.03 | 70.15 | - | 14.78 | 5.13 | 90.05 | 93.53 | - | 19.70 | 6.83 | 120.07 | 82.55 |
| Operating Engineers - Clerical Group 3 | 58.44 | 87.66 | 116.88 | 949 | 259 | 518 | 55,444 | 22,682 | 60,485 | 138,611 | 45.28 | - | 9.85 | 3.31 | 58.44 | 67.92 | - | 14.78 | 4.96 | 87.66 | 90.56 | - | 19.70 | 6.62 | 116.88 | 80.35 |
| Operating Engineers - Clerical Group 2 | 56.81 | 85.22 | 113.63 | 3,659 | 998 | 1,996 | 207,893 | 85,047 | 226,793 | 519,733 | 43.77 | - | 9.85 | 3.20 | 56.81 | 65.65 | - | 14.78 | 4.80 | 85.22 | 87.53 | - | 19.70 | 6.40 | 113.63 | 78.12 |
| Painters - Group 2 | 64.12 | 96.18 | 128.24 | 465 | 127 | 254 | 29,836 | 12,206 | 32,548 | 74,58 | | | | | | | | | | | | | | | | |

1.2.8 Sheet: 8) Premiums

| Union | Height (\$ per hour) | | | | | | | Height (% over base rate) | | | Heavy Lifting (Crane operators) | | | | | Boom Premium | | Tool Premium | |
|---|----------------------|-------------|------------|-----------|------------|------------|-------------|---------------------------|--------------|-------------|---------------------------------|--------------|--------------|--------------|--------------|-----------------|------------|--------------|----|
| | > 40 feet | 40-100 feet | > 100 feet | > 50 feet | 40-64 feet | 65-89 feet | 90-124 feet | >125 feet | 15-30 metres | > 30 metres | 225-300 tons | 300-350 tons | 350-400 tons | 400-450 tons | 450-500 tons | 140 to 200 feet | > 200 feet | | |
| Boilermakers | | | | | | | | | | | | | | | | | | | |
| Bricklayers | | | | 1.00 | | | | | | | | | | | | | | | |
| Carpenters | 1.75 | | | | | | | | | | | | | | | | | | |
| Electricians | | | | | | | | | 10% | 50% | | | | | | | | | |
| Elevator Constructors | | | | | | | | | | | | | | | | | | | |
| Hotel and Restaurant | | | | | | | | | | | | | | | | | | | |
| Insulators | 1.00 | | | | | | | | | | | | | | | | | | |
| Ironworkers | 1.00 | | | | | | | | | | | | | | | | | | |
| Labourers | | 1.00 | 1.50 | | | | | | | | | | | | | | | | |
| Linespersons | | | | | | | | | | | | | | | | | | | |
| Millwrights | | | | | | | | | | | | | | | | | | | |
| Operating Engineers | | | | | | | | | | | 4.00 | 4.30 | 4.60 | 4.90 | 5.20 | 1.50 | 2.00 | 1.50 | |
| Painters | | | | 0.75 | | | | | | | | | | | | | | | |
| Plumbers and Pipefitters | | | | | 0.50 | 0.60 | 0.70 | 50% | | | | | | | | | | | |
| Sheet Metal | | | | 1.00 | | | | | | | | | | | | | | | |
| Teamsters | | | | | | | | | | | | | | | | | | | |
| Null | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Notes | | | | | | | | | | | | | | | | | | | |
| Bidder should refer to the Project Labour Agreement for clarifications. | | | | | | | | | | | | | | | | | | | |
| All premiums are in dollars above the regular rate except those listed as percentages in Columns I through J. | | | | | | | | | | | | | | | | | | | |

1.2.9 Sheet: 9) Positions and Base Rates (1 of 4)

| Long Title | Union | Level | May 2012 Rate | Adjustment from JP rate | May 2013 Rate | May 2014 Rate | May 2015 Rate | May 2016 Rate | May 2017 Rate |
|--|----------------------|---|---------------|-------------------------|---------------|---------------|---------------|---------------|---------------|
| Null | Null | Null | \$ - | - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Boilermakers - General foreperson | Boilermakers | General foreperson | \$ 34.98 | \$ 4.15 | \$ 36.77 | \$ 39.00 | \$ 40.78 | \$ 43.02 | \$ 44.80 |
| Boilermakers - foreperson | Boilermakers | foreperson | \$ 33.88 | \$ 3.05 | \$ 35.67 | \$ 37.90 | \$ 39.68 | \$ 41.92 | \$ 43.70 |
| Boilermakers - Assistant foreperson | Boilermakers | Assistant foreperson | \$ 32.53 | \$ 1.70 | \$ 34.32 | \$ 36.55 | \$ 38.33 | \$ 40.57 | \$ 42.35 |
| Boilermakers - Journeyman | Boilermakers | Journeyman | \$ 30.83 | | \$ 32.62 | \$ 34.85 | \$ 36.63 | \$ 38.87 | \$ 40.65 |
| Boilermakers - Helper | Boilermakers | Helper | \$ 23.12 | 75% | \$ 24.46 | \$ 26.14 | \$ 27.48 | \$ 29.15 | \$ 30.49 |
| Boilermakers - Apprentice - Level 3 | Boilermakers | Apprentice - Level 3 | \$ 27.75 | 90% | \$ 29.35 | \$ 31.36 | \$ 32.97 | \$ 34.98 | \$ 36.59 |
| Boilermakers - Apprentice - Level 2 | Boilermakers | Apprentice - Level 2 | \$ 23.12 | 75% | \$ 24.46 | \$ 26.14 | \$ 27.48 | \$ 29.15 | \$ 30.49 |
| Boilermakers - Apprentice - Level 1 | Boilermakers | Apprentice - Level 1 | \$ 18.50 | 60% | \$ 19.57 | \$ 20.91 | \$ 21.98 | \$ 23.32 | \$ 24.39 |
| Bricklayers - General foreperson | Bricklayers | General foreperson | \$ 39.40 | 120% | \$ 41.58 | \$ 44.31 | \$ 46.49 | \$ 49.21 | \$ 51.40 |
| Bricklayers - foreperson | Bricklayers | foreperson | \$ 37.75 | 115% | \$ 39.85 | \$ 42.46 | \$ 44.55 | \$ 47.16 | \$ 49.25 |
| Bricklayers - Journeyman - Group 1 | Bricklayers | Journeyman - Group 1 | \$ 32.83 | | \$ 34.65 | \$ 36.92 | \$ 38.74 | \$ 41.01 | \$ 42.83 |
| Bricklayers - Journeyman - Group 2 | Bricklayers | Journeyman - Group 2 | \$ 29.42 | | \$ 31.24 | \$ 33.51 | \$ 35.33 | \$ 37.60 | \$ 39.42 |
| Bricklayers - Journeyman - Group 3 | Bricklayers | Journeyman - Group 3 | \$ 31.19 | | \$ 33.01 | \$ 35.28 | \$ 37.10 | \$ 39.37 | \$ 41.19 |
| Bricklayers - Apprentice - 1st 6 months | Bricklayers | Apprentice - 1st 6 months | \$ 18.38 | 56% | \$ 19.40 | \$ 20.68 | \$ 21.69 | \$ 22.97 | \$ 23.98 |
| Bricklayers - Apprentice - 2nd 6 months | Bricklayers | Apprentice - 2nd 6 months | \$ 20.35 | 62% | \$ 21.48 | \$ 22.89 | \$ 24.02 | \$ 25.43 | \$ 26.55 |
| Bricklayers - Apprentice - 3rd 6 months | Bricklayers | Apprentice - 3rd 6 months | \$ 22.32 | 68% | \$ 23.56 | \$ 25.11 | \$ 26.34 | \$ 27.89 | \$ 29.12 |
| Bricklayers - Apprentice - 4th 6 months | Bricklayers | Apprentice - 4th 6 months | \$ 24.29 | 74% | \$ 25.64 | \$ 27.32 | \$ 28.67 | \$ 30.35 | \$ 31.69 |
| Bricklayers - Apprentice - 5th 6 months | Bricklayers | Apprentice - 5th 6 months | \$ 26.26 | 80% | \$ 27.72 | \$ 29.54 | \$ 30.99 | \$ 32.81 | \$ 34.26 |
| Bricklayers - Apprentice - 6th 6 months | Bricklayers | Apprentice - 6th 6 months | \$ 27.91 | 85% | \$ 29.45 | \$ 31.38 | \$ 32.93 | \$ 34.86 | \$ 36.41 |
| Bricklayers - Apprentice - 7th 6 months | Bricklayers | Apprentice - 7th 6 months | \$ 29.55 | 90% | \$ 31.18 | \$ 33.23 | \$ 34.87 | \$ 36.91 | \$ 38.55 |
| Bricklayers - Apprentice - 8th 6 months | Bricklayers | Apprentice - 8th 6 months | \$ 31.19 | 95% | \$ 32.92 | \$ 35.07 | \$ 36.80 | \$ 38.96 | \$ 40.69 |
| Carpenters - General foreperson | Carpenters | General foreperson | \$ 35.95 | 120% | \$ 38.08 | \$ 40.73 | \$ 42.85 | \$ 45.51 | \$ 47.63 |
| Carpenters - Non-working foreperson | Carpenters | Non-working foreperson | \$ 34.45 | 115% | \$ 36.49 | \$ 39.03 | \$ 41.07 | \$ 43.61 | \$ 45.65 |
| Carpenters - Working foreperson | Carpenters | Working foreperson | \$ 32.96 | 110% | \$ 34.90 | \$ 37.34 | \$ 39.28 | \$ 41.72 | \$ 43.66 |
| Carpenters - Journeyman carpenter welder scaffolder | Carpenters | Journeyman carpenter welder scaffolder | \$ 29.96 | | \$ 31.73 | \$ 33.94 | \$ 35.71 | \$ 37.92 | \$ 39.69 |
| Carpenters - Helper | Carpenters | Helper | \$ 17.98 | 60% | \$ 19.04 | \$ 20.37 | \$ 21.43 | \$ 22.75 | \$ 23.82 |
| Carpenters - Apprentice - 1 | Carpenters | Apprentice - 1 | \$ 19.47 | 65% | \$ 20.62 | \$ 22.06 | \$ 23.21 | \$ 24.65 | \$ 25.80 |
| Carpenters - Apprentice - 2 | Carpenters | Apprentice - 2 | \$ 20.97 | 70% | \$ 22.21 | \$ 23.76 | \$ 25.00 | \$ 26.55 | \$ 27.79 |
| Carpenters - Apprentice - 3 | Carpenters | Apprentice - 3 | \$ 23.97 | 80% | \$ 25.38 | \$ 27.15 | \$ 28.57 | \$ 30.34 | \$ 31.76 |
| Carpenters - Apprentice - 4 | Carpenters | Apprentice - 4 | \$ 26.96 | 90% | \$ 28.56 | \$ 30.55 | \$ 32.14 | \$ 34.13 | \$ 35.73 |
| Electricians - General foreperson | Electricians | General foreperson | \$ 38.66 | 115% | \$ 40.70 | \$ 43.24 | \$ 45.28 | \$ 47.82 | \$ 49.86 |
| Electricians - Non-working foreperson | Electricians | Non-working foreperson | \$ 36.98 | 110% | \$ 38.93 | \$ 41.36 | \$ 43.31 | \$ 45.74 | \$ 47.69 |
| Electricians - Working foreperson | Electricians | Working foreperson | \$ 35.30 | 105% | \$ 37.16 | \$ 39.48 | \$ 41.34 | \$ 43.66 | \$ 45.52 |
| Electricians - Apprentice/Journeyman electrician welder/welder | Electricians | Apprentice/Journeyman electrician welder/welder | \$ 35.30 | 105% | \$ 37.16 | \$ 39.48 | \$ 41.34 | \$ 43.66 | \$ 45.52 |
| Electricians - Journeyman | Electricians | Journeyman | \$ 33.62 | | \$ 35.39 | \$ 37.60 | \$ 39.37 | \$ 41.58 | \$ 43.35 |
| Electricians - Apprentice - 1st year | Electricians | Apprentice - 1st year | \$ 18.49 | 55% | \$ 19.46 | \$ 20.68 | \$ 21.65 | \$ 22.87 | \$ 23.84 |
| Electricians - Apprentice - 2nd year | Electricians | Apprentice - 2nd year | \$ 21.85 | 65% | \$ 23.00 | \$ 24.44 | \$ 25.59 | \$ 27.03 | \$ 28.18 |
| Electricians - Apprentice - 3rd year | Electricians | Apprentice - 3rd year | \$ 23.53 | 70% | \$ 24.77 | \$ 26.32 | \$ 27.56 | \$ 29.11 | \$ 30.35 |
| Electricians - Apprentice - 4th year | Electricians | Apprentice - 4th year | \$ 26.90 | 80% | \$ 28.31 | \$ 30.08 | \$ 31.50 | \$ 33.27 | \$ 34.68 |
| Hotel and Restaurant - Group 1 - Security | Hotel and Restaurant | Group 1 - Security | \$ 32.97 | | \$ 34.74 | \$ 36.95 | \$ 38.72 | \$ 40.93 | \$ 42.70 |
| Hotel and Restaurant - Group 2 - Security | Hotel and Restaurant | Group 2 - Security | \$ 31.43 | | \$ 33.20 | \$ 35.41 | \$ 37.18 | \$ 39.39 | \$ 41.16 |
| Hotel and Restaurant - Group 3 - Security | Hotel and Restaurant | Group 3 - Security | \$ 29.94 | | \$ 31.71 | \$ 33.92 | \$ 35.69 | \$ 37.90 | \$ 39.67 |
| Hotel and Restaurant - Group 1 | Hotel and Restaurant | Group 1 | \$ 33.91 | | \$ 35.68 | \$ 37.89 | \$ 39.66 | \$ 41.87 | \$ 43.64 |
| Hotel and Restaurant - Group 2 | Hotel and Restaurant | Group 2 | \$ 30.93 | | \$ 32.70 | \$ 34.91 | \$ 36.68 | \$ 38.89 | \$ 40.66 |
| Hotel and Restaurant - Group 3 | Hotel and Restaurant | Group 3 | \$ 29.94 | | \$ 31.71 | \$ 33.92 | \$ 35.69 | \$ 37.90 | \$ 39.67 |
| Hotel and Restaurant - Group 4 | Hotel and Restaurant | Group 4 | \$ 28.92 | | \$ 30.69 | \$ 32.90 | \$ 34.67 | \$ 36.88 | \$ 38.65 |
| Hotel and Restaurant - Group 5 | Hotel and Restaurant | Group 5 | \$ 28.44 | | \$ 30.21 | \$ 32.42 | \$ 34.19 | \$ 36.40 | \$ 38.17 |
| Hotel and Restaurant - Group 6 | Hotel and Restaurant | Group 6 | \$ 27.93 | | \$ 29.70 | \$ 31.91 | \$ 33.68 | \$ 35.89 | \$ 37.66 |
| Hotel and Restaurant - Group 7 | Hotel and Restaurant | Group 7 | \$ 26.92 | | \$ 28.69 | \$ 30.90 | \$ 32.67 | \$ 34.88 | \$ 36.65 |

1.2.9 Sheet: 9) Positions and Base Rates (2 of 4)

| Long Title | Union | Level | May 2012 Rate | Adjustment from JP rate | May 2013 Rate | May 2014 Rate | May 2015 Rate | May 2016 Rate | May 2017 Rate |
|---|-------------|---------------------------------------|---------------|-------------------------|---------------|---------------|---------------|---------------|---------------|
| Insulators - General foreperson | Insulators | General foreperson | \$ 36.17 | \$ 4.50 | \$ 37.94 | \$ 40.15 | \$ 41.92 | \$ 44.13 | \$ 45.90 |
| Insulators - Non-working foreperson | Insulators | Non-working foreperson | \$ 33.67 | \$ 2.00 | \$ 35.44 | \$ 37.65 | \$ 39.42 | \$ 41.63 | \$ 43.40 |
| Insulators - Working foreperson | Insulators | Working foreperson | \$ 32.92 | \$ 1.25 | \$ 34.69 | \$ 36.90 | \$ 38.67 | \$ 40.88 | \$ 42.65 |
| Insulators - Journeyman mechanic | Insulators | Journeyman mechanic | \$ 31.67 | | \$ 33.44 | \$ 35.65 | \$ 37.42 | \$ 39.63 | \$ 41.40 |
| Insulators - Apprentice - 1st year | Insulators | Apprentice - 1st year | \$ 19.00 | 60% | \$ 20.06 | \$ 21.39 | \$ 22.45 | \$ 23.78 | \$ 24.84 |
| Insulators - Apprentice - 2nd year | Insulators | Apprentice - 2nd year | \$ 20.59 | 65% | \$ 21.74 | \$ 23.17 | \$ 24.32 | \$ 25.76 | \$ 26.91 |
| Insulators - Apprentice - 3rd year | Insulators | Apprentice - 3rd year | \$ 23.75 | 75% | \$ 25.08 | \$ 26.74 | \$ 28.07 | \$ 29.73 | \$ 31.05 |
| Insulators - Apprentice - 4th year | Insulators | Apprentice - 4th year | \$ 26.92 | 85% | \$ 28.42 | \$ 30.30 | \$ 31.81 | \$ 33.69 | \$ 35.19 |
| Ironworkers - Structural General foreperson | Ironworkers | Structural General foreperson | \$ 38.93 | 120% | \$ 39.99 | \$ 42.63 | \$ 44.74 | \$ 47.39 | \$ 49.50 |
| Ironworkers - Structural foreperson | Ironworkers | Structural foreperson | \$ 37.31 | 115% | \$ 38.32 | \$ 40.85 | \$ 42.88 | \$ 45.41 | \$ 47.44 |
| Ironworkers - Structural Connectors | Ironworkers | Structural Connectors | \$ 33.35 | | \$ 34.23 | \$ 36.43 | \$ 38.20 | \$ 40.40 | \$ 42.16 |
| Ironworkers - Structural Journeyman | Ironworkers | Structural Journeyman | \$ 32.44 | | \$ 33.32 | \$ 35.52 | \$ 37.29 | \$ 39.49 | \$ 41.25 |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | Ironworkers | Structural Apprentice - 1st 1,000 hrs | \$ 22.71 | 70% | \$ 23.32 | \$ 24.87 | \$ 26.10 | \$ 27.64 | \$ 28.88 |
| Ironworkers - Structural Apprentice - 2nd 1,000 hrs | Ironworkers | Structural Apprentice - 2nd 1,000 hrs | \$ 25.95 | 80% | \$ 26.66 | \$ 28.42 | \$ 29.83 | \$ 31.59 | \$ 33.00 |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | Ironworkers | Structural Apprentice - 3rd 1,000 hrs | \$ 29.20 | 90% | \$ 29.99 | \$ 31.97 | \$ 33.56 | \$ 35.54 | \$ 37.13 |
| Ironworkers - Structural Apprentice - 4th 1,000 hrs | Ironworkers | Structural Apprentice - 4th 1,000 hrs | \$ 30.82 | 95% | \$ 31.66 | \$ 33.75 | \$ 35.42 | \$ 37.51 | \$ 39.19 |
| Ironworkers - Rebar General foreperson | Ironworkers | Rebar General foreperson | \$ 37.55 | 120% | \$ 38.61 | \$ 41.25 | \$ 43.36 | \$ 46.01 | \$ 48.12 |
| Ironworkers - Rebar foreperson | Ironworkers | Rebar foreperson | \$ 35.98 | 115% | \$ 37.00 | \$ 39.53 | \$ 41.56 | \$ 44.09 | \$ 46.12 |
| Ironworkers - Rebar Journeyman | Ironworkers | Rebar Journeyman | \$ 31.29 | | \$ 32.17 | \$ 34.37 | \$ 36.14 | \$ 38.34 | \$ 40.10 |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | Ironworkers | Rebar Apprentice - 1st 1,000 hrs | \$ 21.90 | 70% | \$ 22.52 | \$ 24.06 | \$ 25.30 | \$ 26.84 | \$ 28.07 |
| Ironworkers - Rebar Apprentice - 2nd 1,000 hrs | Ironworkers | Rebar Apprentice - 2nd 1,000 hrs | \$ 25.03 | 80% | \$ 25.74 | \$ 27.50 | \$ 28.91 | \$ 30.67 | \$ 32.08 |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | Ironworkers | Rebar Apprentice - 3rd 1,000 hrs | \$ 28.16 | 90% | \$ 28.95 | \$ 30.94 | \$ 32.52 | \$ 34.50 | \$ 36.09 |
| Ironworkers - Rebar Apprentice - 4th 1,000 hrs | Ironworkers | Rebar Apprentice - 4th 1,000 hrs | \$ 29.73 | 95% | \$ 30.56 | \$ 32.66 | \$ 34.33 | \$ 36.42 | \$ 38.10 |
| Labourers - Class 1 | Labourers | Class 1 | \$ 28.21 | | \$ 29.98 | \$ 32.19 | \$ 33.96 | \$ 36.17 | \$ 37.94 |
| Labourers - Class 2 | Labourers | Class 2 | \$ 28.25 | | \$ 30.02 | \$ 32.23 | \$ 34.00 | \$ 36.21 | \$ 37.98 |
| Labourers - Class 3 | Labourers | Class 3 | \$ 28.31 | | \$ 30.08 | \$ 32.29 | \$ 34.06 | \$ 36.27 | \$ 38.04 |
| Labourers - Class 4 | Labourers | Class 4 | \$ 28.36 | | \$ 30.13 | \$ 32.34 | \$ 34.11 | \$ 36.32 | \$ 38.09 |
| Labourers - Class 5 | Labourers | Class 5 | \$ 28.41 | | \$ 30.18 | \$ 32.39 | \$ 34.16 | \$ 36.37 | \$ 38.14 |
| Labourers - Class 6 | Labourers | Class 6 | \$ 28.46 | | \$ 30.23 | \$ 32.44 | \$ 34.21 | \$ 36.42 | \$ 38.19 |
| Labourers - Class 7 | Labourers | Class 7 | \$ 28.64 | | \$ 30.41 | \$ 32.62 | \$ 34.39 | \$ 36.60 | \$ 38.37 |
| Labourers - Class 8 | Labourers | Class 8 | \$ 28.71 | | \$ 30.48 | \$ 32.69 | \$ 34.46 | \$ 36.67 | \$ 38.44 |
| Labourers - Class 9 | Labourers | Class 9 | \$ 29.16 | | \$ 30.93 | \$ 33.14 | \$ 34.91 | \$ 37.12 | \$ 38.89 |
| Labourers - Class 10 | Labourers | Class 10 | \$ 29.26 | | \$ 31.03 | \$ 33.24 | \$ 35.01 | \$ 37.22 | \$ 38.99 |
| Labourers - Class 11 | Labourers | Class 11 | \$ 34.26 | | \$ 36.03 | \$ 38.24 | \$ 40.01 | \$ 42.22 | \$ 43.99 |
| Labourers - Class 1 - foreperson | Labourers | Class 1 - foreperson | \$ 29.96 | \$ 1.75 | \$ 31.73 | \$ 33.94 | \$ 35.71 | \$ 37.92 | \$ 39.69 |
| Labourers - Class 2 - foreperson | Labourers | Class 2 - foreperson | \$ 30.00 | \$ 1.75 | \$ 31.77 | \$ 33.98 | \$ 35.75 | \$ 37.96 | \$ 39.73 |
| Labourers - Class 3 - foreperson | Labourers | Class 3 - foreperson | \$ 30.06 | \$ 1.75 | \$ 31.83 | \$ 34.04 | \$ 35.81 | \$ 38.02 | \$ 39.79 |
| Labourers - Class 4 - foreperson | Labourers | Class 4 - foreperson | \$ 30.11 | \$ 1.75 | \$ 31.88 | \$ 34.09 | \$ 35.86 | \$ 38.07 | \$ 39.84 |
| Labourers - Class 5 - foreperson | Labourers | Class 5 - foreperson | \$ 30.16 | \$ 1.75 | \$ 31.93 | \$ 34.14 | \$ 35.91 | \$ 38.12 | \$ 39.89 |
| Labourers - Class 6 - foreperson | Labourers | Class 6 - foreperson | \$ 30.21 | \$ 1.75 | \$ 31.98 | \$ 34.19 | \$ 35.96 | \$ 38.17 | \$ 39.94 |
| Labourers - Class 7 - foreperson | Labourers | Class 7 - foreperson | \$ 30.39 | \$ 1.75 | \$ 32.16 | \$ 34.37 | \$ 36.14 | \$ 38.35 | \$ 40.12 |
| Labourers - Class 8 - foreperson | Labourers | Class 8 - foreperson | \$ 30.46 | \$ 1.75 | \$ 32.23 | \$ 34.44 | \$ 36.21 | \$ 38.42 | \$ 40.19 |
| Labourers - Class 9 - foreperson | Labourers | Class 9 - foreperson | \$ 30.91 | \$ 1.75 | \$ 32.68 | \$ 34.89 | \$ 36.66 | \$ 38.87 | \$ 40.64 |
| Labourers - Class 10 - foreperson | Labourers | Class 10 - foreperson | \$ 31.01 | \$ 1.75 | \$ 32.78 | \$ 34.99 | \$ 36.76 | \$ 38.97 | \$ 40.74 |
| Labourers - Class 11 - foreperson | Labourers | Class 11 - foreperson | \$ 36.01 | \$ 1.75 | \$ 37.78 | \$ 39.99 | \$ 41.76 | \$ 43.97 | \$ 45.74 |
| Labourers - Class 1 - General foreperson | Labourers | Class 1 - General foreperson | \$ 30.71 | \$ 2.50 | \$ 32.48 | \$ 34.69 | \$ 36.46 | \$ 38.67 | \$ 40.44 |
| Labourers - Class 2 - General foreperson | Labourers | Class 2 - General foreperson | \$ 30.75 | \$ 2.50 | \$ 32.52 | \$ 34.73 | \$ 36.50 | \$ 38.71 | \$ 40.48 |
| Labourers - Class 3 - General foreperson | Labourers | Class 3 - General foreperson | \$ 30.81 | \$ 2.50 | \$ 32.58 | \$ 34.79 | \$ 36.56 | \$ 38.77 | \$ 40.54 |
| Labourers - Class 4 - General foreperson | Labourers | Class 4 - General foreperson | \$ 30.86 | \$ 2.50 | \$ 32.63 | \$ 34.84 | \$ 36.61 | \$ 38.82 | \$ 40.59 |
| Labourers - Class 5 - General foreperson | Labourers | Class 5 - General foreperson | \$ 30.91 | \$ 2.50 | \$ 32.68 | \$ 34.89 | \$ 36.66 | \$ 38.87 | \$ 40.64 |
| Labourers - Class 6 - General foreperson | Labourers | Class 6 - General foreperson | \$ 30.96 | \$ 2.50 | \$ 32.73 | \$ 34.94 | \$ 36.71 | \$ 38.92 | \$ 40.69 |
| Labourers - Class 7 - General foreperson | Labourers | Class 7 - General foreperson | \$ 31.14 | \$ 2.50 | \$ 32.91 | \$ 35.12 | \$ 36.89 | \$ 39.10 | \$ 40.87 |
| Labourers - Class 8 - General foreperson | Labourers | Class 8 - General foreperson | \$ 31.21 | \$ 2.50 | \$ 32.98 | \$ 35.19 | \$ 36.96 | \$ 39.17 | \$ 40.94 |
| Labourers - Class 9 - General foreperson | Labourers | Class 9 - General foreperson | \$ 31.66 | \$ 2.50 | \$ 33.43 | \$ 35.64 | \$ 37.41 | \$ 39.62 | \$ 41.39 |
| Labourers - Class 10 - General foreperson | Labourers | Class 10 - General foreperson | \$ 31.76 | \$ 2.50 | \$ 33.53 | \$ 35.74 | \$ 37.51 | \$ 39.72 | \$ 41.49 |
| Labourers - Class 11 - General foreperson | Labourers | Class 11 - General foreperson | \$ 36.76 | \$ 2.50 | \$ 38.53 | \$ 40.74 | \$ 42.51 | \$ 44.72 | \$ 46.49 |

1.2.9 Sheet: 9) Positions and Base Rates (3 of 4)

| Long Title | Union | Level | May 2012 Rate | Adjustment from JP rate | May 2013 Rate | May 2014 Rate | May 2015 Rate | May 2016 Rate | May 2017 Rate |
|--|---------------------|--|---------------|-------------------------|---------------|---------------|---------------|---------------|---------------|
| Linespersons - General foreperson | Linespersons | General foreperson | \$ 34.18 | \$ 3.20 | \$ 35.95 | \$ 38.16 | \$ 39.93 | \$ 42.14 | \$ 43.91 |
| Linespersons - foreperson | Linespersons | foreperson | \$ 32.18 | \$ 1.20 | \$ 33.95 | \$ 36.16 | \$ 37.93 | \$ 40.14 | \$ 41.91 |
| Linespersons - Lead linesman | Linespersons | Lead linesman | \$ 31.66 | \$ 0.68 | \$ 33.43 | \$ 35.64 | \$ 37.41 | \$ 39.62 | \$ 41.39 |
| Linespersons - Utility worker | Linespersons | Utility worker | \$ 24.83 | | \$ 26.60 | \$ 28.81 | \$ 30.58 | \$ 32.79 | \$ 34.56 |
| Linespersons - Mechanic | Linespersons | Mechanic | \$ 28.19 | | \$ 29.96 | \$ 32.17 | \$ 33.94 | \$ 36.15 | \$ 37.92 |
| Linespersons - Operator + Driller/blaster | Linespersons | Operator + Driller/blaster | \$ 27.52 | | \$ 29.29 | \$ 31.50 | \$ 33.27 | \$ 35.48 | \$ 37.25 |
| Linespersons - Full-time storekeeper | Linespersons | Full-time storekeeper | \$ 26.78 | | \$ 28.55 | \$ 30.76 | \$ 32.53 | \$ 34.74 | \$ 36.51 |
| Linespersons - Instrument Person | Linespersons | Instrument Person | \$ 25.42 | | \$ 27.19 | \$ 29.40 | \$ 31.17 | \$ 33.38 | \$ 35.15 |
| Linespersons - Journeyman linesman or splicer | Linespersons | Journeyman linesman or splicer | \$ 30.98 | | \$ 32.75 | \$ 34.96 | \$ 36.73 | \$ 38.94 | \$ 40.71 |
| Linespersons - Apprentice - 1st year | Linespersons | Apprentice - 1st year | \$ 17.04 | 55% | \$ 18.01 | \$ 19.23 | \$ 20.20 | \$ 21.42 | \$ 22.39 |
| Linespersons - Apprentice - 2nd year | Linespersons | Apprentice - 2nd year | \$ 20.14 | 65% | \$ 21.29 | \$ 22.73 | \$ 23.88 | \$ 25.31 | \$ 26.46 |
| Linespersons - Apprentice - 3rd year | Linespersons | Apprentice - 3rd year | \$ 21.69 | 70% | \$ 22.92 | \$ 24.47 | \$ 25.71 | \$ 27.26 | \$ 28.50 |
| Linespersons - Apprentice - 4th year | Linespersons | Apprentice - 4th year | \$ 24.78 | 80% | \$ 26.20 | \$ 27.97 | \$ 29.39 | \$ 31.16 | \$ 32.57 |
| Millwrights - General foreperson | Millwrights | General foreperson | \$ 38.78 | 120% | \$ 40.53 | \$ 42.70 | \$ 44.44 | \$ 46.62 | \$ 48.36 |
| Millwrights - Non-working foreperson | Millwrights | Non-working foreperson | \$ 37.17 | 115% | \$ 38.84 | \$ 40.92 | \$ 42.59 | \$ 44.68 | \$ 46.35 |
| Millwrights - Working foreperson | Millwrights | Working foreperson | \$ 35.55 | 110% | \$ 37.15 | \$ 39.14 | \$ 40.74 | \$ 42.74 | \$ 44.33 |
| Millwrights - Journeymen millwright, welder, machinist | Millwrights | Journeymen millwright, welder, machinist | \$ 32.32 | | \$ 33.77 | \$ 35.59 | \$ 37.04 | \$ 38.85 | \$ 40.30 |
| Millwrights - Apprentice 0-1000 hrs | Millwrights | Apprentice 0-1000 hrs | \$ 19.39 | 60% | \$ 20.26 | \$ 21.35 | \$ 22.22 | \$ 23.31 | \$ 24.18 |
| Millwrights - Apprentice 1001-2000 hrs | Millwrights | Apprentice 1001-2000 hrs | \$ 21.01 | 65% | \$ 21.95 | \$ 23.13 | \$ 24.07 | \$ 25.25 | \$ 26.20 |
| Millwrights - Apprentice 2001-3000 hrs | Millwrights | Apprentice 2001-3000 hrs | \$ 22.62 | 70% | \$ 23.64 | \$ 24.91 | \$ 25.93 | \$ 27.20 | \$ 28.21 |
| Millwrights - Apprentice 3001-4000 hrs | Millwrights | Apprentice 3001-4000 hrs | \$ 24.24 | 75% | \$ 25.33 | \$ 26.69 | \$ 27.78 | \$ 29.14 | \$ 30.23 |
| Millwrights - Apprentice 4001-5000 hrs | Millwrights | Apprentice 4001-5000 hrs | \$ 25.86 | 80% | \$ 27.02 | \$ 28.47 | \$ 29.63 | \$ 31.08 | \$ 32.24 |
| Millwrights - Apprentice 5001-6000 hrs | Millwrights | Apprentice 5001-6000 hrs | \$ 27.47 | 85% | \$ 28.71 | \$ 30.25 | \$ 31.48 | \$ 33.02 | \$ 34.26 |
| Millwrights - Apprentice 6001-7000 hrs | Millwrights | Apprentice 6001-7000 hrs | \$ 29.09 | 90% | \$ 30.39 | \$ 32.03 | \$ 33.33 | \$ 34.97 | \$ 36.27 |
| Millwrights - Apprentice 7001-8000 hrs | Millwrights | Apprentice 7001-8000 hrs | \$ 30.70 | 95% | \$ 32.08 | \$ 33.81 | \$ 35.18 | \$ 36.91 | \$ 38.29 |
| Operating Engineers - Group 1 - JP | Operating Engineers | Group 1 - JP | \$ 32.04 | | \$ 33.81 | \$ 36.02 | \$ 37.79 | \$ 40.00 | \$ 41.77 |
| Operating Engineers - Group 1 - General foreperson | Operating Engineers | Group 1 - General foreperson | \$ 38.45 | 120% | \$ 40.57 | \$ 43.23 | \$ 45.35 | \$ 48.01 | \$ 50.13 |
| Operating Engineers - Group 1 - Non-Working foreperson | Operating Engineers | Group 1 - Non-Working foreperson | \$ 36.85 | 115% | \$ 38.88 | \$ 41.43 | \$ 43.46 | \$ 46.01 | \$ 48.04 |
| Operating Engineers - Group 1 - Working foreperson | Operating Engineers | Group 1 - Working foreperson | \$ 36.85 | 115% | \$ 38.88 | \$ 41.43 | \$ 43.46 | \$ 46.01 | \$ 48.04 |
| Operating Engineers - Group 2 - JP | Operating Engineers | Group 2 - JP | \$ 31.04 | | \$ 32.81 | \$ 35.02 | \$ 36.79 | \$ 39.00 | \$ 40.77 |
| Operating Engineers - Group 2 - General foreperson | Operating Engineers | Group 2 - General foreperson | \$ 37.25 | 120% | \$ 39.37 | \$ 42.03 | \$ 44.15 | \$ 46.81 | \$ 48.93 |
| Operating Engineers - Group 2 - Non-Working foreperson | Operating Engineers | Group 2 - Non-Working foreperson | \$ 35.70 | 115% | \$ 37.73 | \$ 40.28 | \$ 42.31 | \$ 44.86 | \$ 46.89 |
| Operating Engineers - Group 2 - Working foreperson | Operating Engineers | Group 2 - Working foreperson | \$ 35.70 | 115% | \$ 37.73 | \$ 40.28 | \$ 42.31 | \$ 44.86 | \$ 46.89 |
| Operating Engineers - Group 3 - JP | Operating Engineers | Group 3 - JP | \$ 30.63 | | \$ 32.40 | \$ 34.61 | \$ 36.38 | \$ 38.59 | \$ 40.36 |
| Operating Engineers - Group 3 - General foreperson | Operating Engineers | Group 3 - General foreperson | \$ 36.76 | 120% | \$ 38.88 | \$ 41.53 | \$ 43.66 | \$ 46.31 | \$ 48.44 |
| Operating Engineers - Group 3 - Non-Working foreperson | Operating Engineers | Group 3 - Non-Working foreperson | \$ 35.22 | 115% | \$ 37.26 | \$ 39.80 | \$ 41.84 | \$ 44.38 | \$ 46.42 |
| Operating Engineers - Group 3 - Working foreperson | Operating Engineers | Group 3 - Working foreperson | \$ 35.22 | 115% | \$ 37.26 | \$ 39.80 | \$ 41.84 | \$ 44.38 | \$ 46.42 |
| Operating Engineers - Group 4 - JP | Operating Engineers | Group 4 - JP | \$ 29.64 | | \$ 31.41 | \$ 33.62 | \$ 35.39 | \$ 37.60 | \$ 39.37 |
| Operating Engineers - Group 4 - General foreperson | Operating Engineers | Group 4 - General foreperson | \$ 35.57 | 120% | \$ 37.69 | \$ 40.35 | \$ 42.47 | \$ 45.13 | \$ 47.25 |
| Operating Engineers - Group 4 - Non-Working foreperson | Operating Engineers | Group 4 - Non-Working foreperson | \$ 34.09 | 115% | \$ 36.12 | \$ 38.67 | \$ 40.70 | \$ 43.25 | \$ 45.28 |
| Operating Engineers - Group 4 - Working foreperson | Operating Engineers | Group 4 - Working foreperson | \$ 34.09 | 115% | \$ 36.12 | \$ 38.67 | \$ 40.70 | \$ 43.25 | \$ 45.28 |
| Operating Engineers - Group 5 - JP | Operating Engineers | Group 5 - JP | \$ 28.90 | | \$ 30.67 | \$ 32.88 | \$ 34.65 | \$ 36.86 | \$ 38.63 |
| Operating Engineers - Group 5 - General foreperson | Operating Engineers | Group 5 - General foreperson | \$ 34.68 | 120% | \$ 36.80 | \$ 39.46 | \$ 41.58 | \$ 44.24 | \$ 46.36 |
| Operating Engineers - Group 5 - Non-Working foreperson | Operating Engineers | Group 5 - Non-Working foreperson | \$ 33.24 | 115% | \$ 35.27 | \$ 37.81 | \$ 39.85 | \$ 42.39 | \$ 44.43 |
| Operating Engineers - Group 5 - Working foreperson | Operating Engineers | Group 5 - Working foreperson | \$ 33.24 | 115% | \$ 35.27 | \$ 37.81 | \$ 39.85 | \$ 42.39 | \$ 44.43 |
| Operating Engineers - 1st period | Operating Engineers | 1st period | \$ 18.62 | 60% | \$ 19.69 | \$ 21.01 | \$ 22.08 | \$ 23.40 | \$ 24.46 |
| Operating Engineers - 2nd period | Operating Engineers | 2nd period | \$ 20.18 | 65% | \$ 21.33 | \$ 22.76 | \$ 23.91 | \$ 25.35 | \$ 26.50 |
| Operating Engineers - 3rd period | Operating Engineers | 3rd period | \$ 21.73 | 70% | \$ 22.97 | \$ 24.52 | \$ 25.75 | \$ 27.30 | \$ 28.54 |
| Operating Engineers - 4th period | Operating Engineers | 4th period | \$ 23.28 | 75% | \$ 24.61 | \$ 26.27 | \$ 27.59 | \$ 29.25 | \$ 30.58 |
| Operating Engineers - 5th period | Operating Engineers | 5th period | \$ 24.83 | 80% | \$ 26.25 | \$ 28.02 | \$ 29.43 | \$ 31.20 | \$ 32.62 |
| Operating Engineers - 6th period | Operating Engineers | 6th period | \$ 27.94 | 90% | \$ 29.53 | \$ 31.52 | \$ 33.11 | \$ 35.10 | \$ 36.70 |
| Operating Engineers - Clerical Group 1 | Operating Engineers | Clerical Group 1 | \$ 23.68 | | \$ 25.45 | \$ 27.66 | \$ 29.43 | \$ 31.64 | \$ 33.41 |
| Operating Engineers - Clerical Group 2 | Operating Engineers | Clerical Group 2 | \$ 25.90 | | \$ 27.67 | \$ 29.88 | \$ 31.65 | \$ 33.86 | \$ 35.63 |
| Operating Engineers - Clerical Group 3 | Operating Engineers | Clerical Group 3 | \$ 27.24 | | \$ 29.01 | \$ 31.22 | \$ 32.99 | \$ 35.20 | \$ 36.97 |

1.2.9 Sheet: 9) Positions and Base Rates (4 of 4)

| Long Title | Union | Level | May 2012 Rate | Adjustment from JP rate | May 2013 Rate | May 2014 Rate | May 2015 Rate | May 2016 Rate | May 2017 Rate |
|--|--------------------------|---|---------------|-------------------------|---------------|---------------|---------------|---------------|---------------|
| Painters - General foreperson - Group 1 | Painters | General foreperson - Group 1 | \$ 32.85 | \$ 2.50 | \$ 34.04 | \$ 36.17 | \$ 37.85 | \$ 39.97 | \$ 41.66 |
| Painters - Non-working foreperson - Group 1 | Painters | Non-working foreperson - Group 1 | \$ 32.35 | \$ 2.00 | \$ 33.54 | \$ 35.67 | \$ 37.35 | \$ 39.47 | \$ 41.16 |
| Painters - Chargehands and working foremen - Group 1 | Painters | Chargehands and working foremen - Group 1 | \$ 31.85 | \$ 1.50 | \$ 33.04 | \$ 35.17 | \$ 36.85 | \$ 38.97 | \$ 40.66 |
| Painters - Group 1 | Painters | Group 1 | \$ 30.35 | | \$ 31.54 | \$ 33.67 | \$ 35.35 | \$ 37.47 | \$ 39.16 |
| Painters - General foreperson - Group 2 | Painters | General foreperson - Group 2 | \$ 35.85 | \$ 2.50 | \$ 37.04 | \$ 39.17 | \$ 40.85 | \$ 42.97 | \$ 44.66 |
| Painters - Non-working foreperson - Group 2 | Painters | Non-working foreperson - Group 2 | \$ 35.35 | \$ 2.00 | \$ 36.54 | \$ 38.67 | \$ 40.35 | \$ 42.47 | \$ 44.16 |
| Painters - Chargehands and working foremen - Group 2 | Painters | Chargehands and working foremen - Group 2 | \$ 34.85 | \$ 1.50 | \$ 36.04 | \$ 38.17 | \$ 39.85 | \$ 41.97 | \$ 43.66 |
| Painters - Group 2 | Painters | Group 2 | \$ 33.35 | | \$ 34.54 | \$ 36.67 | \$ 38.35 | \$ 40.47 | \$ 42.16 |
| Painters - Apprentice - 1st year | Painters | Apprentice - 1st year | \$ 18.21 | 60% | \$ 18.93 | \$ 20.20 | \$ 21.21 | \$ 22.48 | \$ 23.49 |
| Painters - Apprentice - 2nd year | Painters | Apprentice - 2nd year | \$ 22.76 | 75% | \$ 23.66 | \$ 25.25 | \$ 26.51 | \$ 28.11 | \$ 29.37 |
| Painters - Apprentice - 3rd year | Painters | Apprentice - 3rd year | \$ 27.32 | 90% | \$ 28.39 | \$ 30.30 | \$ 31.82 | \$ 33.73 | \$ 35.24 |
| Plumbers and pipefitters - General foreperson | Plumbers and pipefitters | General foreperson | \$ 40.48 | 120% | \$ 42.66 | \$ 45.39 | \$ 47.57 | \$ 50.30 | \$ 52.48 |
| Plumbers and pipefitters - foreperson | Plumbers and pipefitters | foreperson | \$ 38.79 | 115% | \$ 40.88 | \$ 43.50 | \$ 45.59 | \$ 48.20 | \$ 50.29 |
| Plumbers and pipefitters - Journeyman | Plumbers and pipefitters | Journeyman | \$ 33.73 | | \$ 35.55 | \$ 37.82 | \$ 39.64 | \$ 41.91 | \$ 43.73 |
| Plumbers and pipefitters - Apprentice - 2nd year | Plumbers and pipefitters | Apprentice - 2nd year | \$ 21.93 | 65% | \$ 23.11 | \$ 24.58 | \$ 25.77 | \$ 27.24 | \$ 28.43 |
| Plumbers and pipefitters - Apprentice - 3rd year | Plumbers and pipefitters | Apprentice - 3rd year | \$ 25.30 | 75% | \$ 26.66 | \$ 28.37 | \$ 29.73 | \$ 31.44 | \$ 32.80 |
| Plumbers and pipefitters - Apprentice - 4th year | Plumbers and pipefitters | Apprentice - 4th year | \$ 28.67 | 85% | \$ 30.22 | \$ 32.15 | \$ 33.69 | \$ 35.63 | \$ 37.17 |
| Sheet metal - General foreperson | Sheet metal | General foreperson | \$ 37.16 | 4.00 | \$ 38.93 | \$ 41.14 | \$ 42.91 | \$ 45.12 | \$ 46.89 |
| Sheet metal - Non-working foreperson | Sheet metal | Non-working foreperson | \$ 36.16 | 3.00 | \$ 37.93 | \$ 40.14 | \$ 41.91 | \$ 44.12 | \$ 45.89 |
| Sheet metal - Working foreperson | Sheet metal | Working foreperson | \$ 35.16 | 2.00 | \$ 36.93 | \$ 39.14 | \$ 40.91 | \$ 43.12 | \$ 44.89 |
| Sheet metal - Journeyman | Sheet metal | Journeyman | \$ 33.16 | | \$ 34.93 | \$ 37.14 | \$ 38.91 | \$ 41.12 | \$ 42.89 |
| Sheet metal - Welder | Sheet metal | Welder | \$ 34.16 | | \$ 35.93 | \$ 38.14 | \$ 39.91 | \$ 42.12 | \$ 43.89 |
| Sheet metal - Apprentice - 2nd year | Sheet metal | Apprentice - 2nd year | \$ 19.90 | 60% | \$ 20.96 | \$ 22.29 | \$ 23.35 | \$ 24.67 | \$ 25.74 |
| Sheet metal - Apprentice - 3rd year | Sheet metal | Apprentice - 3rd year | \$ 24.87 | 75% | \$ 26.20 | \$ 27.86 | \$ 29.18 | \$ 30.84 | \$ 32.17 |
| Sheet metal - Apprentice - 4th year | Sheet metal | Apprentice - 4th year | \$ 28.19 | 85% | \$ 29.69 | \$ 31.57 | \$ 33.08 | \$ 34.96 | \$ 36.46 |
| Teamsters - Group 1 teamster | Teamsters | Group 1 teamster | \$ 32.72 | | \$ 34.49 | \$ 36.70 | \$ 38.47 | \$ 40.68 | \$ 42.45 |
| Teamsters - Working foreperson Group 1 | Teamsters | Working foreperson Group 1 | \$ 34.22 | \$ 1.50 | \$ 35.99 | \$ 38.20 | \$ 39.97 | \$ 42.18 | \$ 43.95 |
| Teamsters - Non-working foreperson Group 1 | Teamsters | Non-working foreperson Group 1 | \$ 34.22 | \$ 1.50 | \$ 35.99 | \$ 38.20 | \$ 39.97 | \$ 42.18 | \$ 43.95 |
| Teamsters - General foreperson Group 1 | Teamsters | General foreperson Group 1 | \$ 34.72 | \$ 2.00 | \$ 36.49 | \$ 38.70 | \$ 40.47 | \$ 42.68 | \$ 44.45 |
| Teamsters - Group 2 teamster | Teamsters | Group 2 teamster | \$ 32.50 | | \$ 34.27 | \$ 36.48 | \$ 38.25 | \$ 40.46 | \$ 42.23 |
| Teamsters - Working foreperson Group 2 | Teamsters | Working foreperson Group 2 | \$ 34.00 | \$ 1.50 | \$ 35.77 | \$ 37.98 | \$ 39.75 | \$ 41.96 | \$ 43.73 |
| Teamsters - Non-working foreperson Group 2 | Teamsters | Non-working foreperson Group 2 | \$ 34.00 | \$ 1.50 | \$ 35.77 | \$ 37.98 | \$ 39.75 | \$ 41.96 | \$ 43.73 |
| Teamsters - General foreperson Group 2 | Teamsters | General foreperson Group 2 | \$ 34.50 | \$ 2.00 | \$ 36.27 | \$ 38.48 | \$ 40.25 | \$ 42.46 | \$ 44.23 |
| Teamsters - Group 3 teamster | Teamsters | Group 3 teamster | \$ 32.29 | | \$ 34.06 | \$ 36.27 | \$ 38.04 | \$ 40.25 | \$ 42.02 |
| Teamsters - Working foreperson Group 3 | Teamsters | Working foreperson Group 3 | \$ 33.79 | \$ 1.50 | \$ 35.56 | \$ 37.77 | \$ 39.54 | \$ 41.75 | \$ 43.52 |
| Teamsters - Non-working foreperson Group 3 | Teamsters | Non-working foreperson Group 3 | \$ 33.79 | \$ 1.50 | \$ 35.56 | \$ 37.77 | \$ 39.54 | \$ 41.75 | \$ 43.52 |
| Teamsters - General foreperson Group 3 | Teamsters | General foreperson Group 3 | \$ 34.29 | \$ 2.00 | \$ 36.06 | \$ 38.27 | \$ 40.04 | \$ 42.25 | \$ 44.02 |
| Teamsters - Group 4 teamster | Teamsters | Group 4 teamster | \$ 32.72 | | \$ 34.49 | \$ 36.70 | \$ 38.47 | \$ 40.68 | \$ 42.45 |
| Teamsters - Working foreperson Group 4 | Teamsters | Working foreperson Group 4 | \$ 34.22 | \$ 1.50 | \$ 35.99 | \$ 38.20 | \$ 39.97 | \$ 42.18 | \$ 43.95 |
| Teamsters - Non-working foreperson Group 4 | Teamsters | Non-working foreperson Group 4 | \$ 34.22 | \$ 1.50 | \$ 35.99 | \$ 38.20 | \$ 39.97 | \$ 42.18 | \$ 43.95 |
| Teamsters - General foreperson Group 4 | Teamsters | General foreperson Group 4 | \$ 34.72 | \$ 2.00 | \$ 36.49 | \$ 38.70 | \$ 40.47 | \$ 42.68 | \$ 44.45 |
| Teamsters - Group 5 teamster | Teamsters | Group 5 teamster | \$ 36.62 | | \$ 38.39 | \$ 40.60 | \$ 42.37 | \$ 44.58 | \$ 46.35 |
| Teamsters - Working foreperson Group 5 | Teamsters | Working foreperson Group 5 | \$ 38.12 | \$ 1.50 | \$ 39.89 | \$ 42.10 | \$ 43.87 | \$ 46.08 | \$ 47.85 |
| Teamsters - Non-working foreperson Group 5 | Teamsters | Non-working foreperson Group 5 | \$ 38.12 | \$ 1.50 | \$ 39.89 | \$ 42.10 | \$ 43.87 | \$ 46.08 | \$ 47.85 |
| Teamsters - General foreperson Group 5 | Teamsters | General foreperson Group 5 | \$ 38.62 | \$ 2.00 | \$ 40.39 | \$ 42.60 | \$ 44.37 | \$ 46.58 | \$ 48.35 |
| Teamsters - Group 6 teamster | Teamsters | Group 6 teamster | \$ 43.83 | | \$ 45.60 | \$ 47.81 | \$ 49.58 | \$ 51.79 | \$ 53.56 |
| Teamsters - Working foreperson Group 6 | Teamsters | Working foreperson Group 6 | \$ 45.33 | \$ 1.50 | \$ 47.10 | \$ 49.31 | \$ 51.08 | \$ 53.29 | \$ 55.06 |
| Teamsters - Non-working foreperson Group 6 | Teamsters | Non-working foreperson Group 6 | \$ 45.33 | \$ 1.50 | \$ 47.10 | \$ 49.31 | \$ 51.08 | \$ 53.29 | \$ 55.06 |
| Teamsters - General foreperson Group 6 | Teamsters | General foreperson Group 6 | \$ 45.83 | \$ 2.00 | \$ 47.60 | \$ 49.81 | \$ 51.58 | \$ 53.79 | \$ 55.56 |
| Teamsters - Group 4 Apprentice 1 | Teamsters | Group 4 Apprentice 1 | \$ 22.90 | 70% | \$ 24.14 | \$ 25.69 | \$ 26.93 | \$ 28.48 | \$ 29.72 |
| Teamsters - Group 4 Apprentice 2 | Teamsters | Group 4 Apprentice 2 | \$ 26.18 | 80% | \$ 27.59 | \$ 29.36 | \$ 30.78 | \$ 32.55 | \$ 33.96 |
| Teamsters - Group 4 Apprentice 3 | Teamsters | Group 4 Apprentice 3 | \$ 29.45 | 90% | \$ 31.04 | \$ 33.03 | \$ 34.63 | \$ 36.62 | \$ 38.21 |
| Elevator Constructors - Mechanic | Elevator Constructors | Mechanic | \$ 35.72 | | \$ 37.51 | \$ 39.74 | \$ 41.52 | \$ 43.76 | \$ 45.54 |
| Elevator Constructors - Mechanic In charge I | Elevator Constructors | Mechanic in charge I | \$ 40.19 | 113% | \$ 42.19 | \$ 44.71 | \$ 46.71 | \$ 49.23 | \$ 51.23 |
| Elevator Constructors - Mechanic in charge II | Elevator Constructors | Mechanic in charge II | \$ 41.08 | 115% | \$ 43.13 | \$ 45.70 | \$ 47.75 | \$ 50.32 | \$ 52.37 |
| Elevator Constructors - Probationary Helper I | Elevator Constructors | Probationary Helper I | \$ 17.86 | 50% | \$ 18.75 | \$ 19.87 | \$ 20.76 | \$ 21.88 | \$ 22.77 |
| Elevator Constructors - Probationary Helper II | Elevator Constructors | Probationary Helper II | \$ 19.65 | 55% | \$ 20.63 | \$ 21.86 | \$ 22.84 | \$ 24.07 | \$ 25.05 |
| Elevator Constructors - Helper I | Elevator Constructors | Helper I | \$ 25.00 | 70% | \$ 26.25 | \$ 27.82 | \$ 29.07 | \$ 30.63 | \$ 31.88 |
| Elevator Constructors - Helper II | Elevator Constructors | Helper II | \$ 26.79 | 75% | \$ 28.13 | \$ 29.80 | \$ 31.14 | \$ 32.82 | \$ 34.16 |
| Elevator Constructors - Improver helper | Elevator Constructors | Improver helper | \$ 28.58 | 80% | \$ 30.00 | \$ 31.79 | \$ 33.22 | \$ 35.00 | \$ 36.43 |
| Null | Null | Null | \$ - | - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Annual increase to Gross Hourly Package (GHP) | | | | | \$ 2.00 | \$ 2.50 | \$ 2.00 | \$ 2.50 | \$ 2.00 |

1.2.10 Sheet: 10) Schedules (1 of 2)

1.2.11 Sheet: 11) Schedule Summary

| Long Name (Schedule and Start Date) | Reg Time | Schedule Summary | | | Total Hours Worked per Rotation | Total Hours Earned per Rotation | Total Work Days/Rotation |
|-------------------------------------|----------|------------------|--------|-----|---------------------------------|---------------------------------|--------------------------|
| | | 1.5 x OT | 2 x OT | | | | |
| Sched A (21 and 7) - Mon | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Mon | 70% | 10% | 20% | 100 | 125 | 10 | |
| Sched C (14 and 7) - Mon | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Mon | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Mon | 60% | 15% | 25% | 200 | 265 | 20 | |
| Sched F (20 and 10) - Mon | 60% | 15% | 25% | 200 | 265 | 20 | |
| Sched G (28 and 14) - Mon | 57% | 14% | 29% | 280 | 380 | 28 | |
| Other (6 and 1) - Mon | 57% | 17% | 17% | 60 | 75 | 6 | |
| Other (7 and 7 @ 10 hrs) - Mon | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Mon | 57% | 14% | 29% | 84 | 114 | 7 | |
| Regular week (5 and 2) - Mon | 100% | 0% | 0% | 40 | 40 | 5 | |
| Regular week (4 and 3) - Mon | 100% | 0% | 0% | 40 | 40 | 4 | |
| Sched A (21 and 7) - Tues | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Tues | 70% | 10% | 20% | 100 | 125 | 10 | |
| Sched C (14 and 7) - Tues | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Tues | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Tues | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched F (20 and 10) - Tues | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched G (28 and 14) - Tues | 57% | 14% | 29% | 280 | 380 | 28 | |
| Other (6 and 1) - Tues | 50% | 17% | 33% | 60 | 85 | 6 | |
| Other (7 and 7 @ 10 hrs) - Tues | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Tues | 57% | 14% | 29% | 84 | 114 | 7 | |
| Sched A (21 and 7) - Wed | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Wed | 60% | 20% | 20% | 100 | 130 | 10 | |
| Sched C (14 and 7) - Wed | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Wed | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Wed | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched F (20 and 10) - Wed | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched G (28 and 14) - Wed | 57% | 14% | 29% | 280 | 380 | 28 | |
| Other (6 and 1) - Wed | 50% | 17% | 33% | 60 | 85 | 6 | |
| Other (7 and 7 @ 10 hrs) - Wed | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Wed | 57% | 14% | 29% | 84 | 114 | 7 | |
| Sched A (21 and 7) - Thur | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Thur | 50% | 20% | 30% | 100 | 140 | 10 | |
| Sched C (14 and 7) - Thur | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Thur | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Thur | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched F (20 and 10) - Thur | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched G (28 and 14) - Thur | 57% | 14% | 29% | 280 | 380 | 28 | |
| Other (6 and 1) - Thur | 50% | 17% | 33% | 60 | 85 | 6 | |
| Other (7 and 7 @ 10 hrs) - Thur | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Thur | 57% | 14% | 29% | 84 | 114 | 7 | |
| Sched A (21 and 7) - Fri | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Fri | 40% | 20% | 40% | 100 | 150 | 10 | |
| Sched C (14 and 7) - Fri | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Fri | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Fri | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched F (20 and 10) - Fri | 55% | 15% | 30% | 200 | 275 | 20 | |
| Sched G (28 and 14) - Fri | 57% | 14% | 29% | 280 | 380 | 28 | |
| Other (6 and 1) - Fri | 50% | 17% | 33% | 60 | 85 | 6 | |
| Other (7 and 7 @ 10 hrs) - Fri | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Fri | 57% | 14% | 29% | 84 | 114 | 7 | |
| Sched A (21 and 7) - Sat | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Sat | 50% | 10% | 40% | 100 | 145 | 10 | |
| Sched C (14 and 7) - Sat | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Sat | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Sat | 60% | 10% | 30% | 200 | 270 | 20 | |
| Sched F (20 and 10) - Sat | 60% | 10% | 30% | 200 | 270 | 20 | |
| Sched G (28 and 14) - Sat | 57% | 14% | 29% | 280 | 380 | 28 | |
| Other (6 and 1) - Sat | 67% | 0% | 33% | 60 | 80 | 6 | |
| Other (7 and 7 @ 10 hrs) - Sat | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Sat | 57% | 14% | 29% | 84 | 114 | 7 | |
| Sched A (21 and 7) - Sun | 57% | 14% | 29% | 210 | 285 | 21 | |
| Sched B (10 and 4) - Sun | 60% | 10% | 30% | 100 | 135 | 10 | |
| Sched C (14 and 7) - Sun | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched D (14 and 14) - Sun | 57% | 14% | 29% | 140 | 190 | 14 | |
| Sched E (20 and 8) - Sun | 60% | 15% | 25% | 200 | 265 | 20 | |
| Sched F (20 and 10) - Sun | 60% | 15% | 25% | 200 | 265 | 20 | |
| Sched G (28 and 14) - Sun | 57% | 18% | 25% | 280 | 375 | 28 | |
| Other (6 and 1) - Sun | 67% | 17% | 17% | 60 | 75 | 6 | |
| Other (7 and 7 @ 10 hrs) - Sun | 57% | 14% | 29% | 70 | 95 | 7 | |
| Other (7 and 7 @ 12 hrs) - Sun | 57% | 14% | 29% | 84 | 114 | 7 | |
| Null - Null | | | | | | | |

**2) ESTIMATED DISTRIBUTION OF CONTRACTOR WORKFORCE BY MONTH
AND YEAR**

TRADESMEN AND SUPERVISORY STAFF
Month and year (Number of persons)

| | 2013 | | | | 2014 | | | | | | | | | | | | 2015 | | | | | | | | | | | | |
|--|----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|----|
| | Sep-13 | Oct-13 | Nov-13 | Dec-13 | Jan-14 | Feb-14 | Mar-14 | Apr-14 | May-14 | Jun-14 | Jul-14 | Aug-14 | Sep-14 | Oct-14 | Nov-14 | Dec-14 | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | |
| Carpenters - Apprentice - 1 | - | - | - | - | - | 2 | 12 | 23 | 51 | 77 | 112 | 124 | 105 | 91 | 54 | 48 | 47 | 40 | 51 | 63 | 78 | 72 | 74 | 71 | 41 | 37 | 17 | 5 | |
| Carpenters - Apprentice - 2 | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Carpenters - Apprentice - 3 | - | 1 | 1 | 1 | 2 | 2 | 9 | 13 | 33 | 51 | 77 | 93 | 81 | 69 | 40 | 37 | 36 | 30 | 39 | 49 | 61 | 57 | 59 | 57 | 33 | 29 | 13 | 4 | |
| Carpenters - General foreperson | - | - | 9 | 9 | 10 | 18 | 19 | 19 | 29 | 27 | 29 | 28 | 28 | 29 | 29 | 29 | 26 | 28 | 28 | 28 | 28 | 28 | 28 | 29 | 28 | 29 | 27 | 29 | |
| Carpenters - Journeyman carpenter welder scaffolder | - | - | - | - | - | 1 | 17 | 28 | 69 | 107 | 160 | 187 | 160 | 136 | 79 | 76 | 75 | 62 | 80 | 100 | 126 | 119 | 120 | 117 | 68 | 60 | 28 | 8 | |
| Carpenters - Working foreperson | - | 1 | 1 | 1 | 1 | 1 | 6 | 9 | 20 | 31 | 46 | 54 | 46 | 40 | 23 | 22 | 21 | 18 | 23 | 28 | 35 | 33 | 34 | 32 | 19 | 17 | 8 | 2 | |
| Electricians - Apprentice - 3rd year | - | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | |
| Electricians - Journeyman | - | 3 | 4 | 4 | 4 | 1 | 4 | 6 | 12 | 11 | 14 | 13 | 14 | 15 | 16 | 14 | 13 | 11 | 13 | 14 | 15 | 15 | 13 | 10 | 8 | 6 | 3 | 2 | |
| Electricians - Non-working foreperson | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | - | - | - | - | - | 1 | 6 | 12 | 34 | 45 | 63 | 57 | 62 | 58 | 48 | 49 | 49 | 44 | 50 | 52 | 49 | 42 | 41 | 33 | 22 | 22 | 9 | 2 | |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | - | - | - | - | - | 5 | 8 | 21 | 27 | 37 | 34 | 37 | 35 | 30 | 31 | 30 | 27 | 30 | 32 | 30 | 25 | 25 | 20 | 14 | 13 | 6 | 1 | | |
| Ironworkers - Rebar foreperson | - | - | - | - | - | 3 | 4 | 11 | 13 | 19 | 17 | 19 | 18 | 15 | 15 | 15 | 15 | 14 | 15 | 16 | 15 | 13 | 13 | 10 | 7 | 7 | 3 | 1 | |
| Ironworkers - Rebar General foreperson | - | - | 4 | 4 | 4 | 7 | 8 | 8 | 11 | 10 | 11 | 11 | 11 | 11 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 11 | |
| Ironworkers - Rebar Journeyman | - | - | - | - | - | 1 | 9 | 15 | 42 | 53 | 74 | 68 | 74 | 70 | 59 | 61 | 61 | 54 | 61 | 63 | 59 | 51 | 51 | 41 | 28 | 27 | 11 | 2 | |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 8 | 8 | 8 | 13 | 12 | 11 | 8 | 5 | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | - | 1 | 3 | 3 | 3 | 2 | 5 | 6 | 9 | 8 | 9 | 9 | 10 | 14 | 13 | 11 | 10 | 9 | 10 | 13 | 15 | 15 | 15 | 10 | 17 | 14 | 10 | 9 | 5 |
| Ironworkers - Structural foreperson | - | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 5 | 4 | 5 | 4 | 5 | 6 | 6 | 6 | 8 | 7 | 7 | 4 | 4 | 3 | |
| Ironworkers - Structural General foreperson | - | - | 2 | 2 | 2 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Ironworkers - Structural Journeyman | - | 1 | 3 | 3 | 3 | 4 | 5 | 7 | 8 | 7 | 7 | 5 | 18 | 19 | 17 | 11 | 13 | 9 | 11 | 17 | 20 | 17 | 28 | 28 | 32 | 19 | 16 | 11 | |
| Labourers - Class 1 | - | 28 | 41 | 38 | 57 | 51 | 60 | 64 | 106 | 125 | 165 | 172 | 160 | 149 | 105 | 105 | 105 | 90 | 104 | 116 | 128 | 121 | 133 | 123 | 86 | 83 | 55 | 41 | |
| Labourers - Class 11 - General foreperson | - | - | 4 | 4 | 4 | 9 | 10 | 10 | 14 | 13 | 14 | 14 | 14 | 13 | 14 | 14 | 14 | 13 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 14 |
| Labourers - Class 2 | - | 3 | 7 | 4 | 4 | 8 | 8 | 8 | 12 | 11 | 12 | 12 | 12 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | |
| Labourers - Class 3 | - | - | - | - | - | 1 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | |
| Linespersons - General foreperson | - | - | 5 | 5 | 5 | 9 | 10 | 10 | 14 | 13 | 14 | 14 | 14 | 14 | 13 | 14 | 14 | 13 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 14 |
| Operating Engineers - Clerical Group 1 | - | - | 3 | 3 | 3 | 8 | 8 | 8 | 11 | 10 | 11 | 11 | 11 | 11 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 11 | |
| Operating Engineers - Clerical Group 2 | - | - | 8 | 8 | 8 | 14 | 15 | 15 | 23 | 21 | 23 | 22 | 22 | 23 | 21 | 23 | 23 | 19 | 22 | 22 | 22 | 22 | 23 | 22 | 22 | 23 | 21 | 23 | |
| Operating Engineers - Clerical Group 3 | 3 | 7 | 5 | 5 | 6 | 12 | 12 | 12 | 19 | 16 | 19 | 18 | 18 | 19 | 16 | 19 | 19 | 16 | 18 | 18 | 18 | 18 | 19 | 18 | 18 | 19 | 16 | 19 | |
| Operating Engineers - Group 1 - General foreperson | - | - | 9 | 9 | 11 | 19 | 20 | 20 | 30 | 28 | 30 | 29 | 29 | 30 | 28 | 30 | 30 | 27 | 29 | 29 | 29 | 29 | 29 | 30 | 29 | 29 | 30 | 28 | 30 |
| Operating Engineers - Group 1 - JP | - | 7 | 8 | 12 | 18 | 22 | 28 | 29 | 33 | 37 | 48 | 53 | 49 | 49 | 41 | 39 | 38 | 34 | 39 | 53 | 62 | 64 | 87 | 82 | 64 | 54 | 43 | 28 | |
| Operating Engineers - Group 1 - Non-Working foreperson | - | 7 | 11 | 10 | 10 | 4 | 6 | 10 | 16 | 20 | 27 | 28 | 26 | 24 | 16 | 16 | 16 | 13 | 16 | 17 | 19 | 17 | 20 | 20 | 12 | 12 | 6 | 4 | |
| Operating Engineers - Group 2 - JP | - | 5 | 6 | 2 | 2 | 5 | 10 | 15 | 24 | 28 | 37 | 37 | 34 | 31 | 21 | 21 | 21 | 18 | 21 | 23 | 26 | 24 | 28 | 28 | 18 | 17 | 10 | 7 | |
| Operating Engineers - Group 3 - JP | - | - | 3 | 10 | 9 | 7 | 10 | 11 | 15 | 14 | 16 | 16 | 16 | 16 | 15 | 16 | 16 | 14 | 15 | 16 | 17 | 17 | 18 | 15 | 13 | 14 | 11 | 11 | |
| Operating Engineers - Group 4 - JP | - | 10 | 9 | 10 | 12 | 19 | 26 | 27 | 31 | 33 | 43 | 44 | 41 | 37 | 25 | 25 | 25 | 22 | 24 | 27 | 31 | 29 | 33 | 32 | 20 | 19 | 12 | 7 | |
| Operating Engineers - Group 5 - JP | - | 4 | 3 | 7 | 9 | 17 | 17 | 17 | 12 | 16 | 22 | 24 | 22 | 20 | 13 | 13 | 13 | 11 | 13 | 14 | 15 | 14 | 16 | 16 | 9 | 9 | 4 | 2 | |
| Painters - Group 2 | - | - | 1 | - | - | 1 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | |
| Teamsters - Group 1 teamster | - | 2 | 9 | 11 | 21 | 28 | 34 | 37 | 57 | 52 | 53 | 54 | 51 | 50 | 39 | 40 | 40 | 35 | 39 | 43 | 46 | 45 | 52 | 49 | 40 | 40 | 33 | 31 | |
| Teamsters - Group 3 teamster | - | 3 | 10 | 8 | 9 | 15 | 18 | 18 | 27 | 26 | 29 | 29 | 28 | 28 | 24 | 26 | 26 | 23 | 25 | 25 | 26 | 26 | 27 | 26 | 23 | 24 | 22 | 22 | |
| SUB-TOTAL | 3 | 77 | 126 | 131 | 172 | 226 | 329 | 389 | 661 | 784 | 1,043 | 1,091 | 1,035 | 962 | 705 | 696 | 691 | 597 | 696 | 794 | 881 | 829 | 908 | 845 | 612 | 561 | 370 | 261 | |
| DIRECT SUPERVISION | 0 | 9 | 46 | 45 | 48 | 71 | 87 | 96 | 153 | 164 | 199 | 204 | 196 | 190 | 156 | 161 | 159 | 142 | 160 | 168 | 177 | 171 | 179 | 171 | 147 | 144 | 117 | 113 | |
| TOTAL | 3 | 86 | 172 | 176 | 220 | 297 | 416 | 485 | 814 | 948 | 1,242 | 1,295 | 1,231 | 1,152 | 861 | 857 | 850 | 739 | 856 | 962 | 1,058 | 1,000 | 1,087 | 1,016 | 759 | 705 | 487 | 374 | |

MANAGEMENT AND SUPERVISION STAFF
Month and year (Number of persons)

| | 2013 | | | | 2014 | | | | | | | | | | | | 2015 | | | | | | | | | | | |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Sep-13 | Oct-13 | Nov-13 | Dec-13 | Jan-14 | Feb-14 | Mar-14 | Apr-14 | May-14 | Jun-14 | Jul-14 | Aug-14 | Sep-14 | Oct-14 | Nov-14 | Dec-14 | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 |
| MANAGEMENT | 5 | 10 | 13 | 14 | 12 | 9 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| SUPERVISION | 12 | 23 | 36 | 38 | 36 | 36 | 37 | 36 | 35 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 38 | 37 | 37 | 37 | 37 |
| STAFF | - | - | 10 | 14 | 17 | 32 | 38 | 49 | 60 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 66 | 66 | 66 | 66 |
| TOTAL | 17 | 33 | 59 | 66 | 65 | 77 | 84 | 94 | 104 | 114 | 114 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 116 | 112 | 112 | 112 | 112 | 112 |

**TRADESMEN AND SUPERVISORY STAFF AND
MANAGEMENT AND SUPERVISION STAFF**
Month and year (Number of persons)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|
| TOTAL | 20 | 119 | 231 | 242 | 285 | 374 | 500 | 579 | 918 | 1,062 | 1,356 | 1,410 | 1,346 | 1,267 | 976 | 972 | 965 | 854 | 971 | 1,077 | 1,173 | 1,115 | 1,203 | 1,128 | 871 | 817 | 599 | 486 |
|--------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|

Exhibit 2 – Appendix I
Target Cost of Labour Breakdown
Agreement No.: CH0007-001

TRADESMEN AND SUPERVISORY STAFF
Month and year (Number of persons)

| | 2016 | | | | | | | | | | | | 2017 | | | | | | | | | | | | 2018 | | | | | | TOTAL (persons) | | |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------------|---------------|-------|
| | Jan-16 | Feb-16 | Mar-16 | Apr-16 | May-16 | Jun-16 | Jul-16 | Aug-16 | Sep-16 | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | Jul-17 | Aug-17 | Sep-17 | Oct-17 | Nov-17 | Dec-17 | Jan-18 | Mar-18 | Mar-18 | Apr-18 | May-18 | Jun-18 | | Jul-18 | |
| | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | | 59 | |
| Carpenters - Apprentice - 1 | 2 | - | - | 2 | 28 | 28 | 14 | 16 | 34 | 31 | 38 | 29 | 21 | 14 | - | - | 2 | 11 | 11 | 10 | 1 | 2 | 6 | 6 | 6 | 3 | - | - | - | - | - | - | 1,610 |
| Carpenters - Apprentice - 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 | |
| Carpenters - Apprentice - 3 | 2 | - | - | 2 | 22 | 21 | 10 | 10 | 26 | 22 | 28 | 21 | 17 | 12 | - | - | 19 | 4 | 3 | 3 | - | 2 | 2 | 2 | 2 | 1 | - | - | - | - | - | 1,206 | |
| Carpenters - General foreperson | 28 | 27 | 29 | 28 | 28 | 28 | 28 | 29 | 28 | 28 | 28 | 29 | 28 | 26 | 29 | 27 | 16 | 15 | 16 | 15 | 15 | 15 | 15 | 15 | 16 | 11 | 12 | 11 | 12 | 11 | - | 1,290 | |
| Carpenters - Journeyman carpenter welder scaffolder | 4 | - | - | 3 | 45 | 44 | 22 | 23 | 55 | 49 | 60 | 45 | 35 | 25 | - | - | 1 | 7 | 8 | 7 | 1 | 4 | 4 | 4 | 4 | 2 | - | - | - | - | - | 2,432 | |
| Carpenters - Working foreperson | 1 | - | - | 1 | 13 | 12 | 6 | 7 | 15 | 14 | 17 | 13 | 10 | 6 | - | - | 10 | 3 | 3 | 2 | - | - | 1 | 2 | 2 | 1 | - | - | - | - | - | 711 | |
| Electricians - Apprentice - 3rd year | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 83 | |
| Electricians - Journeyman | 2 | 1 | 1 | 2 | 5 | 5 | 2 | 4 | 7 | 8 | 6 | 5 | 5 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 326 | |
| Electricians - Non-working foreperson | - | - | - | - | - | - | - | - | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 23 | |
| Ironworkers - Rebar Apprentice - 1st 1,000 hrs | - | - | - | 1 | 17 | 17 | 2 | 3 | 5 | 5 | 5 | 4 | 2 | - | - | - | - | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | 919 | |
| Ironworkers - Rebar Apprentice - 3rd 1,000 hrs | - | - | - | 1 | 11 | 11 | 1 | 2 | 3 | 3 | 3 | 3 | 1 | - | - | - | - | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | 560 | |
| Ironworkers - Rebar foreperson | - | - | - | - | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 281 | |
| Ironworkers - Rebar General foreperson | 11 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 11 | 10 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 5 | 4 | 5 | 4 | - | 500 |
| Ironworkers - Rebar Journeyman | - | - | - | 2 | 22 | 21 | 3 | 4 | 6 | 6 | 7 | 5 | 3 | - | - | - | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | 1,122 | |
| Ironworkers - Structural Apprentice - 1st 1,000 hrs | 4 | 1 | - | - | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 135 | |
| Ironworkers - Structural Apprentice - 3rd 1,000 hrs | 5 | 3 | 1 | - | 1 | 2 | 1 | 3 | 4 | 5 | 4 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 293 | |
| Ironworkers - Structural foreperson | 2 | 1 | 1 | - | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 111 | |
| Ironworkers - Structural General foreperson | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | - | 230 | |
| Ironworkers - Structural Journeyman | 8 | 4 | 1 | - | 2 | 3 | 3 | 4 | 4 | 5 | 4 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 385 | |
| Labourers - Class 1 | 36 | 33 | 33 | 33 | 66 | 66 | 44 | 52 | 67 | 66 | 69 | 62 | 50 | 37 | 32 | 29 | 59 | 35 | 28 | 27 | 19 | 19 | 22 | 25 | 25 | 17 | 15 | 14 | 15 | 14 | - | 3,720 | |
| Labourers - Class 11 - General foreperson | 14 | 13 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 14 | 13 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 5 | 5 | 5 | 5 | 5 | - | 635 | |
| Labourers - Class 2 | 12 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 5 | 5 | 5 | 5 | - | 554 | |
| Labourers - Class 3 | - | - | - | - | 1 | 1 | - | - | 1 | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 31 | |
| Linespersons - General foreperson | 14 | 13 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13 | 14 | 13 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 5 | 6 | 5 | 6 | 6 | - | 641 | |
| Operating Engineers - Clerical Group 1 | 11 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 11 | 10 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 5 | 4 | 5 | 4 | - | 498 | |
| Operating Engineers - Clerical Group 2 | 22 | 21 | 23 | 22 | 22 | 22 | 22 | 23 | 22 | 22 | 23 | 22 | 22 | 23 | 21 | 13 | 12 | 12 | 13 | 12 | 12 | 12 | 12 | 12 | 13 | 8 | 9 | 9 | 9 | 9 | - | 1,016 | |
| Operating Engineers - Clerical Group 3 | 18 | 16 | 19 | 18 | 18 | 18 | 18 | 19 | 18 | 18 | 18 | 18 | 18 | 16 | 19 | 16 | 11 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 6 | 9 | 6 | 9 | 6 | - | 837 | |
| Operating Engineers - Group 1 - General foreperson | 29 | 28 | 30 | 29 | 29 | 29 | 29 | 30 | 29 | 29 | 30 | 29 | 29 | 27 | 30 | 28 | 17 | 16 | 16 | 17 | 16 | 16 | 16 | 16 | 17 | 11 | 12 | 12 | 12 | 12 | - | 1,341 | |
| Operating Engineers - Group 1 - JP | 27 | 26 | 16 | 7 | 21 | 22 | 14 | 17 | 23 | 23 | 23 | 19 | 14 | 9 | 7 | 6 | 4 | 7 | 6 | 5 | 3 | 3 | 4 | 5 | 5 | 3 | 2 | 2 | 2 | 2 | - | 1,448 | |
| Operating Engineers - Group 1 - Non-Working foreperson | 2 | 2 | 1 | 2 | 9 | 9 | 4 | 7 | 10 | 10 | 10 | 8 | 5 | 2 | 1 | 1 | 2 | 5 | 4 | 3 | 1 | 1 | 2 | 3 | 3 | 1 | - | - | - | - | - | 511 | |
| Operating Engineers - Group 2 - JP | 5 | 4 | 3 | 4 | 12 | 12 | 7 | 10 | 14 | 14 | 14 | 11 | 8 | 4 | 3 | 3 | 3 | 7 | 5 | 4 | 2 | 2 | 3 | 4 | 4 | 2 | 1 | 1 | 1 | 1 | - | 687 | |
| Operating Engineers - Group 3 - JP | 10 | 10 | 11 | 10 | 11 | 11 | 11 | 13 | 17 | 16 | 17 | 16 | 14 | 13 | 11 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | - | 617 | |
| Operating Engineers - Group 4 - JP | 5 | 4 | 3 | 4 | 14 | 14 | 8 | 11 | 16 | 16 | 17 | 13 | 9 | 5 | 3 | 3 | 3 | 9 | 6 | 5 | 3 | 2 | 4 | 5 | 5 | 3 | 1 | 1 | 1 | 1 | - | 867 | |
| Operating Engineers - Group 5 - JP | 1 | 1 | - | 1 | 7 | 7 | 3 | 5 | 8 | 8 | 8 | 6 | 4 | 1 | - | - | 1 | 4 | 3 | 2 | - | - | 1 | 2 | 2 | 1 | - | - | - | - | - | 428 | |
| Painters - Group 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | 72 | |
| Teamsters - Group 1 teamster | 28 | 25 | 26 | 25 | 32 | 32 | 28 | 31 | 32 | 33 | 33 | 32 | 29 | 24 | 26 | 24 | 15 | 19 | 17 | 17 | 15 | 14 | 16 | 16 | 16 | 11 | 11 | 9 | 11 | 11 | - | 1,689 | |
| Teamsters - Group 3 teamster | 21 | 21 | 22 | 21 | 23 | 23 | 21 | 23 | 23 | 23 | 23 | 24 | 22 | 20 | 22 | 20 | 13 | 12 | 12 | 13 | 12 | 12 | 12 | 12 | 12 | 8 | 9 | 8 | 9 | 9 | - | 1,088 | |
| SUB-TOTAL | 225 | 193 | 184 | 183 | 407 | 407 | 260 | 300 | 413 | 402 | 427 | 369 | 305 | 230 | 178 | 158 | 166 | 163 | 147 | 141 | 98 | 97 | 118 | 123 | 125 | 77 | 71 | 63 | 71 | 66 | 0 | 22,642 | |
| DIRECT SUPERVISION | 106 | 99 | 105 | 104 | 129 | 128 | 113 | 119 | 130 | 129 | 133 | 126 | 118 | 101 | 104 | 97 | 70 | 64 | 63 | 63 | 57 | 59 | 61 | 63 | 40 | 42 | 39 | 42 | 40 | 0 | 6,274 | | |
| TOTAL | 331 | 292 | 289 | 287 | 536 | 535 | 373 | 419 | 543 | 531 | 560 | 495 | 423 | 331 | 282 | 255 | 236 | 227 | 210 | 204 | 155 | 154 | 177 | 184 | 188 | 117 | 113 | 102 | 113 | 106 | 0 | 28,916 | |

MANAGEMENT AND SUPERVISION STAFF
Month and year (Number of persons)

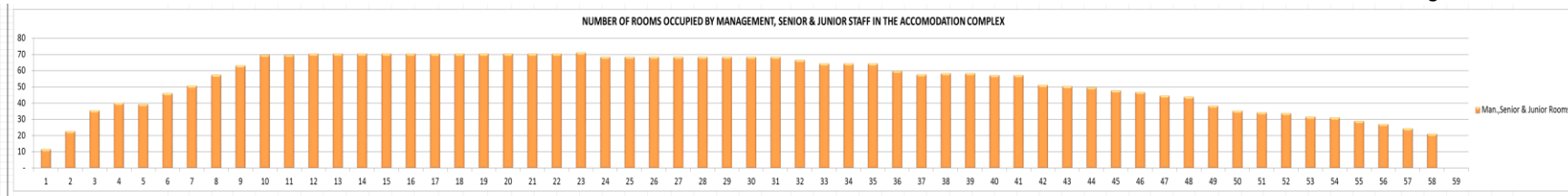
| | 2016 | | | | | | | | | | | | 2017 | | | | | | | | | | | | 2018 | | | | | | TOTAL (persons) | |
|--------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|--------------|
| | Jan-16 | Feb-16 | Mar-16 | Apr-16 | May-16 | Jun-16 | Jul-16 | Aug-16 | Sep-16 | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | Jul-17 | Aug-17 | Sep-17 | Oct-17 | Nov-17 | Dec-17 | Jan-18 | Mar-18 | Mar-18 | Apr-18 | May-18 | Jun-18 | | Jul-18 |
| | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | | 59 |
| MANAGEMENT | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 8 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | - | 491 |
| SUPERVISION | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 35 | 36 | 36 | 36 | 36 | 36 | 35 | 35 | 32 | 32 | 30 | 30 | 29 | 28 | 28 | 27 | 26 | 25 | 24 | 23 | 23 | 21 | - | 1,950 |
| STAFF | 66 | 66 | 66 | 63 | 60 | 60 | 60 | 53 | 52 | 52 | 52 | 50 | 50 | 41 | 41 | 40 | 40 | 37 | 37 | 36 | 31 | 27 | 27 | 27 | 25 | 25 | 23 | 21 | 17 | 14 | - | 2,775 |
| TOTAL | 112 | 112 | 112 | 109 | 106 | 106 | 106 | 99 | 96 | 97 | 97 | 95 | 95 | 86 | 85 | 84 | 81 | 78 | 75 | 74 | 66 | 61 | 60 | 59 | 56 | 55 | 52 | 49 | 45 | 40 | 0 | 5,216 |

**TRADESMEN AND SUPERVISORY STAFF AND
MANAGEMENT AND SUPERVISION STAFF**
Month and year (Number of persons)

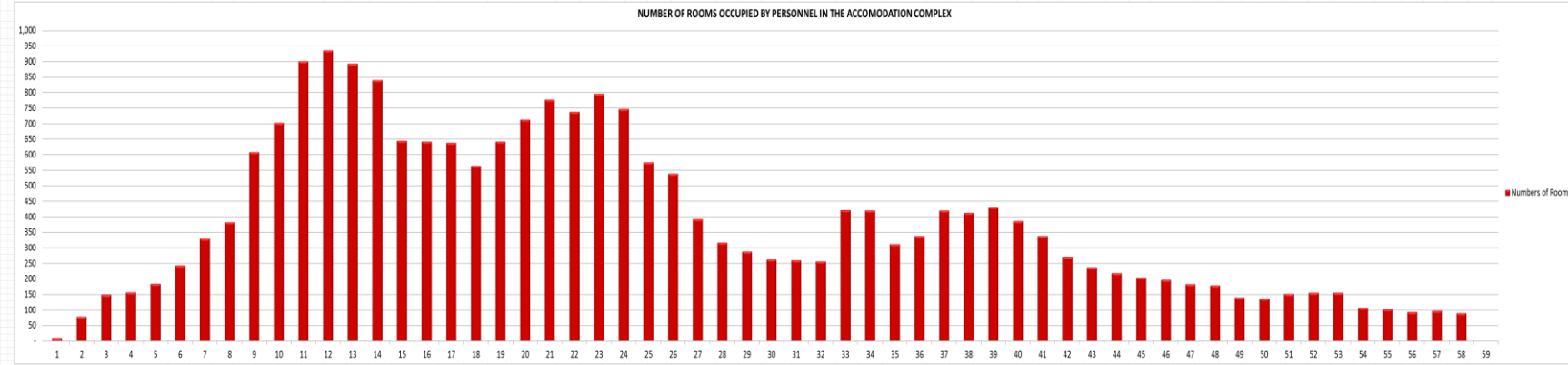
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------|---------------|
| TOTAL | 443 | 404 | 401 | 396 | 642 | 641 | 479 | 518 | 639 | 628 | 657 | 590 | 518 | 417 | 367 | 339 | 317 | 305 | 285 | 278 | 221 | 215 | 237 | 243 | 244 | 172 | 165 | 151 | 158 | 146 | 0 | 34,132 |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------|---------------|

| | |
|-------------|-----------|
| Hour/Month | 200 |
| Total Hours | 6,826,400 |

Exhibit 2 – Appendix I
Target Cost of Labour Breakdown
Agreement No.: CH0007-001



| TOTAL NUMBERS OF ROOM | 2013 | | | 2014 | | | | | | | | | | | | 2015 | | | | | | | | | | | | 2016 | | | | | | | | | | | | 2017 | | | | | | | | | | | | 2018 | | | | | | TOTAL (persons) | |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|--------|
| | Sep-13 | Oct-13 | Nov-13 | Dec-13 | Jan-14 | Feb-14 | Mar-14 | Apr-14 | May-14 | Jun-14 | Jul-14 | Aug-14 | Sep-14 | Oct-14 | Nov-14 | Dec-14 | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | Jan-16 | Feb-16 | Mar-16 | Apr-16 | May-16 | Jun-16 | Jul-16 | Aug-16 | Sep-16 | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | Jul-17 | Aug-17 | Sep-17 | Oct-17 | Nov-17 | Dec-17 | Jan-18 | Mar-18 | Apr-18 | May-18 | Jun-18 | | Jul-18 |
| GENERAL TOTAL | 12 | 81 | 151 | 158 | 188 | 245 | 331 | 383 | 609 | 704 | 901 | 938 | 894 | 841 | 648 | 644 | 639 | 565 | 643 | 714 | 778 | 739 | 798 | 748 | 578 | 540 | 394 | 318 | 290 | 264 | 282 | 258 | 423 | 422 | 314 | 340 | 421 | 414 | 433 | 388 | 340 | 272 | 239 | 220 | 206 | 199 | 185 | 181 | 142 | 138 | 153 | 157 | 109 | 104 | 95 | 100 | 92 | - | 22,493 |



3) INDIRECT COSTS BREAKDOWN


| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | EXHIBIT 2 - APPENDIX I 3) INDIRECT COSTS BREAKDOWN FOR LABOURERS UNDER COLLECTIVE AGREEMENT AND STAFF | | | | |  | | | | |
|--|---------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------------|--------------------------|---|--------------------------|---------------------------|-------------------------|--|
| | | | | BIDDER'S NAME: ASTALDI CANADA INC. | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | TOTAL MAN HOURS (AT SITE) per UNIT | TOTAL MANPOWER COST | COLLECTIVE AGREEMENT LABOUR COMPONENT | | STAFF LABOUR COMPONENT | | |
| No | REFEREN CE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | | UNION MAN HOURS (AT SITE) | UNION MANPOWER COST | STAFF MAN HOURS (AT SITE) | STAFF MANPOWER COST | |
| | | | | INDIRECT COSTS | | | | | | | | | |
| 1 | 2.1 | 0000.01 | | Mobilization | LS | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 2.2 | 0000.02 | | Site Installation | LS | 1 | 71,519 | 5,668,063 | 71,519 | 5,668,063.12 | 0.00 | 0.00 | |
| 3 | 2.3 | 0000.03 | | Contractor Equipment for Indirects | LS | 1 | 164,938 | 13,197,861 | 164,938 | 13,197,861.41 | 0.00 | 0.00 | |
| 4 | 2.4 | 0000.04 | | Temporary Works | LS | 1 | 40,873 | 3,246,714 | 40,873 | 3,246,714.27 | 0.00 | 0.00 | |
| 5 | 2.5 | 0000.05 | | Winter Protection | LS | 1 | 68,850 | 5,531,277 | 68,850 | 5,531,277.46 | 0.00 | 0.00 | |
| 6 | 2.6 | 0000.06 | | Management and Staff | LS | 1 | 1,982,044 | 172,483,726 | 1,394,044 | 120,378,834.76 | 588,000.00 | 52,104,891.67 | |
| 6A | 2.6A | 0000.06A | | Design and Technical Assistance | LS | 1 | 131,000 | 10,508,344 | 0.00 | 0.00 | 131,000.00 | 10,508,344.37 | |
| 7 | 2.7 | 0000.07 | | Attendant labour | LS | 1 | 736,610 | 58,375,032 | 736,610 | 58,375,032.14 | 0.00 | 0.00 | |
| 8 | 2.8 | 0000.08 | | Services | LS | 1 | 50,821 | 3,960,856 | 50,821 | 3,960,856.28 | 0.00 | 0.00 | |
| 9 | 2.9 | 0000.09 | | Employee Training | LS | 1 | 31,450 | 2,420,324 | 31,450 | 2,420,324.00 | 0.00 | 0.00 | |
| 10 | 2.10 | 0000.10 | | Health and Safety Requirements | LS | 1 | 116,000 | 8,845,020 | 0.00 | 0.00 | 116,000.00 | 8,845,020.32 | |
| 11 | 2.11 | 0000.11 | | Environmental Requirements | LS | 1 | 32,400 | 2,556,203 | 0.00 | 0.00 | 32,400.00 | 2,556,202.80 | |
| 12 | 2.12 | 0000.12 | | Quality Assurance / Quality Control | LS | 1 | 175,800 | 13,799,281 | 0.00 | 0.00 | 175,800.00 | 13,799,280.64 | |
| 13 | 2.13 | 0000.13 | | Letters of Credit | LS | 1 | | | NA | NA | | | |
| 14 | 2.14 | 0000.14 | | Parent Guarantee | LS | 1 | | | NA | NA | | | |
| 15 | 2.15 | 0000.15 | | Contractor Insurance, per Article 18 of the Agreement | LS | 1 | | | NA | NA | | | |
| 16 | 2.16 | 0000.16 | | Warranty, per Article 17 of the Agreement | LS | 1 | | | NA | NA | | | |
| 17 | 2.17 | 0000.17 | | Site Maintenance | LS | 1 | 86,693 | 6,970,927 | 86,693 | 6,970,926.58 | 0.00 | 0.00 | |
| 17A | 2.17A | 0000.17A | | Maintenance Grade No. 3 Material | M3 | 7,200 | 1,940 | 156,109 | 1,940 | 156,109.45 | 0.00 | 0.00 | |
| 17B | 2.17B | 0000.17B | | Coarse Sand | M3 | 2,900 | 817 | 65,735 | 817 | 65,735.48 | 0.00 | 0.00 | |
| 17C | 2.17C | 0000.17C | | Calcium Chloride (20 kg bag) | each | 12,500 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 18 | 2.18 | 0000.18 | | Financing, Contingency, Head Office Overheads, & Consultant Fees | LS | 1 | | | NA | NA | | | |
| 19 | 2.19 | 0000.19 | | Demobilization | LS | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 19A | 2.19A | 0000.19A | | Estimate of Travel Allowances - Trades Labour | NA | NA | | | NA | NA | | | |
| | | | | TOTAL | | | 3,691,754.39 | \$ 307,785,474.74 | 2,648,554.39 | \$ 219,971,734.95 | 1,043,200.00 | \$ 87,813,739.80 | |

Exhibit 2 – Appendix J
Fully Executed LNTP with Amendment No. 1
Agreement No.: CH0007-001

APPENDIX J

Fully Executed LNTP with Amendment No. 1

LIMITED NOTICE TO PROCEED
LOWER CHURCHILL PROJECT: MUSKRAT FALLS
CH0007: CIVIL WORKS

This Limited Notice to Proceed Agreement is made as of the 24th day of September, 2013, by and between:

NALCOR ENERGY a body corporate constituted pursuant to the *Energy Corporation Act*, S.N. 2007, c. E-11.01 solely in its own right and not as agent of the Crown in right of the Province of Newfoundland and Labrador, and having its head office at the City of St. John's, Province of Newfoundland and Labrador (hereinafter referred to as "**Company**")

- and -

Astaldi Canada Inc.
(the "**Contractor**")

WHEREAS the Company and the Contractor are in the process of finalizing an agreement for the construction of the intake and powerhouse, spillway and transition dams as described in contract package CH0007 in the form of the draft attached as part of Schedule 3 hereto (the "**Agreement**");

AND WHEREAS the Parties have agreed that the Initial Work for which the Contractor is to be paid in accordance with this LNTP and the Agreement, is comprised of the work (together with changes thereto as the Company may approve) as described in Schedule 1 hereto (the "**Initial Work**").

AND WHEREAS the Parties wish to enter into this agreement to record the basis upon which the Contractor is to proceed with, and be paid for, the Initial Work.

WITNESSETH that in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereto covenant and agree each with the other as follows:

1. The recitals together with the terms and conditions and schedules referenced herein constitute the limited notice to proceed agreement ("LNTP"). All capitalized terms not defined herein shall have the same meanings as defined in the Agreement form attached as part of Schedule 3.
2. **Agreement.**
 - (a) Subject to Section 6(i), the Company and the Contractor intend to execute the Agreement, substantially in the form attached as part of Schedule 3 hereto, subject to only the resolution by the Parties of any issues identified by the Lenders and the Lenders' Independent Engineer, and known items to be addressed as identified in Schedule 3.

Subject to the conditions set forth in the Minutes of Meeting held on 14 September 2013 relevant to the applicability of the discount, the Contract Price, in Canadian dollars, on finalization of the Agreement shall be made up as follows

| | |
|------------------------|-------------------|
| Target Cost of Labour: | \$ 507,598,341.00 |
| Labour Profit: | \$ 35,531,884.00 |
| Non Labour Component: | \$ 452,104,434.08 |

| | |
|--------------------------|---------------------|
| Travel Allowances (Est): | \$ 29,057,891.00 |
| Total | \$ 1,024,292,550.08 |

However, if an AFC Drawing (refer to known items to be addressed as identified in Schedule 3, Item 5) contains a Change which impacts the Contract Price and/or impacts a Milestone Date or an Interface Date, a reasonable price adjustment to the Contract Price and/or adjustment to the Exhibit 9 – Interface and Milestone Schedule will be negotiated.

The Parties shall enter into good faith negotiations to resolve any such issues by making revisions to the Agreement, if necessary as a result of such resolution, subject to discretionary board approval of both Parties. The Company undertakes that it is negotiating exclusively with the Contractor for the Work during the term of this LNTP and the Parties expect to conclude these negotiations within a month of the date of this LNTP.

“Lender” means those entities that provide financing for the LCP.

“Lenders’ Independent Engineer” means the Person retained by the Lenders to provide advice on technical matters relating to the LCP.

“Initial Advance Payment” has the meaning ascribed thereto in Schedule 2 of this LNTP.

- (b) Provided the Parties have negotiated mutually acceptable wording for those known items to be addressed identified in Schedule 3 which are not yet agreed as of the date of this LNTP and received their respective board approvals then the Parties shall execute the Agreement substantially in the form set out in Schedule 3 with only those changes necessary to incorporate the mutually acceptable wording.
 - (c) The Company is providing the Contractor with this binding LNTP so that Contractor can start its work on the Initial Work to preserve and maintain the Contract Price and schedule for the Agreement.
3. **Initial Work.** Company hereby directs Contractor to commence the Initial Work as follows:
- (a) The Initial Work is described in Schedule 1 and shall be performed by the Contractor in accordance with Schedule 1.
 - (b) The Initial Work shall be carried out in accordance with and subject to the applicable terms and conditions of the Agreement form attached as Schedule 3, including the Articles of Agreement. For greater certainty, the terms of this LNTP shall take precedence over the terms in the Agreement attached as part of Schedule 3 in the event of any inconsistency.
 - (c) Initial Work which has been completed by Contractor and Approved by Company shall be included in and form a part of the Work. Such completed and Approved Initial Work shall satisfy the obligation to perform that part of the Work to which the Initial Work relates upon execution of the Agreement.
 - (d) If the Agreement is executed, the remuneration paid to the Contractor pursuant to this LNTP with respect to the Work shall be included in and form a part of the Contract Price pursuant to the Agreement for such Work and will not be an extra above and beyond the Contract Price. Such remuneration shall be credited against the Contract Price (against the initial milestone payments) following the execution of the Agreement. For greater certainty the sum of the Contractor’s compensation for performing the Initial Work under this LNTP and for performing the Work under the Agreement shall not exceed the Contract Price.
 - (e) For greater certainty, the Parties acknowledge and agree that this LNTP constitutes the basis upon which the Contractor shall perform the Initial Work and that Contractor is not authorized to proceed with the balance of the Work until execution of the Agreement or this LNTP is amended by the Parties to permit a further part of the Work to proceed.

4. Payment.

- (a) Company shall pay the Contractor against progress for performance of the Initial Work those amounts set out in Schedule 2 (the sum of which shall be the “LNTP Price”).
- (b) Company shall pay the LNTP Price by monthly progress payments for each price item in an amount not to exceed the amounts set out for each price item in Schedule 2 provided that:
 - (i) Contractor delivers to Company an invoice with such supporting documentation as Company may reasonably require; and
 - (ii) Contractor has completed and delivered to Company all the deliverables listed in Schedule 1 for the month invoiced.

5. Termination

- (a) Company may terminate this LNTP at its convenience upon written notice to Contractor to be effective not less than two (2) days from the date of the written notice.
- (b) Upon such termination in accordance with paragraph (a): (i) Contractor shall cease performance of the Initial Work subject to any direction by Company for completion of any part of the Initial Work; and (ii) Company shall compensate Contractor for all Initial Work performed up to the effective date of the termination of this LNTP and for any part of the Initial Work that Company directs the Contractor to complete, plus demobilization costs and liabilities associated therewith.

In no event will compensation payable to Contractor upon termination exceed the value of that part of the LNTP Price described in Schedule 2 corresponding to each part of the Initial Work completed as of the effective date of the termination, plus demobilization costs and liabilities associated therewith. For greater certainty, the compensation determined by this Section 5 shall be Contractor's sole and exclusive remedy for termination of this LNTP Agreement.

- (c) Subject to paragraphs (a) to (c) and (d) in this Section 5, if the Company and Contractor have not executed the Agreement by no later than **31 October 2013** or any other date agreed to between the Parties, this LNTP will be terminated as of such date and neither Party will be liable for any costs, damages or liabilities on account of such termination, except for the obligation of Contractor to complete the Initial Work and liabilities associated therewith and for the obligation of Company to pay the LNTP Price, demobilization costs, and liabilities associated therewith.
- (d) Upon termination of this LNTP Contractor shall reimburse Company the amount of the Initial Advance Payment as follows:
 - i. Company shall be entitled to set off any amount otherwise payable to Contractor pursuant to paragraphs (a), (b) and (c) in this Section 5 against the Initial Advance Payment, and
 - ii. Contractor shall reimburse Company the difference between the amount of the Initial Advance Payment and the amount payable pursuant to paragraphs (a), (b) and (c) in this Section 5 within 15 days of the effective date of the termination.

6. General Terms

- (a) This LNTP shall in all respects be governed by and construed and interpreted in accordance with the laws of Province of Newfoundland and Labrador, and the laws of Canada applicable therein and the Parties agree to attorn to the jurisdiction of the courts of the Province of

Newfoundland and Labrador.

(b) Notices

Any notice required or permitted to be given pursuant to this LNTP shall be in writing signed by the Party giving such notice and shall be hand delivered or sent by registered letter, telefax or email (subject to confirmation of receipt in the Aconex system) to the address or telefax number or email address set forth below.

(A) To Company:

Name: Scott O'Brien

Position: Project Manager, Muskrat Falls Facilities and Infrastructure

Address: 350 Torbay Road, Suite 2
St. John's, NL A1A 4E1

Telephone: 709-737-4245

Facsimile: 709-737-1985

E-mail: Scott.O'Brien@nalcornenergy.com

(B) To Contractor:

Astaldi Canada Inc.

Name: Guido Venturini

Position: Project Director

Address: 69 Elizabeth Ave
St John's, NL A1A 1W8

Telephone: (514) 933-5525

Facsimile: (514) 933-2550

E-mail: g.venturini@astaldi.com

(i) Each Party to this LNTP shall have the right to change the place to which notice shall be sent or delivered by similar notice sent in like manner to the other Party.


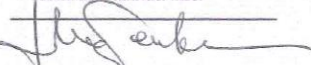

(ii) A notice issued pursuant to this LNTP shall be deemed to have been delivered as follows. Any communication given by personal delivery shall be conclusively deemed to have been given on the day of actual delivery thereof and, if given by registered mail, on the fifth (5th) Business Day following the deposit thereof in the mail and, if given by telecopier or email, on the day of transmittal thereof; provided that if any such notice or other communications so delivered or transmitted by telecopier or email after 3:00 p.m. EST on a Business Day (as hereinafter defined) or on a day other than a Business Day it shall be deemed received by the addressee on the next succeeding Business Day. In the event of the disruption of postal service, communication shall be given only by personal service or by transmittal by telecopier or email. For the purposes of this LNTP a Business Day means any day other than a Saturday, a Sunday, or a statutory or civic holiday in the Province of Newfoundland and Labrador.

(c) The Parties shall from time to time execute and deliver all such further documents and instruments and do all acts and things as the other party may reasonably require to

effectively carry out or better evidence or perfect the full intent and meaning of this LNTP.

- (d) If any part of this LNTP or the application of such part to either Party or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this LNTP, or the application of such remainder part to any other Party or circumstances, shall not be affected thereby and each provision of this LNTP shall be valid and enforceable to the fullest extent permitted by law.
- (e) No amendment to this LNTP shall be valid or binding unless set forth in writing and duly executed by the Parties to this LNTP. No waiver of any breach of any provision of this LNTP shall be effective or binding unless made in writing and signed by the Party purporting to give the same and, unless otherwise provided in the written waiver, shall be limited to the specific breach waived.
- (f) This LNTP may be executed in counterparts and may be executed and delivered by facsimile and all the counterparts and facsimiles together constitute one and the same agreement.
- (g) This LNTP shall endure to the benefit of, and be binding upon, the Parties hereto and their respective successors and assigns, provided that neither Party shall be entitled to assign this LNTP in whole or in part, to any other Party without the prior written consent of the other Party hereto.
- (h) Contractor shall not assign this LNTP without the prior written consent of Company. Company may assign this LNTP in accordance with the provisions of Article 35.1 in the Agreement form attached as Schedule 3.
- (i) Notwithstanding any other provisions, the aggregate liability of Contractor (including its affiliates) or Company (including its affiliates) for any claims of any kind, losses, damages or expenses arising out of or in connection with the Initial Work or this LNTP or from the performance or breach thereof shall not exceed the LNTP Price.
- (j) Notwithstanding any other provision, neither the Company nor Contractor will be liable to the other Party for: (i) loss of profit, loss of revenue or business opportunity, loss of production, costs of money, claims of customers, costs of replacement power, in each case whether foreseeable or not; or (ii) any incidental, indirect, special or consequential damages of any nature.

IN WITNESS WHEREOF the Parties hereto have executed this LNTP as of the date first written above.

| | | | |
|---|--------------------------------|--|--|
| Nalcor Energy | | Astaldi Canada Inc. | |
| By:  | | By:  | |
| Name: <u>GILBERT BENNETT, Pres.</u> | Name: <u>GUIDO VENTURINI</u> | | |
| Title: <u>VICE PRESIDENT - LCP</u> | Title: <u>PROJECT DIRECTOR</u> | | |
| | | | |
| By:  | | By: | |
| Name: <u>E. J. Martin</u> | | | |
| Title: <u>President & CEO</u> | | | |

SCHEDULE 1**DESCRIPTION OF INITIAL WORK**

The objective of this LNTP is the performance of activities described below by the Contractor related to the Agreement. The list below sets out the deliverables to be provided by Contractor for delivery to Company under the LNTP.

The Contractor is required to commence the Initial Work as part of the Work under the Agreement. Since the performance of the Initial Work should allow the Contractor to comply with the Interface and Milestone Schedule, the Initial Work shall include not only preliminary works and mobilization activities, but also the activities in relation with design, procurement (plant, equipment, material and subcontract) and any other activities necessary in the expectation of executing the Agreement.

Based on the above, the estimated Initial Work shall include the following activities:

1) - Design and Permits

Detailed design of the Integrated cover system (App.A2.1 item 5)
Detailed design of the Site Installations (App.A2.1 item 2)
Detailed design of the electrical, drainage and industrial water system (App.A2.1 item 2)
Detailed design of the dewatering system (App.A2.1 item 26)
Executive quality plan (for approval) (App.A2.1 item 12)
Executive HSE plan (for approval) (App.A2.1 item 10)
Permits (Task Force)
Construction Schedule

2) - Procurement

2.1 - Selection, approval contract agreement and mobilization of subcontractors for:

Fine and coarse aggregate supply for concrete (App.A2.1 item 2)
Concrete production (App.A2.1 item 2)
Power generation and Industrial Water production (App.A2.1 item 2)
Power House Integrated Cover System (App.A2.1 item 5)

2.2 - Materials for Site Installations (shelters, containers, other facilities) (App.A2.1 item 2)

2.3 - Equipment for Site Installation works (App.A2.1 item 2)

2.4 - Contract finalization of strategic suppliers (Task Force)

Formworks.
Cement
Steel reinforcement

3) - Construction

Site inspection to define availability of the assigned areas to allow all temporary construction activities that can be realized outside the spillways and powerhouse (Task Force)

Access road construction (App.A2.1 item 4)

Preliminary activities for Gd 11 borrow pit stripping and excavation (App.A2.1 item 4)

Preparation and construction of laydown area (App.A2.1 item 4)

Site installation and facilities (App.A2.1 item 2)

Equipment mobilization (App.A2.1 item 1 and 3)

Workshop construction (App.A2.1 item 2)

Note: The references to items in “App.A2.1” are references to the Schedule of Price Breakdown in Appendix 2 of Exhibit 2 – Compensation in the Agreement.

SCHEDULE 2**ESTIMATED MONTHLY PROGRESS PAYMENT OF ACTIVITIES DURING LNTP PERIOD**

| Price Item | Description | Currency | Sept.2013 | Oct.2013 |
|------------|------------------------------------|------------|--------------------|--------------------|
| 1 | Mobilization | CAD | \$370,058 | \$768,582 |
| 2 | Site Installation | CAD | 536,211 | 2,267,515 |
| 3 | Contractor Equipment for Indirects | CAD | 60,126 | 124,878 |
| 4 | Temporary Works | CAD | 540,699 | 1,161,453 |
| 5 | Winter Protection | CAD | 246,406 | 511,767 |
| 6 | Management and Staff | CAD | 173,943 | 361,266 |
| 6A | Design and technical assistance | CAD | 11,226 | 23,323 |
| 7 | Attendant labour | CAD | 55,963 | 116,262 |
| 8 | Services | CAD | 17,659 | 36,610 |
| 10 | Health and Safety Requirements | CAD | 41,093 | 85,347 |
| 11 | Environmental Requirements | CAD | 2,462 | 5,116 |
| 12 | Quality Assur/Quality Control | CAD | 49,746 | 103,320 |
| 26 | Dewatering of Structure Areas | CAD | | |
| | TOTAL | CAD | \$2,105,592 | \$5,565,439 |

In order to initially cover the above listed activities and to start-up the following Subcontractors and suppliers an initial amount equal to CAD \$ 15,000,000 as part of the total advance payment payable pursuant to the Agreement, shall be paid to Contractor immediately upon signature of this LNTP Agreement (the "Initial Advance Payment"): covering system fabrication, aggregates and concrete plants, power generation and industrial water production, temporary facilities, formworks, cement and reinforcing steel. Contractor shall provide a letter of credit in the form in the Agreement from a bank listed in Schedule 1 of the Bank Act to secure Contractor's reimbursement obligations under this LNTP, which letter of credit shall be in the amount of the Initial Advance Payment and shall be valid and enforceable until the earlier of the execution of the Agreement or 60 days following the termination of this LNTP, following which such letter of credit shall immediately be released by Company to Contractor.

The above monthly progress payments shall be subject to a 10% holdback by Company pursuant to the Newfoundland and Labrador *Mechanics' Lien Act*. The holdback will be released to Contractor following execution of the final Agreement upon receipt by Company of a holdback release bond in the form in the Agreement covering the amount to be released or, if no Agreement is executed, the later of 45 days after termination of this LNTP or 45 days after the last work is performed under this LNTP.

If during the term of the LNTP, the Contractor is required to enter into any agreement with third parties and/or to perform any activity in order to comply with the Interface and Milestone Schedule, the Contractor shall obtain Company's Approval to enter into such agreements. Company shall reimburse Contractor for any amounts paid by Contractor to third parties under any such Approved agreements.

SCHEDULE 3 AGREEMENT FORM

[Attached]

Including:

| | Agreement Document | | Rev |
|------------|--|--|-----|
| Articles | Civil Works Agreement | Dated 8 th September Bidder-Astaldi | |
| Exhibit 1 | Scope of Work Specification | 505573-3331-41EW-0001 | 09 |
| Exhibit 1 | Technical Document List | 505573-CH0007-40AL-I-0001 | 08 |
| Exhibit 1 | Technical Specification (With 13 Sections updated and remainder unchanged since Addendum No. 14) | 505573-3331-41EF-0001 | 01 |
| Exhibit 1 | Drawings per Document List | | |
| Exhibit 2 | Compensation (Including Appendices A to G) | 505573-0007-51AF-I-2135 Dated 27 August) | 0T4 |
| Exhibit 2 | Attachment 1 Measurement and Payment | 505573 – CH0007 | 08 |
| Exhibit 3 | Coordination Procedures | 505573-CH0007-51AF-I-2136 | 02 |
| Exhibit 4 | Supplier Document Requirements List | 505573-3331-41EL-0002 | 01 |
| Exhibit 5 | Health and Safety Requirements | 505573-0000-51AF-I-2138 | 01 |
| Exhibit 6 | Environmental and Regulatory Compliance Req. | 505573-0000-51AF-I-2139 | 03 |
| Exhibit 7 | Quality Requirements | 505573-CH0007-51AF-I-2140 | 00 |
| Exhibit 8 | Subcontractors, Manufacturers and Material Sources (Including Appendix A16.2, Rev 2) | 505573-0000-51AF-I-2141 | 00 |
| Exhibit 9 | Interface and Milestone Schedule | 505573-CH0007-51AF-I-2142 | 07 |
| Exhibit 10 | Declaration of Residency (including Appendix A2.6) | 505573-0000-51AF-I-2143 | 00 |
| Exhibit 11 | Company Supplied Documents | 505573-CH0007-51AF-I-2144 | 03 |
| Exhibit 12 | Site Conditions | 505573-CH0007-51AF-I-2145 | 06 |
| Exhibit 13 | Provincial Benefits (including Appendix A11) | 505573-0000-51-AF-I-2146 | 00 |
| Exhibit 14 | Performance Security | 505573-0007-51AF-I-2147 | 02 |
| Exhibit 15 | Supplementary Data | | |
| Exhibit 16 | Dispute Resolution Procedures | | |
| | Minutes of Meeting held on 14 th September 2013 | | |
| | Pre-Award Record of Site Inspection, and Status of Site Conditions | | |

KNOWN ITEMS TO BE ADDRESSED

- 1) Incorporate any revisions made through the Bid Clarification Master, which have not already been incorporated.
- 2) Incorporate any clarifications or revisions confirmed in the Commercial Proposal Clarification Forms (Nos. 1 to 20); also agree any outstanding items in the Forms, if any;
- 3) Update the Supplier Document Requirement List;
- 4) Incorporate “good housekeeping” revisions;
- 5) Review and take account of the set of Approved For Construction Drawings that will be available in the next two weeks;
- 6) Survival clause of Agreement to be reviewed and updated.
- 7) Finalization of Appendix A2.1: to be submitted with the text of the original A2.1 Form from the RFP document; to include for the discount of forty million Canadian dollars consented as part of the Minutes of Meeting of September 14th, and to include the price adjustments made for the additional 50 million in the Letter of Credit for performance and the additional Performance Bond of 150 million.
- 8) Submission of detailed sheets as referenced in the Minutes of Meeting of September 14th;
- 9) Finalization of all Appendices of Exhibit 2, in complete alignment with one another, Exhibit 2 and the Articles.

15284583.4

LNTP – 24 September 2013

S-10

Exhibit 2 – Appendix J
Fully Executed LNTP with Amendment No. 1
Agreement No.: CH0007-001

Amendment No. 1
LIMITED NOTICE TO PROCEED
LOWER CHURCHILL PROJECT: MUSKRAT FALLS
CH0007: CIVIL WORKS

This Amendment to the Limited Notice to Proceed Agreement is made as of the 31st day of October, 2013, by and between:

NALCOR ENERGY a body corporate constituted pursuant to the
Energy Corporation Act, S.N. 2007, c. E-11.01 solely in its own
right and not as agent of the Crown in right of the Province of
Newfoundland and Labrador, and having its head office at the City
of St. John's, Province of Newfoundland and Labrador
(hereinafter referred to as "**Company**")

- and -

Astaldi Canada Inc.
(hereinafter referred to as "**Contractor**")

WHEREAS the Company and the Contractor are in the process of finalizing an agreement for the construction of the intake and powerhouse, spillway and transition dams as described in contract package CH0007 (the "Agreement");

AND WHEREAS the Company and the Contractor entered into a Limited Notice to Proceed dated the 24th day of September, 2013, for a limited scope of work on certain terms pending finalizing the Agreement ("the LNTP");

AND WHEREAS the discussions to finalize the terms of the Agreement are ongoing and the Parties acknowledge that they will not be able to finalize, execute and deliver the Agreement by October 31, 2013 as contemplated in the LNTP and wish to extend the term of the LNTP to the 30th day of November, 2013;

AND WHEREAS the Parties have agreed to meet during the week of November 4, 2013, and such other times as the Parties may agree, to discuss additions to the scope of work to be performed by the Contractor under the LNTP and the compensation payable to the Contractor for such additional work to preserve the target price and contract schedule.

(15851482.1)

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- 2 -

WITNESSETH that in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereto covenant and agree each with the other as follows:

1. The date in Section 5(c) of the LNTP is deleted and replaced with the following:
"30 November 2013".
2. The Parties agree that all other understandings and provisions set out in the LNTP shall remain unchanged.

IN WITNESS WHEREOF the Parties hereto have executed this Amendment No. 1 to the LNTP as of the date first written above.

Nalcor Energy

Astaldi Canada Inc.

By: Paul Harrington
 Name: PAUL HARRINGTON
 Title: PROJECT DIRECTOR

By: Guido Venturini
 Name: GUIDO VENTURINI
 Title: PROJECT DIRECTOR

By: _____
 Name: _____

EXHIBIT 3

COORDINATION PROCEDURES

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- Appendix I – Site Instruction (SI)
- Appendix J – Engineering Change Notice (ECN)
- Appendix K – Field Work Order (FWO)

1 INTRODUCTION

This Exhibit 3 – Coordination Procedures is intended to govern Contractor, Engineer and Company in the administration and management of the Agreement.

Contractor shall use its own systems, methods and procedures in the administration of the Work. However, Company has certain requirements regarding Agreement administration, monitoring and coordination, consistency and project controls with which Contractor shall comply. These requirements are described in this Exhibit 3. Where necessary, Contractor shall adapt its own systems, methods and procedures to satisfy such Company requirements.

It is Company's intention that Company and Contractor work together to mutually agree on a set of methods and procedures for performing the Work. In this regard, Company will require a series of meetings in Company offices immediately following Effective Date. During the meetings, Contractor, Company and Engineer will review Contractor's proposed methods and procedures for executing the Work. Following this review, the Parties will agree on any modifications to Contractor's methods and procedures required to satisfy the requirements of this Exhibit 3.

The following additional Exhibits have been provided to specify Company requirements and Contractor responsibilities with respect to Health and Safety Requirements (Exhibit 5), Environmental and Regulatory Compliance Requirements (Exhibit 6), Quality Requirements (Exhibit 7) and Provincial Benefits (Exhibit 13).

2 EARLY ACTIVITIES AND GENERAL EXECUTION

2.1 SCOPE

This Section 2 sets forth minimum early activities associated with preparation for execution as well as general execution activities.

2.2 OBJECTIVES

Contractor shall employ a systematic management approach to the Work embracing sound management principles, including:

- a) Finalization of an Execution Plan as it pertains to the Work (as described in Section 2.4 below); and
- b) Understanding of and alignment with Company's objectives, priorities, and philosophies with the aim of Contractor developing appropriate plans and procedures.

2.3 CONTRACTOR DUTIES

Contractor shall:

- a) Review Contractor's proposed Execution Plan with Company. Update the plan with all Accepted changes and enhancements and maintain on an ongoing basis;

- b) Participate in meetings, as scheduled by Engineer, to mutually agree on methods and procedures for performing the Work. Meetings shall be held in Company offices and may be scheduled to begin within fourteen (14) days of the Effective Date and shall be completed within forty-five (45) days of the Effective Date;
- c) Provide all information requested by Company to support Company's appraisal of Contractor's performance of the Work, including performance of other members of the Contractor Group. Such information may include, without limitation, Contractor Group systems, methods and procedures for performing the Work; copies of calculations, working drawings, specifications, purchase requisitions and recommendations (if applicable); estimates; labor productivity data; schedules; procedures; and alternative studies;
- d) Contractor shall maintain close management alignment with Company and Engineer during execution of the Work;
- e) Actively support and participate in project reviews as required by Company and as they relate to the Work.

2.4 SPECIFIC REQUIREMENTS

Early Deliverables

A list of all early deliverables and the timing of their submission to Company is specified in Exhibit 4 - Supplier Document Requirements List.

Execution Plan

Contractor shall submit its Execution Plan within fourteen days (14) of Effective Date. Contractor shall then make all changes based on Engineer's comments and submit a final Execution Plan to Engineer for Acceptance within fourteen days (14) of receipt of Engineer's comments.. The Execution Plan will serve as the basis for developing the detailed plans for the Work.

Contractor shall maintain the Execution Plan as a living, working document. Changes to such plan will be subject to the review and Approval of Company. As changes arise, Contractor shall identify and document critical issues and/or potential constraints that could adversely affect the accomplishment of Company's objectives for the Work and shall submit such changes to Company for Approval.

The Execution Plan shall:

- a) Document the results of the overall planning process for the Work. The Execution Plan is a framework from which will evolve execution strategies and approaches, work plans, risk identification and mitigation plans, detailed procedures, organizational structures, logic networks, schedules and other material needed by Contractor's Personnel to develop execution details and Contractor's plans for the Work, including detailed fabrication and construction plans;
- b) Document Contractor's objectives, priorities and philosophies that are based on and consistent with Company's objectives, priorities and philosophy for the Work; and

- c) Outline formalized processes to be employed to identify broad strategic issues, evaluate impact, develop mitigation measures/action plans, and to follow-up on results of mitigation measures/action plans.

Coordination Teams

As one of the early project activities, coordination teams will be established at various levels within Contractor's and Company's organizations. Contractor and Company will mutually agree on the composition of each team and agree on the frequency of meetings. If there is a failure to agree on such composition and/or frequency, Engineer shall have the authority to determine these matters.

The initial meetings of the coordination teams will be to:

- a) Develop positive working relationships between team members;
- b) Develop plans to meet objectives, guidelines for individual and team behaviours, and teamwork, and determine Contractor / Company success criteria;
- c) Identify and review, as appropriate by team, challenging areas or areas of opportunity which require special attention; and
- d) Establish the initial framework for the specific plans for the Work as referenced in this Exhibit 3.

3 ORGANIZATION, ADMINISTRATION AND REPORTING

3.1 CONTRACTOR DUTIES

Contractor shall:

- a) Submit proposed, and Accepted or Company Approved organization charts, identifying key positions required for executing the Work. These shall be included within the Execution Plan;
- b) Provide information required by Company and seek Company's Approval on matters as required by the Agreement;
- c) Participate in regular meetings with Company, Engineer and Company's Other Contractors to discuss the status of the Work, methods for resolving problems encountered or anticipated, and other topics pertinent to the Work; and
- d) Provide to Company Group Personnel offices, logistical support and facilities at Contractor's offices and the Worksite(s), as required by Company and Engineer (to be specified in Section 3.2.6 below, if required).

3.2 SPECIFIC REQUIREMENTS

3.2.1 CONTRACTOR ORGANIZATION

Within the time specified in Exhibit 4 - Supplier Document Requirements List, and to be included in the Execution Plan, Contractor shall submit a description of its project organization for the Work indicating clear lines of decision making, authority and responsibility addressing as

a minimum the following:

- a) Project management organization;
- b) Safety management organization both at home office and for the Worksite(s);
- c) Quality management organization, including Quality Manager, Worksite(s) quality organizations and vendor inspection organization;
- d) Regulatory and environment organization(s);
- e) Procurement organization, including purchasing, subcontracting and material management for both Contractor’s home office and for the Worksite(s);
- f) Project controls including cost and schedule management for both Contractor’s home office and for the Worksite(s);
- g) Technical organization, including engineering, design, constructability and document control;
- h) Construction Worksite(s) including engineering support, planning, cost and schedule control, material management, quality, safety and construction operations (including field supervision);
- i) Completions organization (if applicable); and
- j) Start-up organization (if applicable).

Each organization within the overall organization of the Work shall have key Personnel assigned and have designated authority and responsibility for the given portion of Work.

For each position designated as being key Personnel, the following information shall be provided:

- a) Roles and responsibilities;
- b) Job titles;
- c) Approval authority assigned to each position;
- d) Contact address(es) and telephone number(s); and
- e) Candidate's most recent resume.

Contractor shall update the organization charts, contact addresses and phone numbers as changes occur to the Work, as Contractor's overall organization changes or as requested by Engineer.

The organization charts shall clearly indicate how and to whom Contractor's organization for the Work reports in its home and/or any affiliated offices and the relationship of Contractor's organization for the Work to its corporate and/or departmental organization.

Listed below are Contractor’s key Personnel for the management, control and execution of the Work. Contractor shall maintain up-to-date organization charts, which shall be submitted to Engineer in the event of changes.

| POSITION DESCRIPTION (TITLE) | NAME |
|------------------------------|------------------|
| Project Director | Guido Venturini |
| Project Manager | Ken Chrissyolor |
| Construction Manager | Vittorio Robiati |

| | |
|-------------------------|----------------|
| Planner | Pierre Cianni |
| General Superintendent | Marvin Bennett |
| General Superintendent | Yves Gagnon |
| Formwork Superintendent | Yves Gauthier |

Key Personnel shall be assigned on a full time basis and be committed to continue throughout the Term in order to maintain continuity. The appointment, transfer and replacement of key Personnel shall be subject to the conditions stated in the Articles of Agreement.

3.2.2 CORRESPONDENCE AND COMMUNICATION REQUIREMENTS

Correspondence and Notices

Company and Contractor shall jointly establish a correspondence plan and procedures which shall be periodically updated and kept current.

The Aconex module, “LCP Procurement” shall be utilized to manage all written communication between Company/Engineer and Contractor. Aconex is an electronic document management system which is a secure on-line platform for storing, managing and distributing project information that can be accessed via an internet connection and a web browser (www.aconex.com). The implementation of Aconex Mail will be coordinated during the kick-off meeting between Contractor and Engineer.

The Aconex module, “LCP Rev Controlled”, will be utilized for all technical documentation (refer to the document entitled “LCP Supplier Document Requirements” provided in Exhibit 11 - Company Supplied Documents).

The Articles of Agreement contain instructions regarding Notices. Contractor shall not receive nor accept instructions concerning the Work from anyone other than the Company Representative or his/her designee. Contractor shall not use meetings, oral discussions, etc. as a forum to submit Change Requests. Change Requests will be addressed using appropriate procedures set out in this Exhibit 3.

Company and Contractor Representatives

All formal correspondence, documents and Agreement deliverables required by the Agreement, including this Exhibit 3, from Contractor to Company shall be addressed to the Company Representative. Likewise all correspondence from Company to Contractor shall be sent to Contractor's Representative.

Company Representative

The Company Representative has the responsibility of managing the Agreement on behalf of Company, including Approval of Changes, and issuance and receiving of Notices.

The Company Representative has the authority to stop the Work for the purposes of safety, quality and risk of damaging Company property under the care, custody and control of Contractor. Notification of stoppage can be addressed verbally, and then supported by writing. Contractor shall resume Work when appropriate actions are addressed to the satisfaction of Company. No compensation will be provided for Work stoppages of this nature.

The Company Representative may delegate any of his or her responsibilities to any nominated deputy. Notice of delegation shall be provided to Contractor's Representative and Engineer in writing.

Engineer

Engineer's role and responsibilities are detailed in Article 11 of this Agreement. Company may delegate any of Engineer's responsibilities to any nominated deputy. Notice of delegation shall be provided to Contractor's Representative in writing.

Contractor's Representative

Contractor shall appoint a Contractor's Representative for the Work, who shall have full authority to receive instructions and administer the Agreement for and on behalf of Contractor, in addition to those authorities stated in the Articles of this Agreement.

The Contractor's Representative shall have the responsibility for receiving, acknowledging, countersigning and returning any instructions, decisions, Notices, authorizations and acknowledgements to Contractor under this Agreement, in addition to those responsibilities stated in the Articles of this Agreement. Contractor's Representative shall also be responsible for administering, monitoring, reviewing and coordinating all aspects of the Work on behalf of Contractor.

Contractor's Representative may delegate any of his or her responsibilities to any nominated deputy upon prior Notice to the Company Representative and Engineer. Notifications, information, authorizations, acknowledgements and decisions from any such nominated deputy shall be as if from Contractor's Representative.

3.2.3 REPORTS AND MEETINGS

Contractor shall submit reports to Company on the progress of engineering, procurement, and construction and on the status of other activities for the Work as otherwise provided below and other provisions in this Exhibit 3.

Weekly Report

Contractor shall submit a weekly report ("Weekly Report"), which shall reflect the current status of the Work, progress and issues. The timing, format and content shall be as agreed between Contractor and Engineer, but shall address the following as a minimum:

- Brief summary of status of the Work;
- Management and administration;
- Significant items planned for the following weeks;
- Health, safety and environment;
- Quality management;
- Highlights and concerns including any required and implemented corrective action in all of the following main areas:
 - engineering
 - procurement
 - manufacturing
 - fabrication
 - construction
 - installation
 - completions;
- Interface activities;
- Status of Change Requests; and
- Receipt of major components and/or materials at the Site.

Monthly Progress Report

Contractor shall submit a monthly progress report (“Monthly Progress Report”) based on a cut-off date to be defined by the Engineer. The timing of the submission of this report shall be by close of business no later than the 5th calendar day of the following month. The first Monthly Progress Report shall be issued not later than forty-five (45) calendar days after the Effective Date. The format and content of the Monthly Progress Report shall be as agreed between Contractor and Engineer, but shall address the following as a minimum:

- a) Highlights in bullet point style of the significant accomplishments achieved and issues addressed during the reporting period;
- b) A description of problems or delays encountered or anticipated, and corrective actions initiated or contemplated to counteract or minimize the effect of such problem, together with the results of any corrective actions already taken;
- c) The Worksites’ safety status including health and safety statistics for the past month and for the Work to date. The content and format for the safety statistics are provided in Exhibit 5 – Health and Safety Requirements. Major safety problems shall be highlighted and action plans to improve conditions outlined. Safety initiatives undertaken during the past month and/or planned for the forthcoming month shall be discussed;
- d) Short narrative covering all significant events during the reporting period;
- e) Management, including mobilization, systems implementation, procedures development and other administrative activities;
- f) Current status of the Work. Progress data (progress curves, histograms, productivity information and Summary Schedules) shall be provided on graphs which show actual versus planned progress as further described in Section 9 of this Exhibit 3 for: (i) engineering, (ii) equipment and materials orders, (iii) equipment and materials deliveries at

the Worksite(s), (iv) construction, (v) completions and (vi) overall Work progress. For activities that are behind schedule, an analysis of reasons for the slippage shall be included, together with a description of actions to be taken to recover;

- g) All constructability issues;
- h) The quality status including quality statistics for the past month and for the Work to date;
- i) Interface management status;
- j) Cost and financial reports as defined and/or specified in in Sections 6 and 13 of this Exhibit 3;
- k) The status of planning, scheduling and schedule control, including coverage of relevant activities called for within Section 7 of this Exhibit 3;
- l) The status of Changes, if any, and the corresponding current value of the Contract Price including the effect of Change Orders and Change Requests;
- m) The status of procurement and subcontracting, including placement of Subcontracts (including Subcontractors' subcontracts of every tier), status of spare parts orders, performance of Subcontractors (including Subcontractors' subcontracts of every tier), and Subcontract administration matters (including Subcontractors' subcontracts of every tier);
- n) The status of items involving Authorities such as inspections, approvals, permits, clearances and licenses, as further described in Exhibit 6 - Environmental and Regulatory Compliance Requirements;
- o) Provincial Benefits report as described in Exhibit 13; and
- p) Monthly risk report consisting of the following:
 - A structured narrative that describes major risk activities and events during the reporting period containing major changes in the Risk Register (as defined in Section 9.1(c) below) with a focus on medium and high level risks;
 - Highlights of five (5) to seven (7) most important package risk management activities and events; and
 - An updated Risk Register (as defined in Section 9.1(c) below).

Final Contract Report

A final report summarizing the Work shall be submitted by Contractor to Engineer for Acceptance, the content and timing of which shall be specified by Engineer. Such an Accepted final report shall be submitted to Engineer by Contractor prior to Contractor's request by Notice of a Final Completion Certificate.

Meetings

Meetings of key Contractor's Personnel, and Engineer and Company Personnel, shall be held regularly.

Monthly and weekly progress meetings will be held, details of format and content of which will be as agreed between Contractor and Engineer. If there is a failure to agree on such format and/or content, Engineer shall have the authority to determine these matters.

Engineer may hold other meetings with Contractor to discuss matters of technical, interface management, health, safety, environmental, design, quality, verification, certification, documentation, engineering data, cost, accounting, scheduling, construction, progress and the like, and as may be otherwise required for the Work and the Agreement. Contractor shall ensure sufficient and appropriate qualified Personnel are available to attend.

In general, meetings shall adhere to the following guidelines:

- a) The agenda items for any meeting will be issued by Engineer to the Parties no less than two Business Days prior to such meeting. Both Engineer and Contractor shall ensure, in accordance with their respective responsibilities that reports, reproducible documentation and forward planning information relating to agenda items are issued in sufficient time to allow adequate preparatory study and evaluation;
- b) The meeting will address only the items covered by the agenda and any other minor topics relevant to the Parties and subject concerned;
- c) In those instances where matters of urgency need to be addressed, Company and Contractor will make every effort to address such items at the earliest opportunity; and
- d) It shall be the responsibility of Engineer to record minutes of all meetings unless otherwise instructed by Engineer. Minutes should be brief, indicate with whom the responsibility for action lies, the date the action was assigned and the date required for completion of such action. Minutes should also state the results of assigned actions outlined in previous minutes, including the actual date of completion of the action.

Photographs

Contractor shall provide photographs as Company may request of sufficient quality for possible inclusion in Company's publications depicting significant activities and general progress of the Work.

3.2.4 INFORMATION SYSTEMS AND TECHNOLOGY (IS/IT)

Contractor shall:

- a) establish and maintain an IS/IT infrastructure and associated computing environment to ensure overall reliability, performance and security control;
- b) provide access, for Engineer and Company Personnel, to any software applications and supporting services required in order for Engineer and Company to perform their work;
- c) maintain an upgrade path for electronic formats that will keep data formats compatible with that of Engineer;
- d) securely transfer data and information electronically to Engineer on a timely basis using industry recognized standards, processes, systems and methodologies;
- e) ensure control practices and risk mitigation plans are in place to provide protection and safeguard for all data and information related to the Work including but not limited to access management, data corruption, data loss, backup and disaster recovery procedures; and
- f) within thirty (30) days of the Effective Date, provide to Engineer a description of the IS/IT support organization and how it is structured to support the Work.

3.2.5 DATA

All documentation and information, including correspondence, notes reports, information identified and/or required by this Agreement, drawings, specifications, schedules, weekly, bi-weekly and/or monthly reports, databases, records, videos, photos and other documents (hereinafter collectively referred to as "Data") shall be made available to Engineer and Company in electronic native format as well as hard copy. The transfer of Data will be by storage medium such as optical or magnetic discs, or other form specified from time to time by Engineer. Contractor shall undertake all reasonable efforts to ensure Data is provided in a form fully useable to Engineer and Company with well recognized industry standard applications.

Where the software necessary to enable Engineer and Company to fully utilize Data is based in whole or in part on Contractor's proprietary information/software, Contractor shall grant Company Group a non-exclusive, perpetual, royalty free, irrevocable and non-transferable (except to a permitted assignee of this Agreement) license to such information/software.

Where the software is not proprietary to Contractor and obtained through usage of software leased or purchased from third parties, Contractor shall, subject to Company Approval, arrange for and obtain for the benefit of Company Group a non-exclusive, perpetual, royalty free, irrevocable and non-transferable (except to a permitted assignee of this Agreement) license to use such software to enable Engineer and Company to fully utilize Data.

Throughout the Term, Company in conjunction with Engineer shall review Data to ascertain what data is to be passed to Company by Contractor for future use.

3.2.6 FACILITIES AND SERVICES FOR COMPANY PERSONNEL

Contractor shall provide Company Group Personnel with the following office facilities and services at Worksites, as may be required by Company and Engineer:

Company has no requirements for the Worksites.

4 INTERFACE MANAGEMENT

In relation to the Work, Contractor is responsible to coordinate the interfaces between Contractor Group and other entities and to organize its operations to allow its Work activities at Site to be carried out efficiently, without delay and in cooperation with Company's Other Contractor(s) at Site.

4.1 OBJECTIVES

Contractor shall:

- a) Manage its technical and execution interfaces and thus coordinate its activities with other organizations as required to effectively accomplish the Work;
- b) Identify major interfaces early in the Work through a structured process;

- c) Define the interface information needed for the Work. Contractor and other interfacing entities (including originating and responding organizations) shall then agree on roles, responsibilities and timing for providing agreed upon information or actions;
- d) Ensure that all communications with other organizations shall be clear, accurate, timely and consistent to accomplish their intended purpose of transferring information between organizations or ensuring agreed action is taken to progress the Work;
- e) Ensure that interface resolution issues with potential for impacts to cost or schedule shall be identified quickly and communicated to all interfacing entities, including Engineer, in order to minimize their impact; and
- f) Cooperate with Engineer and comply with the requirements of Engineer's Interface management system as it relates to the Work.

4.2 SPECIFIC REQUIREMENTS

Contractor shall:

- a) Develop an interface management plan and shall implement systems and methodology for ensuring the identification of originators and responders, quality, accuracy and timeliness of interface information;
- b) Incorporate the schedules for submittal of its deliverables (as determined by interface management activities) as milestones in Contractor's schedule for the Work. Contractor shall manage compliance with such milestones accordingly;
- c) Schedule and participate in interface coordination meetings with Engineer, Company, Company's Other Contractor(s), and their subcontractor(s) and vendor(s) of every tier, and other organizations, as required to properly manage interfaces; and
- d) Regularly advise Engineer on the status of resolution of interface issues. Contractor shall promptly elevate unresolved interfaces and interface issues to Engineer/Company for resolution.

5 MATERIAL CONTROL

General

Contractor shall maintain records of materials procured for the Work. Engineer will have the right to carry out periodic inspection of all Contractor Group's storage and inventory control records for the Work as well as physical spot checks of all material held in storage.

Company Supplied Items

Contractor shall:

- a) Receive from Company all Company supplied items and as applicable unload, unpack, inspect, and confirm receipt and condition of receipt by issuing a material receiving report to Engineer confirming Contractor acceptance of items and the condition of items at the time of acceptance;
- b) Ensure that all materials are used correctly and no materials are substituted without prior Engineer Acceptance;

- c) Be responsible for the security and safe keeping of all Company supplied items and ensure all items are visually marked as being provided for the Work;
- d) Maintain index records and account for all Company supplied items received and installed, and the remaining surplus and scrap. The index shall, at a minimum, include description, part number, serial number, storage location, status and receipt date;
- e) Secure, protect and maintain all Company supplied items in accordance with specifications and preservation requirements in accordance with industry practice and standards and as set forth in this Agreement; and
- f) Be responsible for any costs incurred as a result of Contractor's failure to properly store, preserve and protect Company supplied items.

Company shall:

- a) Supply Company supplied items to Contractor complete with available documentation to demonstrate traceability and quality assurance to Contractor; and
- b) Have the right to inspect Company supplied items at Contractor Group's storage location(s) and storage records at any time without prior Notice. Such inspection shall not relieve the Contractor of any responsibility for the accountability and safe keeping of Company supplied items.

Inspection

Contractor shall be responsible for and undertake inspection of Contractor Group's supplied equipment and materials for the Work. Contractor shall issue to Engineer inspection reports accompanied by all relevant inspection documents.

Shipping

Contractor shall be responsible for shipment of all materials, components and equipment to the Worksite(s), including those shipments made by all members of Contractor Group. Contractor shall satisfy itself that shipping arrangements by such members are satisfactory, or alternatively organize critical shipments itself or through the use of an appointed shipping or forwarding agent.

Contractor shall establish and issue to all members of Contractor Group proper packaging, shipping and marking instructions including necessary addresses, proforma invoices, bills of lading, customs releases and the like, depending on the various methods of transport, border crossings and receiving location(s).

Contractor shall be responsible for all necessary loading and off loading at all locations.

A logistics and transportation plan shall be produced by Contractor and submitted to Company by the date specified in Exhibit 4 – Supplier Document Requirements List for Company review and Approval.

6 COST MANAGEMENT

Cost Control of Accounts

Engineer will provide cost control accounts to Contractor within thirty (30) days of the Effective Date. The cost control accounts will be cross referenced to the compensation amounts outlined in Exhibit 2 – Compensation.

Cost Report

Contractor shall prepare a cost report to be included as a section of the Monthly Progress Report. Reporting will be consistent with the control accounts and payment elements contained in Exhibit 2 – Compensation. Within thirty (30) days of the Effective Date, Contractor shall submit to Engineer a sample cost report for Engineer's Acceptance. In general, the cost report shall address the following as a minimum:

- a) Contract Price and all changes thereto;
- b) Forecast final Contract Price (previous period, current period and monthly variance);
- c) Reimbursable cost status, if applicable;
- d) Change Order status;
- e) Contract incurred cost flow (actual/forecast); and
- f) Invoice and payment status, including cash flow forecast by currency.

Cost Management Plan

Where the Work includes significant elements of reimbursable activities, Contractor shall prepare and submit to Company, within thirty (30) days of the Effective Date, a cost management plan for Company review and Approval.

7 SCHEDULE MANAGEMENT

This Section 7 sets forth the minimum requirements for Contractor's planning, scheduling, measurement and reporting of physical progress, and schedule control activities for the Work.

7.1 DEFINITIONS

- a. **Earned Value Management**: A method to measure the value of Work performed. Earned value uses current budgets and progress-to-date to show whether the incurred values are on budget and/or whether the tasks are ahead or behind the Accepted Control Schedule Baseline Document. A method for measuring Work productivity and performance; it compares the effort of Work that was actually expended with what was physically completed.
- b. **Control Schedule (CS)**: Also referred to as the Construction Schedule in Article 1 of the Agreement, the Control Schedule forms the basis to measure progress in which cost, schedule, scope and other performance criteria are formally compared against the Accepted Control Schedule Baseline Document for assessment of progress and

performance. The Control Schedule forms the benchmark for comparison and identification of cost and schedule deviations. The Control Schedule shall represent the total Work execution and interfaces with Contractor Group and others (Milestone Dates, Interface Dates, key dates, design, procurement, regulatory, fabrication and manufacturing, transportation, installation, construction and completion) covering the entire duration of the Work, and includes roll-up details of all Contractor's schedules. The Control Schedule is to be a schedule network, which is calculated using the critical path method. Contractor will ensure that the Control Schedule aligns with Exhibit 9 – Interface and Milestone Schedule. The Control Schedule shall be developed using Primavera (P6 or later version) or equivalent. If software other than Primavera is used, the native file shall have the capability to be easily converted to Primavera P6 and shall be subject to the Acceptance of Engineer.

- c. **Milestone:** The start or completion of an activity in the performance of the Work and which is identified as such in Exhibit 9 – Interface and Milestone Schedule.
- d. **Interface Date:** means the date that is specified in Exhibit 9 – Interface and Milestone Schedule for the start or completion of an interface.
- e. **Control Schedule Baseline Document (CSBD):** A series of schedules, s-curves, histograms, tables and narrative which together form the basis of the plan to complete the Work. The Control Schedule Baseline Document is updated and re-issued following re-baselining of the Control Schedule. The CSBD includes the Control Schedule, as well as critical and near-critical path(s). The Control Schedule Baseline Document shall provide supporting documentation to the Control Schedule. It shall include all baseline assumptions regarding schedule durations, logic, installation rates, progress weighting and relevant material as deemed necessary by Engineer.
- f. **Summary Schedule (SS):** The Summary Schedule incorporates all Milestones and Interfaces and is a roll-up of schedule information from the detailed Control Schedule such as engineering, procurement, construction, fabrication, installation and completions and any subject deemed necessary by the Engineer to adequately convey a rollup or the CS.
- g. **Schedule Development and Control Plan (SDCP):** A formal document providing the approach to planning and schedule control including schedule development, analysis, forecasting, reporting, corrective action and the method for incorporation of Changes. The SDCP addresses the scheduling interfaces between Contractor and other members of the Contractor Group, as well as Contractor and Engineer. In particular, the plan shall provide a detailed description of Contractor's progress measurement system including how Contractor measures, verifies and reports physical progress of each major activity of the Work (such as engineering, procurement, fabrication, manufacturing, permitting, transportation, construction/installation and completion).
- h. **Monthly Cut-Off Date:** The month end date that Contractor uses as a basis to compile its progress during the month. The Monthly Cut-off Date will be agreed between Contractor

and Engineer based on the nature of the Work. If there is a failure to agree on such date, Engineer shall have the authority to determine the date.

- i. **Monthly Risk Statement:** Indicates the major risks identified during the month that could represent a threat to the success of the Work, the contemplated mitigation measures for newly identified risks and the actions status pertaining to mitigation measures proposed for previously identified risks.
- j. **Monthly Progress Report:** The monthly report which is described in Section 3.2.3 of this Exhibit 3.
- k. **Weekly Report:** The weekly report which is described in Section 3.2.3 of this Exhibit 3.

7.2 CONTRACTOR DUTIES

With respect to planning, scheduling and schedule control of the Work, Contractor will:

- a) Prepare, implement and maintain a Schedule Development and Control Plan (SDCP) in accordance with the date specified in Exhibit 4 – Supplier Document Requirements List for the Work using methods and procedures that are in accordance with industry recommended practice (i.e., Association for Advancement of Cost Engineering);
- b) Impose the same Control Schedule and progress measurement requirements in the Agreement on other members of Contractor Group;
- c) Analyze and calculate earned quantities, man-hours and costs, and forecast and report the progress of the Work using industry recognized Earned Value Management practices as compared to current Work plans and overall schedule, summarizing the results of the schedule analysis in the Monthly Progress Report, which shall include a Milestone listing with target dates and current forecast dates;
- d) Develop recovery plans and associated schedules if slippage is apparent, or as required by Engineer. Recovery plans will be reviewed with Engineer and implemented upon Engineer's Acceptance. Recovery plans will be monitored and adjustments made as needed to keep the Work on schedule;
- e) Incorporate the results of progress measurement and related status information into schedule forecasts, Weekly Reports and Monthly Progress Reports, as required under this Agreement;
- f) Provide access to all details of schedule preparation, progress measurement and schedule updates when requested by Engineer;
- g) Make changes in the schedule preparation, progress measurement and schedule control procedures at Engineer's request;
- h) Utilize Engineer's progress measurement definition strategy. Actual progress shall be based on physical Work completed measured against the current Work;
- i) Provide Engineer with the Control Schedule (CS) with the baseline estimate that will hold the mechanism of measuring progress in hard copy and electronic form, in accordance with the date specified in Exhibit 4 – Supplier Document Requirements List. The native electronic file shall include all information necessary to duplicate Contractor's schedule,

progress measurement analysis and resource requirements. In addition to the electronic file, the schedule software settings, calendar definitions and application generated scheduling report shall be included;

- j) Take the initiative to propose potential corrective actions whenever there is an identified trend which indicates that a Milestone will not be achieved or indicates an opportunity to shorten the overall schedule, or counteract potential schedule slippages; and implement the action(s) as Accepted by the Engineer; and
- k) Provide a Control Schedule Baseline Document (CSBD) in accordance with the date specified in Exhibit 4 – Supplier Document Requirements List, with all supporting documentation of each schedule update to be validated with s-curves and reporting at levels such as engineering, procurement, manufacturing and installation, as Accepted by Engineer;

7.3 SCHEDULE DEVELOPMENT AND CONTROL PLAN (SDCP)

Contractor's Schedule Development and Control Plan shall cover all areas of schedule development and control, including development, analysis, forecasting, reporting and corrective action. In particular, the plan shall provide a detailed description of Contractor's progress measurement system.

Contractor's Schedule Development and Control Plan will, at a minimum, include:

- a) How Contractor's detailed schedule and current Work plans will be developed, reviewed and updated;
- b) Methodology that Contractor will use to analyze and forecast the progress of the Work relative to current schedules;
- c) How interface management will be addressed. Interface management includes all key internal interfaces within the Work as well as all key interfaces between the Contractor, other members of Contractor Group and Company's Other Contractors. The plan will define how interfaces are identified, stewarded and their status reported;
- d) How interfaces, outside of Contractor's control, could impact the Control Schedule;
- e) The number, types, uses, frequency of updates (and responsibility for updates) and level of detail for each of the various schedules the Contractor intends to use to control the Work;
- f) Methods for analyzing critical path and conducting float analysis;
- g) Procedure for re-baselining the Control Schedule (subject to Engineer's Acceptance);
- h) Coding system for schedules;
- i) The methods that will be used to measure physical progress of each of the various activities or groups of activities in engineering, procurement logistics, fabrication, manufacturing, construction, completions and installation. Methods for engineering shall specifically address use of computer aided design and drafting (CADD), both 2D and 3D;
- j) Procedures within Contractor's organization for review and verification of progress measurement information prepared at each Worksite;
- k) The methods to control over progressing of activities; and verification methods confirming that all activities reported as 100% complete are actually complete;
- l) The method for recognizing the impact of rework on apparent progress, during engineering, procurement, fabrication and construction and the method for specifically

- progressing and tracking the Work;
- m) The methods and procedures for incorporating the effects of Changes on the assessment of progress;
 - n) The method for weighting and combining individual and overall progress measurements to arrive at the discipline and overall progress assessments for engineering, procurement, fabrication, installation, completions and other major activities related to the Work. Progress weightings shall be subject to Engineer's review and Acceptance, and once Accepted shall not be changed without Engineer's prior Acceptance; and
 - o) Contractor plans to manage and report receipt of materials and/or components at the Worksites.

7.4 CONTROL SCHEDULE BASELINE DOCUMENT (CSBD)

Contractor shall prepare and submit to Engineer for its review and Acceptance the Control Schedule Baseline Document in hard copy, portable document format (PDF) and native electronic format. All information required to reproduce the Control Schedule Baseline Document including scheduling software settings, working calendars, application time conversion factors, and precedence and scheduling output reports from the scheduling software, will be included with the submission.

The Control Schedule Baseline Document shall be organized into an overall summary section and a detailed section for each component of the Work (such as engineering, procurement, manufacturing, fabrication, testing and handover). Each section shall be organized as follows:

- a) Assumptions underpinning the execution methodology and Control Schedule, as well as any issues that may impact the Work. This section will also include the basis for any planned changes to the Control Schedule;
- b) Summary Schedule;
- c) Progress curve and table;
- d) Critical and sub-critical path(s); and
- e) Detail schedule.

7.5 CONTROL SCHEDULE (CS)

A detailed Control Schedule for the Work will be prepared by the Contractor and submitted to Engineer for its review and Acceptance. Contractor shall develop the Control schedule in accordance with Company's work breakdown structure and code of accounts for the Work. The Control Schedule for the Work shall be aligned with the detailed estimate for the Work. The detailed schedule will contain sufficient detail to demonstrate how all activities affect the cost, Work and Exhibit 9 – Interface and Milestone Schedule.

The Control Schedule will show activities that provide sufficient detail in all areas of Work execution (such as Milestone Dates, Interface Dates, key dates, design, procurement, fabrication, manufacturing, transportation, installation, construction, completions and all relevant interfaces) to enable monitoring and control of the Work. Schedule forecasts will give a complete and accurate representation of the current status of the Work, including Change

Orders and Change Requests, and the consequences of overrun and under run person hours, productivity and durations.

The Control Schedule shall be prepared and maintained based on input and requirements from Contractor's user groups such as project management, planning and controls, engineering, procurement, work package preparation, fabrication, transportation and logistics, construction, completions, Subcontractors (including Subcontractors' subcontractors of every tier), Engineer and Company's Other Contractors.

7.6 GENERAL SCHEDULING AND PROGRESS REQUIREMENTS

Contractor's planning, scheduling and schedule control activities for the Work will, at a minimum, include the following:

- a) A time-scaled critical path method (CPM) logic network that shall set forth the order and estimated times by which planned activities are to be completed. This network shall identify the critical and subcritical paths (a subcritical path is defined as any series of activities whose completion is within one (1) week of the critical path completion). The logic network shall clearly indicate all restraints and interrelationships and shall incorporate Exhibit 9 – Interface and Milestone Schedule;
- b) A description of those activities associated with material sources, other members of Contractor Group and fabrication. All interfaces will be incorporated into the Control Schedule;
- c) All schedule and progress information (CS, SS, tables, histograms, s-curves, document register, procurement plan, manufacturing schedule and support documentation) shall be issued on a monthly basis;
- d) Progress measurements such that the physical progress of the Work can be related easily to the Control Schedule activities. Progress shall be evaluated on discrete, identifiable deliverables for each Work activity weighted by budgeted person hours or other methods to determine a total percent for each activity. Physical progress measurement relates to the assessment of the proportion of actual Work accomplished towards completion of given components of the Work;
- e) The ability to assess progress for all progress earning activities required for each component of Work, regardless of source. As additional progress earning components are identified, they will be added to the base level of Work through the change management process, to be accomplished and progress measured and reported;
- f) Indicate the schedule calendars used to develop the schedule including, daily work hours, work week, shift schedule, scheduled facility shutdowns (if any) and holidays. Any planned non-work periods shall be clearly indicated and a narrative shall be supplied indicating the period of non-work and the rationale for the non-work period;
- g) Show status of all interfaces within the components of the Work (such as engineering, procurement, manufacturing, fabrication, construction and completions);
- h) Exclude home office and field support functions, such as project management, coordination, engineering office follow-up during construction, construction and fabrication management and supervision, warehousing, material handling and clean-up, from physical progress measurements;

- i) Produce and maintain a schedule network that is logically linked, with a minimal number of constraints utilized. Where constraints are required, the fewest possible constraints necessary to meet the required objective will be used. The reason for the constraint shall be noted in the notebook file for that activity. Constraints that affect the backward pass calculation of the network (“Mandatory Finish”, “Mandatory Start”, “Finish On Or Before”, “Start On Or Before”, “Finish On”, “Start On”) are to be strictly avoided, unless Accepted by Engineer;
- j) Use of activity lags is discouraged. Where the use of lags is considered, Contractor shall consider if the use of an activity to represent the lag is a reasonable representation of the condition being modeled. If a lag is used, the reason and rationale for the lag shall be noted in the notebook file for that activity;
- k) Scheduling option that retains the current logic (“retained logic”) of activities started out of sequence will be used. Where necessary, the logic for those activities for which the relationship is no longer applicable will be manually changed;
- l) Schedule time forecasting shall not be based upon the percentage of schedule completed. The scheduling control software function for linking remaining duration and such percentage shall be disabled;
- m) Control Schedule will be structured to provide five (5) activity code fields, for summarization and reporting purposes, for exclusive use by Engineer. Each code field will be ten (10) characters in length and will be titled LCP1, LCP2, LCP3, LCP4 and LCP5. Engineer will provide the applicable coding to Contractor for inclusion within these code fields. Contractor will populate and maintain these code fields for all schedule activities;
- n) Schedule calendars and activity codes will be prefixed with the six character package identifier and a dash (for example, “CH0007-”). This is to prevent potential data errors in the Engineer’s planning system;
- o) Schedule activity descriptions shall clearly identify the work associated with the activity, and shall be consistently applied throughout the schedule;
- p) Activity durations shall not, in general, exceed twice the update frequency;
- q) Start to Finish (SF) relationship types shall be avoided;
- r) Open ends within the schedule network shall be avoided;
- s) Network logic shall be consistently applied throughout the schedule;
- t) The “Work Breakdown Structure” (WBS) shall not be the only coding system used within the schedule network. Activity codes are required to enable effective schedule development, review and analysis;
- u) Gantt or bar chart displays shall have the current schedule bar assigned to position 1, with the baseline schedule bar assigned to position 2; and
- v) Engineer will have free and direct access to all information associated with Contractor’s progress and performance management systems, including planning, scheduling, progress measurement, person hours, resources and productivity data.

7.7 PROGRESS REPORTING

Contractor shall provide Weekly Reports and Monthly Progress Reports as described in Section 3 of this Exhibit 3 and, with respect to progress reporting, as more fully detailed below:

- a) Weekly Reports shall include the following:

- Number of daily resources (headcounts and man-hours) by trade;
 - Progress table including quantities/statistics for current engineering, procurement, and fabrication/construction/installation/completions activities;
 - A Primavera two (2) week look ahead schedule with activities in-progress and completed in the previous week; and
 - A resource histogram showing a two (2) week look ahead and actual resources the previous week.
- b) Monthly Progress Reports shall include the following:
- Planning and schedule control reports will be updated and issued monthly. Reports shall include the Control Schedule, Summary Schedule, tables, resource histograms, progress s-curves, document register, procurement plan, manufacturing schedule and support documentation. Contractor shall supply a copy of the schedule using Primavera (P6 or later version) or equivalent, as well as hard copy format. If software other than Primavera is used, the native file shall have the capability to be easily converted to Primavera P6 and shall be subject to the Acceptance of Engineer;
 - Deviations from schedule in time or progress, reasons for delays and deviations with recommended actions for recovery;
 - Tabulation of project man-hours addressing planned, actual and forecast at completion;
 - Progress table including quantities/statistics for current engineering, procurement, and fabrication/construction/installation/completions activities; and
 - Identification of critical and sub-critical path(s).

8 CHANGES TO THE WORK

8.1 INTRODUCTION

This Section 8 sets forth minimum requirements for identifying and processing Changes in support of Article 14 of this Agreement.

Changes will be initiated in one of two ways:

- a) by completing a Change Request, in the form as attached to this Exhibit 3 as Appendix A – Change Request; or
- b) by the issuance of a Change Order (which includes a Field Work Order).

Change Orders will be in one of the forms set out in this Exhibit 3 - an interim document and a final document. The Field Work Order form is an interim document used for Company directed Changes issued at the Site. The maximum value of a Field Work Order, in the form as attached to this Exhibit 3 as Appendix K – Field Work Order, shall be limited to \$25,000.00. Company shall issue the final Change Order form for each Field Work Order or for a group of Field Work Orders. The final Change Order form shall also be used for Changes initiated by Change Requests and for any Change not subject of a Field Work Order.

Contractor shall specify its assessment of cost and schedule impacts in each Change Request or proposal presented in accordance with this Section 8.

If Company issues a Change Order (including a Field Work Order) to proceed with a Change on a reimbursable basis, Contractor shall prepare daily time sheets for Company's signature covering such Change and submit them to the Company within twenty four (24) hours where the Change is performed on Site, or within one (1) week where the Change was performed elsewhere, after such Change has been performed. Company's signature of Contractor presented time sheets shall not commit Company to any particular payment in respect of the Change, but shall serve as a record of events in the eventual resolution of any difference of opinion between Company and Contractor regarding the cost or schedule impacts of the Change. Contractor shall also present details of its assessment of any effect of the Change on the Control Schedule.

Company will be entitled to an equitable reduction in the Contract Price and/or an equitable adjustment of the Control Schedule in respect of any reduction in the Work pursuant to a Change Order and in accordance with the provisions of Article 14 of this Agreement.

Contractor is not entitled to recover any costs related to preparation and administration of Change Orders, responses to Change Requests or preparation of Change Requests.

Each Change Order shall be deemed to take full account of the cumulative effects on the Contract Price and of all prior Change Orders.

8.2 ENGINEER REQUESTED CHANGES

Company may issue a Change Order (including a Field Work Order) directly to Contractor or may request a proposal from Contractor for a contemplated Change through Engineer by issuance of a Change Request.

Upon receipt of a Change Request from Engineer, Contractor shall prepare a proposal for the Change Request and submit it within five (5) Business Days to Engineer for further processing. Contractor's proposal shall include:

- a) A detailed execution methodology for the proposed Change;
- b) A detailed schedule for the execution of the Change and the impact on the Control Schedule;
- c) An estimated price for the Change using the items in the applicable Schedule(s) of Exhibit 2 - Compensation or if such Schedule(s) is not applicable, a lump sum price for the Change (if Contractor proposes any other method of compensation it shall provide its rationale for that method); and
- d) Details of the impact on the Execution Plan, the Quality Plan, the health and safety plan referenced in Article 15.2 of this Agreement and the environmental protection plan referenced in Article 15.3 of this Agreement.

If Contractor cannot present the proposal for the Change Request to Engineer within five (5) Business Days of the receipt of the relevant Change Request from Engineer, Contractor shall promptly notify Engineer and provide reasons for the delay and the date the proposal will be ready. Contractor shall not unduly delay submission of the proposal to Engineer. Engineer, at

its sole discretion, can reject any proposal not submitted in accordance with the requirements outlined herein.

Engineer will review Contractor's proposal within ten (10) Business Days and either Accept and return a Change Order (in the form as attached to this Exhibit 3 as Appendix B - Change Order) for Contractor execution or reject the proposal for resubmission or cancellation.

8.3 CONTRACTOR IDENTIFIED CHANGES

Contractor may request a Change by submitting a Change Request to Engineer. The Change Request will include:

- a) A detailed explanation of why Contractor considers that a Change has occurred along with detailed support to enable Engineer to easily evaluate and assess the merits of the Change Request. Contractor shall specify the relevant provision(s) of the Agreement which it interprets as the basis for the Change Request;
- b) A detailed schedule for the execution of the Change and the impact on the Control Schedule;
- c) An estimated price for the Change using the items in the applicable Schedule(s) in Exhibit 2 - Compensation or if such Schedule(s) is not applicable, a lump sum price for the Change (if Contractor proposes any other method of compensation it shall provide its rationale for that method); and
- d) Details of the impact on the Execution Plan, the Quality Plan, the health and safety plan referenced in Article 15.2 of this Agreement and the environmental protection plan referenced in Article 15.3 of this Agreement.

Contractor has the responsibility to identify, by the issuance of a Change Request, any change to the Work that it believes to be necessary for environmental integrity, or that will benefit Company in terms of capital or operating cost, or improved performance flexibility, safety or operation of the Work.

8.4 CHANGE ORDER PRICE

Contractor's proposed price for any Change will generally be stated as an estimate based on the rates in the applicable Schedule(s) in Exhibit 2 - Compensation or if such Schedule(s) is not applicable, then a lump sum price shall be proposed. If Contractor proposes any other method of compensation, it shall provide its rationale for such method. Contractor shall provide such substantiation as Company may reasonably request regarding such proposed price. Each lump sum price for a Change shall be determined using the rates and prices outlined in Exhibit 2 - Compensation or on a basis to be agreed between Engineer and Contractor if there are no applicable rates in Exhibit 2 - Compensation.

For any Change proposed to be compensated on a reimbursable basis, Contractor shall include an estimated total price for the Change in the Change Request or in its proposal in response to a Change Request. Changes performed on a reimbursable basis will be priced in accordance with Exhibit 2 - Compensation.

Each Change Order shall fully define the terms of payment and invoicing provisions.

Contractor shall not be entitled to additional compensation in respect of:

- a) Personnel already assigned full time to the Work, except when such Personnel are paid overtime, shift premiums or their assignment to the Work is extended, specifically in relation to the Change; and
- b) Contractor's Items already assigned full time to the Work, except when the hire period of rented items is extended specifically in relation to the Change.

8.5 CHANGE IMPACT ON CONTROL SCHEDULE

Contractor will submit to Engineer, all necessary information to support any proposed impact of a Change on the Control Schedule, in both hard copy and electronic format. The information shall include detailed critical path analysis, identification and full accounting for the use of float and the current Control Schedule.

Each Change Order shall be deemed to take full account of the cumulative effects on the Control Schedule and all prior Change Orders. Due consideration will be given to cumulative effects that may not have manifested themselves in previous Change Orders, such as a Change that is accommodated by reducing available float. Any cumulative schedule effects assessed by Contractor shall be supported by detailed analysis to account for the use of float and whether or not a Milestone Date has been impacted. This analysis shall include an electronic version of the current Control Schedule that clearly highlights the schedule effects to enable Engineer to verify Contractor's analysis prior to the issuance of the relevant Change Order.

Contractor shall update the Control Schedule for Company's Approval within five (5) Business Days after Company's issuance of any Change Order affecting the Control Schedule.

8.6 CHANGE REGISTER

Contractor shall maintain, fully updated at all times, a register of all Change Requests and Change Orders (with Field Work Orders identified separately). The register will include:

- a) Change Request number and date;
- b) Change Order number and date and reference to a Change Request;
- c) Brief description of the Change;
- d) Status of Change Request and Change Order;
- e) Value;
- f) Effects on Control Schedule; and
- g) Brief description of the basis for the Change Request.

Each Change Request will be identified by means of a unique sequential reference number beginning with 1000 for any Change Request issued by Engineer and Company, and 2000 for any Change Request issued by Contractor. Each Change Order will be identified by means of a unique reference number, which will be assigned by Engineer.

All Change Orders that affect the Control Schedule shall be individually detailed, by reference number and summary description, in the successive Control Schedule updates issued by Contractor for Company's Approval.

Contractor shall submit the Change register in the Monthly Progress Report or more frequently as required by Engineer.

9 RISK MANAGEMENT

Requirements for ongoing risk management and reporting will be agreed between Contractor and Engineer at the kick-off meeting. If there is a failure to agree on such requirements, Engineer shall have the authority to determine these matters. Engineer shall have the authority to specify the type of risks (such as schedule, quality, cost, safety and environmental) which shall be reported by Contractor. Some risks will be identified as "internal" risks, not subject to reporting.

9.1 RISK MANAGEMENT REQUIREMENTS

- a) Contractor shall establish and implement a risk management system to identify, address and manage safety, health and environment, cost, schedule, quality and other execution risks, for the duration of the Work.
- b) Contractor's risk management system shall be based on the following principals:
 - All risks shall be identified and captured in the Risk Register (as defined in Section 9.1(c) below);
 - All risk scenarios shall be evaluated for elimination or mitigation through appropriate measures; and
 - All higher and medium risk scenarios and associated risk management strategies shall be communicated and accepted by the appropriate level of Contractor's management.
- c) Contractor's risk management system shall include the following features:
 - Contractor shall develop a risk management plan indicating the formal risk process to be followed during Work execution, with risk assessment approach and frequency. The plan shall also include assessments required for safety, health and environment and execution risks referenced elsewhere in this Exhibit 3;
 - Contractor shall develop and maintain a risk register ("Risk Register") to capture all details required to monitor identified risks. The format and content shall be subject to the Acceptance of Engineer. It shall be submitted as part of the Monthly Progress Report, along with other reporting requirements specified within this Exhibit 3;
 - Contractor shall perform risk assessments using qualified and knowledgeable Personnel. Contractor shall consult with Engineer regarding meeting target levels of safety. Contractor shall also include active involvement of Engineer's Personnel and external expertise, as appropriate;
 - Risk assessments and recommended prevention and/or mitigation measures shall be

- formally documented in the Risk Register;
- Risk mitigation and prevention strategies for assessed risks in the higher and medium categories are required to be reviewed for acceptability by specified levels of Contractor's and Engineer's management. These strategies shall be supported by formal actions captured in an action log and be appropriate to the nature and magnitude of the risk, with decisions and updates clearly documented;
 - Results of formal risk assessments shall be considered in the preparation or review of emergency response plans and procedures; and
 - Follow-up processes to ensure that decisions have been implemented shall be formally documented and maintained in an action log. At a predetermined frequency, compliance reviews shall be undertaken to verify that formal risk assessments and follow-up actions are implemented.
- d) Where appropriate, Engineer shall be invited to observe and/or participate in risk assessments performed by Contractor. Results of risk assessments related to the Work shall be distributed to Engineer upon completion of any of the assessments included within Contractor's risk management plan.
- e) Contractor shall also participate in risk assessments conducted by either Engineer, Company or Company's Other Contractors when these risk assessments relate to activities for which interfaces exist with the Work or where Contractor is involved.
- f) Refer also to Risk Management Requirements for Contractors and Suppliers - 505573-0000-39RA-I-0002-Rev 00

10 ENGINEERING REQUIREMENTS

10.1 INTRODUCTION

This Section 10 sets forth minimum requirements for engineering coordination in support of this Agreement, including Articles 3 and 37 of this Agreement, and the document entitled "LCP Supplier Document Requirements" provided in Exhibit 11 - Company Supplied Documents.

10.2 DOCUMENT REVIEW

Contractor shall comply with document submittal and review requirements provided in this Agreement.

10.3 VARIATIONS FROM REQUIREMENTS

If any drawings, specifications or data produced by Contractor, show variations from this Agreement's requirements, Contractor shall identify and describe such variations in writing to Engineer. If Contractor fails to identify such variations, it shall not be relieved of the responsibility for executing the Work in accordance with the Agreement, even though such drawings may have been reviewed by Engineer.

10.4 TECHNICAL QUERY PROCEDURE

Requests for clarification or guidance related to technical details contained within Company Supplied Data, shall be formally presented by Contractor to Company as a Site Query (SQ). Refer to Section 11 below for details on the use of an SQ.

11 CONSTRUCTION MANAGEMENT

11.1 OBJECTIVES

In executing the Work, Contractor shall, and ensure that the other members of Contractor Group shall:

- a) Assign experienced and qualified project management Personnel and craft workers with demonstrated skills during the field work / construction phase of the Work and provide continuity of such Personnel throughout the execution of the Work;
- b) Maintain adequate controls and oversight during the field work / construction phase of the Work to ensure conformance with all requirements of this Agreement;
- c) Minimize Work execution risks and risks to Company's assets;
- d) Develop adequate contingency and recovery plans to mitigate impacts on schedule of unforeseen events (e.g. weather events); and
- e) Provide Worksite(s) that are safe, secure and free of industrial health hazards.

11.2 CONTRACTOR'S DUTIES

With respect to the Work, Contractor shall:

- a) Plan and co-ordinate the design, fabrication, transportation, installation, construction and completions of the Work with Engineer to ensure all interfaces are identified and managed;
- b) Identify execution risks and develop mitigation plans and procedures covering all reasonable events during the field work / construction phases;
- c) Conduct all engineering for field work, fabrication, transportation, construction and completions as stipulated in this Agreement;
- d) Prepare, maintain and implement:
 - emergency preparedness and response procedures;
 - detailed fabrication, construction, transportation and material management plans for major Worksites;
 - security measures at the Worksite; and
 - a health and safety program;
- e) Provide all construction and installation equipment, tools and temporary facilities required to perform the Work;
- f) Provide Personnel and facilities for all field testing, inspection, supervision and coordination activities associated with the Work;
- g) Support Company's construction management activities related to the Work; and
- h) Take all necessary precautions to avoid labour disputes and to minimize the disruption in the event of any dispute, all in compliance with Article 31 of this Agreement.

11.3 SITE QUERY (SQ)

The Site Query (SQ) process, as described in this Exhibit 3, shall be used by Contractor to facilitate the timely resolution of minor engineering and construction problems encountered at the Worksites. The SQ is used to formally transmit and co-ordinate technical queries with Engineer and to document the resolution to the query. Engineer shall not be involved in answering Site Queries which are entirely within Contractor's own responsibility.

Contractor may raise an SQ (in the form attached as Appendix H - Site query (SQ)) to clarify Technical Requirements which require a formal response. The SQ will include separate sections for Contractor's query and for Engineer's response. Any relevant documents that might assist those assigned to respond to the query in understanding the issue should be included or referenced with mark-ups as required. Contractor's SQ shall be approved by an appropriate level of authority within Contractor's organization and submitted formally to Engineer (distribution list to be provided). Contractor shall assign an SQ number based upon the Accepted numbering system which will be provided to the Contractor.

Engineer shall review the SQ and provide a response within the appropriate section of the SQ. It will be Contractor's responsibility to implement any actions associated with the response. Responses may simply be explanatory in nature and require no additional action. Where appropriate, an SQ response may be accompanied by a Site Instruction (in the form attached as Appendix I - Site Instruction) or an Engineering Change Notice (in the form attached as Appendix J - Engineering Change Notice (ECN)). An SQ will remain open until any associated actions have been completed, to the satisfaction of Engineer.

Open SQs shall be reviewed at weekly Site meetings in order to resolve all matters relating to their resolution.

11.4 SITE INSTRUCTION (SI)

The Site Instruction (SI) process, as described in this Exhibit 3, shall be used to provide a formal record of an instruction or verbal agreement originated directly at Site from Engineer to the Contractor.

SIs (in the form attached as Appendix I - Site Instruction) will be provided to address the following items (examples only):

- a) Instructions to Contractor related to safety or quality;
- b) Confirmation of verbal instructions/notifications;
- c) Procurement activities;
- d) Site administration;
- e) Reporting requirements;
- f) Work clarification; and
- g) Instruction subsequent to a Site Query response.

Open SIs shall be reviewed at weekly meetings in order to resolve all matters relating to their implementation.

11.5 ENGINEERING CHANGE NOTICE (ECN)

The Engineering Change Notice (ECN) process, as described in this Exhibit 3, will be followed by Engineer to highlight the issuance of any engineering design change to the Contractor whenever:

- a) Approved for Construction (AFC) drawings or specifications are revised after their issue to Contractor;
- b) New AFC drawings or specifications are issued that are not listed in Exhibit 1 - Scope of Work; and
- c) AFC, sketches, documents or any such typical instructions are issued.

Engineer will generate an ECN, using the form found in Appendix J - Engineering Change Notice (ECN) of this Exhibit 3, to describe and communicate Approved for Construction (AFC) document changes to the Contractor. These changes will be described on the ECN form and accompanied by the associated drawings, specifications, sketches and related documents for implementation by Contractor. Where an ECN is the result of an SQ or a SI, it will reference the relevant document. The ECN will be assigned a unique number by Engineer for future reference and reporting.

12 COMPLETIONS

This Section applies to the Work to the extent addressed in Exhibit 1 - Scope of Work Specification and Exhibit 4 – Supplier Document Requirements List.

12.1 OBJECTIVES

In executing the Work, Contractor shall ensure that all members of the Contractor Group shall:

- a) Assign experienced and qualified system completion management personnel and craft workers with demonstrated skills during equipment manufacture, site preparation and site installation/commissioning phases of the Work, and provide continuity of such Personnel throughout the execution of the Work;
- b) Maintain adequate controls and oversight during the equipment manufacture, site preparation and site installation/commissioning phases of the Work to ensure safety execution and conformance with all requirements of this Agreement;
- c) Minimize Work execution risks and risks to Company's assets;
- d) Develop adequate contingency and recovery plans to mitigate impacts on schedule of unforeseen events (e.g. weather events , equipment delivery delays); and
- e) Provide Worksites that are safe, secure, and free of health hazards.

12.2 CONTRACTOR'S DUTIES

With respect to the Work, Contractor shall:

- a) Plan and co-ordinate the completion scope with Engineer to ensure all interfaces are identified and managed safely by means of toolbox talks, job safety analysis , livening up

notices, permit to work, and electrical and mechanical isolation processes. Refer to Exhibit 5 - Health and Safety Requirements for full details of responsibilities;

- b) Identify execution risks and develop mitigation plans and procedures covering all activities during field mechanical completion (MC) and commissioning phases;
- c) Provide manuals for:
 - Preservation;
 - Mechanical Completion; and
 - Commissioning;
- d) Provide detail procedures for:
 - Factory Acceptance Testing;
 - Preservation at factory and Site;
 - Mechanical Completion at factory and Site;
 - Static Commissioning;
 - Dynamic Commissioning;
 - Site Acceptance Testing; and
 - System Integration / performance testing;
- e) Plan, schedule and perform all activities relating to, and document results of:
 - Factory Acceptance Testing;
 - Preservation;
 - Mechanical Completion;
 - Static Commissioning;
 - Dynamic Commissioning;
 - Site Acceptance Testing; and
 - System Integration / performance testing.

Section 7 (Schedule Management) provides the full detail of the schedule development requirements. For completions, the activities shall provide resourced logical sequence progression through MC and commissioning, with clearly identified responsibility handover points between MC and commissioning;
- f) Prepare, maintain and implement:
 - Livening up Notice procedure;
 - Permit to work procedure; and
 - Electrical and mechanical isolation procedure.

Adequate numbers of experienced Personnel shall be provided to administer and supports these processes. Refer to Exhibit 5 - Health and Safety Requirements for full detail of responsibilities;
- g) Provide all test equipment, facilities, commissioning and start-up spares, tools, special tools, first fills, lubricants and temporary facilities required to perform the completions scope of Work;
- h) Provide Personnel and facilities for all field testing, inspection, supervision and coordination activities associated with the completions scope of Work; and
- i) Provide Personnel and facilities, in accordance with the terms and conditions of this Agreement, to support ready-for-operations Site activities (RFO) of Company.

12.3 PRESERVATION

a) PRESERVATION PROCEDURES

Contractor shall prepare preservation procedures for all phases of the Work, including:

- Equipment shipping and storage; and
- Installed at Site and up to handover for Dynamic Commissioning.

Procedures shall, by equipment number and type, provide detailed instruction, compounds to be used and durations between preservation inspections. Material safety data sheets (MSDS) shall be provided for all preservation compounds.

b) PRESERVATION RECORDS AND REPORTS

Contractor shall maintain auditable records of completed preservation for each piece of equipment. The record shall include, as a minimum, the name, date, preservation method and a supervisory signature. At the point of MC handover to commissioning all equipment involved shall have a report which provides historical detail of completed preservation.

c) PRESERVATION AT CONTRACTOR'S SUPPLIERS' FACILITIES

The preservation requirements at Contractor's suppliers' facilities shall be in accordance with the applicable Accepted supplier preservation procedure. The preservation requirements shall include but not be limited to all of the following:

- All equipment and devices shall be protected for shipment.
- The applicable supplier shall perform the initial preservation and document the preservation carried out.
- The type of storage facility and conditions required for the equipment shall be identified by the applicable supplier, e.g. outside storage, unheated warehouse, heated warehouse, air conditioned, etc.
- The preservation documentation, MSDS, procedure and records shall be included in the dispatch dossier and shall accompany the shipment of equipment to Site.

d) PRESERVATION AT SITE

The preservation activities at Site shall be completed in accordance with the Accepted Site preservation procedure. The preservation requirements shall include but not be limited to all of the following:

- Contractor shall be responsible for the preservation and protection of all free issue and supplier provided skid packages, equipment, material and devices.
- Preservation procedures provided by the equipment suppliers shall be followed.
- Preservation documentation and records of preservation maintenance carried out shall be kept by Contractor and be available for review by Engineer.
- Contractor shall energize any space heaters on receipt of equipment.
- Contractor shall establish a preservation team to carry out the preservation requirement and to establish the preservation program up to the MC handover of the equipment or system to commissioning/RFO. Should Company's RFO team require continuation of the preservation, then this will be noted and a request made to reinstate the preservation by Contractor.
- An inspection/check of preservation damage shall be carried out by Contractor on

receipt of equipment, materials, skid packages, fabricated elements and sub-assemblies. Deficiencies shall be noted by Contractor and brought to the attention of Engineer for resolution.

- Contractor shall store the equipment and material in accordance with the Accepted preservation procedure as stipulated by the applicable warehouse facility until ready for installation.

12.4 MECHANICAL COMPLETION

a) MECHANICAL COMPLETION (MC) AT CONTRACTOR'S SUPPLIERS' FACILITIES

The MC for Contractor's suppliers will typically apply to but not be limited to all of the following types of equipment:

- Supplier skid mounted packaged equipment, such as compressors, pumps, fans and driers. These skids can contain piping, instrument, electrical and mechanical equipment and in many cases have a local control cabinet which is wired and connected to the primary and final elements.
- Control panels.
- Switchgear and control centers.
- Transformers and electrical equipment.
- Electrical breakers, lightening arrestors and disconnects.
- Generators and generator components.
- Exciters.
- Control monitoring and communication equipment.
- Turbines and turbine components.
- Governors.
- Hydraulic gates.
- Materials for dams, dykes and structures.
- Penstocks.
- Cranes and hoisting machinery.
- Diesel generators.
- Rotating machinery skid mounted.
- Structural steel, concrete and building supplies.
- Transmission equipment.

In accordance with the requirements of Exhibit 4 - Supplier Document Requirements List, Contractor is required to provide details of the intended use mechanical completion inspection and test certificates and obtain Engineer Acceptance to implement them.

The completed signed and Accepted mechanical completion inspection and test certificate originals shall be included in Contractor final documentation. A copy is to be placed in the shipping dispatch dossier which accompanies the equipment to Site.

b) MECHANICAL COMPLETION AT SITE

The MC at the Site shall be completed in accordance with the installation Drawings, Specifications, standards, codes and all other Technical Requirements, and to good construction practices.

Contractor will be required to implement, populate, manage and maintain a Company provided completion program and database. Company will provide training and technical support.

Contractor is required to propose all discipline mechanical completion inspection and test certificates and obtain Engineer Acceptance to implement. Company reserves the right to provide standardized mechanical completion Inspection and test certificates for implementation.

Contractor will be required to implement Company provided forms and procedures for punch listing, mechanical completion handover and commissioning handover.

Contractor shall define by equipment tag number all discipline mechanical completion inspection and test certificates required to cover the Work. Contractor shall obtain Engineer Acceptance of the definition. This will form the basis of the population of the completion program database.

All original completed, signed and Accepted MC and test certificates and documentation shall be included in Contractor final documentation.

The MC confirmations for the key disciplines shall include, but not be limited to, all of the following:

Structural Discipline

- Visual inspection for complete and correct installation in accordance with the latest drawings.
- Alignment and dimensional control checks.
- Verification that the specified Non-Destructive Evaluation (NDE) / Non-Destructive Testing (NDT) checks have been performed.
- Mechanical Discipline.
- Visual inspection of equipment for correct and completed installation in accordance with the latest drawings.
- Internal inspections of tanks, exchangers, fans, ductwork, etc.
- Alignment of rotating machinery.
- Alignment of turbines, generators and components.
- Correct assembly of turbine and generator components.
- Visual inspection of the generator ventilation systems.
- Load integrity of lifting machinery.

- Inspections and verification of correct and complete installation of pipe work.
- Verification of coatings.
- Verification that the specified NDE/NDT checks on piping, penstocks, etc. have been performed.
- Verification of color coding for pipes.
- Visual inspections of fire protection layout.
- Numbering identification of all mechanical components.
- Visual inspection of insulation and protective jackets over piping.
- Verification of alignment and seals of hydraulic gates.
- Flushing of lube and hydraulic oil systems to a specified standard.
- Verification of pressure vessel registration and CRN number.

Electrical Discipline

- Visual inspection of equipment for correct and completed installation in accordance with the latest drawings.
- Verification of electrical cable pulling, glanding, termination and testing.
- Numbering identification of all wiring and electrical equipment.
- Insulation and continuity of cables.
- Insulation and continuity testing of generators, transformers, motors, panels, distribution boards and other electrical equipment.
- Transformer oil analysis.
- Exciter, generator, transformer and governor checks.
- Grounding checks.
- Motor rotation checks.
- Heat tracing inspections and tests.
- Lighting circuit testing and illumination checks.
- Point-to-point test of cables.
- Verification of correct classification of electrical equipment in hazardous areas.

Transmission Discipline

- Visual inspection of overhead systems for complete and correct installation in accordance with the latest drawings and tables.
- Visual inspection of concrete and earth structures for correct and completed installation in accordance with the latest drawings.
- Verification of mapping and topographical controls and monitoring installations.
- Verification of accuracy and secure storage of geotechnical data.
- Verification of tower numbering and safety signage.
- Verification of underwater dc cable supports.
- Coating checks.
- Alignment checks.
- Dimensional control inspections and tests.

- Grounding, insulation and phasing checks.
- Verification of structure list.
- Instrument Discipline (includes telecommunication).
- Calibration and testing of instruments and telecommunication devices.
- Visual inspection of equipment for correct and completed installation in accordance with the latest drawings.
- Verification of electrical cable pulling, glanding, termination and testing.
- Insulation and continuity testing of instrument / telecommunications cabling.

Civil Discipline

- Visual inspection of concrete and earth structures for correct and completed installation in accordance with the latest drawings.
- Visual inspection of layout of the underwater tunnels for correct and completed installation in accordance with the latest drawings.
- Verification of functionality of structural and architectural features (such as gates, doors, windows).
- Verification of surface conditions and treatments on excavations, concrete and earth structures, and access roads.
- Visual inspection of downstream side of dams and structures for water leaks.
- Verification of drainage facilities (weirs, culverts, ditches, etc.).
- Verification of mapping and topographical controls and monitoring installations.
- Verification, calibration, base-lining and testing of geotechnical monitors.
- Verification of accuracy and secure storage of geotechnical data.
- Verification of correct and sufficient site safety signage during and after construction.

Environmental Discipline

- Visual inspection of environmental mitigations.
- Monitoring and verification of aquatic habitat performance and productivity.
- Monitoring and verification of terrestrial habitat performance and productivity.
- Verification of fish passage facilities (culverts).
- Visual inspection of construction areas for waste spills and cleanup.

12.5 COMMISSIONING

Definitions

FAT: Factory Acceptance Test
SCT: Site Commissioning Test
SAT: System Acceptance Test
ISC: Integrated System Commissioning

Static Commissioning: Non-operating powered equipment checks which prepare equipment ready for Dynamic Commissioning of equipment.

Dynamic Commissioning: In preparation for start-up, the operating of equipment and systems in order to verify the functionality is as per design requirements.

Commissioning At Contractor's Suppliers' Facilities

The commissioning at Contractor's suppliers' facilities shall be in accordance with the Accepted FAT procedure. Such commissioning shall not be considered to be the final system commissioning, which can only be carried out when the equipment being tested is installed and tested at Site and is connected up to the rest of the facility as per the system design.

The FAT shall provide assurance that the equipment meets the design requirements on a standalone basis and can meet the system design performance requirements. A successful FAT is the first step on the way to a successful system completion process. A representative from the Engineer will attend the FAT of key pieces of equipment, such as control system configuration tests, large rotating machinery, emergency generators, turbines, transformers, compressors, exciters, governors, electrical equipment, control and monitoring systems. Contractor shall ensure that the applicable supplier shall facilitate Engineer's attendance. Contractor shall ensure that such supplier shall prepare a report of the completed FAT inclusive of a record of all inspections, tests and readings taken. The report shall be subject to the Acceptance of Engineer and shall be part of the Contractor final documentation submission.

Commissioning At Site

a) Discrete Site:

Contractor is responsible for all preparation and execution of Static and Dynamic Commissioning activities at each site. Oversight will be provided by Engineer and Company's RFO team. All completed checks shall be documented in a report of the completed site commissioning procedure, inclusive of all inspections, tests and readings taken. The report shall be subject to the Acceptance of Engineer and form part of the Contractor final documentation. The report shall be made available to the Ready for Operation (RFO) team at Site.

Static Commissioning checks typically include, but are not limited to, all of the following:

- High voltage injection test.
- Power on tests.
- Relay tests.
- High potential tests.
- Loop checks and logic function tests.
- Load tests.
- HVAC air flow tests.
- Pump tests.
- Battery system backup tests.
- Compressed air systems test.

- Alarm settings and verification.
- Valve position verification.
- Pressure safety valve testing.
- Rotation tests.
- Lube and hydraulic oil cleanliness checks.
- Opening/closing gate tests.
- Start/stop motor testing.
- Shutdown logic tests.
- Control and Monitoring offline checks.
- Excitation checks.
- Verification of governor response tests.
- Verification of turbine operating parameter tests.
- Verification of emergency intake closure (all location).
- Drainage and dewatering system tests.
- Oil interception tests.
- ac Transmission line connection checks.
- dc Transmission line connection checks.
- Fire protection systems tests.
- Cooling water filtration tests.

The Dynamic Commissioning / system commissioning activities typically include, but are not limited to, all of the following:

- Energizing all ac and dc transmission lines.
- Reservoir water impoundment.
- Tunnel(s) water impoundment.
- Fish habitat water impoundment.
- Watering up penstock.
- Black start checks.
- Startup/shutdown tests.
- Trips and alarm tests.
- Baseline data recording.
- Incremental speed rolls of turbine/generator to ensure mechanical balancing.
- Incremental loading of turbine generator and power transformer.
- Electrical power distribution in-plant tests.
- Remote operation tests.
- Load rejections during incremental loading of turbine generator to verify penstock pressure loading.
- Verification of generator winding temperatures, bearings temperatures, rotor stability, and turbine carbon seal leakages, etc. are within acceptable limits.
- Verification of the functionality of the control and monitoring system.
- Verification of contract warranties and/or guarantees, such as power output, turbine and generator efficiency, transformer losses, etc.

b) Multi Site Integrated System Commissioning:

With technical input from Contractor, Company's RFO team will prepare integrated system commissioning (ISC) procedures. The procedures will incorporate equipment and system acceptance criteria as determined by Accepted Contractor documentation and procedures. Such RFO team is responsible for the execution and Acceptance of all system commissioning activities. Contractor shall provide, as required by Engineer, technical and skilled Personnel support to such RFO team. The key prerequisite of ISC is the Contractor completion of discrete site commissioning procedures and subsequent handover to such RFO team.

13 INVOICING AND PAYMENT**13.1 OBJECTIVES**

Contractor shall submit accurate, complete and detailed invoices that reflect the Work completed by Contractor, in a format that will be established by the Engineer and with the necessary supporting/verification documentation to enable Engineer to efficiently attest the invoices and recommend Approval and payment of Contractor's invoices by Company, and all in accordance with the Articles of this Agreement.

13.2 CONTRACTOR'S DUTIES

- a) Contractor shall submit invoices in accordance with this Agreement complete with Company Approved Payment Certificates and all supporting/verification documentation Acceptable to Engineer.
- b) Contractor shall submit to Engineer, a monthly report that summarizes invoices submitted and payments made, along with applicable dates of both the invoices and the payments and other pertinent information that Engineer or Company may require.
- c) Contractor shall submit to the Engineer, each month, a cash forecast report by currency for the following three (3) months. This report shall be submitted by the 25th day of every month.

13.3 PROCEDURAL REQUIREMENTS

- a) Contractor shall submit to Engineer one original invoice, along with one (1) PDF copy of the invoice and all required Billing Information. At Engineer's request, all supporting schedules and calculations supporting the invoice shall be provided in native file format.
- b) Each invoice shall be organized such that it is easily understood and:
 - contains a clear description of the completed Work being invoiced;
 - the charges can be easily and efficiently verified against the Agreement and the Billing Information; and
 - all charges are clearly cross referenced to the Billing Information.
- c) All invoice amounts shall be detailed based on Company's code of accounts.
- d) The invoice shall include the following information:
 - i. Contractor's name, address and tax identification number (HST registration

- number);
 - ii. Invoice date and invoice number;
 - iii. Agreement number and name;
 - iv. Charges detailed by code of accounts along with cumulative value of all invoices for the Agreement detailed by Company's code of accounts;
 - v. Adjustments, if any, from prior invoices;
 - vi. Subtotal, tax (HST applicable to the invoice) and total;
 - vii. All invoices shall be in the currencies detailed in Exhibit 2 - Compensation;
 - viii. Complete and accurate supporting documentation, including without limitation Billing Information and any other pertinent information that Company may require to verify completion of the Work, the accuracy of the fees, charges and third party charges; complete with a summary sheet cross referencing all supporting documentation to the charges covered on the invoice;
 - ix. Approved Payment Certificate (in the form as stated in Appendix D - Payment Certificate);
 - x. If Contractor is a non-resident, in accordance with Exhibit 10 – Declaration of Residency, Contractor shall note on each invoice whether any portion of the Work covered by such invoice was performed inside or outside of Canada for the purposes of Canadian income tax legislation, or such other information requested or required by Company to properly assess withholding requirements; and
 - xi. Where appropriate, Change Order amounts may be shown separately and the invoice will itemize charges associated with each Change Order, including without limitation, a detailed description of each item being invoiced. A copy of the Change Order shall accompany the invoice.
- e) Before Company pays an invoice, Company may request clarification or substantiation in relation to any charges on the invoice and Contractor shall promptly comply with any such request. Invoice review meetings (or pre-payment meetings) may be held to agree on charges to be included on an invoice.
- f) If an invoice is deemed incorrect by Company, Company is entitled to reject such invoice and shall provide reasons for the rejection.
- g) A Final Completion Certificate will be required before final payment will be made. When Contractor believes the requirements of Final Completion have been satisfied, as described in Article 25 of the Agreement, Contractor shall request by Notice a Final Completion Certificate. Such request shall be in the form as contained in Appendix C - Request and Final Completion Certificate.

Invoicing for Change Work

Contractor shall submit separate invoices for Changes, unless Engineer Accepts otherwise, with the Change Order number and date mentioned on the invoice. Invoicing provisions shall be specified on each Change Order. All Changes shall be subject to the compensation provisions and payment terms set out in Article 12 of this Agreement, Exhibit 2 – Compensation and Exhibit 3 – Coordination Procedures.

Contractor will not invoice Company for any amounts which result in the cumulative amount

invoiced being greater than the Contract Price.

Under no circumstances will Contractor present invoices for a Change, nor will Company compensate Contractor for any Change, in the absence of a Change Order.

Banking Information

- a) Payments of invoices shall, where possible, be made by electronic funds transfer to Contractor's bank account, as specified in writing by Contractor to the Company Representative.
- b) Any changes in Contractor's banking information or payment instructions shall be submitted in writing to the Company Representative. The Company shall not be held responsible for errors or delays resulting from incorrect or delayed submission of changes in banking instructions by Contractor.

14 INFORMATION MANAGEMENT

14.1 SCOPE

This Section 14 provides the minimum requirements in relation to information management (IM) which includes the areas of records and document management and control.

14.2 OBJECTIVES

- A. To establish an effective IM environment for the execution of this Agreement, where people can work safely and collaboratively with a confidence that information, and the systems that manage it, are accessible, accurate, reliable, up to date and timely throughout the Term.
- B. For the function of IM and its associated processes, to be seen as an enabler and not a hindrance to project progress and success.
- C. To establish clear communication methods for the exchange of information, both technical and non-technical.
- D. To use standards (electronic formats, physical formats, data, numbering, etc.) to ensure a consistent information deliverable for incorporation into Company systems, regardless of origin.
- E. To produce and deliver a quality information asset that will support and enable the ongoing operation and maintenance of physical assets.
- F. To provide the people, processes and tools required to facilitate and enable efficient and effective IM practices for the execution of this Agreement.
- G. To ensure that adequate orientation, training and guidance is provided to all team members in the specific areas of IM and supporting systems.
- H. Personal, confidential and restricted information shall be handled using best practice protocol to ensure access to only authorized Personnel in both the physical and electronic environments.

- I. No incidents of illegal information brokering as Contractor performs the Work.

14.3 CONTRACTORS DUTIES

Contractor shall:

- A. Develop an IM plan (including procedures, organizational charts, systems, training programs, etc.) to address the following areas of IM:
 - a. Administrative records management; and
 - b. Document management/control (engineering services, Contractor, procedural, etc.);
- B. Adhere to the documents included in Exhibit 11 - Company Supplied Documents;
- C. Provide statistical and status reporting for documentation and data as defined by Company;
- D. Ensure all IM related standards and procedures agreed between Company and Contractor are followed by Contractor's Personnel;
- E. Facilitate inspections and assessments of IM processes and systems by the Company Representative for Contractor Group;
- F. Provide process improvement suggestions throughout the Term where there are efficiencies to be gained; and
- G. Highlight and work to resolve any IM related issues relating to the Work.

14.4 COMPANY'S AUTHORITY

Company shall have the authority to:

- A. Provide general oversight to the IM components relating to the execution of this Agreement;
- B. Review and Approve plans and procedural documentation created by Contractor in support of IM for the execution of this Agreement;
- C. Conduct inspections and assessments of Contractor Group's IM programs and systems as appropriate;
- D. Provide statistical reporting requirements to Contractor as required;
- E. Provide applicable IM related standards to Contractor;
- F. Identify restricted information as appropriate;
- G. Provide process improvement suggestions throughout the Term where there are efficiencies to be gained; and
- H. Highlight and work to resolve any IM related issues or inefficiencies relating to the execution of this Agreement.

14.5 SPECIFIC REQUIREMENTS

14.5.1 ADMINISTRATIVE RECORDS

- A. Contractor shall maintain a distinct set of project related administrative records consisting of all non-revision controlled information received or created/generated in support of the Work. Administrative records shall be managed in an electronic content environment. Contractor shall provide reports of these records upon request from Company. Contractor

- shall provide copies of records as requested by Company at any point during the Term.
- B. Contractor may use existing file plans and classification systems within its own organization, but shall capture all communication with Company using Aconex.
 - C. Contractor shall maintain a correspondence register within Aconex.
 - D. Formal correspondence shall be by letter and shall be limited to one subject per letter. The subject line shall include reference to Agreement numbering as well as the specific subject.
 - E. All correspondence shall be sent by Aconex. Use of signed PDF documents is acceptable. Details on the use and application of Aconex will be provided by Company and addressed at the kick-off meeting accordingly. Contractor shall be aware of the following:
 - a. Aconex is a cloud based computer software program that can be accessed via an internet connection and a web browser (www.aconex.com).
 - b. Aconex Project Mail is a module within Aconex that can be used to send and receive emails similar in function to most other email software systems (i.e., Microsoft Outlook, Lotus Notes, etc.).
 - c. Tutorials for using Aconex and Aconex Project Mail are available at (www.aconex.com).
 - d. Aconex serves as an electronic project mailroom and archive.
 - e. All correspondence relating to the project can be created, delivered, recorded and archived by the system.
 - f. On Aconex, project mail is not held in individuals' folders but in a company mailbox, the equivalent of a central filing system.
 - g. Correspondence is available to all project participants within the organization and confidentiality can be enabled when required.
 - h. All project mail is delivered on company specific templates, maintaining a firm's identity within the project.
 - i. Aconex mail functions are very familiar, as they mirror standard email packages.
 - j. Files may be attached to any piece of project mail from the controlled documents register, or the local drive or network.
 - k. Hard copy letters and existing documents can be captured into the system through a scan/registration process, ensuring all correspondence is logged.
 - l. All project mail is automatically logged and cannot be deleted or modified once sent.
 - m. Mail can be filtered by a variety of attributes, free text and wildcards. Mail to or from any members within a company or project can be found instantly, ensuring accountability and full quality assurance.
 - n. Support for the use of this system can be provided from Aconex at 1-888-5-ACONEX or speak with any member of the LCP Information Management Team (LCPDCC@nalcoreenergy.com).

14.5.2 DOCUMENT MANAGEMENT/CONTROL

- A. Company will facilitate the document numbering upon submission by Contractor of the initial Supplier Document Register as per Exhibit 4 – Supplier Document Requirements List. All documents, and all pages and sheets within, shall bear this number and the associated revision number.
- B. All documents shall be prepared and submitted by Contractor in accordance with the

document entitled "LCP Supplier Document Requirements" (as provided in Exhibit 11 - Company Supplied Documents) and as required under Exhibit 4 – Supplier Document Requirements List.

APPENDIX A

CHANGE REQUEST

APPENDIX B

CHANGE ORDER

**CHANGE ORDER (CO)
 Between
 Company and Contractor**

| | |
|--|---|
| Agreement No: _____ | CO No. _____ |
| Agreement Title: _____ | Rev. No: _____ |
| Company: _____ | CR No. _____ |
| Contractor: _____ | Date: _____ |
| Description of Change: | |
| Supporting information that forms part of this Change Order: | |
| Change Includes: <input type="checkbox"/> Price <input type="checkbox"/> Schedule Adjustment Type: <input type="checkbox"/> Lump Sum <input type="checkbox"/> Unit Rate <input type="checkbox"/> Fixed Amount <input type="checkbox"/> Estimate <input type="checkbox"/> Reimbursable | Original Contract Price _____ Value of this Change Order _____ Previous Contract Price _____ Total Contract Price \$ _____ |
| Impact on Control Schedule: | |
| Revised Finished Date: _____ | |
| This Change Order shall form and be read and construed as an integral part of the above-noted Agreement. The above adjustment to the Contract Price constitutes full compensation (including all impact costs) to the Contractor for the above Change. | |
| | |
| Issued by: Company _____ Signature: _____ Name: _____ Date: _____ | Acknowledgement of Contractor Receipt: _____ Signature: _____ Name: _____ Date: _____ |

LCP-SN-CD-0000-SC-FR-0038-01

APPENDIX C

REQUEST AND FINAL COMPLETION CERTIFICATE

REQUEST FOR FINAL COMPLETION CERTIFICATE

Agreement No.: _____

Agreement Title: _____

Contractor: _____

To Engineer:

In accordance with Article 25 of the Agreement, Contractor hereby confirms that it has completed the Work and all the requirements of Final Completion (as described in the Agreement) have been met, all in accordance with the Agreement, excluding its Warranty obligations.

Contractor agrees that, as of the date of its confirmation below, the Contractor waives, remises, releases and discharges the Company of any and all Claims that are known, ought to have been known or discoverable by reasonable means by the Contractor, which Contractor has or may have relating to or arising out of this Agreement and the subject matter of this Agreement, and all facts and circumstances related to the Work, save and except:

- a) Only those Claims previously submitted by Contractor in writing and remaining unresolved prior to the date of Contractor's below confirmation, as listed below:

_____;

and

- b) The balance of the Contract Price payable, if any, upon the issuance of this Final Completion Certificate.

| |
|--|
| <p>Contractor Confirmation:</p> <p>Contractor confirms it has completed the Work in accordance with the above-noted Agreement.</p> <p>By: _____ Contractor Representative</p> <p>Acknowledgement of Engineer Receipt:</p> <p>By: _____ Engineer</p> <p>Date: _____</p> |
|--|

FINAL COMPLETION CERTIFICATE

Agreement No.: _____

Agreement Title: _____

To Contractor:

Company hereby confirms that the Date of Final Completion of the Work is **[date]**.

By: _____
Company Representative

Date:

APPENDIX D

PAYMENT CERTIFICATE

PAYMENT CERTIFICATE

Date: _____
 Agreement #: _____
 Agreement Title: _____
 Contractor: _____

Milestone / Monthly Progress
 Payment Description: _____
 Milestone / Monthly Progress
 Payment Amount: _____

Work Executed for Monthly Progress / Milestone Completion criteria and status (list below):

Contractor:

Contractor hereby notifies Company that it considers that it has executed the associated Work or met the criteria for achieving the above-noted Milestone(s) and requests Company Approval.

By: _____
Contractor Representative

Date:

Company Approval:

Company hereby Approves this Payment Certificate. Company Approval of this Payment Certificate does not relieve Contractor of any of its obligations under the Agreement.

By: _____
Company Representative

Date:

APPENDIX E

CONFIRMATION OF CREDIT FACILITIES FOR FINANCING

Confirmation of Credit Facilities for Financing

[●], 20__
[●]

Dear Sirs and Mesdames,

Re: A [●] agreement entered into between Nalcor Energy (“**Nalcor**”) and [●] (the “**Contractor**”) on [●] and subsequently assigned by Nalcor to <*> (“**SPV**”) and assumed by SPV on <*> (such agreement as the same may have been supplemented, amended or restated, the “**Agreement**”)

We are the <*> [agent or security trustee or collateral agent] of the lenders to SPV and we hereby confirm to you in such capacity that [credit facilities/financing] has been made available to SPV for the purposes of financing the costs of the <*> project.

Yours truly,

<*>

By:

_____ [●]

APPENDIX F

CONFIRMATION OF FINANCING FROM NALCOR ENERGY

Confirmation of Financing from Nalcor Energy

[●], 20__
[●]

Dear Sirs and Mesdames,

Re: A [●] agreement entered into between Nalcor Energy (“**Nalcor**”) and [●] (the “**Contractor**”) on [●] and subsequently assigned by Nalcor to <*> (“**SPV**”) and assumed by SPV on <*> (such agreement as the same may have been supplemented, amended or restated, the “**Agreement**”)

Nalcor hereby confirms that [credit facilities/financing] has been made available to SPV for the purposes of financing the costs of the <*> project in the amount of \$ <*> (which includes the price of the work covered by the Agreement) and is ready for disbursement in accordance with the terms of the [credit facilities/financing] agreements.

Yours truly,

[SPV]

By: _____
[●]

Nalcor Energy

By: _____
[●]

APPENDIX G

NOTICE OF ASSIGNMENT

Notice of Assignment

[●], 20__

GENERAL DELIVERY

[●]

Dear Sirs and Mesdames,

Re: A [●] agreement entered into between Nalcor Energy ("**Nalcor**") and [●] (the "**Contractor**") on [●] (such agreement as the same may have been supplemented, amended or restated, the "**Existing Agreement**")

The purpose of this letter is to notify you in accordance with Article 34.1 that the Existing Agreement has now been assigned by Nalcor Energy to <*> (the "**SPV**") and that such assignment will be effective immediately upon delivery of this notice.

Nalcor Energy will remain jointly and severally liable for all the obligations of SPV under the Existing Agreement until delivery of the documents referred to in Article 34.1(a) of the Existing Agreement, and from that date SPV will be sole obligor for all past and any future obligations under the Existing Agreement, the whole in accordance with Article 34.1.

All payments, notices, demands, requests, instructions and other communications to be given or made by you under the Existing Agreement should continue to be given and delivered in accordance with the terms of the Existing Agreement; however, they should be made to the attention of the SPV and [Devco] at the following addresses:

To the SPV at: [●]; Attention: [●].

With a copy to [Devco] at: [●]; Attention: [●].

If you have any questions, please do not hesitate to contact [●] at [●] or by e-mail at [●].

Yours truly,

NALCOR ENERGY**[SPV]**By: _____
[●]By: _____
[●]

APPENDIX H

SITE QUERY (SQ)

| | |
|-------------------------|-----------------|
| Lower Churchill Project | SITE QUERY (SQ) |
|-------------------------|-----------------|

| | | | | |
|-----------------------------|---|---------------------------|--------------------|-----------------|
| Company: [REDACTED] | Project No. | Date [REDACTED] | Page of [REDACTED] | Rev. [REDACTED] |
| Project Name: [REDACTED] | | Site Query No. [REDACTED] | | |
| Contractor: [REDACTED] | <i>Distribution</i> <input type="checkbox"/> QC <input type="checkbox"/> Contract Administrator <input type="checkbox"/> Package Engineer <input type="checkbox"/> Resident Engineer <input type="checkbox"/> Contractor <input type="checkbox"/> Construction Manager <input type="checkbox"/> Document Control <input type="checkbox"/> Chief Inspector | | | |
| Agreement No.: [REDACTED] | | | | |
| Agreement Title: [REDACTED] | | | | |

1. QUERY DETAILS

[REDACTED]

| DOCUMENT NO. | REV. | TITLE |
|--------------|------|-------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| | TITLE | NAME/COMPANY | SIGNATURE | DATE |
|--------------|------------|--------------|------------|------------|
| Prepared by: | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

2. QUERY ADMISSIBILITY (If Contractor Request)

[REDACTED]

| | TITLE | NAME | SIGNATURE | DATE |
|--------------|------------|------------|------------|------------|
| Approved by: | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

3. RESPONSE / PROPOSED SOLUTION (If Applicable)

Comments:
[REDACTED]

| | TITLE | NAME | SIGNATURE | DATE |
|--------------------------|------------|------------|------------|------------|
| Prepared by: | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Approved by Site: | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Approved by Home Office: | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

4. INSPECTION (CLOSE OUT)

Inspection: Work executed as per proposed solution Yes No

Explain:
[REDACTED]

| | NAME | SIGNATURE | DATE |
|------------------|------------|------------|------------|
| Inspector: | [REDACTED] | [REDACTED] | [REDACTED] |
| Chief Inspector: | [REDACTED] | [REDACTED] | [REDACTED] |

LCP-SN-CD-0000-SC-FR-0044-01

APPENDIX I

SITE INSTRUCTION (SI)

| | |
|----------------------------|-----------------------|
| LOWER CHURCHILL PROJECT | SITE INSTRUCTION (SI) |
|----------------------------|-----------------------|

| Company: [REDACTED] | Date [REDACTED] | Rev. [REDACTED] | Page of [REDACTED] | | | | | | | | | | | | | | | |
|--|---|-----------------|--------------------|------------|-------|------|-----------|------|--------------|------------|------------|--|------------|--------------|--|--|--|--|
| Project Name & Location: [REDACTED] | Site Instruction No. [REDACTED] | | | | | | | | | | | | | | | | | |
| Contractor: [REDACTED] | <i>DISTRIBUTION (NAME PLUS DISCIPLINE OR COMPANY)</i> | | | | | | | | | | | | | | | | | |
| Agreement No.: [REDACTED] | From: [REDACTED] | | | | | | | | | | | | | | | | | |
| Agreement Title: [REDACTED] | To: [REDACTED] | | | | | | | | | | | | | | | | | |
| Plant Area / Bldg No.: [REDACTED] | Copies to: [REDACTED] | | | | | | | | | | | | | | | | | |
| Reference Specification: [REDACTED] | | | | | | | | | | | | | | | | | | |
| Reference Drawing No.: [REDACTED] | | | | | | | | | | | | | | | | | | |
| The Contractor agrees that by signing acceptance of this Site Instruction, the contents hereof do not contain or imply any additional money or schedule effect in the above-noted Agreement whatsoever. | | | | | | | | | | | | | | | | | | |
| Instruction: [REDACTED] | | | | | | | | | | | | | | | | | | |
| Reason: [REDACTED] | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <th>TITLE</th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>Prepared by:</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td></td> <td>[REDACTED]</td> </tr> <tr> <td>Accepted by:</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | TITLE | NAME | SIGNATURE | DATE | Prepared by: | [REDACTED] | [REDACTED] | | [REDACTED] | Accepted by: | | | | |
| | TITLE | NAME | SIGNATURE | DATE | | | | | | | | | | | | | | |
| Prepared by: | [REDACTED] | [REDACTED] | | [REDACTED] | | | | | | | | | | | | | | |
| Accepted by: | | | | | | | | | | | | | | | | | | |
| DISTRIBUTION <input type="checkbox"/> File <input type="checkbox"/> Contractor <input type="checkbox"/> Area Construction Manager <input type="checkbox"/> Environment <input type="checkbox"/> QA Coordinator <input type="checkbox"/> Planner <input type="checkbox"/> Estimator <input type="checkbox"/> Chief Inspector <input type="checkbox"/> Cost Controller <input type="checkbox"/> Document Control (site) <input type="checkbox"/> Resident Engineer <input type="checkbox"/> Contracts Administrator <input type="checkbox"/> Commissioning <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____ | | | | | | | | | | | | | | | | | | |

LCP-SN-CD-0000-SC-FR-0045-01

APPENDIX J

ENGINEERING CHANGE NOTICE (ECN)

| | | | |
|-------------------------|---------------------------------|-------------|------|
| Lower Churchill Project | Engineering Change Notice (ECN) | Page 1 of 2 | |
| | | Revision | |
| | | No. | Date |
| | | 00 | |

| | |
|----------------------|----------|
| Company: Project: | ECN No.: |
|----------------------|----------|

| | |
|-----------------|------------|
| Agreement No. | Contractor |
| Agreement Title | |

| Distribution | | |
|--------------|----|---------|
| From | To | Copy to |
| | | |

| Summary Description of Changes |
|--------------------------------|
| |

| Instruction to Contractor | |
|---|--|
| <input type="checkbox"/> Submit impact on contractual terms prior to proceeding with the work | <input type="checkbox"/> Lump Sum <input type="checkbox"/> Unit Price <input type="checkbox"/> Cost Plus |
| <input type="checkbox"/> No impact on the contractual terms, proceed with the work | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| <input type="checkbox"/> | |

| Received by Contractor | | |
|------------------------|--------------------|---------------|
| _____ Name | _____ Signature | _____ Date |

| | Title | Name | Signature | Date |
|--------------|-------|------|-----------|------|
| Prepared by: | | | | |
| Reviewed by: | | | | |
| Approved by: | | | | |

LCP-SN-CD-0000-SC-FR-0046-01

APPENDIX K

FIELD WORK ORDER (FWO)

| | |
|------------------------------------|-------------------------------|
| LOWER CHURCHILL PROJECT | FIELD WORK ORDER (FWO) |
|------------------------------------|-------------------------------|


| | | | |
|--|--|-------------------------------------|---|
| Company: [REDACTED] | Date [REDACTED] | Rev. [REDACTED] | Page [REDACTED] of [REDACTED] |
| Project Name & Location: [REDACTED] | Field Work Order No. [REDACTED] | | |
| Contractor: [REDACTED] | <i>DISTRIBUTION (NAME PLUS DISCIPLINE OR COMPANY)</i> From: [REDACTED] To: [REDACTED] Copies to: [REDACTED] | | |
| Agreement No.: [REDACTED] | | | |
| Agreement Title: [REDACTED] | | | |
| Plant Area / Bldg No.: [REDACTED] | | | |
| Reference Specification: [REDACTED] | | | |
| Reference Drawing No.: [REDACTED] | | | |
| Description of the Work: [REDACTED] | | | |
| Reason: [REDACTED] | Trend Type: Trend No.: Allocated Budget: Code of Account: | | |
| Schedule Impact: [REDACTED] | | | |
| Work Start Date: [REDACTED] | | | |
| Lump Sum Price: | Estimated Price: | Unit Price <input type="checkbox"/> | Time & Materials <input type="checkbox"/> |
| Acknowledgment of Receipt: | | | |
| Contractor: [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Signature | Title | Date | |
| Company: | | | |
| _____ Contract Administrator Date: | _____ Area Construction Manager Date: | | |

In no case shall this Field Work Order (FWO) exceed \$ 25,000

LCP-SN-CD-0000-SC-FR-00XX-01

EXHIBIT 4

SUPPLIER DOCUMENT REQUIREMENTS LIST

| | | | | | |
|---|---|--|-----------------|--------------------|-----------------------------|
|  | Supplier Document Requirements List (SDR List) Intake and Powerhouse, Spillway and Transition Dams | | Revision | | Page 1 |
| | Nalcor No.: MFA-SN-CD-3000-CV-LS-0001-01 | | B2 | Date | |
| | SLI No.: 505573-3331-41EL-0002 | | 01 | 12-Sep-2012 | |

LOWER CHURCHILL PROJECT

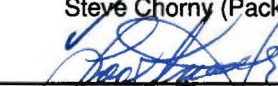
CH0007

INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS


Prepared by:


 Steve Chorny (Package Engineer)

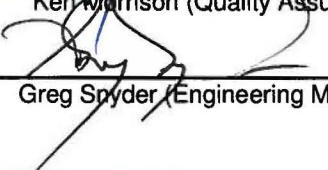
Reviewed by:


 Luc Turcotte (Area Manager)

Approved by:


 Ken Morrison (Quality Assurance)


Approved by:



 Greg Snyder (Engineering Manager)


| | | | | | | | |
|---|---|--|--|--|-----------------|--------------------|-------------|
|  SNC • LAVALIN | Supplier Document Requirements List (SDR List) Intake and Powerhouse, Spillway and Transition Dams | | | | Revision | | Page |
| | Nalcor No. MFA-SN-CD-3000-CV-LS-0001-01 | | | | B2 | Date | |
| | SLI Doc. 505573-3331-41EL-0002 | | | | 01 | 12-Sep-2012 | 2 |

REVISION LIST

| Revision | | | | | | Remarks |
|----------|-----|------|-------|-------|-------------|-------------------|
| N° | By | Chec | Appr. | Appr. | Date | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 01 | SC | LC | KM | GS | 12-Sep-2012 | Re-Issued for Bid |
| 00 | AEB | LC | KM | GS | 23-Aug-2012 | Issued for Bid |


|  Intake and Powerhouse, Spillway and Transition Dams Supplier Document Requirements List (SDR List) | | | | | Revision | |
|---|--|----------------------------|--|----------------|---|--|
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| SUPPLIER DOCUMENT REQUIREMENTS TABLE | | | | | | |
| SDRL Code | Type of Document | DOCUMENT REQUIREMENTS | | | | Notes (refer to SDR Definitions for additional details) |
| | | Documents Required | | As-Built Copy | | |
| | | Provide Copy with Proposal | Initial Submission | Incl. in "R02" | | |
| A. | GENERAL | | | | | |
| A01 | Supplier Document Register (SDR) | N | 2 weeks ARO | 1E + 1P | Update monthly | |
| A02 | Construction Schedule | 1E + 1P | Monthly | 1E + 1P | Level II with Proposal and Primavera Data File | |
| A03 | Monthly Risk Reports (Risk Register) | 1E + 1P | Monthly | | Sample with Proposal | |
| A04 | Risk Management Plan | 1E + 1P | 6 weeks ARO | | Sample Plan with Proposal | |
| A06 | Progress Reports | | As required | | As per EXHIBIT 3 | |
| A07 | Project Execution Program | 1E + 1P | | 1E + 1P | | |
| A08 | Permits | N | As required | | | |
| A11 | Logistics and Transportation Plan | 1E + 1P | With Proposal | | | |
| A13 | Shipping Release Authorization | N | As required | 1E + 1P | | |
| A28 | Health and Safety Plan | 1E + 1P | 6 weeks ARO | | EXHIBIT 5. Health and Safety Manual to be provided with Bid. | |
| A35 | Contract-Specific Environmental Protection Plan (C-SEPP) | 1E + 1P | 4 weeks | 1E + 1P | Copy of Environmental Policy to be provided with Bid. | |
| A39 | Survey Report | N | As required | 1E + 1P | | |
| A40 | Monthly Environmental Performance Report | N | monthly | | To be submitted monthly, and to include a Monthly Fuel Consumption Report | |
| A41 | Health and Safety Training Records and Certificates | 1E + 1P | As required | | Copies of Certificates as per Part 1, Appendix 5. | |
| A99 | Miscellaneous General Documents | 1E + 1P | As required | 1E + 1P | As requested in Technical Specifications | |
| B. | ARRANGEMENT DRAWINGS | | | | | |
| B01 | General Arrangements and Layouts | N | As required | 1E + 1P | | |
| B02 | Elevation/Profile Drawings | N | As required | 1E + 1P | | |
| B03 | Cross Section Drawings | N | As required | 1E + 1P | | |
| B04 | Arrangement and Sub Assembly Drawings | N | As required | 1E + 1P | | |
| B05 | Loading Drawings | N | As required | 1E + 1P | | |
| B06 | Cable and Tray Routing Drawings, Layout and Design | N | As required | 1E + 1P | | |
| B99 | Miscellaneous Arrangement Drawings | N | As required | 1E + 1P | | |
| C. | DESIGN & OPERATIONAL DRAWINGS | | | | | |
| C99 | Miscellaneous Operational Drawings | N | As requested in Technical Specifications | 1E + 1P | | |
| D. | DETAIL DRAWINGS | | | | | |
| D01 | Isometrics-Field Erected H/U Spools Only | N | As required | 1E + 1P | | |
| D03 | Equipment Details | N | As required | 1E + 1P | | |
| D04 | Fabrication, Installation and Shop Drawings | N | As required | 1E + 1P | | |


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| | | Documents Required | | As-Built Copy | | |
| | | Provide Copy with Proposal | Initial Submission | Incl. in "R02" | | |
| D07 | Equipment Drawings | N | As required | 1E + 1P | | |
| D08 | Shipping Drawings | N | As required | 1E + 1P | | |
| D99 | Miscellaneous Detail Drawings | N | As required | 1E + 1P | | |
| E. | ELECTRICAL/INSTRUMENTATION & INTERCONNECTIONS | | | | | |
| E01 | Interconnection Block Diagrams | N | As required | 1E + 1P | | |
| E02 | Wiring Diagrams/Schematics | N | As required | 1E + 1P | | |
| E03 | Single Line Diagrams | N | As required | 1E + 1P | | |
| E06 | Panel Details Diagrams | N | As required | 1E + 1P | | |
| E09 | Cable Specifications | N | As required | 1E + 1P | | |
| E99 | Miscellaneous Electrical/Instrumentation & Interconnections Documents | N | As required | 1E + 1P | | |
| F. | DATASHEETS | | | | | |
| F01 | Equipment Data Sheet | N | As required | 1E + 1P | | |
| F03 | Instrument Data Sheet | N | As required | 1E + 1P | | |
| F04 | WHMIS Material Safety Data Sheet (MSDS) | N | As required | 1E + 1P | | |
| F05 | Mechanical Properties of Materials - Material Test Certificates | N | As required | 1E + 1P | | |
| F07 | Shipping Bills of Material | N | As required | 1E + 1P | | |
| F99 | Miscellaneous Datasheets | N | As required | 1E + 1P | | |
| G. | SCHEDULES/LISTS | | | | | |
| G01 | Bill of Materials/Equipment List | N | As required | 1E + 1P | | |
| G03 | Cable Schedule | N | As required | 1E + 1P | | |
| G05 | Preventative Maintenance Schedule | N | As required | 1E + 1P | | |
| G08 | Computer Systems Documentation | N | As required | 1E + 1P | | |
| G99 | Miscellaneous Schedule/List Documents | N | As required | 1E + 1P | | |
| H. | CALCULATIONS | | | | | |
| H02 | Foundation Support Calculations | N | As required | N | | |
| H03 | Structural Calculations | N | As required | N | | |
| H12 | Mechanical Calculation - Misc. | N | As required | N | | |
| H13 | Electrical Calculation - Misc | N | As required | N | | |
| H14 | Civil Calculation - Misc | N | As required | 1E + 1P | | |
| H32 | Survey Calculation | N | As required | 1E + 1P | | |
| H35 | Grouting Calculations | N | As required | 1E + 1P | | |


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| | | Documents Required | | As-Built Copy | | |
| | | Provide Copy with Proposal | Initial Submission | Incl. in "R02" | | |
| H36 | Concrete Mix Calculation | N | As required | 1E + 1P | | |
| H37 | Blasting Calculation | N | As required | N | | |
| H99 | Miscellaneous Calculations Documents | N | As required | 1E + 1P | | |
| J. | PERFORMANCE DATA | | | | | |
| J07 | Miscellaneous Performance Data | N | As required | N | | |
| J12 | List of Environmental Emission and Effluent | N | As required | N | | |
| J99 | Miscellaneous Performance Data Documents | N | As required | N | | |
| K. | PROCEDURES | | | | | |
| K01 | Welding and Weld Repair Procedure | N | As required | 1E + 1P | | |
| K03 | Non-Destructive Test Procedure | N | As required | 1E + 1P | | |
| K05 | Heat Treatment Procedure | N | As required | 1E + 1P | | |
| K07 | Factory and Site Test Procedures (FAT/SAT) | N | As required | 1E + 1P | | |
| K12 | Commissioning Procedures | N | As required | 1E + 1P | | |
| K15 | Surface Preparation and Coating Procedure | N | As required | 1E + 1P | | |
| K16 | Instruction for Transportation, Storage, Warehousing and Long Term Storage | N | As required | 1E + 1P | | |
| K24 | Construction Method Statements and Procedures | N | As required | 1E + 1P | | |
| K99 | Miscellaneous Procedures Documents | N | As required | 1E + 1P | | |
| L. | MAINTENANCE & SPARES | | | | | |
| L02 | Recommended Commissioning and Start-up Spares | N | As required | N | | |
| L03 | Recommended 12 and 24 Months Operation Spares | N | As required | N | | |
| L04 | Recommended Critical Spares (Insurance) | N | As required | N | | |
| L05 | Special Tools List | N | As required | N | | |
| L99 | Miscellaneous Maintenance & Spares Documents | N | As required | N | | |
| M. | TEST & INSPECTION REPORTS | | | | | |
| M01 | Material Test Certificates | N | As required | 1E + 1P | | |
| M05 | NDE Test Reports | N | As required | 1E + 1P | | |
| M06 | Welder Performance Qualifications and Certifications | N | As required | 1E + 1P | | |
| M08 | Calibration Certificates | N | As required | 1E + 1P | | |
| M10 | Inspection Release Certificate | N | As required | 1E + 1P | | |
| M11 | Code Compliance Certificate | N | As required | 1E + 1P | | |
| M12 | Lifting Equipment Test Certificate | N | As required | 1E + 1P | | |
| M16 | Painting/Coating Test Report | N | As required | 1E + 1P | | |
| M17 | Steel Manufacturing Reports | N | As required | 1E + 1P | | |
| M19 | Factory and Site Test Report (FAT/SAT) | N | As required | 1E + 1P | | |

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| | | Documents Required | | As-Built Copy | | |
| | | Provide Copy with Proposal | Initial Submission | Incl. in "R02" | | |
| M25 | Reports and Certificates for Routine Tests | N | As required | 1E + 1P | | |
| M26 | Reports for Sample Tests | N | As required | 1E + 1P | | |
| M99 | Miscellaneous Test & Inspection Reports | N | As required | 1E + 1P | | |
| Q | QUALITY ASSURANCE / QUALITY CONTROL | | | | | |
| Q01 | Quality Assurance System Registration Certificate | 1E + 1P | | 1E + 1P | Copy with Bid | |
| Q02 | Quality Assurance System Manual | 1E + 1P | | 1E + 1P | Table of Contents with Bid | |
| Q03 | Quality Plan | 1E + 1P | 4 weeks ARO | 1E + 1P | Sample to be provided with Bid | |
| Q04 | Inspection and Test Plan(s) (Factory and Site Works) | 1E + 1P | As required | 1E + 1P | As requested in Technical Specifications | |
| Q05 | Certificates of Conformity (Factory and Site Works) | N | As required | 1E + 1P | | |
| Q07 | Internal/External Audit Schedule | 1E + 1P | 4 weeks before Works | 1E + 1P | Current schedule to be provided with Bid. | |
| Q08 | Management Review Minutes of Meeting | 1E + 1P | As required | 1E + 1P | Sample to be provided with Bid. | |
| Q09 | Third Party Surveillance Report | 1E + 1P | As required | 1E + 1P | Sample to be provided with Bid. | |
| Q10 | NCR Register and associated close out repairs | N | As required | 1E + 1P | | |
| Q11 | Quality Management Certificate for Subcontractors | 1E + 1P | As required | 1E + 1P | Copies with Bid | |
| Q99 | Miscellaneous Quality Documents | N | As required | 1E + 1P | As requested in Technical Specifications | |
| R. | MANUALS | | | | | |
| R02 | Manufacturing Record Book (MRB) | 1E + 1P | 4 weeks after Completion Certificate | 1E + 1P | Table of Contents and Format to be submitted for approval. | |
| R99 | Miscellaneous Manuals | 1E + 1P | As required | 1E + 1P | | |
| DEFINITIONS | | | | | | |
| The following are definitions of letters, acronyms and words used in this document: | | | | | | |
| 1E = One Electronic Copy (*) | | | | | | |
| 1P = One Print Copy (*) | | | | | | |
| ARO = After Receipt of Order | | | | | | |
| "As required" - As required by the Agreement, Drawings, Technical Specifications or Exhibits | | | | | | |

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| SDRL Definitions | | | | | |
| A | A - General | | | | |
| A01 | Supplier Document Register (SDR) | Supplier Document Register (SDR) – documents list identifying individual document deliverables by purchase order. This register will capture deliverable requirements as agreed by Contractor/Supplier and Company. Contractor/Supplier is responsible to create and approve this document as a revision controlled document. | | | |
| A02 | Construction Schedule | As per Exhibit 3 Coordination Procedure Paragraph 5.1 b submit Construction Schedule incorporating all work milestones including, but not limited to, engineering (i.e., initial drawing submission and approval timelines), testing, procurement, construction, fabrication, inspection, transport, delivery, installation, and any other detailed information mentioned in the Scope of Work. | | | |
| A03 | Monthly Risk Reports | Provides a summary of activities carried out by a Contractor/Supplier aimed at addressing selected Risks; The monthly Risk Reports, inclusive of the Risk Register, are part of the subject matter of the Monthly Risk Reviews. The requirements for the Monthly Risk Report and Risk Register are set forth in sections 2.3 and 2.4 of the LCP Risk Management Requirements for Contractors and Suppliers (SLI document # 505573-0000-39RA-I-0002). | | | |
| A04 | Risk Management Plan | Provides a description of the Risk Management Process, organizational context and tools adopted by a Contractor/Supplier. The contractor shall prepare the Risk Management Plan using as guidance section 2.2 of the <i>LCP Risk Management Requirements for Contractors and Suppliers</i> (SLI document # 505573-0000-39RA-I-0002). | | | |
| A05 | Unpriced Copies of Major Sub-Supplier Orders | n/a | | | |
| A06 | Progress Reports | As per Exhibit 3 Coordination Procedure. Reports to contain all expenses for benefits procedures. | | | |
| A07 | Project Execution Plan | As per Exhibit 3 Coordination Procedure. | | | |
| A08 | Permits | Provide copies of all permit documentation, as described in Exhibit 6 (Environmental and Regulatory Compliance Requirements) | | | |
| A11 | Logistics and Transportation Strategy | Provide a logistics and transportation strategy for the Work which shall include proposed transportation modes and preferred carriers or freight forwarders. The following documents shall be taken into consideration when developing the strategy: (SLI document # GP-5500-F-01-E) Documentation, Packaging, Marking, Shipping and Instructions and /or (SLI document # 505573-361C-4ZEG-0001) Documentation, Packaging, Marking, Shipping and Instructions Specific to Transmission Line Components. | | | |
| A13 | Shipping Release Authorization | Include Shipping Bill of Materials, Quality Surveillance Release, and Shipping Release Notice. | | | |
| A28 | Health and Safety Plan | As per Exhibit 5 Health and Safety Requirements. | | | |
| A34 | List of Existing Transmission Lines under similar loading conditions | Supplier shall submit the list of Transmission Lines equipped with the proposed product cable under similar environmental conditions. | | | |
| A35 | Contract Specific Environmental Protection Plan (C-SEPP) | The Contractor shall prepare its C-SEPP using as guidance the <i>Contract-Specific Environmental Protection Plan template</i> (SLI document # 505573-0000-68RA-I-0011, provided in Exhibit 11). The Contractor's C-SEPP shall be based on the following: relevant provisions of the <i>Project-Wide Environmental Protection Plan</i> (P-WEPP, SLI Document # 505573-0000-68RA-I-0005, provided in Exhibit 11); the <i>General Environmental Requirements - Technical Specifications</i> (included in Exhibit 1); <i>Environmental and Regulatory Compliance Requirements</i> (Exhibit 6); the <i>Waste Management Plan</i> (SLI document # 505573-0000-68RA-I-0008, included in Exhibit 11); and the <i>Master Spill Response Plan</i> (Nalcor document # MFA-PT-MD-0000-EV-PL-0001-01, included in Exhibit 11). | | | |
| A39 | Survey Report | Field Survey Reports. Example: roads, transmission lines, etc. | | | |
| A40 | Monthly Environmental Performance Report | A Monthly Environmental Performance Report shall be submitted by the Contractor, in accordance with provisions of Exhibit 6 (Environmental and Regulatory Compliance Requirements). This report shall include a Monthly Fuel Consumption Report in the format prescribed in Exhibit 6, Appendix C. | | | |
| A41 | Health and Safety Training Records and Certificates | Training records and certificates for employees including, but not limited, to Confined Spaces, Fall Protection, Operator Competencies, Trade Certifications, etc. | | | |
| A42 | Schedule Development and Control Plan | As per Coordination Procedure Requirements Exhibit 3, Paragraph 5.3. | | | |
| A99 | Miscellaneous General Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| B | B - ARRANGEMENT DRAWINGS | | | | |
| B01 | General Arrangements and Layouts | Drawings showing the general arrangement or relative locations of components or construction elements, including overall horizontal dimensions and/or scale bars, noted relative elevations and/or topographic contours, geographic orientations, flow directions, etc. Drawings are normally in horizontal (planar) view, with the location and orientation of elevation views and/or cross-section views shown. | | | |
| B02 | Elevation/Profile Drawings | Drawings showing views of components or construction elements in a vertical plane, i.e. in elevation, for the purpose of showing the vertical arrangement of the components or construction elements, usually with horizontal and vertical dimensions and/or scale bars. | | | |
| B03 | Cross Section Drawings | Drawings showing views of components or construction elements in horizontal or vertical planes which are cut through the assembly of components or construction elements. | | | |


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| B04 | Arrangement and Sub Assembly Drawings | Plans and Sections with nomenclature. | | | |
| B05 | Loading Drawings | Foundation drawings, loading requirements and anchor bolts. | | | |
| B06 | Cable Tray Routing Drawings, Layout and Design | Plans , elevations and sections. | | | |
| B99 | Miscellaneous Arrangement Drawings | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| C | C - DESIGN & OPERATIONAL DRAWINGS | | | | |
| C01 | Piping and Instrumentation (P&IDs) | P&IDs are a graphical representation of all the process equipment, all the major sections of pipe, motors, all instruments (including control logic depiction) and their interconnection. Each item shown on the P&ID shall be given a unique Tag No. as per the Project approved naming conventions in coordination with the Owner representative. ISA Standards symbology shall be used. | | | |
| C02 | Process Flow Diagrams (PFD) | Diagrams shall be provided for all gas, oil, water, air systems etc. Diagrams shall be drawn using standard symbols and tagging systems adopted for the project as advised by the purchaser and shall include all indication and controls required for safe operation of the equipment, line sizes, line ratings and design pressures and temperatures, all customer connections identified in accordance with "Customer Terminal Point Schedule" - plus part numbers in accordance with "Bill of Materials. | | | |
| C03 | HVAc Schematic and Flow Diagrams | Schematics and flow diagrams shall be provided for all heating, ventilating and air conditioning systems. Diagrams shall be drawn using standard symbols and tagging systems adopted for the project as advised by the purchaser and shall include direction of flow and location of system components. | | | |
| C04 | Logic Diagrams | Process Logic shall be detailed. A comprehensive set of SAMA logic diagrams must be produced. | | | |
| C05 | System Schematic Diagrams | Supplier to provide schematics for any systems not covered by P&ID, e.g. hydraulic, pneumatic, cooling. | | | |
| C06 | Sequential and Control Function Charts | A sequential function chart (SFC) provides an overview of system behaviour. IT shall describe the start-up, shutdown and other sequential operations. A Continuous Function Chart (CFC) shall address the functions that run regardless of the active sequence. It complements the SFC and both shall be provided. | | | |
| C07 | Functional Description or Process Control Narratives | This document should include a text-based detailed description of the process control. It shall include but not be limited to: descriptives, flags, requests and commands, permissives, modes of operation, description of sequences, loop narratives, start conditions, start actions, run conditions, alarms, interlocks conditions and actions, pause conditions and actions, resume conditions and actions. | | | |
| C99 | Miscellaneous Design & Operational Drawings | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| D | D – DETAIL DRAWINGS | | | | |
| D01 | Isometrics-Field Erected H/U Spools Only | Isometric drawings of plant and systems. | | | |
| D03 | Equipment Details | Details of equipment construction, capacity, etc. to meet the Purchaser's specification. | | | |
| D04 | Fabrication, Installation and Shop Drawings | Drawings to show fully dimensioned component parts of items being supplied. To include Plating Drawings and dimensional drawings for lateral tees. | | | |
| D06 | Foundation Drawings | Provide all drawings associated with foundation details. | | | |
| D07 | Equipment Drawings | To include Rigging / Lifting Plans / Details and or Elevations complete with all necessary dimensions. All relevant notes regarding lifting and installation requirements. | | | |
| D08 | Shipping Drawings | Provide all drawings associated with shipping activities. | | | |
| D99 | Miscellaneous Detail Drawings | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| E | E – ELECTRICAL/INSTRUMENTATION & INTERCONNECTIONS | | | | |
| E01 | Interconnection Block Diagrams | An Interconnection Block Diagram shall be provided when Equipment Supplier requires the field contractor to do the field installation or interconnection of devices or panels. The panels/junction boxes/devices Tag number shall be identified as well as any cable included by the supplier. | | | |


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| E02 | Wiring Diagrams/Schematics | Wiring Diagrams shall be produced for each panel, cabinet, rack, console and item of equipment designed and constructed by the Supplier or Sub-Supplier specifically for this order. Diagrams shall indicate in an acceptable "ladder" format and shall be of a "Block" format showing all interconnections within the unit including those to all termination's and external interfaces. The diagram shall be fully detailed showing the details for each cable core and wire and the connections down to the level of interfaces to proprietary items within the unit. All units and connections shall be uniquely identified. All voltage levels, ratings, sizes, manufacturer, type numbers, cable and wire types, sizes, colour and ID number shall be included. All internal cables and wires shall be identified at both ends to a numbering schema agreed between the Purchaser and the Seller. Functional descriptions for each connection or signal path shall be included to enable users to fully comprehend the operation and configuration of the unit. Schematic drawings shall include cable types, cable numbers, tag numbers, termination point (plug/socket etc.), power supply sources, earthing arrangements and location of each item of equipment. The diagram shall also include any notes that may be necessary to enhance the understanding of the system's configuration and operation as well as indicating which components and connections are subject to emergency shutdown arrangements. Equipment and Cables not in the Supplier's scope shall be clearly identified. Schematic diagrams for instrument relay control and trip systems, etc., shall show the electrical arrangement of all component parts. Relays shall be shown with contacts in coil de-energized position. | | | |
| E03 | Single Line Diagrams | An interconnectivity representation of all electrical elements of a system. | | | |
| E04 | Control System Network Diagram | A single line diagram of the data communications system shall be provided. The drawing(s) shall show all the major control system components and how they are interconnected. Addressing information shall be provided at each drop. | | | |
| E05 | Panel and Annunciator Layout Drawings | General arrangement of Panel components complete with identification tags. Include BOM unless being issued as a separate document. | | | |
| E06 | Panel Detail Diagram | Provide details of equipment layout, terminal blocks and wiring schedule. | | | |
| E07 | Instrument Hook-up Details | Provide installation detail drawings for any instrument that requires installation by the field contractor. | | | |
| E08 | Block Diagram | Provide Control System Block diagram showing major system components (complete with tag No. and description) and their interconnection. | | | |
| E09 | Cable Specifications | Provide Technical data and specifications for cables connected to equipment not supplied as part of the scope of the turbine and generator package: cables connecting the line protection panels: control cables between the powerhouse and switchyard used for interlock purposes. | | | |
| E99 | Miscellaneous Electrical/Instrumentation & Interconnections Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| F | F - DATASHEETS | | | | |
| F01 | Equipment Data Sheet | Equipment data sheets will be issued by the Purchaser as part of enquiry or purchase order. Supplier to complete. | | | |
| F02 | Motor Data Sheet | Electrical data sheets will be issued as part of the enquiry and purchase requisition, part of the data sheet is completed by the purchaser, the remainder is to be fully completed by the Supplier. | | | |
| F03 | Instrument Data Sheet | An instrument datasheet shall be completed with process information, instrument specification information, materials of construction, process connections, power requirements, instrument and calibrated ranges, signal output, cable entry size, mounting type and any other key information. An instrument supplier datasheet can be provided as long as all other specific information such as manufacturer and model number (complete), calibration ranges and setpoints are included in the instrument index. | | | |
| F04 | WHMIS Material Safety Data Sheet (MSDS) | Supplier must provide suitable and sufficient health and safety information to ensure compliance with the Hazardous Products Act of Canada and any other relevant Provincial or Local legislation. | | | |
| F05 | Mechanical Properties of Materials | When requested Supplier to provide the following mechanical properties: Tensile strength, Yield Strength, Elongation at Ambient Temperature and any other information as requested. | | | |
| F07 | Shipping Bills of Material | Weights and dimensions data for all materials to be shipped. | | | |
| F99 | Miscellaneous Datasheets | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| G | G - SCHEDULES/LISTS | | | | |
| G01 | Bill of Materials / Equipment List | Bill of Materials shall list all items in the system by part number, and indicate the major features of each item, e.g. make, model, type, supply voltages, output characteristics, materials, set pressure, design pressure, range, etc. It shall show the total quantity of each item supplied. | | | |
| G02 | Line Lists | Blank line lists will be supplied by the Purchaser for Supplier to indicate all salient features for piping included in his supply. | | | |
| G03 | Cable Schedule | The following information must be included in the cable schedule as a minimum: Cable Tag, a brief technical description of all cables, source, destination. Also a field showing scope of supply (i.e. by supplier, or by others) and scope of installation and termination for each cable (i.e. by supplier or by field contractor). The schedule shall be updated monthly or when significant changes occur. This document will not be approved to final status until the dispatch of all equipment to site after which any changes will be made directly onto the purchasers Master Cable Schedule. The schedule shall be submitted in hard copy and MS Excel format. Samples can be provided upon request. | | | |


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| G05 | Preventative Maintenance Schedule | Section shall include schedule of preventative maintenance tasks/maintenance frequencies, where relevant routine test procedures and inspection instructions are to be provided. | | | |
| G06 | Instrument Index | An instrument list in Excel and hard copy format shall be provided. Each instrument tag number must be listed. The following fields are to be included and completed: Tag number, instrument type description, service, associated equipment, instrument range and calibration range (include calibration range if not provided in datasheets), reference P&ID or schematic if applicable, manufacturer and complete model number. | | | |
| G07 | Alarms and Trip Set Point List | Provide list in excel format and hard copy. Sample can be provided upon request. | | | |
| G08 | Computer Systems Documentation | <ol style="list-style-type: none"> 1. System Description <ol style="list-style-type: none"> a. Hardware Components b. Operating System c. Driver d. Utilities e. Application Software f. Type of Interface g. Operator's Manual 2. Hardware <ol style="list-style-type: none"> a. Schematic b. Interconnection diagram, especially special interfaces signal level, type of signal (how one sees it on an oscilloscope) and meaning, especially in relation to diagnostic programs c. Point list, if applicable d. Equipment drawing as provided by Original Equipment Manufacturer (OEM) e. Card drawing as provided by OEM f. Document on any customer modification g. Maintenance manual, with schedule of preventative maintenance h. Material list, with identification of original source of supplier, where practical 3. Software <ol style="list-style-type: none"> a. Memory map b. Disk map c. Description of all key routines and sub-routines specifically, its function; how parameters are passed to it, where it returns parameters, how routine is activated, priority level constraints on usage, etc. d. source code, laddered diagrams, set points, etc. | | | |
| G09 | Input/Output List | I/O list shall include the corresponding device tag, I/O type and complete hardware and software addresses of each I/O point in the system. Required in Excel format and hard copy. Project sample can be provided upon request. | | | |
| G99 | Miscellaneous Schedule/List Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| H | H - CALCULATIONS | | | | |
| H01 | Architectural Calculations | <p>Calculations shall be provided for the following, as a minimum :</p> <ol style="list-style-type: none"> 1. Noise Design Calculations shall be provided for wall, partition and liner to ensure that noise transfer between areas is below purchasers stated requirements. Noise design calculations shall also be provided for proprietary equipment for areas such as Galleys and Laboratories (any equipment with any moving or mechanical parts). 2. Thermal Calculations shall determine heat emitted to the atmosphere for project loading and ambient temperatures specified by the purchaser. 3. Calculations shall also be provided for Structural elements such as Mini modules, blast walls, Firewalls etc. Please refer to Structural calculations for requirements. | | | |
| H02 | Foundation Support Calculations | <p>Calculations shall be provided for the following, as a minimum:</p> <ul style="list-style-type: none"> • Identification of all applicable loading conditions • Bearing capacity requirements • Beating capacity of the foundation for the applicable loading condition • Anchorage requirements with loads and anchor details. | | | |
| H03 | Structural Calculations | <p>Calculations shall be provided for the following, as a minimum:</p> <ul style="list-style-type: none"> • Identification of all applicable loading conditions • Loading, bending moment and shear force diagrams for all members, bracings and connections • Member selection details • Weld load and size requirements • Bolt load, size and number requirements | | | |
| H04 | Pressure Vessel / Tank Calculations | Calculation of wall thickness and volume verification for each vessel/tank in accordance with applicable ASME requirements. | | | |
| H05 | Pressure Pipping System | Calculation of wall thickness, welds, flanges and instrument connections; dynamic analysis for each pressure line and system of design and extreme operation conditions in accordance with applicable ASME and CSA B51 requirements, including permit requirements. | | | |

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| H06 | Thrust Bearing Loads and Capabilities | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> Hydraulic thrust loads Structural support and stiffness requirements Oil film thickness Friction coefficients and losses Cooling oil and water flow requirements Hydrostatic lift system requirements. | | | |
| H07 | Lifting Lug Calculations | As a minimum calculation for lifting lug tension, bearing and shear failure loads; weld loads and size requirements; and specified safety factor to be provided. | | | |
| H09 | Instrument Air or Hydraulic Requirement Calculations | Calculation listing the air or hydraulic consumption requirements for each instrument air or hydraulic user and total air or hydraulic requirements. | | | |
| H10 | Fire Protection System Calculations | Calculations to detail pipe friction losses, nozzle sizes, and discharge rates in accordance with NFPA requirements. ie: sprinklers as primary protection. | | | |
| H12 | Mechanical Calculations - Misc. | All other mechanical calculation requirements specified in the contract documents and technical specifications, not already outlined in Attached 5a and 5b of this document, shall be provided. | | | |
| H13 | Electrical Calculation - Misc. | Purchaser will detail these as specifics are prepared. Calculation listing of various equipment rating. | | | |
| H14 | Civil Calculation - Misc. | Civil Calculations shall be provided. | | | |
| H15 | Transmission Line Calculation - Misc. | Any calculations not covered in H52-H58. | | | |
| H23 | Compressed Air Calculation | Calculations listing the compressed air consumption requirements for each instrument air user and total air requirements for both high and low pressure compressed air. In addition to system schematics and flow diagrams, calculations for piping sizes and rating, compressor rating, storage tanks, and expected volumes compensation/leakage air are to be provided for both high and low pressure compressed air systems. | | | |
| H24 | Gate Operating Ring Calculation | Gate operating ring materials and mechanical properties are to be provided. Calculations for the radial and axial displacement as well as maximum and allowable stress under applied load conditions are to be provided. | | | |
| H25 | Turbine Shaft Calculation | As per technical specification | | | |
| H26 | Runner Calculation | As per technical specification | | | |
| H27 | Stay Ring Calculation | As per technical specification | | | |
| H28 | Wicket Gate Calculation | As per technical specification | | | |
| H29 | Shaft Seal Calculation | As per technical specification | | | |
| H30 | Head Cover Calculation | As per technical specification | | | |
| H31 | Penstock Calculation | Not Applicable for Muskrat Falls | | | |
| H32 | Survey Calculation | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> Identification and 3D coordinates of the original site survey control points. Identification and 3D coordinates of all major control points on the site. Details layout drawings showing all major control points. | | | |
| H33 | Reinforced and Prestressed Concrete Calculation | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> Identification of all applicable loading conditions Finite element analyses Loading, bending moment and shear force diagrams for all components Locations and jacking loads for pre-stressing tendons | | | |
| H34 | Structure Stability Calculation | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> Identification of all applicable loading conditions Stability, including overturning and sliding Location of resultant with respect to mid third of base Location and size of drainage system components Stability of excavated surfaces (soil and rock) Stability of constructed fill slopes Stability of natural in-situ materials and/or slopes affected by construction or reservoir impoundment, during construction or operation. | | | |
| H35 | Grouting Calculation | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> Definition of grout curtain (Primary, secondary, tertiary), including hole depths Volume of grout take per hole | | | |
| H36 | Concrete Mix Calculation | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> Mix designs for slush grout and dental concrete for foundation preparation Mix designs for conventional concrete for each structure, including primary and secondary concrete Mix design for roller compacted concrete for each structure | | | |

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| H37 | Blasting Calculation | Calculations shall be provided for the following, as a minimum: <ul style="list-style-type: none"> • Drilling pattern and powder factor for each structure or operation, including: <ul style="list-style-type: none"> - Size and spacing of holes, and Size and placement of charges, for pre-shearing. - Size and spacing of holes, and Size and placement of charges, for pre-shearing. - Size and spacing of holes, and size and placement of charges, for mass excavation. • Vibration limitations for each structure or operation. | | | |
| H38 | Essential Service Load Calculation | Full report and calculation | | | |
| H39 | Unit Service Load Calculation | Full report and calculation | | | |
| H40 | AC Station Service Load Calculation | Full report and calculation | | | |
| H41 | DC Station Service Load Calculation | Full report and calculation | | | |
| H42 | Primary Grounding Calculation | Full report. Calculations and drawings. | | | |
| H43 | EMTP Study | Full Report | | | |
| H44 | Insulation Coordination Study | Full Report | | | |
| H45 | Exciter Performance & Parameter Study | Full Report | | | |
| H46 | Governor Performance & Parameter Study | Full Report | | | |
| H47 | HVdc Scheme RAM Study | Full Report | | | |
| H48 | Reactive Power Study | Full Report | | | |
| H49 | Resonance Study | Full Report | | | |
| H50 | Sub-Synchronous Resonance Study | Full Report | | | |
| H51 | Relay Setting Calculation | Full Report | | | |
| H52 | Sag and Tension Calculation | All wires. All load cases. Stringing sag charts. Calculations for all load cases. | | | |
| H53 | Electrical Clearance Calculation | All codes as per CSA 22.3 | | | |
| H54 | Design Load Cases | All calculations shall include zoning. Including 3 zones for dc, and 1 zone for ac. | | | |
| H55 | Coordination of Strength Calculation | Take into account conductor, tower (suspension, angle, deadend) foundation, and hardware/insulators. | | | |
| H56 | Aeolian Vibration Calculation | Done by supplier using proprietary software. | | | |
| H57 | Insulation Requirement Calculation | As per CSA 22.3 | | | |
| H58 | PLS-CADD Model Input Parameter Calculation | All details including *.bak file. | | | |
| H59 | Critical Speed of Rotating System | As per technical specification | | | |
| H60 | Acceptable Stress Calculations - Extreme Loads | As per technical specification | | | |
| H61 | Extreme Loads - Breaking point of shear pins | As per technical specification | | | |
| H62 | Natural Frequency Analysis | As per technical specification | | | |
| H63 | Fatigue Analysis | As per technical specification | | | |
| H64 | Step-up Calculation Prototype Efficiency | As per technical specification | | | |
| H65 | Current Transformer Design Calculations | As per technical specification including knee point calculations | | | |
| H66 | Creep Correction Chart | Provide Creep Correction Chart for the material. | | | |
| H99 | Miscellaneous Calculations Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| J | J - PERFORMANCE DATA | | | | |
| J01 | General Performance Data | This heading to cover any Performance Data required, but not previously covered by Code and Description. | | | |
| J02 | Current and Potential (CT/VT) Transformer Curves | Graph showing current transformer magnetisation characteristics. | | | |
| J04 | Compressor Performance Curves | Curves to indicate the discharge pressure, shaft input power, polytropic head and efficiency versus inlet capacity for specified inlet pressure, temperature and molecular weight for each section (casing) and overall unit. Curves shall indicate performance from surge through to 120% rated capacity. Units driven by variable speed drivers shall be provided with curves for 80, 90, 100 and 105% rated speed. | | | |
| J05 | Pump Performance Curves | Curves to indicate differential head developed, efficiency, input power required and NPSHR versus flow for rated impeller. Units driven by variable speed drivers shall indicate four performance curves to indicate performance from minimum to maximum operating speeds. Curves shall indicate performance from zero to 120% rated flow, with minimum continuous flow clearly indicated. | | | |

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| J06 | Performance Guarantee | As per technical specification and as follows: Performance guarantees shall be provided for all supplied equipment, ensuring environmental sustainability and safety, with specified performance requirements. Guarantee information to be provided shall include, but is not limited to, the following: <ul style="list-style-type: none"> • Expected life of equipment/components • Terms of warranty • Rated capacity and efficiency • Minimum hours of operation without failure/defects (e.g. oil leakage, surface cracking, insulation failure, wear rate, etc.) • Acceptable Operation limits (e.g. Operating temperature range, coolant and/or lubricant requirements, vibration limits, operating voltage, etc.) | | | |
| J07 | Miscellaneous Performance Data | As per technical specification | | | |
| J08 | Turbine Efficiency Curves | As per technical specification | | | |
| J09 | Generator Performance Curves | As per technical specification. Diagram showing generator real and reactive power capability. | | | |
| J10 | Soil Graduation Analyses | Standard particle size distribution in table and graph formats. | | | |
| J11 | Optimization Analyses (Civil) | Depending on the type of optimization, one or more of the following are to be provided: <ul style="list-style-type: none"> • Comparative layouts with tabulated associated relative benefits and costs. • Tables and/or graphs to illustrate the relative benefits and costs to provide the next level or size of installation. | | | |
| J12 | List of Environmental Emission and Effluent | As per Environmental Requirements. | | | |
| J99 | Miscellaneous Performance Data Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| K | K – PROCEDURES | | | | |
| K01 | Welding and Weld Repair Procedure | Specification defining all shop and field welding techniques and test results, and in accordance with the requirements of the Purchase Order. | | | |
| K02 | Vibration/Noise Level Test Procedure | Procedures defining extent, method and data to be recorded. | | | |
| K03 | Non-Destructive Test Procedure | Procedures defining extent, method and acceptance levels of all NDT in compliance with Purchaser's requirements, for materials and formed or welded fabrications by visual, radiographic, ultrasonic, magnetic particle, dye penetrant, eddy current or other techniques. | | | |
| K04 | Performance/Acceptance Test Procedure | <ul style="list-style-type: none"> • Suppliers' procedures for testing to demonstrate compliance with Purchaser's requirements and process guarantees. • Procedures shall indicate test bed arrangements, procedures to be adopted, readings to be taken, instruments to be used, and method of interpreting readings taken to determine basis for acceptance of results. | | | |
| K05 | Heat Treatment Procedure | Suppliers' procedures in accordance with the applicable code/standard and Purchaser's purchase order requirements. | | | |
| K06 | Pressure Test Procedure | Procedures shall indicate test bed arrangement, procedures to be adopted, readings to be taken, instruments to be used, and method of interpreting readings taken to determine basis for acceptance of results. | | | |
| K07 | Factory and Site Test Procedures (FAT/SAT) | <ul style="list-style-type: none"> • Description of system test procedures for control systems, safety, trip/shutdown systems, electrical and telecommunication systems with typical test record documents. • Factory test procedures are to be produced for use in tests to be conducted at the Supplier's or Sub-Supplier's works for each system. There shall also be an integrated test procedure to test all interfaces and connectivity, i.e. an overall test with all systems fully assembled and interconnected in the factory (including central equipment and a representative number of field equipment's). These tests shall demonstrate complete compliance to the Project Specification within the Purchase Order or Sub-Contract. | | | |
| K08 | Load Test Procedure | Procedure describing the method and extent of testing Cranes, Davits, Lifting Lugs in accordance with specified codes, standards and statutory and mandatory requirements. | | | |
| K09 | Dimensional Inspection Procedure | Dimensional Control Procedure, Visual Inspection Procedure. | | | |
| K10 | Manufacturing/Fabrication Procedure | Procedure explaining methods used to produce the required item(s) stated in the purchase order as detailed by the specification and/or data sheets. | | | |
| K11 | Cable Wiring Procedure | Supplier to supply his standard for approval. | | | |
| K12 | Commissioning Procedures | Onshore Commissioning Procedures shall comprise a Mechanical Completion Procedure to verify the integrity of installation works completed by others and an Onshore Commissioning Procedure, all conducted by the Supplier. Mechanical Completion Procedures shall be produced which verify the mechanical completion for cables, cable termination's and equipment and systems physically installed by others. The procedure shall also certify the integrity of Supplier installed cables and termination's prior to the application of power. Onshore Commissioning Procedures shall be produced in accordance with the Project Specification within the Purchase Order or Sub-Contract. | | | |

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| K15 | Surface Preparation and Coating Procedure | Painting and/or coating procedures shall be provided for all equipment/components requiring a protective covering. Procedures shall be in compliance with purchaser specifications and industry standards and provided for both factory and site applied paint and coatings. Procedures shall include but not limited to, the following information: <ul style="list-style-type: none"> • Description of material/components to be covered. • Surface preparation details • MSDS information from paint and/or coating manufacturer • Primer requirements, if applicable • Required number and thickness of painting/coating layers | | | |
| K16 | Instructions for Transportation, Storage, Warehousing and Long term Storage | Provide Full Instructions. | | | |
| K17 | Shaft Inspection Procedure | As per Technical Specification. | | | |
| K18 | Flushing Procedure | As per Technical Specification. | | | |
| K21 | Certified Fusion Splicing Procedure | Fusion splicing shall be carried out by trained personnel. | | | |
| K22 | Routine Test Procedure | Provide a full list of routine tests, which will be carried out during manufacture, as well as the actual procedures and the test equipment that will be used. | | | |
| K23 | Sample Test Procedure | Provide a full list of sample tests, which will be carried out during manufacture, as well as the actual procedures and the test equipment that will be used. | | | |
| K24 | Construction Method Statements and Procedures | As per Coordination Procedure Requirements. | | | |
| K99 | Miscellaneous Procedures Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| L | L - MAINTENANCE & SPARES | | | | |
| L01 | Lubricant and Operating Fluids Schedule | Schedule to indicate type and grade of lubricants required for all equipment supplied. For each entry, first-fill capacities, rate of consumption plus frequency of change shall be indicated. | | | |
| L02 | Recommended Commissioning and Start-up Spares | List shall indicate parts recommended by Supplier, and be defined by reference to cross-sectional drawings and relevant parts list. Against each entry, Manufacturer, Manufacturers part no, price and delivery shall be indicated. | | | |
| L03 | Recommended 12 and 24 Months Operation Spares | List shall indicate parts recommended by Supplier and be defined by reference to cross-sectional drawings and relevant parts list. Recommendation shall assume that recommended commissioning spares will be purchased with main equipment. Against each entry, Manufacturer, Manufacturers part no, number of parts in operation, price and delivery shall be indicated. | | | |
| L04 | Recommended Critical Spares (Insurance) | Essential Spares that have a long delivery time and/or require testing with the main equipment. Against each entry, Manufacturer, Manufacturers part no, number of parts in operation, price and delivery shall be indicated. | | | |
| L05 | Special Tools List | List shall indicate those tools necessary for removing equipment from transport at site, plus those necessary for installation and maintenance equipment. Against each entry, a brief description shall be indicated plus, where necessary for clarity, a drawing provided. | | | |
| L99 | Miscellaneous Maintenance & Spares Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| M | M - TEST & INSPECTION REPORTS | | | | |
| M01 | Material Test Certificates | Material Test Certification. The level of certification, traceability and marking of materials will be defined within the Purchase order referenced specifications, drawings and data sheets. | | | |
| M02 | Instrument/Electrical Test Report | Heat run, short circuit, etc. test reports | | | |
| M03 | Component/Assembly Balance Certificate | Static and dynamic test results. | | | |
| M04 | Hydrostatic/Pneumatic Test Certificate | Tested to a recognised code or standard. Including marked-up isometrics for pipework defining extent of test. | | | |
| M05 | NDE Test Reports | Detailed NDT reports detailing procedure used, acceptance levels, results obtained and action for radiographic, ultrasonic, magnetic particle dye penetrant and eddy current examinations. Reports shall identify code/standard, components tested, location, operator, date, heat treated condition and weld repairs (as applicable). | | | |
| M06 | Welder Performance Qualifications and Certifications | Qualification of all welder/welding operators using approved weld procedures and by weld position in compliance with the Purchaser's requirements. Code forms or Supplier standard forms to be used as appropriate. | | | |
| M07 | Heat Treatment Records | Fully endorsed certificates of any heat treatment conducted during forming or fabrication such as normalising, quenching, post weld heat treatment etc. Certificates must be fully traceable for each part by means of serial or unique numbering systems. | | | |
| M08 | Calibration Certificates | Suitably endorsed valid certification to verify that instrumentation has been calibrated by a recognised authority. Where required by the equipment specification, suitably endorsed valid certification shall be supplied for | | | |
| M09 | Fire Testing Certificates | Certification issued by an approved testing establishment or recognised authority for hydrocarbon fires, jet or pool, for the durations stated in the Purchase Order. | | | |
| M10 | Inspection Release Certificate | Fully endorsed certificate issued by Purchaser's inspector. | | | |

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| M11 | Code Compliance Certificate | The Certificate should be issued by the IIA, and document that all Pressure Vessels have been designed in accordance with the nominated code or standard, and that the review considered the specified design conditions, nozzle and environmental loadings. | | | |
| M12 | Lifting Equipment Test Certificate | Required for all items, hoists, cranes wire ropes/shackles, padeyes, etc. | | | |
| M13 | Noise Test Certificate/Reports | In compliance with the Project Specification within the Purchase Order. | | | |
| M14 | Vibration Test Certificate/Reports | In compliance with the Project Specification within the Purchase Order. | | | |
| M15 | Performance Test Certificate | Suppliers report on performance testing of equipment, including overspeed tests with the copies of data, indicating that equipment complies with Purchaser's specification. | | | |
| M16 | Painting/Coating Test Report | As required by the Project Painting and Coating Standards. | | | |
| M17 | Steel Manufacturing Reports | Residual magnetism report, heat treatment report, mechanical test reports, full traceability cross-reference control sheet. | | | |
| M18 | Mechanical Run Test Report | The mechanical run test report shall include details and result of the successfully completed FAT of equipment and systems as well as the details and results of the successfully completed commissioning static checks and dynamic commissioning/system commissioning tests completed after equipment and systems are assembled and installed at site. | | | |
| M19 | Factory and Site Test Report (FAT/SAT) | Full test report for each test. | | | |
| M20 | Commissioning Report | Full test report for each test. | | | |
| M21 | Efficiency Test Reports | <ul style="list-style-type: none"> • Full test report and calculations. • Full test report shall be provided detailing the measured actual efficiency of equipment and systems including turbine, generator, governor, auxiliary equipment, etc., after assembly, installation and commissioning at site and Turnover to Operations. | | | |
| M24 | Manufacturer's Type Test List and Report | Proof of design and type tests previously performed on the material shall be submitted for approval. | | | |
| M25 | Reports and Certificates for Routine Tests | Provide Routine test reports with certificates before and after stranding. | | | |
| M26 | Reports for Sample Tests | Provide sample test reports | | | |
| M27 | Mechanical Completion Report | As per requirements | | | |
| M99 | Miscellaneous Test & Inspection Reports | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| Q | Q – QUALITY | | | | |
| Q01 | Quality Assurance System Registration Certificate | Certificate provided by an authorized registrar confirming conformance to a quality management system. | | | |
| Q02 | Quality Assurance System Manual | Document specifying the quality management system of an organization. | | | |
| Q03 | Quality Plan | Document specifying which procedures and associated resources shall be applied by whom and when to a specific project, product, process or contract. | | | |
| Q04 | Inspection and Test Plan(s) (Factory and Site works) | Document defining the inspection and test activities to be carried out during the realization of a product. | | | |
| Q05 | Certificates of Conformity (Factory and Site Works) | Certificates authorized by the supplied or third party verification body attesting that the product meets requirements. | | | |
| Q06 | List of Generator Tests | Provide list of all generator tests to be performed during manufacturing, installation and commissioning. | | | |
| Q07 | Internal/External Audit Schedule | Documented audit schedule for both internal and external (vendor and third party) audits. | | | |
| Q08 | Management Review of Meeting Minutes | Minutes of meeting of the most recent management review of the quality management system. | | | |
| Q09 | Third Party Surveillance Report | Report by an authorized third party on the audit of the ISO 9001:2008 quality management system. | | | |
| Q10 | NCR Register and associated close out reports | Register of Nonconformities reported and associated close out reports. | | | |
| Q11 | Quality Management Certificate for Subcontractors | Contractor shall submit their Subcontractor's ISO 9001:2008 or internationally recognized Quality Management Certificate or quality manual. | | | |
| Q12 | Declaration of Installation and Inspection Completion | As per Quality requirements. | | | |
| Q13 | Authorized Deviations | Site queries, concession requests etc. as approved by Purchaser. | | | |
| Q99 | Miscellaneous Quality Documents | As described in the procurement documents and on SDRL or considered necessary by Vender/Supplier. | | | |
| R | R – MANUALS | | | | |


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| R01 | Installation, Commissioning, Operating and Maintenance Manual | <p>1. Installation</p> <p>Section shall include all erection/assembly drawings, instructions as to the use of special tools provided, tolerances allowed on setting dimensions, handling and unpacking instructions. Also includes quantities of preservatives and fluids required for shipment.</p> <p>2. Commissioning</p> <p>Section shall include list of spare parts, special tools and utilities required, pre-commissioning checks to be performed, sequenced procedure for start-up and fault finding guidelines. Copies of all relevant drawings shall be included.</p> <p>3. Operating</p> <p>Section shall include description of equipment, operating procedures for start-up, steady stage, shutdown, emergency and fault conditions, operating parameters, function of protective devices and controls, copies of all relevant cause and effect charts and block diagrams, and fault finding guidelines.</p> <p>4. Maintenance</p> <p>Section shall include instructions for maintenance disassembly, repair/overhaul and reassemble, schedule of preventative maintenance/maintenance frequencies.</p> | | | |
| R02 | Manufacturing Records Book (MRB) | Construction, manufacturing, installation, testing, reporting and certification documentation required to demonstrate that constructions, equipment, materials and fabricated systems and units are in compliance with the statutory regulations and specified requirements. | | | |
| R99 | Miscellaneous Manuals | As described in the procurement documents and on SDRL or considered necessary by Vendor/Supplier. | | | |

Exhibit 5
Health and Safety Requirements
Agreement No: CH0007-001

EXHIBIT 5

HEALTH AND SAFETY REQUIREMENTS

1 Introduction

Without limiting the generality and application of the Agreement, Contractor will abide by and ensure Contractor Group Personnel abides by, at a minimum, the health and safety requirements set forth herein and as described in the most recent version of the following documents located in Exhibit 11 – Company Supplied Documents:

- SNC-Lavalin Health and Safety Management Plan (505573-0000-68RA-I-0001)
- SNC-Lavalin Site Security and Access Control Plan (505573-0000-68RA-I-0002)
- SNC-Lavalin Global Power Health and Safety Management System (SN-0008/6801-EN)
- SNC-Lavalin Global Power Health and Safety Standards Manual (SN-0007/503011-0000-68GA-0001)
- SNC-Lavalin Critical Risk Control Protocols (SN-0004/6845.2.1.1-EN)

2 Health and Safety Commitment

Contractor will demonstrate a strong commitment to health and safety management and must operate and ensure that Contractor Group operates a health and safety management system that is compliant with OSHAS 18001:2007, corresponding Canadian standards and fulfills all regulatory requirements pertaining to the Work and Worksites.

Contractor will place the highest priority on safety and health while performing the Work. Contractor is responsible for maintaining a safe working environment at all time at the Worksite whether of a temporary or permanent nature. The system in place will cater to specific requirements for instruction, supervision and resources pertaining to Contractor's Group and Engineer's and Company's Personnel.

Contractor will not permit nor tolerate any unsafe or unhealthy condition or activity over which it has control. Contractor will immediately inform Engineer of any unsafe or unhealthy condition or work practice of which it becomes aware but over which it has no authority to correct.

3 Compliance with Health and Safety Regulations and Standards

Contractor will be responsible for complying with all relevant health and safety regulations, standards and guidelines and for taking all necessary safety precautions related to or arising out of the performance of the Agreement in order to protect the Work, Contractor's Group and Engineer's and Company's Personnel, the general public, all other persons, the property of Company and the property of third parties.

Without prejudice to Contractor's general and legal responsibility for the safety of its operations and of the Personnel and property involved, where Engineer has notified Contractor of any specific health, safety or environmental requirements which are applicable to any part of the Work being performed, Contractor will comply therewith.

4 General Requirements

Without limitation to the full implementation of Contractor's health and safety management system for the Work, Contractor will:

- a) Be responsible for maintaining and enhancing the health and safety awareness of Contractor's Personnel. Contractor will arrange and participate in regular meetings with Contractor's Personnel and Engineer to review implementation of the systems and processes required for Contractor to meet its health and safety obligations in the execution of the Work;
- b) Identify all high risk activities and cease work in any identified areas until adequate and effective controls are implemented;
- c) Require all Contractor's and Subcontractor's Personnel to wear personal protective equipment (PPE) and clothing suitable for existing Work in compliance with the Applicable Laws in the locations the Work is being performed. Canadian Safety Association (CSA) standards for PPE will apply to Work performed in Canada;
- d) Provide specific instruction to Contractor's Group on their responsibilities for safe work during normal and emergency operations, including explanation of recognized hazards and associated protective measures, procedures and emergency response measures;
- e) Ensure that Contractor's Group, regardless of prior experience, demonstrates competency to Engineer in his/her job. The Contractor's and Subcontractor's supervisory Personnel will observe new Personnel's work performance until Engineer is satisfied that such Personnel are competent to fill the position in a safe and effective manner;
- f) Ensure that all Contractor's equipment, facilities and materials are maintained in safe, sound and proper condition, meet all applicable industry standards and legislation and are capable of performing the function intended;
- g) Conduct thorough drills, desk top exercises and tests of Contractor's Items, Personnel and procedures. The Contractor will ensure the effectiveness, suitability and adequacy of the emergency response and preparedness program;
- h) Document and instruct Personnel on work procedures, safe practices, Contractor's safety rules and standards, emergency plans and duties and applicable regulations;
- i) Conduct scheduled and impromptu safety meetings of all Personnel performing the Work, including any Subcontractor's Personnel, in which the possible hazards, problems of the job, and related safe practices are emphasized and discussed;
- j) Practice good housekeeping standards;
- k) Provide general safety education through training, safety meetings, Company and Engineer publications and other educational media;
- l) Establish and support a health and safety committee in accordance with Applicable Canadian Laws;
- m) Provide all reasonable means to control and prevent fires and explosions, injury to Personnel and damage to equipment and property;

- n) Institute a permit to work system for hot and cold work, for all Work involving welding, energized equipment, cutting and burning, open flame, electric tools, grinding and soldering which is conducted outside a designated safe area. Contractor will ensure that gas bottles for cutting and burning are stored, separated and capped in accordance with Applicable Federal/ Provincial Laws;
- o) Institute a confined space entry procedure and provide training for Personnel involved in confined space entry;
- p) Institute a lock out - tag out procedure for all work on equipment, which may inadvertently operate during installation, repair or maintenance, all in accordance with Contractor's permit to work system;
- q) Institute a pre-work inspection program where prior to commencement of Work. Contractor will inspect and perform task analysis to ascertain whether any health or safety hazards exist. Contractor will correct identified hazards before commencement of Work or will take steps to prevent exposure of Personnel to the hazard. Contractor will document this inspection and hazard analysis process and maintain a copy of the document on file;
- r) Institute a program to ensure Contractor's Personnel are fully trained and currently qualified for their jobs in accordance with regulatory and industry standards and as otherwise specified in this Agreement. Records of certification and training will be maintained for each of Contractor's Personnel;
- s) Maintain a register of all lifting equipment. All lifting and rigging equipment will be load tested as per manufacturer's recommendations and be fully certified with suitable inspection procedures in place. All Personnel involved in lifting and rigging activities will be suitably trained and certified. All lifting and rigging equipment must be inspected annually by a certified inspection company and certificate issued and maintained on site.
- t) Operate and use all pressure vessels in accordance with local safety requirements and Applicable Federal/ Provincial Laws;
- u) Maintain a current inventory of hazardous materials and ensure compliance with Applicable Laws pertaining to their transportation storage, used, handling and disposal;
- v) Ensure compliance with current occupational exposure limits for physical, chemical, or biological agents or materials, in accordance with Applicable Laws;
- w) Implement and maintain a planned maintenance system for its tools, equipment, machinery and electrical systems for its Personnel;
- x) Provide Engineer with the results of any health and safety visits, audits, inspections, investigations, surveys, tests or measurements, associated with the Work, conducted by an Authority;
- y) Provide signage, as appropriate, to warn Personnel of hazards and indicate areas where the use of additional personal protective equipment is required;
- z) Provide and maintain proper barriers, safe access and egress, guards, rails and safety devices to minimize hazards during the performance of Work;
- aa) Ensure all inboard and over-the-side scaffolding and work platforms are installed, tested and certified by competent Personnel, prior to use;

- bb) Perform planned health and safety audits and inspections of the Worksites, work practices and HS management system in accordance with the audit and inspection schedule outlined in the Contractor's Health and Safety Plan;
- cc) Conduct a risk assessment of its operations and provide Engineer with a copy of the assessment, outlining measures to be taken and schedule for implementation of those measures required to address identified hazards. The risk assessment will include consideration of health and safety risks;
- dd) Ensure that all Personnel engaged in the Work are medically fit and maintain high standards of hygiene;
- ee) Ensure that all firefighting equipment is maintained and operational in accordance with CSA standards and firefighting Personnel are well trained and competent in firefighting;
- ff) Set out a communications scheme identifying lines of reporting and method of reporting, both within the Contractor's own organization and to Engineer;
- gg) Not cause, permit, or tolerate a hazardous, unsafe, unhealthy condition or activity over which it has control, to exist or be conducted in a Worksite.
- hh) Prior to providing access to Worksite, Contractor will provide all Personnel with a Worksite orientation which will include:
 - i. Worker's rights;
 - ii. Contractor health and safety policy;
 - iii. Contractor environmental policy;
 - iv. Safe work practices and procedures;
 - v. Reporting of incidents and accidents;
 - vi. Emergency response;
 - vii. Personal protective equipment;
 - viii. Risk assessment; and
 - ix. Hazard identification.

5 Contractor's Health and Safety Plan

Within sixty (60) days of the Effective Date, Contractor will submit to Engineer for Approval, a Health and Safety Plan for the Work. Contractor's Health and Safety Plan will be based upon the Contractor's health and safety management system and will address all requirements stated in this Exhibit 5.

Engineer will review Contractor's Health and Safety Plan and provide written comments Contractor. Contractor review Engineer's comments, make the necessary changes and reissue it for Engineer's Approval. Contractor will present all changes to its Health and Safety Plan to Engineer for Approval.

As a minimum, the following information will be included in the Contractor's Health and Safety Plan:

- a) Communication of safety expectations to Contractor Group;

- b) Identify the strategic initiatives that Contractor will utilize during the Work to achieve an injury and illness free workplace;
- c) A verification/audit program to verify that the Health and Safety Plan has been implemented for the Work;
- d) An LCP level safety organization chart;
- e) Line functions with specific safety responsibilities;
- f) High level, Work specific roles and responsibilities for Contractor's Personnel, including accountabilities and qualifications;
- g) Interface roles and responsibilities between Contractor and Subcontractors by use of responsibility-assignment matrices;
- h) Description of how Contractor's management team will actively participate in health and safety management activities;
- i) Subcontractor selection and management;
- j) Be structured in accordance with the various elements associated with the Work such as fabrication, transportation, installation and commissioning;
- k) Identify Contractor's resources (Personnel, facilities, equipment, consumables, or other requirements) required to support health and safety management;
- l) A description of the system in place to ensure that the safety integrity of equipment and systems involved is maintained throughout the Work;
- m) Identifying procedures applicable to individual activities comprising the Work, including chemical handling procedures and permits to work;
- n) Identify training and qualification requirements pertaining to Personnel involved in the Work, including all location specific training;
- o) Outline a process for maintaining a hazard register which identifies significant hazards to the safety and health of all Personnel, the safety of the environment and the safety of the technical assets. The register will include a cross reference to the operating procedures in place to control the risk arising from individual hazards;
- p) Identifying interfaces to Company's and Engineer's health and safety management systems in line with the Work;
- q) An emergency response preparedness plan in line with Contractor's scope of the Work and which interfaces with Company's and Engineer's emergency response plan;
- r) Processes that will be utilized by Contractor during the Work to eliminate or control identified hazards;
- s) Any other elements as identified in Company's and Engineer's health and safety standards;
- t) Identify how Contractor will capture learning and best practice during the Work execution;
- u) Include measureable health and safety targets for both leading and lagging indicators that are in line with Company's targets. Performance measuring will include lost time injury frequency rate, all-injury frequency rate, and severity rate; and,

- v) Identify how Contractor will measure, assimilate, and report health and safety performance to Engineer.

Contractor's Health and Safety Plan will meet applicable local legislation, codes, ordinances, rules, regulations, orders and decrees of any authority or regulatory body having jurisdiction over health and safety compliance of the Work and Worksite.

Contractor is responsible for implementing, resourcing, and periodically verifying its Health and Safety Plan. Contractor will provide Engineer with an implementation schedule for its Health and Safety Plan, along with an update to the Health and Safety Plan on a quarterly basis.

Contractor will participate in a health and safety management system interface process and will be in a position to demonstrate through a gap analysis that Contractor's Health and Safety Plan is in compliance with the requirement outlined herein and the most recent version of the following documents as amended from time to time:

- SNC-Lavalin Health and Safety Management Plan (505573-0000-68RA-I-0001)
- SNC-Lavalin Site Security and Access Control Plan (505573-0000-68RA-I-0002)
- SNC-Lavalin Global Power Health and Safety Management System (SN-0008/6801-EN)
- SNC-Lavalin Global Power Health and Safety Standards Manual (SN-0007/503011-0000-68GA-0001)
- SNC-Lavalin Critical Risk Control Protocols (SN-0004/6845.2.1.1-EN)

Any deficiencies identified as a result of the gap analysis will be corrected by Contractor unless otherwise agreed with Engineer. Contractor acknowledges that it fully understands all interfaces between Contractor's Health and Safety Plan and Company's and Engineer's health and safety standards.

6 Engineer's Review of Contractor's Health and Safety Plan

Without relieving Contractor of its responsibilities under the Agreement, Contractor will allow Engineer access to facilities, Personnel and records, when requested, to enable Company:

- a) to ensure that Contractor is carrying out its health and safety responsibilities under this Agreement;
- b) to ensure that Contractor is carrying out its responsibilities outlined in its Health and Safety Plan; and,
- c) to conduct, if required, independent investigation into any health, safety or environmental incident arising in the performance of the Agreement.

The forgoing will also be applicable to Contractor's Subcontractors.

If Engineer is made aware of a failure of Contractor to comply with its responsibilities under this Agreement which does not create an imminently unsafe condition, Engineer will have the right to notify Contractor of such failure and to direct Contractor to abate such condition as soon as possible. If Contractor fails to comply within a reasonable period, then Engineer will have the right to stop all Work being performed by Contractor and the Work will not be restarted until Contractor has abated the failure to comply. Contractor shall not be entitled to compensation for any costs it incurs as a result of such Work stoppage.

7 Contractor's Health and Safety Personnel

Contractor will provide health and safety advisor(s) who will be responsible for attending safety meetings, conducting incident investigations, providing health and safety support to all Personnel engaged in the Work and the implementation, maintenance and monitoring safety guidelines and procedures. Contractor will ensure that the safety advisor is a Certified Registered Safety Professional or has equivalent training and experience.

Contractor will require Engineer's Approve of all health and safety Personnel that are proposed to be based at the Worksites.

8 Drug and Alcohol Policy

The use, possession, distribution or sale of alcohol, illegal drugs or drug-related paraphernalia, firearms, explosives, weapons or other dangerous substances or articles is not permitted in the Worksite.

Contractor will submit to Engineer, for Engineer's Approval, Contractor's drug and alcohol policy which will be in accordance with Applicable Laws. Contractor will ensure that Contractor's and Subcontractor's Personnel, engaged in the Work, comply with Contractor's drug and alcohol policy.

Engineer may, if it has reasonable cause to believe that a Contractor's or Subcontractor's Personnel is under the influence of alcohol or drugs, require such Personnel be tested under Contractor's alcohol and drug policy or require Personnel to be removed from the Worksite and denied further access.

9 Reporting

Contractor will provide immediate notification to Engineer of all incidents, including lost time injuries, restricted work cases, medical aids, property damages, near misses. Contractor will immediately complete an investigation into the incident. Incident investigation reports will be submitted to Engineer within seven (7) Business Days after the occurrence. Contractor's incident investigation report will verify that the incident

has been fully investigated and that the root cause and contributing factors have been identified and communicated to the appropriate Personnel. Contractor will also provide Engineer with copies of all reports or other documents filed or provided by Contractor's insurers and Authorities in connection with such incidents.

Contractor will provide Engineer with a monthly safety performance report which at a minimum, will include:

- a) Lost time Injuries
- b) Restricted work cases
- c) Medical aids
- d) First aids
- e) Occupational illness
- f) Property damage
- g) Recordable injuries
- h) Near miss incidents

Contractor will classify all incidents in accordance with the Canadian Electrical Association (CEA) Standard A-2-2007. In general terms the following are the classification scheme for all injury types:

- a) Lost time injury is defined as a work related injury for which an employee requires medical attention and is unable to return to work for his/her next scheduled shift.
- b) Medical treatment injury is defined as a work related injury for which an employee requires medical attention; however, s/he is able to return to work for the next scheduled shift.
- c) First aid injury is defined as a work related injury which is minor in nature and can be treated at the Worksite.

The general decision-making process for injury classification typically consists of the following five (5) steps:

- a) Determine whether a case occurred; that is, whether there was a death, illness, or an injury;
- b) Establish that the case was work related or resulted from an event or exposure in the work environment;
- c) Decide whether the case is an injury or an illness;
- d) If the case is an illness, record it;
- e) If the case is an injury, decide if it is recordable based on a finding of medical treatment, loss of consciousness, restriction of work or motion or transfer to another job.

Injury and illness will be classified in accordance to CEA Standard A-2-2007. Generally a recordable injury is any occupational injury or illness that results in an individual experiencing including:

- a) fatality;
- b) lost time injury;

- c) medical treatment injury; or
- d) Other injury/illness (not captured above), which has restricted work; or significant occupational injury/illness; or loss of consciousness.

Each injury or illness should be recorded only once and categorized using the above hierarchy. To illustrate, a lost time injury that involves medical treatment injury and subsequent restricted work will be categorized as a lost time injury.

For work-related injury/illness where the signs and symptoms recur or continue in the absence of an exposure for the workplace, the incident is recurred and does not precipitate a new incident.

Exhibit 6
Environmental and Regulatory Compliance Requirements
Agreement No.: CH0007-001

EXHIBIT 6

ENVIRONMENTAL AND REGULATORY COMPLIANCE REQUIREMENTS

1 INTRODUCTION

The intent of this Exhibit, Environmental and Regulatory Compliance Requirements, is to document the Contractor's responsibilities with respect to compliance with Government Laws and Regulations during construction activities at the Lower Churchill Project.

1. The Contractor shall demonstrate a strong commitment to environmental management and must operate, and ensure that its Subcontractors operate in accordance with Canadian standards, and fulfill all regulatory requirements pertaining to the Work and Worksite.
2. The Contractor shall place high priority on environmental protection while performing Work and is responsible for maintaining an environmentally compliant work site at all times whether the work is temporary or permanent.
3. The Contractor shall not cause, permit nor tolerate an environmentally non-compliant condition or activity over which it has control. The Contractor shall immediately inform the Engineer of any environmentally non-compliant condition or work practice of which it becomes aware but over which it has no authority to correct.

2 CONTRACTOR'S RESPONSIBILITIES - REGULATORY AGENCIES

2.1 General

1. The Contractor shall ensure work areas are available for inspection by the relevant provincial and federal agencies. All inspections, other than by the Engineer or Company representative, will be arranged in advance through the Engineer.
2. Any violations of environmental permits or authorizations, or any environmental related incidents observed by inspectors representing regulatory agencies are to be reported to the Engineer prior to leaving the site. Except in emergencies, the Engineer shall approve environmental protection measures required by other agencies prior to implementation.
3. The Contractor shall ensure that its employees, Sub-Contractors and their employees, machinery and equipment operators, and truckers comply with the conditions of the Contract, with all applicable environmental laws, regulations, permits, and requirements of federal, provincial and municipal authorities, and such other rules and regulations as the Engineer may establish.
4. Contractors, Sub-Contractors and their personnel shall not harass wildlife or waterfowl or unduly disturb fish. Hunting and fishing are not permitted on the work site. Any contravention of environmental requirements, including employee actions accidental or otherwise, resulting in environmental damage shall be reported to the Engineer without delay.

5. In accordance with the Agreement, the Contractor shall be responsible for customs clearance, import permits, Work validations, Work permits, and operating licenses in the port of mobilization / demobilization, and other requirements that are essential to the Work during all phases of the Work.

2.2 Permits

1. The Contractor shall review the scope of work to identify all permits, authorizations and certificates as required for all the Contractor's facilities and work. Once identified, the permit list shall be provided to the Engineer to be entered into a Permit Registry. Once entered, the responsibility shall be assigned either to the Contractor or the Engineer for preparing the permit applications.
2. Appendix A provides a list of permits that may be required to undertake the work and typical responsibility for completing permit applications. This is a preliminary list and the Contractor is still required to complete its own list and submit it to the Engineer for acceptance. In addition, the responsibility outlined on this list is typical responsibility and may change due to changes in the scope of work or schedule constraints.
3. For those permits identified as the responsibility of the Contractor, the Contractor shall identify and prepare applications for all authorizations, permits, dispensations, consents and licenses, required by Applicable Laws to enable it to perform the Work. All permit applications identified as the responsibility of the Contractor shall be submitted to the Engineer for internal review (a minimum of 3 weeks). The Engineer will then submit the permit to the regulator, on behalf of the Contractor. The Engineer will obtain the permit, and forward a copy to the Contractor immediately upon receipt and before said facilities are used or work is undertaken. The Contractor shall ensure that they receive a copy of the permit and comply with the permit conditions.
4. For those permits identified as the responsibility of the Engineer, the Contractor shall provide information as required in a timely manner to complete the application. The Contractor shall ensure that permits designated as the responsibility of the Engineer that are required for work are in place prior to starting work.
5. It should be noted that some authorizations associated with the Lower Churchill Project are subject to an Aboriginal consultation process. This process requires that permit applications are provided to relevant aboriginal organizations by the associated government agency for a period of at least 30 days.
6. The Contractor should take into consideration all these additional reviews and approvals and the associated timelines and ensure applications are prepared with the incorporation of these timelines.
7. For permits already in place for existing facilities and permits that the Contractor holds to

carry out its business and daily activities, the Contractor must provide a copy of these permits to the Engineer prior to the start of work.

8. The *Storage and Handling of Gasoline and Associated Products Regulations, 2003* (referred to as the “GAP Regulations”) under the *Environmental Protection Act* controls the construction, operation, and registration of “storage tank systems”¹ in the province of Newfoundland and Labrador. While Section 3 of the regulations explicitly exempts storage tank systems of capacity of 2500 litres or less that are connected to a heating appliance (e.g. tanks controlled by the *Heating Oil Storage Tank System Regulations, 2003*), all other “stationary” tanks (i.e. tanks installed in a fixed location) may be interpreted as falling under the control of these regulations. Following this strict interpretation, even very small tanks (e.g. <5 litre tanks connected to small generators, water pumps, etc installed in temporary locations) would fall under control of the GAP Regulations.

Information on storage tanks, storage tank systems, and equipment storage tanks proposed for use on the Project shall be provided to the Engineer for review. Tanks that are not already registered under GAP will be evaluated on a case-by-case basis to determine if GAP Regulations apply. Tank registration must be accompanied by any necessary regulatory variances

In general, the GAP Regulations apply to all stationary storage tanks and storage tank systems except in the following cases:

- tanks with capacities of 2,500 liters or less that are connected to a heating appliance;
- tanks that are designed, constructed and utilized in the inherent operation of a piece of equipment. In this case, the tanks must be physically secured and dedicated to the equipment requiring the fuel for its operation; and
- "mobile" tanks (e.g. tank trucks and tank truck trailers) used for temporary, stationary storage. In this case storage period must not exceed 14 days and no additional fuel can be added to the tank. There must also be a minimum of 14 days of downtime between separate storage periods and there can be no more than two, 14 day storage periods within a 12 month time frame.

Note that all provisions of the GAP Regulations, including registration, apply for all tanks associated with mobile generators.

3 CONTRACT-SPECIFIC ENVIRONMENTAL PROTECTION PLAN (C-SEPP)

1. Within the time specified in the Contract Documents, the Contractor shall submit to the Engineer for acceptance, a Contract Specific Environmental Protection Plan (C-SEPP) for the Work using the C-SEPP template provided in the contract documents. No site work shall

¹ The GAP Regulations defines “storage tank system” as an “... atmospheric or low pressure closed tank container and all vents, fill and withdrawal piping associated with it installed in a fixed location and includes temporary arrangement on cradles and skids”.

take place until the Engineer has accepted the C-SEPP.

2. The Contractor's C-SEPP shall be based upon the *General Environmental Requirements* of the Technical Specification, if applicable, the Project Wide Environmental Protection Plan (provided with the Specification), and the Contractor's own corporate environmental management system.
3. The C-SEPP is prepared by the Contractor and is specific to the project work package. The C-SEPP provides a practical way for Contractors to demonstrate their understanding of environmental regulations, practices and procedures required to reduce, or eliminate, potential negative environmental effects.
4. The C-SEPPs shall include the following, at a minimum (refer to the C-SEPP template for all requirements):
 - a description of the construction sequence (e.g. GANTT Chart);
 - roles and responsibilities;
 - mitigation procedures for all areas of environmental concern;
 - procedures for environmental monitoring;
 - maintenance requirements for environmental control structures;
 - procedures for post-activity clean-up and demolition;
 - contingency planning for environmental concerns.
5. The Contractor's C-SEPP shall also include any permits, registrations or notifications, required by Federal, Provincial, or aboriginal stakeholders for the proposed activities. The Contractor may be required to prepare additional environmental documentation prior to any fieldwork for non-time critical activities.
6. The Contractor is responsible for implementing, resourcing, and periodically verifying the C-SEPP. Contractor shall provide Engineer with an implementation schedule for the plan and with an update provided on a quarterly basis.

4 REPORTING

1. The Contractor shall conduct daily inspections of the work to confirm environmental compliance. The inspections shall be documented in daily reports which shall be kept on file. Any non-compliance and corrective actions shall be documented.
2. The Contractor shall immediately notify the Engineer of all environmental incidents, including any loss of hazardous or controlled products. **Any spill meeting the following criteria shall be reported immediately to the Canadian Coast Guard at 709-772-2083 or 1-800-563-9089:**
 - a. Any spill on a natural water body (marine or freshwater), or
 - b. Any land-based spill:

- i. That is over 70 litres, or
 - ii. Of any quantity that has the potential (e.g. by migrating through subsurface soils/bedrock/substructures², etc) to enter a natural water body, or
 - iii. Of any quantity that has the potential to impact a privately owned property.
3. Once the spill is reported to the Canadian Coast Guard, the Engineer will liaise with other government agencies to provide additional information, as required.
4. The Contractor shall provide the Engineer with a monthly environmental performance report for all Works undertaken in connection with this Contract. The monthly cut-off for each report shall be the close of business day up to and including the final day of each Month. The Contractor's environmental performance report shall include, without limitation, the following:
 - i. Hazardous and other waste generated during the period.
 - ii. Environmental incidents, including loss of fuel or other hazardous products.
 - iii. Reported non-compliance and associated corrective actions.
5. The Contractor shall complete and submit to the Engineer a Monthly Fuel Consumption Report no later than 7 days after the end of each month. A blank report is provided in Appendix C.

² sewer systems, conduits, tunnels, etc

APPENDIX A

LIST OF PERMITS, ACCEPTANCES, AND AUTHORIZATIONS

| | Permit | Regulatory Body | Act | Responsibility for Completing Permit Applications |
|----|---|------------------------|---|--|
| 1 | Application for Crown lands | DOEC | Newfoundland and Labrador Lands Act | Engineer |
| 2 | Notice of Intent for Reservation of Shoreline | DOEC | Newfoundland and Labrador Lands Act | Engineer |
| 3 | Application for Water and Sewerage Works Permit | DOEC | Water Resources Act, Sections 36, 37 and 48 | Contractor |
| 4 | Permit to Alter a Body of Water and Schedule A (Culverts) | DOEC | Water Resources Act, Section 48 | Engineer |
| 5 | Permit to Alter a Body of Water and Schedule B (Bridges) | DOEC | Water Resources Act, Section 48 | Engineer |
| 6 | Permit to Alter a Body of Water and Schedule C (Dams) | DOEC | Water Resources Act, Section 48 | Engineer |
| 7 | Permit to Alter a Body of Water and Schedule D (Fording) | DOEC | Water Resources Act, Section 48 | Engineer |
| 8 | Permit to Alter a Body of Water and Schedule E (Pipe Crossing - Water Intake) | DOEC | Water Resources Act, Section 48 | Engineer |
| 9 | Permit to Alter a Body of Water and Schedule F (Stream Modifications) | DOEC | Water Resources Act, Section 48 | Engineer |
| 10 | Permit to Alter a Body of Water and Schedule G (Small Bridges) | DOEC | Water Resources Act, Section 48 | Engineer |
| 11 | Permit to Alter a Body of Water and Schedule H (Other Alterations) | DOEC | Water Resources Act, Section 48 | Engineer |

| | Permit | Regulatory Body | Act | Responsibility for Completing Permit Applications |
|----|---|------------------------|--|--|
| 12 | Application for Permit for Drilling a Non-Domestic Well | DOEC | Water Resources Act, Section 58 | Engineer |
| 13 | Application for Water use License | DOEC | Water Resources Act, Section 48 | Engineer |
| 14 | GAP Registration | DGS and DOEC | Environmental Protection Act | Contractor |
| 15 | Diesel Generator Registration Form | DGS | Environmental Protection Act | Contractor |
| 16 | Permit for Access of any Highway | DGS | Urban and Rural Planning Act Works, Services and Transportation Act | Engineer |
| 17 | Highway Services Signs Application | DTW | Urban and Rural Planning Act, subsections 36(2) and 39(2) | Contractor |
| 18 | Asphalt Plant Construction and Operation Form | DGS | Environmental Protection Act | Contractor |
| 19 | Building Accessibility Design Registration / Exemption Registration | DGS | Building Accessibility | Engineer |
| 20 | Fire and Life Safety Review Plan (National Building Code) | DMA | Building Accessibility | Engineer |
| 21 | Used Oil Storage Tank System Application | DOEC | Environmental Protection Act | Contractor |
| 22 | Mobile Fuel Storage Tank Relocation | DGS | Environmental Protection Act | Contractor |
| 23 | Design Registration of Pressure Piping System | DGS | NL Public Safety Act | Engineer |
| 24 | Elevating Devices | DGS | NL Public Safety Act | Engineer |

| | Permit | Regulatory Body | Act | Responsibility for Completing Permit Applications |
|----|--|------------------------|--|--|
| 25 | Food Establishment License Temporary Facility | DGS | NL Food and Drug Act | Contractor |
| 26 | Septic Systems less than 4,546 L/day flow | DGS | Water Resources Act | Contractor |
| 27 | Commercial Cutting / Operating Permit | DNR | The Forestry Act | Engineer |
| 28 | Permit to Burn | DNR | The Forestry Act | Engineer |
| 29 | Application for a Quarry Permit | DNR | Newfoundland and Labrador Quarry Materials Act, 1998 | Engineer |
| 30 | Application for a Subordinate Quarry Permit | DNR | Newfoundland and Labrador Quarry Materials Act, 1998 | Engineer |
| 31 | Permit to Destroy Problem Animals | DNR | Newfoundland and Labrador Wildlife Act | Engineer |
| 32 | Archaeological Investigation Permit | DTCR | Historic Resources Act | Engineer |
| 33 | Permit for Flammable and Combustible Liquid Storage | DMA | NL Fire Prevention Act | Contractor |
| 34 | Operational Statement - Notification Form - Temporary Stream Crossing | DFO | Fisheries Act, Section 35(1) | Engineer |
| 35 | Operational Statement - Notification Form - Clear Span Bridges | DFO | Fisheries Act, Section 35(1) | Engineer |
| 36 | Operational Statement - Notification Form - High Pressure Directional Drilling | DFO | Fisheries Act, Section 35(1) | Engineer |

| | Permit | Regulatory Body | Act | Responsibility for Completing Permit Applications |
|----|--|---|------------------------------|--|
| 37 | Operational Statement - Notification Form - Overhead Line Construction | DFO | Fisheries Act, Section 35(1) | Engineer |
| 38 | Operational Statement - Notification Form - Punch and Bore Crossing | DFO | Fisheries Act, Section 35(1) | Engineer |
| 39 | Operational Statement - Notification Form - Under Water Cables | DFO | Fisheries Act, Section 35(1) | Engineer |
| 40 | Application for Authorization for Works or Undertakings Affecting Fish Habitat - Assessment of Freshwater HADD | DFO | Fisheries Act, Section 35(2) | Engineer |
| 41 | Request for Project Review | DFO | Fisheries Act, Section 35(1) | Engineer |
| 42 | Application for License to Install and Operate a Radio Station in Canada | IC | Radio communications Act | Engineer |
| 43 | Acceptance to Dispose Waste in Municipal Landfill | DGS and Municipality (Town of Happy Valley Goose Bay) | Municipal Act | Contractor |
| 44 | Municipal Development Plan | DMA | Municipal Act | Engineer |
| 45 | Explosives User Magazine Licence (Type U) | NRCAN | Explosives Act | Contractor |

| | Permit | Regulatory Body | Act | Responsibility for Completing Permit Applications |
|----|---|------------------------|--|--|
| 46 | Type A (Annual) Import Permit (to transport explosives) | NRCAN | Explosives Act | Contractor |
| 47 | Nav Canada Land Use Division Review | Nav Canada | Aeronautics Act | Engineer |
| 48 | Aeronautical Obstruction Clearance Form | TC | Aeronautics Act | Engineer |
| 49 | Navigable Waters Protection Act (NWPA) | TC | Navigable Waters Protection Act, Section 4 | Engineer |
| 50 | Permit to Transport Dangerous Goods | TC | Transportation of Dangerous Goods Act, Section 3 | Contractor |

APPENDIX B

ABBREVIATIONS AND ACRONYMS

| Abbreviations | Description |
|----------------------|---|
| C-SEPP | Contract-Specific Environmental Protection Plan |
| DFO | Department of Fisheries and Oceans |
| DGS | Department of Government services (Service NL) |
| DOEC | Department of Environment and Conservation |
| DNR | Department of Natural Resources |
| DMA | Department of Municipal Affairs |
| DTCR | Department of Tourism, culture and Recreation |
| DTW | Department of Transportation and Works |
| GAP Regulations | Storage and Handling of Gasoline and Associated Products Regulations, 2003. |
| IC | Industry Canada |
| NRCAN | Natural Resources Canada |
| NWPA | Navigable Waters Protection Act |
| P-WEPP | Project-Wide Environmental Protection Plan |
| TC | Transport Canada |

APPENDIX C

MONTHLY FUEL CONSUMPTION REPORT

MONTHLY FUEL CONSUMPTION REPORT¹

Contractor's Name: _____

Report completed by (please print): _____

Signature: _____

Reporting month/year (mm/yyyy): _____

Report date (dd/mm/yyyy): _____

Contract Number: _____

Contract Name: _____

| Consumed Fuel | | | |
|----------------------|---|--------|----------|
| Fuel Type | | unit | quantity |
| Diesel | | litres | |
| Gasoline | | litres | |
| Heating oil | | litres | |
| Propane | | litres | |
| aviation turbo fuel | | litres | |
| kerosene | | litres | |
| Other (specify type) | | | |
| | 1 | litres | |
| | 2 | litres | |
| | 3 | litres | |
| | 4 | litres | |
| | 5 | litres | |
| | 6 | litres | |
| Total | | | |

Notes:

- 1 To be completed by Contractor and submitted to the Engineer for each calendar month, no later than 7 days after end of each month.
- 2 Consumed fuel to be reported is defined as:
 - a) quantity of fuel transferred during the reporting month to tanks of all Project-dedicated vehicles, equipment, and facilities, or
 - b) quantity of fuel used in the reporting month as part of a process (such as ANFO used for explosives); or
 - c) quantity of fuel delivered to bulk storage tanks at Owner's Laydown Area within the reporting month by the Fuel Delivery Services Contractor.
- 3 Contractor shall provide as part of the Monthly Fuel Consumption Report a general listing of all types of equipment, facilities, and processes that have burned fuel during the reporting month. The types of equipment, facilities, and processes include, but are not limited to, the following: heavy equipment (e.g. excavators, bull dozers, concrete trucks, etc); light equipment and vehicles (e.g. pick-up trucks, chain saws, pumps); facilities (e.g. diesel generators, concrete production, etc); processes (e.g. explosives in ANFO, etc); etc.

EXHIBIT 7

QUALITY REQUIREMENTS

1.0 INTRODUCTION

Without limiting the generality and application of the Agreement, Contractor will abide by and ensure Contractor Group abides with the quality requirements set forth in this Agreement.

2.0 QUALITY OBJECTIVES

The following quality objectives are required of Contractor:

- a) Work will comply with the quality requirements of the Agreement;
- b) Quality management systems of Contractor Group will ensure early and proactive identification of process or product failure so as to prevent problems before they occur or minimize rework, cost and schedule impacts, and to identify potential failures, opportunities for improvement and best practices;
- c) Equipment and materials procured and/or installed by Contractor Group will be consistent with Exhibit 1 – Scope of Work;
- d) Construction Work will be carried out in accordance with established construction standards and methods;
- e) Completion activities will be executed in accordance with the procedures and manuals covering those activities; and
- f) Documentation of objective evidence of conformance to the requirements will be maintained and recorded during the execution of the Work.

3.0 DEFINITIONS, TERMS AND ABBREVIATIONS

| | |
|-----------------|--|
| ISO 9001:2008 | Quality Management Systems – Requirements |
| ISO 9000:2005 | Quality Management Systems – Fundamentals and Vocabulary |
| ISO 10006: 2003 | Quality Management Systems – Guidelines for Quality Management in Projects |
| ITP | Inspection and Test Plan |
| NCR | Nonconformity Report |
| PMI | Positive Material Identification |
| QA/QC | Quality Assurance/Quality Control |
| QMS | Quality Management System |
| QP | Quality Plan |
| SDRL | Exhibit 4 - Supplier Document Requirements List |

4.0 CONTRACTOR'S RESPONSIBILITIES

- a) Contractor shall comply with and ensure that Contractor Group complies with requirements outlined in this Exhibit 7.
- b) The Contractor shall ensure that Contractor Group implements the quality activities described in this Exhibit 7.
- c) Contractor shall demonstrate the implementation of its quality program and the compliance of its Work with the requirements of the Agreement.

- d) In accordance with the Articles of the Agreement, Contractor shall provide the right of access to Company Group Personnel, to the Worksites to monitor the progress of the Work.
- e) Contractor shall provide acceptable office accommodation, including internet connections for the Engineer's inspectors and expeditors. The level of involvement of inspectors and expeditors shall be determined by Engineer.
- f) Contractor shall ensure that documents requiring a registered professional engineer's seal and signature shall be in accordance with the *Engineers and Geoscientists Act, 2008* of Newfoundland and Labrador and the by-laws of the Professional Engineers and Geoscientists – Newfoundland and Labrador (refer to www.pegnl.ca).

5.0 QUALITY MANAGEMENT SYSTEM

Contractor shall have an effectively implemented and maintained QMS for the execution of the Work. The QMS shall, at a minimum, be formally documented and compliant with the requirements of ISO 9001:2008. The QMS shall emphasize building quality into the Work through the use of documented control processes that incorporate activities necessary to assure quality.

The QMS shall be supported by an established quality organization with qualified resources, and formally documented control procedures to effectively administer and implement the requirements.

Prior to subcontracting any Work, Contractor shall demonstrate to Engineer that the selected Person has a quality management system that complies with the provisions of ISO 9001:2008. Contractor shall not Subcontract any part of the Work to a Person that does not meet the standards established by the ISO 9001:2008. These requirements also apply to Work to be performed by Subcontractors' subcontractors of every tier.

6.0 QUALITY ORGANIZATION

Contractor shall appoint a quality representative, empowered by management with freedom and authority to:

- a) oversee the management of quality for the Work;
- b) manage quality issues and their resolution; and
- c) ensure compliance with the Agreement.

Contractor shall provide details of the QA/QC organization it intends to employ at the Worksites. Contractor shall appoint sufficient qualified Personnel to ensure that the quality management system, specifically the quality control and inspection activities, including those pertaining to any part of the Work, are achieved.

7.0 QUALITY DOCUMENTS

The SDRL identifies specific quality documentation required from Contractor and defines the required submission dates and form of submission. The SDRL and instructions for Contractor document requirements are contained in document 505573-0000-37AG-I-0015 (Document Number LCP-SN-CD-0000-IM-PR-0002-01), Lower Churchill Project Supplier Document Requirements located in Exhibit 11 – Company Supplied Documents. Contractor shall ensure that it meets all quality documentation requirements outlined in the Agreement.

8.0 QUALITY PLAN

8.1 GENERAL REQUIREMENTS

Contractor shall submit a QP, prepared in accordance with this Exhibit 7, to the Engineer for review and Acceptance. The QP shall include all aspects of the Work. All QP revisions are subject to review and Acceptance by Engineer prior to being implemented. Contractor shall:

- a) Develop and maintain a QP stating the procedures, processes, resources and sequence of quality activities related to the Work;
- b) Mandate one person to be responsible for development, approval and follow up of the QP;
- c) Ensure QP review and revisions by Contractor's Personnel comprising representatives of all affected disciplines; and
- d) Upon request, provide Engineer with the procedures and instructions to which the QP refers.

8.2 QUALITY PLAN CONTENT

The QP shall:

- a) Accurately reflect the planning implemented by Contractor to comply with the Agreement;
- b) Apply the guidelines of ISO 10006:2003 - Quality Management Systems – Guidelines for Quality Management in Projects;
- c) Document any non-applicable requirement or any provision in the QP that does not comply with quality system requirements;
- d) Identify each of the main stages of execution for each of the deliverable elements of the Work;
- e) At a minimum, contain the following:
 - Scope;
 - Quality objectives;
 - Definitions, terms and abbreviations;
 - Organization chart and quality related roles and responsibilities associated with all phases of the Work;
 - Management review of Subcontracts;

- Documentation and records management; and
 - Listing of all control procedures required to perform the Work (current and to be developed); and
- f) Provide detailed descriptions of:
- Responsibilities of Contractor's management related to QA/QC activities;
 - The systems and procedures Contractor will use to ensure that quality is an intrinsic part of all aspects of the Work;
 - Reviews, approvals required and checks and inspections to be conducted, including responsibilities and the timing of the required checks and inspections in the Work sequence;
 - How procurement documents will be prepared to properly establish quality requirements with Subcontractors (and Subcontractors' subcontractors of every tier). Contractor shall require that Contractor Group prepare a product specific or service specific quality plan for of the Work of such Subcontractors and subcontractors;
 - How Persons, to whom Contractor proposes to Subcontract any part of the Work, will be evaluated and selected to ensure they have the requisite resources, tools, procedures, and quality capabilities to meet established requirements (this requirement also applies to proposed subcontractors of Subcontractors of every tier);
 - How ITPs will be prepared. Each ITP shall include a list of the specifications that must be met, describe the tests that will be performed to ensure compliance, and identify who will perform the tests. Each plan shall identify inspections and QA/QC steps that will be taken by Contractor Group;
 - How records will be maintained to demonstrate that all design, materials, equipment and construction conforms to established requirements and how and in what form the records will be submitted to the Engineer;
 - How nonconformities, concessions and waivers shall be controlled and resolved including the process that will be used, the Personnel responsible for administering the process and the information flow through Contractor's organization for resolution;
 - How all instruments used for testing and inspection will be properly certified, including PMI devices, equipment for calibrating instrumentation and hydrostatic test gauges;
 - The auditing, appraising, sampling techniques, reviews and reporting Contractor intends to carry out for the Work to confirm the effectiveness of the QA/QC activities, and that the QMSs are indeed delivering the quality required;
 - How Contractor plans to meet requirements for PMI, source inspection and field quality control, including the frequency of testing, the locations where the testing will be conducted (e.g., Worksites, upon receipt at Worksites, following installation), and the type(s) of testing equipment to be used;
 - Control procedures that adequately address the controls required for quality activities; and
 - Acceptance and rejection criteria applicable to the activity and approval

requirements.

8.3 QUALITY AUDITS AND MANAGEMENT REVIEWS

Contractor shall provide a schedule of quality audits (both internal and external) and quality management system reviews to be performed during execution of the Work. The schedule of quality audits shall identify those planned audits of Contractor Group.

The schedule of audits shall be provided to Engineer on the later of four (4) weeks before start of the Work or two (2) weeks after the Effective Date.

Contractor shall report progress, on a monthly basis, on implementing any actions that arise from the audits or management system reviews.

8.4 SURVEILLANCE OF SUBSUPPLIERS AND SUBCONTRACTORS

Contractor shall perform surveillance and inspection of Contractor Group as well as review and approve dossiers provided by the Contractor Group to ensure that the requirements of the Agreement have been met.

Contractor shall identify planned verification activities used to assess and manage Contractor Group to ensure compliance with requirements of this Agreement.

The verification activities shall be documented in the QP and reported monthly together with the progress on audits and management reviews.

9.0 INSPECTION AND TEST PLANS

9.1 GENERAL REQUIREMENTS

Contractor shall develop and submit its inspection and test plan (ITP), which shall include those of its Subcontractors (and Subcontractors' subcontractors of every tier), for review and Acceptance by the Engineer on the later of four (4) weeks before start of the Work or two (2) weeks after the Effective Date.

The ITPs shall cover all aspects of the Work to be executed by Contractor Group and shall implement and maintain all quality activities described therein.

Contractor will notify Engineer of all hold and witness points ten (10) Business Days prior to the scheduled date of such activity. Contractor will reconfirm the scheduled date of such activity seventy-two (72) hours prior to commencement. The Contractor shall identify upcoming hold and witness points for the next six (6) months in the Monthly Progress Report (as referenced in Exhibit 3 - Coordination Procedures).

9.2 INSPECTION AND TEST PLAN CONTENT

Contractor is required to follow all of the instructions below in preparing the ITPs, and acknowledges that the Engineer review will be based on these instructions.

a) Identification

- Code the ITP, identify the revision and date;
- Identify the Company, project and sector;
- Identify the Agreement, as well as the component, discipline or system to which the ITP applies; and
- Identify the Personnel responsible for quality, at all Worksites.

b) Work Items and Steps

- These are normally copied from the elements of the Contractor' Group's detailed Work schedule. Complimentary or specific details may be required; and
- Contractor shall ensure ITPs, as far as practical, follow the normal sequencing of the Work. ITPs shall identify the stages requiring approval, inspection and testing hold and witness points.

c) Control Activities

- The control points, including their summary description (inspection, verification, tests) shall be inserted in the detailed Work schedule.

d) Responsibilities

- Identify Contractor's Personnel responsible for control activities.

e) Frequency

- Specify the percentage, frequency or sampling rate applicable to the control points.

f) Reference to Specifications

- Control activities shall refer to applicable drawings, specification sections and/or specifications/codes;
- Identify parameters and characteristics that will be mainly considered in the controls; and
- For each control, identify and note down the criteria and/or tolerances for approval.

g) Procedures Used

- Identify the procedures or instructions developed by Contractor or Subcontractors (or Subcontractors' subcontractors of every tier) to perform control and testing.

h) Control Equipment

- Describe and identify the equipment to be used for quality control. Users shall provide evidence of the calibration status.

i) Checklists

- The information identified above can be recorded in a checklist prepared by Contractor. The checklists shall be appended.

j) Forms

- Identify the forms to be used to record the control point results and append them to the ITP. The recorded results will constitute an inspection or testing report.

- k) Engineer's Control Points
 - The type of control points, namely: witness, hold or documentation review will be identified during ITP review by the Engineer.
- l) Quality Records
 - Identify the types of records to be included in the quality records, to be submitted to the Engineer, and include the applicable standard table of contents.
- m) Remarks
 - Include all other relevant information that may be useful in carrying out the ITP.

9.3 FINAL INSPECTION AND DECLARATION OF COMPLETION

Appendix A - Declaration of Installation and Inspection Completion ("Declaration") of this Exhibit 7 will be completed by Contractor upon completion of aspects of the Work. Contractor shall confirm that these aspects of Work are complete and comply with the requirements outlined in the Agreement, that all related quality records have been submitted to Engineer and confirm that Engineer carry out its final inspection on that aspect of Work.

Upon receipt of a Declaration, Engineer will conduct a final inspection of the aspect of Work described therein and, if necessary, issue a deficiency list if it is determined that the aspect of Work is not complete or includes elements that do not comply with the requirements of the Agreement.

When Contractor has corrected all deficiencies and the quality records are Accepted by Engineer, the Declaration will be Accepted by Engineer and an Accepted copy will be returned to Contractor.

10.0 NONCONFORMITY REPORTING

Contractor shall submit, to Engineer for review and Acceptance, its nonconformity, corrective action, preventive action procedure(s) and resolution reporting form.

Contractor will ensure that all nonconformities, which shall take on the definition of noncompliance with a requirement of ISO 9000:2005 Quality Management Systems – Fundamentals and Vocabulary, are recorded, investigated and resolved to Engineer's satisfaction.

All of Contractor's Personnel shall have a responsibility to identify apparent nonconformities arising from the execution of the Work.

Contractor shall maintain a register of all applicable and open nonconformity reports. The status of all NCRs shall be reported in the Monthly Progress Report (as referenced in Exhibit 3 - Coordination Procedures).

Contractor's NCR form may be used but, at a minimum, it shall contain the following:

- a) Project number;
- b) NCR number;
- c) Supplier;
- d) Project name/location;
- e) Purchase order/contract number;
- f) Product description (including part #, serial # and tag #);
- g) Date opened;
- h) Date closed;
- i) NCR description;
- j) Action by;
- k) Status;
- l) Root cause analysis;
- m) Resolution proposed; and
- n) Resolution Implemented.

Contractor shall identify Personnel responsible for verifying and resolving NCRs.

11.0 QUALITY RECORDS

Contractor's quality records shall include, as a minimum, the following documents:

- a) Inspector qualifications (quality control);
- b) Welder's qualifications ;
- c) Checklists;
- d) Relevant inspection and testing reports;
- e) Materials analysis certificates, when required;
- f) Steel works certificates;
- g) Paint specification sheet, when required;
- h) Identification and traceability documentation;
- i) Engineer Approved deviations;
- j) Closed out nonconformity reports, corrective and preventive actions;
- k) Completed test packages;
- l) Preservation records;
- m) Declarations to Authorities, when required;
- n) As-built drawings;
- o) As-built specifications;
- p) As-built bills of material;
- q) Various required manuals;
- r) All Accepted Declaration of Installation and Inspection Completion forms (Appendix A); and
- s) Shipping authorization.

Quality records shall be retained until the later of (a) seven (7) years after the satisfaction of all of the obligations of Contractor pursuant to this Agreement, (b) seven (7) years after expiration or any termination of this Agreement, or (c) such longer period

as may be required under Applicable Laws. During this period, the quality records shall be available to Engineer and Company for inspection and audit.

12.0 ENGINEER'S ACTIVITIES

Engineer shall be entitled, at its sole discretion, to perform certain QA/QC activities, the performance of which shall not relieve Contractor of its responsibilities under this Agreement or its overall responsibility for quality of the Work. These QA/QC activities may include:

- a) Audit of Contractor's QA/QC program and include any or all of the following:
 - Review of Contractor's documented QA/QC plans and procedures;
 - Random review of Contractor's procurement documents for inspection and specification content;
 - Review of Contractor's specific equipment inspection and test plans in relation to specification requirements;
 - Review of inspector's surveillance and non-conformance reports, Contractor's deviation log, procedure approval logs;
 - Receipt of inspection discrepancy reports and field inspection reports;
 - Review of activities undertaken by Contractor Group;
- b) Independent source inspections. Results of Engineer source inspections will be made available to Contractor and Contractor shall address and resolve any issues arising from these inspections;
- c) Review and assessment of Contractor Group quality plans and ITPs;
- d) Review and assessment of Contractor's control procedures and audit schedule, monitoring compliance and monitoring resolution of any issues raised;
- e) Participation in selected pre-inspection and pre-production meetings;
- f) Conducting oversight of Contractor's quality activities including Contractor Group inspection activities, field inspection and surveillance activities, along with participation in inspection and test stages outlined in Accepted ITPs;
- g) Review and Acceptance of NCRs where proposed dispositions do not result in meeting specifications; and
- h) Other activities as deemed appropriate by Engineer.

APPENDIX A

DECLARATION OF INSTALLATION AND INSPECTION COMPLETION



| | | |
|--|---|---|
|  | DECLARATION OF INSTALLATION AND INSPECTION COMPLETION |  |
| Declaration No.: _____ | | Date: _____ |
| Prepared by Contractor: _____ | | |
| Agreement No.: _____ Agreement Title: _____ | | |
| WORK DESCRIPTION: _____ _____ _____ | | |
| UNRESOLVED DEFICIENCIES: _____ _____ | | |
| <p>This document certifies that the Work described above has been completed, inspected and tested in accordance with the above-noted Agreement’s requirements, and that all quality records have been finalized and sent to the Engineer.</p> <p>Notes:</p> | | |
| Contractor: Signature: _____ Date: _____ | Engineer: Signature: _____ Date: _____ | |

Exhibit 8
Subcontractors, Manufacturers And Material Sources
Agreement No: CH0007-001

EXHIBIT 8

SUBCONTRACTORS, MANUFACTURERS AND MATERIAL SOURCES



NALCOR ENERGY
LOWER CHURCHILL PROJECT

PACKAGE CH 0007
CORE TECHNICAL PROPOSAL

APPENDIX A16
PROPOSED SUBCONTRACTORS, MANUFACTURERS
AND MATERIAL SOURCES



Bidder shall provide the following information, where applicable:

SOLUTION 1: CONCRETE PRODUCTION, FORMING AND CONCRETING SELF-PERFORMED BY ASTALDI

a) *Proposed Manufacturers*

List of Bidder's proposed manufacturing plant(s) including the material that they will fabricate and indicate whether they are registered to ISO 9001:2008 or an internationally recognized equivalent quality management standard.

| Index | Name of Manufacturer | Location of Manufacture (country of origin) | Location of testing and inspection | Item(s) of Manufacture | ISO registered ("YES" or "NO")* | Relative value of the Work (x \$1 million) | Any other pertinent information |
|-------|--|---|---|-----------------------------|---------------------------------|--|---|
| 1 | ESSROC Italcementi Group | 1370 Hwy 49 Picton, Ontario K0K 2T0 | 1370 Hwy 49 Picton, Ontario K0K 2T0 | Bulk Cement | Yes | 72 | Supplied to Astaldi Value includes transportation |
| 2 | JV CEMENT MUSKRAT FALLS (HOLCIM - LAFARGE) | 435, Jean-Neveu, Longueuil (Québec) J4G 2P9 | 435, Jean-Neveu, Longueuil (Québec) J4G 2P9 | Bulk Cement | Yes | 76 | Alternative solution |
| 3 | SUPERMETAL STRUCTURES Inc | 1955, 5e Rue, St-Romuald, Québec G6W 5M6 | Factory/ Site | Structural Steel | Yes | 30 | |
| 4 | Arcelor Mittal | Canada | Factory/ Site | Reinforcing Steel | Yes | 17 | Supplied and bent by AGF STEEL Inc. |
| 5 | Arcelor Mittal | Canada | Factory/ Site | Reinforcing Steel | Yes | 17 | Supplied and bent by OLYMPIC METALS Ltd. + PISHUMUSS WELDING & FABRICATORS Ltd. |
| 6 | VicWest | Canada | Factory/ Site | Insulated Metal Wall Panels | Yes | 1.2 | Supplied by Entreprise de Construction TEQ Inc |
| 7 | VicWest | Canada | Factory/ Site | Siding | Yes | 0.6 | Supplied by Entreprise de Construction TEQ Inc |



* If not ISO 9001:2008 registered, identify registered internationally recognized equivalent quality management standard, if applicable.

b) Proposed Subcontractors

List of Bidder's proposed Subcontractors (whether on-site or off-site) and the part of the Work that will be subcontracted to them, along with confirmation of whether they are registered to ISO 9001:2008 or an internationally recognized equivalent quality management standard.

| Index | Name of Subcontractor | Location of Subcontractor (country of origin) | Services Provided | ISO registered ("YES" or "NO")* | Relative value of the Work (x \$1 million) | Any other pertinent information |
|-------|--|---|--|---------------------------------|--|---------------------------------|
| 1 | ATLANTIC UNDERGROUND SERVICE Ltd | 425, Pine Glen road, Riverview, NB E1B 4J8 | CIVIL WORKS - DRILLING PRESSURE GROUTING AND DRAINAGE AND GEOTECHNICAL INSTRUMENTATION | NO | 3.3 | |
| 2 | GEO - FOUNDATION Contractors Inc. (subsidiary of Hayward Baker Canada Ltd) | 302 Main Street North Acton, ON L7J 1W9 | CIVIL WORKS - DRILLING PRESSURE GROUTING AND DRAINAGE AND GEOTECHNICAL INSTRUMENTATION | YES | 5.5 | Alternative solution |
| 3 | BIG LAND CONSTRUCTION Ltd | 43, Cleary Drive, Goulds, NL A15 1C3 | CIVIL WORKS - EARTH WORKS | NO | 1.7 | |
| 4 | ENTERPRISE DE CONSTRUCTION TEQ Inc | 4001, Rue St. Antoine Ouest, Montreal | CONCRETE WORK - PRECAST | YES | 3.2 | |
| 5 | SUPERMETAL STRUCTURES Inc | 1955, 5e Rue, St-Romuald, Québec G6W 5M6 | STRUCTURAL STEEL | YES | 39.4 | |
| 6 | PENNECON ENERGY Ltd. | 650 Water Street St. John's, NL | ELECTRICAL WORKS | YES | 3.1 | |
| 7 | GJ CAHILL & COMPANY Ltd. | PO Box 1674, 240 Waterford Bridge Rd. St. John's NL A1C 5P5 | ELECTRICAL WORKS | NO | 3.4 | Alternative solution |
| 8 | JSM Electrical Ltd. | Saint-John's | ELECTRICAL WORKS | NO | 7.5 | Alternative solution |



| Index | Name of Subcontractor | Location of Subcontractor (country of origin) | Services Provided | ISO registered ("YES" or "NO")* | Relative value of the Work (x \$1 million) | Any other pertinent information |
|-------|------------------------------------|--|--|---------------------------------|--|---------------------------------|
| 9 | LIANNU-PENNECON | P.O.Box 21189, 456 Logy Bay Road, St.John's, NL A1A 5B2 | MECHANICAL WORKS | YES | 12.4 | |
| 10 | BLACK & McDONALD Ltd | 10, Payzant Ave, Darmouth, NS B3B 1Z6 | MECHANICAL WORKS | NO | 19.0 | Alternative solution |
| 11 | GROUPE PLOMBACTION Inc | 575 Boul. Pierre-Roux Est. Victoriaville QC, G6T 1S7 | MECHANICAL WORKS | YES | 16.2 | Alternative solution |
| 12 | ENTERPRISE DE CONSTRUCTION TEQ Inc | 4001, Rue St. Antoine Ouest, Montreal | ARCHITECTURAL WORKS | YES | 10.7 | |
| 13 | BIG LAND CONSTRUCTION Ltd | 43, Cleary Drive, Goulds, NL A15 1C3 | CIVIL WORKS - ACCESS ROAD, ACCESS RAMP AND PADS | NO | 0.4 | |
| 14 | ADF GROUP Inc. | 300, Henry-Bessemer, Terrebonne, Québec J6Y 1T3 | TEMPORARY BRIDGE OVER THE SPILLWAY | YES | 1.0 | |
| 15 | SUPERMETAL STRUCTURES Inc | 1955, 5e Rue, St-Romuald, Québec G6W 5M6 | TEMPORARY LATERAL SUPPORT AND BRACINGS FOR PIERS OF THE SPILLWAY | YES | 0.2 | |
| 16 | BIG LAND CONSTRUCTION Ltd | 43, Cleary Drive, Goulds, NL A15 1C3 | CIVIL WORKS - ROAD MAINTENANCE AND SNOW REMOVAL | NO | 2.7 | |
| 17 | ADF GROUP Inc. | 300, Henry-Bessemer, Terrebonne, Québec J6Y 1T3 | WINTER COVER SYSTEM for POWERHOUSE and INTAKE | YES | 16.5 | |
| 18 | Constructions PROCO Inc. | 516, Route 172, Saint-Nazaire, Lac Saint-Jean (QC) G0W 2V0 | WINTER COVER SYSTEM for POWERHOUSE and INTAKE | YES | 17.1 | Alternative solution |
| | | | | | | |
| | | | | | | |

* If not ISO 9001:2008 registered, identify registered internationally recognized equivalent quality management standard, if applicable



c) *Proposed Material Suppliers*

List of Bidder's proposed material suppliers and the material that they will supply, along with confirmation of whether they are registered to ISO 9001:2008 or an internationally recognized equivalent quality management standard.

| Index | Material Supplied | Name of Supplier | Location of Supplier (country of origin) | ISO registered ("YES" or "NO")* | Relative value of the Work (x \$1 million) | Any other pertinent information |
|-------|--|--|---|---------------------------------|--|---------------------------------|
| 1 | REINFORCEMENT STEEL | AGF STEEL Inc. | 113 GLENCOE DRIVE DONOVANS INDUSTRIAL PARK MOUNT PEARL, NL A1N 4S7 | YES | 40 | |
| 2 | REINFORCEMENT STEEL | OLYMPIC METALS Ltd. + PISHUMUSS WELDING & FABRICATORS Ltd. | 100 Chemin St.- Simon, Caraquet, NB Canada E1W 1B3 | NO | 40.1 | Alternative solution |
| 3 | PRECAST - Prefabricated Longitudinal Concrete Fire Walls | PENNECON CONCRETE Ltd. | PO Box 8274 Stn. A St. John's NF A1B 3N4 | YES | 3.2 | |

** If not ISO 9001:2008 registered, identify registered internationally recognized equivalent quality management standard, if applicable*

Information from this Appendix will form Exhibit 8 of the Agreement detailed in Part 2 of this RFP.



SOLUTION 2: CONCRETE PRODUCTION SUB-CONTRACTED

a) Proposed Manufacturers

List of Bidder's proposed manufacturing plant(s) including the material that they will fabricate and indicate whether they are registered to ISO 9001:2008 or an internationally recognized equivalent quality management standard.

| Index | Name of Manufacturer | Location of Manufacture (country of origin) | Location of testing and inspection | Item(s) of Manufacture | ISO registered ("YES" or "NO")* | Relative value of the Work (x \$1 million) | Any other pertinent information |
|-------|--------------------------|---|-------------------------------------|-----------------------------|---------------------------------|--|---|
| 1 | ESSROC Italcementi Group | 1370 Hwy 49 Picton, Ontario K0K 2T0 | 1370 Hwy 49 Picton, Ontario K0K 2T0 | Bulk Cement | Yes | 72 | Supplied to Astaldi Value includes transportation |
| 2 | Holcim/Lafarge | Canada | Montreal Quebec | Bulk Cement | Yes | 76 | Supplied through Lafarge-Capital Ready Mix Value Includes transportation |
| 3 | SUPERMETAL STRUCURES Inc | 1955, 5e Rue, St-Romuald, Québec G6W 5M6 | Factory/Site | Structural Steel | Yes | 30 | |
| 4 | Arcelor Mittal | Canada | Factory/Site | Reinforcing Steel | Yes | 17 | Supplied and bent by AGF STEEL Inc. |
| 5 | Arcelor Mittal | Canada | Factory/Site | Reinforcing Steel | Yes | 17 | Supplied and bent by OLYMPIC METALS Ltd. + PISHUMUSS WELDING & FABRICATORS Ltd. |
| 6 | VicWest | Canada | Factory/Site | Insulated Metal Wall Panels | Yes | 1.2 | Supplied by Enterprise de Construction TEQ Inc |
| 7 | VicWest | Canada | Factory/Site | Siding | Yes | 0.6 | Supplied by Enterprise de Construction TEQ Inc |

* If not ISO 9001:2008 registered, identify registered internationally recognized equivalent quality management standard, if applicable.



b) Proposed Subcontractors

List of Bidder's proposed Subcontractors (whether on-site or off-site) and the part of the Work that will be subcontracted to them, along with confirmation of whether they are registered to ISO 9001:2008 or an internationally recognized equivalent quality management standard.

| Index | Name of Subcontractor | Location of Subcontract or (country of origin) | Services Provided | ISO registered ("YES" or "NO")* | Relative value of the Work (X \$1 million) | Any other pertinent information |
|-------|--|---|--|---------------------------------|--|---------------------------------|
| 1 | ATLANTIC UNDERGROUND SERVICE Ltd | 425, Pine Glen road, Riverview, NB E1B 4J8 | CIVIL WORKS - DRILLING PRESSURE GROUTING AND DRAINAGE AND GEOTECHNICAL INSTRUMENTATION | NO | 3.3 | |
| 2 | GEO - FOUNDATION Contractors Inc. (subsidiary of Hayward Baker Canada Ltd) | 302 Main Street North Acton, ON L7J 1W9 | CIVIL WORKS - DRILLING PRESSURE GROUTING AND DRAINAGE AND GEOTECHNICAL INSTRUMENTATION | YES | 5.5 | Alternative solution |
| 3 | BIG LAND CONSTRUCTION Ltd | 43, Cleary Drive, Goulds, NL A15 1C3 | CIVIL WORKS - EARTH WORKS | NO | 3.4 | |
| 4 | ENTERPRISE DE CONSTRUCTION TEQ Inc | 4001, Rue St. Antoine Ouest, Montreal | CONCRETE WORK - PRECAST | YES | 3.2 | |
| 5 | AGF STEEL Inc. | 113 GLENCOE DRIVE DONOVANS INDUSTRIAL PARK MOUNT PEARL, NL A1N4S7 | REINFORCEMENT STEEL | YES | 92.7 | |
| 6 | SUPERMETAL STRUCTURES Inc | 1955, 5e Rue, St-Romuald, Québec G6W 5M6 | STRUCTURAL STEEL | YES | 39.4 | |
| 7 | PENNECON ENERGY Ltd. | 650 Water Street St. John's, NL | ELECTRICAL WORKS | YES | 3.1 | |
| 8 | GJ CAHILL & COMPANY Ltd. | PO Box 1674, 240 Waterford Bridge Rd. St. John's NL A1C 5P5 | ELECTRICAL WORKS | YES | 3.4 | Alternative solution |
| 9 | JSM Electrical Ltd. | Saint-John's | ELECTRICAL WORKS | NO | 7.5 | Alternative solution |



| Index | Name of Subcontractor | Location of Subcontract or (country of origin) | Services Provided | ISO registered ("YES" or "NO")* | Relative value of the Work (X \$1 million) | Any other pertinent information |
|-------|------------------------------------|--|--|---------------------------------|--|---------------------------------|
| 10 | LIANNU-PENNECON | P.O.Box 21189, 456 Logy Bay Road, St.John's, NL A1A 5B2 | MECHANICAL WORKS | YES | 12.4 | |
| 11 | BLACK & McDONALD Ltd | 10, Payzant Ave, Darmouth, NS B3B 1Z6 | MECHANICAL WORKS | YES | 19.0 | Alternative solution |
| 12 | GROUPE PLOMBACTION Inc | 575 Boul. Pierre-Roux Est. Victoriaville QC, G6T 1S7 | MECHANICAL WORKS | YES | 16.2 | Alternative solution |
| 13 | ENTERPRISE DE CONSTRUCTION TEQ Inc | 4001, Rue St. Antoine Ouest, Montreal | ARCHITECTURAL WORKS | YES | 10.7 | |
| 14 | BIG LAND CONSTRUCTION Ltd | 43, Cleary Drive, Goulds, NL A15 1C3 | CIVIL WORKS - ACCESS ROAD, ACCESS RAMP AND PADS | NO | 0.8 | |
| 15 | ADF GROUP Inc. | 300, Henry-Bessemer, Terrebone, Québec J6Y 1T3 | TEMPORARY BRIDGE OVER THE SPILLWAY | YES | 1.0 | |
| 16 | SUPERMETAL STRUCTURES Inc | 1955, 5e Rue, St-Romuald, Québec G6W 5M6 | TEMPORARY LATERAL SUPPORT AND BRACINGS FOR PIERS OF THE SPILLWAY | YES | 0.2 | |
| 17 | BIG LAND CONSTRUCTION Ltd | 43, Cleary Drive, Goulds, NL A15 1C3 | CIVIL WORKS - ROAD MAINTENANCE AND SNOW REMOVAL | NO | 5.3 | |
| 18 | ADF GROUP Inc. | 300, Henry-Bessemer, Terrebone, Québec J6Y 1T3 | WINTER COVER SYSTEM for POWERHOUSE and INTAKE | YES | 16.5 | |
| 19 | Constructions PROCO Inc. | 516, Route 172, Saint-Nazaire, Lac Saint-Jean (QC) G0W 2V0 | WINTER COVER SYSTEM for POWERHOUSE and INTAKE | YES | 17.1 | Alternative solution |
| | | | | | | |

* If not ISO 9001:2008 registered, identify registered internationally recognized equivalent quality management standard, if applicable



c) *Proposed Material Suppliers*

List of Bidder's proposed material suppliers and the material that they will supply, along with confirmation of whether they are registered to ISO 9001:2008 or an internationally recognized equivalent quality management standard.

| Index | Material Supplied | Name of Supplier | Location of Supplier (country of origin) | ISO registered ("YES" or "NO")* | Relative value of the Work (x \$1 million) | Any other pertinent information |
|-------|--|---|--|---------------------------------|--|---------------------------------|
| 1 | REINFORCEMENT STEEL | AGF STEEL Inc. | 113 GLENCOE DRIVE DONOVANS INDUSTRIAL PARK MOUNT PEARL, NL A1N 4S7 | YES | 40 | |
| 2 | REINFORCEMENT STEEL | OLYMPIC METALS Ltd. + PISHUMUSS WELDING & FABRICATORS Ltd. | 100 Chemin St.-Simon, Caraquet, NB Canada E1W 1B3 | NO | 40.1 | Alternative solution |
| 3 | CONCRETE | LABRADOR READY- MIX Ltd | 8090, Boyer, C.P. 87041, Succ. Charlesbourg, Québec, (Québec) G2L 1S9 | NO | 130 | |
| 4 | CONCRETE | LAFARGE - CAPITAL READY MIX PARTNERSHIP | Québec, (Québec) G2L 1S9 | YES | 140 | |
| 5 | PRECAST - Prefabricated Longitudinal Concrete Fire Walls | PENNECON CONCRETE Ltd. | PO Box 8274 Str. A St. John's NF A1B 3N4 | YES | 3.2 | |

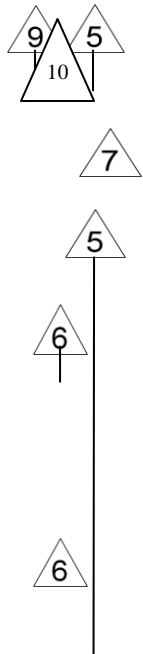
** If not ISO 9001:2008 registered, identify registered internationally recognized equivalent quality management standard, if applicable*

Information from this Appendix will form Exhibit 8 of the Agreement detailed in Part 2 of this RFP.

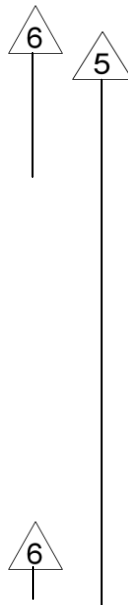
Exhibit 9
Interface and Milestone Schedule
Agreement No.: CH0007-001

EXHIBIT 9

INTERFACE AND MILESTONE SCHEDULE



| INTERFACE AND MILESTONE SCHEDULE | | | |
|--|----------------------|--|--------------------|
| <u>Milestone No.</u> | <u>Interface No.</u> | Description | Date |
| General | | | |
| M0 | | Limited Notice to Proceed. | 24-Sep-2013 |
| M1 | | Contract Award. | 30-Nov-2013 |
| M2 | | Substantial Completion of the Work. | 30-Jun-2018 |
| M2A | | Final Completion of the Work. | 29-Sep-2018 |
| Spillway, North Transition Dam, Separation Wall & Center Transition Dam | | | |
| | I1A | Spillway Site Shared Access Available. | 15-Nov-2013 |
| | I1B | Spillway Site ready for Unrestricted Work. | 1-Jan-2014 |
| M4A | | Spillway and Related Works required for Company's Supply and Installation of Hydro Mechanical Equipment Contractor (CH0032) for Upstream Guides installation and concreting, including: <ul style="list-style-type: none"> - Completion of Spillway Invert; - Completion of Spillway piers and walls (upstream 2/3 portion only), including Upstream Bridge; - Spillway Upstream Channel free for Company's Other Contractor (CH0032) occupation. (Refer to attached sketch). | 15-Feb-2015 |



| INTERFACE AND MILESTONE SCHEDULE | | | |
|---|-----------------------------|--|--------------|
| <u>Milestone No.</u> | <u>Interface No.</u> | Description | Date |
| M4B | | Spillway and related works required for Company's Other Contractor (CH0032) installation of Downstream Stoplog Guides, Gates and Hoists as well as for Company's Construction of North and South Dams Contractor (CH0009) for construction of Intake Channel Upstream Cofferdam and Spillway Upstream Channel Temporary Bridges, and all works required for diversion including: <ul style="list-style-type: none"> - Completion of Spillway piers and walls (downstream 1/3 remaining portion), including both Downstream Bridges; - Completion of North Transition Dam; - Completion of Northern 2 monoliths of Center Transition Dam including the Electrical Building Platform; - Completion of Spillway Discharge Channel Phase 1; - Completion of Separation Wall; - Spillway Discharge Channel free for Company's Other Contractor (CH0032) occupation; (Refer to attached sketch). | 31-July-2015 |
| | I2 | Bay No. 1 Available for Start of Rollway Construction. | 4-Oct-2016 |
| M12 | | Bay No. 1 Rollway Construction Complete and Ready for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). | 13-Mar-2017 |
| | I3 | Bay No. 2 & 4 Available for Start of Rollway Construction. | 6-Nov-2017 |
| M13 | | Bay No. 2 & 4 Rollway Construction Complete and Ready for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). | 17-Mar-2018 |
| | I4 | Bay No. 3 & 5 Available for Start of Rollway Construction. | 31-May-2017 |
| M14 | | Bay No.3 & 5 Rollway Construction Complete and Ready for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). | 19-Sep-2017 |
| M16A | | Completion of Phase 2 of Spillway Discharge Channel Lining. | 29-Sep-2018 |

| INTERFACE AND MILESTONE SCHEDULE | | | |
|---|----------------------|--|-------------|
| Milestone No. | Interface No. | Description | Date |
| Powerhouse | | | |
| 5 | I7A | Powerhouse Site Shared Access Available. | 30-Nov-2013 |
| | I7B | Powerhouse Site ready for Unrestricted Work. | 1-Jan-2014 |
| 5 | M18 | South Service Bay Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors. This includes: <ul style="list-style-type: none"> - South Service Bay Mezzanines, Ready for Start of Work by Company's other Contractors. - South Service Bay Structural Steel Ready for Setting Powerhouse Crane on Rails. - Service Bay Draft Tube Gallery, Ready for Installation of Gantry Crane by Company's Other Contractor (CH0032). | 31-Jul-2015 |
| 6 | M22 | Unit 1 – Ready for Installation of Draft Tube Cone by Company's Supply and Installation of Turbines and Generators Contractor (CH0030). | 28-Mar-2016 |
| | I8 | Unit 1 - Installation of Draft Tube Cone, Completed by Company's Other Contractor (CH0030). | 23-Apr-2016 |
| | M23 | Unit 1 - Ready for Installation of Stay Ring & Upper Pit Liner by Company's Other Contractor (CH0030). | 22-May-2016 |
| | I9 | Unit 1 – Installation of Stay Ring & Upper Pit Liner, Completed by Company's Other Contractor (CH0030). | 22-Jul-2016 |
| 4 | M24 | Unit 1 – Generator Floor Completed, including Pit Free for Unit 1. | 30-Nov-2016 |

6

| INTERFACE AND MILESTONE SCHEDULE | | | |
|---|----------------------|--|-------------|
| Milestone No. | Interface No. | Description | Date |
| M26 | | Unit 1 – Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company’s Other Contractors, including: <ul style="list-style-type: none"> - Unit 1 – Draft Tube, Structure Complete for start of Hydro-Mechanical works by Company’s Other Contractor (CH0032). - Unit 1 – Mezzanines, Ready for start of Work by Company’s Supply and Installation of Mechanical and Electrical Auxiliaries Contractor (CH0031). | 30-Sep-2015 |
| M28 | | Unit 1 – Intake Structure Complete and Ready for start of Hydro-Mechanical works by Company’s Other Contractor (CH0032). | 31-Mar-2016 |
| M30 | | Unit 2 – Ready for Installation of Draft Tube Cone by Company’s Other Contractor (CH0030). | 4-May-2016 |
| | I10 | Unit 2 – Installation of Draft Tube Cone, Completed by Company’s Other Contractor (CH0030). | 30-May-2016 |
| M31 | | Unit 2 - Ready for Installation of Stay Ring & Upper Pit Liner by Company’s Other Contractor (CH0030). | 27-Jun-2016 |
| | I11 | Unit 2 – Installation of Stay Ring & Upper Pit Liner, Completed by Company’s Other Contractor (CH0030). | 31-Aug-2016 |
| M32 | | Unit 2 – Generator Floor Completed, including Pit Free for unit 2 | 11-Jan-2017 |

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| INTERFACE AND MILESTONE SCHEDULE | | | |
|---|----------------------|--|-------------|
| Milestone No. | Interface No. | Description | Date |
| M34 | | Unit 2 - Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors, including: - Unit 2 – Draft Tube, Structure Complete for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). - Unit 2 – Mezzanines, Ready for start of Work by Company's Other Contractor (CH0031). | 11-Nov-2015 |
| M36 | | Unit 2 – Intake Structure Complete and Ready for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). | 29-Jun-2016 |
| M38 | | Unit 3 – Ready for Installation of Draft Tube Cone by Company Other Contractor (CH0030). | 10-Jun-2016 |
| | I12 | Unit 3 – Installation of Draft Tube Cone, Completed by Company's Other Contractor (CH0030). | 6-Jul-2016 |
| M39 | | Unit 3 - Ready for Installation of Stay Ring & Upper Pit Liner by Company's Other Contractor (CH0030). | 3-Aug-2016 |
| | I13 | Unit 3 – Installation of Stay Ring & Upper Pit Liner, Completed by Company's Other Contractor (CH0030). | 9-Oct-2016 |
| M40 | | Unit 3 – Generator Floor Completed, including Pit Free for Unit 3 | 5-Mar-2017 |
| M42 | | Unit 3 - Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company's Other Contractors, including - Unit 3 - Draft Tube, Structure Complete for start of Hydro-Mechanical works by Company's Other Contractor (CH0032). - Unit 3 – Mezzanines, Ready for start of Work by Company's Other Contractor (CH0031). | 20-Jan-2016 |

4

4

| INTERFACE AND MILESTONE SCHEDULE | | | |
|---|----------------------|---|-------------|
| Milestone No. | Interface No. | Description | Date |
| M44 | | Unit 3 – Intake Structure Complete and Ready for start of Hydro-Mechanical works by Company’s Other Contractor (CH0032). | 27-Sep-2016 |
| M46 | | Unit 4 – Ready for Installation of Draft Tube Cone by Company’s Other Contractor (CH0030). | 19-Jul-2016 |
| | I14 | Unit 4 – Installation of Draft Tube Cone, Completed by Company’s Other Contractor (CH0030). | 14-Aug-2016 |
| M47 | | Unit 4 - Ready for Installation of Stay Ring & Upper Pit Liner by Company’s Other Contractor (CH0030). | 10-Sep-2016 |
| | I15 | Unit 4 – Installation of Stay Ring & Upper Pit Liner, Completed by Company’s Other Contractor (CH0030). | 8-Nov-2016 |
| M48 | | Unit 4 – Generator Floor Completed, including Pit Free for Unit 4. | 27-Apr-2017 |
| M50 | | Unit 4 - Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company’s Other Contractors, including - Unit 4 – Draft Tube, Structure Complete for start of Hydro-Mechanical works by Company’s Other Contractor (CH0032). - Unit 4 – Mezzanines, Ready for start of Work by Company’s Other Contractor (CH0031). | 2-Mar-2016 |
| M52 | | Unit 4 – Intake Structure Complete and Ready for start of Hydro-Mechanical works by Company’s Other Contractor (CH0032). | 23-Dec-2016 |
| M53 | | North Service Bay Building Enclosed and High Bay Lighting Installed and Ready for Start of Work by Company’s Other Contractors. | 9-Apr-2016 |
| M54 | | Center Transition Dam complete including Trashrack cleaner rails installed. | 13-Aug-2016 |
| South Transition Dam | | | |
| M55 | | South Transition Dam Complete. | 12-Dec-2015 |
| Interface Dates for Supply of 3rd Party Material | | | |

| INTERFACE AND MILESTONE SCHEDULE | | | |
|---|-----------------------------|--|-------------|
| <u>Milestone No.</u> | <u>Interface No.</u> | Description | Date |
| 6 | I16 | Draft Tube Hydro-Mechanical, Primary Anchors, Delivered to Site by Company's Other Contractor (CH0032). | 2-Jun-2014 |
| | I17 | Turbine & Generator (All 4 Units), Primary Anchors, Delivered to Site by Company's Other Contractor (CH0030). | 29-Mar-2014 |
| 6 | I21 | Intake – Hydro-Mechanical Primary Anchors, Delivered to Site by Company's Other Contractor (CH0032) and Available. | 15-Apr-2014 |
| 6 | I22 | All Spillway Hydro-Mechanical Primary Anchors, Delivered to Site by Company's Other Contractor (CH0032). | 1-Mar-2014 |

EXHIBIT 11

COMPANY SUPPLIED DOCUMENTS

This Exhibit contains a listing of documents that will be issued to Contractor in accordance with the noted schedule of issuance. Contractor will be required to formally review all documentation and data listed herein as it is provided to Contractor by Engineer.

| Document No. | Title | Rev | Schedule of Issuance | | |
|---------------------------------|---|-----|----------------------|--------------------|----------------------|
| | | | At RFP Issue | At Agreement Award | Post Agreement Award |
| 505573-0000-68RA-I-0011 | Contract Specific Environmental Protection Plan (C-SEPP) | 00 | Yes | Yes | |
| 6845.2.1.1-EN (SN-0004) | Critical Risk Control Protocols | 04 | Yes | Yes | Rev. 4 |
| 6801-EN (SN-0006) | Global Power Group Health and Safety Management System | 00 | Yes | Yes | Rev. 4 |
| 503011-0000-68GA-0001 (SN-0007) | Global Power Group Health and Safety Standards Manual | 00 | Yes | Yes | |
| 505573-0000-68RA-I-0001 | Health and Safety Management Plan | 02 | Yes | Yes | |
| 505573-0000-39RA-I-0002 | LCP Risk Management Requirements for Contractors and Suppliers | 00 | Yes | Yes | |
| 505573-0000-68RA-I-0005 | Project-Wide Environmental Protection Plan – Component 1 and 4B | 05 | Yes | Yes | |
| 505573-0000-68RA-I-0002 | Site Security and Access Control Plan | 00 | Yes | Yes | |
| 505573-0000-37AG-I-0015 | Supplier/Contractor Document Requirements | 01 | Yes | Yes | |
| 505573-0000-68RA-I-0008 | Waste Management Plan - Component 1 and 4B | 01 | Yes | Yes | |
| N/A | Nalcor Code of Business Conduct and Ethics | N/A | Yes | Yes | |

| Document No. | Title | Rev | Schedule of Issuance | | |
|--------------|---|-------|----------------------|--------------------|----------------------|
| | | | At RFP Issue | At Agreement Award | Post Agreement Award |
| N/A | Collective Agreement between the (Muskrat Falls Employers' Association Inc. and the Resource Development Trades Council of Newfoundland and Labrador for the Construction of the Lower Churchill Hydroelectric Generation Project at Muskrat Falls on the Lower Churchill River Newfoundland and Labrador | Rev 2 | | | |

DISCLAIMER

The information provided in the documents included in or referenced by this Table (“Supplementary Data”) is provided as background information only. Company makes no representations about and does not warrant the accuracy of the Supplementary Data. Any use of the Supplementary Data by Contractor in connection with the Work or for any other purpose shall be at Contractor’s own risk. Company and Engineer shall not be responsible for any deduction, interpretation or conclusion drawn from the Supplementary Data by Contractor. Contractor waives any claim it may otherwise have for any cost, loss (including loss of profit), and expense, whether direct or indirect, arising from or connected with its use of the Supplementary Data and arising from or connected with any error, mistake, inaccuracy or misrepresentation contained in the Supplementary Data.

Supplementary Data

| Document No. | Title | Rev | Schedule of Issuance | | |
|-------------------------|---|-----|----------------------|--------------------|----------------------|
| | | | At RFP Issue | At Agreement Award | Post Agreement Award |
| 505573-3001-4HER-0028 | Climatological Data Report | 01 | Yes | Yes | |
| 723468-MF1380-40ER-0001 | MF-1380 - Muskrat Falls Site Information for Tenderers | 02 | Yes | Yes | |
| 505573-3005-4GER-0001 | Engineering Report – Construction Materials – Borrow Areas and Quarries | 00 | Yes | Yes | |
| 505573-OT-0130 | MF-2010 – Site Investigations - Qualitative Testing Program on Rock for Use on Concrete – Boreholes BH-7, 8, 9, 11 & 14 | 01 | Yes | Yes | |
| 505573-3001-4HER-0014 | Lower Churchill Project – Churchill River Closure Hydraulic Analysis | PA | Yes | Yes | |
| 505573-3001-4HER-0003 | Lower Churchill Project – Muskrat Falls Spillway Discharge Capacity | 00 | Yes | Yes | |
| 505573-3006-40ER-0101 | Lower Churchill Project – Technical Note – Winter Mists – Risks and Mitigation | 00 | Yes | Yes | |

Rev. 4

Exhibit 11
 Company Supplied Documents
 Agreement No.: CH0007-001

| Document No. | Title | Rev | Schedule of Issuance | | |
|-----------------------|--|-----|----------------------|--------------------|----------------------|
| | | | At RFP Issue | At Agreement Award | Post Agreement Award |
| 505573-3005-4GER-0003 | Lower Churchill Project – Fine Aggregate and Water for Concrete – Complementary Report | 00 | Yes | Yes | |

Exhibit 12
Site Conditions
Agreement No.: CH0007-001

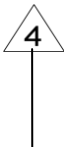
EXHIBIT 12
SITE CONDITIONS

1 CONTRACTOR’S WORK AREA

1.1 Site Location

1.1.1 The Site location is indicated on the drawings provided in Exhibit 1, Attachment 2 and more specifically on the following drawings:

| Nalcor Document No. | Title |
|---------------------------------|--|
| SNC-Lavalin Document No. | |
| MFA-SN-CD-0000-CV-PL-0003-01 | Muskrat Falls - Project Location and Drainage Basins - Plan |
| 505573-300A-41DD-0001 | |
| MFA-SN-CD-0000-CV-PL-0004-01 | Muskrat Falls - Lower Churchill River –Plan and profile |
| 505573-300A-41DD-0003 | |
| MFA-SN-CD-3000-GT-GA-0001-01 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - General Layout Plan |
| 505573-3331-41DD-0100 | |
| MFA-SN-CD-2000-CV-GA-0001-01 | Muskrat Falls - Access Roads, Accommodations and Laydown Areas |
| 505573-300A-41DD-0012 | |
| MFA-SN-CD-3000-GT-PL-0003-01 | Muskrat Falls – Intake and Powerhouse, Spillway and Transition Dams – Existing Conditions – Plan |
| 505573-3331-41DD-0108 | |



1.2 Area for Contractor Site Administration Office



1.2.1 Company will provide Contractor with an area adjacent to the Administration Complex, for the installation of Contractor’s main Site administration office. Utilities, such as potable water, sewage and electrical services will be made available for this office. It is Contractor’s responsibility to hook up these services except for electrical power hook-up which will be performed by Company.



1.2.2 Company will provide and distribute 25 kV through a line that will be installed along the south side of the Contractor’s Site Administration Office Area. Company will provide a pole mounted step down transformer on a pole of the 25 kV line (exact location to be determined). The step down transformer will be 120/240 V, 1-phase. Contractor will be responsible for all cabling and hookups to the secondary of this transformer.



1.3 Contractor’s Laydown Area

1.3.1 General

1.3.1.1 Contractor will be permitted to install its trailers, containers and other temporary buildings for its own use in close proximity of its work area. The precise locations will be subject to Engineer’s approval. Referring to drawing 505573-3331-41DD-0108, the following areas can be committed at this time for Contractor’s Laydown Area:

1.3.1.2 Area C1: 160,000 m² of this area will be available for the duration of the Work. This Area will be graded and there will be a 1m rock cap.

1.3.1.3 Area B: 37,000 m² or 100% of this area will be available from mobilization until December 2014. After that, 30% of this area will be available until the end of the Work.

1.3.1.4 Areas D, E, F and H: A combined total of 10,000 m² in these areas will be available for laydown purposes and for the duration of the Work.

1.3.2 Stockpile of Rock from the Excavations

1.3.2.1 Area C2, of approximately 50,000 m², has been reserved to stockpile 0-1000 mm blasted rock, including oversize, from the bulk excavation (CH0006) for structures and for batching operations. This area, to be used by Contractor or by other Contractors employed by Company, is about 2.5 km away from the main excavation sites as shown on the drawings.

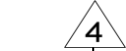
1.3.3 Concrete Batching Plants

1.3.3.1 Area C1 is approximately 175,000 m². Of this, approximately 160,000 m² is designated for Contractor crusher and concrete batching plant. Company will use the remaining area of 15,000 m² for other Contractors employed by Company.

1.3.3.2 Aggregates for concrete will be from borrow areas for fine aggregates and from blasted rock for coarse aggregates obtained from the available stockpile located in Contractor’s Laydown area as stipulated in Exhibit 1, Technical Specification, Section 31 15 00, “Sources of Materials”.

1.4 Additional Laydown Area for Contractor in Company’s Laydown Area

1.4.1 Company will provide Contractor with an area of approximately twenty thousand square meters (20,000 m²) to install its temporary facilities and storage.



1.5 Work Areas Free of Obstruction and Maintained

1.5.1 During the execution of the Work, Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any Contractor's equipment and surplus materials and clear away and remove from the Site any wreckage, rubbish or temporary works no longer required.

1.5.2 Unless otherwise provided elsewhere in the Agreement, Contractor shall, throughout the construction period, maintain its work area, laydown areas and passage ways in order to permit the safe movement of pedestrians and vehicles at all times.

1.5.3 As per the Technical Specification, Contractor will also maintain all permanent and temporary roads, including occasional grading of roads, culvert maintenance, snow removal and sanding of roads.

1.5.4 All maintenance and snow removal within Contractor's work area, the permanent access road to the Spillway, temporary access roads and ramps and Contractor's Laydown Area are Contractor's responsibility. Contractor shall obtain materials for sanding from designated sand and gravel deposits located within the Site Area. Contractor shall be responsible for the required sieving at the deposits, if required, before using these materials. Certain designated borrow areas have been reserved for the construction of the permanent works as indicated on the drawings and in the Technical Specification.

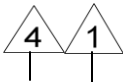
1.6 Signage

1.6.1 Contractor shall be responsible to install on its temporary roads all the traffic signs to inform road users, ensure their safety and facilitate traffic. The signage shall comply with the requirements of Exhibit 1, Technical Specification, Section 01 55 00 - Construction of Roads and Maintenance of Roads and Other Areas.

1.6.2 Only standard safety bulletin boards and safety signs used to identify the LCP, Company, designated representatives and Contractor shall be allowed on the Site with prior approval by Engineer.

1.7 Clearance of Site on Completion

1.7.1 Upon Substantial Completion of the Work, Contractor shall clear away and remove from that part all Contractor's equipment, surplus material, rubbish and temporary Works of every kind, and leave such part of the Site and Works clean and in a workmanlike condition to the satisfaction of Engineer.



2 SERVICES PROVIDED TO AND BY CONTRACTOR

2.1 Electrical Power Supply

1 2.1.1 Services Provided by Company

2.1.1.1 Contractor will be provided free of cost with electrical power supply at the following sites for the execution of its Work:

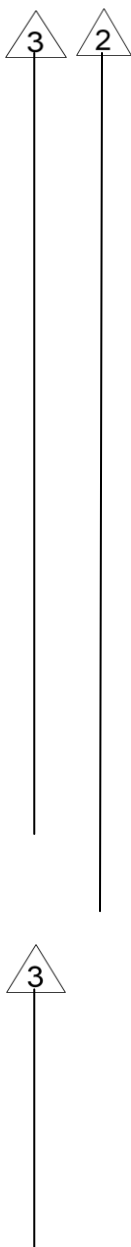
- 1. One in close proximity of Company’s Laydown Area, three-phase 600 V supply, 75 kVA available to Contractor;
- 2. One at the Powerhouse area, three-phase 600 V supply complete with 600 V switchgear. The switchgear will have five (5) feeder breakers, each breaker rated for 800 A, each having an adjustable electronic trip unit (adjustable from 400 A to 800 A) and will be fed through an outdoor 2000 / 2666 (provision) kVA distribution transformer, located at the south end of the Powerhouse.. Half of this total available power (750 kVA) is intended mainly for powerhouse heating and lighting by Contractor. Apart from that, Contractor will have access to another 175 kVA for other use;
- 3. One at the Spillway, three-phase 600 V supply, 300 kVA available to Contractor. At this location, there will be pole mounted transformers (3 x 100 kVA, 25 kV - 600/347V) installed and the Contractor will be required to supply and connect its distribution equipment from the secondary of the pole mounted transformers.
- 4. One at Contractor’s Laydown Area, three-phase 600 V supply complete with 600 V switchgear, 1600 kVA available to Contractor. This switchgear will have with seven (7) 800 A feeder breakers, each breaker supplied with an adjustable trip unit (adjustable from 400 A to 800 A), which will be installed in Area C1 for the use of all Contractors.

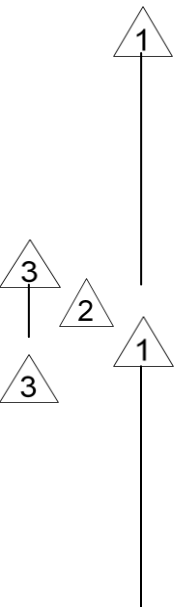
2.1.1.2 Contractor’s total electrical load power factor at each access point shall be equal or more than 0.85 p.f., at all time.

2.1.1.3 Contractor shall limit voltage dip on starting motors to 15% (transient condition) at the supply point based on Company supplied transformers listed above with standard impedance. Maximum motor capacity should be limited to 600 HP.

2.1.1.4 Harmonics generated by the load shall be limited to CAN/CSA C61000-2-2-04 and C61000-3-4. Contractor shall be responsible taking all corrective measures to maintain the voltage and current harmonics within the requirements of the standards.

2.1.1.5 Contractor’s Diesel generator sets cannot and shall not be connected to Company’s distribution grid.



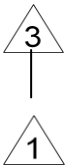


2.1.1.6 Contractor shall provide, install, maintain and remove upon completion of the Work at Contractor's cost all necessary equipment for Contractor's temporary electrical power requirements in the Work including but not limited to line extension, poles, stays, circuit breakers, lightning arresters, transformers, etc. from the four (4) power supply points indicated above.

2.1.1.7 Contractor shall show at any time to Engineer that the load power factor shall not be less than zero point eighty five (0.85), either by measurement or by the installation of adequate protective devices. Contractor shall make all necessary arrangements with Engineer for its connections to those aforementioned four (4) power points. The Work associated with the initial connection and final disconnection will be made by Company at the expense of Company.

2.1.1.8 Contractor shall supply to Engineer the following information prior to connection to the main power system:

1. Single line diagrams;
2. Protection systems on equipment and lines (relays, fuses, etc. with calculations and calibrations);
3. List of the connected loads;
4. Cabling sizes and calculations.



2.1.1.9 Company will make every effort to maintain an uninterrupted supply of electric power, but Company cannot guarantee that there will be no interruption during the duration of the Work. Company shall not be responsible for any cost to Contractor for such interruptions, variations in voltage or frequency or damage arising thereof. Contractor shall take the necessary measures to meet its needs in case of emergency. Contractor shall in any case have an emergency power supply to ensure that the dewatering systems and batch plants can remain operational at any time.

2.1.2 Services Provided by Contractor



2.1.2.1 Contractor shall be responsible to provide its own power supply over and above the quantity supplied by Company, as necessary to execute its Work and to provide power to its facilities, such as offices, workshops, etc. and Sub-Contractors' (if any) needs. Contractor shall include the costs thereof in its unit and lump sum prices.

2.2 Lighting

2.2.1 Contractor shall be responsible to provide all lighting required for its work areas.

2.2.2 When Work is done at night or when the day light is down, Contractor shall provide a minimum of 300 Lux, and Contractor shall ensure sufficient lighting for the execution of the Work in satisfactory, efficient and secure conditions or as specified from time to time in Exhibit 1, Technical Specification. Access roads to the work areas shall have a minimum 10 Lux lighting level. All ducts and power lines for lighting and other electrical services shall be installed and maintained in a safe manner, fixed securely and placed as far as possible from transmission cables and cables used for blasting works.



2.3 Potable Water

2.3.1 Potable water will be supplied by Company to Contractor at a central location inside the Accommodation Complex. Contractor shall be responsible to pick-up the water at this point and provide all necessary equipment to distribute to the different places at the Work site. Contractor shall be responsible to meet all standards as per the Project's Health and Safety Plan.

2.4 Industrial Water

2.4.1 Contractor shall be responsible to provide its own supply of industrial water, either by pumping from rivers or streams or by wells. Industrial water shall meet the requirements of Exhibit 1, Technical Specification, according to its purpose. Contractor shall make the necessary arrangements to treat water to achieve these requirements.



2.5 Heating and Ventilation

2.5.1 Contractor shall be responsible for the heating and ventilation of its facilities and for any other heating required for the execution of its Work. The minimum space temperature shall be 10 °C. The minimum flow of fresh air introduced shall be the larger of the two values: one air change per hour based on a height of 3.6 m, or 10 L/s per person. The thermal environment and ventilation of its facilities shall also be in accordance with Occupation Health and Safety Regulations.



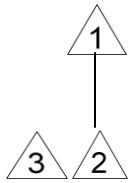
2.6 Dewatering and Sediment Control

2.6.1 The Bulk Excavation Contractor (CH0006) has provided, installed and maintained its own pumping and dewatering systems in its work areas. This includes the construction, operation and maintenance of sedimentation ponds.

2.6.2 The Bulk Excavation Contractor (CH0006) has proposed to install dewatering system capacities of 19 m³/min and 15 m³/min at the Powerhouse and at the Spillway Areas respectively.

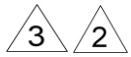
2.6.3 The dewatering system, of a minimum capacity of 15 m³/min, inclusive of hardware and pumps and sedimentation ponds No1 and No2, will be handed over to Contractor free of charge and in good working condition.





2.6.4 From there, Contractor shall assume full responsibility for the dewatering and sediment control and take all necessary and additional measures for the evacuation and sediment control of any water inflow or seepage of water in its Work areas, all in accordance with Exhibit 1, Technical Specification, “Section 31 23 19, Dewatering”.

2.6.5 Contractor shall submit, with its bid, a list of equipment on which the price is based to realize all dewatering and sediment control work within the Work area limits as shown on the Drawings or as required by Exhibit 1, Technical Specification.



2.7 Sanitary Facilities

2.7.1 Company will provide wash cars in sufficient quantities. Contractor shall locate such facility at the most convenient place(s) in Contractor’s Site and relocate them from time to time as the need arises.

2.7.2 Company will provide all waste collection, all stipulated sanitary cleaning required and all associated consumables and water supply.

2.8 Cleaning of Lunch Rooms and Offices

2.8.1 Contractor shall be responsible for all the cleaning of its offices, lunchrooms, workshops and all other workplaces under its responsibility on a regular basis. Lunchroom, however, shall be cleaned after each meal or break. Such services may be subcontracted by Contractor, at his own expenses, to the on-site Company’s catering Contractor, subject to Engineer’s approval.

2.9 Waste Management

2.9.1 Reference is made to the Waste Management Plan Doc No: LCP-SN-CD-0000-EV-PL-0005-01 for a detailed description.



2.9.2 Contractor shall investigate the availability of local solid and liquid waste collection and disposal services. Contractor will ensure its waste management program has integrated the availability of these services.

2.9.3 Company will provide domestic trash containers to be placed at Company’s Laydown Area on the Site. Company is responsible for the supply, installation and periodic replacement as required.



2.9.4 Contractor shall be responsible for collecting all recoverable waste refuse and packing material Contractor generates, and for disposing it within the appropriate containers (clearly identified as to its restricted content) provided by Contractor. If Contractor fails to take the necessary measures to comply with and/or fulfill this obligation, Company will notify Contractor in writing to take immediate corrective action. If Contractor does not comply after notification by Company, Company will have these task completed and back-charge the costs to Contractor.

1

2.9.5 Contractor shall be responsible for:

2.9.5.1 Disposal of materials from the Hazardous Waste Storage Area (HWSA) to approved facilities;

2.9.5.2 Diversion of Recyclable metals from landfill disposal, collection and pickup by metals recycler and;

2.9.5.3 Collection, storage, and subsequent disposal at approved facilities of construction waste and demolition debris.

2.9.6 Solid and liquid waste management is an important component of Contractor's performance. Solid and liquid waste management is a challenge in Labrador as a result of the climate, and limited management and disposal options. Contractor must plan their solid and liquid waste management programs carefully. Provided below is a partial list of potential waste management resources. It is Contractor's responsibility to ensure its solid and liquid waste management programs are complete.

2.9.6.1 Town of Happy Valley – Goose Bay, Municipal Landfill (4 km from town on Northwest River Road : 709 896-3321;

2.9.6.2 Pardy's Waste Management - 84A Glencoe Drive, Mount Pearl NL: 709-782-2003;

2.9.6.3 Hickey's Construction – 5 Broomfield Ave., Happy Valley Goose Bay: 709-896-3250;

2.9.6.4 J.J.' s Trucking – 16 Hillcrest Road, Happy Valley Goose Bay: 709-896-5552;

2.9.6.5 Roger's Group -15 Churchill Dr., Happy Valley Goose Bay: 709-896-5041;

2.9.6.6 Woodward's – 16 Loring Dr., Happy Valley Goose Bay: 709-896-2421;

2.9.6.7 Recyclex Inc. (Hazardous Waste) – Montreal QC: 514-355-4148.

2.10 Operation and Maintenance of Temporary Construction Services

2.10.1 Contractor shall operate and maintain temporary construction services (such as, but not limited to, dewatering, electrical power, etc.) on the basis of seven (7) days a week, 24 hours a day for the duration of the Work.

2.10.2 At the end of the Work, all the facilities of construction services shall be dismantled by Contractor and remain its property, unless otherwise indicated.

2.10.3 Engineer has, at any time, the right to inspect the provisional facilities of Contractor and require changes, for safety or environmental reasons as he deems necessary, at the expense of Contractor.

2.10.4 Contractor shall submit to Engineer, for acceptance, drawings and specifications of any construction services or installations that it intends to install in its working areas twenty (20) working days before the commencement of their installation, or as agreed upon with Engineer.

3 FUEL AND FUEL MANAGEMENT

3.1 Fuel Supply

3.1.1 A fuel station for vehicles will be located at Company's Laydown Area. Diesel fuel and gasoline will be available. Contractor will be charged the actual market rates at the time of the purchase.

3.1.2 Contractor shall, on a monthly basis and at the 1st of every month, submit to Engineer its estimated fuel needs for the next 3 months, in order to ensure adequate supply.

3.1.3 Contractor shall make arrangements with the onsite fuel supplier for its terms of payment for fuel purchased at the Site.

3.1.4 It will be Contractor's responsibility to arrange for fuel delivery to the batch plant or any other location at the Site.

3.1.5 During the execution of the Work, Contractor shall be responsible for its own fuel needs. Company assumes no liability and Contractor is responsible for all cost associated with its fuel requirements.

3.2 Fuel Management

3.2.1 Contractor shall submit a monthly fuel delivery report on all fuel consumed during the month. Refer to Exhibit 6, Appendix C for the report format. The report shall be submitted to Engineer no later than 7 days following the end of the month.

1

6

4 TELECOMMUNICATIONS

4.1 Company provided access to telecommunication systems and services

1

4.1.1 Company will provide Contractor with access to telecommunication systems and services at the Muskrat Falls Construction Site for business requirements. Telecommunication systems and services include, but are not limited to, the following:

2

4.1.1.1 Land Mobile Radio System: Company will deploy a single Land Mobile Radio System for use by Company, Engineer, and all Contractors and Sub-Contractors at the Muskrat Falls Construction Site. Company will grant access to Contractor and Sub-Contractors to the infrastructure of the radio communications system. It will be the responsibility of Contractor and its Sub-Contractors to acquire at his own cost the mobile and portable radio equipments and accessories (portable radios, mobile radios, antennas, chargers, etc). The mobile and portable radios will be available from the same Telecommunications Services Provider (TSP) appointed by Company for the LMRS system.

1

4.1.1.2 Telephone Services: Company will deploy a single wire-based Telephone System at the Muskrat Falls Construction Site. Contractor shall advise Company of the required number of offices it will utilize at Site and Company will provide one telephone for every Contractor Office. Contractor shall provide Company with a Contractor office forecast on a monthly basis for the duration of Contractor's Work.

4.1.1.3 Cellular and Mobile Internet Services: Company is not deploying a cellular and mobile internet solution. However, the local telecommunication company has some cellular coverage at the Muskrat Falls Construction Site.

6

4.1.1.4 Internet Services: Company will provide 150 Mb on a VPN to be shared by all Contractors on Site. This VPN will be supported on a FO WAN with point of presence in each office building through a single wired Internet connection. It is Contractor's responsibility to distribute this Internet connection to individual Contractors offices and devices. Contractor is also responsible for operation, administration, maintenance and provisioning of its internal Local Area Network and end user devices, such as computers and printers, in its designated Office Area.

1

4.2 **Company provided access to Quality of Life telecommunication systems and services**

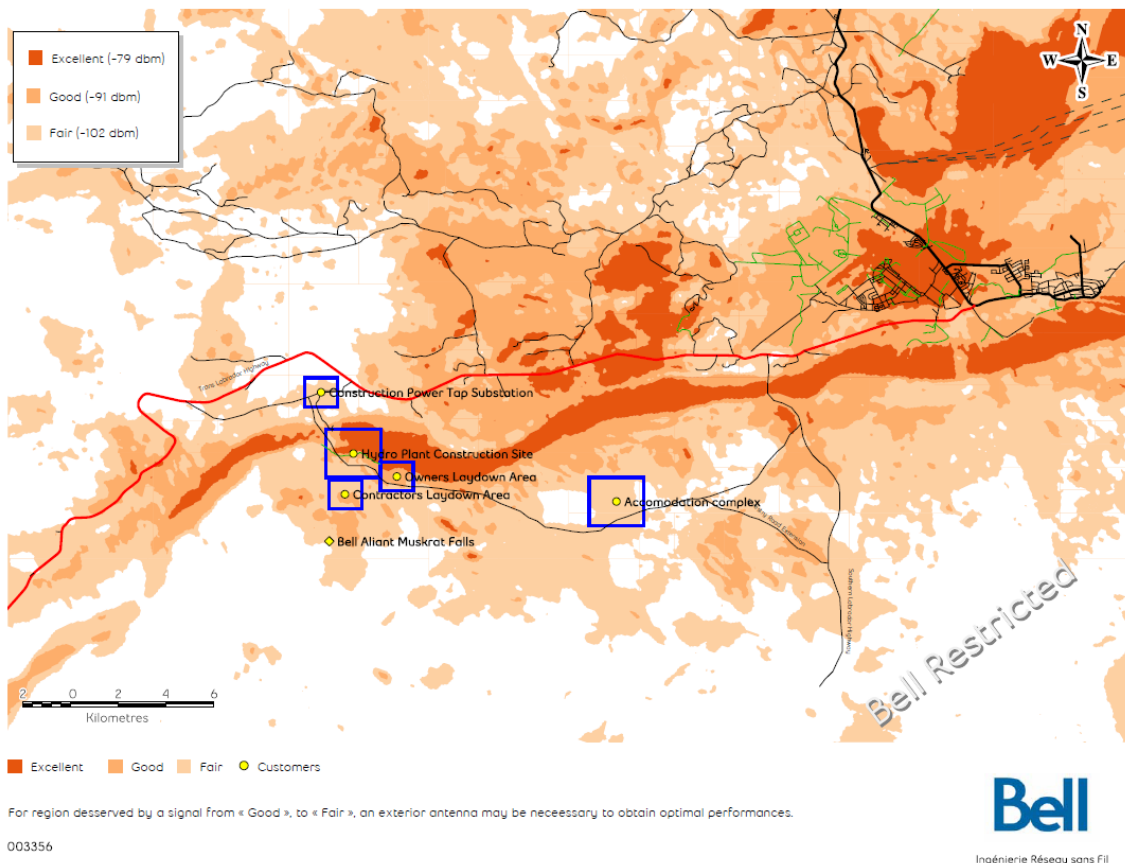
4.2.1 Company will provide Contractor staff with Quality of Life telecommunication systems and services during non-work hours. Recreational systems and services will include, but not limited to, the following:

4.2.1.1 Television Services: A television will be provided in each dormitory room and designated public areas of the Accommodations Complex.

4.2.1.2 Telephone Services: A wired telephone will be provided in each dormitory room and designated public areas of the Accommodations Complex.

4.2.1.3 Internet Services: A physical internet connection will be provided in each dormitory room, and wireless internet will be provided in the dormitory modules and designated public areas of the Accommodations Complex.


HSPA Coverage Map - MF Area




5 ACCOMMODATION COMPLEX


5.1 Accommodations

5.1.1 General


 5.1.1.1 Company will provide a year-long operating Accommodation Complex, located approximately 10 km from the Muskrat Falls Site.

5.1.1.2 At the Accommodation Complex, Company will provide room and board free of charge for the mandatory use by Contractor's staff and its Personnel, as authorized by Engineer.

 5.1.1.3 The number of employees eligible for lodging services is limited to the resources indicated in the Construction Schedule submitted by Contractor in its Proposal.

 5.1.1.4 If Contractor will need more beds, it must provide notice at least six months in advance. If the beds are required, and they are available, Company will accommodate. If the Company is not able to supply the beds, it will compensate the Contractor in accordance with the provisions of the Collective Agreement, provided that the required notice has been given.


5.1.1.5 Contractor's Personnel will be mobilized at the Muskrat Site in compliance with Company Policy.

 5.1.1.6 Employees are to be provided with identification card with photograph issued by Engineer on their first day on site. This will then permit camp registry and room assignment, free access to the camp cafeteria and Trans Labrador Highway Route 150 main gate ingress and egress when required.

5.1.2 Rooms

5.1.2.1 Contractor's Personnel will be housed in dormitories with rooms for single occupancy, including toilet, washbasin and a double occupancy (shared) shower.

5.1.2.2 Each dormitory is supplied with heating and indoor and outdoor lighting and is equipped with washers and dryers placed at the disposal of its occupants. The occupants may, however, not use the washer and dryers for cleaning work clothes.

 5.1.2.3 Contractor is responsible for providing offsite laundry facilities for cleaning the work clothes of its Personnel.

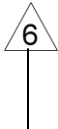
5.1.2.4 Company provides free cable services, local phone services, internet services and a television set for each room.

 5.1.2.5 No private satellite antenna is permitted.

5.1.2.6 The costs of phone calls to cellular and long distance telephone calls shall be the responsibility of each Contractor's Personnel.

5.1.3 Board

5.1.3.1 Two (2) hot meals are served every day in the cafeteria (breakfast and supper). The cold meal for the middle of the work shift is available to Contractor's Personnel during the previous meal at the cafeteria.



5.1.3.2 A snack room will remain open twenty-four (24) hours per day and shall stock coffee, tea, fruit, cookies, food leftover from previous meals and freshly made sandwiches and pastries.

5.2 Emergency Services

5.2.1 Company will provide a third party medical service provider, fully-equipped first aid room and emergency vehicles for Contractor's access, free of charge.

5.2.2 Company will provide an emergency vehicle on the Site. The emergency vehicle will be operated and maintained by Company.

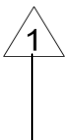
5.3 Security Services

5.3.1 Company will maintain a security service for the protection of all facilities and property. Regular security patrols will take place within the camp boundaries to protect its facilities, equipment and residents.



5.3.2 Company will not provide secured storage lockers in the Accommodations Complex. Contractor will provide the appropriate lock-fast facilities for storage of personal tools.

5.3.3 Company takes no responsibility for any loss or damage of any kind incurred by Contractor's Personnel.



5.4 Fire Protection

5.4.1 Company will provide overall fire-fighting capacity for the Worksite, while Contractor shall be responsible for fire prevention and fire watch activities for the Work.

5.5 Recreation

5.5.1 Recreation facilities will be made available to Contractor's Personnel.

5.6 Banking Services

5.6.1 An ATM banking machine will be made available to Contractor's Personnel.

5.7 Convenience Store

5.7.1 Contractor's Personnel will have access to a small convenience store offering variety items deemed appropriate for Construction Site. Contractor's Personnel are responsible for the cost of all purchases.

5.8 Drugs and Alcohol



5.8.1 The Site shall be drug and alcohol free, in accordance with the requirements of LCP-PT-MD-0000-LR-SD-0001-01, Standard for Drug and Alcohol.

5.8.2 Every employee of Contractor shall be drug and alcohol free while at work.

5.8.3 In addition, employees and Contractor shall not be permitted to possess or sell prohibited drugs or alcohol or, be in possession of any item or piece of equipment for the use of or administration of a prohibited drug at the Site.

5.8.4 The objective of the requirements contained in this Policy is to improve the safety of staff, Contractors and customers through reducing the risk created by the use of drugs and alcohol in the workplace.

6 PROHIBITION OF COMMERCIAL TRADE

6.1.1 Commercial activities are prohibited at the Site.

7 RESPONSIBILITY OF CONTRACTOR

7.1 General

7.1.1 Contractor is responsible for any and all replacement costs of items assigned to Contractor's Personnel during their assignment at the Site.

7.1.2 Contractor is also responsible for repair or replacement resulting from damage caused by Contractor Personnel or its Sub-Contractor's personnel to any property owned by Company or Company's Other Contractors.

8 TRANSPORT

8.1 Private Vehicles

8.1.1 Private vehicles are not allowed at the Site or Accommodation Complex.

8.2 Access to Site

The Site is accessible as follows:

8.2.1 By Road

8.2.1.1 The Site is located approximately thirty-eight (38) km from the town of Happy Valley-Goose Bay (HV-GB). The route follows the Trans Labrador Highway for approximately ten (10) km south of HV-GB and a gravel road of approximately twenty (20) km which leads to the Company's Laydown Area.

8.2.2 Port Facilities

8.2.2.1 The Happy Valley-Goose Bay and Cartwright port facilities are accessible by road to Site. Contractor is responsible for obtaining, from the appropriate Authority, the restrictions and requirements in using those facilities and associated services.

8.2.3 Bridges

8.2.3.1 Contractor is responsible for completing a logistics study to determine any restrictions in shipping material and equipment to and from the Site.

8.2.4 By Air

8.2.4.1 The Site is serviced by the Happy Valley - Goose Bay airport. Air transport of passengers is provided by various commercial airlines such as:

1. Air Canada;
2. Air Labrador;
3. INNU Mikun Airlines;
4. PAL (Provincial Airlines).

8.2.4.2 Contractor shall be responsible for all airline bookings for all travel needs of Contractor's personnel.

8.2.4.3 Contractor shall be responsible for all transportation cost and expenses of Contractor's personnel to and from Goose Bay Airport and other destinations, wherever they may be located.

8.3 Transportation to the Site



- 8.3.1 Company will provide mandatory scheduled bus service between Goose Bay, North West River and Sheshatshiu and between Goose Bay, Goose Bay Airport and the Accommodations Complex to transport all Contractor's Personnel and their personal belongings.
- 8.3.2 Company takes no responsibility for any inconvenience that may be caused due to normal mechanical failure, adverse weather conditions or other causes out of its control.
- 8.3.3 Contractor shall be responsible for transportation between Goose Bay or other place and the Site for any material, equipment, tools, or other requirements associated with the Work.

8.4 Transportation between the Accommodation Complex and Work Locations

- 8.4.1 Contractor is responsible to provide the necessary transportation of Contractor's Personnel between the Accommodations Complex and Work locations on the Site.

EXHIBIT 13

PROVINCIAL BENEFITS

1.0 Scope

For the purposes of this Agreement, wherever the terms “Bidder” and “Successful Bidder” appear in Attachment 1 – Completed Provincial Benefits Questionnaire to this Exhibit 13, each such term shall mean Contractor.

Company has agreed to a Lower Churchill Construction Projects Benefits Strategy (http://www.nr.gov.nl.ca/nr/energy/lcp_benefits_strategy.pdf) with the Province of Newfoundland and Labrador (the “Benefits Strategy”). This Benefits Strategy outlines all contracts, purchasing, and employment benefits objectives for the LCP. As well, Company has signed an Impacts and Benefits Agreement (“IBA”) with Innu Nation. Contractors are required to adhere to applicable obligations contained in this agreement.

Also the Government of Newfoundland and Labrador has entered into a Memorandum of Understanding (“MOU”) with the Government of Nova Scotia regarding industrial and employment benefits with respect to the Maritime Link transmission project. Details of this MOU can be found at: <http://www.releases.gov.nl.ca/releases/2011/nr/1128n06.htm>.

In this MOU the parties agree that the Company will meet the following commitments in regard to the construction of the Muskrat Falls Plant and the Labrador-Island Link:

1. Provide Nova Scotia contractors, service providers, consultants, and suppliers with open, timely and transparent access to procurement opportunities and activities in relation to the projects;
2. Provide reasonable advance notice to the Nova Scotia supply and service community of all procurement opportunities;
3. Conduct a supplier information workshop in Nova Scotia;
4. Communicate with unsuccessful Nova Scotia proponents, when requested, to help the proponents better prepare for future opportunities.

Contractor agrees to all of the following:

- To support, and cause all other members of the Contractor Group to support, the objectives and principles as committed to by Company as per the Benefits Strategy.
- To support, and cause all other members of the Contractor Group to support, the relevant objectives and principles contained in the IBA.
- To support, and cause all other members of the Contractor Group to support, the objectives and principles as committed to by Company as per the MOU.
- To make itself aware, and ensure that all other members of the Contractor Group are aware, of the terms of the Benefits Strategy, the IBA and the MOU that are relevant to the activities of Contractor relating to this Agreement.
- To comply, and cause all other members of the Contractor Group to comply, with the terms of the Benefits Strategy, the IBA and the MOU that are relevant to the activities of Contractor relating to this Agreement.
- To make best efforts to obtain Newfoundland and Labrador Benefits and Innu content as outlined in Attachment 1 – Completed Provincial Benefits Questionnaire as appended to

this Exhibit 13. If this content cannot be met, Contractor must inform Company as early as possible and provide Company with a rationale of why such content cannot be met and a mitigation strategy.

2.0 Contractor's Obligations

Contractor Shall:

- Execute commitments to the Benefits Strategy and IBA as outlined in Attachment 1 – Completed Provincial Benefits Questionnaire.
- Provide, and cause all other members of the Contractor Group to provide, contractors, service providers, consultants and suppliers within the Province of Newfoundland and Labrador (“NL”) with full and fair opportunity to participate on a competitive basis in the supply of goods and services as per Section 3.2 of the Benefits Strategy and Section 2.1 of Attachment 1 – Completed Provincial Benefits Questionnaire.
- Comply with the hiring protocols as outlined in the Benefits Strategy for work performed on the generation and transmission sites.
- Support LCP's gender equity and diversity initiatives and programs.
- Submit data reports on a monthly basis regarding employment and expenditures. Reporting tables to be supplied by Company.
- Make best efforts to fulfill commitments regarding NL bid content as stated in Attachment 1 – Completed Provincial Benefits Questionnaire.

3.0 Company Responsibilities

Company shall:

- Provide Contractor with data collection and system requirements relating to monthly Benefits Reporting.
- Provide website access to www.musktratfallsjobs.com. This system will allow suppliers and contractors to access applicants who have expressed interest in employment associated with the LCP.

ATTACHMENT 1

COMPLETED PROVINCIAL BENEFITS QUESTIONNAIRE



NALCOR ENERGY
LOWER CHURCHILL PROJECT

PACKAGE CH 0007
CORE TECHNICAL PROPOSAL

APPENDIX 11

PROVINCIAL BENEFITS QUESTIONNAIRE

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1 INTRODUCTION

This questionnaire is used to assess the Provincial Benefits content contained in Bidder's Proposal for the Lower Churchill Project (LCP).

Bidder is required to respond to the questions/statements outlined in this questionnaire in the format presented in the various sections herein. Accurate information, consistent with Canadian General Standards Board, is imperative. Failure to provide the information required may result in its Proposal being rejected. Information provided is subject to audit by Company. Extracts from this submission will be included in the final agreement with the Successful Bidder. Company has agreed to a Lower Churchill Construction Project Benefits Strategy (http://www.nr.gov.nl.ca/nr/energy/lcp_benefits_strategy.pdf) with the Province of Newfoundland and Labrador. This Benefits Strategy outlines all contracting, purchasing, and employment benefits objectives for the Lower Churchill Project (LCP). This strategy also outlines Company's commitments to gender equity and diversity. Successful Bidder will be required to undertake a commitment to support gender equity and diversity in the execution of Work on the LCP. All contractors are required to adhere to applicable principles and commitments contained in this strategy.

Company has signed the Lower Churchill Innu Impacts and Benefits Agreement (IBA) with Innu Nation. Bidders are required to respond to questions relating to Innu employment and procurement content. Although not a condition precedent to award, Innu content will be a consideration in the overall evaluation of bids to the degree the opportunity for Innu content exists.

Also the Government of Newfoundland and Labrador has entered into a Memorandum of Understanding (MOU) with the Government of Nova Scotia regarding industrial and employment benefits with respect to the Maritime Link transmission project. Details of this MOU can be found at (<http://www.releases.gov.nl.ca/releases/2011/nr/1128n06.htm>).

In this MOU the parties agree that the Company will meet the following commitments in regard to the construction of the Muskrat Falls Plant and the Labrador-Island Link:

- 1. Provide Nova Scotia contractors, service providers, consultants, and suppliers with open, timely and transparent access to procurement opportunities and activities in relation to the projects;*
- 2. Provide reasonable advance notice to the Nova Scotia supply and service community of all procurement opportunities;*
- 3. Conduct a supplier information workshop in Nova Scotia;*
- 4. Communicate with unsuccessful Nova Scotia proponents, when requested, to help the proponents better prepare for future opportunities.*

2 BIDDER'S UNDERSTANDING AND COMMITMENT TO NEWFOUNDLAND AND LABRADOR BENEFITS AND IBA COMMITMENTS

2.1 Contracting and Procurement

The LCP is committed to supporting the accrual of benefits for the people of Newfoundland and Labrador, while executing the LCP on an economic basis adhering to competitive business practices. In support of this commitment, Bidder shall work to promote opportunities in Newfoundland and Labrador while maintaining the economic viability of the LCP through application of best value in the acquisition of goods and services. For purposes of this Appendix, best value is defined as a blend of total cost, quality, commitment to safety, technical suitability, credit worthiness, delivery and continuity of supply and services, where total cost is comprised of initial purchase price plus operation

and maintenance costs. Within this framework, if successful, Bidder shall with respect to services and Work being performed for the LCP:

- a) provide suppliers and contractors in Newfoundland and Labrador with full and fair opportunity to participate on a competitive basis in the supply of goods and services;
- b) become familiar with Newfoundland and Labrador contractor/supplier capabilities, and size and design packages in a manner that recognizes these capabilities;
- c) make the request for proposal processes, names and locations of key procurement personnel available to potential Newfoundland and Labrador suppliers and contractors where appropriate; and
- d) require benefits information as part of the request for proposal processes in sufficient detail to assess the benefits to be derived from a proposal, including requiring bidders to complete a Provincial Benefits questionnaire as part of that process.

Bidders are asked to respond to the following:

2.1 a) Describe Bidder's experience with implementing local benefits strategies and agreements

Astaldi regularly executes projects with similar small, women and minority owned business enterprise (SWMBE) participation regulations around the world. We allocate a percentage of professional services to minorities on our day-to-day projects based on contract requirements and local regulations. We have a supplier diversity program and staff who assist in establishment and engagement of SWMBEs in a sound mentor-protégé relationship. Our goal has been always to help the SWMBE firms to grow their businesses with an award-winning track-record in terms of economic opportunities and advantages provided to local contingents.

It is Astaldi intention to hire as part of our team an independent consultant with experience in management of provincial benefits in Newfoundland and Labrador to ensure that establishment, management, monitoring and reporting on those benefits is recorded and improved where possible.

Furthermore, as part of our Execution Plan development, we propose to designate an Industrial Benefits Manager who will be exclusively assigned to develop, track, and report benefits that are part of the labor agreement. The Industrial Benefits Manager will be reporting directly to Astaldi Project Manager and we will have a close communication with Nalcor and our independent Industrial Benefit consultant for any issue regarding Industrial Benefits.

2.1 b) Describe Bidder's procurement policies and procedures that will ensure reasonable advance notice to Newfoundland and Labrador (NL) supply community of all procurement opportunities.

Given the contract requirement, as set out in the Lower Churchill Construction Project Benefits Strategy agreed to between Nalcor and the Province of Newfoundland and Labrador, Astaldi's procurement policies and procedures for this project will include the following:

1. Breakdown of the scope of work to be procured from third party vendors and subcontractors into contract packages that are appropriate given the size and capacity of the qualified vendors, consultants and subcontractors in Labrador and in Newfoundland.
2. Establishment of a project procurement website. Astaldi will post on this website all requests for proposals and requests for prices for products and services to be procured by Astaldi for this project.
3. Use of Facebook, Twitter and LinkedIn to communicate procurement (and employment) opportunities to interested parties.
4. Use of standard Canadian documents (CCDC) for the procurement of products and services for this project.
5. Presentations to organizations in Labrador and Newfoundland that represent the potential vendors, consultants and subcontractors, including:

Chambers of Commerce

- <http://www.argentiachamber.org/> - Argentia Chamber
- <http://www.bvachamber.com/> - Baie Verte Area Chamber
- <http://www.bsgcc.org/> - Bay St. George
- <http://www.bacc.ca/> - Bonavista Area
- <http://www.clarenvilleareachamber.net/> - Clarenville
- <http://www.cbachamber.com/> - Conception Bay
- <http://www.deerlakechamber.com/> - Deer Lake
- <http://www.exploitschamber.com/> - Exploits
- <http://www.ganderchamber.nf.ca/> - Gander
- <http://www.gcbbt.com/> - Corner Brook
- <http://www.chamberlabrador.com/> - Lab North
- <http://www.ourlabrador.ca/member.php?id=49> – Lab. Straits
- <http://www.labradorwestchamber.ca/> - Lab West
- <http://www.lewisporteachamberofcommerce.ca/> - Lewisporte
- <http://www.marystownburinchamber.com/> - Marystown
- <http://www.mtpearlchamber.com/> - Mt. Pearl
- <http://www.pabchamber.com/> - Port aux Basques

- <http://www.town.stanthony.nf.ca/chamber.php> - St. Anthony
- <http://www.bot.nf.ca/> - St. John's
- Arnold's Cove Area Chamber of Commerce
- Irish Loop Chamber of Commerce
- Labrador South East Chamber of Commerce
- Springdale & Area Chamber of Commerce

Construction Associations

- <http://www.nlca.ca/> - NL Construction Association
- <http://www.nlcsa.com/> - NL Construction Safety Association
- <http://www.clranl.com/> - Construction Labour Relations Association of NL
- <http://www.merit-nl.ca/> - Merit Contractors Association of NL
- <http://www.nfld.net/roadbuilders/> - Heavy Civil Association NL
- <http://chbanl.ca/> - Canadian Home Builders Association NL

Engineering Associations

- <http://www.consultingengineersofnl.ca/> - Consulting Engineers of NL
- <http://www.aettnl.com/> - Association of Engineering Technicians and Technologists of NL
- <http://www.pegnl.ca/> - Professional Engineers & Geoscientists NL

We anticipate a presentation to each of the above organizations immediately following an award of contract and additional follow-up communications and presentations as the project advances.

6. Notices in newspapers and trade journals that are read in Labrador and Newfoundland that Astaldi has entered into a contract with Nalcor and advising of Astaldi's requirements for goods and services. The notices will refer readers to Astaldi's project website for further details and will appear in the following publications:

Newspapers

- [Advertiser](#) (Grand Falls)
- [Aurora](#) (Labrador City)
- [Beacon](#) (Gander)
- [Charter](#) (Placentia)
- [Coaster](#) (Harbour Breton)
- [Compass](#) (Carbonear)
- [Current](#) (St. John's)
- [Gazette](#) (official newspaper of Memorial University)
- [Georgian](#) (Stephenville)

- [Gulf News](#) (Port Aux Basques)
- [Independent](#) (St. John's)
- [Labradorian](#) (Happy Valley / Goose Bay)
- [Muse](#) (newspaper of Memorial University)
- [Newfoundland Herald](#) (St. John's)
- [Northern Peninsula News](#)
- [Nor'Wester](#) (Springdale)
- [Packet](#) (Clarenville)
- [Pilot](#) (Lewisporte)
- [Scope](#) (St. John's)
- [SNAP](#) (St. John's)
- [Southern Gazette](#) (Marystown)
- [Telegram](#) (St. John's)
- [Western Star](#) (Corner Brook)

Business Magazines

- <http://www.atlanticbusinessmagazine.ca/tag/newfoundland-and-labrador/> - Atlantic Business
- <http://www.thebusinesspost.ca/> - The Business Post

7. Organization and hosting of "Open House / Information" sessions at appropriate venues in a number of communities in Labrador and Newfoundland including:

- Goose Bay
- Mount Pearl
- Corner Brook
- St. John's
- Labrador City
- Grand Falls
- Gander

Astaldi will invite all interested members of the engineering and construction community by newspaper advertisement and by direct invitation to all members of trade and professional associations. At this session, Astaldi will introduce its key project personnel, make technical presentations of its planned strategy for the execution of the work, provide detailed information on its procurement requirements and procedures, and invite input from the attendees regarding products and services available in Labrador and/or Newfoundland that may be beneficial to the project.

2.1 c) *Describe Bidder's familiarity with NL contractor/supply capabilities. If Bidder is not currently familiar with these capabilities, describe proposed steps to ensure familiarity*

Astaldi has developed relationships with individuals and organizations in Labrador and Newfoundland during the preparation of its Proposal both through its requests for expressions of interest and price quotations for services and products as well as through direct consultation with individuals with strong business relationships in the Province.

Astaldi has a comprehensive plan to fully penetrate the provincial market and both draw upon existing resources and develop these resources so that the contractors, vendors and professional service providers in the Province will enhance their offerings as the project develops. See detailed answers to questions 2.1 b) and 2.2 b) below.

2.2 Employment

A hiring protocol, consistent with the Canadian Charter of Human Rights and Freedoms, has been established for the LCP as outlined below.

For work at the Generation Site (Muskrat Falls hydroelectric generating facility, HVAC transmission line to Churchill Falls) the protocol is as follows:

- *Qualified and Experienced Members of Innu Nation*
- *Qualified and Experienced Residents of Labrador*
- *Qualified and Experienced Residents of Newfoundland*
- *Qualified and Experienced Canadians*
- *Qualified and Experienced Non-Canadians*

For work on the HVDC Transmission system the protocol is as follows:

- *Qualified and Experienced Residents of Newfoundland and Labrador*
- *Qualified and Experienced Canadians*
- *Qualified and Experienced Non-Canadians*

Bidders are asked to respond to the following:

2.2 a) *Describe Bidder's familiarity with the Newfoundland and Labrador workforce*

Astaldi does not at this time have direct experience working with the Newfoundland and Labrador workforce in the execution of construction projects. The contractors, consultants, vendors and other service providers that Astaldi has worked with in the preparation of its Proposal do have familiarity with the Newfoundland and Labrador workforce.

2.2 b) Describe Bidder's human resource policies that will optimize NL employment benefits

Astaldi's human resource policies for this project are driven in large part by the risk associated with the availability of qualified trade labour and technical, administrative, supervisory and managerial personnel combined with the work conditions associated with a remote site. Astaldi strongly believes that the best way to manage this risk is to focus on continuous project specific training of project personnel. Given the nature and extent of Astaldi's training objectives, this will be of benefit to the project but will be of even more significant benefit to Labrador and to the Province.

Astaldi's training objectives include:

1. The development of two or more training facilities including one in Goose Bay and one in St. John's, in partnership with local educational institutions including:
 - Trade Schools and Universities
 - www.mun.ca – Memorial University
 - www.cna.nl.ca/ - College of the North Atlantic
 - <http://www.ualocal740.ca/> - Pipefitters and Plumbers
 - <http://www.oecollege.ca/> - Operating Engineers College
 - <http://www.woodfordtraining.com/> - Woodford Hairstyling Training Centre
 - <http://www.latp.ca/home/> - Labrador Aboriginal Training Partnership
 - <http://www.cmcnl.ca/> - Carpenter's Millwright College
 - <http://www.lemoines.com/> - Lemoines School of Hair Design
 - <http://www.keyin.ca/> - Keyin College
 - <http://www.academycanada.com/> - Academy Canada
 - <http://www.centraltraining.ca/> - Central Training Academy
 - <http://www.discoverycentre.nf.ca/> - Discovery Centre
 - <http://www.westerncollege.net/> - Western College
 - <http://www.murphycentre.ca/> - Brother T.I. Murphy Centre
 - <http://www.coronacollege.com/> - Corona College
 - <http://www.dietrac.com/> - Dietrac Technical Institute
 - <https://www.mi.mun.ca/> - Marine Institute
2. The development of training programs on a modular basis in specialized areas including:
 - a. Quality control
 - b. Cost control
 - c. Scheduling
 - d. Project document control
 - e. Change management
 - f. Cold weather concreting techniques

g. Formwork design

3. The use of highly qualified trainers and guest lecturers from across Canada.
4. The development of interactive computer based learning tools.
5. Collaboration with Memorial University Engineering School. In particular, Astaldi will seek out areas of research relating to construction management where doctoral students may wish to draw upon information available from the Muskrat Falls project.
6. The requirement that all major subcontractors and equipment vendors design and implement specialty training sessions specific to the product or service that they are providing.

2.3 Gender Equity and Diversity

Gender Equity and Diversity plans are being developed. These plans will address employment equity, including access to employment opportunities for qualified members of under-represented groups. For the purpose of this bid, underrepresented groups are defined as women, aboriginal people, persons with disabilities and visible minorities. Bidders are asked to respond to the following:

- 2.3 a) *Does Bidder have gender equity and diversity plans? If so, describe Bidder's policies, including harassment and discrimination policies that support gender equity and diversity.*

Yes – Astaldi has a Harassment policy. Harassment based on race, ethnicity, religion, creed, color, sex, gender, gender identity or expression, national origin, age, disability, veteran status, medical condition, marital status, sexual orientation, citizenship, or other basis prohibited by Federal, Provincial or local laws or regulations is not tolerated at Astaldi as it undermines Astaldi's workplace morale and our commitment to treat employees with dignity and respect.

- 2.3 b) *Does Bidder's human resource policies enable the voluntary identification of members of underrepresented groups.*

Yes, it is common practice in Astaldi projects. However, in Canada as in the USA, we understand that candidates for employment will have the right to identify voluntarily their membership or alignment with underrepresented groups.

2.4 Benefits Reporting

Company will be required to monitor and report on certain LCP activities relating to employment and procurement. To assist in this effort, Successful Bidder will be required to submit data reports on a monthly basis regarding employment and expenditures. Company will provide a mechanism for submitting this information.

Employment data reporting is required for direct labour associated with the Work. Work is defined as the following:

1. *Labour performed at the hydro-electric generating station located at Muskrat Falls plus HVAC transmission.*
2. *Direct labour associated with the construction of a HVDC system comprised of high voltage overhead lines from central Labrador to Soldiers Pond or vicinity on the Island of Newfoundland.*

It does not include labour associated with procured or manufactured items. Information collected will include the workforce to be broken out by occupation, work location, residency of worker, aboriginal affiliation and gender. Category classifications to be provided by Company.

Expenditure data will also be collected. This will include total value of goods and services purchased from business within the province as well as value of goods and services purchased from Innu businesses.

Bidder is asked to respond to the following:

- 2.4 a) *Indicate Bidder's previous experience at capturing employment and expenditure data as they relate to local benefits monitoring.*

Astaldi is accustomed to providing employment and expenditure data to its clients in the format and at the frequency requested by the client. Astaldi's project control systems, including its labour management systems, allow for the extraction of data and the preparation of custom reports.

- 2.4 b) *Identify who, within Bidders organization, will be responsible for benefits monitoring and reporting.*

Astaldi organization will have during project execution an Industrial Benefit Manager (IBM) who will be responsible for tracking benefits against contract requirements and Benefits Agreements. His staff will support him to ensure that factual data from site and office are collected efficiently and in a timely manner. The IBM will report to the Project Manager.

3 Impacts and Benefit Agreement with Innu Nation

Company has signed an Impact and Benefits Agreement with Innu Nation. This agreement includes obligations relating to employment, training, procurement and workplace polices. Although not a condition precedent to award, Innu content will be a consideration in the overall evaluation of bids to the degree the opportunity for Innu content exists. It is on this basis that Bidders are to respond to the following:

3.0 a) *Is the bidder registered as an Innu Company with the Innu Business Development Corporation (IBDC)?*

No

3.0 b) *List any intended subcontractors/suppliers that are currently IBDC registered Innu companies.*

Astaldi has worked with the following organizations during the preparation of the Proposal and intends to enter into agreements with some or all of these firms, should Astaldi be the successful Bidder:

- Olympic Metal in joint venture with Pishumuss Group of Companies
- G.J. Cahill in joint venture with Iskueteu
- Big Land Construction Ltd. in joint venture with Laval Fortin Adams

We enclose at the end of this document for your information a letter of endorsement that Astaldi has received from Big Land Construction Ltd.

3.0 c) *Identify who, within Bidders organization, will be responsible for benefits monitoring and reporting and communication of procurement opportunities to the IBDC.*

Our Industrial Benefits Manager will be responsible for tracking benefits in compliance with contract requirements, applicable laws and Nalcor expectations. See Section 2.4 b) above for further details. Regarding procurement works, our Service Manager and Industrial Benefits Manager will be working together to ensure that required communication of procurement opportunities are provided to local suppliers and subcontractors in a timely manner.

3.0 d) *Identify the number, if any, of personnel submitted with this bid who are members of Innu Nation.*

Astaldi has not as yet identified or retained key personnel who were members of the Innu Nation. This is part of the mandate of Astaldi's Project Start-Up Task Force.

3.0 e) *Provide any other relevant information relating to Innu content and this RFP, including Bidder's experience with Aboriginal IBAs.*

Astaldi has an excellent track record in providing similar training and development programs in the U.S.A. and around the world training indigenous people to operate, maintain and sustain infrastructure projects. This also includes underrepresented individuals and businesses, women, small, and minority groups. More specifically, the Team has very relevant experience in training indigenous peoples in Bolivia, Chile and Peru.

Astaldi through our supplier diversity programs, provides opportunities to those individuals and groups as follows:

- Training through direct employment (both permanent and temporary positions);
- Internship programs;
- Attendance in specialized courses offered by Astaldi.

For execution of Muskrat Project, it is Astaldi's intention to hire and retain a local consulting firm to specifically address and support the Team's training programs for the Innu Nation.

Astaldi is committed to the recruitment of local Inuit people for its labour force for this project. We would seek to work closely with the Nunatsiavut Department of Education and Economic Development to provide job opportunities in the trades and construction sector. The Department's Inuit Pathways Program is designed to support labour market training and business development for Labrador Inuit. At Astaldi, we would seek to recruit the skilled labour from the region,. Our management staff will be trained in Aboriginal cultural awareness, local Inuit history, and best practices for working with Inuit communities.

Astaldi will work with Actua, a registered charity with a twenty-year track record of success in providing hands-on, interactive education enrichment experiences in science, engineering, technology, and mathematics (STEM) to Canadian youth aged 6 to 16 years and that has a strong positive relationship with the Nunatsiavut Government. Astaldi's objective is to ensure that the rich technical expertise that will be drawn to this project is used to reach out to the youth of Labrador and Newfoundland, and, in particular, to the youth of the Inuit community, in order to stimulate an interest in pursuing careers in technical fields relating to construction.

4 NEWFOUNDLAND AND LABRADOR BENEFITS CONTENT - PERSON HOUR ESTIMATE

Bidder is required to provide, where applicable, an estimate of the direct labour (in person hours) used to complete the Work. Information should be categorized in terms of work location and residency of the workers, as outlined in the tables below.

Bidder is asked to complete the following:

4.0 a) *Employment Estimate by Residency*

The numbers below reflect the peak manpower requirements for the project

| <i>Employment Category</i> | <i>NL</i> | <i>Other Canada</i> | <i>Foreign</i> | <i>Total</i> |
|------------------------------------|-----------|---------------------|----------------|--------------|
| <i>Management</i> | 18 | 18 | 3 | 39 |
| <i>Engineering</i> | 15 | 15 | 2 | 32 |
| <i>Procurement and Contracting</i> | 49 | 26 | 1 | 76 |
| <i>Construction and Assembly</i> | 760 | 490 | 3 | 1,253 |
| <i>Other</i> | | | | |
| <i>Total</i> | 842 | 549 | 9 | 1,400 |

4.0 b) *Employment Estimate by Location of Work*

The numbers below reflect the peak manpower requirements for the project

| <i>Employment Category</i> | <i>Labrador</i> | <i>Island of Newfoundland</i> | <i>Other Canada</i> | <i>Foreign</i> | <i>Total</i> |
|------------------------------------|-----------------|-------------------------------|---------------------|----------------|--------------|
| <i>Management</i> | 33 | 2 | 2 | 2 | 39 |
| <i>Engineering</i> | 25 | 2 | 3 | 2 | 32 |
| <i>Procurement and Contracting</i> | 66 | 5 | 3 | 2 | 76 |
| <i>Construction and Assembly</i> | 1,253 | | | | 1,253 |
| <i>Other</i> | | | | | |
| <i>Total</i> | 1,377 | 9 | 8 | 6 | 1,400 |

5 NEWFOUNDLAND AND LABRADOR BENEFITS CONTENT - EXPENDITURE ESTIMATE

Bidder is required to provide an estimate of the expenditure percentages associated with the Work. Information should be categorized as Newfoundland and Labrador, Other Canadian and Foreign Content using the Expenditure Table below.

Bidder is asked to complete the following:

5.0 a) *Expenditure Estimate Table*

| | <i>NL</i> | <i>Other Canadian</i> | <i>Foreign</i> | <i>Total</i> |
|--|-----------|-----------------------|----------------|--------------|
| <i>Materials and Equipment</i> | 30% | 60% | 10% | 25% |
| <i>Direct Labour</i> | 96% | 2% | 2% | 47% |
| <i>Services</i> | 55% | 35% | 10% | 11% |
| <i>Overhead and Profit (incl. contingency)</i> | 30% | 40% | 30% | 17% |
| <i>Other</i> | | | | |
| <i>Total</i> | | | | 100% |

The percentage for overhead and profit shown in the table above includes contingency.

Exhibit 15

Not Used

Agreement No.: CH0007-001

EXHIBIT 15

NOT USED

EXHIBIT 17

MUTUAL RELEASE

Exhibit 17**MUTUAL RELEASE**

Whereas Nalcor Energy and Astaldi Canada Inc. ("Contractor") signed a limited notice to proceed agreement dated of September 24th ("LNTP") for the construction of the intake and powerhouse, spillway and transition dams for the Muskrat Falls Generating Station as more fully described in the contract package CH0007 attached thereto (the "Agreement")

And Whereas Nalcor Energy and the Contractor agreed to extend the term of the LNTP from October 31, 2013 to November 30, 2013 under Amendment No. 1.

And Whereas Muskrat Falls Corporation ("Company") and Contractor have agreed to execute the Agreement conditional on signing this Release.

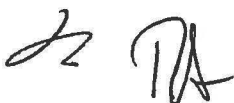
For good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows.

1. **Release.** Each undersigned Party to this Mutual Release irrevocably releases and forever discharges each of the other Parties and each of such other Parties' Affiliates (as defined in the Agreement) and such other Parties' and Affiliates' directors, officers, employees, agents, representatives and contractors (collectively, the "Releasees") from any and all manner of actions, causes of action, claims, demands, costs, damages, expenses, losses, liabilities and obligations, whether express, implied or otherwise, known or unknown, (collectively, a "Claim") which a Party has or may hereafter have against a Releasee respecting:

- (a) any act, failure to act, omission, cause, matter or thing whatsoever respecting any cost or schedule impact as a result of the Agreement not being executed prior to the date of this Release;
- (b) and, for greater certainty, any Claim for delay or acceleration as a result of the Agreement not being executed prior to the date of this Release.

2. **Waiver of Claims.** Each Party irrevocably waives any right of Claim it may have in the future against each and every Releasee for any alleged cost and/or schedule impact as a result of the Agreement not being executed prior to the date of this Release.

3. **No Claims Against Third Parties.** A Party will not make any Claim or take any proceedings against any individual, partnership, corporation, insurer, financing entity or any other incorporated or unincorporated entity or association of any nature who might claim contribution, indemnity or other relief from or against a Releasee under any



- 2 -

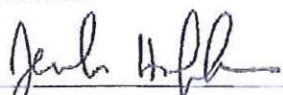
provisions of any statute, at law or otherwise regarding the subject matter of this Mutual Release.

4. Legal Advice. Each undersigned Party declares that the undersigned has had the opportunity to obtain legal advice and the terms of this Mutual Release are fully understood by the undersigned Party after consultation with the undersigned's solicitor.


5. Counterparts. This Mutual Release may be signed and delivered in any number of counterparts, each of which when signed and delivered is an original but all of which taken together constitute one and the same instrument. This Mutual Release may be delivered by fax.

The Parties have duly executed this Release as of the 29 day of November, 2013.

WITNESS


Name: JENNIFER HOFFMAN


ASTALDI CANADA INC.


Name: MARIO LANGIANI
Title: PRESIDENT

WITNESS

Name:


MUSKRAT FALLS CORPORATION


Name: Gilbert Bennett
Title: Vice President

WITNESS

Name:

NALCOR ENERGY


Name: Ed Martin
Title: CEO



Document Front Sheet



NE-LCP Contractor/Supplier

| | | | |
|--|--|--|---------------|
| Contract or Purchase Number and Description: LC-G-0002 (Project 505573) | | Contractor/Supplier Name: SNC-Lavalin Inc. | |
| Document Title: CH0007 - Construction Of Intake And Powerhouse, Spillway And Transition Dams Technical Document List | | Total Number of Pages Incl. Front Sheet 47 | |
| Contractor/ Supplier Document Number: | | Revision Number: | |
| EPC(M) Document Number: 505573-CH0007-40AL-I-0001 | | Issue Number: 10 | |
| NE-LCP Document Number: MFA-SN-CD-2000-EN-LS-0001-01 | | NE-LCP Issue Number: C2 | |
| Approver's Signature: | | Date (dd-mmm-yyyy): 25-Oct-2013 | Review Class: |
| Comments: | | Equipment Tag or Model Number: | |


NE-LCP or EPC(M)

REVIEW DOES NOT CONSTITUTE APPROVAL OF DESIGN DETAILS, CALCULATIONS, TEST METHODS OR MATERIAL DEVELOPED AND/OR SELECTED BY THE CONTRACTOR, NOR DOES IT RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OR OTHER OBLIGATIONS.

01 – REVIEWED AND ACCEPTED – NO COMMENTS
 02 – REVIEWED – INCORPORATE COMMENTS, REVISE AND RESUBMIT
 03 – REVIEWED - NOT ACCEPTED
 04 – INFORMATION ONLY
 05 – NOT REVIEWED

| | | | |
|------------------------------|---------------------|------------------|---------------------|
| Lead Reviewer: | Date (dd-mmm-yyyy): | Project Manager: | Date (dd-mmm-yyyy): |
| NE-LCP or EPC(M) Management: | Date (dd-mmm-yyyy): | | |


General Comments:

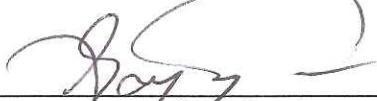
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|---|---|----|-----------------|--|-----------------------------|
|  SNC • LAVALIN | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | Page 1 |
| | Nalcor Doc. No. MFA-SN-CD-2000-EN-LS-0001-01 | C2 | Date | | |
| | SLI Doc. No. 505573-CH0007-40AL-I-0001 | 10 | 28-Oct-2013 | | |


LOWER CHURCHILL PROJECT


CH0007

**CONSTRUCTION OF INTAKE AND POWERHOUSE,
 SPILLWAY AND TRANSITION DAMS
 TECHNICAL DOCUMENT LIST**

Prepared by: 
 Andre Mosser
 (Package Engineer)


Verified by: 
 Greg Snyder
 (Engineering Manager)

Approved by: 
 (Area Manager)

| | | | | | | |
|---|---|--|--|-----------------|--------------------|-------------|
|  SNC • LAVALIN | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | | Revision | | |
| | Nalcor Doc. No. MFA-SN-CD-2000-EN-LS-0001-01 | | | C2 | Date | Page |
| | SLI Doc. No. 505573-CH0007-40AL-I-0001 | | | 10 | 28-Oct-2013 | 2 |

REVISION LIST


| Revision | | | | | Remarks |
|----------|----|--------|-------|-------------|-------------------------|
| N° | By | Verif. | Appr. | Date | |
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| C2 | AM | GS | LT | 28-Oct-2013 | Issued for Construction |
| C1 | AM | GS | LT | 18-Oct-2013 | Issued for Construction |

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TECHNICAL SPECIFICATION

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| MFA-SN-CD-3300-CV-TS-0001-01 | C1 | 505573-3331-41EF-0001 | 02 | Technical Specification - Index |
| MFA-SN-CD-3300-CV-TS-0001-02 | C1 | 505573-3331-4EEF-0001 | 00 | Technical Specification Section 01 35 43 – General Environmental Requirements |
| MFA-SN-CD-3300-CV-TS-0001-03 | C1 | 505573-3331-40EF-0001 | 00 | Technical Specification Section 01 53 13 – Modular Bridges |
| MFA-SN-CD-3300-CV-TS-0001-04 | C1 | 505573-3331-41EF-0002 | 00 | Technical Specification Section 01 55 00 – Construction of Roads and Maintenance of Roads and Other Areas |
| MFA-SN-CD-3300-CV-TS-0001-05 | C1 | 505573-3331-42EF-0001 | 00 | Technical Specification Section 03 11 00 – Concrete Formwork |
| MFA-SN-CD-3300-CV-TS-0001-06 | C1 | 505573-3331-42EF-0002 | 00 | Technical Specification Section 03 15 13 – Waterstops |
| MFA-SN-CD-3300-CV-TS-0001-07 | C1 | 505573-3331-42EF-0003 | 00 | Technical Specification Section 03 20 00 – Concrete Reinforcement |
| MFA-SN-CD-3300-CV-TS-0001-08 | C1 | 505573-3331-42EF-0004 | 00 | Technical Specification Section 03 30 00 – Cast-in-Place Concrete |
| MFA-SN-CD-3300-CV-TS-0001-09 | C1 | 505573-3331-42EF-0005 | 00 | Technical Specification Section 03 30 50 – Concrete Batch Plant |
| MFA-SN-CD-3300-CV-TS-0001-10 | C1 | 505573-3331-42EF-0006 | 00 | Technical Specification Section 03 45 00 – Architectural Precast Concrete Panels |
| MFA-SN-CD-3300-CV-TS-0001-11 | C1 | 505573-3331-41EF-0003 | 00 | Technical Specification Section 03 60 00 – Drilling, Grouting, Rock Dowels and Drainage |
| MFA-SN-CD-3300-CV-TS-0001-12 | C1 | 505573-3331-42EF-0007 | 00 | Technical Specification Section 03 60 40 – Grout |
| MFA-SN-CD-3300-CV-TS-0001-13 | C1 | 505573-3331-42EF-0008 | 00 | Technical Specification Section 03 70 00 – Low Heat Cement for Mass Concrete |
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| MFA-SN-CD-3300-CV-TS-0001-15 | C1 | 505573-3331-43EF-0002 | 00 | Technical Specification Section 05 50 10 – Miscellaneous Metals & Embedded Parts |
| MFA-SN-CD-3300-CV-TS-0001-16 | B3 | 505573-3331-44EF-0001 | 00 | Technical Specification Section 06 10 00 – Rough Carpentry |
| MFA-SN-CD-3300-CV-TS-0001-17 | B3 | 505573-3331-44EF-0002 | 00 | Technical Specification Section 07 13 26 – Self Adhered Sheet Waterproofing |
| MFA-SN-CD-3300-CV-TS-0001-18 | B3 | 505573-3331-44EF-0003 | 00 | Technical Specification Section 07 21 13 – Board Insulation |
| MFA-SN-CD-3300-CV-TS-0001-19 | B3 | 505573-3331-44EF-0004 | 00 | Technical Specification Section 07 21 16 – Blanket Insulation |
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| MFA-SN-CD-3300-CV-TS-0001-22 | B3 | 505573-3331-44EF-0007 | 00 | Technical Specification Section 07 26 00 – Vapour Retarders |
| MFA-SN-CD-3300-CV-TS-0001-23 | B3 | 505573-3331-44EF-0008 | 00 | Technical Specification Section 07 27 00 – Air Barriers – Descriptive or Proprietary |
| MFA-SN-CD-3300-CV-TS-0001-24 | B3 | 505573-3331-44EF-0009 | 00 | Technical Specification Section 07 42 43 – Composite Metal Building Panels |
| MFA-SN-CD-3300-CV-TS-0001-25 | B3 | 505573-3331-44EF-0010 | 00 | Technical Specification Section 07 46 13 – Preformed Metal Siding |
| MFA-SN-CD-3300-CV-TS-0001-26 | B3 | 505573-3331-44EF-0011 | 00 | Technical Specification Section 07 52 00 – Modified Bituminous Membrane Roofing |


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| MFA-SN-CD-3300-CV-TS-0001-27 | B3 | 505573-3331-44EF-0012 | 00 | Technical Specification Section 07 62 00 – Sheet Metal Flashing and Trim |
| MFA-SN-CD-3300-CV-TS-0001-28 | B3 | 505573-3331-44EF-0013 | 00 | Technical Specification Section 07 72 69 – Roof Anchors and Safety Restraints |
| MFA-SN-CD-3300-CV-TS-0001-29 | B3 | 505573-3331-44EF-0014 | 00 | Technical Specification Section 07 84 00 – Fire Stopping |
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| MFA-SN-CD-3300-CV-TS-0001-31 | B3 | 505573-3331-44EF-0016 | 00 | Technical Specification Section 07 95 13 – Expansion Joint Cover Assemblies |
| MFA-SN-CD-3300-CV-TS-0001-32 | B3 | 505573-3331-44EF-0017 | 00 | Technical Specification Section 08 11 00 – Metal Doors and Frames |
| MFA-SN-CD-3300-CV-TS-0001-33 | B3 | 505573-3331-44EF-0018 | 00 | Technical Specification Section 08 36 13 – Sectional Metal Doors |
| MFA-SN-CD-3300-CV-TS-0001-34 | B3 | 505573-3331-44EF-0019 | 00 | Technical Specification Section 08 36 19 – Multi-Leaf Vertical Lift Metal Doors |
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| MFA-SN-CD-3300-CV-TS-0001-53 | C1 | 505573-3331-47EF-0005 | 00 | Technical Specification Section 26 05 27 – Primary Grounding |
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| MFA-SN-CD-3300-CV-TS-0001-55 | C1 | 505573-3331-47EF-0007 | 00 | Technical Specification Section 26 05 29 – Hangers and Supports for Electrical Systems |
| MFA-SN-CD-3300-CV-TS-0001-56 | C1 | 505573-3331-47EF-0008 | 00 | Technical Specification Section 26 05 31 – Splitters, Junction, Pull Boxes and Cabinets |
| MFA-SN-CD-3300-CV-TS-0001-57 | C1 | 505573-3331-47EF-0009 | 00 | Technical Specification Section 26 05 32 – Outlet Boxes, Conduit Boxes and Fittings |
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| MFA-SN-CD-3300-CV-TS-0001-69 | C1 | 505573-3331-41EF-0005 | 00 | Technical Specification Section 31 15 00 – Sources of Materials |
| MFA-SN-CD-3300-CV-TS-0001-70 | C1 | 505573-3331-41EF-0006 | 00 | Technical Specification Section 31 16 00 – Foundation Preparation |
| MFA-SN-CD-3300-CV-TS-0001-71 | C1 | 505573-3331-41EF-0007 | 00 | Technical Specification Section 31 23 00 – Excavation |
| MFA-SN-CD-3300-CV-TS-0001-72 | C1 | 505573-3331-41EF-0008 | 00 | Technical Specification Section 31 23 19 – Dewatering |
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| MFA-SN-CD-3300-CV-TS-0001-74 | C1 | 505573-3331-41EF-0010 | 00 | Technical Specification Section 32 31 00 – Chain Link Fence and Gates |

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| 0007-4G01 | 01 | MFA-SN-CD-3000-GT-GA-0001-01 | C1 | 505573-3331-41DD-0100 | 02 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - General Layout - Plan |
| 0007-4G01 | 02 | MFA-SN-CD-3000-GT-PL-0001-01 | C1 | 505573-3331-4JDD-0001 | 03 | Muskrat Falls - Intake and Powerhouse - Spillway and Transition Dams - Location of Structures - Plan |
| 0007-4G01 | 03 | MFA-SN-CD-3000-CV-DT-0001-01 | C1 | 505573-3331-4HDD-0001 | 01 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - Hydrometeorological Data |
| 0007-4G01 | 04 | MFA-SN-CD-3000-GT-PL-0002-01 | C1 | 505573-3331-41DD-0107 | 02 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - Borrow Areas and Quarry - Plan |
| 0007-4G01 | 05 | MFA-SN-CD-3000-GT-DD-0001-01 | C1 | 505573-3331-41DD-0110 | 02 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - Embankment Materials - Grain Size Distribution |
| 0007-4G01 | 06 | MFA-SN-CD-3000-GT-PL-0003-01 | C1 | 505573-3331-41DD-0108 | 03 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - Existing Conditions - Plan |
| 0007-4G01 | 07 | MFA-SN-CD-3000-GT-DD-0002-01 | C1 | 505573-3231-4JDD-0002 | 01 | Muskrat Falls - RCC and Transition Dams - Foundation Preparation - Typical Details |
| 0007-4G01 | 08 | MFA-SN-CD-3000-GT-PL-0004-01 | C1 | 505573-3231-4JDD-0001 | 02 | Muskrat Falls - RCC and Transition Dams - Transition Dams - Foundation Preparation - Plan, Profile and Sections |
| 0007-4G01 | 09 | MFA-SN-CD-3000-GT-DD-0003-01 | C1 | 505573-3331-4JDD-0003 | 01 | Muskrat Falls - Intake and Powerhouse, Spillway and Transition Dams - Drilling, Grouting and Drainage - Details |
| 0007-4G01 | 10 | MFA-SN-CD-3000-GT-PL-0005-01 | C1 | 505573-3231-4JDD-0003 | 02 | Muskrat Falls - RCC and Transition Dams - Centre Transition Dam - Drilling, Grouting and Drainage - Plan and Sections |
| 0007-4G01 | 11 | MFA-SN-CD-3000-GT-PL-0006-01 | C1 | 505573-3231-4JDD-0004 | 01 | Muskrat Falls - RCC and Transition Dams - North Transition Dam - Drilling, Grouting and Drainage - Plan and Sections |
| 0007-4G01 | 12 | MFA-SN-CD-2363-GT-PL-0001-01 | C1 | 505573-3231-4JDD-0009 | 01 | Muskrat Falls - RCC and Transition Dams - South Transition Dam - Drilling, Grouting and Drainage - Plan, Sections and Details |
| 0007-4G01 | 13 | MFA-SN-CD-3000-GT-PL-0007-01 | C1 | 505573-3241-4JDD-0001 | 01 | Muskrat Falls - Spillway - Drilling and Grouting - Plan and Sections |
| 0007-4G01 | 14 | MFA-SN-CD-3000-GT-DD-0008-01 | C1 | 505573-3331-4JDD-0002-SH1 | 01 | Muskrat Falls - Intake and Powerhouse - Drilling, Grouting and Drainage - Plan and Sections - Sheet 1 of 2 |
| 0007-4G01 | 15 | MFA-SN-CD-3000-GT-DD-0008-02 | C1 | 505573-3331-4JDD-0002-SH2 | 01 | Muskrat Falls - Intake and Powerhouse - Drilling, Grouting and Drainage - Plan and Sections - Sheet 2 of 2 |
| 0007-4G01 | 16 | MFA-SN-CD-3000-GT-PL-0010-01 | C1 | 505573-3331-41DD-0104 | 01 | Muskrat Falls - Spillway - Access Roads - Plan, Profile and Sections |
| 0007-4G01 | 17 | MFA-SN-CD-3000-GT-PL-0011-01 | C1 | 505573-3331-41DD-0106 | 02 | Muskrat Falls - Powerhouse - Parking Area - Plan, Section and Details |
| 0007-4G01 | 18 | MFA-SN-CD-3000-GT-PL-0012-01 | C1 | 505573-3231-4JDD-0005 | 02 | Muskrat Falls - Transition Dams - Plan, Sections and Detail - Geotechnical Instrumentation and Survey Monuments |
| 0007-4G01 | 19 | MFA-SN-CD-3000-GT-PL-0013-01 | C1 | 505573-3231-4JDD-0006 | 02 | Muskrat Falls - Intake and Centre Transition Dam - Plans, Sections and Details - Geotechnical Instrumentation |
| 0007-4G01 | 20 | MFA-SN-CD-3000-GT-PL-0009-01 | C1 | 505573-3231-4JDD-0007 | 02 | Muskrat Falls - Intake and Spillway - Plan - Survey Monuments |


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| 0007-4110 | 02 | MFA-SN-CD-3300-CV-GA-0006-01 | B3 | 505573-333A-42DD-0002 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Transverse Section at Centreline of Unit |
| 0007-4110 | 03 | MFA-SN-CD-3300-CV-GA-0007-01 | B3 | 505573-333A-42DD-0003 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Longitudinal Section at Centreline of Units |
| 0007-4110 | 04 | MFA-SN-CD-3300-CV-GA-0008-01 | B2 | 505573-333A-42DD-0004 | 01 | Muskrat Falls - Powerhouse - General Arrangement - Draft Tube Plan |
| 0007-4110 | 05 | MFA-SN-CD-3300-CV-GA-0009-01 | B2 | 505573-333A-42DD-0005 | 01 | Muskrat Falls - Powerhouse - General Arrangement - Dewatering, Drainage & Inspection Galleries - Draft Tube Access |
| 0007-4110 | 06 | MFA-SN-CD-3300-CV-GA-0010-01 | B2 | 505573-333A-42DD-0006 | 01 | Muskrat Falls - Powerhouse - General Arrangement - Semi-Spiral Case and Intake Passage - Plan |
| 0007-4110 | 07 | MFA-SN-CD-3300-CV-GA-0011-01 | B3 | 505573-333A-42DD-0007 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Turbine Floor El 6.50 - Plan |
| 0007-4110 | 08 | MFA-SN-CD-3300-CV-GA-0011-02 | B3 | 505573-333A-42DD-0008 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Turbine Floor El 6.50 - Sections and Details |
| 0007-4110 | 09 | MFA-SN-CD-3300-CV-GA-0012-01 | B3 | 505573-333A-42DD-0009 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Generator Floor El 15.50 - Plan |
| 0007-4110 | 10 | MFA-SN-CD-3300-CV-GA-0013-01 | B2 | 505573-333A-42DD-0010 | 01 | Muskrat Falls - Powerhouse - General Arrangement - Mezzanine 1 El 25.00 - Plan |
| 0007-4110 | 11 | MFA-SN-CD-3300-CV-GA-0014-01 | B3 | 505573-333A-42DD-0011 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Mezzanine 2 El 34.47 - Plan |
| 0007-4110 | 12 | MFA-SN-CD-3300-CV-GA-0015-01 | B3 | 505573-333A-42DD-0012 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Roof Plan |
| 0007-4110 | 13 | MFA-SN-CD-3300-CV-GA-0016-01 | B3 | 505573-333A-42DD-0013 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Intake Deck El 45.50 - Plan |
| 0007-4110 | 14 | MFA-SN-CD-3300-CV-GA-0017-01 | B3 | 505573-333A-42DD-0014 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Tailrace Deck El 15.50 - Plan and Sections |
| 0007-4110 | 15 | MFA-SN-CD-3300-CV-GA-0018-01 | B2 | 505573-333A-42DD-0015 | 01 | Muskrat Falls - Powerhouse - General Arrangement - Upstream Elevation |
| 0007-4110 | 16 | MFA-SN-CD-3300-CV-GA-0019-01 | B3 | 505573-333A-42DD-0016 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Downstream Elevation |
| 0007-4110 | 17 | MFA-SN-CD-3300-CV-GA-0021-01 | B3 | 505573-333A-42DD-0017 | 02 | Muskrat Falls - Powerhouse - General Arrangement - Sections |
| 0007-4220 | 01 | MFA-SN-CD-3300-CV-DD-0013-01 | C1 | 505573-3331-42DD-2000 | 00 | Muskrat Falls – Powerhouse and Intake – General Notes, Legend, Abbreviations and Typical Reinforcement Details |
| 0007-4220 | 02 | MFA-SN-CD-3300-CV-SN-0009-01 | C1 | 505573-3331-42DD-2001 | 00 | Muskrat Falls – Powerhouse and Intake – Miscellaneous Concreting and Anchoring Typical Details |
| 0007-4220 | 03 | MFA-SN-CD-3310-CV-SN-0009-01 | C1 | 505573-3331-42DD-2002 | 00 | Muskrat Falls – Powerhouse and Intake – Miscellaneous Concreting Typical Details |
| 0007-4220 | 04 | MFA-SN-CD-3220-CV-IS-0004-01 | C1 | 505573-3331-42DD-2011 | 01 | Powerhouse And Intake - General Layout Index - Waterstops Isometric Views |
| 0007-4220 | 05 | MFA-SN-CD-3220-CV-IS-0001-01 | C1 | 505573-3331-42DD-2003-SH1 | 01 | Intake - Unit 1 - Waterstops Isometric Views - Sheet 1 Of 4 |
| 0007-4220 | 06 | MFA-SN-CD-3220-CV-IS-0001-02 | C1 | 505573-3331-42DD-2003-SH2 | 01 | Intake - Unit 1 - Waterstops Isometric Views - Sheet 2 Of 4 |
| 0007-4220 | 07 | MFA-SN-CD-3220-CV-IS-0001-03 | C1 | 505573-3331-42DD-2003-SH3 | 01 | Intake - Unit 1 - Waterstops Isometric Views - Sheet 3 Of 4 |
| 0007-4220 | 08 | MFA-SN-CD-3220-CV-IS-0001-04 | C1 | 505573-3331-42DD-2003-SH4 | 01 | Intake - Unit 1 - Waterstops Isometric Views - Sheet 4 Of 4 |
| 0007-4220 | 09 | MFA-SN-CD-3220-CV-IS-0002-01 | C1 | 505573-3331-42DD-2004-SH1 | 01 | Intake - Units 2 And 3 - Waterstops Isometric Views - Sheet 1 Of 4 |

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| 0007-4220 | 10 | MFA-SN-CD-3220-CV-IS-0002-02 | C1 | 505573-3331-42DD-2004-SH2 | 01 | Intake - Units 2 And 3 - Waterstops Isometric Views - Sheet 2 Of 4 |
| 0007-4220 | 11 | MFA-SN-CD-3220-CV-IS-0002-03 | C1 | 505573-3331-42DD-2004-SH3 | 01 | Intake - Units 2 And 3 - Waterstops Isometric Views - Sheet 3 Of 4 |
| 0007-4220 | 12 | MFA-SN-CD-3220-CV-IS-0002-04 | C1 | 505573-3331-42DD-2004-SH4 | 01 | Intake - Units 2 And 3 - Waterstops Isometric Views - Sheet 4 Of 4 |
| 0007-4220 | 17 | MFA-SN-CD-3220-CV-PL-0001-01 | C1 | 505573-3331-42DD-2100 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Drainage Gallery - Plan El -7.90 - Concrete |
| 0007-4220 | 18 | MFA-SN-CD-3220-CV-PL-0037-01 | C1 | 505573-3331-42DD-2122 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Partial Plans El -5.40, El 2.20 and El 8.25 - Concrete |
| 0007-4220 | 19 | MFA-SN-CD-3220-CV-PL-0002-01 | C1 | 505573-3331-42DD-2101 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Base Slab - Plan El -1.70 - Concrete |
| 0007-4220 | 20 | MFA-SN-CD-3220-CV-SN-0054-01 | C1 | 505573-3331-42DD-2102 | 00 | Muskrat Falls - Intake - All Units - Drainage Gallery and Base Slab - Sections and Details - Concrete |
| 0007-4220 | 21 | MFA-SN-CD-3220-CV-PL-0003-01 | C1 | 505573-3331-42DD-2103 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Plan El 15.50 - Concrete |
| 0007-4220 | 22 | MFA-SN-CD-3220-CV-PL-0004-01 | C1 | 505573-3331-42DD-2104 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Gate Inspection Gallery - Plan El 23.00 - Concrete |
| 0007-4220 | 23 | MFA-SN-CD-3220-CV-PL-0005-01 | C1 | 505573-3331-42DD-2105 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Plan El 34.25 - Concrete |
| 0007-4220 | 24 | MFA-SN-CD-3220-CV-PL-0006-01 | C1 | 505573-3331-42DD-2106 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Plan El 42.50 - Concrete |
| 0007-4220 | 25 | MFA-SN-CD-3220-CV-PL-0007-01 | C1 | 505573-3331-42DD-2107 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Intake Deck - Plan El 45.50 - Concrete |
| 0007-4220 | 26 | MFA-SN-CD-3220-CV-PL-0008-01 | C1 | 505573-3331-42DD-2108 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Gate Hoist Building - Plan El 51.10 and Sections - Concrete |
| 0007-4220 | 27 | MFA-SN-CD-3220-CV-EL-0001-01 | C1 | 505573-3331-42DD-2109 | 00 | Muskrat Falls - Intake - Unit 1 - Left and Right Walls - Elevations At Contraction Joints - Concrete |
| 0007-4220 | 28 | MFA-SN-CD-3220-CV-EL-0002-01 | C1 | 505573-3331-42DD-2110 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Left and Right Walls - Elevations At Contraction Joints - Concrete |
| 0007-4220 | 29 | MFA-SN-CD-3220-CV-SE-0001-01 | C1 | 505573-3331-42DD-2111 | 00 | Muskrat Falls - Intake - All Units - Left and Right Walls - Interior Faces - Sections - Concrete |
| 0007-4220 | 30 | MFA-SN-CD-3220-CV-SE-0002-01 | C1 | 505573-3331-42DD-2112-SH1 | 00 | Muskrat Falls - Intake - All Units - Intermediate Piers - Sections and Details - Concrete - Sheet 1 of 2 |
| 0007-4220 | 31 | MFA-SN-CD-3220-CV-SE-0002-02 | C1 | 505573-3331-42DD-2112-SH2 | 00 | Muskrat Falls - Intake - All Units - Intermediate Piers - Sections and Details - Concrete - Sheet 2 of 2 |
| 0007-4220 | 32 | MFA-SN-CD-3220-CV-EL-0003-01 | C1 | 505573-3331-42DD-2113 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Upstream Elevation - Concrete |
| 0007-4220 | 33 | MFA-SN-CD-3220-CV-SE-0003-01 | C1 | 505573-3331-42DD-2114 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Section Below El 15.50 - Concrete |
| 0007-4220 | 34 | MFA-SN-CD-3220-CV-SE-0004-01 | C1 | 505573-3331-42DD-2115 | 00 | Muskrat Falls - Intake - Units 1 and 2 - Sections Above El 15.50 - Concrete |
| 0007-4220 | 35 | MFA-SN-CD-3220-CV-SE-0005-01 | C1 | 505573-3331-42DD-2116 | 00 | Muskrat Falls - Intake - All Units - Bulkhead Gate Slots - Sections - Concrete |
| 0007-4220 | 36 | MFA-SN-CD-3220-CV-SE-0006-01 | C1 | 505573-3331-42DD-2117 | 00 | Muskrat Falls - Intake - All Units - Head Gate Slots - Sections - Concrete |
| 0007-4220 | 37 | MFA-SN-CD-3220-CV-SN-0001-01 | C1 | 505573-3331-42DD-2118 | 00 | Muskrat Falls - Intake - All Units - Gate Hoist Building - Section - Concrete |
| 0007-4220 | 38 | MFA-SN-CD-3220-CV-SN-0002-01 | C1 | 505573-3331-42DD-2119 | 00 | Muskrat Falls - Intake - All Units - Gate Hoist Building - Section - Concrete |
| 0007-4220 | 39 | MFA-SN-CD-3220-CV-SN-0003-01 | C1 | 505573-3331-42DD-2120 | 00 | Muskrat Falls - Intake - All Units - Gate Hoist Building - Section - Concrete |
| 0007-4220 | 40 | MFA-SN-CD-3220-CV-SN-0004-01 | C1 | 505573-3331-42DD-2121-SH1 | 00 | Muskrat Falls - Intake - All Units - Sections and Details - Concrete - Sheet 1 of 3 |
| 0007-4220 | 41 | MFA-SN-CD-3220-CV-SN-0004-02 | C1 | 505573-3331-42DD-2121-SH2 | 00 | Muskrat Falls - Intake - All Units - Sections and Details - Concrete - Sheet 2 of 3 |

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| 0007-4220 | 42 | MFA-SN-CD-3220-CV-SN-0004-03 | C1 | 505573-3331-42DD-2121-SH3 | 00 | Muskrat Falls - Intake - All Units - Sections and Details - Concrete - Sheet 3 of 3 |
| 0007-4221 | 01 | MFA-SN-CD-3310-CV-IS-0001-01 | C1 | 505573-3331-42DD-2006-SH1 | 01 | Powerhouse - Unit 1 - Waterstops Isometric Views - Sheet 1 Of 3 |
| 0007-4221 | 02 | MFA-SN-CD-3310-CV-IS-0001-02 | C1 | 505573-3331-42DD-2006-SH2 | 01 | Powerhouse - Unit 1 - Waterstops Isometric Views - Sheet 2 Of 3 |
| 0007-4221 | 03 | MFA-SN-CD-3310-CV-IS-0001-03 | C1 | 505573-3331-42DD-2006-SH3 | 01 | Powerhouse - Unit 1 - Waterstops Isometric Views - Sheet 3 Of 3 |
| 0007-4221 | 04 | MFA-SN-CD-3310-CV-IS-0002-01 | C1 | 505573-3331-42DD-2007-SH1 | 01 | Powerhouse - Units 2 And 3 - Waterstops Isometric Views - Sheet 1 Of 3 |
| 0007-4221 | 05 | MFA-SN-CD-3310-CV-IS-0002-02 | C1 | 505573-3331-42DD-2007-SH2 | 01 | Powerhouse - Units 2 And 3 - Waterstops Isometric Views - Sheet 2 Of 3 |
| 0007-4221 | 06 | MFA-SN-CD-3310-CV-IS-0002-03 | C1 | 505573-3331-42DD-2007-SH3 | 01 | Powerhouse - Units 2 And 3 - Waterstops Isometric Views - Sheet 3 Of 3 |
| 0007-4221 | 07 | MFA-SN-CD-3310-CV-DD-0020-01 | C1 | 505573-3331-42DD-2012 | 01 | Powerhouse - All Units - Hydraulic Passage Roof Location Of Polyurea Elastometric Membrane |
| 0007-4221 | 08 | MFA-SN-CD-3310-CV-PL-0003-01 | C1 | 505573-3331-42DD-2150 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Draft Tube Base Slab - Plan El -26.50 - Concrete |
| 0007-4221 | 09 | MFA-SN-CD-3310-CV-PL-0004-01 | C1 | 505573-3331-42DD-2151 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Dewatering Gallery - Plan El -20.30 - Concrete |
| 0007-4221 | 10 | MFA-SN-CD-3310-CV-DD-0004-01 | C1 | 505573-3331-42DD-2152-SH1 | 00 | Muskrat Falls - Powerhouse - All Units - Draft Tube Cone and Circular Passage Accesses - Concrete - Sheet 1 of 3 |
| 0007-4221 | 11 | MFA-SN-CD-3310-CV-DD-0004-02 | C1 | 505573-3331-42DD-2152-SH2 | 00 | Muskrat Falls - Powerhouse - All Units - Draft Tube Cone and Circular Passage Accesses - Concrete - Sheet 2 of 3 |
| 0007-4221 | 12 | MFA-SN-CD-3310-CV-DD-0004-03 | C1 | 505573-3331-42DD-2152-SH3 | 00 | Muskrat Falls - Powerhouse - All Units - Draft Tube Cone and Circular Passage Accesses - Concrete - Sheet 3 of 3 |
| 0007-4221 | 13 | MFA-SN-CD-3310-CV-DD-0005-01 | C1 | 505573-3331-42DD-2153 | 00 | Muskrat Falls - Powerhouse - Units 1, 2 and 3 - Semi-Spiral Case and Circular Passage Accesses - Concrete |
| 0007-4221 | 14 | MFA-SN-CD-3310-CV-PL-0005-01 | C1 | 505573-3331-42DD-2154-SH1 | 00 | Muskrat Falls - Powerhouse - All Units-Draft Tube Cone and Spiral Case - Concrete Pouring Sequences - Concrete - Sheet 1 of 4 |
| 0007-4221 | 15 | MFA-SN-CD-3310-CV-PL-0005-02 | C1 | 505573-3331-42DD-2154-SH2 | 00 | Muskrat Falls - Powerhouse - All Units-Draft Tube Cone and Spiral Case - Concrete Pouring Sequences - Concrete - Sheet 2 of 4 |
| 0007-4221 | 16 | MFA-SN-CD-3310-CV-PL-0005-03 | C1 | 505573-3331-42DD-2154-SH3 | 00 | Muskrat Falls - Powerhouse - All Units-Draft Tube Cone and Spiral Case - Concrete Pouring Sequences - Concrete - Sheet 3 of 4 |
| 0007-4221 | 17 | MFA-SN-CD-3310-CV-PL-0005-04 | C1 | 505573-3331-42DD-2154-SH4 | 00 | Muskrat Falls - Powerhouse - All Units-Draft Tube Cone and Spiral Case - Concrete Pouring Sequences - Concrete - Sheet 4 of 4 |
| 0007-4221 | 18 | MFA-SN-CD-3310-CV-SN-0010-01 | C1 | 505573-3331-42DD-2155 | 00 | Muskrat Falls - Powerhouse - All Units - Semi-Spiral Case - Developed View, Sections and Details - Concrete |
| 0007-4221 | 19 | MFA-SN-CD-3310-CV-PL-0007-01 | C1 | 505573-3331-42DD-2156 | 00 | Muskrat Falls - Powerhouse - All Units - Turbine Pit - Developed View - Sections and Details - Concrete |
| 0007-4221 | 20 | MFA-SN-CD-3310-CV-PL-0008-01 | C1 | 505573-3331-42DD-2157 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Plan El -5.70 - At Centreline of Distributor - Concrete |
| 0007-4221 | 21 | MFA-SN-CD-3310-CV-PL-0009-01 | C1 | 505573-3331-42DD-2158 | 00 | Muskrat Falls - Powerhouse - All Units - Draft Tube Cone - Primary Anchors - Sections and Details - Concrete |
| 0007-4221 | 22 | MFA-SN-CD-3310-CV-PL-0010-01 | C1 | 505573-3331-42DD-2159-SH1 | 01 | Powerhouse - All Units - Waterstops - Plans, Sections And Details - Concrete - Sheet 1 Of 2 |
| 0007-4221 | 23 | MFA-SN-CD-3310-CV-PL-0010-02 | C1 | 505573-3331-42DD-2159-SH2 | 01 | Powerhouse - All Units - Waterstops - Plans, Sections And Details - Concrete - Sheet 2 Of 2 |
| 0007-4221 | 24 | MFA-SN-CD-3310-CV-PL-0011-01 | C1 | 505573-3331-42DD-2160 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Turbine Floor - Plan El 6.50 - Concrete |
| 0007-4221 | 25 | MFA-SN-CD-3310-CV-PL-0012-01 | C1 | 505573-3331-42DD-2161 | 00 | Muskrat Falls - Powerhouse - All Units - Turbine Floor - Plan El 6.72 and Details - Concrete |
| 0007-4221 | 26 | MFA-SN-CD-3310-CV-SN-0011-01 | C1 | 505573-3331-42DD-2162-SH1 | 00 | Muskrat Falls - Powerhouse - All Units - Turbine Floor - Sections and Details - Concrete - Sheet 1 of 2 |
| 0007-4221 | 27 | MFA-SN-CD-3310-CV-SN-0011-02 | C1 | 505573-3331-42DD-2162-SH2 | 00 | Muskrat Falls - Powerhouse - All Units - Turbine Floor - Sections and Details - Concrete - Sheet 2 of 2 |

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| 0007-4221 | 28 | MFA-SN-CD-3310-CV-SN-0012-01 | C1 | 505573-3331-42DD-2163 | 00 | Muskrat Falls - Powerhouse - All Units - Lower Bracket and Turbine Pit Accesses - Sections and Details - Concrete |
| 0007-4221 | 29 | MFA-SN-CD-3310-CV-SE-0002-01 | C1 | 505573-3331-42DD-2164 | 00 | Muskrat Falls - Powerhouse - All Units - Section A-A - At Centreline of Unit - Concrete |
| 0007-4221 | 30 | MFA-SN-CD-3310-CV-SE-0003-01 | C1 | 505573-3331-42DD-2165 | 00 | Muskrat Falls - Powerhouse - All Units - Section B-B - At Centreline of Unit - Concrete |
| 0007-4221 | 31 | MFA-SN-CD-3310-CV-SE-0004-01 | C1 | 505573-3331-42DD-2166-SH1 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Section C-C At Centreline of Units - Concrete - Sheet 1 of 2 |
| 0007-4221 | 32 | MFA-SN-CD-3310-CV-SE-0004-02 | C1 | 505573-3331-42DD-2166-SH2 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Section C1-C1 At Centreline of Units - Concrete - Sheet 2 of 2 |
| 0007-4221 | 33 | MFA-SN-CD-3310-CV-SE-0005-01 | C1 | 505573-3331-42DD-2167 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Draft Tube - Section D-D - Concrete |
| 0007-4221 | 34 | MFA-SN-CD-3310-CV-SE-0006-01 | C1 | 505573-3331-42DD-2168 | 00 | Muskrat Falls - Powerhouse - All Units - Draft Tube Gate Slots - Sections E-E and F-F - Concrete |
| 0007-4221 | 35 | MFA-SN-CD-3310-CV-EL-0003-01 | C1 | 505573-3331-42DD-2169 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Elevation G-G - Concrete |
| 0007-4221 | 36 | MFA-SN-CD-3310-CV-SE-0007-01 | C1 | 505573-3331-42DD-2170 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Section H-H - Concrete |
| 0007-4221 | 37 | MFA-SN-CD-3310-CV-EL-0004-01 | C1 | 505573-3331-42DD-2171 | 00 | Muskrat Falls - Powerhouse - Unit 1 - Elevation J-J - At Contraction Joint - Concrete |
| 0007-4221 | 38 | MFA-SN-CD-3310-CV-EL-0005-01 | C1 | 505573-3331-42DD-2172 | 00 | Muskrat Falls - Powerhouse - Units 1, 2 and 3 - Elevation K-K - At Contraction Joints - Concrete |
| 0007-4221 | 39 | MFA-SN-CD-3310-CV-EL-0006-01 | C1 | 505573-3331-42DD-2173 | 00 | Muskrat Falls - Powerhouse - Units 2, 3 and 4 - Elevation L-L - At Contraction Joints - Concrete |
| 0007-4221 | 40 | MFA-SN-CD-3310-CV-SE-0008-01 | C1 | 505573-3331-42DD-2174 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Dewatering Gallery - Section N-N - Concrete |
| 0007-4221 | 41 | MFA-SN-CD-3310-CV-SE-0009-01 | C1 | 505573-3331-42DD-2175 | 00 | Muskrat Falls - Powerhouse - Units 1 and 2 - Section P-P - Concrete |
| 0007-4221 | 42 | MFA-SN-CD-3310-CV-SN-0013-01 | C1 | 505573-3331-42DD-2176-SH1 | 00 | Muskrat Falls - Powerhouse - All Units - Sections and Details - Concrete - Sheet 1 of 3 |
| 0007-4221 | 43 | MFA-SN-CD-3310-CV-SN-0013-02 | C1 | 505573-3331-42DD-2176-SH2 | 00 | Muskrat Falls - Powerhouse - All Units - Sections and Details - Concrete - Sheet 2 of 3 |
| 0007-4221 | 44 | MFA-SN-CD-3310-CV-SN-0013-03 | C1 | 505573-3331-42DD-2176-SH3 | 00 | Muskrat Falls - Powerhouse - All Units - Sections and Details - Concrete - Sheet 3 of 3 |
| 0007-4221 | 45 | MFA-SN-CD-3310-CV-EL-0007-01 | C1 | 505573-3331-42DD-2200-SH1 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Generator Pit - Walls Elevations - Concrete - Sheet 1 of 2 |
| 0007-4221 | 46 | MFA-SN-CD-3310-CV-EL-0007-02 | C1 | 505573-3331-42DD-2200-SH2 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Generator Pit - Walls Elevations - Concrete Sheet 2 of 2 |
| 0007-4221 | 47 | MFA-SN-CD-3320-CV-PL-0009-01 | C1 | 505573-3331-42DD-2201 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - Units 1 and 2 - Plan El 15.50 - Concrete |
| 0007-4221 | 48 | MFA-SN-CD-3320-CV-PL-0010-01 | C1 | 505573-3331-42DD-2202-SH1 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Generator Floor - Plan El 15.50, - Sections and Details - Concrete - Sheet 1 of 2 |
| 0007-4221 | 49 | MFA-SN-CD-3320-CV-PL-0010-02 | C1 | 505573-3331-42DD-2202-SH2 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Generator Floor - Plan El 15.50, - Sections and Details - Concrete - Sheet 2 of 2 |
| 0007-4221 | 50 | MFA-SN-CD-3320-CV-PL-0011-01 | C1 | 505573-3331-42DD-2203 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Plan El 15.50 - Concrete |
| 0007-4221 | 51 | MFA-SN-CD-3320-CV-SN-0005-01 | C1 | 505573-3331-42DD-2204-SH1 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Sections and Details - Concrete - Sheet 1 of 5 |
| 0007-4221 | 52 | MFA-SN-CD-3320-CV-SN-0005-02 | C1 | 505573-3331-42DD-2204-SH2 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Sections and Details - Concrete - Sheet 2 of 5 |
| 0007-4221 | 53 | MFA-SN-CD-3320-CV-SN-0005-03 | C1 | 505573-3331-42DD-2204-SH3 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Sections and Details - Concrete - Sheet 3 of 5 |
| 0007-4221 | 54 | MFA-SN-CD-3320-CV-SN-0005-04 | C1 | 505573-3331-42DD-2204-SH4 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Sections and Details - Concrete - Sheet 4 of 5 |

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| 0007-4221 | 55 | MFA-SN-CD-3320-CV-SN-0005-05 | C1 | 505573-3331-42DD-2204-SH5 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Sections and Details - Concrete - Sheet 5 of 5 |
| 0007-4221 | 56 | MFA-SN-CD-3310-CV-PL-0013-01 | C1 | 505573-3331-42DD-2205 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - All Units - Tailrace Deck - Plan El 14.70 - Concrete |
| 0007-4222 | 01 | MFA-SN-CD-3220-CV-IS-0003-01 | C1 | 505573-3331-42DD-2005-SH1 | 01 | Intake - Unit 4 - Waterstops Isometric Views - Sheet 1 Of 4 |
| 0007-4222 | 02 | MFA-SN-CD-3220-CV-IS-0003-02 | C1 | 505573-3331-42DD-2005-SH2 | 01 | Intake - Unit 4 - Waterstops Isometric Views - Sheet 2 Of 4 |
| 0007-4222 | 03 | MFA-SN-CD-3220-CV-IS-0003-03 | C1 | 505573-3331-42DD-2005-SH3 | 01 | Intake - Unit 4 - Waterstops Isometric Views - Sheet 3 Of 4 |
| 0007-4222 | 04 | MFA-SN-CD-3220-CV-IS-0003-04 | C1 | 505573-3331-42DD-2005-SH4 | 01 | Intake - Unit 4 - Waterstops Isometric Views - Sheet 4 Of 4 |
| 0007-4222 | 05 | MFA-SN-CD-3220-CV-PL-0009-01 | C1 | 505573-3331-42DD-2250 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Drainage Gallery - Plan El -7.90 - Concrete |
| 0007-4222 | 06 | MFA-SN-CD-3220-CV-PL-0036-01 | C1 | 505573-3331-42DD-2263 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Partial Plans El -5.40, El 2.20 and El 8.25 - Concrete |
| 0007-4222 | 07 | MFA-SN-CD-3220-CV-PL-0010-01 | C1 | 505573-3331-42DD-2251 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Base Slab - Plan El -1.70 - Concrete |
| 0007-4222 | 08 | MFA-SN-CD-3220-CV-PL-0011-01 | C1 | 505573-3331-42DD-2252 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Plan El 15.50 - Concrete |
| 0007-4222 | 09 | MFA-SN-CD-3220-CV-PL-0012-01 | C1 | 505573-3331-42DD-2253 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Gate Inspection Gallery - Plan El 23.00 - Concrete |
| 0007-4222 | 10 | MFA-SN-CD-3220-CV-PL-0013-01 | C1 | 505573-3331-42DD-2254 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Plan El 34.25 - Concrete |
| 0007-4222 | 11 | MFA-SN-CD-3220-CV-PL-0014-01 | C1 | 505573-3331-42DD-2255 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Plan El 42.50 - Concrete |
| 0007-4222 | 12 | MFA-SN-CD-3220-CV-PL-0015-01 | C1 | 505573-3331-42DD-2256 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Intake Deck - Plan El 45.50 - Concrete |
| 0007-4222 | 13 | MFA-SN-CD-3220-CV-PL-0016-01 | C1 | 505573-3331-42DD-2257 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Gate Hoist Building - Plan El 51.10 - Sections and Details - Concrete |
| 0007-4222 | 14 | MFA-SN-CD-3220-CV-SE-0044-01 | C1 | 505573-3331-42DD-2264 | 00 | Muskrat Falls - Intake - Unit 4 - Left Wall - Interior Face - Section - Concrete |
| 0007-4222 | 15 | MFA-SN-CD-3220-CV-SE-0007-01 | C1 | 505573-3331-42DD-2258 | 00 | Muskrat Falls - Intake Unit 4 - Sections - Concrete |
| 0007-4222 | 16 | MFA-SN-CD-3220-CV-EL-0004-01 | C1 | 505573-3331-42DD-2259 | 00 | Muskrat Falls - Intake - Unit 4 - Elevations At Contraction Joints - Concrete |
| 0007-4222 | 17 | MFA-SN-CD-3220-CV-EL-0005-01 | C1 | 505573-3331-42DD-2260 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Upstream Elevation - Concrete |
| 0007-4222 | 18 | MFA-SN-CD-3220-CV-SE-0008-01 | C1 | 505573-3331-42DD-2261 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Section Below El 15.50 - Concrete |
| 0007-4222 | 19 | MFA-SN-CD-3220-CV-SE-0009-01 | C1 | 505573-3331-42DD-2262 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Sections Above El 15.50 - Concrete |
| 0007-4222 | 20 | MFA-SN-CD-3220-CV-SN-0058-01 | C1 | 505573-3331-42DD-2265 | 00 | Muskrat Falls - Intake - Units 3 and 4 - Sections and Details - Concrete |
| 0007-4223 | 01 | MFA-SN-CD-3310-CV-IS-0003-01 | C1 | 505573-3331-42DD-2008-SH1 | 01 | Powerhouse - Unit 4 - Waterstops Isometric Views - Sheet 1 Of 3 |
| 0007-4223 | 02 | MFA-SN-CD-3310-CV-IS-0003-02 | C1 | 505573-3331-42DD-2008-SH2 | 01 | Powerhouse - Unit 4 - Waterstops Isometric Views - Sheet 2 Of 3 |
| 0007-4223 | 03 | MFA-SN-CD-3310-CV-IS-0003-03 | C1 | 505573-3331-42DD-2008-SH3 | 01 | Powerhouse - Unit 4 - Waterstops Isometric Views - Sheet 3 Of 3 |
| 0007-4223 | 04 | MFA-SN-CD-3310-CV-PL-0014-01 | C1 | 505573-3331-42DD-2300 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Draft Tube Base Slab - Plan El -26.50 - Concrete |
| 0007-4223 | 05 | MFA-SN-CD-3310-CV-PL-0015-01 | C1 | 505573-3331-42DD-2301 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Dewatering Gallery - Plan El -20.30 - Concrete |
| 0007-4223 | 06 | MFA-SN-CD-3310-CV-PL-0016-01 | C1 | 505573-3331-42DD-2302 | 00 | Muskrat Falls - Powerhouse - Unit 4 - Semi-Spiral Case - and Circular Passage Accesses - Concrete |

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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| 0007-4223 | 07 | MFA-SN-CD-3310-CV-PL-0017-01 | C1 | 505573-3331-42DD-2303 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Plan El -5.70 - At Centreline of Distributor - Concrete |
| 0007-4223 | 08 | MFA-SN-CD-3310-CV-PL-0018-01 | C1 | 505573-3331-42DD-2304 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Turbine Floor - Plan At El 6.50 - Concrete |
| 0007-4223 | 09 | MFA-SN-CD-3310-CV-SE-0010-01 | C1 | 505573-3331-42DD-2305-SH1 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Section C-C At Centreline of Units - Concrete - Sheet 1 of 2 |
| 0007-4223 | 10 | MFA-SN-CD-3310-CV-SE-0010-02 | C1 | 505573-3331-42DD-2305-SH2 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Section C1-C1 At Centreline of Units - Concrete - Sheet 2 of 2 |
| 0007-4223 | 11 | MFA-SN-CD-3310-CV-SE-0011-01 | C1 | 505573-3331-42DD-2306 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Draft Tube - Section D-D - Concrete |
| 0007-4223 | 12 | MFA-SN-CD-3310-CV-EL-0008-01 | C1 | 505573-3331-42DD-2307 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Elevation G-G - Concrete |
| 0007-4223 | 13 | MFA-SN-CD-3310-CV-SE-0012-01 | C1 | 505573-3331-42DD-2308 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Section H-H - Concrete |
| 0007-4223 | 14 | MFA-SN-CD-3310-CV-EL-0009-01 | C1 | 505573-3331-42DD-2309 | 00 | Muskrat Falls - Powerhouse - Unit 4 - Elevation M-M - At Contraction Joint - Concrete |
| 0007-4223 | 15 | MFA-SN-CD-3310-CV-SE-0013-01 | C1 | 505573-3331-42DD-2310 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Section P-P - Concrete |
| 0007-4223 | 16 | MFA-SN-CD-3310-CV-SE-0020-01 | C1 | 505573-3331-42DD-2311 | 00 | Muskrat Falls - Powerhouse - Units 3 and 4 - Dewatering Gallery - Section N-N - Concrete |
| 0007-4223 | 17 | MFA-SN-CD-3310-CV-PL-0019-01 | C1 | 505573-3331-42DD-2350 | 00 | Muskrat Falls - Powerhouse - Generator Floor and Tailrace Deck - Units 3 and 4 - Plan El 15.50 - Concrete |
| 0007-4224 | 01 | MFA-SN-CD-3220-CV-PL-0017-01 | C1 | 505573-3331-42DD-3100 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Plans El -7.90 and El -4.90 - Reinforcement |
| 0007-4224 | 02 | MFA-SN-CD-3220-CV-SE-0010-01 | C1 | 505573-3331-42DD-3102 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Plan El-1.70 - Reinforcement |
| 0007-4224 | 03 | MFA-SN-CD-3220-CV-SN-0006-01 | C1 | 505573-3331-42DD-3103 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Sections and Details - Reinforcement |
| 0007-4224 | 04 | MFA-SN-CD-3220-CV-SN-0007-01 | C1 | 505573-3331-42DD-3104 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Hydraulic Passage Roof - Plan El 13.00 - Reinforcement |
| 0007-4224 | 05 | MFA-SN-CD-3220-CV-SN-0008-01 | C1 | 505573-3331-42DD-3105 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Hydraulic Passage Roof - Sections and Details - Reinforcement |
| 0007-4224 | 06 | MFA-SN-CD-3220-CV-SE-0011-01 | C1 | 505573-3331-42DD-3106-SH1 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Plans El 15.50, Sections and Details - Reinforcement - Sheet 1 of 2 |
| 0007-4224 | 07 | MFA-SN-CD-3220-CV-SE-0011-02 | C1 | 505573-3331-42DD-3106-SH2 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Plans El 15.50, Sections and Details - Reinforcement - Sheet 2 of 2 |
| 0007-4224 | 08 | MFA-SN-CD-3220-CV-EL-0006-01 | C1 | 505573-3331-42DD-3108 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Left and Right Walls - Contraction Joint Faces - Elevations - Reinforcement |
| 0007-4224 | 09 | MFA-SN-CD-3220-CV-SE-0012-01 | C1 | 505573-3331-42DD-3109 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Left and Right Walls - Interior Faces - Sections - Reinforcement |
| 0007-4224 | 10 | MFA-SN-CD-3220-CV-SE-0013-01 | C1 | 505573-3331-42DD-3110 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Intermediate Piers - Sections - Reinforcement |
| 0007-4224 | 11 | MFA-SN-CD-3220-CV-EL-0007-01 | C1 | 505573-3331-42DD-3111 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Upstream Elevation - Reinforcement |
| 0007-4224 | 12 | MFA-SN-CD-3220-CV-SE-0014-01 | C1 | 505573-3331-42DD-3112 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Drainage Gallery - Sections - Reinforcement |
| 0007-4224 | 13 | MFA-SN-CD-3220-CV-SE-0015-01 | C1 | 505573-3331-42DD-3113 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Bulkhead Gate Slots - Sections - Reinforcement |
| 0007-4224 | 14 | MFA-SN-CD-3220-CV-SE-0016-01 | C1 | 505573-3331-42DD-3114 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Head Gate Slots - Sections - Reinforcement |
| 0007-4224 | 15 | MFA-SN-CD-3220-CV-SN-0010-01 | C1 | 505573-3331-42DD-3115 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Bulkhead Gate - and Head Gate Slots - Sections and Details - Reinforcement |
| 0007-4224 | 16 | MFA-SN-CD-3220-CV-SE-0017-01 | C1 | 505573-3331-42DD-3116 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Downstream Section - Reinforcement |
| 0007-4224 | 17 | MFA-SN-CD-3220-CV-SN-0011-01 | C1 | 505573-3331-42DD-3117 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Bottom - Sections and Details - Reinforcement |

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| 0007-4225 | 01 | MFA-SN-CD-3220-CV-PL-0018-01 | C1 | 505573-3331-42DD-3125 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Plan El 19.00 and Section - Reinforcement |
| 0007-4225 | 02 | MFA-SN-CD-3220-CV-PL-0019-01 | C1 | 505573-3331-42DD-3126 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Gate Inspection Gallery - Plan El 23.00 and Detail - Reinforcement |
| 0007-4225 | 03 | MFA-SN-CD-3220-CV-SN-0012-01 | C1 | 505573-3331-42DD-3127 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Plan El 26.00 and Section - Reinforcement |
| 0007-4225 | 04 | MFA-SN-CD-3220-CV-PL-0020-01 | C1 | 505573-3331-42DD-3128 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Plan El. 42.50 - Reinforcement |
| 0007-4225 | 05 | MFA-SN-CD-3220-CV-PL-0021-01 | C1 | 505573-3331-42DD-3129 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Intake Deck - Plan El 45.50 - Reinforcement |
| 0007-4225 | 06 | MFA-SN-CD-3220-CV-SN-0013-01 | C1 | 505573-3331-42DD-3130 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Sections and Details - Reinforcement |
| 0007-4225 | 07 | MFA-SN-CD-3220-CV-EL-0008-01 | C1 | 505573-3331-42DD-3131 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Left and Right Walls - Contraction Joint Faces - Elevations - Reinforcement |
| 0007-4225 | 08 | MFA-SN-CD-3220-CV-SE-0018-01 | C1 | 505573-3331-42DD-3132 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Left and Right Walls - Interior Faces - Sections - Reinforcement |
| 0007-4225 | 09 | MFA-SN-CD-3220-CV-SE-0019-01 | C1 | 505573-3331-42DD-3133 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Intermediate Piers - Sections - Reinforcement |
| 0007-4225 | 10 | MFA-SN-CD-3220-CV-SN-0014-01 | C1 | 505573-3331-42DD-3134 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Upstream Elevation - Reinforcement |
| 0007-4225 | 11 | MFA-SN-CD-3220-CV-EL-0009-01 | C1 | 505573-3331-42DD-3135 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Bulkhead Gate Slots - Upstream Face - Section - Reinforcement |
| 0007-4225 | 12 | MFA-SN-CD-3220-CV-SE-0020-01 | C1 | 505573-3331-42DD-3136 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Bulkhead Gate Slots - Downstream Face - Section - Reinforcement |
| 0007-4225 | 13 | MFA-SN-CD-3220-CV-SE-0021-01 | C1 | 505573-3331-42DD-3137 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Head Gate Slots - Upstream Face - Section - Reinforcement |
| 0007-4225 | 14 | MFA-SN-CD-3220-CV-SN-0015-01 | C1 | 505573-3331-42DD-3138 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Head Gate Slots - Downstream Face - Section - Reinforcement |
| 0007-4225 | 15 | MFA-SN-CD-3220-CV-EL-0010-01 | C1 | 505573-3331-42DD-3139 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Intake Top - Downstream Wall - Elevation - Reinforcement |
| 0007-4226 | 01 | MFA-SN-CD-3310-CV-PL-0023-01 | C1 | 505573-3331-42DD-3175 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Plan El -33.60 - Reinforcement |
| 0007-4226 | 02 | MFA-SN-CD-3310-CV-PL-0024-01 | C1 | 505573-3331-42DD-3176 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Elevations C-C and D-D - At Contraction Joint - Reinforcement |
| 0007-4226 | 03 | MFA-SN-CD-3310-CV-PL-0025-01 | C1 | 505573-3331-42DD-3177 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Developed View Elevation H-H - Reinforcement |
| 0007-4226 | 04 | MFA-SN-CD-3310-CV-EL-0010-01 | C1 | 505573-3331-42DD-3178 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Dewatering Gallery - Plan El -20.30 - Reinforcement |
| 0007-4226 | 05 | MFA-SN-CD-3310-CV-SE-0014-01 | C1 | 505573-3331-42DD-3179 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Dewatering Gallery - Sections A-A, B-B, C-C - Reinforcement |
| 0007-4226 | 06 | MFA-SN-CD-3310-CV-EL-0011-01 | C1 | 505573-3331-42DD-3180 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Draft Tube Cone Access - Sections and Details - Reinforcement |
| 0007-4226 | 07 | MFA-SN-CD-3310-CV-SE-0015-01 | C1 | 505573-3331-42DD-3181 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Circular Passage Access - Sections and Details - Reinforcement |
| 0007-4226 | 08 | MFA-SN-CD-3310-CV-SN-0015-01 | C1 | 505573-3331-42DD-3182 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Cone - Developed Section and Details - Reinforcement |
| 0007-4226 | 09 | MFA-SN-CD-3310-CV-SN-0016-01 | C1 | 505573-3331-42DD-3183 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Plan El -14.50 - Reinforcement |
| 0007-4226 | 10 | MFA-SN-CD-3310-CV-SN-0017-01 | C1 | 505573-3331-42DD-3184 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Transverse Section At Centre Line of Unit - Section E-E and Detail - Reinforcement |
| 0007-4226 | 11 | MFA-SN-CD-3310-CV-DD-0006-01 | C1 | 505573-3331-42DD-3185-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 1 of 8 |
| 0007-4226 | 12 | MFA-SN-CD-3310-CV-DD-0006-02 | C1 | 505573-3331-42DD-3185-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 2 of 8 |
| 0007-4226 | 13 | MFA-SN-CD-3310-CV-DD-0006-03 | C1 | 505573-3331-42DD-3185-SH3 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 3 of 8 |

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| 0007-4226 | 14 | MFA-SN-CD-3310-CV-DD-0006-04 | C1 | 505573-3331-42DD-3185-SH4 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 4 of 8 |
| 0007-4226 | 15 | MFA-SN-CD-3310-CV-DD-0006-05 | C1 | 505573-3331-42DD-3185-SH5 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 5 of 8 |
| 0007-4226 | 16 | MFA-SN-CD-3310-CV-DD-0006-06 | C1 | 505573-3331-42DD-3185-SH6 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 6 of 8 |
| 0007-4226 | 17 | MFA-SN-CD-3310-CV-DD-0006-07 | C1 | 505573-3331-42DD-3185-SH7 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 7 of 8 |
| 0007-4226 | 18 | MFA-SN-CD-3310-CV-DD-0006-08 | C1 | 505573-3331-42DD-3185-SH8 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 8 of 8 |
| 0007-4226 | 19 | MFA-SN-CD-3310-CV-DD-0018-01 | C1 | 505573-3331-42DD-3186 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Elbow - Cone - Second Phase Concrete - Reinforcement |
| 0007-4227 | 01 | MFA-SN-CD-3310-CV-PL-0026-01 | C1 | 505573-3331-42DD-3200 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Transverse Section At Centreline of Units - Section A-A and Details - Reinforcement |
| 0007-4227 | 02 | MFA-SN-CD-3310-CV-PL-0027-01 | C1 | 505573-3331-42DD-3201 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Longitudinal Section At Centreline of Units - Section B-B and Details - Reinforcement |
| 0007-4227 | 03 | MFA-SN-CD-3310-CV-PL-0028-01 | C1 | 505573-3331-42DD-3202 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Floor - Plan El -5.70 - Radial Reinforcement |
| 0007-4227 | 04 | MFA-SN-CD-3310-CV-PL-0029-01 | C1 | 505573-3331-42DD-3203 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Floor - Plan El -5.70 - Longitudinal Reinforcement |
| 0007-4227 | 05 | MFA-SN-CD-3310-CV-PL-0030-01 | C1 | 505573-3331-42DD-3204 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Concrete Around Stayring - Reinforcement |
| 0007-4227 | 06 | MFA-SN-CD-3310-CV-PL-0031-01 | C1 | 505573-3331-42DD-3205 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Roof - Plan El 2.60 - Radial Reinforcement |
| 0007-4227 | 07 | MFA-SN-CD-3310-CV-PL-0032-01 | C1 | 505573-3331-42DD-3206 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Roof - Plan El 2.60 - Longitudinal Reinforcement |
| 0007-4227 | 08 | MFA-SN-CD-3310-CV-SN-0018-01 | C1 | 505573-3331-42DD-3207 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Developed Section M-M and Details - Reinforcement |
| 0007-4227 | 09 | MFA-SN-CD-3310-CV-EL-0012-01 | C1 | 505573-3331-42DD-3208-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Developed Elevations Q-Q and R-R - Reinforcement - Sheet 1 of 2 |
| 0007-4227 | 10 | MFA-SN-CD-3310-CV-EL-0012-02 | C1 | 505573-3331-42DD-3208-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Developed Elevations Q-Q and R-R - Reinforcement - Sheet 2 of 2 |
| 0007-4227 | 11 | MFA-SN-CD-3310-CV-EL-0013-01 | C1 | 505573-3331-42DD-3209 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Elevation F-F - Reinforcement |
| 0007-4227 | 12 | MFA-SN-CD-3310-CV-SN-0019-01 | C1 | 505573-3331-42DD-3210 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Elevation G-G - Reinforcement |
| 0007-4227 | 13 | MFA-SN-CD-3310-CV-EL-0014-01 | C1 | 505573-3331-42DD-3211 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Plan El 4.65 - Sections and Details - Reinforcement |
| 0007-4227 | 14 | MFA-SN-CD-3310-CV-SN-0020-01 | C1 | 505573-3331-42DD-3212 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Turbine Foundation - Plan El 6.72 - Sections and Details - Reinforcement |
| 0007-4227 | 15 | MFA-SN-CD-3310-CV-SN-0021-01 | C1 | 505573-3331-42DD-3213-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Lower Bracket and Turbine Pit Accesses - Sections and Details - Reinforcement - Sheet 1 of 2 |
| 0007-4227 | 16 | MFA-SN-CD-3310-CV-SN-0021-02 | C1 | 505573-3331-42DD-3213-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Lower Bracket and Turbine Pit Accesses - Sections and Details - Reinforcement - Sheet 2 of 2 |
| 0007-4227 | 17 | MFA-SN-CD-3310-CV-SN-0022-01 | C1 | 505573-3331-42DD-3214 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Turbine Floor - Plan El 6.50 - Sections and Details - Reinforcement |
| 0007-4227 | 18 | MFA-SN-CD-3310-CV-SN-0023-01 | C1 | 505573-3331-42DD-3215 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Stair and Maint. Shafts, Semi-Spiral Case Access - Sections and Details - Reinforcement |
| 0007-4227 | 19 | MFA-SN-CD-3310-CV-SN-0024-01 | C1 | 505573-3331-42DD-3216-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Plan, Sections and Details - Reinforcement - Sheet 1 of 3 |
| 0007-4227 | 20 | MFA-SN-CD-3310-CV-SN-0024-02 | C1 | 505573-3331-42DD-3216-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Plan, Sections and Details - Reinforcement - Sheet 2 of 3 |
| 0007-4227 | 21 | MFA-SN-CD-3310-CV-SN-0024-03 | C1 | 505573-3331-42DD-3216-SH3 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Semi-Spiral Case - Plan, Sections and Details - Reinforcement - Sheet 3 of 3 |

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| 0007-4228 | 01 | MFA-SN-CD-3310-CV-PL-0033-01 | C1 | 505573-3331-42DD-3225 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Base Slab - Reinforcement |
| 0007-4228 | 02 | MFA-SN-CD-3310-CV-SN-0028-01 | C1 | 505573-3331-42DD-3226 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Sections and Details - Reinforcement |
| 0007-4228 | 03 | MFA-SN-CD-3310-CV-PL-0034-01 | C1 | 505573-3331-42DD-3227 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Plan El -15.222 - Reinforcement |
| 0007-4228 | 04 | MFA-SN-CD-3310-CV-DD-0007-01 | C1 | 505573-3331-42DD-3228 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Hydraulic Passage Roof - Reinforcement |
| 0007-4228 | 05 | MFA-SN-CD-3310-CV-SN-0029-01 | C1 | 505573-3331-42DD-3229 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Sections - Reinforcement |
| 0007-4228 | 06 | MFA-SN-CD-3310-CV-EL-0015-01 | C1 | 505573-3331-42DD-3230 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Left and Right Walls - Contraction Joint Faces - Reinforcement |
| 0007-4228 | 07 | MFA-SN-CD-3310-CV-SN-0030-01 | C1 | 505573-3331-42DD-3231-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Left and Right Walls - Interior Faces - Reinforcement - Sheet 1 of 2 |
| 0007-4228 | 08 | MFA-SN-CD-3310-CV-SN-0030-02 | C1 | 505573-3331-42DD-3231-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Left and Right Walls - Interior Faces - Reinforcement - Sheet 2 of 2 |
| 0007-4228 | 09 | MFA-SN-CD-3310-CV-SN-0031-01 | C1 | 505573-3331-42DD-3232 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Intermediate Pier - Reinforcement |
| 0007-4228 | 10 | MFA-SN-CD-3310-CV-SN-0032-01 | C1 | 505573-3331-42DD-3233 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Draft Tube Gates Slots - Sections - Reinforcement |
| 0007-4228 | 11 | MFA-SN-CD-3310-CV-SN-0033-01 | C1 | 505573-3331-42DD-3234 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Transverse Reinforcement |
| 0007-4228 | 12 | MFA-SN-CD-3310-CV-EL-0016-01 | C1 | 505573-3331-42DD-3235 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Draft Tube Outlet - Downstream Elevation - Reinforcement |
| 0007-4229 | 01 | MFA-SN-CD-3310-CV-PL-0035-01 | C1 | 505573-3331-42DD-3250_SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Plans El -8.90 and El 0.50 - Reinforcement - Sheet 1 of 2 |
| 0007-4229 | 02 | MFA-SN-CD-3310-CV-PL-0035-02 | C1 | 505573-3331-42DD-3250_SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Plans El -8.90 and El 0.50 - Reinforcement - Sheet 2 of 2 |
| 0007-4229 | 03 | MFA-SN-CD-3310-CV-PL-0036-01 | C1 | 505573-3331-42DD-3251_SH1 | 00 | Muskrat Falls - Powerhouse - Unit 2 - Tailrace Piers and Walls - Turbine Floor - Plans El 6.50 - Reinforcement - Sheet 1 of 2 |
| 0007-4229 | 04 | MFA-SN-CD-3310-CV-PL-0036-02 | C1 | 505573-3331-42DD-3251_SH2 | 00 | Muskrat Falls - Powerhouse - Unit 3 - Tailrace Piers and Walls - Turbine Floor - Plans El 6.50 - Reinforcement - Sheet 2 of 2 |
| 0007-4229 | 05 | MFA-SN-CD-3310-CV-EL-0017-01 | C1 | 505573-3331-42DD-3252 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Left and Right Walls - Contraction Joint Faces - Reinforcement |
| 0007-4229 | 06 | MFA-SN-CD-3310-CV-SN-0034-01 | C1 | 505573-3331-42DD-3253 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Left and Right Walls - Interior Faces - Reinforcement |
| 0007-4229 | 07 | MFA-SN-CD-3310-CV-SN-0035-01 | C1 | 505573-3331-42DD-3254 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Intermediate Pier - Reinforcement |
| 0007-4229 | 08 | MFA-SN-CD-3310-CV-SN-0036-01 | C1 | 505573-3331-42DD-3255 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Section and Elevation - Reinforcement |
| 0007-4229 | 09 | MFA-SN-CD-3310-CV-SE-0016-01 | C1 | 505573-3331-42DD-3256 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Draft Tube Gates Slots - Sections - Reinforcement |
| 0007-4229 | 10 | MFA-SN-CD-3310-CV-SN-0037-01 | C1 | 505573-3331-42DD-3257-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Sections and Details - Reinforcement - Sheet 1 of 2 |
| 0007-4229 | 11 | MFA-SN-CD-3310-CV-SN-0037-02 | C1 | 505573-3331-42DD-3257-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Sections and Details - Reinforcement - Sheet 2 of 2 |
| 0007-4229 | 12 | MFA-SN-CD-3310-CV-EL-0018-01 | C1 | 505573-3331-42DD-3258 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Tailrace Piers and Walls - Downstream Elevation and Section - Reinforcement |
| 0007-4230 | 01 | MFA-SN-CD-3310-CV-PL-0037-01 | C1 | 505573-3331-42DD-3275 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Generator Pit Plans El 6.72 and El 14.70 - Reinforcement |
| 0007-4230 | 02 | MFA-SN-CD-3310-CV-PL-0038-01 | C1 | 505573-3331-42DD-3276-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Plan El 15.50 - Reinforcement - Sheet 1 of 2 |
| 0007-4230 | 03 | MFA-SN-CD-3310-CV-PL-0038-02 | C1 | 505573-3331-42DD-3276-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Plan El 15.50 - Reinforcement - Sheet 2 of 2 |

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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
| | Nalcor Doc. No. MFA-SN-CD-2000-EN-LS-0001-01 | | C2 | Date | Page |
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| 0007-4230 | 04 | MFA-SN-CD-3320-CV-PL-0024-01 | C1 | 505573-3331-42DD-3277-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - El 15.50 - Sections and Details - Reinforcement - Sheet 1 of 4 |
| 0007-4230 | 05 | MFA-SN-CD-3320-CV-PL-0024-02 | C1 | 505573-3331-42DD-3277-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - El 15.50 - Sections and Details - Reinforcement - Sheet 2 of 4 |
| 0007-4230 | 06 | MFA-SN-CD-3320-CV-PL-0024-03 | C1 | 505573-3331-42DD-3277-SH3 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - El 15.50 - Sections and Details - Reinforcement - Sheet 3 of 4 |
| 0007-4230 | 07 | MFA-SN-CD-3320-CV-PL-0024-04 | C1 | 505573-3331-42DD-3277-SH4 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - El 15.50 - Sections and Details - Reinforcement - Sheet 4 of 4 |
| 0007-4230 | 08 | MFA-SN-CD-3320-CV-SN-0014-01 | C1 | 505573-3331-42DD-3278-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Sections and Details of Walls - Reinforcement - Sheet 1 of 2 |
| 0007-4230 | 09 | MFA-SN-CD-3320-CV-SN-0014-02 | C1 | 505573-3331-42DD-3278-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Sections and Details of Walls - Reinforcement - Sheet 2 of 2 |
| 0007-4230 | 10 | MFA-SN-CD-3320-CV-SE-0004-01 | C1 | 505573-3331-42DD-3279-SH1 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Generator Pit Walls - Sections and Details - Reinforcement - Sheet 1 of 2 |
| 0007-4230 | 11 | MFA-SN-CD-3320-CV-SE-0004-02 | C1 | 505573-3331-42DD-3279-SH2 | 00 | Muskrat Falls - Powerhouse - Units 2 and 3 - Generator Floor and Tailrace Deck - Generator Pit Walls - Sections and Details - Reinforcement - Sheet 2 of 2 |
| 0007-4231 | 01 | MFA-SN-CD-3220-CV-SN-0017-01 | C1 | 505573-3331-42DD-3150 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Gate Hoist Building - Plan El 51.10 - Reinforcement |
| 0007-4231 | 02 | MFA-SN-CD-3220-CV-SE-0022-01 | C1 | 505573-3331-42DD-3151 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Gate Hoist Building - Sections R-R and S-S - Reinforcement |
| 0007-4231 | 03 | MFA-SN-CD-3220-CV-SN-0018-01 | C1 | 505573-3331-42DD-3152 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Gate Hoist Building - Section T-T and Elevation L-L - Reinforcement |
| 0007-4231 | 04 | MFA-SN-CD-3220-CV-SN-0019-01 | C1 | 505573-3331-42DD-3153 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Gate Hoist Building - Sections U-U and V-V - Reinforcement |
| 0007-4231 | 05 | MFA-SN-CD-3220-CV-SN-0020-01 | C1 | 505573-3331-42DD-3154 | 00 | Muskrat Falls - Intake - Units 2 and 3 - Gate Hoist Building - Beams Elevations and Sections - Reinforcement |
| 0007-4232 | 01 | MFA-SN-CD-3220-CV-SN-0021-01 | C1 | 505573-3331-42DD-3300 | 00 | Intake - Unit 1 - Intake Bottom - Plans El -7.90 And El -4.90 - Reinforcement |
| 0007-4232 | 02 | MFA-SN-CD-3220-CV-PL-0022-01 | C1 | 505573-3331-42DD-3302 | 00 | Intake - Unit 1 - Intake Bottom - Plan El -1.70 - Reinforcement |
| 0007-4232 | 03 | MFA-SN-CD-3220-CV-SN-0023-01 | C1 | 505573-3331-42DD-3303 | 00 | Intake - Unit 1 - Intake Bottom - Sections And Details - Reinforcement |
| 0007-4232 | 04 | MFA-SN-CD-3220-CV-SN-0024-01 | C1 | 505573-3331-42DD-3304 | 00 | Intake - Unit 1 - Intake Bottom - Hydraulic Passage Roof - Plan El 13.00 - Reinforcement |
| 0007-4232 | 05 | MFA-SN-CD-3220-CV-SN-0025-01 | C1 | 505573-3331-42DD-3305 | 00 | Intake - Unit 1 - Intake Bottom - Hydraulic Passage Roof - Sections And Details - Reinforcement |
| 0007-4232 | 06 | MFA-SN-CD-3220-CV-SE-0023-01 | C1 | 505573-3331-42DD-3306 | 00 | Intake - Unit 1 - Intake Bottom - Plan El 15.50 - Reinforcement |
| 0007-4232 | 07 | MFA-SN-CD-3220-CV-SN-0026-01 | C1 | 505573-3331-42DD-3307 | 00 | Intake - Unit 1 - Intake Bottom - Sections And Details - Reinforcement |
| 0007-4232 | 08 | MFA-SN-CD-3220-CV-EL-0011-01 | C1 | 505573-3331-42DD-3308 | 00 | Intake - Unit 1 - Intake Bottom - Left And Right Walls - Contraction Joint Faces - Elevations - Reinforcement |
| 0007-4232 | 09 | MFA-SN-CD-3220-CV-SE-0024-01 | C1 | 505573-3331-42DD-3309 | 00 | Intake - Unit 1 - Intake Bottom - Left And Right Walls - Interior Faces - Sections - Reinforcement |
| 0007-4232 | 10 | MFA-SN-CD-3220-CV-SE-0025-01 | C1 | 505573-3331-42DD-3310 | 00 | Intake - Unit 1 - Intake Bottom - Intermediate Piers - Sections - Reinforcement |
| 0007-4232 | 11 | MFA-SN-CD-3220-CV-EL-0012-01 | C1 | 505573-3331-42DD-3311 | 00 | Intake - Unit 1 - Intake Bottom - Upstream Elevation - Reinforcement |
| 0007-4232 | 12 | MFA-SN-CD-3220-CV-SN-0027-01 | C1 | 505573-3331-42DD-3312 | 00 | Intake - Unit 1 - Intake Bottom - Drainage Gallery - Sections - Reinforcement |
| 0007-4232 | 13 | MFA-SN-CD-3220-CV-SE-0026-01 | C1 | 505573-3331-42DD-3313 | 00 | Intake - Unit 1 - Intake Bottom - Bulkhead Gates Slots - Sections - Reinforcement |
| 0007-4232 | 14 | MFA-SN-CD-3220-CV-SE-0027-01 | C1 | 505573-3331-42DD-3314 | 00 | Intake - Unit 1 - Intake Bottom - Head Gate Slots - Sections - Reinforcement |
| 0007-4232 | 15 | MFA-SN-CD-3220-CV-SN-0028-01 | C1 | 505573-3331-42DD-3315 | 00 | Intake - Unit 1 - Intake Bottom - Bulkhead Gate And Head Gate Slots - Sections And Details - Reinforcement |

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| 0007-4232 | 16 | MFA-SN-CD-3220-CV-SE-0028-01 | C1 | 505573-3331-42DD-3316 | 00 | Intake - Unit 1 - Intake Bototm - Downstream Sections - Reinforcement |
| 0007-4232 | 17 | MFA-SN-CD-3220-CV-SN-0029-01 | C1 | 505573-3331-42DD-3317 | 00 | Intake - Unit 1 - Intake Bottom - Sections And Details - Reinforcement |
| 0007-4233 | 01 | MFA-SN-CD-3220-CV-PL-0023-01 | C1 | 505573-3331-42DD-3325 | 00 | Intake - Unit 1 - Intake Top - Plan Et 19.00 And Section - Reinforcement |
| 0007-4233 | 02 | MFA-SN-CD-3220-CV-PL-0024-01 | C1 | 505573-3331-42DD-3326 | 00 | Intake - Unit 1 - Intake Top - Gate Inpsection Gallery - Plan El 23.00 And Detail - Reinforcement |
| 0007-4233 | 03 | MFA-SN-CD-3220-CV-SN-0030-01 | C1 | 505573-3331-42DD-3327 | 00 | Intake - Unit 1 - Intake Top - Plan El 26.00 And Sections - Reinforcement |
| 0007-4233 | 04 | MFA-SN-CD-3220-CV-PL-0025-01 | C1 | 505573-3331-42DD-3328 | 00 | Intake - Unit 1 - Intake Top - Plan El 42.50 - Reinforcement |
| 0007-4233 | 05 | MFA-SN-CD-3220-CV-PL-0026-01 | C1 | 505573-3331-42DD-3329 | 00 | Intake - Unit 1 - Intake Top - Intake Deck - Plan El 45.50 - Reinforcement |
| 0007-4233 | 06 | MFA-SN-CD-3220-CV-SN-0031-01 | C1 | 505573-3331-42DD-3330 | 00 | Intake - Unit 1 - Intake Top - Sections And Details - Reinforcement |
| 0007-4233 | 07 | MFA-SN-CD-3220-CV-EL-0013-01 | C1 | 505573-3331-42DD-3331 | 00 | Intake - Unit 1 - Intake Top - Left And Right Walls - Contraction Joint Faces - Elevations - Reinforcement |
| 0007-4233 | 08 | MFA-SN-CD-3220-CV-SE-0029-01 | C1 | 505573-3331-42DD-3332 | 00 | Intake - Unit 1 - Intake Top - Left And Right Walls - Interior Faces - Sections - Reinforcement |
| 0007-4233 | 09 | MFA-SN-CD-3220-CV-SE-0030-01 | C1 | 505573-3331-42DD-3333 | 00 | Intake - Unit 1 - Intake Top - Intermediate Piers - Sections - Reinforcement |
| 0007-4233 | 10 | MFA-SN-CD-3220-CV-SN-0032-01 | C1 | 505573-3331-42DD-3334 | 00 | Intake - Unit 1 - Intake Top - Upstream Elevation - Reinforcement |
| 0007-4233 | 11 | MFA-SN-CD-3220-CV-EL-0014-01 | C1 | 505573-3331-42DD-3335 | 00 | Intake - Unit 1 - Intake Top - Bulkhead Gate Slots - Upstream Face - Section - Reinforcement |
| 0007-4233 | 12 | MFA-SN-CD-3220-CV-SE-0031-01 | C1 | 505573-3331-42DD-3336 | 00 | Intake - Unit 1 - Intake Top - Bulkhead Gate Slots - Downstream Face - Sections - Reinforcement |
| 0007-4233 | 13 | MFA-SN-CD-3220-CV-SE-0032-01 | C1 | 505573-3331-42DD-3337 | 00 | Intake - Unit 1 - Intake Top - Head Gate Slots - Upstream Face - Section - Reinforcement |
| 0007-4233 | 14 | MFA-SN-CD-3220-CV-SN-0033-01 | C1 | 505573-3331-42DD-3338 | 00 | Intake - Unit 1 - Intake Top - Head Gate Slots - Downstream Face - Section - Reinforcement |
| 0007-4233 | 15 | MFA-SN-CD-3220-CV-EL-0015-01 | C1 | 505573-3331-42DD-3339 | 00 | Intake - Unit 1 - Intake Top - Downstream Wall - Elevation - Reinforcement |
| 0007-4234 | 01 | MFA-SN-CD-3310-CV-PL-0039-01 | C1 | 505573-3331-42DD-3375 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Plan El -33.60 - Reinforcement |
| 0007-4234 | 02 | MFA-SN-CD-3310-CV-PL-0040-01 | C1 | 505573-3331-42DD-3376 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Elevations C-C And D-D At Contraction Joint - Reinforcement |
| 0007-4234 | 03 | MFA-SN-CD-3310-CV-PL-0041-01 | C1 | 505573-3331-42DD-3377 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Developed View Elevation H-H - Reinforcement |
| 0007-4234 | 04 | MFA-SN-CD-3310-CV-EL-0019-01 | C1 | 505573-3331-42DD-3378 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Dewatering Gallery - Plan El - 20.30 - Reinforcement |
| 0007-4234 | 05 | MFA-SN-CD-3310-CV-SN-0039-01 | C1 | 505573-3331-42DD-3379 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Dewatering Gallery - Sections A-A, B-B, C-C - Reinforcement |
| 0007-4234 | 06 | MFA-SN-CD-3310-CV-EL-0020-01 | C1 | 505573-3331-42DD-3380 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Draft Tube Cone Access - Sections And Details - Reinforcement |
| 0007-4234 | 07 | MFA-SN-CD-3310-CV-SE-0017-01 | C1 | 505573-3331-42DD-3381 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Draft Tube Elbow - Circular Passage Access - Sections And Details - Reinforcement |
| 0007-4234 | 08 | MFA-SN-CD-3310-CV-SN-0040-01 | C1 | 505573-3331-42DD-3382 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow Cone - Developed Section And Details - Reinforcement |
| 0007-4234 | 09 | MFA-SN-CD-3310-CV-SN-0041-01 | C1 | 505573-3331-42DD-3383 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Plan El -14.50 - Reinforcement |
| 0007-4234 | 10 | MFA-SN-CD-3310-CV-SN-0042-01 | C1 | 505573-3331-42DD-3384 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Transverse Section At Centre Line Of Unit - Section E-E And Detail - Reinforcement |
| 0007-4234 | 11 | MFA-SN-CD-3310-CV-DD-0008-01 | C1 | 505573-3331-42DD-3385-SH1 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 1 Of 8 |

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| 0007-4234 | 12 | MFA-SN-CD-3310-CV-DD-0008-02 | C1 | 505573-3331-42DD-3385-SH2 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 2 Of 8 |
| 0007-4234 | 13 | MFA-SN-CD-3310-CV-DD-0008-03 | C1 | 505573-3331-42DD-3385-SH3 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 3 Of 8 |
| 0007-4234 | 14 | MFA-SN-CD-3310-CV-DD-0008-04 | C1 | 505573-3331-42DD-3385-SH4 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 4 Of 8 |
| 0007-4234 | 15 | MFA-SN-CD-3310-CV-DD-0008-05 | C1 | 505573-3331-42DD-3385-SH5 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 5 Of 8 |
| 0007-4234 | 16 | MFA-SN-CD-3310-CV-DD-0008-06 | C1 | 505573-3331-42DD-3385-SH6 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 6 Of 8 |
| 0007-4234 | 17 | MFA-SN-CD-3310-CV-DD-0008-07 | C1 | 505573-3331-42DD-3385-SH7 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 7 Of 8 |
| 0007-4234 | 18 | MFA-SN-CD-3310-CV-DD-0008-08 | C1 | 505573-3331-42DD-3385-SH8 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Hydraulic Passage Interior Faces - Reinforcement - Sheet 8 Of 8 |
| 0007-4234 | 19 | MFA-SN-CD-3310-CV-DD-0019-01 | C1 | 505573-3331-42DD-3386 | 00 | Powerhouse - Unit 1 - Draft Tube Elbow - Cone - Second Phase Concrete - Reinforcement |
| 0007-4235 | 01 | MFA-SN-CD-3310-CV-PL-0042-01 | C1 | 505573-3331-42DD-3400 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Transverse Section At Centreline Of Unit Section A-A And Details - Reinforcement |
| 0007-4235 | 02 | MFA-SN-CD-3310-CV-PL-0043-01 | C1 | 505573-3331-42DD-3401 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Longitudinal Section At Centreline Of Units Section B-B And Details - Reinforcement |
| 0007-4235 | 03 | MFA-SN-CD-3310-CV-PL-0044-01 | C1 | 505573-3331-42DD-3402 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Floor - Plan At El -5.70 Radial Reinforcement |
| 0007-4235 | 04 | MFA-SN-CD-3310-CV-PL-0045-01 | C1 | 505573-3331-42DD-3403 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Floor - Plan Elevation -5.70 - Longitudinal Reinforcement |
| 0007-4235 | 05 | MFA-SN-CD-3310-CV-PL-0046-01 | C1 | 505573-3331-42DD-3404 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Concrete Around Stayring Reinforcement |
| 0007-4235 | 06 | MFA-SN-CD-3310-CV-PL-0047-01 | C1 | 505573-3331-42DD-3405 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Roof - Plan El 2.60 - Radial Reinforcement |
| 0007-4235 | 07 | MFA-SN-CD-3310-CV-PL-0048-01 | C1 | 505573-3331-42DD-3406 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Roof - Plan El 2.60 Longitudinal Reinforcement |
| 0007-4235 | 08 | MFA-SN-CD-3310-CV-SN-0043-01 | C1 | 505573-3331-42DD-3407 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Developed Section M-M And Details - Reinforcement |
| 0007-4235 | 09 | MFA-SN-CD-3310-CV-EL-0021-01 | C1 | 505573-3331-42DD-3408 SH1 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Developed Elevations Q-Q And R-R Reinforcement - Sheet 1 Of 2 |
| 0007-4235 | 10 | MFA-SN-CD-3310-CV-EL-0021-02 | C1 | 505573-3331-42DD-3408 SH2 | 00 | Muskrat Falls Powerhouse - Unit 1 Semi-Spiral Case Developed Elevation Q-Q And R-R Reinforcement - Sheet 2 Of 2 |
| 0007-4235 | 11 | MFA-SN-CD-3310-CV-EL-0022-01 | C1 | 505573-3331-42DD-3409 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Elevation F-F Reinforcement |
| 0007-4235 | 12 | MFA-SN-CD-3310-CV-SN-0044-01 | C1 | 505573-3331-42DD-3410 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Elevation G-G - Reinforcement |
| 0007-4235 | 13 | MFA-SN-CD-3310-CV-EL-0023-01 | C1 | 505573-3331-42DD-3411 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Plan Elevation 4.65 - Sections And Details - Reinforcement |
| 0007-4235 | 14 | MFA-SN-CD-3310-CV-SN-0045-01 | C1 | 505573-3331-42DD-3412 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Turbine Foundation Plan El 6.72 - Sections And Details - Reinforcement |
| 0007-4235 | 15 | MFA-SN-CD-3310-CV-SN-0046-01 | C1 | 505573-3331-42DD-3413 SH1 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Lower Bracket And Turbine Pit Assesses Sections And Details Reinforcement - Sheet 1 Of 2 |
| 0007-4235 | 16 | MFA-SN-CD-3310-CV-SN-0046-02 | C1 | 505573-3331-42DD-3413 SH2 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case Lower Bracket And Turbine Pit Accesses Sections And Details Reinforcement - Sheet 2 Of 2 |
| 0007-4235 | 17 | MFA-SN-CD-3310-CV-SN-0047-01 | C1 | 505573-3331-42DD-3414 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Turbine Floor Plan El 6.50 Sections And Details - Reinforcement |
| 0007-4235 | 18 | MFA-SN-CD-3310-CV-SN-0048-01 | C1 | 505573-3331-42DD-3415 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Stair And Maintenance Shafts, Semi-Spiral Case Access Sections And Details Reinforcement |
| 0007-4235 | 19 | MFA-SN-CD-3310-CV-SN-0049-01 | C1 | 505573-3331-42DD-3416 SH1 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case Plan, Sections And Details - Reinforcement - Sheet 1 Of 3 |
| 0007-4235 | 20 | MFA-SN-CD-3310-CV-SN-0049-02 | C1 | 505573-3331-42DD-3416 SH2 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case Plan, Sections And Details Reinforcement - Sheet 2 Of 3 |

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| 0007-4235 | 21 | MFA-SN-CD-3310-CV-SN-0049-03 | C1 | 505573-3331-42DD-3416 SH3 | 00 | Muskrat Falls Powerhouse - Unit 1 - Semi-Spiral Case - Plan, Sections And Details Reinforcement - Sheet 3 Of 3 |
| 0007-4236 | 01 | MFA-SN-CD-3310-CV-PL-0049-01 | C1 | 505573-3331-42DD-3425 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Base Slab - Reinforcement |
| 0007-4236 | 02 | MFA-SN-CD-3310-CV-SN-0053-01 | C1 | 505573-3331-42DD-3426 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Sections And Details - Reinforcement |
| 0007-4236 | 03 | MFA-SN-CD-3310-CV-PL-0050-01 | C1 | 505573-3331-42DD-3427 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Plan El -15.222 - Reinforcement |
| 0007-4236 | 04 | MFA-SN-CD-3310-CV-DD-0009-01 | C1 | 505573-3331-42DD-3428 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Hydraulic Passage Roof - Reinforcement |
| 0007-4236 | 05 | MFA-SN-CD-3310-CV-SN-0054-01 | C1 | 505573-3331-42DD-3429 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Sections - Reinforcement |
| 0007-4236 | 06 | MFA-SN-CD-3310-CV-EL-0024-01 | C1 | 505573-3331-42DD-3430 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Left And Right Walls - Contraction Joint Faces - Reinforcement |
| 0007-4236 | 07 | MFA-SN-CD-3310-CV-SN-0055-01 | C1 | 505573-3331-42DD-3431 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Left And Right Walls - Interior Faces - Reinforcement - Sheet 1 Of 2 |
| 0007-4236 | 08 | MFA-SN-CD-3310-CV-SN-0055-02 | C1 | 505573-3331-42DD-3431-SH2 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Left And Right Walls - Interior Faces - Reinforcement - Sheet 2 Of 2 |
| 0007-4236 | 09 | MFA-SN-CD-3310-CV-SN-0090-01 | C1 | 505573-3331-42DD-3432 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Intermediate Pier - Reinforcement |
| 0007-4236 | 10 | MFA-SN-CD-3310-CV-SN-0091-01 | C1 | 505573-3331-42DD-3433 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Draft Tube Gate Slots - Sections - Reinforcement |
| 0007-4236 | 11 | MFA-SN-CD-3310-CV-SN-0058-01 | C1 | 505573-3331-42DD-3434 | 00 | Muskrat Falls - North Service Bay - Plan, Sections And Details Miscellaneous Steel |
| 0007-4236 | 12 | MFA-SN-CD-3310-CV-EL-0025-01 | C1 | 505573-3331-42DD-3435 | 00 | Powerhouse - Unit 1 - Draft Tube Outlet - Downstream Elevation - Reinforcement |
| 0007-4237 | 01 | MFA-SN-CD-3310-CV-PL-0051-01 | C1 | 505573-3331-42DD-3450 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Plan El -8.90 And El 0.50 - Reinforcement Sheet 1 Of 2 |
| 0007-4237 | 02 | MFA-SN-CD-3310-CV-PL-0051-02 | C1 | 505573-3331-42DD-3450 SH2 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Plan El -8.90 And El 0.50 - Reinforcement - Sheet 2 Of 2 |
| 0007-4237 | 03 | MFA-SN-CD-3310-CV-PL-0052-01 | C1 | 505573-3331-42DD-3451 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Turbine Floor - Plans El 6.50 - Reinforcement |
| 0007-4237 | 04 | MFA-SN-CD-3310-CV-EL-0026-01 | C1 | 505573-3331-42DD-3452 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Left And Right Walls - Contraction Joint Faces - Reinforcement |
| 0007-4237 | 05 | MFA-SN-CD-3310-CV-SN-0059-01 | C1 | 505573-3331-42DD-3453 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Left And Right Walls - Interior Faces - Reinforcement |
| 0007-4237 | 06 | MFA-SN-CD-3310-CV-SN-0060-01 | C1 | 505573-3331-42DD-3454 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Intermediate Pier - Reinforcement |
| 0007-4237 | 07 | MFA-SN-CD-3310-CV-SN-0061-01 | C1 | 505573-3331-42DD-3455 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Section And Elevation - Reinforcement |
| 0007-4237 | 08 | MFA-SN-CD-3320-CV-SE-0006-01 | C1 | 505573-3331-42DD-3456 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Draft Tube Gates Slots - Sections - Reinforcement |
| 0007-4237 | 09 | MFA-SN-CD-3310-CV-SN-0062-01 | C1 | 505573-3331-42DD-3457 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Sections And Details - Reinforcement - Sheet 1 Of 2 |
| 0007-4237 | 10 | MFA-SN-CD-3310-CV-SN-0062-02 | C1 | 505573-3331-42DD-3457 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Sections And Details - Reinforcement - Sheet 2 Of 2 |
| 0007-4237 | 11 | MFA-SN-CD-3310-CV-EL-0027-01 | C1 | 505573-3331-42DD-3458 | 00 | Powerhouse - Unit 1 - Tailrace Piers And Walls - Downstream Elevation And Sections - Reinforcement |
| 0007-4238 | 01 | MFA-SN-CD-3310-CV-PL-0053-01 | C1 | 505573-3331-42DD-3475 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Generator Pit Plans El 6.72 And El 14.70 - Reinforcement |
| 0007-4238 | 02 | MFA-SN-CD-3310-CV-PL-0054-01 | C1 | 505573-3331-42DD-3476-SH1 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Plan El 15.50 - Reinforcement - Sheet 1 Of 2 |
| 0007-4238 | 03 | MFA-SN-CD-3310-CV-PL-0054-02 | C1 | 505573-3331-42DD-3476-SH2 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Plan El 15.50 - Reinforcement - Sheet 2 Of 2 |
| 0007-4238 | 04 | MFA-SN-CD-3320-CV-PL-0025-01 | C1 | 505573-3331-42DD-3477-SH1 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - El 15.50 - Sections And Details - Reinforcement - Sheet 1 Of 3 |

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| 0007-4238 | 05 | MFA-SN-CD-3320-CV-PL-0025-02 | C1 | 505573-3331-42DD-3477-SH2 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - El 15.50 - Sections And Details - Reinforcement - Sheet 2 Of 3 |
| 0007-4238 | 06 | MFA-SN-CD-3320-CV-PL-0025-03 | C1 | 505573-3331-42DD-3477-SH3 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - El 15.50 - Sections And Details - Reinforcement - Sheet 3 Of 3 |
| 0007-4238 | 07 | MFA-SN-CD-3320-CV-SN-0017-01 | C1 | 505573-3331-42DD-3478-SH1 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Sections And Details Of Walls - Reinforcement - Sheet 1 Of 2 |
| 0007-4238 | 08 | MFA-SN-CD-3320-CV-SN-0017-02 | C1 | 505573-3331-42DD-3478-SH2 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Sections And Details Of Walls - Reinforcement - Sheet 2 Of 2 |
| 0007-4238 | 09 | MFA-SN-CD-3320-CV-SE-0007-01 | C1 | 505573-3331-42DD-3479 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Generator Pit Walls - Sections And Details - Reinforcement - Sheet 1 Of 2 |
| 0007-4238 | 10 | MFA-SN-CD-3320-CV-SE-0007-02 | C1 | 505573-3331-42DD-3479-SH2 | 00 | Powerhouse - Unit 1 - Generator Floor And Tailrace Deck - Generator Pit Walls - Sections And Details - Reinforcement - Sheet 2 Of 2 |
| 0007-4239 | 01 | MFA-SN-CD-3220-CV-PL-0027-01 | C1 | 505573-3331-42DD-3350 | 00 | Intake - Unit 1 - Gate Hoist Building - Plan El 51.10 - Reinforcement |
| 0007-4239 | 02 | MFA-SN-CD-3220-CV-SE-0033-01 | C1 | 505573-3331-42DD-3351 | 00 | Intake - Unit 1 - Gate Hoist Building - Sections R-R And S-S - Reinforcement |
| 0007-4239 | 03 | MFA-SN-CD-3220-CV-SN-0035-01 | C1 | 505573-3331-42DD-3352 | 00 | Intake - Unit 1 - Gate Hoist Building - Sections T-T And Elevation L-L - Reinforcement |
| 0007-4239 | 04 | MFA-SN-CD-3220-CV-SN-0036-01 | C1 | 505573-3331-42DD-3353 | 00 | Intake - Unit 1 - Gate Hoist Building - Sections U-U And V-V - Reinforcement |
| 0007-4239 | 05 | MFA-SN-CD-3220-CV-SN-0037-01 | C1 | 505573-3331-42DD-3354 | 00 | Intake - Unit 1 - Gate Hoist Building - Beams Elevations And Sections - Reinforcement |
| 0007-4246 | 01 | MFA-SN-CD-3310-CV-PL-0068-01 | C1 | 505573-3331-42DD-3675 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Generator Pit Plans El 6.72 And El 14.70 - Reinforcement |
| 0007-4246 | 02 | MFA-SN-CD-3310-CV-PL-0069-01 | C1 | 505573-3331-42DD-3676-SH1 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Plan El 15.05 - Reinforcement - Sheet 1 Of 2 |
| 0007-4246 | 03 | MFA-SN-CD-3310-CV-PL-0069-02 | C1 | 505573-3331-42DD-3676-SH2 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Plan El 15.50 - Reinforcement - Sheet 2 Of 2 |
| 0007-4246 | 04 | MFA-SN-CD-3320-CV-PL-0026-01 | C1 | 505573-3331-42DD-3677-SH1 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Plan El 15.50 - Sections And Details - Reinforcement - Sheet 1 Of 4 |
| 0007-4246 | 05 | MFA-SN-CD-3320-CV-PL-0026-02 | C1 | 505573-3331-42DD-3677-SH2 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - El 15.50 - Sections And Details - Reinforcement - Sheet 2 Of 4 |
| 0007-4246 | 06 | MFA-SN-CD-3320-CV-PL-0026-03 | C1 | 505573-3331-42DD-3677-SH3 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - El 15.50 - Sections And Details - Reinforcement - Sheet 3 Of 4 |
| 0007-4246 | 07 | MFA-SN-CD-3320-CV-PL-0026-04 | C1 | 505573-3331-42DD-3677-SH4 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - El 15.50 - Sections And Details - Reinforcement - Sheet 4 Of 4 |
| 0007-4246 | 08 | MFA-SN-CD-3320-CV-SN-0021-01 | C1 | 505573-3331-42DD-3678-SH1 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Sections And Details Of Walls - Reinforcement - Sheet 1 Of 2 |
| 0007-4246 | 09 | MFA-SN-CD-3320-CV-SN-0021-02 | C1 | 505573-3331-42DD-3678-SH2 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Sections And Details Of Walls - Reinforcement - Sheet 2 Of 2 |
| 0007-4246 | 10 | MFA-SN-CD-3320-CV-SE-0009-01 | C1 | 505573-3331-42DD-3679 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Generator Pit Walls - Sections And Details - Reinforcement Sheet 1 Of 2 |
| 0007-4246 | 11 | MFA-SN-CD-3320-CV-SE-0009-02 | C1 | 505573-3331-42DD-3679-SH2 | 00 | Powerhouse - Unit 4 - Generator Floor And Tailrace Deck - Generator Pit Walls - Sections And Details - Reinforcement - Sheet 2 Of 2 |
| 0007-4247 | 01 | MFA-SN-CD-3220-CV-PL-0035-01 | C1 | 505573-3331-42DD-3550 | 00 | Intake - Unit 4 - Gate Hoist Building - Plan El 51.10 - Reinforcement |
| 0007-4247 | 02 | MFA-SN-CD-3220-CV-SE-0043-01 | C1 | 505573-3331-42DD-3551 | 00 | Intake - Unit 4 - Gate Hoist Building - Sections A-A, B-B And C-C - Reinforcement |
| 0007-4247 | 03 | MFA-SN-CD-3220-CV-SN-0051-01 | C1 | 505573-3331-42DD-3552 | 00 | Intake - Unit 4 - Gate Hoist Building - Sections T-T And Elevation L-L - Reinforcement |
| 0007-4247 | 04 | MFA-SN-CD-3220-CV-SN-0052-01 | C1 | 505573-3331-42DD-3553 | 00 | INTAKE - UNIT 4 - GATE HOIST BUILDING - SECTIONS U-U And V-V - REINFORCEMENT |
| 0007-4247 | 05 | MFA-SN-CD-3220-CV-SN-0053-01 | C1 | 505573-3331-42DD-3554 | 00 | Intake - Unit 4 - Gate Hoist Building - Beams Elevations And Sections - Reinforcement |
| 0007-4248 | 01 | MFA-SN-CD-3310-CV-IS-0004-01 | C1 | 505573-3331-42DD-2009-SH1 | 01 | Powerhouse - South Service Bay - Waterstops Isometric Views - Sheet 1 Of 2 |

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| 0007-4248 | 02 | MFA-SN-CD-3310-CV-IS-0004-02 | C1 | 505573-3331-42DD-2009-SH2 | 01 | Powerhouse - South Service Bay - Waterstops Isometric Views - Sheet 2 Of 2 |
| 0007-4248 | 03 | MFA-SN-CD-3310-CV-PL-0020-01 | C1 | 505573-3331-42DD-2400 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Plans El-32.00 To El 0.00 - Concrete |
| 0007-4248 | 04 | MFA-SN-CD-3310-CV-PL-0021-01 | C1 | 505573-3331-42DD-2401-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Details - Plans El -22.78 To El 0.00 - Concrete - Sheet 1 of 2 |
| 0007-4248 | 05 | MFA-SN-CD-3310-CV-PL-0021-02 | C1 | 505573-3331-42DD-2401-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Details - Plans El -22.78 To El 0.00 - Concrete - Sheet 2 of 2 |
| 0007-4248 | 06 | MFA-SN-CD-3310-CV-PL-0022-01 | C1 | 505573-3331-42DD-2402 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Turbine Floor - Plan El 6.50 and El 8.00 - Concrete |
| 0007-4248 | 07 | MFA-SN-CD-3320-CV-PL-0012-01 | C1 | 505573-3331-42DD-2403 | 00 | Muskrat Falls - Powerhouse -South Service Bay - Generator Floor - Plan El 15.50 - Concrete |
| 0007-4248 | 08 | MFA-SN-CD-3320-CV-PL-0013-01 | C1 | 505573-3331-42DD-2404 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Plans El 25.00 To El 54.10 - Concrete |
| 0007-4248 | 09 | MFA-SN-CD-3320-CV-SE-0001-01 | C1 | 505573-3331-42DD-2405-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A and Details - Concrete - Sheet 1 of 2 |
| 0007-4248 | 10 | MFA-SN-CD-3320-CV-SE-0001-02 | C1 | 505573-3331-42DD-2405-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A and Details - Concrete - Sheet 2 of 2 |
| 0007-4248 | 11 | MFA-SN-CD-3320-CV-SE-0002-01 | C1 | 505573-3331-42DD-2406-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B and Details - Concrete - Sheet 1 of 2 |
| 0007-4248 | 12 | MFA-SN-CD-3320-CV-SE-0002-02 | C1 | 505573-3331-42DD-2406-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B and Details - Concrete - Sheet 2 of 2 |
| 0007-4248 | 13 | MFA-SN-CD-3320-CV-SE-0003-01 | C1 | 505573-3331-42DD-2407-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C and Detail - Concrete - Sheet 1 of 2 |
| 0007-4248 | 14 | MFA-SN-CD-3320-CV-SE-0003-02 | C1 | 505573-3331-42DD-2407-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C and Detail - Concrete - Sheet 2 of 2 |
| 0007-4248 | 15 | MFA-SN-CD-3320-CV-SN-0006-01 | C1 | 505573-3331-42DD-2408 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section D-D - Concrete |
| 0007-4248 | 16 | MFA-SN-CD-3320-CV-SN-0007-01 | C1 | 505573-3331-42DD-2409-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections and Details - Concrete - Sheet 1 of 6 |
| 0007-4248 | 17 | MFA-SN-CD-3320-CV-SN-0007-02 | C1 | 505573-3331-42DD-2409-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections and Details - Concrete - Sheet 2 of 6 |
| 0007-4248 | 18 | MFA-SN-CD-3320-CV-SN-0007-03 | C1 | 505573-3331-42DD-2409-SH3 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections and Details - Concrete - Sheet 3 of 6 |
| 0007-4248 | 19 | MFA-SN-CD-3320-CV-SN-0007-04 | C1 | 505573-3331-42DD-2409-SH4 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections and Details - Concrete - Sheet 4 of 6 |
| 0007-4248 | 20 | MFA-SN-CD-3320-CV-SN-0007-05 | C1 | 505573-3331-42DD-2409-SH5 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections and Details - Concrete - Sheet 5 of 6 |
| 0007-4248 | 21 | MFA-SN-CD-3320-CV-SN-0007-06 | C1 | 505573-3331-42DD-2409-SH6 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections and Details - Concrete - Sheet 6 of 6 |
| 0007-4248 | 22 | MFA-SN-CD-3320-CV-PL-0014-01 | C1 | 505573-3331-42DD-2410 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Slab On Rock - Plans El 15.50 and Sections - Concrete |
| 0007-4248 | 23 | MFA-SN-CD-3320-CV-SN-0008-01 | C1 | 505573-3331-42DD-2411 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Slab On Rock - Typical Sections and Details - Concrete |
| 0007-4249 | 01 | MFA-SN-CD-3310-CV-PL-0070-01 | C1 | 505573-3331-42DD-3701-SH1 | 00 | Powerhouse – South Service Bay – Plans El -32.00, El -20.30 and El -16.80 – Reinforcement – Sheet 1 of 2 |
| 0007-4249 | 02 | MFA-SN-CD-3310-CV-PL-0070-02 | C1 | 505573-3331-42DD-3701-SH2 | 00 | Powerhouse – South Service Bay – Plans El -32.00, El -20.30 and El -16.80 – Reinforcement – Sheet 2 of 2 |
| 0007-4249 | 03 | MFA-SN-CD-3310-CV-PL-0071-01 | C1 | 505573-3331-42DD-3702 | 00 | Powerhouse – South Service Bay – Plans El -7.90 and El -4.90 – Reinforcement |
| 0007-4249 | 04 | MFA-SN-CD-3310-CV-PL-0072-01 | C1 | 505573-3331-42DD-3703 | 00 | Powerhouse – South Service Bay – Plan El 0.00 – Sections and Details – Reinforcement |
| 0007-4249 | 05 | MFA-SN-CD-3310-CV-PL-0073-01 | C1 | 505573-3331-42DD-3704-SH1 | 00 | Powerhouse – South Service Bay – Plans El 6.50 and El 8.00 – Bottom Reinforcement – Sheet 1 of 3 |

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| 0007-4249 | 06 | MFA-SN-CD-3310-CV-PL-0073-02 | C1 | 505573-3331-42DD-3704-SH2 | 00 | Powerhouse – South Service Bay – Plans El 6.50 and El 8.00 – Bottom Reinforcement – Sheet 2 of 3 |
| 0007-4249 | 07 | MFA-SN-CD-3310-CV-PL-0073-03 | C1 | 505573-3331-42DD-3704-SH3 | 00 | Powerhouse – South Service Bay – Plans El 6.50 and El 8.00 – Bottom Reinforcement – Sheet 3 of 3 |
| 0007-4249 | 08 | MFA-SN-CD-3320-CV-PL-0028-01 | C1 | 505573-3331-42DD-3705-SH1 | 00 | Powerhouse – South Service Bay – Plan El 15.50 – Reinforcement – Sheet 1 of 2 |
| 0007-4249 | 09 | MFA-SN-CD-3320-CV-PL-0028-02 | C1 | 505573-3331-42DD-3705-SH2 | 00 | Powerhouse – South Service Bay – Plan El 15.50 – Reinforcement – Sheet 2 of 2 |
| 0007-4249 | 10 | MFA-SN-CD-3320-CV-SN-0024-01 | C1 | 505573-3331-42DD-3706 | 00 | Powerhouse – South Service Bay – Foundations Plan –Reinforcement |
| 0007-4249 | 11 | MFA-SN-CD-3320-CV-PL-0029-01 | C1 | 505573-3331-42DD-3707-SH1 | 00 | Powerhouse – South Service Bay – Generator Floor –Slab on Rock – Plan El 15.50 – Reinforcement – Sheet 1 of 2 |
| 0007-4249 | 12 | MFA-SN-CD-3320-CV-PL-0029-02 | C1 | 505573-3331-42DD-3707-SH2 | 00 | Powerhouse – South Service Bay – Slab on Rock Foundations – Sections and Details – Reinforcement – Sheet 2 of 2 |
| 0007-4249 | 13 | MFA-SN-CD-3320-CV-SN-0025-01 | C1 | 505573-3331-42DD-3708 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Walls At El 15.50 - Sections - Reinforcement |
| 0007-4249 | 14 | MFA-SN-CD-3320-CV-PL-0030-01 | C1 | 505573-3331-42DD-3709 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Plans El 25.00 And El 34.47 - Reinforcement |
| 0007-4249 | 15 | MFA-SN-CD-3320-CV-PL-0031-01 | C1 | 505573-3331-42DD-3710 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Plans El 45.50, El 50.80 And El 54.10 - Reinforcement |
| 0007-4249 | 16 | MFA-SN-CD-3320-CV-SN-0027-01 | C1 | 505573-3331-42DD-3712-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A - Reinforcement - Sheet 1 of 5 |
| 0007-4249 | 17 | MFA-SN-CD-3320-CV-SN-0027-02 | C1 | 505573-3331-42DD-3712-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A And Details - Reinforcement - Sheet 2 of 5 |
| 0007-4249 | 18 | MFA-SN-CD-3320-CV-SN-0027-03 | C1 | 505573-3331-42DD-3712-SH3 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A And Details - Reinforcement - Sheet 3 of 5 |
| 0007-4249 | 19 | MFA-SN-CD-3320-CV-SN-0027-04 | C1 | 505573-3331-42DD-3712-SH4 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A - Reinforcement - Sheet 4 of 5 |
| 0007-4249 | 20 | MFA-SN-CD-3320-CV-SN-0027-05 | C1 | 505573-3331-42DD-3712-SH5 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A And Details - Reinforcement - Sheet 5 of 5 |
| 0007-4249 | 21 | MFA-SN-CD-3320-CV-SN-0028-01 | C1 | 505573-3331-42DD-3713-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B - Reinforcement - Sheet 1 of 4 |
| 0007-4249 | 22 | MFA-SN-CD-3320-CV-SN-0028-02 | C1 | 505573-3331-42DD-3713-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B And Details - Reinforcement - Sheet 2 of 4 |
| 0007-4249 | 23 | MFA-SN-CD-3320-CV-SN-0028-03 | C1 | 505573-3331-42DD-3713-SH3 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B And Details - Reinforcement - Sheet 3 of 4 |
| 0007-4249 | 24 | MFA-SN-CD-3320-CV-SN-0028-04 | C1 | 505573-3331-42DD-3713-SH4 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B And Details - Reinforcement - Sheet 4 of 4 |
| 0007-4249 | 25 | MFA-SN-CD-3320-CV-SE-0011-01 | C1 | 505573-3331-42DD-3714-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C - Reinforcement - Sheet 1 of 5 |
| 0007-4249 | 26 | MFA-SN-CD-3320-CV-SE-0011-02 | C1 | 505573-3331-42DD-3714-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C - Reinforcement - Sheet 2 of 5 |
| 0007-4249 | 27 | MFA-SN-CD-3320-CV-SE-0011-03 | C1 | 505573-3331-42DD-3714-SH3 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C And Details - Reinforcement - Sheet 3 of 5 |
| 0007-4249 | 28 | MFA-SN-CD-3320-CV-SE-0011-04 | C1 | 505573-3331-42DD-3714-SH4 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C - Reinforcement - Sheet 4 of 5 |
| 0007-4249 | 29 | MFA-SN-CD-3320-CV-SE-0011-05 | C1 | 505573-3331-42DD-3714-SH5 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Section C-C And Details - Reinforcement - Sheet 5 of 5 |
| 0007-4249 | 30 | MFA-SN-CD-3320-CV-SE-0012-01 | C1 | 505573-3331-42DD-3715-SH1 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 1 of 10 |
| 0007-4249 | 31 | MFA-SN-CD-3320-CV-SE-0012-02 | C1 | 505573-3331-42DD-3715-SH2 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 2 of 10 |
| 0007-4249 | 32 | MFA-SN-CD-3320-CV-SE-0012-03 | C1 | 505573-3331-42DD-3715-SH3 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 3 of 10 |
| 0007-4249 | 33 | MFA-SN-CD-3320-CV-SE-0012-04 | C1 | 505573-3331-42DD-3715-SH4 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 4 of 10 |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| 0007-4249 | 34 | MFA-SN-CD-3320-CV-SE-0012-05 | C1 | 505573-3331-42DD-3715-SH5 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 5 of 10 |
| 0007-4249 | 35 | MFA-SN-CD-3320-CV-SE-0012-06 | C1 | 505573-3331-42DD-3715-SH6 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 6 of 10 |
| 0007-4249 | 36 | MFA-SN-CD-3320-CV-SE-0012-07 | C1 | 505573-3331-42DD-3715-SH7 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 7 of 10 |
| 0007-4249 | 37 | MFA-SN-CD-3320-CV-SE-0012-08 | C1 | 505573-3331-42DD-3715-SH8 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 8 of 10 |
| 0007-4249 | 38 | MFA-SN-CD-3320-CV-SE-0012-09 | C1 | 505573-3331-42DD-3715-SH9 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Reinforcement - Sheet 9 of 10 |
| 0007-4249 | 39 | MFA-SN-CD-3320-CV-SE-0012-10 | C1 | 505573-3331-42DD-3715-SH10 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Sections And Details - Sheet 10 of 10 |
| 0007-4249 | 40 | MFA-SN-CD-3320-CV-SE-0013-01 | C1 | 505573-3331-42DD-3716 | 00 | Muskrat Falls - Powerhouse South Service Bay - Beams - Elevations And Sections - Reinforcement |
| 0007-4249 | 41 | MFA-SN-CD-3320-CV-PL-0032-01 | C1 | 505573-3331-42DD-3717 | 00 | Muskrat Falls - Powerhouse - South Service Bay - Columns - Sections - Reinforcement |
| 0007-4250 | 01 | MFA-SN-CD-3310-CV-IS-0005-01 | C1 | 505573-3331-42DD-2010 | 01 | Powerhouse - North Service Bay - Waterstops Isometric Views |
| 0007-4250 | 02 | MFA-SN-CD-3320-CV-PL-0015-01 | C1 | 505573-3331-42DD-2450 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Slab On Rock - Plan El 15.50 - Concrete |
| 0007-4250 | 03 | MFA-SN-CD-3320-CV-PL-0016-01 | C1 | 505573-3331-42DD-2451 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Plans El 9.55, El 15.50 and El 18.80 - Concrete |
| 0007-4250 | 04 | MFA-SN-CD-3320-CV-EL-0001-01 | C1 | 505573-3331-42DD-2452-SH1 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Slab On Rock - Sections and Details - Concrete - Sheet 1 of 2 |
| 0007-4250 | 05 | MFA-SN-CD-3320-CV-EL-0001-02 | C1 | 505573-3331-42DD-2452-SH2 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Slab On Rock - Sections and Details - Concrete - Sheet 2 of 2 |
| 0007-4250 | 06 | MFA-SN-CD-3320-CV-SN-0009-01 | C1 | 505573-3331-42DD-2453-SH1 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Elevations and Sections - Concrete - Sheet 1 of 3 |
| 0007-4250 | 07 | MFA-SN-CD-3320-CV-SN-0009-02 | C1 | 505573-3331-42DD-2453-SH2 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Elevations and Sections - Concrete - Sheet 2 of 3 |
| 0007-4250 | 08 | MFA-SN-CD-3320-CV-SN-0009-03 | C1 | 505573-3331-42DD-2453-SH3 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Elevations and Sections - Concrete - Sheet 3 of 3 |
| 0007-4251 | 01 | MFA-SN-CD-3320-CV-PL-0033-01 | C1 | 505573-3331-42DD-3750-SH1 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Plans El. 9.55, El 15.50 and El 18.80 - Reinforcement - Sheet 1 of 2 |
| 0007-4251 | 02 | MFA-SN-CD-3320-CV-PL-0033-02 | C1 | 505573-3331-42DD-3750-SH2 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Plans El. 9.55, El 15.50 and El 18.80 - Reinforcement - Sheet 2 of 2 |
| 0007-4251 | 03 | MFA-SN-CD-3320-CV-SN-0029-01 | C1 | 505573-3331-42DD-3751-SH1 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Sections and Details - Reinforcement - Sheet 1 of 4 |
| 0007-4251 | 04 | MFA-SN-CD-3320-CV-SN-0029-02 | C1 | 505573-3331-42DD-3751-SH2 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Sections and Details - Reinforcement - Sheet 2 of 4 |
| 0007-4251 | 05 | MFA-SN-CD-3320-CV-SN-0029-03 | C1 | 505573-3331-42DD-3751-SH3 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Sections and Details - Reinforcement - Sheet 3 of 4 |
| 0007-4251 | 06 | MFA-SN-CD-3320-CV-SN-0029-04 | C1 | 505573-3331-42DD-3751-SH4 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Sections and Details - Reinforcement - Sheet 4 of 4 |
| 0007-4251 | 07 | MFA-SN-CD-3320-CV-PL-0034-01 | C1 | 505573-3331-42DD-3752 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Slab On Rock - Plan El 15.50 - Reinforcement |
| 0007-4251 | 08 | MFA-SN-CD-3320-CV-SN-0030-01 | C1 | 505573-3331-42DD-3753-SH1 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Slab On Rock - Sections and Details - Reinforcement - Sheet 1 of 2 |
| 0007-4251 | 09 | MFA-SN-CD-3320-CV-SN-0030-02 | C1 | 505573-3331-42DD-3753-SH2 | 00 | Muskrat Falls - Powerhouse - North Service Bay - Slab On Rock - Sections and Details - Reinforcement - Sheet 2 of 2 |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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DRAWING LIST: INTAKE AND POWERHOUSE – CONCRETE AND REINFORCEMENT (SUPERSEDED DRAWINGS)


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| N/A | C21 | MFA-SN-CD-3300-CV-DD-0004-01 | S1 | 505573-3331-42DD-0020-SH1 | 00 | Muskrat Falls - Powerhouse - Hydraulic Passage Geometry - Draft Tube - Sheet 1 of 2 |
| N/A | C22 | MFA-SN-CD-3300-CV-DD-0004-02 | S1 | 505573-3331-42DD-0020-SH2 | 00 | Muskrat Falls - Powerhouse - Hydraulic Passage Geometry - Draft Tube - Sheet 2 of 2 |
| N/A | C23 | MFA-SN-CD-3300-CV-DD-0005-01 | S1 | 505573-3331-42DD-0022 | 00 | Muskrat Falls - Powerhouse - Hydraulic Passage Geometry - Spiral case and Intake |
| N/A | C24 | MFA-SN-CD-3300-CV-DD-0003-01 | S1 | 505573-3331-42DD-0101 | 01 | Muskrat Falls - Powerhouse - Embedded Parts - Typical Details - Concrete |
| 0007-4221/4223 | CC43 | MFA-SN-CD-3300-CV-SE-0019-01 | S1 | 505573-3331-42DD-0105 | 01 | Muskrat Falls - Powerhouse - Section A-A at Centreline of Unit - Units G1, G2 , G3 and G4 - Concrete |
| 0007-4221 | CC44 | MFA-SN-CD-3300-CV-SE-0017-01 | S1 | 505573-3331-42DD-0106 | 01 | Muskrat Falls - Powerhouse - Section B-B at Centreline of Units - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | CC45 | MFA-SN-CD-3300-CV-SE-0018-01 | S1 | 505573-3331-42DD-0107 | 01 | Muskrat Falls - Powerhouse - Section B-B at Centreline of Units - Unit G3 and Unit G4 - Concrete |
| 0007-4221 | C46 | MFA-SN-CD-3300-CV-PL-0030-01 | S1 | 505573-3331-42DD-0108 | 00 | Muskrat Falls - Powerhouse - Plan above Draft Tube Floor - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C47 | MFA-SN-CD-3300-CV-PL-0031-01 | S1 | 505573-3331-42DD-0109 | 00 | Muskrat Falls - Powerhouse - Plan above Draft Tube Floor - Unit G3 and Unit G4 - Concrete |
| 0007-4221 | C48 | MFA-SN-CD-3300-CV-PL-0026-01 | S1 | 505573-3331-42DD-0110 | 00 | Muskrat Falls - Powerhouse - Plan at Dewatering Gallery El -20.30 - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C49 | MFA-SN-CD-3300-CV-PL-0027-01 | S1 | 505573-3331-42DD-0111 | 00 | Muskrat Falls - Powerhouse - Plan at Dewatering Gallery El -20.30 - Unit G3 and Unit G4 - Concrete |
| 0007-4221 | C50 | MFA-SN-CD-3300-CV-PL-0028-01 | S1 | 505573-3331-42DD-0112 | 00 | Muskrat Falls - Powerhouse - Plan at Centreline of Distributor El -5.70 - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C51 | MFA-SN-CD-3300-CV-PL-0029-01 | S1 | 505573-3331-42DD-0113 | 00 | Muskrat Falls - Powerhouse - Plan at Centreline of Distributor El -5.70 - Unit G3 and Unit G4 - Concrete |
| 0007-4221 | C52 | MFA-SN-CD-3300-CV-PL-0039-01 | S1 | 505573-3331-42DD-0114 | 01 | Muskrat Falls - Powerhouse - Plan at Turbine Floor El 6.50 - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C53 | MFA-SN-CD-3300-CV-PL-0040-01 | S1 | 505573-3331-42DD-0115 | 01 | Muskrat Falls - Powerhouse - Plan at Turbine Floor El 6.50 - Unit G3 and Unit G4 - Concrete |
| 0007-4221/4223 | C54 | MFA-SN-CD-3300-CV-SE-0014-01 | S1 | 505573-3331-42DD-0116-SH1 | 01 | Muskrat Falls - Powerhouse - Turbine Floor Plan El 6.50 - Sections and Details - Sheet 1 of 2 - Concrete |
| 0007-4221/4223 | C55 | MFA-SN-CD-3300-CV-SE-0014-02 | S1 | 505573-3331-42DD-0116-SH2 | 00 | Muskrat Falls - Powerhouse - Turbine Floor Plan El 6.50 - Sections and Details - Sheet 2 of 2 - Concrete |
| 0007-4221/4223 | C56 | MFA-SN-CD-3300-CV-DD-0002-01 | S1 | 505573-3331-42DD-0103-SH1 | 01 | Muskrat Falls - Powerhouse - Part Plan at Turbine Floor El 6.50 Units G1, G2, G3 and G4 - Sheet 1 of 2 - Concrete |
| 0007-4221/4223 | C57 | MFA-SN-CD-3300-CV-DD-0002-02 | S1 | 505573-3331-42DD-0103-SH2 | 01 | Muskrat Falls - Powerhouse - Part Plan at Turbine Floor El 6.50 Units G1, G2, G3 and G4 - Sheet 2 of 2 - Concrete |
| 0007-4221 | C58 | MFA-SN-CD-3300-CV-PL-0032-01 | S1 | 505573-3331-42DD-0118 | 01 | Muskrat Falls - Powerhouse - Plan at Generator Floor El 15.50 - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C59 | MFA-SN-CD-3300-CV-PL-0033-01 | S1 | 505573-3331-42DD-0119 | 01 | Muskrat Falls - Powerhouse - Plan at Generator Floor El 15.50 - Unit G3 and Unit G4 - Concrete |
| 0007-4221/4223 | C60 | MFA-SN-CD-3300-CV-SE-0015-01 | S1 | 505573-3331-42DD-0120-SH1 | 01 | Muskrat Falls - Powerhouse - Generator Floor El 15.50 - Sections and Details - Concrete - Sheet 1 of 2 |
| 0007-4221/4223 | C61 | MFA-SN-CD-3300-CV-SE-0015-02 | B2 | 505573-3331-42DD-0120-SH2 | 01 | Muskrat Falls - Powerhouse - Generator Floor El 15.50 - Sections and Details - Concrete - Sheet 2 of 2 |
| 0007-4221/4223 | C62 | MFA-SN-CD-3300-CV-PL-0037-01 | S1 | 505573-3331-42DD-0121 | 01 | Muskrat Falls - Powerhouse - Plan at Tailrace Deck El 15.50 - Units G1, G2, G3 and G4 - Concrete |
| 0007-4221/4223 | C63 | MFA-SN-CD-3300-CV-EL-0003-01 | S1 | 505573-3331-42DD-0122 | 01 | Muskrat Falls - Powerhouse - Elevation A-A - Units G1, G2, G3 and G4 - Concrete |
| 0007-4253 | C63A | MFA-SN-CD-3320-ST-EL-0013-01 | S1 | 505573-3331-42DD-0136 | 00 | Muskrat Falls - Powerhouse – Units G1, G2, G3 and G4 – Fire Walls Elevation Along Line A – Precast Panels |

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| 0007-4253 | C63B | MFA-SN-CD-3320-ST-EL-0014-01 | S1 | 505573-3331-42DD-0137 | 00 | Muskrat Falls - Powerhouse – Units G1, G2, G3 and G4 – Elevations, Sections and Details – Precast Panels |
| 0007-4221/4223 | C64 | MFA-SN-CD-3300-CV-SN-0006-01 | S1 | 505573-3331-42DD-0123 | 01 | Muskrat Falls - Powerhouse - Part Plan at Tailrace Deck El 15.50 - Sections and Details - Concrete |
| 0007-4253 | C64A | MFA-SN-CD-3320-ST-EL-0015-01 | S1 | 505573-3331-42DD-0138 | 00 | Muskrat Falls - Powerhouse – Units G1, G2, G3 and G4 –Plan at Tailrace Deck –Transversal Fire Walls - Elevations, Sections and Details |
| 0007-4221/4223 | C65 | MFA-SN-CD-3300-CV-SE-0020-01 | S1 | 505573-3331-42DD-0124 | 01 | Muskrat Falls - Powerhouse - Section H-H at Contraction Joint - Units G1, G2, G3 and G4 - Concrete |
| 0007-4221/4223 | C66 | MFA-SN-CD-3300-CV-SE-0016-01 | S1 | 505573-3331-42DD-0125 | 00 | Muskrat Falls - Powerhouse - Section J-J through Dewatering Gallery - Units G1, G2, G3 and G4 - Concrete |
| 0007-4221 | C67 | MFA-SN-CD-3300-CV-SN-0003-01 | S1 | 505573-3331-42DD-0126 | 01 | Muskrat Falls - Powerhouse - Section K-K - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C68 | MFA-SN-CD-3300-CV-SE-0022-01 | S1 | 505573-3331-42DD-0127 | 01 | Muskrat Falls - Powerhouse - Section K-K - Unit G3 and Unit G4 - Concrete |
| 0007-4221/4223 | C70 | MFA-SN-CD-3300-CV-SN-0002-01 | S1 | 505573-3331-42DD-0129 | 00 | Muskrat Falls - Powerhouse - Draft Tube Liner Access and Inspection Gallery Access - Units G1, G2, G3 and G4 - Concrete |
| 0007-4221/4223 | C71 | MFA-SN-CD-3300-CV-SN-0008-01 | S1 | 505573-3331-42DD-0130 | 00 | Muskrat Falls - Powerhouse - Semi-Spiral Case Access at El -13.00 - Units G1, G2, G3 and G4 - Concrete |
| 0007-4221/4223 | C72 | MFA-SN-CD-3300-CV-SE-0023-01 | S1 | 505573-3331-42DD-0131 | 01 | Muskrat Falls - Powerhouse - Section L-L at Contraction Joint - Units G1, G2 and G3 - Concrete |
| 0007-4221 | C73 | MFA-SN-CD-3300-CV-SE-0024-01 | S1 | 505573-3331-42DD-0132 | 01 | Muskrat Falls - Powerhouse - Section M-M - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C74 | MFA-SN-CD-3300-CV-SE-0025-01 | S1 | 505573-3331-42DD-0133 | 01 | Muskrat Falls - Powerhouse - Section M-M - Unit G3 and Unit G4 - Concrete |
| 0007-4221 | C75 | MFA-SN-CD-3300-CV-PL-0036-01 | S1 | 505573-3331-42DD-0134 | 01 | Muskrat Falls - Powerhouse - Plan Above Draft Tube Gate Crane Rails - Unit G1 and Unit G2 - Concrete |
| 0007-4223 | C76 | MFA-SN-CD-3300-CV-PL-0043-01 | S1 | 505573-3331-42DD-0135 | 01 | Muskrat Falls - Powerhouse - Plan Above Draft Tube Gate Crane Rails - Unit G3 and Unit G4 - Concrete |
| 0007-4220/4222 | C77 | MFA-SN-CD-3200-CV-SE-0006-01 | S1 | 505573-3331-42DD-0141 | 00 | Muskrat Falls - Powerhouse - Intake - Section A-A at Centreline of Unit - Units 1, 2, 3 and 4 - Concrete |
| 0007-4220 | C78 | MFA-SN-CD-3200-CV-PL-0002-01 | S1 | 505573-3331-42DD-0142 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Drainage Gallery El -7.90 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C79 | MFA-SN-CD-3200-CV-PL-0003-01 | S1 | 505573-3331-42DD-0143 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Drainage Gallery El -7.90 - Unit 3 and Unit 4 - Concrete |
| 0007-4220 | C80 | MFA-SN-CD-3200-CV-PL-0004-01 | S1 | 505573-3331-42DD-0144 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at El -1.70 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C81 | MFA-SN-CD-3200-CV-PL-0005-01 | S1 | 505573-3331-42DD-0145 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at El -1.70 - Unit 3 and Unit 4 - Concrete |
| 0007-4220 | C82 | MFA-SN-CD-3200-CV-PL-0006-01 | S1 | 505573-3331-42DD-0146 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Generator Floor El 15.50 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C83 | MFA-SN-CD-3200-CV-PL-0007-01 | S1 | 505573-3331-42DD-0147 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Generator Floor El 15.50 - Unit 3 and Unit 4 - Concrete |
| 0007-4220 | C84 | MFA-SN-CD-3200-CV-PL-0010-01 | S1 | 505573-3331-42DD-0148 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Gate Inspection Gallery El 23.00 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C85 | MFA-SN-CD-3200-CV-PL-0008-01 | S1 | 505573-3331-42DD-0149 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Gate Inspection Gallery El 23.00 - Unit 3 and Unit 4 - Concrete |
| 0007-4220/4222 | C86 | MFA-SN-CD-3200-CV-PL-0009-01 | S1 | 505573-3331-42DD-0150 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at El 42.50 - Units 1, 2, 3, and 4 - Concrete |
| 0007-4220 | C87 | MFA-SN-CD-3200-CV-PL-0011-01 | S1 | 505573-3331-42DD-0151 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Deck El 45.50 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C88 | MFA-SN-CD-3200-CV-PL-0012-01 | S1 | 505573-3331-42DD-0152 | 01 | Muskrat Falls - Powerhouse - Intake - Plan at Deck El 45.50 - Unit 3 and Unit 4 - Concrete |
| 0007-4220/4222 | C89 | MFA-SN-CD-3200-CV-SE-0002-01 | S1 | 505573-3331-42DD-0153 | 00 | Muskrat Falls - Powerhouse - Intake - Section E-E at Contraction Joint - Units 1, 2, 3, and 4 - Concrete |

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| 0007-4222 | C90 | MFA-SN-CD-3200-CV-SE-0003-01 | S1 | 505573-3331-42DD-0154 | 01 | Muskrat Falls - Powerhouse - Intake - Sections and Details - Unit 4 - Concrete |
| 0007-4220 | C91 | MFA-SN-CD-3200-CV-SE-0004-01 | S1 | 505573-3331-42DD-0155 | 00 | Muskrat Falls - Powerhouse - Intake - Section H-H Below EL 15.50 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C92 | MFA-SN-CD-3200-CV-SE-0005-01 | S1 | 505573-3331-42DD-0156 | 00 | Muskrat Falls - Powerhouse - Intake - Section H-H Below EL 15.50 - Unit 3 and Unit 4 - Concrete |
| 0007-4220 | C93 | MFA-SN-CD-3200-CV-EL-0003-01 | S1 | 505573-3331-42DD-0157 | 00 | Muskrat Falls - Powerhouse - Intake - Section H-H Above EL 15.50 - Unit 1 and Unit 2 - Concrete |
| 0007-4222 | C94 | MFA-SN-CD-3200-CV-EL-0002-01 | S1 | 505573-3331-42DD-0158 | 01 | Muskrat Falls - Powerhouse - Intake - Section H-H Above EL 15.50 - Unit 3 and Unit 4 - Concrete |
| 0007-4220/4222 | C95 | MFA-SN-CD-3200-CV-SE-0008-01 | S1 | 505573-3331-42DD-0159 | 00 | Muskrat Falls - Powerhouse - Intake - Section J-J and Section K-K - Units 1, 2, 3, and 4 - Concrete |
| 0007-4220/4222 | C96 | MFA-SN-CD-3200-CV-SE-0009-01 | S1 | 505573-3331-42DD-0160 | 00 | Muskrat Falls - Powerhouse - Intake - Section L-L and Section M-M - Units 1, 2, 3, and 4 - Concrete |
| 0007-4220/4222 | C97 | MFA-SN-CD-3200-CV-SE-0010-01 | S1 | 505573-3331-42DD-0161 | 00 | Muskrat Falls - Powerhouse - Intake - Section N-N - Unit 1 and Unit 2 - Concrete |
| 0007-4220/4222 | C98 | MFA-SN-CD-3200-CV-SE-0011-01 | S1 | 505573-3331-42DD-0162 | 00 | Muskrat Falls - Powerhouse - Intake - Section N-N - Unit 3 and Unit 4 - Concrete |
| 0007-4220/4222 | C99 | MFA-SN-CD-3200-CV-PL-0013-01 | B1 | 505573-3331-42DD-0163 | 00 | Muskrat Falls - Powerhouse - Intake - Plan at Gate Hoist Building Roof - Units 1, 2, 3, and 4 - Concrete |
| 0007-4220/4222 | C100 | MFA-SN-CD-3200-CV-SE-0012-01 | S1 | 505573-3331-42DD-0164 | 00 | Muskrat Falls - Powerhouse - Intake - Section R-R and Section S-S - Units 1, 2, 3, and 4 - Concrete |
| NA | C101 | MFA-SN-CD-3200-CV-SE-0013-01 | S1 | 505573-3331-42DD-0165 | 00 | Muskrat Falls - Powerhouse - Intake - Section T-T - Units 1, 2, 3, and 4 - Concrete |
| 0007-4220/4222 | C102 | MFA-SN-CD-3200-CV-SE-0014-01 | S1 | 505573-3331-42DD-0166 | 00 | Muskrat Falls - Powerhouse - Intake - Section U-U - Units 1, 2, 3, and 4 - Concrete |
| 0007-4220/4222 | C103 | MFA-SN-CD-3300-CV-PL-0044-01 | S1 | 505573-3331-42DD-0181 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Plans at El -31.00 to El 0.00 - Concrete |
| 0007-4248 | C104 | MFA-SN-CD-3300-CV-DD-0012-01 | S1 | 505573-3331-42DD-0182 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Details - Concrete |
| 0007-4248 | C105 | MFA-SN-CD-3300-CV-PL-0045-01 | S1 | 505573-3331-42DD-0183 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Turbine Floor El 6.50 - Plan and Detail - Concrete |
| 0007-4248 | C106 | MFA-SN-CD-3300-CV-PL-0046-01 | S1 | 505573-3331-42DD-0184 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Generator Floor El 15.50 - Plan and Detail - Concrete |
| 0007-4248 | C107 | MFA-SN-CD-3300-CV-PL-0047-01 | S1 | 505573-3331-42DD-0185 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Plans at El 25.00 to El 54.10 - Concrete |
| 0007-4248 | C108 | MFA-SN-CD-3300-CV-SE-0026-01 | S1 | 505573-3331-42DD-0186-SH1 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 1 of 7 |
| 0007-4248 | C109 | MFA-SN-CD-3300-CV-SE-0026-02 | S1 | 505573-3331-42DD-0186-SH2 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 2 of 7 |
| 0007-4248 | C110 | MFA-SN-CD-3300-CV-SE-0026-03 | S1 | 505573-3331-42DD-0186-SH3 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 3 of 7 |
| 0007-4248 | C111 | MFA-SN-CD-3300-CV-SE-0026-04 | S1 | 505573-3331-42DD-0186-SH4 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 4 of 7 |
| 0007-4248 | C112 | MFA-SN-CD-3300-CV-SE-0026-05 | S1 | 505573-3331-42DD-0186-SH5 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 5 of 7 |
| 0007-4248 | C113 | MFA-SN-CD-3300-CV-SE-0026-06 | S1 | 505573-3331-42DD-0186-SH6 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 6 of 7 |
| 0007-4248 | C114 | MFA-SN-CD-3300-CV-SE-0026-07 | S1 | 505573-3331-42DD-0186-SH7 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections - Concrete - Sheet 7 of 7 |
| 0007-4248 | C115 | MFA-SN-CD-3300-CV-PL-0048-01 | S1 | 505573-3331-42DD-0187 | 01 | Muskrat Falls - Powerhouse - North Service Bay - Plans at El 9.55 to El 18.80 - Concrete |
| 0007-4250 | C116 | MFA-SN-CD-3300-CV-SE-0027-01 | S1 | 505573-3331-42DD-0188-SH1 | 01 | Muskrat Falls - Powerhouse - North Service Bay - Sections - Concrete - Sheet 1 of 2 |


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| 0007-4250 | C117 | MFA-SN-CD-3300-CV-SE-0027-02 | S1 | 505573-3331-42DD-0188-SH2 | 01 | Muskrat Falls - Powerhouse - North Service Bay - Sections - Concrete - Sheet 2 of 2 |
| 0007-4250 | C100-1 | MFA-SN-CD-3300-CV-PL-0049-01 | S1 | 505573-3331-42DD-1100 | 01 | Muskrat Falls - Powerhouse - Drawing Location - Key Plans and Sections - Reinforcement |
| 0007-4224/4225 | C200 | MFA-SN-CD-3200-CV-PL-0015-01 | S1 | 505573-3331-42DD-1200 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Intake - Plan El -1.70 - Reinforcement |
| 0007-4224/4225 | C201 | MFA-SN-CD-3200-CV-PL-0016-01 | S1 | 505573-3331-42DD-1201 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Intake - Inspection Gallery - Plan El 23.00 - Reinforcement |
| 0007-4224/4225 | C202 | MFA-SN-CD-3200-CV-PL-0014-01 | S1 | 505573-3331-42DD-1202 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Intake - Intake Deck - Plan El 45.50 - Reinforcement |
| 0007-4224/4225 | C203 | MFA-SN-CD-3200-CV-SE-0015-01 | S1 | 505573-3331-42DD-1203 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Intake - Transverse Section at Centreline Of Unit - Reinforcement |
| 0007-4224/4225 | C204 | MFA-SN-CD-3200-CV-SE-0016-01 | S1 | 505573-3331-42DD-1204 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Intake - Longitudinal Section at Bulkhead Gates Slots - Reinforcement |
| 0007-4226/4228 | C300 | MFA-SN-CD-3300-CV-PL-0054-01 | S1 | 505573-3331-42DD-1300 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Draft Tube - Base Slab - Plan El -26.66 - Reinforcement |
| 0007-4226/4227 | C301 | MFA-SN-CD-3300-CV-SE-0034-01 | S1 | 505573-3331-42DD-1301 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Draft Tube and Semi-Spiral Case - Transverse Section at Centreline Of Unit - Reinforcement |
| 0007-4226/4227 | C302 | MFA-SN-CD-3300-CV-SE-0035-01 | S1 | 505573-3331-42DD-1302 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Draft Tube and Semi-Spiral Case - Longitudinal Section at Centreline Of Unit - Reinforcement |
| 0007-4226/4227 | C303 | MFA-SN-CD-3300-CV-SE-0036-01 | S1 | 505573-3331-42DD-1303 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Draft Tube and Semi-Spiral Case - Longitudinal Section at Downstream Wall - Reinforcement |
| 0007-4227 | C304 | MFA-SN-CD-3300-CV-PL-0055-01 | S1 | 505573-3331-42DD-1304 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Semi-Spiral Case Floor - Plan - Radial Reinforcement |
| 0007-4227 | C305 | MFA-SN-CD-3300-CV-PL-0056-01 | S1 | 505573-3331-42DD-1305 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Semi-Spiral Case Floor - Plan - Longitudinal Reinforcement |
| 0007-4227 | C306 | MFA-SN-CD-3300-CV-PL-0057-01 | S1 | 505573-3331-42DD-1306 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Semi-Spiral Case Roof - Plan - Radial Reinforcement |
| 0007-4227 | C307 | MFA-SN-CD-3300-CV-PL-0058-01 | S1 | 505573-3331-42DD-1307 | 00 | Muskrat Falls - Powerhouse - Unit G2 - Semi-Spiral Case Roof - Plan - Longitudinal Reinforcement |
| 0007-4227 | C308 | MFA-SN-CD-3300-CV-PL-0050-01 | S1 | 505573-3331-42DD-1308 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Turbine Floor - Plan El 6.50 - Reinforcement |
| 0007-4230 | C309 | MFA-SN-CD-3300-CV-PL-0051-01 | S1 | 505573-3331-42DD-1309 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Generator Floor and Tailrace Deck - Plan El 15.50 - Reinforcement |
| 0007-4230 | C310 | MFA-SN-CD-3300-CV-SE-0028-01 | S1 | 505573-3331-42DD-1310 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Turbine Floor, Generator Floor And Tailrace Deck - Transverse Sections - Reinforcement |
| 0007-4230 | C311 | MFA-SN-CD-3300-CV-SE-0029-01 | S1 | 505573-3331-42DD-1311 | 01 | Muskrat Falls - Powerhouse - Unit G2 - Turbine Floor, Generator Floor And Tailrace Deck - Longitudinal Section - Reinforcement |
| 0007-4249 | C400-1 | MFA-SN-CD-3300-CV-PL-0052-01 | S1 | 505573-3331-42DD-1400-SH1 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Plan El 15.50 - Reinforcement - Sheet 1 of 2 |
| 0007-4249 | C400-2 | MFA-SN-CD-3300-CV-PL-0052-02 | S1 | 505573-3331-42DD-1400-SH2 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Plan El 15.50 - Reinforcement - Sheet 2 of 2 |
| 0007-4249 | C401-1 | MFA-SN-CD-3300-CV-SE-0030-01 | S1 | 505573-3331-42DD-1401-SH1 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A - Reinforcement - Sheet 1 of 2 |
| 0007-4249 | C401-2 | MFA-SN-CD-3300-CV-SE-0030-02 | S1 | 505573-3331-42DD-1401-SH2 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Section A-A - Reinforcement - Sheet 2 of 2 |
| 0007-4249 | C402 | MFA-SN-CD-3300-CV-SE-0031-01 | S1 | 505573-3331-42DD-1402 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Section B-B - Reinforcement |
| 0007-4249 | C403 | MFA-SN-CD-3300-CV-SE-0032-01 | S1 | 505573-3331-42DD-1403 | 01 | Muskrat Falls - Powerhouse - South Service Bay - Sections C-C and D-D - Reinforcement |
| 0007-4251 | C404 | MFA-SN-CD-3300-CV-PL-0053-01 | S1 | 505573-3331-42DD-1404 | 01 | Muskrat Falls - Powerhouse - North Service Bay - Plan El 15.50 - Reinforcement |
| 0007-4249/4251 | C405 | MFA-SN-CD-3300-CV-SE-0033-01 | S1 | 505573-3331-42DD-1405 | 01 | Muskrat Falls - Powerhouse - South and North Service Bays - Sections and Details - Reinforcement |


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DRAWING LIST: POWERHOUSE STRUCTURAL STEEL


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| 0007-4301 | 01 | MFA-SN-CD-3320-ST-LS-0002-01 | C2 | 505573-3334-43DD-0002 | 04 | Muskrat Falls - Powerhouse - General Notes, Abbreviations and Legend - Structural Steel |
| 0007-4301 | 02 | MFA-SN-CD-3320-ST-DD-0010-01 | C1 | 505573-3334-43DD-0001-SH1 | 01 | Muskrat Falls - Powerhouse - Standard Details - Structural Steel - Sheet 1 of 4 |
| 0007-4301 | 03 | MFA-SN-CD-3320-ST-DD-0010-02 | C1 | 505573-3334-43DD-0001-SH2 | 01 | Muskrat Falls - Powerhouse - Standard Details - Structural Steel - Sheet 2 of 4 |
| 0007-4301 | 04 | MFA-SN-CD-3320-ST-DD-0010-03 | C1 | 505573-3334-43DD-0001-SH3 | 02 | Muskrat Falls - Powerhouse - Standard Details - Structural Steel - Sheet 3 of 4 |
| 0007-4301 | 05 | MFA-SN-CD-3320-ST-DD-0010-04 | C1 | 505573-3334-43DD-0001-SH4 | 01 | Muskrat Falls - Powerhouse - Standard Details - Structural Steel - Sheet 4 of 4 |
| 0007-4302 | 01 | MFA-SN-CD-3320-ST-PL-0012-01 | C1 | 505573-333D-43DD-0023 | 02 | Muskrat Falls - Powerhouse - Crane Girders - Plan and Details - Structural Steel |
| 0007-4302 | 02 | MFA-SN-CD-3320-ST-PL-0013-01 | C1 | 505573-333D-43DD-0024 | 01 | Muskrat Falls - Powerhouse - Crane Rails - Plan and Details - Structural Steel |
| 0007-4302 | 03 | MFA-SN-CD-3320-ST-EL-0005-01 | C1 | 505573-333D-43DD-0025 | 02 | Muskrat Falls - Powerhouse - Crane Girder Elevation on line B - Structural Steel |
| 0007-4302 | 04 | MFA-SN-CD-3320-ST-EL-0012-01 | C1 | 505573-333D-43DD-0026 | 02 | Muskrat Falls - Powerhouse - Crane Girder Elevation on line C - Structural Steel |
| 0007-4302 | 05 | MFA-SN-CD-3320-ST-DD-0007-01 | C1 | 505573-3334-43DD-0027-SH1 | 02 | Muskrat Falls - Powerhouse - Crane Girder Details - Structural Steel - Sheet 1 of 3 |
| 0007-4302 | 06 | MFA-SN-CD-3320-ST-DD-0007-02 | C1 | 505573-3334-43DD-0027-SH2 | 02 | Muskrat Falls - Powerhouse - Crane Girder Details - Structural Steel - Sheet 2 of 3 |
| 0007-4302 | 07 | MFA-SN-CD-3320-ST-DD-0007-03 | C1 | 505573-3334-43DD-0027-SH3 | 03 | Muskrat Falls - Powerhouse - Crane Girder Details - Structural Steel - Sheet 3 of 3 |
| 0007-4303 | 01 | MFA-SN-CD-3320-ST-PL-0006-01 | C2 | 505573-333D-43DD-0003-SH1 | 04 | Muskrat Falls - Powerhouse - Base Plate Plan - Structural Steel - Sheet 1 of 3 |
| 0007-4303 | 02 | MFA-SN-CD-3320-ST-PL-0006-02 | C1 | 505573-333D-43DD-0003-SH2 | 02 | Muskrat Falls - Powerhouse - Base Plate Plan - Structural Steel - Sheet 2 of 3 |
| 0007-4303 | 03 | MFA-SN-CD-3320-ST-PL-0006-03 | C1 | 505573-333D-43DD-0003-SH3 | 02 | Muskrat Falls - Powerhouse - Base Plate Plan - Structural Steel - Sheet 3 of 3 |
| 0007-4303 | 04 | MFA-SN-CD-3320-ST-SN-0002-01 | C1 | 505573-333D-43DD-0004-SH1 | 02 | Muskrat Falls - Powerhouse - Base Plate Details - Structural Steel - Sheet 1 of 2 |
| 0007-4303 | 05 | MFA-SN-CD-3320-ST-SN-0002-02 | C1 | 505573-333D-43DD-0004-SH2 | 01 | Muskrat Falls - Powerhouse - Base Plate Details - Structural Steel - Sheet 2 of 2 |
| 0007-4303 | 06 | MFA-SN-CD-3320-ST-DD-0011-01 | C1 | 505573-333D-43DD-0005-SH1 | 02 | Muskrat Falls - Powerhouse - Roof Plan - Top Chord and Details - Structural Steel - Sheet 1 of 3 |
| 0007-4303 | 07 | MFA-SN-CD-3320-ST-DD-0011-02 | C1 | 505573-333D-43DD-0005-SH2 | 02 | Muskrat Falls - Powerhouse - Roof Plan - Top Chord and Details - Structural Steel - Sheet 2 of 3 |
| 0007-4303 | 08 | MFA-SN-CD-3320-ST-DD-0011-03 | C1 | 505573-333D-43DD-0005-SH3 | 02 | Muskrat Falls - Powerhouse - Roof Plan - Top Chord and Details - Structural Steel - Sheet 3 of 3 |
| 0007-4303 | 09 | MFA-SN-CD-3320-ST-EL-0008-01 | C1 | 505573-333D-43DD-0008 | 01 | Muskrat Falls - Powerhouse - Roof Trusses - Structural Steel |
| 0007-4303 | 10 | MFA-SN-CD-3320-ST-PL-0008-01 | C1 | 505573-333D-43DD-0009-SH1 | 02 | Muskrat Falls - Powerhouse - Roof Plan - Bottom Chord - Structural Steel - Sheet 1 of 2 |
| 0007-4303 | 11 | MFA-SN-CD-3320-ST-PL-0008-02 | C1 | 505573-333D-43DD-0009-SH2 | 02 | Muskrat Falls - Powerhouse - Roof Plan - Bottom Chord - Structural Steel - Sheet 2 of 2 |
| 0007-4303 | 12 | MFA-SN-CD-3320-ST-SE-0002-01 | C1 | 505573-333D-43DD-0015-SH1 | 02 | Muskrat Falls - Powerhouse - Transverse Sections - Structural Steel - Sheet 1 of 3 |
| 0007-4303 | 13 | MFA-SN-CD-3320-ST-SE-0002-02 | C1 | 505573-333D-43DD-0015-SH2 | 01 | Muskrat Falls - Powerhouse - Transverse Sections - Structural Steel - Sheet 2 of 3 |
| 0007-4303 | 14 | MFA-SN-CD-3320-ST-SE-0002-03 | C1 | 505573-333D-43DD-0015-SH3 | 01 | Muskrat Falls - Powerhouse - Transverse Sections - Structural Steel - Sheet 3 of 3 |

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| 0007-4303 | 15 | MFA-SN-CD-3320-ST-SE-0005-01 | C1 | 505573-3334-43DD-0014 | 01 | Muskrat Falls - Powerhouse - Transverse Section – Grid 2 -Structural Steel |
| 0007-4303 | 16 | MFA-SN-CD-3320-ST-EL-0001-01 | C1 | 505573-333D-43DD-0016-SH1 | 02 | Muskrat Falls - Powerhouse - Elevation on line A - Structural Steel - Sheet 1 of 3 |
| 0007-4303 | 17 | MFA-SN-CD-3320-ST-EL-0001-02 | C1 | 505573-333D-43DD-0016-SH2 | 02 | Muskrat Falls - Powerhouse - Elevation on line A - Structural Steel - Sheet 2 of 3 |
| 0007-4303 | 18 | MFA-SN-CD-3320-ST-EL-0001-03 | C1 | 505573-333D-43DD-0016-SH3 | 02 | Muskrat Falls - Powerhouse - Elevation on line A - Structural Steel - Sheet 3 of 3 |
| 0007-4303 | 19 | MFA-SN-CD-3320-ST-DD-0021-01 | C1 | 505573-3334-43DD-0017 | 01 | Muskrat Falls – Powerhouse – Elevation line A – Details - Structural Steel |
| 0007-4303 | 20 | MFA-SN-CD-3320-ST-EL-0006-01 | C1 | 505573-333D-43DD-0018 | 02 | Muskrat Falls - Powerhouse - Elevation on line E - Structural Steel |
| 0007-4303 | 21 | MFA-SN-CD-3320-ST-EL-0011-01 | C1 | 505573-333D-43DD-0019 | 02 | Muskrat Falls - Powerhouse - Elevation on line D - Structural Steel |
| 0007-4303 | 22 | MFA-SN-CD-3320-ST-SN-0005-01 | C1 | 505573-333D-43DD-0020 | 02 | Muskrat Falls - Powerhouse - Elevation Details - Structural Steel |
| 0007-4303 | 23 | MFA-SN-CD-3320-ST-EL-0003-01 | C1 | 505573-333D-43DD-0021 | 02 | Muskrat Falls - Powerhouse - Elevation on line 1 - Structural Steel |
| 0007-4303 | 24 | MFA-SN-CD-3320-ST-EL-0004-01 | C1 | 505573-333D-43DD-0022 | 03 | Muskrat Falls - Powerhouse - Elevation on line 27 - Structural Steel |
| 0007-4303 | 25 | MFA-SN-CD-3320-ST-PL-0019-01 | C1 | 505573-3334-43DD-0030 | 02 | Muskrat Falls - Powerhouse - Wind Truss - Plan, Sections and Details - Structural Steel |
| 0007-4304 | 01 | MFA-SN-CD-3320-ST-PL-0010-01 | C2 | 505573-333D-43DD-0011-SH1 | 04 | Muskrat Falls - Powerhouse – Mezzanine M1 Plan El 25.00 - Structural Steel - Sheet 1 of 2 |
| 0007-4304 | 02 | MFA-SN-CD-3320-ST-PL-0010-02 | C2 | 505573-333D-43DD-0011-SH2 | 02 | Muskrat Falls - Powerhouse – Mezzanine M1 Plan El 25.00 - Structural Steel - Sheet 2 of 2 |
| 0007-4304 | 03 | MFA-SN-CD-3320-ST-PL-0011-01 | C1 | 505573-333D-43DD-0013-SH1 | 03 | Muskrat Falls - Powerhouse – Mezzanine M2 Plan El 34.47 - Structural Steel - Sheet 1 of 2 |
| 0007-4304 | 04 | MFA-SN-CD-3320-ST-PL-0011-02 | C1 | 505573-333D-43DD-0013-SH2 | 01 | Muskrat Falls - Powerhouse – Mezzanine M2 Plan El 34.47 - Structural Steel - Sheet 2 of 2 |
| 0007-4304 | 05 | MFA-SN-CD-3320-ST-DD-0004-01 | C1 | 505573-3334-43DD-0031 | 01 | Muskrat Falls - Powerhouse - Mezzanines M1 El 25.00 and M2 El 34.47 - Details - Structural Steel |
| 0007-4304 | 06 | MFA-SN-CD-3320-ST-PL-0017-01 | C1 | 505573-3334-43DD-0032 | 03 | Muskrat Falls - Powerhouse - Catwalk for Crane Access - Plan - Structural Steel |
| 0007-4304 | 07 | MFA-SN-CD-3320-ST-SE-0003-01 | C1 | 505573-3334-43DD-0033 | 03 | Muskrat Falls - Powerhouse - Catwalk for Crane Access - Sections and Details - Structural Steel |
| 0007-4304 | 08 | MFA-SN-CD-3320-ST-DD-0012-01 | C1 | 505573-3334-43DD-0034 | 01 | Muskrat Falls - Powerhouse - Rooms on Mezzanine M1 El 25.00 - Base Plate Plan and Sections - Structural Steel |
| 0007-4304 | 09 | MFA-SN-CD-3320-ST-DD-0013-01 | C1 | 505573-3334-43DD-0035 | 01 | Muskrat Falls - Powerhouse - Rooms on Mezzanine M1 El 25.00 - Roof Plan and Sections - Structural Steel |
| 0007-4304 | 10 | MFA-SN-CD-3320-ST-DD-0014-01 | C1 | 505573-3334-43DD-0036 | 01 | Muskrat Falls - Powerhouse - Rooms on Mezzanine M2 El 34.47 - Base Plate Plan and Sections - Structural Steel |
| 0007-4304 | 11 | MFA-SN-CD-3320-ST-DD-0015-01 | C1 | 505573-3334-43DD-0037 | 01 | Muskrat Falls - Powerhouse - Rooms on Mezzanine M2 El 34.47 - Roof Plan and Sections - Structural Steel |
| 0007-4305 | 01 | MFA-SN-CD-3320-ST-DD-0009-01 | C1 | 505573-3334-43DD-0038 | 02 | Muskrat Falls - Powerhouse - Stair No. 10 – Plan, Sections and Details - Miscellaneous Steel |
| 0007-4305 | 02 | MFA-SN-CD-3320-ST-DD-0019-01 | C1 | 505573-3334-43DD-0039 | 01 | Muskrat Falls - Powerhouse - Stair No. 11 – Plan, Sections and Details - Miscellaneous Steel |
| 0007-4305 | 03 | MFA-SN-CD-3320-ST-PL-0018-01 | C1 | 505573-3334-43DD-0040-SH1 | 02 | Muskrat Falls - Powerhouse - Stairs No. 3, 4, 5 and 6 – Plan and Sections - Miscellaneous Steel - Sheet 1 of 2 |
| 0007-4305 | 04 | MFA-SN-CD-3320-ST-PL-0018-02 | C1 | 505573-3334-43DD-0040-SH2 | 02 | Muskrat Falls - Powerhouse - Stairs No. 3, 4, 5 and 6 – Sections and Details - Miscellaneous Steel - Sheet 2 of 2 |
| 0007-4305 | 05 | MFA-SN-CD-3320-ST-PL-0020-01 | C1 | 505573-3334-43DD-0041 | 01 | Muskrat Falls - Powerhouse - Stair No. 1 - Plans - Miscellaneous Steel |
| 0007-4305 | 06 | MFA-SN-CD-3320-ST-SE-0004-01 | C1 | 505573-3334-43DD-0042 | 01 | Muskrat Falls - Powerhouse - Stair No. 1 – Sections - Miscellaneous Steel |

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| 0007-4305 | 07 | MFA-SN-CD-3320-ST-PL-0021-01 | C1 | 505573-3334-43DD-0043 | 02 | Muskrat Falls - Powerhouse - Stair No. 2 - Plan and Sections - Miscellaneous Steel |
| 0007-4305 | 08 | MFA-SN-CD-3320-ST-PL-0022-01 | C1 | 505573-3334-43DD-0044 | 01 | Muskrat Falls - Powerhouse - Stair No. 7 - Plan and Sections - Miscellaneous Steel |
| 0007-4305 | 09 | MFA-SN-CD-3320-ST-PL-0023-01 | C1 | 505573-3334-43DD-0045 | 01 | Muskrat Falls - Powerhouse - Stair No. 8 - Plan and Sections - Miscellaneous Steel |
| 0007-4305 | 10 | MFA-SN-CD-3320-ST-PL-0024-01 | C1 | 505573-3334-43DD-0046 | 02 | Muskrat Falls - Powerhouse - Stair No. 9, No. 13 and No. 14 - Plan and Sections - Miscellaneous Steel |
| 0007-4305 | 11 | MFA-SN-CD-3320-ST-PL-0025-01 | C1 | 505573-3334-43DD-0047 | 01 | Muskrat Falls - Powerhouse - Stair No. 12 - Plans and Sections - Miscellaneous Steel |
| 0007-4305 | 12 | MFA-SN-CD-3320-ST-DD-0016-01 | C1 | 505573-3334-43DD-0048 | 01 | Muskrat Falls - Powerhouse - Floor Deck on Mezzanines - Sections and Details - Structural Steel |
| 0007-4305 | 13 | MFA-SN-CD-3320-ST-SN-0004-01 | C1 | 505573-3334-43DD-0049 | 01 | Muskrat Falls - Powerhouse - Building Attachment on Upstream Wall - Details - Structural Steel |
| 0007-4305 | 14 | MFA-SN-CD-3320-ST-PL-0026-01 | C1 | 505573-3334-43DD-0050 | 02 | Muskrat Falls - Powerhouse - Main Entrance - Plans, Elevations and Details - Structural Steel |
| 0007-4305 | 15 | MFA-SN-CD-3320-ST-DD-0005-01 | C1 | 505573-3334-43DD-0051-SH1 | 01 | Muskrat Falls - Powerhouse - Cover C3 - Miscellaneous Steel - Sheet 1 of 6 |
| 0007-4305 | 16 | MFA-SN-CD-3320-ST-DD-0005-02 | C1 | 505573-3334-43DD-0051-SH2 | 02 | Muskrat Falls - Powerhouse - Cover C8 - Miscellaneous Steel - Sheet 2 of 6 |
| 0007-4305 | 17 | MFA-SN-CD-3320-ST-DD-0005-03 | C1 | 505573-3334-43DD-0051-SH3 | 01 | Muskrat Falls - Powerhouse - Covers C1 and C2 - Miscellaneous Steel - Sheet 3 of 6 |
| 0007-4305 | 18 | MFA-SN-CD-3320-ST-DD-0005-04 | C1 | 505573-3334-43DD-0051-SH4 | 01 | Muskrat Falls - Powerhouse - Cover C5 - Miscellaneous Steel - Sheet 4 of 6 |
| 0007-4305 | 19 | MFA-SN-CD-3320-ST-DD-0005-05 | C1 | 505573-3334-43DD-0051-SH5 | 01 | Muskrat Falls - Powerhouse - Covers C4 and C6 - Miscellaneous Steel - Sheet 5 of 6 |
| 0007-4305 | 20 | MFA-SN-CD-3320-ST-DD-0005-06 | C1 | 505573-3334-43DD-0051-SH6 | 02 | Muskrat Falls - Powerhouse - Covers C9 to C12 - Miscellaneous Steel - Sheet 6 of 6 |
| 0007-4305 | 21 | MFA-SN-CD-3320-ST-DD-0023-01 | C1 | 505573-3334-43DD-0052 | 01 | Muskrat Falls - Powerhouse - Intake Gate Hoist Building Roof - Miscellaneous Steel |
| 0007-4305 | 22 | MFA-SN-CD-3320-ST-SN-0003-01 | C1 | 505573-3334-43DD-0055-SH1 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 1 of 9 |
| 0007-4305 | 23 | MFA-SN-CD-3320-ST-SN-0003-02 | C1 | 505573-3334-43DD-0055-SH2 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 2 of 9 |
| 0007-4305 | 24 | MFA-SN-CD-3320-ST-SN-0003-03 | C1 | 505573-3334-43DD-0055-SH3 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 3 of 9 |
| 0007-4305 | 25 | MFA-SN-CD-3320-ST-SN-0003-04 | C1 | 505573-3334-43DD-0055-SH4 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 4 of 9 |
| 0007-4305 | 26 | MFA-SN-CD-3320-ST-SN-0003-05 | C1 | 505573-3334-43DD-0055-SH5 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 5 of 9 |
| 0007-4305 | 27 | MFA-SN-CD-3320-ST-SN-0003-06 | C1 | 505573-3334-43DD-0055-SH6 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 6 of 9 |
| 0007-4305 | 28 | MFA-SN-CD-3320-ST-SN-0003-07 | C1 | 505573-3334-43DD-0055-SH7 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 7 of 9 |
| 0007-4305 | 29 | MFA-SN-CD-3320-ST-SN-0003-08 | C1 | 505573-3334-43DD-0055-SH8 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 8 of 9 |
| 0007-4305 | 30 | MFA-SN-CD-3320-ST-SN-0003-09 | V1 | 505573-3334-43DD-0055-SH9 | 01 | Muskrat Falls - Powerhouse - Miscellaneous Steel - Sheet 9 of 9 |
| 0007-4305 | 32 | MFA-SN-CD-3320-ST-PL-0027-01 | C1 | 505573-3334-43DD-0056-SH1 | 02 | Muskrat Falls - Powerhouse - Gate Inspection Gallery - Miscellaneous Steel - Sheet 1 of 2 |
| 0007-4305 | 33 | MFA-SN-CD-3320-ST-PL-0027-02 | C1 | 505573-3334-43DD-0056-SH2 | 01 | Muskrat Falls - Powerhouse - Gate Inspection Gallery - Miscellaneous Steel - Sheet 2 of 2 |
| 0007-4305 | 34 | MFA-SN-CD-3320-ST-PL-0028-01 | C1 | 505573-3334-43DD-0057-SH1 | 01 | Muskrat Falls - Powerhouse - Draft Tube Platform - Miscellaneous Steel - Sheet 1 of 2 |
| 0007-4305 | 35 | MFA-SN-CD-3320-ST-PL-0028-02 | C1 | 505573-3334-43DD-0057-SH2 | 01 | Muskrat Falls - Powerhouse - Draft Tube Platform - Miscellaneous Steel - Sheet 2 of 2 |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| 0007-4307 | 01 | MFA-SN-CD-3320-CV-PL-0021-01 | C1 | 505573-3334-43DD-2600 | 00 | Muskrat Falls – Powerhouse – Generator Floor and Tailrace Deck – South Service Bay – Plan El 15.50 – Structural Steel |
| 0007-4307 | 02 | MFA-SN-CD-3320-CV-PL-0022-01 | C1 | 505573-3334-43DD-2601 | 00 | Muskrat Falls – Powerhouse – Generator Floor and Tailrace Deck – Unit s 1 and 2 – Plan El 15.50 – Structural Steel |
| 0007-4307 | 03 | MFA-SN-CD-3320-CV-PL-0023-01 | C1 | 505573-3334-43DD-2602 | 00 | Muskrat Falls – Powerhouse – Generator Floor and Tailrace Deck – Unit s 3 and 4 – Plan El 15.50 – Structural Steel |
| 0007-4307 | 05 | MFA-SN-CD-3320-CV-SN-0013-02 | C1 | 505573-3334-43DD-2603-SH2 | 00 | Muskrat Falls – Powerhouse – Generator Floor and Tailrace Deck – Sections and Details - Structural Steel – Sheet 2 of 4 |
| 0007-4307 | 06 | MFA-SN-CD-3320-CV-SN-0013-03 | C1 | 505573-3334-43DD-2603-SH3 | 00 | Muskrat Falls – Powerhouse – Generator Floor and Tailrace Deck – Sections and Details - Structural Steel – Sheet 3 of 4 |
| 0007-4307 | 07 | MFA-SN-CD-3320-CV-SN-0013-04 | C1 | 505573-3334-43DD-2603-SH4 | 00 | Muskrat Falls – Powerhouse – Generator Floor and Tailrace Deck – Sections and Details - Structural Steel – Sheet 4 of 4 |
| 0007-4308 | 01 | MFA-SN-CD-3310-CV-DD-0017-01 | C1 | 505573-3334-43DD-2000-SH1 | 00 | Muskrat Falls – Powerhouse – All Units – Plans, Sections and Details - Miscellaneous Steel – Sheet 1 of 6 |
| 0007-4308 | 02 | MFA-SN-CD-3310-CV-DD-0017-02 | C1 | 505573-3334-43DD-2000-SH2 | 00 | Muskrat Falls – Powerhouse – All Units – Plans, Sections and Details - Miscellaneous Steel – Sheet 2 of 6 |
| 0007-4308 | 03 | MFA-SN-CD-3310-CV-DD-0017-03 | C1 | 505573-3334-43DD-2000-SH3 | 00 | Muskrat Falls – Powerhouse – All Units – Plans, Sections and Details - Miscellaneous Steel – Sheet 3 of 6 |
| 0007-4308 | 04 | MFA-SN-CD-3310-CV-DD-0017-04 | C1 | 505573-3334-43DD-2000-SH4 | 00 | Muskrat Falls – Powerhouse – All Units – Plans, Sections and Details - Miscellaneous Steel – Sheet 4 of 6 |
| 0007-4308 | 05 | MFA-SN-CD-3310-CV-DD-0017-05 | C1 | 505573-3334-43DD-2000-SH5 | 00 | Muskrat Falls – Powerhouse – All Units – Plans, Sections and Details - Miscellaneous Steel – Sheet 5 of 6 |
| 0007-4308 | 06 | MFA-SN-CD-3310-CV-DD-0017-06 | C1 | 505573-3334-43DD-2000-SH6 | 00 | Muskrat Falls – Powerhouse – All Units – Plans, Sections and Details - Miscellaneous Steel – Sheet 6 of 6 |
| 0007-4308 | 07 | MFA-SN-CD-3220-CV-SN-0055-01 | C1 | 505573-3334-43DD-2001-SH1 | 00 | Muskrat Falls – Intake – Plans, Sections and Details - Miscellaneous Steel – Sheet 1 of 3 |
| 0007-4308 | 08 | MFA-SN-CD-3220-CV-SN-0055-02 | C1 | 505573-3334-43DD-2001-SH2 | 00 | Muskrat Falls – Intake – Plans, Sections and Details - Miscellaneous Steel – Sheet 2 of 3 |
| 0007-4308 | 09 | MFA-SN-CD-3220-CV-SN-0055-03 | C1 | 505573-3334-43DD-2001-SH3 | 00 | Muskrat Falls – Intake – Plans, Sections and Details - Miscellaneous Steel – Sheet 3 of 3 |
| 0007-4308 | 10 | MFA-SN-CD-3310-CV-SN-0056-01 | C1 | 505573-3334-43DD-2002-SH1 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plans, Sections and Details - Miscellaneous Steel – Sheet 1 of 2 |
| 0007-4308 | 11 | MFA-SN-CD-3310-CV-SN-0056-02 | C1 | 505573-3334-43DD-2002-SH2 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plans, Sections and Details - Miscellaneous Steel – Sheet 2 of 2 |
| 0007-4308 | 12 | MFA-SN-CD-3310-CV-SN-0057-01 | C1 | 505573-3334-43DD-2003-SH1 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plan El 15.50 - Sections and Details - Miscellaneous Steel – Sheet 1 of 6 |
| 0007-4308 | 13 | MFA-SN-CD-3310-CV-SN-0057-02 | C1 | 505573-3334-43DD-2003-SH2 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plan El 15.50 - Sections and Details - Miscellaneous Steel – Sheet 2 of 6 |
| 0007-4308 | 14 | MFA-SN-CD-3310-CV-SN-0057-03 | C1 | 505573-3334-43DD-2003-SH3 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plan El 15.50 - Sections and Details – Embedded Parts - Miscellaneous Steel – Sheet 3 of 6 |
| 0007-4308 | 15 | MFA-SN-CD-3310-CV-SN-0057-04 | C1 | 505573-3334-43DD-2003-SH4 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plan El 15.50 - Sections and Details - Miscellaneous Steel – Sheet 4 of 6 |
| 0007-4308 | 16 | MFA-SN-CD-3310-CV-SN-0057-05 | C1 | 505573-3334-43DD-2003-SH5 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plan El 15.50 - Sections and Details - Miscellaneous Steel – Sheet 5 of 6 |
| 0007-4308 | 17 | MFA-SN-CD-3310-CV-SN-0057-06 | C1 | 505573-3334-43DD-2003-SH6 | 00 | Muskrat Falls – Powerhouse – Powerhouse – Plan El 15.50 - Sections and Details - Miscellaneous Steel – Sheet 6 of 6 |

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| 0007-4307 | STR-9B | MFA-SN-CD-3320-ST-PL-0029-01 | S1 | 505573-333D-43DD-0071-SH1 | 00 | Muskrat Falls - Powerhouse – Generator Floor El 15.50 - Plan - Structural Steel – Sheet 1 of 2 |
| 0007-4307 | STR-9C | MFA-SN-CD-3320-ST-PL-0029-02 | S1 | 505573-333D-43DD-0071-SH2 | 00 | Muskrat Falls - Powerhouse – Generator Floor El 15.50 - Plan - Structural Steel – Sheet 2 of 2 |
| 0007-4307 | STR-9D | MFA-SN-CD-3320-ST-SN-0007-01 | S1 | 505573-333D-43DD-0072-SH1 | 00 | Muskrat Falls – Service Bay & Powerhouse – Generator Floor – Sections and Details - Structural Steel – Sheet 1 of 2 |
| 0007-4307 | STR-9E | MFA-SN-CD-3320-ST-SN-0007-02 | S1 | 505573-333D-43DD-0072-SH2 | 00 | Muskrat Falls – Service Bay & Powerhouse – Generator Floor – Sections and Details - Structural Steel – Sheet 2 of 2 |


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| 0007-4601 | 01 | MFA-SN-CD-3350-ME-LS-0003-01 | C1 | 505573-3346-46DD-0601 | 02 | Muskrat Falls - General Works - Equipment and System Codes - Legend |
| 0007-4601 | 02 | MFA-SN-CD-3350-ME-LS-0004-01 | C1 | 505573-3346-46DD-0602 | 01 | Muskrat Falls - General Works - Equipment Numbering and Instrumentation Symbols |
| 0007-4601 | 03 | MFA-SN-CD-3350-ME-GA-0001-01 | C1 | 505573-3346-46DD-0603 | 01 | Muskrat Falls - Powerhouse - General Arrangement – Embedded Piping |
| 0007-4601 | 04 | MFA-SN-CD-3350-ME-SE-0002-01 | C1 | 505573-3346-46DD-0604 | 02 | Muskrat Falls - Powerhouse - Cross Section A-A - From EL -33.60 to EL 16.50 - Embedded Piping |
| 0007-4601 | 05 | MFA-SN-CD-3350-ME-SE-0003-01 | C1 | 505573-3346-46DD-0605 | 02 | Muskrat Falls - Powerhouse - Cross Section B-B - From EL -33.60 to EL 31.00 - Embedded Piping |
| 0007-4601 | 06 | MFA-SN-CD-3350-ME-SE-0004-01 | C1 | 505573-3346-46DD-0606 | 01 | Muskrat Falls - Powerhouse - Cross Section C-C - From EL -33.60 to EL 15.50 - Embedded Piping |
| 0007-4601 | 07 | MFA-SN-CD-3350-ME-SE-0005-01 | C1 | 505573-3346-46DD-0607 | 02 | Muskrat Falls - Powerhouse - Section D-D, L-L & MM-MM - From EL -33.60 to EL 16.00 - Embedded Piping |
| 0007-4601 | 08 | MFA-SN-CD-3350-ME-SE-0006-01 | C1 | 505573-3346-46DD-0608 | 02 | Muskrat Falls - Powerhouse - Section E-E- From EL -33.60 to EL 15.50 - Embedded Piping |
| 0007-4601 | 09 | MFA-SN-CD-3350-ME-SE-0007-01 | C1 | 505573-3346-46DD-0609 | 01 | Muskrat Falls - Powerhouse - Sectional Plan F-F at Draft Tube and Sump Pit - From EL -33.60 to EL -27.00 - Embedded Piping |
| 0007-4601 | 10 | MFA-SN-CD-3350-ME-SE-0008-01 | C1 | 505573-3346-46DD-0610 | 01 | Muskrat Falls - Powerhouse - Section GG-GG at Draft Tube and Sump Pit - From EL -33.60 to EL -27.00 - Embedded Piping |
| 0007-4601 | 11 | MFA-SN-CD-3350-ME-SE-0009-01 | C1 | 505573-3346-46DD-0611 | 02 | Muskrat Falls - Powerhouse - Sectional Plan G-G at Dewatering Gallery - From EL -27.00 to EL -19.00 - Embedded Piping |
| 0007-4601 | 12 | MFA-SN-CD-3350-ME-SE-0010-01 | C1 | 505573-3346-46DD-0612 | 01 | Muskrat Falls - Powerhouse - Detail 1 & 4 at Dewatering Gallery - From EL -27.00 to EL -19.00 - Embedded Piping |
| 0007-4601 | 13 | MFA-SN-CD-3350-ME-SE-0011-01 | C1 | 505573-3346-46DD-0613 | 01 | Muskrat Falls - Powerhouse – Section View HH-HH - From EL -29.00 to EL -19.00 - Embedded Piping |
| 0007-4601 | 14 | MFA-SN-CD-3350-ME-SE-0012-01 | C1 | 505573-3346-46DD-0614 | 01 | Muskrat Falls - Powerhouse - Sectional Plan H-H - From EL -19.00 to EL -5.00 - Embedded Piping |
| 0007-4601 | 15 | MFA-SN-CD-3350-ME-SE-0013-01 | C1 | 505573-3346-46DD-0615 | 01 | Muskrat Falls - Powerhouse - Sectional Plan J-J - From EL -19.00 to EL -5.00 - Embedded Piping |
| 0007-4601 | 16 | MFA-SN-CD-3350-ME-SE-0014-01 | C1 | 505573-3346-46DD-0616 | 01 | Muskrat Falls - Powerhouse - Detail 2 - From EL -19.00 to EL -5.00 - Embedded Piping |
| 0007-4601 | 17 | MFA-SN-CD-3350-ME-SE-0015-01 | C1 | 505573-3346-46DD-0617 | 02 | Muskrat Falls - Powerhouse - Section View JJ-JJ - From EL -24.70 to EL -8.60 - Embedded Piping |
| 0007-4601 | 18 | MFA-SN-CD-3350-ME-SE-0016-01 | C1 | 505573-3346-46DD-0618 | 02 | Muskrat Falls - Powerhouse – Sectional Plan K-K & NN-NN at Turbine Floor - From EL -5.00 to EL 14.00 - Embedded Piping |
| 0007-4601 | 19 | MFA-SN-CD-3350-ME-SE-0017-01 | C1 | 505573-3346-46DD-0619 | 02 | Muskrat Falls - Powerhouse – Sectional Plan L-L at Turbine Floor - From EL -5.00 to EL 14.00 - Embedded Piping |
| 0007-4601 | 20 | MFA-SN-CD-3350-ME-SE-0018-01 | C1 | 505573-3346-46DD-0620 | 02 | Muskrat Falls - Powerhouse - Sectional Plan M-M, PP-PP & Detail 10 at Turbine Floor - From EL -5.00 to EL 14.00 - Embedded Piping |
| 0007-4601 | 21 | MFA-SN-CD-3350-ME-SE-0019-01 | C1 | 505573-3346-46DD-0621 | 01 | Muskrat Falls - Powerhouse - Section View KK-KK - From EL -9.00 to EL 14.00 - Embedded Piping |
| 0007-4601 | 22 | MFA-SN-CD-3350-ME-SE-0020-01 | C1 | 505573-3346-46DD-0622 | 02 | Muskrat Falls - Powerhouse - Sectional Plan N-N & Detail 5 at Generator Floor - From EL 14.00 to EL 20.00 - Embedded Piping |
| 0007-4601 | 23 | MFA-SN-CD-3350-ME-SE-0021-01 | C1 | 505573-3346-46DD-0623 | 02 | Muskrat Falls - Powerhouse - Sectional Plan P-P at Generator Floor - From EL 14.00 to EL 20.00 - Embedded Piping |
| 0007-4601 | 24 | MFA-SN-CD-3350-ME-SE-0022-01 | C1 | 505573-3346-46DD-0624 | 02 | Muskrat Falls - Powerhouse - Sectional Plan Q-Q at Generator Floor - From EL 14.00 to EL 20.00 - Embedded Piping |
| 0007-4601 | 25 | MFA-SN-CD-3350-ME-SE-0023-01 | C1 | 505573-3346-46DD-0625 | 01 | Muskrat Falls - Powerhouse - Sectional Plan R-R at Mezzanine 1 - From EL 20.00 to EL 30.00 - Embedded Piping |
| 0007-4601 | 26 | MFA-SN-CD-3350-ME-SE-0024-01 | C1 | 505573-3346-46DD-0626 | 01 | Muskrat Falls - Powerhouse - Sectional Plan S-S at Mezzanine 1 - From EL 20.00 to EL 30.00 - Embedded Piping |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| 0007-4601 | 27 | MFA-SN-CD-3350-ME-SE-0025-01 | C1 | 505573-3346-46DD-0627 | 01 | Muskrat Falls - Powerhouse - Sectional Plan T-T at Mezzanine 1 - From EL 20.00 to EL 30.00 - Embedded Piping |
| 0007-4601 | 28 | MFA-SN-CD-3350-ME-SE-0026-01 | C1 | 505573-3346-46DD-0628 | 01 | Muskrat Falls - Powerhouse - Sectional Plan U-U at Mezzanine 2 - From EL 30.00 to EL 36.00 - Embedded Piping |
| 0007-4601 | 29 | MFA-SN-CD-3350-ME-SE-0027-01 | C1 | 505573-3346-46DD-0629 | 01 | Muskrat Falls - Powerhouse - Sectional Plan V-V at Mezzanine 2 - From EL 30.00 to EL 36.00 - Embedded Piping |
| 0007-4601 | 30 | MFA-SN-CD-3350-ME-SE-0028-01 | C1 | 505573-3346-46DD-0630 | 01 | Muskrat Falls - Powerhouse - Sectional Plan W-W at Mezzanine 2 - From EL 30.00 to EL 36.00 - Embedded Piping |
| 0007-4601 | 31 | MFA-SN-CD-3350-ME-SE-0029-01 | C1 | 505573-3346-46DD-0631 | 02 | Muskrat Falls - Powerhouse - Sectional Plan X-X at Roof - From EL 36.00 to EL 54.10 - Embedded Piping |
| 0007-4601 | 32 | MFA-SN-CD-3350-ME-SE-0030-01 | C1 | 505573-3346-46DD-0632 | 02 | Muskrat Falls - Powerhouse - Sectional Plan Y-Y at Roof - From EL 36.00 to EL 51.10 - Embedded Piping |
| 0007-4601 | 33 | MFA-SN-CD-3350-ME-SE-0031-01 | C1 | 505573-3346-46DD-0633 | 02 | Muskrat Falls - Powerhouse - Sectional Plan Z-Z at Roof - From EL -36.00 to EL 51.10 - Embedded Piping |
| 0007-4601 | 34 | MFA-SN-CD-3350-ME-SE-0032-01 | C1 | 505573-3346-46DD-0634 | 02 | Muskrat Falls - Powerhouse - Section View AA-AA - From EL 15.50 to EL 54.10 - Embedded Piping |
| 0007-4601 | 35 | MFA-SN-CD-3350-ME-SE-0033-01 | C1 | 505573-3346-46DD-0635 | 02 | Muskrat Falls - Powerhouse - Section View BB-BB - From EL 15.50 to EL 51.10 - Embedded Piping |
| 0007-4601 | 36 | MFA-SN-CD-3350-ME-SE-0034-01 | C1 | 505573-3346-46DD-0636 | 02 | Muskrat Falls - Powerhouse - Section View CC-CC - From EL 15.50 to EL 51.10 - Embedded Piping |
| 0007-4601 | 37 | MFA-SN-CD-3350-ME-SE-0035-01 | C1 | 505573-3346-46DD-0637 | 02 | Muskrat Falls - Powerhouse - Section View DD-DD - From EL 15.50 to EL 46.00 - Embedded Piping |
| 0007-4601 | 38 | MFA-SN-CD-3350-ME-SE-0036-01 | C1 | 505573-3346-46DD-0638 | 02 | Muskrat Falls - Powerhouse - Section View EE-EE - From EL 15.50 to EL 46.00 - Embedded Piping |
| 0007-4601 | 39 | MFA-SN-CD-3350-ME-SE-0037-01 | C1 | 505573-3346-46DD-0639 | 02 | Muskrat Falls - Powerhouse - Section View FF-FF - From EL 15.50 to EL 46.00 - Embedded Piping |
| 0007-4601 | 40 | MFA-SN-CD-3350-ME-GA-0002-01 | C1 | 505573-3346-46DD-0640 | 02 | Muskrat Falls - Powerhouse - Wastewater Treatment - General Arrangement - Embedded Piping |
| 0007-4601 | 41 | MFA-SN-CD-3350-ME-SE-0038-01 | C1 | 505573-3346-46DD-0641 | 02 | Muskrat Falls - Powerhouse - Wastewater Treatment - Sections and Details - Embedded Piping and Electrical Ductbank |
| 0007-4601 | 42 | MFA-SN-CD-3350-ME-SE-0039-01 | C1 | 505573-3346-46DD-0642 | 02 | Muskrat Falls - Powerhouse - Wastewater Treatment - Section and Details - Embedded Piping |
| 0007-4601 | 43 | MFA-SN-CD-3350-ME-DD-0001-01 | C1 | 505573-3346-46DD-0646 | 02 | Muskrat Falls - Powerhouse - Standard Piping Details - Embedded Piping |
| 0007-4601 | 44 | MFA-SN-CD-3350-ME-DD-0002-01 | C1 | 505573-3346-46DD-0647 | 02 | Muskrat Falls - Powerhouse - Standard Piping Details - Embedded Piping |
| 0007-4601 | 45 | MFA-SN-CD-3350-ME-DD-0003-01 | C1 | 505573-3346-46DD-0648 | 02 | Muskrat Falls - Powerhouse - Standard Piping Details - Embedded Piping |
| 0007-4601 | 46 | MFA-SN-CD-3350-ME-DD-0004-01 | C1 | 505573-3346-46DD-0649 | 01 | Muskrat Falls - Powerhouse - Standard Piping Details - Embedded Piping |
| 0007-4601 | 47 | MFA-SN-CD-3350-ME-DD-0007-01 | C1 | 505573-3346-46DD-0650 | 01 | Muskrat Falls - Powerhouse - Standard Piping Details - Embedded Piping |


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DRAWING LIST: EMBEDDED GROUNDING, CONDUITS AND LIGHTING

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|------------------|-----------|------------------------------|-----------------|-----------------------|--------------|---|
| 0000-4701 | 01 | MFA-SN-CD-3430-EL-SD-0002-01 | C2 | 505573-3344-47DD-0102 | 02 | Muskrat Falls - Electrical Services - Identification Standard |
| 0000-4701 | 02 | MFA-SN-CD-3430-EL-LS-0007-01 | C1 | 505573-3344-47DD-0104 | 01 | Muskrat Falls - Electrical Services - Layout Legend |
| 0007-4701 | 01 | MFA-SN-CD-3340-EL-DD-0018-01 | C1 | 505573-3344-47DD-0273 | 01 | Muskrat Falls - Powerhouse - Installation Details - Embedded Grounding and Conduits |
| 0007-4701 | 02 | MFA-SN-CD-3340-EL-DD-0003-01 | C1 | 505573-3344-47DD-0236 | 01 | Muskrat Falls - Powerhouse - Installation Details - Surface Grounding |
| 0007-4701 | 03 | MFA-SN-CD-2363-EL-DD-0001-01 | C1 | 505573-3344-47DD-0291 | 00 | Muskrat Falls – South Transition Dam – Plan at El 28.50 and 45.40 – Embedded Grounding and Conduits |
| 0007-4701 | 04 | MFA-SN-CD-2363-EL-SE-0002-01 | C1 | 505573-3344-47DD-0292 | 00 | Muskrat Falls – South Transition Dam – Section A-A and C-C - Embedded Grounding and Conduits |
| 0007-4701 | 05 | MFA-SN-CD-3340-EL-SE-0005-01 | C1 | 505573-3344-47DD-0274 | 01 | Muskrat Falls - Powerhouse - Cross Section at Centerline of Unit - Embedded Grounding and Conduits |
| 0007-4701 | 06 | MFA-SN-CD-3340-EL-SE-0008-01 | C1 | 05573-3344-47DD-0275 | 01 | Muskrat Falls - Powerhouse - Cross Section between Units - Embedded Grounding and Conduits |
| 0007-4701 | 07 | MFA-SN-CD-3340-EL-SE-0003-01 | C1 | 505573-3344-47DD-0276 | 01 | Muskrat Falls - Powerhouse - Cross Section Through South Service Bay - Embedded Grounding and Conduits |
| 0007-4701 | 08 | MFA-SN-CD-3300-EL-PL-0008-01 | C1 | 505573-3344-47DD-0279 | 01 | Muskrat Falls - Powerhouse - Draft Tube Plan at El -25.40 - Unit 1 and Unit 2 - Embedded Grounding and Conduits |
| 0007-4701 | 09 | MFA-SN-CD-3300-EL-PL-0015-01 | C1 | 505573-3344-47DD-0323 | 01 | Muskrat Falls - Powerhouse - Draft Tube Plan at El -25.40 - Unit 3 and Unit 4 - Embedded Grounding and Conduits |
| 0007-4701 | 10 | MFA-SN-CD-3300-EL-PL-0007-01 | C1 | 505573-3344-47DD-0322 | 01 | Muskrat Falls - Powerhouse - Dewatering Gallery Plan at El -22.50 - Units 1, 2, 3 and 4 - Embedded Grounding and Conduits |
| 0007-4701 | 11 | MFA-SN-CD-3300-EL-PL-0009-01 | C1 | 505573-3344-47DD-0280 | 01 | Muskrat Falls - Powerhouse - Dewatering Gallery Plan at El -20.30 - Unit 1 and Unit 2 - Embedded Grounding and Conduits |
| 0007-4701 | 12 | MFA-SN-CD-3300-EL-PL-0001-01 | C1 | 505573-3344-47DD-0277 | 01 | Muskrat Falls - Powerhouse - Dewatering Gallery Plan at El -20.30 - Unit 3 and Unit 4 - Embedded Grounding and Conduits |
| 0007-4701 | 13 | MFA-SN-CD-3300-EL-PL-0010-01 | C1 | 505573-3344-47DD-0281 | 01 | Muskrat Falls - Powerhouse - Drainage Gallery Plan at El -7.90 - Units 1, 2, 3 and 4 - Embedded Grounding and Conduits |
| 0007-4701 | 14 | MFA-SN-CD-3220-EL-PL-0002-01 | C1 | 505573-3344-47DD-0287 | 01 | Muskrat Falls - Powerhouse - Plan at Centreline Distributor El -5.70 - Unit 1 and Unit 2 - Embedded Grounding and Conduits |
| 0007-4701 | 15 | MFA-SN-CD-3220-EL-PL-0003-01 | C1 | 505573-3344-47DD-0324 | 01 | Muskrat Falls – Powerhouse - Plan at Centreline Distributor El -5.70 - Unit 3 and Unit 4 - Embedded Grounding and Conduits |
| 0007-4701 | 16 | MFA-SN-CD-3300-EL-PL-0002-01 | C1 | 505573-3344-47DD-0278 | 01 | Muskrat Falls - Powerhouse –South Service Bay Plans El 0.00 and El 6.50 - Embedded Grounding and Conduits |
| 0007-4701 | 17 | MFA-SN-CD-3300-EL-PL-0011-01 | C1 | 505573-3344-47DD-0282 | 01 | Muskrat Falls - Powerhouse - Turbine Floor Plan at El 6.50 - Unit 1 and Unit 2 - Embedded Grounding and Conduits |
| 0007-4701 | 18 | MFA-SN-CD-3300-EL-PL-0006-01 | C1 | 505573-3344-47DD-0321 | 01 | Muskrat Falls - Powerhouse - Turbine Floor Plan at El 6.50 - Unit 3 and Unit 4 - Embedded Grounding and Conduits |
| 0007-4701 | 19 | MFA-SN-CD-3300-EL-PL-0004-01 | C1 | 505573-3344-47DD-0284 | 01 | Muskrat Falls - Powerhouse - Generator Floor Plan at El 15.50 - South Service Bay - Embedded Grounding and Conduits |
| 0007-4701 | 20 | MFA-SN-CD-3300-EL-PL-0003-01 | C1 | 505573-3344-47DD-0283 | 01 | Muskrat Falls - Powerhouse - Generator Floor Plan at El 15.50 - Unit 1 and Unit 2 - Embedded Grounding and Conduits |
| 0007-4701 | 21 | MFA-SN-CD-3300-EL-PL-0005-01 | C1 | 505573-3344-47DD-0320 | 01 | Muskrat Falls – Powerhouse - Generator Floor Plan at EL 15.50 - Unit 3 and Unit 4 and North Service Bay - Embedded Grounding and Conduits |
| 0007-4701 | 22 | MFA-SN-CD-3300-EL-PL-0016-01 | C1 | 505573-3344-47DD-0325 | 01 | Muskrat Falls - Powerhouse – Gate Inspection Gallery Plan at El 23.00 - Units 1, 2, 3 and 4 - Embedded Grounding and Conduits |
| 0007-4701 | 23 | MFA-SN-CD-3220-EL-PL-0001-01 | C1 | 505573-3344-47DD-0285 | 01 | Muskrat Falls - Powerhouse - Intake Deck Plan at El 45.50 - Units 1, 2, 3 and 4 - Embedded Grounding and Conduits |
| 0007-4701 | 24 | MFA-SN-CD-2362-EL-PL-0001-01 | C1 | 505573-3344-47DD-0326 | 01 | Muskrat Falls - RCC and Transition Dams - Centre Transition Dam - Plans at El 18.50 and El 45.50 - Embedded Grounding and Conduits |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| 0007-4701 | 25 | MFA-SN-CD-2362-EL-SN-0001-01 | C1 | 505573-3344-47DD-0327 | 01 | Muskrat Falls - RCC and Transition Dams - Centre Transition Dam - Section A-A and Section B-B - Embedded Grounding and Conduits |
| 0007-4701 | 26 | MFA-SN-CD-2410-EL-PL-0002-01 | C1 | 505573-3243-47DD-0150 | 01 | Muskrat Falls - Spillway - Plan at EL 5.00 - Embedded Grounding and Conduits |
| 0007-4701 | 27 | MFA-SN-CD-2410-EL-PL-0001-01 | C1 | 505573-3243-47DD-0113 | 01 | Muskrat Falls – Spillway – Plan at El 45.50 – Embedded Grouding and Conduits |
| 0007-4701 | 28 | MFA-SN-CD-2410-EL-SE-0001-01 | C1 | 505573-3243-47DD-0151 | 01 | Muskrat Falls - Spillway - Section A-A - Embedded Grounding and Conduits |
| 0007-4701 | 29 | MFA-SN-CD-3340-EL-PL-0001-01 | C1 | 505573-3344-47DD-0289 | 01 | Muskrat Falls - RCC and Transition Dams - North Transition and North RCC Dams - Plan and Details - Embedded Grounding and Conduits |
| 0007-4701 | 30 | MFA-SN-CD-3340-EL-SE-0002-01 | C1 | 505573-3344-47DD-0290 | 01 | Muskrat Falls - RCC and Transition Dams - North Transition and North RCC Dams - Sections and Gallery Detail - Embedded Grounding and Conduits |
| 0007-4701 | 31 | MFA-SN-CD-2440-EL-RT-0001-01 | C2 | 505573-3243-47DD-0135 | 02 | Muskrat Falls – Spillway – Electrical Cable Tray and Conduit Layout |
| 0007-4701 | 32 | MFA-SN-CD-3340-EL-LT-0013-01 | C1 | 505573-3344-47DD-0270-SH1 | 01 | Muskrat Falls – Buried Cable Routing – Between Powerhouse and Switchyard – Layout and Detail |
| 0007-4701 | 33 | MFA-SN-CD-3340-EL-LT-0013-02 | C1 | 505573-3344-47DD-0270-SH2 | 01 | Muskrat Falls – Buried Cable Routing – Between Powerhouse and Switchyard – Sections and Detail |
| 0007-4701 | 34 | MFA-SN-CD-3340-EL-LT-0029-01 | C1 | 505573-3243-47DD-0269 | 01 | Muskrat Falls – Powerhouse to Spillway – Embedded Conduits Cable Trench and Cable Trays – Plan View and Details |
| 0007-4702 | 01 | MFA-SN-CD-3340-EL-DD-0020-01 | C1 | 505573-3344-47DD-0178 | 01 | Muskrat Falls – Powerhouse and Spillway – Luminaire Types – Lighting and Receptacles |
| 0007-4702 | 02 | MFA-SN-CD-3340-EL-DD-0019-01 | C1 | 505573-3344-47DD-0179 | 01 | Muskrat Falls – Powerhouse and Spillway – Installation Details – Lighting and Receptacles |
| 0007-4702 | 03 | MFA-SN-CD-3340-EL-PL-0002-01 | C1 | 505573-3344-47DD-0193-SH1 | 01 | Muskrat Falls – Powerhouse – Generator Floor Plan at El 15.50 – South Service Bay - Lighting and Receptacles |
| 0007-4702 | 04 | MFA-SN-CD-3340-EL-PL-0004-01 | C1 | 505573-3344-47DD-0194-SH1 | 01 | Muskrat Falls – Powerhouse – Generator Floor Plan at El 15.50 – Unit 1 and Unit 2 - Lighting and Receptacles |
| 0007-4702 | 05 | MFA-SN-CD-3340-EL-PL-0003-01 | C1 | 505573-3344-47DD-0196-SH1 | 01 | Muskrat Falls – Powerhouse – Generator Floor Plan at El 15.50 – Unit 3 and Unit 4 and North Service Bay - Lighting and Receptacles |
| 0007-4702 | 06 | MFA-SN-CD-3340-EL-PL-0002-02 | C1 | 505573-3344-47DD-0193-SH2 | 01 | Muskrat Falls – Powerhouse – Generator Floor Plan at El 15.50 – South Service Bay - Lighting and Receptacles |
| 0007-4702 | 07 | MFA-SN-CD-3340-EL-PL-0004-02 | C1 | 505573-3344-47DD-0194-SH2 | 01 | Muskrat Falls – Powerhouse – Generator Floor Plan at El 15.50 – Unit 1, Unit 2 - Lighting and Receptacles |
| 0007-4702 | 08 | MFA-SN-CD-3340-EL-PL-0003-02 | C1 | 505573-3344-47DD-0196-SH2 | 01 | Muskrat Falls – Powerhouse – Generator Floor Plan at El 15.50 – Unit 3, Unit 4 and North Service Bay - Lighting and Receptacles |
| 0007-4702 | 09 | MFA-SN-CD-3340-EL-PL-0005-01 | C1 | 505573-3344-47DD-0205-SH1 | 01 | Muskrat Falls – Powerhouse – Building Exterior Layout Lighting – Plan View – Sheet 1 of 3 |
| 0007-4702 | 10 | MFA-SN-CD-3340-EL-PL-0005-02 | C1 | 505573-3344-47DD-0205-SH2 | 00 | Muskrat Falls – Powerhouse – Building Exterior Layout Lighting – Plan View – Sheet 2 of 3 |
| 0007-4702 | 11 | MFA-SN-CD-3340-EL-PL-0005-03 | C1 | 505573-3344-47DD-0205-SH3 | 00 | Muskrat Falls – Powerhouse – Building Exterior Layout Lighting – Plan View – Sheet 3 of 3 |
| 0007-4702 | 12 | MFA-SN-CD-3340-EL-EL-0001-01 | C1 | 505573-3344-47DD-0206-SH1 | 00 | Muskrat Falls – Powerhouse – Building Exterior Lighting – Elevation – Sheet 1 of 2 |
| 0007-4702 | 13 | MFA-SN-CD-3340-EL-EL-0001-02 | C1 | 505573-3344-47DD-0206-SH2 | 00 | Muskrat Falls – Powerhouse – Building Exterior Lighting – Elevation – Sheet 2 of 2 |
| 0007-4702 | 14 | MFA-SN-CD-3340-EL-SC-0002-01 | C1 | 505573-3344-47DD-0180-SH1 | 01 | Muskrat Falls – Powerhouse - Control System Schematic – Lighting and Receptacles |
| 0007-4702 | 15 | MFA-SN-CD-3340-EL-DR-0002-01 | C1 | 505573-3344-47DD-0212 | 01 | Muskrat Falls – Powerhouse – Generator Floor at El 15.50 – 600/347 V Lighting Panels – Panel Schedules |

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DRAWING LIST: POWERHOUSE – ARCHITECTURAL

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| 0007-4401 | A1 | MFA-SN-CD-3320-AR-EL-0001-01 | C1 | 505573-3332-44DD-0001-SH1 | 02 | Muskrat Falls - Powerhouse - Exterior Elevation E1-E1 - Architectural - Sheet 1 of 2 |
| 0007-4401 | A2 | MFA-SN-CD-3320-AR-EL-0001-02 | C1 | 505573-3332-44DD-0001-SH2 | 02 | Muskrat Falls - Powerhouse - Exterior Elevation E1-E1 - Architectural - Sheet 2 of 2 |
| 0007-4401 | A3 | MFA-SN-CD-3320-AR-EL-0002-01 | C1 | 505573-3332-44DD-0005 | 02 | Muskrat Falls - Powerhouse - Exterior Elevations E2-E2, E3-E3 and E4-E4 - Architectural |
| 0007-4401 | A4 | MFA-SN-CD-3320-AR-PL-0001-01 | C1 | 505573-3332-44DD-0002 | 02 | Muskrat Falls - Powerhouse - Generator Floor - Plan at EL 15.50 - Architectural |
| 0007-4401 | A5 | MFA-SN-CD-3320-AR-PL-0003-01 | C1 | 505573-3332-44DD-0008 | 02 | Muskrat Falls - Powerhouse - Mezzanine M1 Floor - Plan at EL 25.00 - Architectural |
| 0007-4401 | A6 | MFA-SN-CD-3320-AR-PL-0004-01 | C1 | 505573-3332-44DD-0012 | 02 | Muskrat Falls - Powerhouse - Mezzanine M2 Floor - Plan at EL 34.47 - Architectural |
| 0007-4401 | A7 | MFA-SN-CD-3320-AR-PL-0006-01 | C1 | 505573-3332-44DD-0025 | 02 | Muskrat Falls - Powerhouse – Intake Deck – Plan at EL 45.50 and Partial Plan at EL 50.80 - Architectural |
| 0007-4401 | A8 | MFA-SN-CD-3320-AR-PL-0005-01 | C1 | 505573-3332-44DD-0016 | 02 | Muskrat Falls - Powerhouse - Roof Plan – Architectural |
| 0007-4401 | A9 | MFA-SN-CD-3320-AR-DD-0007-01 | C1 | 505573-3332-44DD-0028 | 02 | Muskrat Falls - Powerhouse - Roof Details - Architectural |
| 0007-4401 | A10 | MFA-SN-CD-3320-AR-SE-0002-01 | C1 | 505573-3332-44DD-0015-SH1 | 02 | Muskrat Falls - Powerhouse - Section A-A - Architectural - Sheet 1 of 2 |
| 0007-4401 | A11 | MFA-SN-CD-3320-AR-SE-0002-02 | C1 | 505573-3332-44DD-0015-SH2 | 02 | Muskrat Falls - Powerhouse - Section B-B - Architectural - Sheet 2 of 2 |
| 0007-4401 | A12 | MFA-SN-CD-3320-AR-SE-0001-01 | C1 | 505573-3332-44DD-0017-SH1 | 02 | Muskrat Falls - Powerhouse - Section C-C and Section D-D - Architectural - Sheet 1 of 2 |
| 0007-4401 | A13 | MFA-SN-CD-3320-AR-SE-0001-02 | C1 | 505573-3332-44DD-0017-SH2 | 02 | Muskrat Falls - Powerhouse - Section E-E - Architectural - Sheet 2 of 2 |
| 0007-4401 | A14 | MFA-SN-CD-3320-AR-SE-0003-01 | C1 | 505573-3332-44DD-0019-SH1 | 02 | Muskrat Falls - Powerhouse - Wall Sections - Architectural - Sheet 1 of 3 |
| 0007-4401 | A15 | MFA-SN-CD-3320-AR-SE-0003-02 | C1 | 505573-3332-44DD-0019-SH2 | 02 | Muskrat Falls - Powerhouse - Wall Sections - Architectural - Sheet 2 of 3 |
| 0007-4401 | A16 | MFA-SN-CD-3320-AR-SE-0003-03 | C1 | 505573-3332-44DD-0019-SH3 | 02 | Muskrat Falls - Powerhouse - Wall Sections - Architectural - Sheet 3 of 3 |
| 0007-4401 | A17 | MFA-SN-CD-3320-AR-DD-0005-01 | C1 | 505573-3332-44DD-0026-SH1 | 02 | Muskrat Falls - Powerhouse - Wall Details - Architectural - Sheet 1 of 2 |
| 0007-4401 | A18 | MFA-SN-CD-3320-AR-DD-0005-02 | C1 | 505573-3332-44DD-0026-SH2 | 02 | Muskrat Falls - Powerhouse - Wall Details - Architectural - Sheet 2 of 2 |
| 0007-4401 | A19 | MFA-SN-CD-3320-AR-DD-0002-01 | C1 | 505573-3332-44DD-0030 | 02 | Muskrat Falls - Powerhouse - Door and Window Schedule - Architectural |
| 0007-4401 | A20 | MFA-SN-CD-3320-AR-SN-0001-01 | C1 | 505573-3332-44DD-0022 | 02 | Muskrat Falls - Powerhouse - Main Door - Section and Details - Architectural |
| 0007-4401 | A21 | MFA-SN-CD-3320-AR-DD-0006-01 | C1 | 505573-3332-44DD-0027 | 01 | Muskrat Falls - Powerhouse – Miscellaneous Details - Architectural |


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DRAWING LIST: SPILLWAY AND DISCHARGE CHANNEL – GENERAL ARRANGEMENT, CONCRETE AND REINFORCEMENT

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| 0007-4103 | 01 | MFA-SN-CD-2430-CV-PL-0001-01 | C1 | 505573-3241-42DD-0072 | 02 | Muskrat Falls - Spillway - Discharge Channel Lining - Plan - Concrete |
| 0007-4103 | 02 | MFA-SN-CD-2430-CV-SE-0001-01 | C1 | 505573-3241-42DD-0073-SH1 | 02 | Muskrat Falls - Spillway - Discharge Channel Lining - Sections - Concrete - Sheet 1 of 2 |
| 0007-4103 | 03 | MFA-SN-CD-2430-CV-SE-0001-02 | C1 | 505573-3241-42DD-0073-SH2 | 02 | Muskrat Falls - Spillway - Discharge Channel Lining - Sections and Details - Concrete - Sheet 2 of 2 |
| 0007-4103 | 04 | MFA-SN-CD-2430-CV-SE-0002-01 | C1 | 505573-3241-42DD-0074 | 02 | Muskrat Falls - Spillway - Discharge Channel Lining - Sections And Details - Reinforcement |
| 0007-4106 | 01 | MFA-SN-CD-2400-CV-PL-0022-01 | C2 | 505573-3241-42DD-0022 | 02 | Muskrat Falls - Spillway - Upstream Bridge – Plans and Elevations |
| 0007-4106 | 02 | MFA-SN-CD-2400-CV-PL-0026-01 | C2 | 505573-3241-42DD-0024 | 01 | Muskrat Falls - Spillway - Upstream Bridge - Plan, Sections and Detail |
| 0007-4106 | 03 | MFA-SN-CD-2410-CV-SN-0001-01 | C1 | 505573-3241-42DD-0023-SH1 | 01 | Muskrat Falls - Spillway - Upstream Bridge - Sections and Details - Sheet 1 of 2 |
| 0007-4106 | 04 | MFA-SN-CD-2410-CV-SN-0001-02 | C2 | 505573-3241-42DD-0023-SH2 | 02 | Muskrat Falls - Spillway - Upstream Bridge - Sections and Details - Sheet 2 of 2 |
| 0007-4106 | 05 | MFA-SN-CD-2400-CV-PL-0015-01 | C2 | 505573-3241-42DD-0025 | 02 | Muskrat Falls - Spillway - Permanent Downstream Bridge - Plan, Elevation and Details |
| 0007-4106 | 06 | MFA-SN-CD-2400-CV-SN-0003-01 | C1 | 505573-3241-42DD-0026 | 01 | Muskrat Falls - Spillway - Permanent Downstream Bridge - Sections and Details |
| 0007-4107 | 01 | MFA-SN-CD-2410-CV-DD-0001-01 | C2 | 505573-3241-42DD-0039 | 01 | Muskrat Falls - Spillway – Gantry Crane Rails at El 45.50 – Miscellaneous Steel |
| 0007-4107 | 02 | MFA-SN-CD-2420-CV-SN-0001-01 | C1 | 505573-3241-42DD-0042 | 00 | Muskrat Falls - Spillway – Gate Access Shaft Cover and Ladder – Sections and Details - Miscellaneous Steel |
| 0007-4107 | 03 | MFA-SN-CD-2400-CV-SN-0016-01 | C2 | 505573-3241-42DD-0043 | 01 | Muskrat Falls - Spillway – Sections and Details - Miscellaneous Steel |
| 0007-4108 | 01 | MFA-SN-CD-2400-CV-PL-0001-01 | C2 | 505573-324A-42DD-0003 | 03 | Muskrat Falls - Spillway - General Arrangement - Plan |
| 0007-4108 | 02 | MFA-SN-CD-2400-CV-EL-0002-01 | C1 | 505573-3241-42DD-0001 | 01 | Muskrat Falls - Spillway - General Arrangement - Elevations |
| 0007-4108 | 03 | MFA-SN-CD-2400-CV-SE-0010-01 | C2 | 505573-3241-42DD-0010 | 01 | Muskrat Falls - Spillway - General Arrangement – Typical Cross Section |
| 0007-4108 | 04 | MFA-SN-CD-2400-CV-PL-0002-01 | C1 | 505573-324A-42DD-0002 | 02 | Muskrat Falls - Spillway - Construction Sequence - Plans and Sections |
| 0007-4108 | 05 | MFA-SN-CD-2400-CV-PL-0003-01 | C2 | 505573-324A-42DD-0004 | 03 | Muskrat Falls - Spillway – Plan at-El 45.50 - Concrete |
| 0007-4108 | 06 | MFA-SN-CD-2400-CV-EL-0003-01 | C2 | 505573-3241-42DD-0005 | 02 | Muskrat Falls - Spillway - Elevations - Concrete |
| 0007-4108 | 07 | MFA-SN-CD-2400-CV-PL-0014-01 | C1 | 505573-3241-42DD-0016 | 02 | Muskrat Falls - Spillway - Base Slab - Plan, Section and Details - Concrete |
| 0007-4108 | 08 | MFA-SN-CD-2400-CV-PL-0020-01 | C1 | 505573-3241-42DD-0018 | 02 | Muskrat Falls – Spillway – Rollways – Plan, Section and Details - Concrete |
| 0007-4108 | 09 | MFA-SN-CD-2400-CV-SE-0002-01 | C2 | 505573-3241-42DD-0006-SH1 | 03 | Muskrat Falls - Spillway - North Pier - Sections – Concrete – Sheet 1 of 2 |
| 0007-4108 | 10 | MFA-SN-CD-2400-CV-SE-0002-02 | C2 | 505573-3241-42DD-0006-SH2 | 01 | Muskrat Falls - Spillway - North Pier - Sections – Concrete – Sheet 2 of 2 |
| 0007-4108 | 11 | MFA-SN-CD-2400-CV-SE-0003-01 | C2 | 505573-3241-42DD-0002-SH1 | 03 | Muskrat Falls - Spillway - South Pier - Sections – Concrete – Sheet 1 of 2 |
| 0007-4108 | 12 | MFA-SN-CD-2400-CV-SE-0003-02 | C2 | 505573-3241-42DD-0002-SH2 | 01 | Muskrat Falls - Spillway - South Pier - Sections – Concrete – Sheet 2 of 2 |
| 0007-4108 | 13 | MFA-SN-CD-2400-CV-SE-0004-01 | C1 | 505573-3241-42DD-0009 | 02 | Muskrat Falls – Spillway – Intermediate Piers – Section - Concrete |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
| | Nalcor Doc. No. MFA-SN-CD-2000-EN-LS-0001-01 | | C2 | Date | Page |
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| 0007-4108 | 14 | MFA-SN-CD-2400-CV-SN-0015-01 | C1 | 505573-3241-42DD-0011-SH1 | 02 | Muskrat Falls - Spillway - Sections and Details – Concrete - Sheet 1 of 3 |
| 0007-4108 | 15 | MFA-SN-CD-2400-CV-SN-0015-02 | C2 | 505573-3241-42DD-0011-SH2 | 02 | Muskrat Falls - Spillway - Sections and Details - Concrete - Sheet 2 of 3 |
| 0007-4108 | 16 | MFA-SN-CD-2400-CV-SN-0015-03 | C2 | 505573-3241-42DD-0011-SH3 | 01 | Muskrat Falls - Spillway - Sections and Details - Concrete - Sheet 3 of 3 |
| 0007-4108 | 17 | MFA-SN-CD-2410-CV-SN-0002-01 | C2 | 505573-3241-42DD-0020-SH1 | 01 | Muskrat Falls - Spillway – Waterstops - Sections and Details - Sheet 1 of 2 |
| 0007-4108 | 18 | MFA-SN-CD-2410-CV-SN-0002-02 | C2 | 505573-3241-42DD-0020-SH2 | 01 | Muskrat Falls - Spillway – Waterstops - Sections and Details - Sheet 2 of 2 |
| 0007-4108 | 19 | MFA-SN-CD-2400-CV-PL-0025-01 | C1 | 505573-3241-42DD-0075 | 01 | Muskrat Falls - Spillway – BAY 2 and BAY 4 - Plans, Sections and Details Temporary Stabilization |
| 0007-4108 | 20 | MFA-SN-CD-2400-CV-PL-0021-01 | C1 | 505573-3241-42DD-0031 | 01 | Muskrat Falls - Spillway - South Retaining Wall - Plan, Elevation and Sections - Concrete |
| 0007-4109 | 01 | MFA-SN-CD-2410-CV-SE-0001-01 | C2 | 505573-3241-42DD-0045-SH1 | 02 | Muskrat Falls - Spillway - North and South Piers - Sections - Reinforcement - Sheet 1 of 3 |
| 0007-4109 | 02 | MFA-SN-CD-2410-CV-SE-0001-02 | C2 | 505573-3241-42DD-0045-SH2 | 02 | Muskrat Falls Spillway - North and South Piers - Sections - Reinforcement - Sheet 2 of 3 |
| 0007-4109 | 03 | MFA-SN-CD-2410-CV-SE-0001-03 | C1 | 505573-3241-42DD-0045-SH3 | 01 | Muskrat Falls - Spillway - North and South Piers - Sections - Reinforcement - Sheet 3 of 3 |
| 0007-4109 | 04 | MFA-SN-CD-2410-CV-SE-0002-01 | C1 | 505573-3241-42DD-0051-SH1 | 01 | Muskrat Falls - Spillway - Intermediate Piers - Sections - Reinforcement - Sheet 1 of 2 |
| 0007-4109 | 05 | MFA-SN-CD-2410-CV-SE-0002-02 | C1 | 505573-3241-42DD-0051-SH2 | 01 | Muskrat Falls - Spillway - Intermediate Piers - Sections - Reinforcement - Sheet 2 of 2 |
| 0007-4109 | 06 | MFA-SN-CD-2410-CV-SE-0005-01 | C1 | 505573-3241-42DD-0046 | 00 | Muskrat Falls – Spillway – North, South and Intermediate Piers – Sections - Reinforcement |
| 0007-4109 | 07 | MFA-SN-CD-2410-CV-SE-0003-01 | C2 | 505573-3241-42DD-0064-SH1 | 02 | Muskrat Falls - Spillway - North, South and Intermediate Piers - Plans and Sections – Reinforcement – Sheet 1 of 3 |
| 0007-4109 | 08 | MFA-SN-CD-2410-CV-SE-0003-02 | C1 | 505573-3241-42DD-0064-SH2 | 00 | Muskrat Falls - Spillway - North, South and Intermediate Piers - Plans and Sections – Reinforcement – Sheet 2 of 3 |
| 0007-4109 | 09 | MFA-SN-CD-2410-CV-SE-0003-03 | C1 | 505573-3241-42DD-0064-SH3 | 00 | Muskrat Falls - Spillway - North, South and Intermediate Piers - Plans and Sections – Reinforcement – Sheet 3 of 3 |
| 0007-4109 | 10 | MFA-SN-CD-2410-CV-SE-0004-01 | C1 | 505573-3241-42DD-0065 | 01 | Muskrat Falls - Spillway - North, South and Intermediate Piers - Couplers and Ties - Reinforcement |
| 0007-4109 | 11 | MFA-SN-CD-2410-CV-PL-0005-01 | C1 | 505573-3241-42DD-0048-SH1 | 01 | Muskrat Falls - Spillway - Base Slab - Plans and Sections - Reinforcement - Sheet 1 of 4 |
| 0007-4109 | 12 | MFA-SN-CD-2410-CV-PL-0005-02 | C1 | 505573-3241-42DD-0048-SH2 | 01 | Muskrat Falls - Spillway - Base Slab - Plans and Sections - Reinforcement - Sheet 2 of 4 |
| 0007-4109 | 13 | MFA-SN-CD-2410-CV-PL-0005-03 | C1 | 505573-3241-42DD-0048-SH3 | 01 | Muskrat Falls - Spillway - Base Slab - Plans and Sections - Reinforcement - Sheet 3 of 4 |
| 0007-4109 | 14 | MFA-SN-CD-2410-CV-PL-0005-04 | C1 | 505573-3241-42DD-0048-SH4 | 01 | Muskrat Falls - Spillway - Base Slab - Plans and Sections - Reinforcement - Sheet 4 of 4 |
| 0007-4109 | 15 | MFA-SN-CD-2410-CV-PL-0006-01 | C1 | 505573-3241-42DD-0059 | 01 | Muskrat Falls - Spillway - Rollway - Plan and Section – Reinforcement |
| 0007-4109 | 16 | MFA-SN-CD-2400-CV-SN-0012-01 | C1 | 505573-3241-42DD-0032 | 01 | Muskrat Falls - Spillway - South Retaining Wall - Sections - Reinforcement |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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DRAWING LIST: TRANSITIONS DAMS – CONCRETE, REINFORCEMENT AND STRUCTURAL STEEL

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| 0007-4102 | 01 | MFA-SN-CD-2361-CV-PL-0002-01 | C2 | 505573-3231-42DD-0004 | 02 | Muskrat Falls - Transition Dams - North Transition Dam - Plans at Deck El 45.50 - Concrete |
| 0007-4102 | 02 | MFA-SN-CD-2361-CV-EL-0001-01 | C2 | 505573-3231-42DD-0005 | 02 | Muskrat Falls - Transition Dams - North Transition Dam - Elevations and Section - Concrete |
| 0007-4102 | 03 | MFA-SN-CD-2361-CV-SN-0001-01 | C2 | 505573-3231-42DD-0006-SH1 | 02 | Muskrat Falls - Transition Dams - North Transition Dam - Sections and Details - Sheet 1 of 2 - Concrete |
| 0007-4102 | 04 | MFA-SN-CD-2361-CV-SN-0001-02 | C2 | 505573-3231-42DD-0006-SH2 | 02 | Muskrat Falls - Transition Dams - North Transition Dam - Sections and Details - Sheet 2 of 2 - Concrete |
| 0007-4102 | 05 | MFA-SN-CD-2361-CV-PL-0003-01 | C1 | 505573-3231-42DD-0007 | 01 | Muskrat Falls - Transition Dams - North Transition Dam - Drainage Gallery and Access Gallery - Concrete |
| 0007-4102 | 06 | MFA-SN-CD-2361-CV-DD-0002-01 | C2 | 505573-3231-42DD-0008-SH1 | 02 | Muskrat Falls - Transition Dams - North Transition Dam – Sections and Details - Sheet 1 of 2 - Reinforcement |
| 0007-4102 | 07 | MFA-SN-CD-2361-CV-DD-0002-02 | C2 | 505573-3231-42DD-0008-SH2 | 02 | Muskrat Falls - Transition Dams - North Transition Dam - Sections and Details - Sheet 2 of 2 - Reinforcement |
| 0007-4102 | 08 | MFA-SN-CD-2361-ST-PL-0001-01 | C1 | 505573-3231-43DD-0005 | 01 | Muskrat Falls - Transition Dams – North Transition Dam – Stairs and Walkway – Plan, Sections and Details - Miscellaneous Steel |


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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| 0007-4104 | 01 | MFA-SN-CD-2363-CV-PL-0001-01 | C1 | 505573-3231-42DD-0901 | 01 | Muskrat Falls - Transition Dams - South Transition Dam – Plans - Concrete |
| 0007-4104 | 02 | MFA-SN-CD-2363-CV-EL-0001-01 | C1 | 505573-3231-42DD-0902-SH1 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Elevations and Details - Concrete - Sheet 1 of 2 |
| 0007-4104 | 03 | MFA-SN-CD-2363-CV-EL-0001-02 | C1 | 505573-3231-42DD-0902-SH2 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Elevations and Details - Concrete - Sheet 2 of 2 |
| 0007-4104 | 04 | MFA-SN-CD-2363-CV-SN-0002-01 | C1 | 505573-3231-42DD-0903-SH1 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Sections and Details - Concrete - Sheet 1 of 2 |
| 0007-4104 | 05 | MFA-SN-CD-2363-CV-SN-0002-02 | C1 | 505573-3231-42DD-0903-SH2 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Sections and Details - Concrete - Sheet 2 of 2 |
| 0007-4104 | 06 | MFA-SN-CD-2363-CV-PL-0002-01 | C1 | 505573-3231-42DD-0904 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Drainage Gallery – Concrete |
| 0007-4104 | 07 | MFA-SN-CD-2363-CV-SN-0003-01 | C1 | 505573-3231-42DD-0905-SH1 | 01 | Muskrat Falls - Transition Dams - South Transition Dam – Sections and Details - Reinforcement - Sheet 1 of 2 |
| 0007-4104 | 08 | MFA-SN-CD-2363-CV-SN-0003-02 | C1 | 505573-3231-42DD-0905-SH2 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Sections and Details - Reinforcement - Sheet 2 of 2 |
| 0007-4104 | 09 | MFA-SN-CD-2363-CV-SN-0003-03 | V1 | 505573-3231-42DD-0905-SH3 | 01 | Muskrat Falls - Transition Dams - South Transition Dam - Sections and Details - Reinforcement - Sheet 3 of 3 |
| 0007-4104 | 10 | MFA-SN-CD-2363-CV-DD-0001-01 | C1 | 505573-3231-42DD-0906 | 01 | Muskrat Falls - Transition Dams - South Transition Dam – Guardrail Details – Miscellaneous Steel |
| 0007-4105 | 01 | MFA-SN-CD-2362-CV-PL-0001-01 | C2 | 505573-3231-42DD-0012 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Plan - Concrete |
| 0007-4105 | 02 | MFA-SN-CD-2362-CV-PL-0002-01 | C2 | 505573-3231-42DD-0013 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Plan at El 45.50 - Concrete |
| 0007-4105 | 03 | MFA-SN-CD-2362-CV-EL-0001-01 | C2 | 505573-3231-42DD-0014-SH1 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Elevation And Details - Concrete - Sheet 1 of 2 |
| 0007-4105 | 04 | MFA-SN-CD-2362-CV-EL-0001-02 | C2 | 505573-3231-42DD-0014-SH2 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Elevation And Details - Concrete - Sheet 2 of 2 |
| 0007-4105 | 05 | MFA-SN-CD-2362-CV-SN-0001-01 | C2 | 505573-3231-42DD-0015-SH1 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Sections And Details - Concrete - Sheet 1 of 3 |
| 0007-4105 | 06 | MFA-SN-CD-2362-CV-SN-0001-02 | C2 | 505573-3231-42DD-0015-SH2 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Sections And Details - Concrete - Sheet 2 of 3 |
| 0007-4105 | 07 | MFA-SN-CD-2362-CV-SN-0001-03 | C2 | 505573-3231-42DD-0015-SH3 | 02 | Muskrat Falls - Transition Dams - Centre Transition Dam - Sections And Details - Concrete - Sheet 3 of 3 |
| 0007-4105 | 08 | MFA-SN-CD-2362-CV-PL-0003-01 | C1 | 505573-3231-42DD-0016 | 02 | Muskrat Falls - Transition Dams - Centre Transition Dam - Drainage Gallery - Concrete |
| 0007-4105 | 09 | MFA-SN-CD-2362-CV-DD-0001-01 | C2 | 505573-3231-42DD-0017-SH1 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Reinforcement - Sheet 1 of 3 |
| 0007-4105 | 10 | MFA-SN-CD-2362-CV-DD-0001-02 | C1 | 505573-3231-42DD-0017-SH2 | 02 | Muskrat Falls - Transition Dams - Centre Transition Dam - Reinforcement - Sheet 2 of 3 |
| 0007-4105 | 11 | MFA-SN-CD-2362-CV-DD-0001-03 | C2 | 505573-3231-42DD-0017-SH3 | 01 | Muskrat Falls – Transition Dams – Centre Transition Dam - Reinforcement – Sheet 3 of 3 |
| 0007-4105 | 12 | MFA-SN-CD-2362-ST-PL-0001-01 | C2 | 505573-3231-43DD-0001 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Elevated Deck - Plans and Details - Structural Steel |
| 0007-4105 | 13 | MFA-SN-CD-2362-ST-SE-0001-01 | C2 | 505573-3231-43DD-0002 | 03 | Muskrat Falls - Transition Dams - Centre Transition Dam - Elevated Deck - Sections and Details - Structural Steel |
| 0007-4105 | 14 | MFA-SN-CD-2362-CV-DD-0005-01 | C2 | 505573-3231-43DD-0003 | 02 | Muskrat Falls - Transition Dams - Centre Transition Dam - Guardrail Details - Miscellaneous Steel |
| 0007-4105 | 15 | MFA-SN-CD-2360-ST-PL-0001-01 | C1 | 505573-3231-43DD-0004 | 01 | Muskrat Falls - Transition Dams – South and Centre Transition Dams – Stairs – Plans, Sections and Details - Miscellaneous Steel |
| 0007-4105 | 16 | MFA-SN-CD-2362-CV-PL-0004-01 | C2 | 505573-3231-43DD-0006 | 01 | Muskrat Falls – Transition Dams – Centre Transition Dam – Gantry Crane Rails at El 45.50 – Miscellaneous Steel |
| 0007-4105 | 17 | MFA-SN-CD-2362-CV-SN-0002-01 | C2 | 505573-3231-43DD-0007 | 01 | Muskrat Falls – Transition Dams – Centre Transition Dam – Sections and Details – Miscellaneous Steel |
| 0007-4105 | 18 | MFA-SN-CD-2440-CV-PL-0001-01 | C2 | 505573-3231-42DD-0018 | 02 | Muskrat Falls – Spillway – Diesel Fuel Tank Foundation - Plan and Details - Concrete |

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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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DRAWING LIST: SEPARATION WALL – CONCRETE AND REINFORCEMENT


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| 0007-4101 | 01 | MFA-SN-CD-2360-CV-PL-0003-01 | C1 | 505573-3232-42DD-0009 | 02 | Muskrat Falls - Separation Wall - Plan - Concrete |
| 0007-4101 | 02 | MFA-SN-CD-2360-CV-DD-0004-01 | C1 | 505573-3232-42DD-0010 | 02 | Muskrat Falls - Separation Wall - Elevations - Concrete |
| 0007-4101 | 03 | MFA-SN-CD-2360-CV-DD-0007-01 | C1 | 505573-3232-42DD-0011 | 02 | Muskrat Falls - Separation Wall - Sections- Concrete |
| 0007-4101 | C33 | MFA-SN-CD-2360-CV-DD-0003-01 | V1 | 505573-3232-42DD-0012 | 01 | Muskrat Falls - Separation Wall - Sections- Reinforcement |

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|  | CH0007 CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS TECHNICAL DOCUMENT LIST | | Revision | | |
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| Plate No. | NALCOR DOCUMENT No. | NALCOR REVISION | SLI DOCUMENT No | SLI REVISION | DRAWING TITLE |
|-----------|------------------------------|-----------------|-----------------------|--------------|--|
| G1 | MFA-SN-CD-0000-CV-PL-0003-01 | C1 | 505573-300A-41DD-0001 | 02 | Muskrat Falls - Project Location and Drainage Basins - Plan |
| G2 | MFA-SN-CD-0000-CV-PL-0004-01 | C1 | 505573-300A-41DD-0003 | 02 | Muskrat Falls - Lower Churchill River - Plan and Profile |
| G4 | MFA-SN-CD-2000-CV-GA-0001-01 | C2 | 505573-300A-41DD-0012 | 05 | Muskrat Falls - Access Road, Accommodations and Laydown Areas |
| G16 | MFA-SN-CD-2400-CV-PL-0006-01 | C4 | 505573-325A-4JDD-0005 | 06 | Muskrat Falls – Bulk Excavation – Spillway – Rock Excavation – Plan and Profile |
| G17 | MFA-SN-CD-2400-CV-SE-0001-01 | C2 | 505573-325A-4JDD-0016 | 04 | Muskrat Falls – Bulk Excavation – Spillway – Excavation and Consolidation – Sections and Detail – Sheet 1 of 2 |
| G18 | MFA-SN-CD-2400-CV-DD-0001-01 | C2 | 505573-325A-4JDD-0006 | 04 | Muskrat Falls – Bulk Excavation – Spillway – Excavation and Consolidation – Sections and Detail – Sheet 2 of 2 |
| G19 | MFA-SN-CD-2300-CV-SE-0002-01 | C2 | 505573-325A-4GDD-0002 | 03 | Muskrat Falls – Bulk Excavation – Embankment Cofferdams – Typical Cross Sections |
| G21 | MFA-SN-CD-3300-CV-PL-0014-01 | C4 | 505573-325A-4JDD-0007 | 06 | Muskrat Falls – Bulk Excavation – Powerhouse – Rock Excavation – Plan and Profile |
| G22 | MFA-SN-CD-3300-CV-SE-0007-01 | C3 | 505573-325A-4JDD-0008 | 05 | Muskrat Falls – Bulk Excavation – Powerhouse – Excavation and Consolidation – Sections and Detail |
| G23 | MFA-SN-CD-3300-CV-PL-0015-01 | C3 | 505573-325A-4JDD-0009 | 05 | Muskrat Falls – Bulk Excavation – Powerhouse – Excavation and Consolidation – Detail |
| G24 | MFA-SN-CD-3300-CV-SE-0008-01 | C2 | 505573-325A-4JDD-0010 | 04 | Muskrat Falls – Bulk Excavation – Powerhouse – Excavation and Consolidation – Sections – Sheet 1 of 3 |
| G25 | MFA-SN-CD-3300-CV-SE-0011-01 | C3 | 505573-325A-4JDD-0017 | 05 | Muskrat Falls – Bulk Excavation – Powerhouse – Excavation and Consolidation – Sections – Sheet 2 of 3 |
| G26 | MFA-SN-CD-3300-CV-SE-0009-01 | C2 | 505573-325A-4JDD-0011 | 04 | Muskrat Falls – Bulk Excavation – Powerhouse – Excavation and Consolidation – Sections – Sheet 3 of 3 |
| G35 | MFA-SN-CD-2000-GT-PL-0005-01 | C1 | 505573-325A-4JDD-0019 | 01 | Muskrat Falls - Existing Geological and Geotechnical Information - Main Structures – Plan |
| G36 | MFA-SN-CD-2000-GT-SE-0002-01 | C1 | 505573-325A-4JDD-0020 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections Sheet 1 of 8 |
| G37 | MFA-SN-CD-2000-GT-SE-0002-02 | C1 | 505573-325A-4JDD-0021 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections - Sheet 2 of 8 |
| G38 | MFA-SN-CD-2000-GT-SE-0002-03 | C1 | 505573-325A-4JDD-0022 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections Sheet 3 of 8 |
| G39 | MFA-SN-CD-2000-GT-SE-0002-04 | C1 | 505573-325A-4JDD-0023 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections - Sheet 4 of 8 |
| G40 | MFA-SN-CD-2000-GT-SE-0002-05 | C1 | 505573-325A-4JDD-0024 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections Sheet 5 of 8 |
| G41 | MFA-SN-CD-2000-GT-SE-0002-06 | C1 | 505573-325A-4JDD-0025 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections - Sheet 6 of 8 |
| G42 | MFA-SN-CD-2000-GT-SE-0002-07 | C1 | 505573-325A-4JDD-0026 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections Sheet 7 of 8 |
| G43 | MFA-SN-CD-2000-GT-SE-0002-08 | C1 | 505573-325A-4JDD-0027 | 01 | Muskrat Falls - Existing Geological and Geotechnical information - Main Structures - Sections - Sheet 8 of 8 |
| G47 | MFA-SN-CD-2000-GT-PL-0008-01 | C1 | 505573-325A-4GDD-0014 | 01 | Muskrat Falls - Existing Geological and Geotechnical Information - Borrow areas TD-8 and GD-8 - Plans and sections |
| G49 | MFA-SN-CD-2000-GT-PL-0002-01 | C2 | 505573-325A-4GDD-0016 | 02 | Muskrat Falls - Existing Geological and Geotechnical Information - Borrow areas TD-7A, GD-7 and GD-11 - Plans and sections |
| G50 | MFA-SN-CD-2000-GT-PL-0003-01 | C1 | 505573-325A-4GDD-0017 | 01 | Muskrat Falls - Existing Geological and Geotechnical Information - Borrow area TD-4 - Plan and section |
| G51 | MFA-SN-CD-2000-GT-PL-0004-01 | C1 | 505573-325A-4GDD-0018 | 01 | Muskrat Falls - Existing Geological and Geotechnical Information - Borrow areas GD-5, TD-6 and TD-7 - Plans and sections |


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| N/A | MFA-SN-CD-1570-CV-PL-0008-01 | C1 | 505573-315A-41DD-0060 | 02 | Muskrat Falls – Accommodations Complex – Site Utilities – Water and Sewer Plan |
| N/A | MFA-SN-CD-1570-CV-PF-0001-01 | C1 | 505573-315A-41DD-0036-SH1 | 02 | Muskrat Falls – Accommodations Complex – Site Utilities – Plan and Profile – Water and Sewer – Sheet 1 |
| N/A | MFA-SN-CD-1320-EL-LT-0002-01 | C1 | 505573-315A-47DD-0010 | 04 | Muskrat Falls – Accommodation Camp – 25 kV and 500 V – Electrical Layout Drawing |
| N/A | MFA-LI-SD-1500-AR-B01-0002-01 | C5 | N/A | N/A | Dormitory Typical 3 – Architectural – General Layout |
| N/A | MFA-LI-SD-1500-AR-B01-0003-01 | C4 | N/A | N/A | Dormitory Typical 3 – Architectural – General Story View |
| N/A | MFA-LI-SD-1500-AR-B01-0006-01 | C3 | N/A | N/A | Dormitory Typical 3A – Architectural – General Story View |
| N/A | MFA-LI-SD-1500-AR-B01-0009-01 | C2 | N/A | N/A | Kitchen – Architectural – General Layout |
| N/A | MFA-LI-SD-1500-AR-B01-0012-01 | C2 | N/A | N/A | Rec and Adm – Architectural – General Layout |
| N/A | MFA-SN-CD-1110-CV-LS-0001-01 | C1 | 505573-311A-41EL-0001 | 01 | Muskrat Falls – South Side Access Road – Drawing List |
| N/A | MFA-SN-CD-1112-CV-PL-0001-01 | C1 | 505573-311A-41DD-0001 | 01 | Muskrat Falls – South Side Access Road – Location Plan |
| N/A | MFA-SN-CD-1112-CV-PL-0002-01 | C1 | 505573-311A-41DD-0002 | 01 | Muskrat Falls – Existing Forestry Access Road – Plan – Sta. 0+000 to 5+155 |
| N/A | MFA-SN-CD-1112-CV-PL-0003-01 | C1 | 505573-311A-41DD-0003 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 5+155 to 7+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0004-01 | C1 | 505573-311A-41DD-0004 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 7+000 to 9+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0005-01 | C1 | 505573-311A-41DD-0005 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 9+000 to 11+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0006-01 | C1 | 505573-311A-41DD-0006 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 11+000 to 13+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0007-01 | C2 | 505573-311A-41DD-0007 | 02 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 13+000 to 15+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0008-01 | C1 | 505573-311A-41DD-0008 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 15+000 to 17+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0009-01 | C1 | 505573-311A-41DD-0009 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 17+000 to 19+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0010-01 | C2 | 505573-311A-41DD-0010 | 02 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 19+000 to 21+000 |
| N/A | MFA-SN-CD-1112-CV-PL-0012-01 | C1 | 505573-311A-41DD-0011 | 01 | Muskrat Falls – South Side Access Road – Plan and Profile – Sta. 21+000 to 21+893 |
| N/A | MFA-SN-CD-1112-CV-SE-0002-01 | C1 | 505573-311A-41DD-0012 | 01 | Muskrat Falls – South Side Access Road – Sections – Sta. 5+155 to 11+000 |
| N/A | MFA-SN-CD-1112-CV-SE-0003-01 | C1 | 505573-311A-41DD-0013 | 01 | Muskrat Falls – South Side Access Road – Sections – Sta. 11+000 to 17+000 |
| N/A | MFA-SN-CD-1112-CV-SE-0004-01 | C1 | 505573-311A-41DD-0014 | 01 | Muskrat Falls – South Side Access Road – Sections – Sta. 17+000 to 21+893 |
| N/A | MFA-SN-CD-1112-CV-PL-0013-01 | C1 | 505573-311A-41DD-0015 | 01 | Muskrat Falls – Accommodation Complex Access Road – Plan and Profile |
| N/A | MFA-SN-CD-1110-CV-DD-0001-01 | C1 | 505573-311A-41DD-0017 | 01 | Muskrat Falls – South Side Access Road – Stream Crossing – Plan and Details - @ Sta. 14+084 |
| N/A | MFA-SN-CD-1500-CV-LT-0001-01 | C1 | 505573-311A-41DD-0019 | 01 | Muskrat Falls – Accommodations Complex – Layout of Campsite Facilities (Type 2) |
| N/A | MFA-SN-CD-1500-CV-PL-0004-01 | C4 | 505573-311A-41DD-0020 | 04 | Muskrat Falls – Accommodations Complex – Grading Plan |
| N/A | MFA-SN-CD-1500-CV-SE-0001-01 | C1 | 505573-311A-41DD-0021 | 01 | Muskrat Falls – Accommodations Complex – Cross Sections Showing Finished Grade (1 of 3) |

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| N/A | MFA-SN-CD-1500-CV-SE-0002-01 | C1 | 505573-311A-41DD-0022 | 01 | Muskrat Falls – Accommodations Complex – Cross Sections Showing Finished Grade (2 of 3) |
| N/A | MFA-SN-CD-1500-CV-SE-0003-01 | C1 | 505573-311A-41DD-0023 | 01 | Muskrat Falls – Accommodations Complex – Cross Sections Showing Finished Grade (3 of 3) |
| N/A | MFA-SN-CD-1111-CV-PL-0001-01 | C2 | 505573-311A-41DD-0024 | 02 | Muskrat Falls – Company’s Laydown Area – Grading Plan |
| N/A | MFA-SN-CD-1111-CV-SE-0001-01 | C1 | 505573-311A-41DD-0025 | 01 | Muskrat Falls – Company’s Laydown Area – Baseline Profile and Typical Section |
| N/A | MFA-SN-CD-1111-CV-SE-0002-01 | C1 | 505573-311A-41DD-0026 | 01 | Muskrat Falls – Company’s Laydown Area – Cross Sections (1 of 2) |
| N/A | MFA-SN-CD-1111-CV-SE-0003-01 | C1 | 505573-311A-41DD-0027 | 01 | Muskrat Falls – Company’s Laydown Area – Cross Sections (2 of 2) |
| N/A | MFA-SN-CD-1111-CV-PL-0002-01 | C1 | 505573-311A-41DD-0028 | 01 | Muskrat Falls – Accommodations Complex – Stormwater Management Plan – Sections and Details |
| N/A | MFA-SN-CD-1111-CV-PL-0004-01 | C2 | 505573-311A-41DD-0030 | 02 | Muskrat Falls – Storm Water Management Plan – Company’s Laydown Sedimentation Pond – Plan and Sections |
| N/A | MFA-SN-CD-1110-CV-MP-0001-01 | C2 | 505573-311A-41DD-0031 | 02 | Muskrat Falls – Environmental Constraints Map – Southside Road |
| N/A | MFA-AH-SD-3410-ME-B02-0001-01 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Prototype Outline Arrangement Kaplan Turbine for Muskrat Falls Project |
| N/A | MFA-AH-SD-3410-ME-B99-0001-01 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Prototype Semi-Spiral Case Outline for Muskrat Falls Project |
| N/A | MFA-AH-SD-3410-ME-B99-0003-01 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Prototype Draft Tube Outline for Muskrat Falls Project |
| N/A | MFA-AH-SD-3420-ME-D06-0001-08 | A7 | N/A | N/A | Muskrat Falls Hydroelectric Development – Foundation Plan - Instrumentation |
| N/A | MFA-AH-SD-3410-ME-D06-0006-01 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Lower Foundation |
| N/A | MFA-AH-SD-3410-ME-D06-0006-02 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Lower Foundation |
| N/A | MFA-AH-SD-3410-ME-D06-0007-03 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Anchors and Jacks for Foundation |
| N/A | MFA-AH-SD-3410-ME-D06-0015-01 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Foundation Anchors |
| N/A | MFA-AH-SD-3410-ME-D06-0015-02 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Foundation Anchors |
| N/A | MFA-AH-SD-3410-ME-D06-0015-03 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Foundation Anchors |
| N/A | MFA-AH-SD-3410-ME-D07-0001-01 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Pit Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0001-02 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development – Pit Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0001-03 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development – Pit Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0002-01 | C4 | N/A | N/A | Muskrat Falls Hydroelectric Development - Circular Passage Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0002-02 | C4 | N/A | N/A | Muskrat Falls Hydroelectric Development - Circular Passage Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0003-01 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Circular Passage Ladder and Hatch |
| N/A | MFA-AH-SD-3410-ME-D07-0003-03 | V1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Circular Passage Ladder and Hatch |
| N/A | MFA-AH-SD-3410-ME-D07-0007-01 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Draft Tube Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0007-02 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Draft Tube Liner |

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| N/A | MFA-AH-SD-3410-ME-D07-0007-03 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Draft Tube Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0007-04 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Draft Tube Liner |
| N/A | MFA-AH-SD-3410-ME-D07-0010-01 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Semi Spiral Case Access Door |
| N/A | MFA-AH-SD-3410-ME-D07-0010-02 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Semi Spiral Case Access Door |
| N/A | MFA-AH-SD-3410-ME-D07-0025-01 | C3 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Fabrication - sheet 1 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0025-02 | C3 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Fabrication - Sheet 2 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0025-03 | C3 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Fabrication - Sheet 3 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0025-04 | C3 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Fabrication - Sheet 4 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0032-01 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Machining - Sheet 1 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0032-02 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Machining - Sheet 2 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0032-03 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Machining - Sheet 3 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0032-04 | C2 | N/A | N/A | Muskrat Falls Hydroelectric Development - Stay Ring Machining - Sheet 4 of 4 |
| N/A | MFA-AH-SD-3410-ME-D07-0101-01 | C1 | N/A | N/A | Muskrat Falls Hydroelectric Development - Draft Tube Liner Extension |
| N/A | MFA-AH-SD-3420-ME-D06-0001-01 | A7 | N/A | N/A | Muskrat Falls Hydroelectric Development - Foundation Plan Mechanical |
| N/A | MFA-AH-SD-3420-ME-D06-0001-02 | A7 | N/A | N/A | Muskrat Falls Hydroelectric Development - Foundation Plan Mechanical |
| N/A | MFA-AH-SD-3420-ME-D06-0001-03 | A7 | N/A | N/A | Muskrat Falls Hydroelectric Development - Foundation Plan Mechanical |

Exhibit 16
Rules for Dispute Review Board and Arbitration
Agreement No: CH0007-0001

EXHIBIT 16

RULES FOR DISPUTE REVIEW BOARD AND ARBITRATION

PART A – DISPUTE REVIEW BOARD (PURSUANT TO ARTICLE 31.3 OF THE ARTICLES OF AGREEMENT)**Appointment of the Dispute Review Board**

- 1.1 In accordance with Article 31.3 of the Articles and provided a Party has complied with Articles 31.1 and 31.2, a Party may require a Dispute to be adjudicated by a Dispute Review Board constituted pursuant to Exhibit 16 Part A clauses 1.2 and 1.3 (the “**DRB**”).
- 1.2 Within 15 Business Days following the completion of the meetings contemplated by Article 31.2 without resolution of the Dispute, but not later than ninety (90) days from the date of the Notice of Dispute or such other date as may be agreed to by the Parties, the Parties shall jointly appoint a DRB in accordance with Article 31.3 of the Articles and Exhibit 16 Part A clause 1.3.
- 1.3 The DRB shall comprise three suitably qualified persons (the “**members**”). Each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman and who shall be a lawyer resident in Canada and a practising member of a provincial bar association. The terms of the remuneration of each of the three members shall be mutually agreed upon by the Parties when agreeing the conditions of appointment. Each Party shall be responsible for paying one-half of this remuneration.
- 1.4 If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace any one or more members of the DRB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment. The replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Exhibit 16 Part A.
- 1.5 The appointment of any member may be terminated by mutual agreement of both Parties, but not by the either Party acting alone.
- 1.6 Unless otherwise agreed by both Parties, the DRB for the Dispute that is the subject of the Notice issued pursuant to Article 31.1 shall expire upon rendering its decision.

Failure to Agree Dispute Review Board

- 2.1 If any of the following conditions apply, namely:
 - (a) the Parties fail to agree upon the appointment of a member of the DRB by the date stated in Exhibit 16 Part A clause 1.1,

- (b) either Party fails to nominate a member (for approval by the other Party) by date stated in Exhibit 16 Part A clause 1.1,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DRB by date stated in Exhibit 16 Part A clause 1.1, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 15 days after the date on which one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then either Party may, without prejudice to any other rights it may have, refer the matter to a single arbitrator to appoint the member as soon as possible, in accordance with Article 31.4 of the Articles.

Obtaining Dispute Review Board's Decision

- 3.1 Within 10 Business Days of the appointment of the chairman of the DRB, a Party ("Claiming Party") may refer the Dispute in writing to the DRB for its decision, with a copy to the other Party ("Responding Party"). Such reference shall state that it is given under Article 31.3. The written claim submission to the DRB by the Claiming Party shall state:
- (a) the nature of the Dispute and full particulars of its claim;
 - (b) the terms of the Agreement upon which the Party relies (including the relevant Articles and Sections in Exhibits);
 - (c) any documents relied upon by the Party for its position on the Dispute; and the remedy being sought.
- 3.2 The DRB shall be deemed to have received such reference on the date when it is received by the chairman of the DRB.
- 3.3 The Responding Party submit its response to the Dispute in writing to the DRB, with a copy to the Claiming Party, within 15 Business Days from the date of receipt of the Claiming Party's submission to the DRB, which response shall include:
- (a) its position on the Dispute, including particulars;
 - (b) the terms of the Agreement upon which the Party relies (including the relevant Articles and Sections in Exhibits); and
 - (c) any documents relied upon by the Party for its position on the Dispute.

- 3.4 Both Parties shall promptly make available to the DRB all information, access to the Site, and appropriate facilities, as the DRB may require for the purposes of making a decision on the Dispute.
- 3.5 The DRB shall be deemed to not be acting as arbitrator.
- 3.6 Within 30 days after receiving the written submission of the Responding Party, or within such other period as may be proposed by the DRB and approved by both Parties, the DRB shall give its decision, which shall be reasoned and shall state that it is given pursuant to this Exhibit 16 Part A clause 3.4. Unless the Agreement has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Work in accordance with the Agreement.
- 3.7 If either Party is dissatisfied with the DRB's decision, then either Party may, within 15 days after receiving the decision, give Notice to the other Party of its dissatisfaction. If the DRB fails to give its decision within the period of 30 days (or as otherwise approved by the Parties) after receiving the Responding Party's submission, then either Party may, within 30 days after this period has expired, give Notice to the other Party of its dissatisfaction. In either event, the Notice of dissatisfaction shall state that it is given under this clause.
- 3.8 If the DRB has given its decision on a Dispute to both Parties, and no Notice of dissatisfaction has been given by either Party within 30 days after it received the DRB's decision, then the decision shall become final and binding upon both Parties.
- 3.9 Except as stated in Exhibit 16 Part A clause 5 and clause 6, neither Party shall be entitled to commence arbitration of a Dispute unless a Notice of dissatisfaction has been given in accordance with Exhibit 16 Part A clause 3.7.

Not Used

- 4.1 Not Used.

Arbitration

- 5.1 Unless settled amicably, any Dispute in respect of which the DRB's decision has not become final and binding shall be finally settled by arbitration in accordance with Article 31.4 of the Articles and Exhibit 16 Part B.
- 5.2 Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DRB to obtain its decision, or to the reasons for dissatisfaction given in its Notice of dissatisfaction.

Failure to Comply with Dispute Review Board's Decision

6.1 In the event that:

- (a) neither Party has given Notice of dissatisfaction within the period stated in Exhibit 16 Part A Clause 3.7,
- (b) the DRB's decision has become final and binding, and
- (c) a Party fails to comply with the decision,

then the other Party may, without prejudice to any other rights it may have, refer the failure to comply with the decision to arbitration in accordance with Article 31.4 of the Articles and Exhibit 16 Part B, and the decision of the DRB shall be admissible in evidence in the arbitration .

PART B – ARBITRATION (PURSUANT TO ARTICLE 31.4 OF THE ARTICLES OF AGREEMENT)**Interpretation**

- 1.1 In this Exhibit 16 Part B (the “**Rules**”):
- (a) the terms and phrases have the same meaning as may be attributed to them under
 - (i) the *Arbitration Act*, c. A-14, RSNL 1990, and
 - (ii) the Agreement;
 - (b) “the Court” means the Supreme Court of Newfoundland and Labrador.
- 1.2 In these Rules time shall be calculated in the same manner as time is calculated in the Agreement.
- 1.3 In these Rules a reference to an arbitrator includes a reference to a 3-person arbitral tribunal, as the case may be.
- 1.4 If any provision of these Rules is inconsistent with or contrary to a mandatory provision of the *Arbitration Act*, c. A-14, RSNL 1990, the mandatory provision of the arbitration legislation shall be applied.

Application of Rules

- 2.1 These Rules apply to an arbitration conducted under the Agreement.
- 2.2 The Parties may, by agreement in writing, change or make additions to these Rules.

Communications

- 3.1 All written communications under these Rules shall be given in the same manner as Notices are to be given in the Agreement or, upon appointment of counsel, to counsel for a Party by ordinary mail or e-mail.
- 3.2 A copy of all written communications between the arbitrator and a Party shall be given to the other Party at the same time.
- 3.3 There shall not be any oral communications with respect to the Dispute between a Party and the arbitrator unless it is made in the presence of both Parties or their legal representatives.

Objections to Process

- 4.1 A Party shall state any objections to any aspect of the arbitral proceedings or to the conduct of the other Party or the arbitrator at the earliest possible time.
- 4.2 The arbitrator may refuse to consider an objection if a Party fails to comply with clause 4.1.

Location of Arbitration

- 5.1 The arbitration shall be conducted in Toronto, Ontario, Canada at a location to be determined by agreement of the Parties.

Notice to Arbitrate

- 6.1 Either Party (the “claimant”) shall submit a Dispute to arbitration, as permitted under the Agreement, by giving the other Party (the “respondent”) a Notice containing the following:
- (a) a description of the Agreement;
 - (b) a statement of the issues in the Dispute;
 - (c) a request that the Dispute be referred to arbitration;
 - (d) a description of the claim being made;
 - (e) the name or names of proposed arbitrators, along with the resume described in clause 8.6.

Commencement of Arbitration

- 7.1 For purposes of the calculation of time under the Rules, the arbitration shall be deemed to have commenced on the date the respondent receives the Notice under Exhibit 16 Part B clause 6.1.

Appointment of Arbitrator

- 8.1 Subject to Exhibit 16 Part B clause 8.2, the arbitration shall be conducted before a single arbitrator who possesses the qualifications specified in Exhibit 16 Part B clause 8.5.
- 8.2 The arbitration shall be conducted before a 3-person arbitral tribunal, each of whom possess the qualifications specified in Exhibit 16 Part B clause 8.5, if:
- (a) the amount involved in the Dispute exceeds \$5,000,000.00, and

- (b) one of the Parties gives Notice of a request for a 3-person arbitral tribunal within 15 days after the arbitration commences.
- 8.3 The Parties shall make every reasonable effort to reach agreement on a single arbitrator within 30 days after the arbitration commences.
- 8.4 If the arbitration is to be conducted before a 3-person arbitral tribunal:
 - (a) each Party shall appoint an arbitrator within 30 days after the arbitration commences, and
 - (b) the 2 appointed arbitrators shall make every reasonable effort to reach agreement on a third arbitrator who shall be chairperson within 45 days after the arbitration commences.
- 8.5 An arbitrator must be impartial and independent of the Parties and be an experienced and skilled arbitrator and preferably shall reside in Canada and have knowledge of relevant construction industry issues. The chairperson of the 3-person arbitral tribunal shall be a lawyer resident of Canada and a practising member of a provincial bar association. No arbitrator shall be a resident of Newfoundland and Labrador or a resident of Italy.
- 8.6 If a Party or an arbitrator proposes an individual as an arbitrator, the Party or arbitrator shall provide a written resume of that individual's work background, qualifications and arbitration experience.
- 8.7 If an agreement is not possible under Exhibit 16 Part B clause 8.3 or 8.4(b) or a Party fails to make an appointment under Exhibit 16 Part B clause 8.4(a), either Party may make a written request to the Court to appoint an arbitrator as soon as possible.
- 8.8 Before accepting an appointment, an arbitrator shall provide the Parties with a written statement declaring that there are no circumstances likely to give rise to reasonable doubts as to the arbitrator's independence or impartiality and that the arbitrator will disclose any such circumstances to the Parties if they should arise before the arbitration is concluded.
- 8.9 A single arbitrator who resigns for any reason, is unable or refuses to act or is removed from office, shall be replaced by another arbitrator under these Rules and any oral hearings previously held shall be rescheduled.
- 8.10 If the Parties do not agree that the circumstances specified in Exhibit 16 Part B clause 8.9 exist, either Party may apply to the Court for an order that the arbitrator should be replaced as required under Exhibit 16 Part B clause 8.9.

Procedural Meeting

- 9.1 Within 5 days after being appointed, the single arbitrator or the chairperson of the arbitral tribunal shall convene a procedural meeting of the Parties to reach a consensus, if possible, and to make orders, if necessary, on:
- (a) the procedure to be followed in the arbitration;
 - (b) the time periods for taking steps in the proceedings;
 - (c) the scheduling of any oral hearings or meetings;
 - (d) any preliminary applications or objections a Party may have, and
 - (e) any other matter which will assist the arbitration to proceed in an efficient and expeditious manner taking into account the complexity and numbers of issues in dispute.
- 9.2 The arbitrator shall prepare and distribute promptly to the Parties a written record of all the business transacted and decision and orders made at the procedural meeting in Exhibit 16 Part B clause 9.1.
- 9.3 The procedural meeting in Exhibit 16 Part B clause 9.1 may be conducted by conference call.

Powers of the Arbitrator

- 10.1 Subject to any limitations in these Rules or any agreement reached by the Parties, the arbitrator may conduct the arbitration in any manner the arbitrator considers appropriate but each Party shall be treated fairly and shall be given full opportunity to present its case and make written or oral comments on the other Party's case, including, where a Party calls witnesses, to cross-examine such witnesses.
- 10.2 The arbitrator may rule on the arbitrator's jurisdiction.
- 10.3 The arbitrator may:
- (a) adjourn the proceedings from time to time to facilitate settlement discussions between the Parties or for any other reasonable purpose,
 - (b) make an interim order on any matter with respect to which a final award may be made, including an interim order for preservation of property which is subject matter of the dispute,
 - (c) order inspection of documents, exhibits or other property at any location,

- (d) order the recording of any oral hearing or meeting,
- (e) order oral discovery,
- (f) inspect the Site after giving the Parties 7 days written notice of the intention to do so, and
- (g) if the arbitrator considers it just and appropriate in the circumstances, extend or abridge a period of time:
 - (i) required in these Rules, except a period of time specified under Exhibit 16 Part B clause 17.2, or
 - (ii) fixed or determined by the arbitrator.

10.4 If the arbitration is before a 3 person arbitral tribunal, the award may be made by a majority of arbitrators, but if there is no majority decision on any matter to be decided, the decision of the chairperson shall be the decision of the tribunal on that matter.

Exchange of Statements

11.1 The Parties shall exchange written statements of their respective positions in the Dispute in the following manner:

- (a) the claimant shall give a statement outlining the facts, the matters in issue and the relief or remedy requested not later than 14 days after the procedural meeting is held in Exhibit 16 Part B clause 9.1;
- (b) the respondent shall give a statement outlining the response to the claimant's statement and the respondent's counterclaim, if any, not later than 14 days after receiving the claimant's statement;
- (c) the respondent to the counterclaim shall give a statement outlining the defence to the counterclaim not later than 14 days after receiving the counterclaim.

11.2 The Parties shall provide the arbitrator with copies of the statements exchanged in Exhibit 16 Part B clause 11.1.

11.3 Each Party shall attach to each statement provided in Exhibit 16 Part B clause 11.1, or at such other time as the arbitrator may order, a list of documents:

- (a) upon which the Party intends to rely, and
- (b) which describes each document by kind, date, author, addressee and subject matter.

- 11.4 During the proceedings the arbitrator may allow a Party to amend or add to any statement made in Exhibit 16 Part B clause 11.1, including the list of documents, unless:
- (a) the amendment or addition goes beyond the terms of the arbitration agreement in the Agreement, or
 - (b) the other Party would be prejudiced by the delay in making the amendment or addition.

Disclosure

- 12.1 Each Party shall provide to the other Party a copy of the documents listed by the Party pursuant to Exhibit 16 Part B clause 11.3 not later than 14 days after the last statement has been issued under Exhibit 16 Part B clause 11.1 or at such other time as the arbitrator may order. Such documents shall be produced as paper copies unless otherwise ordered by the arbitrator.
- 12.2 The arbitrator may order a Party to produce, within a specified time, any documents which:
- (a) have not been listed under Exhibit 16 Part B clause 11.3,
 - (b) the Party has in its care, custody or control, and
 - (c) the arbitrator considers to be relevant.
- 12.3 Each Party shall allow the other Party the necessary access at reasonable times to inspect and take copies of all documents that the former Party has listed pursuant to Exhibit 16 Part B clause 11.3 or that the arbitrator has ordered to be produced in Exhibit 16 Part B clause 12.2.
- 12.4 If the arbitrator has determined that an agreed statement of facts is appropriate, the Parties shall prepare and send to the arbitrator an agreed statement of facts within the time specified by the arbitrator.
- 12.5 Not later than 21 days before any oral hearing commences, each Party shall give to the other Party:
- (a) the name and address of any witness and a written summary of such witness' evidence, and
 - (b) in the case of an expert witness, a written statement or report prepared by the expert witness.

- 12.6 Not later than 15 days before the oral hearing commences, each Party shall give to the other Party and the arbitrator an assembly of all documents to be introduced at the hearing.
- 12.7 The arbitrator shall determine whether oral discovery is appropriate and may set dates for completion of oral discovery and limits on the number of witnesses for discovery.

Hearings and Meetings

- 13.1 The arbitrator shall give the Parties written notice of not less than:

- (a) 14 days of any oral hearings, or
- (b) 7 days of any meetings

that have not been previously scheduled under Exhibit 16 Part B clause 9.1.

- 13.2 All oral hearings and meetings in the arbitration shall be conducted in private and all written communications and documents in respect of these proceedings shall be kept strictly confidential by the arbitrator and the Parties.
- 13.3 Oral hearings shall be scheduled for consecutive days until completion.

Evidence

- 14.1 The arbitrator shall not be required to apply the legal rules of evidence and shall determine the relevance and materiality of the evidence presented.
- 14.2 All oral evidence shall be taken in the presence of the arbitrator and all the Parties unless a Party is absent by default or has waived the right to be present.
- 14.3 The arbitrator may order any individual to be examined by the arbitrator under oath or on affirmation in relation to the issues in dispute and to produce before the arbitrator all relevant documents within the individual's care, custody or control.
- 14.4 The document assemblies delivered under Exhibit 16 Part B clause 12.5 shall be deemed to have been entered into evidence at the oral hearing without further proof and without being read out at the hearing but a Party may challenge the admissibility of any document so introduced.
- 14.5 If the arbitrator considers it just and reasonable to do so, the arbitrator may permit a document to be introduced at the oral hearing which was not previously listed under Exhibit 16 Part B clause 11.3 or produced as required under Exhibit 16 Part B clause 12.1 or 12.5, but the arbitrator may take that failure into account when fixing the costs to be awarded in the arbitration.

- 14.6 If the arbitrator permits the evidence of a witness to be presented as a written statement, the other Party may require that witness to be made available for cross examination at the oral hearing.
- 14.7 The arbitrator may order any witness (including a witness not included in the lists and reports contemplated in Exhibit 16 Part B clause 12.5) to appear and give evidence, and, in that event, the Parties may cross examine that witness and call evidence in rebuttal.

Default of Parties

- 15.1 If a claimant, without sufficient cause and after 10 days notice from the arbitrator, fails to provide the statement required in Exhibit 16 Part B clause 11.1(a), the arbitrator may terminate the arbitration with respect to that claim.
- 15.2 If the respondent or the respondent to the counterclaim, without sufficient cause and after 10 days notice from the arbitrator, fails to provide the statement required in Exhibit 16 Part B clause 11.1(b) or (c), the arbitrator shall:
- (a) continue the arbitration, and
 - (b) require the claimant or the claimant by counterclaim, as the case may be, to submit such evidence to support the claim as the arbitrator may require before making an award.
- 15.3 If a Party:
- (a) without sufficient cause, fails to appear at a scheduled oral hearing, or
 - (b) fails to produce any evidence,
- the arbitrator may continue the arbitration and make an award based upon the evidence before the arbitrator.

Close of Hearings

- 16.1 The arbitrator shall close any oral hearings when:
- (a) the Parties advise they have no further evidence to give or submissions to make, or
 - (b) the arbitrator considers further hearings to be unnecessary or inappropriate.
- 16.2 If the arbitrator considers it to be just and appropriate to do so, the arbitrator may reopen the oral hearings at any time before making the final award.

Final Award

- 17.1 The arbitrator shall decide the dispute in accordance with the law.
- 17.2 The arbitrator shall make the final award as soon as possible and, in any event, not later than 45 days after:
- (a) the hearings have been closed, or
 - (b) the final submission has been made,
- whichever is the later date.
- 17.3 The final award of the arbitrator shall be in writing, shall state the reasons upon which it is based and shall be signed and dated.
- 17.4 The arbitrator shall give a copy of the award to each Party.
- 17.5 The arbitrator may order interest to be paid in the final award in accordance with the Agreement.
- 17.6 The final award is final and binding on the Parties and the Parties agree to comply with it as soon as possible, unless the arbitrator has made an error of law or has otherwise breached these Rules, in which case either Party may appeal such final award to the Courts for determination based solely on such error or breach.

Costs

- 18.1 The arbitrator shall fix the costs of the arbitration in the final award, which costs may include, but are not limited to, the following:
- (a) the fees of the arbitrator;
 - (b) any necessary and reasonable expenses incurred by the arbitrator to fulfil the arbitrator's functions;
 - (c) the fees and other necessary and reasonable expenses of the witnesses, as approved by the arbitrator;
 - (d) any necessary and reasonable fees, charges or expenses for providing services to the arbitrator or the Parties in connection with the arbitration.
- 18.2 Except for the costs of legal fees and legal expenses of the successful Party, the costs of the arbitration shall be borne by the unsuccessful Party unless the arbitrator considers it appropriate in the circumstances to apportion them between the Parties.

18.3 The arbitrator:

- (a) may decide which Party shall bear the cost of legal fees and legal expenses of the successful Party, if they were claimed during the arbitration,
- (b) may apportion those costs if the arbitrator considers it just and reasonable to do so, and
- (c) in either event, shall specify the amounts of those costs or the manner of determining those costs.

18.4 In making a decision under Exhibit 16 Part B clause 18.3, the arbitrator is not limited to awarding the legal fees and legal expenses which a Court may award to a successful Party in a civil judicial proceeding.

18.5 Subject to any agreement entered into among the Parties and the arbitrator, the fees of the arbitrator shall be reasonable in amount, taking into account the amount in dispute, the complexity of the subject matter, the time spent by the arbitrator and any other relevant circumstances.

Amendments and Corrections to the Award

19.1 The arbitrator may amend or vary a final award to correct:

- (a) a clerical or typographical error,
- (b) an accidental error, slip, omission or other similar mistake, or
- (c) an arithmetical error made in a computation.

19.2 An application by a Party to the arbitrator to amend or vary a final award shall be made within 15 days after that Party receives the award.

19.3 The arbitrator shall not amend or vary the final award, without the consent of all Parties, more than 30 days after all Parties have received it.

19.4 Not later than 15 days after receiving the final award, a Party may supply to the arbitrator for clarification of the award, and the arbitrator may amend the award if the arbitrator considers that the amendment will clarify it.

19.5 Not later than 30 days after receiving the final award, a Party may apply to the arbitrator to make an additional award with respect to claims presented in the proceedings but inadvertently omitted from the award.

Consolidation

- 20.1 A Party to any of the arbitrations may, by Notice given to each of the Parties to the arbitrations, request that the arbitration be consolidated if:
- (a) a common question of law or fact arises in more than one arbitration,
 - (b) the relief claimed in these arbitrations is in respect of or arises out of substantially the same factual situation, and
 - (c) the arbitrations are being conducted under these Rules.,
- 20.2 If any Party disputes the consolidation of the arbitrations, the Party may refer the Dispute to the Court by giving Notice within 7 days of receiving the Notice for consolidation.
- 20.3 If none of the Parties disputes the Notice given under Exhibit 16 Part B clause 20.1, within the time permitted in Exhibit 16 Part B clause 21.2, each of the Parties to the arbitrations shall be conclusively deemed to have agreed to the consolidation of the arbitrations.
- 20.4 If the Parties to the consolidated arbitration are unable to agree on any of the procedural issues arising out of the consolidation of the arbitrations, including identifying whom the arbitrator shall be, any Party to the consolidated arbitration may refer the outstanding issues to the Court.

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
|---|--------------------------|----------|----------|--|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--|----------------------------------|--------------------------------|-------------------------------|
| ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | COST OF LABOUR (\$CAD) C=(AxB) | MANPOWER COST/ UNIT (\$ CAD) B | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| 2 0000 | | | | INDIRECT COSTS | | | | | | | | | | |
| | | | | p | | | | | | | | | | |
| 1 | 2.1 | | 0000.01 | Mobilization | LS | 1 | 0 | 0 | 0 | 0 | 326,400 | 8,000,592 | 8,326,992 | 8,326,992 |
| 2 | 2.2 | | 0000.02 | Site Installation | LS | 1 | 71,519 | 5,668,063 | 5,668,063 | 3,969,685 | 212,693 | 15,846,507 | 20,028,886 | 20,028,886 |
| 3 | 2.3 | | 0000.03 | Contractor Equipment for Indirects | LS | 1 | 164,938 | 13,197,861 | 13,197,861 | 6,100,405 | 4,204,459 | 2,342,450 | 12,647,314 | 12,647,314 |
| 4 | 2.4 | | 0000.04 | Temporary Works | LS | 1 | 40,873 | 3,246,714 | 3,246,714 | 710,139 | 283,000 | 72,730 | 1,065,868 | 1,065,868 |
| 5 | 2.5 | | 0000.05 | Winter Protection | LS | 1 | 68,850 | 5,531,277 | 5,531,277 | 15,981,361 | 663,939 | 1,165,171 | 17,810,471 | 17,810,471 |
| 6 | 2.6 | | 0000.06 | Management and Staff | LS | 1 | 1,982,044 | 172,483,726 | 172,483,726 | 0 | 0 | 10,263,111 | 10,263,111 | 10,263,111 |
| 6A | 2.6A | | 0000.06A | Design and Technical Assistance | LS | 1 | 131,000 | 10,508,344 | 10,508,344 | 0 | 0 | 1,334,825 | 1,334,825 | 1,334,825 |
| 7 | 2.7 | | 0000.07 | Attendant labour | LS | 1 | 736,610 | 58,375,032 | 58,375,032 | 0 | 0 | 0 | 0 | 0 |
| 8 | 2.8 | | 0000.08 | Services | LS | 1 | 50,821 | 3,960,856 | 3,960,856 | 7,631,783 | 370,697 | 7,360,807 | 15,363,286 | 15,363,286 |
| 9 | 2.9 | | 0000.09 | Employee Training | LS | 1 | 31,450 | 2,420,324 | 2,420,324 | 0 | 0 | 0 | 0 | 0 |
| 10 | 2.10 | | 0000.10 | Health and Safety Requirements | LS | 1 | 116,000 | 8,845,020 | 8,845,020 | 0 | 0 | 2,732,513 | 2,732,513 | 2,732,513 |
| 11 | 2.11 | | 0000.11 | Environmental Requirements | LS | 1 | 32,400 | 2,556,203 | 2,556,203 | 0 | 0 | 24,075 | 24,075 | 24,075 |
| 12 | 2.12 | | 0000.12 | Quality Assurance / Quality Control | LS | 1 | 175,800 | 13,799,281 | 13,799,281 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2.13 | | 0000.13 | Letters of Credit | LS | 1 | NA | NA | NA | NA | NA | 31,723,429 | 31,723,429 | 31,723,429 |
| 14 | 2.14 | | 0000.14 | Parent Guarantee | LS | 1 | NA | NA | NA | NA | NA | 0 | 0 | 0 |
| 15 | 2.15 | | 0000.15 | Contractor Insurance, per Article 18 of the Agreement | LS | 1 | NA | NA | NA | NA | NA | 5,576,498 | 5,576,498 | 5,576,498 |
| 16 | 2.16 | | 0000.16 | Warranty, per Article 17 of the Agreement | LS | 1 | NA | NA | NA | NA | NA | 2,235,825 | 2,235,825 | 2,235,825 |
| 17 | 2.17 | | 0000.17 | Site Maintenance | LS | 1 | 86,693 | 6,970,927 | 6,970,927 | 3,898,037 | 920,111 | 924,968 | 5,743,115 | 5,743,115 |
| 17A | 2.17A | | 0000.17A | Maintenance Grade No. 3 Material | m³ | 7,200 | 0.270 | 21.68 | 156,110 | 6.58 | 8.21 | 1.04 | 15.82 | 113,934 |
| 17B | 2.17B | | 0000.17B | Coarse Sand | m³ | 2,900 | 0.282 | 22.67 | 65,734 | 6.87 | 8.59 | 1.08 | 16.54 | 47,972 |
| 17C | 2.17C | | 0000.17C | Calcium Chloride (20 kg bag) | each | 12,500 | - | 0.00 | 0 | 15.00 | - | 1.05 | 16.05 | 200,625 |
| 18 | 2.18 | | 0000.18 | Financing, Contingency, Head Office Overheads, & Consultant Fees | LS | 1 | NA | NA | NA | NA | NA | 55,358,052 | 55,358,052 | 55,358,052 |
| 19 | 2.19 | | 0000.19 | Demobilization | LS | 1 | - | 0.00 | 0.00 | 0.00 | 0.00 | 6,480,990 | 6,480,990 | 6,480,990 |
| 19A | 2.19A | | 0000.19A | Estimate of Travel Allowances - Trades Labour | NA | NA | NA | NA | NA | NA | NA | 0.00 | NA | 0 |
| | | | | SUB-TOTAL INDIRECT COSTS | | | | | | | | | | |
| | | | | \$ 307,785,475 | | | | | | | | | | |
| 3 0000 | | | | GENERAL | | | | | | | | | | |
| 3.1 1110 | | | | ACCESS ROADS TO SPILLWAY, ACCESS RAMPS AND PADS FOR COMPANY'S OTHER CONTRACTORS | | | | | | | | | | |
| 20 | 3.1.1 | | 1110.01 | Overburden Excavation | m³ | 6,400 | 0.107 | 8.48 | 54,265.60 | 2.219 | 1.37 | 0.25 | 3.84 | 24,563.78 |
| 21 | 3.1.2 | | 1110.02 | Zone 3C Material | m³ | 3,960 | 0.220 | 17.46 | 69,153.48 | 4.34 | 3.01 | 0.51 | 7.86 | 31,126.47 |
| 22 | 3.1.3 | | 1110.03 | Zone 3D Material | m³ | 8,360 | 0.220 | 17.46 | 145,990.68 | 4.34 | 3.01 | 0.51 | 7.86 | 65,711.44 |
| 23 | 3.1.4 | | 1110.04 | Granular "B" Material | m³ | 1,250 | 0.393 | 31.56 | 39,451.25 | 8.77 | 9.18 | 1.26 | 19.21 | 24,006.79 |
| 24 | 3.1.5 | | 1110.05 | Granular "C" Material | m³ | 1,250 | 0.393 | 31.56 | 39,451.25 | 8.77 | 9.18 | 1.26 | 19.21 | 24,006.79 |
| 25 | 3.1.6 | | 1110.06 | Concrete Culvert 600 mm | m | 45 | 0.167 | 13.47 | 606.33 | 5.13 | 4.56 | 0.68 | 10.37 | 466.57 |
| 3.2 1120 | | | | DEWATERING OF STRUCTURE AREAS | | | | | | | | | | |
| 26 | 3.2.1 | | 1120.01 | Structure Areas | LS | 1 | 10,862.527 | 866,271.09 | 866,271.09 | 190,418.49 | 584,916.66 | 54,273.46 | 829,608.61 | 829,608.61 |
| 3.3 1150 | | | | TEMPORARY BRIDGE | | | | | | | | | | |
| 27 | 3.3.1 | | 1150.01 | Temporary Downstream Bridge over the Spillway | LS | 1 | 7,952.611 | 598,480.18 | 598,480.18 | 737,089.48 | 20,082.11 | 73,867.01 | 831,038.60 | 831,038.60 |
| 3.4 1170 | | | | CONSTRUCTION CRANE | | | | | | | | | | |
| 28 | 3.4.1 | | 1170.01 | Powerhouse - Construction Crane | LS | 1 | 9,936.300 | 816,282.58 | 816,282.58 | 78,034.62 | 497,510.63 | 67,038.17 | 642,583.41 | 642,583.41 |
| 3.5 1180 | | | | Temporary Heating, Ventilating and Lighting of Powerhouse | | | | | | | | | | |
| 29 | 3.5.1 | | 1180.01 | Temporary Heating, Ventilating and Lighting of Powerhouse | LS | 1 | 1,800.988 | 141,040.89 | 141,040.89 | 3,541,374.83 | 920,870.80 | 312,357.19 | 4,774,602.82 | 4,774,602.82 |
| 3.6 1190 | | | | Chain Link Fences and Gates | | | | | | | | | | |
| 30 | 3.6.1 | | 1190.01 | Chain Link Fences and Gates in the Powerhouse Parking and Contractor's Laydown Areas | m | 50 | 1.300 | 100.98 | 5,049.00 | 157.60 | 1.01 | 11.10 | 169.71 | 8,485.37 |
| 3.7 1200 | | | | Temporary Lateral Support and Bracings | | | | | | | | | | |
| 31 | 3.7.1 | | 1200.01 | Temporary Lateral Support and Bracings for Piers of the Spillway | LS | 1 | 290.210 | 23,432.79 | 23,432.79 | 49,229.39 | 2,490.79 | 3,620.41 | 55,340.59 | 55,340.59 |
| 3.8 1210 | | | | Anchor Points | | | | | | | | | | |
| 32 | 3.8.1 | | 1210.01 | Anchor Points at Powerhouse and Spillway | each | 50 | 7.453 | 601.77 | 30,088.35 | 110.76 | 63.97 | 12.23 | 186.96 | 9,348.00 |
| | | | | SUB-TOTAL GENERAL | | | | | | | | | | |
| | | | | \$ 2,829,563 | | | | | | | | | | |
| 4 2360 | | | | TRANSITION DAMS | | | | | | | | | | |
| 4.1 2361 | | | | NORTH TRANSITION DAM | | | | | | | | | | |
| | | | | CIVIL WORK | | | | | | | | | | |
| | | | | Excavation | | | | | | | | | | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|------------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | |
| | | | | | | | | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E |
| 33 | 4.1.1 | | 2361.01 | Fill Excavation (Sand Layer for Winter Protection) | m ³ | 650 | 0.339 | 27.20 | 17,678.70 | 7.52 | 7.67 | 1.06 | 16.26 | 10,568.12 |
| Foundation Preparation | | | | | | | | | | | | | | |
| 34 | 4.1.2 | | 2361.02 | Dental Excavation | m ³ | 30 | 0.277 | 22.31 | 669.18 | 7.47 | 2.62 | 0.71 | 10.80 | 323.89 |
| 35 | 4.1.3 | | 2361.03 | Scaling and Water/Air Jet Cleaning of Bedrock | m ² | 430 | 0.124 | 9.85 | 4,236.79 | 0.72 | 0.45 | 0.08 | 1.24 | 533.72 |
| 36 | 4.1.4 | | 2361.04 | Dental Concrete | m ³ | 70 | 1.846 | 145.44 | 10,180.45 | 158.80 | 28.11 | 13.08 | 199.99 | 13,999.56 |
| 37 | 4.1.5 | | 2361.05 | Dry Pack | m ³ | 3 | 1.963 | 153.66 | 460.98 | 251.32 | 31.22 | 19.78 | 302.32 | 906.97 |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | |
| 38 | 4.1.6 | | 2361.06 | Grouting Holes | m | 200 | 0.889 | 72.56 | 14,512.60 | 37.13 | 118.99 | 10.93 | 167.05 | 33,409.04 |
| 39 | 4.1.7 | | 2361.07 | Grouting - Successful Connections | each | 40 | 3.375 | 275.50 | 11,019.92 | 109.47 | 480.84 | 41.32 | 631.63 | 25,265.35 |
| 40 | 4.1.8 | | 2361.08 | Dry Cement for Grouting | kg | 7,000 | 0.045 | 3.67 | 25,711.00 | 1.09 | 1.50 | 0.18 | 2.77 | 19,406.59 |
| 41 | 4.1.9 | | 2361.09 | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 |
| 42 | 4.1.10 | | 2361.10 | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 |
| 43 | 4.1.11 | | 2361.11 | Uplift Gauges | m | 25 | 1.060 | 86.53 | 2,163.20 | 180.00 | 30.00 | 14.70 | 224.70 | 5,617.50 |
| 44 | 4.1.12 | | 2361.12 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 |
| 45 | 4.1.13 | | 2361.13 | Rotary/Percussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 |
| 46 | 4.1.14 | | 2361.14 | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 |
| 47 | 4.1.15 | | 2361.15 | Drainage Holes | m | 65 | 0.740 | 60.41 | 3,926.39 | 108.00 | 9.00 | 8.19 | 125.19 | 8,137.35 |
| 48 | 4.1.16 | | 2361.16 | PVC Caps for Drainage Holes | each | 5 | 0.820 | 66.94 | 334.69 | 150.00 | 30.00 | 12.60 | 192.60 | 963.00 |
| 49 | 4.1.17 | | 2361.17 | Survey Monuments | each | 1 | 1.810 | 147.75 | 147.75 | 331.00 | 66.00 | 27.79 | 424.79 | 424.79 |
| CONCRETE WORK | | | | | | | | | | | | | | |
| 50 | 4.1.18 | | 2361.18 | Concrete | m ³ | 9,130 | 3.898 | 296.56 | 2,707,565.41 | 158.61 | 53.10 | 14.82 | 226.53 | 2,068,196.62 |
| 50A | 4.1.18A | | 2361.19 | PVC Waterstop - TYPE A (150 mm width) | m | 30 | 0.267 | 21.14 | 634.17 | 11.02 | 0.13 | 0.78 | 11.93 | 357.88 |
| 51 | 4.1.19 | | 2361.20 | PVC Waterstop - TYPE B (225 mm width) | m | 315 | 0.267 | 21.14 | 6,658.79 | 17.94 | 0.13 | 1.26 | 19.33 | 6,089.82 |
| 52 | 4.1.20 | | 2361.21 | Hydrophilic Waterstop | m | 22 | 0.267 | 21.14 | 465.06 | 21.48 | 0.13 | 1.51 | 23.12 | 508.68 |
| 53 | 4.1.21 | | 2361.22 | Bituminous Coating at Contraction Joints | m ² | 570 | 0.528 | 39.37 | 22,441.47 | 14.67 | 0.13 | 1.04 | 15.84 | 9,028.96 |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | |
| 54 | 4.1.22 | | 2361.23 | Reinforcement including Dowels | kg | 55,000 | 0.021 | 1.56 | 85,855.00 | 1.38 | 0.07 | 0.10 | 1.55 | 85,332.50 |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | |
| Supply and Installation of Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | |
| 55 | 4.1.23 | | 2361.24 | Galvanized Miscellaneous Steel | kg | 10,600 | 0.040 | 3.24 | 34,312.20 | 8.62 | 0.34 | 0.63 | 9.58 | 101,590.29 |
| 56 | 4.1.24 | | 2361.25 | Galvanized Grating | kg | 5,100 | 0.029 | 2.38 | 12,122.70 | 10.29 | 0.25 | 0.74 | 11.27 | 57,494.95 |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | |
| 57 | 4.1.25 | | 2361.26 | Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc..) | kg | 190 | 0.059 | 4.74 | 900.98 | 8.93 | 0.49 | 0.66 | 10.08 | 1,914.68 |
| 58 | 4.1.26 | | 2361.27 | Anchor Bolts Grade 55 ASTM F1554 | kg | 535 | 0.059 | 4.74 | 2,536.97 | 2.60 | 0.49 | 0.22 | 3.31 | 1,771.73 |
| ELECTRICAL WORK | | | | | | | | | | | | | | |
| 59 | 4.1.27 | | 2361.28 | Exothermic Connections. | each | 30 | 2.400 | 234.24 | 7,027.20 | 146.48 | 0.00 | 10.25 | 156.74 | 4,702.10 |
| 59A | 4.1.27A | | 2361.29 | Mechanical Connections | each | 4 | 2.300 | 224.48 | 897.92 | 211.64 | 0.00 | 14.81 | 226.46 | 905.83 |
| 60 | 4.1.28 | | 2361.30 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 200 | 0.414 | 40.42 | 8,083.20 | 60.28 | 0.00 | 4.22 | 64.50 | 12,899.71 |
| 61 | 4.1.29 | | 2361.31 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 30 | 0.224 | 21.88 | 656.40 | 27.71 | 0.00 | 1.94 | 29.65 | 889.56 |
| 61A | 4.1.30 | | 2361.32 | Embedded Copper Grounding Plates | each | 1 | 4.000 | 390.40 | 390.40 | 453.87 | 0.00 | 31.77 | 485.64 | 485.64 |
| 61B | 4.1.31 | | 2361.33 | Rigid PVC Conduit, size 129mm | m | 75 | 5.400 | 527.04 | 39,528.00 | 95.00 | 30.00 | 8.75 | 133.75 | 10,031.25 |
| SUB-TOTAL NORTH TRANSITION DAM | | | | | | | | | \$ 3,034,335.86 | | | | | \$ 2,506,016.20 |
| 4.2 2362 CENTRE TRANSITION DAM | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | |
| 62 | 4.2.1 | | 2362.01 | Fill Excavation (Sand Layer for Winter Protection) | m ³ | 2,100 | 0.339 | 27.20 | 57,115.80 | 7.52 | 7.67 | 1.06 | 16.26 | 34,143.17 |
| Foundation Preparation | | | | | | | | | | | | | | |
| 63 | 4.2.2 | | 2362.02 | Dental Excavation | m ³ | 80 | 0.277 | 22.31 | 1,784.48 | 7.47 | 2.62 | 0.71 | 10.80 | 863.70 |
| 64 | 4.2.3 | | 2362.03 | Scaling and Water/Air Jet Cleaning of Bedrock | m ² | 1,430 | 0.124 | 9.85 | 14,089.79 | 0.72 | 0.45 | 0.08 | 1.24 | 1,774.92 |
| 65 | 4.2.4 | | 2362.04 | Dental Concrete | m ³ | 215 | 1.846 | 145.44 | 31,268.53 | 158.80 | 28.11 | 13.08 | 199.99 | 42,998.65 |
| 66 | 4.2.5 | | 2362.05 | Dry Pack | m ³ | 10 | 1.925 | 150.65 | 1,506.47 | 246.40 | 30.61 | 19.39 | 296.40 | 2,963.96 |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | |
| 67 | 4.2.6 | | 2362.06 | Grouting Holes | m | 600 | 0.889 | 72.56 | 43,537.80 | 37.13 | 118.99 | 10.93 | 167.05 | 100,227.11 |
| 68 | 4.2.7 | | 2362.07 | Grouting - Successful Connections | each | 120 | 3.375 | 275.50 | 33,059.76 | 109.47 | 480.84 | 41.32 | 631.63 | 75,796.06 |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--|--------------------------------|--|--------------------------------|----------------------------------|--------------------------------|-------------------------------|
| ISSUED FOR: AGREEMENT | | | | DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| 69 | 4.2.8 | | 2362.08 | Dry Cement for Grouting | kg | 20,000 | 0.045 | 3.67 | 73,460.00 | 1.09 | 1.50 | 0.18 | 2.77 | 55,447.40 |
| 70 | 4.2.9 | | 2362.09 | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 |
| 71 | 4.2.10 | | 2362.10 | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 |
| 72 | 4.2.11 | | 2362.11 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 |
| 73 | 4.2.12 | | 2362.12 | Thermistors | each | 1 | 22.940 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | 4,868.50 |
| 74 | 4.2.13 | | 2362.13 | Rotary/Percussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 |
| 75 | 4.2.14 | | 2362.14 | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 |
| 76 | 4.2.15 | | 2362.15 | Drainage Holes | m | 200 | 0.740 | 60.41 | 12,081.20 | 108.00 | 9.00 | 8.19 | 125.19 | 25,038.00 |
| 77 | 4.2.16 | | 2362.16 | PVC Caps for Drainage Holes | each | 20 | 0.820 | 66.94 | 1,338.74 | 150.00 | 30.00 | 12.60 | 192.60 | 3,852.00 |
| Geotechnical Instrumentation | | | | | | | | | | | | | | |
| 78 | 4.2.17 | | 2362.17 | Survey Monuments | each | 5 | 1.810 | 147.75 | 738.75 | 331.00 | 66.00 | 27.79 | 424.79 | 2,123.95 |
| 79 | 4.2.18 | | 2362.18 | Hydraulic piezometers | each | 3 | 2.831 | 219.98 | 659.94 | 6,506.21 | 2.65 | 455.62 | 6,964.48 | 20,893.45 |
| 80 | 4.2.19 | | 2362.19 | V-Notch Weirs | each | 1 | 2.831 | 219.98 | 219.98 | 1,576.21 | 2.65 | 110.52 | 1,689.38 | 1,689.38 |
| CONCRETE WORK | | | | | | | | | | | | | | |
| 81 | 4.2.20 | | 2362.20 | Concrete Below El. 42.00 m | m³ | 26,900 | 4.174 | 316.93 | 8,525,282.50 | 159.34 | 50.34 | 14.68 | 224.36 | 6,035,248.22 |
| 82 | 4.2.21 | | 2362.21 | Concrete Above El. 42.00 m | m³ | 2,550 | 4.124 | 313.23 | 798,736.50 | 172.51 | 50.27 | 15.59 | 238.37 | 607,849.77 |
| 83 | 4.2.22 | | 2362.22 | Concrete - Slab on Steel Deck | m³ | 150 | 3.958 | 300.79 | 45,118.35 | 171.31 | 26.84 | 13.87 | 212.02 | 31,803.72 |
| 84 | 4.2.23 | | 2362.23 | Grout | m³ | 17 | 2.337 | 184.95 | 3,144.22 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 22,486.51 |
| 84A | 4.2.23A | | 2362.24 | PVC Waterstop - TYPE A (150 mm width) | m | 135 | 0.267 | 21.14 | 2,853.77 | 11.02 | 0.13 | 0.78 | 11.93 | 1,610.33 |
| 85 | 4.2.24 | | 2362.25 | PVC Waterstop - TYPE B (225 mm width) | m | 629 | 0.267 | 21.14 | 13,296.43 | 17.94 | 0.13 | 1.26 | 19.33 | 12,160.31 |
| 86 | 4.2.25 | | 2362.26 | Bituminous Coating at Contraction Joint | m² | 3,060 | 0.528 | 39.37 | 120,475.26 | 14.67 | 0.13 | 1.04 | 15.84 | 48,471.26 |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | |
| 87 | 4.2.26 | | 2362.27 | Reinforcement including Dowels | kg | 145,000 | 0.021 | 1.56 | 226,345.00 | 1.38 | 0.07 | 0.10 | 1.55 | 224,967.50 |
| SUPPLY AND INSTALLATION OF STRUCTURAL STEEL | | | | | | | | | | | | | | |
| 88 | 4.2.27 | | 2362.28 | Painted Structural Steel | kg | 79,400 | 0.024 | 1.95 | 154,591.80 | 6.86 | 0.21 | 0.49 | 7.56 | 600,143.31 |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | |
| Supply and Installation of Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | |
| 89 | 4.2.28 | | 2362.29 | Galvanized Miscellaneous Steel | kg | 37,000 | 0.040 | 3.24 | 119,769.00 | 8.62 | 0.34 | 0.63 | 9.58 | 354,607.63 |
| 90 | 4.2.29 | | 2362.30 | Galvanized Grating | kg | 1,745 | 0.029 | 2.38 | 4,147.87 | 10.29 | 0.25 | 0.74 | 11.27 | 19,672.29 |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | |
| 91 | 4.2.30 | | 2362.31 | Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc..) | kg | 16,870 | 0.059 | 4.74 | 79,997.54 | 8.93 | 0.49 | 0.66 | 10.08 | 170,003.38 |
| Metal Decking including Shear Studs (Galvanized) | | | | | | | | | | | | | | |
| 92 | 4.2.31 | | 2362.32 | Steel deck type RD 306 (t=0.91 mm) | m² | 400 | 0.500 | 39.27 | 15,709.20 | 166.74 | 5.50 | 12.06 | 184.30 | 73,720.43 |
| 93 | 4.2.32 | | 2362.33 | Shear Studs | kg | 375 | 0.059 | 4.74 | 1,778.25 | 2.55 | 0.49 | 0.21 | 3.25 | 1,220.60 |
| Crane Rails including Fastening System and Accessories | | | | | | | | | | | | | | |
| 94 | 4.2.33 | | 2362.34 | Rails for Trash Cleaning System | m | 140 | 1.400 | 113.04 | 15,824.90 | 347.44 | 12.34 | 25.18 | 384.96 | 53,894.00 |
| 95 | 4.2.34 | | 2362.35 | Anchor Bolts Grade 55 ASTM F1554 | kg | 4,850 | 0.059 | 4.74 | 22,998.70 | 2.60 | 0.49 | 0.22 | 3.31 | 16,061.50 |
| 96 | 4.2.35 | | 2362.36 | Elastomeric Bearing Pads | each | 21 | 0.331 | 26.59 | 558.37 | 81.45 | 2.64 | 5.89 | 89.98 | 1,889.48 |
| ELECTRICAL WORK | | | | | | | | | | | | | | |
| 97 | 4.2.36 | | 2362.37 | Exothermic Connections. | each | 140 | 2.400 | 234.24 | 32,793.60 | 146.48 | 0.00 | 10.25 | 156.74 | 21,943.15 |
| 97A | 4.2.36A | | 2362.38 | Mechanical Connections | each | 17 | 2.300 | 224.48 | 3,816.16 | 211.64 | 0.00 | 14.81 | 226.46 | 3,849.75 |
| 98 | 4.2.37 | | 2362.39 | Embedded Copper Grounding Plates | each | 2 | 4.000 | 390.40 | 780.80 | 453.87 | 0.00 | 31.77 | 485.64 | 971.29 |
| 99 | 4.2.38 | | 2362.40 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 500 | 0.414 | 40.42 | 20,208.00 | 60.28 | 0.00 | 4.22 | 64.50 | 32,249.27 |
| 100 | 4.2.39 | | 2362.41 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 225 | 0.224 | 21.88 | 4,923.00 | 27.71 | 0.00 | 1.94 | 29.65 | 6,671.66 |
| 101 | 4.2.40 | | 2362.42 | Rigid PVC Conduit, size 41mm | m | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 101A | 4.2.40A | | 2362.43 | Rigid PVC Conduit, size 53mm | m | 3 | 2.000 | 195.20 | 585.60 | 108.25 | 0.00 | 7.58 | 115.82 | 347.47 |
| 102 | 4.2.41 | | 2362.44 | Rigid PVC Conduit, size 78mm | m | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 103 | 4.2.42 | | 2362.45 | Rigid PVC Conduit, size 129mm | m | 110 | 5.400 | 527.04 | 57,974.40 | 95.00 | 30.00 | 8.75 | 133.75 | 14,712.50 |
| 104 | 4.2.43 | | 2362.46 | Junction Box, size 200 x 200 x 150 mm Complete with Traffic Rated Cover | each | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| SUB-TOTAL CENTRE TRANSITION DAM | | | | | | | | | \$ 10,558,384.64 | | | | | \$ 8,755,368.19 |
| 4.3 2363.00 SOUTH TRANSITION DAM | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | |
| 105 | 4.3.1 | | 2363.01 | Fill Excavation (Sand Layer for Winter Protection) | m³ | 1,350 | 0.339 | 27.20 | 36,717.30 | 7.52 | 7.67 | 1.06 | 16.26 | 21,949.18 |
| Foundation Preparation | | | | | | | | | | | | | | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | |
| | | | | | | | | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| 106 | 4.3.2 | | 2363.02 | Dental Excavation | m ³ | 45 | 0.277 | 22.31 | 1,003.77 | 7.47 | 2.62 | 0.71 | 10.80 | 485.83 |
| 107 | 4.3.3 | | 2363.03 | Scaling and Water/Air Jet Cleaning of Bedrock | m ² | 900 | 0.124 | 9.85 | 8,867.70 | 0.72 | 0.45 | 0.08 | 1.24 | 1,117.08 |
| 108 | 4.3.4 | | 2363.04 | Dental Concrete | m ³ | 135 | 1.846 | 145.44 | 19,633.73 | 158.80 | 28.11 | 13.08 | 199.99 | 26,999.15 |
| 109 | 4.3.5 | | 2363.05 | Dry Pack | m ³ | 6 | 1.925 | 150.65 | 903.88 | 246.40 | 30.61 | 19.39 | 296.40 | 1,778.38 |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | |
| 110 | 4.3.6 | | 2363.06 | Grouting Holes | m | 500 | 0.889 | 72.56 | 36,281.50 | 37.13 | 118.99 | 10.93 | 167.05 | 83,522.60 |
| 111 | 4.3.7 | | 2363.07 | Grouting - Successful Connections | each | 100 | 3.375 | 275.50 | 27,549.80 | 109.47 | 480.84 | 41.32 | 631.63 | 63,163.38 |
| 112 | 4.3.8 | | 2363.08 | Dry Cement for Grouting | kg | 18,000 | 0.045 | 3.67 | 66,114.00 | 1.09 | 1.50 | 0.18 | 2.77 | 49,902.66 |
| 113 | 4.3.9 | | 2363.09 | Water Pressure Tests (Lugeon) | hour | 5 | 10.060 | 821.20 | 4,105.99 | 29.00 | 565.50 | 41.62 | 636.12 | 3,180.58 |
| 114 | 4.3.10 | | 2363.10 | Water Pressure Tests - Successful Connections | each | 12 | 1.450 | 118.36 | 1,420.37 | 120.00 | 57.00 | 12.39 | 189.39 | 2,272.68 |
| 115 | 4.3.11 | | 2363.11 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.54 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 |
| 116 | 4.3.12 | | 2363.12 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 |
| 117 | 4.3.13 | | 2363.13 | Rotary/Percussion Drill Check Holes | m | 30 | 0.690 | 56.33 | 1,689.75 | 117.00 | 19.50 | 9.56 | 146.06 | 4,381.65 |
| 118 | 4.3.14 | | 2363.14 | Cored (Diamond drill) holes | m | 30 | 2.680 | 218.77 | 6,563.04 | 390.00 | 32.50 | 29.58 | 452.08 | 13,562.25 |
| 119 | 4.3.15 | | 2363.15 | Drainage Holes | m | 225 | 0.740 | 60.41 | 13,591.35 | 108.00 | 9.00 | 8.19 | 125.19 | 28,167.75 |
| 120 | 4.3.16 | | 2363.16 | PVC Caps for Drainage Holes | each | 15 | 0.820 | 66.94 | 1,004.06 | 150.00 | 30.00 | 12.60 | 192.60 | 2,889.00 |
| Geotechnical Instrumentation | | | | | | | | | | | | | | |
| 121 | 4.3.17 | | 2363.17 | Survey Monuments | each | 4 | 1.810 | 147.75 | 591.00 | 331.00 | 66.00 | 27.79 | 424.79 | 1,699.16 |
| 122 | 4.3.18 | | 2363.18 | Hydraulic piezometers | each | 2 | 2.831 | 219.98 | 439.96 | 6,506.21 | 2.65 | 455.62 | 6,964.48 | 13,928.96 |
| 123 | 4.3.19 | | 2363.19 | V-Notch Weirs | each | 1 | 2.831 | 219.98 | 219.98 | 1,576.21 | 2.65 | 110.52 | 1,689.38 | 1,689.38 |
| CONCRETE WORK | | | | | | | | | | | | | | |
| 124 | 4.3.20 | | 2363.20 | Concrete | m ³ | 9,700 | 3.974 | 302.32 | 2,932,474.90 | 158.57 | 48.67 | 14.51 | 221.75 | 2,150,975.10 |
| 124A | 4.3.20A | | 2363.21 | PVC Waterstop - TYPE A (150 mm width) | m | 130 | 0.267 | 21.14 | 2,748.07 | 11.02 | 0.13 | 0.78 | 11.93 | 1,550.69 |
| 125 | 4.3.21 | | 2363.22 | PVC Waterstop - TYPE B (225 mm width) | m | 170 | 0.267 | 21.14 | 3,593.63 | 17.94 | 0.13 | 1.26 | 19.33 | 3,286.57 |
| 126 | 4.3.22 | | 2363.23 | Hydrophilic Waterstop | m | 0 | | | | | | | | |
| 127 | 4.3.23 | | 2363.24 | Bituminous Coating at Contraction Joints | m ² | 380 | 0.528 | 39.37 | 14,960.98 | 14.67 | 0.13 | 1.04 | 15.84 | 6,019.31 |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | |
| 128 | 4.3.24 | | 2363.25 | Reinforcement including Dowels | kg | 283,300 | 0.020 | 1.47 | 417,300.90 | 1.37 | 0.02 | 0.10 | 1.49 | 421,352.09 |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | |
| Supply and Installation of Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | |
| 129 | 4.3.25 | | 2363.26 | Galvanized Miscellaneous Steel | kg | 14,850 | 0.040 | 3.24 | 48,069.45 | 8.62 | 0.34 | 0.63 | 9.58 | 142,322.25 |
| 130 | 4.3.26 | | 2363.27 | Galvanized Grating | kg | 230 | 0.029 | 2.38 | 546.71 | 10.29 | 0.25 | 0.74 | 11.27 | 2,592.91 |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | |
| 131 | 4.3.27 | | 2363.28 | Embedded Miscellaneous Steel (Frames, L Shapes, Sleeves, etc..) | kg | 110 | 0.040 | 3.24 | 356.07 | 8.62 | 0.34 | 0.63 | 9.58 | 1,054.24 |
| 132 | 4.3.28 | | 2363.29 | Anchor Bolts Grade 55 ASTM F1554 | kg | 1,350 | 0.059 | 4.74 | 6,401.70 | 2.60 | 0.49 | 0.22 | 3.31 | 4,470.73 |
| ELECTRICAL WORK | | | | | | | | | | | | | | |
| 133 | 4.3.29 | | 2363.30 | Exothermic Connections. | each | 100 | 2.400 | 234.24 | 23,424.00 | 146.48 | 0.00 | 10.25 | 156.74 | 15,673.68 |
| 133A | 4.3.29A | | 2363.31 | Mechanical Connections | each | 12 | 2.300 | 224.48 | 2,693.76 | 211.64 | 0.00 | 14.81 | 226.46 | 2,717.47 |
| 134 | 4.3.30 | | 2363.32 | Embedded Copper Grounding Plates | each | 2 | 4.000 | 390.40 | 780.80 | 453.87 | 0.00 | 31.77 | 485.64 | 971.29 |
| 135 | 4.3.31 | | 2363.33 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 300 | 0.414 | 40.42 | 12,124.80 | 60.28 | 0.00 | 4.22 | 64.50 | 19,349.56 |
| 136 | 4.3.32 | | 2363.34 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 150 | 0.224 | 21.88 | 3,282.00 | 27.71 | 0.00 | 1.94 | 29.65 | 4,447.78 |
| 137 | 4.3.33 | | 2363.35 | Rigid PVC Conduit, size 53mm | m | 5 | 2.000 | 195.20 | 976.00 | 108.25 | 0.00 | 7.58 | 115.82 | 579.12 |
| SUB-TOTAL SOUTH TRANSITION DAM | | | | | | | | | \$ 3,700,899.38 | | | | | \$ 3,109,661.94 |
| 4.4 2364 SEPARATION WALL | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | |
| Foundation Preparation | | | | | | | | | | | | | | |
| 138 | 4.4.1 | | 2364.01 | Dental Excavation | m ³ | 50 | 0.277 | 22.31 | 1,115.30 | 7.47 | 2.62 | 0.71 | 10.80 | 539.82 |
| 139 | 4.4.2 | | 2364.02 | Scaling and Water/Air Jet Cleaning of Bedrock | m ² | 900 | 0.124 | 9.85 | 8,867.70 | 0.72 | 0.45 | 0.08 | 1.24 | 1,117.08 |
| 140 | 4.4.3 | | 2364.03 | Dental Concrete | m ³ | 130 | 1.846 | 145.44 | 18,906.55 | 158.80 | 28.11 | 13.08 | 199.99 | 25,999.18 |
| 141 | 4.4.4 | | 2364.04 | Dry Pack | m ³ | 6 | 1.925 | 150.65 | 903.88 | 246.40 | 30.61 | 19.39 | 296.40 | 1,778.38 |
| CONCRETE WORK | | | | | | | | | | | | | | |
| 142 | 4.4.5 | | 2364.05 | Concrete - Separation Wall | m ³ | 10,850 | 4.968 | 375.86 | 4,078,091.85 | 161.08 | 78.02 | 16.74 | 255.83 | 2,775,738.57 |
| 143 | 4.4.6 | | 2364.06 | PVC Waterstop - TYPE B (225 mm width) | m | 60 | 0.267 | 21.14 | 1,268.34 | 17.94 | 0.13 | 1.26 | 19.33 | 1,159.97 |
| 144 | 4.4.7 | | 2364.07 | Hydrophilic Waterstop | m | 15 | 0.267 | 21.14 | 317.09 | 21.48 | 0.13 | 1.51 | 23.12 | 346.81 |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | | EXHIBIT 2 - APPENDIX A | | |
|---|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| 145 | 4.4.8 | | 2364.08 | Bituminous Coating at Contraction Joint | m ² | 810 | 0.528 | 39.37 | 31,890.51 | 14.67 | 0.13 | 1.04 | 15.84 | 12,830.63 |
| SUB-TOTAL SEPARATION WALL | | | | | | | | | \$ 4,141,361.22 | | | | | \$ 2,819,510.43 |
| 5 2400 SPILLWAY | | | | | | | | | | | | | | |
| 5.1 2410 SPILLWAY STRUCTURE | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | |
| Excavation and Backfill | | | | | | | | | | | | | | |
| 146 | 5.1.1 | | 2410.01 | Fill Excavation (Sand Layer for Winter Protection) | m ³ | 7,600 | 0.339 | 27.20 | 206,704.80 | 7.52 | 7.67 | 1.06 | 16.26 | 123,565.74 |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | |
| 147 | 5.1.2 | | 2410.02 | Grouting Holes | m | 650 | 0.889 | 72.56 | 47,165.95 | 37.13 | 118.99 | 10.93 | 167.05 | 108,579.37 |
| 148 | 5.1.3 | | 2410.03 | Grouting - Successful Connections | each | 130 | 3.375 | 275.50 | 35,814.74 | 109.47 | 480.84 | 41.32 | 631.63 | 82,112.40 |
| 149 | 5.1.4 | | 2410.04 | Dry Cement for Grouting | kg | 23,000 | 0.045 | 3.67 | 84,479.00 | 1.09 | 1.50 | 0.18 | 2.77 | 63,764.51 |
| 150 | 5.1.5 | | 2410.05 | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 |
| 151 | 5.1.6 | | 2410.06 | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 |
| 152 | 5.1.7 | | 2410.07 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 |
| 153 | 5.1.8 | | 2410.08 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 |
| 154 | 5.1.9 | | 2410.09 | Rotary/Percussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 |
| 155 | 5.1.10 | | 2410.10 | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 |
| Instrumentation | | | | | | | | | | | | | | |
| 156 | 5.1.11 | | 2410.11 | Survey Monuments | each | 6 | 1.810 | 147.75 | 886.50 | 331.00 | 66.00 | 27.79 | 424.79 | 2,548.74 |
| Foundation preparation | | | | | | | | | | | | | | |
| 157 | 5.1.12 | | 2410.12 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 5,100 | 0.124 | 9.85 | 50,250.30 | 0.72 | 0.45 | 0.08 | 1.24 | 6,330.12 |
| CONCRETE WORK | | | | | | | | | | | | | | |
| Spillway and Related Structures including Retaining Walls | | | | | | | | | | | | | | |
| 158 | 5.1.13 | | 2410.13 | Concrete - Slabs | m ³ | 13,100 | 2.728 | 207.29 | 2,715,459.70 | 187.77 | 35.25 | 15.61 | 238.63 | 3,126,099.37 |
| 159 | 5.1.14 | | 2410.14 | Concrete - Piers and Walls | m ³ | 32,900 | 7.469 | 557.93 | 18,356,028.60 | 216.35 | 111.58 | 22.96 | 350.89 | 11,544,154.99 |
| 160 | 5.1.15 | | 2410.15 | Concrete - Rollways | m ³ | 19,500 | 2.689 | 204.43 | 3,986,424.00 | 198.35 | 33.80 | 16.25 | 248.40 | 4,843,851.48 |
| 161 | 5.1.16 | | 2410.16 | Demolition of Slab for Rollway Key | m ³ | 200 | 0.474 | 37.50 | 7,499.40 | 7.51 | 3.22 | 0.75 | 11.48 | 2,296.01 |
| 162 | 5.1.17 | | 2410.17 | Overbreak Concrete | m ³ | 3,000 | 2.078 | 159.68 | 479,040.00 | 196.06 | 26.34 | 15.57 | 237.96 | 713,884.74 |
| 163 | 5.1.18 | | 2410.18 | Grout | m ³ | 20 | 2.337 | 184.95 | 3,699.08 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 26,454.72 |
| 164 | 5.1.19 | | 2410.19 | PVC Waterstop - TYPE A (150 mm width) | m | 4,100 | 0.267 | 21.14 | 86,669.90 | 11.02 | 0.13 | 0.78 | 11.93 | 48,906.28 |
| 164A | 5.1.19A | | 2410.20 | PVC Waterstop - TYPE B (225 mm width) | m | 1,000 | 0.267 | 21.14 | 21,139.00 | 17.94 | 0.13 | 1.26 | 19.33 | 19,332.76 |
| 164B | 5.1.19B | | 2410.21 | PVC Waterstop - TYPE D | m | 550 | 0.267 | 21.14 | 11,626.45 | 40.69 | 0.13 | 2.86 | 43.68 | 24,021.39 |
| 165 | 5.1.20 | | 2410.22 | Hydrophilic Waterstop | m | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 166 | 5.1.21 | | 2410.23 | Bituminous Coating at Contraction Joint | m ² | 950 | 0.528 | 39.37 | 37,402.45 | 14.67 | 0.13 | 1.04 | 15.84 | 15,048.27 |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | |
| 167 | 5.1.22 | | 2410.24 | Reinforcement including Dowels | kg | 3,850,000 | 0.020 | 1.47 | 5,671,050.00 | 1.37 | 0.02 | 0.10 | 1.49 | 5,726,105.00 |
| 168 | 5.1.23 | | 2410.25 | Drill Holes and Grouting for Rock Dowels | m | 1,200 | 2.244 | 170.72 | 204,864.00 | 20.95 | 6.81 | 1.94 | 29.69 | 35,631.00 |
| 169 | 5.1.24 | | 2410.26 | Threaded Rebars with Couplers | kg | 117,000 | 0.044 | 3.31 | 387,387.00 | 2.75 | 0.08 | 0.20 | 3.02 | 353,411.37 |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | |
| Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | |
| 170 | 5.1.25 | | 2410.27 | Non Embedded Galvanized Miscellaneous Steel | kg | 10,900 | 0.059 | 4.74 | 51,687.80 | 9.55 | 0.49 | 0.70 | 10.74 | 117,073.19 |
| 171 | 5.1.26 | | 2410.28 | Non Embedded Galvanized Grating | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | |
| 172 | 5.1.27 | | 2410.29 | Embedded Galvanized Miscellaneous Steel (Frames, L Shapes, Sleeves, etc..) | kg | 430 | 0.040 | 3.24 | 1,391.91 | 8.62 | 0.34 | 0.63 | 9.58 | 4,121.12 |
| 173 | 5.1.28 | | 2410.30 | Bulkhead Formwork - Rollway Joints | kg | 13,500 | 0.045 | 3.67 | 49,504.50 | 9.11 | 0.38 | 0.66 | 10.15 | 137,039.72 |
| Crane Rails including Fastening System and Accessories | | | | | | | | | | | | | | |
| 174 | 5.1.29 | | 2410.31 | Rails for Trash Cleaning System | m | 150 | 1.400 | 113.04 | 16,955.25 | 348.68 | 12.34 | 25.27 | 386.29 | 57,943.55 |
| 175 | 5.1.30 | | 2410.32 | Anchor Bolts Grade 55 ASTM F1554 | kg | 2,520 | 0.059 | 4.74 | 11,949.84 | 2.60 | 0.49 | 0.22 | 3.31 | 8,345.36 |
| ANCHORS AND EMBEDDED PARTS PROVIDED BY OTHERS | | | | | | | | | | | | | | |
| 176 | 5.1.31 | | 2410.33 | Anchors, Templates and Angles in Primary Concrete for Gates and Rollways (5 Sets) | kg | 91,135 | 0.016 | 1.31 | 119,204.58 | 4.12 | 0.15 | 0.30 | 4.56 | 415,801.61 |
| 177 | 5.1.32 | | 2410.34 | Anchors, Templates and Angles in Primary Concrete for Upstream Temporary Stoplogs (5 Sets) | kg | 75,160 | 0.016 | 1.31 | 98,309.28 | 4.12 | 0.15 | 0.30 | 4.56 | 342,916.00 |
| 178 | 5.1.33 | | 2410.35 | Anchors, Templates and Angles in Primary Concrete for Upstream Permanent Stoplogs (5 Sets) | kg | 42,492 | 0.016 | 1.31 | 55,579.54 | 4.12 | 0.15 | 0.30 | 4.56 | 193,868.90 |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|-------------------------------|--|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| 179 | 5.1.34 | | 2410.36 | Anchors, Templates and Angles in Primary Concrete for Downstream Stoplogs (5 Sets) | kg | 15,497 | 0.016 | 1.31 | 20,270.08 | 4.12 | 0.15 | 0.30 | 4.56 | 70,704.75 | |
| 180 | 5.1.35 | | 2410.37 | Anchors and Templates in Primary Concrete for Hoist Towers (5 Sets) | kg | 430 | 0.016 | 1.31 | 562.44 | 4.12 | 0.15 | 0.30 | 4.56 | 1,961.87 | |
| 181 | 5.1.36 | | 2410.38 | Anchors and Templates in Primary Concrete for Walkways (5 Sets) | kg | 200 | 0.016 | 1.31 | 261.60 | 4.12 | 0.15 | 0.30 | 4.56 | 912.50 | |
| 182 | 5.1.37 | | 2410.39 | Liner Plates in sides of Piers | each | 10 | 1.472 | 118.89 | 1,188.85 | 374.03 | 13.43 | 27.12 | 414.58 | 4,145.79 | |
| ELECTRICAL WORK | | | | | | | | | | | | | | | |
| 183 | 5.1.38 | | 2410.40 | Exothermic Connections. | each | 290 | 2.400 | 234.24 | 67,929.60 | 146.48 | 0.00 | 10.25 | 156.74 | 45,453.67 | |
| 183A | 5.1.38A | | 2410.41 | Mechanical Connections | each | 45 | 2.300 | 224.48 | 10,101.60 | 211.64 | 0.00 | 14.81 | 226.46 | 10,190.51 | |
| 184 | 5.1.39 | | 2410.42 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 2,200 | 0.414 | 40.42 | 88,915.20 | 60.28 | 0.00 | 4.22 | 64.50 | 141,896.77 | |
| 185 | 5.1.40 | | 2410.43 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 550 | 0.224 | 21.88 | 12,034.00 | 27.71 | 0.00 | 1.94 | 29.65 | 16,308.51 | |
| 186 | 5.1.41 | | 2410.44 | Rigid Galvanized Steel Conduits, size 53mm | m | 50 | 9.600 | 936.96 | 46,848.00 | 49.00 | 40.00 | 6.23 | 95.23 | 4,761.50 | |
| SUB-TOTAL SPILLWAY STRUCTURE | | | | | | | | | \$ 33,062,099.12 | | | | | \$ 28,470,544.69 | |
| 5.2 2411 SPILLWAY BRIDGES | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 187 | 5.2.1 | | 2411.01 | Concrete - Slab on Bridge Deck | m³ | 460 | 3.596 | 274.03 | 126,051.50 | 189.44 | 26.50 | 15.12 | 231.06 | 106,287.14 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 188 | 5.2.2 | | 2411.02 | Reinforcement including Dowels | kg | 122,150 | 0.020 | 1.47 | 179,926.95 | 1.37 | 0.02 | 0.10 | 1.49 | 181,673.70 | |
| STRUCTURAL STEEL AND MISCELLANEOUS METAL | | | | | | | | | | | | | | | |
| Structural Steel | | | | | | | | | | | | | | | |
| 189 | 5.2.3 | | 2411.03 | Structural Steel - Painted/Galvanized Sections | kg | 263,500 | 0.021 | 1.73 | 456,382.00 | 5.46 | 0.19 | 0.40 | 6.04 | 1,591,579.53 | |
| Non Embedded Miscellaneous Metal | | | | | | | | | | | | | | | |
| 190 | 5.2.4 | | 2411.04 | Non Embedded Galvanized Miscellaneous Steel | kg | 58,500 | 0.059 | 4.74 | 277,407.00 | 9.55 | 0.49 | 0.70 | 10.74 | 628,328.61 | |
| 191 | 5.2.5 | | 2411.05 | Non Embedded Galvanized Grating | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Embedded Miscellaneous Metals | | | | | | | | | | | | | | | |
| 192 | 5.2.6 | | 2411.06 | Embedded Galvanized Miscellaneous Steel (Frames, L Shapes, Sleeves, etc..) | kg | 12,850 | 0.040 | 3.24 | 41,595.45 | 8.62 | 0.34 | 0.63 | 9.58 | 123,154.27 | |
| 192A | 5.2.6A | | 2411.07 | Shear Studs | kg | 3,420 | 0.059 | 4.74 | 16,217.64 | 2.55 | 0.49 | 0.21 | 3.25 | 11,131.89 | |
| 193 | 5.2.7 | | 2411.08 | Elastomeric Bearing Pads | each | 110 | 0.331 | 26.59 | 2,924.79 | 64.31 | 2.64 | 4.69 | 71.64 | 7,880.37 | |
| 194 | 5.2.8 | | 2411.09 | Bridge Expansion Joints | each | 12 | 0.331 | 26.59 | 319.07 | 64.92 | 2.64 | 4.73 | 72.29 | 867.47 | |
| 195 | 5.2.9 | | 2411.10 | Anchor Bolts Grade 55 ASTM F1554 | kg | 13,000 | 0.059 | 4.74 | 61,646.00 | 2.60 | 0.49 | 0.22 | 3.31 | 43,051.45 | |
| SUB-TOTAL SPILLWAY BRIDGES | | | | | | | | | \$ 1,162,470.40 | | | | | \$ 2,693,954.43 | |
| 5.3 2430 SPILLWAY DISCHARGE CHANNEL - PHASE 1 | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 196 | 5.3.1 | | 2430.01 | Scaling and Water/Air Jet Cleaning of rock foundation | m² | 2,880 | 0.124 | 9.85 | 28,376.64 | 0.72 | 0.45 | 0.08 | 1.24 | 3,574.66 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 197 | 5.3.2 | | 2430.02 | Concrete - Slabs (CVC) | m³ | 1,725 | 4.159 | 319.87 | 551,777.48 | 211.00 | 51.99 | 18.41 | 281.39 | 485,404.56 | |
| 198 | 5.3.3 | | 2430.03 | Concrete - Walls (CVC) | m³ | 700 | 6.660 | 500.87 | 350,606.90 | 213.97 | 99.04 | 21.91 | 334.92 | 234,445.99 | |
| 199 | 5.3.4 | | 2430.04 | Overbreak Concrete | m³ | 1,600 | 1.964 | 154.00 | 246,401.60 | 206.39 | 27.26 | 16.36 | 250.00 | 400,001.95 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 200 | 5.3.5 | | 2430.05 | Reinforcement including Dowels | kg | 145,000 | 0.020 | 1.47 | 213,585.00 | 1.37 | 0.02 | 0.10 | 1.49 | 215,658.50 | |
| 201 | 5.3.6 | | 2430.06 | Drill Holes and Grouting for Rock Dowels | m | 3,650 | 2.244 | 170.72 | 623,128.00 | 20.95 | 6.81 | 1.94 | 29.69 | 108,377.63 | |
| SUB-TOTAL SPILLWAY DISCHARGE CHANNEL - PHASE 1 | | | | | | | | | \$ 2,013,875.62 | | | | | \$ 1,447,463.28 | |
| 5.4 2431 SPILLWAY DISCHARGE CHANNEL - PHASE 2 - OPTIONAL | | | | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | |
| Foundation preparation | | | | | | | | | | | | | | | |
| 202 | 5.4.1 | | 2431.01 | Scaling and Water/Air Jet Cleaning of rock foundation | m² | 1,440 | 0.124 | 9.85 | 14,188.32 | 0.72 | 0.45 | 0.08 | 1.24 | 1,787.33 | |
| CONCRETE WORK | | | | | | | | | | | | | | | |
| 203 | 5.4.2 | | 2431.02 | Concrete - Slabs (CVC) | m³ | 750 | 2.728 | 207.29 | 155,465.25 | 187.77 | 35.25 | 15.61 | 238.63 | 178,975.16 | |
| 204 | 5.4.3 | | 2431.03 | Concrete - Walls (CVC) | m³ | 300 | 9.686 | 695.53 | 208,659.60 | 228.89 | 193.36 | 29.56 | 451.81 | 135,542.57 | |
| 205 | 5.4.4 | | 2431.04 | Overbreak Concrete | m³ | 700 | 2.078 | 159.68 | 111,776.00 | 196.06 | 26.34 | 15.57 | 237.96 | 166,573.11 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | |
| 206 | 5.4.5 | | 2431.05 | Reinforcement including Dowels | kg | 90,000 | 0.020 | 1.47 | 132,570.00 | 1.37 | 0.02 | 0.10 | 1.49 | 133,857.00 | |
| 207 | 5.4.6 | | 2431.06 | Drill Holes and Grouting for Rock Dowels | m | 1,900 | 2.244 | 170.72 | 324,368.00 | 20.95 | 6.81 | 1.94 | 29.69 | 56,415.75 | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|--|----------------------|--------------------------------|--------------------------------|------------------------------------|----------------------------------|--------------------------------|-------------------------------|----|---------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | COST/UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | | |
| | | | | SUB-TOTAL SPILLWAY DISCHARGE CHANNEL - PHASE 2 | | | | | | | \$ | 947,027.17 | | | \$ | 673,150.91 |
| 5.5 | | 2432 | | SPILLWAY DISCHARGE CHANNEL - PHASE 3 - OPTIONAL | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | | |
| Foundation preparation | | | | | | | | | | | | | | | | |
| 208 | 5.5.1 | | 2432.01 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 3,400 | 0.124 | 9.85 | 33,500.20 | 0.72 | 0.45 | 0.08 | 1.24 | 4,220.08 | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | |
| 209 | 5.5.2 | | 2432.02 | Concrete - Slabs (CVC) | m ³ | 2,000 | 2.728 | 207.29 | 414,574.00 | 187.77 | 35.25 | 15.61 | 238.63 | 477,267.08 | | |
| 210 | 5.5.3 | | 2432.03 | Concrete - Walls (CVC) | m ³ | 200 | 9.686 | 695.53 | 139,106.40 | 228.89 | 193.36 | 29.56 | 451.81 | 90,361.71 | | |
| 211 | 5.5.4 | | 2432.04 | Overbreak Concrete | m ³ | 2,000 | 2.078 | 159.68 | 319,360.00 | 196.06 | 26.34 | 15.57 | 237.96 | 475,923.16 | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | |
| 212 | 5.5.5 | | 2432.05 | Reinforcement including Dowels | kg | 160,000 | 0.020 | 1.47 | 235,680.00 | 1.37 | 0.02 | 0.10 | 1.49 | 237,968.00 | | |
| 213 | 5.5.6 | | 2432.06 | Drill Holes and Grouting for Rock Dowels | m | 4,600 | 2.244 | 170.72 | 785,312.00 | 20.95 | 6.81 | 1.94 | 29.69 | 136,585.50 | | |
| | | | | SUB-TOTAL SPILLWAY DISCHARGE CHANNEL - PHASE 3 | | | | | | | \$ | 1,927,532.60 | | | \$ | 1,422,325.53 |
| 6 | | 3200 | | INTAKE | | | | | | | | | | | | |
| 6.1 | | 3220 | | INTAKE STRUCTURE | | | | | | | | | | | | |
| CIVIL WORK | | | | | | | | | | | | | | | | |
| Drilling, Pressure Grouting and Drainage | | | | | | | | | | | | | | | | |
| 214 | 6.1.1 | | 3220.01 | Grouting Holes | m | 2,000 | 0.889 | 72.56 | 145,126.00 | 37.13 | 118.99 | 10.93 | 167.05 | 334,090.38 | | |
| 215 | 6.1.2 | | 3220.02 | Grouting - Successful Connections | each | 400 | 3.375 | 275.50 | 110,199.20 | 109.47 | 480.84 | 41.32 | 631.63 | 252,653.54 | | |
| 216 | 6.1.3 | | 3220.03 | Dry Cement for grouting | kg | 70,000 | 0.045 | 3.67 | 257,110.00 | 1.09 | 1.50 | 0.18 | 2.77 | 194,065.90 | | |
| 217 | 6.1.4 | | 3220.04 | Water Pressure Tests (Lugeon) | hour | 8 | 10.060 | 821.20 | 6,569.58 | 29.00 | 565.50 | 41.62 | 636.12 | 5,088.92 | | |
| 218 | 6.1.5 | | 3220.05 | Water Pressure Tests - Successful Connections | each | 20 | 1.450 | 118.36 | 2,367.28 | 120.00 | 57.00 | 12.39 | 189.39 | 3,787.80 | | |
| 219 | 6.1.6 | | 3220.06 | Uplift Gauges | m | 30 | 1.060 | 86.53 | 2,595.84 | 180.00 | 30.00 | 14.70 | 224.70 | 6,741.00 | | |
| 220 | 6.1.7 | | 3220.07 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 | | |
| 221 | 6.1.8 | | 3220.08 | Rotary/Percussion Drill Check Holes | m | 50 | 0.690 | 56.33 | 2,816.25 | 117.00 | 19.50 | 9.56 | 146.06 | 7,302.75 | | |
| 222 | 6.1.9 | | 3220.09 | Cored (Diamond drill) holes | m | 50 | 2.680 | 218.77 | 10,938.40 | 390.00 | 32.50 | 29.58 | 452.08 | 22,603.75 | | |
| 223 | 6.1.10 | | 3220.10 | Drainage Holes | m | 800 | 0.740 | 60.41 | 48,324.80 | 108.00 | 9.00 | 8.19 | 125.19 | 100,152.00 | | |
| 224 | 6.1.11 | | 3220.11 | PVC Caps for Drainage Holes | each | 50 | 0.820 | 66.94 | 3,346.85 | 150.00 | 30.00 | 12.60 | 192.60 | 9,630.00 | | |
| Foundation preparation | | | | | | | | | | | | | | | | |
| 225 | 6.1.12 | | 3220.12 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 4,900 | 0.124 | 9.85 | 48,279.70 | 0.72 | 0.45 | 0.08 | 1.24 | 6,081.88 | | |
| Geotechnical Instrumentation | | | | | | | | | | | | | | | | |
| 226 | 6.1.13 | | 3220.13 | Survey Monuments | each | 4 | 1.810 | 147.75 | 591.00 | 331.00 | 66.00 | 27.79 | 424.79 | 1,699.16 | | |
| 227 | 6.1.14 | | 3220.14 | V-Notch Weirs | each | 2 | 2.831 | 219.98 | 439.96 | 1,576.21 | 2.65 | 110.52 | 1,689.38 | 3,378.76 | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | |
| CONCRETE INTAKE & GATE HOIST BUILDING | | | | | | | | | | | | | | | | |
| 228 | 6.1.15 | | 3220.15 | Concrete - Substructure below El. 45.5 m | m ³ | 143,305 | 4.615 | 350.33 | 50,204,613.87 | 183.57 | 62.10 | 17.20 | 262.87 | 37,670,754.45 | | |
| 229 | 6.1.16 | | 3220.16 | Concrete - Gate Hoist Building and Elevator Room above El. 45.5 m | m ³ | 1,646 | 9.934 | 744.03 | 1,224,678.32 | 192.27 | 113.91 | 21.43 | 327.61 | 539,243.29 | | |
| 230 | 6.1.17 | | 3220.17 | Overbreak Concrete | m ³ | 3,000 | 1.931 | 151.59 | 454,767.00 | 182.81 | 27.24 | 14.70 | 224.75 | 674,263.71 | | |
| 231 | 6.1.18 | | 3220.18 | Grout | m ³ | 30 | 2.337 | 184.95 | 5,548.62 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 39,682.08 | | |
| 232 | 6.1.19 | | 3220.19 | PVC Waterstop - TYPE A (150 mm width) | m | 8,611 | 0.267 | 21.14 | 182,027.93 | 11.02 | 0.13 | 0.78 | 11.93 | 102,715.11 | | |
| 233 | 6.1.20 | | 3220.20 | PVC Waterstop - TYPE B (225 mm width) | m | 876 | 0.267 | 21.14 | 18,517.76 | 17.94 | 0.13 | 1.26 | 19.33 | 16,935.50 | | |
| 234 | 6.1.21 | | 3220.21 | Sealing of Joints | m | 100 | 0.267 | 21.14 | 2,113.90 | 7.29 | 0.13 | 0.52 | 7.94 | 793.73 | | |
| 235 | 6.1.22 | | 3220.22 | Bituminous Coating at Construction Joints | m ² | 6,020 | 0.528 | 39.37 | 237,013.42 | 14.67 | 0.13 | 1.04 | 15.84 | 95,358.49 | | |
| 235A | 6.1.22A | | 3220.23 | Elastomeric Polyurea Membrane | m ² | 5,803 | 0.564 | 44.34 | 257,299.22 | 88.28 | 0.45 | 6.21 | 94.94 | 550,918.37 | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | |
| 236 | 6.1.23 | | 3220.24 | Reinforcement including Dowels | kg | 10,647,650 | 0.025 | 1.92 | 20,400,897.40 | 1.54 | 0.20 | 0.12 | 1.86 | 19,801,008.80 | | |
| INSTALLATION OF ANCHORS AND EMBEDDED PARTS PROVIDED BY OTHERS | | | | | | | | | | | | | | | | |
| 237 | 6.1.24 | | 3220.25 | Anchors, Templates and Angles in Primary Concrete for Intake Gates (12 Sets) | kg | 173,672 | 0.016 | 1.30 | 225,773.60 | 2.17 | 0.18 | 0.16 | 2.51 | 435,769.10 | | |
| 238 | 6.1.25 | | 3220.26 | Anchors and Templates in Primary Concrete for Intake Trashracks (12 Sets) | kg | 82,000 | 0.016 | 1.30 | 106,600.00 | 2.17 | 0.18 | 0.16 | 2.51 | 205,750.30 | | |
| 239 | 6.1.26 | | 3220.27 | Anchors, Templates and Angles in Primary Concrete for Intake Stoplogs (12 Sets) | kg | 151,021 | 0.016 | 1.30 | 196,327.30 | 2.17 | 0.18 | 0.16 | 2.51 | 378,934.34 | | |
| 6.2 | | 3290 | | INTAKE - ELECTRICAL WORK | | | | | | | | | | | | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | EXHIBIT 2 - APPENDIX A | | | | |
|---|--------------------------|------|---------|--|-----------------|-------------------------------|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | |
| | | | | | | | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| PRICE ITEM | WBS CODE | | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | | | | | | | |
| 240 | 6.2.1 | | 3290.01 | Exothermic Connections. | each | 600 | 2.400 | 234.24 | 140,544.00 | 146.48 | 0.00 | 10.25 | 156.74 | 94,042.09 |
| 240A | 6.2.1A | | 3290.02 | Mechanical Connections | each | 104 | 2.300 | 224.48 | 23,345.92 | 211.64 | 0.00 | 14.81 | 226.46 | 23,551.41 |
| 241 | 6.2.2 | | 3290.03 | Embedded Copper Grounding Plates | each | 6 | 4.000 | 390.40 | 2,342.40 | 453.87 | 0.00 | 31.77 | 485.64 | 2,913.86 |
| 242 | 6.2.3 | | 3290.04 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 2,100 | 0.414 | 40.42 | 84,873.60 | 60.28 | 0.00 | 4.22 | 64.50 | 135,446.91 |
| 243 | 6.2.4 | | 3290.05 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 1,900 | 0.224 | 21.88 | 41,572.00 | 27.71 | 0.00 | 1.94 | 29.65 | 56,338.50 |
| 243A | 6.2.5 | | 3290.06 | Rigid PVC Conduit, size 35mm | m | 9 | 1.500 | 146.40 | 1,317.60 | 66.31 | 0.00 | 4.64 | 70.95 | 638.58 |
| 243B | 6.2.6 | | 3290.07 | Rigid PVC Conduit, size 78mm | m | 20 | 1.050 | 102.48 | 2,049.60 | 75.29 | 0.00 | 5.27 | 80.56 | 1,611.25 |
| 243C | 6.2.7 | | 3290.06 | Rigid PVC Conduit, size 129mm | m | 300 | 5.400 | 527.04 | 158,112.00 | 95.00 | 30.00 | 8.75 | 133.75 | 40,125.00 |
| | | | | Heat Tracing of Drains | | | | | | | | | | |
| 243D | 6.2.8 | | 3290.07 | Heat Tracing Cable plus Accessories | m | 224 | 1.800 | 140.89 | 31,560.03 | 182.13 | 0.00 | 12.75 | 194.88 | 43,653.88 |
| 243E | 6.2.9 | | 3290.08 | Heat Tracing Controllers | each | 16 | 9.000 | 704.47 | 11,271.46 | 1,368.17 | 0.00 | 95.77 | 1,463.94 | 23,423.10 |
| SUB-TOTAL INTAKE STRUCTURE | | | | | | | | | \$ 74,653,744.40 | | | | | \$ 61,886,016.18 |
| | 7 | 3300 | | POWERHOUSE | | | | | | | | | | |
| | 7.1 | | 3310 | SUBSTRUCTURE | | | | | | | | | | |
| | | | | CIVIL WORK | | | | | | | | | | |
| | | | | Drilling, Pressure Grouting and Drainage | | | | | | | | | | |
| 244 | 7.1.1 | | 3310.01 | Grouting Holes | m | 800 | 0.889 | 72.56 | 58,050.40 | 37.13 | 118.99 | 10.93 | 167.05 | 133,636.15 |
| 245 | 7.1.2 | | 3310.02 | Grouting - Successful Connections | each | 160 | 3.375 | 275.50 | 44,079.68 | 109.47 | 480.84 | 41.32 | 631.63 | 101,061.41 |
| 246 | 7.1.3 | | 3310.03 | Dry Cement for Grouting | kg | 28,000 | 0.045 | 3.67 | 102,844.00 | 1.09 | 1.50 | 0.18 | 2.77 | 77,626.36 |
| 247 | 7.1.4 | | 3310.04 | Water Pressure Tests (Lugeon) | hour | 4 | 10.060 | 821.20 | 3,284.79 | 29.00 | 565.50 | 41.62 | 636.12 | 2,544.46 |
| 248 | 7.1.5 | | 3310.05 | Water Pressure Tests - Successful Connections | each | 10 | 1.450 | 118.36 | 1,183.64 | 120.00 | 57.00 | 12.39 | 189.39 | 1,893.90 |
| 249 | 7.1.6 | | 3310.06 | Uplift Gauges | m | 25 | 1.060 | 86.53 | 2,163.20 | 180.00 | 30.00 | 14.70 | 224.70 | 5,617.50 |
| 250 | 7.1.7 | | 3310.07 | Thermistors | each | 1 | 22.940 | 1,872.59 | 1,872.59 | 3,900.00 | 650.00 | 318.50 | 4,868.50 | 4,868.50 |
| 251 | 7.1.8 | | 3310.08 | Rotary/Percussion Drill Check Holes | m | 25 | 0.690 | 56.33 | 1,408.13 | 117.00 | 19.50 | 9.56 | 146.06 | 3,651.38 |
| 252 | 7.1.9 | | 3310.09 | Cored (Diamond drill) holes | m | 25 | 2.680 | 218.77 | 5,469.20 | 390.00 | 32.50 | 29.58 | 452.08 | 11,301.88 |
| | | | | Foundation preparation | | | | | | | | | | |
| 253 | 7.1.10 | | 3310.10 | Scaling and Water/Air Jet Cleaning of rock foundation | m ² | 10,400 | 0.124 | 9.85 | 102,471.20 | 0.72 | 0.45 | 0.08 | 1.24 | 12,908.48 |
| | | | | Trench for Interconnection Cables and Pipes | | | | | | | | | | |
| 254 | 7.1.11 | | 3310.11 | Excavation and Backfill | LS | 1 | 4,632.948 | 369,237.21 | 369,237.21 | 72,617.97 | 45,957.12 | 8,300.26 | 126,875.34 | 126,875.34 |
| 255 | 7.1.12 | | 3310.12 | Ductbank | LS | 1 | 6,012.412 | 433,959.01 | 433,959.01 | 111,829.00 | 7,614.31 | 8,361.03 | 127,804.35 | 127,804.35 |
| 256 | 7.1.13 | | 3310.13 | Manholes | each | 3 | 2.308 | 175.13 | 525.38 | 456.02 | 2.89 | 32.12 | 491.03 | 1,473.09 |
| | | | | CONCRETE WORK | | | | | | | | | | |
| 257 | 7.1.14 | | 3310.14 | Concrete - Powerhouse Substructure below El. 6.5 m | m ³ | 131,135 | 3.628 | 277.69 | 36,414,615.88 | 180.80 | 73.57 | 17.81 | 272.17 | 35,691,646.33 |
| 258 | 7.1.15 | | 3310.15 | Concrete - Substructure between lines 6 and 7, including Sump Pit, Shafts for Stair & Elevator up to El. 45.5m | m ³ | 14,882 | 10.543 | 790.85 | 11,769,429.70 | 193.05 | 137.54 | 23.14 | 353.73 | 5,264,276.98 |
| 259 | 7.1.16 | | 3310.16 | Concrete - Slabs and Walls between El. 6.5 and 15.5, including North and South Service Bays, Slab on grade, Basins and Bases for GSU transformer up to El. 16.8 m. Air vent enclosures on Powerhouse tailrace deck and North Service Bay, Access enclosure to stair no. 8 and Oil/Water separator enclosure. | m ³ | 6,692 | 9.971 | 748.36 | 5,008,051.89 | 191.17 | 131.23 | 22.57 | 344.96 | 2,308,497.21 |
| 260 | 7.1.17 | | 3310.17 | Concrete - Slab on Steel Deck including Mezzanines | m ³ | 3,718 | 1.839 | 144.83 | 538,481.66 | 187.97 | 36.83 | 15.74 | 240.53 | 894,296.93 |
| 261 | 7.1.18 | | 3310.18 | Secondary Concrete of Draft Tube Cone Steel liner | m ³ | 2,420 | 4.032 | 305.06 | 738,233.10 | 169.91 | 207.60 | 26.43 | 403.94 | 977,529.57 |
| 262 | 7.1.19 | | 3310.19 | Overbreak Concrete | m ³ | 8,500 | 1.970 | 155.47 | 1,321,469.50 | 184.58 | 39.47 | 15.68 | 239.74 | 2,037,752.94 |
| 263 | 7.1.20 | | 3310.20 | Grout | m ³ | 15 | 2.337 | 184.95 | 2,774.31 | 1,024.39 | 211.82 | 86.53 | 1,322.74 | 19,841.04 |
| 264 | 7.1.21 | | 3310.21 | PVC Waterstop - TYPE A (150 mm width) | m | 9,746 | 0.267 | 21.14 | 206,020.69 | 11.02 | 0.13 | 0.78 | 11.93 | 116,253.80 |
| 265 | 7.1.22 | | 3310.22 | PVC Waterstop - TYPE B (225 mm width) | m | 1,404 | 0.267 | 21.14 | 29,679.16 | 17.94 | 0.13 | 1.26 | 19.33 | 27,143.20 |
| 265A | 7.1.22A | | 3310.23 | PVC Waterstop - TYPE C (225 mm width) | m | 25 | 0.267 | 21.14 | 528.48 | 17.94 | 0.13 | 1.26 | 19.33 | 483.32 |
| 266 | 7.1.23 | | 3310.24 | Metallic Waterstop | m | 27 | 0.267 | 21.14 | 570.75 | 33.59 | 0.13 | 2.36 | 36.08 | 974.11 |
| 267 | 7.1.24 | | 3310.25 | Sealing of Joints | m | 300 | 0.267 | 21.14 | 6,341.70 | 7.29 | 0.13 | 0.52 | 7.94 | 2,381.18 |
| 268 | 7.1.25 | | 3310.26 | Polyethylene Foam Rod | m | 140 | 0.267 | 21.14 | 2,959.46 | 7.19 | 0.13 | 0.51 | 7.83 | 1,096.24 |
| 269 | 7.1.26 | | 3310.27 | Asphalt Impregnated Fibre Board | m ² | 70 | 0.528 | 39.37 | 2,755.97 | 320.69 | 0.13 | 22.46 | 343.28 | 24,029.27 |
| 270 | 7.1.27 | | 3310.28 | Bituminous Coating at Construction Joint | m ² | 6,300 | 0.528 | 39.37 | 248,037.30 | 14.67 | 0.13 | 1.04 | 15.84 | 99,793.76 |
| 271 | 7.1.28 | | 3310.29 | Soldrain 500 from Texel/Geosol | m ² | 170 | - | 0.00 | 0.00 | 9.89 | 0.00 | 0.69 | 10.58 | 1,798.99 |
| 271A | 7.1.28A | | 3310.30 | Elastomeric Polyurea Membrane | m ² | 678 | 0.564 | 44.34 | 30,061.84 | 88.28 | 0.45 | 6.21 | 94.94 | 64,367.16 |
| 271B | 7.1.28B | | 3310.31 | Polyflex 202 Membrane | m ² | 2,400 | 0.714 | 56.08 | 134,592.00 | 109.87 | 0.45 | 7.72 | 118.04 | 283,291.49 |
| | | | | Fire Walls at Tailrace Deck (Transformer Deck) | | | | | | | | | | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|--|-----------------|-------------------------------|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| 272 | 7.1.29 | | 3310.32 | Prefabricated Concrete Longitudinal Sandwich Fire Walls (Refer to attached sketches) | m² | 2,520 | 0.531 | 42.88 | 108,065.16 | 1,187.91 | 5.57 | 83.54 | 1,277.03 | 3,218,107.56 |
| 273 | 7.1.30 | | 3310.33 | Prefabricated Transversal Concrete Fire Walls | m² | 860 | 0.177 | 14.29 | 12,292.84 | 991.97 | 1.86 | 69.57 | 1,063.40 | 914,521.45 |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | |
| 274 | 7.1.31 | | 3310.34 | Reinforcement including Dowels | kg | 10,918,631 | 0.025 | 1.92 | 20,920,097.00 | 1.54 | 0.20 | 0.12 | 1.86 | 20,304,941.33 |
| 275 | 7.1.32 | | 3310.35 | Drill Holes and Grouting for Rock Dowels | m | 700 | 2.244 | 170.72 | 119,504.00 | 20.95 | 6.81 | 1.94 | 29.69 | 20,784.75 |
| 276 | 7.1.33 | | 3310.36 | Drill Holes for Anchors Diam. 25 mm with Epoxy Adhesive HIT-RE-500 | m | 100 | 2.244 | 170.72 | 17,072.00 | 20.95 | 6.81 | 1.94 | 29.69 | 2,969.25 |
| 277 | 7.1.34 | | 3310.37 | Threaded Rebar (Dia. 35 mm) with Couplers | kg | 800 | 0.023 | 1.75 | 1,400.00 | 1.38 | 0.01 | 0.10 | 1.48 | 1,182.99 |
| INSTALLATION OF ANCHORS AND EMBEDDED PARTS PROVIDED BY OTHERS | | | | | | | | | | | | | | |
| 278 | 7.1.35 | | 3310.38 | Anchors, Templates and Angles in Primary Concrete for Draft Tube Stoplogs (8 Sets) | kg | 55,370 | 0.016 | 1.30 | 71,981.00 | 2.17 | 0.18 | 0.16 | 2.51 | 138,931.64 |
| 279 | 7.1.36 | | 3310.39 | Anchors and Embedded Parts in Primary Concrete for T/G Units | kg | 64,000 | 0.016 | 1.30 | 83,200.00 | 2.17 | 0.18 | 0.16 | 2.51 | 160,585.60 |
| 279A | 7.1.37 | | 3310.40 | Installation of the lower portion of the circular passage for all 4 T/G Units - Optional (Refer to attached sketches) | kg | 59,200 | 0.061 | 4.93 | 291,678.40 | 0.68 | 0.88 | 0.11 | 1.67 | 99,133.36 |
| SUB-TOTAL POWERHOUSE - SUBSTRUCTURE | | | | | | | | | \$ 79,206,442.22 | | | | | \$ 73,287,874.24 |
| 7.2 3320 SUPERSTRUCTURE (Intake and Powerhouse) | | | | | | | | | | | | | | |
| STRUCTURAL STEEL | | | | | | | | | | | | | | |
| Beams - Rolled Sections, Painted | | | | | | | | | | | | | | |
| 280 | 7.2.1 | | 3320.01 | Beams Under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, girt channels, steel connections for prefab concrete panels and building attachment steel to upstream wall) | kg | 618,443 | 0.024 | 1.94 | 1,196,687.21 | 5.54 | 0.26 | 0.41 | 6.20 | 3,832,101.65 |
| 281 | 7.2.2 | | 3320.02 | Beams From 61 to 150 kg/m | kg | 359,270 | 0.019 | 1.51 | 541,779.16 | 5.04 | 0.20 | 0.37 | 5.61 | 2,015,892.71 |
| 282 | 7.2.3 | | 3320.03 | Beams Over 150 kg/m | kg | 316,266 | 0.016 | 1.29 | 409,248.20 | 4.53 | 0.17 | 0.33 | 5.03 | 1,592,193.74 |
| 282A | 7.2.3A | | 3320.04 | W Beam Stiffener (For Generator Floor Beams) | kg | 34,000 | 0.066 | 5.37 | 182,410.00 | 17.10 | 0.70 | 1.25 | 19.05 | 647,709.52 |
| 282B | 7.2.3B | | 3320.05 | W Beam Bearing Plate (For Generator Floor Beams) | kg | 11,200 | 0.048 | 3.87 | 43,332.80 | 14.12 | 0.51 | 1.02 | 15.65 | 175,313.94 |
| W Shape Columns - Rolled Sections, Painted | | | | | | | | | | | | | | |
| 283 | 7.2.4 | | 3320.06 | W Shape Columns Under 60 kg/m | kg | 1,697 | 0.024 | 1.94 | 3,283.70 | 6.73 | 0.26 | 0.49 | 7.47 | 12,681.48 |
| 284 | 7.2.5 | | 3320.07 | W Shape Columns from 61 to 150 kg/m | kg | 89,054 | 0.019 | 1.51 | 134,293.43 | 5.59 | 0.20 | 0.41 | 6.19 | 551,525.67 |
| 285 | 7.2.6 | | 3320.08 | W Shape Columns Over 150 kg/m | kg | 216,296 | 0.017 | 1.38 | 297,839.59 | 5.22 | 0.23 | 0.38 | 5.83 | 1,261,330.12 |
| Grade WT Beams - Rolled Sections, Galvanized | | | | | | | | | | | | | | |
| 285A | 7.2.6A | | 3320.09 | Grade WT Beams Under 60 kg/m | kg | 1,700 | 0.024 | 1.94 | 3,289.50 | 19.49 | 0.26 | 1.38 | 21.13 | 35,925.25 |
| 285B | 7.2.6B | | 3320.10 | Grade WT Beams From 61 to 150 kg/m | kg | 34,000 | 0.019 | 1.51 | 51,272.00 | 11.60 | 0.20 | 0.83 | 12.63 | 429,502.28 |
| 285C | 7.2.6C | | 3320.11 | Grade WT Beams Over 150 kg/m | kg | 267,300 | 0.022 | 1.75 | 468,042.30 | 7.67 | 0.28 | 0.56 | 8.51 | 2,273,787.45 |
| 285D | 7.2.6D | | 3320.12 | Grade WT Beams Bearing Plates | kg | 15,800 | 0.048 | 3.87 | 61,130.20 | 14.12 | 0.51 | 1.02 | 15.65 | 247,317.87 |
| 285E | 7.2.6E | | 3320.13 | Grade WT Beams Stiffener | kg | 11,200 | 0.066 | 5.37 | 60,088.00 | 17.10 | 0.70 | 1.25 | 19.05 | 213,363.14 |
| W Beams - Rolled Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | |
| 286 | 7.2.7 | | 3320.14 | W Beams Under 60 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 287 | 7.2.8 | | 3320.15 | W Beams from 61 to 150 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 288 | 7.2.9 | | 3320.16 | W Beams Over 150 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 289 | 7.2.10 | | 3320.17 | W Beam Stiffeners and Bent Plate at Openings | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 290 | 7.2.11 | | 3320.18 | W Beam Base Plate | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| WT Beams - Rolled Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | |
| 291 | 7.2.12 | | 3320.19 | WT Beams Under 60 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 292 | 7.2.13 | | 3320.20 | WT Beams Over 150 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 293 | 7.2.14 | | 3320.21 | WT Beam base plate | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columns - Rolled Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | |
| 294 | 7.2.15 | | 3320.22 | Columns from 61 to 150 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 295 | 7.2.16 | | 3320.23 | Columns Over 150 kg/m | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columns, Built-up Sections, Painted with Intumescent Paint | | | | | | | | | | | | | | |
| 296 | 7.2.17 | | 3320.24 | Main Building Columns, in Rolled Shapes & Plates, Welded Continuously. | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columns & Girders - Built up Sections, Painted | | | | | | | | | | | | | | |
| 297 | 7.2.18 | | 3320.25 | Crane Girders in Welded Plates, 700-800 kg/m | kg | 385,449 | 0.013 | 1.08 | 416,670.13 | 5.38 | 0.15 | 0.39 | 5.92 | 2,281,151.41 |
| 298 | 7.2.19 | | 3320.26 | Main Building Columns, in Rolled Shapes & Plates, Welded Continuously. | kg | 875,566 | 0.013 | 1.08 | 946,486.85 | 5.26 | 0.15 | 0.38 | 5.78 | 5,060,894.06 |
| Trusses, Painted | | | | | | | | | | | | | | |
| 299 | 7.2.20 | | 3320.27 | Roof trusses and Wind Trusses | kg | 275,598 | 0.024 | 1.94 | 533,281.75 | 5.71 | 0.26 | 0.42 | 6.38 | 1,758,721.89 |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|-------------------------------|--|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| | | | | Bracings, Struts and HSS Columns Painted | | | | | | | | | | | |
| 300 | 7.2.21 | | 3320.28 | Horizontal Bracing (WT Shapes) for roof and mezzanines | kg | 76,964 | 0.029 | 2.36 | 181,865.93 | 6.24 | 0.31 | 0.46 | 7.01 | 539,402.19 | |
| 301 | 7.2.22 | | 3320.29 | HSS Square Shapes for Vertical Bracing, Horizontal Bracing, Struts and HSS Columns (HSS Columns not covered in price item 304 (ref 7.2.25)) | kg | 189,724 | 0.029 | 2.36 | 448,317.59 | 6.19 | 0.31 | 0.45 | 6.95 | 1,318,920.74 | |
| | | | | Nelson Studs, not painted | | | | | | | | | | | |
| 302 | 7.2.23 | | 3320.30 | Nelson Studs (Dia. 19 and 13 mm) Welded Mezzanine Beams | kg | 3,305 | 0.058 | 4.71 | 15,576.47 | 14.94 | 0.61 | 1.09 | 16.64 | 54,997.32 | |
| 303 | 7.2.24 | | 3320.31 | Nelson Studs (Dia. 19 and 22 mm) Welded to Generator Floor Beams | kg | 15,000 | 0.058 | 4.71 | 70,695.00 | 10.09 | 0.61 | 0.75 | 11.45 | 171,751.05 | |
| | | | | Stairs, Hot dip Galvanized | | | | | | | | | | | |
| 304 | 7.2.25 | | 3320.32 | Stair Stringers in Channels (incl. Galvanized Beams and Columns for the stairs) | kg | 62,410 | 0.093 | 7.56 | 472,069.24 | 10.28 | 1.09 | 0.80 | 12.16 | 758,873.15 | |
| 305 | 7.2.26 | | 3320.33 | Stair Treads in Grating (308 mm by 914 mm), hot dip galvanized, Bent Checkered Plate Nosing, type "FLOWFORGE" by FISHER & LUDLOW or equal | each | 1,624 | 1.588 | 128.23 | 208,237.40 | 118.93 | 16.33 | 9.47 | 144.72 | 235,033.38 | |
| | | | | Landings and Walkways, Hot dip Galvanized | | | | | | | | | | | |
| 306 | 7.2.27 | | 3320.34 | Gratings for Landings at Stairs, type 24-102, Bearing Bars (of approx. 32X4.8) by FISHER and LUDLOW or equal | kg | 48,820 | 0.029 | 2.36 | 115,361.66 | 12.80 | 0.31 | 0.92 | 14.03 | 684,780.08 | |
| 307 | 7.2.28 | | 3320.35 | Bent Plate at Floor 15.5 | kg | 53,000 | 0.029 | 2.36 | 125,239.00 | 3.97 | 0.31 | 0.30 | 4.58 | 242,888.93 | |
| 308 | 7.2.29 | | 3320.36 | Steel Angle L102x102x7.9 at Floor 15.5 | kg | 2,400 | 0.029 | 2.36 | 5,671.20 | 5.03 | 0.31 | 0.37 | 5.72 | 13,723.39 | |
| | | | | Steel Decking | | | | | | | | | | | |
| 309 | 7.2.30 | | 3320.37 | Roof Deck type RD 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (Building roof and 10m door roof) | m ² | 8,250 | 0.362 | 28.40 | 234,333.00 | 112.63 | 13.00 | 8.79 | 134.42 | 1,108,954.69 | |
| 310 | 7.2.31 | | 3320.38 | Roof Deck type RD 938 (t=0.76mm) by VICWEST, Galvanized Z 275 (mezzanine roof) | m ² | 1,640 | 0.362 | 28.40 | 46,582.56 | 109.21 | 13.00 | 8.55 | 130.77 | 214,459.37 | |
| 310A | 7.2.31A | | 3320.39 | Roof Deck type RD 306 (t=1.22mm) VICWEST, Galvanized Z 275 (Main entrance roof) | m ² | 245 | 0.774 | 60.77 | 14,887.67 | 169.86 | 15.50 | 12.98 | 198.34 | 48,592.91 | |
| 311 | 7.2.32 | | 3320.40 | Floor Deck type HB 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 - Exterior (cover 3) | m ² | 1,550 | 0.774 | 60.77 | 94,187.30 | 169.86 | 15.50 | 12.98 | 198.34 | 307,424.54 | |
| 311A | 7.2.32A | | 3320.41 | Floor Deck type HB 938 (t=0.91mm) by VICWEST, Galvanized Z 275 (Stair 10 roof) | m ² | 55 | 0.362 | 28.40 | 1,562.22 | 112.63 | 13.00 | 8.79 | 134.42 | 7,393.03 | |
| 311B | 7.2.32B | | 3320.42 | Floor Deck type HB 306 (t=0.91mm) by VICWEST, Galvanized Z 275 (mezzanine floors) | m ² | 3,550 | 0.362 | 28.40 | 100,834.20 | 112.63 | 13.00 | 8.79 | 134.42 | 477,186.56 | |
| 312 | 7.2.33 | | 3320.43 | Floor Deck type RD 306 (t=1.22 mm) by VICWEST, Galvanized Z 275 (Generator Floor) | m ² | 5,150 | 0.774 | 60.77 | 312,944.90 | 187.17 | 15.50 | 14.19 | 216.86 | 1,116,829.57 | |
| 312A | 7.2.33A | | 3320.44 | Cladding CL508 (t=0.76mm) by VICWEST, Galvanized Z 275 (Cover C8) | m ² | 275 | 0.362 | 28.40 | 7,811.10 | 162.68 | 13.00 | 12.30 | 187.98 | 51,693.55 | |
| | | | | Crane Rails Accessories | | | | | | | | | | | |
| 313 | 7.2.34 | | 3320.45 | Tie-Back Linkage Assemblies by GANTREX, type TL123GP, includes Plates, Angles, Shims, "O" Rings, Bolts and Permanent Lubrication | each | 96 | 0.184 | 14.87 | 1,427.33 | 1,514.53 | 2.03 | 106.16 | 1,622.71 | 155,780.43 | |
| | | | | Anchor Bolts | | | | | | | | | | | |
| 314 | 7.2.35 | | 3320.46 | Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 19 and 25 mm), U-Bolt assembly and Nuts A563, hot dip galvanized, by PORTLAND or equal | kg | 5,960 | 0.058 | 4.71 | 28,089.48 | 2.68 | 0.61 | 0.23 | 3.52 | 20,980.99 | |
| 315 | 7.2.36 | | 3320.47 | Anchor Bolts Steel Grade 55 ASTM F1554 (Dia. 28, 38 and 51 mm), Nuts A563, hot dip galvanized, by PORTLAND or equal | kg | 22,800 | 0.058 | 4.71 | 107,456.40 | 3.21 | 0.61 | 0.27 | 4.09 | 93,217.12 | |
| | | | | Guardrails in Pipes, Hot dip Galvanized | | | | | | | | | | | |
| 316 | 7.2.37 | | 3320.48 | Guardrails in Pipes for Mezzanine, Stairs and Covers, with Kick Plate, Posts in DN32-XS and Railings in DN32-Std (in miscellaneous and Structural Steel Drawings) | kg | 47,250 | 0.064 | 5.14 | 242,912.25 | 12.97 | 0.66 | 0.95 | 14.59 | 689,300.96 | |
| 317 | 7.2.38 | | 3320.49 | Guardrails of Intake Deck (W and HSS shapes) | kg | 17,750 | 0.080 | 6.42 | 114,008.25 | 14.94 | 0.83 | 1.10 | 16.87 | 299,435.76 | |
| | | | | Hilti Bolts | | | | | | | | | | | |
| 318 | 7.2.39 | | 3320.50 | Hilti KWIK Bolts 3 (Dia. 25 mm) 304 SS | each | 525 | 0.000 | 0.03 | 17.33 | 32.82 | 0.00 | 2.30 | 35.12 | 18,438.88 | |
| 319 | 7.2.40 | | 3320.51 | Hilti KWIK Bolts 3 (Dia. 10 mm and 19 mm) hot dip galvanized | each | 630 | 0.000 | 0.02 | 12.60 | 6.63 | 0.00 | 0.46 | 7.10 | 4,472.65 | |
| 320 | 7.2.41 | | 3320.52 | Hilti Adhesive Anchors, HAS rods (Dia. 19 mm) HIT RE-500 , hot dip galvanized | each | 200 | 0.000 | 0.02 | 4.00 | 13.26 | 0.00 | 0.93 | 14.19 | 2,838.28 | |
| | | | | Joists | | | | | | | | | | | |
| 321 | 7.2.42 | | 3320.53 | Steel Joists, by CANAM or equal | kg | 2,100 | 0.058 | 4.71 | 9,897.30 | 6.86 | 0.61 | 0.52 | 7.99 | 16,776.10 | |
| | | | | Elastomeric pad | | | | | | | | | | | |
| 322 | 7.2.43 | | 3320.54 | Elastomeric Pad at Attachment Axis E | each | 40 | 0.330 | 26.46 | 1,058.32 | 82.55 | 3.18 | 6.00 | 91.73 | 3,669.33 | |
| | | | | Intumescent Paint (for application on Steel Beams and Columns) | | | | | | | | | | | |
| 322A | 7.2.43A | | 3320.55 | Intumescent Paint | m ² | 3,550 | 3.017 | 236.94 | 841,119.25 | 185.19 | 0.13 | 12.97 | 198.29 | 703,930.42 | |
| | | | | MISCELLANEOUS STEEL | | | | | | | | | | | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--|--------------------------------|-------------------------------|--|
| ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| Miscellaneous Structural Steel, Hot dip Galvanized | | | | | | | | | | | | | | | |
| 323 | 7.2.44 | | 3320.56 | Miscellaneous Structural Steel - Embedded | kg | 104,968 | 0.040 | 3.22 | 337,682.06 | 8.67 | 0.42 | 0.64 | 9.73 | 1,020,837.94 | |
| 324 | 7.2.45 | | 3320.57 | Miscellaneous Structural Steel, L Shapes, Plates, Eye bolts, Crosby Type Pieces, Bent Plates and W shapes in miscellaneous steel section drawings | kg | 189,908 | 0.058 | 4.71 | 895,036.40 | 9.00 | 0.61 | 0.67 | 10.29 | 1,953,579.80 | |
| 325 | 7.2.46 | | 3320.58 | Checked Plates | kg | 102,014 | 0.016 | 1.29 | 132,006.12 | 6.25 | 0.17 | 0.45 | 6.88 | 701,648.21 | |
| 326 | 7.2.47 | | 3320.59 | Embedded angles related to typical detail for stel deck on dwg : MFA-SN-CD-3320-ST-DD-0005-01 | kg | 832 | 0.040 | 3.22 | 2,676.54 | 8.92 | 0.42 | 0.65 | 9.99 | 8,315.73 | |
| 327 | 7.2.48 | | 3320.60 | Contraction joint related to section E-E on the drawing : MFA-SN-CD-3300-CV-DD-0003-01 | m | 40 | 0.267 | 21.14 | 845.56 | 20.99 | 0.13 | 1.48 | 22.60 | 903.85 | |
| 328 | 7.2.49 | | 3320.61 | Contraction joint related to section F-F on the drawing: MFA-SN-CD-3300-CV-DD-0003-01 | m | 50 | 0.267 | 21.14 | 1,056.95 | 25.89 | 0.13 | 1.82 | 27.84 | 1,391.96 | |
| 329 | 7.2.50 | | 3320.62 | Contraction joint related to section K-K on the drawing: MFA-SN-CD-3300-CV-DD-0003-01 | m | 122 | 0.267 | 21.14 | 2,578.96 | 28.54 | 0.13 | 2.01 | 30.67 | 3,742.32 | |
| Miscellaneous Stainless steel | | | | | | | | | | | | | | | |
| 330 | 7.2.51 | | 3320.63 | Miscellaneous Stainless Steel for MK1, MK2 and Covers C9, C10, C11 and C11A | kg | 4,721 | 0.132 | 10.70 | 50,499.03 | 13.20 | 1.37 | 1.02 | 15.59 | 73,597.72 | |
| Crane Rails, rust preventive coating | | | | | | | | | | | | | | | |
| 331 | 7.2.52 | | 3320.64 | Rail type BETH 175, includes Splices and Aluminothermic Welds, for Crane Girders and for Trash Cleaner | m | 720 | 1.391 | 112.35 | 80,894.16 | 349.24 | 15.14 | 25.51 | 389.89 | 280,718.35 | |
| 332 | 7.2.53 | | 3320.65 | Rail type Beth 104 with Aluminothermic Welds | m | 315 | 0.827 | 66.78 | 21,036.65 | 175.30 | 9.00 | 12.90 | 197.21 | 62,120.00 | |
| Crane Rails Accessories | | | | | | | | | | | | | | | |
| 333 | 7.2.54 | | 3320.66 | GANTREX Rail Clip type WELDLOK 43 with Rubber Nosing for Crane Girders and Trash Cleaner | each | 2,160 | 0.056 | 4.55 | 9,830.16 | 46.95 | 0.63 | 3.33 | 50.91 | 109,962.27 | |
| 334 | 7.2.55 | | 3320.67 | GANTREX rail clip type WELDLOK 24 with Rubber Nosing, hot dip galvanized | each | 1,060 | 0.015 | 1.18 | 1,253.98 | 22.88 | 0.16 | 1.61 | 24.66 | 26,135.37 | |
| Ladders, Hot dip Galvanized | | | | | | | | | | | | | | | |
| 335 | 7.2.56 | | 3320.68 | Ladders with or without Cage, and Self-Closing Gates (in miscellaneous and structural steel drawings) | kg | 15,000 | 0.053 | 4.29 | 64,290.00 | 5.32 | 0.56 | 0.41 | 6.28 | 94,229.55 | |
| Plates, Painted / Hot dip Galvanized | | | | | | | | | | | | | | | |
| 336 | 7.2.57 | | 3320.69 | Plates 350 x 20, Under Rails BETH 175, Painted with Primer Plates 300 x 20 Under Rails BETH 175, hot dip galvanized | kg | 35,500 | 0.066 | 5.35 | 190,067.00 | 7.89 | 0.69 | 0.60 | 9.18 | 325,797.35 | |
| Landings, Walkways and Covers, Hot dip Galvanized | | | | | | | | | | | | | | | |
| 337 | 7.2.58 | | 3320.70 | All types of grating not covered in price item 305 (ref 7.2.26) and price item 306 (ref 7.2.27) (in miscellaneous and structural steel drawings) | kg | 81,748 | 0.066 | 5.35 | 437,678.79 | 6.44 | 0.69 | 0.50 | 7.63 | 624,013.55 | |
| 338 | 7.2.59 | | 3320.71 | Grating at EL 45.5 on Intake Deck, Special Order | kg | 0 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ARCHITECTURE WORKS | | | | | | | | | | | | | | | |
| METAL CLADDING & ROOFING | | | | | | | | | | | | | | | |
| 339 | 7.2.60 | | 3320.72 | Insulated Metal Wall Panels (Sandwiched Panels. VicWest & Kingspan; refer to them as Composite Metal Building Panels) | m ² | 7,323 | 2.919 | 233.17 | 1,707,467.30 | 210.81 | 67.29 | 19.47 | 297.56 | 2,179,028.29 | |
| 340 | 7.2.61 | | 3320.73 | Preformed Metal Siding (Vertical Metal Siding fastened to Steel Stud Wall) | m ² | 508 | 3.473 | 276.68 | 140,554.96 | 159.91 | 21.16 | 12.68 | 193.75 | 98,425.67 | |
| 341 | 7.2.62 | | 3320.74 | Preformed Metal Siding & Framing (for Snow Baffles over louvers) | m ² | 112 | 3.473 | 276.68 | 30,988.50 | 148.99 | 21.16 | 11.91 | 182.07 | 20,391.50 | |
| 342 | 7.2.63 | | 3320.75 | Metal Liner Panel, Insulation & Z-Bars (attached to interior of pre-cast concrete fire wall) | m ² | 460 | 2.919 | 233.17 | 107,255.90 | 229.14 | 87.29 | 22.15 | 338.58 | 155,745.86 | |
| 343 | 7.2.64 | | 3320.76 | Modified Bituminous Membrane Roofing System | m ² | 8,416 | 0.221 | 17.87 | 150,377.09 | 327.85 | 2.32 | 23.11 | 353.28 | 2,973,220.47 | |
| 344 | 7.2.65 | | 3320.77 | Sealants (including for roofing & wall systems and pre-cast concrete fire wall joints) | LS | 1 | 639.876 | 51,666.28 | 51,666.28 | 14,350.84 | 6,715.50 | 1,474.64 | 22,540.98 | 22,540.98 | |
| 345 | 7.2.66 | | 3320.78 | Signage (Nalcor & Logo, Muskrat Falls Generating Station) | LS | 1 | 195.178 | 15,759.51 | 15,759.51 | 4,819.86 | 2,048.39 | 480.78 | 7,349.03 | 7,349.03 | |
| 346 | 7.2.67 | | 3320.79 | Roof Curb for Exhaust Fans | each | 9 | 13.277 | 1,072.08 | 9,648.68 | 1,242.08 | 139.35 | 96.70 | 1,478.13 | 13,303.13 | |
| 347 | 7.2.68 | | 3320.80 | Roof Curb for Exhaust Hood | each | 1 | 13.277 | 1,072.08 | 1,072.08 | 1,870.36 | 139.35 | 140.68 | 2,150.38 | 2,150.38 | |
| 348 | 7.2.69 | | 3320.81 | Roof Curb for Chimney | each | 1 | 13.277 | 1,072.08 | 1,072.08 | 1,189.39 | 139.35 | 93.01 | 1,421.75 | 1,421.75 | |
| 349 | 7.2.70 | | 3320.82 | Flashing for Roof Drains | each | 25 | 1.593 | 128.65 | 3,216.23 | 254.77 | 16.72 | 19.00 | 290.50 | 7,262.44 | |
| 350 | 7.2.71 | | 3320.83 | Flashing for Plumbing Vents | each | 6 | 1.593 | 128.65 | 771.89 | 166.97 | 16.72 | 12.86 | 196.55 | 1,179.29 | |
| OPENINGS | | | | | | | | | | | | | | | |
| 351 | 7.2.72 | | 3320.84 | Exterior Metal Insulated Doors - Double | each | 7 | 7.966 | 643.25 | 4,502.72 | 1,157.65 | 83.61 | 86.89 | 1,328.15 | 9,297.04 | |
| 352 | 7.2.73 | | 3320.85 | Exterior Metal Insulated Doors - Single | each | 14 | 5.311 | 428.83 | 6,003.62 | 919.84 | 55.74 | 68.29 | 1,043.87 | 14,614.20 | |
| 353 | 7.2.74 | | 3320.86 | Aluminium Entrance Door (Insulated) | each | 1 | 7.966 | 643.25 | 643.25 | 1,902.69 | 83.61 | 139.04 | 2,125.34 | 2,125.34 | |
| 354 | 7.2.75 | | 3320.87 | Sectional Metal Insulated Door | each | 2 | 26.555 | 2,144.15 | 4,288.30 | 8,221.80 | 278.69 | 595.03 | 9,095.53 | 18,191.06 | |
| 355 | 7.2.76 | | 3320.88 | Aluminium Windows (32 Windows max) | m ² | 154 | 5.311 | 428.83 | 66,039.82 | 1,635.61 | 55.74 | 118.39 | 1,809.75 | 278,701.15 | |
| 356 | 7.2.77 | | 3320.89 | Concrete Unit Masonry (Exterior) | m ² | 21 | 5.311 | 428.83 | 9,005.43 | 429.66 | 55.74 | 33.98 | 519.37 | 10,906.80 | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | | EXHIBIT 2 - APPENDIX A 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--|--------------------------------|--------------------------------|--------------------------------|--|--------------------------------|-------------------------------|---------------|
| ISSUED FOR: AGREEMENT | | | | DATE: 28-OCT-2013 | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | | | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | MAN HOURS (AT SITE) per UNIT | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G | |
| FIRE & SAFETY ITEMS | | | | | | | | | | | | | | | |
| 357 | 7.2.78 | | 3320.90 | Roof Anchors & Safety Restraints | each | 45 | 6.639 | 536.04 | 24,121.71 | 476.67 | 69.67 | 38.24 | 584.59 | 26,306.46 | |
| SPECIAL DOORS | | | | | | | | | | | | | | | |
| 358 | 7.2.79 | | 3320.91 | Multi-Leaf Vertical Lift Metal Insulated Door | each | 1 | 5.311 | 428.83 | 428.83 | 2,938.65 | 55.74 | 209.61 | 3,204.00 | 3,204.00 | |
| ELECTRICAL WORK | | | | | | | | | | | | | | | |
| EXTERIOR BUILDING LIGHTING | | | | | | | | | | | | | | | |
| 358A | 7.2.80 | | 3320.92 | Exterior lighting fixtures, HPS, 347 V AC, complete with conduit, junction box, wiring and JB mounting plates | each | 23 | 51.000 | 4,977.60 | 114,484.80 | 3,944.04 | 650.00 | 321.58 | 4,915.62 | 113,059.23 | |
| ROOF METAL SLEEVE | | | | | | | | | | | | | | | |
| 358B | 7.2.81 | | 3320.93 | Metal sleeves for cable passage for roof exhaust fans | each | 9 | 9.500 | 927.20 | 8,344.80 | 615.65 | 110.00 | 50.80 | 776.45 | 6,988.03 | |
| SLEEVE IN METAL SIDING WALL OF THE POWERHOUSE | | | | | | | | | | | | | | | |
| 358C | 7.2.82 | | 3320.94 | Sleeve in metal siding wall complete with conduit, junction box and JB mounting plates as per detail 1 on DWG MFA-SN-CD-3340-EL-EL-0001-02 | each | 13 | 10.000 | 976.00 | 12,688.00 | 835.33 | 100.00 | 65.47 | 1,000.81 | 13,010.50 | |
| 358D | 7.2.83 | | 3320.95 | Sleeve in metal siding wall on the right jamb of the multi-leaf door complete with conduit, junction box and JB mounting plates as per detail 2 on DWG MFA-SN-CD-3340-EL-EL-0001-02 | each | 1 | 20.000 | 1,952.00 | 1,952.00 | 1,265.78 | 100.00 | 95.60 | 1,461.38 | 1,461.38 | |
| SUB-TOTAL POWERHOUSE - SUPERSTRUCTURE | | | | | | | | | \$ | 13,851,099.86 | | | | \$ | 43,018,035.50 |
| TURBINE GENERATOR AND ANCILLARIES | | | | | | | | | | | | | | | |
| ELECTRICAL WORK | | | | | | | | | | | | | | | |
| 359 | 8.1.1 | 3400 | 3430.01 | Exothermic Connections | each | 1225 | 2.400 | 234.24 | 286,944.00 | 146.48 | 0.00 | 10.25 | 156.74 | 192,002.59 | |
| 359A | 8.1.1A | | 3430.02 | Mechanical Connections | each | 40 | 2.300 | 224.48 | 8,979.20 | 211.64 | 0.00 | 14.81 | 226.46 | 9,058.23 | |
| 360 | 8.1.2 | | 3430.03 | Embedded Copper Grounding Plates | each | 65 | 4.000 | 390.40 | 25,376.00 | 453.87 | 0.00 | 31.77 | 485.64 | 31,566.80 | |
| 361 | 8.1.3 | | 3430.04 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil | m | 5200 | 0.414 | 40.42 | 210,163.20 | 60.28 | 0.00 | 4.22 | 64.50 | 335,392.36 | |
| 362 | 8.1.4 | | 3430.05 | Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG | m | 1800 | 0.224 | 21.88 | 39,384.00 | 27.71 | 0.00 | 1.94 | 29.65 | 53,373.31 | |
| 362A | 8.1.4A | | 3430.06 | Rigid PVC Conduit, size 53mm | m | 15 | 2.000 | 195.20 | 2,928.00 | 108.25 | 0.00 | 7.58 | 115.82 | 1,737.35 | |
| 363 | 8.1.5 | | 3430.07 | Rigid PVC Conduit, size 78mm | m | 50 | 1.050 | 102.48 | 5,124.00 | 75.29 | 0.00 | 5.27 | 80.56 | 4,028.12 | |
| 364 | 8.1.6 | | 3430.08 | Rigid PVC Conduit, size 129mm | m | 325 | 2.200 | 214.72 | 69,784.00 | 155.89 | 25.00 | 12.66 | 193.55 | 62,903.80 | |
| 365 | 8.1.7 | | 3430.09 | Rigid Galvanized Steel Conduits, size 103 mm | m | 100 | 5.400 | 527.04 | 52,704.00 | 95.00 | 30.00 | 8.75 | 133.75 | 13,375.00 | |
| 366 | 8.1.8 | | 3430.10 | High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp | each | 46 | 21.850 | 2,132.56 | 98,097.76 | 1,933.80 | 0.00 | 135.37 | 2,069.17 | 95,181.73 | |
| 367 | 8.1.9 | | 3430.11 | High Bay Light Fixture, Metal Halide, 347 Vac, complete with 1000 W lamp and Quartz auxiliary lamp | each | 23 | 22.604 | 2,206.13 | 50,741.06 | 1,961.94 | 0.00 | 137.34 | 2,099.27 | 48,283.27 | |
| 368 | 8.1.10 | | 3430.12 | Panelboard, 600/347 Vac, 3 phase, 4 wire, 42 circuit, surface mounted sprinkler-proof enclosure, complete with breakers as indicated | each | 3 | 35.000 | 3,416.00 | 10,248.00 | 6,037.77 | 0.00 | 422.64 | 6,460.42 | 19,381.25 | |
| 369 | 8.1.11 | | 3430.13 | Dry-Type Transformer, 75 kVA, 600-600/347 Vac | each | 3 | 39.087 | 3,814.93 | 11,444.80 | 9,117.28 | 0.00 | 638.21 | 9,755.49 | 29,266.46 | |
| 370 | 8.1.12 | | 3430.14 | Disconnect Switch, 600 V, 3 phase, complete with fuses | each | 3 | 12.322 | 1,202.63 | 3,607.88 | 1,581.01 | 0.00 | 110.67 | 1,691.68 | 5,075.03 | |
| 371 | 8.1.13 | | 3430.15 | Lighting Contactor Control Panel | each | 2 | 16.063 | 1,567.74 | 3,135.48 | 2,437.34 | 0.00 | 170.61 | 2,607.95 | 5,215.90 | |
| 372 | 8.1.14 | | 3430.16 | ON-OFF Pushbutton Control Station | each | 4 | 11.377 | 1,110.35 | 4,441.39 | 1,039.28 | 0.00 | 72.75 | 1,112.03 | 4,448.13 | |
| 373 | 8.1.15 | | 3430.17 | Teck Cables, 2C # 12 AWG | m | 900 | 0.204 | 19.89 | 17,901.90 | 17.63 | 0.00 | 1.23 | 18.87 | 16,981.54 | |
| 374 | 8.1.16 | | 3430.18 | Teck Cables, 3C # 12 AWG | m | 500 | 0.221 | 21.56 | 10,779.00 | 18.71 | 0.00 | 1.31 | 20.02 | 10,008.78 | |
| 375 | 8.1.17 | | 3430.19 | Teck Cables, 2C # 10 AWG | m | 400 | 0.221 | 21.56 | 8,623.20 | 19.78 | 0.00 | 1.38 | 21.16 | 8,465.84 | |
| 376 | 8.1.18 | | 3430.20 | Teck Cables, 4C # 10 AWG | m | 500 | 0.272 | 26.51 | 13,255.00 | 25.06 | 0.00 | 1.75 | 26.81 | 13,404.96 | |
| 377 | 8.1.19 | | 3430.21 | Temporary Feeder Cables to lighting transformers/panelboards, etc. | LS | 1 | 61.789 | 6,030.64 | 6,030.64 | 4,421.97 | 0.00 | 309.54 | 4,731.51 | 4,731.51 | |
| SUB-TOTAL POWERHOUSE - ELECTRICAL WORK | | | | | | | | | \$ | 939,692.50 | | | | \$ | 963,881.97 |
| MECHANICAL WORK | | | | | | | | | | | | | | | |
| 378 | 8.2.1 | 3440 | 3351 | HVAC System | LS | 1 | 2,164.000 | 187,556.04 | 187,556.04 | 845,720.64 | 33,000.00 | 61,510.44 | 940,231.08 | 940,231.08 | |
| | | | 3351.01 | Pipe and Fittings NPS 6, Piping Specification PA03 | m | 86 | | | | | | | | | |
| | | | 3351.02 | Pipe and Fittings NPS 21, Piping Specification PA03 | m | 81 | | | | | | | | | |
| | | | 3351.03 | Pipe and Fittings NPS 24, Piping Specification PA03 | m | 101 | | | | | | | | | |
| | | | 3351.04 | HVAC Louvers | LS | 1 | | | | | | | | | |
| 379 | 8.2.2 | | 3352 | Domestic Wastewater System | LS | 1 | 9,218.000 | 798,933.28 | 798,933.28 | 1,415,813.91 | 253,100.00 | 116,823.97 | 1,785,737.88 | 1,785,737.88 | |
| | | | 3352.01 | Pipe and Fittings NPS 3, Piping Specification PA04 (HDPE-DR11) | m | 900 | | | | | | | | | |
| | | | 3352.02 | Equipments and Other Components | LS | 1 | | | | | | | | | |

See Note 1

See Note 1

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|--|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | |
| | | | | | | | | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| | | | 3352.03 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 380 | 8.2.3 | | 3353 | Wastewater System | LS | 1 | 1,820.000 | 157,741.22 | 157,741.22 | 873,501.11 | 55,000.00 | 64,995.08 | 993,496.19 | 993,496.19 |
| | | | 3353.01 | Pipe and Fittings NPS 1 1/2, Piping Specification PA01 | m | 2 | | | | | | | | |
| | | | 3353.02 | Pipe and Fittings NPS 2, Piping Specification PA01 | m | 2 | | | | | | | | |
| | | | 3353.03 | Pipe and Fittings NPS 3, Piping Specification PA01 | m | 10 | | | | | | | | |
| | | | 3353.04 | Pipe and Fittings NPS 4, Piping Specification PA01 | m | 29 | | | | | | | | |
| | | | 3353.05 | Pipe and Fittings NPS 3, Piping Specification PA04 (HDPE-DR11) | m | 160 | | | | | | | | |
| | | | 3353.06 | Flexible corrugated perforated HDPE Pipe NPS 4, covered With A Geotextile | m | 100 | | | | | | | | |
| | | | 3353.07 | NPS 4, PERFORATED SOLVENT WELD SEWER PIPE CERTIFIED: CSA B182.1 AND BNQ NQ3624-050 | m | 250 | | | | See Note 1 | | | | |
| | | | 3353.08 | NPS 4, SOLVENT WELD SEWER PIPE CERTIFIED: CSA B182.1 | m | 35 | | | | | | | | |
| | | | 3353.09 | Septic Tile Field | LS | 1 | | | | | | | | |
| | | | 3353.10 | Roof vent | each | 2 | | | | | | | | |
| | | | 3353.11 | Equipments and Other Components | LS | 1 | | | | | | | | |
| | | | 3353.12 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 381 | 8.2.4 | | 3441 | Low Pressure Compressed Air System | LS | 1 | 235.000 | 20,367.69 | 20,367.69 | 121,060.17 | 30,000.00 | 10,574.21 | 161,634.38 | 161,634.38 |
| | | | 3441.01 | Pipe and Fittings NPS 2, Piping Specification SB11 | m | 49 | | | | | | | | |
| | | | 3441.02 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | See Note 1 | | | | |
| 382 | 8.2.5 | | 3443 | Fire Protection System | LS | 1 | 917.000 | 79,477.31 | 79,477.31 | 129,850.75 | 60,000.00 | 13,289.55 | 203,140.31 | 203,140.31 |
| | | | 3443.01 | Pipe and Fittings NPS 8, Piping Specification CB12 | m | 10 | | | | | | | | |
| | | | 3443.02 | Pipe and Fittings NPS 10, Piping Specification CB12 | m | 60 | | | | | | | | |
| | | | 3443.03 | Pipe and Fittings NPS 2 1/2, Piping Specification SB12 | m | 37 | | | | See Note 1 | | | | |
| | | | 3443.04 | Pipe and Fittings NPS 4, Piping Specification SB12 | m | 2 | | | | | | | | |
| | | | 3443.05 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 383 | 8.2.6 | | 3444 | Clear Water Drainage System | LS | 1 | 18,499.200 | 1,603,344.16 | 1,603,344.16 | 1,934,632.68 | 456,360.00 | 167,369.49 | 2,558,362.17 | 2,558,362.17 |
| | | | 3444.01 | Pipe and Fittings NPS 3, Piping Specification PA01 | m | 3 | | | | | | | | |
| | | | 3444.02 | Pipe and Fittings NPS 4, Piping Specification PA01 | m | 121 | | | | | | | | |
| | | | 3444.03 | Pipe and Fittings NPS 6, Piping Specification PA01 | m | 330 | | | | | | | | |
| | | | 3444.04 | Pipe and Fittings NPS 8, Piping Specification PA02 | m | 664 | | | | | | | | |
| | | | 3444.05 | Pipe and Fittings NPS 2, Piping Specification CB11 | m | 79 | | | | | | | | |
| | | | 3444.06 | Pipe and Fittings NPS 3, Piping Specification CB11 | m | 420 | | | | | | | | |
| | | | 3444.07 | Pipe and Fittings NPS 4, Piping Specification CB11 | m | 1,146 | | | | | | | | |
| | | | 3444.08 | Pipe and Fittings NPS 6, Piping Specification CB11 | m | 875 | | | | | | | | |
| | | | 3444.09 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 149 | | | | See Note 1 | | | | |
| | | | 3444.10 | Pipe and Fittings NPS 10, Piping Specification CB11 | m | 139 | | | | | | | | |
| | | | 3444.11 | Pipe and Fittings NPS 12, Piping Specification CB11 | m | 130 | | | | | | | | |
| | | | 3444.12 | Pipe and Fittings NPS 16, Piping Specification CB11 | m | 19 | | | | | | | | |
| | | | 3444.13 | Pipe and Fittings NPS 24, Piping Specification CB11 | m | 20 | | | | | | | | |
| | | | 3444.14 | Equipments and Other Components | LS | 1 | | | | | | | | |
| | | | 3444.15 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| | | | 3444.16 | Roof drains and accessories | each | 32 | | | | | | | | |
| 384 | 8.2.7 | | 3445 | Dewatering System | LS | 1 | 9,009.000 | 780,819.04 | 780,819.04 | 1,260,888.84 | 330,000.00 | 111,362.22 | 1,702,251.06 | 1,702,251.06 |
| | | | 3445.01 | Pipe and Fittings NPS 3/4, Piping Specification SB11 | m | 1 | | | | | | | | |
| | | | 3445.02 | Pipe and Fittings NPS 1, Piping Specification SB11 | m | 3 | | | | | | | | |
| | | | 3445.03 | Pipe and Fittings NPS 2, Piping Specification SB11 | m | 12 | | | | | | | | |
| | | | 3445.04 | Pipe and Fittings NPS 4, Piping Specification CB11 | m | 32 | | | | | | | | |
| | | | 3445.05 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 33 | | | | | | | | |
| | | | 3445.06 | Pipe and Fittings NPS 12, Piping Specification CB11 | m | 242 | | | | See Note 1 | | | | |
| | | | 3445.07 | Pipe and Fittings NPS 20, Piping Specification CB11 | m | 235 | | | | | | | | |
| | | | 3445.08 | Pipe and Fittings NPS 24, Piping Specification CB11 | m | 110 | | | | | | | | |
| | | | 3445.09 | Pipe and Fittings NPS 30, Piping Specification CB11 | m | 39 | | | | | | | | |
| | | | 3445.10 | Equipment and Other Components | LS | 1 | | | | | | | | |
| | | | 3445.11 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 385 | 8.2.8 | | 3447 | Oily Water Drainage System | LS | 1 | 3,721.000 | 322,502.79 | 322,502.79 | 443,849.32 | 252,000.00 | 48,709.45 | 744,558.77 | 744,558.77 |
| | | | 3447.01 | Pipe and Fittings NPS 3, Piping Specification CB11 | m | 9 | | | | | | | | |
| | | | 3447.02 | Pipe and Fittings NPS 4, Piping Specification CB11 | m | 6 | | | | | | | | |

| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|---|-----------------|-------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--|----------------------------------|--------------------------------|-------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | |
| | | | | | | | | | | | 505573-CH0007-51AF-I-2111 Rev. 10T | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| | | | 3447.03 | Pipe and Fittings NPS 6, Piping Specification CB11 | m | 30 | | | | | | | | |
| | | | 3447.04 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 19 | | | | | | | | |
| | | | 3447.05 | Pipe and Fittings NPS 14, Piping Specification CB11 | m | 70 | | | | | | | | |
| | | | 3447.06 | Pipe and Fittings NPS 16, Piping Specification CB11 | m | 146 | | | | | | | | |
| | | | 3447.07 | Equipments and Other Components | LS | 1 | | | | | | | | |
| | | | 3447.08 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 386 | 8.2.9 | | 3448 | Raw and Cooling Water System | LS | 1 | 2,101.250 | 182,117.44 | 182,117.44 | 265,621.46 | 50,200.00 | 22,107.50 | 337,928.97 | 337,928.97 |
| | | | 3448.01 | Pipe and Fittings NPS 14, Piping Specification CB11 | m | 243 | | | | | | | | |
| 387 | 8.2.10 | | 3449 | Service Water System | LS | 1 | 1,642.000 | 142,313.78 | 142,313.78 | 409,384.69 | 174,000.00 | 40,836.93 | 624,221.61 | 624,221.61 |
| | | | 3449.01 | Pipe and Fittings NPS 4, Piping Specification PA04 (HDPE-DR11) | m | 880 | | | | | | | | |
| | | | 3449.02 | Pipe and Fittings NPS 6, Piping Specification CB11 | m | 60 | | | | | | | | |
| | | | 3449.03 | Pipe and Fittings NPS 8, Piping Specification CB11 | m | 67 | | | | | | | | |
| | | | 3449.04 | Pipe and Fittings NPS 3/4, Piping Specification SB11 | m | 36 | | | | | | | | |
| | | | 3449.05 | Pipe and Fittings NPS 2, Piping Specification SB11 | m | 60 | | | | | | | | |
| | | | 3449.06 | Pipe and Fittings NPS 4, Piping Specification SB11 | m | 27 | | | | | | | | |
| | | | 3449.07 | Equipments and Other Components | LS | 1 | | | | | | | | |
| | | | 3449.08 | Miscellaneous Work (Painting, Insulation etc.) | LS | 1 | | | | | | | | |
| 388 | 8.2.11 | | 344C | Piezometer and Water Level System | LS | 1 | 15,346.000 | 1,330,053.17 | 1,330,053.17 | 1,654,021.79 | 157,000.00 | 126,771.53 | 1,937,793.32 | 1,937,793.32 |
| | | | 344C.01 | Pipe and Fittings NPS 6, Piping Specification SA11 | m | 55 | | | | | | | | |
| | | | 344C.02 | Pipe and Fittings NPS 3, Piping Specification SB11 | m | 1,924 | | | | | | | | |
| | | | 344C.03 | Pipe and Fittings NPS 1/2, Piping Specification JD01 | m | 1,924 | | | | | | | | |
| SUB-TOTAL POWERHOUSE - MECHANICAL WORKS | | | | | | | | | \$ 5,605,225.91 | | | | \$ 11,989,355.74 | |
| WORK EXECUTED FOR COMPANY'S OTHER CONTRACTOR | | | | | | | | | | | | | | |
| | 9 | 3500 | | Supply of Concrete to Company's Other Contractors at the Batch Plant (excluding delivery from the Batch Plant to the Pour Location) | | | | | | | | | | |
| | 9.1 | | 3510 | | | | | | | | | | | |
| 389 | 9.1.1 | | 3510.01 | Supply of Secondary Concrete - Class A2 | m³ | 7,500 | 1.18 | 94.74 | 710,580.00 | 179.00 | 22.69 | 14.12 | 215.81 | 1,618,538.18 |
| 390 | 9.1.2 | | 3510.02 | Supply of Concrete - Class A | m³ | 1,000 | 1.18 | 94.74 | 94,744.00 | 179.00 | 22.69 | 14.12 | 215.81 | 215,805.09 |
| 391 | 9.1.3 | | 3510.03 | Supply of Concrete - Class B | m³ | 14,500 | 1.18 | 94.74 | 1,373,788.00 | 159.60 | 22.69 | 12.76 | 195.05 | 2,828,260.38 |
| SUB-TOTAL SUBCONTRACTING WORKS FOR OTHERS | | | | | | | | | \$ 2,179,112.00 | | | | \$ 4,662,603.65 | |
| DISCOUNT PER MEETING OF 14TH SEPTEMBER | | | | | | | | | | | | | | |
| 391A | | | | Discount as per the Minutes of Meeting dated 14 September 2013 between Astaldi Canada Inc. and Nalcor Energy | | | | | \$ (40,000,000.00) | | | | NA | |
| | | | | | | | | | \$ (40,000,000.00) | | | | NA | |
| (I) - TARGET COST OF LABOUR FOR THE WORK (BASED ON APPROXIMATE QUANTITIES), AS DETAILED IN PRICE ITEMS 1 TO 391A | | | | | | | | | \$ 507,598,340.87 | | | | | |
| (J) - LABOUR PROFIT ON TARGET COST OF LABOUR = (BIDDER'S FACTOR, AS SUBMITTED IN SECTIION 1.2.1 OF BIDDER'S PROPOSAL FORM LETTER) X (I) | | | | | | | | | \$ 35,531,883.86 | | | | | |
| (K) - TOTAL ESTIMATED PRICE FOR LABOUR COMPONENT = (I) + (J) | | | | | | | | | \$ 543,130,224.73 | | | | | |
| (L) - ESTIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR (PRICE ITEM 19A) | | | | | | | | | | | | 29,057,891.00 | | |
| (M) - TOTAL LUMP SUMS AND EXTENDED UNIT PRICES FOR NON LABOUR COMPONENT, AS DETAILED IN PRICE ITEMS 1 TO 391, EXCLUDING PRICE ITEM 19A | | | | | | | | | | | | \$ 452,104,434.08 | | |
| (N) - TOTAL ESTIMATED CONTRACT PRICE - (K) + (L) + (M), TAXES EXCLUDED | | | | | | | | | \$ 1,024,292,549.81 | | | | | |
| MISCELLANEOUS - RATE ONLY | | | | | | | | | | | | | | |
| | 10 | 3600 | | Hilti Adhesive Anchors | | | | | | | | | | |
| | 10.1 | | 3610 | | | | | | | | | | | |
| 392 | 10.1.1 | | 3610.01 | Hilti adhesive anchors, HIT RE-500; HAS rods (Dia. 16 mm), hot dip galvanized | each | 100 | | | | | | | | N/A |
| 393 | 10.1.2 | | 3610.02 | Hilti adhesive anchors, HIT RE-500; HAS rods (Dia. 19 mm), hot dip galvanized | each | 100 | | | | | | | | N/A |
| 394 | 10.1.3 | | 3610.03 | Hilti adhesive anchors, HIT RE-500; HAS rods (Dia. 25 mm), hot dip galvanized | each | 100 | | | | | | | | N/A |


| LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0007 - CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS | | | | SCHEDULE OF PRICE BREAKDOWN | | | | | | | EXHIBIT 2 - APPENDIX A | | | |
|---|--------------------------|----------|---------|---|-----------------|----------------------------------|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--|-------------------------------------|-----------------------------------|----------------------------------|
| | | | | ISSUED FOR: AGREEMENT DATE: 28-OCT-2013 | | | | | | | CONTRACTOR'S NAME: ASTALDI CANADA INC. | | | |
| PRICE ITEM | | WBS CODE | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY of UNITS A | LABOUR COMPONENT | | | NON LABOUR COMPONENT | | | | |
| No | REFERENCE EXH. 2 - ATT 1 | CODE | SUBCODE | | | | MAN HOURS (AT SITE) per UNIT | MANPOWER COST/ UNIT (\$ CAD) B | COST OF LABOUR (\$CAD) C=(AxB) | MATERIALS COST/UNIT (\$ CAD) D | EQUIPMENT COST/UNIT (\$ CAD) E | PROFIT and OTHER/UNIT (\$ CAD) F | UNIT PRICE (\$ CAD) G= (D+E+F) | TOTAL PRICE (\$ CAD) H= A x G |
| | 10.2 | | 3620 | Precast Sandwich Insulated Panel | | | | | | | | | | |
| 395 | 10.2.1 | | 3620.01 | Precast Sandwich Insulated Panel | m ² | 2,520 | | | | | | | N/A | |
| | 10.3 | | 3630 | Delivery of Concrete to Company's Other Contractors from the Batch Plant to the Pour Location | | | | | | | | | | |
| 396 | 10.3.1 | | 3631 | Hourly rates for different volumes of Concrete delivered to Company's Other Contractors from the Batch Plant to the Pour Location | | | | | | | | | | |
| | | | 3631.01 | Delivery of 5 m ³ of concrete with concrete truck | hour | N/A | | | | | | | N/A | |
| | | | 3631.02 | Delivery of 7.5 m ³ of concrete with concrete truck | hour | N/A | | | | | | | N/A | |
| | | | 3631.03 | Delivery of 10 m ³ of concrete with concrete truck | hour | N/A | | | | | | | N/A | |
| FOR THE LOWER CHURCHILL PROJECT - MUSKRAT FALLS | | | | | | | | | | | | | | |
| This Appendix forms part of the Proposal submitted by: | | | | | | | | | | | | | | |
| Name of Bidder: | | | | | | | | | | | | | | |
| Request For Proposal no: 505573-CH0007 | | | | | | | | | | | | | | |
| Signature: | | | | | | | | | | | | | | |
| Date of Proposal: | | | | | | | | | | | | | | |
| Note 1: The quantities inserted by the Engineer are meant to indicate the order of magnitude of the requirements. the Bidder remains responsible for the quantities actually needed and to make any necessary revisions. Any modification request to the Lump Sum price, after Contract award, based on these information will not be considered. | | | | | | | | | | | | | | |
| Note 2: If there has been an error in the calculation to establish the total of Column C (Cost of Labour) or of Column H (Total Price), then the figures of the Column B (Manpower Cost/Unit) and Column G (Unit Price) and A (Estimated Quantity) shall prevail. | | | | | | | | | | | | | | |
| Note 3: This Document is provided to the bidders in Native Excel File format. It is the bidders responsibility to verify cell formats and formulas. | | | | | | | | | | | | | | |

Document Front Sheet



| | | | | | |
|----------------------------|---|--|---|--|---------------|
| NE-LCP Contractor/Supplier | Contract or Purchase Number and Description: LC-G-0002 (Project 505573) | | Contractor/Supplier Name: SNC-Lavalin Inc. | | |
| | Document Title: CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS SCOPE OF WORK SPECIFICATION | | | Total Number of Pages Incl. Front Sheet 24 | |
| | Contractor/ Supplier Document Number: | | | Revision Number: | |
| | EPC(M) Document Number: 505573-3331-41EW-0001 | | | Issue Number: 09 | |
| | NE-LCP Document Number: MFA-SN-CD-3300-CV-SP-0001-01 | | | NE-LCP Issue Number: C1 | |
| | Approver's Signature: | | Date (dd-mmm-yyyy): 27 Sep '13. | | Review Class: |
| Comments: | | | Equipment Tag or Model Number: | | |

| | | | | |
|-------------------|---|------------------------------------|----------------------|------------------------------------|
| NE-LCP or EPC(M) | REVIEW DOES NOT CONSTITUTE APPROVAL OF DESIGN DETAILS, CALCULATIONS, TEST METHODS OR MATERIAL DEVELOPED AND/OR SELECTED BY THE CONTRACTOR, NOR DOES IT RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OR OTHER OBLIGATIONS. | | | |
| | <input checked="" type="checkbox"/> 01 – REVIEWED AND ACCEPTED – NO COMMENTS <input type="checkbox"/> 02 – REVIEWED – INCORPORATE COMMENTS, REVISE AND RESUBMIT <input type="checkbox"/> 03 – REVIEWED - NOT ACCEPTED <input type="checkbox"/> 04 – INFORMATION ONLY <input type="checkbox"/> 05 – NOT REVIEWED | | | |
| | Lead Reviewer: | Date (dd-mmm-yyyy): 25-Oct-2013 | Project Manager: | Date (dd-mmm-yyyy): 25 Oct 2013 |
| | NE-LCP or EPC(M) Management: | Date (dd-mmm-yyyy): 25 Oct 2013 | | |
| General Comments: | | | | |

| | | | | | |
|---|--|--|----------------------------|-------------|------|
|  SNC • LAVALIN | Construction of Intake and Powerhouse, Spillway and Transition Dams SCOPE OF WORK SPECIFICATION | | ISSUED FOR CONSTRUCTION | | |
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CH0007

CONSTRUCTION OF INTAKE AND POWERHOUSE, SPILLWAY AND TRANSITION DAMS

SCOPE OF WORK SPECIFICATION

Prepared by:



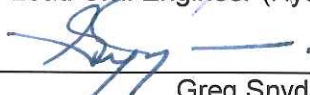
Andre Mosser
Package Engineer

Checked by:



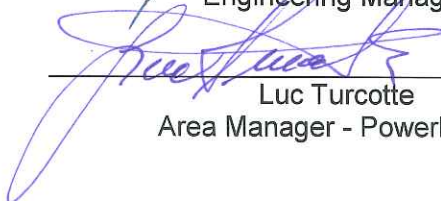
Stephen Chorny
Lead Civil Engineer (Hydro Generation)

Approved by:




Greg Snyder
Engineering Manager

Approved by:




Luc Turcotte
Area Manager - Powerhouse

| | | | | | |
|---|--|--|----------------------------|--------------------|----------|
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REVISION LIST

| Revision | | | | | | Remarks |
|----------|----|--------|-------|-------|-------------|-------------------------|
| N° | By | Verif. | Appr. | Appr. | Date | |
| C1 | AM | SC | GS | LT | 27-Sep-2013 | Issued for Construction |

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PART 1 SPECIAL REQUIREMENTS

1.1 PROJECT DESCRIPTION

- 1.1.1 The Lower Churchill Project (LCP) located on the Churchill River in the Province of Newfoundland and Labrador, Canada, consists of the Muskrat Falls Generating Station with a capacity of eight hundred and twenty-four megawatts (824 MW) and associated transmission line works.
- 1.1.2 The project Site for Muskrat Falls is located on the lower reaches of the Churchill River approximately 35 km west of the Town of Happy Valley – Goose Bay. Permanent access to the Site is from the south shore, via a road extension from the existing Trans Labrador Highway. The Muskrat Falls Hydroelectric Development consists of the following main components:
- 1.1.2.1 Main access road, including upgrading and construction of over 22 km of new road with several stream crossings;
- 1.1.2.2 Approximately 20 km of Site roads to be constructed to reach the main structures, laydown areas, accommodation complex, borrow areas and spoil disposal area;
- 1.1.2.3 1,500 person accommodation complex;
- 1.1.2.4 Contractor and Company's laydown areas;
- 1.1.2.5 Reservoir preparation including some 130 km of forest access road, forest harvesting, and bank stabilization;
- 1.1.2.6 Intake, Powerhouse, Spillway, Transition Dams, North RCC Dam and South Dam;
- 1.1.2.7 North Spur stabilization works;
- 1.1.2.8 Switchyards at Muskrat Falls and Churchill Falls;
- 1.1.2.9 High voltage AC and DC overhead transmission lines and associated infrastructure; and AC/DC converter stations at Muskrat Falls and Soldiers Pond;
- 1.1.2.10 Environmental habitat (fish and terrestrial) protection, remediation and replacement.

| | | | | | |
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1.2 GENERAL DESCRIPTION OF PACKAGE CH0007

1.2.1 The Intake and Powerhouse, Spillway and Transition Dams Package (CH0007) consists generally of the construction of the Intake, Powerhouse, Spillway complete with Upstream and Downstream Permanent Bridges, Downstream Temporary Bridge, South, Centre and North Transition Dams, Separation Wall, concrete lining of Discharge Channel, access road between the Powerhouse and the Spillway, the Underground Piping and Duct Banks between the Powerhouse and the Switchyard and related work as described herein, in the Technical Specification and shown on the Drawings.

1.3 LANGUAGE AND UNITS

1.3.1 The language to be used for all nameplates and documentation is English.

1.3.2 The units of measurement shall be the International System of Units (SI).


1.3.3 All instruments graduations and inscriptions shall comply with the SI system.

1.4 CLIMATIC DATA

1.4.1 The Climatological Data is included in Exhibit 11 - Company Supplied Documents.

1.5 HYDROMETEOROLOGICAL DATA


1.5.1 Hydrometeorological data is summarized on Drawing MFA-SN-CD-2000-CV-DD-0003-01, Exhibit 1.

| | | | | | |
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PART 2 SCOPE OF WORK


2.1 WORK INCLUDED

- 2.1.1 The work listed in this Scope of Work Specification includes the supply of all labour, materials and equipment and the execution of all work required to construct all structures and related works as called for in the Technical Specification, as shown on the Drawings and as specified herein.
- 2.1.2 The term Technical Specification, refers to the document MFA-SN-CD-3300-CV-TS-0001, Exhibit 1.
- 2.1.3 The Work includes, but is not limited to:
- 2.1.3.1 Civil, Geotechnical/Embankment Work
- 2.1.3.1.1 Design, construction, maintenance, relocation, if required, and removal of all temporary construction roads to borrow pits, stockpile and spoil disposal areas, access ramps and work areas and as necessary for the execution of the Work as specified in the Contract or as indicated on the Drawings or as required by the Engineer;
- 2.1.3.1.2 Clearing, grubbing and stripping of the borrow areas and their access roads where needed;
- 2.1.3.1.3 Maintenance, dust control, snow removal and ice control, sanding, culvert maintenance and emergency repairs of all temporary and permanent roads including construction roads, access ramps, work areas, required to perform the Work (including the Contractor's laydown area). In addition, provide the same maintenance, dust control, snow removal and ice control, sanding, culvert maintenance, and emergency repairs for the following areas: permanent South Side Access Road running from the Trans Labrador Highway (Station 0+000 to 21+893); access to the Accommodation Complex from the South Side Access Road; all areas of the Accommodation Complex, which includes the general parking lot, bus depot, parking area and roads; and all areas of the Company's laydown area, including the access road and area within the laydown area.
- 2.1.3.1.4 Exploitation of borrow areas and blasted rock stockpile areas, including material processing and transportation, and rehabilitation of these Sites at the end of the Work;
- 2.1.3.1.5 Operation and maintenance of the existing dewatering systems and if required, design, supply, installation, operation and maintenance of additional necessary dewatering systems. This includes coordination with the Engineer for the

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dewatering layout and its integration with the permanent equipment. This also includes the removal of the dewatering systems at the end of the work;

- 2.1.3.1.6 Operation and maintenance of sedimentation ponds with associated ditches;
- 2.1.3.1.7 Not used;
- 2.1.3.1.8 Construction of the access road between the powerhouse and the spillway, including its maintenance during the work;
- 2.1.3.1.9 Removal of sand layer, placed for winter protection, on the foundations of transition dams and spillway;
- 2.1.3.1.10 Foundation preparation including dental excavation and scaling at the separation wall, south, centre and north transition dams;
- 2.1.3.1.11 Drilling for grouting, drainage, exploration and instrumentation, as indicated on the Drawings or as required by the Engineer;
- 2.1.3.1.12 Curtain grouting, consolidation grouting and contact grouting in the powerhouse, intake, south, centre and north transition dams and spillway foundations, including supply and installation of PVC pipe sleeves in concrete and installation and removal of the temporary instrumentation for grouting;
- 2.1.3.1.13 Excavation and backfill work for the tile field, underground piping between the Powerhouse and the converter station;
- 2.1.3.1.14 Excavation and backfill work for the electrical duct banks between the Powerhouse and the manholes;
- 2.1.3.1.15 Supply and installation of permanent geotechnical instrumentation as shown on the Drawings;
- 2.1.3.1.16 Removal of existing temporary fence around the top of the rock excavations in the structure areas;
- 2.1.3.1.17 Supply, installation and grounding of the chain link fences and gates in the powerhouse parking area and in the Contractor's laydown area.
- 2.1.3.2 Design, supply, installation and subsequent dismantlement and handover of the temporary downstream bridge over the spillway;
- 2.1.3.3 Supply, installation and subsequent removal of temporary lateral support and bracing for piers of the spillway, as shown on the Drawings.

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2.1.3.4 Concrete Work.

2.1.3.4.1 General

The Work described in this section includes: supply, transporting, handling, placing, finishing and curing of all concrete (including mix design and testing of the mix design); the design, construction, erection, maintenance and removal of all formwork and falsework; removal of the existing chain link wire mesh from excavated rock surfaces in the structure areas; all as called for the in the Technical Specification, as shown on the Drawings and specified herein.

2.1.3.4.2 Intake and Powerhouse

2.1.3.4.2.1 Supply and placing of concrete for the intake and powerhouse substructure, including south and north service bays, gate hoist building, downstream tailrace deck, oil/separator, retaining basins and bases for GSU transformers, retaining walls, slab on grade at the powerhouse entrance and as indicated on the Drawings;

2.1.3.4.2.2 Supply and placing of secondary concrete for the draft tube liner, stayring and generator pit cover at El. 15.5 m;

2.1.3.4.2.3 Supply and placing of overbreak concrete which is placed between the minimal excavation line and the actual rock surface;

2.1.3.4.2.4 Supply and placing of concrete for duct banks from the powerhouse to 3 metres beyond manhole # 3;

2.1.3.4.2.5 Supply and placing of backfill concrete in areas where the surface of natural bedrock is located below level shown on the Drawings or as indicated on the Drawings or as required by the Engineer;


2.1.3.4.2.6 Supply and placing of grout for base plates, rails and any component supplied and installed by Contractor;

2.1.3.4.2.7 Supply and installation of water stops;


2.1.3.4.2.8 Sealing of contraction and control joints, including supply and installation of asphalt impregnated fibre board;

2.1.3.4.2.9 Supply and installation of the bituminous coating at contraction joints;


2.1.3.4.2.10 Supply and installation of the prefabricated concrete fire walls at the tailrace deck and between the GSU transformers (above El. 16.80 m);

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- 2.1.3.4.2.11 Supply and placing of concrete for the retaining wall at the powerhouse parking area.
- 2.1.3.4.3 Spillway, Separation Wall and Discharge Channel
 - 2.1.3.4.3.1 Supply and placing of concrete for the spillway, including base slab, piers and rollways;
 - 2.1.3.4.3.2 Supply and placing of concrete for the upstream and downstream bridge deck for the spillway;
 - 2.1.3.4.3.3 Supply and placing of concrete for the separation wall;
 - 2.1.3.4.3.4 Supply and placing of Phase 1 concrete liner for the discharge channel for the spillway;
 - 2.1.3.4.3.5 Supply and placing of Phase 2 and Phase 3 of the concrete lining for the spillway discharge channel to be completed after impoundment if required by Company based on assessment of erosion. Provide optional prices for such activities where indicated in the Schedule of Price Breakdown;
 - 2.1.3.4.3.6 Supply and placing of overbreak concrete which is placed between the minimal excavation line and the actual rock surface;
 - 2.1.3.4.3.7 Supply and placing of concrete for the retaining walls for the access road between the powerhouse and the spillway;
 - 2.1.3.4.3.8 Supply and placing of grout for base plates, rails and any component supplied and installed by Contractor;
 - 2.1.3.4.3.9 Supply and placing of water stops;
 - 2.1.3.4.3.10 Supply and installation of the bituminous coating at contraction joints.
- 2.1.3.4.4 Transition Dams and Elevated Deck for Electrical Building
 - 2.1.3.4.4.1 Supply and placing of concrete for the centre transition dam, including concrete bases for the elevated deck for electrical building, diesel fuel tank and stairs;
 - 2.1.3.4.4.2 Supply and placing of concrete for the north transition dam including the connection section with the existing RCC cofferdam and concrete base for stairs;
 - 2.1.3.4.4.3 Supply and placing of grout for base plates, rails and any component supplied and installed by Contractor;


| | | | | | |
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- 2.1.3.4.4.4 Supply and placing of water stops;
- 2.1.3.4.4.5 Supply and installation of the bituminous coating at contraction joints;
- 2.1.3.4.4.6 Supply and placing of concrete for the South Transition Dam, including the retaining wall for the South Rockfill Dam.
- 2.1.3.5 Reinforcement, Anchors and Dowels
 - 2.1.3.5.1 Supply, fabrication and placing of reinforcement (reinforcing steel), including supply of all tie wire, spacers and supports, all as shown on the Drawings and indicated in the Technical Specification; includes the preparation of the bar lists and the placement drawings from the engineering Drawings provided by the Engineer, those documents shall be submitted to the Engineer for approval before any fabrication begins;
 - 2.1.3.5.2 Supply and installation of threaded rebars with Couplers;
 - 2.1.3.5.3 Drilling, grouting, installing and testing rock dowels, all as shown on the Drawings;
 - 2.1.3.5.4 Drilling of the holes for anchors with epoxy adhesive.
 - 2.1.3.6 Installation of primary anchors, templates and angles supplied by Company's Other Contractors as follows:
 - 2.1.3.6.1 Installation of primary anchors, templates and angles in primary concrete, for the embedded parts for intake stoplogs;
 - 2.1.3.6.2 Installation of primary anchors and templates in primary concrete, for the embedded parts for intake trash racks;
 - 2.1.3.6.3 Installation of primary anchors, templates and angles in primary concrete, for the embedded parts for intake gates;
 - 2.1.3.6.4 Installation of primary anchors, templates and angles in primary concrete, for the embedded parts for the draft tube stoplogs;
 - 2.1.3.6.5 Installation of primary anchors and embedded parts in primary concrete, for turbine-generator units including the semi spiral case access door;
 - 2.1.3.6.6 Installation of the lower portion of the circular passage for all four turbine-generator units, if required by Company, and as shown on Drawings provided by Turbine-Generator Contractor (CH0030). Provide optional prices for such activities where indicated in the Schedule of Price Breakdown;


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- 2.1.3.6.7 Installation of primary anchors, templates and angles in primary concrete for the embedded parts for the furthest upstream set of stoplogs for the spillway;
- 2.1.3.6.8 Installation of primary anchors, templates and angles in primary concrete, for the embedded parts for the second upstream set of stoplogs for the spillway;
- 2.1.3.6.9 Installation of primary anchors, templates and angles and miscellaneous embedded steel in primary concrete, for the embedded parts for spillway gates;
- 2.1.3.6.10 Installation of primary anchors, templates and angles in primary concrete, for the embedded parts for downstream stoplogs for the spillway;
- 2.1.3.6.11 Installation of liner plates in the sides of piers downstream of the spillway gates;
- 2.1.3.6.12 Installation of concrete anchors, in the primary concrete piers for the spillway gate hoist towers and steel walkways.
- 2.1.3.7 Structural Steel and Miscellaneous Metalwork
 - 2.1.3.7.1 General

The Work described in this section includes the supply, fabrication, painting, galvanizing or metallization if required, inspection and testing, connection design, shop drawings, transportation to the Site and installation of structural steel, miscellaneous metals and embedded parts, etc., all as called in the Technical Specification, as shown on the Drawings and specified herein.
 - 2.1.3.7.2 Intake and Powerhouse
 - 2.1.3.7.2.1 Supply and installation of the structural steel for the superstructure and mezzanines. The protective coatings shall be as per the Technical Specification and Drawings, using intumescent painting where required;
 - 2.1.3.7.2.2 Supply and installation of all miscellaneous metals for the powerhouse and the intake, including access and service platforms, hatch and trench covers, stairs, ladders, grating, handrails and guardrails;
 - 2.1.3.7.2.3 Supply and installation of all embedded miscellaneous metals for the powerhouse and the intake (frames, L-shapes, sleeves, anchor bolts etc.);
 - 2.1.3.7.2.4 Supply and installation of the runway rails with Gantrex fastening system for the overhead cranes inside the powerhouse and at the draft tube gallery;
 - 2.1.3.7.2.5 Supply and installation of the gantry rails on the intake road deck for the trash cleaning system, including fastening system and accessories;


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- 2.1.3.7.2.6 Supply and installation of support beam at the top of the elevator shaft;
- 2.1.3.7.2.7 Supply and installation of the monorail supporting beam in the dewatering gallery;
- 2.1.3.7.2.8 Supply and installation of the connections for the steel superstructure at column lines, to the downstream face of the intake for primary lateral support;
- 2.1.3.7.2.9 Supply and installation of the building column anchor bolts, including base plates, as well as the supply and installation of double templates for the correct positioning of the anchor bolts;
- 2.1.3.7.2.10 Supply and installation of all concrete anchorages required for the installation of the miscellaneous metal work;
- 2.1.3.7.2.11 Supply and installation of stainless steel anchor points at locations to be determined by Company inside the Powerhouse. The stainless steel anchor point assemblies are to consist of a steel host ring, steel attachment/base plate and anchors/bolts or clamps, such that the assemblies can be connected to concrete walls/floors/ceilings or to steel beams/columns;
- 2.1.3.7.2.12 Supply and installation of metal decking required for the roof and mezzanines;
- 2.1.3.7.2.13 Supply and installation of the miscellaneous rooms located at the north service bay on the generator floor;
- 2.1.3.7.2.14 Supply and installation of the miscellaneous rooms at the south end of the turbine floor.
- 2.1.3.7.3 Spillway and Transition Dams
- 2.1.3.7.3.1 Supply and installation of the steel structure for the upstream and downstream permanent bridges for the spillway including shear studs;
- 2.1.3.7.3.2 Supply and installation of the steel structure, including metal decking and shear studs for the elevated deck for the spillway electrical building;
- 2.1.3.7.3.3 Supply and Installation of all miscellaneous metals for the spillway and transition dams, including access and service platforms, hatch and trench covers, stairs, ladders, grating, handrails and guardrails as shown on the Drawings;
- 2.1.3.7.3.4 Supply and Installation of all embedded miscellaneous metals for the spillway and transition dams (frames, L-shapes, sleeves, anchor bolts etc.) as shown on the Drawings;
- 2.1.3.7.3.5 Supply and installation of the gantry rails on the centre transition dam road deck

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and spillway road deck for the trash cleaning system including fastening system and accessories;

- 2.1.3.7.3.6 Supply and installation of bearing pads for the upstream and downstream permanent bridges and for the elevated deck at the centre transition dam;
- 2.1.3.7.3.7 Supply and installation of anchor bolts, include the supply and installation of double templates for the correct positioning of the anchor bolts;
- 2.1.3.7.3.8 Supply and installation of all concrete anchorages required for the installation of miscellaneous metal work;
- 2.1.3.7.3.9 Supply and installation of stainless steel anchor points at locations to be determined by Company at the Spillway. The stainless steel anchor point assemblies are to consist of a steel host ring, steel attachment/base plate and anchors/bolts or clamps, such that the assemblies can be connected to concrete walls/floors/ceilings or to steel beams/columns.
- 2.1.3.8 Supply and Installation of Embedded/Exposed Piping and HVAC
- 2.1.3.8.1 Supply and installation of all embedded/exposed piping and various mechanical parts for the intake, powerhouse and centre transition dam, all as shown on the Drawings, including inspection and testing, cleaning, quality assurance and control of piping works;
- 2.1.3.8.2 Supply and installation of valves on various piping systems as shown on the Drawings;
- 2.1.3.8.3 Supply and installation of pipe supports and pipe insulation on various piping systems, as shown on the Drawings;
- 2.1.3.8.4 Supply and installation of underground buried piping, prefabricated septic tank, prefabricated septic distribution box and septic tile field between the powerhouse and the converter station;
- 2.1.3.8.5 Supply and installation of HVAC louvers, wall sleeves, flashing and framing, as shown on the Drawings.
- 2.1.3.9 Electrical Work
- 2.1.3.9.1 Supply and installation of embedded conduits and accessories of size and quantity as indicated and detailed on the Drawings;
- 2.1.3.9.2 Supply and installation of the grounding network including aluminothermy

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(Cadweld) welding at the intake, powerhouse, south, centre and north transition dams and spillway, as detailed on the Drawings;

- 2.1.3.9.3 Connections of grounding conductors to non-electrical equipment including structural and miscellaneous steel, stairs, columns, handrails, guardrails etc. as detailed on the Drawings;
- 2.1.3.9.4 Supply and install high bay lighting for the powerhouse generator floor, as detailed on the Drawings;
- 2.1.3.9.5 Supply and install lighting panels, transformers, disconnect switches, lighting contactors and light switches as indicated on the Drawings;
- 2.1.3.9.6 Supply, install and connect all the wiring required to form a complete and operational lighting system for the powerhouse generator floor, as indicated on the Drawings;
- 2.1.3.9.7 Supply and install power cables for the lighting system from the construction power 600 V switchgear, to the lighting distribution system. The 600 V switchgear is located outside the powerhouse (south-east side of the powerhouse);
- 2.1.3.9.8 Construction of concrete slabs for Construction Power Distribution Equipment at Powerhouse Parking Area and Contractor's Laydown Area;
- 2.1.3.9.9 Supply and installation of prefabricated manholes and construction of electrical duct banks from the powerhouse to 3 metres beyond manhole # 3;
- 2.1.3.9.10 Supply and install the permanent exterior lighting fixtures, wiring, conduits and junction boxes on the metal siding of the powerhouse building as indicated on the Drawings;
- 2.1.3.9.11 Supply and install metal sleeves through the roof for the power cable passage to the roof smoke exhaust fans as shown on the Drawings;
- 2.1.3.9.12 Supply and install sleeves in metal siding walls of the powerhouse for the passage of cables for CCTV, communications, intrusion and fire alarm signaling system as indicated in the Technical Specification.
- 2.1.3.9.13 Supply and installation of heat tracing cables, controllers and accessories for heat tracing the drains in the Intake area of the Powerhouse.
- 2.1.3.10 Architectural Work and Building Envelope
- 2.1.3.10.1 Supply and installation of the insulated metal wall panels for the powerhouse


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building;


- 2.1.3.10.2 Supply and installation of the preformed metal siding for the powerhouse building;
- 2.1.3.10.3 Supply and installation of the modified bituminous membrane roofing system;
- 2.1.3.10.4 Supply and installation of the exterior metal insulated doors;
- 2.1.3.10.5 Supply and installation of the windows;
- 2.1.3.10.6 Supply and installation of the multi-leaf vertical lift metal insulated door at the south service bay;
- 2.1.3.10.7 Supply and installation of other truck doors at the north and south ends of the Powerhouse;
- 2.1.3.10.8 Supply and installation of roof anchors and safety restraints.
- 2.1.3.11 Environmental Work
 - 2.1.3.11.1 Construction, maintenance and operation of all temporary mitigation measures to comply with Technical Specification Section 01 35 43 - General Environmental Requirements;
 - 2.1.3.11.2 Site restoration at completion of work.

2.2 WORK EXCLUDED

- 2.2.1 The following works are excluded from the Work and will be performed by Company's other Contractors:
 - 2.2.1.1 Excavation of the intake, powerhouse, spillway, intake approach channel and discharge channel, as well as rock excavation in Transition dams and separation wall foundations;
 - 2.2.1.2 Excavation of the tailrace rock plug;
 - 2.2.1.3 Construction of the riverside RCC cofferdam;
 - 2.2.1.4 Construction of North RCC overflow dam;
 - 2.2.1.5 Construction of South rockfill dam;
 - 2.2.1.6 Construction and removal of cofferdams;

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- 2.2.1.7 Removal of the downstream part of the riverside RCC cofferdam;
- 2.2.1.8 Removal of the access ramp left in the Tailrace Channel by the Bulk Excavation Contractor (CH0006). This ramp runs down from the top of Cofferdam 3 to the downstream edge of the Powerhouse;
- 2.2.1.9 Construction of the access road to the powerhouse;
- 2.2.1.10 Construction and removal of the upstream temporary bridge over the spillway approach channel;
- 2.2.1.11 Construction of the concrete pier and abutments for the upstream temporary bridge over the spillway approach channel
- 2.2.1.12 Construction and removal of the temporary access ramp to the temporary upstream bridge over the spillway approach channel;
- 2.2.1.13 Embankment required for the switchyard and converter station and their access roads;
- 2.2.1.14 With the exception of the supply of secondary concrete, supply and installation of intake trash racks, intake bulkhead gates, intake gates and draft tube stoplogs, including the embedded parts and placement of the secondary concrete for the embedded parts for these gates;
- 2.2.1.15 With the exception of the supply of the secondary concrete, supply and installation of the spillway upstream stoplogs, downstream stoplogs, and gates; including the embedded parts and the placement of the secondary concrete for the embedded parts for these stoplogs and gates;
- 2.2.1.16 Delivery of concrete from the batch plant to the pour location to the Spillway and Powerhouse Hydro-Mechanical Contractor (CH0032), unless otherwise agreed with Company;
- 2.2.1.17 Supply and installation of the turbine-generator units;
- 2.2.1.18 Supply of the lower portion of the circular passage for the turbine-generator units;
- 2.2.1.19 Supply and installation of the powerhouse elevator;
- 2.2.1.20 Supply and installation of the powerhouse main overhead cranes;
- 2.2.1.21 Supply and installation of the overhead crane for the draft tube gates;
- 2.2.1.22 Supply and installation of the spillway hoist superstructure;

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- 2.2.1.23 Interior architectural work except as noted;
- 2.2.1.24 Sanding and ice control for pedestrian areas at the Accommodation Complex and buildings on the Company's lay down area;
- 2.2.1.25 Supply and installation of the spillway electrical building;
- 2.2.1.26 Supply and installation of electrical and mechanical works related to the spillway electrical building;
- 2.2.1.27 Decommissioning and backfilling of sedimentation ponds No. 1 and 2;
- 2.2.1.28 All other services provided by Company as specified in Exhibit 12 - Site Conditions;
- 2.2.1.29 Supply and installation of the outdoor 600 V switchgear;
- 2.2.1.30 Removal of Construction Power (electrical equipment, concrete slab, grounding and fences);
- 2.2.1.31 Excavation and backfill work for the underground direct-buried cabling, between the manholes and the switchyard;
- 2.2.1.32 Supply and installation of underground buried piping, between the tile field and converter station;
- 2.2.1.33 Removal of all remaining temporary safety fences outside the structures area.

2.3 WORK PROVIDED TO COMPANY'S OTHER CONTRACTORS


- 2.3.1 The Contractor shall supply concrete to Company's Other Contractors, including the delivery of concrete from the batch plant to the pour location (except as indicated in 2.2.16), as well as design and testing of the mix.

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PART 3 SPECIAL REQUIREMENTS

3.1 GENERAL

- 3.1.1 The overall project schedule requires that some of the Work be performed during the winter period. The Contractor shall take all necessary measures for winter concreting, including the use of heated shelters. The Contractor shall design, supply, install and remove temporary shelters.
- 3.1.2 Where the building envelope is used by the Contractor as shelter for the execution of its work before the remainder of the building is completed, it is the responsibility of the Contractor to supply, install and subsequently remove any temporary bracing, walls and enclosure as may be required.
- 3.1.3 All temporary works shall be designed by a qualified Professional Engineer registered in the Province of Newfoundland and Labrador. The Professional Engineer shall be approved by the Engineer prior to starting any Work. All designs and drawings shall be submitted to the Engineer for review and approval before starting of any work.
- 3.1.4 The Contractor is responsible to supply, install and operate an appropriate heating and ventilation system as well as a lighting system for the duration of the Work. Those systems shall be installed as the Work progresses and as required and shall be transferred to the Company at the completion of the Work.
- 3.1.5 The Contractor shall supply, install, operate, dismantle and remove from the Site at the end of the Work a temporary construction overhead crane of a capacity to suit the Contractor's needs. The use of this crane by the Contractor will not be exclusive and the crane could be used from time to time by Company's other Contractors. In such case, the Contractor will be entitled to compensation for operating costs. This temporary construction crane will travel on the rails for the powerhouse permanent overhead cranes, and it is intended to limit, as much as possible, the use of the permanent powerhouse overhead crane by the Contractor, which will be principally, but not exclusively, used by the Turbine-Generator Contractor (CH0030). The use of all overhead cranes in the Powerhouse will be coordinated by the Engineer.
- 3.1.6 The Contractor is responsible for production of concrete including mobilization, installation, operation and demobilization of the batch plants at the end of concrete supply contract, fabrication of coarse and fine aggregates for concrete production from blasted rock stockpile and from granular borrow areas, the supply and storage of Portland cement, Fly Ash/Blast furnace slag and admixtures.

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- 3.1.7 Sampling and laboratory testing of all materials, including but not limited to soil, cement, grout, aggregates, aggregates for concrete production and concrete, including the concrete to be supplied to Company's Other Contractors, shall be performed by the Contractor through the use of the onsite services of a third party retained and paid by the Company. This shall not relieve either the Contractor or its suppliers of material of any responsibilities connected with the quality of the materials and the satisfactory design, production, delivery and performance of the installed materials.

- 3.1.8 Field compaction sampling and laboratory testing, including but not limited to in-situ density and moisture content, grain size analysis and compaction tests will be performed by the Contractor through the use of the onsite services of the third party retained and paid the Company. This shall not relieve either the Contractor or its supplier of materials of any responsibilities connected with the quality of the materials and their satisfactory performance.


- 3.1.9 The Contractor is responsible for all quality control for the fabrication of the concrete at the batch plant. The inspection and the quality control testing and sampling of the concrete at the batch plant and at the placement Sites will be performed through the use of the onsite services of a third party retained and paid by the Company. Concrete will be tested in accordance with CAN/CSA A23.1/A23.2-M standards. The Contactor shall provide full cooperation to the third party in charge of the onsite quality control sampling and testing of the concrete for obtaining specimens required. The Contractor shall provide heated shelters for the execution of this work, as approved by the Engineer.

- 3.1.10 The Contractor is responsible to perform the trial mixes for all classes of concrete specified. Those trial mixes shall be planned appropriately to allow enough time for all sampling and testing to be completed by the Contractor through the use of the onsite services of the third party retained and paid by the Company and then approved by the Engineer prior to any concreting of permanent work. The Contractor shall submit to the Engineer a detailed plan and schedule of all work related to the trial mixes for the approval by the Engineer.

- 3.1.11 Any offsite laboratory tests carried out by the Contractor will be at its own expense.

- 3.1.12 The Contractor shall submit the required documentation to the Engineer for review and approval in accordance with the Technical Specification and Supplier Document Requirement List (SDRL)

- 3.1.13 Where there are conflicts between or within the Technical Specification and the Drawings, the Technical Specification will have precedence. Where there are conflicts between or within Codes, Standards or Acts, priority shall be given to the more stringent.

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3.2 SITE CONDITIONS

3.2.1 This Scope of Work Specification shall be read in conjunction with Exhibit 12 - Site Conditions.

3.3 COMPANY SUPPLIED DOCUMENTS

3.3.1 Company supplied documents are listed in Exhibit 11. The Contractor shall observe all requirements of the Company Supplied Documents.

3.4 SETTING-OUT OR IMPLEMENTATION OF SURVEY POINTS AND LINES

3.4.1 The Contractor shall be responsible for:

3.4.1.1 Surveying required for setting-out the structures and for as-built profile of the excavation and structures;

3.4.1.2 Locate, confirm and protect control points prior to starting Site work. Preserve permanent reference points during construction;

3.4.1.3 Establish permanent benchmarks on Site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record documents;


3.4.1.4 The accurate setting-out of the Work in relation to reference points, lines and levels given by the Engineer in writing;

3.4.1.5 The correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of the Work;

3.4.1.6 The provision of all necessary instruments, appliances and labour in connection with the foregoing responsibilities;

3.4.2 If, at any time during the execution of the Work, any error appears in the position, levels, dimensions or alignment of any part of the Work, the Contractor, on being required to do so by the Engineer, shall, at its own cost, rectify such error to the satisfaction of the Engineer, unless such error is based on incorrect data supplied in writing by the Engineer, in which case the Engineer shall recommend a change to the work in accordance with Article 14;

3.4.3 The checking of any setting-out or of any line or level by the Engineer shall not in any way relieve the Contractor of its responsibility for the accuracy thereof and the Contractor shall carefully protect and preserve all bench-marks, sight-rails, pegs and other reference points used in setting-out the Work.


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3.5 SITE INFORMATION

- 3.5.1 The Company has made available to the Contractor, Site information (Exhibit 11 – Company Supplied Documents), before the submission by the Contractor of the Proposal. Such data on subsurface conditions have been obtained by or on behalf of the Company from investigations undertaken relevant to the Work but the Contractor shall be responsible for its own interpretation thereof.
- 3.5.2 The Contractor shall be deemed to have inspected and examined the Site and its surroundings, be fully knowledgeable of the information available in connection therewith and to have satisfied itself before submitting its Proposal, as to:
- 3.5.2.1 The form and nature thereof, including the subsurface conditions;
- 3.5.2.2 The hydrological and climatic conditions;
- 3.5.2.3 The extent and nature of work and materials necessary for the execution and completion of the Work and the remedying of any defects therein; and
- 3.5.2.4 The means of access to the Site and the accommodation it may require, when not provided for (Refer to Exhibit 12 – Site Conditions);
- 3.5.3 In addition, the Contractor, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect its Proposal.
- 3.5.4 The Contractor shall be deemed to have based its Bid on the data made available by the Company and on its own inspection and examination, all as aforementioned.
- 3.5.5 Subject to Sections 3.5.1 and 3.5.2, Company has identified borrow pits from which sufficient quantities of sand and aggregates of suitable quality can be developed to perform the Work.

3.6 SPECIALIST SUBCONTRACTOR

- 3.6.1 The Contractor may subcontract specialized services, such as design engineering services, but it shall obtain the approval of the Engineer prior to the award of any such subcontract. Such approval shall not relieve the Contractor from any liability or obligation under the Agreement and it shall be responsible for the acts, default and neglects of the Sub-Contractor, its agents, personnel as fully as if they were the acts, defaults and neglect of the Contractor. The Engineer reserves the right to refuse the services of a Sub-Contractor proposed by the Contractor.

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3.6.2 The Contractor shall submit to the Engineer for approval, details on the history of the Sub-Contractor (previous work done in similar conditions, etc), on the personnel the Sub-Contractor intends to use, inclusive of their detailed resumes, membership in professional organizations, their authority to sign and approve drawings, registration and/or eligibility to register with the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL). All calculations and such like shall be in accordance with Newfoundland and Labrador Regulations. Such approval by the Engineer does not change the full responsibility of the Contractor in the execution of the Work.

3.6.3 The Sub-Contractor may be requested to undertake its work or part of its work at the Work Site.

3.7 ENVIRONMENTAL REQUIREMENTS


3.7.1 Contractor shall comply with the Technical Specification Section 01 35 43 – General Environmental Requirements (Exhibit 1) and Environmental and Regulatory Compliance Requirements (Exhibit 6).

3.7.2 Prior to the start of Site work, the Contractor shall prepare a Work Specific Environmental Protection Plan (C-SEPP) for review and approval by the Engineer. The C-SEPP will detail the environmental protection measures that will be implemented by the Contractor for all components of the Work. The Contractor shall reference the General Environmental Requirements of the Specification, as well as Contract Drawings, as required. The template for preparation of the C-SEPP is attached in Exhibit 11 - Company Supplied Documents.

3.8 DOCUMENTS

3.8.1 Drawings Provided to the Contractor

3.8.1.1 The Drawings issued with the Request for Proposal (RFP) are intended to indicate the location, type and scope of work to be carried. They are not to be used for construction. At Effective Date, a schedule of issue of the Approved for Construction (AFC) Drawings will be provided. With those Drawings, the Contractor shall verify on Site all levels and dimensions before starting work and shall notify the Engineer of all differences and/or discrepancies with the AFC Drawings.

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- 3.8.1.2 Before the beginning of the Work, the Contractor shall submit for the Engineer's approval, the drawings required as per the Technical Specification and as provided in the SDRL (Exhibit 4 - Supplier Document Requirement List). The Contractor shall submit for review by the Engineer all test certificates, purchase orders, drawings and all details necessary for the execution of the Work as specified in the Technical Specification.
- 3.8.1.3 The turnaround time for Engineer's review of Contractor's drawings is 21 calendar days.
- 3.8.2 Drawings
- 3.8.2.1 The Drawings are included in Exhibit 1 and are listed in the Technical Document List, document number 505573-CH0007-40AL-I-0001.
- 3.8.2.2 The Drawings issued with the Request for Proposal are not to be used for Construction.
- 3.8.2.3 Contractor shall only execute the Work based on stamped and signed AFC Drawings.
- 3.8.3 Technical Specification
- 3.8.3.1 The Technical Specification related to the Work is provided in Exhibit 1.

Exhibit 14
Performance Security
Agreement No: CH0007-0001

EXHIBIT 14

PERFORMANCE SECURITY

GUARANTEE

This agreement (hereinafter called the “Guarantee”) is made this **29th** day of **November, 2013**, **Astaldi S.p.A.** (the “**Guarantor**”) who is the parent company of **Astaldi Canada Inc.** (hereinafter called the “**Contractor**”) in favour of **Muskrat Falls Corporation** (hereinafter called the “**Company**”), **Computershare Trust Company of Canada** (hereinafter called the “**Security Trustee**”) and the Company’s and Security Trustee’s successors and assigns.

In consideration of the Company entering into a contract for the performance by the Contractor for **construction of intake and powerhouse, spillway and dams at Muskrat Falls, Labrador in the Province of Newfoundland and Labrador** and made as of **November 29, 2013** (the “**Agreement**”), the Guarantor hereby agrees with Company and Security Trustee as follows:

1.0 Guarantee

1.1 The Guarantor hereby absolutely, unconditionally and irrevocably guarantees to the Company, Security Trustee and their successors and assigns (collectively, the “**Guaranteed Parties**”), as a direct obligation, the full and prompt performance, payment and observance by the Contractor of each and every acknowledgement, covenant, agreement, undertaking, indemnity, waiver, release and obligation of the Contractor contained in the Agreement (collectively, the “**Guaranteed Obligations**”).

2.0 Separate Claims and Liability Absolute

2.1 Each and every default in performance, observance or payment of any of the Guaranteed Obligations by the Contractor shall give rise to a separate claim hereunder, and separate claims may be made and brought, as the case may be, hereunder as each such default occurs.

2.2 The guarantee herein provided for shall be a continuing, absolute and unconditional guarantee of performance, observance and payment of the Guaranteed Obligations and shall remain in full force and effect until each and all of the Guaranteed Obligations shall have been fully and satisfactorily discharged in accordance with the terms and provisions of the Agreement and the Guarantor shall have fully and satisfactorily discharged all of its obligations under this Guarantee.

3.0 No Impairment and Immediate Payment

3.1 The liability of the Guarantor hereunder shall remain in full force and effect irrespective of and shall in no way be affected or impaired by (and no notice to the Guarantor shall be required in respect of):

- (a) any compromise, waiver, renewal, extension, indulgence, amendment, addition, deletion, change in, modification of, or release of any security (including any other guarantee, letter of credit, bond or holdback) for or in respect of any of the

Guaranteed Obligations;

- (b) any failure, neglect or omission on the part of Company or Security Trustee to give the Guarantor notice of the occurrence of any default by the Contractor under or with respect to the Guaranteed Obligations, or to realize upon any obligations or liabilities of the Contractor;
 - (c) any amalgamation, merger or consolidation of the Contractor or the Guarantor or any sale, lease or transfer of any of the assets of the Contractor or the Guarantor;
 - (d) any change in the ownership of any shares of the capital stock of the Guarantor or the Contractor;
 - (e) any change in the financial condition of the Contractor or the Guarantor or a Guaranteed Party;
 - (f) any Insolvency Event affecting the Contractor or its assets or a Guaranteed Party or its assets, or any resulting release, stay or discharge of any Guaranteed Obligation;
 - (g) any lack or limitation of power, incapacity or disability on the part of the Contractor any other irregularity, defect or informality on the part of the Contractor with respect to the Guaranteed Obligations;
 - (h) any provision of any laws, statutes, rules or regulations or any other circumstance that might constitute a defence available to, or a discharge of, the Guarantor in respect of this guarantee, provided always that the indebtedness, obligations and liabilities guaranteed by the Guarantor hereunder shall in all circumstances be limited to the covenants, agreements, undertakings, obligations and liabilities of the Contractor under this Agreement;
 - (i) the assignment by Company of its interest, in whole or in part, in and to the Agreement; or
 - (j) any other occurrence or circumstance whatsoever, whether similar or dissimilar to the foregoing and any other circumstance that might otherwise constitute a legal or equitable defence or discharge of the liabilities of a guarantor or surety that might otherwise limit recourse against the Guarantor.
- 3.2 The obligations and liabilities of the Guarantor hereunder shall not be impaired, diminished, abated or otherwise affected by:
- (a) any claim, including any set-off, defence, deduction, counterclaim or cross-claim that the Contractor or the Guarantor may have or claim to have, at any time or from time to time; or
 - (b) the commencement by or against the Contractor or the Guarantor of any proceedings under any bankruptcy or insolvency law or laws relating to the relief of debtors, readjustment of indebtedness, reorganizations, arrangements,

compositions or extension or other similar laws.

- 3.3 A Guaranteed Party shall not be bound to exhaust its recourse against the Contractor or others or any securities (including, any Surety Bonds, letter of credit, insurance policy and/or other bond) or other guarantees it may at any time hold before being entitled to performance of or payment of the Guaranteed Obligations from the Guarantor and the Guarantor renounces all benefits of discussion and division.

4.0 Waiver of Rights by Guarantor

- 4.1 It is the intent and purpose hereof that the Guarantor shall not be entitled to and does hereby waive any and all defences available to guarantors, sureties and other secondary parties at law or in equity. Without limiting the generality of the foregoing, the Guarantor hereby waives notice of acceptance of this Agreement and of the non-performance by the Contractor, diligence, presentment, protest, notice of protest, dishonour, demand for payment from Company and/or Security Trustee and notice of non-payment or failure to perform on the part of the Contractor and all other notices whatsoever. The guarantee hereunder is a guarantee of payment, performance and compliance. In order to hold the Guarantor liable hereunder, there shall be no obligation on the part of a Guaranteed Party at any time to demand or resort for payment or performance to the Contractor, its properties or assets or to any security, property or other rights or remedies whatsoever, nor shall there be any requirement that the Contractor be joined as a party to any proceeding for the enforcement of any provision of this Guarantee and a Guaranteed Party shall have the right to enforce the provisions of this Guarantee irrespective of whether or not legal proceedings or other enforcement efforts against the Contractor are pending, sought, resorted to or otherwise realized upon. Without limiting the foregoing, it is understood that repeated and successive demands may be made and recoveries may be had hereunder as and when from time to time, the Contractor shall default under or with respect to any of the Guaranteed Obligations, and that, notwithstanding recovery hereunder for or in respect of any such default, the guarantee herein shall remain in full force and effect unamended and shall apply to each and every subsequent default.
- 4.2 Without prejudice to and without releasing, discharging, limiting or otherwise affecting in whole or in part the obligations and liabilities of the Guarantor under this Guarantee and without in any way requiring the consent of or giving notice to the Guarantor, a Guaranteed Party may grant time, renewals, extensions, indulgences, releases and discharges to and accept compositions from or otherwise deal with the Contractor or the Guarantor or others, including any other guarantors, as such Guaranteed Party may see fit and such Guaranteed Party may take, abstain from taking or perfecting, vary, exchange, renew, discharge, give up, realize on or otherwise deal with security and guarantees in such manner as such Guaranteed Party may see fit.
- 4.3 The guarantee hereunder shall continue to be effective, or be reinstated, as the case may be, if at any time payment, or any part thereof, of any of the obligations hereunder

is rescinded or must otherwise be restored or returned by a Guaranteed Party upon the insolvency, bankruptcy or reorganization of the Contractor or the Guarantor, or otherwise, all as though such payment had not been made.

- 4.4 Neither an action or proceeding brought under the guarantee hereunder regarding the Guaranteed Obligations nor any judgment or recovery in consequence of that action or proceeding operates as a bar or defence to any further action that may be brought under such guarantee. The Guarantor acknowledges and agrees that, if judgment is granted on an action or proceeding commenced under the guarantee hereunder, the Guarantor's obligations to the Guaranteed Parties do not merge with such judgment or end the Guarantor's obligations hereunder.
- 4.5 A waiver by a Guaranteed Party of any right or remedy hereunder on any one occasion shall not be construed as a bar to any right or remedy which such Guaranteed Party would otherwise have had on any future occasion with regard to any subsequent breach. No failure to exercise nor any delay in exercising on the part of such Guaranteed Party any right, power or privilege hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein provided are cumulative and may be exercised singly or concurrently, and are not exclusive of any other rights and remedies provided under this Agreement or otherwise by law.

5.0 Timing, Interest and Expenses

- 5.1 The liability of the Guarantor under the guarantee herein shall arise forthwith after demand has been made in writing on the Guarantor, and the liability of the Guarantor shall bear interest from the date of such demand at the average prime rate as published by the Bank of Nova Scotia plus three percent (3%) per annum, calculated daily not in advance.
- 5.2 In addition to satisfaction of the Guaranteed Obligations, the Guarantor agrees to pay to each of the Guaranteed Parties any and all reasonable out-of-pocket costs and expenses, including legal fees on a solicitor and his own client basis and other professional advisor charges incurred by it in connection with enforcing any of its rights hereunder.

6.0 No Exercise of Security

- 6.1 The Guarantor covenants that until the satisfaction and performance in full of all Guaranteed Obligations, the Guarantor will not:
- (i) exercise against the Contractor or against any security held by it for any of the Guaranteed Obligations any right or remedy arising by reason of the observance and/or performance of any Guaranteed Obligations under this Guarantee, whether by subrogation, contribution, indemnity, set off or otherwise; or

- (ii) claim as a creditor or otherwise in competition with a Guaranteed Party in respect of any monies owing to a Guaranteed Party for or on account of the Guaranteed Obligations in any bankruptcy, liquidation or other insolvency proceedings relating to the Contractor; and the Guarantor covenants to give the Guaranteed Parties the benefit of each such claim and of all monies received or receivable in respect thereof and in the meantime hold the same in trust for the Guaranteed Parties.

6.2 The Guarantor covenants and agrees with the Guaranteed Parties that it has not taken and will not take any security from the Contractor in respect of the Guaranteed Obligations. Any security taken by the Guarantor in breach of this provision, and all monies at any time received or receivable in respect thereof, shall be held in trust for the Guaranteed Parties as security for the Guaranteed Obligations.

7.0 General Conditions

7.1 The Guarantor shall, from time to time, request of the Company, execute and deliver, all such further agreements, instruments and documents and do all such further acts and things as the Company may require to give effect to the transactions contemplated by this Guarantee.

7.2 This Guarantee shall ensure to the benefit of and be binding upon the respective heirs, legal representatives, successors and assigns of the Guarantor, Security Trustee and the Company.

7.3 This Guarantee shall be governed by and construed in accordance with the laws of the Province of Newfoundland and Labrador. The Guarantor irrevocably submits to the jurisdiction of the courts of the Province of Newfoundland and Labrador in any action or proceeding arising out of or relating to this Guarantee but nothing shall prevent the Guaranteed Parties from enforcing this Guarantee or any related judgment against the Guarantor in any other jurisdiction.

7.4 This Guarantee shall not be assigned by the Guarantor without the prior written consent of the Company and Security Trustee.

IN WITNESS whereof the Guarantor has caused this Guarantee to be signed, sealed and delivered by its duly authorized representatives the day and year first above written.

Astaldi S.p.A.

Guarantor

By: _____

Name: _____

Title: _____

[seal]

PERFORMANCE BOND

No. _____ \$

KNOW ALL MEN BY THESE PRESENTS THAT

_____ as Principal, hereinafter called the Principal, and _____, a corporation created and existing under the laws of _____, and duly authorized to transact the business of Suretyship in _____, as Surety, hereinafter called the Surety, are held and firmly bound unto Muskrat Falls Corporation and Computershare Trust Company of Canada as Obligees, hereinafter collectively or individually called the Obligee, in the amount of _____ Dollars, (\$ _____) lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with an Obligee, dated the day of _____, for _____ in accordance with the contract documents submitted therefore which are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly and faithfully perform the Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever the Principal shall be, and declared by an Obligee to be, in default under the Contract, the Obligee having performed the Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

1. complete the Contract in accordance with its terms and conditions or
2. obtain a bid or bids for submission to the Obligee for completing the Contract in accordance with its terms and conditions, and upon determination by the Obligee and the Surety of the lowest responsible bidder arrange for a contract between such bidder and the Obligee and make available as work progresses (even though there should be a default, or a succession of defaults, under the contract or contracts of completion, arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price", as used in this paragraph, shall mean the total amount payable by the Obligee to the Principal under the Contract, less the amount properly paid by the Obligee to the Principal.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

The attached Rider, signed by the Principal and the Surety, is part of and incorporated into this Bond.

No right of action shall accrue on this Bond, to or for the use of, any person or corporation other than an Obligee named herein, or the heirs, executors, administrators, assigns or successors of an Obligee.

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Bond this day of _____ .

SIGNED AND SEALED in the presence of:

| | | |
|-----------------|-----------------------------|---------------|
| _____) | | |
| _____) | | |
| _____) | | |
| Witness _____) | [*NAME OF PRINCIPAL] | (SEAL) |
| _____) | | |
| _____) | | |
| Witness _____) | [*NAME OF SURETY] | (SEAL) |
| _____) | | |
| _____) | | |
| Witness _____) | | |

RIDER TO PERFORMANCE BOND NO.

TO BE ATTACHED TO AND FORM PART OF PERFORMANCE BOND NO. _____ , dated concurrently with the execution of this Rider, issued by the _____ , as Surety, on behalf of _____ , as Principal, and in favour of Muskrat Falls Corporation and Computershare Trust Company of Canada , as Obligees.

WHEREAS, upon the request of the Principal and Obligees, and in consideration of \$1.00 and other valuable consideration the receipt and sufficiency of which is acknowledged by the Surety, **IT IS UNDERSTOOD AND AGREED THAT** the above described bond is hereby amended to include the following paragraphs:

1. Surety hereby waives notice of any change to the Contract or the related subcontracts, including changes to time of performance, scope of work and price.
2. No waiver by the Obligees of any provision of the Contract shall release the Surety of its obligations given under this Bond although in no event shall the obligations of the Surety under the Bond exceed those of the Principal.
3. To the limit of the amount of this Bond, if there is a failure by the Principal to perform or otherwise to fulfil its obligations under and comply with the terms of the Contract which has neither been remedied by the Principal or expressly waived by the Obligee in writing, and if the Principal is declared in default and the Surety is called upon under this Bond, then the Surety is obligated to the Obligees for all obligations of the Principal under the Contract, including:
 - (a) the responsibilities of the Principal for correction of defective design, work and materials, and for completion of the Contract;
 - (b) the fulfilment by the Principal of all Performance Guarantees, as defined and specified in the Contract; and
 - (c) the obligation to pay liquidated damages, as specified in the Contract.
4. For purposes of any suit under this Bond, final payment shall be deemed to fall due on the date of Final Completion as shown on the Final Completion Certificate, as defined in the Contract.
5. This Bond shall expire on the date of Final Completion as shown on the Final Completion Certificate, as defined in the Contract, provided that the time for instituting any suit under this Bond shall be as set out in the Bond.

IT IS FURTHER UNDERSTOOD AND AGREED THAT nothing herein shall be held to change, alter or vary the terms of the above described Bond except as hereinbefore set forth.

IN WITNESS WHEREOF, the Principal and the Surety have Signed and Sealed this Performance Bond Rider this _____ day of _____.

SIGNED AND SEALED in the presence of:

)

[*NAME OF PRINCIPAL] (SEAL)

Witness _____)

[*NAME OF SURETY] (SEAL)

)

Witness

Letter of Credit - Performance

(date of issue)

To: *(COMPANY LEGAL NAME)*
(address)

From: *(ISSUING BANK)*
(address)

Subject: Our Irrevocable Standby Letter of Credit - Performance Number *(#)*

WHEREAS *(legal name of Contractor)* having its head office at *(address of Contractor)* (hereinafter referred to as the "Applicant"), has signed a contract bearing the effective date of *(insert date)* , and reference number *(insert number)* with Muskrat falls Corporation having its head office at 500 Columbus Drive, St. John's, NL A1B 0C9 (hereinafter referred to as the "Beneficiary"), for *(insert contract description)* (hereinafter referred to as the "Contract");

WHEREAS under Article 7 of the Contract, the Applicant is required to provide to the Beneficiary an Irrevocable Standby Letter of Credit - Performance in the amount of, *(insert)* Million Dollars *(\$****)* to secure the performance of its obligations under the Contract;

We, *(name and address of bank)* (hereinafter referred to as the "Bank"), for the account of the Applicant, hereby issue in favor of the Beneficiary our transferable Irrevocable Standby Letter of Credit – Performance in the amount of *(insert)* Million Dollars *(\$****)* (hereinafter referred to as the "Credit"). We hereby irrevocably and unconditionally undertake to pay to the Beneficiary at sight, without protest or notification, and without inquiring any further proof or conditions, and without consideration for any objections or protests which the Applicant may make, any sum or sums not exceeding the aggregate sum of *(insert)* Million Dollars *(\$****)*, free of all imposts, taxes, duties, charges, fees, withholdings and/or deductions whatsoever both present and future, of any nature whatsoever and by whomsoever imposed, and without set-off or counterclaim, upon presentation to the Bank of a demand in writing duly signed by two (2) Beneficiary's officers against this Credit, provided the demand is in the form set out in Exhibit "A" hereto, which forms an integral part of this Credit, and that such demand is made no later than on the *(insert)* day of *(insert month, year)* (hereinafter referred to as the "Expiry Date") or any new expiry date (as defined below). Only the Beneficiary or a transferee may make drawings under this Credit.

This Credit shall be automatically extended for one (1) year periods from the Expiry Date or from any subsequent expiry date (hereinafter referred to as "New Expiry Date") successively, unless the Bank sends by express courier to the Beneficiary at the above-mentioned address, with a copy to the Applicant, a written notice at least sixty (60) days prior to the Expiry Date or a New Expiry Date, stating that the Bank elects not to extend this Credit for any such additional period. In the event the Bank elects not to extend the Expiry Date or any New Expiry Date of this Credit, then the Bank

hereby unconditionally and irrevocably undertakes to pay to the Beneficiary the total amount then outstanding under this Credit upon presentation to the Bank by the Beneficiary, prior to the Expiry Date or the New Expiry Date, of a demand for payment stating that the Bank has elected not to extend this Credit and that the Beneficiary is therefore entitled to such payment, provided the demand is in the form set out in Exhibit "B" attached hereto, which forms an integral part of this Credit.

Notwithstanding the foregoing, in no event will this Credit extend beyond *(insert date)* (hereinafter referred to as the "Final Expiry Date").

This Credit may be automatically reduced by a certificate issued by the Beneficiary to the Bank (without further inquiry by the Bank of proof or conditions) stating the amount of reduction applicable to this Credit and presented to the Bank by the Applicant or the Beneficiary.

The terms of this Credit set forth in full the terms of our undertaking and this undertaking is not in any way modified, amended or amplified by reference to any document, instrument referred to in this Credit, or in which this Credit is referred to, or to which this Credit is related, and any such reference does not incorporate by reference any document, instrument or agreement.

Partial drawings are authorized. All costs related to this Credit are for the account of the Applicant.

The Beneficiary may transfer its rights under this Credit in their entirety (but not in part) to any transferee. Transfer of the Beneficiary's rights under this Credit to any such transferee shall be effected only upon the presentation to us of this Credit accompanied by a transfer letter in the form attached hereto as Exhibit "C", and we consent to such transfer. Upon such transfer, the transferee shall have no further rights to transfer this Credit. Transfer fees and commissions shall be for the account of the Applicant. The Beneficiary's signatures on such Exhibit "C" must be verified by the Beneficiary's bankers thereon indicating the name of the Beneficiary's bank (and name, title and signature(s) of bank officer(s)), or attested to by a notary public. Notwithstanding any other terms herein, a transfer must comply with all applicable laws, including international trade sanctions and anti-money laundering regulations.

This Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits (2007 Revision) of the International Chamber of Commerce (ICC Publication no. 600) and for matters not covered by the Uniform Customs and Practice for Documentary Credits (2007 Revision) of the International Chamber of Commerce, (ICC Publication no. 600) it shall be governed by and interpreted in accordance with the laws of the Province of Newfoundland and Labrador and the laws of Canada, applicable therein.

(NAME OF BANK)

per: _____

Letter of Credit - Warranty

(date of issue)

To: *(COMPANY LEGAL NAME)*
(address)

From: *(ISSUING BANK)*
(address)

Subject: Our Irrevocable Standby Letter of Credit – Performance (Warranty) Number *(#)*

WHEREAS *(legal name of Contractor)* having its head office at *(address of Contractor)* (hereinafter referred to as the "Applicant"), has signed a contract bearing the effective date of *(insert date)*, and reference number *(insert number)* with Muskrat Falls Corporation having its head office at 500 Columbus Drive, St. John's, NL A1B 0C9 (hereinafter referred to as the "Beneficiary"), for *(insert contract description)* (hereinafter referred to as the "Contract");

WHEREAS under Article 7 of the Contract, the Applicant is required to provide to the Beneficiary an Irrevocable Standby Letter of Credit – Performance (Warranty) in the amount of, *(insert)* Million Dollars *(\$*****)* to secure the performance of its warranty obligations under the Contract;

We, *(name and address of bank)* (hereinafter referred to as the "Bank"), for the account of the Applicant, hereby issue in favor of the Beneficiary our transferable Irrevocable Standby Letter of Credit – Performance in the amount of *(insert)* Million Dollars *(\$*****)* (hereinafter referred to as the "Credit"). We hereby irrevocably and unconditionally undertake to pay to the Beneficiary at sight, without protest or notification, and without inquiring any further proof or conditions, and without consideration for any objections or protests which the Applicant may make, any sum or sums not exceeding the aggregate sum of *(insert)* Million Dollars *(\$*****)*, free of all imposts, taxes, duties, charges, fees, withholdings and/or deductions whatsoever both present and future, of any nature whatsoever and by whomsoever imposed, and without set-off or counterclaim, upon presentation to the Bank of a demand in writing duly signed by two (2) Beneficiary's officers against this Credit, provided the demand is in the form set out in Exhibit "A" hereto, which forms an integral part of this Credit, and that such demand is made no later than on the *(insert)* day of *(insert month, year)* (hereinafter referred to as the "Expiry Date") or any new expiry date (as defined below). Only the Beneficiary or a transferee may make drawings under this Credit.

This Credit shall be automatically extended for one (1) year periods from the Expiry Date or from any subsequent expiry date (hereinafter referred to as "New Expiry Date") successively, unless the Bank sends by express courier to the Beneficiary at the above-mentioned address, with a copy to the Applicant, a written notice at least sixty (60) days prior to the Expiry Date or a New Expiry Date, stating that the Bank elects not to extend this Credit for any such additional period. In the event the Bank elects not to extend the Expiry Date or any New Expiry Date of this Credit, then the Bank hereby unconditionally and irrevocably undertakes to pay to the Beneficiary the total amount then

outstanding under this Credit upon presentation to the Bank by the Beneficiary, prior to the Expiry Date or the New Expiry Date, of a demand for payment stating that the Bank has elected not to extend this Credit and that the Beneficiary is therefore entitled to such payment, provided the demand is in the form set out in Exhibit "B" attached hereto, which forms an integral part of this Credit.

Notwithstanding the foregoing, in no event will this Credit extend beyond *(insert date)* (hereinafter referred to as the "Final Expiry Date").

This Credit may be automatically reduced by a certificate issued by the Beneficiary to the Bank (without further inquiry by the Bank of proof or conditions) stating the amount of reduction applicable to this Credit and presented to the Bank by the Applicant or the Beneficiary.

The terms of this Credit set forth in full the terms of our undertaking and this undertaking is not in any way modified, amended or amplified by reference to any document, instrument referred to in this Credit, or in which this Credit is referred to, or to which this Credit is related, and any such reference does not incorporate by reference any document, instrument or agreement.

Partial drawings are authorized. All costs related to this Credit are for the account of the Applicant.

The Beneficiary may transfer its rights under this Credit in their entirety (but not in part) to any transferee. Transfer of the Beneficiary's rights under this Credit to any such transferee shall be effected only upon the presentation to us of this Credit accompanied by a transfer letter in the form attached hereto as Exhibit "C", and we consent to such transfer. Upon such transfer, the transferee shall have no further rights to transfer this Credit. Transfer fees and commissions shall be for account of the Applicant. The Beneficiary's signatures on such Exhibit "C" must be verified by the Beneficiary's bankers thereon indicating the name of the Beneficiary's bank (and name, title and signature(s) of bank officer(s)), or attested to by a notary public. Notwithstanding any other terms herein, a transfer must comply with all applicable laws, including international trade sanctions and anti-money laundering regulations.

This Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits (2007 Revision) of the International Chamber of Commerce (ICC Publication no. 600) and for matters not covered by the Uniform Customs and Practice for Documentary Credits (2007 Revision) of the International Chamber of Commerce, (ICC Publication no. 600) it shall be governed by and interpreted in accordance with the laws of the Province of Newfoundland and Labrador and the laws of Canada, applicable therein.

(NAME OF BANK)

per: _____

Letter of Credit – Advance Payment

To: (*COMPANY LEGAL NAME*)
(*address*)

From: (*ISSUING BANK*)
(*address*)

Subject: Our Irrevocable Standby Letter of Credit – Performance (Advance Payment) Number
(*#*)

WHEREAS (*legal name of Contractor*) having its head office at (*address of applicant*) (hereinafter referred to as the "Applicant"), has signed a contract bearing the effective date of (*insert date*), and reference number (*insert number*) with Muskrat Falls Corporation having its head office at 500 Columbus Drive, St. John's, NL A1B 0C9 (hereinafter referred to as the "Beneficiary"), for (*insert contract description*) (hereinafter referred to as the "Contract");

WHEREAS under Article 7.3(a) and Section 9 of Exhibit 2 – Compensation of the Agreement, the Applicant is required to provide to the Beneficiary an Irrevocable Standby Letter of Credit - Performance (Advance Payment) in the amount of 10% of the Contract Price, which amount being (*insert*) Million Dollars (*\$******) to secure re-payment of an advance payment made by the Beneficiary to the Applicant;

We, (*name and address of bank*) (hereinafter referred to as the "Bank"), for the account of the Applicant, hereby issue in favor of the Beneficiary our transferable Irrevocable Standby Letter of Credit in the amount of (*insert*) Million Dollars (*\$*****) (hereinafter referred to as the "Credit"). We hereby irrevocably and unconditionally undertake to pay to the Beneficiary at sight, without protest or notification, and without inquiring any further proof or conditions, and without consideration for any objections or protests which the Applicant may make, any sum or sums not exceeding the aggregate sum of (*insert*) Million Dollars (*\$*****), free of all imposts, taxes, duties, charges, fees, withholdings and/or deductions whatsoever both present and future, of any nature whatsoever and by whomsoever imposed, and without set-off or counterclaim, upon presentation to the Bank of a demand in writing duly signed by two (2) Beneficiary's officers against this Credit, provided the demand is in the form set out in Exhibit "A" hereto, which forms an integral part of this Credit, and that such demand is made no later than on the (*insert*) day of (*insert month, year*) (hereinafter referred to as the "Expiry Date") or any new expiry date (as defined below). Only the Beneficiary or a transferee may make drawings under this Credit.

This Credit shall be automatically extended for one (1) year periods from the Expiry Date or from any subsequent expiry date (hereinafter referred to as "New Expiry Date") successively, unless the Bank sends by express courier to the Beneficiary at the above-mentioned address, with a copy to the Applicant, a written notice at least sixty (60) days prior to the Expiry Date or a New Expiry Date, stating that the Bank elects not to extend this Credit for any such additional period. In the event the

Bank elects not to extend the Expiry Date or any New Expiry Date of this Credit, then the Bank hereby unconditionally and irrevocably undertakes to pay to the Beneficiary the total amount then outstanding under this Credit upon presentation to the Bank by the Beneficiary, prior to the Expiry Date or the New Expiry Date, of a demand for payment stating that the Bank has elected not to extend this Credit and that the Beneficiary is therefore entitled to such payment, provided the demand is in the form set out in Exhibit "B" attached hereto, which forms an integral part of this Credit.

Notwithstanding the foregoing, in no event will this Credit extend beyond *(insert date)* (hereinafter referred to as the "Final Expiry Date").

This Credit may be automatically reduced by a certificate issued by the Beneficiary to the Bank (without further inquiry by the Bank of proof or conditions) stating the amount of reduction applicable to this Credit and presented to the Bank by the Applicant or the Beneficiary.

The terms of this Credit set forth in full the terms of our undertaking and this undertaking is not in any way modified, amended or amplified by reference to any document, instrument referred to in this Credit, or in which this Credit is referred to, or to which this Credit is related, and any such reference does not incorporate by reference any document, instrument or agreement.

Partial drawings are authorized. All costs related to this Credit are for the account of the Applicant.

The Beneficiary may transfer its rights under this Credit in their entirety (but not in part) to any transferee. Transfer of the Beneficiary's rights under this Credit to any such transferee shall be effected only upon the presentation to us of this Credit accompanied by a transfer letter in the form attached hereto as Exhibit "C", and we consent to such transfer without charges or fees of any kind. Upon such transfer, the transferee shall have no further rights to transfer this Credit. Transfer fees and commissions shall be for account of the Applicant. The Beneficiary's signatures on such Exhibit "C" must be verified by the Beneficiary's bankers thereon indicating the name of the Beneficiary's bank (and name, title and signature(s) of bank officer(s)), or attested to by a notary public. Notwithstanding any other terms herein, a transfer must comply with all applicable laws, including international trade sanctions and anti-money laundering regulations.

This Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits (2007 Revision) of the International Chamber of Commerce (ICC Publication no. 600) and for matters not covered by the Uniform Customs and Practice for Documentary Credits (2007 Revision) of the International Chamber of Commerce, (ICC Publication no. 600) it shall be governed by and interpreted in accordance with the laws of the Province of Newfoundland and Labrador and the laws of Canada, applicable therein.

(NAME OF BANK)

per: _____

EXHIBIT "A"

(date)

To: *(full name & address of the issuing bank)*

From: *(full name & address of Company)*

Subject: This is the form of demand specified in the Irrevocable Standby Letter of Credit number *(number)* issued on the *(date)* by *(name of the issuing bank)*

Dear Sirs,

We, the undersigned, being the Beneficiary under the above captioned Irrevocable Standby Letter of Credit (hereinafter referred to as the "Credit") issued by *(name and address of the issuing bank)* on the instructions of *(name of the Contractor)* the Applicant, hereby request you to pay to us on receipt by you of the present demand the amount of *(currency and amount in figures and letters)*.

We state and declare:

that the Applicant is an Insolvent Party as defined in Contract number *(insert)*, or is a Defaulting Party as defined in Contract number *(insert)* and has failed to rectify or taken reasonable steps to rectify the default or breach;

and

that the Beneficiary has sent by facsimile at *(insert fax number)* and by express courier to the Applicant, attention of *(insert name)* a written notice of default, specifying the nature of default, at least fifteen (15) working days prior to this demand;

that as a result thereof, we have become entitled under the terms of the Contract number *(insert)* to be paid the amount claimed above;

and

that said amount has not otherwise been paid to us, whether directly or indirectly, by or on behalf of the Applicant.

(name of Company)
(address of Company)

per: _____
Name: _____

per: _____
Name: _____

Title: _____

Title: _____

Verification of Beneficiary's signature by Beneficiary's bankers:

Name of Bank:

Name of Bank officer:

Title of Bank officer:

EXHIBIT "B"

This is the form of demand specified in Irrevocable Standby Letter of Credit [#] issued on the [date], by [name of the issuing bank]

[date]

To: (ISSUING BANK'S NAME)
(address)

From: (COMPANY'S NAME)
(address)

Subject: This is the demand specified in Irrevocable Standby Letter of Credit – Performance number [#] issued on the [date], by [name of the issuing bank]

Dear Sirs,

We, the undersigned, being the Beneficiary under the above captioned Irrevocable Standby Letter of Credit issued by [issuing bank's name and address] on the instructions of [Contractor's name] (the "Applicant"), hereby request you to pay to us on receipt by you of the present demand the amount of [currency and amount in figures and letters] only.

We state and declare:

that the Beneficiary has been notified by the Bank of its election not to extend the Credit; and

that as of the date of the present demand for payment the Applicant has not provided the Beneficiary with a satisfactory substitute irrevocable standby letter of credit or alternate satisfactory security.

[Company, name and address]

per: _____
Name: _____
Title: _____

per: _____
Name: _____
Title: _____

cc to the Applicant

Verification of Beneficiary's signature by Beneficiary's bankers:

Name of Bank:
Name of Bank officer:
Title of Bank officer:

**EXHIBIT "C"
TO LETTER OF CREDIT**

FORM FOR FULL TRANSFER OF LETTER OF CREDIT

_____, 20__

[Name and Address of Issuing Bank] :

Attention:

Re: Your Letter of Credit ("Letter of Credit") No. _____ in favour of Muskrat Falls Corporation

To Whom it May Concern:

The undersigned, Muskrat Falls Corporation, ("Transferor") has transferred and assigned (and hereby confirms said transfer and assignment) all of its rights in and under the Letter of Credit to [insert name and address of Transferee] ("Transferee"). Transferor confirms that it no longer has any rights under or interest in the Letter of Credit and that you shall have no further responsibility to make payment under the Letter of Credit to Transferor.

Transferor hereby surrenders the Letter of Credit to you and requests that you note the transfer of the Letter of Credit and deliver the Letter of Credit, amended or endorsed to reflect said transfer, to Transferee.

MUSKRAT FALLS CORPORATION

[NAME OF TRANSFEREE]

Per: _____
Name: _____
Title: _____

Per: _____
Name: _____
Title: _____

and Per: _____
Name: _____
Title: _____

and Per: _____
Name: _____
Title: _____

Verification of Beneficiary's signature by Beneficiary's bankers:

Name of Bank:

Name of Bank officer:

Title of Bank officer:

RELEASE OF HOLDBACK BOND

Bond No.: _____

Bond Amount: \$_____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal, hereinafter called the Principal and _____, corporations duly authorized to transact the business of Suretyship in Canada, as Sureties, hereinafter called the Surety, are held and firmly bound unto Muskrat Falls Corporation and Computershare Trust Company of Canada, as Obligees, hereinafter collectively and individually called the Obligee, in the amount of _____ dollars (\$_____) lawful money of Canada, for the payment of which sum well and truly to be made, the Principal and the Surety bind themselves, their respective heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with an Obligee for _____ which contract is dated the ____ day of _____, _____ .

AND WHEREAS, the Principal has requested release by the said Obligee of the holdback provided for in the aforesaid contract prior to the time at which such holdback becomes due.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall indemnify and hold harmless the Obligee from and against any claim, damage, loss or expense which the Obligee may sustain by reason of having released the holdback, and from and against claims for lien, and shall promptly remove from title to the property upon or in respect of which the work of the said contract was or will be performed any claims for lien or certificates of action under the **Newfoundland and Labrador Mechanics' Lien Act** as a result of the work performed under the said contract, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

PROVIDED, HOWEVER, that this bond is subject to the following conditions and limitations, the performance or existence of each of which shall be a condition precedent to any right of recovery hereunder:

- (a) that the Surety shall not be liable for a greater sum than the specified amount of this bond; and
- (b) that upon confirmation that a lien arising out of the aforesaid contract has been filed, the Principal shall promptly, and in any event within five (5) Working Days upon receipt of notification, remove the lien from title to the subject property, after which time, the Principal shall be deemed to be in default and the Surety shall promptly remedy the default.

Any suit under this bond must be instituted before the expiration of one hundred eighty (180) days from the date on which final payment under the contract falls due.

NO RIGHT OF ACTION SHALL ACCRUE UNDER THIS BOND, to or for the use of, any person or corporation other than an Obligee named herein, or the heirs, executors, administrators, or successors of the Obligee.

IN WITNESS WHEREOF, the Principal and the Surety have signed and sealed this bond this ____ day of _____, _____.

Principal Name

Surety name

_____ (Seal)

_____ (Seal)

, Attorney-in-Fact

Exhibit 10
Declaration of Residency
Agreement No.: CH0007-001

EXHIBIT 10

DECLARATION OF RESIDENCY

Part 1
Appendix A2.6
Declaration of Residency
Package Number: CH0007

APPENDIX A2.6

DECLARATION OF RESIDENCY

Part 1
Appendix A2.6
Declaration of Residency
Package Number: CH0007

DECLARATION OF RESIDENCY

We represent that, for Canadian income tax purposes, Enter name of entity (the "Corporation") is/is not a corporation registered in Canada. We attach a certified copy of the Corporation's Certificate of Incorporation. If at any time the Corporation's residency status changes, we shall inform Company immediately by issuance of a revised "Declaration of Residency".

Name: Emmanuel Triassi

Title: CEO

Signature: 

Date: 17 September, 2013

Bidder shall attach the following documents:

1. Certificate of Incorporation.
2. Current Certificate of Compliance from Industry Canada and/or a letter of good standing from the province in which Bidder is registered.

This document will form Exhibit 10 of the Agreement.

Industry
Canada Industrie
Canada**Certificate of Incorporation***Canada Business Corporations Act***Certificat de constitution***Loi canadienne sur les sociétés par actions*

ASTALDI CANADA INC.

Corporate name / Dénomination sociale

812103-6

Corporation number / Numéro de société

I HEREBY CERTIFY that the above-named corporation, the articles of incorporation of which are attached, is incorporated under the *Canada Business Corporations Act*.

JE CERTIFIE que la société susmentionnée, dont les statuts constitutifs sont joints, est constituée en vertu de la *Loi canadienne sur les sociétés par actions*.

Marcie Girouard

Director / Directeur

2012-02-29

Date of Incorporation (YYYY-MM-DD)
Date de constitution (AAAA-MM-JJ)



REZ-130 (2010-10)

Certificat d'attestation

Loi sur la publicité légale des entreprises

J'atteste que

ASTALDI CANADA INC.

- est immatriculée depuis le 6 mars 2012 .
- n'est pas en défaut de déposer une déclaration de mise à jour annuelle.
- n'est pas en défaut de se conformer à une demande qui lui a été faite en vertu de l'article 73.
- n'est pas en voie de dissolution.
- n'est pas radiée.

Numéro de certification : 826913884

Le numéro de certification ci-dessus vous permet de consulter en tout temps ce document certifié à partir du service en ligne « Vérifier un numéro de certification » du Registraire des entreprises.



Déposé au registre le 12 mars 2013 sous le
numéro d'entreprise du Québec 1168070192.

Registraire des entreprises

| PRICE ITEM | | PRICE ITEM DESCRIPTION | UNIT OF MEASURE | ESTIMATED QUANTITY OF UNITS | MATERIALS COST/UNIT (\$ CAD) | COST OF MATERIALS | CEMENT PORTION | REBAR PORTION | STRUCTURAL STEEL PORTION | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | 2018 | |
|---|--|------------------------|-----------------|-----------------------------|------------------------------|-------------------|----------------|---------------|--------------------------|------|------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|--------------|------------|--------------|
| | | | | | | | | | | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | |
| 197 | Concrete - Slabs (CVC) | m³ | 1,725 | 211.00 | 363,975 | 124,163.31 | NA | NA | | | | 75,290.52 | 48,872.79 | | | | | | | | |
| 198 | Concrete - Walls (CVC) | m³ | 700 | 213.97 | 149,779 | 50,385.11 | NA | NA | | | | | | 48,785.58 | 1,599.53 | | | | | | |
| 199 | Overbreak Concrete | m³ | 1,600 | 206.39 | 330,224 | 128,583.37 | NA | NA | | | | 128,583.37 | | | | | | | | | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | |
| 200 | Reinforcement including Dowels | kg | 145,000 | 1.37 | 198,650 | NA | 195,641.25 | NA | | | | 134,925.00 | 0.00 | 0.00 | 58,788.75 | 1,927.50 | | | | | |
| SPILLWAY DISCHARGE CHANNEL - PHASE 2 - OPTIONAL | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | |
| 203 | Concrete - Slabs (CVC) | m³ | 750 | 187.77 | 140,828 | 53,984.05 | NA | NA | | | | | | | | | | | 42,498.08 | 11,485.97 | |
| 204 | Concrete - Walls (CVC) | m³ | 300 | 228.89 | 68,667 | 21,593.62 | NA | NA | | | | | | | | | | | | 21,593.62 | |
| 205 | Overbreak Concrete | m³ | 700 | 196.06 | 137,242 | 53,809.34 | NA | NA | | | | | | | | | | | | 53,809.34 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | |
| 206 | Reinforcement including Dowels | kg | 90,000 | 1.37 | 123,300 | NA | 121,432.50 | NA | | | | | | | | | | | | 57,602.60 | 63,829.90 |
| SPILLWAY DISCHARGE CHANNEL - PHASE 3 - OPTIONAL | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | |
| 209 | Concrete - Slabs (CVC) | m³ | 2,000 | 187.77 | 375,540 | 143,957.46 | NA | NA | | | | | | | | | | | | 32,939.42 | 96,378.30 |
| 210 | Concrete - Walls (CVC) | m³ | 200 | 228.89 | 45,778 | 14,395.75 | NA | NA | | | | | | | | | | | | | 14,395.75 |
| 211 | Overbreak Concrete | m³ | 2,000 | 196.06 | 392,120 | 153,740.98 | NA | NA | | | | | | | | | | | | 153,740.98 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | |
| 212 | Reinforcement including Dowels | kg | 160,000 | 1.37 | 219,200 | NA | 215,880.00 | NA | | | | | | | | | | | | 35,541.22 | 103,990.98 |
| INTAKE | | | | | | | | | | | | | | | | | | | | | |
| INTAKE STRUCTURE | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE INTAKE & GATE HOIST BUILDING | | | | | | | | | | | | | | | | | | | | | |
| 228 | Concrete - Substructure below El. 45.5 m | m³ | 143,305 | 183.57 | 26,306,499 | 9,844,716.69 | NA | NA | | | 299,418.06 | 1,255,236.71 | 1,751,229.05 | 1,706,894.14 | 1,729,061.60 | 1,649,640.78 | 676,609.43 | 0.00 | 748,890.25 | 27,736.68 | |
| 229 | Concrete - Gate Hoist Building and Elevator Room above El. 45.5 m | m³ | 1,646 | 192.27 | 316,476 | 106,325.51 | NA | NA | | | | | | | | 19,424.85 | 44,497.03 | 15,822.25 | 0.00 | 26,581.38 | |
| 230 | Overbreak Concrete | m³ | 3,000 | 182.81 | 548,430 | 216,366.24 | NA | NA | | | 7,144.17 | 29,331.14 | 39,455.90 | 38,457.02 | 38,956.46 | 37,031.99 | 15,171.26 | 0.00 | 10,431.94 | 386.37 | |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | |
| 236 | Reinforcement including Dowels | kg | 10,647,650 | 1.54 | 16,397,381 | NA | 14,366,341.76 | NA | | | 427,686.79 | 1,792,971.89 | 2,501,444.10 | 2,438,116.40 | 2,469,780.25 | 2,356,336.08 | 966,464.48 | 0.00 | 1,363,058.13 | 50,483.63 | |
| POWERHOUSE | | | | | | | | | | | | | | | | | | | | | |
| SUBSTRUCTURE | | | | | | | | | | | | | | | | | | | | | |
| CONCRETE WORK | | | | | | | | | | | | | | | | | | | | | |
| 257 | Concrete - Powerhouse Substructure below El. 6.5 m | m³ | 131,135 | 180.80 | 23,709,208 | 9,008,666.30 | NA | NA | | | 120,813.77 | 1,201,229.41 | 1,753,822.17 | 1,047,358.82 | 959,634.30 | 728,773.70 | 365,033.93 | 60,102.23 | 0.00 | 0.00 | 1,060,675.24 |
| 258 | Concrete - Substructure between lines 6 and 7, including Sump Pit, Shafts for Stair & Elevator up to El. 45.5m | m³ | 14,882 | 193.05 | 2,872,970 | 961,322.10 | NA | NA | | | | | 15,759.38 | 62,249.55 | 46,805.00 | 231,642.04 | 184,287.72 | 36,049.58 | 0.00 | 0.00 | 66,090.89 |
| 259 | Concrete - Slabs and Walls between El. 6.5 and 15.5, including North and South Service Bays, Slab on grade, Basins and Bases for GSU transformer up to El. 16.8 m. Air vent enclosures on Powerhouse tailrace deck and North Service Bay, Access enclosure to stair no. 8 and Oil/Water separator enclosure. | m³ | 6,692 | 191.17 | 1,279,310 | 432,278.42 | NA | NA | | | | | 7,086.53 | 27,991.80 | 21,046.84 | 104,162.65 | 82,868.79 | 16,210.44 | 0.00 | 0.00 | 29,719.14 |
| 260 | Concrete - Slab on Steel Deck including Mezzanines | m³ | 3,718 | 187.97 | 698,872 | 267,616.92 | NA | NA | | | | | | | | 52,036.62 | 134,991.11 | 71,562.43 | 9,026.76 | | |
| 261 | Secondary Concrete of Draft Tube Cone Steel liner | m³ | 2,420 | 169.91 | 411,182 | 156,323.04 | NA | NA | | | | | | | | | | | | 78,161.52 | 78,161.52 |
| 262 | Overbreak Concrete | m³ | 8,500 | 184.58 | 1,568,930 | 613,037.68 | NA | NA | | | 7,560.71 | 87,206.18 | 108,816.20 | 119,399.72 | 111,085.43 | 86,720.42 | 44,403.10 | 7,745.33 | 0.00 | 0.00 | 13,915.88 |
| 272 | Prefabricated Concrete Longitudinal Sandwich Fire Walls (refer to attached sketches) | m² | 2,520 | 1,187.91 | 2,993,533 | 908,345.24 | NA | NA | | | 11,202.91 | 129,214.76 | 161,234.65 | 176,915.82 | 164,596.45 | 128,494.64 | 65,792.44 | 11,476.25 | 0.00 | 0.00 | 20,617.63 |
| 273 | Prefabricated Transversal Concrete Fire Walls | m² | 860 | 991.97 | 853,094 | 260,434.93 | NA | NA | | | 3,211.86 | 37,051.04 | 46,228.56 | 50,723.33 | 47,191.25 | 36,840.68 | 18,863.52 | 3,290.43 | 0.00 | 0.00 | 5,909.85 |
| REINFORCEMENT, ANCHORS AND DOWELS | | | | | | | | | | | | | | | | | | | | | |
| 274 | Reinforcement including Dowels | kg | 10,918,631 | 1.54 | 16,814,692 | NA | 14,731,962.88 | NA | | | 181,692.83 | 2,095,667.53 | 2,614,967.93 | 2,869,303.24 | 2,669,501.70 | 2,083,984.37 | 1,067,053.33 | 186,128.07 | 0.00 | 0.00 | 334,411.99 |
| 277 | Threaded Rebar (Dia. 35 mm) with Couplers | kg | 800 | 1.38 | 1,104 | NA | 1,079.40 | NA | | | 13.31 | 153.55 | 191.61 | 210.23 | 195.59 | 152.69 | 78.18 | 13.64 | | | 24.49 |
| SUPERSTRUCTURE (Intake and Powerhouse) | | | | | | | | | | | | | | | | | | | | | |
| STRUCTURAL STEEL | | | | | | | | | | | | | | | | | | | | | |
| Beams - Rolled Sections, Painted | | | | | | | | | | | | | | | | | | | | | |
| 280 | Beams Under 60 kg/m (incl. S, C, L shapes detailed as bracing, facing and overhangs, and girt channels, steel connections for prefab concrete panels and building attachment steel to upstream wall) | kg | 618,443 | 5.54 | 3,426,174 | NA | NA | 2,404,815.61 | | | | | | | 0.00 | 467,602.91 | 1,213,035.22 | 643,062.66 | 81,114.82 | | |
| 281 | Beams From 61 to 150 kg/m | kg | 359,270 | 5.04 | 1,810,721 | NA | NA | 1,288,162.59 | | | | | | | 0.00 | 250,476.06 | 649,773.93 | 344,462.67 | 43,449.93 | | |
| 282 | Beams Over 150 kg/m | kg | 316,266 | 4.53 | 1,432,685 | NA | NA | 1,022,171.71 | | | | | | | 0.00 | 198,755.61 | 515,603.03 | 273,335.06 | 34,478.01 | | |
| 282A | W beam Stiffener (for Generator Floor Beams) | kg | 34,000 | 17.10 | 581,400 | NA | NA | 412,080.00 | | | | | | | 0.00 | 80,126.67 | 207,861.06 | 110,192.75 | 13,899.52 | | |
| 282B | W beam Bearing plate (for Generator Floor Beams) | kg | 11,200 | 14.12 | 158,144 | NA | NA | 113,120.00 | | | | | | | 0.00 | 21,995.56 | 57,059.90 | 30,248.99 | 3,815.56 | | |
| W shape Columns - Rolled Sections Painted/Columns - Rolled Sections, Painted | | | | | | | | | | | | | | | | | | | | | |
| 283 | Columns Under 60 kg/m | kg | 1,697 | 6.73 | 11,421 | NA | NA | 8,141.36 | | | | | | | 0.00 | 1,582.89 | 4,106.75 | 2,177.10 | 274.62 | | |
| 284 | Columns from 61 to 150 kg/m | kg | 89,054 | 5.59 | 497,812 | NA | NA | 356,216.00 | | | | | | | 0.00 | 69,264.22 | 179,682.19 | 95,254.37 | 12,015.22 | | |
| 285 | Columns Over 150 kg/m | kg | 216,296 | 5.22 | 1,129,065 | NA | NA | 811,110.00 | | | | | | | 0.00 | 157,715.83 | 409,139.45 | 216,895.85 | 27,358.87 | | |
| Grade W Beams - Rolled Sections, Galvanized | | | | | | | | | | | | | | | | | | | | | |
| 285A | Grade WT Beams Under 60 kg/m | kg | 1,700 | 19.49 | 33,133 | NA | NA | 24,690.46 | | | | | | | 0.00 | 4,800.92 | 12,454.34 | 6,602.38 | 832.81 | | |
| 285B | Grade WT Beams from 61 to 150 kg/m | kg | 34,000 | 11.60 | 394,400 | NA | NA | 291,890.00 | | | | | | | 0.00 | 56,756.39 | 147,234.92 | 78,053.20 | 9,845.50 | | |
| 285C | Grade WT Beams Over 150 kg/m | kg | 267,300 | 7.67 | 2,050,191 | NA | NA | 1,484,851.50 | | | | | | | 0.00 | 288,721.12 | 748,987.59 | 397,058.50 | 50,084.28 | | |
| 285D | Grade WT Beams Bearing Plates | kg | 15,800 | 14.12 | 223,096 | NA | NA | 159,580.00 | | | | | | | 0.00 | 31,029.44 | 80,495.21 | 42,672.68 | 5,382.66 | | |
| 285E | Grade WT Beams Stiffener | kg | 11,200 | 17.10 | 191,520 | NA | NA | 135,744.00 | | | | | | | 0.00 | 26,394.67 | 68,471.88 | 36,298.79 | 4,578.67 | | |
| Columns & Girders - Built up Sections, Painted | | | | | | | | | | | | | | | | | | | | | |
| 297 | Crane Girders in Welded Plates, 700-800 kg/m | kg | 385,449 | 5.38 | 2,073,716 | NA | NA | 1,510,496.68 | | | | | | | 0.00 | 293,707.62 | 761,923.55 | 403,916.21 | 50,949.30 | | |
| 298 | Main Building Columns, in Rolled Shapes & Plates, Welded Continuously. | kg | 875,566 | 5.26 | 4,605,477 | NA | NA | 3,344,662.12 | | | | | | | 0.00 | 650,350.97 | 1,687,111.76 | 894,383.40 | 112,815.98 | | |
| Trusses, Painted | | | | | | | | | | | | | | | | | | | | | |
| 299 | Roof trusses and Wind Trusses | kg | 275,598 | 5.71 | 1,573,665 | NA | NA | 1,107,903.18 | | | | | | | 0.00 | 215,425.46 | 558,847.21 | 296,260.57 | 37,369.95 | | |
| Bracings, Struts and HSS Columns Painted | | | | | | | | | | | | | | | | | | | | | |
| 300 | Horizontal Bracing (WT Shapes) for roof and mezzanines | kg | 76,964 | 6.24 | 480,255 | NA | NA | 335,031.99 | | | | | | | 0.00 | 65,145.11 | 168,996.56 | 89,589.63 | 11,300.68 | | |
| 301 | HSS Square Shapes for Vertical Bracing, Horizontal Bracing, Struts and HSS columns (HSS Columns not covered in price item 304 (ref. 7.2.25)) | kg | 189,724 | 6.19 | 1,174,392 | NA | NA | 818,222.69 | | | | | | | 0.00 | 159,098.86 | 412,727.23 | 218,797.83 | 27,598.78 | | |
| Nelson Studs, not painted | | | | | | | | | | | | | | | | | | | | | |
| 302 | Nelson Studs (Dia. 19 and 13 mm) Welded Mezzanine Beams | kg | 3,305 | 14.94 | 49,377 | NA | NA | 34,982.76 | | | | | | | 0.00 | 6,802.12 | 17,645.76 | 9,354.80 | 1,180.07 | | |
| 303 | Nelson Studs (Dia. 19 and 22 mm) Welded to Generator Floor Beams | kg | 15,000 | 10.09 | 151,350 | NA | NA | 103,323.00 | | | | | | | 0.00 | 20,090.58 | 52,118.10 | 27,629.21 | 3,485.10 | | |
| Stairs, Hot dip Galvanized | | | | | | | | | | | | | | | | | | | | | |
| 304 | Stair Stringers in Channels (incl. Galvanized Beams and Columns for the stairs) | kg | 62,410 | 10.28 | 641,575 | NA | NA | 409,721.65 | | | | | | | 0.00 | 79,668.10 | 206,671.46 | 109,562.11 | 13,819.98 | | |



EXHIBIT 2 - APPENDIX E
Table E-1
ACCORDING TO ACTION ITEM N° 32 4 th Sept.2013
Present Day Cost of Cement, Rebar and Structural Steel Contained in Proposal Price,
and Distribution over the Period of the Work - Dollars

| | YEAR and QUARTER | | | | | | | | | | | | | | | | | | | | Total Cost | | |
|---------------------|------------------|-------|------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|------|---------------|------|------------|
| | 2013 | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | | 2018 | | | | |
| | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | | Q3 | Q4 |
| Cement | 0.00 | 59.46 | 251,838.29 | 3,245,681.00 | 6,342,070.62 | 4,344,827.08 | 3,599,004.69 | 4,020,996.63 | 3,587,732.32 | 1,330,388.53 | 177,026.73 | 1,200,130.97 | 1,409,979.33 | 2,085,034.99 | 468,294.42 | 518,830.82 | 562,711.36 | 354,142.13 | 321,019.52 | 0.00 | 0.00 | 0.00 | 33,819,769 |
| Rebar | 0.00 | 0.00 | 181,706.14 | 3,515,559.91 | 7,441,816.98 | 6,006,940.07 | 5,497,990.19 | 5,594,119.92 | 3,736,059.45 | 1,267,018.91 | 0.00 | 1,374,931.53 | 384,920.12 | 539,439.30 | 89,858.69 | 93,143.82 | 167,820.88 | 76,347.80 | 0.00 | 0.00 | 0.00 | 0.00 | 35,967,674 |
| Structural Steel | 0.00 | 0.00 | 7,698.00 | 1,102,400.00 | 1,664,054.06 | 1,714,005.99 | 2,532,013.52 | 5,024,777.54 | 10,655,031.00 | 8,092,952.85 | 3,528,532.51 | 1,151,571.45 | 546,474.52 | 329,714.39 | 320,052.55 | 141,641.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 36,810,920 |

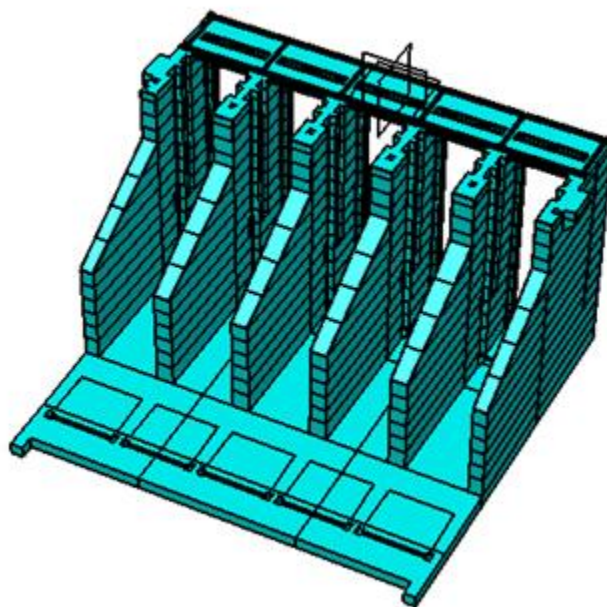
Note: Refer to Appendix E - Table E-2 – Details - for the build-up of the costs for each quarter as a function of the Price Items of the Schedule of Price Breakdown.

Milestone M4A

15 Feb 2015

Spillway and Related Works required for Hydro-Mechanical installation by Company's Other Contractor CH00032 for Upstream Guides installation and concreting , including:

- Completion of Spillway Invert;
- Completion of Spillway piers and walls (upstream 2/3 portion only), including upstream bridge;
- Spillway Upstream Channel free for Hydro-Mechanical Contractor CH0032 occupation.

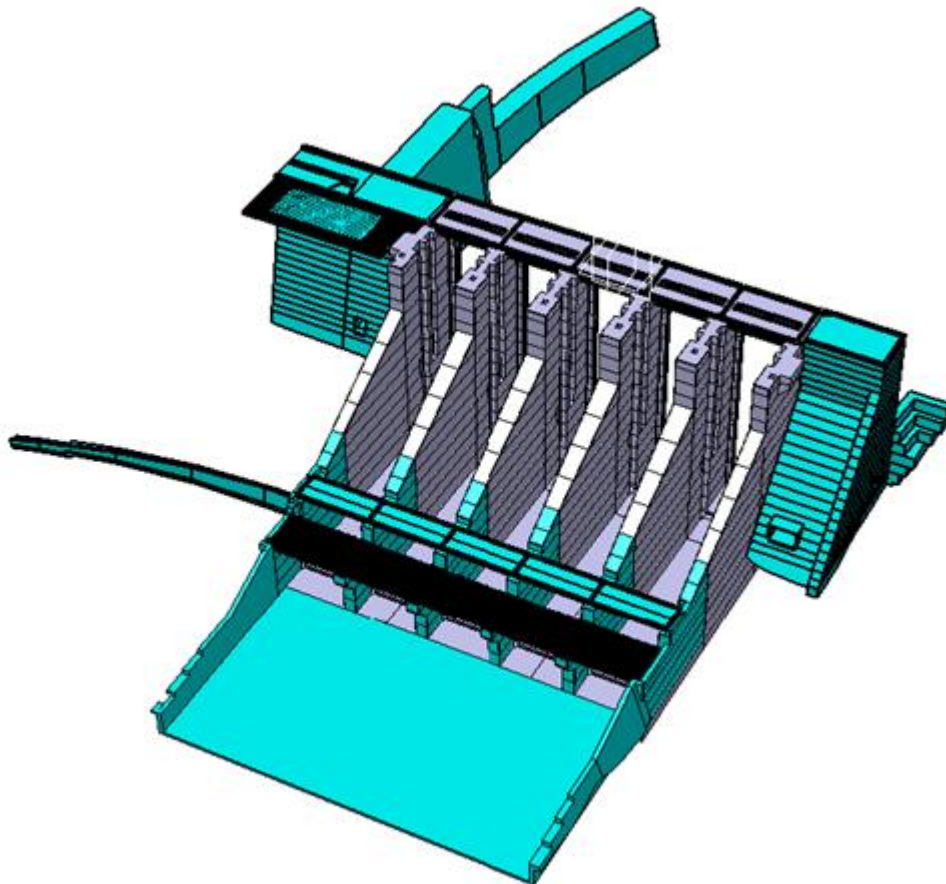


Milestone M4B

31 July 2015

Spillway and related works required for Hydro-Mechanical installation by Company's Other Contractor CH0032 (Downstream Stoplog Guides, Gates and Hoists installation) as well as for installation by Company's Other Contractor CH0009 (Intake Channel Upstream Cofferdam and Spillway Upstream Channel Temporary Bridges), and all works required for diversion including:

- Completion of Spillway piers and walls (downstream 1/3) including both Downstream Bridges and Access Ramp Retaining Wall;
- Completion of North Transition Dam;
- Completion of Northern 2 Monoliths of Center Transition Dam including the Electrical Building Platform;
- Completion of Spillway concrete Discharge Channel Phase 1;
- Completion of Separation Wall;
- Spillway Discharge Channel free for CH0032 occupation.



PACKAGE CH0007

PRE AWARD RECORD OF SITE INSPECTION, AND STATUS OF SITE CONDITIONS

This is to record that Astaldi Canada Inc. (Astaldi), in preparation for the award of Package CH0007, has visited the Site on Wednesday 11th and 12th September 2013 and observed the status of ongoing work.

Astaldi has observed and records the following:

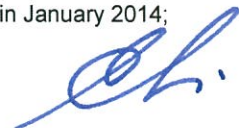
1. Subject to Company approval, Astaldi intends to commence shared access to the Site in accordance with the Interface Dates, and descriptions listed in Addendum No. 14, Supplementary Bulletin 1, namely:
 - 1.1 Interface I1A: Spillway Site Shared Access Available: 15th November 2013:

Access to the Spillway Site will be shared based on the following expected level of completion:

 - Blasting complete
 - Mucking complete, except for approx 15 m strip north side;
 - High spot removal underway with rock buster
 - Machine clean partially complete
 - Rock bolting complete
 - 1.2 Interface I7A Powerhouse Site Shared Access Available: 30th November 2013.

Access to the Powerhouse Site will be shared based on the following expected level of completion:

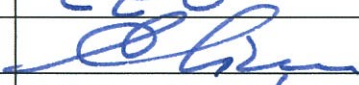
 - Tailrace ramp usable
 - Blasting complete
 - Mucking complete
 - High spot removal underway with rock buster
 - Machine clean partially complete
 - Rock bolting complete
2. Astaldi has observed the status of the work of the contractor performing the excavation work for Package CH0006 and, based on the expected levels of completion defined above and its own observations, it has been able to understand the sharing that will be necessary.
3. Astaldi has observed the conditions around and on the Site that may affect its work.
4. Company has reported on the Status of Company supplied facilities as follows:
 - 4.1 Camp accommodation will be available 30th October 2013, in accordance with the manpower requirements submitted by Astaldi;
 - 4.2 The area required for Contractor's office in the Accommodation Complex Office Area will be available 30th September 2013;
 - 4.3 The area required for Contractor's laydown in the Company Laydown Area and in Contractor Laydown Area will be available 30th September 2013;
 - 4.4 The Company radio mobile system will be available 30th September 2013;
 - 4.5 Telephone services will be available 30th September 2013;
 - 4.6 Power:
 - Office Complex: Power available 30th September 2013
 - Company Laydown: Power available 15th October 2013;
 - Contractor Laydown: Power available 15th October 2013; switchgear available in January 2014;
 - Powerhouse: Power available 30th November 2013; Switchgear available in January 2014;



- Spillway: Power available 30th November 2013.
- 4.7 Dewatering: Astaldi shall be responsible commencing 30th November 2013;
- 4.8 Road Maintenance: Astaldi shall be responsible commencing 30th November 2013;
- 4.9 Bus Service: Company will provide commencing 1st November 2013; Contractor responsible for bussing prior to that date;

Based on the above, Astaldi hereby confirms that, If the Limited Notice To Proceed is issued by 24th September, the Milestone Dates of the Interface and Milestone Schedule will not be impacted; and the impact of any adjustments to the execution plan and Construction Schedule is included in the Contract Price.

Signed by Astaldi Canada Inc.

| | |
|-----------|---|
| Name | EMANUELE TRIASSI |
| Title | CEO |
| Signature |  |
| Date | 24 September 2013 |

Agreed Revised Sequence of installation of Primary Anchors by CH0007

| Spillway | | | | |
|-----------------|------------------------------|----------------|--|------------------|
| | Original Installation | | Revised Delivery Dates at Site (Agreed 23 October 2013) | |
| | Phase 1 | Phase 2 | Phase 1 | Phase 2 |
| | Start | Start | | |
| Pier #1 | 3-Apr-14 | 22-Feb-15 | 19-Mar-14 | 7-Feb-15 |
| Pier #2 | 10-May-14 | 15-Mar-15 | 25-Apr-14 | 28-Feb-15 |
| Pier #3 | 1-Jun-14 | 27-Mar-15 | 17-May-14 | 12-Mar-15 |
| Pier #4 | 15-Jun-14 | 12-Apr-15 | 31-May-14 | 28-Mar-15 |
| Pier #5 | 8-Jul-14 | 28-Apr-15 | 23-Jun-14 | 13-Apr-15 |
| Pier #6 | 29-Jul-14 | 13-May-15 | 14-Jul-14 | 28-Apr-15 |

| Intake | | |
|---------------|--------------|------------------|
| | Start | |
| Unit # 1 | 1-May-14 | 16-Apr-14 |
| Unit # 2 | 25-Jun-14 | 10-Jun-14 |
| Unit # 3 | 31-Jul-14 | 16-Jul-14 |
| Unit # 4 | 6-Sep-14 | 22-Aug-14 |

| Draft Tube | | |
|-------------------|--------------|------------------|
| | Start | |
| Unit # 1 | 2-Sep-14 | 18-Aug-14 |
| Unit # 2 | 17-Sep-14 | 2-Sep-14 |
| Unit # 3 | 13-Sep-14 | 29-Aug-14 |
| Unit # 4 | 8-Oct-14 | 23-Sep-14 |