TENDER 16-20

WATER TREATMENT BUILDING

ADDENDUM NO. 9

October 24th, 2016

This addendum forms part of the Tender Documents and shall be read, interpreted, and coordinated with all other parts. The costs of all elements contained herein shall be included in the submission. The following revisions, changes, corrections, additions, and or deletions supersede the information contained in the original Documents to the extent referenced and shall become part thereof.

Addendum Item 1
Questions & Answers

318. **Proponent Question:**

Q279. R 279. "Contractor to provide base gravel for boat ramp." Please specify the thickness of the boat ramp concrete as well as the thickness of the base gravel. The bottom of the boat ramp finished elevation is 138.18. Water level is elevation 139.00. A significant amount of dewatering and cofferdam work will be required to install this section of base gravel for the boat ramp in the City's drinking water supply, all while maintaining a level below 7 ntu. Is this the intent? If it is, can drain rock or pea gravel be used for the underwater portion of base preparation to minimize siltation?

Response:

All work associated with the boat ramp to be removed from the scope of work.

319. **Proponent Question:**

Is potable water for testing and chlorination of the entire 3 km section of water main available from the existing hydrant near the chlorination station? What is the working pressure of this water main?

Response:

Yes, water is available at this hydrant for the testing of the new pipeline. Working pressure is approximately 163psi based on a lake level of 139.6m.

320. **Proponent Question:**

One more note for consideration is that because of the higher levels of humidity and some rooms having corrosive products in them, often nonferrous hinges (brass base metal or stainless steel) are chosen for select openings and non-office areas.

So:

CB179 x 652 > CB191 x 626 or 630
CB168 x 652 > CB199 x 626 or 630

Response:

All outside man doors (other than oversized doors) to be CB199x630
Interior doors D005, D004 to be CB199x630
Interior doors D003 (lab), D101B to be CB191x630
Interior doors D103A, D103B, D104, D105 to be CB179x652

For exterior doors where the frame is no longer thermally broken, provide Kerf-in thermal break integrated within the door frame.

321. **Proponent Question:**

I noticed when pricing the Canaropa products that while you have specified a 32D finish, the #66 & #68 bolts only come in Japanned Black finish, and are medium duty at best. That being stated, I would recommend, for your consideration, in lieu of the Canaropa products, the following bolts for the oversize doors (for each leaf): Richards Wilcox 514 x 2 Top Spring Bolt 7-6134 and Richards Wilcox 524 x 2 Bottom Cane Bolt 7-6093.

Response:

These are approved as alternates. We are aware that the standard finishes are black, but would like to see if they can be available in a 32D finish.

322. **Proponent Question:**

Addendum 7 Q270, asks for Div 41 to be added to Appendix 1 to account for the Crane spec that was added to our scope. It refers us to Addendum Item 2. Addendum Item 2 was not applicable to this question. Please add Div 41 to Appendix 1.

Response:

See Item 2: Specification and Drawing Revisions below.

323. **Proponent Question:**

Section #41 22 00 2.4.1 Calls for a mono rail hoist – 7500lbs capacity - exiting the bldg. on the WEST side

Calls for a mono rail hoist - 4200lbs capacity – exiting the bldg. on the SOUTH/EAST corner

Drawing # 15-508-A101/102
Shows THREE (3) separate mono rails:

#C1	4000kg (8800lbs)	
#C2	4000kg (8800lbs)	two (2) hoists required??
#C3	2500kg (5500lbs)	two (2) hoists required??

So – the written specification is not the same to what's on the drawings.

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

324. **Proponent Question:**

Need clarification of the NUMBER of mono rails

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

325. **Proponent Question:**

Need clarification of the capacity RATING - POUNDS (or) KILOGRAMS??

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

326. **Proponent Question:**

Need clarification of the CAPACITY OF EACH HOIST & MONO RAIL

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

327. **Proponent Question:**

Need clarification of how many hoists are required

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

328. **Proponent Question:**

Need clarification of how many hoists will be on EACH MONO RAIL

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

329. **Proponent Question:**

Need clarification of the mono rail capacity – if two (2) 2500kg hoists are on "C3" – then the mono rail beam (and support system) should be rated for 5000kgs?

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

330. **Proponent Question:**

Need clarification on the trolley type – PUSH type / HAND GEARED / MOTORIZED

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

331. **Proponent Question:**

Need to know RADIUS of curved mono rail

Response:

Refer to revised Spec Section 41 22 00 - Cranes in Addendum Item 2, and drawing revisions in Addendum Item 2.

Addendum Item 2
Revised Appendix 1A Detailed Schedule of Quantities and Prices

Delete Appendix 1A Detailed Schedule of Quantities and Prices and replace with Appendix 1A **(Revised October 24th, 2016)** as attached with this addendum.

Addendum Item 3
Section 41 22 00 Cranes

Add Section 41 22 00 Cranes as attached with this addendum.

Addendum Item 4
Drawing Revisions

a. Drawings A101 and A102: Disregard load capacities in the "Crane Legend". Refer to Specification Section 41 22 00 – Cranes for crane loads and Drawing S104 – Roof Framing Plan for beam capacities.

b. Revise note on S104 regarding Crane Capacity for C2 from "W410 x 60 MONORAIL BEAM C/W HSS 127 x 127 x 6.4 HANGARS FROM T.O. BEAM TO PURLIN OR CROSS PURLINS ABOVE @ 1500O.C. MAX LOAD = 4,200lb" to "W410 x 60 MONORAIL BEAM C/W HSS 127 x 127 x 6.4 HANGARS FROM T.O. BEAM TO PURLIN OR CROSS PURLINS ABOVE @ 1500O.C. MAX LOAD = 4,700lb

Addendum Item 5
Scope Revisions

The Sanitary Lift Station, detailed on Drawings C105 (note 5) and C303, shall be removed from the scope of work. The electrical works outside of the wet well, sanitary pump out connection at the south of the building, sanitary forcemain etc. shall remain as part of this tender. The supply and installation of the wet well and all equipment contained within shall be removed from the tender.

Addendum Item 6
Vertical Turbine Supply Contract

See the DRAFT Supply Contract as attached with this addendum.

End of Addendum

Acknowledgement of this Addendum in your Tender submission is required.

Clinton J. Crook, SCMP, CPSM
Senior Buyer

Appendix 1 (Revised October 24th, 2016)

SUMMARIZED SCHEDULE OF QUANTITIES AND PRICES – GST EXCLUDED
(See paragraphs 3.3.4 and 10.1 of the Instructions to Tenderers)

Description	Quantity	Unit	Total Price ($)
Division 01 - General Requirements	1	LS	
Division 03 - Concrete	1	LS	
Division 04 - Masonry	1	LS	
Division 05 - Metals	1	LS	
Division 06 – Wood and Plastics	1	LS	
Division 07 - Thermal and Moisture	1	LS	
Division 08 - Doors and Windows	1	LS	
Division 09 - Finishes	1	LS	
Division 10 – Specialties	1	LS	
Division 21 – Fire Suppression	1	LS	
Division 22 - Plumbing	1	LS	
Division 23 - HVAC	1	LS	
Division 25 - Integrated Instrumentation	1	LS	
Division 26 - Electrical	1	LS	
Division 27 - Communications	1	LS	
Division 31 - Earthworks	1	LS	
Division 32 - Exterior Improvements	1	LS	
Division 33 - Utilities	1	LS	
Division 40 - Process Integration	1	LS	
Division 41 – Cranes	1	LS	
Division 43 – Process Gas & Liquid Handling	1	LS	
Division 44 – Pollution Control Equipment	1	LS	
Division 46 - Water and Wastewater Equipment	1	LS	
		Sub-Total:	**$**
		GST (5%):	**$**

Tenderer's Initial	Owner's Initial

Appendix 1A

(Revised October 24th, 2016)

DETAILED SCHEDULE OF QUANTITIES AND PRICES – GST EXCLUDED

Upon award the *Contractor* is required to submit the completed
Appendix 1A Detailed Schedule of Quantities and Prices
As specified in the Form of Tender paragraph 5.1.1 (i)

(All prices and Quotations including the Contract Price shall include all Taxes, but shall not include *GST, GST* shall be shown separately.)

ITEM No.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	01 - General Requirements				
	Mobilization and Demobilization [max. 10% of tender amount]				
01.1	Mobilization [60% of total mob/demob amount]	1	LS		
01.2	Demobilization [40% of total mob/demob amount]	1	LS		
01.3	Construction facilities and continuing overhead	1	LS		
01.4	Administration and Supervision	1	LS		
01.5	Insurance	1	LS		
	Environmental Protection				
01.6	Temporary erosion and sediment control - installation	1	LS		
01.7	Temporary erosion and sediment control - maintenance	12	month		
01.8	Traffic control	12	month		
01.9	Vehicle access and parking	1	LS		
01.10	Commissioning - treatment plant	1	LS		
01.11	Commissioning - pipeline	1	LS		
01.12	Close out	1	LS		
				Division 01 General Requirements – Sub Total	
	03 - Concrete				
03.1	Concrete	1	LS		
03.2	Reinforcement	1	LS		
03.3	Formwork	1	LS		

03.4	Concrete handling and accessories	1	LS		
	Surge Tank & Valve Chamber				
A3	Concrete	1	LS		
A3	Reinforcement	1	LS		
A3	Formwork	1	LS		
A3	Concrete handling and accessories	1	LS		
				Division 03 Concrete – Sub Total	
	04 - Masonry				
04.1	190 thick reinforced concrete masonry units; complete	1	LS		
04.2	240 thick reinforced concrete masonry units; EW4	1	LS		
04.3	90 thick masonry veneer; EW2	1	LS		
04.4	Precast and C.I.P. elements	1	LS		
				Division 04 Masonry – Sub Total	
	05 - Metals				
05.1	Angles cast into edge of concrete trench	1	LS		
05.2	Grating	1	LS		
05.3	Steel stairs incl finish	1	LS		
05.4	Guard rails	1	LS		
05.5	Handrailing incl uprights	1	LS		
05.6	Removable railing	1	LS		
05.7	Structural steel frame	1	LS		
05.8	Structural steel to roof	1	LS		
05.9	Steel gutters	1	LS		
05.10	Miscellaneous steel	1	LS		
05.11	Roof decking and membrane	1	LS		
05.12	Crane C1	1	LS		

05.13	Crane C2	1	LS		
05.14	Crane C3	1	LS		
05.15	Mechanical enclosure	1	LS		
A3	**Surge Tank & Valve Chamber**				
A8	Surge tank - 10.2 m diam epoxy coated steel tank	1	LS		
A3	Hatches to valve chamber - Owner supplied; collect from EFWQC and transport to site	2	ea		
A3	Hatch to valve chamber	1	Ea		
				Division 05 Metals – Sub Total	
	06 - Wood and Plastics				
06.1	Glulam beams; complete	1	LS		
06.2	Rough carpentry	1	LS		
06.3	Finish carpentry	1	LS		
06.4	Siding (EW4) and trim	1	LS		
06.5	Columns	1	LS		
06.6	Exterior wall stud framing and sheathing - EW1	1	LS		
06.7	Exterior wall stud framing and sheathing - EW1a	1	LS		
06.8	Exterior wall stud framing and sheathing - EW1b	1	LS		
06.9	Exterior wall stud framing and sheathing - EW1c	1	LS		
06.10	Interior partition - P1	1	LS		
06.11	Interior partition - P2	1	LS		
06.12	Interior partition - P5	1	LS		
06.13	Interior partition - P6	1	LS		
06.14	Interior partition - P7	1	LS		
06.15	Floor assembly - F1	1	LS		
06.16	Floor assembly - F2	1	LS		

06.17	Mill and fix Owner supplied wooden finishes	1	LS		
06.18	Millwork	1	LS		
				Division 06 Wood and Plastics – Sub Total	
	07 - Thermal and Moisture				
07.1	Rigid insulation	1	LS		
07.2	Concrete faced insulation	1	LS		
07.3	Batt insulation	1	LS		
07.4	Sprayed insulation	1	LS		
07.5	Fire caulking	1	LS		
07.6	Sealants	1	LS		
07.7	Roofing assembly - R1	1	LS		
07.8	Roofing assembly - R3	1	LS		
07.9	Roof penetrations	1	LS		
07.10	Fascias and flashings	1	LS		
07.11	Waterproof system drainage board	1	LS		
				Division 07 Thermal & Moisture – Sub Total	
	08 - Doors and Windows				
08.1	Doors and hardware	1	LS		
08.2	Overhead doors	1	LS		
08.3	Windows and screens - interior	1	LS		
08.4	Windows and screens - exterior	1	LS		
08.5	Swing gate	1	LS		
				Division 08 Doors & Windows – Sub Total	
	09 - Finishes				
09.1	Drywall	1	LS		
09.2	Plywood backboards	1	LS		

09.3	Painting	1	LS		
09.4	Ceilings	1	LS		
09.5	Ceramic tile	1	LS		
09.6	Washroom accessories	1	LS		
09.7	Stair nosings	1	LS		
09.8	Tactile warning finishes	1	LS		
				Division 09 Finishes – Sub Total	
	10 - Specialities				
10.1	Toilet and Bath Accessories	1	LS		
				Division 10 Specialties – Sub Total	
	21 – Fire Suppression				
21.1	Fire suppression equipment	1	LS		
				Division 21 Fire Suppression – Sub Total	
	22 - Plumbing				
22.1	Shop drawings and job start up	1	LS		
22.2	Plumbing	1	LS		
22.3	Sanitary underground	1	LS		
22.4	Sanitary above ground	1	LS		
22.5	Domestic water above ground	1	LS		
22.6	Water meter and BFP	1	LS		
22.7	Booster pump	1	LS		
22.8	Plumbing fixtures	1	LS		
22.9	Emergency shower and eyewash station	1	LS		
22.10	Foundation drainage	1	LS		
				Division 22 Plumbing – Sub Total	
	23 - HVAC				

23.1	Shop drawings and job start up	1	LS		
23.2	HVAC	1	LS		
23.3	Duct work	1	LS		
23.4	Exhaust fans	1	LS		
23.5	Condensing units	1	LS		
23.6	Grills, louvres and registers	1	LS		
23.7	Heating equipment	1	LS		
23.8	Controls	1	LS		
23.9	Fire protection	1	LS		
23.10	Insulation	1	LS		
23.11	Testing, adjusting and balancing for HVAC	1	LS		
23.12	Commissioning of HVAC systems	1	LS		
				Division 23 HVAC – Sub Total	
	25 - Integrated Instrumentation				
25.1	Process control and instrumentation	1	LS		
25.2	PLC programming	1	LS		
25.3	Control panels	1	LS		
25.4	Factory testing	1	LS		
25.5	End-to-end testing	1	LS		
25.6	Commissioning of instrumentation	1	LS		
				Division 25 Integrated Instrumentation – Sub Total	
	26 - Electrical				
26.1	Job start up	1	LS		
26.2	Conduit and wiring	1	LS		
26.3	Feeders and grounding	1	LS		
26.4	Lighting	1	LS		

26.5	Emergency lighting	1	LS		
26.6	Power	1	LS		
~~26.7~~	~~PLC's~~	~~1~~	~~LS~~		
~~26.8~~	~~Instrumentation~~	~~1~~	~~LS~~		
26.9	MCC / VFD	1	LS		
26.10	Cable tray ladder	1	LS		
26.11	Fire alarm system and wiring	1	LS		
26.12	Communications	1	LS		
26.13	Radio tower and underground conduits	1	LS		
26.14	Baseboard heaters	1	LS		
26.15	Mechanical equipment connections	1	LS		
26.16	Data	1	LS		
26.17	Security alarm	1	LS		
26.18	Secondary ductbank	1	LS		
26.19	End-to-end testing	1	LS		
26.20	Commissioning of electrical	1	LS		
A3	Backup generator; complete	1	LS		
				Division 26 Electrical – Sub Total	
	27 - Communications				
27.1	Communication systems; complete	1	LS		
				Division 27 Communications – Sub Total	
	31 - Earthworks				
31.1	Site grading	1	LS		
31.2	Excavating for ditches and swales	1	LS		
31.3	Topsoil and finish grading	1	LS		
31.4	Riprap	1	LS		

				Division 31 Earthwork – Sub Total	
	32 - Exterior Improvements				
	Treatment Plant				
32.1	Granular sub-base	1	LS		
32.2	Granular base	1	LS		
32.3	Concrete curb and gutters	1	LS		
32.4	Concrete sidewalk	1	LS		
32.5	Coordinate Owner's paving contractor	1	LS		
32.6	Permanent pavement markings	1	LS		
32.7	Gravel surface finishes	1	LS		
32.8	River rock splash pad; 2.0 m x 2.0 m x 0.15 m	1	LS		
32.9	River rock; min 100 mm thick on geotextile	1	LS		
32.10	Retaining walls				
32.11	Retaining wall 1 - lock-block wall	1	LS		
32.12	Retaining wall 2 - lock-block wall	1	LS		
32.13	Fencing and gates	1	LS		
32.14	Hydraulic seeding	1	LS		
	Pipeline				
32.15	Topsoil stripping and disposal	175	m^2		
32.16	Cold milling to maximum 50 mm	70	m^2		
32.17	Coordinate Owner's paving contractor	1	LS		
32.18	Topsoil and finish grading	175	m^2		
32.19	Hydraulic seeding	175	m^2		
				Division 32 Exterior Improvements – Sub Total	
	33 - Utilities				

	Waterworks - Pipeline				
A3	PVC C900 DR18 200 mm; all depths	58	m		
33.1	PVC C900 DR18 300 mm diam; all depths	38	m		
A3	PVC C900 DR18 250 mm; all depths	7	m		
A3	Welded steel pipe - 500 mm diam 9.5 mm thick wall; all depths	5	m		
A3	Welded steel pipe - 760 mm diam 9.5 mm thick wall; all depths	5	m		
A3	Welded steel pipe - 900 mm diam 9.5 mm thick wall; all depths	4	m		
33.5	Welded steel pipe - 1000 mm diam 6.4 mm thick wall; all depths	58	m		
33.6	Welded steel pipe - 1200 mm diam 9.5 mm thick wall; all depths	140	m		
33.7	Tee - 300 x 300 x 150 HxHxF	1	ea		
A3	Tee - 300 x 300 x 250 HxFxF	1	ea		
~~33.9~~	~~Tee - 500 MJ x MJ x F~~	~~1~~	~~ea~~		
A3	Tee - 900x 760 x 250 W x W x F	1	ea		
33.10	Tee - 1200 x 1200 x 300 W x W x F	1	ea		
33.11	Tee - 1200 x 1200 x 500 W x W x W	1	ea		
A3	Tee - 1200 x 900 x 500 W x F x F	1	ea		
A3	Tee - 1200 x 1200 x 900 W x W x W	1	ea		
~~33.12~~	~~Wye - 250F x 250MJ x 250MJ~~	~~1~~	~~ea~~		
~~33.13~~	~~Wye - 500 W x W x W~~	~~1~~	~~ea~~		
~~33.14~~	~~Wye - 500F x MJ x MJ~~	~~1~~	~~ea~~		
~~33.15~~	~~Wye - 900F x F x F~~	~~1~~	~~ea~~		
33.16	Tee - 1200W x 1200W x 900W	1	ea		
~~33.17~~	~~Cross - 760F x 250F x 760MJ x 760MJ~~	~~1~~	~~ea~~		
A3	Bend - 250 mm diam. 11.25 deg H x F	1	ea		
A3	Bend - 250 mm diam. 22.5 deg H x F	1	ea		
A3	Bend - 250 mm diam. 45 deg H x H	2	ea		

A3	Bend - 300 mm diam. 30 deg H x H	2	ea		
A3	Bend - 500 mm 45 deg W x W	1	ea		
A3	Bend - 760 mm 64,3 deg W x W	1	ea		
~~33.18~~	~~Reducer - 900F x 500F~~	~~1~~	~~ea~~		
~~33.19~~	~~Reducer - 900F x 760W~~	~~1~~	~~ea~~		
A8	Reducer – 1050W x 1000W	1	ea		
A3	Blind flange - 500 mm	1	ea		
33.20	Blind flange - 900 mm	1	ea		
33.21	Gate valve - 250 F x F	1	ea		
A3	Gate valve - 250 F x H	1	ea		
33.22	Gate valve - 300 F x H	3	ea		
33.23	Gate valve - 300 F x F	2	ea		
33.24	Gate valve - 500 F x F	1	ea		
A3	Gate valve - 760 F x F	1	ea		
33.25	Gate valve - 900 F x F	1	ea		
33.26	Cap - 250 mm	1	ea		
A3	Cap - 500 mm	1	ea		
A3	Cap - 760 mm	1	ea		
33.27	150 mm Valmatic combination air valve (dual body) c/w air / vacuum valve model No. 106S & air release valve model 38.2; cut into 6.4 mm 1200 mm steel pipe in inline valve chamber on Hwy 28 and install c/w 150 mm F x F gate valve; pipe coating and lining to be repaired upon completion [requires entry into the pipe from manhatch at 2+273]	1	LS		
A3	150 mm Valmatic combination air valve (dual body) c/w air / vacuum valve model No. 106S & air release valve model 38.5; Hwy 28 Tie-Ins	3	ea		
33.28	Fire hydrant assembly	1	ea		
A3	Service connection - 19 mm diam. HDPE DR7.3	1	ea		
A8	Ultrasonic flowmeter; 300 mm diam.	1	ea		
A3	Ultrasonic flowmeter; 500 mm diam.	1	ea		

A3	Ultrasonic flowmeter; 760 mm diam.	1	ea		
	Tie-Ins				
33.29	200 mm to existing 200 mm HDPE at Treatment Plant	1	ea		
33.30	250 mm to existing 250 mm AC line at Powerhouse Rd	1	ea		
33.31	250 mm to existing 250 mm PVC line at Hwy 28	1	ea		
33.32	500 mm to existing 500 mm steel line at Hwy 28	2	ea		
33.33	760 mm to existing 760 mm steel line at Hwy 28	1	ea		
33.34	1000 mm to existing 1000 mm welded steel at treatment building	1	ea		
33.35	1200 mm to existing 1200 mm at Powerhouse Rd	1	ea		
33.36	Blow down chamber and assembly	1	ea		
33.37	75 mm RPVC conduit	220	m		
33.38	1.5 m x 1.5 m pullboxes H20 load rated	2	ea		
	Pipe Culverts				
A3	100 mm PVC DR35	30	m		
33.39	300 mm PVC DR35	10	m		
33.40	Power and communication civil work	1	LS		
33.41	Sanitary system complete	1	LS		
33.42	Drain system complete	1	LS		
33.43	Manholes	1	LS		
A3	1050 mm diam. sump manhole; Std Drg S1; Hwy 28; complete	1	ea		
33.44	Catchbasins	1	LS		
33.45	Lawn drains	1	LS		
33.46	Headwalls	1	LS		
	Waterworks - Surge Tank & Valve Chamber				
A8	PVC C900 DR28 100 mm; all depths	4	m		
A8	PVC C900 DR18 200 mm; all depths	144	m		

A8	PVC DR35 300 mm; all depths	157	m		
A8	Welded steel pipe – 900 mm diam 6.4 mm thick wall; all depths	27	m		
A3	Welded steel pipe – 1000 mm diam 6.4 mm thick wall; all depths	20	m		
A3	Reducer – 900W x 1000W	2	ea		
A3	Bends – 1000 mm 42.40 degrees	2	ea		
A3	Bends – 1000 mm 45.00 degrees	1	ea		
A3	Bends – 1000 mm 50.19 degrees	1	ea		
A8	Tee – 300 x 300x 100 H x H x H	1	ea		
A3	Tee - 900 x 900 x 900 W x F x F	2	ea		
A3	Tee - 1000 x 1000 x 200 W x W x W	1	ea		
A8	Gate valve - 100 F x F	2	ea		
A3	Gate valve - 200 H x H	1	ea		
A3	Gate valve - 900 F x F - free issue by Owner	3	ea		
A8	Dismantling joints - 900 mm diam. – free issue by Owner	3	ea		
	Tie-Ins				
A3	1000 mm to existing 1000 mm welded steel at access road	2	ea		
				Division 33 Utilities – Sub Total	
	40 - Process Integration				
40.1	Shop drawings and job start up	1	LS		
40.2	Process piping and valves system	1	LS		
40.3	Pipe hangers and supports	1	LS		
40.4	Tie-in - air system to existing 200 mm diam HDPE DR8 pipes	2	ea		
				Division 40 Process Integration – Sub Total	
	41 - Cranes				
40.1	Shop drawings and job start up	1	LS		

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40.2	Supply and Installation	1	LS		
40.3	Commissioning and Training	1	LS		
				Division 41 Cranes– Sub Total	
	43 – Process Gas and Liquid Handling - Pumps				
43.1	Vertical turbine pumps; Owner supplied	1	LS		
43.2	Fire pump; pipework and hydrant system complete	1	LS		
				Division 43 Process Gas & Liquid Handling Pumps – Sub Total	
	44 – Pollution Control Equipment – Chemical Storage Tanks				
44.1	Liquid storage tanks for sodium hypochlorite system; Owner Supplied; transport, install and pipe	1	LS		
				Division 44 Pollution Control Equipment – Chemical Storage Tanks – Sub Total	
	46 - Water and Wastewater Equipment				
46.1	UV system; relocate from EFWQC, adapt, install and commission	1	LS		
				Division 46 Water & Wastewater Equipment – Sub Total	
	Summary				
	Division 01 - General Items	1	LS		
	Division 03 - Concrete	1	LS		
	Division 04 - Masonry	1	LS		
	Division 05 - Metals	1	LS		
	Division 06 – Wood and Plastics	1	LS		
	Division 07 - Thermal and Moisture	1	LS		
	Division 08 - Doors and Windows	1	LS		
	Division 09 - Finishes	1	LS		
	Division 10 - Specialties	1	LS		
	Division 21 – Fire Suppression	1	LS		
	Division 22 - Plumbing	1	LS		

Division 23 - HVAC	1	LS		
Division 25 - Integrated Instrumentation	1	LS		
Division 26 - Electrical	1	LS		
Division 27 - Communications	1	LS		
Division 31 - Earthworks	1	LS		
Division 32 - Exterior Improvements	1	LS		
Division 33 - Utilities	1	LS		
Division 40 - Process Integration	1	LS		
Division 41 - Cranes	1	LS		
Division 43 – Process Gas and Liquid Handling	1	LS		
Division 44 – Pollution Control Equipment	1	LS		
Division 46 - Water and Wastewater Equipment	1	LS		

Sub-Total:	**$**
GST (5%):	**$**
Total:	**$**

Part 1 General

1.1 SECTION INCLUDES

.1 Design, manufacture, supply, installation, testing, commissioning and certification of the following fully operational Monorail System.

.2 Requirements for coordination with building structural steel trade contractor.

.3 For the purposes of this specification, the term “crane” shall mean monorail systems unless noted otherwise.

1.2 RELATED SECTIONS

.1 Section 01 33 00 – Submittals

.2 Section 05 12 00 - Structural Steel

1.3 REFERENCES

.1 All work shall comply with the following. In the event of conflict, the most stringent requirements shall govern:

.1 American Institute of Steel Construction (AISC):

.1 AISC 325-11, Steel Construction Manual, Thirteenth Edition.

.2 American Gear Manufacturers Association (AGMA):

.1 AGMA 2001-D04, Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth.

.2 AGMA 2009-B01, Bevel Gear Classification, Tolerances and Measuring Methods.

.3 AGMA 2011-B14, Cylindrical Worm gearing Tolerance and Inspection Methods.

.4 AGMA 2015-1-A01, Accuracy Classification System - Tangential Measurements for Cylindrical Gears.

.5 AGMA 6013-A06, Standard for Industrial Enclosed Gear Drives.

.6 AGMA 6113-A06, Standard for Industrial Enclosed Gear Drives (Metric Edition).

.3 American Society for Testing and Materials (ASTM):

.1 ASTM A325M–14, Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric).

.2 ASTM A563M–07a(2014), Specification for Carbon and Alloy Steel Nuts (Metric).

.3 ASTM F959M–13, Specification for Compressible-Washer-Type Direct Tension Indicators for Use With Structural Fasteners (Metric).

.4 ASTM-A668-15 – Specification for Steel Forging, Carbon & Alloy for General Industrial Use.

.4 ASME International (ASME):

.1 ANSI/ASME HST-2-2014, Performance Standard for Hand Chain Manually Operated Chain Hoists.

.2 ASME B30.2 Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist).

.3 ASME B30.16-2012 Overhead Hoists (Underhung).

.5 Canadian Standards Association (CSA):

.1 CAN/CSA-B167-08(R2014) – Overhead travelling cranes – Design, inspection, testing, maintenance, and safe.

.2 CAN/CSA G40.20/G40.21-13, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.3 CSA C22.1 12 – Canadian Electric Code, Part 1, 22nd Edition.

.4 CSA C22.2 No. 33M1984 – Construction and Testing of Electric Cranes and Hoists.

.5 CAN/CSA-S16-14, Limit States Design of Steel Structures.

.6 CAN/CSA-S136-12, North American Specification for the Design of Cold Formed Steel Structural Members.

.7 CSA-S136.1-12, Commentary on CSA Standard S136.

.8 CSA W47.1-09 (R2013), Certification of Companies for Fusion Welding of Steel Structures.

.9 CSA W48-14, Filler Metals and Allied Materials for Metal Arc Welding.

.10 CSA W55.3-08(R2013), Resistance Welding Qualification Code for Fabricators of Structural Members Used in Buildings.

.11 CSA W59-13, Welded Steel Construction (Metal Arc Welding) Metric.

.6 Crane Manufacturers Association of America (CMAA):

.1 CMAA #74 – 2010 Specifications for Top Running and Under Running Single Girder Electric Traveling Cranes Utilizing Under Running Trolley Hoist.

.2 CMAA #70 – 2010 Specification for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes.

.7 Material Handling Industry of America (MHIA):

.1 ANSI MH27.1 (2009) Specifications for Patented Underhung Cranes and Monorail Systems.

.8 National Building Code of Canada 2010.

.9 National Electrical Manufacturers Association (NEMA):

.1 NEMA 250-2014, Enclosures for Electrical Equipment (1000 Volts Maximum).

.2 NEMA ICS3-2009(R2014), Industrial Control and Systems: Medium Voltage Controllers Rated 2001 to 7200 Volts AC.

.3 NEMA ICS6-1993 (R2001, R2006), Industrial Controls and Systems Enclosures.

.4 NEMA ICS8-2011, Industrial Control and Systems: Crane and Hoist Controllers.

.5 NEMA MG1-2014, Motors and Generators.

.10 Worksafe BC Occupational Health and Safety Regulations.

.1 Worksafe BC Occupational Health and Safety Regulations Part 14 – Cranes and Hoists.

http://www2.worksafebc.com/publications/OHSRegulation/part14.asp

.11 Latest applicable standards from the following organizations:

.1 National Fire Protection Association (NFPA).

.2 American Welding Society (AWS).

.3 Electrical and Electronic Manufacturer's Association of Canada (EEMAC) Standards.

.4 Hoist Manufacturers Institute (HMI) Specifications.

1.4 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 – Submittals.

.2 Submit high quality electronic copies of all drawings and documents. All information and data shall be in PDF electronic format. The PDF electronic format shall be used for insertion into the Building Interactive Electronic Operating and Maintenance and Commissioning Manuals. All PDF submittals must be text searchable.

.3 Shop drawings shall provide at least the following information:

.1 General arrangement drawing showing:

.1 Overall crane layout in relation to the building.

.2 Overall dimensions and clearances.

.3 Hoist capacity.

.4 Hook lift and reach coverage, including dimensions relative to the nearest building gridline(s).

.5 Other important features of the crane.

.6 Runway conductor arrangement.

.7 Crane identification number.

.8 CMAA classification.

.2 Total weights, crane wheel loads, reaction loads at interface and terminal points.

.3 Electrical drawings, showing load and power requirements, schematic wiring diagram, electrical connection point, control panel, inter-wiring details, bill of material for electrical components, lockout, etc.

.4 Type of primer and coatings.

.5 Bill of materials.

.4 All shop drawings shall be prepared and stamped by professional engineers of respective disciplines registered in the Province of British Columbia.

1.5 CRANE SUPPORT SYSTEM AND COORDINATION

.1 Structural crane support system: Crane runways, structural diagonal braces, and all structural work including connections to building structural system will be provided as per structural steel specs. Provide and carry out the following:

.1 Coordinate crane wheel size with structural member provided.

.2 Installation of crane support system will be as per CMAA and other applicable standards. Provide installation tolerances if different from applicable codes and standards.

.3 Provide support to structural steel trade contractor during installation of crane support system with respect to installation tolerances. Also review and accept crane support system prior to crane installation. If there is any specific crane erection method, then provide details so such approach can be incorporated by structural steel trade contractor in the installation and erection sequence.

.4 End Stops: Provide requirements for crane stops such as height and required structural capacity of crane.

1.6 PAINTING

.1 Cranes shall be cleaned and painted in accordance with CMAA specifications.

.2 Crane colour shall be safety yellow.

.3 Machined surfaces – apply rust preventing compound.

.4 Gearbox interiors – 1 coat of oil resistant enamel.

.5 After completion of installation, thoroughly clean and touch-up the paint work as required.

1.7 LABELLING

.1 Hoist shall be labelled with load rating.

.2 Underside of the hoist shall be permanently labelled with arrows indicating direction of travel, which coordinates with the directions shown on the pendant.

.3 A corrosion-resistant nameplate shall be fixed to the crane with the following information:

.1 Name of manufacturer.

.2 Mfg.'s model number and serial number.

.3 Capacity.

.4 Date of manufacture (month and year).

1.8 QUALITY CONTROL

.1 Submit for review Crane supplier's quality control program related to the manufacture of cranes.

.2 Submit for review quality control and coordination procedures for the installation of cranes in the new facility.

1.9 CRANE SUPPLIER'S REPRESENTATIVES

.1 Crane Supplier's qualified technical personnel shall be present at the site and carry out work as required during installation, testing, training, commissioning and certification of Crane Systems.

1.10 OPERATIONS AND MAINTENANCE MANUALS AND DRAWINGS

.1 Submit Operations and Maintenance Manuals in accordance with Section 01 33 00 – Submittal Procedures for all equipment supplied under this section including the following:

.1 The Technical Data Sheet information required shall be supplied for each crane (see Technical Data Sheet at the end of this section).

.2 Description of crane system's method of operation and control; including motor control system, gear reducers, load brakes and special or non-standard features provided.

.3 Preventive maintenance program and schedule including instructions for lubrication, adjustment and care of equipment, detailed technical descriptions of operation, adjustment, and settings of electrical circuits and mechanical lists.

.4 Parts catalogue giving complete list of repair and replacement parts with cuts and identifying numbers.

.5 Names and addresses of suppliers of parts, lubricants, grades and trade names of lubricants.

.6 "Troubleshooting" information on diagnosis of malfunctions and failures.

.7 Name and telephone number of systems installer and their key technicians and supervisory personnel.

.8 Test procedures for all systems.

.2 Provide prints of drawings of the following:

.1 Legible schematic wiring diagrams covering electrical equipment as supplied and installed, including changes made in final work, with symbols listed corresponding to identity markings on equipment.

.2 Schematic wiring and lubrication with operation sequence.

.3 General arrangement drawings showing location of all components and clearances to scale.

1.11 WARRANTY

.1 Provide warranty as dictated by the general conditions of the contract documents.

Part 2 Products

2.1 GENERAL REQUIREMENTS

.1 Crane shall be designed in accordance with all applicable standards, whichever is more stringent, and meet the requirements described in this specification.

.2 Use crane components from a standard product line of one manufacturer.

.3 Crane Supplier to supply, install, test, commission, provide training and certify fully operational Crane Systems as specified under this section.

.4 Summary of Crane System to be supplied under this contract including locations in the new facility stated in this document and indicated on the drawings.

2.2 CRANE SYSTEMS

.1 Safety Devices:

.1 Warning devices shall be as per CMAA regulation.

2.3 FUNCTIONAL REQUIREMENTS

.1 Design Crane System to operate in accordance with the CMAA classification as indicated in section 2.4 of this specification.

.2 Crane System to be capable of lifting its full rated capacity at any location along the runway.

.3 Crane System to be capable of lifting its full rated capacity from the floor level to clear hook height.

.4 Crane System to meet the explosion proof classifications as indicated in section 2.4 of this specification

2.4 CAPACITY AND DIMENSIONAL CRITERIA

.1 Crane ID as per Drawing A102: C1

.1 Description: One crane and hoist on one monorail beam.
.2 Crane Type: Monorail.
.3 Lifting capacity: 7,500lbs per crane. Mono rail capacity of 7,500lb also.
.4 CMAA: A.
.5 Environment: Indoor environment.
.6 Hoist: Chain.
.7 Hoist Type: 1-Speed.
.8 Hoist Max Speed: 6.1 m/min.
.9 Hoist Ratio Low/High: N/A.
.10 Trolley Type: Hand Geared.
.11 Trolley Max Speed: N/A.
.12 Trolley Ratio Low/High: N/A.
.13 Bridge Type: N/A.
.14 Bridge Max Speed: N/A.
.15 Bridge Ratio Low/High: N/A.
.16 Crane Span: N/A.
.17 Lift Height: 4000 mm AFF.
.18 Runway Elevation: 4500 mm AFF.
.19 Power: 208V 3 Phase.

.2 Crane ID as per Drawing A102: C2

.1 Description: Two cranes and hoists on one monorail beam.
.2 Crane Type: Monorail.
.3 Lifting capacity: 4,700lbs per crane. Mono rail capacity to be 4,700lbs also.
.4 CMAA: A.
.5 Monorail Radius: 3910mm and 9996mm for curves moving from east to west.
.6 Environment: Indoor environment.
.7 Hoist: Chain.
.8 Hoist Type: 1-Speed.

.9 Hoist Max Speed: 6.1 m/min.
.10 Hoist Ratio Low/High: N/A.
.11 Trolley Type: Hand Geared.
.12 Trolley Max Speed: N/A.
.13 Trolley Ratio Low/High: N/A.
.14 Bridge Type: N/A.
.15 Bridge Max Speed: N/A.
.16 Bridge Ratio Low/High: N/A.
.17 Crane Span: N/A.
.18 Lift Height: 4000 mm AFF.
.19 Runway Elevation: 4500 mm AFF.
.20 Power: 208V 3 Phase.

.3 Crane ID as per Drawing A102: C3

.1 Description: Two cranes and hoists on one monorail beam.
.2 Crane Type: Monorail.
.3 Lifting capacity: 4,200lbs per crane. Mono rail capacity to be 4,200lbs also.
.4 CMAA: A.
.5 Environment: Indoor environment.
.6 Hoist: Chain.
.7 Hoist Type: 1-Speed.
.8 Hoist Max Speed: 6.1 m/min.
.9 Hoist Ratio Low/High: N/A.
.10 Trolley Type: Hand Geared.
.11 Trolley Max Speed: N/A.
.12 Trolley Ratio Low/High: N/A.
.13 Bridge Type: N/A.
.14 Bridge Max Speed: N/A.
.15 Bridge Ratio Low/High: N/A.
.16 Crane Span: N/A.
.17 Lift Height: 4000 mm AFF.
.18 Runway Elevation: 4500 mm AFF.
.19 Power: 208V 3 Phase.

2.5 SERVICE REQUIREMENTS

.1 Cranes shall remain operational under the following conditions:

.1 Building sway under wind loads: H/400 (H: Height of building).
.2 Deflection of building roof beams under live loads: L/240 (L: Span).
.3 Vertical deflection of crane runway beams under crane loads: L/600 (L: Span).
.4 Lateral deflection of crane runway beams under crane loads: L/600 (L: Span).

.5 Design Crane Systems for seismic horizontal loadings equivalent to crane self-dead weight. Crane shall remain on the rails during such an event.

Part 3 Execution

3.1 GENERAL

.1 Carry out work in accordance with the requirements of this specification including all codes, standards and specifications and standards of the organizations listed in this section.

.2 Plan manufacturing, delivery, installation, testing, commissioning and certification of Crane Systems to meet the approved construction schedule.

3.2 SHIPMENT, PROTECTION AND STORAGE

.1 Store the crane system in an area to prevent deterioration or damage prior to installation.

.2 All factory finished items to be wrapped and crated in a manner to protect their finishes.

.3 Operating and moveable equipment is to be fully protected from the weather.

.4 All crates, pieces of equipment, etc., shall be clearly labelled describing contents, weight and lift points.

3.3 ACCEPTANCE OF BUILDING STRUCTURE

.1 Prior to installation of Crane Systems, coordinate and verify with the building structural steel trade contractor the alignment, levels and tolerances of the building structure and identify any adjustments that may be required.

3.4 INSTALLATION

.1 Install Crane Systems in accordance with drawings and specifications meeting the requirements of all applicable codes, standards, specifications and regulations.

.2 Provide all necessary material, labour, tools and equipment for the installation.

.3 Provide required clearances between the building structure and Crane System.

.4 Upon completion of installation, touch up and restore to new condition, damaged or defaced factory finished surfaces.

.5 Remove protective coverings and clean exposed surfaces after completion.

3.5 TESTING, COMMISSIONING AND CERTIFICATION

.1 Test Crane Systems in accordance with Worksafe BC, Occupational Health and Safety Regulation Part 14 – Cranes and Hoists.

.2 All crane equipment shall be operated through a complete lift and lowering cycle and through a complete travel of the trolley to determine that the equipment shall perform smoothly and safely and that pendant cable length is sufficient to permit operation from desired floor levels.

.3 Provide all necessary material, labour, tools and equipment required for all testing and commissioning.

.1 Provide all test weights, connectors, slings, and equipment necessary for safe complete testing.

.1 Lift test weights shall be of minimal physical size, shape and clearly labelled.

.2 Remove from site test weights upon successful completion of testing and commissioning.

.4 Commissioning of cranes shall commence after successful completion of operational testing and deficiencies.

.5 Provide commissioning check lists to be used in commissioning.

.6 Carry out certification of cranes as required by Provincial and Federal Regulations. Crane, as an entire assembly, must be CSA Certified. The use of CSA approved components only does not constitute conformance to this requirement. A copy of the Certificate of Compliance must be provided for each crane.

.7 Upon successful completion of commissioning and correction of all deficiencies identified during commissioning, provide certification that cranes are installed and in operating condition in accordance with the requirements of the contract and all applicable standards and regulations. Any other certification required by Provincial and Federal Regulations shall also be provided.

.8 Any defects shall be corrected by the supplier without any expense to the owner.

3.6 DEMONSTRATION AND TRAINING

.1 Upon successful completion of testing and commissioning of Crane Systems, after the delivery of all documentation (manuals, drawings, certificates, etc.) and prior to issuance of Substantial Completion, carry out equipment and system demonstration and training in accordance with the requirements of Section 01 79 00 – Demonstration and Training.

.2 Demonstrate operations and maintenance of equipment and systems and provide training to City's operations and maintenance personnel. Include for the following demonstration and training:

.1 4 Hours (1/2 Day)

3.7 TECHNICAL DATA SHEET

Manufacturer: _____

Model No.:/ Crane No. _____

Application on (Duty) _____

1.0 Crane Data

Recommended Rail Size	_____
Bridge Weights	_____
Trolley Weights	_____
Maximum Wheel Loads	_____
Wheel Spacing	_____
Headroom Above Rails	_____
CMAA Crane Service Classifications	_____
Hazardous Location Classification	_____
Frame No.	_____
Service Factor	_____
Insulation Class	_____

END OF SECTION

SUPPLY CONTRACT

THIS CONTRACT dated effective October 18, 2016 is between:

CORIX WATER PRODUCTS LIMITED PARTNERSHIP
19900 84TH Avenue
Langley, BC V2Y 3C2

("**Corix**")

and:

CITY OF CAMPBELL RIVER
301 St. Ann's Road
Campbell River, BC V9W 4C7

(the "**City**")

BACKGROUND

A. On July 21, 2016, the City issued Request for Quotation 16-51 (the "**RFQ**") for the supply, manufacture, assembly, testing, delivery, supervision of installation, start-up and commissioning of three vertical turbine pumps to treat raw water from John Hart Lake.

B. In response to the RFQ, Corix submitted a proposal dated August 10, 2016 ("**Corix's Proposal**") pursuant to which the City selected Corix as the preferred proponent by a Notice of Award dated September 21, 2016 (the "**Notice of Award**").

C. The City wishes to retain Corix to perform the services described in the Contract Documents (as defined in Section 1.1 below) on the terms and conditions set out in this Contract.

AGREEMENTS

For good and valuable consideration, the receipt and sufficiency of which each party acknowledges, the parties agree as follows:

1. Contract Documents

1.1. The "Contract Documents" include the following:

(a) The Contract;
(b) The Notice of Award, attached hereto as Schedule A;
(c) Corix's Proposal, attached hereto as Schedule B; and
(d) The RFQ, attached hereto as Schedule C.

1.2. If there is a conflict or inconsistency in the provisions of the Contract Documents, the provisions of the document that appears earlier in the list in Section 1.1 above shall take precedence and govern over the provisions of the document subsequently listed.

2. Payment

2.1. The City will pay Corix for the performance and fulfillment of the Contract the amount set out in the Notice of Award.

2.2. Payment terms are net 30 days from the invoice date without holdback.

3. Notices

3.1. Any notice or communication required or permitted to be given under this Contract shall be in writing and shall be considered to have been given if delivered by hand or transmitted by facsimile or electronic transmission to the address or facsimile transmission number of each party set out below:

(a) if to Corix:

Corix Water Products Limited Partnership
859 Orono Avenue
Langford, BC V9B 2T9

Attention: Neall Rowlings
Regional Sales Manager, Vancouver Island
Fax No: 250-478-1581
Email: neall.rowlings@corix.com

(b) if to City:

City of Campbell River
301 St. Ann's Road
Campbell River, BC V9W 4C7

Attention: Clinton J. Crook
Senior Buyer
Fax No: 250.286.5741
Email: Clinton.Crook@campbellriver.ca

or to such other address or facsimile transmission number as a party may designate in the manner set out above.

4. Miscellaneous

4.1. Law. This Contract shall be governed by and construed in accordance with the laws of the Province of British Columbia (excluding its conflict of laws rules). The courts of the Province of British Columbia shall have jurisdiction over all claims, disputes and actions related to this Contract and the parties shall attorn to the jurisdiction of those courts.

4.2. Entire Agreement. This Contract and the schedules referred to herein constitute the entire agreement between the parties hereto and supersede all prior agreements, representations, warranties, statements, promises, information, arrangements and understandings, whether oral or written, express or implied, with respect to the subject matter hereof

4.3. Enurement. This Contract shall be for the benefit of and be binding upon City and Corix and their respective successors and permitted assigns.

4.4. Counterparts. This Contract may be executed by the parties in one or more counterparts and may be delivered by facsimile or other means of electronic transmission, each of which when delivered shall be deemed to be an original and all of which shall together constitute one and the same Contract.

IN WITNESS WHEREOF the parties hereto have executed this Contract the day and year above first written.

CITY OF CAMPBELL RIVER

Per: _____
Name:
Title:

CORIX WATER PRODUCTS LIMITED PARTNERSHIP, by its general partner, CORIX WATER PRODUCTS (GP) INC.

Per: _____
Name:
Title:

SCHEDULE A
NOTICE OF AWARD

See attached.

City of Campbell River

September 21st, 2016

Corix Water Products
19900 84th Avenue
Langley, BC
V2Y 3C2

Via E-Mail: fred.partridge@corix.com

Attention: Mr. Fred Partridge

SUBJECT: RFQ 16-51 Vertical Turbine Pumps Notice of Award

I write to provide you with this written Notice of Award regarding the above RFQ. The award is in accordance to the terms and conditions of RFQ 16-51 for three (3) Option A – 900 RPM Vertical Turbine Pumps at the submitted amount of $436,500.00, excluding GST.

It is the City's intention to progress with the execution of a contract with your firm. Please provide myself with the agreement for our review and approval. We look forward to the commencement of this contract and to the successful relationship with your firm.

Yours truly,

Clinton Crook, SCMP, CPSM
Senior Buyer, Facilities and Supply Management

c. Jason Hartley, Capital Works Manager
Stantec Consulting Ltd.

SCHEDULE B
CORIX'S PROPOSAL

See attached.

CORIX®
Water Products

19900 84th Avenue
Langley, British Columbia
Canada V2Y 3C2

T 604.455.3500
F 604.455.3502
www.corix.com

August 10, 2016

Clinton J. Crook, SCMP, CPSM
Senior Buyer
City of Campbell River
301 St. Ann's Road
Campbell River, BC V9W 4C7

Dear Mr. Crook

RE: REQUEST FOR QUOTATION 16-51 – VERTICAL TURBINE PUMPS

The enclosed proposal is subject to Corix Standard Terms and Conditions which we have enclosed under Attachment One of our submission. As stated in the RFQ, Corix is prepared to negotiate project-specific terms for the supply, delivery, and commissioning of this equipment.

Note:

1. All prices are in Canadian funds. FOB Corix Courtenay with freight to site included.
2. This quote is valid for 30 days.
3. We would recommend a stainless steel basket strainer on the pump suction. Galvanized steel strainers do not last as long as the pump, with the result that the strainer will fail before the pump is removed for servicing, possibly allowing foreign material or parts of the strainer itself to enter the pump.

Thank you for the opportunity to quote on this project.

Sincerely

Murray Stewart
Vice President, CWP West
Phone: 250-474-3980
Email: murray.Stewart@corix.com

Request for Quotation 16-51

City of Campbell River

Vertical Turbine Pumps

Submitted To:

City of Campbell River City Hall
301 St. Ann's Road
1st Floor Reception Desk
Campbell River, BC V9W 4C7

Attention:

Clinton J. Crook, SCMP, CPSM
Senior Buyer

Phone: 250.286.5766
Email: clinton.crook@campbellriver.ca

Submitted By:

Corix Water Products Limited Partnership
19900 84th Avenue
Langley, BC V2Y 3C2

Main Contact:

Fred Partridge
Technical Sales Engineered Pump Equipment

Phone: 604.455.3577
Mobile: 778.870.7576
Email: fred.partridge@corix.com

PROPRIETARY AND CONFIDENTIALITY STATEMENT

The information, ideas, and material contained in this proposal are the property of Corix Water Products Limited Partnership (Corix) and are proprietary (except for included forms generated by the City of Campbell River) and confidential, as noted on each page of this submission. This proposal may not be distributed, copied or disclosed in whole or in part, for any reason, without the written consent of Corix, other than to those persons identified by the City of Campbell River who are responsible for the valuation of proposals received.

This proposal is submitted in confidence as defined under Section 21 of the Freedom of Information and Protection of Privacy Act of British Columbia. It is intended solely for use by the recipient in evaluation of proposals.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Corix is pleased to submit our response to the City of Campbell River's (the City) Request for Quotation 16-51 for the supply, manufacture, assembly, testing, delivery, supervision of installation, start-up, and commissioning of three vertical turbine pumps to treat raw water from John Hart Lake.

We understand that this Request for Quotations is a non-binding offer and that the City reserves the right to negotiate with any one or more Proponents as it sees fit.

OUR COMPANY

Corix Water Products Limited Partnership (Corix) is part of the Corix Group of Companies, a privately held Canadian company owned by the British Columbia Investment Management Corporation (bcIMC), a large Canadian pension fund. Headquartered in Vancouver, BC with offices throughout Canada and the United States, Corix's corporate structure promotes streamlined communications and efficient decision making. Corix provides experience, financial stability, and a cost effective approach to operating and maintaining utility infrastructure.

OUR STRATEGY

Corix harnesses economies of scope and long-term partnerships to provide essential utility infrastructure, products, and services at the local community level. Our target markets are the typically small to medium-sized North American communities, but our offerings can be tailored to meet almost any requirements.

Our focus is on providing customized solutions that provide maximum value while meeting all project requirements. We leverage shared services, including IT, Finance, HR, and other related corporate resources to cost-effectively deliver benefits to our partners.

PROVEN CUSTOM SOLUTIONS BUILT TO THE HIGHEST STANDARDS AND REGULATIONS

Corix products are built to the highest standards and are delivered on time and on budget. With many years of proven field experience, the Corix team custom-tailors safe, cost-effective, and valuable solutions designed to meet precise requirements.

PRODUCTS OFFERED

Corix Water Products provides quality water, wastewater, and civil construction products at competitive prices. We have an extensive list of products – from pressure reducing stations to pipe, fittings, and packaged systems we maintain one of the largest single-source inventories in the industry. We also offer specialized expertise and products including irrigation equipment, engineered products, and stormwater products.

Thank you for the opportunity to submit our pricing and related information which we trust meets your requirements. Should you require additional information or clarification, please do not hesitate to contact the undersigned.

Fred Partridge
Technical Sales Engineered Pump Equipment
Phone: 604.455.3577
Mobile: 778.870.7576
Email: fred.partridge@corix.com

CITY OF CAMPBELL RIVER
REQUEST FOR QUOTATION 16-51
VERTICAL TURBINE PUMPS
OFFER FORM

OFFER FORM

The *Proponent* offers to perform all of the *Work* in accordance with the terms and conditions of this RFQ and accept payment at the rates specified in this Offer Form. The *Proponent* declares that all information, which is provided or will be provided to the *City* of Campbell River is true and understands and agrees to be bound by the contract documents. **Offer prices shall be in Canadian dollars (CAD) and shall include all duties and taxes, including provincial sales taxes, with the exception of GST which shall be shown separately.**

OPTION A – 900 RPM Vertical Turbine Pump **Specify Make/Model/Performance Data, etc.**	**Qty.**	**Unit Price**	**Price**
Please see Attachment Two for complete description and specifications Price includes freight to job site and commissioning for each pump	3	$145,500.00	$436,500.00
		Sub-Total:	$436,500.00
		GST:	$21,825.00
		Total:	$458,325.00

OPTION B – 1,200 RPM Vertical Turbine Pump **Specify Make/Model/Performance Data, etc.**	**Qty.**	**Unit Price**	**Price**
Please see Attachment Two for complete description and specifications Price includes freight to job site and commissioning for each pump	3	$151,500.00	$454,500.00
		Sub-Total:	$454,500.00
		GST:	$22,725.00
		Total:	$477,225.00

CITY OF CAMPBELL RIVER
REQUEST FOR QUOTATION 16-51
VERTICAL TURBINE PUMPS
OFFER FORM

APPENDIX 1

Date: August 10, 2016

Name of Company: Corix Water Products Limited Partnership

Primary Contact: Fred Partridge

Title: Technical Sales Engineered Pump Equipment

Address: 19900 84th Avenue, Langley BC Postal Code: V2Y 3C2

Telephone No.: 604.455.3577 Fax No.: 604.455.3502

Email: fred.partridge@corix.com

Signature: _____

Murray Stewart
Vice President, CWP West

CITY OF CAMPBELL RIVER
REQUEST FOR QUOTATION 16-51
VERTICAL TURBINE PUMPS
OFFER FORM

APPENDIX 2: MAINTENANCE AND SUPPORT

The Proponent shall complete the following Schedule of Maintenance and Support for the Goods and Materials. The following are the minimum requirements of the supplier:

- Shall provide a 24 hour, 365 day toll free service hotline
- Next day Service Technician (experienced with Manufacturer's complete system)
- Same day or overnight parts availability

Item	Description	Suppliers Availability
1	Toll free service Hotline hours and days per year	Service through our toll-free number to our Abbotsford Branch is available Monday to Friday, 7:30 to 4:00, excluding holidays. For after-hours service calls there will be two cell phone numbers provided for our Service Managers.
2	Technical Availability	We have a Service Technician located at our Duncan Branch that is available for immediate response to inspect and report. Our pump specialists are available next day from Abbotsford.
3	Parts availability	Parts for these pumps are custom made for each application. Delivery can take 8 weeks depending on the part. Some components such as bearing spiders are more readily available
4	Local Service Provider	Company: Corix Water Products Limited Partnership # of Years' Experience with Manufacturers Equipment: 15 years Local Address: 3175 Turner Street, Abbotsford, BC V2S 7T9

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APPENDIX 3: PRELIMINARY MANUFACTURING SCHEDULE

Indicate Time-Scaled Manufacturing Schedule Based on Critical Path Method including a list of all activities required to complete the project and the time (duration) that each activity will take to completion. The schedule will provide a basis for determining the Supplier's proposed manufacturing methodology, the progress status of the project relative to the completion time and specific milestone dates and should include the following milestones:

Specify number of calendar days required to deliver 98 days after approval of shop drawings

Activity	Milestone Dates
Order Confirmed	1 week
Shop Drawings	6 – 8 weeks
Fabrication	12 – 14 weeks
Delivery	1 week
Installation (by others)	-
Commissioning	As required

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APPENDIX 4: COMPARABLE WORK EXPERIENCE

1.	Owner Name:	City of Burnaby
	Contact Details:	Nelson Porter – 604.294.7991
	Description of Work:	Three 150 HP vertical turbine pumps in cans
	Project Value:	$162,000.00
2.	Owner Name:	District of Lillooet
	Contact Details:	John LaRue – 250.256.3448
	Description of Work:	Two 125 HP vertical turbine pumps in cans
	Project Value:	$78,000.00
3.	Owner Name:	Greater Vancouver Water District – Coquitlam UV Disinfection Project
	Contact Details:	Tom Nelson, Contract Specialist, Financial Services 604.432.6305
	Description of Work:	Supply and delivery of butterfly valves
	Project Value:	$2,237,598.00
4.	Owner Name:	City of Abbotsford
	Contact Details:	James Hill – 604.835.2686
	Description of Work:	Service, Maintenance, and Annual Inspections of all Dewatering Pumps and Potable Water Booster Stations.
	Project Value:	Approximately $80,000 per year
5.	Owner Name:	City of Pitt Meadows
	Contact Details:	Bob Williams or Randy Evans – 604.968.3718
	Description of Work:	Service, Maintenance, and Annual Inspection and Maintenance on all Dewatering Pumps
	Project Value:	$75,000 per year

ATTACHMENT ONE: CORIX STANDARD TERMS AND CONDITIONS

Corix has provided under this attachment its Standard Terms and Conditions.

CORIX TERMS AND CONDITIONS

1. APPLICATION. The following terms and conditions ("Terms and Conditions") apply to each supply by Corix to a Purchaser of goods, materials or equipment (collectively and individually "Goods") and all associated installation services performed by Corix, if any ("Services"). The Terms and Conditions supersede all terms and conditions provided by Purchaser and all previous agreements, offers and proposals relating to Goods and Services, whether oral or written. No exception to, amendment, variation or supplementation of the Terms and Conditions will be valid except as expressly agreed by Corix in a current written order, quotation or contract pertaining to a particular order of Goods or Services. All clerical errors are subject to correction by Corix.

2. ORDERS. All orders for Goods and Services are subject to acceptance by Corix. Placement of an order constitutes full acceptance by Purchaser of the Terms and Conditions and creates a binding contract between Purchaser and Corix on that basis.

3. PRICE AND PAYMENT. Corix's prevailing prices for Goods and Services at the time of shipment or installation, as the case may be, will apply, except as otherwise provided in a written order, quotation or contract. Quoted prices automatically expire 30 days from the date of issuance or on such other date as provided in a written order, quotation or contract and reflect Goods being provided FCA (Incoterms 2000) Corix warehouse in accordance with Section 6 below.

   Except as otherwise expressly provided in a written order, quotation or contract, Purchaser will bear and pay all costs associated with shipping and all other costs associated with any change in shipping or installation dates for Goods and Services, including but not limited to storage costs, transportation costs (including all applicable truck standby and off-loading charges) and costs charged by material suppliers.

   Corix may, in its sole discretion, require advance payment or security for Goods and Services. Where advance payment is not required, Goods and Services will be invoiced at the time of shipment or installation, as applicable. Goods held in factory or otherwise beyond the scheduled shipping or completion date at the request of Purchaser will be invoiced on date of completion or shipping, as applicable. Payment terms are net 30 days from the invoice date. Purchaser will not set off or set up compensation for any amount owing by Purchaser to Corix against any other amount whatsoever. Corix may, in its sole discretion, set off, set up compensation, or otherwise apply Purchaser's payment against any amounts owing by Purchaser. Purchaser will pay interest on overdue accounts at the rate stipulated on the face of the invoice, or if no rate is stipulated, at a rate equal to the lesser of: (a) 2% per month (a compounded rate of 26.8% per annum, calculated monthly); and (b) the maximum legal interest rate.

4. FAILURE TO PAY. If Purchaser fails to pay Corix in accordance with the Terms and Conditions, or otherwise fails to comply with any part hereof, Corix may, in its sole discretion (and in addition to any other legal remedies it may have) make a lien, hypothec, or exercise a right of retention on Goods or any portion thereof and/or cancel any unfulfilled portion of the order. Purchaser will remain liable for all unpaid accounts, plus interest, as well as, to the extent permitted by applicable law, all costs incurred by Corix to collect outstanding accounts, including costs on a solicitor and own client basis.

5. DESIGN AND SPECIFICATION CHANGES; ACTUAL WEIGHT AND DIMENSIONS. Designs and specifications of Goods as listed in Corix's catalogues, specification sheets and marketing materials (collectively, "Goods Material") are subject to change without notice.

   Without limiting the generality of the foregoing, shipping weights and dimensions of Goods are not guaranteed. Corix will not in any way be responsible for any discrepancy between actual weight and/or dimensions of shipped Goods and the weights and dimensions listed in Goods Material.

6. SHIPPING AND PACKING. All Goods will be packed appropriately for shipment and will be provided FCA (Incoterms 2010) Corix warehouse. Quoted prices include regular packing. Special requirements for packing will be subject to extra charges. Corix will not in any way be responsible for any loss, delay or breakage of Goods where the applicable carrier has confirmed receipt of Goods in good order. Any claim for breakage, loss, delay or damage of Goods is to be made to the carrier. Corix will provide reasonable assistance to Purchaser in securing adjustment of any such claims. In the absence of express directions by Purchaser, Goods will be shipped by the method and carrier that Corix selects.

7. CANCELLATION. No order may be cancelled or changed (in respect of specifications, shipping or installation dates or otherwise) except with Corix's written consent and Purchaser's agreement to compensate Corix for all additional expenses and other losses incurred in connection therewith.

8. FORCE MAJEURE. If Corix becomes unable, either wholly or in part, by an event of Force Majeure, to fulfill its obligations hereunder, Corix may, in its sole discretion, elect to (a) suspend the obligations affected by the event of Force Majeure during the continuance of that inability or (b) cancel any order (in whole or in part) or change the shipping or installation dates. Corix will take reasonable steps to mitigate the Force Majeure and shall not be liable in any way for any delay or non-performance of its obligations hereunder as a result of Force Majeure. Force Majeure will not relieve or release Purchaser from its payment obligations under the Terms and Conditions.

   "Force Majeure" means an event beyond the reasonable control of Corix, including, without limitation, acts of God, earthquake, tsunami, storm, washout, landslide, avalanche or other extreme weather conditions, fire, flood, vandalism, explosions, strikes, lockouts or other industrial disturbances, unavailability of any goods, materials or equipment, acts of the Queen's or public enemies, wars, blockades, insurrections, riots, arrests, restraints or other civil disturbances, epidemics, restraints or prohibitions by any court or governmental board, department, commission or agency, and new or amended laws, and all other events of a similar nature which affect Corix, its suppliers and/or subcontractors.

9. GOODS WARRANTY. Subject to the provisions of this Section 9, Corix will, within the 12 month period following the date of shipment or installation (as applicable) of new Goods, replace or repair defective Goods if such defect was caused directly by defective workmanship or materials of Corix, provided Corix will not be responsible in any way for any defect that results from: (a) Purchaser's improper installation, removal, use or handling of such Goods, (b) any attempt to operate such Goods above rated pressure, capacity or voltage (whether intentional or not), (c) any unauthorized repair or adjustment of Goods by or on behalf of Purchaser, or (d) any other cause whatsoever beyond the control of Corix. The foregoing warranty is subject to: (a) Purchaser promptly (and prior to returning any Goods to Corix) notifying Corix in writing of any defect in Goods and all pertinent details and information, and (b) in Corix's sole discretion, onsite inspection of Goods by Corix prior to any removal of Goods.

   In all applicable cases, Purchaser will include a Material Safety Data Sheet and a Corix issued warranty return authorization number with Goods returned to Corix pursuant to the warranty set out in this Section 9. Returned, defective Goods under warranty will be replaced or put in operating condition by Corix, free of charge except transportation charges, and such repair or replacement will satisfy all obligations of Corix to Purchaser in respect of such defective Goods. All costs associated with repairs made by Corix outside of the parameters of this warranty or the applicable warranty period will be borne solely by Purchaser. THIS WARRANTY IS EXCLUSIVE. CORIX EXPRESSLY DISCLAIMS, AND PURCHASER EXPRESSLY WAIVES, ALL OTHER WARRANTIES, REPRESENTATIONS AND GUARANTEES, WHETHER ORAL OR WRITTEN, IMPLIED OR STATUTORY IN RESPECT OF GOODS OR ANY PORTION THEREOF, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF WORKMANSHIP, CONSTRUCTION, OR ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

   Notwithstanding the foregoing, where Corix is not the manufacturer of Goods, Purchaser's sole recourse for defective Goods will be to the manufacturer's express warranty, if any.

10. SERVICES WARRANTY. Corix will perform Services in a professional manner consistent with applicable industry standards. Except as otherwise provided in a written order, quotation or contract, Corix will, within the period of 30 days following the date of installation of Goods, repair any defective workmanship in Services. THIS WARRANTY IS EXCLUSIVE. CORIX EXPRESSLY DISCLAIMS, AND PURCHASER EXPRESSLY WAIVES, ALL OTHER WARRANTIES, REPRESENTATIONS AND GUARANTEES, WHETHER ORAL OR WRITTEN, IMPLIED OR STATUTORY IN RESPECT OF SERVICES OR ANY PORTION THEREOF, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

11. RETURNS. No return of Goods will be accepted without Corix's specific, prior written approval. In no case will credit or a refund be issued for any size or design of Goods other than Corix's regular line, then in active demand. Obsolete or specially manufactured Goods will only be accepted by Corix for credit or a refund to the extent of their value to Corix (as determined by Corix). Credit or refund will be based on prices prevailing at the time of return, or the invoiced price, whichever is lower, subject to a minimum restocking fee, deductions for handling and any additional expenses incurred in restoring such returned Goods to salable condition. No credit or refund will be issued to anyone other than the original Purchaser. Freight on authorized returns must be prepaid to Corix's designated receiving point.

12. INTELLECTUAL PROPERTY. All jigs, fixtures, dies, tools and patterns used in the manufacture or supply of Goods will at all times be and remain the sole property of Corix, regardless of whether any costs related thereto are paid by Purchaser.

    No copyrights, patents, trademarks or any other intellectual property rights are assigned to Purchaser hereunder. Corix shall own or continue to own all intellectual property used or created in connection with Goods or Services.

    This Section 12 shall survive termination of the Terms and Conditions.

13. SUBCONTRACTING; ASSIGNMENT. Corix may subcontract performance of Services or any part thereof without the need for notice to or consent of Purchaser.

    Purchaser may not assign, transfer or delegate any of its rights or obligations under the Terms and Conditions and will at all times remain liable to Corix for the full purchase price of Goods and Services. Corix will not be bound by any purported transfer to a third party of any part of such liability.

14. LIMITATION OF LIABILITY. Corix disclaims any liability or responsibility for (a) Purchaser's calculations, drawings, plans or specifications or for Corix's interpretation thereof, or (b) any loss or damage resulting from Purchaser's failure to abide by warnings, safety instructions or other precautionary guidelines relating to Goods and Services.

    Notwithstanding any other provision of the Terms and Conditions, Corix will not be liable for: (a) any special, indirect, consequential or incidental damages of Purchaser or any third party whatsoever, including without limitation compensation for lost profits or revenue, labour costs, or failure to realise expected savings, or (b) any amount in excess of the total price for Goods and Services provided under the relevant order, quotation or contract, arising in any way in connection with the supply, repair or replacement of Goods and Services, including without limitation any failure by Corix to meet any specified shipping date or any condition set forth in the Terms and Conditions, or any negligent act or omission.

    This Section 14 shall survive termination of the Terms and Conditions.

15. CLAIMS. Except for warranty claims under Sections 9 and 10 which shall be made within the timelines set out therein, all claims under the Terms and Conditions or in connection with Goods or Services must be made within 90 days of the invoice date for such Goods or Services.

16. INDEMNIFICATION. Purchaser agrees to defend, indemnify and hold harmless Corix from and against all claims, liabilities, demands, damages, losses, costs and expenses, at law or in equity, of every kind and nature whatsoever (collectively, "Losses"), to the extent arising out of the use of Goods, except to the extent such Losses arise out of a breach of the Terms and Conditions by Corix. This Section 16 shall survive termination of the Terms and Conditions.

17. TAXES. All taxes and duties of any nature whatsoever arising out of or now or hereafter levied in respect of Goods or Services or any part thereof will be added to the quoted price or invoice for Goods and Services and borne and paid solely by Purchaser. If Corix is required to pay any such taxes or duties in respect of Goods and Services, Purchaser will promptly reimburse Corix for same. Purchaser will provide to Corix at the time it places an order all applicable exemption certificates and other documents that may be accepted by a tax or customs official in lieu of such taxes and duties.

18. APPLICABLE LAW. The Terms and Conditions and the respective rights and obligations of Purchaser and Corix hereunder are governed by and will be construed according to the laws of the jurisdiction of the Corix location from which Goods are shipped. Corix will in no way be responsible or liable for any import duties, laws, regulations or taxes imposed by any foreign country in respect of Goods. The parties expressly agree that the United Nations Convention on Contracts for the International Sale of Goods will not apply to the Terms and Conditions or to their relationship.

19. WAIVER. No delay or failure by Corix to exercise any provision of the Terms and Conditions shall be construed or shall operate as a waiver thereof. No waiver of a provision of the Terms and Conditions or of any breach by Purchaser of its obligations hereunder shall be effective unless made in writing. Such a waiver shall not be deemed to constitute a waiver of any other provision of the Terms and Conditions.

20. SEVERABILITY. In the event any provision of the Terms and Conditions is held to be void, null, unlawful or otherwise unenforceable, that provision will be severed from the remainder of the Terms and Conditions and replaced automatically by a provision containing terms as nearly like the void, null, unlawful, or unenforceable provision as possible; and the Terms and Conditions, as so modified, will continue to be in full force and effect.

21. LANGUAGE. The parties have expressly requested that the Terms and Conditions and all documents relating to an order be in the English language. *Les parties ont expressément demandé que les Termes et Conditions ainsi que tous les documents ayant trait à une commande soient rédigés en langue anglaise.*

ATTACHMENT TWO: PUMP DESCRIPTION AND SPECIFICATIONS

Under this attachment we have provided descriptions and specification for both pump options.

NATIONAL PUMP COMPANY
A GORMAN-RUPP COMPANY

7706 NORTH 71ST STREET
GLENDALE, AZ 85303

QUOTATION

Quote Prepared by: **ANDREW DEWAR**
AndrewD@natlpump.com
www.nationalpumpcompany.com
623-979-3560

QUOTATION CLARIFICATIONS: Q-59825

SECTION 11210
2.2.B4 - DESIGNED FOR A 5% INCREASE IN HEAD WHEN MOTOR OPERATES AT FULL SPEED LISTED IN SPEC
2.2.E.3 - WEAR RINGS TO BE PINNED IN PLACE OR BY LOCKTITE
2.2.H5 - ANCHOR BOLTS BY OTHERS
2.4 - MAINTENANCE TOOLS AND PACKAGING BY OTHERS
3.2 - INSTALLATION BY OTHERS, SUPERVISOIN PROVIDED
3.4 - FIELD TESTING BY OTHERS, SUPERVISION PROVIDED
3.5 - SEE ATTACHED NPC PAINTING PROCEDURE

NATIONAL PUMP COMPANY
A GORMAN-RUPP COMPANY
7706 NORTH 71ST STREET
GLENDALE, AZ 85303

QUOTATION

Quote Prepared by: **ANDREW DEWAR**
AndrewD@natlpump.com
www.nationalpumpcompany.com
623-979-3560

Product: HE VTP **Config Name** Q-59825-1 **Config SN** C-108776-R14

DESCRIPTION: C-108776 - HE VTP: Q-59825-1

QTY	ITEM	DESCRIPTION
1	VT PUMP ASM	8432 GPM @ 115' TDH
1	BOWL	NATIONAL H24XHC-2 STAGE PRODUCT LUBRICATED BOWL ASSEMBLY CAST IRON ENAMEL BOWLS BRONZE DYNAMICALLY BALANCED KEYED IMPELLERS W/ THRUST RINGS BRONZE BEARINGS SS BOWL AND IMPELLER WEAR RINGS 416 SS BOWL SHAFT 316 SS BOLTING SUCTION BELL GALVANIZED BASKET STRAINER NSF APPROVED EPOXY EXTERIOR COATING
1	COLUMN	20" STEEL FLANGED COLUMN ASSEMBLY; 43' SETTING 0.375" WALL THICKNESS 416 SS LINE SHAFT 304 SS COUPLINGS INTEGRAL BEARING RETAINERS W/ NEOPRENE INSERTS 316 SS BOLTING AND WASHERS NSF APPROVED EPOXY INTERIOR/EXTERIOR COATING
1	DISCHARGE HEAD	NF FABRICATED DISCHARGE HEAD ASSEMBLY STEEL CONSTRUCTION 18" - 150# DISCHARGE FLANGE ADJUSTABLE COUPLING SS BOLTING PACKING BOX ASSEMBLY STEEL SOLE PLATE HEAT STRESS RELIEVE RCF ANALYSIS NSF APPROVED EPOXY INTERIOR/EXTERIOR COATING
1	DRIVER	MFGR: GE MOTORS OR EQUAL 300 HP / 900 RPM / WP1 VSS / NRR / 1.15 SF 3PH / 60HZ / 600V INVERTER DUTY RATED / PREMIUM EFFICIENT / 24.5" DRIVER BD 5012VP FRAME / F INSULATION / COMPLETE INITIAL TEST
1	TESTING	NON-WITNESSED PERFORMANCE TEST OF BOWL ASSEMBLY NON-WITNESSED HYDRO-STATIC TEST OF BOWL ASSEMBLY ADDER FOR WITNESSED PERFORMANCE TEST OF BOWL ASSEMBLY - $2,771.00

NATIONAL PUMP COMPANY
A GORMAN-RUPP COMPANY
7706 NORTH 71ST STREET
GLENDALE, AZ 85303

QUOTATION

Quote Prepared by: **ANDREW DEWAR**
AndrewD@natlpump.com
www.nationalpumpcompany.com
623-979-3560

Product: HE VTP **Config Name** Q-59825-2 **Config SN** C-111385-R12

DESCRIPTION: C-111385 - HE VTP: Q-59825-2

QTY	ITEM	DESCRIPTION
1	VT PUMP ASM	8432 GPM @ 115' TDH
1	BOWL	NATIONAL H24LC-2 STAGE PRODUCT LUBRICATED BOWL ASSEMBLY CAST IRON ENAMEL BOWLS BRONZE DYNAMICALLY BALANCED KEYED IMPELLERS W/ THRUST RINGS BRONZE BEARINGS SS BOWL AND IMPELLER WEAR RINGS 416 SS BOWL SHAFT 316 SS BOLTING SUCTION BELL GALVANIZED BASKET STRAINER NSF APPROVED EPOXY EXTERIOR COATING
1	COLUMN	20" STEEL FLANGED COLUMN ASSEMBLY; 43' SETTING 0.375" WALL THICKNESS 416 SS LINE SHAFT 304 SS COUPLINGS INTEGRAL BEARING RETAINERS W/ NEOPRENE INSERTS 316 SS BOLTING AND WASHERS NSF APPROVED EPOXY INTERIOR/EXTERIOR COATING
1	DISCHARGE HEAD	NF FABRICATED DISCHARGE HEAD ASSEMBLY STEEL CONSTRUCTION 18" - 150# DISCHARGE FLANGE ADJUSTABLE COUPLING SS BOLTING PACKING BOX ASSEMBLY STEEL SOLE PLATE HEAT STRESS RELIEVE RCF ANALYSIS NSF APPROVED EPOXY INTERIOR/EXTERIOR COATING
1	DRIVER	MFGR: GE MOTORS OR EQUAL 350 HP / 1200 RPM / WP1 VSS / NRR / 1.15 SF 3PH / 60HZ / 600V INVERTER DUTY RATED / PREMIUM EFFICIENT / 24.5" DRIVER BD 5008VP FRAME / F INSULATION / SHORT COMMERCIAL TEST
1	TESTING	NON-WITNESSED PERFORMANCE TEST OF BOWL ASSEMBLY NON-WITNESSED HYDRO-STATIC TEST OF BOWL ASSEMBLY ADDER FOR WITNESSED PERFORMANCE TEST OF BOWL ASSEMBLY - $3,181.00

Company: NP
Name:
Date: 8/5/2016

Pump:

Size: H24XHC (2 stage)

Type: VERT.TURB.ENCLOSED
Synch speed: 900 rpm

Speed: 890 rpm
Dia: 18.9 in

Curve: CVH24XHC8P6CY

Impeller: H24XHC (3/16)

Specific Speeds:

Ns: 3700
Nss: 9200

Dimensions:

Suction: ---
Discharge: ---

Vertical Turbine:

Bowl size: 23.3 in
Max lateral: 1.25 in
Thrust K factor: 53.1 lb/ft

Pump Limits:

Temperature: 180 °F
Pressure: 280 psi g
Sphere size: 1.5 in

Power: 921 hp
Eye area: 110 in²

Search Criteria:

Flow: 8432 US gpm

Head: 115 ft

Fluid:

Water
SG: 1
Viscosity: 0.9946 cP

Temperature: 68 °F
Vapor pressure: 0.3391 psi a
Atm pressure: 14.7 psi a

NPSHa: ---

Motor:

Standard: NEMA
Enclosure: WP-I

Size: 300 hp
Speed: 900
Frame: 5012

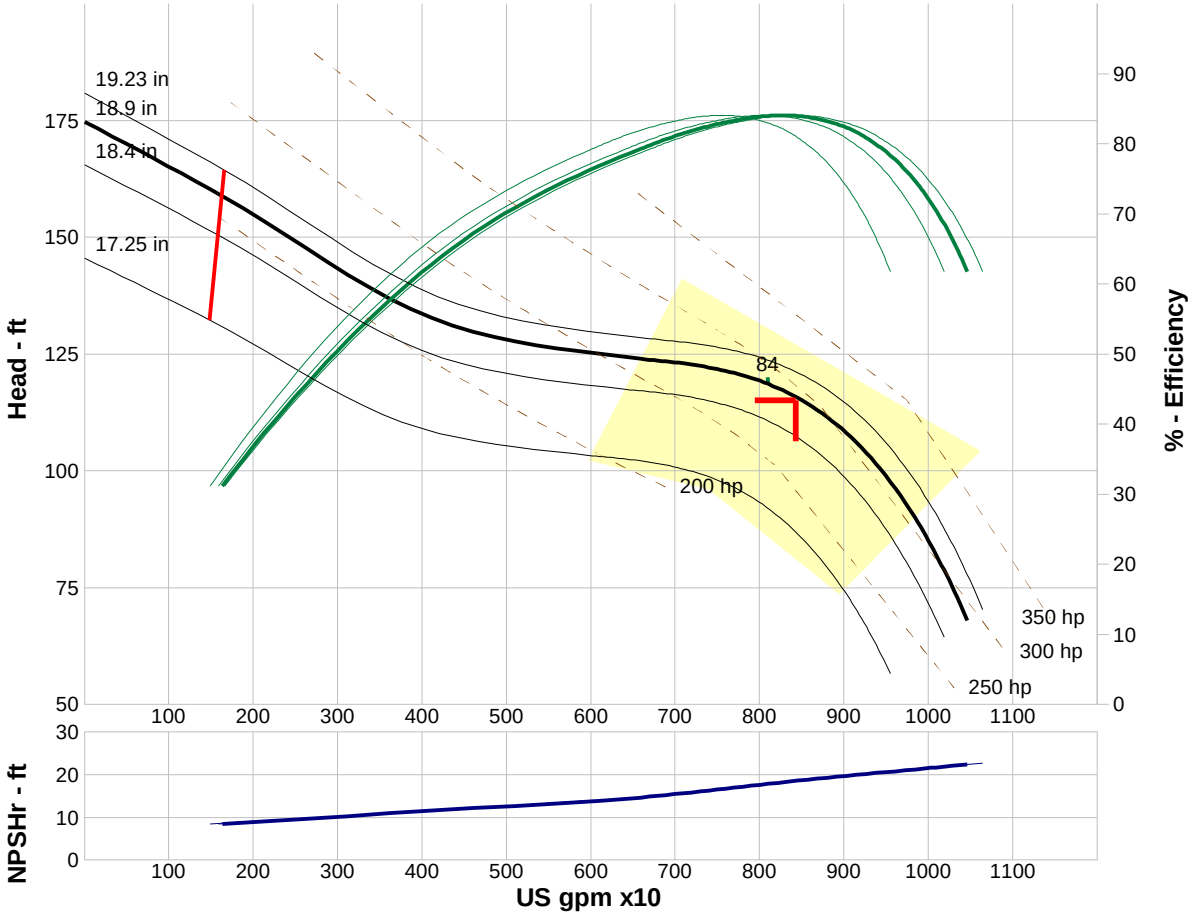
Sizing criteria: Max Power on Design Curve

---- Data Point ----

Flow:	8528 US gpm
Head:	115 ft
Eff:	83.7%
Power:	294 hp
NPSHr:	18.8 ft

---- Design Curve ----

Shutoff head:	175 ft
Shutoff dP:	75.6 psi
Min flow:	1619 US gpm
BEP:	84% @ 8096 US gpm
NOL power:	300 hp @ 9258 US gpm



UNLESS OTHERWISE SPECIFIED: [1] PUMP LIMITS AND PERFORMANCE BASED ON STANDARD MATERIALS. [2] PERFORMANCE MEETS HI 14.6-2011 GRADE 1B TOLERANCES AT THE RATED CONDITION WITHIN THE SELECTION WINDOW. [3] NPSHR AT 1ST STAGE IMPELLER CENTERLINE.

Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
10118	890	81	69.8	296	21.8
8432	890	115	83.8	293	18.6
6746	890	124	80	263	15
5059	890	129	69.1	235	12.8
3373	890	140	53.5	216	10.7

Company: NP
Name:
Date: 7/27/2016

Pump:

Size: H24LC (2 stage)

Type: VERT.TURB.ENCLOSED
Synch speed: 1200 rpm

Speed: 1180 rpm
Dia: 18.45 in

Curve: CVH24LC6P6CY

Impeller: H24LC (3/16)

Specific Speeds:

Ns: 4100
Nss: 9200

Dimensions:

Suction: ---
Discharge: ---

Vertical Turbine:

Bowl size: 19.3 in
Max lateral: 1.25 in
Thrust K factor: 53.8 lb/ft

Pump Limits:

Temperature: 180 °F
Pressure: 280 psi g
Sphere size: 1.5 in

Power: 1235 hp
Eye area: 110 in²

Search Criteria:

Flow: 8432 US gpm

Head: 115 ft

Fluid:

Water
SG: 1
Viscosity: 0.9946 cP

Temperature: 68 °F
Vapor pressure: 0.3391 psi a
Atm pressure: 14.7 psi a

NPSHa: ---

Motor:

Standard: NEMA
Enclosure: WP-I

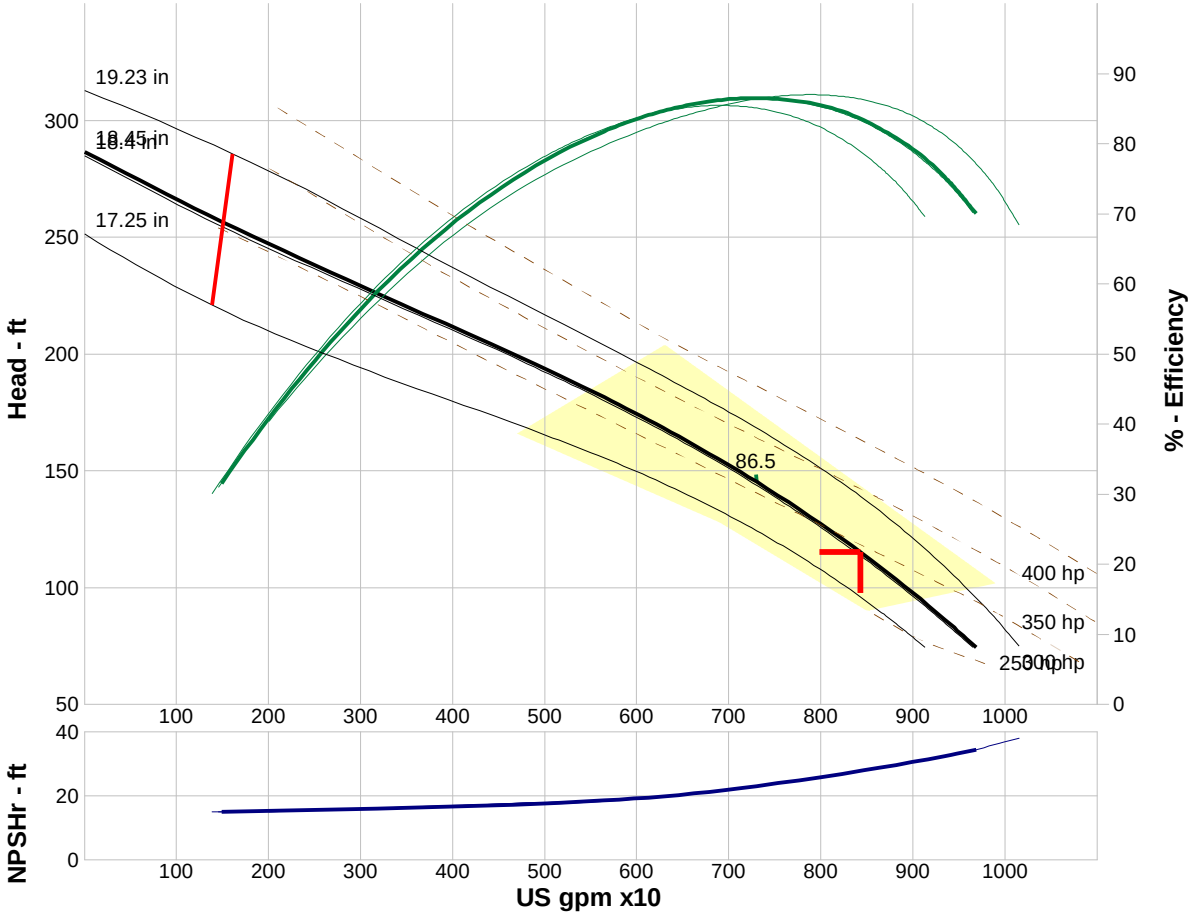
Size: 350 hp
Speed: 1200
Frame: 5008

Sizing criteria: Max Power on Design Curve

---- Data Point ----	
Flow:	8432 US gpm
Head:	115 ft
Eff:	83.5%
Power:	293 hp
NPSHr:	27.9 ft

---- Design Curve ----	
Shutoff head:	287 ft
Shutoff dP:	124 psi
Min flow:	1459 US gpm
BEP:	86.5% @ 7295 US gpm
NOL power:	316 hp @ 5640 US gpm

-- Max Curve --	
Max power:	364 hp @ 6000 US gpm

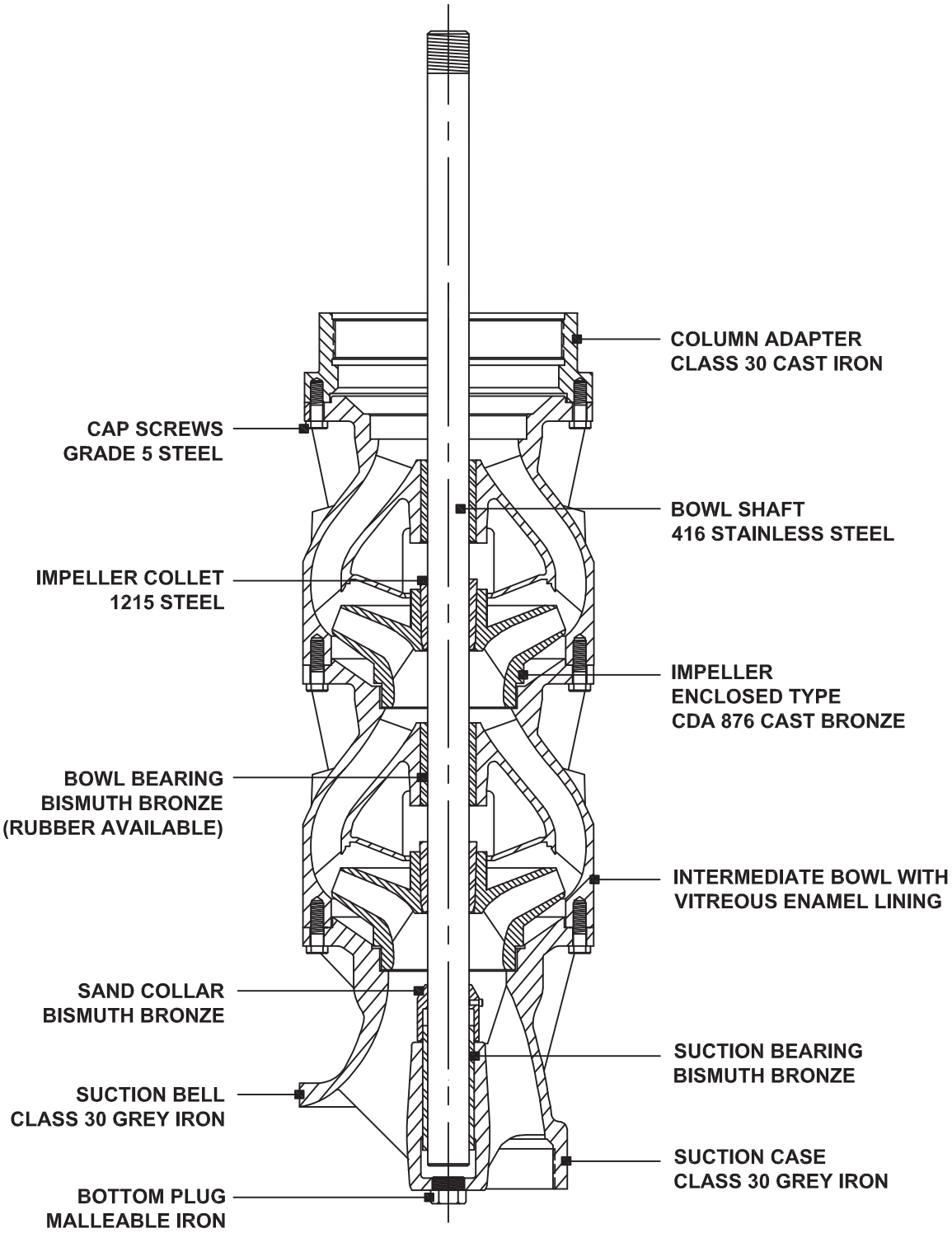


UNLESS OTHERWISE SPECIFIED: [1] PUMP LIMITS AND PERFORMANCE BASED ON STANDARD MATERIALS. [2] PERFORMANCE MEETS HI 14.6-2011 GRADE 1B TOLERANCES AT THE RATED CONDITION WITHIN THE SELECTION WINDOW. [3] NPSHR AT 1ST STAGE IMPELLER CENTERLINE.

Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
10118	1180	---	---	---	---
8432	1180	115	83.5	293	27.9
6746	1180	158	85.7	313	21.3
5059	1180	192	76.4	314	18.1
3373	1180	223	60.7	309	16.4

BOWL ASSEMBLY
PRODUCT LUBRICATED
OPEN LINESHAFT, FLANGED CONSTRUCTION

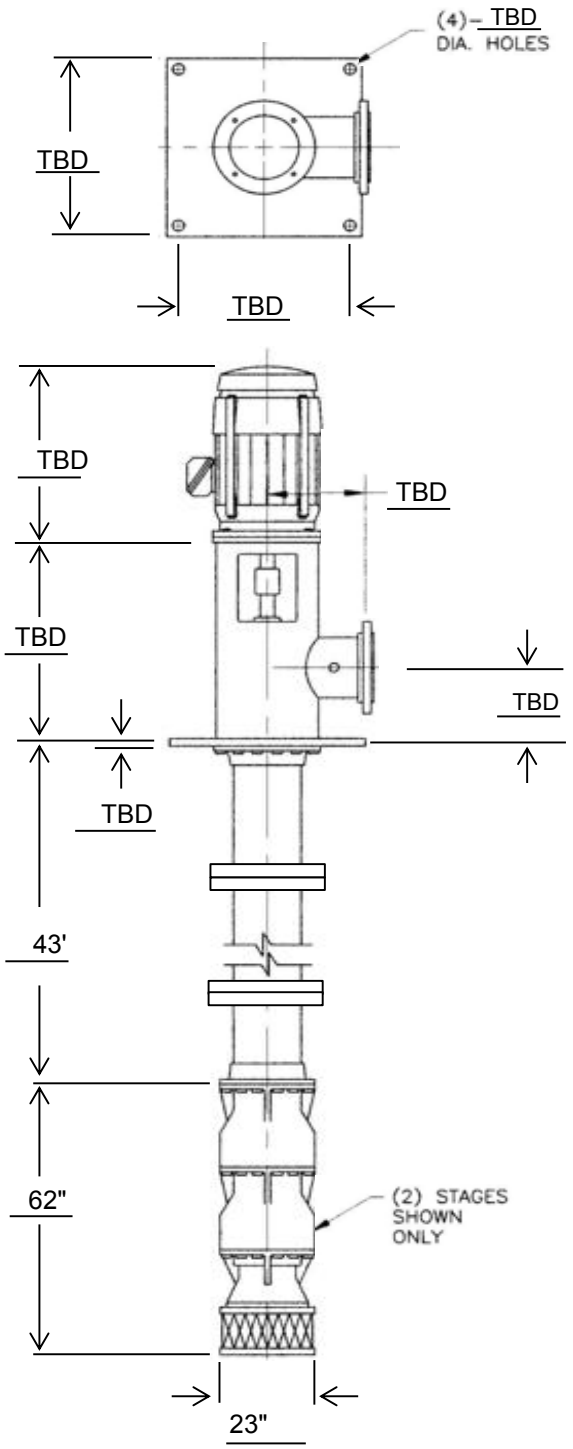


STANDARD MATERIALS OF CONSTRUCTION: Cast iron enameled bowls, bronze impellers, steel collets, 416 stainless steel bowl shaft, bronze bearings.

ALTERNATE MATERIALS AVAILABLE

NATIONAL PUMP COMPANY
A GORMAN-RUPP COMPANY

VERTICAL TURBINE PUMP
VTP FABRICATED DISCHARGE



MOTOR

300	HP	3	PH	60	HZ	575	VOLTS	
900	RPM		MFG	GE MOTORS				

VERTICAL SOLID SHAFT WITH NRR COUPLING

BASE DIAMETER 24.5"

ENCLOSURE WP1 PREMIUM EFFICIENT

DISCHARGE HEAD

FABRICATED NF DISCHARGE HEAD

18" - 150# R.F. DISCHARGE FLANGE

SHAFT SEAL
- [x] PACKING BOX
- [ ] MECHANICAL SEAL
- [ ] OIL LUBE

COLUMN

20" x 0.375" WALL COLUMN PIPE

- [x] FLANGED
- [ ] THREADED
- [x] OPEN LINESHAFT
- [ ] ENCLOSED LINESHAFT

2.688" DIAMETER LINESHAFT

BOWL

2	STAGE	H24XHC	BOWL ASSEMBLY	
8432	GPM	115	FT	T.D.H.

STRAINER
- [x] YES — BASKET — TYPE
- [ ] NO

MATERIALS OF CONSTRUCTION

BOWL	CAST IRON ENAMEL LINED
IMPELLER	BRONZE
BOWL SHAFT	416 SS
BOWL BEARING	BRONZE
WEAR RINGS	STAINLESS STEEL
STRAINER	GALVANIZED
COLUMN PIPE	A53 GRADE B STEEL
LINESHAFT	416 SS
SHAFT COUPLINGS	304 SS
BEARING RETAINER	INTEGRAL
SHAFT BEARING	NEOPRENE
DISCHARGE HEAD	STEEL
MECHANICAL SEAL	N/A
PACKING	ACRYLIC GRAPHITE

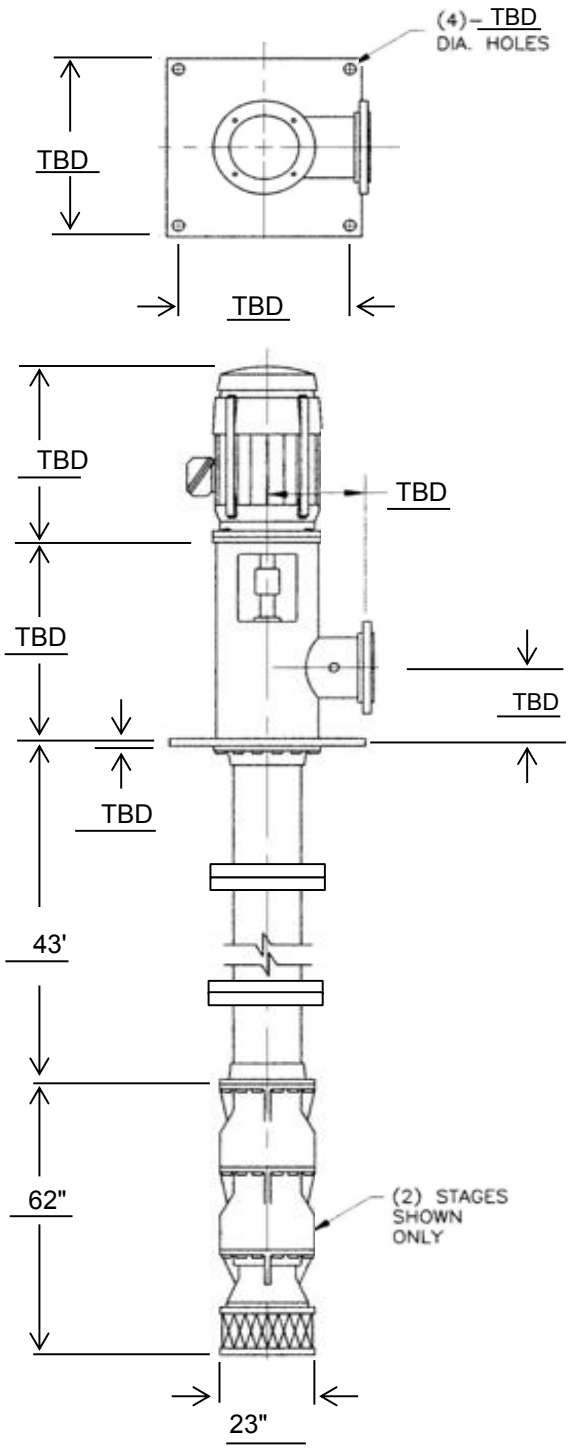
PROJECT	CAMPBELL RIVER
	900 RPM SELECTION
QUOTE NO	59825
FURNISHED BY	NATIONAL PUMP COMPANY
P.O. NO	N/A
SERIAL NO	N/A
DRAWING BY	ANDREW DEWAR

NOT FOR CONSTRUCTION UNLESS CERTIFIED

MFG. BY NATIONAL PUMP COMPANY GLENDALE, AZ

NATIONAL PUMP COMPANY
A GORMAN-RUPP COMPANY

VERTICAL TURBINE PUMP
VTP FABRICATED DISCHARGE



MOTOR

350	HP		3	PH	60	HZ	575	VOLTS
1200	RPM			MFG	GE MOTORS			

VERTICAL SOLID SHAFT WITH NRR COUPLING

BASE DIAMETER 24.5"

ENCLOSURE WP1 PREMIUM EFFICIENT

DISCHARGE HEAD

FABRICATED NF DISCHARGE HEAD

18" - 150# R.F. DISCHARGE FLANGE

SHAFT SEAL
- [■] PACKING BOX
- [ ] MECHANICAL SEAL
- [ ] OIL LUBE

COLUMN

20" x 0.375" WALL COLUMN PIPE

- [■] FLANGED
- [ ] THREADED
- OPEN LINESHAFT
- [ ] ENCLOSED LINESHAFT

2.688" DIAMETER LINESHAFT

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8432	GPM	115 FT	T.D.H.	

STRAINER
- [■] YES — BASKET TYPE
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MATERIALS OF CONSTRUCTION

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LINESHAFT	416 SS
SHAFT COUPLINGS	304 SS
BEARING RETAINER	INTEGRAL
SHAFT BEARING	NEOPRENE
DISCHARGE HEAD	STEEL
MECHANICAL SEAL	N/A
PACKING	ACRYLIC GRAPHITE

PROJECT	CAMPBELL RIVER
	1200 RPM SELECTION
QUOTE NO	59825
FURNISHED BY	NATIONAL PUMP COMPANY
P.O. NO	N/A
SERIAL NO	N/A
DRAWING BY	ANDREW DEWAR

NOT FOR CONSTRUCTION UNLESS CERTIFIED

MFG. BY NATIONAL PUMP COMPANY GLENDALE, AZ

Motors

Customer Information:

Name : ANDREW DEWAR
Company : NATIONAL PUMP COMP.
Address : 7706 NORTH 71ST AVENUE
GLENDALE, AZ - 85303
Index # : 3252702

Date : 08-Aug-2016/revised 09-AUG-2016 by R. Meno
Project Name : CAMPBELL RIVER
EBG Quote # : EBQ282655
Created By : Mahasivabhattu, R K Durga (Revathi)

General Electric is pleased to offer the following motor quotation.

General Description of the AC Motor: EBG Item #: ITM446628

Output = 300 HP	Phase = 3	NEMA Design = B	Product Name= General Purpose
Synch RPM = 900	Frequency = 60	DE E/S & Mtg= P - Base & Round Frame	GE Type = Premium Efficiency - NEMA Design B, KS
Voltage = 600	Shaft Orientation = Vert., Shaft Down, With a P-Base	C-face Dia.(AK) = NA	Ambient Temp. = 40 C
Enclosure = WPI	Hazardous Loc.= Non-Hazardous	Frame Material = Cast Iron	Insulation Class = F
IP & IC Code = IP22, IC01	Class and Group = NA	Estimated Frame= 509	Service Factor = 1.15
Load Type =N/A	Var. Freq. Speed Range= N/A	DE Shaft Extension = VP	Load Connection= Direct
Vert. Thrust Type = High	Vert. Shaft Type = HOLLOW	P Base Dia(BD)=Vert. 20 Inches	Vert. Coupling Type = Non-Reverse
Down Thrust = 7000 Lb / 18768 Lb	Up Thrust = 30% Momentary	Bearing Life = 14.5 Yr / 1 Yr	Coupling Size = Not Applicable
Motor Application: Non-Nuclear	Warranty = 2 Years	Bearing = 7230 - 2D	Est. Weight = 3620 LB

General Description of the AC Motor: EBG Item #: ITM446629

Output = 350 HP	Phase = 3	NEMA Design = B	Product Name= General Purpose
Synch RPM = 1200	Frequency = 60	DE E/S & Mtg= P - Base & Round Frame	GE Type = Premium Efficiency - NEMA Design B, KS
Voltage = 600	Shaft Orientation = Vert., Shaft Down, With a P-Base	C-face Dia.(AK) = NA	Ambient Temp. = 40 C
Enclosure = WPI	Hazardous Loc.= Non-Hazardous	Frame Material = Cast Iron	Insulation Class = F
IP & IC Code = IP22, IC01	Class and Group = NA	Estimated Frame= 5011	Service Factor = 1.15
Load Type =N/A	Var. Freq. Speed Range= N/A	DE Shaft Extension = VP	Load Connection= Direct
Vert. Thrust Type = High	Vert. Shaft Type = HOLLOW	P Base Dia(BD)=Vert. 24.5 Inches	Vert. Coupling Type = Non-Reverse
Down Thrust = 7000 Lb / 22307 Lb	Up Thrust = 30% Momentary	Bearing Life = 20.8 Yr / 1 Yr	Coupling Size = Not Applicable
Motor Application: Non-Nuclear	Warranty = 2 Years	Bearing = 7230 - 3D	Est. Weight = 4710 LB

Motor Adders:

- Nameplate, additional data: Inverter Duty, VT Load, 600rpm To Rated Rpm
- Insulated thrust bearing carrier and AEGIS shaft grounding ring for inverter application
- Bearings - Temperature Sensing: 100 Ohm Platinum; 1 In Each End
- Accessory Box
- Steady bushing
- Special Paint: 1 additional coat of Epoxyester - Standard color
- Winding Temperature Sensing: Resist. Temp. Detectors-Set of 6 100 Ohm Platinum

Software & Miscellaneous

		ITM446628	ITM446629
Complete test (INCLUDED IN ABOVE)	Test & Report		
Routine test (INCLUDED IN ABOVE)	Test & Report		
Data Pack (INCLUDED IN ABOVE)	1		
Nominal F.L. power factor		79%	83%

(Lead Time Includes 7 Days for Documentation)

GE Comments:

- Quoting motor is suitable for a variable torque application on PWM (Pulse width modulation) inverter operation for a speed range of 600 to rated rpm at service factor of 1.0. For sinusoidal supply it is suitable for 1.15 service factor.

DIVISION 11 - SECTION 11210:

1. Sec.2.3.C.1: EEMAC standards not offered. Motor comply with NEMA standards.
2. Sec.2.3.E.1: Offered P-base motor with bolted to frame, exception to provide welded integrated base.
3. Sec.2.3.E.3: Cast iron frame construction offered, exception to provide fabricated steel for requested ratings.
4. Sec.2.3.H.1: Refer above table for nominal full-load power factor. Exception to specified 90% power factor.
5. Sec.2.3.L: Nameplate will be stainless steel.
6. Sec.2.3.M: Anchor bolts others responsibility.
7. Sec.2.4.A.1: GE Standard domestic packing is quoted, which is not suitable for extended unprotected, outdoor storage. (Motors are mounted on skid and covered with shrink-wrapped plastic.) Export boxing is available if required (price adder will apply). However export box is not suitable for extended and outdoor storage without covering.

SCHEDULE C
THE RFQ

See attached.

REQUEST FOR QUOTATION 16-51

VERTICAL TURBINE PUMPS

July 21st, 2016

The City of Campbell River is requesting quotations from qualified proponents for the supply, manufacture, assembly, testing, delivery, supervision of installation, start-up and commissioning of three (3) vertical turbine pumps to supply raw water from John Hart Lake to the treatment components in the building located above grade, and transfer the treated water to the City of Campbell River, BC.

This Request For Quotation is available electronically from the City's website at:
http:\www.campbellriver.ca/city_services/purchasing/request_for_proposal.asp

This is not a tender. This is a non-binding Request For Quotations. The City reserves the absolute right to negotiate with one or more Proponents as it sees fit. Nothing in this RFQ shall obligate the City to enter into a contract with any person.

This RFQ is scheduled to close at:

RFQ Closing Time: **3:00 p.m. local time**

RFQ Closing Date: **Wednesday August 10th, 2016**

Delivered to: City of Campbell River City Hall
301 St. Ann's Road
1st Floor Reception Desk
Campbell River, BC V9W 4C7
ATTN: Clinton Crook – Senior Buyer

RFQ Enquiries: Clinton J. Crook, SCMP, CPSM, Senior Buyer
Telephone: 250.286.5766, Facsimile: 250.286.5741
clinton.crook@campbellriver.ca

REQUEST FOR QUOTATION 16-51

VERTICAL TURBINE PUMPS

RECEIPT CONFIRMATION FORM

As receipt of this document and to directly receive any further information, addendums, etc. regarding this competition, please return this form within two (2) working days to:

Clinton J. Crook, SCMP, CPSM,
Senior Buyer
Email: clinton.crook@campbellriver.ca
Fax: 250.286.5741

Company Name: _____

Address: _____

City: _____

Province/State: _____ Postal/Zip Code: _____

Telephone No: _____ Fax No: _____

Contact Person: _____

Title: _____

Email: _____

1.0 Submission Requirements

1.1 Quotations may be submitted via email or in a sealed envelope and addressed to:

City of Campbell River City Hall
301 St. Ann's Road
1st Floor Reception Desk
Campbell River, BC
V9W 4C7
ATTN: Clinton Crook – Senior Buyer

Ensure that the RFQ name, number, company name, and return address is labelled on the outside envelope.

1.2 Quotations submitted to City Hall should include two (2) identical copies preferably in a bound 8½-inch x 11-inch format along with one (1) identical copy on a virus free data storage device (i.e. CD-ROM disk, USB flash drive, etc.) in Adobe PDF format. No three-ring binders.

1.3 Quotations submitted via email are to be sent to clinton.crook@campbellriver.ca **Ensure to state the RFQ name, number and "Submission" in the Subject Line.** Email submissions should be consolidated into one (1) Adobe .PDF virus free file and no larger than 10 MB's.

1.4 Quotations should be received no later than **3:00 p.m., Wednesday August 10th, 2016.** Quotations will NOT be opened in public.

1.5 Quotations received and not conforming to Item 1.4 above, may at the City's discretion, be returned (unopened) to the *Proponent*(s) without consideration.

1.6 *Proponents* assume the entire risk when submitting a Quotation via email. The *City* will not be liable for any delay or rejection for any reason including technological delays or issues caused by any network or email program, rejected as suspected spam, virus or malware, email being missed and not identified in the Subject Line as a submission, etc. The *City* will not be liable for any damages associated with Quotations not being received or missed.

1.7 All submissions should include Appendix 1, as attached, to clearly show the complete company name, address, telephone number, e-mail address, and name of the primary contact person(s).

1.8 *Proponents* are requested to return the Receipt Confirmation Form within two (2) working days of receipt to receive further information, addendums, etc. about this Request For Quotation.

1.9 All prices quoted are to be in Canadian (CAD) dollars and include all taxes, including provincial sales taxes, except GST, which shall be shown separately.

1.10 *Proponents* are solely responsible for any costs or expenses related to the preparation, submission, and presentation of quotations.

1.11 Quotations, rather than tenders, have been requested in order to afford *Proponents* a more flexible opportunity to employ their expertise and innovation, and thereby satisfy the *City's* needs in a more cost-effective manner. Quotations should be based on these Instructions and any Appendices issued.

1.12 After the closing time and date, all documents received by the *City* become the property of the *City*. The successful *Proponent* will be required to assign any copyright to the *City.* The *City* will have the exclusive rights to copy, edit, and publish the material.

1.13 This quotation is subject to the terms and conditions of the Agreement for Internal Trade, Mash Annex 502.4 and the New West Partnership Trade Agreement between the provinces of B.C., Alberta and Saskatchewan.

1.14 The awarding of a contract as a result of this Request for Quotation will not permit the successful *Proponent* to advertise the relationship with the *City* without the *City's* prior authorization.

1.15 Under no circumstances may the *Work* or any part thereof be subcontracted, transferred, or assigned to another firm, person, or company without the prior written authorization of the *City*.

1.16 If any director, officer or employee agent or other representative of a *Proponent* makes any representation or solicitation to any Councillor, officer or employee of the *City* of Campbell River with respect to the Quotation, whether before or after the submission of the Quotation, the *City* shall be entitled to reject or not accept the Quotation.

2.0 Definitions

2.1 "*City" means* The *City* of Campbell River.

2.2 *"Contractor"* or *"Supplier"* means the successful *"Proponent".*

2.3 "*Proponent"* means the entity submitting a quotation.

2.4 *"Work"* means and includes anything and everything required to be done for the fulfilment and completion of this agreement.

3.0 Confidentiality and Freedom of Information

3.1 Your quotation should clearly identify any information that is considered to be of a confidential or proprietary nature (the "Confidential Information"). However, the *City* is subject to the provisions of the *Freedom of Information and Protection of Privacy Act.* As a result, while Section 21 of the Act does offer some protection for third party business interests, the *City* cannot guarantee that any Confidential

Information provided to the *City* will remain confidential if a request for access in respect of your quotation is made under the *Freedom of Information and Protection of Privacy Act.*

4.0 Pricing & Payment

4.1 The items listed in the attached Terms of Reference are minimum features to be provided. *Proponents* may also provide separate pricing on additional elements they feel would benefit the *City* in meeting its goal.

4.2 All invoices paid as a result of this Request for Quotation will be paid as per the *City's* standard payment terms "current month's invoices will be paid net 30 days".

4.3 The *City* may holdback ten percent (10%) of the contract value to be paid to the *Contractor* upon the *City's* acceptance of the satisfactory completion of the *Work* and contract requirements.

5.0 Cancellation

5.1 The *City* reserves the right to cancel this Request for Quotation at any time and for any reason, and will not be responsible for any loss, damage, cost or expense incurred or suffered by any *Proponent* as a result of that cancellation.

5.2 The *City* reserves the right to terminate the Contract, at its sole and absolute discretion, on giving 30 days written notice to the *Contractor* of such termination and the *Contractor* will have no rights or claims against the *City* with respect to such termination. Cancellation would not, in any manner whatsoever, limit the *City's* right to bring action against the *Contractor* for damages for breach of contract.

6.0 Accuracy of Information

6.1 The *City* makes no representation or warranty; either expressed or implied, with respect to the accuracy or completeness of any information contained or referred to in this RFQ.

7.0 Responsibility of Proponent

7.1 Each *Proponent* is responsible for informing themselves as to the contents and requirements of this RFQ. Each *Proponent* is solely responsible to ensure that they have obtained and considered all information necessary to understand the requirements of the RFQ and to prepare and submit their quotation. The *City* will not be responsible for any loss, damage or expense incurred by a *Proponent* as a result of any inaccuracy or incompleteness in this RFQ, or as a result of any misunderstanding or misinterpretation of the terms of this RFQ on the part of any *Proponent*.

7.2 The *City* of Campbell River may at any time prior to the closing date and time issue additional information, clarifications, or modifications to the RFQ by written

addenda via the *City* of Campbell River website. Information provided in the addenda shall supersede all previous information provided.

7.3 The *City* of Campbell River will endeavour to notify all *Proponents* of any such addenda as may be issued but it is the *Proponent*'s sole responsibility to ensure they have reviewed the *City's* website for any addenda issued. By submitting a quotation the *Proponent* is deemed to have accepted and to abide by all addenda issued.

7.4 If a *Proponent* is in doubt as to the true meaning of any part of this Request for Quotation, or finds omissions, discrepancies or ambiguities, a request for interpretation or correction should be submitted to the Senior Buyer, in writing.

7.5 Only the written Request for Quotation and any addenda issued by the Senior Buyer should be relied upon by *Proponents* when preparing and submitting their quotations.

7.6 By submitting a quotation, the *Proponent* represents that it has the expertise, qualifications, resources, and relevant experience to perform the *Work.*

7.7 *Proponent*s should not rely on any dimensions or scales shown on any attached drawings. *Proponents* are responsible for all measurements.

8.0 Enquiries

8.1 All questions and enquiries should be submitted in writing no later than three (3) working days prior to the closing date of the RFQ.

8.2 Any questions regarding the submission of quotations should be directed to *Clinton J. Crook, SCMP, CPSM, Senior Buyer* at 250.286.5766 or clinton.crook@campbellriver.ca

9.0 References

9.1 Your quotation should identify other projects for which your company has provided similar services. Please provide references stating organization name, contact name, e-mail, phone number, and fax number to support this.

9.2 The *City* shall have the right, but not the obligation to contact any references.

10.0 Indemnification

10.1 The successful *Contractor* hereby releases and shall indemnify and save harmless the *City*, its officers, employees, officials, agents, *Contractors* and representatives from and against any and all claims, costs, damages, actions, causes of action, losses, demands, payments, suits and expenses, legal fees or liability arising from:

a. errors, omissions or negligent acts of the *Contractor*, its officers, agents, members, employees, *Contractors* or subcontractors, or any other person for whom the *Contractor* is in law responsible in the performances of the Services;

b. the breach, violation or non-performance of this Agreement by the *Contractor*, its officers, agents, members, employees, *Contractors* or subcontractors, or any other person for whom the *Contractor* is in law responsible in the performance of the Services; or

c. personal injury including death, property damage and loss arising out of, suffered or experienced by any person in connection with or during the provision of the Services under this Agreement, including without limitation WorkSafeBC claims and assessments.

10.2 The release and indemnity contained in section 10.1 shall apply except to the extent that the claims, costs, damages, actions, causes of action, losses, demands, payments, suits, expenses or legal fees or liability arise from the negligence of the *City*, its officers, employees, officials, agents, *Contractors*, or representatives.

10.3 The *Contractor* is solely responsible for and shall promptly pay all WorkSafeBC premiums and assessments relating to the performance of the Services under this Agreement, whether by the *Contractor*, its officers, agents, members, employees, *Contractors* or subcontractors, or any other person for whom the *Contractor* is in law responsible.

10.4 The release and indemnity contained in section 10.1 shall survive the termination of this Agreement.

11.0 Insurance

11.1 The *Contractor* shall provide and pay for all necessary insurances, licenses, permits, and approvals from authorities having jurisdiction required for the performance of the *Work* and is responsible for any deductible amounts under the policies.

11.2 All insurances, licenses, and permits must remain valid for the term of the *Work.*

12.0 Declarations

12.1 In submitting a quotation the *Proponent* declares that:

· I (we) do not (or any related company) have any family, ownership, and operating relationships with the *City*, or any elected official, staff or other officials holding public office in the *City* and agree that the *City* reserves the right to reject any quotation that may be perceived to be in a conflict of interest.

- I (we) am (are) not or have not:

a. an individual who has; or
b. an individual who was a shareholder or officer of a company that has; or
c. a company that has; or
d. a company with a shareholder or officer who has; or
e. a company that is, or was a shareholder of a company that is, or was a shareholder of a company that has; or
f. a company that has a shareholder or officer who is also a shareholder or officer of another company that has;
g. had a bid bond retained, or
h. had all or part of a performance bond retained, or breached a contract with the *City*, or failed to complete its obligations under any prior contract with the *City* (or any other publicly funded jurisdiction or organization in British Columbia), or has been charged or convicted of an offence in respect of a *City* (or any other publicly funded jurisdiction or organization in British Columbia) contract.

13.0 Timing

13.1 Time is of the essence in carrying out the *Work*. The *Supplier* must commence the services in a timely manner and carry out the services in accordance with the completion dates set out in the work plan, or as mutually amended in writing by the *Supplier* and the *City* from time to time.

14.0 Regulations of Authorities Having Jurisdiction

14.1 All *Work* provided must be in accordance with all laws and regulations pertaining to the *Work*. The laws of the Province of B.C. shall govern this quotation and any subsequent contract resulting from this quotation.

15.0 Acceptance

15.1 The City will be entitled to conduct such acceptance tests as it considers necessary to verify that the product and service (the *Work*) meets the Specifications. If the product and service meets the Specifications after acceptance testing, the City will accept it in writing. If the product and service does not meet the Specifications the *City* may: reject the *Work*; or accept the *Work*. The *City* will not reject the product and service without first notifying the *Contractor* and giving the *Contractor* a reasonable opportunity to correct any failure of the equipment to meet the Specifications. If the product and service meets the Specifications except that some items of product and service have not yet been delivered, the *City* may accept the product and service but withhold that portion of the purchase price attributable to the product and service not yet delivered.

16.0 Resolution of Disputes

16.1 If requested in writing by either the City or the Supplier, the City and the Supplier shall attempt to resolve any dispute between them arising out of or in connection

with this agreement by first entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, if mutually agreed, the dispute shall be referred to the arbitration of a single arbitrator, or to three arbitrators failing such an agreement, in which case each party shall appoint one arbitrator, and the first two named shall choose the third arbitrator. Any arbitration shall be conducted in accordance with the Commercial Arbitration Act (British Columbia). The award and determination shall be binding upon the parties hereto and their successors and assigns.

16.2 The cost of arbitration will be borne equally by the parties.

17.0 Evaluation Criteria Process

17.1 An evaluation committee made up of *City* staff will be reviewing quotation submissions. The *City* is entitled to accept for consideration any or none of the Quotations submitted and will evaluate Quotations based on the best value and not necessarily the lowest cost.

17.2 The *City* reserves the right to conduct pre-selection meetings with *Proponents*. *Proponents* may be requested, as part of the evaluation process, to provide a presentation, which may include a demonstration of their products.

17.3 The *City* reserves the right to conduct pre-selection meetings in order to correct, change or adapt the selected quotation to the wishes of the selection committee.

17.4 Award of any contract resulting from this RFQ may be subject to available funding, *City* of Campbell River Council approval, and other budget considerations.

18.0 Negotiation of Contract and Award

18.1 If the *City* selects a preferred *Proponent*, then the *City* will enter into discussions with that preferred *Proponent* to clarify any outstanding issues and attempt to finalize the terms of the contract, including financial terms. If discussions are successful the *City* and the preferred *Proponent* will finalize a contract.

18.2 If at any time the *City* reasonably forms the opinion that a mutually acceptable agreement is not likely to be reached within a reasonable time frame the *City* may terminate discussions in which event the *City* may either open discussions with another *Proponent* or terminate this RFQ and retain or obtain the services in some other manner.

18.3 The *City* further reserves the right to conduct post-award meetings in order to correct, change, or adapt the selected submission to the wishes of the *City*.

CITY OF CAMPBELL RIVER
REQUEST FOR QUOTATION 16-51
VERTICAL TURBINE PUMPS
TERMS OF REFERENCE

A INTRODUCTION

The City of Campbell River, a coastal city of over 32,000 people, is located on the east coast of Vancouver Island at the south end of the important Inside Passage shipping route. The “Salmon Capital of the World” rises up from Discovery Passage and stretches along the coastline for approximately 14 kilometres.

The City of Campbell River is constructing a new water treatment building and requires the supply, manufacture, assembly, testing, delivery, supervision of installation, start-up and commissioning of three (3) vertical turbine pumps to supply raw water from John Hart Lake to the treatment components in the building located above grade, and transfer the treated water to the City of Campbell River, BC.

B OBJECTIVES

The objective of this Request for Quotation (RFQ) is to solicit submissions from qualified and established vertical turbine pump manufacturers for the supply, delivery, and installation of the new equipment. It is the City’s intent to select a preferred proponent based on the evaluation criteria outlined in this document. The preferred proponent will be invited to negotiate a purchase contract for the equipment supply.

C SCOPE OF SUPPLY

Refer to drawings and specification for further details.

D METHODOLOGY

To complete this project, the City of Campbell River requires the services of a qualified vertical turbine pump equipment manufacturer to:

1. Submit a quotation for scope of equipment supply and additional supplier services for installation review, start-up services system acceptance, and warranty.
2. Review and identify any conflicts that may arise out of the design and/or construction activities and work with the City and its consultants to resolve issues.

OFFER FORM

The *Proponent* offers to perform all of the *Work* in accordance with the terms and conditions of this RFQ and accept payment at the rates specified in this Offer Form. The *Proponent* declares that all information, which is provided or will be provided to the *City* of Campbell River is true and understands and agrees to be bound by the contract documents. **Offer prices shall be in Canadian dollars (CAD) and shall include all duties and taxes, including provincial sales taxes, with the exception of GST which shall be shown separately.**

OPTION A – 900 RPM Vertical Turbine Pump **Specify Make/Model/Performance Data, etc.**	**Qty.**	**Unit Price**	**Price**
	3	**$**	**$**
		Sub-Total:	**$**
		GST:	**$**
		Total:	**$**

OPTION B - 1,200 RPM Vertical Turbine Pump **Specify Make/Model/Performance Data, etc.**	**Qty.**	**Unit Price**	**Price**
	3	**$**	**$**
		Sub-Total:	**$**
		GST:	**$**
		Total:	**$**

APPENDIX 1

Date: _____

Name of Company: _____

Primary Contact: _____

Title: _____

Address: _____ Postal Code: _____

Telephone No.: _____ Fax No.: _____

Email: _____

Signature: _____

APPENDIX 2

MAINTENANCE AND SUPPORT

The Proponent shall complete the following Schedule of Maintenance and Support for the Goods and Materials. The following are the minimum requirements of the supplier:

- Shall provide a 24 hour, 365 day toll free service hotline
- Next day Service Technician (experienced with Manufacturer's complete system)
- Same day or overnight parts availability

Item	Description	Suppliers Availability
1	Toll free service Hotline hours and days per year	_____hours, _____days a year
2	Technician Availability	Same day / overnight/ other (describe)
3	Parts availability	Same day / overnight/ other (describe)
4	Local Service Provider	Company: # of Years' Experience with Manufacturers Equipment: Local Address:

APPENDIX 3

PRELIMINARY MANUFACTURING SCHEDULE

Indicate Time-Scaled Manufacturing Schedule Based on Critical Path Method including a list of all activities required to complete the project and the time (duration) that each activity will take to completion.

The schedule will provide a basis for determining the Supplier's proposed manufacturing methodology, the progress status of the project relative to the completion time and specific milestone dates and should include the following milestones:

Specify number of calendar days required to deliver _____

Activity	Milestone Dates
Order Confirmed	
Shop Drawings	
Fabrication	
Delivery	
Installation (by others)	
Commissioning	

APPENDIX 4

COMPARABLE WORK EXPERIENCE

1. Owner Name: _____

   Contact Details: _____

   Description of Work: _____

   _____

   _____

   Project Value: _____

2. Owner Name: _____

   Contact Details: _____

   Description of Work: _____

   _____

   _____

   Project Value: _____

3. Owner Name: _____

   Contact Details: _____

   Description of Work: _____

   _____

   _____

   Project Value: _____

APPENDIX 6

List of Drawings

Title	Drawing No.	Sheet No.	Date	Revision Date	Issue No.
Mechanical Process Piping	15-508-P102		16/04/18	16/04/18	2
Mechanical Process Sections Section Sheet 1	15-508-P104		16/04/18	16/04/18	2
Mechanical Process Sections Section Sheet 2	15-508-P105		16/04/18	16/04/18	2

PART 1 GENERAL

1.1 DESCRIPTION

A. This section specifies the design, supply, manufacture, fabrication, assembly, testing, delivery, supervision of installation, start-up, and commissioning of three (3) vertical turbine pumps to supply raw water (from John Hart Lake) to the treatment components in the building located above grade, and transfer the treated water to City of Campbell River.

B. Supplier shall provide complete, tested and operating vertical turbine pumps as shown in the drawings and specified herein.

C. The pumping units shall be suitable for being driven by variable frequency drives (VFD).

D. All materials that will be in contact with raw water shall meet all requirements of ANSI/NSF 61.

E. Conform to all general requirements of the contract documents.

1.2 RELATED WORK

A. None

1.3 SUBMITTALS

A. Submit shop drawings in accordance with the general conditions of the contract.

B. The submittals shall include:

1. Shop drawings shall include dimensions and cross sectional views of all equipment showing details of construction, and manufacturer's data including materials of construction, equipment weight etc.

2. Performance curves: Performance curves shall show power requirements, pump capacities, efficiency and NPSH requirements at various heads, curve number, impeller diameter, rated speed, and VFD curves.

C. Submit six (6) copies of installation manuals before shipment of any equipment.

D. Submit as part of the bound, indexed O&M manual for all equipment, the installation, operation, and maintenance manuals and certified performance pump curves corrected to the actual running rpm in the field 30 days prior to start-up.

1.4 PERFORMANCE TESTING

A. Each pump shall be given a non-witnessed performance test at the factory in accordance with Hydraulic Institute Standards. Copies of the performance test shall be submitted to the Engineer for approval prior to pump delivery.

1.5 REFERENCES

A. American Gear Manufacturers Association (AGMA)

B. American Institute of Steel Construction (AISC

C. American Water Works Association (AWWA)

D. Hydraulic Institute

E. National Electrical manufacturer's Association (NEMA)

F. Occupational Safety and Health Act (OSHA)

G. American National Standards Institute (ANSI)

H. American Society for Testing and Material (ASTM)

1.6 SEISMIC DESIGN AND ANCHORAGE

A. All components of the system shall be designed to resist and be connected to the structure for seismic loads as specified in the International Building Code (IBC), latest edition.

1.7 QUALITY ASSURANCE

A. Vertical Turbine Pumps shall be the product of a company regularly engaged in the manufacture and supply of this type of environment and whose equipment is of a design which has been in satisfactory service under similar conditions for not less than five (5) years.

1. The manufacturer shall be responsible for the design, construction and proper operation of all components.

2. Comply with applicable standards.

B. Design to provide satisfactory performance under the specified operating conditions.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver products to the site, and handle and store them to avoid damage to any components.

B. Provide dry storage areas and follow the manufacturer's recommendations for storage and handling.

1.9 ACCEPTABLE MANUFACTURER

A. The pumps shall be manufactured by National Pump, Flowserve, Fairbanks Morse, Goulds, Simflo, or reviewed equivalent.

PART 2 PRODUCTS

2.1 DESCRIPTION AND CHARACTERISTICS

A. The vertical turbine pumps shall be designed for continuous operation and will be operated continuously under normal service.

B. Service Conditions

	Pump #1	Pump #2	Pump #3
Equipment Tag	P-101	P-111	P-121
Flow (MLD)	46	46	46
TDH (mH_2O)	35	35	35
Motor Size (hp)	300	300	300
Pump/Motor RPM	900 or 1,200	900 or 1,200	900 or 1,200

C. Total dynamic head shall be as measured at the discharge bowl of the pump and shall include velocity head and vertical static head from the minimum water level in Lake (WL: 129.0m) to the highest air release point (pipe centerline elevation: 145.5m).

D. Liquid pumped is raw water from the Lake with a maximum temperature of 20 deg C.

E. All rotating components of the pump equipment shall be statically and dynamically balanced as an assembled unit and shall be such as to produce a minimum vibration under service conditions.

2.2 PUMPS

A. Rotation

1. The pump will be counterclockwise rotation when viewed from the driver end looking at the pump.

B. Impeller

1. The impeller shall be of bronze construction conforming to ASTM B584, C83600. They shall be of one-piece construction, single suction, enclosed-vane, and radial flow design. The waterways through the impeller shall have extremely smooth contours, devoid of sharp corners, so as to promote maximum efficiency.

2. The impeller is to be balanced and secured to the shaft by means of a stainless steel taper locks or keys.

3. Impellers shall be adjustable by means of a top shaft-adjusting nut.

4. Maximum diameter impellers shall not be utilized. The maximum allowed diameter shall be no greater than 95% of the published maximum diameter.

C. Bowls

1. The bowls shall be interchangeable and made of close-grained cast iron conforming to ASTM A48 CL30. Castings shall be free from blowholes, sand holes and shall be accurately machined and fitted to close dimensions.

2. Bowls shall be flange connected.

3. Bowls shall be designed with smooth passages to ensure efficient operation and their interior shall be coated with glass enamel, or epoxy enamel.

4. The casing shall be hydrostatically tested to minimum 1.5 times the design head or minimum 1.25 times the shutoff head whichever is greater.

5. The suction bowl shall be provided with food grade gease packed bronze bearing with sand collar. Galvanized basket strainer shall be provided for each pump suction bowl.

D. Impeller Shaft

1. Impeller shaft shall be of stainless steel construction conforming to ASTM A582 (416 stainless steel).

2. The shaft shall be supported by bronze or neoprene bearings located on both sides of each impeller.

3. Impeller shaft coupling shall be of stainless steel construction conforming to ASTM A582 (416 stainless steel).

E. Wear Rings

1. 316 stainless steel wear rings shall be provided on both the impellers and bowls so that clearances can be maintained throughout the life of the rings and minimize recirculation.

2. Wear rings shall be of the radial-type.

3. Wear rings shall be attached to the impellers and bowls using an interference fit and Loctite.

4. Wear rings shall be stainless steel 416.

F. Column

1. Column pipe in all size diameters shall be furnished in interchangeable sections in 1.5 m length and shall be flange connected.

2. Column pipe shall have a minimum wall thickness of 9.5 mm (0.375”).

G. Lineshafts

1. Lineshafting shall be of open line shaft type with ample size to transmit the torque and operate the pump without distortion or vibration.

2. Lineshafting shall be made of stainless steel conforming to series 416ss and be furnished in interchangeable sections not over 1.5 m in length.

3. Lineshafting shall be coupled with extra-strong threaded 416 stainless steel couplings machined from solid bar steel.

4. Wear resistant cutless rubber bearings shall be firmly seated into bored spider; and product lubricated.

5. Lineshaft bearings shall be of neoprene material construction.

6. Lineshaft bearings shall be retained in bronze guides that are fitted into the column coupling and secured in place by the butted column pipe ends.

H. Discharge Head Assembly (above ground)

1. The pump discharge head shall be of the above ground type of fabricated steel construction with an ANSI 150# discharge flange.

2. The discharge head shall be of sufficient design to support the entire weight of the pump and driver.

3. After completion of all welding the discharge head shall be heat stress relieved.

4. The discharge head shall be supplied with a soleplate with minimum thickness of 43 mm for anchoring the pump to the foundation.

5. Stainless steel anchor bolts (to be supplied by the general contractor) shall be as recommended by the pump supplier.

6. If the application uses a variable frequency drive, the discharge head shall be specifically designed to elevate the discharge head natural frequency above the operating speed.

7. A drive shaft of the same material as the lineshaft shall extend through the sealing assembly of the discharge head and be coupled to a vertical solid shaft driver using a spacer type coupling to permit easy field disassembly.

8. The shaft sealing assembly shall consist of a cast iron packing box, cast iron packing gland, and packed stuffing box.

9. Discharge head openings shall be fitted with guards to prevent access to the rotating shaft and/or coupling.

I. Vibration Limitations (Field)

1. The limits of vibration as set forth in the standards of the Hydraulic Institute shall govern.

2.3 MOTORS

A. General

1. Electric motors shall be of the vertical solid shaft or vertical hollowshaft high thrust design. Motors shall be of premium efficiency rated for inverter duty.

2. They shall be standard NEMA frame motors, and conform to the electrical specifications as shown.

3. The motors shall be designed to carry the thrust load of the pumps specified.

4. Horsepower, service factor, enclosure and other data must also be provided for the specific application.

5. All motors should meet, as minimum requirements, the published standard rules and regulations of NEMA, ANSI and IEEE with respect to application, manufacture and test.

6. Service factor shall be 1.15 with the service factor reserved for the Owner's use. The motors shall be provided with steady bushings on the lower end bearing for centering the pump shaft. A drop-in ball type non-reverse mechanism shall be supplied.

B. Power Supply

1. The motor starter winding shall be rated 600 volts, 3 phase, 60 cycles. However, the motors shall be capable of satisfactory operation at voltages of ten (10) percent above or below rated value without harmful effects.

C. Performance Rating

1. Each motor shall have a continuous rated output shaft kilowatt at rated speed such that it will always exceed the kilowatt requirements of the pump at any operating point on the pump characteristic curve. EEMAC Standard temperature rise limitation shall apply.

D. Motor Speed

1. The full load maximum rated speed of each motor shall be such as to suit the speed requirements of its associated pump as hereinbefore specified, and accordingly should not exceed either 900 or 1,200 RPM.

E. Motor Construction

1. The motors shall be WP-1 or TEFC type. The motors shall be arranged for vertical mounting on an integral base of welded steel construction.

2. Bearings shall be an approved anti-friction type of adequate design to meet all service conditions without overheating based on continuous duty. Bearing life shall not be less than 100,000 hours (L-10 life) as defined by the "Anti-Friction Bearing Manufacturers Association". Bearing lubrication shall be either oil type or grease and shall be in accordance with the requirements specified for the pump.

3. The motor construction shall be directed towards providing the most economical frame size consistent with these specified requirements, by use of fabricated steel frame, high quality low hypothesis laminations, high temperature insulation system, etc., the design and quality of construction shall not be sacrificed in any manner, and a robust, well-ventilated motor requiring a minimum of service shall be provided.

4. Stator lifting lugs shall be provided capable of supporting the entire weight of the motor.

5. Construction of the motor shall be such that the motor can satisfactorily withstand the full runaway reverse speed of the pump without mechanical damage, provided that starting under such conditions is prohibited and an approved means included in this section.

F. Motor Insulation

1. The insulation of the motor shall be of the type specified in the NEMA Standards as Class B, impregnated against moisture.

G. Temperature Rise

1. When operating continuously at full load and with an ambient temperature not exceeding 40°C, the temperature rise of the windings shall not exceed 60°C measured by thermometer or 70°C measured by embedded temperature detector.

H. Power Factor

1. The overall motor power factor at full load condition shall not be less than 0.9.

I. Terminals

1. Each motor shall be provided with an approved, diagonally split cable terminal box with cable fittings having adequate space for proper termination of cables.

J. Motor Protection – Bearing and Winding Temperature RTD's

1. RTD's, 100 ohm platinum, shall be provided for windings (2 per phase) and bearings.

K. Testing

1. Each motor shall be tested in the manufacturer's shops in accordance with I.E.E.E. Standards as defined in American Standard Test Code C50-20, method E preferred.

2. The following tests shall be carried out on each motor:

   a) Full load heat run at rated full speed and voltage, and also temperature rise (using embedded temperature detectors).

   b) High potential

   c) Bearing inspection

3. A certification of these tests shall be submitted to the Engineer for approval, which shall confirm that the units as manufactured equal or surpass the guaranteed minimum efficiency throughout the operating speed range.

L. Identification

1. A manufacturer's rating nameplate in non-ferrous permanently inscribed material shall be attached to the motors and drives.

M. Anchor Bolts

1. Provide information for the recommended anchor bolt sizes (316 stainless steel). Supply all necessary templates and any special tools as required for the anchor bolt installation.

N. Shop Painting

1. The motors shall be shop painted on all surfaces, except machined or working surfaces or internal surfaces, with one shop coat of rust-resistant primer and two finishing coats of approved enamel.

2.4 MAINTENANCE ITEMS

A. Packaging:

1. Package maintenance items in suitable metal toolboxes or other container or packaging as approved by the Engineer. Furnish with stainless steel or phenolic tag attached to the box fully identifying associated equipment.

B. Maintenance Items:

1. Special Tools: Furnish one (1) set of special tools required for routine maintenance or adjustment of specified Equipment. Special tools are those items not normally used for general maintenance purposes, or tools which are proprietary to the equipment supplied. This requirement does not extend to supplying instrumentation or testing equipment, except when specified. Tools shall be tagged so as to be clearly identifiable. Special tools shall be supplied in a metal box.

PART 3 EXECUTION

3.1 MANUFACTURER'S REPRESENTATIVE

A. The Manufacturer shall arrange for a technically qualified Manufacturer's Representative to attend the installation work as required, train Owner's Designated Staff and undertake the field testing of the pump system for sufficient periods to ensure the equipment is installed, operated, and maintained in accordance with the Manufacturer's requirements and specifications. Allow minimum three (3) full days of site inspection, performance testing and training of Owner's operating staff by the pump manufacturer's representative as required to satisfy the Engineer and Owner.

3.2 INSTALLATION

A. The Contractor shall ensure the equipment is installed plumb, square and true within the tolerances specified by the Manufacturer and as indicated in the Contract Documents.

B. The Contractor shall ensure that the equipment is installed as required to provide satisfactory service.

C. The Manufacturer's Representative shall cooperate with the Contractor to deliver a successful installation.

3.3 SHOP TESTING

A. A certified non-witnessed factory hydrostatic and performance test shall be performed on each bowl assembly in accordance with Hydraulic Institute Standards, latest edition. All testing to be included in the contract price.

B. Tests shall be sufficient to determine the curves of head, input horsepower, and efficiency relative to capacity from shutoff to 150% of design flow. A minimum of six points, including shutoff, shall be taken for each test. At least one point of the six shall be taken as near as possible to each specified condition.

3.4 FIELD TESTING

A. Each pump shall be subjected to a performance and mechanical field test by a qualified technical representative of the pump manufacturer.

B. The manufacturer's representative shall arrange for any adjustments prior to commencement of operation. A complete report of the field inspection and tests shall be submitted (in duplicate) to the Engineer.

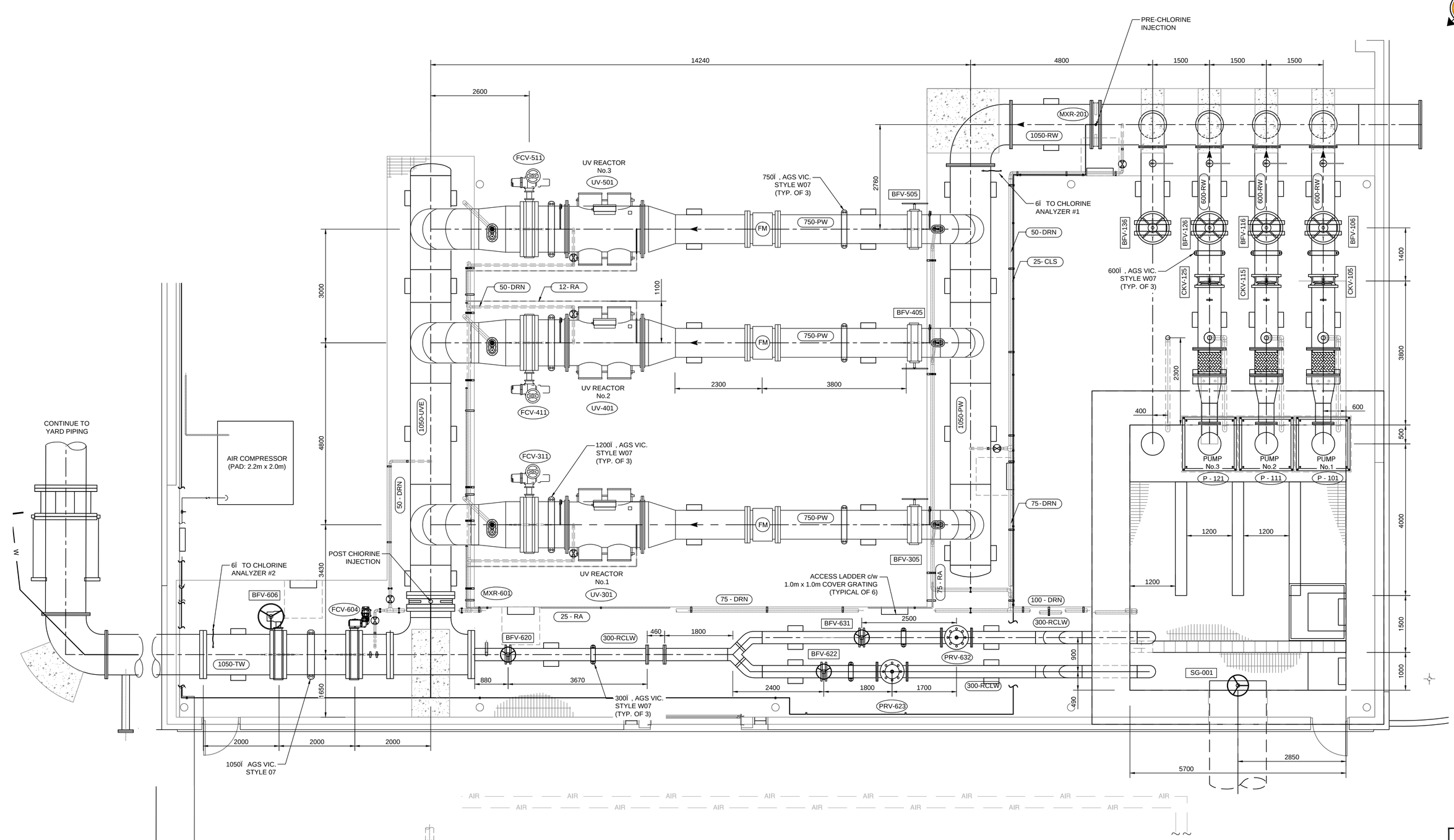
3.5 PAINTING/COATING

A. Column, bowl and discharge head shall be factory coated inside and out with Epoxy coating in compliance with ANSI/NSF Std 61. Application and surface preparation will be in accordance with ANSI/AWWA Coating.

3.6 TRAINING

A. The Manufacturer’s Representative shall provide training to the Owner’s Designated Staff in the proper operation and maintenance of the equipment.

END OF SECTION 11210



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TITLE:
PROPOSED RAW WATER SUPPLY MAIN HIGHWAY #28 TREATMENT BUILDING – CONTRACT 2

MECHANICAL PROCESS PIPING

DRAWING NO. 15-508- P102
PROJECT: 112311316
REV.

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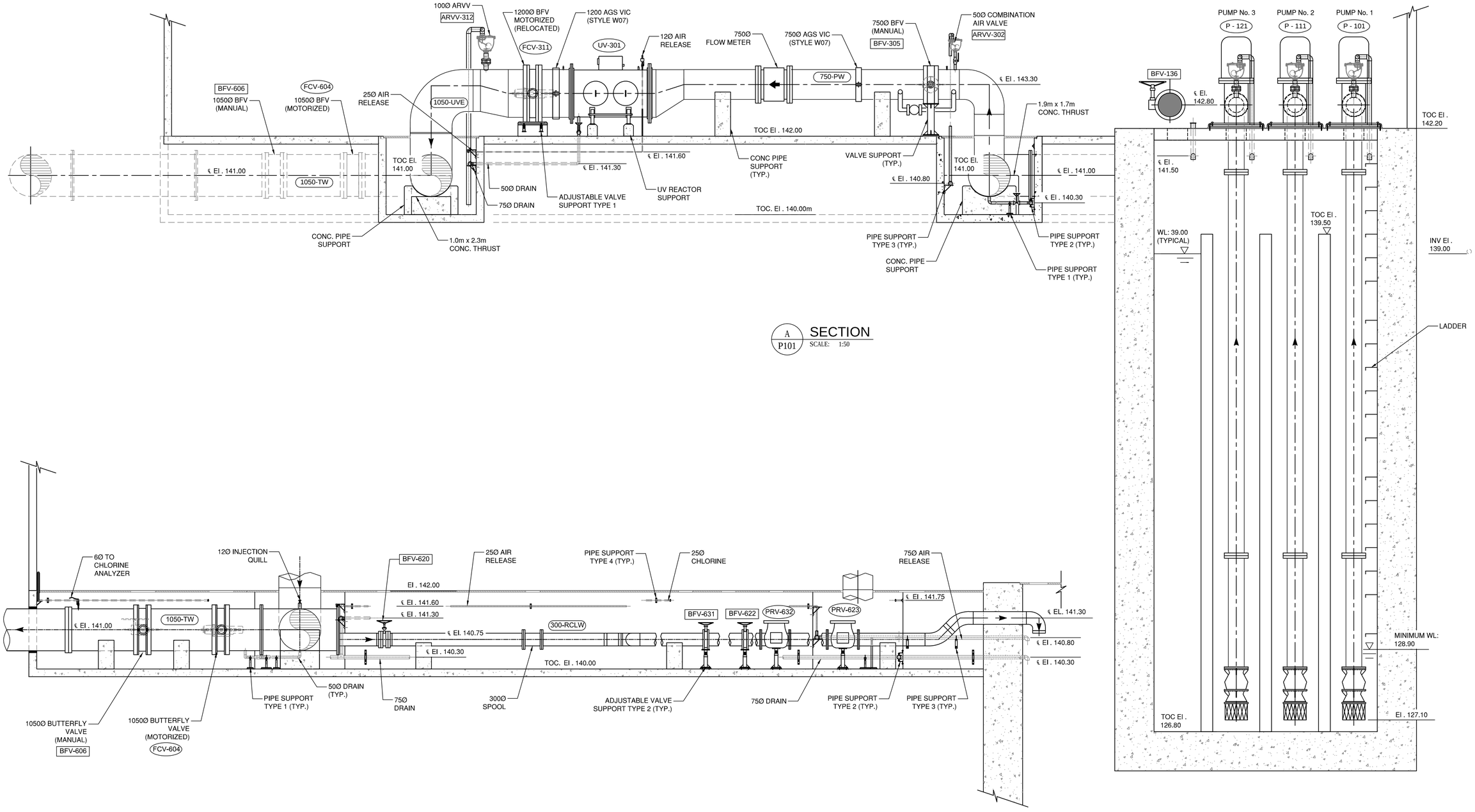

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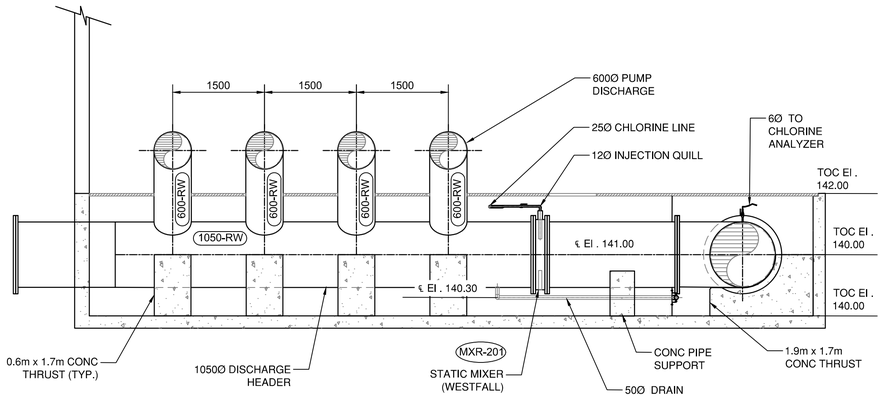
MECHANICAL PROCESS SECTIONS_SHEET 1

DRAWING NO.
15-508- P104

PROJECT:
112311316

REV.



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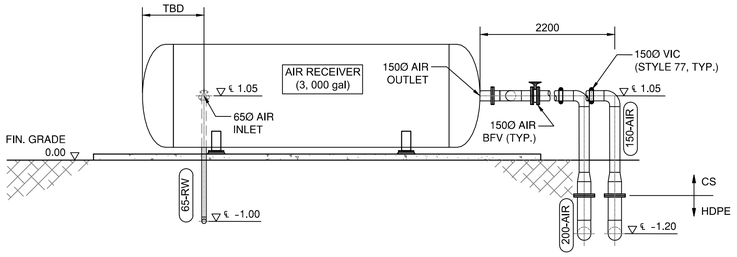

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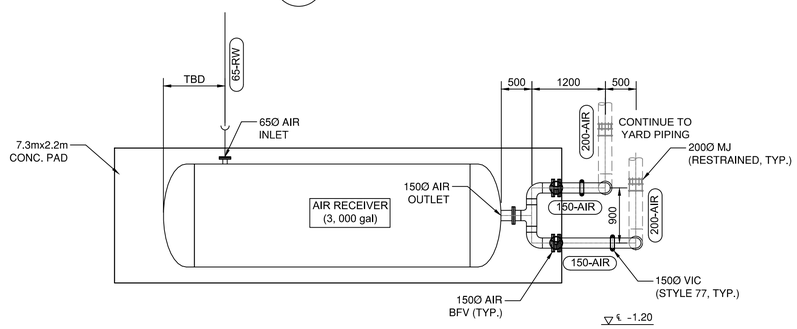

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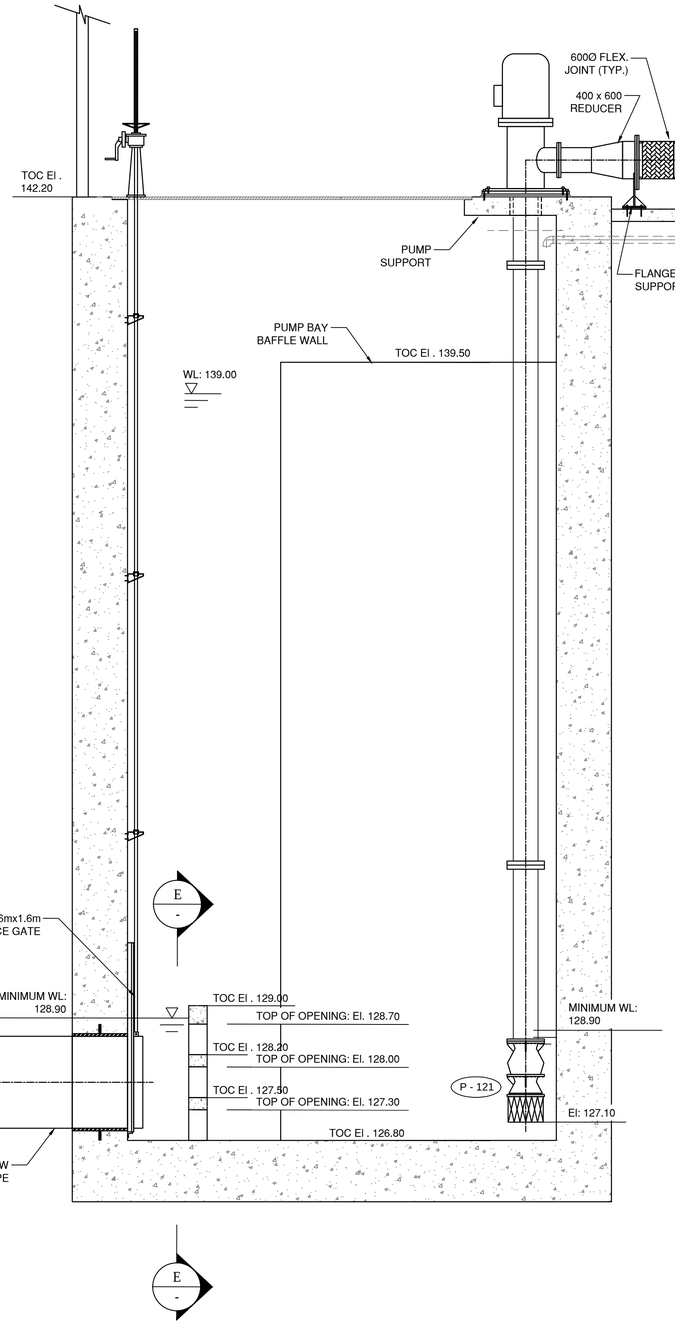

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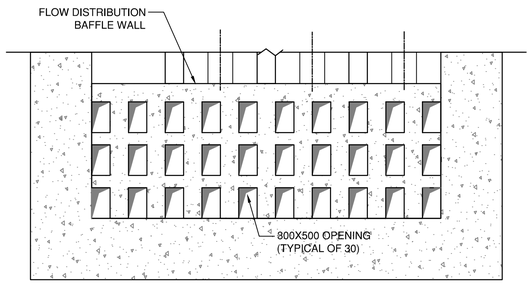

E / - **SECTION**
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MECHANICAL PROCESS SECTIONS_SHEET 2

DRAWING NO. 15-508- P-105
PROJECT: 112311316
REV.

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REQUEST FOR QUOTATION 16-51

VERTICAL TURBINE PUMPS

ADDENDUM NO. 2

August 4th, 2016

This addendum forms part of the RFQ documents and shall be read, interpreted, and coordinated with all other parts. The costs of all elements contained herein shall be included in the submission. The following revisions, changes, corrections, additions, and or deletions supersede the information contained in the original documents to the extent referenced and shall become part thereof.

Addendum Item 1
Questions and Answers

10. **Proponent Question:**

In regards to Addendum No. 1, question #5 could you please provide further information regarding the "supervision of installation"?

Response:

Delete "storage and installation", which is the responsibility of the general contractor. Supervision is the responsibility of the general contractor. The general contractor may retain the services of the pump manufacturer's representative for the installation supervision, if he so desires. All experienced general contractors do not require the pump supplier's supervision during the installation. The specification included requirements of on-site service by the manufacturer's representative for inspection, testing and training of operating staff during the startup and commissioning period.

11. **Proponent Question:**

On drawing 15-508-P-105; it's indicated after the discharge head flange, a 600 to 400 mm reduction. That could be interpreted that to use a 400 mmm discharge head and columns will be acceptable, when is not. With 400 mm pump's columns the friction losses will be significant, recommendable will be to use 500 or 460 mm at least.

Since we now have to guarantee the TDH indicated at the discharge bowl as per addendum #1; the friction losses on columns and discharge heads will occur after the bowl assembly and will not affect the certified performance values from the factory for the bowl assembly; however, is going to have an impact in the field performance, and in the cost of the pumps.

Response:

The pump discharge size of 400 is revised to read 500 mm. The reducer size shall be 500x600. Both column pipe and discharge sizes shall be 500 mm.

End of Addendum

Clinton J. Crook, SCMP, CPSM
Senior Buyer