**ADDENDUM 6**

## PART 1 GENERAL

The following changes are effective immediately and shall be incorporated into the Contract Documents.

## PART 2 INFORMATION FOR TENDERERS

### 2.1 INFORMATION FOR TENDERERS AND FORM OF TENDER

.1 The **Revised** Form of Tender is attached. The Contractor will input the bid submission to the electronic version Form of Tender provided on the Bids&Tenders site. The hard copy submission shall be provided with the Tender Breakdown.

.2 **Amend** Item 1.33 Payment to Pre-Selected Equipment Suppliers

.1 As per the General Conditions, **the Owner will novate the equipment supply contracts to** the successful Contractor ~~**will novate the purchase agreement between the Town of Greater Napanee**~~ and the individual pre-selected equipment suppliers as per the Terms of the ~~**Novated**~~ Supply Contracts.

## PART 3 GENERAL CONDITIONS

### 3.1 AMEND GENERAL CONDITION 7.19.01 NOVATION AGREEMENT

.1 **Amend** GC 7.19.01 as follows: **Once the parties have signed the Contract, the Owner shall novate to the Contractor the equipment supply contracts between the Owner and each supplier of the preselected equipment (each supplier being a "Vendor"). The Contractor agrees to assume the rights, obligations, and liabilities of the Owner under each novated equipment supply contract ("Novated Contract"), in accordance with the terms and conditions of the Novation Agreement, provided that (i) the Contractor shall only be as liable to the Owner for losses, damages, or claims caused by the Vendor as the Vendor is liable to the Contractor under the Novated Contract; and (ii) if the Contract entitles the Owner to greater rights under the Contract than are available to the Contractor under the Novated Contract, then, to the extent applicable to the supply of the preselected equipment or the performance of the Vendor under the Novated Contract, the Owner shall not enforce any greater rights against the Contractor under the Contract than the Contractor is entitled to enforce against the Vendor under the Novated Contract.**

**3.2 AMEND GENERAL CONDITIONS**

.1 **ADD ITEM 8.03**

.1 GC 8.03 The Contract Price is based on the prices and availability of Materials (including Materials supplied by any Subcontractor or supplier) as of the date the Contract is signed by the Contractor. Accordingly, if, through no fault of the Contractor, and provided the Contractor has exercised appropriate diligence in sourcing and pricing materials that form part of its bid.

.2 **Add Item GC 6.02.08**

.1 GC 6.02.08 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.

## PART 4 SPECIAL PROVISIONS

**4.1 DIVISION 00**

.1 Specification 00 11 00 Provisional Items

.1 **Delete** Item 2.1 P1 Various Demolition Work

.2 **Amend** Item 2.3 P3 Excess Soil Off-site Transportation and Disposal

.1 Provide two unit rate items as defined below, the unit rates shall be listed in the provisional items table 2.2 in the form of tender using units of $/tonne of material. The quantity estimates shall be based on the contractors :

.1 Provide for the Haulage and Disposal of Excess Soil to an authorized off-site location within the Town of Greater Napanee limits.

.2 Provide for the Haulage and Disposal of Excess Contaminated Soil to the nearest local waste disposal site.

**4.2 DIVISION 01**

.1 Specification 01 21 00 Allowances

.1 **Add** item 2.5 Tariffs

.1 Include $4,000,000 excluding HST for instances where a change in Canadian Federal, Provincial taxes, or tariffs occurs after the date of tender closing for this Contract, and this change could not have been anticipated at the time of bidding, the Owner shall compensate the contractor to account for the exact amount of tax change involved. This allowance will be applied Item-for-Item and will require detailed justification for any costs associated with tax increases and tariffs.

.2 **Add** Item 2.6 Lifting/Fall Arrest Davits

.1 Include $15,000 excluding HST for various fall arrest safety equipment not included in the contract.

.3 **Add** Item 2.7 Access Fence Gate

.1 Include $50,000 excluding HST for the supply and installation of a new Site Access Gate. Contractor fencing contactor to provide options.

**4.3 DIVISION 03**

.1 Geotechnical backfill

**4.4 DIVISION 14**

.1 Specification 14 66 00

.1 Add 2.3 Portable Lifting Davit and Accessories

.1 Two (2) lightweight, portable lifting davits as specified herein and shown on Contract Drawings.

.1 Lightweight, corrosion-resistant, aluminum alloy construction, with powder coated finish.

.2 Minimum 500 kg lifting capacity.

.3 Minimum 2,030 mm lifting height.

.4 Minimum radius 1,270mm turning radius.

.5 Total assembled weight shall be less than 86 kg.

.6 Lifting davit to be supplied with four (4) tall side mount sockets, constructed from mild steel tube and complete with cap and powder coated surface finish.

.7 Lifting davit shall be supplied with winch appropriate to the capacity of the davits. Winch shall have disc brakes.

.8 The contactor shall supply and install the davit bases at locations selected by the Owner once they have begun operating the facility.

.9 Acceptable manufacturer: Easily moved Equipment Inc. or approved alternate.

**4.5 DIVISION 31**

.1 Specification 31 05 16 Aggregate Materials

.1 **Add subsection 2.1.8**

**.1 Granular ‘B’ Type I as per OPSS MUNI 1010.**

.2 Specification 31 23 33 Excavation, Trenching and Backfilling

.1 **Add** Subsection 31 23 33 **2.1.8 “Type 4 fill: Granular ‘B’ Type I as per OPSS.MUNI 1010 and Section 31 05 16 – Aggregate Materials**”.

.3 **Amend** specification Section 31 23 33 3.10.5 Exterior Side of Perimeter Walls for New Structures:

.1 **Amend 3.10.5**, "Type ~~**2**~~ **I (Granular A) fill or Type 4 fill (Granular B Type I)** for 1.0m thickness beyond face of foundation wall…".

.4 Specification 31 23 37 Bracing and Shoring

.1 **Amend** Clause 1.5.6, **delete** the last sentence ~~**"Limit total deflection to 20 mm horizontally**~~."

**4.6 DIVISION 25**

.1 **Amend** Specification 25 05 02 SCADA as per the attached.

.2 **Amend** Specification25 05 05 CONTROL PANEL CONFIGURATION as per the attached.

**4.7 DIVISION 44**

.1 **Amend** Specification 44 07 76

.1 **ADD** Section 44 07 76, Clause 2.3.6.5 and 2.3.6.6:

.1 .5 Calibration column (100 mL)

.2 .6 Discharge Pressure Gauges

.1 .1 Chemical feed system pressure gauges shall be liquid filled (glycerine), dial size 63 mm (2½") with stainless steel case, flangeless lower case type, 6.35 mm (¼") NPT connection, dual reading gauge in PSI/kPa, pressure range 0 to 160 psi (0 to 1103 kPa).

.2 .2 Chemical feed system pressure gauges shall be supplied with polypropylene gauge isolator.

.3 .3 Acceptable suppliers:

.1 .1 H.O. Trerice Model 700LFB-G-25-FSL-250-PSI/kPa-120 complete with gauge isolator.

.2 .2 or accepted equal by Ashcroft.

.2 **REPLACE Section 44 07 76, Clause 2.3.4** with ".4 Where the chemical pipe is located outside the concrete containments, it shall be installed with dual containment using PVC piping as second containment as described in Clause 2.6."

.3 **REPLACE Section 44 07 76, Clause 3.3.2** with: ".2 The Contractor shall provide a dual containment PVC pipe where the pipe runs outside the containment in the building."

.4 **ADD Section, Clause 2.6 CHEMICAL PIPING, FITTINGS, AND SECONDARY CONTAINMENT**

.1 Supply and install pre-insulated and heat traced CPVC piping for the outer containment for inner 19 mm Teflon tube for chemical pipe

is located outside the concrete containments, as shown on the drawings and/or as specified herein.

.2 PVC piping and fittings where indicated on the drawings shall conform to CSA B137.3 and shall be Schedule 80. Fittings shall be socket type and the socket ends are to conform to ASTM D-2467. Provide all the fittings and other ancillary items as required in order to fabricate the pipe systems to the intent of the drawings. PVC pipe fittings shall be solvent welded unless otherwise indicated. Although not specifically detailed on the drawings, the welded PVC piping systems shall be provided with sufficient unions to enable easy dismantling of the pipework, particularly where pipes pass through walls or other physical barriers.

.3 Schedule 80 PVC containment piping shall be complete with all required supports, fittings and accessories for a complete functional system. Carrier Teflon piping shall be supported with molded supports within the containment pipe where possible. Supports shall be spaced so that the number of field joints is minimal. Supporting devices shall be designed to allow continuous drainage in the annular space. Refer to contract drawings for details.

.4 All PVC outer containment piping shall be provided with suitable drainage and vents, and be designed to provide complete drainage of the containment system through valve ports.

.1 Three (3) chemical containment leak detection stations shall be provided, as shown on Detail 4 of P0404, one (1) for each of the three (3) AGS chemical dosing lines.

.2 Leak detection stations shall be installed at the lowest point of the chemical dosing line inside the building.

.5 Flexible Perfluoroalkoxy (PFA) Teflon tubing containment in Schedule 80 PVC piping should be employed as shown on the contact drawings.

.1 Teflon PFA tube and fitting shall conform to ASTM D6867-03.

.2 Service temperature range: -40°C to 40°

.3 Flammability: UL 94 VO rated. PFA tubing shall resist combustion and not promote flame spread.

.4 Connection method: Tight flare method.

.5 Acceptable Teflon PFA tubing and fitting supplier: Chemline Plastics Limited or Engineer approved equal.

.6 All pipe and fitting joints to be socket weld type or flanged.

.7 Threaded fittings to be approved by Engineer before assembly.

.8 Where continuous double contained PFA tubing is not feasible due to minimum radius, HDPE or PVC junction boxes c/w PFA shall be utilized to facilitate continuous double containment. No need to have the containment pipe inside the junction box. The acceptable

manufacturer of the junction box is Chemline or Engineer approved equal.

.9 Acceptable pre-insulated PVC pipe and fittings suppliers are:

.1 IPEX Inc.

.2 George Fischer

.3 Chemline Plastics Ltd.

## PART 5 CONTRACT DRAWINGS

### 5.1 GENERAL

.1 Drawing G0007

.1 **Add Note 4**. All Existing Groundwater Monitoring Wells within the work area shall be decommissioned as per O.Reg. 903.

### 5.2 ARCHITECTURAL

.1 **Amend Drawing A5003** Room & Door Schedules as per the attached.

.1 Contractor to provide Leaf Material for Doors D-3202C and D-4102C as per modified Door Schedule.

.2 **Add** Drawing A5101 providing direction for the Provisional Brick Repair.

### 5.3 STRUCTURAL

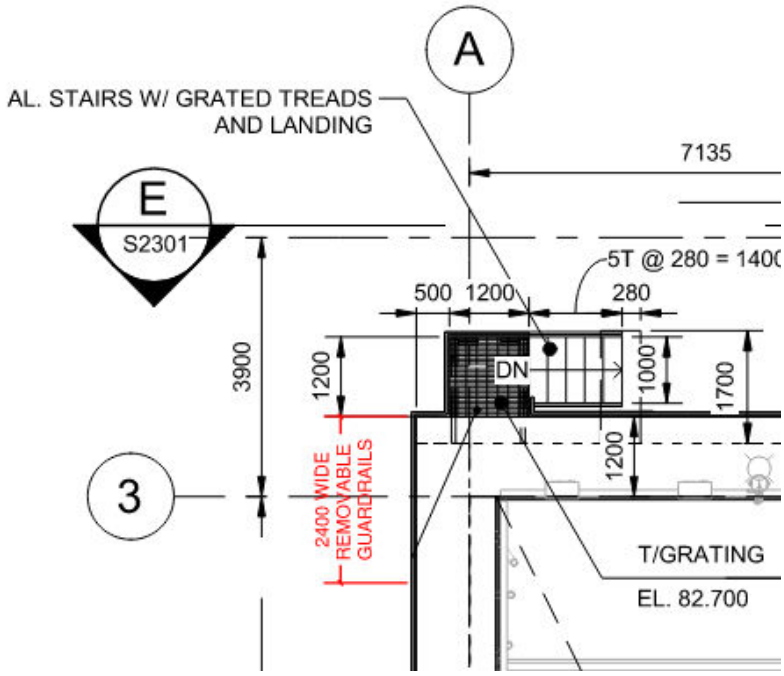
.1 Drawing S0401

.1 Referring to Detail 3/S0401, **Replace** the note "MIN 1000 WIDE GRANULAR 'B' TYPE 1 WRAPPED IN GEOTEXTILE ALL AROUND THE STRUCTURE COMPACTED AT 98% SPMDD AT 200 MAX LIFTS" with "**MIN 1000 WIDE GRANULAR 'B' TYPE 1 OR GRANULAR 'A' WRAPPED IN GEOTEXTILE ALL AROUND THE STRUCTURE COMPACTED AT 98% SPMDD AT 200 MAX LIFTS**"

.2 Drawing S2102

.1 **Amend** Drawing as follows:

.1 Provide a 2.4m wide removable guardrail as shown below:




.2 **Add Note: PROVIDE 10-STAINLESS STEEL TIE-OFF HSS COLUMNS with SAFETY 'D'-RING CONNECTED TO THE CONCRETE FLOOR FOR TRAVEL RESTRAINT AT 900 ABOVE THE FINISH FLOOR. DESIGN LOAD TO BE 22 kN APPLIED AT ANY DIRECTION. CHEMICAL ADHESIVE ANCHORS SHALL BE USED FOR CONNECTIONS. FINAL LOCATIONS TO BE AGREED WITH THE ENGINEER. SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER.**

.3 Drawing S4101

.1 **ADD Note 4 "INSTALL 8-STAINLESS STEEL 'D'-RING SAFETY ANCHORS IN THE UV ROOM WALLS FOR TRAVEL RESTRAINT AT 900 ABOVE THE FINISH FLOOR. DESIGN LOAD TO BE 22 kN APPLIED AT ANY DIRECTION. CHEMICAL ADHESIVE ANCHORS SHALL BE USED FOR CONNECTIONS. FINAL LOCATIONS TO BE AGREED WITH THE ENGINEER. SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER**.

## 5.4 PROCESS

.1 Drawing P0003

.1 **Amend** the specification for all Service Water (SW) lines to be SS1 specification (80-SW-~~**PVC1**~~ **SS1**).

.2 **Amend** the location of the Raw Sewage Composite Sampler to the Laboratory. Extend the sample tubing and communication according. Sample tubing & secondary containment as per 44 07 76.

.2 Drawing P0005

.1 **Amend** the Alum tubing specification as follows: **Replace ~~19-AL-PVC1-25A-E~~** with **19-AL-PP1-25A-E.**

.3 Drawing P0007

.1 **Delete** the 150-V-SS1 piping from both Inclined Plate Thickeners.

.4 Drawing P0013

.1 **Amend** Drawing P0013 identifying the digester process valves and tie-in locations.

.5 Drawing P0016

.1 **Amend** the Alum tubing specification as follows: **Replace** 19-AL-PVC1-25A-E with 19-AL-PP1-25A-E.

.2 **Amend** the combined Alum Storage Vent pipe size **~~100~~ 150**-V-PVC1.

.6 Drawing P0021

.1 **Amend** Valve 5010 to Size 100.

.2 **Amend** Valve 5011 to Size 100.

.3 **Add** Valve 5014, 150 mm diameter, Plug Valve

.7 Drawing P0401

.1 **Amend** the gate schedule for Gate G-2075, Height (H) mm to be **~~1800~~ 750 mm.**

.8 Drawing P1302

.1 Amend Drawing P1302 with the revised pump and layout indicated on the attached sketch PD1.1.

.9 Drawing P2302

.1 **Amend** the call out notes to clarify, 400-AA-SS1 common blower discharge header INV = 81.90m. The 81.970m INV refers to the 250-AA-SS1 discharge header.

.10 Drawing P5101

.1 **Amend** Drawing P5101 as per the attached.

.11 Drawing P5102

.1 **Amend** Drawing P5102 as per the attached.

.12 **Add** Drawing P5103 as per the attached.

## 5.5 MECHANICAL

.1 Operations Building

.1 Provide sanitary piping from alum fill containment pit and connect to sanitary piping inside of building. Refer to sketch ADD-M03-SKM1.

.2 Provide insulated boiler breeching from boiler up to roof above. Breeching to be insulated. Coordinate with boiler manufacturer. Acceptable material: Duravent or approved equal. Refer to sketch ADD-M3- SKM2.

.3 Revise penthouse louvre curb height to 900mm. Refer to sketch ADD-M03-SKM3.

**5.6 ELECTRICAL**

.1 Drawing E0551 – **Amend** as per the attached Network Topology E0551 revisions.

.2 Drawing E0101 – **Amend** the drawing to include the following note:

.1 **Install (2) 53mm PVC Conduits underground from the Headworks electrical room (Rm. 1202) to the new powered gate operator (120Vac + spare). Provide 120Vac-15A circuit from LP-1A in the headworks electrical room to the new powered gate operator. Branch circuit wiring to be 2-#10Awg & 1-#10BD RWU90 installed in 53mm underground PVC conduit. Installation of gate operator and associated controls by others.**

.3 Drawing E1502 – **Amend Drawing E1501** providing the following changes for the WAS pumps:

.1 **Upgrade branch circuit breakers in DP-10 for each Sludge/Supernatant Pumps #1 and Pump #2 to 50A-3P**.

.2 **Upgrade each branch circuit wiring to Sludge/Supernatant Pump#1 and Pump#2 to 3C#8 Teck90**

.3 **Upgrade VFD-2121 and VFD-2221 rating to (30HP - 32Amps - Normal Duty).**

.4 **Upgrade Disconnect Switches DS-2121 and DS-2221 to 60A.**

## PART 6 SECTION 5 – NOVATION AGREEMENT

**6.1 NOVATION AGREEMENT ITEM 1**

Amend the Novation Agreement Item 1 to remove the following statement: "~~**Include in the term "Supply Contract" are also modifications made under the terms and conditions of the contracts and purchase orders between the Assignor and the Vendor, on or after the effective date of this Assignment**~~;"

## PART 7 SECTION 10 – PRESELECTED EQUIPMENT

.1 Aqua-Aerobic AGS Shop Drawing Package

.1 The updated Aqua-Aerobic System Inc. AGS Shop Drawing Package is included in this Addendum.

## PART 8 QUESTIONS AND ANSWERS

**8.1**

.1 **Q: Regarding Section 44 09 10, 1.7.2. /2.3.1 . Hach model AS950 is the standard of acceptance for the automatic refrigerated sampler and is required to be Class 1, Division 1, Group D. Hach has stated that they do have any units that have hazardous location certification. Please clarify.**

**A:** The raw sewage sampler will be moved to the laboratory. Provide suction tubing and secondary containment consistent with the revised Specification 44 07 76. Provide the sampler model specified.

.2 **Q: Can you please clarify your requirements (Contractor shall provide a dual containment clear HDPE pipe where the pipe runs outside the containment in the building). and provide a specification for the 'secondary containment' of the liquid polymer and aluminum sulphate chemical piping systems?**

**A:** Refer to the revised Specification 44 07 76 as part of this Addendum.

.3 **Q: Reference revised drawing C0101 from Addendum #3. A perimeter site fence was added around the site, along with a motor operated gate. Section 32 31 13 - Chain Link Fences and Gates makes no mention of a motorized gate. Please provide specifications or product for motorized gate. Also, drawing E0101 does not have an electrical duct bank to the area to provide power for the gate. Please advise.**

**A:** This addendum provide direction for the electrical duct bank and power provisions. The motorized gate will be subject to owner approval and will be addressed via an allowance item.

.6 Q: **Referencing Drawing Building 4000 E4111 Tertiary/ UV Building Power Layout & Drawing E4501SIngle Line Diagram. Drawing E4111 References Transformer TX-42, but there is no reference to Transformer TX-42 on the Single Line Diagram. Is Transformer TX-42 required. If so, please provide specifications.**

A: TX-42 on E4111 should be replaced with TX-4A as shown on the SLD E4501.

.7 Q: **Referencing Drawing E000 Lighting Fixture Schedule & Drawing E4121 Tertiary/UV Building Lighting Layout. Drawing E412 References Fixture B2, but there is no reference to Fixture B2 on Drawing E0002. Please provide specifications for Fixture B2.**

A: Type B2 fixtures identified on drawing E4121 should be replaced with Type 'B1' fixtures as indicated on the lighting fixture schedule.

.8 Q: **Referencing Drawing Building 3000 E3111 Operations Building Power Layout & Drawing E3501 Single Line Diagram. Drawing E3501 References Active Harmonic Filter AH-31, but there is no reference to Active Harmonic Filter AH-31 on Drawing E3111. Is AH-312 required. If so, please provide specifications.**

A: AHF-31 is required. Its location is shown on drawing E3111 in the main electrical room adjacent to VFD-3150.

.9 Q: **Referencing Drawing E3111.Please provide acronym for the receptacles shown with the letters HK beside the as this is not listed in the Drawing E0001 Electrical Legends and General Notes**

A: These are general purpose housekeeping receptacles.

.10 Q: **On behalf of our suppliers, could you please provide a complete instrumentation list.**

A: Please refer to Div 25 specification and Addendums for amendments to instrument data sheets.

.13 Q: **IFT, section 1.33: This section states that "the successful Contractor will novate the purchase agreement between the Town of Greater Napanee and the individual pre-selected equipment suppliers as per the Terms of the Novated Supply Contracts". However, the Contractor can only novate contracts that it has entered into with another party. But the Contractor hasn't entered into the equipment supply contracts, the Owner has. In other words, the Owner must novate the equipment supply contracts to the Contractor, not the other way around.**

A: Agreed. Through the Novation Agreement the Contractor (new party) will replace the purchase agreement between the Town and the equipment Vendor. See the amended GC 7.19.01 and the item 1.33 above.

.14 Q: **General Conditions: Unlike the industry-standard CCDC 2 form of contract, the OPSS.MUNI 100 form of contract doesn't incorporate a limit of liability. The limit in the CCDC 2 contract is widely used in contracts for infrastructure projects in Ontario, and we therefore request that it be incorporated into the Contract, as follows:**
**GC 6.06 The obligation of the Contractor to indemnify as set forth in GC 6.02 shall be limited as follows:**

**.01 In respect to losses suffered by the Owner for which insurance is to be provided by the Contractor pursuant to GC 6.03, the minimum insurance limit (on a per-occurrence basis) of the applicable**

**insurance policy.**

**.02 In respect to losses suffered by the Owner for which insurance is not required to be provided by the Contractor in accordance with GC 6.03, the greater of the Contract Price or $2,000,000, but in no event shall the sum be greater than $20,000,000.**

**.03 In respect to indemnification by the Contractor against the Owner with respect to losses suffered by the Owner, such obligation shall be restricted to direct loss and damage, and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages.**

**.04 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.**

A: We have amended the General Conditions as part of Addendum 5.

.15 Q: **General Conditions: The OPSS.MUNI 100 form of contract doesn't address escalation explicitly. But given the current political environment, the Contractor will be facing escalation and must be entitled to relief. To address this matter, we request that the following new GC be incorporated into the Contract:**

**GC 8.03 The Contract Price is based on the prices and availability of Materials (including Materials supplied by any Subcontractor or supplier) as of the date the Contract is signed by the Contractor. Accordingly, if, through no fault of the Contractor:**

**.01 at the time the Contractor (or Subcontractor or supplier) confirms pricing for any Material (which may occur when the Material is ordered or when it is shipped), the price of the Material increases by 5% or more relative to the price carried in the Contractor's bid, the Contract Price will be adjusted by the amount of the price increase and the parties shall negotiate in good faith to agree to a Change Order adjusting the Contract Price; or**

**.02 the delivery of any Material is delayed because of shortages or lack of availability or because of delays in shipping beyond the control of the Contractor (or Subcontractor or supplier), the Contract Time will be extended to account for the delay, the Contract Price will be adjusted to account for any additional costs of the Contractor due to the delay, and the parties shall negotiate in good faith to agree to a Change Order adjusting the Contract Price and the Contract Time as provided for in GC 3.10.**

A: We have address the tariff issue as part of this addendum. Cost escalation and delays will be addressed through the terms of the contact.

.16 Q: **Amendments to the General Conditions, GC 7.19.01: This section states that the "Contractor … will novate the contract purchase order with the Town of Napanee ('Assignor') and multiplate vendors ('Vendors') and assume the management of the Vendor's responsibility for the supply and installation of the pre-selected package they were selected to supply". This is incorrect. The Contractor has not entered into equipment supply contracts with the Vendors. The equipment supply contracts are between the Owner and Vendors. So, the Owner must novate the equipment supply contracts to the Contractor, not the other way around. We therefore request that GC 7.19.01 be revised as follows:**

**GC 7.19.01 Once the parties have signed the Contract, the Owner shall novate to the Contractor the equipment supply contracts between the Owner and each supplier of the preselected equipment (each supplier being a "Vendor"). The Contractor agrees to assume the rights, obligations, and liabilities of the Owner under each novated equipment supply contract ("Novated Contract"), in accordance with the terms and conditions of the Novation Agreement, provided that (i) the Contractor shall only be as liable to the Owner for losses, damages, or claims caused by the Vendor as the Vendor is liable to the Contractor under the Novated Contract; and (ii) if the Contract entitles the Owner to greater rights under the Contract than are available to the Contractor under the Novated Contract, then, to the extent applicable to the supply of the preselected equipment or the performance of the Vendor under the Novated Contract, the Owner shall not enforce any greater rights against the Contractor under the Contract than the Contractor is entitled to enforce against the Vendor under the Novated Contract.**

A: See the amended GC 7.19.01 this addendum.

.17 Q: **General Terms and Conditions for Preselected Equipment, GT 4.2: This section states that the "firm price(s) shall include all applicable excise taxes, duty, foreign exchange, royalties and patent or license fees, and shall be f.o.b. job site". This statement is contradictory: FOB delivery terms make the buyer, not the seller, responsible for excise taxes and duties. Please confirm that if the Vendor refuses to pay excise taxes or duties under the equipment supply contract and passes this cost on to the Contractor to pay on the Supplier's behalf, the Owner will reimburse the Contractor for these costs.**

A: The FOB job site means the seller (or supplier) is responsible for delivering the goods to the jobsite, and the buyer (or contractor) takes ownership and responsibility for the goods once they are unloaded at the jobsite. We understand that the current Tariff situation makes the determination of these cost variable depending on the CAN/US current policy. As such, the Tariff related fee's applied

at the CAN border will be addressed on a case-by-case and item-by-item basis for the Preselected Equipment. Refer to the Allowance item identified in this Addendum.

.18 Q: **IFT, section 1.3: (a) Section 1.3 defines liquidated damages as consisting of "any direct costs as may be established by the Owner plus $500 per day for each day that the work is not completed within the schedule". Given that section 1.3 entitles the Owner to recover its direct costs, what does the $500 per day represent?**
**(b) Section 1.3 doesn't specify whose direct costs the Owner is entitled to recover. The Owner should only be entitled to recover its own direct costs.**
**(c) Liquidated damages are a prescribed sum of damages per day used in cases where the Owner's actual damages due to the late completion of the Work cannot be determined at tender. By entitling itself to recover its direct damages plus an amount in addition to its direct damages, the Owner is double-dipping. The Owner can either hold the Contractor liable for the direct damages it incurs due to late completion, or it can assess liquidated damages against the Contractor for each day the Work is late. But it cannot hold the Contractor liable for both.**
**(d) Section 1.3 specifies that liquidated damages will be assessed "for each day that the work is not completed within the schedule". What does completion "within the schedule" refer to – completion by the scheduled date of Substantial Performance or some other milestone date? Please clarify.**
**(e) It's customary when incorporating liquidated damages into a Contract that they be made the Owner's sole remedy for the late completion of the Project. Otherwise, the Owner can hold the Contractor liable for liquidated damages plus any additional damages the Owner incurs because of the late completion of the Work, which is contrary to the intended use of liquidated damages. For this reason, we request that the following be added to the end of section 1.3: "The Liquidated Damages set out in section 1.3 are the Owner's sole and exclusive remedy and the Contractor's sole liability for the Contractor's failure to complete the Work by the scheduled date of Substantial Performance."**

A: Information for Tenderers Item 1.3 Liquidated Damages was modified in Addendum #5, addressing points a, b and c above. The schedule referred to in Item 1.3 is the date of Substantial Performance. We will not be limiting the liability for a failure to perform.

.19 Q: **IFT, section 1.8: Section 1.8 states that based on the tenderers' site visits, they must "make their own estimate of the facilities and difficulties to be encountered including the nature of the subsurface materials and conditions". But during a site visit, the tenderers are only able to examine the surface conditions at the**

**Project site. They cannot examine the subsurface conditions. For this reason, we will be relying on the documents provided by the Owner in the tender package, such as the geotechnical report and any drawings showing the dimensions and locations of underground utilities. If the Contractor encounters subsurface conditions or underground utilities that are inconsistent with the information disclosed in the tender package, the Contractor must be entitled to relief for any resulting delays or additional costs it incurs.**

A: This question is similar to question 48 in Addendum 2. Relief is available within the contract documents and general conditions, this does not alleviate the Contractor's responsibility to be aware of all of the contract documents.

.20 Q: **IFT, section 1.11: (a) The second paragraph in this section entitles the Owner to delete unit-price items without issuing a Change as long as the deleted item is not a Major Item. This conflicts with GC 3.10.01.01, which states that the Contractor is not required to proceed with a Change in the Work until the Owner or Contract Administrator has issued a Change Order or Change Directive. As stated in GC 3.10.01.03, changes in quantities alone are to be addressed as set out in GC 8.01.02. However, GC 8.01.02 only contemplates changes in quantities for Major Items; it doesn't address unit-price items that are not Major Items. To address this matter, we propose that GC 8.01.02 be broadened to cover Changes in the quantities of all unit-priced items, not only Major Items. (b) If the Change calls for the deletion of unit-price items that are not Major Items, the second paragraph states that the Contractor is not entitled to compensation for its loss of anticipated profit with respect to the deleted items. Given that Major Items are unit-price items with an aggregate value of $100,000 or more, this means the Contractor can't claim lost profit for deductive Changes up to $100,000 where the Change involves unit-price items. This deviates from the norm in the construction industry whereby the Contractor is permitted to retain its mark-up (both overhead and profit) on deleted Work.**

A: GC 8.01.02 specifically refers to a unit price tender. This is a lump sum tender.

.22 Q: **IFT, section 1.18: The second paragraph in this section states: "Employment of the proposed subcontractor on the works is subject to the written approval of the Contract Administrator". If the Contractor is required to engage an alternate subcontractor to perform the proposed subcontractor's scope and the alternate subcontractor's price is higher than the proposed subcontractor's price, the Contractor will be faced with an increase in its cost to perform the Work. Given that the Contractor could not have anticipated at tender the Owner's rejection of the subcontractor and**

**the increase in cost to engage a replacement subcontractor, the Contractor must be entitled to relief for the increase.**

A: The sentence referred to above "Employment of the proposed subcontractor…" is being taken out of context. The same paragraph, first sentence indicates "If the successful tenderer wishes to substitute a subcontractor other than the one named in Statement C …." The owner may reject the substitute subcontractor. The contractor shall name their subcontractors in the Form of Tender, substitutions following submission/award will be subject to Contract Administrator approval.

.23 Q: **IFT, section 1.24: To the extent that section 1.24 addresses equipment or machinery that will be incorporated into the Work (and not merely used to carry out the Work), section 1.24 fails to consider that the Engineer may accept deviations to the requirements set out in the Specifications through the shop drawings submission and approval process. Section 1.24 should acknowledge that such deviations, if accepted by the Engineer, do not represent breaches of the Contract.**

A: Any deviation or alternate is addressed within the Special Provisions of the Contract documents.

.24 Q: **We conducted meetings with the approved ground improvement subcontractor and since we require ground improvement for the new AGS tank, the actual elevation of AGS tank will be 73.7, the new Sludge Buffer tank is only 73.85, so why are we having secant wall shoring around the Sludge Buffer tank but not for the AGS tank? It would make sense to have secant wall shoring around AGS tank as well since it has lower elevation. Please advise.**

**A:** The secant wall temporary shoring around the sludge buffer tanks is to allow for the excavation and at the same time limit the excavation and disturbance on the existing native soils to support the headworks building. As the existing grade within the AGS tank footprint varies from 79.14 to 76.66, it is up to the General contractor weather to carry out open excavation or to use shoring system to conserve space and/or control groundwater infiltration as per the contractor's dewatering plans. Refer to Section 31 23 37 clause 1.1.4.

.25 Q: **Structural drawing S1101 shows secant wall shoring around Intermediate Pumping Station. Is this required? Can the general contractor and shoring contractor come up with their own methodology?**

A: Secant wall temporary shoring around the intermediate pumping station shall be considered as base bid. General Contractor/shoring contractor may propose an alternate methodology after project award subject to consultant's approval.

.26 Q: **Has the owner conducted a pumping test using four wells drilled into the bedrock so that the transmissivity of the bedrock can be measured? With this information. it will be possible to estimate the quantity of groundwater that must be pumped and it will allow the design of the dewatering system to be optimized in order to lower the piezometric head.**

A: Refer to the Geotechnical and Hydrogeological Reports for groundwater information.

.27 Q: **General Terms and Conditions for Preselected Equipment, GT 4.4: This section provides for the Supplier to be compensated for cost increases arising out of changes in duties or foreign exchange rates where the net amount of the increase is greater than $500. Given the tariffs recently implemented by the Government of Canada on goods imported from the U.S., Suppliers whose equipment originates from the U.S. may well experience cost increases relative to the prices they submitted in response to the Equipment Preselection RFP, in which case they may be entitled to compensation for their increased costs under GT 4.4. After the equipment supply contracts have been novated to the Contractor, the Contractor will be liable to the Suppliers for any cost increases they claim under GT 4.4. But the Contract does not contemplate such cost increases or provide for the Owner to reimburse the Contractor for any compensation it must pay to the Suppliers under their equipment supply contracts. Please confirm that the Owner will reimburse the Contractor for any amounts it pays to the Suppliers under GT 4.4 on account of cost increases due to duties or foreign exchange rates.**

A: We understand that the current Tariff situation makes the determination of these cost variable depending on the CAN/US current policy. As such, the Tariff related fee's applied at the CAN border will be addressed on a case-by-case and item-by-item basis for the Preselected Equipment. Refer to the Allowance item identified in this Addendum. Any foreign exchange costs should be included in the updated equipment pricing.

.28 Q: **General Terms and Conditions for Preselected Equipment, GT 13.0: GT 13.0 does not make the Supplier liable for Liquidated Damages if a delay by the Supplier (specifically, a delay that does not fall under GT 13.3) causes the Contractor to complete the Work late. Please confirm that the Contractor will not be liable for Liquidated Damages under the Contract to the extent that the late completion of the Work is due to a delay by any of the Suppliers of the preselected equipment.**

A: We can confirm that the Contractor will not be liable for Liquidated Damages resulting from the delay of preselected equipment deliveries/services.

.29 Q: **General Terms and Conditions for Preselected Equipment: The General Terms and Conditions for Preselected Equipment do not include an obligation on the part of the Supplier to indemnify the Contractor. Given that the Contractor has an indemnity obligation to the Owner and the Contract Administrator under GC 6.02, if the Supplier causes a loss that results in a third-party claim being made against the Owner or the Contract Administrator, the Owner can direct the Contractor to indemnify the Owner or the Contract Administrator against the claim. But under the equipment supply contract, the Contractor has no ability to demand indemnity from the Supplier, even though the Supplier caused the loss that led to the claim. Please confirm that the Owner agrees to waive the Contractor's indemnity obligations under GC 6.02 for any claim that arises out of losses or damages caused by any of the Suppliers of the preselected equipment.**

A: We are not in a position waive the Contractor's indemnity obligations.

.30 Q: **Novation Agreement, recitals, section 1: The last sentence in this section states: "Include in the term 'Supply Contract' are also modifications made under the terms and conditions of the contracts and purchase orders between the Assignor and the Vendor, on or after the effective date of this Assignment;". This doesn't make sense. Once the equipment supply contract has been novated by the Owner to the Contractor, it is no longer a contract between the Owner and Vendor. So, after the novation, the Owner cannot modify the contract or accept modifications proposed by the Vendor because the Owner is no longer a party to the contract.**

A: Agreed. We will remove the statement.

.31 Q: **Novation Agreement, articles, section 8: This section states: "The Assignor and Vendor [agree] that the Contracts between them shall terminate on the date specified in the Construction Contract to be entered into by the Assignor and the Assignee."**

**(a) Where in the Contract is this date specified?**

**(b) Noting that the equipment supply contracts will be novated by the Owner to the Contractor, it doesn't make sense for the contracts between the Owner and Vendor to terminate. Once the Owner has novated the contracts, they will continue in full force and effect. But instead of being contracts between the Owner and Vendor, they will be contracts between the Contractor and Vendor.**

A: The date referred to is the date upon which the purchase agreement is Novated. Once Novated the Purchase Agreement between the Assignor and Vendor are essentially terminated or no longer existing.

.32 Q: **Due to the unknown and unpredictable tariff situation, would the owner be open to the proposed changes to GC 8.02.08 Taxes below:**

**.01 Where a change in Canadian Federal, Provincial taxes, or tariffs occurs after the date of tender closing for this Contract, and this change could not have been anticipated at the time of bidding, the Owner shall increase or decrease Contract payments to account for the exact amount of tax change involved.**

**.02 Claims for compensation for additional tariff or tax cost shall be submitted by the Contractor to the Contract Administrator on forms provided by the Contract Administrator to the Contractor. Such claims for additional tax costs shall be submitted not less than 30 Days after the date of Final Acceptance. Tariff costs shall be submitted not less than 30 days after they take effect.**

**.03 Where the Contractor benefits from a change in Canadian Federal, Provincial taxes or tariffs , the Contractor shall submit to the Contract Administrator, on forms provided by the Contract Administrator, a statement of such benefits. This statement shall be submitted not later than 30 Days after Final Acceptance.**

**.04 Changes in Canadian Federal, Provincial taxes or tariffs that impact upon commodities, which when left in place form part of the finished Work, or the provision of services, where such services form part of the Work and where the manufacture or supply of such commodities or the provision of such services is carried out by the Contractor or a Subcontractor, are subject to a claim or benefit as detailed above. Services in the latter context means the supply and operation of equipment, the provision of labour, and the supply of commodities that do not form part of the Work.**

A: Refer the amended Allowances section, this addendum, for unknown Tariff related costs.

.33 Q: **Specification section 02 05 20, part 2.1.5. Pumps and temporary pumping system shall be supplied by three suppliers. Can we carry the temporary bypassing scope from another reputable supplier?**

A: As the other reputable supplier's name is not provided we cannot assess this change. The temporary pumping system by one of the named suppliers shall be carried as base bid. The Contractor may propose an alternate after project award subject to the terms of the contract.

.34 Q: **Addendum 4, question 4 clarified that all exposed floor and ceiling types on the Room Finish Schedule (drawing A5003) are to be**

**sealed. However, the 03 35 46 Concrete Topical Treatment specification provided in Addendum 4 only lists the Lunch Room 1108 under section 3.6 Schedule as the only area to receive sealer. Please clarify which areas require concrete sealer.**

A: The Table: Floor Treatments Schedule referred to in Sentence 1 of Part 3.6 in section 03 35 46 Concrete Topical Treatment Contractor specification is an example only. Contractor to seal concrete surfaces as per Room Finish General Note #3 on A5003.

.25 Q: **Reference Section 31 23 37 Bracing and Shoring, item 1.5.6, "Limit total deflection to 20 mm horizontally." Item 1.8.4.1 says the lateral deflection limit is subject to OPSS 539 performance level 1a, which specifies a maximum horizontal displacement of 5 mm. Please remove OPSS 539 performance level from specification.**

A: The temporary shoring systems shall have a performance level 1a

.36 Q: **Reference drawing C0100, the west side of the Digesters where we connect the new Operations Building to the existing tunnel. We are to remove the emergency overflow from Existing Anaerobic Digester #3, and one of the existing Biogas lines. The other biogas line that goes to the existing biogas flare stack is to remain. When referencing the 2019 as-builts, drawing C2.1, it appears the pipe inverts for these biogas lines are approximately 77.85. If we reference the Napanee WPCP Upgrading Contract I-2 from June 1988, drawing M 3 shows the Digester Overflow coming out of the building at EL 82.42, but does not appear to show the underground pipe elevation as it cross in-front of the tunnel. Considering we will be open excavating for the new Operations Building and will have to perform the ground improvement, we will most likely undermine all 3 pipe in this area. Please advise what sort of care will be required for these pipe, and whether they will be isolated during the construction of the new expansion.**

A: These piping systems will need to be maintained during the expansion. The Digester #3 overflow will need to be redirected to the new sanitary collection system and in order to complete the new tunnel tie-in. The biogas to the flare, sludge loading from the basement of Digester #3, electrical supply feeds west of the digester will all need to be supported during the new works. The means and methods for completing the work are up to the Contractor. The Owners will work with the Contractor to manipulate their operations to best facilitate the transition work.

.37 Q: **Specification 09 91 00 Painting, item 2.3.3 states the structural steel and metal fabrications require painting. Is this required for stainless steel and aluminum fabrications such as ladders and stairs? Please advise.**

A: No Stainless or aluminum assemblies are to be painted unless specifically noted.

.38 Q: **On the Grit Pump Discharge, please confirm if we are to include a pipe spool with the Olets between the Valves as shown on P&ID P0003, or if the Valves should be flanged to each other as shown on Section F on drawing P1303. Should the spool below the check valve just be placed in between the 2 valves, and the check valve connected to the Flex?**

A: The pump selection (part of the AASI supply) and arrangement has been modified as part of this addendum. The Olets can be placed on the downstream side of the valve train.

.39 Q: **Please note that despite the Spec for SS fittings being A403, Reducing Laterals will be fabricated to A774 from Pipe as they are not commercially available. For example, in the intermediate PS the 24"x12" Laterals will be fabricated.**

A: We accept that fabricated fittings will necessary for various piping components in the designed system.

.40 Q: **P&ID P0004 doesn't show the 200-FM-SS1 entering the Splitter box. Please advise if this line is required as shown on P1203. I can't find this line on ANY P&ID.**

A: Refer to Addendum #5.

.41 Q: **P&ID P0007 shows 6" Vents off the RDT's. These do not show on the Plans & Sections. Please confirm it is is required.**

A: Remove 150mm venting piping on P0007.

.42 Q: **Please confirm the Size of the TWAS piping in Digester #2 & #3 Control Room. Drawing P5101 shows it as 6", while P&ID's P-0007 & P0013 show 4" while the Continuation in the Operations Building P3101 also shows 4". Similarly, what size is the existing pipe this line ties into?**

A: See amendments to the pipe size in Addendum #5.

.43 Q: **Please confirm he elevation of the Blower Discharge header - INV=81.900 per P3302, INV=81.970 per P2302**

A: 400-AA-SS1 common blower discharge header INV = 81.90m. The 81.970m INV refers to the 250-AA-SS1 discharge header. Callout on P2302 shall be updated in IFC.

.44 Q: **P&ID P0005 shows the WAS piping into the AGS tanks as 24" but it should be 18" to match the plans, sections & Aquadisk drawings.**

A: Replace 600-WAS-SS1 with 450-WAS-SS1 on P0005.

.46 Q: **Can the Process Piping drawings be updated to reflect the Aquadisk equipment package?**

A: Refer to the updated AASI AGS submission attached. Process drawings reflect the Tertiary Filter (Aquadisk) drawings and documents received to date. Shop drawings of Aquadisk to be provided upon contract award to contractor when they are received from AASI.

.47 Q: **Please confirm what elevation the 18" WAS piping penetrates the AGS tank wall at. Per P3302 it is at 80.271, but the Aquadisk drawings show it @ 79.210.**

A: 450-WAS-SS1 penetrates AGS tank wall at INV EL. 80.040m per P2302, Refer to the updated AASI AGS submission attached.

.48 Q: **There is a gap in the Process drawings between the Operations room & the Digester 2 & 3 Control Room. Does the 100mm TWAS piping run underground between the buildings? Can we get a drawing showing the piping run to a Match point if it remains above ground?**

A: See P5101 for TWAS piping tie in location. TWAS piping to be routed through new hallway connecting ground level of new Operations Building to existing Digester Building.

.49 Q: **P&ID P0010 shows (2) BFV's on the 250mm Blower Discharge runs between the Discharge Header & the Flowmeters. The Downstream BFV does Not have a Valve tag AND does NOT show on the plans & Sections. Please confirm if the 2nd unlabeled valve is required.**

A: Unlabelled BFVs to be removed from P0010.

.50 Q: **Viega ProPress for Domestic Water Piping**

**We request approval to use Viega ProPress fittings as an alternative to the currently specified soldered, threaded, and grooved fittings for domestic water piping, as outlined in Section 22 11 16 – Domestic Water Piping – Copper.**

**Justification:**

- **Meets or exceeds industry standards (ASME B16.51, NSF/ANSI 61, NSF/ANSI 372, CSA B125.3).**

- **Faster installation compared to soldered joints, reducing labor costs.**
- **Creates a flame-free mechanical connection, reducing fire hazards.**
- **Backed by a 25-year limited manufacturer's warranty.**

A: Only on a case-by-case, not the basis of construction. Construction to be as per specifications.

.51 Q: **Referencing addendum 3, Q2, please confirm that Hydro One will be supplying the ACSR overhead cable.**

A: No. The contractor will be supplying the ACSR cable. Hydro One will connect the cable to their distribution system at the road

.52 Q: **SDR-35 Gasketed Piping for Below-Grade Sanitary and Storm Piping (4 Inches and Larger, Within the Building Footprint)**

**We request approval to use SDR-35 gasketed piping for below-grade sanitary and storm piping (4 inches and larger, within the building footprint) as an alternative to cast iron and other specified materials.**

**Justification:**
- **Complies with CSA B182.2 and ASTM D3034.**
- **Commonly used for underground drainage applications due to its durability and ease of installation.**
- **Resistant to corrosion, ensuring long-term reliability.**

A: Mechanical underground piping to be as per specifications. Gasket only considered for 8" and above.

.53 Q: **Viega ProPress for Heating Copper Piping**
**We request approval to use Viega ProPress fittings for hot water heating copper piping, as an alternative to soldered and brazed fittings.**

**Justification:**
- **Meets ASME B16.51 and ASTM B88M standards.**
- **Press connections eliminate open flame risks, improving job site safety.**
- **Reduces installation time while maintaining a secure and leak-free connection.**

A: No.

.54 Q: **Viega MegaPress for Heating Black Iron Piping (2 Inches and Smaller)**
**We request approval to use Viega MegaPress fittings for black iron heating piping (2 inches and smaller).**

**Justification:**
- **Meets ASME B31.9 and ASTM A53/A106 standards.**
- **Faster, flame-free installation compared to welded or threaded fittings.**
- **Reduces potential leak points while ensuring mechanical strength.**

A: No.

.55 Q: **Approved Transition from PEX to Black Iron Piping (3-Inch and 4-Inch Heating Pipe)**
**Please provide an approved transition method from PEX to black iron piping for 3-inch and 4-inch heating pipe.**

A: Coordinate with PEX manufacturer. PEX fittings exists.

.56 Q: **Civil Contractor Responsibility for PEX Termination Inside Building Footprint We request confirmation that the civil contractor is responsible for terminating the PEX piping inside the building footprint, ensuring that no transitions occur exterior or below grade.**

A: The Mechanical contractor shall be responsible for the PEX terminations, supply, installation, testing and operation. The relationship between the Civil and mechanical contractors scopes of work shall the responsibility of the General Contractor.

.57 Q: **Clarification Requested:**
- **Can you confirm that all PEX terminations must occur inside the building, eliminating exterior or below-grade transitions?**

A: All PEX terminations to be inside of building, in accessible areas.

.4 .58 Q: **Use of Westlake Products for Sanitary and Storm Piping**

**We request approval to use Westlake products as an alternative material for sanitary and storm piping.**

**Justification:**
- **Westlake products comply with industry standards for sanitary and storm drainage applications.**

A: No. Not compatible with Ipex, which is more readily available – future proofing.

.59 Q: **Please provide Boiler Vent/Stack detail and routing within the Operations Building as one is not shown.**

A: Refer to the Mechanical Addendum attached.

.60 Q: **Addendum # 3-page 4 Question & Answer**
**.1 Q: The following responses are provided as a follow up to the AASI**
**presentation provided on Feb. 20, 2025.**
**A: Anchor bolt sizing (diameter and length) and quantity.**
**- 1/2" Adhesive Anchors – Qty 1,374**
**- 3/8" Adhesive Anchors – Qty 20**

**Please confirm the above Anchor Bolts is for one tank OR three tanks**

A: These anchor estimate are provided per tank. Multiply this quantity by three (3) for the total estimated value.

.61 Q: **P-0003 – Process and Instrumentation Diagram**
**Can you please clarify pipe material for Service water line 80-SW-SA1-25A & 80-SW-PVC1-25A**

A: All service water piping should be per the SS1 specification. The piping specification is amended through this addendum.

.62 Q: **Reference drawing A5003 Door Schedule, Overhead door D-3202C and D4102C are noted as aluminum. However these doors are fire rated as a 1 and 2 hour respectively. In order for these doors to be rated, please change material from aluminum to galvanized steel.**
**a. Please confirm that Overhead door D1201C and D3201B is the entirely made from stainless**
**b. Please confirm that Nema 7/9 separate lower control panels are required on all coiling metal doors?**

A: a. Doors D-1201C and D-3201B (including all miscellaneous metals and anchors to be stainless steel in classified spaces) are to be entirely made from stainless steel. Doors D-3202C and D-4102C to be fabricated as per Part 2.5 Fabrication in Section 08 33 00 Coiling Metal Doors. Refer to the attached modified Door Schedule on drawing A5003.

b. Nema7/9 operators and lower controls are required in the headworks screening room (D-1201C) room and WAS thickener room (D-3201B). NEMA 4X controls in all other locations.

.63 Q: **HDPE suppliers have indicated that it may be virtually impossible to get DR21 HDPE in smaller lengths to meet the projects requirements. Would DR17 be an acceptable alternative to the DR21 that is currently specified? If so, please advise if the pipe size would remain the same or need to be up sized.**

A: If DR17 is to be used, then the DR17 pipe ID will need selected to match the ID of the DR 21 specified.

.64 Q: **Section 44 05 50 indicates that all underground piping connections to the buildings, tanks and vaults and with the exception of the Headworks building, are to be by Flexible coupling, however, could Flanged connections be considered for all connections to SS including HDPE, PEX and PVC. Please advise.**

A: No, flexible couplings are required at all building to underground transitions. The Headworks is not excepted from this requirement.

.65 Q: **Section 44 50 30 Was Inclined Plate Thickener. Question from Huber Technology,**

**Item – 1.5 Submittal.**

**Please confirm that the PE Stamp requirement is only related to process calculations and not mechanical, electrical, instrumentation, etc. which may be proprietary to the manufacturer?**

A: Confirmed.

.66 Q: **Is it possible to replace the specified phenolic resin lab cabinets with powder-coated metal casework? Our concern is that phenolic resin is expected to be added to the tariff schedule for imports from the U.S. Mott Manufacturing, the basis of design, sources its phenolic casework from its U.S. plant, while its Ontario facility only manufactures metal casework. Given that phenolic casework carries a 40% premium over painted metal and is subject to fluctuating tariffs, transitioning to Canadian-made metal casework could help mitigate tariff exposure.**

**We have attached the specifications for your review. Please confirm if this substitution is feasible.**

A: No substitution will be provided at this time. Alternates may be proposed via the Contract terms once the project is awarded.

.67 Q: **Regarding P1303 and the Grit Pumps & Primary sludge/ Supernatant Pumps area, please provide a detail for construction of the (4) new pipe racks. (Material, etc.)**

A: The pipe racks shown on P1303 is designed with 100 HSS SS304 with piping guides as per the Process details.

.68 Q: **P0405-Process Details (5)- Sludge Sampling Sink & Hood, is there a specified Supplier for this item? If so, please provide contact information.**

A: Remove Detail 1 on P0405 and refer to Mechanical Drawings and Division 20 for sample sink details.

.69 Q: **It appears that a space to the east of the existing site has been approved for a laydown yard, however, it looks like the area has what appears to be a playing field on it. Does this field need to be removed or rebuilt to present conditions after the completion of the project? Please advise.**

A: East of the existing site has been approved for a laydown yard. If the space requirements extend to the playing field, the Owner/Contractor will need to justify the space and isolate/reinstate all areas to the pre-construction conditions.

.70 Q: **Please confirm the specification for the mechanical hood shown on drawing A1401. Is it covered under Section 23 34 24, item 2.3 Louvred Exhaust Wall Boxes? If not, please clarify the correct specification section for the mechanical hood.**

A: Refer to the Commercial Kitchen Hood specification provided in Addendum 5.

.71 **Q: For the ladder tray, the specification calls for aluminum class D, with a 4" depth. I would interpret this as a 4" usable loading depth which would mean the side rails are actually 5" as the rungs takes up 1" of the interior depth. Am I interpreting that correctly?**

A: The cable tray shall be 4” total height (~3” usable loading depth).

.72 **Q: Please confirm the rung spacing for the ladder cable tray.**

A: The cable tray rung spacing shall be minimum 300mm (12”).

.73 **Q: The Aqua disk Drawings show the 6” Aeration drops into the AGS basin’s as being 610mm apart. This is not achievable if we adhere to spec. A 6” SR 90 welded to a 6” tee has a center to center of 297mm. In order to reach the 305mm we would have to weld in a 7mm long piece of pipe, which disappears after being beveled. The ONLY way we can achieve the 305mm center to center based on the Contract drawings (for the 610mm c-c of drops) is to fabricate the 6” tee from pipe to A774. The other option is to match the Aquadisk drawings and have the one drop straight in line. Please confirm we are to adjust the piping as needed to meet the equipment drawings**

A: The Engineer will submit this comment on air drop pipe spacing with review comments on the AGS shop drawings for AASI to revise and resubmit. Upon contract award, the contractor will be required to coordinate with AASI on questions related to install of AASI-supplied equipment.

**END OF SECTION**

# SECTION 2 - FORM OF TENDER

Project Name: **Napanee WPCP**

Contract No. **RFT-UT-2025-01**

Project No: **22001**

Tenderer's Business Name: _____

Business Address: _____

_____

Type of Business: ☐ Proprietorship ☐ Corporation ☐ Partnership
**(Place checkmark in appropriate box)**

Note: The Tenderer's name and address must be inserted above, and, in the case of a partnership, the name and residence of each and every member of the firm must be listed.

HST Number: _____

To: **The Corporation of the Town of Greater Napanee**
(herein referred to as the Owner)

I (We)_____ having carefully examined the locality and site of the proposed works, and having read, understood and accepted the Agreement, **Addendum(s) No. _____ to _____ inclusive***, Special Provisions, Contract Drawings, Information to Bidders, Supplemental Specifications, Standard Specifications (if any), Form of Tender, Supplemental General Conditions, General Conditions attached hereto, each and all of which forms part of this Tender, hereby offer to furnish all machinery, tools, labour, apparatus, plant and other means of construction; all materials, except as otherwise stated in the Contract; and to complete the work in strict accordance with the Contract Documents, being the Contract or Contracts herein being referred to, on the terms, conditions and time specified and under the provisions set out or called for in the Contract Documents for the Total Tendered Amount of:

_____/100

dollars ($_____) excluding HST, being made as shown in the Form of Tender – Schedule of Items and Prices.

* **THE TENDERER WILL INSERT HERE THE NUMBER OF THE ADDENDA ISSUED DURING THE TENDERING PERIOD AND TAKEN INTO ACCOUNT IN PREPARING THE TENDER.**

The aforementioned SUM is determined as follows:

## 2.1 SCHEDULE OF ITEMS AND PRICES

| Item | Description | Unit | Qty. | Tender Amount |
|---|---|---|---|---|
| 1 | Construction of the Napanee WPCP and all related items, appurtenances and cash allowances | LS | 1 | |
| 2 | Total Price of Provisional Items | N/A | N/A | |
| 3 | Total Price of Preselected Items | N/A | N/A | |
| 4 | Contingency Allowance | LS | 1 | $500,000 |
| | | | | |
| **TOTAL TENDERED AMOUNT** (Excl. HST) | | | | $ |

## 2.2 SCHEDULE OF PROVISIONAL ITEMS

Provide a lump sum price for each of the provisional items listed in the schedule below and further described in Section 00 11 00 – Provisional Items. All items must be priced. The sum of the provisional items shall be entered as item 2 in the Schedule of Items and Prices and included in the total tendered amount.

If the items priced in the following Schedule are deemed, in the Owner's sole and absolute discretion, to be unrealistic, abnormally low or not representative of the fair market value, the Owner reserves the right to request substantiation for the pricing submitted. If the Owner determines the pricing for any or all Provisional items to be unrealistic, abnormal or unbalanced in anyway, in the Owner's sole and absolute discretion, they reserve the right to reject the bid.

| Provisional Item | Description | Unit | Tender Quantity | Unit Price | Tender Amount |
|---|---|---|---|---|---|
| P1 | Not Used | | | | |
| P2 | Digester Brick Repair | | | | |
| P3-1 | Excess Soil – Off-site Disposal | $/tn | | | |
| P3-2 | Excess Soil – Landfill Disposal | $/tn | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| **TOTAL VALUE OF PROVISIONAL ITEMS** (To be inserted into Item no. 2 of Schedule of Items and Prices) | | | | | $ |

## 2.3 SCHEDULE OF PRE-SELECTED EQUIPMENT

The Tenderer is required to enter herein the actual prices quoted to him/her by the suppliers for the items listed. The supplier's price shall be in accordance with their quotation documents included in Section 10 and shall include any amendments made through the associated special provision sections. Payments to the Contractor will be made in accordance with the items in the Schedule of Items and Prices, but the quotations for the following items are required for the purpose of checking against quotations already received by the Owner.

Specifications for pre-selected equipment are presented in Section 10. Addenda for Pre-selected Equipment quotations are included in Section 44 of the Specifications.

**FOR THIS SCHEDULE, ALL PRICES SHALL BE EXCLUSIVE OF HST, F.O.B. JOBSITE.**

| SYSTEM NO. | DESCRIPTION | QTY. | SUPPLIER'S PRICE ($) | DELIVERY PERIOD FROM ISSUE OF P.O. (Weeks) |
|---|---|---|---|---|
| 1 | Screening Equipment – Claro Environmental Technologies Inc. | 1 | | |
| 2 | Vortex Grit Removal Units – Claro Environmental Technologies Inc. | 1 | | |
| 3 | WAS Thickener – Huber | 1 | | |
| 4 | Tertiary Treatment – Aqua-Aerobic Systems | 1 | | |
| 5 | Ultra-Violet Disinfection – Trojan Technologies Inc. | 1 | | |
| 6 | Granular Sludge System – Aqua-Aerobic Systems | 1 | | |

## 2.4 ITEMIZED LUMP SUM BREAKDOWN

Within two (2) working days of the tender closing, the two lowest Tenderers shall complete and submit the following itemized breakdown of the total tendered amount. If the itemized breakdown is deemed by the Owner or Contract Administrator, at their sole and absolute direction, to be inaccurate, poorly distributed or unbalanced in anyway, they reserve the right to request for additional information or documentation to substantiate the itemized pricing. If after reviewing the additional documentation provided by the Contractor, the Owner or Contract Administrator, at their sole and absolute discretion, determined the funds are still not distributed accurately, they reserve the right to adjust the lump sum breakdown to more accurately distribute the funds.

**Itemized Breakdown Schedule of Lump Sum Price (Item 1 of Schedule of Items and Prices)**

Prior to the preparation of the first progress payment, the successful Tenderer shall provide a more detailed breakdown to the contract administrator, which further itemizes the work by specification section. This breakdown will form the basis of the progress payment template and will be used to evaluate the work completed by the contractor on a monthly basis.

| Item | Description | Amount |
|---|---|---|
| 1 | Mobilization and demobilization (Refer to Clause 29 of Information for Tenderers) | |
| 2 | Division 1 – General Requirements | |
| 3 | Division 2 – Existing Conditions | |
| 4 | Division 3 – Concrete | |
| 5 | Division 4 - Masonry | |
| 6 | Division 5 – Metals | |
| 7 | Division 6 – Wood and Plastic | |
| 8 | Division 7 – Thermal and Moisture Protection | |
| 9 | Division 8 – Openings | |
| 10 | Division 9 – Finishes | |
| 11 | Division 10 – Miscellaneous Specialties | |
| 12 | Division 11 – ~~**Laboratory**~~ **Facility Specialities** | |
| **13** | **Division 12 - Furnishings** | |
| **14** | **Division 13 – Special Construction** | |
| **15** | Division 14 – Conveying Systems | |
| **16** | Division 20 to 23 - Mechanical | |
| **17** | Division 25 – Instrumentation and Controls | |
| **18** | Division 26 to 28 – Electrical | |
| **19** | Division 31 to 33 – Site Works and Infrastructure Works | |
| **20** | Division 44 – Process Mechanical | |

| | | |
|---|---|---|
| **21** | Lump Sum for Other Requirements (Refer to Item 1.30 of the Information for Tenderers | |
| **22** | Cost of 100% Performance and 100% Labour and Material Payment Bond (Refer to Clause 16 of Information for Tenderers) | |
| **23** | **Cost for Project Insurances (Refer to Information for Tenderers and General Conditions)** | |
| **24** | **Allowances (Refer to Specification 01 21 00)** | |
| Total Item 1 Cost (must match Item 1 of Schedule of Items and Prices) | | $ |

Upon award of the contract, the contractor will be required to submit a more detailed breakdown of the lump sum price, further division the Division groupings described above into specification sections, Labour and Material values for each specification section.

## 2.5 DECLARATION OF TENDERER

The Tenderer declares that:

a. No person, partnership or corporation other than the Tenderer has any interest in this Tender or in the proposed Contract for which this Tender is made and that this Tender is made without any connection, knowledge, comparison of figures or arrangements with any other person, partnership or corporation submitting a Tender for the same work and is in all respects made without collusion or fraud.

b. No member of the Municipal Council and no employee of the Municipality or of the Contract Administrator is or will become interested directly or indirectly as a contracting party, partner, surety or otherwise in or in the performance of the Contract or in the supplies, work or business to which it relates, or in any portion of the profits thereof, or in any of the monies derived therefrom.

c. The prices offered in this schedule take into account in all respects the cost of execution of the work under all weather conditions.

d. The Tenderer acknowledges that the Owner shall have the right to reject any, or all, Submissions for any reason, or to accept any Submission which the Owner, in its sole unfettered discretion, deems most advantageous to itself. The lowest, or any, Submission will not necessarily be accepted and the Owner shall have the unfettered right to:

    i. Accept a non-compliant Submission;
    ii. Accept a Submission which is not the lowest Submission; and
    iii. Reject a Submission that is the lowest Submission even if it is the only Submission received.

e. The Tenderer acknowledges that the Owner reserves the right to consider, during the evaluation of Submissions;
    i. information provided in the Submission document itself;
    ii. information provided in response to enquiries of credit and industry references set out in the Submission;

iii. information received in response to enquiries made by the Owner of third parties apart from those disclosed in the Submission in relation to the reputation, reliability, experience and capabilities of the Tenderer;
iv. the manner in which the Respondent provides services to others;
v. the experience and qualification of the Tenderer's senior management, and project management;
vi. the compliance of the Tenderer with the Owner's requirements and specifications; and
vii. whether the Tenderer has been involved in litigation with the Owner during the last sixty (60) months before the date this request for Tender.

f. The Tenderer acknowledges that the Owner may rely upon the criteria which the Owner deems relevant, even though such criteria may not have been disclosed to the Tenderer. By submitting a Submission, the Tenderer acknowledges the Owner's rights under this Section and absolutely waives any right, or cause of action against the Owner and its consultants, by reason of the Owner's failure to accept the Submission submitted by the Tenderer, whether such right or cause of action arises in contract, negligence, or otherwise.

## 2.6 TENDER VALIDITY PERIOD

The submitted tender shall remain valid for Sixty (60) calendar days from the date of tender closing. The contract award and commencement of construction is conditional upon receipt of the MECP permits.

## 2.7 CONTRACT BONDS

All Tenders must be accompanied by an Agreement to Bond, completed and executed by the Tenderer's Surety. The Agreement to Bond will provide for a Performance Bond for 100% of the Contract Price, and a Labour and Material Payment Bond for 100% of the Contract Price.

The Successful Tenderer shall, prior to execution of the Contract, provide to the Owner the following Bonds:

a. a bond in the amount of 100% of the contract price (excluding H.S.T.) guaranteeing the full and faithful performance of the work, including maintenance of the works for the duration of warranty period and the obligation to indemnify and save harmless the Owner, and
b. a bond in the amount of 100% of the contract price (excluding H.S.T.) guaranteeing payment for labour and materials.

## 2.8 CONSTRUCTION SCHEDULE

The successful Contractor acknowledges that time shall be deemed to be of the essence of this Contract. The contractor agrees to have the Works "Substantially Performed" by **March 31, 2027**, based on contract award within sixty (60) calendar days from the date of tender opening.

The successful Tenderer will be required to submit a Detailed Work Schedule and Projected Monthly Cash Flow forecast within fourteen (14) days after contract award.

## 2.9 TENDER DEPOSIT

Every tender shall be accompanied by a certified cheque, bank draft, or bid bond made payable to the Owner in the amount of ten percent (10%) of the total bid price to serve as a tender deposit. Bid bonds submitted as a security shall be in accordance with the standards of the Canadian Construction Association and shall be from the same guarantee surety company supplying the Performance and Labour and Material Bonds for this Contract.

## 2.10 TENDER ACCEPTANCE AND AWARD OF CONTRACT

The Tenderer agrees that:

a. The Tender is subject to a formal contract being prepared and executed.

b. If this Tender is accepted by the Owner, the required Contract Documents will be sent to the successful Tenderer following acceptance of the Tender. The Tenderer will execute the Agreement in triplicate and furnish in triplicate to the Owner the required Bonds, the Certificate of Liability Insurance, and a Workplace Safety & Insurance Board clearance letter stating that all assessments or compensation payable to the Workplace Safety & Insurance Board have been paid along with all other required documents within 7 (seven) calendar days from the date of receipt of the Contract Documents from the Owner.

c. This offer is to continue open to acceptance until the Contract is executed by the successful Tenderer or before the expiry of the validity period, whichever event first occurs, and that the Owner may, at any time within that period accept this Tender whether any other Tender has been previously accepted or not.

d. The Tenderer will forfeit the deposit accompanying this Tender if this Tender is withdrawn before the Contract is executed by the successful Tenderer or before the expiry of the validity period, whichever event first occurs.

e. If so requested in writing by the Owner, the undersigned will enter into a Contract with the Owner based upon the Tender but jointly in the names of the Tenderer and the Tenderer's parent company, if any. The Tenderer further agrees that any request by the Owner as indicated above is not and shall not be deemed to be a counter-offer by the Owner.

f. The Owner may reject any or all tenders, waive minor informalities or minor irregularities and accept the tender which appears to be in the best interest of the Owner.

g. If this Tender is accepted by the Owner, the Tenderer will carry out any additional or extra work (including the supplying of any additional materials or equipment pertaining thereto) or will delete any work as may be required by the Contract Administrator in accordance with the Contract.

h. The carrying out of any work referred to in clause (i) above or the issuance by the Owner of a Contract Change Order relating to such work or the acceptance by the Tenderer of such Contract Change Order will not, except as expressly stated in such Contract Change Order, waive or impair any of the terms of the Contract or any Contract Change Order previously issued by the Owner or any of the rights of the Owner under the Contract.

i. The Owner reserves the right to remove any or all of the items listed as provisional and reduce the Contract value by the stipulated amount for the provisional items. The value of all other “non-provisional” items shall not be impacted by the deletion of provisional items. If the Owner elects to remove the provisional items, at its sole and absolute discretion, this revised total tendered amount will be utilized to determine the low bidder.

j. The Tenderer is not entitled to payment of the Contingency Allowance except for additional work carried out by the Tenderer in accordance with the Contract and only to the extent of such additional work, as authorized by the Owner or their agent in writing.

## 2.11 WORKPLACE SAFETY AND INSURANCE BOARD

The successful Tenderer must:

a. Submit their Workplace Safety Insurance Board (WSIB) number and CAD-7 rating of the applicable province in which the employer resides.

b. Furnish a Workplace Safety and Insurance Board Clearance Certificate indicating that such contractor or sub-contractor is in good standing before starting to perform services pursuant to this Agreement. Such Certificate must be renewed every sixty (60) days, for as long as the Agreement is in effect, and a copy shall be promptly provided to the Owner.

This Tender is submitted by:

Tenderer's Business Name: _____

Tenderer Signature: _____

Tenderer's Signature
I/We are authorized to bind the Company/Corporation

_____

Print Name

Witness Signature: _____

Witness Signature

_____

Print Name

Dated at _____ this_____ day of _____, 20_____.

Note: If the Tender is submitted by or on behalf of a corporation, it must be signed in the name of such corporation by the duly authorized officers or agent thereof who shall also subscribe their own name and office. The seal of the Corporation shall also be affixed.

If the Tender is submitted by or on behalf of an individual or partnership, a seal must be affixed opposite the signature of the individual or each partner and each signature shall be witnessed.

## 2.12 STATEMENT "A" – TENDERER'S EXPERIENCE [NOT APPLICABLE]

**All Contractors must complete Statements B and C – failure to complete and submit these three Statements may result in the rejection of their bid submissions.**

~~Complete the following table providing a minimum of three (3) projects similar in type and scope to this project, which have been successfully completed by the Tenderer and that demonstrate the Tenderer's past relevant experience and success in completing projects of similar scope and magnitude. The Owner reserves the right to verify all information provided. (Additional text on separate sheets may be attached provided the information is directly relevant to and/or qualify the contents of the Statements.)~~

| **WORK EXPERIENCE - PROJECT 1** | |
|---|---|
| **Project Name** | |
| **Owner of Municipality** | |
| **Contact name/Telephone No.** | |
| **Date Work was Completed** | |
| **Location of project** | |
| **Approximate Value** | |
| **Description of work**<br>Must indicate if the work included elements that are pertinent to this project. | |

## 2.13 STATEMENT "B" – TENDERER'S SENIOR SUPERVISORY STAFF

**All Contractors must complete Statements B and C – failure to complete and submit these three Statements may result in the rejection of their bid submissions.**

Complete the following table identifying Key Field Staff that the Tenderer is planning to use for the project. Resumes shall be included and should cross reference the projects listed in the Proof of ability Statement A - Work Experience, if applicable.

At a minimum, the Tenderer must identify the proposed:

a. Project Manager,
b. Construction Superintendent (In-charge of day-to-day operation, full time presence on construction site.)
c. Project Foreman

| CONSTRUCTION KEY STAFF | | | |
|---|---|---|---|
| **NAME** | **ROLE** | **TWO LATEST PROJECT MANAGED OR IN CHARGED FOR MENTIONED ROLE** | **YEARS OF EXPERIENCE** |
| | | | |
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## 2.14 STATEMENT "C" – LIST OF SUB-CONTRACTORS

**All Contractors must complete Statements B and C – failure to complete and submit these three Statements may result in the rejection of their bid submissions.**

The Contractor shall identify in the table below the Sub-Contractor(s) to be employed in this contract for each sub-trade. Where the Contractor proposes to complete the work specified, the contractor must indicate "By Own Forces" in the space provided. Failure to fully disclose all information requested may result in rejection of the Contractor's bid.

| SUB-TRADE | PROPOSED SUBCONTRACTOR |
|---|---|
| Commissioning Agent | |
| Civil | |
| Concrete | |
| Masonry | |
| Building/Roofing/Arch. | |
| Miscellaneous Metals | |
| Precast Concrete | |
| Process Mechanical | |
| Building Mechanical | |
| Electrical | |
| Instrumentation and Controls | |
| Other | |
| Other | |

# PART 1 GENERAL

## 1.1 CONFIGURATION OF SCADA

.1 Supply of SCADA by Division 25. Division 26 to supply, install and provide all wiring and interconnection as indicated on drawings.

.2 The Contractor shall solicit the services of a prequalified System Integrator listed below to provide the SCADA work as defined in this Section.

.1 A.R.C. Integration Inc.
P.O. Box 161 Foxboro, ON
Attn: Dale MacDonald macdonald.d@arcintegration.ca
Cell: (613) 813-7805

.2 Capital Controls and Instrumentation Inc.
1333 Michael St. Unit 03
Ottawa, ON, K1B 3M9
C/O: Brad Lavallée, brad.lavallee@capitalcontrols.ca
Tel: 613-248-1999

## 1.2 RELATED SECTIONS

.2 Section 25 05 01 – Control Panels

Section 25 05 05 – Control Panel Configuration

## 1.3 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 – Submittals and 01 78 00 – Closeout Submittals.

## 1.4 MAINTENANCE DATA

.1 Provide operation and maintenance data for SCADA system for incorporation into manual.

## 1.5 SCOPE OF WORK

.1 Provision of SCADA programming, configuration, development, and connectivity to support the installation, commissioning, and acceptance of the Wastewater Treatment Plant.

.2 The SCADA system will act as the Human Machine Interface (HMI) for all devices interfaced to the PLC's and controls.

.3 SCADA will provide the monitoring, controlling, alarming, logging, and reporting features required for effective operations.

.4 Configuration and programming of the door mounted displays in each cabinet. These touch screen displays will act as the Operator Interface Terminal (OIT) for all devices interfaced to each PLC. These displays are to mimic the main SCADA screens.

.1 Provision sample screens to be approved by the Contract Administrator before implementation. The screens shall include, but not be limited to:

.2 Process Overview

.3 Device Control pop-ups

.4 Reports

.5 Alarm display and Summary

.6 Historical Trends

.7 Setup

.8 Detailed Process illustrations

.9 Hardware check-out/maintenance screens

.5 SCADA Integrator to be available for support 24/7 for the 1-year warranty period. Maximum of 4-hour response time to be on site if required during warranty period.

.6 Provide Operation and Maintenance Data for SCADA system for incorporation into O&M manuals.

### 1.6 CODES & STANDARDS

.1 IEC 61000-4-2, 61000-4-3 & 61000-4-4: Electromagnetic Compatibility (EMC)

.2 IEC 61499-1 & 61499-2: Function Blocks for Industrial Process Measurement and Control Systems

.3 IEC 61158-2: Fieldbus Standard for Use in Industrial Control Systems – Physical Layer Specifications and Service Definition

.4 IEC 61131-3: Sequential Function Chart, Function Block, Ladder Diagram, Structured Test, and Instruction List editors

## PART 2 PRODUCTS

### 2.1 USER PROGRAM

.1 Executable software, database or timed interval/event report written or assembled for the purpose of control, monitored, and reporting with respect to the operation

of equipment provided under this contract. This includes but is not limited to PLC/RTU programs, spreadsheets and macros, scripts, databases, queries and searches, VB add-ons, transmitter configurations and microprocessor-based instrument calibrations.

.2 User programs shall not be proprietary.

.3 Programming, data table structure, and memory usage shall be documented. Most efficient methods and memory usage shall be employed.

.4 User programs shall be submitted in hardcopy and softcopy for archive at the completion of the project and/or at the request of the Engineer.

.5 Subsequent edits to user programs shall be submitted in hardcopy and softcopy for archive.

## 2.2 SCADA OPERATOR STATION PC (2 REQUIRED)

**.1 Workstation (ThinkStation P3 Tower or equivalent)**

**.2 Intel i7 vPro Processor**

**.3 32 Gb RAM**

**.4 1 TB boot drive**

**.5 2x 4TB RAID 1 spinner drives**

**.6 Windows 11 Pro 64 OS**

.7 Dual display port outputs

.8 1Gb ethernet port

.9 4 USB-A ports, 1 USB-C port

.2 Two Monitors – 27”,1920 x 1080 resolution (HP E27 G5 or equivalent)

.1 Adjustable height, tilt & swivel

## 2.3 SCADA DEVELOPMENT STATION/ENGINEERING WORKSTATION (1 REQUIRED)

.3 Identical PC as specified for the SCADA Operator Station in 2.2 above.

## 2.4 SCADA RACK WITH COMPONENTS

.1 **21U** Server Rack

.2 Two vertical rackmount outlet strip (48”-6 outlets)

.3 Rackmount UPS (Eaton 9Px Lithium **or equivalent**)

.4 **One Synology DS423+ Network Attached Storage (NAS) c/w four Western Digital RED 6TB hard drives with RAID 5 redundancy and required software.**

~~.5 Three – HPE Proliant Servers (c/w 5yr support for hw and sw & NCI-StR-E for up to 7VMs)~~

~~.1 16 core per server~~
~~.2 320 Gb Memory DDR5~~
~~.3 Dual port 10/25 Gbe SFP28 Nic~~
~~.4 1Gbe adapter~~
~~.5 Dual power supplies~~
~~.6 Storage: 6TB (min). SSD or NVMe~~
~~.7 OS Boot Drive: dual hot plug NVMe 480Gb M.2 SSD~~
~~.8 Must support esxi or AHV. Hypervisor software included.~~
~~.9 Windows server standard OS license included for each server~~
.10 ~~SQL Server Standard~~

.6 Level 3 Switches / components

.1 **One** - HP Aruba CX6300 24-port SFP+ and 4-port SFP56
.1 Dual power supplies
.2 SFP56 to SFP56 0.65m DAC cables (2)
.3 SFP+ to SFP+ 10Gbe 3M DAC cables (6)
.4 HPE Aruba Networking CX 6200M 24G 4SFP+ Switch (1)
.5 HPE Aruba Networking X371 12VDC 250W 100-240VAC PS (1)
.6 HPE Aruba Networking 10G SFP+ to SFP+ 1m DAC cable (1)

.7 Firewall – Fortigate 90G, c/w 3 yr support, plus FortiCare Premium & FortiGuard Unified Threat Protection (UTP)

## 2.5 SOFTWARE LICENSES

.1 The AVEVA InTouch SCADA programming software shall be provided for the Work described in this Section.

.2 AVEVA InTouch HMI (qty. 2) -400 Flex Credits, 3 year subscription
.3 InTouch Unlimited Tag Server (qty. 2)
.4 InTouch desktop HMI Client (qty. 2)
.5 AVEVA Historian – 5000 Tag Server (qty. 2)
.6 AVEVA Historian Client (qty. 2)
.7 AVEVA Reports – 5000 Tags, 2 WEB clients
.8 AVEVA InTouch HMI Development Studio – Unlimited Tags
.9 AVEVA Standard Communication Drivers
.10 OPC UA Server
.11 Premium support for 3 years

.2 Alarm Dialer Software

.1 WIN-911 Pro and Premium Voice c/w XL Reporter

.3 If required, Contractor shall provide any additional software required for the Work described in this section.

## PART 3 EXECUTION

### 2.6 GENERAL SCADA SOFTWARE REQUIREMENTS

.1 The SCADA software shall consist of a Human-Machine Interface (HMI) system with support for supervisory and process control, real-time data acquisition, alarm and event management, historical data collection, report generation, remote communications to PLC's.

.2 The SCADA system will act as the Human-Machine Interface (HMI) for all devices Interfaced to the plant PLC’s and remote PLC’s. It will provide the monitoring, controlling, alarming, logging, and reporting features required for effective operations.

.3 Navigation through the overview screens will allow the user of the system the ability to move forward or reverse on all systems by pressing on tabs as illustrated on the Process and Instrumentation Diagram. Process flow will be from left to right.

.4 The SCADA system operator shall be able to execute all monitoring and supervisory control functions from this HMI. Typical operator commands include modifying setpoints for control loops, alarm acknowledgment and setpoint adjustment, auto/manual switching and on/off control of field devices and taking points or devices on/off scan. The operator shall be able to access all SCADA tag name/hierarchical names or graphic displays from any workstation on the network without having to know which data historian or server the point or display resides on. The system software shall include an object-oriented colour graphics display generator with full animation capabilities to provide users with a realistic visualization of the system process. All graphical editing operations shall be point-and-click; selecting icons from a floating and docking tool bar, pull down menus or keyboard commands. It shall be possible to perform a functional test of any graphic display by switching to the runtime mode with a single mouse click. The graphics editor shall include a broad library of complex objects and process symbols such as meters, pushbuttons, sliders, gauges, pumps, motors, tanks, valves, trends, alarms, and controller faceplates. All complex objects shall be scalable to any size and may include animation links to provide dynamic response based on real-time data or user action.

.5 Display Navigation

.1 Operators shall interface to all process and SCADA activities through easily recognized icons, pull down or full screen menus.

.2 The operator shall be able to access displays via a pointing device and/or soft key menus with a choice of function keys, cursor control keys, or any single key on the keyboard. Display navigation shall not normally require the use of typing text commands into an alphanumeric keyboard. Supported pointing devices shall include a mouse or touch screen.

.3 The operator shall be able to easily identify which objects are selectable from any display by simply dragging the pointing device over the object. Displaying a halo around the object shall provide confirmation that an object can be selected. Typical objects include process device symbols (pumps, motors, etc.) controller faceplates, buttons or switches or sliders.

.6 Programming Conventions

.1 The status of a device shall be illustrated graphically (e.g. colour change), and in text form in the SCADA display. States include but are not limited to ON / OFF, UP / DOWN, OPEN / CLOSED, AUTO / MANUAL, REMOTE / LOCAL, NORMAL / ALARM. Status colours shall be as follows: GREEN for ON, RUN and OPEN. RED for OFF, STOP and CLOSED. BAR GRAPHS: Levels shown shall be shown in BLUE when in normal operating conditions and flashing RED when in alarm condition, (once alarm acknowledged – RED, not flashing).

.2 Trends shall be located on separate full-size screens or pop-up displays. Trend displays shall be historical available for all analog values. There shall be no greater than 4 pens per trend. X & Y axis magnitude and starting value shall be adjustable by sliders.

.3 Control loop displays shall contain Setpoint, Process Variable, Actuator Position, Ready/Suspend status, Auto/Manual status and switching, Remote/Local status and loop alarm information. Displays shall reflect field status at all times. Displays will include pop ups for any interlock status information. Display will include help windows with complete text descriptions explaining controls. Targets to access hardware check-out / maintenance screens shall on the help screens or windows.

.4 Device tags and their descriptions shall be identical to the field processor they originate from, as indicated on the plant P&ID. Tag name naming conventions shall be consistent throughout the plant.

.5 The following shall be provided for all devices on the network of PLC's at a minimum:

.1 Pumps (and Blowers): The SCADA will provide the following information on each of the Pumps in the system, VFDs included if applicable. This includes the historical logging and trending of the following data:

.1 Pump Run status

.2 Pump Ready status

.3 Pump Fail status (Overload, Overtemp, Seal Fail, VFD Fail, etc)

.4 Selector switch position (Local, Off, Remote)

.5 Maintenance Count in hours

.6 Elapsed Runtime Hours

.7 Hours since last maintenance (Operator Configurable via SCADA)

.8 Hours until next maintenance (Operator Configurable via SCADA)

.9 VFD Command Speed

.10 VFD Actual Speed

.11 Motor Voltage

.12 Motor Amps

.2 Valves: The SCADA will provide the following information on each of the Valves in the system. This includes the historical logging and trending of the following data:

.1 Valve Open

.2 Valve Closed

.3 Selector switch position. (Local, Off, Remote)

.4 Valve Fail status (Fail to Open/Close, etc)

.5 Valve Actuated Position

.6 Valve Actuated Command Position

.3 Transmitters (Flow, Pressure, Level, Analytical, etc): The SCADA will provide Historical logging and Trending of each of these devices as well as High and Low alarm setpoints that are operator adjustable.

.1 Discrete Instruments (Pressure Switches, Level Switches, Motion Switches, etc):

.2 The SCADA will provide historical logging and trending of each of these devices.

.4 Fixed Speed Motors: The SCADA will provide the following information on each of the Motors in the system. This includes the Historical logging and Trending of the following data:

.1 Motor Run status

.2 Motor Ready status

.3 Motor Command state

.4 Motor Fail status (Overload, Overtemp, Seal Fail, VFD Fail, etc)

.5 Selector switch position. (Local, Off, Remote)

.6 Maintenance Count in hours.

.7 Elapsed Runtime Hours.

.8 Hours since last maintenance (Operator Configurable via SCADA)

.9 Hours until next maintenance (Operator Configurable via SCADA)

.10 Motor Amps

.6 Configure PLC application software to perform process functions as described in approved Sequence of Operation and as illustrated in Contract Drawings.

.7 Configure communication settings to establish required communications with other devices on the network.

.8 Configure PLC so that all PLC alarms are configurable for dial-out as determined with operations staff and contract administrator.

## 2.7 INSTALLATION

.7 Configure communication with plant and remote PLC's.

.8 Co-ordinate with Sections 25 05 01, and 25 05 05 to establish connectivity of SCADA computers.

.9 Install and configure all applications on the SCADA PC's and ensure correct operation.

.10 Demonstrate that the SCADA project starts & runs without operator intervention on power-up and restarts normally on a power-fail recovery.

.11 Demonstrate the proper operation of SCADA project and supporting applications.

.12 Provide a written report to Engineer upon completion of SCADA system installation.

.13 Address any deficiencies listed by the Engineer at no extra expense to the Owner.

## 2.8 FIELD QUALITY CONTROL

.1 Provide 20 hours of training for operators and maintenance personnel, to consist of five, four-hour sessions. Dates are to be approved by the Owner. Training shall include:

.1 Automatic Startup (Normal) and shutdown of system and application.

.2 Manual Startup and shutdown of the application.

.3 Overview of site networks.

.4 Alarm management.

.5 Printer maintenance.

.6 Reports.

.7 Detailed operator's manual.

.8 Detailed maintenance/design manual.

**END OF SECTION**

# CONTROL PANEL CONFIGURATION

## PART 1 GENERAL

### 1.1 CONFIGURATION OF CP'S

.1 Programming and configuration of the Control Panels and Modification to existing Panels supplied by this Division.

.1 The Contractor shall solicit the services of a prequalified System Integrator listed below to provide the Control Panel Configuration as defined in this Section.

.1 A.R.C. Integration Inc.
P.O. Box 161 Foxboro, ON
Attn: Dale MacDonald macdonald.d@arcintegration.ca
Cell: (613) 813-7805

.2 Capital Controls and Instrumentation Inc.
1333 Michael St. Unit 03
Ottawa, ON, K1B 3M9
C/O: Brad Lavallée, brad.lavallee@capitalcontrols.ca
Tel: 613-248-1999

### 1.2 RELATED SECTIONS

.2 Section 25 05 01 – Control Panels

.3 Section 25 05 02 – SCADA

### 1.3 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 – Submittals and 01 78 00 – Closeout Submittals.

.2 Submit a PLC Sequence of Operation Control Narrative for each PLC for review and approval.

.1 Prepare narratives in Microsoft Word file format. When indicated, provide documents in editable file format for incorporation into plant manual. Otherwise provide Adobe Reader files (PDF type with commenting allowed).

.3 Provide Operation and Maintenance Data for SCADA system for incorporation into O&M manuals.

## 1.4 MAINTENANCE DATA

.1 Provide as-built updated control narrative in SCADA/PLC manual. Include detail comments and complete PLC/operator interface configuration and programming printouts in manuals.

## 1.5 SCOPE OF WORK

.1 Provide programming and configuration to meet requirements of processes including but not limited to:

.1 All coding for each PLC.

.2 Configuration and programming of touchscreen Operator Interface Terminal (OIT) displays in each panel.

.2 Provision of PLC programming as approved in the PLC Sequence of Operation, to support the installation, commissioning, and acceptance of the systems.

.1 After the programs have been fully written documented, commented, and tested, a formal presentation/review shall be made with the engineer. The SCADA integrator shall review and describe the entire program, rung by rung.

.3 Provision of configuration of all networking devices to ensure full participation of each device on the Ethernet network.

.4 Co-ordination with Section 25 05 02 - SCADA to:

.1 Make all process data available for the SCADA integration.

.2 Provide PLC software to minimize calculations and logic performed by the SCADA system.

.3 Provide HMI display screens that are similar as possible to the SCADA displays.

.4 Refer to Section 25 05 02 for HMI display conventions.

.5 Co-ordination with Section 25 05 02 so that all PLC alarms are configurable for dial-out and remote inquiry as described in approved Sequence of Operation.

.6 Watchdog hand shaking logic shall be implemented in CP-300 to monitor healthy run status of PLC and healthy communication between SCADA and each PLC. Failure of SCADA-to-PLC watchdog pulse will cause the PLC to activate the General Alarm which will result major alarm via the dial-out modem. If the PLC program stops running, its normally closed general alarm relay will be de-energized. Failure of the PLC will cause an alarm to be displayed by the SCADA application.

## 1.6 USER PROGRAM

.1 User program shall not be proprietary.

.2 PLC programming shall be written in a clear organized fashion in ladder logic.

.3 Programming, data table structure and memory usage shall fully be documented. Both short and long comments initialized. Ladder rung descriptors shall be written for each rung. Each register used in the program shall have a descriptor. Most efficient methods and memory usage shall be employed.

.4 User programs shall be submitted in hardcopy and softcopy for archive at the completion of the project.

.5 Subsequent edits to user programs shall be submitted in hardcopy and soft copy for archive to the Engineer at the completion of the project, or at the Engineer's request.

.6 Documentation to support the understanding of program content shall include tag-names, descriptions and comments and shall reflect Contract Drawings, P&ID, and approved Sequence of Operation.

.7 User program shall support the safe and correct operation of all devices physically connected to each PLC in which the user program resides.

.8 User program functionality shall reflect Contract Drawings, P&ID, and approved Sequence of Operation, and shall be subject to approval by the Engineer.

.9 Electronic copy of control narrative to be kept current and up to date as program is edited/changed. This document to be readily available to the operator via the SCADA displays – coordinate with 25 05 02.

## PART 2 PRODUCTS

### 2.1 SOFTWARE

.1 The System Integrator's PLC and HMI programming software shall be used for the Work described in this section.

.2 If required, Contractor to provide any additional software required for the Work described in this section.

## PART 3 EXECUTION

### 3.1 INSTALLATION

.1 Configure PLC application software to perform process functions as described in approved Sequence of Operation, Control Narrative, and as illustrated in Contract Drawings.

.2 Configure communication settings and co-ordinate with Section 25 05 02 (SCADA configuration) to establish required communications with other devices on the network.

.3 Co-ordinate with Section 25 05 02 (SCADA) to:

.1 Make all process data available to the SCADA integrator.

.2 Provide PLC software to minimize calculations and logic performed by the SCADA system.

.3 Provide HMI display screens that mimic the corresponding main SCADA iFIX screens.

.4 Configure PLC so that all PLC alarms are configurable for dial-out as described in approved Sequence of Operation.

## 3.2 COMMISSIONING

.1 Verify proper function of devices which receive power from control panel.

.2 Check motor rotations and configure variable frequency drive parameters.

.3 Stroke valves and verify limit switches if applicable.

.4 Calibrate analogue inputs and outputs.

.5 Document and confirm digital input and output designations (Open/Close, On/Off, Up/Down, In/Out, etc.) using PLC program.

.6 Tune process control loops.

.7 Verify that all alarms are correctly delayed, set, acknowledged, and reset, and that both the General Process Alarm to the Alarm Notification responds correctly.

**END OF SECTION**

ROOM FINISH SCHEDULE*

| | ROOM NUMBER | ROOM NAME | FLOOR FINISH | RAMP TEST RATING | BASE FINISH | WALL FINISH | | | | CEILING FINISH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NORTH | EAST | SOUTH | WEST | | |
| HEADWORKS | 1101 | OFFICE | LIQUID HARDENER | R9 | TP RUBBER | INT 9.2C | INT 9.2C | INT 4.2C | INT 4.2C | N/A | |
| | 1102 | WOMEN'S WASHROOM | LIQUID SEALER | R12 | TP RUBBER | INT 4.2G | INT 4.2G | INT 4.2G | INT 4.2G | INT 4.2G | |
| | 1103 | BARRIER FREE WASHROOM | LIQUID SEALER | R12 | TP RUBBER | INT 4.2F | INT 4.2F | INT 4.2F | INT 4.2F | N/A | |
| | 1104 | MEN'S WASHROOM | LIQUID SEALER | R12 | TP RUBBER | INT 4.2G | INT 4.2G | INT 4.2G | INT 4.2G | INT 4.2G | |
| | 1105 | LABORATORY ROOM | LIQUID HARDENER | R9 | TP RUBBER | INT 4.2G | INT 9.2L | INT 9.2L | INT 4.2G | N/A | |
| | 1106 | ELECTRICAL ROOM | EXPOSED | R9 | NONE | EXPOSED | EXPOSED | EXPOSED | EXPOSED | NONE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 1107 | MECHANICAL ROOM | EXPOSED | R9 | NONE | EXPOSED | EXPOSED | EXPOSED | EXPOSED | NONE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 1108 | LUNCH ROOM | LIQUID SEALER | R9 | TP RUBBER | INT 4.2C | INT 4.2C | INT 4.2C | INT 9.2C | N/A | |
| | 1109 | LAUNDRY ROOM | LIQUID SEALER | R9 | TP RUBBER | INT 4.2C | INT 4.2C | INT 4.2C | INT 3.1E | N/A | |
| | 1110 | JANITOR ROOM | LIQUID SEALER | R11 | TP RUBBER | EXPOSED | EXPOSED | EXPOSED | EXPOSED | NONE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 1111 | OFFICE | LIQUID HARDENER | R9 | TP RUBBER | INT 9.2C | INT 4.2C | INT 4.2C | INT 9.2C | N/A | |
| | 1112 | VESTIBULE | LIQUID HARDENER | R9 | TP RUBBER | INT 9.2C | INT 4.2C | NONE | INT 4.2C | N/A | |
| | 1113 | CORRIDOR | LIQUID HARDENER | R9 | TP RUBBER | NONE | INT 4.2C | INT 4.2C | INT 4.2C | N/A | |
| | 1201 | HEADWORKS ROOM | HVY EPOXY SYSTEM 1 | R11 | HVY EPOXY SYSTEM 1 | INT 3.1L | INT 3.1L | INT 3.1L | INT 3.1L | NONE | APPLY BASE FINISH TO 300mm AFF |
| | 1202 | ELECTRICAL ROOM | EXPOSED | R9 | NONE | EXPOSED | EXPOSED | EXPOSED | EXPOSED | NONE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| OPERATIONS | 3101 | CONNECTING PASSAGE | LIQUID HARDENER | R9 | N/A | INT 3.1L | INT 4.2 | INT 3.1L / INT 4.2K | INT 3.1L | EXPOSED CONCRETE | |
| | 3102 | STAIR A | LIQUID HARDENER | R9 | N/A | INT 4.2K | INT 3.1L | INT 3.1L | INT 3.1L | EXPOSED CONCRETE | |
| | 3103 | AGS PIPING GALLERY | LIQUID HARDENER | R9 | N/A | INT 3.1L | INT 3.1L | INT 3.1L | INT 3.1L | EXPOSED CONCRETE | APPLY INT 4.2K TO EXTERIOR FACE OF MECHANICAL ROOM |
| | 3104 | MECHANICAL ROOM | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 3105 | PIPING SERVICE AREA | LIQUID HARDENER | R10 | N/A | INT 3.1L | INT 3.1L | INT 3.1L | INT 3.1L | EXPOSED CONCRETE | |
| | 3106 | DOSING TANKS | CHEM TYPE 3 | R11 | CHEM TYPE 4 | INT 3.1L | INT 3.1L | INT 4.2K | N/A | EXPOSED CONCRETE | BASE FINISH TO 300mm AFF |
| | 3201 | WAS THICKENER ROOM | CHEM TYPE 3 | R11 | CHEM TYPE 4 | INT 3.1L | INT 4.2K | INT 4.2K | INT 3.1L | EXPOSED CONCRETE | BASE FINISH TO 1000mm AFF |
| | 3202 | ELECTRICAL ROOM | LIQUID HARDENER | R9 | N/A | INT 4.2K | INT 4.2K | INT 4.2K | INT 3.1L | EXPOSED CONCRETE | |
| | 3203 | BLOWER ROOM | LIQUID HARDENER | R9 | N/A | INT 4.2K | INT 3.1L | INT 3.1L | INT 3.1L | EXPOSED CONCRETE | |
| | 3204 | STAIR A | LIQUID HARDENER | R9 | N/A | INT 3.1L | INT 3.1L | INT 3.1L | INT 3.1L | EXPOSED CONCRETE | |
| | 3205 | CORRIDOR | LIQUID HARDENER | R9 | N/A | INT 3.1L | INT 3.1L | INT 4.2K | INT 4.2K | EXPOSED CONCRETE | APPLY INT 4.2K TO NORTH FACE OF CMU ALONG CORRIDOR LENGTH |
| TERTIARY | 4001 | FILTER ROOM | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 4101 | UV ROOM | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 4102 | LOADING BAY | LIQUID HARDENER | R11 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 4103 | STORAGE | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 4104 | ELECTRICAL ROOM | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 4105 | STAIRS | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |
| | 4201 | MEZZANINE | LIQUID HARDENER | R9 | N/A | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | EXPOSED CONCRETE | ALL EXPOSED CONCRETE WALLS TO HAVE SACK-RUBBED FINISH |

DOOR SCHEDULE*

| | DOOR NUMBER | FROM ROOM NO. | TO ROOM NO. | PANEL | | | | | FRAME | | | HARDWARE GROUP | FIRE RATING | STC RATING | ELECTRIFICATION | HEAD DETAIL | JAMB DETAIL | SILL DETAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | WIDTH | HEIGHT | TYPE | MATERIAL | FINISH | TYPE | MATERIAL | FINISH | | | | | | | | |
| HEADWORKS | D-1101A | 1113 | 1101 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1102A | 1113 | 1102 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1103A | 1113 | 1103 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | PO | 6 / A0002 | 5 / A0002 | - | |
| | D-1104A | 1113 | 1104 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1105A | 1113 | 1105 | 965 | 2030 | C | HM | PT-INT 5.3D | 1 | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | 1.5 HR | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1106A | 1113 | 1106 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | 45 MIN | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1107A | 1113 | 1107 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | 45 MIN | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1108A | 1113 | 1108 | 965 | 2190 | C | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1109A | 1113 | 1109 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | 45 MIN | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1110A | 1113 | 1110 | 965 | 2190 | A | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | 45 MIN | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1111A | 1113 | 1111 | 965 | 2190 | D | HM | PT-INT 5.3D | 5i | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-1112A | 1112 | EXTERIOR | 965 | 2030 | C | HM | PT-EXT 5.3D | 1g | HM | PT-EXT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | N/A | - | CR, PO, ES | 5 / A5001 | 7 / A5001 | 4 / A5001 | |
| | D-1112B | 1113 | 1112 | 965 | 2030 | C | HM | PT-INT 5.3D | 2i | HM | PT-INT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | N/A | - | PO | 6 / A0002 | 5 / A0002 | - | |
| | D-1113A | 1113 | EXTERIOR | 965 | 2030 | D | HM | PT-EXT 5.3D | 1g | HM | PT-EXT 5.3D | CL1, H1, E01, DS2, TH1, DT1, WS1 | 45 MIN | - | CR, ES | 5 / A5001 | 7 / A5001 | 4 / A5001 | |
| | D-1201A | 1201 | EXTERIOR | 965 | 2030 | D | FRP | TH-COL | 1g | FRP | TH-COL | CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | CR, ES | 5 / A5001 | 7 / A5001 | 4 / A5001 | |
| | D-1201B | 1201 | EXTERIOR | 965 | 2030 | A | FRP | TH-COL | 1g | FRP | TH-COL | CL1, H1, E01, DS2, TH2, DT1, WS1 | 1.5 HR | - | CR, ES | 5 / A5001 | 7 / A5001 | 4 / A5001 | |
| | D-1201C | 1201 | EXTERIOR | 3000 | 3000 | E | SS | NONE | 1r | SS | NONE | CL1, H1, TH2, DT1, WS1/WS2 | N/A | - | PO | 8 / A5001 | 8 / A5002 | 7 / A5001 | |
| | D-1202A | 1202 | EXTERIOR | 965 | 2030 | B | FRP | PT-EXT 5.3D | 4g | FRP | TH-COL | AS1, CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | CR, ES | 5 / A5001 | 7 / A5001 | 4 / A5001 | |
| OPERATIONS | D-3101A | EXISTING | 3101 | 915 | 2140 | D | HM | PT-INT 5.3D | 4i | HM | PT-INT 5.3D | CL1, H1, DS2, TH2, DT1, WS1 | 1.5 HR | - | | 5 / A3305 | 4 / A3101 | - | |
| | D-3102A | 3101 | 3102 | 915 | 2140 | D | HM | PT-INT 5.3D | 4i | HM | PT-INT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 45 MIN | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-3102B | 3102 | EXTERIOR | 965 | 2030 | A | HM | PT-EXT 5.3D | 3i | HM | PT-EXT 5.3D | CL1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-3103A | 3103 | 3101 | 965 | 2030 | D | FRP | TH-COL | 1e | FRP | TH-COL | AS1, CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | | 8 / A0002 | 7 / A0002 | - | |
| | D-3103B | 3103 | EXTERIOR | 3000 | 3000 | E | HM | PT-EXT 5.3D | 1r | HM | PT-EXT 5.3D | CL1, H1, TH2, DT1, WS1/WS2 | 45 MIN | - | PO | 8 / A5001 | 8 / A5002 | 7 / A5001 | |
| | D-3103C | 3103 | EXTERIOR | 965 | 2030 | D | HM | PT-EXT 5.3D | 3i | HM | PT-EXT 5.3D | CL1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | CR, ES | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-3103D | 3103 | 3105 | 940 | 2340 | B | FRP | TH-COL | 7i | FRP | TH-COL | CL1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | | 8 / A0002 | 7 / A0002 | - | |
| | D-3103E | 3103 | 3105 | 940 | 2340 | B | FRP | TH-COL | 7i | FRP | TH-COL | CL1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | | 8 / A0002 | 7 / A0002 | - | |
| | D-3104A | 3103 | 3104 | 1040 | 2340 | B | HM | PT-INT 5.3D | 6i | HM | PT-INT 5.3D | AS1, CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-3201A | 3201 | EXTERIOR | 965 | 2030 | A | FRP | TH-COL | 3g | FRP | TH-COL | CL1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | CR, ES | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-3201B | 3201 | EXTERIOR | 3000 | 3000 | E | SS | NONE | 1r | SS | NONE | CL1, H1, TH2, DT1, WS1/WS2 | N/A | - | PO | 8 / A5001 | 8 / A5002 | 7 / A5001 | |
| | D-3202A | 3205 | 3202 | 940 | 2340 | B | HM | PT-INT 5.3D | 7i | HM | PT-INT 5.3D | AS1, CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | | 8 / A0002 | 7 / A0002 | - | |
| | D-3202C | 3203 | EXTERIOR | 3000 | 3000 | E | HM | PT-EXT 5.3D | 1r | HM | PT-EXT 5.3D | CL1, H1, TH2, DT1, WS1/WS2 | 45 MIN | - | PO | 8 / A5001 | 8 / A5002 | 7 / A5001 | |
| | D-3203A | 3205 | 3203 | 940 | 2340 | B | HM | PT-INT 5.3D | 7i | HM | PT-INT 5.3D | AS1, CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | | 6 / A0002 | 5 / A0002 | - | |
| | D-3204A | 3205 | 3204 | 965 | 2030 | D | HM | PT-INT 5.3D | 1e | HM | PT-INT 5.3D | CL1, H1, E01, DS2, TH2, DT1, WS1 | 45 MIN | - | | 8 / A0002 | 7 / A0002 | - | |
| | D-3205A | 3205 | EXTERIOR | 965 | 2030 | B | HM | PT-EXT 5.3D | 6g | HM | PT-EXT 5.3D | AS1, CL1, DC1, FB1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-3205B | 3205 | EXTERIOR | 965 | 2030 | D | HM | PT-EXT 5.3D | 3i | HM | PT-EXT 5.3D | CL1, H1, E01, DS2, TH2, DT1, WS1 | N/A | - | CR, ES | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| TERTIARY | D-4001A | 4001 | 4002 | 965 | 2030 | D | HM | PT-INT 5.3D | 3i | HM | PT-INT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 45 MIN | | | 8 / A0002 | 7 / A0002 | - | |
| | D-4101A | 4101 | EXTERIOR | 965 | 2030 | D | HM | PT-EXT 5.3D | 3g | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | N/A | | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-4101B | 4101 | EXTERIOR | 915 | 2030 | B | HM | PT-EXT 5.3D | 6g | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | N/A | | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-4102A | 4102 | EXTERIOR | 965 | 2030 | D | HM | PT-EXT 5.3D | 3g | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | N/A | | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-4102B | 4102 | EXTERIOR | 965 | 2440 | A | HM | PT-EXT 5.3D | 2e | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 45 MIN | | CR, ES | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-4102C | 4102 | EXTERIOR | 5200 | 3790 | E | HM | PT-EXT 5.3D | 2r | HM | PT-EXT 5.3D | CL1, H1, TH2, DT1, WS1/WS2 | 1.5 HR | | PO | 8 / A5001 | 8 / A5002 | 7 / A5001 | |
| | D-4102D | 4102 | 4105 | 865 | 2030 | A | HM | PT-INT 5.3D | 2i | HM | PT-INT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 45 MIN | | | 8 / A0002 | 7 / A0002 | - | |
| | D-4103A | 4103 | EXTERIOR | 915 | 2440 | B | HM | PT-EXT 5.3D | 3e | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 1.5 HR | | CR, ES | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-4103B | 4103 | 4105 | 865 | 2030 | A | HM | PT-INT 5.3D | 2i | HM | PT-INT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 45 MIN | | | 8 / A0002 | 7 / A0002 | - | |
| | D-4104A | 4104 | EXTERIOR | 915 | 2440 | B | HM | PT-EXT 5.3D | 3e | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 1.5 HR | | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |
| | D-4105A | 4105 | EXTERIOR | 965 | 2440 | D | HM | PT-EXT 5.3D | 2e | HM | PT-EXT 5.3D | CL2, H2, I02, DS2, TH1, DT1, WS1F | 1.5 HR | | | 5 / A5001 | 7 / A5002 | 4 / A5001 | |

## ROOM FINISH GENERAL NOTES

1. UNLESS OTHERWISE NOTED, FLOORING MATERIAL CHANGES SHOULD OCCUR AT THE DOOR THRESHOLD.
2. WHERE NO FINISHES ARE IDENTIFIED, REFER TO ROOM FINISH SCHEDULE.
3. CEILING / FLOOR FINISHES SHOWN IN THE ROOM FINISH SCHEDULE WITH "EXPOSED" ARE TO BE SEALED (REFER TO SPECIFICATIONS).
4. PLEASE NOTE THAT "CEILING ASSEMBLIES" (I.E. ACT / GWB) ARE NOT DOCUMENTED ON THE ROOM FINISH SCHEDULE. FOR SPECIFIC "CEILING ASSEMBLIES" REFER TO THE REFLECTED CEILING PLANS.

## DOOR SCHEDULE GENERAL NOTES

1. DOOR OFFSET TO BE 100mm FROM INTERIOR PARTITION UNLESS OTHERWISE NOTED.
2. COORDINATE W/ DOOR SCHEDULE FOR DOOR AND SCREEN DIMENSIONS.
3. COORDINATE W/ SPECIFICATION FOR APPROVED MANUFACTURERES. DIMENSIONS MAY VARY TO SUIT FRAME MATERIAL AND PROFILES AVAILABLE.
4. COORDINATE W/ DOOR SCHEDULE FOR TYPE OF GLAZING OR INSERTS.
5. REFER TO PLANS FOR DOORS SWING / OPERATION DIRECTION.
6. COORDINATE W/ HARDWARE SCHEDULE FOR HARDWARE AND OTHER ACCESSORIES.
7. COORDINATE W/ MECHANICAL DRAWINGS FOR LOCATIONS OF DOOR LOUVRES.
8. COORDINATE W/ ELECTRICAL FOR DEVICES REQUIRING POWER (I.E. OPERATORS, HOLD-OPENS, CARD ACCESS ETC.)
9. FOR ALL GLAZED SCREENS AND ALL DOOR FRAMES WITH SIDELITES, PROVIDE THIRD PARTY ENGINEERED SUPPORT AT SCREEN FRAME HEAD. FOR ALL SUSPENDED OR PARTIALLY SUSPENDED SCREENS, PROVIDE THIRD PARTY ENGINEERED SUPPORT AT FRAME HEAD AND AT PARTIAL HEIGHT WALL BELOW SCREEN.
10. PROVIDE SAFETY WINDOW FILM MARKING FOR ALL SCREENS AND GLAZED DOORS AS PER THE EXTENT NOTED ON DOOR LEGEND, SCREEN LEGEND, AND SAFETY WINDOW FILM DETAIL.
11. ALL DOOR UNDERCUTS TO BE 13mm.
12. REFER TO INTERIOR DESIGN DOCUMENTATION FOR ALL DOOR AND FRAME PAINT COLOURS.
13. REFER TO EXTERIOR ELEVATIONS FOR ALL DOOR / WINDOW FRAME PAINT COLOURS.

## MATERIAL / FINISH ABBREVIATIONS

| | |
|---|---|
| ACT | ACOUSTIC CEILING TILE |
| ALUM | ALUMINIUM |
| CHEM | CHEMICAL (EPOXY SYSTEM - SEE SPECIFICATION) |
| FRP | FIBRE REINFORCED PLASTIC |
| DMPRF | DAMPROOF (EXPOXY SYSTEM - SEE SPECIFICATION) |
| HM | HOLLOW METAL |
| HVY | HEAVY (EPOXY SYSTEM - SEE SPECIFICATION) |
| TH-COL | THROUGH COLOUR |
| LT | LIGHT (EPOXY SYSTEM - SEE SPECIFICATION) |
| PT | PAINT |
| SS | STAINLESS STEEL |
| TP | THERMOPLASTIC |
| VCT | VINYL COMPOSITE TILE |

## ELECTRIFICATION ABBREVIATIONS

| | |
|---|---|
| CR | CARD READER |
| ES | ELECTRICAL STRIKE |
| PO | AUTOMATIC DOOR OPERATOR / POWER OPERATOR |

## HARDWARE GROUP ABBREVIATIONS

| | |
|---|---|
| PB | PUSH BUTTON |
| AS | ASTRAGAL |
| CL | CLOSER |
| CO | COORDINATOR |
| DS | DOOR STOP |
| DT | DOOR TRIM |
| EXT | EXTERIOR |
| FB | FLUSH BOLT |
| H | HINGE |
| HM | HOLLOW METAL |
| HR | HOURS |
| INT | INTERIOR |
| IO | OPERATOR (PANIC BAR) |
| PT | PAINT |
| TH | THRESHOLD |
| WS | WEATHERSTRIPPING |

| DATE | NO. | REVISION |
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| | | |
| 2025/03/24 | 5 | ISSUED FOR ADDENDUM No. A05 |
| 2025./03/11 | 4 | ISSUED FOR ADDENDUM No. A03 |
| 2025/03/05 | 3 | ISSUED FOR ADDENDUM No. A01 |
| 2025/01/23 | 2 | ISSUED FOR TENDER |
| 2025/08/23 | 1 | ISSUED FOR ECA APPROVAL |



CONSULTANT:
EVB ENGINEERING
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TEL:613-935-3775 | FAX: 613-935-6450
WEBSITE: EVBengineering.com

SUB-CONSULTANT:
C2 Architecture Inc.
415 Baseline Road West
Bowmanville, ON L1C 5M2
☎ 905.697.4464

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

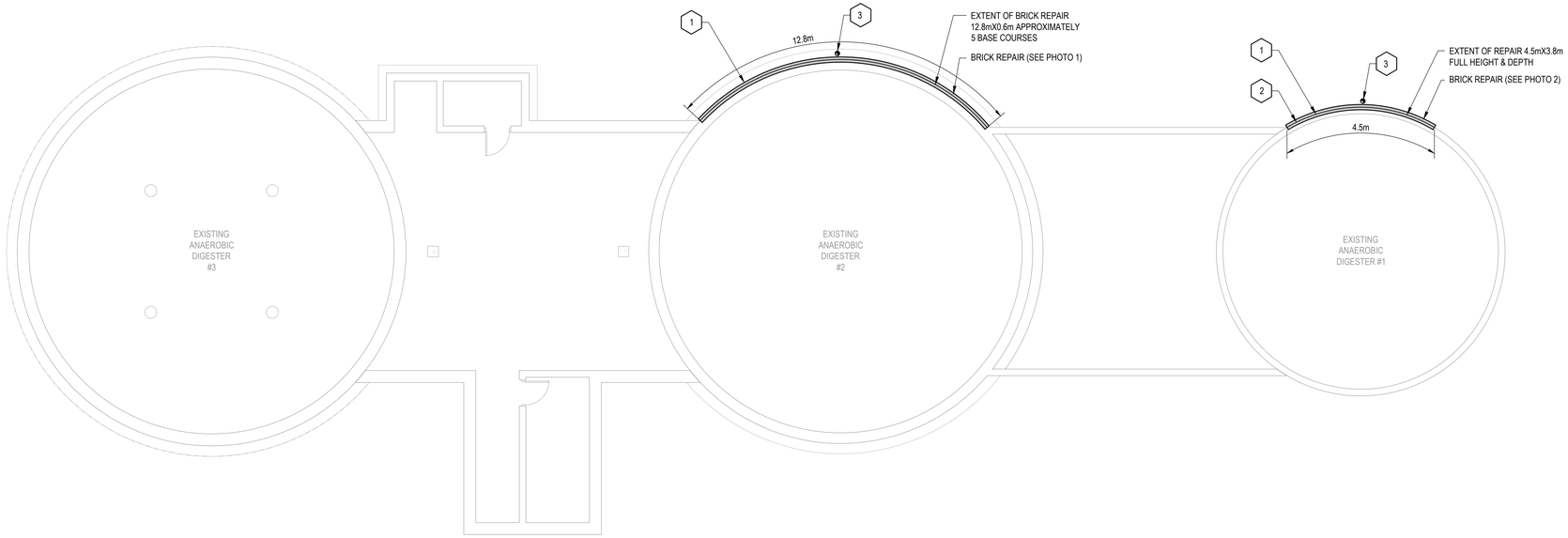
PROJECT:

NEW NAPANEE WPCP

TITLE:

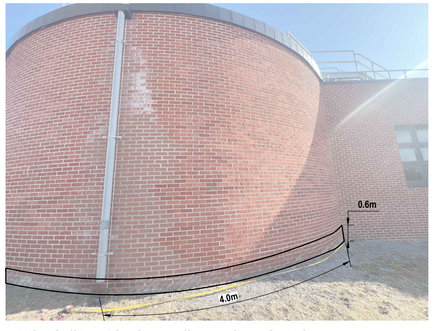
ROOM & DOOR SCHEDULES

| | |
|---|---|
| SCALE: 1 : 1 | JOB NO: 22001 |
| DESIGNED BY: LC | DATE: 2025/01/23 |
| DRAWN BY: BB / CH | DRAWING NO. A5003 |
| CHECKED BY: JB | |



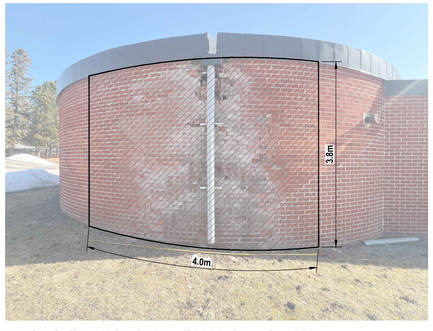

## EXISTING DIGESTER PLAN VIEW

SCALE: ±1:100




## PHOTO #1: DIGESTER #2 WEST ASPECT

SCALE: N.T.S.




## PHOTO #2: DIGESTER #1 WEST ASPECT

SCALE: N.T.S.

## PLAN KEYNOTES:

1. **DIGESTER BRICK REPAIR WORK:** CONTRACTOR TO REMOVE AND REPLACE BRICK & MORTAR, VAPOUR BARRIER, INSULATION, AND BRICK TIES TO EXTENT OF HATCHED AREA SHOWN IN PHOTOGRAPHS. REPORT ANY DISCREPANCIES (INCLUDING BUT NOT LIMITED TO EFFLORESCENCE, FROST DAMAGE, SHRINKAGE, MOLD, ETC.) BACK TO THE CONSULTANTS IMMEDIATELY UPON REMOVING EXISTING BRICKS.

2. **DIGESTER PARAPET FLASHING:** CONTRACTOR TO REMOVE AND REPLACE PREFINISHED METAL FLASHING TO EXTENT OF HATCHED AREA SHOWN IN PHOTOGRAPHS. CONTRACTOR TO COORDINATE WITH ROOFING MANUFACTURER FOR TIEING INTO EXISTING PARAPET FLASHING.

3. **DIGESTER RAINWATER LEADER:** CONTRACTOR TO REMOVE AND REINSTALL EXISTING RAINWATER LEADER. MAKE GOOD ANY DAMAGES TO FLASHING OR WIRE MESH CAUSED BY RAINWATER LEADER REMOVAL.

| | | |
|---|---|---|
| | | |
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| 2025/01/23 | 2 | ISSUED FOR TENDER |
| 2024/08/23 | 1 | ISSUED FOR ECA APPROVAL |
| DATE | No. | REVISION |



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WEBSITE: EVBengineering.com

SUB-CONSULTANT :
CIMA+

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

PROJECT:

NEW NAPANEE WPCP

TITLE:

EXISTING DIGESTER REPAIRS

| | |
|---|---|
| SCALE: AS SHOWN | JOB NO: 22001 |
| DESIGNED BY: J.B. | DATE: 2025/01/23 |
| DRAWN BY: K.B.W. | DRAWING NO. A5101 |
| CHECKED BY: J.B. | |

SCADA

PLC-500

MCC/LOCAL/FIELD

DP-70 SPD FAULT
LP-7A SPD FAULT
CP-71 LOSS OF POWER ALARM
CP-71 UPS FAULT ALARM
CP-71 UPS BATTERY FAULT
PRIMARY DIGESTER
SECONDARY DIGESTER
BIOSOLIDS MIXING PUMPS DISCHARGE FLOW
TYP, (X2)
PUMP HIGH TEMP ALARM
FAULT
RUNNING
READY
IN AUTO
RUN COMMAND
SPEED SETPOINT
SPEED FEEDBACK
MOTOR CURRENT
MOTOR POWER (KW)
TYP, (X4)
VALVE OPEN
VALVE CLOSED
IN AUTO MODE
FAULT
VALVE OPEN COMMAND
VALVE CLOSE COMMAND
FLOW OF DIGESTED SOLIDS
TYP, (X4)
VALVE OPEN
VALVE CLOSED
IN AUTO MODE
FAULT
VALVE OPEN COMMAND
VALVE CLOSE COMMAND
SECURITY SYSTEM ALARM
BIOSOLIDS BLDG MAIN FLOOR TEMPERATURE
BIOSOLIDS BLDG 2ND FLOOR TEMPERATURE

SC-3 SECURITY PANEL

DIGESTED SLUDGE P0012 FROM SLUDGE THICKENERS
150-TWAS-SS1
100-TWAS-SS1
V-5014
V-5010
V-5011
100-TWAS-DI1
100-TWAS-DI1
LE/LIT 5100
RAD
BI-T-5100 PRIMARY DIGESTER No.3
200-DS-DI
BI-HE-5110 BIOSOLIDS HEAT EXCHANGER
BI-HE-5210 BIOSOLIDS HEAT EXCHANGER
SERVICE WATER M3108 DIGESTER HEAT EXCHANGER HEATING LOOP
LE/LIT 5200
RAD
200-DS-SS1
V-5012
V-5013
BI-T-5200 SECONDARY DIGESTER No.2
400-DS-
DRAIN
VENT
350-DS-
NC
SERVICE WATER M3108
EMERGENCY OVERFLOW P-----
TO HEAD OF PLANT
OVERFLOW P0014
TO ONSITE PS
POTABLE WATER P000 FROM SITE WATER DISTRIBUTION
38-PW-----25A
FV 5120
FV 5220
0 TO 400 kPA
P/T
HS
LOS
VFD
BI-M-5120
44.7 KW 575V/3PH/60HZ
BIOSOLIDS RECIRC PUMP BI-DSP-5120
CAPACITY: 230 l/s @ 12.5 m TDH
BI-M-5220
44.7 KW 575V/3PH/60HZ
BIOSOLIDS RECIRC PUMP BI-DSP-5220
CAPACITY: 230 l/s @ 12.5 m TDH
TO SANITARY
GRINDER
250-DS-
300-DS-
BI-M-5131
TRUCK LOADING PUMP BI-DSP-5131
BI-M-5132
SLUDGE LOADING PUMP BI-DSP-5132
BI-T-5200 TERTIARY DIGESTER / BIOSOLIDS STORAGE No.1
--- P----
TO TRUCK LOADING

| | | |
|---|---|---|
| | | |
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WEBSITE: EVBengineering.com

SUB-CONSULTANT :
CIMA+

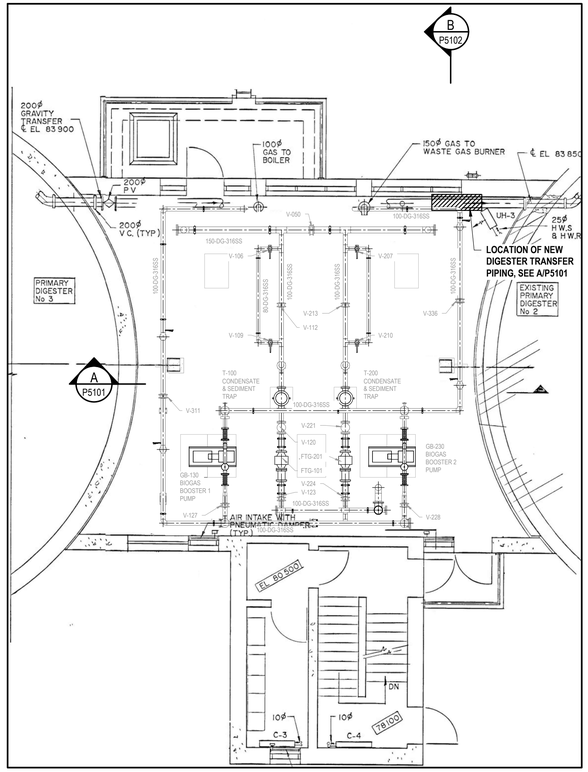
CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

PROJECT:
NEW NAPANEE WPCP

TITLE:
PROCESS & INSTRUMENT DIAGRAM

| | |
|---|---|
| SCALE: N.T.S. | JOB NO: 22001 |
| DESIGNED BY: J.B. | DATE: 2025/01/23 |
| DRAWN BY: K.B.W. | DRAWING NO. P0013 |
| CHECKED BY: J.B. | |

M:\2022\22001 - Napanee WPCP Upgrades\6.0 Dwg - WPCP\6.5 Process\1.0 PAID\S22001-P0003-001R.dwg, Mar 29, 2025-5:17pm BY (Ken White)




GROUND FLOOR PLAN @ ELEV. 83.20m

SCALE: ±1:75

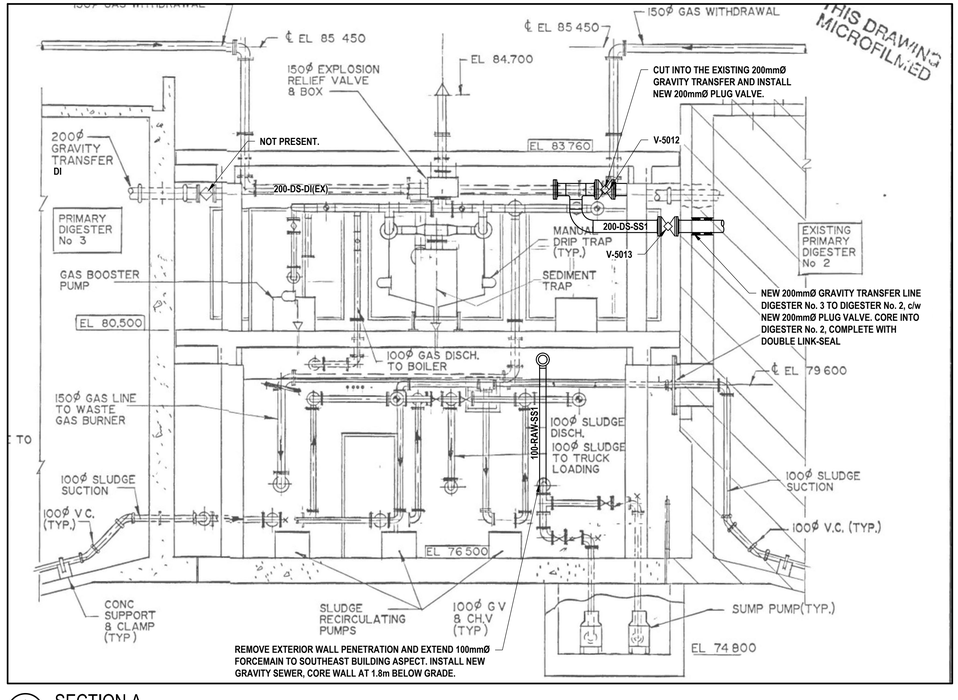

PHOTO No.1 EXISTING DIGESTER #3 GRAVITY TRANSFER

SCALE: N.T.S.

PHOTO No.2

EXISTING DIGESTER #2 GRAVITY TRANSFER

SCALE: N.T.S.




A
P5101
SECTION A

SCALE: 1:50

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SUB-CONSULTANT :

CIMA+

CLIENT:

Greater Napanee
GREATER FOR MANY REASONS

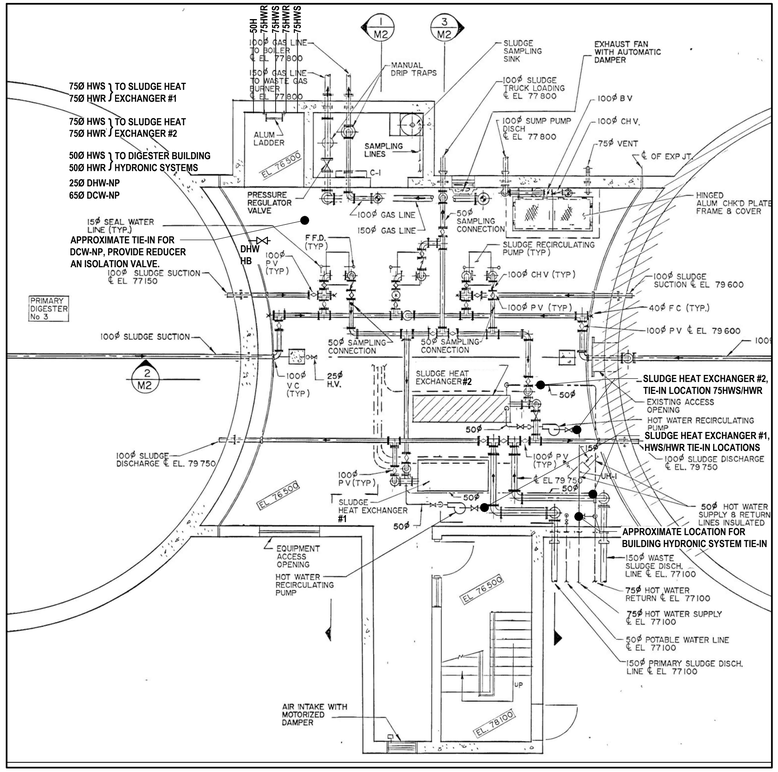
PROJECT:

NEW NAPANEE WPCP

TITLE:

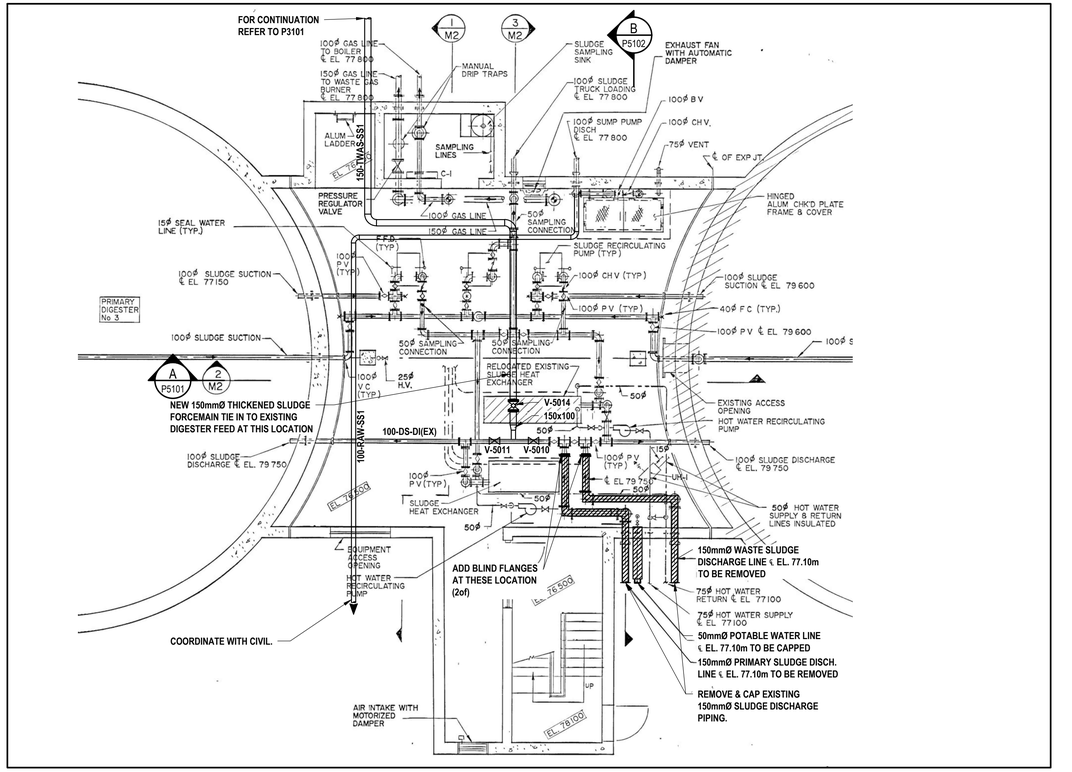
EXISTING DIGESTER 2&3

| | |
|---|---|
| SCALE: AS SHOWN | JOB NO: 22001 |
| DESIGNED BY: J.B. | DATE: 2025/01/23 |
| DRAWN BY: K.B.W. | DRAWING NO. P5101 |
| CHECKED BY: J.B. | |




BASEMENT FLOOR PLAN @ ELEV. 80.00m - HYDRONIC

SCALE: ±1:75




BASEMENT FLOOR PLAN @ ELEV. 80.00m

SCALE: ±1:75

## NOTES:

1. ALL HYDRONIC PRESSURE RELIEF SHALL BE MAINTAINED
2. PROVIDE ISOLATING VALVES AT TIE-INS AS PER MECHANICAL SPECIFICATIONS.
3. DHW-NP SHALL BE TERMINATED AT DIGESTER #3 AS INDICATED
4. SHALL TIE-IN TO THE EXIST DCW LOOP. SEE P1101D
5. THE CONTRACTOR WILL BE RESPONSIBLE TO SEGREGATE THE EXISTING HYDRONIC SYSTEMS, HEAT EXCHANGER #1 / HEAT EXCHANGER #2 / BUILDING SERVICES, PROVIDING ISOLATED FEDS TO EACH SYSTEM.

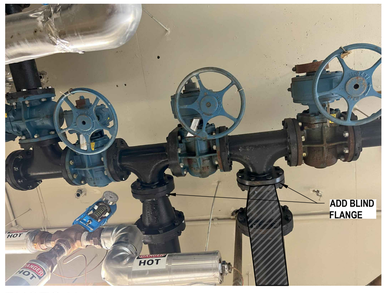



PHOTO No.1
EXISTING DIGESTER HEADER

SCALE: N.T.S.

PHOTO No.2 EXISTING DIGESTER SLUDGE INLET/HYDRONIC INLET

SCALE: N.T.S.

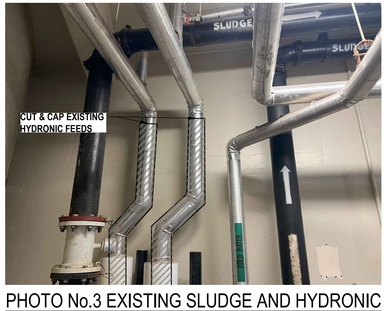
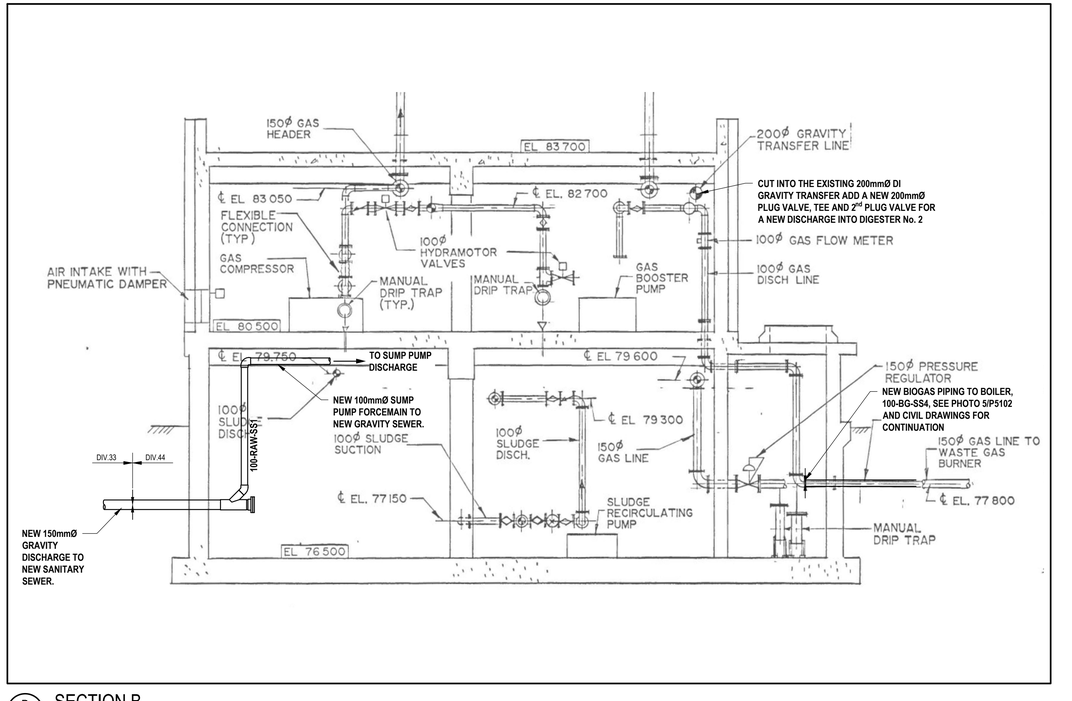



PHOTO No.3 EXISTING SLUDGE AND HYDRONIC PIPING INLET TO DIGESTER BASEMENT

SCALE: N.T.S.


PHOTO No.4
BIOGAS FORCEMAIN

SCALE: N.T.S.




B P5102 SECTION B

SCALE: 1:50

| DATE | No. | REVISION |
|---|---|---|
| 2025/03/25 | 3 | ISSUED FOR ADENDUM #6 |
| 2025/01/23 | 2 | ISSUED FOR TENDER |
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CONSULTANT :
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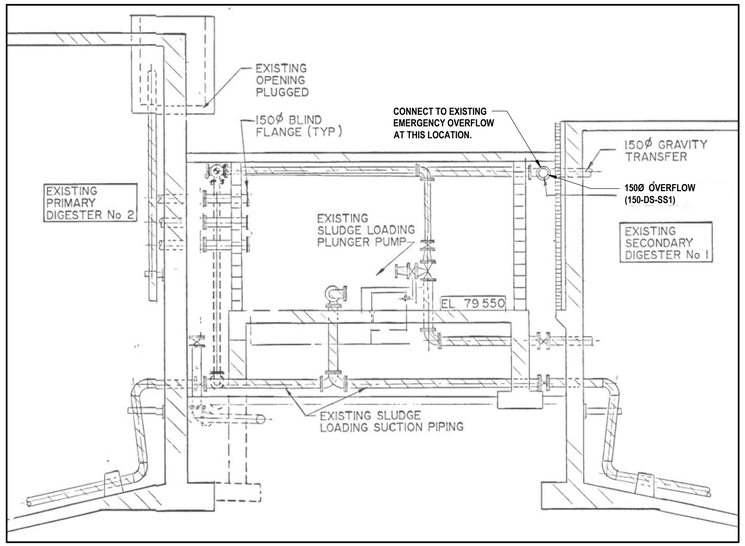
SUB-CONSULTANT :
CIMA+

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

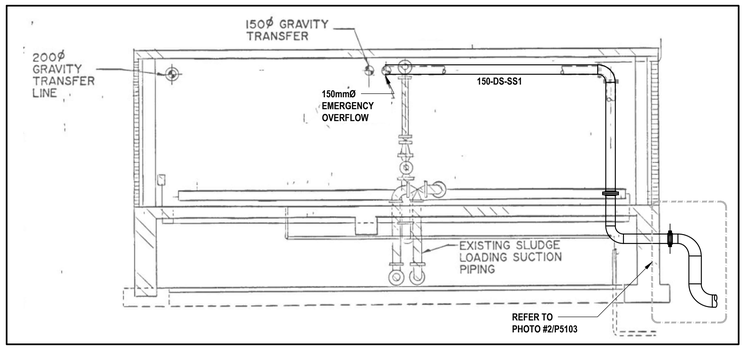
PROJECT:
NEW NAPANEE WPCP

TITLE:
EXISTING DIGESTER 2&3

| | |
|---|---|
| SCALE: AS SHOWN | JOB NO: 22001 |
| DESIGNED BY: J.B. | DATE: 2025/01/23 |
| DRAWN BY: K.B.W. | DRAWING NO. P5102 |
| CHECKED BY: J.B. | |




A P5103 SECTION A
SCALE: ±1:50




B P5103 SECTION B
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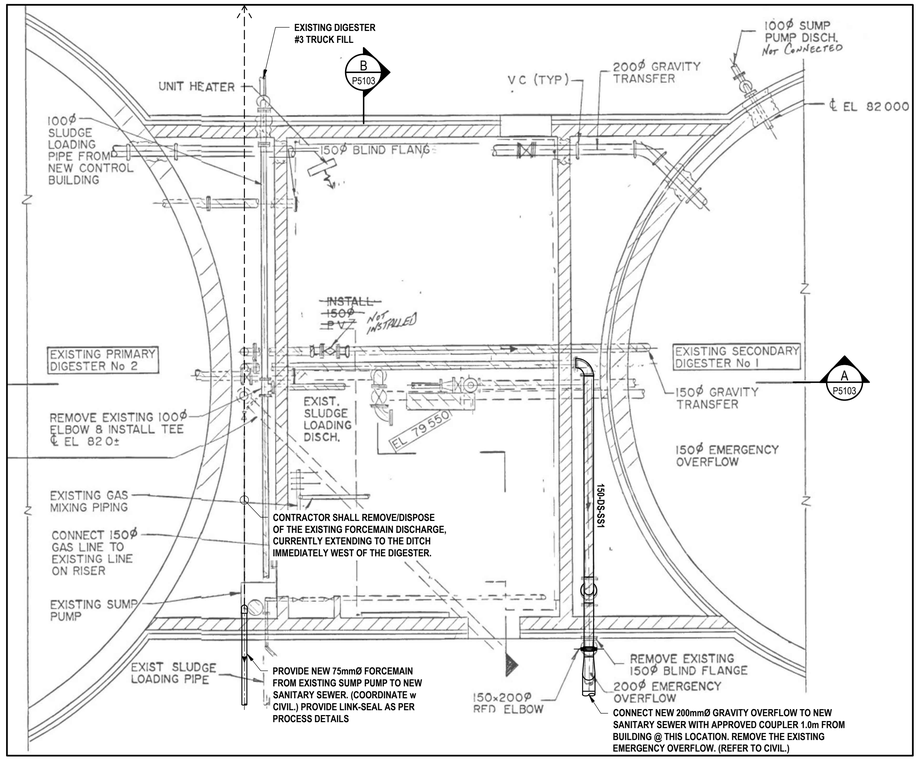


PLAN VIEW: EXISTING PRIMARY DIGESTERS & CONTROL BUILDING
SCALE: ±1:50

PHOTO #1: EXISTING SUMP PIT
SCALE: N.T.S.


PHOTO #2: EXISTING EXTERIOR VIEW (EAST SIDE)
SCALE: N.T.S.

| | | |
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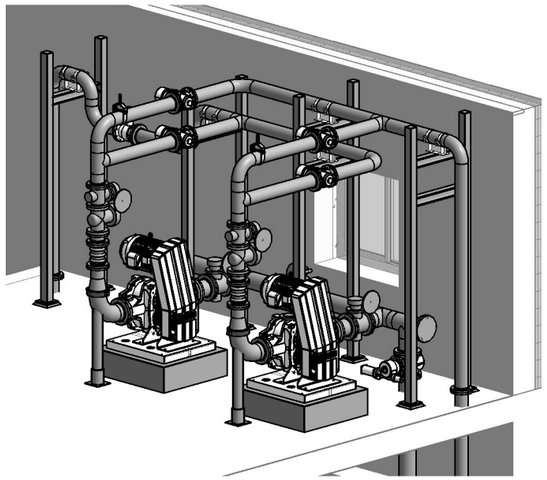
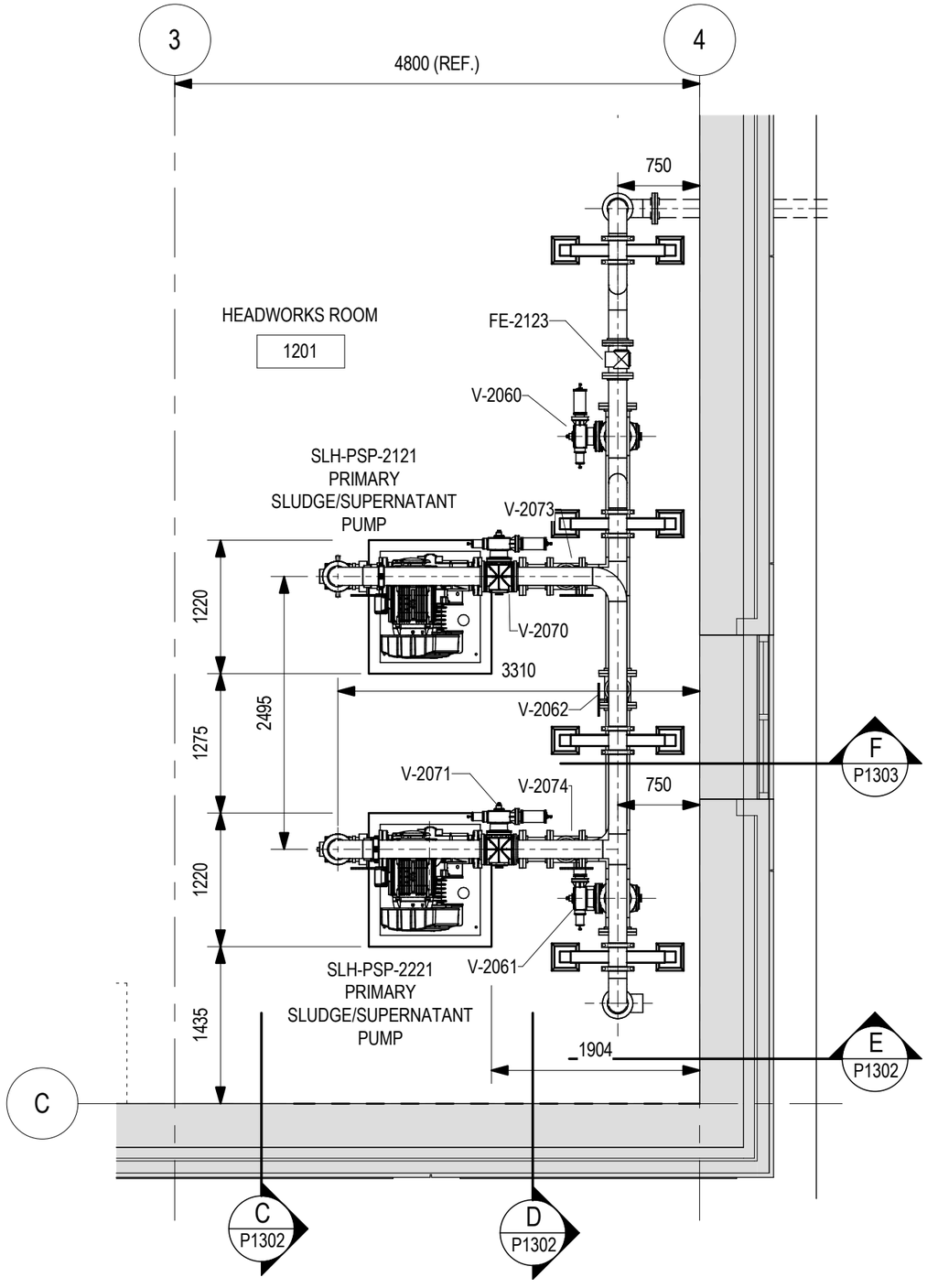
PROJECT:
NEW NAPANEE WPCP

TITLE:
EXISTING DIGESTER 2&3

| | |
|---|---|
| SCALE: AS SHOWN | JOB NO: 22001 |
| DESIGNED BY: J.B. | DATE: 2025/01/23 |
| DRAWN BY: K.B.W. | DRAWING NO. P5103 |
| CHECKED BY: J.B. | |



# 3D - PRIMARY SLUDGE/SUPERNATANT





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CLIENT:

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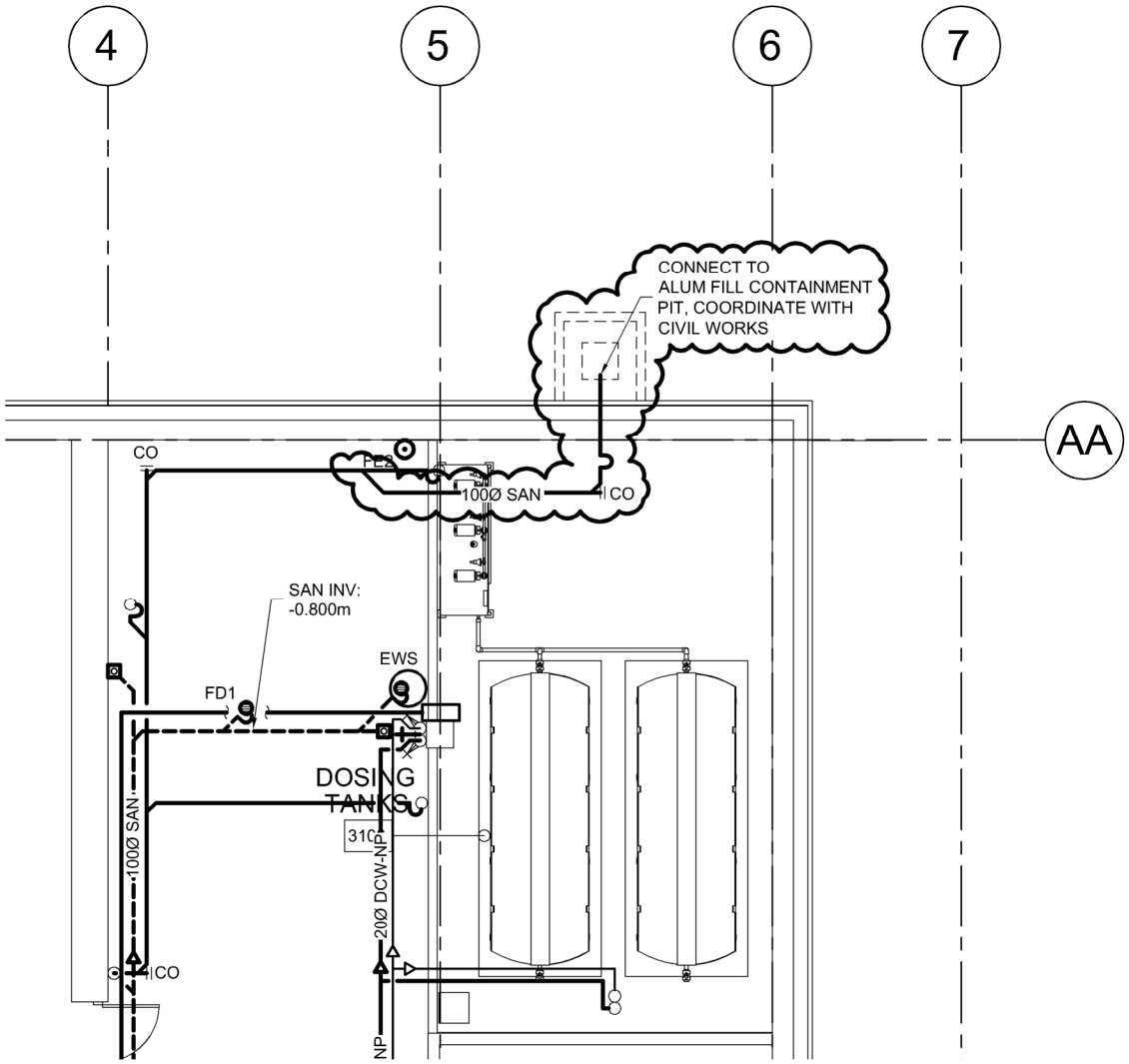
PROJECT:

NEW NAPANEE WPCP

TITLE:

HEADWORKS PRIMARY SLUDGE/SUPERNATANT MODIFICATIONS (ADDENDUM No. 6)

| | |
|---|---|
| SCALE: 1 : 50 | JOB NO: 22001 |
| DESIGN BY: K.B.W./J.B. | DATE: 2025/01/23 |
| DRAWN BY: K.B.W. | DRAWING NO. PD1.1 |
| CHECKED BY:: J.B. | |



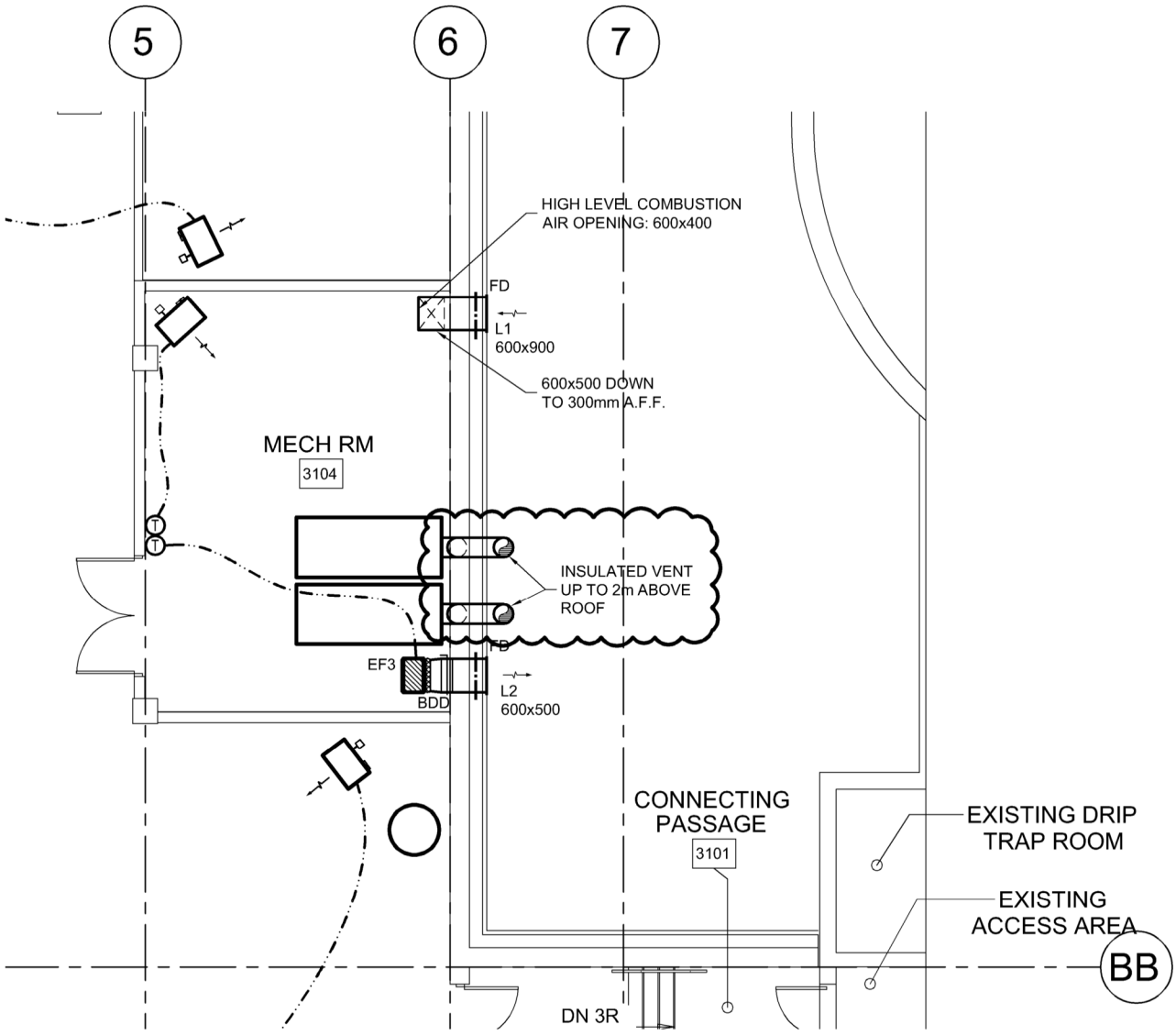

1 / SKM1 PLUMBING - NEW WORK

SCALE = 1:125

REFERENCE DRAWING: M3104

| | | | |
|---|---|---|---|
| project / projet: NAPANEE WASTE WATER PLANT RENEWAL<br>TOWN OF NAPANEE, ON | Designed By / Conçu par: J.GORDON<br>Date / (yyyy/mm/dd): 2025/03/24 | CIMA+ Partners in excellence | 600 - 1400 Blair Towers Place<br>Ottawa, ON, K1J 9B8<br>Phone: 613 281 4543<br>www.cima.ca |
| drawing / dessin: ADDENDUM M03 | Drawn By / Dessiné par: J.GORDON<br>Date / (yyyy/mm/dd): 2025/03/24 | Project no. / No. du projet: T001699A | |
| | Reviewed By / Examiné par: J.GORDON<br>Date / (yyyy/mm/dd): 2025/03/24 | | |
| | Approved By / Approuvé par: J.GORDON<br>Date / (yyyy/mm/dd): 2025/03/24 | | |
| | Tender / Soumission: -<br>Project Manager / Administrateur de projets | Drawing no. / No. du dessin: ADD-M03-SKM1 | |

CIMA 11x8.5 (215x279)




1 / SKM2 HVAC - NEW WORK

SCALE = 1:125

REFERENCE DRAWING: M3101

project / projet
NAPANEE WASTE WATER PLANT RENEWAL

TOWN OF NAPANEE, ON

drawing / dessin
ADDENDUM M03

| | | |
|---|---|---|
| Designed By | J.GORDON | Conçu par |
| Date | 2025/03/24 | (yyyy/mm/dd) |
| Drawn By | J.GORDON | Dessiné par |
| Date | 2025/03/24 | (yyyy/mm/dd) |
| Reviewed By | J.GORDON | Examiné par |
| Date | 2025/03/24 | (yyyy/mm/dd) |
| Approved By | J.GORDON | Approuvé par |
| Date | 2025/03/24 | (yyyy/mm/dd) |
| Tender | - | Soumission |
| Project Manager | | Administrateur de projets |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Project no. / No. du projet
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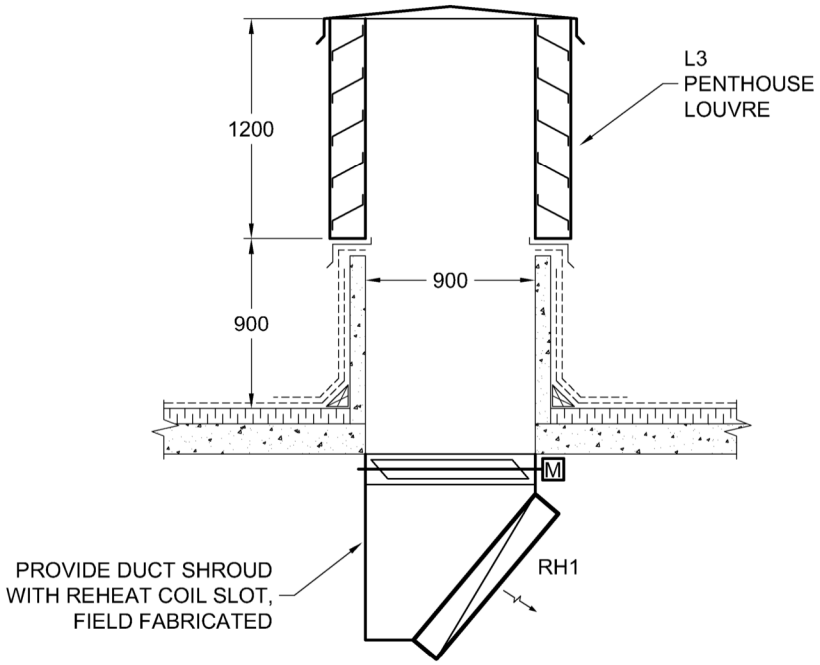
Drawing no. / No. du dessin
ADD-M03-SKM2

CIMA 11x8.5 (215x279)




2 / SKM3 PENTHOUSE LOUVRE DETAIL

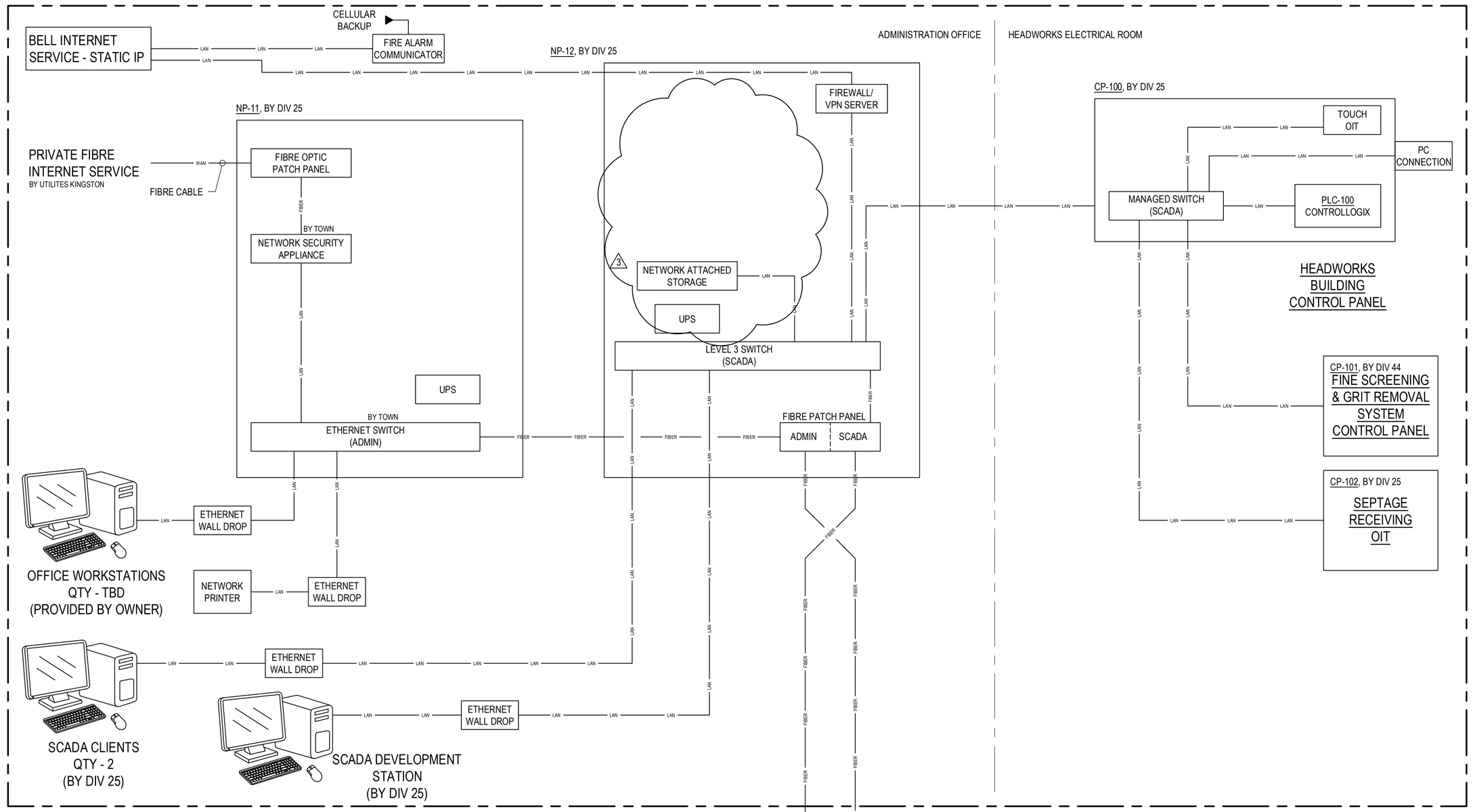
N.T.S.

REFERENCE DRAWING: M3106

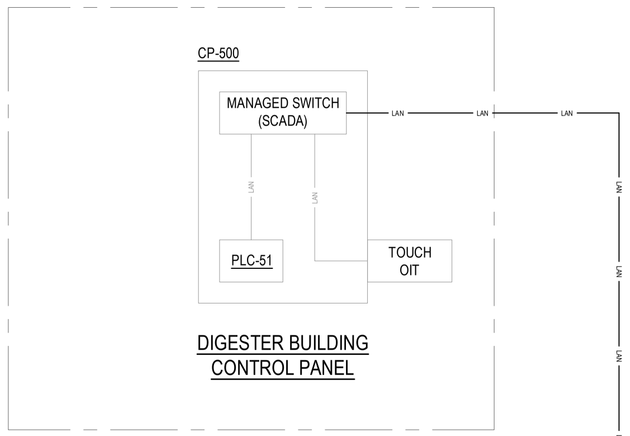
| | | |
|---|---|---|
| project / projet: NAPANEE WASTE WATER PLANT RENEWAL<br>TOWN OF NAPANEE, ON | Designed By / Conçu par: J.GORDON<br>Date (yyyy/mm/dd): 2025/03/14<br>Drawn By / Dessiné par: J.GORDON<br>Date (yyyy/mm/dd): 2025/03/14<br>Reviewed By / Examiné par: J.GORDON<br>Date (yyyy/mm/dd): 2025/03/14<br>Approved By / Approuvé par: J.GORDON<br>Date (yyyy/mm/dd): 2025/03/14<br>Tender / Soumission: -<br>Project Manager / Administrateur de projets | CIMA+ Partners in excellence<br>600 - 1400 Blair Towers Place<br>Ottawa, ON, K1J 9B8<br>Phone: 613 281 4543<br>www.cima.ca |
| drawing / dessin: ADDENDUM M03 | | Project no. / No. du projet: T001699A<br>Drawing no. / No. du dessin: ADD-M03-SKM3 |

CIMA 11x8.5 (215x279)

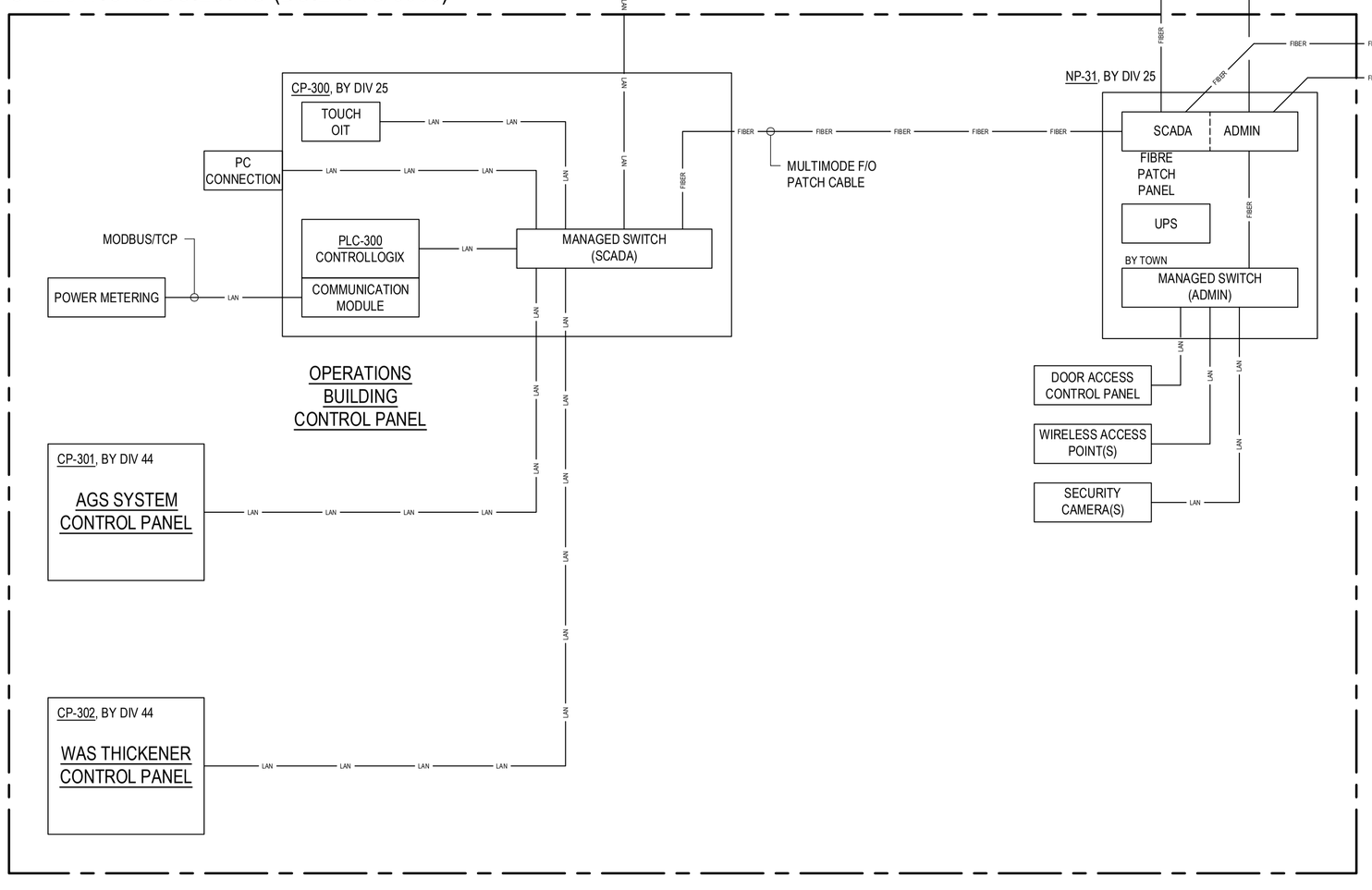
## ADMINISTRATION / HEADWORKS BUILDING (BUILDING 1000)




## DIGESTER BUILDING (BUILDING 5000)

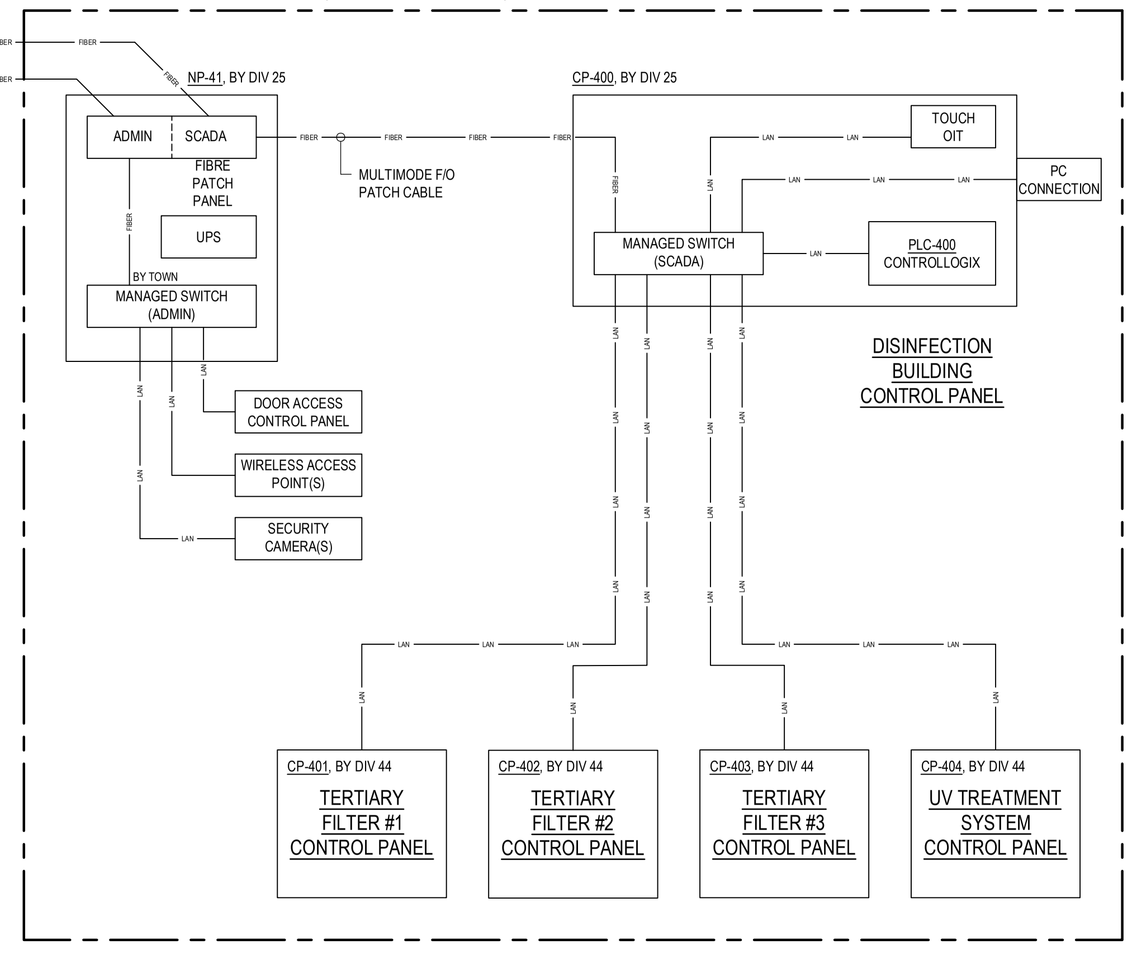



## OPERATIONS BUILDING (BUILDING 3000)




2 of 6-PAIR MULTIMODE F/O CABLE

## DISINFECTION BUILDING (BUILDING 4000)




## LEGEND:

- DARK LINES INDICATE NEW EQUIPMENT
- LIGHT LINES INDICATE EXISTING EQUIPMENT
- FIBER-OPTIC CONNECTION
- ETHERNET CONNECTION
- INTERNET CONNECTION
- BELL TELEPHONE LINE
- NEW BUILDING / AREA
- EXISTING BUILDING / AREA

## GENERAL NOTES:

1. THERE ARE TWO PHYSICALLY SEPARATE NETWORKS IN THE FACILITY:
   - 1.1. SCADA / PLC: LABELLED "SCADA" ON DRAWINGS, FOR PROCESS RELATED EQUIPMENT (SCADA SERVERS / CLIENTS, PLC'S, TOUCHSCREEN OIT'S, VFD'S, MOTOR STARTERS, ETC.)
   - 1.2. ADMIN / SECURITY: LABELLED "ADMIN" ON DRAWINGS, FOR NON-PROCESS RELATED EQUIPMENT (OFFICE WORKSTATIONS, SECURITY CAMERAS, DOOR CONTROLS, WIRELESS ACCESS POINTS, ETC.)
2. ETHERNET CONNECTIONS TO PROCESS EQUIPMENT (MOTOR STARTERS / VFD'S, MOTORIZED VALVES, ETC.) ARE NOT SHOWN. REFER TO CONTROL PANEL DRAWINGS (EX81X DRAWINGS) FOR THESE CONNECTIONS.

| DATE | No. | REVISION |
|---|---|---|
| 2025/03/20 | 3 | ISSUED FOR ADENDUM |
| 2025/01/23 | 2 | ISSUED FOR TENDER |
| 2024/08/23 | 1 | ISSUED FOR ECA APPROVAL |



LICENSED PROFESSIONAL ENGINEER
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2025-03-20
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SUB-CONSULTANT :
CIMA+

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

PROJECT:
NEW NAPANEE WPCP

TITLE:
SITE NETWORK TOPOLOGY

| | |
|---|---|
| SCALE: N.T.S. | JOB NO: 22001 |
| DESIGNED BY: T.S. | DATE: 2025/01/23 |
| DRAWN BY: T.S. | DRAWING NO. E0551 |
| CHECKED BY: J.S. | |