



976-2016 ADDENDUM 4

SOUTH END SEWAGE TREATMENT PLANT (SEWPCC) UPGRADING / EXPANSION PROJECT - CONTRACT 4 – SITEWIDE MECHANICAL, ELECTRICAL, CONCRETE AND SITE WORKS

URGENT

**PLEASE FORWARD THIS DOCUMENT TO
WHOEVER IS IN POSSESSION OF THE BID
OPPORTUNITY**

ISSUED: July 07, 2017
BY: Barry Williamson, P.Eng.
TELEPHONE NO. (204) 488-2214 x 73059

**THIS ADDENDUM SHALL BE INCORPORATED
INTO THE BID OPPORTUNITY AND SHALL
FORM A PART OF THE CONTRACT
DOCUMENTS**

Template Version: A20150806

Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 10 of Form A: Bid may render your Bid non-responsive.

GENERAL

1. Drawing 976-2016_Addendum_4_1-0102G-S0013-001-01 has been included for information only to help answer Question 45 in the Q&A section located at the end of this addendum.

PART A – BID SUBMISSION

Replace: 976-2016 Addendum 3 - Bid Submission with 976-2016 Addendum 4 – Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission

Form B (R2): Revised Items 6.3, 9.5, 13.34, 13.35, 13.36, 13.37, 13.61

Form B (R2): Add Items 9.13, 9.14

Page numbering on some forms may be changed as a result.

PART E - SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 11 00

SUMMARY OF WORK

Revise

- 1.3 A.9. to read: Portions of the concrete by-pass pipe as shown on the Drawings.
- 1.3 A.12. to read: New Primary Clarifier stairwell concrete envelope, including electrical wiring and lighting. Building finishes (e.g. roofing, insulation, cladding, etc.), wiring termination, and as shown on the Drawings to be completed by Bid Opportunity 976-2016 Contractor.

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

Add to:

- 2.2 A.18. g. Contractor to design, supply, field-construct and test a removable splash and impact attenuating device to supplement the installation of the temporary conveyor installation. The purpose is to reduce splashing and to reduce the impact on the conveyor belt of falling screenings and grit. Before construction, the Contractor must provide sketches and discuss planning and construction with the Contract Administrator. Construction materials could be tubular galvanized steel (e.g. for scaffolding), PVC strips for industrial curtains and castors to make installation removable.

Revise

- 2.3 H.1. to read: End suction centrifugal pump to match existing RAS pumps P-S101, P-S102 and P-S103.

SECTION 01 64 00

CITY-SUPPLIED EQUIPMENT

Revise

- 1.1 A.2. to read: Estimated date of arrival of Free Moving Media (IFAS Media): Between January 1, 2020 and September 1,2020. Contractor to give a minimum 3-months notice to the Contract Administrator as to when they require the media to be delivered for installation. Should the Contractor's schedule require delivery earlier than specified above, the Contractor shall provide notice to the Contract Administrator a minimum of 9-months before the media is required for installation.

Revise

- 1.4 A.2. to read: Estimated date of arrival of Free Moving Media (IFAS Media): Between January 1, 2020 and September 1,2020. Contractor to give a minimum 3-months notice to the Contract Administrator as to when they require the media to be delivered for installation. Should the Contractor's schedule require delivery earlier than specified above, the Contractor shall provide notice to the Contract Administrator a minimum of 9-months before the media is required for installation.

DIVISION 03 – CONCRETE

SECTION 03 01 33 REPAIR OF HORIZONTAL CONCRETE SURFACES

2.2.C: Finishing Aid Approved Alternate:

W.R. Meadows of Canada; EVAPRE

2.2.D: Membrane Forming Curing Compounds Approved Alternate:

W.R. Meadows of Canada; VOCOMP-25.

SECTION 03 39 00 CONCRETE CURING AND FINISHES

2.1.B: Combination Curing and Sealing Compound Approved Alternate:

W.R. Meadows of Canada; VOCOMP-25.

2.1.C: Floor Surface Sealer Approved Alternate:

W.R. Meadows of Canada; LIQUI-HARD.

2.1.D: Evaporation Retardant Approved Alternate:

W.R. Meadows of Canada; EVAPRE.

SECTION 03 40 00 PRECAST CONCRETE

2.1.I: Sealer for Exterior Surfaces Approved Alternate:

W.R. Meadows of Canada; PENTREAT 244-40 OTC or PENTREAT 244-100.

SECTION 03 60 00 GROUTING

2.2: Nonshrink Hydraulic Cement Grout Approved Alternate:

A. Type I: W.R. Meadows of Canada; CG-86 or V3-10K.

DIVISION 05 – METALS

SECTION 05 50 00 METAL FABRICATIONS (BASIC)

Revise

2.2 G.2. to read: Clean and passivate in accordance with requirements of ASTM A380 and ASTM A967.

SECTION 09 97 00

SPECIAL COATINGS

Revise

- 2.1 A. to read: Special Coating (Coloured Sealer): Water-base, two component epoxy emulsion coating, Duochem 6001, by Sika Canada, Armorseal 8100 by Sherwin Williams.

DIVISION 10 – SPECIALTIES

SECTION 10 80 00

MISCELLANEOUS SPECIALTIES

Revise

- 2.2 B. to read: Lockers: Shanahan's Deluxe Series, or Single Tier Decor Tri-Lok, by General Storage System or Emperor by Hadrian Mfg. Inc. Size 380 by 380 by 1830 mm.
1. Finish: Baked enamel minimum thickness 0.025 mm. Colour: To later selection.
 2. Doors: Fully enclosed fabricated of minimum 0.91 mm thick steel, reinforced for hardware.
 3. Locker Bodies and Filler Panels: 0.45 mm thick steel, with reinforcing stiffening ribs.
 4. Door Frames: Fabricated of 1.6 mm thick cold rolled steel with corners mitred and welded. Fabricate frame with two rubber bumpers at top and bottom of frame.
 5. Trim across top and at each end of locker battery: 0.68 mm thick steel.
 6. Equip each locker with hat shelf and three single wall hooks.
 7. Hardware Components for Each Locker: Five-knuckle hinges, nickel plated recessed door handle with pull, one-piece heavy duty strike keeper, suitable card holder to receive 75 by 40 mm identification card, standard numbering plastic plate and cylinder type key lock. Key each lock differently and masterkey locks. Supply the City with two keys per locker and two master keys.
 8. Blank-off top perforations in face of lockers. Make cut-outs in top of lockers as required for duct connections.
 9. For groups of lockers mounted against walls, Fabricate passage through internal gusset plates and outlets for connections to forced ventilation system.
 10. Fabricate lamacoid plastic name plate on inside of WORK CLOTHES section of door stating:

NOTICE

HIGHER VENTILATION RATE PROVIDED

FOR THIS SIDE OF LOCKER
STORE WORK CLOTHES HERE.

DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

SECTION 23 05 48 VIBRATION ISOLATION FOR HVAC

Add to:

- | | |
|----------|----------------------|
| 2.1 I. | 9. Vibro Acoustics. |
| 2.2 D. | 13. Vibro Acoustics. |
| 2.3 A.4. | c. Twin City Hose |
| 2.4 E. | 11. Vibro Acoustics |

SECTION 23 07 00 HVAC INSULATION

Revise

- | | |
|----------------|---|
| 3.3 D to read: | Mechanically Heated Supply Air; (In spaces not served by the duct): |
| | 1. Type D1, blanket for round duct. |
| | 2. Type D2, board for rectangular duct. |
| | 3. 40 mm thickness. |
| 3.3 F to read: | Exhaust Air 1.2 m from Exhaust Air Plenum: |
| | 1. Type D1, blanket for round duct. |
| | 2. Type D2, board for rectangular duct. |
| | 3. 40 mm thickness. |

SECTION 23 21 14 HYDRONIC SPECIALTIES

Add to:

- | | |
|----------|--------------------|
| 2.2 I.1. | c. Taco; Hy-Vent. |
| 2.2 I.2. | 2. Taco; Hy-Vent. |
| 2.2 P.7. | d. Twin City Hose. |

SECTION 23 31 13 METAL DUCTS AND ACCESSORIES

Add to:

- | | |
|------------|------------------------------|
| 2.20 A.4. | c. Price. |
| | d. Greenheck. |
| 2.20 B.5. | c. Greenheck; HCD-240 |
| 2.21 B.3. | c. MK Plastics; K-GD |
| 2.22 A.12. | c. Greenheck; DFD-150 Type B |
| | d. Greenheck; SEDFD-210 |
| 2.22 B.12. | c. Greenheck; DFD-350 Type B |
| 2.22 C.5. | c. Greenheck; CRD Series |

- 2.23 E.7. d. Greenheck; SEVCD-33
- 2.25 A.6. d. Price; M/RL Series

Revise:

- 2.21 C.3. to read Manufacturers and Products
 - a. Ruskin; Model CBD6.
 - b. Greenheck; Model HB-110

SECTION 23 31 16.16 THERMOSET FIBERGLASS REINFORCED PLASTIC DUCTS AND ACCESSORIES (FP 61)

Add to:

- 2.3 K. 5. SCL Composites.

SECTION 23 34 00 HVAC FANS

Add to:

- 2.11 G. 3. Aerovent; CBDF series
- 2.13 G. 3. Aerovent; AWA/AWAB series
- 2.14 G. 3. Aerovent; AFA series
- 2.18 H. 5. Aerovent; BCF
- 2.19 F. 4. Aerovent; CB-SW
- 5. Greenheck; CSW
- 2.20 F. 3. Aerovent; ASA
- 2.21 F. 4. Aerovent; DDP

SECTION 23 37 00 AIR OUTLETS AND INLETS

Add to:

- 2.2 A.6. c. Price; 720D
- d. Price; 620 series
- 2.3.A.4. d. Price; 630 series

Revise:

- 2.1 A.5.d. to read Price; AMDA (aluminum).

SECTION 23 51 01 GENERATOR EXHAUST SYSTEM AND STACK

Add to:

- 2.2 A. 4. Security by Duravent

SECTION 23 57 00

HEAT EXCHANGERS FOR HVAC

Add to:

- | | |
|----------|---------------------|
| 2.3 B.5. | e. Taco; PF-Series. |
| 2.4.C. | 4. Taco; PF-Series. |

SECTION 23 82 00

TERMINAL HEATING AND COOLING UNITS

Add to:

- | | |
|---------|-------------------------|
| 2.2 D. | 4. Sterling; GG series. |
| 2.3 B. | 3. Vulcan; HV series. |
| | 4. Rosemex; Model H. |
| | 5. Modine; Model HSB |
| 2.8 B. | 4. Vulcan; FS series |
| 2.10 B. | 3. Security by Duravent |

DIVISION 26 – ELECTRICAL

SECTION 26 27 26

WIRING DEVICES

Revise:

- 2.2 D.9. to read: Manufacturers and Products:
- a. Lutron: LOS-CDT Series complete with required PP series powerpack, and wall mounted SO-2BOI series switch.
 - b. Approved equal: Leviton OSC10-MOW Series complete with OPP20-OD2 or OSP15-R30 power pack. The Contractor is responsible for any design, drawing, installation changes as required for a complete and working system, where the Contractor chooses to use the approved equal.
 - c. Approved equal: Leviton MZD30-101 controller (120 V) or MZD30-C01 controller (347 V) with wall mounted RLVSW-2LW switch. The Contractor is responsible for any design, drawing, installation changes as required for a complete and working system, where the Contractor chooses to use the approved equal.
 - d. Or other approved equal in accordance with B8.

DIVISION 40 – PROCESS INTEGRATION

SECTION 40 27 01 PROCESS PIPING SPECIALTIES

Add to:

- 2.3 B.1.b. 3) Robar; Product Number 1906 or 1506
- 2.3 B.2.c. 2) Arpol Instal; Series IBX
- 2.3 D.1. c) Robar; Product Number 1946
- 2.3 E.1.a. 3) Robar; Product Number 7506
- 2.3 E.1.b. 3) Robar; Product Number 7906
- 2.3 G.2. c) Robar; Product Number 7506DJ or 7906DJ

Revise

- 2.3 H.3. to read: Couplings manufacturer and products shall be Straub Couplings, Grip-L or Metal Grip, Arpol Fix-L or Arpol Fix-M, or approved equal in accordance with B8.
- 2.5 C.9.a. to read: Face to face flange ball valve mounted. The valves shall have a rated working pressure of at least 2070 kPa WOG, 1035 kPa SWP.

SECTION 40 27 02 PROCESS VALVES AND OPERATORS

Add to:

- 2.5 D.2.e.. 5) GA Industries; Figure 517 ECO-Centric

40 27 02 SUPPLEMENT

MANUAL VALVE SCHEDULE (75 MM AND LARGER)

AREA G – HEADWORKS

Delete:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
HRCS to Primary Clarifiers Influent Channel	HV-G321G	1-0102-PPID-G301	Eccentric plug	V405	300	HRS	High Rate Clarifier Sludge	

40 27 02 SUPPLEMENT

MANUAL VALVE SCHEDULE (75 MM AND LARGER)

AREA G – HEADWORKS

Revise:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
Sump Pump Discharge	HV-G201A	1-0102-PPID-G201	Ball	V315	100	SPD	Sump Pump Discharge	
Sump Pump Discharge	HV-G201B	1-0102-PPID-G201	Ball	V315	100	SPD	Sump Pump Discharge	

to read:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
Sump Pump Discharge	HV-G201A	1-0102-PPID-G201	Ball	V315	75	SPD	Sump Pump Discharge	
Sump Pump Discharge	HV-G201B	1-0102-PPID-G201	Ball	V315	75	SPD	Sump Pump Discharge	

40 27 02 SUPPLEMENT

MANUAL VALVE SCHEDULE (75 MM AND LARGER)

AREA R – BIOREACTORS / BLOWER BUILDING

Revise:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
RAS pipe upstream tie-in to 750 mm RAS	HV-R400D	1-0102-PPID-R108	Eccentric plug	V405	450	RAS	Return Activated Sludge	

to read:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
RAS pipe upstream tie-in to 750 mm RAS	HV-R400L	1-0102-PPID-R108	Eccentric plug	V405	450	RAS	Return Activated Sludge	

40 27 02 SUPPLEMENT

MANUAL VALVE SCHEDULE (75 MM AND LARGER)

AREA S – SECONDARY CLARIFIERS

Delete:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
Flushing Service Water to RDT	HV-S555BC	1-0102-PPID-S509	Butterfly	V500	100	FSW	Flushing Water	

Revise:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
Flushing Water to RDT Wash Water Booster Pumps	HV-S555B	1-0102-PPID-S509	Butterfly	V500	100	FSW	Flushing Water	

to read:

Location/Description	Tag Number	P&ID Number	Valve Type	Valve Type Number	Size (mm)	Commodity Code	Commodity	Remarks
Flushing Water to RDT Wash Water Booster Pumps	HV-S555BC	1-0102-PPID-S509	Butterfly	V500	100	FSW	Flushing Water	

SECTION 40 91 01

I&C COMPONENTS

Add to:

2.1 B.2.

e) Nitrate and Ammonium Combination:

1) General:

- a) Approvals: CSA or cUL
- b) Function: Continuous monitoring of nitrate nitrogen and ammonium nitrogen in one probe for wastewater treatment.
- c) Method of measuring: Ion-selective electrodes.
- d) Connect to a digital controller.
- e) Cartridge is factory calibrated with all electrodes individually calibrated.
- f) Corrosion resistant and fully immersible

2) Feature:

- a) Measurement range ammonium: 0.2 to 1000 mg/L NH4-N
- b) Measurement range nitrate: 0.2to 1000 mg/L NO3-N
- c) Accuracy: 5% of measured value ±0.2 mg/L

- d) Detection limit: 0.2 mg/L
- e) Response time: less than 3 minutes
- 3) Operational Criteria:
 - a) Operating temperature -20 to 45 °C.
 - b) Sample temperature: 2 to 40 °C.
 - c) Sample pH: 5 to 9
 - d) Sensor immersion depth: 0.3 to 3.0 meters maximum.
 - e) Sample pressure: 0.3 bar maximum.
 - f) Process Connection: 1" NPT
- 4) Accessories:
 - a) Cables and power cord
 - b) Air blast cleaning assembly
 - c) Mounting kit: Pole Mount Assembly
 - d) Cleaning unit
- 5) Manufacturer and model:
 - a) HACH Ammonium & Nitrate Combination sensor
LXV440.99.00002
 - b) Or approved equal in accordance with B8

Revise:

2.2 F.6.a. to read NivusFlow 750 transmitter with Ex interface and CS2 Wedge Sensor with level measurement

DIVISION 43 – PROCESS GAS AND LIQUID HANDLING, PURIFICATION AND STORAGE EQUIPMENT

SECTION 43 11 15.15 GEARLESS TURBO BLOWERS

Revise:

2.4 C.6.e. to read Pressure transmitter PIT-R2091 shall be provided by the Contractor (See P&ID Drawing number 1-0102-PPID-R201). This transmitter will be a loop powered 4-20 mA device wired directly to the MCP and shall be used as the process value for pressure control. Provide an analog input card and 24 VDC power as required.

2.5 B.5.d. to read: Monitoring and control of all connected devices.

SECTION 43 21 13.19 NON-CLOG DRY-PIT CENTRIFUGAL PUMPS

PUMP DATA SHEET NO. 2

SLUICE WATER PUMPS P-G221, P-G222

PERFORMANCE REQUIREMENTS

Revise:

Min. Solids Passage (mm): 75 to read Min. Solids Passage (mm): 50

PUMP DATA SHEET NO. 3

WAS FILTRATE PUMPS P-D451, P-D452

OPERATING CONDITIONS

Revise:

Capacity (m³/hr): to read Capacity (m³/hr):
Rated: 150 2nd: 20 3rd: 50 Rated: 150 2nd: 30 3rd: 50

Total Dynamic Head (m): to read Total Dynamic Head (m):
Rated: 8.2 2nd: 5.0 3rd: 12.0 Rated: 8.2 2nd: 3.8 3rd: 12.0

PUMP DATA SHEET NO. 3

WAS FILTRATE PUMPS P-D451, P-D452

PERFORMANCE REQUIREMENTS

Revise:

Min. Continuous Flow (m³/hr): 20 to read Min. Continuous Flow (m³/hr): 30

PUMP DATA SHEET NO. 4

FSL FILTRATE PUMPS P-D461, P-D462, P-D463, P-D464

OPERATING CONDITIONS

Revise:

Capacity (m³/hr): to read Capacity (m³/hr):
Rated: 75 2nd: 20 3rd: 130 Rated: 75 2nd: 25 3rd: 130

Total Dynamic Head (m): to read Total Dynamic Head (m):
Rated: 5.1 2nd: 3.0 3rd: 3.6 Rated: 5.1 2nd: 1.8 3rd: 3.6

PUMP DATA SHEET NO. 4

FSL FILTRATE PUMPS P-D461, P-D462, P-D463, P-D464

PERFORMANCE REQUIREMENTS

Revise:

Min. Continuous Flow (m³/hr): 20 to read Min. Continuous Flow (m³/hr): 25

DIVISION 46 – WATER AND WASTEWATER EQUIPMENT

46 22 42.13

SECTION 46 33 33.03 DRY POLYMER MAKE DOWN AND FEED SYSTEMS

Revise:

2.11 A.2.a. to read Provide a 304 or 316 Stainless Steel NEMA 4X enclosure factory assembled and wired such that field wiring shall consist only of connection to panel terminals.

2.11 C.1. to read: The provision of the VFDs and PLC interface shall be by the Contractor.

Add to:

2.9 A.6. c. Indachem Inc. (Netzch)

SECTION 46 33 42 CHEMICAL METERING DIAPHRAGM PUMP SKIDS

Revise:

1.7 A.1. to read One diaphragm back pressure control valve for each feed line. The valve shall be installed by the Contractor near the application point.

2.8 A. to read: The provision of the VFDs and PLC interface shall be by the Contractor.

SECTION 46 33 42.13 CHEMICAL METERING GEAR PUMP SKIDS

Revise:

2.6 A. to read The provision of the VFDs and PLC interface shall be by the Contractor.

Add to:

2.1 B. 4. Mequipco Ltd. (March Pumpen, TEF-MAG Series)

SECTION 46 41 48 HYDRAULIC MIXING EQUIPMENT

Revise:

1.3 A.to read: The mixing equipment will be used to mix the contents of municipal Waste Activated Sludge (WAS) sump. The feed sludge will be a combination of WAS, mixed liquor scum, and secondary clarifiers scum.

1.4 H. to read The suction piping for the mixing pump will also be used for sludge withdrawal by the sludge transfer pumps.

1.4 J. to read: Operation of the pumps will normally be controlled automatically by a remote programmable logic controller (PLC) provided by the Contractor.

2.3 B. to read: Refer to Data Sheet(s) at end of this Section. The pump VFD shall be provided by the Contractor, the pump motor shall be inverter duty.

SECTION 46 66 20 UV DISINFECTION SYSTEM

Revise:

2.20 U.2.b. to read Power shall be 24 VDC from an external power supply provided by the Contractor.

SECTION 46 43 16.13 SECONDARY CLARIFIER MECHANISM (SUCTION HEADER/MANIFOLD TYPE)

Add to:

2.23 C. V-notch weirs shall be 90 degrees 63 mm deep v-notches on 152 mm intervals.

APPENDICES

Replace: 976-2016_Appendix-DD-WWD HMI Layout and Animation Plan R00 with 976-2016_Addendum_4_Appendix-DD-WWD HMI Layout and Animation Plan R01

DRAWINGS

Add: 976-2016_Addendum_4-Drawing_SEP-372-R02

A – General

Replace: 976-2016_Drawing_1-0102-CGAD-A003_Sht010-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-CGAD-A003_Sht010-R01.PDF

C – New Chemical Building, Electrical Building

Replace: 976-2016_Drawing_1-0102-PPID-C502-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PPID-C502-R01.pdf

D – Chlorine Contact Tank and Fermenters, Rotary Drum Thickener Room

Replace: 976-2016_Drawing_1-0102-PGAD-D001-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-D001-R01.pdf

Replace: 976-2016_Drawing_1-0102-PGAD-D004-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-D004-R01.pdf

Replace: 976-2016_Drawing_1-0102-PGAD-D008-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-D008-R01.pdf

Replace: 976-2016_Drawing_1-0102-SGAD-D003-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-SGAD-D003-R01.pdf

Replace: 976-2016_Drawing_1-0102-PGAD-DD50-R00.pdf with: 976-2016_Addendum_4-Drawing_1-0102-PGAD-DD50-R01.pdf

Replace: 976-2016_Drawing_SEP-346-R00.pdf with: 976-2016_Addendum_4-Drawing_SEP-346-R01.pdf

Replace: 976-2016_Drawing_SEP-373-R00.pdf with: 976-2016_Addendum_4-Drawing_SEP-373-R01.pdf
Add: 976-2016_Addendum_4-Drawing_1-0102-BDTL-D004-R00.pdf

G – Headworks

Replace: 976-2016_Drawing_1-0102-BAAA-G001-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-BAAA-G001-R01.pdf
Replace: 976-2016_Drawing_1-0102- BGAD-G022-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-BGAD-G022-R01.pdf
Replace: 976-2016_Drawing_1-0102-ECRT-G001-R00.pdf- with 976-2016_Addendum_4-Drawing_1-0102-ECRT-G001_Sht001-R01.pdf
Replace: 976-2016_Drawing_1-0102-EWDG-G001-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-EWDG-G001_Sht001-R01.pdf
Replace: 976_2016_Drawing_1-0102- PGAD-G003-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-G003-R01.pdf
Replace: 976-2016_Drawing_1-0102-PGAD-G004-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-G004-R01.pdf
Replace: 976-2016_Drawing_1-0102-PGAD-G006-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-G006-R01.pdf
Replace: 976-2016_Drawing_1-0102-PGAD-G007-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-G007-R01.pdf
Replace: 976-2016_Addendum_3-Drawing_1-0102-PPID-G201-R01.pdf with 976-2016_Addendum_4-Drawing_1-0102-PPID-G201-R02.pdf
Replace: 976-2016_Drawing_1-0102G-M0010-001-04-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102G-M0010-001-R06.pdf
Replace: 976-2016_Drawing_1-0102-MGAD-G511-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-MGAD-G511-R01.pdf
Replace: 976-2016_Drawing_1-0102-MGAD-G513-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-MGAD-G513-R01.pdf
Replace: 976-2016_Drawing_1-0102-PPID-G506-R00.pdf with: 976-2016_Addendum_4-Drawing_1-0102-PPID-G506-R01.pdf
Add: 976-2016_Addendum_4-Drawing_1-0102-BAAA-G003-R00.pdf

P – Primary Clarifiers

Replace: 976-2016_Addendum_3-Drawing_1-0102-PGAD-P002-R01.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-P002-R02.pdf
Replace: 976-2016_Addendum_3-Drawing_1-0102-PGAD-P002-R01.pdf with 976-2016_Addendum_4-Drawing_1-0102-PGAD-P006-R02.pdf
Add: 976-2016_Addendum_4-Drawing_1-0102-BAAA-P001-R00.pdf

R – BNR Facility (Bioreactors & Blower Bldg)

Replace: 976-2016_Drawing_1-0102- BDTL-R004-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-BDTL-R004-R01.pdf
Replace: 976-2016_Drawing_1-0102- BDTL-R006-R00.pdf with 976-2016_Addendum_4-Drawing_1-0102-BDTL-R006-R01.pdf

Replace:	976-2016_Drawing_1-0102- BGAD-R009-R00.pdf	with	976-2016_Addendum_4-Drawing_1-0102-BGAD-R009-R01.pdf
Replace:	976_2016_Drawing_1-0102- BGAD-R010-R00.pdf	with	976-2016_Addendum_4-Drawing_1-0102-BGAD-R010-R01.pdf
Replace:	976_2016_Drawing_1-0102- BGAD-R011-R00.pdf	with	976-2016_Addendum_4-Drawing_1-0102-BGAD-R011-R01.pdf
Replace:	976-2016_Addendum_3-Drawing_1-0102-PGAD-R001-R03.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-R001-R04.pdf
Replace:	976-2016_Drawing_1-0102-PGAD-R006-R03.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-R006-R04.pdf
Replace:	976-2016_Addendum_3-Drawing_1-0102-PGAD-R007-R03.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-R007-R04.pdf
Replace:	976-2016_Addendum_3-Drawing_1-0102-PGAD-R008-R03.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-R008-R04.pdf
Replace:	976-2016_Drawing_1-0102-PGAD-R014-R04.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-R014-R05.pdf
Replace:	976-2016_Drawing_1-0102-PPID-R109-R00.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PPID-R109-R01.pdf
Replace:	976-2016_Drawing_1-0102-PPID-R501-R00.pdf	with:	976-2016_Addendum_4-Drawing_1-0102-PPID-R501-R01.pdf

S - Secondary Clarifiers

Replace:	976-2016_Addendum_3-Drawing_1-0102-PGAD-S002-R04.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-S002-R05.pdf
Replace:	976-2016_Drawing_1-0102-PGAD-S004-R03.pdf	with	976-2016_Addendum_4-Drawing_1-0102-PGAD-S004-R04.pdf
	976-2016_Drawing_1-0102-BAAA-S001-R00.pdf		976-2016_Addendum_4-Drawing_1-0102-BAAA-S001-R01.pdf

T - Biofilter

Replace:	976-2016_Drawing_1-0102--SGAD-T003-R00.pdf	with	976-2016_Addendum_4-Drawing_1-0102-SGAD-T003-R01.pdf
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QUESTIONS AND ANSWERS

- Q1: 46 33 33.33 2.8.C: Please confirm that the electric hoist and trolley is in the scope of the dry polymer make down system.
- A1: Electric hoist and trolley are part of the bulk bag system to be provided by vendor as part of the dry polymer make down system.

Q2: 46 33 33.33, PID 1-0102-PPID-C401, 405, C408, C411, 2.6.A-C: On make down systems, the PIDs has the piping line as SS01 ahead (upsteam) of the eductor. Please confirm that after the SS piping, the eductor, the check valve, the static mixer and remaining piping supplied in PVC (PV01) are accepted.

A2: PV01 is acceptable.

Q3: 46 33 42 2.3.I.9: On PID's (1-0102-PPID-C102 to 105) there are no pressure indicating transmitters on the discharge side of the pump . There are pressure switches. Please confirm which instrument is to be located on the skid: pressure switch or pressure transmitter.

A3: Provide pressure switch per PIDs.

Q4: 46 33 42.13 2.3.I.9: On PID's (1-0102-PPID-C202-C205 & C301) there are no pressure indicating transmitters on the discharge side of the pump . There are pressure switches. Please confirm which instrument is to be located on the skid: pressure switch or pressure transmitter.

A4: Provide pressure switch per PIDs.

Q5: 46 33 42.13 1.2.A Table line 1 and PID 01-0102-PPID-C202, S-C230: There is no data on the insulate and heat trace in spec 46 33 42.13 and on PID 1-0102-PPID-C202. Please confirm that this is out of the skid vendor scope and shall be done on site by others.

A5: This is part of the Bid Op 976-2016 contractor's scope.

Q6: 46 33 42.13 1.2.A Table line 5 and PID 01-0102-PPID-C202, S-C230: There is no data on the insulate and heat trace in spec 46 33 42.13 and on PID 1-0102-PPID-C301. Please confirm that this is out of the skid vendor scope and shall be done on site by others. Also. PID only mentions INSULATE. No heat trace. What is required?

A6: Heat tracing is not required for sodium bisulphite pump skid. Insulation of pump skid shall be provided per spec 40 42 13.

Q7: Section 46 66 20 Part 2.8 D – Please delete the requirement for a cleaning rack, as the UV equipment is not removed from the channel, similar to the existing system.

A7: Cleaning racks are required.

Q8: Section 46 66 20 2.11 – Please delete the requirement for the lifting lugs, as the UV equipment is not removed from the channel.

A8: Lifting lugs are required.

Q9: Section 46 66 20 2.13.A.13 – Please delete the spare module, as the UV equipment is not removed from the channel.

A9: The spare module is required.

Q10: Section 40 27 02, 2.5.A.9 (V150) and 2.5.A.10 (V155). Please confirm the desired yoke material for the knife gate valves? Specification does not say, and differs with the standards of acceptance. Trueline F8112 is SS yoke, and Orbinox BT is CS.

A10: Either material is acceptable.

Q11: Appendix J – IFAS Bill of Materials: Please confirm the number, weight and size of bags of media being supplied by Veolia for the IFAS system.

A11: 5,400 cubic metres of media is being supplied and is to be installed and divided among the three bioreactors. Each bag will contain 1 cubic metre of media and weigh between 200 to 600 kg. Therefore, the number of bags to be delivered, received, and unloaded by the Contractor will 5,400 bags.

Q12: 46 43 16.13-2.13 to 2.19 – This portion of the specification relates to the clarifier walkway and platform for the four units. While 2.15 describes the checker plate flooring in the enclosed walkway and platform, I cannot find what decking is to be used on the non-enclosed walkway and platform areas. 2.13.I describes heating lamps below walkway grating. 2.4.D states aluminum “platform grating”. Please advise if the non-enclosed walkways and platforms are to be decked with aluminum grating.

A12: Yes non-enclosed walkways and platforms are to be decked with aluminum grating.

Q13: Additionally, I have not been able to locate a description or detail drawing for the effluent weirs. Are they to be 90 degree 2.5” deep v-notches on 6” intervals ([our] standard)? The scum baffles are described in 46 43 16.13-2.22

A13: Yes the V-notch weir shall be 90 degrees 63 mm deep v-notches on 152 mm intervals. This has been clarified in this addendum.

- Q14: 05 50 00-2.2.G.2 – The specified passivation (solution of 12-15 percent nitric acid and 3 percent hydrofluoric acid) creates a hazardous atmosphere. [Our] fabricators decline to perform this form of passivation because of the hazards. FYI – Nitric acid passivation has been surpassed with more modern, much safer technics to achieve the same outcome. [We] request this paragraph be changed to read: “Passivate stainless steel , which was cleaned by grinding, as per ASTM A380 with a solution of phosphoric acid.” See attached [our] standard for stainless steel surface passivation for additional details.
- A14: Clean and passivate in accordance with requirements of ASTM A380 and ASTM A967. This has been clarified in this addendum.
- Q15: See drawing 1-0102-SGAD-R009. Note 2 reads that, “A minimum level of compacted backfill at West and East ends of Bioreactor Tanks is required for operation”. Please confirm that backfill of the Bioreactor Building is included in Contract 3, not Contract 4 works.
- A15: Partial backfill is included with C3. Backfill quantities are shown in Form B.
- Q16: Please review the Chemical/Electrical Building parapet details, there appear to be several inconsistencies between various architectural sections as well as in comparison to the structural sections in terms of whether the parapet is concrete or masonry. (egg. GL Fc, Section F on 1-0102-SGAD-C009 vs. Section E on 1-0102-BGAD-C009)
- A16: See Sections on architectural drawings BGAD-C007 through BGAD-C010. CMU parapets are indicated with masonry hatching pattern. In general, the concrete parapet shall be provided where the roof is of open web joist structure and where fire wall carried up above the roof.
- Q17: See section 03 39 00, item 1.5 Quality Assurance, E. Mockups. Can these mockups be incorporated into the work if approved by the Contract Administrator?
- A17: Yes.
- Q18: See section 03 39 00, item 3.6 Tests and Inspection, A. It calls for a Vapor Transmission Test prior to application of specified special floor treatment. What qualifies as a “special floor treatment”?
- A18: Special floor treatment shall apply to new and/or existing floor subjected to receive any type of finishes. Refer to floor finish data sheet and manufacturer's instruction for allowable moisture content related to application.

Q19: See the room finish schedules (BSCH-S001 and BSCH-R001) for structures that are completed under contract 2 and 3. There CLR SLR, CS and HDNR called up in most floor, wall and ceiling areas. Are all concrete finishes carried in Contract 4, even for structures completed in Contract 2 & 3?

A19: Yes.

Q20: Drawing 1-0102-BGAD-C002 shows "Aluminum Railing (See Structural Drawings)." No Aluminum railing is shown on the structural drawings. Is the railing to be aluminum or FRP?

A21: Railings for platforms in chemical areas are FRP.

Q22: Drawing 1-0102-SGAD-T003 shows "SST CHKD PL COVER (0554-003) Type C." Detail 0554-003 on Drawing 1-0102-SDTL-A008 shows a "CHECKERED ALUMINIUM HINGED FLOOR PLATE." Is the cover plate to be stainless steel or aluminum?

A22: Cover is stainless steel.

Q23: Is it possible for the Owner to provide a copy of the Builders Risk and Wrap-Up policy that would be placed on the project?

A23: No. If you have a specific concern, please rephrase your question specific to your concern.

Q24: Please confirm the extent of traffic topping at Grit Tanks 1 & 2. Drawing 1-0102-BGADG002 appears to show it only on the shaded upper area, but the section on the following sheet appears to also show it on the unshaded lower area, toward the HRC. Also, is the traffic topping applied to the precast roof, cast-in-place concrete roof, or both?

A24: The extent of Traffic Topping shall be to the exterior roof shaded area/s as well as all other interior areas where indicated on drawings and room finish schedule.

Q25: Drawing 1-0102-EGAD-A001 Sht001 shows the existing utilities crossing the duct bank, but not at what elevation those utilities occur. Can the elevations of these existing utilities be provided? This will be required to determine the extent of work required to keep these utilities active.

A25: Assume the water and sewer lines are below the duct bank. The electrical utilities will be between 900mm and 1200mm below grade.

Q26: Are there any requirements to refinish for colour coding or otherwise, other than restoring factory finishes, for any vendor supplied prefinished equipment such as pumps?

A26: No.

Q27: Section 03 01 32 Repair of Vertical and Overhead Concrete Surfaces, Section 03 01 33 Repair of Horizontal Concrete, Section. Where are the above specifications intended to be used? Which concrete surfaces are to be repaired? If these specifications are for the repair of the anticipated 50 mm of concrete removal occurring in the fermenters and biofilters do these specifications have precedence over the repair and resurfacing specified in Section 09 98 00: Are these repairs required in areas receiving new concrete? Prior to receiving new concrete placement ? (Cell 1 of new Primary Sludge Fermenter Trains)

A27: 03 01 32 and 03 01 33 has been called out on 1-0102-PGAD-S001 (Note 2), 1-0102-SGAD-T001 (Note 3), 1-0102-SGAD-T002 (Note 1) Specification 09 98 00 has precedence over 03 01 32 and 03 01 33. In areas receiving new concrete, remove unsound concrete and repair existing surfaces as required to place new concrete.

Q28: Item 2.3 of this specification identifies the use of high strength sprayable cement mortar, Sauerseisen F121. Is this to be used over the products specified in Section 03 01 32 , and 03 31 33 or in lieu of?

A28: No, the high strength sprayable cement mortar, Sauerseisen F121, is not intended to be used over the products specified in Section 03 01 32 , and 03 31 33.

Q29: I am having trouble finding the sensor spec for Bioreactor. On the Comprehensive Instrument List A-0102-AELI-A011 page 20 of 28 they have the Bioreactor instrumentation listed. The following tag numbers are listed: AE-R1032, AE-R1043, AE-R1132, AE-R1143, & AE-R1243. They are also shown on drawings 1-0102-AGAD-R007-R02, 1-0102-AGAD-R008-R03, 1-0102-AGAD-R009-R02, however, I do not see a written specification for this sensor in 40 91 01.

A29: The ammonia sensors on the sample lines (AE-R1043, AE-R1143 and AE-R1243) are listed in Section 40 91 01 2.1 C. The nitrate/ammonium sensors (AE-R1032, AE-R1132, and AE-R1232) are missing from the specification. These have been added in this addendum.

Q30: Reference Form B Prices, item 13.42 "Supply and Install 200mm Reinforced Concrete Pavements, Medium Slabs, Bull-Noses and Safety Medians". This item is reference to spec CW 3310-R17, which states "(5.4.4) All Reinforcing Steel shall be Supplied According to the Type and Dimensions on the Contract Drawings or the Standard Details". Provide the reinforcing requirements for the concrete pavements

A30: Reinforcing requirements for concrete pavement are per Standard Details in the City of Winnipeg Standard Construction Specifications, including but not necessarily limited to SD-210B, SD-211A, SD-216 and SD-217. See the City of Winnipeg website for the latest Standard Construction Specifications.

Q31: Form B Prices item 13.61 indicates 3 "Powered Chain Link Fence Sliding Security Gates"; power and controls wiring to these gates can only be located for 2 of them, reference EGAD-Y007 & EGAD-Y008. Please provide power and control wiring layout for the third gate.

A31: Quantities have been corrected via this addendum.

Q32: Reference the Surface Grading Plan drawings CGAD- A003-007 to A003-013. Given that only the new finish grades have been provided, the scope of work for the additional backfilling and grading is unquantifiable. Please clarify how this scope of work will be carried out.

A32: Backfilling for bringing sub-grade up to suitable elevations to facilitate construction of finished surfaces will be paid out on a volume basis under the "Supply and Install Fill Material - Placing Suitable Site Material" pay item, using clay backfill from existing site stockpiles.

Q33: Reference drawing PGAD-R015, note 4, please confirm these are to be supplied by the contractor, even though the drop legs (IFAS & Tanks) are manufactured and provided by vendors.

A33: Note 4 is for channel aeration and not for the IFAS tanks aeration system. Contractor to coordinate with vendors the scope of supply.

Q34: Reference section 01 50 00, item 2.2.B.5. which refers to the handling of screenings during the replacement of the existing bar screens, please confirm the current volume handled, or the quantity of bins changed over a week/ month/ year etc

A34: The amount of grit & screenings to be handled is variable and depending on flow, load, precipitation and operational factors. Please refer to the table below (data from the City for the years 2010-2016) which lists the loads in tons of monthly combined screenings and grit for each winter work "window" (i.e November to February);

Years 2010-2016	min	max	ave
Grit & screenings to landfill	t/month	t/month	t/month
November	30	59	45
December	27	67	44
January	27	61	44
February	22	71	40

Q35: Reference section 01 50 00, item 3.8, figure 3, the final tie in is not clear how the 450mm RAS ties into the piping, please provide a sketch/ isometric of the pipe configuration

A35: As per the note on Fig.3 the exact tie-in location and removal extent will be coordinated in the field. Picture supported Fig 3 provides an approximation of the connection.

Q36: Reference drawing PAAA-A001, note 10 calls for couplings on
a. On

- i) every equipment inlets and outlets
- ii) at least one side of every valve
- iii) every inline devices
- iv) every instrument connection.

b. Applying to all the above would add considerable cost to the project, especially on the larger piping, and in some cases is not practicable or necessary, i.e.

i) Equipment, drawing PGAD-G008, drawing PGAD-G021, section C

ii) Valve XV-G214H, drawing PGAD-G005 (Top Right)

iii) Pressure Switches (and Control/ isolation Valves) PGAD-G027 c. We would suggest the following

alternatives; "where no union/ coupling of adjacent flanges are located, provide couplings as per note 10", or confirmation that the "installation (both process and structural) of equipment is to accommodate compliance with PAAA-A001";

Please confirm via an addendum.

A36: Note 10 calls for piping fittings to facilitate the removal of valves, equipments and instruments and shall be followed as necessary to facilitate removals.

Q37: Reference 01 35 13, item 1.5.A states "The City will take out of service and initially drain existing tanks, channels, pipelines, and other hydraulic (liquid holding) structures by gravity to the extent that is practical and possible for the Works. The Contractor shall perform additional draining of liquids and removal of settled deposits via mechanical and manual methods after this initial draining at no additional cost to the City. The Contractor shall assume additional dewatering and settled deposits removal will be required in the headworks wetwell, influent channels, screen channels, grit channels, clarifiers 1 and 2, HPO tanks, and grit tanks." Question: a. Can you please confirm the last time the following were cleaned, and what was the state of the settled deposits

- i) Headworks wetwell
- ii) Influent channels
- iii) Screen channels
- iv) Grit channels
- v) Clarifiers 1 and 2
- vi) HPO tanks
- vii) Grit tanks

viii) Chamber before Wet Wells

ix) Wet Wells

A37: The requested specific information is unknown to us. It is our understanding that the HPO tanks have yet to be taken out of service. The contractor should allow for removal of deposited settleable solids in the areas identified. Grit deposition is expected in the vicinity of the headworks (raw water pump discharge channel, screen influent channel, screen effluent channel and grit tanks)

Q38: Reference drawing PGAD-S004: Sample pump P-5141 is shown (with no piping), but not found in the specifications. Please clarify.

A38: Sample pump P-5141 does not exist and is not part of this project.

Q39: Reference drawing PPID-S208: Flexibles are shown on the pumps, while dwg PGAD-D011 does not indicate flexibles, and would require reworking the pump layouts to accommodate. Please clarify.

A39: Flexible couplings are not required on the pumps shown on PGAD-D011.

Q40: Reference drawings PGAD-S004 & S005, and valves HV-S300G & S300E: Please provide a drawing with the locations of the existing SC pipe, Tank and pumps.

A40: Please follow the note on the drawing as indicated. Additional drawings will not be provided.

Q41: Reference drawings PPIDS502 & S503: Please confirm respectively the location of the Dryer and instrument header.

A41: The compressor room and the dryer are shown on Drawing 1-0102-PGAD-D004. Associated piping extend from this location to various areas within the plant.

Q42: Reference drawings PGAD-R017, Section H1: Please advise on the continuation of the IAS.

A42: As shown on PPID-R109 the IAS shall be supplied from the existing plant IAS header. The 50 mm pipe shall be field routed indoors to the IAS source as shown on the P&IDs.

Q43: Reference drawings PGAD-R010 to 012: These have the IAS as 75mm, whereas PPID-R109 has it as 65mm. Please clarify.

- A43: The IAS that is outdoor on the pipe racks shall be 75 mm as shown on PGAD-R010 to 012. PPID-R109 has been updated in this addendum.
- Q44: "Reference section 01 11 00.1.2.B.14.ii - the first fill of chemicals: If we add up all the individual polymer feed rates per section 46 33 33.03, we estimate the following:
- i) Minimum; Unknown
 - ii) Average; 134.4 Kg
 - iii) Maximum; 969.5 Kg
- a. With such a wide variance, this could mean a 1000 Kg bag would be consumed anywhere between 1 to 7 days. As we are not cognizant of the various and fluctuating design feed rates (minimum? to maximum), please confirm how many Kgs of dry polymer would be required for first fill/s.
- A44: Please use the maximum consumption.
- Q45: Reference drawing PGAD-G001: We can infer that there are gates or stop log frames prior to the wet wells, but can see nothing to isolate the chamber before the wet wells. Please advise how/ who will isolate the incoming main sewer line, and/ or evacuate/ clean the chamber to allow us to install the new 300-RS-CS01
- A45: The East and West Wet well can be isolated with gates shown on PID PPID-G101. The 300 recycle main 300-RS-CS01 discharge has to be cored through the wall of the inlet structure (active) with the west wet well offline. The intent is that the new pipe opening be cored, and the pipe and Link-Seal installed, from the wet well side of the wall.
- According to the attached as-built drawing 1-0102G-S0013, there are also existing stop log frames within the inlet chamber that could be used to partially isolate the flow below the location of the new pipe opening. This part of the construction has to be closely coordinated with the Contract Administrator and City operations.
- Q46: Reference drawing SCAG-G011 Note 7 states "For all concrete walls adjacent to existing buildings use blind side forms to be left in place. Do not use existing buildings to resist wet concrete pressures. Typical all levels." Please provide an example of how this form is to be built where it occurs (a) on grid line 4g and b) on grid line Bg on all levels on drawings G010, G011 and G012
- A46: See specifications. Forms are performance specified. The note just indicates restrictions in the areas noted.
- Q47: Reference section 01 52 10, item 3.1.G.1.a 3), in order to quantify the bypass pumping requirement; please confirm the flow rate/s to be expected.
- A47: Flows are expected to be very minor under normal conditions; However the contractor shall have the ability to transfer water (E.g. sewage, Weeping tile flows etc) in the vicinity of the construction area.

- Q48: It has been assumed that CH2MHill has reviewed the existing floor structure for acceptability of the addition loads that will be brought on by revised pump and motor foundation designs and a new and larger pump being installed. Please confirm.
- A48: CH2M has confirmed that the existing floor structure is adequate for the weight of the new pump, motor, and foundations.
- Q49: 46 66 20 2.2.B - Please note our PDC's power multiple banks, not just a single PDC per Bank (1 PDC/ 2 Banks).
- A49: Please provide one PDC per module as specified.
- Q50: 46 66 20 2.20.V. 7. Please note the cabinet is 4X & polycarbonate, not 304/316SST. Please advise if this be acceptable.
- A50: Unit shall be housed in a NEMA 4X 304/316 SST cabinet.
- Q51: 40 99 90 1.3.C.3 -Please note we do not provide listings of templates; configuration listings, tables and descriptions as part of standard offering. Please advise if this will be acceptable.
- A51: Only those documents that apply to the supplied equipment need to be provided.
- Q52: 40 99 90 2.2.F.3. Please note [we] will use push in type Phoenix Contact terminal block instead of screw type terminal block. Please advise if this be acceptable.
- A52: Push in type terminal blocks are not acceptable.
- Q53: 40 99 90 2.2.M. Please note [our] standard is 22mm. Please advise if this be acceptable.
- A53: 22 mm pilot devices are not acceptable.
- Q54: Section 23 07 00 HVAC Insulation, Page 6 Ductwork Insulation Requirements Item 3.3 B. A large portion of the exposed supply and return air system is round ductwork – it is spec'd as Type D2 board (1.5" thickness) with factory finish. Would Type D1 blanket be suitable for this application? Due to the nature of this installation being more industrial than commercial I would recommend the use of Knauf pipe and tank wrap in lieu of the blanket.
- A54: Blanket type insulation will be added into the specifications for round ducts via this addendum.

- Q55: Section 23 07 00 HVAC Insulation, Page 6 Ductwork Insulation requirements Item 3.3 G. Insulation of outdoor Exhaust air ductwork is spec'd using Type D5 Elastomeric – 2" thickness c/w aluminum cladding The use of this material for this application is very expensive and labour intensive as compared to using (as recommended above) Knauf pipe and tank wrap c/w aluminum cladding. Please take this under consideration.
- A55: The insulation requirements shall remain as specified.
- Q56: Section 40 42 13 Piping Insulation, Page 5 Insulation Schedule – you have specified insulation for the Foul Air System(outdoors only) and no insulation requirements on the FOA ductwork indoors. Type 5 Noise insulation is specified. If no insulation is being applied on indoor FOA system I question why you require noise control insulation on the exterior ducting?
- A56: Insulation requirements on the foul air ducts shall remain as specified.
- Q57: 44 66 20 Part 2.17 B – There will be significant channel modifications required to remove the existing UV system. Our equipment will require the existing channel width to be increased by approximately 45 mm and will be coordinated with the Contractor. Please confirm this to be acceptable.
- A57: See 1.5.C. The existing channel width and depth can be reduced or increased as required and specified by the equipment supplier, subject to the Contract Administrator's approval. Vendor shall coordinate channel modification(s) with Contractor. All cost for channel modification shall be carried in tender price. No construction change orders will be allowed for channel modifications.
- Q58: It required to demolish effluent trough of secondary clarifier 1 & 2 in drawing 1-0102-PGAD-SD52. Could you please state material of existing effluent trough? Could you also please supply specification for new effluent launder?
- A58: The effluent trough is in concrete and shall not be demolished. The demolishing scope shown at the perimeter is related to the existing weirs and other mechanical components associated with the existing system.
- Q59: General - All areas: Are the floor sealers and hardeners show on the room finish schedules completed with contract 3?
- A59: No.
- Q60: General - All areas: Are the abrasive nosing inserts in the concrete stairs provided by contract 2 and 3?

A60: No.

Q61: Volume 1: It would appear that there are bollards shown on the drawing, but the notation on the drawing does not correspond to the legend. Looks like all the bollards shown on the drawings are noted as new manholes.
Reference CGAD-A003 Sheet 7 – 14

A61: Appearance of new Bollards in plan view on respective drawings referred to in query appears to be due to combination of object scaling/linetype thickness error when plotting of drawing. Layout of new Bollards will be confirmed in the field with Contractor prior to construction with plotting issue resolved in future re-issues of drawings. Drawings not to be reissued at this time since quantities in Bid Form reflect number of new bollards required under the "Bollards" pay item.

Q62: Volume 1: In addition to the above, the fire hydrants are shown as new, but they were installed in contract 1. They need to more clearly differentiate between the hydrants that are to be installed in this contract only.

A62: Drawings not to be reissued at this time since quantity in Bid Form accurately reflects number of new hydrant assemblies required.

Q63: Volume 2: Drawing SGAD-GD51 has several areas where the drawing is hatched, which would appear to indicate that new wall and floor openings are required, but it has not been clearly indicated. Can you please provide notation on the drawing? It would also appear that some of the demolition drawings have sizes of the new openings indicated on the drawings while others do not. Can you please provide opening sizes on the GD drawings in this package?

A63: As per note 4 on the same drawing, coordinate demolition requirements with new construction. Hatching shown here is approximate only. Coordinate sizes with hatches, covers, gates, stoplogs etc.

Q64: Volume 3: BGAD-P011 indicates wall type F, but this is not described anywhere. Can you provide the wall type?

A64: This has been addressed in this addendum.

Q65: Volume 4: Are the abrasive nosing inserts shown on BGAD-R003 & BGAD-R004 completed by contract 3?

A65: No.

Q66: Volume 4: Are the aluminum railings on 3/BGAD-R004 completed by contract 3?

A66: No.

Q67: Volume 4: Is the 75mm rigid insulation on the underside of the slab shown on B&C/BGAD-R011 completed by contract 3? This will be inaccessible once the slab on void is complete.

A67: Rigid insulation shown is not part of Bid Op 976-2016. Ignore.

Q68: Volume 5: Can you confirm that the weeping tile show on CGAD-S001 is being completed by Contract 3?

A68: Weeping tile shown on noted drawing is part of C3.

Q69: Volume 5: Can you confirm that the weeping tile modifications on SEP-334 is being completed by Contract 3?

A69: Weeping tile modifications shown on noted drawing is part of C3.

Q70: Volume 5: Can you confirm that the structural slab, concrete wearing slab, 200mm slab on grade and the aluminum open grating stair on GL 1s is being completed by Contract 3? Reference drawing SGAG-S014

A70: Structural slab is part of C3. Wearing slab, slab on grade and aluminum open grating stair are part of Bid Op 976-2016.

Q71: Volume 5: Can you confirm that the wall mounted aluminum handrail shown on stair 1 on drawing SGAD-S014 is being completed by Contract 3?

A71: The handrail shown is part of Bid Op 976-2016.

Q72: Volume 5: Can you confirm that the 200mm slab on grade and aluminum open grating stair on GL 10s on drawing SGAD-S015 is being completed by Contract 3?

A72: The slab on grade and aluminum stair are part of Bid Op 976-2016.

Q73: Volume 5: Can you confirm that the wearing slab on SGAD-S021 is being completed by Contract 3?

A73: The wearing slab is part of Bid Op 976-2016.

Q74: Volume 5: Can you confirm that the wearing slab on SGAD-S026 and SGAD-S028 is being completed by Contract 3?

A74: The wearing slab is part of Bid Op 976-2016.

Q75: Volume 5: Can you confirm that the wearing slab and aluminum stair on SGAD-S027 is being completed by Contract 3?

A75: The slab on grade and aluminum stair are part of Bid Op 976-2016.

Q76: Volume 5: Drawing BGAD-S006 shows an aluminum railing at the top of the wall for clarifiers 4 and 5, and the note indicates to refer to structural drawings. However the structural drawings do not show this. Is there a railing required, and if so, what detail is to be used?

A76: Refer to Detail 3 on BGAD-S003 for dimensions. Refer to 0552-810 on SCTL-A012. Modify height to suit.

Q77: Volume 5: Can you confirm the scope of rigid insulation being provided to the foundation walls as part of contract 3? The building drawings show rigid insulation to the foundation walls, but this will be difficult to complete once the backfilling required in contract 3 is completed. Same question for the foundation rigid insulation required to the bioreactor areas

A77: Rigid insulation on foundation walls for secondary clarifiers and bioreactor areas are part of C3.

Q78: Volume 6: There is a pile shown on SGAD-U002, but there is nothing on the unit price schedule. Is this to be included with item 12.1 on the bid form?

A78: Yes.

Q79: Volume 6: There are no excavation or fill quantities provided for the UV building. Are these items to be included as a lump sum with item 12.1 on the bid form?

A79: Yes.

Q80: Volume 7: Can you confirm that the railings shown on BGAD-K002 & K008 were completed with contract 2? They are greyed out on the structural drawings.

A80: The aluminum railing in stair K-101 has been installed in C2.

Q81: Volume 7: Can you confirm that the FRP railings shown on GBAD-K002 were completed with contract 2?

A81: Only the FRP railing on the bridges have been installed. All other FRP railing to be supplied and installed in Bid Op 976-2016.

Q82: Volume 7: Can you confirm that the aluminum handrail in stair K101 is completed? BGAD-K008 indicates to refer to the structural drawings, but it is greyed out on the structural drawings.

A82: Yes, it is installed.

Q83: Volume 9: Are the piles that are shown on SFDW-T001 to be included with item 11.1 on the bid submission form? There is no unit price for piles under the Odour Control.

A83: Yes.

Q84: Volume 11: Item 13.58 on the bid submission form indicates that we are to supply and install a 3.65m high nonconductive concrete wall perimeter security fence. However, in the drawings for the sub-station work, the fencing has all be identified as chain link. If this is required will a design and location be provided?

A84: The electrical substation drawings refer to a grounded chain link fence immediately surrounding the footprint of the substation, and is to be included in the lump sum price for construction of the sub-station itself. Whereas the non-conductive concrete wall perimeter security fence refers to a portion of a separate fencing system around the entire site of the SEWPCC, as shown on drawing 1-0102-CGAD-A002-001.

Q85: HV-G321G - This 300 mm plug valve is missing from drawing 1-0102-PPID-G301 and doesn't appear on any other drawing. Please advise where the valve is located and its elevation.

A85: This valve has been removed from the valve list in this addendum as it is not required.

Q86: HV-R400A - This 250 mm plug valve is shown in two locations on the GA drawings, on 1-0102-PGAD-R014 at an elevation of 228.0 and on PGAD-R018 at an elevation of 231.105. Please confirm which one is correct.

A86: The P&ID and PGAD-R018 is correct. PGAD-R014 has been corrected via this addendum.

Q87: HV-P213E - This 150 mm plug valve which is located in PID drawing 1-0102-PPID-S207 is not located in a GA drawing. I suspect no details are shown in a GA drawing because the valve is surrounded by existing equipment. Please advise what elevation this valve is at.

A87: Valve will be added to general arrangement drawing and is shown in this addendum.

Q88: HV-G1221 - This 900 mm knife gate valve located on drawing 1-0102-PGAD-G004 is showing a short stem extension with an electric actuator. Where would you like the operation level of the valve to be? Should it have an extension up to the motor room with a floorstand or just a short extension? Please advise the length of the extension if it is not to extend up to the motor room. It appears that there would be access to this valve in the pump room.

A88: The actuator should be on the top of the valve yoke as shown.

Q89: HV-S555B - This butterfly valve is showing as 300mm in PID drawing 1-0102-PPID-S509, not 100mm per the valve list. Valve is not shown in any GA drawing and it appears to be faded out in the PID. Please provide correct size of valve and elevation.

A89: The valve is incorrectly tagged in the valve list, it should be HV-S555BC as that is the 100 mm FSW valve to the RDT Wash Water Booster Pumps on PPID-S509. This has been corrected in this addendum.

Q90: HV-S555BC - Can you please confirm that this 100 mm butterfly valve should be located on GA drawing 1-0102-PGAD-D004 in the lower level - part plan A, on the 100-FSW-SS01 line? I believe this is where the valve should be located but there is no valve symbol showing in the line.

A90: Yes, this is the correct location where the valve HV-S555BC should be shown. Drawing PGAD-D004 has been updated in this addendum.

Q91: Section 40 42 13 Air Low Pressure (ALP) piping system requires 2" thick noise insulation. Do we carry insulation up to flange at tie in point to Coarse Bubble Aeration Manifolds If not then how far is system to be insulated?

A91: Yes.

Q92: For valve type 315, can you clarify what is required for this application. Does the valve need to meet a full class 300 rating or a 300WOG rating?

A92: We have deleted Class 300 from the specification through this addendum.

Q93: 40 90 00: Are there PLC/HMI templates that can be made available from the City of Winnipeg. The City standards are quite specific and having a template available will make a large difference in the cost.

A93: There are no templates that are available.

Q94: 40 90 00: Can you please provide us the data historization.

A94: The setup and implementation of the historian will be by the Systems Integrator. It will be a Schneider Vijeo historian.

Q95: Division 46 33 33.03, Section 2.11 – A.2.a: “Provide a NEMA 4X enclosure factory assembled and wired such that field wiring shall consist only of connection to panel terminals.” Question #1: What material of construction is acceptable the this NEMA 4x enclosure? i.e. 316SS, 304SS, powdered coated steel, FRP, etc

A95: Stainless Steel.

ADDENDUM 3 - QUESTIONS AND ANSWERS - REVISIONS

Q29: Specification 40 99 90 requires a Managed Ethernet Switch to be provided as the Moxa EDS-G512E-4GSFP. Please advise if each main control panel requires a Managed Ethernet Switch.

A29 Revised: If a managed Ethernet switch is required by the vendor for the operation of their packaged system, the standard of acceptance is the Moxa EDS-G512. If a managed switch is not required by the vendor, an unmanaged switch is acceptable and can be the vendor's standard.

Q101: Section 46 66 20 2.12 C. Please note [we] do not provide channel covers. This would typically be provided by contractor. Please advise if this will be acceptable.

A101 Revised: Channel covers are required but may be supplied by contractor. Vendor to coordinate cover supply with Contractor.

Q105: Section 46 66 20 3.3.C.4. Guaranteed Performance Testing (GPT). Please confirm who is covering the cost of analysis.

A105 Revised: Cost of GPT including analysis shall be carried by vendor or Contractor.

Q108: Section 46 66 20 2.20.S.4.A - Is the requirement to provide our HMI development file or is something more than this required?

A108 Revised: Vendor to coordinate with Systems Integrator to provide full replication of OIT on the plant HMI.

Q109: Section 40 99 90 1.3.B.2 - D and O are not available for the [our product]. Controls Philosophy provides functional description (not pictorial)

A109 Revised: Provide trouble shooting guide/table showing potential causes of shutdowns/failures. Provide step-by-step operating procedures/sequences. Only those documents that apply to the supplied equipment need to be provided.

Q113: Section 46 66 20 Part 1.7 A – Please confirm if the UV warranty commences upon substantial performance of the UV system.

A113 Revised: Warranty commences after Total Performance has been awarded.

Q117: Section 46 66 20 Part 3.3.A.3 – Please confirm that the equipment warranty starts when the system is commissioned and put into operation.

A117 Revised: Warranty commences after Total Performance has been awarded.