LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS				SCHEDULE OF PRICE BREAKDOWN								APPENDIX A2.1 / Rev. B2	
				ISSUED FOR: BID DATE: 14 - Oct - 2014	BIDDER'S NAME: H.J. O'Connell Construction Limited - Dragados Canada Inc. Joint Venture								
PRICE ITEM		WBS CODE											
No	REFERENCE Exhibit 2 - ATT 1	CODE	SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS (AT SITE) PER UNIT	MANPOWER COST/UNIT ($ CAN) B	MATERIALS COST/UNIT ($ CAN) C	EQUIPMENT COST/UNIT ($ CAN) D	PROFIT COST/UNIT ($ CAN) E	UNIT PRICE ($ CAN) F= (B+C+D+E)	TOTAL PRICE ($ CAN) G= A x F
	2	0000		**INDIRECT COSTS**									
1	2.1		0000.01	Mobilization	LS	1	39487	$ 2,941,239.56	$ 3,367,070.37	$ 28,091,690.07	$ -	$ 34,400,000.00	$ 34,400,000.00
2	2.2		0000.02	Site Installation	LS	1	60693	$ 6,537,164.63	$ 2,985,660.68	$ 13,877,174.70	$ -	$ 23,400,000.00	$ 23,400,000.00
3	2.3		0000.03	Management, Staff, employees and Consultants	LS	1	332250	$ 38,543,132.88	$ 4,561,891.40	$ 894,975.72	$ -	$ 44,000,000.00	$ 44,000,000.00
4	2.4		0000.04	Health and Safety, Environmental and Quality Requirements	LS	1	102526	$ 8,814,062.99	$ 127,398.32	$ 58,538.69	$ -	$ 9,000,000.00	$ 9,000,000.00
5	2.5		0000.05	Credit, Guarantee and Insurance	LS	1	0	$ -	$ 2,252,200.00	$ -	$ -	$ 2,252,200.00	$ 2,252,200.00
6	2.6		0000.06	Warranty, per Article 17 of the Agreement	LS	1	0	$ 225,000.00	$ -	$ 225,000.00	$ -	$ 450,000.00	$ 450,000.00
7	2.7		0000.07	Demobilization	LS	1	0	$ -	$ -	$ 1,353,000.00	$ -	$ 1,353,000.00	$ 1,353,000.00
				SUB-TOTAL INDIRECT COSTS									**$ 114,855,200.00**
	3	1100		**GENERAL**									
	3.1		1110	**DEWATERING OF STRUCTURE AREAS**									
8	3.1.1		1110.01	Dewatering of Structure Areas	LS	1	8179	$ 892,107.65	$ 406,683.58	$ 286,208.77	$ -	$ 1,585,000.00	$ 1,585,000.00
	3.2		1111	**EXCAVATION OF EXISTING COFFERDAMS**									
9	3.2.1		1111.01	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	m^3	177,000	0.05	$ 5.27	$ 0.11	$ 8.38	$ -	$ 13.75	$ 2,433,750.00
10	3.2.2		1111.02	Excavation of Downstream section of RCC riverside cofferdam	m^3	20,000	0.12	$ 13.71	$ 3.49	$ 16.70	$ -	$ 33.90	$ 678,000.00
	3.3		1112	**PERMANENT ROADS AND PARKING AREA**									
11	3.3.1		1112.01	Overburden Excavation	m^3	8,000	0.08	$ 8.71	$ -	$ 12.29	$ -	$ 21.00	$ 168,000.00
12	3.3.2		1112.02	Approved Compactable Material	m^3	44,000	0.05	$ 4.95	$ -	$ 7.75	$ -	$ 12.70	$ 558,800.00
13	3.3.3		1112.03	Granular "B" Material	m^3	5,800	0.20	$ 24.14	$ 0.28	$ 31.34	$ -	$ 55.75	$ 323,350.00
14	3.3.4		1112.04	Granular "C" Material	m^3	4,000	0.18	$ 22.12	$ 0.28	$ 29.60	$ -	$ 52.00	$ 208,000.00
15	3.3.5		1112.05	Maintenance Grade 3 material	m^3	4,500	0.22	$ 25.85	$ 0.28	$ 32.87	$ -	$ 59.00	$ 265,500.00
16	3.3.6		1112.06	CSP culvert, dia. 900 mm	m	48	4.43	$ 470.58	$ 214.75	$ 189.67	$ -	$ 875.00	$ 42,000.00
17	3.3.7		1112.07	Guide Rails	m	400	2.60	$ 266.52	$ 119.02	$ 25.46	$ -	$ 411.00	$ 164,400.00
18	3.3.8		1112.08	Gate Type 1	unit	2	76.80	$ 8,055.96	$ 3,512.94	$ 1,431.11	$ -	$ 13,000.00	$ 26,000.00
	3.4		1113	**ACCESS ROAD TO LAYDOWN AREA C1**									
19	3.4.1		1113.01	Approved Compactable Material	m^3	26,000	0.05	$ 4.95	$ -	$ 7.75	$ -	$ 12.70	$ 330,200.00
20	3.4.2		1113.02	Granular "C" Material	m^3	7,500	0.18	$ 22.12	$ 0.28	$ 29.60	$ -	$ 52.00	$ 390,000.00
	3.5		1114	**DITCHES**									
21	3.5.1		1114.01	Overburden Excavation	m^3	2,000	0.09	$ 8.98	$ -	$ 12.02	$ -	$ 21.00	$ 42,000.00
22	3.5.2		1114.02	Non-woven Geotextile, min 300 g/m^2	m^2	2,500	0.16	$ 16.45	$ 5.37	$ 4.18	$ -	$ 26.00	$ 65,000.00
23	3.5.3		1114.03	Rockfill Protection, 100 - 250 mm	m^3	1,000	0.35	$ 36.60	$ -	$ 26.40	$ -	$ 63.00	$ 63,000.00
	3.6		1115	**SLOPE PROTECTION**									
24	3.6.1		1115.01	Rockfill Protection, Zone 3E Material	m^3	2,500	0.12	$ 11.93	$ -	$ 15.07	$ -	$ 27.00	$ 67,500.00
25	3.6.2		1115.02	Non-woven Geotextile, min 530 g/m^2	m^2	4,500	0.04	$ 4.05	$ 3.68	$ 1.03	$ -	$ 8.75	$ 39,375.00
	3.7		1116	**CHAIN LINK FENCES AND GATES**									
26	3.7.1		1116.01	Chain Link Fence and Gates	m	720	2.9	$ 328.54	$ 70.33	$ 84.13	$ -	$ 483.00	$ 347,760.00
	3.8		1150	**TEMPORARY UPSTREAM BRIDGE OVER SPILLWAY APPROACH CHANNEL**									
27	3.8.1		1150.01	Engineering of Temporary Upstream Bridge	LS	1	0	$ 119,000.00	$ -	$ -	$ -	$ 119,000.00	$ 119,000.00
28	3.8.2		1150.02	Supply of Temporary Upstream Bridge	LS	1	373	$ 37,977.07	$ 2,008,755.60	$ 15,267.33	$ -	$ 2,062,000.00	$ 2,062,000.00
29	3.8.3		1150.03	Installation, removal and handover of Temporary Upstream Bridge	LS	1	19617	$ 2,087,752.20	$ 1,196,498.35	$ 1,570,749.45	$ -	$ 4,855,000.00	$ 4,855,000.00
				SUB-TOTAL GENERAL									**$ 14,833,635.00**
	4	2300		**DAMS AND COFFERDAMS - GENERAL**									
	4.1	2340	2341	**UPSTREAM COFFERDAM**									
				CIVIL WORK									
				Excavation									
30	4.1.1		2341.01	Overburden excavation	m^3	2,500	0.14	$ 15.39	$ -	$ 19.61	$ -	$ 35.00	$ 87,500.00
				Foundation Preparation in dry condition									
31	4.1.2		2341.02	Foundation Cleaning (water/air jets and Vacuum trucks)	m^2	1,200	0.9	$ 100.43	$ -	$ 17.57	$ -	$ 118.00	$ 141,600.00
32	4.1.3		2341.03	Rock Excavation including dental excavation and Scaling	m^3	500	0.79	$ 85.73	$ 24.89	$ 101.38	$ -	$ 212.00	$ 106,000.00
33	4.1.4		2341.04	Dental Concrete	m^3	800	1.92	$ 212.78	$ 514.02	$ 23.20	$ -	$ 750.00	$ 600,000.00
34	4.1.5		2341.05	Slush Grout	m^2	1,200	0.2	$ 22.10	$ 8.84	$ 1.06	$ -	$ 32.00	$ 38,400.00
35	4.1.6		2341.06	Dry Pack	m^3	6	50	$ 5,559.66	$ 1,293.49	$ 266.86	$ -	$ 7,120.00	$ 42,720.00
				Embankment Materials								$ -	$ -

LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS	SCHEDULE OF PRICE BREAKDOWN	APPENDIX A2.1 Rev. B2
	ISSUED FOR: BID — DATE: 14 - Oct - 2014	BIDDER'S NAME: H.J. O'Connell Construction Limited - Dragados Canada Inc. Joint Venture

PRICE ITEM No	PRICE ITEM REFERENCE Exhibit 2 - ATT 1	WBS CODE CODE	WBS CODE SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS (AT SITE) PER UNIT	MANPOWER COST/UNIT ($ CAN) B	MATERIALS COST/UNIT ($ CAN) C	EQUIPMENT COST/UNIT ($ CAN) D	PROFIT COST/UNIT ($ CAN) E	UNIT PRICE ($ CAN) F= (B+C+D+E)	TOTAL PRICE ($ CAN) G= A x F
36	4.1.7		2341.07	Compacted Till - Zones 1 and 1C Materials	m^3	19,000	0.25	$ 27.01	$ -	$ 33.99	$ -	$ 61.00	$ 1,159,000.00
37	4.1.8		2341.08	Dumped Till - Zone 1A Material	m^3	134,000	0.13	$ 13.75	$ -	$ 24.50	$ -	$ 38.25	$ 5,125,500.00
38	4.1.9		2341.09	Compacted Granular - Zone 2A Material	m^3	20,700	0.28	$ 30.67	$ -	$ 34.33	$ -	$ 65.00	$ 1,345,500.00
39	4.1.10		2341.10	Compacted Granular - Zone 2C Material	m^3	8,700	0.28	$ 30.74	$ -	$ 34.26	$ -	$ 65.00	$ 565,500.00
40	4.1.11		2341.11	Dumped Granular - Zone 2E Material	m^3	26,300	0.16	$ 17.61	$ -	$ 27.89	$ -	$ 45.50	$ 1,196,650.00
41	4.1.12		2341.12	Dumped Rockfill- Zone 3 Material	m^3	143,000	0.06	$ 6.72	$ -	$ 9.53	$ -	$ 16.25	$ 2,323,750.00
42	4.1.13		2341.13	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	m^3	37,000	0.08	$ 9.14	$ -	$ 14.86	$ -	$ 24.00	$ 888,000.00
43	4.1.14		2341.14	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	m^3	65,000	0.17	$ 18.22	$ -	$ 30.78	$ -	$ 49.00	$ 3,185,000.00
44	4.1.15		2341.15	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	m^3	15,000	0.20	$ 21.81	$ -	$ 41.19	$ -	$ 63.00	$ 945,000.00
45	4.1.16		2341.16	Compacted Crushed Stone - Zone 3A Material	m^3	10,950	0.32	$ 37.02	$ 0.28	$ 38.70	$ -	$ 76.00	$ 832,200.00
46	4.1.17		2341.17	Compacted Rockfill - Zone 3C Material	m^3	33,740	0.10	$ 11.80	$ -	$ 16.20	$ -	$ 28.00	$ 944,720.00
47	4.1.18		2341.18	Compacted Rockfill - Zone 3D Material	m^3	33,900	0.10	$ 11.80	$ -	$ 16.20	$ -	$ 28.00	$ 949,200.00
48	4.1.19		2341.19	Dumped Crushed Stone- Zone 3F Material	m^3	21,000	0.18	$ 21.93	$ 0.28	$ 29.29	$ -	$ 51.50	$ 1,081,500.00
				Investigation for Jet Grouted Cut-off Wall and Bedrock Grouting								$ -	$ -
49	4.1.20		2341.20	Percussion Drill Holes in embankments, river sediments and bedrock	m	1,000	0.25	$ 30.52	$ -	$ 78.48	$ -	$ 109.00	$ 109,000.00
50	4.1.21		2341.21	Verification Core Drilling in jet grouting cut-off wall and bedrock	m	200	0.72	$ 85.40	$ 12.81	$ 328.79	$ -	$ 427.00	$ 85,400.00
51	4.1.22		2341.22	Core Diamond Drill Rig in Standby	hour	140	0	$ -	$ -	$ 139.00	$ -	$ 139.00	$ 19,460.00
				Jet Grouting cut off wall								$ -	$ -
52	4.1.23		2341.23	Mobilization and demobilization	LS	1	2342	$ 554,750.00	$ -	$ 1,030,250.00	$ -	$ 1,585,000.00	$ 1,585,000.00
53	4.1.24		2341.24	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock	m	9,600	0.56	$ 71.79	$ 5.50	$ 54.21	$ -	$ 131.50	$ 1,262,400.00
54	4.1.25		2341.25	Jet Grouted Cut-off wall	m^2	2,800	1.55	$ 171.20	$ 503.09	$ 307.71	$ -	$ 982.00	$ 2,749,600.00
				Bedrock Grouting beneath the Jet Grouted Cut-off Wall, if required								$ -	$ -
55	4.1.26		2341.26	Drilling Holes for Grouting in embankment , jet grouting cut-off wall and bedrock, if required	m	1,300	0.05	$ 5.00	$ -	$ 15.00	$ -	$ 20.00	$ 26,000.00
56	4.1.27		2341.27	Dry cement incorporated in the grout, if required	kg	11,000	0.03	$ 3.13	$ 1.14	$ 0.63	$ -	$ 4.90	$ 53,900.00
57	4.1.28		2341.28	Grouting - Succesful connections, if required	unit	60	2.5	$ 269.60	$ -	$ 404.40	$ -	$ 674.00	$ 40,440.00
				SUB-TOTAL UPSTREAM COFFERDAM									**$ 27,488,940.00**
	4.2	**2340**	2342	**DOWNSTREAM COFFERDAM**									
				CIVIL WORK									
				Excavation									
58	4.2.1		2342.01	Overburden excavation	m^3	500	0.15	$ 16.36	$ -	$ 18.64	$ -	$ 35.00	$ 17,500.00
				Foundation Preparation									
59	4.2.2		2342.02	Foundation cleaning (water/ait jets and Vacuum trucks)	m^2	1,250	0.9	$ 99.63	$ -	$ 20.37	$ -	$ 120.00	$ 150,000.00
60	4.2.3		2342.03	Rock excavation including dental excavation and scaling	m^3	500	0.80	$ 86.61	$ 24.66	$ 100.73	$ -	$ 212.00	$ 106,000.00
61	4.2.4		2342.04	Dental Concrete	m^3	200	1.92	$ 206.57	$ 497.99	$ 45.44	$ -	$ 750.00	$ 150,000.00
62	4.2.5		2342.05	Slush Grout	m^2	1,250	0.2	$ 22.10	$ 8.84	$ 1.06	$ -	$ 32.00	$ 40,000.00
63	4.2.6		2342.06	Dry Pack	m^3	6	50	$ 5,559.66	$ 1,293.49	$ 266.86	$ -	$ 7,120.00	$ 42,720.00
				Embankment Materials									
64	4.2.7		2342.07	Compacted Till - Zones 1 and 1C	m^3	2,000	0.24	$ 26.84	$ -	$ 34.16	$ -	$ 61.00	$ 122,000.00
65	4.2.8		2342.08	Compacted Granular - Zone 2C	m^3	2,500	0.29	$ 29.36	$ -	$ 35.64	$ -	$ 65.00	$ 162,500.00
66	4.2.9		2342.09	Compacted Rockfill - Zone 3C	m^3	4,600	0.12	$ 12.51	$ -	$ 15.49	$ -	$ 28.00	$ 128,800.00
67	4.2.10		2342.10	Compacted Rockfill - Zone 3D	m^3	2,000	0.12	$ 12.51	$ -	$ 15.49	$ -	$ 28.00	$ 56,000.00
				SUB-TOTAL DOWNSTREAM COFFERDAM									**$ 975,520.00**
	4.3	**2340**	2343	**INTAKE CHANNEL COFFERDAM**									
				CIVIL WORK									
				Excavation									
68	4.3.1		2343.01	Overburden excavation	m^3	8,800	0.06	$ 6.91	$ -	$ 9.59	$ -	$ 16.50	$ 145,200.00
				Foundation Preparation									
69	4.3.2		2343.02	Foundation cleaning (water/ait jets and Vacuum trucks)	m^2	1,700	0.9	$ 99.28	$ -	$ 20.72	$ -	$ 120.00	$ 204,000.00
70	4.3.3		2343.03	Rock excavation including dental excavation and scaling	m^3	700	0.78	$ 85.29	$ 25.00	$ 101.71	$ -	$ 212.00	$ 148,400.00

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PRICE ITEM		WBS CODE											
No	REFERENCE Exhibit 2 - ATT 1	CODE	SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS (AT SITE) PER UNIT	MANPOWER COST/UNIT ($ CAN) B	MATERIALS COST/UNIT ($ CAN) C	EQUIPMENT COST/UNIT ($ CAN) D	PROFIT COST/UNIT ($ CAN) E	UNIT PRICE ($ CAN) F= (B+C+D+E)	TOTAL PRICE ($ CAN) G= A x F
71	4.3.4		2343.04	Dental Concrete	m^3	250	1.90	$ 211.77	$ 516.12	$ 22.11	$ -	$ 750.00	$ 187,500.00
72	4.3.5		2343.05	Slush Grout	m^2	1,700	0.2	$ 22.18	$ 8.90	$ 0.93	$ -	$ 32.00	$ 54,400.00
73	4.3.6		2343.06	Dry Pack	m^3	9	50	$ 5,583.13	$ 1,303.11	$ 233.76	$ -	$ 7,120.00	$ 64,080.00
				Embankment Materials									
74	4.3.7		2343.07	Compacted Till - Zones 1 and 1C	m^3	6,300	0.29	$ 31.82	$ 2.11	$ 44.08	$ -	$ 78.00	$ 491,400.00
75	4.3.8		2343.08	Compacted Granular - Zone 2C	m^3	4,900	0.29	$ 36.63	$ 1.04	$ 55.33	$ -	$ 93.00	$ 455,700.00
76	4.3.9		2343.09	Compacted Rockfill - Zone 3C	m^3	5,200	0.19	$ 21.42	$ 2.09	$ 29.49	$ -	$ 53.00	$ 275,600.00
77	4.3.10		2343.10	Compacted Rockfill - Zone 3D	m^3	1,400	0.19	$ 21.42	$ 2.09	$ 29.49	$ -	$ 53.00	$ 74,200.00
				SUB-TOTAL INTAKE CHANNEL COFFERDAM									**$ 2,100,480.00**
	4.4		2330	**SOUTH DAM**									
				CIVIL WORK									
				Excavation									
78	4.4.1		2330.01	Overburden excavation	m^3	94,000	0.06	$ 6.56	$ -	$ 8.94	$ -	$ 15.50	$ 1,457,000.00
				Foundation Preparation									
79	4.4.2		2330.02	Foundation cleaning (water/ait jets and Vacuum trucks)	m^2	3,400	0.9	$ 102.54	$ -	$ 17.46	$ -	$ 120.00	$ 408,000.00
80	4.4.3		2330.03	Rock excavation including dental excavation and scaling	m^3	2,000	0.78	$ 86.20	$ 24.82	$ 100.98	$ -	$ 212.00	$ 424,000.00
81	4.4.4		2330.04	Dental Concrete	m^3	1,200	1.92	$ 218.21	$ 508.83	$ 22.97	$ -	$ 750.00	$ 900,000.00
82	4.4.5		2330.05	Slush Grout	m^2	3,400	0.2	$ 22.42	$ 8.68	$ 0.91	$ -	$ 32.00	$ 108,800.00
83	4.4.6		2330.06	Dry Pack	m^3	20	50	$ 5,625.38	$ 1,267.29	$ 227.33	$ -	$ 7,120.00	$ 142,400.00
84	4.4.7		2330.07	Drilling Holes for Grouting	m	1,200	0.7	$ 97.60	$ -	$ 24.40	$ -	$ 122.00	$ 146,400.00
85	4.4.8		2330.08	Dry cement incorported in the grout	kg	42,000	0.07	$ 5.81	$ 0.94	$ 1.25	$ -	$ 8.00	$ 336,000.00
86	4.4.9		2330.09	Cored Drill Check Holes	m	30	1.79	$ 424.78	$ -	$ 72.22	$ -	$ 497.00	$ 14,910.00
87	4.4.10		2330.10	Percussion Drilling Check holes	m	60	0.8	$ 97.60	$ -	$ 24.40	$ -	$ 122.00	$ 7,320.00
88	4.4.11		2330.11	Grouting - Successful connections	unit	250	2.93	$ 382.21	$ -	$ 33.79	$ -	$ 416.00	$ 104,000.00
89	4.4.12		2330.12	Water pressure test (Lugeon - 5 Stages)	hour	8	3	$ 429.66	$ -	$ 221.34	$ -	$ 651.00	$ 5,208.00
90	4.4.13		2330.13	Water test - Successful connections	unit	18	1.33	$ 191.40	$ -	$ 98.60	$ -	$ 290.00	$ 5,220.00
91	4.4.14		2330.14	Uplift gauges	m	20	2.4	$ 301.00	$ 216.72	$ 84.28	$ -	$ 602.00	$ 12,040.00
92	4.4.15		2330.15	Thermistors (measure rock temperature in grout holes)	unit	1	48	$ -	$ 6,080.00	$ 3,420.00	$ -	$ 9,500.00	$ 9,500.00
				Embankment Materials									
93	4.4.16		2330.16	Compacted Till - Zones 1 and 1C	m^3	26,000	0.23	$ 25.97	$ -	$ 34.03	$ -	$ 60.00	$ 1,560,000.00
94	4.4.17		2330.17	Compacted Granular - Zone 2A	m^3	28,000	0.24	$ 26.43	$ -	$ 34.07	$ -	$ 60.50	$ 1,694,000.00
95	4.4.18		2330.18	Compacted Crushed Stone - Zone 3A	m^3	12,000	0.30	$ 35.31	$ 0.28	$ 38.41	$ -	$ 74.00	$ 888,000.00
96	4.4.19		2330.19	Compacted Crushed Stone - Zone 3B	m^3	16,000	0.30	$ 35.53	$ 0.29	$ 38.18	$ -	$ 74.00	$ 1,184,000.00
97	4.4.20		2330.20	Compacted Rockfill - Zone 3C	m^3	21,000	0.09	$ 10.67	$ -	$ 13.83	$ -	$ 24.50	$ 514,500.00
98	4.4.21		2330.21	Compacted Rockfill - Zone 3D	m^3	46,000	0.09	$ 10.67	$ -	$ 13.83	$ -	$ 24.50	$ 1,127,000.00
99	4.4.22		2330.22	Riprap - Zone 4	m^3	6,000	0.18	$ 21.29	$ -	$ 34.21	$ -	$ 55.50	$ 333,000.00
100	4.4.23		2330.23	Compacted Crushed Stone - Zone 5	m^3	310	0.32	$ 38.94	$ 0.28	$ 43.78	$ -	$ 83.00	$ 25,730.00
101	4.4.24		2330.24	Jersey Barrier	m	600	0.65	$ 77.40	$ 94.17	$ 28.42	$ -	$ 200.00	$ 120,000.00
				Geotechnical Instrumentation									
102	4.4.25		2330.25	V-Notch Weirs, excluding Shelters	unit	2	67.75	$ 7,627.57	$ 9,097.70	$ 374.74	$ -	$ 17,100.00	$ 34,200.00
103	4.4.26		2330.26	Shelters for V-Notch Weirs	unit	2	33.30	$ 4,007.33	$ 1,609.50	$ 283.18	$ -	$ 5,900.00	$ 11,800.00
104	4.4.27		2330.27	Survey Monuments at South Dam Crest	unit	3	5.33	$ 703.98	$ 2,263.34	$ 32.68	$ -	$ 3,000.00	$ 9,000.00
				SUB-TOTAL SOUTH DAM									**$ 11,582,028.00**
	4.5		2320	**NORTH DAM**									
				CIVIL WORK									
				Clearing									
105	4.5.1		2320.01	Clearing of the North Abutment	Ha	3	74.60	$ 21,055.66	$ -	$ 28,444.34	$ -	$ 49,500.00	$ 148,500.00
				Excavation									
106	4.5.2		2320.02	Overburden Excavation	m^3	72,000	0.085	$ 9.60	$ -	$ 13.40	$ -	$ 23.00	$ 1,656,000.00
				Foundation Preparation								$ -	$ -

LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS				SCHEDULE OF PRICE BREAKDOWN								APPENDIX A2.1 Rev. B2	
				ISSUED FOR: BID DATE: 14 - Oct - 2014	BIDDER'S NAME: H.J. O'Connell Construction Limited - Dragados Canada Inc. Joint Venture								
PRICE ITEM		WBS CODE											
No	REFERENCE Exhibit 2 - ATT 1	CODE	SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS (AT SITE) PER UNIT	MANPOWER COST/UNIT ($ CAN) B	MATERIALS COST/UNIT ($ CAN) C	EQUIPMENT COST/UNIT ($ CAN) D	PROFIT COST/UNIT ($ CAN) E	UNIT PRICE ($ CAN) F= (B+C+D+E)	TOTAL PRICE ($ CAN) G= A x F
107	4.5.3		2320.03	Foundation Cleaning (water/air jets and vacuum)	m^2	13,500	1.5	$ 167.27	$ -	$ 32.73	$ -	$ 200.00	$ 2,700,000.00
108	4.5.4		2320.04	Rock Excavation including Dental Excavation and Scaling	m^3	6,000	1.01	$ 111.25	$ 24.98	$ 119.77	$ -	$ 256.00	$ 1,536,000.00
109	4.5.5		2320.05	Dental Concrete	m^3	4,000	1.92	$ 212.78	$ 514.02	$ 23.20	$ -	$ 750.00	$ 3,000,000.00
110	4.5.6		2320.06	Slush Grout	m^2	13,500	0.2	$ 22.10	$ 8.84	$ 1.06	$ -	$ 32.00	$ 432,000.00
111	4.5.7		2320.07	Dry Pack	m^3	70	50	$ 5,559.66	$ 1,293.49	$ 266.86	$ -	$ 7,120.00	$ 498,400.00
112	4.5.8		2320.08	Drilling Holes in RCC and Bedrock for Grouting	m	4,200	1.39	$ 214.65	$ -	$ 50.35	$ -	$ 265.00	$ 1,113,000.00
113	4.5.9		2320.09	Grouting - Successful Connections	unit	720	0.3	$ 98.77	$ -	$ 20.23	$ -	$ 119.00	$ 85,680.00
114	4.5.10		2320.10	Dry Cement incorporated in the grout	kg	126,000	0.04	$ 4.50	$ 1.05	$ 0.96	$ -	$ 6.50	$ 819,000.00
115	4.5.11		2320.11	Cored Drill Check Holes	m	60	1.8	$ 256.96	$ -	$ 95.04	$ -	$ 352.00	$ 21,120.00
116	4.5.12		2320.12	Percussion Drilling Check Holes	m	120	1.4	$ 200.46	$ -	$ 56.54	$ -	$ 257.00	$ 30,840.00
117	4.5.13		2320.13	Water pressure test (lugeon - 5 Stages)	hour	15	3.2	$ 457.52	$ -	$ 144.48	$ -	$ 602.00	$ 9,030.00
118	4.5.14		2320.14	Water Pressure Test - Successful connections	unit	36	1.33	$ 190.76	$ -	$ 60.24	$ -	$ 251.00	$ 9,036.00
119	4.5.15		2320.15	Uplift gauges	m	60	1.8	$ 273.15	$ 242.80	$ 91.05	$ -	$ 607.00	$ 36,420.00
120	4.5.16		2320.16	Thermistor (measure temperature in grout holes)	unit	1	48	$ 6,240.00	$ 3,360.00	$ -	$ -	$ 9,600.00	$ 9,600.00
				Drainage Holes									
121	4.5.17		2320.17	Drilling Holes for Drainage in Foundation from Drainage Gallery, Φ76 mm	m	3,200	1.44	$ 223.04	$ -	$ 48.96	$ -	$ 272.00	$ 870,400.00
122	4.5.18		2320.18	PVC Caps for Drainage Holes	unit	125	0	$ -	$ 35.00	$ -	$ -	$ 35.00	$ 4,375.00
123	4.5.19		2320.19	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Φ76 mm	m	3,200	1.84	$ 261.59	$ 3.74	$ 48.68	$ -	$ 314.00	$ 1,004,800.00
				Instrumentation									
124	4.5.20		2320.20	Drilling Holes for piezometers	m	100	1.02	$ 121.87	$ 19.35	$ 16.78	$ -	$ 158.00	$ 15,800.00
125	4.5.21		2320.21	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables	unit	8	34	$ 3,600.00	$ 2,400.00	$ -	$ -	$ 6,000.00	$ 48,000.00
126	4.5.22		2320.22	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables	unit	2	68	$ 7,140.00	$ 4,760.00	$ -	$ -	$ 11,900.00	$ 23,800.00
127	4.5.23		2320.23	Instrument Cable including PVC Conduits and Pull Boxes	m	2,700	0.15	$ 18.55	$ -	$ 34.45	$ -	$ 53.00	$ 143,100.00
128	4.5.24		2320.24	Thermistors Cable in RCC	unit	8	725	$ 7,450.00	$ 7,450.00	$ -	$ -	$ 14,900.00	$ 119,200.00
129	4.5.25		2320.25	V-notch Weirs	unit	4	114	$ 12,915.22	$ 9,187.27	$ 1,597.51	$ -	$ 23,700.00	$ 94,800.00
130	4.5.26		2320.26	Vibrating Wire Weir Monitors.	unit	4	25	$ 7,425.00	$ -	$ 22,275.00	$ -	$ 29,700.00	$ 118,800.00
131	4.5.27		2320.27	Data logger, Terminal Box, Barometer Box including Grounding	LS	1	225	$ 23,800.00	$ 95,200.00	$ -	$ -	$ 119,000.00	$ 119,000.00
132	4.5.28		2320.28	Crest Survey Monuments	unit	4	6.8	$ 841.36	$ 2,112.89	$ 45.75	$ -	$ 3,000.00	$ 12,000.00
				Concrete and RCC operations									
133	4.5.29		2320.29	Roller Compacted Concrete (RCC)	m^3	210,000	2.04	$ 261.11	$ 109.29	$ 96.60	$ -	$ 467.00	$ 98,070,000.00
133.a				Roller Compacted Concrete Coarse Aggregates (Rate Only)	tonne							$ -	
133.b				Roller Compacted Concrete Fine Aggregates (Rate Only)	tonne							$ -	
134	4.5.30		2320.30	Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)	m^3	11,100	4.44	$ 896.64	$ 305.00	$ 228.35	$ -	$ 1,430.00	$ 15,873,000.00
135	4.5.31		2320.31	Facing Concrete	m^3	8,600	7.65	$ 894.85	$ 203.26	$ 276.89	$ -	$ 1,375.00	$ 11,825,000.00
136	4.5.32		2320.32	GERCC or GEVR - Formed Faces	m^3	4,650	6.43	$ 767.24	$ 132.37	$ 310.39	$ -	$ 1,210.00	$ 5,626,500.00
137	4.5.33		2320.33	Conventional Vibrated Concrete (North Abutment Crest Surface and Training Wall)	m^3	270	6.16	$ 900.41	$ 310.20	$ 164.40	$ -	$ 1,375.00	$ 371,250.00
138	4.5.34		2320.34	Increase or decrease in quantity of cement - Bid Mix (rate only)	Kg	N/A						$ -	
139	4.5.35		2320.35	Increase or decrease in quantity of flyash - Bid Mix (rate only)	Kg	N/A						$ -	
140	4.5.36		2320.36	Increase or decrease in quantity of cement - Source B (rate only)	Kg	N/A						$ -	
141	4.5.37		2320.37	Increase or decrease in quantity of flyash - Source B (rate only)	Kg	N/A						$ -	
142	4.5.38		2320.38	Air-entraining Admixture	litre	315,000	0.00	$ -	$ 4.50	$ -	$ -	$ 4.50	$ 1,417,500.00
143	4.5.39		2320.39	Retarder Admixture	litre	336,000	0.00	$ -	$ 4.80	$ -	$ -	$ 4.80	$ 1,612,800.00
144	4.5.40		2320.40	Precast Concrete	m^3	1,150	2.75	$ 276.45	$ 1,655.03	$ 118.52	$ -	$ 2,050.00	$ 2,357,500.00
145	4.5.41		2320.41	Gallery Floor CVC Concrete	m^3	275	12.03	$ 1,430.89	$ 359.55	$ 259.57	$ -	$ 2,050.00	$ 563,750.00
146	4.5.42		2320.42	Steel Reinforcement	kg	500,000	0.02	$ 4.93	$ 2.77	$ 0.40	$ -	$ 8.10	$ 4,050,000.00
147	4.5.43		2320.43	Steel Guardrails	kg	5,200	0.30	$ 36.14	$ 6.55	$ 2.32	$ -	$ 45.00	$ 234,000.00
148	4.5.44		2320.44	Waterstop	m	1,350	1.50	$ 174.18	$ 21.82	$ -	$ -	$ 196.00	$ 264,600.00
	4.6		2370	**NORTH DAM - Auxiliary Services**									
				ELECTRICAL WORK									
149	4.6.1		2370.01	Exothermic Connections.	unit	20	8.00	$ 900.00	$ 300.00	$ -	$ -	$ 1,200.00	$ 24,000.00
150	4.6.2		2370.02	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil	m	815	0.85	$ 95.20	$ 23.80	$ -	$ -	$ 119.00	$ 96,985.00
151	4.6.3		2370.03	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG	m	16	0.80	$ 29.75	$ 89.25	$ -	$ -	$ 119.00	$ 1,904.00
152	4.6.4		2370.04	Embedded Copper Grounding Plates	unit	7	0.30	$ 35.70	$ 321.30	$ -	$ -	$ 357.00	$ 2,499.00
				SUB-TOTAL NORTH DAM									**$ 157,069,989.00**

LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS	SCHEDULE OF PRICE BREAKDOWN	APPENDIX A2.1 Rev. B2
	ISSUED FOR: BID DATE: 14 - Oct - 2014	BIDDER'S NAME: H.J. O'Connell Construction Limited - Dragados Canada Inc. Joint Venture

PRICE ITEM No	PRICE ITEM REFERENCE Exhibit 2 - ATT 1	WBS CODE CODE	WBS CODE SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS (AT SITE) PER UNIT	MANPOWER COST/UNIT ($ CAN) B	MATERIALS COST/UNIT ($ CAN) C	EQUIPMENT COST/UNIT ($ CAN) D	PROFIT COST/UNIT ($ CAN) E	UNIT PRICE ($ CAN) F= (B+C+D+E)	TOTAL PRICE ($ CAN) G= A x F
	5	3100		**Powerhouse Channels**									
	5.1		3120.00	**Tailrace**									
				CIVIL WORK									
				Tailrace Rock Plug - Overburden Excavation									
153	5.1.1		3120.01	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions	m^3	12,000	0.08	$ 8.91	$ -	$ 12.09	$ -	$ 21.00	$ 252,000.00
				Tailrace Rock Plug - Rock Excavation									
154	5.1.2		3120.02	Tailrace Rock Plug Excavation including access ramp to powerhouse -Dry Conditions	m^3	170,000	0.11	$ 16.81	$ 3.79	$ 19.40	$ -	$ 40.00	$ 6,800,000.00
155	5.1.3		3120.03	Tailrace Rock Plug - Underwater Excavation	m^3	34,000	0.40	$ 43.90	$ 17.20	$ 45.91	$ -	$ 107.00	$ 3,638,000.00
				Tailrace Rock Plug - Stabilization and Rock Surface Protection									
156	5.1.4		3120.04	Grouted Rock Bolts Type A	unit	70	19.20	$ 2,200.74	$ 1,076.35	$ 522.91	$ -	$ 3,800.00	$ 266,000.00
157	5.1.5		3120.05	Grouted Rock Bolts Type C	unit	20	35.20	$ 4,014.21	$ 1,984.15	$ 951.64	$ -	$ 6,950.00	$ 139,000.00
158	5.1.6		3120.06	Chain Link Wire Mesh - Installation	m^2	2,500	0.25	$ 28.46	$ 15.58	$ 6.95	$ -	$ 51.00	$ 127,500.00
159	5.1.7		3120.07	Chain Link Wire Mesh - Removal	m^2	20,300	0.05	$ 5.77	$ -	$ 2.23	$ -	$ 8.00	$ 162,400.00
160	5.1.8		3120.08	Existing Temporary Safety Fence - Removal	m	1,200	0.39	$ 44.68	$ -	$ 17.32	$ -	$ 62.00	$ 74,400.00
				SUB-TOTAL TAILRACE									**$ 11,459,300.00**
	6	1100		**Borrow Areas**									
	6.1		1117.00	**Borrowed Construction Material**									
161	6.1.1		3120.01	Overhaul of Borrowed Construction Material (rate only)	m3/km	N/A						$ 1.50	
ROW A	**CALCULATED TOTAL OF LUMP SUM AND UNIT PRICE ITEMS (BASED ON APPROXIMATE QUANTITIES)**									**$**			**340,365,092.00**

NOTES

Note 1 : If there has been an error in the calculation to establish the total of Column G (Total Price) or Column F (UNIT PRICE), then the figures of column A (Estimated Quantity of Units), column B (Man Hours), column C (Manpower), column D (Equipment) and column E (Profits) will prevail.

Note 2 : This Document is provided to the bidders in Native Excel File format. It is the bidders responsibility to verify cell formats and formulas.

Note 3 : Bidders shall not include any HST/GST from any source (whether from Bidder, subcontractor, vendors or suppliers) in the unit and lump sum prices in this Schedule of Price Breakdown. Bidders shall claim input tax credits on taxable supplies received from vendors, suppliers and subcontractors and thereof Bidders shall exclude HST/GST payable to the vendors, suppliers and subcontractors from the unit and lump sum prices in the Schedule. Bidders shall exclude HST/GST on the total listed in Row A.

FOR THE LOWER CHURCHILL PROJECT - MUSKRAT FALLS

This Appendix forms part of the Proposal submitted by: H.J. O'Connell Construction Limited - Dragados Canada Inc. Joint Venture

Name of Bidder: H.J. O'Connell Construction Limited - Dragados Canada Inc. Joint Venture

Request For Proposal, Package No: CH0009

Signature: Manuel Rivaya - Dragados Canada, Inc.

Signature: Leonard Knox - H.J. O'Connell Construction Limited

Date of Proposal: 22-OCT-2014