

LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS				SCHEDULE OF PRICE BREAKDOWN - For River Diversion in 2017								APPENDIX A2.1 Rev. B3		
ISSUED FOR: BID				DATE: 6 - Jun - 2015				BIDDER'S NAME: H.J. O'Connell Construction Ltd - Dragados Canada Inc Joint Venture						
No	REFERENCE Exhibit 2 - ATT 1	WBS CODE 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	
<b>2 0000</b>				<b>INDIRECT COSTS</b>										
1	2.1		0000.01	Mobilization	LS	1	28108.00	\$ 2,062,375.09	\$ 2,849,744.05	\$ 25,087,880.86	\$ -	\$ 30,000,000.00	\$ 30,000,000.00	
2	2.2		0000.02	Site Installation	LS	1	61020.69	\$ 6,759,270.52	\$ 3,288,928.07	\$ 12,076,801.41	\$ -	\$ 22,125,000.00	\$ 22,125,000.00	
3	2.3		0000.03	Management, Staff, employees and Consultants	LS	1	302400.00	\$ 37,123,791.56	\$ 4,279,072.47	\$ 1,097,135.97	\$ -	\$ 42,500,000.00	\$ 42,500,000.00	
4	2.4		0000.04	Health and Safety, Environmental and Quality Requirements	LS	1	81166.48	\$ 7,321,693.17	\$ 126,761.87	\$ 51,544.96	\$ -	\$ 7,500,000.00	\$ 7,500,000.00	
5	2.5		0000.05	Credit, Guarantee and Insurance	LS	1	0.00	\$ -	\$ 1,930,000.00	\$ -	\$ -	\$ 1,930,000.00	\$ 1,930,000.00	
6	2.6		0000.06	Warranty, per Article 17 of the Agreement	LS	1	0.00	\$ 225,000.00	\$ -	\$ 225,000.00	\$ -	\$ 450,000.00	\$ 450,000.00	
7	2.7		0000.07	Demobilization	LS	1	0.00	\$ -	\$ -	\$ 250,000.00	\$ -	\$ 250,000.00	\$ 250,000.00	
				<b>SUB-TOTAL INDIRECT COSTS</b>										
<b>3 1100</b>				<b>GENERAL</b>										
<b>3.1 1110</b>				<b>DEWATERING OF STRUCTURE AREAS</b>										
8	3.1.1		1110.01	Dewatering of Structure Areas	LS	1	8179.00	\$ 865,855.43	\$ 382,409.95	\$ 251,734.62	\$ -	\$ 1,500,000.00	\$ 1,500,000.00	
<b>3.2 1111</b>				<b>EXCAVATION OF EXISTING COFFERDAMS</b>										
9	3.2.1		1111.01	Excavation of Existing Embankment cofferdams 1, 2 and 3, and Existing Ramps	m³	177,000	0.05	\$ 5.33	\$ 0.10	\$ 7.07	\$ -	\$ 12.50	\$ 2,212,500.00	
10	3.2.2		1111.02	Excavation of Downstream section of RCC riverside cofferdam	m³	20,000	0.12	\$ 13.72	\$ 3.44	\$ 14.83	\$ -	\$ 32.00	\$ 640,000.00	
<b>3.3 1112</b>				<b>PERMANENT ROADS AND PARKING AREA</b>										
11	3.3.1		1112.01	Overburden Excavation	m³	8,000	0.08	\$ 8.76	\$ -	\$ 10.14	\$ -	\$ 18.90	\$ 151,200.00	
12	3.3.2		1112.02	Other Material or Rockfill	m³	44,000	0.05	\$ 5.21	\$ -	\$ 6.59	\$ -	\$ 11.80	\$ 519,200.00	
13	3.3.3		1112.03	Maintenance Grade 3 material	m³	6,000	0.22	\$ 25.53	\$ 0.28	\$ 29.39	\$ -	\$ 55.20	\$ 331,200.00	
14	3.3.6		1112.04	CSP culvert, dia. 900 mm	m	48	4.43	\$ 493.28	\$ 210.37	\$ 166.35	\$ -	\$ 870.00	\$ 41,760.00	
15	3.3.7		1112.05	Guide Rails	m	400	2.60	\$ 278.69	\$ 116.30	\$ 23.00	\$ -	\$ 418.00	\$ 167,200.00	
16	3.3.8		1112.06	Gate Type 1	unit	2	76.80	\$ 8,362.27	\$ 3,403.62	\$ 1,234.12	\$ -	\$ 13,000.00	\$ 26,000.00	
<b>3.5 1114</b>				<b>DITCHES</b>										
17	3.5.1		1114.01	Overburden Excavation	m³	2,000	0.09	\$ 8.73	\$ -	\$ 10.27	\$ -	\$ 19.00	\$ 38,000.00	
18	3.5.2		1114.02	Non-woven Geotextile, min 300 g/m²	m²	2,500	0.16	\$ 16.13	\$ 5.26	\$ 3.61	\$ -	\$ 25.00	\$ 62,500.00	
19	3.5.3		1114.03	Rockfill Protection, 100 - 250 mm	m³	1,000	0.35	\$ 35.87	\$ -	\$ 23.13	\$ -	\$ 59.00	\$ 59,000.00	
<b>3.6 1115</b>				<b>SLOPE PROTECTION</b>										
20	3.6.1		1115.01	Rockfill Protection, Zone 3E Material	m³	2,500	0.12	\$ 11.86	\$ -	\$ 13.14	\$ -	\$ 25.00	\$ 62,500.00	
21	3.6.2		1115.02	Non-woven Geotextile, min 530 g/m²	m²	4,500	0.04	\$ 3.99	\$ 3.62	\$ 0.89	\$ -	\$ 8.50	\$ 38,250.00	
<b>3.7 1116</b>				<b>CHAIN LINK FENCES AND GATES</b>										
22	3.7.1		1116.01	Chain Link Fence and Gates	m	720	2.90	\$ 331.41	\$ 68.56	\$ 75.03	\$ -	\$ 475.00	\$ 342,000.00	
<b>3.8 1150</b>				<b>TEMPORARY UPSTREAM BRIDGE OVER SPILLWAY APPROACH CHANNEL</b>										
23	3.8.1		1150.01	Engineering of Temporary Upstream Bridge	LS	1	0.00	\$ 115,000.00	\$ -	\$ -	\$ -	\$ 115,000.00	\$ 115,000.00	
24	3.8.2		1150.02	Supply of Temporary Upstream Bridge	LS	1	373.10	\$ 39,381.38	\$ 1,946,918.35	\$ 13,700.27	\$ -	\$ 2,000,000.00	\$ 2,000,000.00	
25	3.8.3		1150.03	Installation, removal and handover of Temporary Upstream Bridge	LS	1	18923.73	\$ 2,026,189.06	\$ 1,138,361.63	\$ 1,335,449.31	\$ -	\$ 4,500,000.00	\$ 4,500,000.00	
				<b>SUB-TOTAL GENERAL</b>										
<b>4 2300</b>				<b>DAMS AND COFFERDAMS - GENERAL</b>										
<b>4.1 2340 2341</b>				<b>UPSTREAM COFFERDAM</b>										
				<b>CIVIL WORK</b>										
				<b>Excavation</b>										
26	4.1.1		2341.01	Overburden excavation	m³	2,500	0.14	\$ 15.71	\$ -	\$ 17.04	\$ -	\$ 32.75	\$ 81,875.00	
				<b>Foundation Preparation in dry condition</b>										
27	4.1.2		2341.02	Foundation Cleaning (water/air jets and Vacuum trucks)	m²	1,200	0.90	\$ 104.20	\$ -	\$ 15.80	\$ -	\$ 120.00	\$ 144,000.00	
28	4.1.3		2341.03	Rock Excavation including dental excavation and Scaling	m³	500	0.79	\$ 89.47	\$ 24.63	\$ 90.91	\$ -	\$ 205.00	\$ 102,500.00	
29	4.1.4		2341.04	Dental Concrete	m³	800	1.92	\$ 206.90	\$ 482.46	\$ 20.65	\$ -	\$ 710.00	\$ 568,000.00	
30	4.1.5		2341.05	Slush Grout	m²	1,200	0.20	\$ 22.39	\$ 8.64	\$ 0.97	\$ -	\$ 32.00	\$ 38,400.00	
31	4.1.6		2341.06	Dry Pack	m³	6	50.00	\$ 5,638.30	\$ 1,266.21	\$ 245.50	\$ -	\$ 7,150.00	\$ 42,900.00	
				<b>Embankment Materials</b>										
32	4.1.7		2341.07	Compacted Till - Zones 1 and 1C Materials	m³	19,000	0.24	\$ 26.16	\$ -	\$ 30.84	\$ -	\$ 57.00	\$ 1,083,000.00	
33	4.1.8		2341.08	Dumped Till - Zone 1A Material	m³	134,000	0.13	\$ 13.88	\$ -	\$ 22.12	\$ -	\$ 36.00	\$ 4,824,000.00	
34	4.1.9		2341.09	Compacted Granular - Zone 2A Material	m³	20,700	0.28	\$ 29.37	\$ -	\$ 30.63	\$ -	\$ 60.00	\$ 1,242,000.00	
35	4.1.10		2341.10	Compacted Granular - Zone 2C Material	m³	8,700	0.28	\$ 29.44	\$ -	\$ 30.56	\$ -	\$ 60.00	\$ 522,000.00	
36	4.1.11		2341.11	Dumped Granular - Zone 2E Material	m³	26,300	0.17	\$ 16.54	\$ -	\$ 25.46	\$ -	\$ 42.00	\$ 1,104,600.00	
37	4.1.12		2341.12	Dumped Rockfill- Zone 3 Material	m³	143,000	0.06	\$ 6.91	\$ -	\$ 8.09	\$ -	\$ 15.00	\$ 2,145,000.00	
38	4.1.13		2341.13	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1	m³	37,000	0.08	\$ 9.11	\$ -	\$ 12.39	\$ -	\$ 21.50	\$ 795,500.00	
39	4.1.14		2341.14	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2	m³	65,000	0.17	\$ 18.88	\$ -	\$ 26.12	\$ -	\$ 45.00	\$ 2,925,000.00	
40	4.1.15		2341.15	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3	m³	15,000	0.20	\$ 22.70	\$ -	\$ 34.55	\$ -	\$ 57.25	\$ 858,750.00	
41	4.1.16		2341.16	Compacted Crushed Stone - Zone 3A Material	m³	10,950	0.32	\$ 36.19	\$ 0.28	\$ 33.53	\$ -	\$ 70.00	\$ 766,500.00	
42	4.1.17		2341.17	Compacted Rockfill - Zone 3C Material	m³	33,740	0.10	\$ 11.74	\$ -	\$ 13.76	\$ -	\$ 25.50	\$ 860,370.00	
43	4.1.18		2341.18	Compacted Rockfill - Zone 3D Material	m³	33,900	0.10	\$ 11.74	\$ -	\$ 13.76	\$ -	\$ 25.50	\$ 864,450.00	
44	4.1.19		2341.19	Dumped Crushed Stone- Zone 3F Material	m³	21,000	0.19	\$ 20.94	\$ 0.28	\$ 25.28	\$ -	\$ 46.50	\$ 976,500.00	
				<b>Investigation for Jet Grouted Cut-off Wall and Bedrock Grouting</b>										
45	4.1.20		2341.20	Percussion Drill Holes in embankments, river sediments and bedrock	m	1,000	0.25	\$ 33.60	\$ -	\$ 86.40	\$ -	\$ 120.00	\$ 120,000.00	
46	4.1.21		2341.21	Verification Core Drilling in jet grouting cut-off wall and bedrock	m	200	0.72	\$ 95.00	\$ 14.25	\$ 365.75	\$ -	\$ 475.00	\$ 95,000.00	
47	4.1.22		2341.22	Core Diamond Drill Rig in Standby	hour	140	0.00	\$ -	\$ -	\$ 155.00	\$ -	\$ 155.00	\$ 21,700.00	
				<b>SUB-TOTAL UPSTREAM COFFERDAM</b>										
<b>4.2 2340 2342</b>				<b>DOWNSTREAM COFFERDAM</b>										
				<b>CIVIL WORK</b>										
				<b>Excavation</b>										
48	4.2.1		2342.01	Overburden excavation	m³	500	0.15	\$ 17.01	\$ -	\$ 16.49	\$ -	\$ 33.50	\$ 16,750.00	
				<b>Foundation Preparation</b>										
49	4.2.2		2342.02	Foundation cleaning (water/ait jets and Vacuum trucks)	m²	1,250	0.90	\$ 101.83	\$ -	\$ 18.17	\$ -	\$ 120.00	\$ 150,000.00	
50	4.2.3		2342.03	Rock excavation including dental excavation and scaling	m³	500	0.80	\$ 90.32	\$ 24.39	\$ 90.29	\$ -	\$ 205.00	\$ 102,500.00	
51	4.2.4		2342.04	Dental Concrete	m³	200	1.92	\$ 201.36	\$ 468.63	\$ 40.00	\$ -	\$ 710.00	\$ 142,000.00	
52	4.2.5		2342.05	Slush Grout	m²	1,250	0.20	\$ 22.39	\$ 8.64	\$ 0.97	\$ -	\$ 32.00	\$ 40,000.00	
53	4.2.6		2342.06	Dry Pack	m³	6	50.00	\$ 5,638.30	\$ 1,266.21	\$ 245.50	\$ -	\$ 7,150.00	\$ 42,900.00	
				<b>Embankment Materials</b>										
54	4.2.7		2342.07	Compacted Till - Zones 1 and 1C	m³	2,000	0.23	\$ 25.99	\$ -	\$ 31.01	\$ -	\$ 57.00	\$ 114,000.00	
55	4.2.8		2342.08	Compacted Granular - Zone 2C	m³	2,500	0.28	\$ 29.08	\$ -	\$ 32.92	\$ -	\$ 62.00	\$ 155,000.00	
56	4.2.9		2342.09	Compacted Rockfill - Zone 3C	m³	4,600	0.12	\$ 13.12	\$ -	\$ 13.88	\$ -	\$ 27.00	\$ 124,200.00	
57	4.2.10		2342.10	Compacted Rockfill - Zone 3D	m³	2,000	0.12	\$ 13.12	\$ -	\$ 13.88	\$ -	\$ 27.00	\$ 54,000.00	
				<b>SUB-TOTAL DOWNSTREAM COFFERDAM</b>										
<b>4.3 2340 2343</b>				<b>INTAKE CHANNEL COFFERDAM</b>										
				<b>CIVIL WORK</b>										
				<b>Excavation</b>										
58	4.3.1		2343.01	Overburden excavation	m³	8,800	0.06	\$ 6.94	\$ -	\$ 8.06	\$ -	\$ 15.00	\$ 132,000.00	
				<b>Foundation Preparation</b>										
59	4.3.2		2343.02	Foundation cleaning (water/ait jets and Vacuum trucks)	m²	1,700	0.90	\$ 101.49	\$ -	\$ 18.51	\$ -	\$ 120.00	\$ 204,000.00	
60	4.3.3		2343.03	Rock excavation including dental excavation and scaling	m³	700	0.78	\$ 89.05	\$ 24.74	\$ 91.21	\$ -	\$ 205.00	\$ 143,500.00	
61	4.3.4		2343.04	Dental Concrete	m³	250	1.90	\$ 205.91	\$ 484.41	\$ 19.68	\$ -	\$ 710.00	\$ 177,500.00	
62	4.3.5		2343.05	Slush Grout	m²	1,700	0.20	\$ 22.45	\$ 8.69	\$ 0.85	\$ -	\$ 32.00	\$ 54,400.00	
63	4.3.6		2343.06	Dry Pack	m³	9	50.00	\$ 5,659.97	\$ 1,275.08	\$ 214.96	\$ -	\$ 7,150.00	\$ 64,350.00	
				<b>Embankment Materials</b>										
64	4.3.7		2343.07	Compacted Till - Zones 1 and 1C	m³	6,300	0.29	\$ 31.75	\$ 2.05	\$ 39.19	\$ -	\$ 73.00	\$ 459,900.00	
65	4.3.8		2343.08	Compacted Granular - Zone 2C	m³	4,900	0.31	\$ 36.62	\$ 1.02	\$ 50.36	\$ -	\$ 88.00	\$ 431,200.00	
66	4.3.9		2343.09	Compacted Rockfill - Zone 3C	m³	5,200	0.19	\$ 21.55	\$ 2.07	\$ 25.39	\$ -	\$ 49.00	\$ 254,800.00	
67	4.3.10		2343.10	Compacted Rockfill - Zone 3D	m³	1,400	0.19	\$ 21.55	\$ 2.07	\$ 25				



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				ISSUED FOR: BID				DATE: 6 - Jun - 2015				BIDDER'S NAME: H.J. O'Connell Construction Ltd - 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	
82	4.4.15		2330.15	Thermistors (measure rock temperature in grout holes)										unit	1	48.00	\$ -	\$ 7,488.00	\$ 4,212.00	\$ -	\$ 11,700.00	\$ 11,700.00	
				<b>Embankment Materials</b>																			
83	4.4.16		2330.16	Compacted Till - Zones 1 and 1C										m <sup>3</sup>	26,000	0.22	\$ 25.34	\$ -	\$ 30.66	\$ -	\$ 56.00	\$ 1,456,000.00	
84	4.4.17		2330.17	Compacted Granular - Zone 2A										m <sup>3</sup>	28,000	0.24	\$ 25.86	\$ -	\$ 31.14	\$ -	\$ 57.00	\$ 1,596,000.00	
85	4.4.18		2330.18	Compacted Crushed Stone - Zone 3A										m <sup>3</sup>	12,000	0.30	\$ 35.02	\$ 0.28	\$ 33.70	\$ -	\$ 69.00	\$ 828,000.00	
86	4.4.19		2330.19	Compacted Crushed Stone - Zone 3B										m <sup>3</sup>	16,000	0.30	\$ 34.51	\$ 0.28	\$ 32.70	\$ -	\$ 67.50	\$ 1,080,000.00	
87	4.4.20		2330.20	Compacted Rockfill - Zone 3C										m <sup>3</sup>	21,000	0.09	\$ 10.94	\$ -	\$ 12.06	\$ -	\$ 23.00	\$ 483,000.00	
88	4.4.21		2330.21	Compacted Rockfill - Zone 3D										m <sup>3</sup>	46,000	0.09	\$ 10.94	\$ -	\$ 12.06	\$ -	\$ 23.00	\$ 1,058,000.00	
89	4.4.22		2330.22	Riprap - Zone 4										m <sup>3</sup>	6,000	0.18	\$ 21.79	\$ -	\$ 29.21	\$ -	\$ 51.00	\$ 306,000.00	
90	4.4.23		2330.23	Compacted Crushed Stone - Zone 5										m <sup>3</sup>	310	0.32	\$ 38.67	\$ 0.28	\$ 39.05	\$ -	\$ 78.00	\$ 24,180.00	
91	4.4.24		2330.24	Jersey Barrier										m	600	0.65	\$ 80.11	\$ 93.68	\$ 26.20	\$ -	\$ 200.00	\$ 120,000.00	
				<b>Geotechnical Instrumentation</b>																			
92	4.4.25		2330.25	V-Notch Weirs, excluding Shelters										unit	2	67.75	\$ 8,025.75	\$ 3,620.46	\$ 353.79	\$ -	\$ 12,000.00	\$ 24,000.00	
93	4.4.26		2330.26	Shelters for V-Notch Weirs										unit	2	33.30	\$ 4,069.85	\$ 1,570.48	\$ 259.67	\$ -	\$ 5,900.00	\$ 11,800.00	
94	4.4.27		2330.27	Survey Monuments at South Dam Crest										unit	3	5.33	\$ 624.25	\$ 349.63	\$ 26.12	\$ -	\$ 1,000.00	\$ 3,000.00	
				<b>SUB-TOTAL SOUTH DAM</b>																			
				<b>NORTH DAM</b>																			
				<b>CIVIL WORK</b>																			
				<b>Clearing</b>																			
95	4.5.1		2320.01	Clearing of the North Abutment										Ha	3	74.67	\$ 20,808.36	\$ -	\$ 27,191.64	\$ -	\$ 48,000.00	\$ 144,000.00	
				<b>Excavation</b>																			
96	4.5.2		2320.02	Overburden Excavation										m <sup>3</sup>	72,000	0.08	\$ 9.66	\$ -	\$ 11.34	\$ -	\$ 21.00	\$ 1,512,000.00	
				<b>Foundation Preparation</b>																			
97	4.5.3		2320.03	Foundation Cleaning (water/air jets and vacuum)										m <sup>2</sup>	13,500	1.50	\$ 170.78	\$ -	\$ 29.22	\$ -	\$ 200.00	\$ 2,700,000.00	
98	4.5.4		2320.04	Rock Excavation including Dental Excavation and Scaling										m <sup>3</sup>	6,000	1.01	\$ 116.71	\$ 24.95	\$ 108.34	\$ -	\$ 250.00	\$ 1,500,000.00	
99	4.5.5		2320.05	Dental Concrete										m <sup>3</sup>	4,000	1.92	\$ 206.90	\$ 482.46	\$ 20.65	\$ -	\$ 710.00	\$ 2,840,000.00	
100	4.5.6		2320.06	Slush Grout										m <sup>2</sup>	13,500	0.20	\$ 22.39	\$ 8.64	\$ 0.97	\$ -	\$ 32.00	\$ 432,000.00	
101	4.5.7		2320.07	Dry Pack										m <sup>3</sup>	70	50.00	\$ 5,638.30	\$ 1,266.21	\$ 245.50	\$ -	\$ 7,150.00	\$ 500,500.00	
102	4.5.8		2320.08	Drilling Holes in RCC and Bedrock for Grouting										m	4,200	1.39	\$ 228.00	\$ -	\$ 57.00	\$ -	\$ 285.00	\$ 1,197,000.00	
103	4.5.9		2320.09	Grouting - Successful Connections										unit	720	2.43	\$ 346.35	\$ 31.17	\$ 37.48	\$ -	\$ 415.00	\$ 298,800.00	
104	4.5.10		2320.10	Dry Cement incorporated in the grout										kg	126,000	0.01	\$ 4.25	\$ -	\$ 0.75	\$ -	\$ 5.00	\$ 630,000.00	
105	4.5.11		2320.11	Cored Drill Check Holes										m	60	1.80	\$ 276.00	\$ -	\$ 69.00	\$ -	\$ 345.00	\$ 20,700.00	
106	4.5.12		2320.12	Percussion Drilling Check Holes										m	120	1.40	\$ 225.00	\$ -	\$ 25.00	\$ -	\$ 250.00	\$ 30,000.00	
107	4.5.13		2320.13	Water pressure test (lugen - 5 Stages)										hour	15	3.20	\$ 396.00	\$ -	\$ 204.00	\$ -	\$ 600.00	\$ 9,000.00	
108	4.5.14		2320.14	Water Pressure Test - Successful connections										unit	36	1.33	\$ 165.00	\$ -	\$ 85.00	\$ -	\$ 250.00	\$ 9,000.00	
109	4.5.15		2320.15	Uplift gauges										m	60	1.80	\$ 300.00	\$ 216.00	\$ 84.00	\$ -	\$ 600.00	\$ 36,000.00	
110	4.5.16		2320.16	Thermistor (measure temperature in grout holes)										unit	1	48.00	\$ -	\$ 7,488.00	\$ 4,212.00	\$ -	\$ 11,700.00	\$ 11,700.00	
				<b>Drainage Holes</b>																			
111	4.5.17		2320.17	Drilling Holes for Drainage in Foundation from Drainage Gallery, Ø76 mm										m	3,200	1.44	\$ 287.00	\$ -	\$ 63.00	\$ -	\$ 350.00	\$ 1,120,000.00	
112	4.5.18		2320.18	PVC Caps for Drainage Holes										unit	125	0.00	\$ -	\$ 32.75	\$ -	\$ -	\$ -	\$ 32.75	\$ 4,093.75
113	4.5.19		2320.19	Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Ø76 mm										m	3,200	1.74	\$ 396.99	\$ 3.65	\$ 74.36	\$ -	\$ 475.00	\$ 1,520,000.00	
				<b>Instrumentation</b>																			
114	4.5.20		2320.20	Drilling Holes for piezometers										m	100	1.02	\$ 124.80	\$ 19.03	\$ 16.17	\$ -	\$ 160.00	\$ 16,000.00	
115	4.5.21		2320.21	Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables										unit	8	34.00	\$ 3,600.00	\$ 2,400.00	\$ -	\$ -	\$ 6,000.00	\$ 48,000.00	
116	4.5.22		2320.22	Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables										unit	2	34.00	\$ 3,600.00	\$ 2,400.00	\$ -	\$ -	\$ 6,000.00	\$ 12,000.00	
117	4.5.23		2320.23	Instrument Cable including PVC Conduits and Pull Boxes										m	2,700	0.15	\$ 20.48	\$ -	\$ 38.03	\$ -	\$ 58.50	\$ 157,950.00	
118	4.5.24		2320.24	Thermistors Cable in RCC										unit	8	25.00	\$ 2,350.00	\$ 2,350.00	\$ -	\$ -	\$ 4,700.00	\$ 37,600.00	
119	4.5.25		2320.25	V-notch Weirs										unit	4	114.01	\$ 13,392.87	\$ 3,602.68	\$ 1,504.46	\$ -	\$ 18,500.00	\$ 74,000.00	
120	4.5.26		2320.26	Vibrating Wire Weir Monitors.										unit	4	25.00	\$ 1,500.00	\$ -	\$ 4,500.00	\$ -	\$ 6,000.00	\$ 24,000.00	
121	4.5.27		2320.27	Data logger, Terminal Box, Barometer Box including Grounding										LS	1	225.00	\$ 12,000.00	\$ 48,000.00	\$ -	\$ -	\$ 60,000.00	\$ 60,000.00	
122	4.5.28		2320.28	Crest Survey Monuments										unit	4	6.80	\$ 807.23	\$ 353.21	\$ 39.56	\$ -	\$ 1,200.00	\$ 4,800.00	
				<b>Concrete and RCC operations</b>																			
123	4.5.29		2320.29	Roller Compacted Concrete (RCC)										m <sup>3</sup>	210,000	1.59	\$ 195.25	\$ 118.48	\$ 76.27	\$ -	\$ 390.00	\$ 81,900,000.00	
	4.5.29a			RCC Coarse Aggregates (Rate Only)										Tonne							\$ 15.50		
	4.5.29b			RCC Fine Aggregates (Rate Only)										Tonne							\$ 15.50		
124	4.5.30		2320.30	Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)										m <sup>3</sup>	11,100	7.85	\$ 943.64	\$ 353.57	\$ 252.78	\$ -	\$ 1,550.00	\$ 17,205,000.00	
125	4.5.31		2320.31	Facing Concrete										m <sup>3</sup>	8,600	5.79	\$ 643.80	\$ 197.50	\$ 208.71	\$ -	\$ 1,050.00	\$ 9,030,000.00	
126	4.5.32		2320.32	GERCC or GEVR - Formed Faces										m <sup>3</sup>	4,650	4.36	\$ 502.93	\$ 128.15	\$ 218.92	\$ -	\$ 850.00	\$ 3,952,500.00	
127	4.5.33		2320.33	Conventional Vibrated Concrete (North Abutment Crest Surface and Training Wall)										m <sup>3</sup>	270	7.91	\$ 896.36	\$ 299.05	\$ 154.60	\$ -	\$ 1,350.00	\$ 364,500.00	
128	4.5.34		2320.34	Increase or decrease in quantity of cement - Bid Mix (rate only)										kg	N/A						\$ -	\$ 0.38	
129	4.5.35		2320.35	Increase or decrease in quantity of flyash - Bid Mix (rate only)										kg	N/A						\$ -	\$ 0.38	
130	4.5.36		2320.36	Increase or decrease in quantity of cement - Source B (rate only)										kg	N/A						\$ -	\$ -	
131	4.5.37		2320.37	Increase or decrease in quantity of flyash - Source B (rate only)										kg	N/A						\$ -	\$ -	
132	4.5.38		2320.38	Air-entraining Admixture										litre	315,000	0.00	\$ -	\$ 1.30	\$ -	\$ -	\$ 1.30	\$ 409,500.00	
133	4.5.39		2320.39	Retarder Admixture										litre	336,000	0.00	\$ -	\$ 1.75	\$ -	\$ -	\$ 1.75	\$ 588,000.00	
134	4.5.40		2320.40	Precast Concrete										m <sup>3</sup>	1,150	2.75	\$ 286.85	\$ 1,658.55	\$ 104.60	\$ -	\$ 2,050.00	\$ 2,357,500.00	
135	4.5.41		2320.41	Gallery Floor CVC Concrete										m <sup>3</sup>	275	15.30	\$ 1,771.71	\$ 353.57	\$ 274.73	\$ -	\$ 2,400.00	\$ 660,000.00	
136	4.5.42		2320.42	Steel Reinforcement										kg	500,000	0.02	\$ 4.92	\$ 2.71	\$ 0.38	\$ -	\$ 8.00	\$ 4,000,000.00	
137	4.5.43		2320.43	Steel Guardrails										kg	5,200	0.30	\$ 36.57	\$ 6.36	\$ 2.07	\$ -	\$ 45.00	\$ 234,000.00	
138	4.5.44		2320.44	Waterstop										m	1,350	1.50	\$ 178.56	\$ 21.44	\$ -	\$ -	\$ 200.00	\$ 270,000.00	
				<b>NORTH DAM - Auxiliary Services</b>																			
				<b>ELECTRICAL WORK</b>																			
139	4.6.1		2370.01	Exothermic Connections.										unit	20	8.00	\$ 881.25	\$ 293.75	\$ -	\$ -	\$ 1,175.00	\$ 23,500.00	
140	4.6.2		2370.02	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil										m	815	0.85	\$ 92.00	\$ 23.00	\$ -	\$ -	\$ 115.00	\$ 93,725.00	
141	4.6.3		2370.03	Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG										m	16	0.80	\$ 92.00	\$ 23.00	\$ -	\$ -	\$ 115.00	\$ 1,840.00	
142	4.6.4		2370.04	Embedded Copper Grounding Plates										unit	7	0.30	\$ 35.00	\$ 315.00	\$ -	\$ -	\$ 350.00	\$ 2,450.00	
				<b>SUB-TOTAL NORTH DAM</b>																			
				<b>\$ 136,041,658.75</b>																			
				<b>Powerhouse Channels</b>																			
				<b>Tailrace</b>																			
				<b>CIVIL WORK</b>																			
				<b>Tailrace Rock Plug - Overburden Excavation</b>																			
143	5.1.1		3120.01	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions										m <sup>3</sup>	12,000	0.08	\$ 9.12	\$ -	\$ 10.38	\$ -	\$ 19.50	\$ 234,000.00	
				<b>Tailrace Rock Plug - Rock Excavation</b>																			
144	5.1.2		3120.02	Tailrace Rock Plug Excavation including access ramp to powerhouse - Dry Conditions										m <sup>3</sup>	170,000	0.11	\$ 16.77	\$ 3.70	\$ 17.03	\$ -	\$ 37.50	\$ 6,375,000.00	
145	5.1.3		3120.03	Tailrace Rock Plug - Underwater Excavation										m <sup>3</sup>	34,000	0.40	\$ 44.82	\$ 22.57	\$ 40.61	\$ -	\$ 108.00	\$ 3,672,000.00	
				<b>Tailrace Rock Plug - Stabilization and Rock Surface Protection</b>																			
146	5.1.4		3120.04	Grouted Rock Bolts Type A										unit	70	19.20	\$ 2,237.95	\$ 1,050.08	\$ 461.98	\$ -	\$ 3,750.00	\$ 262,500.00	
147	5.1.5		3120.05	Grouted Rock Bolts Type C										unit	20	35.20	\$ 4,						



LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS				SCHEDULE OF PRICE BREAKDOWN - For River Diversion in 2017						APPENDIX A2.1 Rev. B3				
ISSUED FOR: BID				DATE: 6 - Jun - 2015				BIDDER'S NAME: H.J. O'Connell Construction Ltd - Dragados Canada Inc Joint Venture						
PRICE ITEM		WBS CODE		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	
No	REFERENCE Exhibit 2 - ATT 1	CODE	SUBCODE											
162	9.1.2		2341.30	RCC Trial Sections	m <sup>3</sup>	2,500	3.42	\$ 399.50	\$ 144.50	\$ 106.00	\$ -	\$ 650.00	\$ 1,625,000.00	
SUB-TOTAL OPTIONAL PRICING														\$ 8,549,425.00

**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.

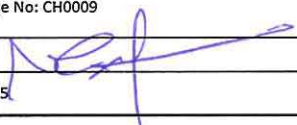
**Note 4:** Items 152 to 160 are optional and will not be included in the total Bid price. However, Bidders shall provide price for each item as if they are included in the Scope. The work will be included in the contract, if required.

FOR THE LOWER CHURCHILL PROJECT - MUSKRAT FALLS

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

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

Request For Proposal, Package No: CH0009

Signature: 

Date of Proposal: 30-JUN-2015