ADDENDUM 3

PART 1 GENERAL

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

PART 2 INFORMATION/CLARIFICATION

2.1 AQUA AEROBIC INFORMATION SESSION

.1 The link to the Aqua-Aerobic Information Session was provided to all attendee's in their Teams Chat link. Napanee WPCP - AASI AGS Presentation-20250220_100123-Meeting Recording.mp4. People with the existing access can use the link.

2.2 SITE OPEN HOUSE

.1 A separate open-house has been coordinated with the Owner. Interested parties may attend the site to compile information as necessary to support their project bid. The site open house is scheduled for Tuesday, March 11 at 9am.

PART 3 SPECIAL PROVISIONS

3.1 DIVISION 25

.1 Specification 25 05 01 Control Panels

.1 Add Item 2.19

.1 CP-102 – Septage Receiving Panel

.1 CP-102 is to be located on the North Side of the Headworks building exterior as indicated on E1151. CP-102 shall consist of a NEMA4X, insulated and heated enclosure suitable for ambient temperatures of -40°C to +40°C. The control panel shall allow a customer to identify themselves via an HMI located in the CP-102 using a unique code provided by the Township. The HMI display screens shall be arranged to provide the following minimum functions:

.2 System Ready Indicator – an indicator to display that the septage receiving station system is powered and ready for use.

.3 Keypad – a keypad to allow the customer to enter their unique identifier code, as configured by the Township using the SCADA system.

.4 Accepted Code Indicator – an indicator to display when a successful code has been entered and the system is ready to be operated.

.5 Invalid Code Indicator – an indicator to display when an unsuccessful code has been entered and the open/close buttons are not active.

.6 Open/Close Push Buttons – buttons to open and close the actuated valve V-1041 when an accepted code has been entered. Buttons shall be inactive if an accepted code was not entered and/or if the system has timed out following last offloading cycle.

.7 Volume Display – display the total volume discharged as measured by FE/FIT 1004 during the offload cycle.

.8 User Instruction Screen – display screen providing operating instructions for the end-user.

.2 Specification 25 10 04 Analytical Elements

.1 **Amend** sections 2.3, 2.4 and 2.6, adding content to the sections. See attached.

PART 4 DRAWINGS

4.1 GENERAL

.1 **Add** Drawing G0009 Existing Grade Plan to the Drawing list, attached.

4.2 CIVIL

.1 Drawing C0100

.1 **Amend** Drawing C0100 identifying the existing of existing tree coverage to the site plan.

.2 Drawing C0101

.1 **Amend** Drawing C0101 identifying the extent to new perimeter fencing to be included in the contract.

.3 Drawing 0201

.1 **Amend** CB10 to be a 1200mm diameter CBMH.

.4 Drawing 0205

.1 **Amend** all references for DR2 to DR4.

.5 Drawing C0301

.1 Amend the note “Wrap ~~**SA1**~~ **SS1** pipe using Desopol 60 tape at all buried location.(Typ).”

4.3 PROCESS

.1 Drawing P0006

.1 **Amend** the pipe and valve sizes on the supernatant suction and discharges to 150mm vs. 100mm shown.

.2 Drawing P0003 and P0004

.1 **Amend** the service water notation to remove the reference from P00011, all service wall will be from Division 20 in the Administrative area, extended and distributed within the Headworks by Division 44.

.3 Drawing P0014

.1 **Amend** the discharge pipe spool to be SS1.

.4 Drawing P0015

.1 **Amend** the feeds from the two polymer totes to discharge to a combined (25-POL-PVC1) header discharging to each polymer tote complete with isolation valves at each tote and each skid.

.5 Drawing P0410

.1 **Amend** Gate G-1054 to indicate 1100 mm wide.

.2 **Amend** Gate G-1071, G-1072 and G-1073 to indicate Wall Mounted.

.3 **Amend** Gate G-1073 to include a wall thimble.

.6 Drawing P1201

.1 **Amend** the 600 diameter flume to splitter box specification to be 600-IN-SS1.

.7 Drawing P1202

.1 **Amend** the 600 diameter flume to splitter box specification to be 600-IN-SS1.

.2 **Amend** the grit drain piping to be specification 150-DRN-SS3.

.8 Drawings P4101, P4102 and P4301

.1 **Amend** the embedded effluent piping specification to SS2, transitioning to HDPE downstream of the flexible connectors.

4.4 ELECTRICAL

.1 Drawing E4501

.1 **Amend** the Filter Backwash Pump and Motor tags The 10hp motors for Filters 1,2,3 backwash pumps should be tagged M-4110, M-4210, & M-4310 respectively. The filter drive motors should be tagged M-4100, M-4200, and M-4300 for filters 1,2,3 respectively. The filter drive motor and associated disconnect switch are not indicated on E4111. The motors are located within

the packaged filter unit. The local disconnects should be mounted adjacent to the backwash pump disconnect for each filter.

.2 Drawing E1151

.1 **Delete** analyzers AIT-1151and AIT-1251 from Drawing E1151.

PART 5 QUESTIONS AND ANSWERS

5.1

.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

Confirmation on field welding; either an indication that none is needed or pointing out items that do require it

- **T**here is no field welding needed for this project.

Details on field assembly requirements for effluent launder supports

- There is no required assembly needed for the lauder supports. Please note that these supports are about 730 LB and will need a crane to set in the basin and then be secured to the basin floor.

.2 **Q: Referencing drawing E0101, is 28kV cable for the new primary service from the existing hydro pole to the new contractor supplied hydro pole to be provided by the contractor or Hydro One?**

A: The connection between HydroOne's existing pole and the new contractor supplied pole is to be overhead ACSR provided and coiled at the new contractor supplied pole. HydroOne will make final connections to existing HydroOne distribution. The 28kV concentric neutral cable is to run from the new contractor supplied pole to the new padmount transformer. This cable is to be supplied and installed by the contractor.

.3 **Q: Please provide the specifications for 25 10 04-2.5, 2.4 and 2.6.**

A: Section 2.3, 2.4 and 2.6 of Specification 25 10 04 have been populated in the attached.

.4 **Q: Referencing drawing E4501, there are multiple pumps/motors with the same tag numbers (M-3152 and M-3252). These tag**

numbers don't seem to appear on drawing E4111 for the filter room basement. Are the tags for these motors correct?

A: The tags on E4501 are not correct. The 10hp motors for Filters 1,2,3 backwash pumps should be tagged M-4110, M-4210, & M-4310 respectively. The filter drive motors should be tagged M-4100, M-4200, and M-4300 for filters 1,2,3 respectively. The filter drive motor and associated disconnect switch are not indicated on E4111. The motors are located within the packaged filter unit. The local disconnects should be mounted adjacent to the backwash pump disconnect for each filter.

.5 **Q: Referencing drawing E1151, there are two analyzers AIT-1151 and AIT-1251 that do not appear on the P&IDs or the controls schematics. Please confirm what these analyzers are for.**

A: Analyzers AIT-1151 and AIT-1251 are to be removed from drawing E1151. They are not required.

.6 **Q: Please provide details and location for CP-102 – Septage Receiving OIT.**

A: CP-102 is to be located on the North Side of the Headworks building exterior as indicated on E1151. CP-102 shall consist of a NEMA4X, insulated and heated enclosure suitable for ambient temperatures of -40°C to +40°C. The control panel shall allow a customer to identify themselves via an HMI located in the CP-102 using a unique code provided by the Township. The HMI display screens shall be arranged to provide the following minimum functions:

System Ready Indicator – an indicator to display that the septage receiving station system is powered and ready for use.

Keypad – a keypad to allow the customer to enter their unique identifier code, as configured by the Township using the SCADA system.

Accepted Code Indicator – an indicator to display when a successful code has been entered and the system is ready to be operated.

Invalid Code Indicator – an indicator to display when an unsuccessful code has been entered and the open/close buttons are not active.

Open/Close Push Buttons – buttons to open and close the actuated valve V-1041 when an accepted code has been entered. Buttons shall be inactive if an accepted code was not entered and/or if the system has timed out following last offloading cycle.

Volume Display – display the total volume discharged as measured by FE/FIT 1004 during the offload cycle.

User Instruction Screen – display screen providing operating instructions for the end-user.

.7 **Q: Referencing E0551, there is indication there should be wireless access points as well as security cameras that do not appear to be on the drawings. Please confirm if these are required for the contract..**

A: The installation of security cameras and wireless access points are not included in the contract.

.8 **Q: . Kindly confirm which specification to follow: Process Piping specification calls for 5% RT.Pipe Welding Spec calls for 10% RT. Is a pipe stress analysis required. (Process Piping). Will A774 Rolled Angle Collars with Galvanized Carbon backing rings be acceptable?**

A: The Mechanical Contractor will provide for Specialist Inspection, Examination and Testing as per Specification 44 01 29 3.12.

A774 Rolled Angle Collars and galvanized carbon backing rings are not acceptable. The Flange requirements are provided in the Process Piping Specification 44 05 50.

Yes, we have spec'd a pipe stress analysis for the process piping. It involves modelling the loads on the piping to demonstrate that the contractor's proposed pipe supports, couplings, and expansion joints are adequate (Section 44 01 44, Clauses 1.6.4 and 2.1.14).

.9 **Q: Provisional Item No.P2 - Existing Digester Tank Wall Brick and Mortar Repairs. Looking through the documents there does not appear to be a defined scope of work for this item. Please provide square footage area of brick to be replaced and linear footage of mortar joints to be repointed as applicable. Also, please provide a detail of the new parapet framing and flashing on Digester No.1 listed under this Provisional Item.**

A: The details for the Digester Brick repairs will be provided in a separate addendum.

.10 **Q: Please confirm the width of gate G-1054. P0004 shows 1100mm wide and P0410 shows 1050mm.**

A: G-1054 shall be 1100mm wide. All gate dimensions provided in drawing P0410 shall be coordinated with the Structural Drawings and confirmed by the Contractor prior to order.

.11 **Q: Please confirm the pipe material from the 600 diameter flume discharge to splitter box. P0004, P1203, P1302, P1303 and P1306 call for SS1, P1202 calls for PVC1, and P1201 calls for SS3.**

A: This pipe specification is SS1.

.12 **Q: Please confirm valve and pipe sizing for the supernatant piping to intermediate pumping station. P0006 calls for 100mm, P0020, P1203, P1302, P1303 call for 150mm.**

A: Drawing P0006 will be amended to 150mm.

.13 **Q: Please confirm pipe material for the 150 diameter Hydrocyclone and Grit Classifier drain pipe. P0003, P1201 and P1301 call for SS3, P1202 and P1303 call for SS1.**

A: All grit piping shall be specified as SS3.

.14 **Q: Please confirm pipe material for the 750mm diameter UV discharge to outfall pipe material. P0009 calls for SS2, P4101, P4102 and P4301 call for HDPE.**

A: The embedded piping will be SS2, transitioning to HDPE downstream of the flexible connectors.

.15 **Q: Please confirm pipe material for the wall spools at the sanitary pumping station. P0014 calls for SS2, C0301 calls for SA1.**

A: Amend the pipe spool to be SS1 on Drawing C0301. The specification SA1 is equivalent to SS1.

.16 **Q: The service water on P0003 and P0004 indicates supply from P0011 however nothing is shown on P0011. Please confirm the service water piping details including whether or not any backflow prevention is required.**

A: Amend the reference to P00011 to be From Division 20, Division 44 will extend the water services from the administrative area to the Headworks building. Division 20 will provide backflow prevention for each service feed (HW & CW).

.17 **Q: M3108, M3109 and M4102 reference fire protection. Is there a sprinkler system required for these buildings?.**

A: There are no sprinkler systems for these buildings.

.18 **Q: Please confirm the piping arrangement between the two polymer totes. P0015 doesn't show any piping but P3102 shows a rough layout.**

A: P0015 will be updated to provide a simple header connecting both totes to both polymer skids.

.19 **Q: Please confirm if all wall spools are to be SS1 or SS2.**

A: Wall spools are to be SS2.

.20 **Q: After a cursory review of the existing site, as well as the proposed new construction area, and because space is very limited, it appears that finding an ideal location "on-site" for our laydown and storage area be very challenging. Please advise if the City of Napanee will be able to provide a suitable, nearby area of approximately 2,000 m2 that will be available for use as our laydown yard.**

A: A laydown area on the westerly portion of the Water Street Landfill/Kinsmen Park is permissible. The area will need to be delineated by Contractor, in agreement with the Contact Administrator, the Town have confirmed both internally and with the MECP and that location is a viable option. All power and amenities to this area will be the responsibility of the Contractor. As the area is a closed landfill we recommend considering gas sensors as necessary for any trailers installed in this area out of an abundance of caution. Additional Sedimentation and Erosion Control measures will be required depending on the use of the area (ie. Soil storage) or as required.

.21 **Q: Drawing C0201 shows that CB10 has a 300mm piping running through the CB and discharges directly into the rip rap spillway. Because this is not a standard configeration, should this CB be connected the the main 300mm line using a 300mm Wye coupler or optionally upsized to a on-line 1200mm CBMH?**

A: CB10 indicated on C0201 should be a 1200mm CBMH.

.22 **Q: Drawing C02021 shows piping 48.8m x 860mm DR-21 connects from existing MH100 to the new proposed Tertiary UV facility. Because this size of piping is not standard, please advise if the pipe can be upsized to 900mm DR-21 or reduced to 750mm HDPE to match the proposed process pipe.**

A: The pipe can be increased from the 34" (860mm) shown to 36" (900mm) if that is more convenient and cost effective.

.23 **Q: Drawing S4101 calls for Geo Foam to fill the void space under the slabs. The note calls for the Max density of the foam to be 1.0 kN/m3. Do you mean kg/m3? If yes, the minimum density the foam blocks come in is 16 kg/m3. Please clarify if this is what you are looking for.**

A: The lightweight foam fill that we are referring to is Geospec lightweight fill by Plast-fab or equivalent. A snippet below from their technical information indicates density of not more than 45.7 kg/m^3 (0.457 kN/m^3).

Material Properties of GeoSpec® Insulation

		D6817 GeoSpec Type Designations						
Material Property	**Units**	**EPS12**	**EPS15**	**EPS19**	**EPS22**	**EPS29**	**EPS39**	**EPS46**
Product Density	kg/m3	11.2	14.4	18.4	21.6	28.8	38.4	45.7
Minimum	(pcf)	(0.70)	(0.90)	(1.15)	(1.35)	(1.80)	(2.40)	(2.85)
Compressive Resistance	kPa	15	25	40	50	75	103	128
Minimum @ 1% strain	(psi)	(2.2)	(3.6)	(5.8)	(7.3)	(10.9)	(15.0)	(18.6)
Flexural Strength	kPa	69	172	207	240	345	414	517
Minimum	(psi)	(10)	(25)	(30)	(35)	(50)	(60)	(75)
Limiting Oxygen Index	%	24	24	24	24	24	24	24
Minimum								
Additional Compressive Resistance Properties								
Compressive Resistance	kPa	35	55	90	115	170	241	300
Minimum @ 5% Deformation	(psi)	(5.1)	(8.0)	(13.1)	(16.7)	(25.0)	(35.0)	(43.5)
Compressive Resistance	kPa	40	70	110	135	200	276	345
Minimum @ 10% Deformation	(psi)	(5.8)	(10.2)	(16.0)	(19.6)	(29.0)	(40.0)	(50.0)

.24 **Q: Please provide and architectural millwork / countertop specification for the lunchroom and washroom millwork components in the Headworks Buidling. Thank you.**

A: The millwork specifications were provided in Addendum 1**.**

.25 **Q: One of the specified form liners is Formtex and the spec states that we can only use the form liner once. The recommended usage from the manufacturer is no more than 2 times. Will you accept 2 uses for the Formtex Form Liner vs 1 use. See the attached literature for additional information.**

A: Formtex formliner shall be used once as indicated in the specifications.

.26 **Q: Plant inlet sewage is coming from three different sewage pipes. One from existing manhole 3-1 to inlet channel, one from existing manhole 2-1, and the last one from existing manhole 1-1. Can you please provide the flow rate for each individual system? In order to set up bypass we need to isolate flow for each manhole.**

A: Assume 2/3rd of the flow will be from EXManhole 1-1, relatively minor contributions from EXMH2-1(<10% of the total flow) and 1/3rd of the flow from

EXMH 3-1. Please note that the contractor may be able to avoid temporary pumping of the from from EXMH3-1 by coordinating the tie-in for that flow with the initial commissioning of the new sewage works.

.27 **Q: What is the flow rate for the outfall pipe? In order to install manhole 100, we need to set up bypass for the plant outfall.**

A: The flow rate for the outfall piping will be equal to or less than the influent flow to the existing plant, depending on weather conditions.

.28 **Q: Spec section 00 11 00 Provisional Items, Item NO P1 - various demolition work mentions 'All work associated with the demolition of the existing WPCP buildings as identified on Drawing C0100'. The drawings also show road demolition, tree removal and piping removal. Please clarify if these items are to be included in Provisional Item P1.**

A: Only the building demolition components will be provisional. Refer to the Removals Demolition Provisional Items Table for the scope of removals vs. provisional elements. Road, Tree and Piping removal is part of the base bid.

.29 **Q: Civil drawing C0100 shows that the Existing Outfall Metering Building needs to be removed. Please clarify if the demolition of this building is to be included in Provisional Item P1.**

A: The two structures associated with the CCT#2 will be part of the base bid as indicated on the removals table.

.30 **Q: The boiler valves shown on P0012 are not indicated in the valve chart. Please provide a spec for these.**

A: The specification for these valves is provided by Division 20.

.31 **Q: Does the contractor need to supply HW-SCB-1140, HW-SCB-1240 and a third untagged solid dumpster shown on P1201?**

A: All waste dumpsters shown in the headworks area will be provided by the owner.

.32 **Q: There is no discharge piping shown for the temporary sump pump in the AGS tanks. Is any piping required for these areas? Do these pumps require guide rails also?**

A: No, this temporary dewater pump that will be supplied though Division 44 and will be used by operations for various dewatering applications thoughout the site.

.33 **Q: Please confirm the mounting requirements for Gates G-1071, G-1072, G-1073. They appear on the drawings to be WM or Wall**

Mounted Style, but the Gate Chart on P0410 shows them as Frame Embedded and Existing Channel Mounted.

A: These gates will all be Wall Mounted Style.

.34 **Q: Do Gates G-1071, G-1072 and G-1073 require wall thimbles?**

A: A wall thimble is required for sluice gate G-1073 only.

.35 **Q: On Drawing E0551, it shows where the security cameras tie into the network switches but it does not show the location or number of cameras required for the job. How many and where are they located? Should these not connect to a security panel?**

A: The switches are to be provided for future IP security cameras. The supply/installation of the cameras is not included in the contract.

.36 **Q: Refer to drawings C0201 and M1106. Section 23 21 13.04 2.1 indicate underground HWS/HWR pipes are to be PEX tubing. The drawings show the underground HWS/HWR PEX tubing to be 4". PEX tubing only goes up to size 2". Please advise.**

.37 **A:** Exterior underground pex piping is a pre-insulated system. Uponor WIPEX is available up to 4” in size. The basis of design is Rehau INSULPEX

.38 **Q: Please review and change Pipe material specification chart on drawing P0001.**

Refer to drawings P006 and C0205. WAS piping is shown as Stainless-Steel material inside the building and transitions to DR2 piping which indicates as SDR 35 PVC as per pipe material specification chart shown on drawing P0001. WAS is a pressurized system and SDR 35 PVC is non-pressure pipe. Drawing P0006 also refers to DIV 33 for yard buried piping, however, it is still not clear which piping material to use. DIV 33 does indicate that Forcemains to be PVC DR 25 C900. Please advise.

A: The drawing C0205 reference to DR2 is incorrect. This should be DR4.

.39 **Q: Can we please request a two week extension to closing on this project?**

A: See response for extension in Addendum 1.

.40 **Q: On drawing E0551 it show where the security camera tie into the network switches but it does not show the location or number of cameras required for the job. 1 - How many and where are they located? 2 - Should these not connect to a security panel?**

A: The switches are to be provided for future IP security cameras. The supply/installation of the cameras is not included in the contract.

END OF SECTION

ANALYTICAL ELEMENTS

PART 1 GENERAL

1.1 SHOP DRAWINGS AND PRODUCT DATA

.1 This section specifies the supply installation, field testing, and placing into operation of various analytical instruments as described below, and as provided in but not limited to the attached Instrumentation Data Sheets (AE/AIT).

.2 The attached data sheets only indicate instruments to be supplied by Div. 25. Refer to contract drawings and shop drawings for instruments supplied by preselected equipment suppliers.

.3 Responsibility shall include supply and installation of all component and Vendor subsystems as to provide a fully functioning system, including supervision, calibration, checkout, start-up operating adjustment and documentation, tagging and compliance with data sheets.

.4 Submit shop drawings and product data in accordance with Section 01 33 00 – Submittals.

.5 The measuring elements of instrumentation designated for hazardous locations must be in full compliance with the OESC.

1.2 DELIVERY, STORAGE AND HANDLING

.1 Ship assembled to the degree which is possible. Inform installer of site assembly requirements.

1.3 RELATED SECTIONS

.1 Section 01 33 00 - Submittals

.2 Section 01 91 13 - Commissioning Requirements

.3 Section 01 91 33 - Commissioning Forms

.4 Section 01 91 41 - Commissioning Training

.5 Section 44 00 10 - Process General Requirements

.6 Section 26 00 10 - Electrical General Requirements

1.4 REFERENCES

.1 ISA RP12.06.01-2003, Recommended Practice for Wiring Methods for Hazardous (Classified) Locations Instrumentation, Part 1: Intrinsic Safety.

.2 CSA C22.2 No. 0.3-01 (R2005), Test Methods for Electrical Wires and Cables

PART 2 PRODUCTS

2.1 MATERIAL

.1 All instrumentation, control, and electrical devices provided under this Section shall be CSA approved and shall bear the CSA approvals seal.

.2 Provide each instrument with mechanisms that are corrosion resistant.

.3 Provide each instrument with mechanisms enclosed in a dust-proof and a moisture-proof case (unless stated otherwise).

.4 Provide all indicator and gauge dials finished in permanent white with black graduations and figures.

.5 Each component and composite instrument shall be suitable for the location and installation position at the attitude designated on the drawings. (eg. horizontal, vertical or sloped position.)

.1 If sensing systems utilize probes then the probes shall be braced to the structure with a minimum of two 316 SS clamps to prevent sensor movement for any reason.

.2 Sensing units shall be mounted so that interference to the sensing function is not caused by surrounding structures. The sensor shall preferably be mounted on its own support, purpose built to manufactures recommendations, to facilitate maintenance and/or adjustment.

.6 Each instrument shall be complete with supplier manufactured mounting flanges and/or brackets. The flanges shall conform to Division 44.

.7 Where amplifier/transmitter electronics is installed in an explosive environment, the housings shall be suitable for the application. (i.e. Class 1, Div 2 and suited to a wet and corrosive environment.)

.8 Provide each instrument powered with 120 VAC with a circuit protector fuse / breaker.

.9 All control panel mounted instruments shall be suitable for flush mounting and shall be furnished with bezel.

2.2 COMBINATION PH/TEMP METERS

.1 PH Systems shall be suitable for the measurement of pH in the fluids of wastewater treatment plant and also suitable for measurement of pH of final treated and filtered water.

.2 Equipment will include the pH electrode assembly, a remote mounted transmitter enclosure, and interconnecting cable between the electrode assembly and transmitter enclosure. The Contractor shall install the electrode assembly and transmitter enclosures at the approximate locations indicated on the Drawings.

.3 Mounting and installation hardware shall be 316L stainless steel. If necessary, the Contractor shall provide and install a pipe section for installation of the transducer. A multi-pole receptacle shall be provided and installed for connection of each electrode assembly as detailed in Installation Standards.

.4 The Contractor shall install and terminate the interconnecting cable between the element and transmitter. Power and control cable connections between the transmitter and remote devices shall be provided as specified elsewhere in the Contract Documents.

.5 The transmitters shall need to be field calibrated by the Contractor. The Contractor shall make adjustments to setup, zero and span settings or other adjustments as required to calibrate the instruments.

.6 The Contractor shall be responsible for start-up and testing of the devices and shall perform loop or continuity testing to verify that all electrical connections are correct. Testing shall be in accordance with the testing standards, specified elsewhere in the Contract Documents.

.7 Electrode for combined pH and temperature measurement c/w measuring cables and immersion assembly. (Probe shall include guard against mechanical damage). Typical pH range of 2 - 12 pH with integral PT-100 temperature compensation. Temperature range: -15 - 80°C.

.8 Tools and spare parts shall be furnished and packaged in accordance with Section 44 00 10 – General Process Requirements; Spare Parts. As a minimum, the following spare parts shall be furnished:

.1 One (1) complete spare pH/temperature electrode assembly.

.9 If not already allowed for elsewhere, provide handheld calibration tool as may be required.

2.3 COMBINATION ORP/TEMP METERS

.1 pH Systems shall be suitable for the measurement of pH in the fluids of wastewater treatment plant and also suitable for measurement of pH of final treated and filtered water.

.2 Equipment will include the pH electrode assembly, a remote mounted transmitter enclosure, and interconnecting cable between the electrode assembly and transmitter enclosure. The Contractor shall install the electrode assembly and transmitter enclosures at the approximate locations indicated on the Drawings.

.3 Mounting and installation hardware shall be 316L stainless steel. If necessary, the Contractor shall provide and install a pipe section for installation of the transducer. A multi-pole receptacle shall be provided and installed for connection of each electrode assembly as detailed in Installation Standards.

.4 The Contractor shall install and terminate the interconnecting cable between the element and transmitter. Power and control cable connections between the

transmitter and remote devices shall be provided as specified elsewhere in the Contract Documents.

.5 The transmitters shall need to be field calibrated by the Contractor. The Contractor shall make adjustments to setup, zero and span settings or other adjustments as required to calibrate the instruments.

.6 The Contractor shall be responsible for start-up and testing of the devices and shall perform loop or continuity testing to verify that all electrical connections are correct. Testing shall be in accordance with the testing standards, specified elsewhere in the Contract Documents.

.7 Electrode for combined pH and temperature measurement c/w measuring cables and immersion assembly. (Probe shall include guard against mechanical damage). Typical pH range of 2 - 12 pH with integral PT-100 temperature compensation. Temperature range: -15 - 80°C.

.8 Tools and spare parts shall be furnished and packaged in accordance with Section 44 00 10 – General Process Requirements; Spare Parts. As a minimum, the following spare parts shall be furnished:

.1 One (1) complete spare pH/temperature electrode assembly.

.9 If not already allowed for elsewhere, provide handheld calibration tool as may be required.

.10 Standard of Acceptance: HACH and YSI instrumentation.

2.4 SUSPENDED SOLIDS METERS

.1 Suspended solids systems shall be suitable for the measurement of sludge concentration in the primary, secondary and activated sludge associated with wastewater treatment.

.2 Equipment will include both the immersion style and the insertion probe assembly, a remote mounted transmitter enclosure, and interconnecting cable between the probe assembly and transmitter enclosure. The Contractor shall install the probe assembly and transmitter enclosures at the approximate locations indicated on the Drawings.

.3 Mounting and installation hardware shall be 316L stainless steel. If necessary, the Contractor shall provide and install a pipe section for installation of the probe. A multi-pole receptacle shall be provided and installed for connection of each probe assembly as detailed in Installation Standards.

.4 The Contractor shall install and terminate the interconnecting cable between the element and transmitter. Power and control cable connections between the transmitter and remote devices shall be provided as specified elsewhere in the Contract Documents.

.5 The transmitters shall need to be field calibrated by the Contractor. The Contractor shall make adjustments to setup, zero and span settings or other adjustments as required to calibrate the instruments.

.6 The Contractor shall be responsible for start-up and testing of the devices and shall perform loop or continuity testing to verify that all electrical connections are correct. Testing shall be in accordance with the testing standards, specified elsewhere in the Contract Documents.

.7 Insertion/Immersion Probe assemblies c/w measuring cables. Transmitter Output/Display value (mg/L).

.1 Typical range of 0 – 8000 mg/L.

.8 Tools and spare parts shall be furnished and packaged in accordance with Section 44 00 10 – General Process Requirements. As a minimum, the following spare parts shall be furnished:

.1 One calibration kit and one-year of spare swiper blades.

.9 If not already allowed for elsewhere, provide handheld calibration tool as may be required.

.10 Acceptable Manufacturers: HACH Solitax or YSI units shall be suitable for both suspended immersion application and retractable insertion into pipe as indicated in the design drawings.

2.5 UV ABSORBANCE TRANSMITTANCE

.1 UV Transmittance system shall be capable of continually measuring UV absorbance and transmittance in water.

.2 The method of measuring UV absorbance and percent transmittance will be by determining the Spectral Absorption Coefficient (SAC) at a wavelength of 254 mm using a 2-beam ultra-violet absorption technology with a 1, 2, 5 or 50 mm path length.

.3 Equipment will include an immersion style probe assembly, a remote mounted transmitter enclosure, and interconnecting cable between the probe assembly and transmitter enclosure. The Contractor shall install the probe assembly and transmitter enclosures at the approximate locations indicated on the Drawings.

.4 Mounting and installation hardware shall be 316L stainless steel. A multi-pole receptacle shall be provided and installed for connection of each probe assembly as detailed in Installation Standards.

.5 The Contractor shall install and terminate the interconnecting cable between the element and transmitter. Power and control cable connections between the transmitter and remote devices shall be provided as specified elsewhere in the Contract Documents.

.6 The transmitters shall need to be field calibrated by the Contractor. The Contractor shall make adjustments to setup, zero and span settings or other adjustments as required to calibrate the instruments.

.7 The Contractor shall be responsible for start-up and testing of the devices and shall perform loop or continuity testing to verify that all electrical connections are correct. Testing shall be in accordance with the testing standards, specified elsewhere in the Contract Documents.

.8 Insertion/Immersion Probe assemblies c/w measuring cables. Transmitter Output/Display value (%).

.9 Typical range of 0 – 60 m^{-1} at 50 mm.

.10 Tools and spare parts shall be furnished and packaged in accordance with Section 44 00 10 – General Process Requirements. As a minimum, the following spare parts shall be furnished:

.1 One calibration kit and one-year of spare swiper blades.

.11 If not already allowed for elsewhere, provide handheld calibration tool as may be required.

.12 Acceptable Manufacturers: HACH Solitax Units shall be suitable for both suspended immersion application and retractable insertion into pipe as indicated in the design drawings.

2.6 DISSOLVED OXYGEN METERS

.1 DO systems shall be suitable for the measurement of dissolved oxygen in the mixed liquor of an activated sludge waste water treatment plant and also suitable for measurement of dissolved oxygen in the aerobic digestion system of an activated sludge treatment facility.

.2 Provide a complete system for each DO probe comprising float mounted sensor if applicable, support arm, mounting hardware, remote mounted multi-channel electronics complete with power supplies etc. for a fully functional and fully featured system.

.3 Provide self-cleaning operation such as (automatic) jet air cleaning or similar self-cleaning operation.

.4 Mounting and installation hardware shall be 316L stainless steel. A waterproof JB or multi-pole receptacle shall be provided and installed for connection of each probe assembly as detailed in drawings.

.5 The Contractor shall install and terminate the interconnecting cable between the element and transmitter. Power and control cable connections between the transmitter and remote devices shall be provided as specified elsewhere in the Contract Documents.

.6 The transmitters shall need to be field calibrated by the Contractor. The Contractor shall make adjustments to setup, zero and span settings or other adjustments as required to calibrate the instruments.

.7 The Contractor shall be responsible for start-up and testing of the devices and shall perform loop or continuity testing to verify that all electrical connections are correct. Testing shall be in accordance with the testing standards, specified elsewhere in the Contract Documents.

.8 Immersion Probe assemblies c/w measuring cables shall include integral PT-100 temperature measurement shall be of rugged design and self cleaning.

.9 Transmitter Output/Display value (DO in ppm and Temp °C)

.1 Typical DO range of 0 – 10 ppm

.2 Temperature range: -15 - 80°C

.10 Tools and spare parts shall be furnished and packaged in accordance with Section 44 01 00 – General Process Requirements.

.11 Provide all consumables such as membranes and electrolyte solutions for two (2) years of continuous operation as well as any calibration tools as may be required.

.12 If not already allowed for elsewhere, provide handheld calibration tool as may be required.

.13 DO analyzers shall be based on the luminescence principal from Hach LDO or YSI.

.14 Multi-Channel analyzers (Max 4 Channel) will be acceptable provided that all channels provide for continuously monitored outputs.

PART 3 EXECUTION

3.1 INSTALLATION

.1 Carry out installation, calibration and adjustment in accordance with manufacturer's installations instructions, recommended practices and as indicated on drawings and elsewhere in these specifications.

.2 All mounting plates, pedestals, bolts, shims, angle iron and other miscellaneous steel or hardware items required for the securing of equipment shall be supplied unless specifically noted otherwise.

.3 All instruments to be installed in accordance with the Manufacturer's installation instructions.

.4 Instruments or raceway will be installed so as not to obstruct access routes, equipment maintenance space or space for future equipment.

.5 Instrument supports shall be located and installed to provide a fully supported, secure system with minimum vibration.

3.2 INDICATORS

.1 Select instruments so that normal operating point is just above midpoint of instrument range. (60 – 70%)

.2 All indications shall be displayed on a linear scale unless otherwise specified. Local indicators shall be in engineering units.

3.3 START-UP

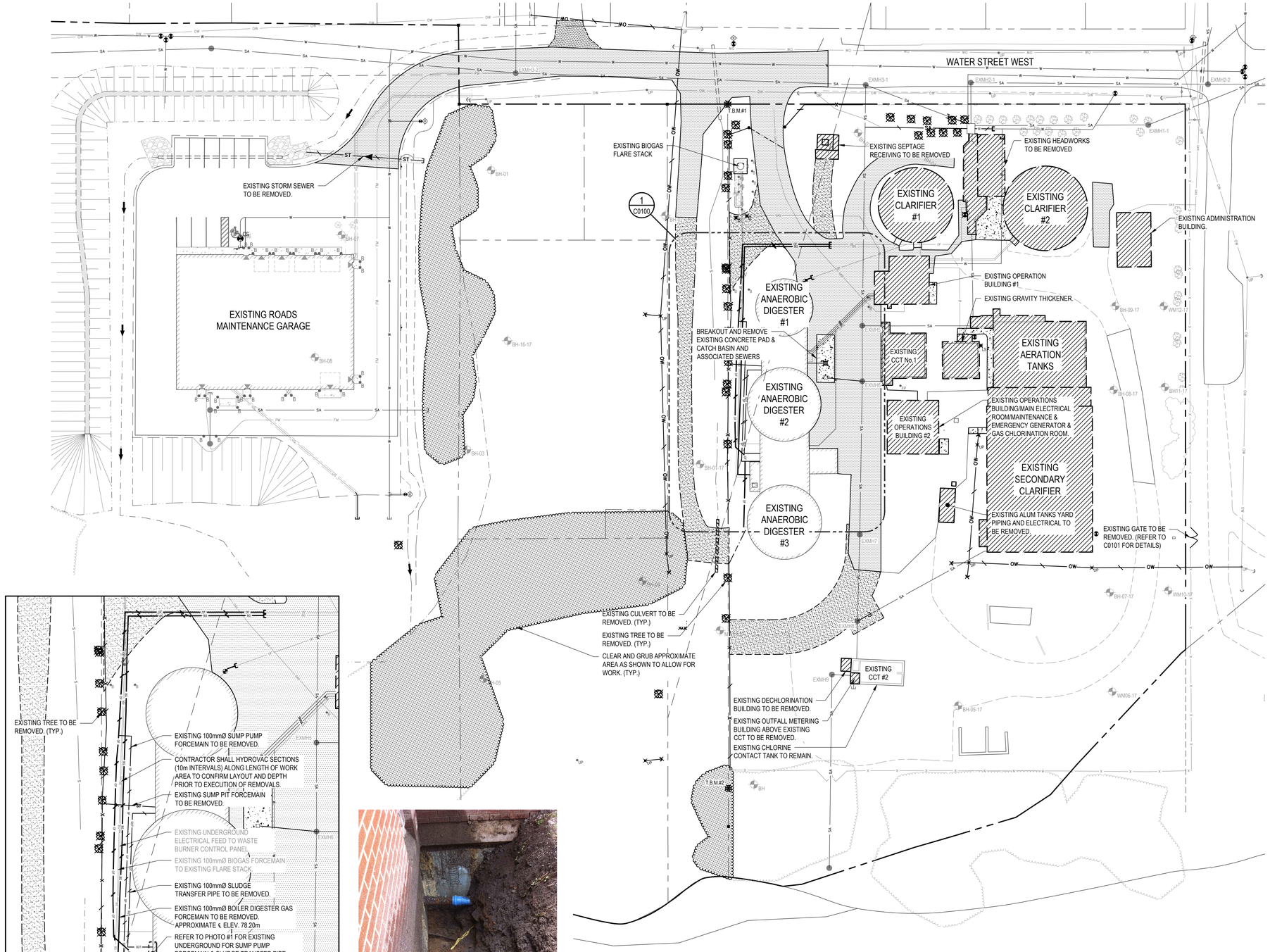
.1 The contractor shall have manufacturer's representative check and verify that instrumentation installation is in accordance with drawings and manufacturer's installation instructions.

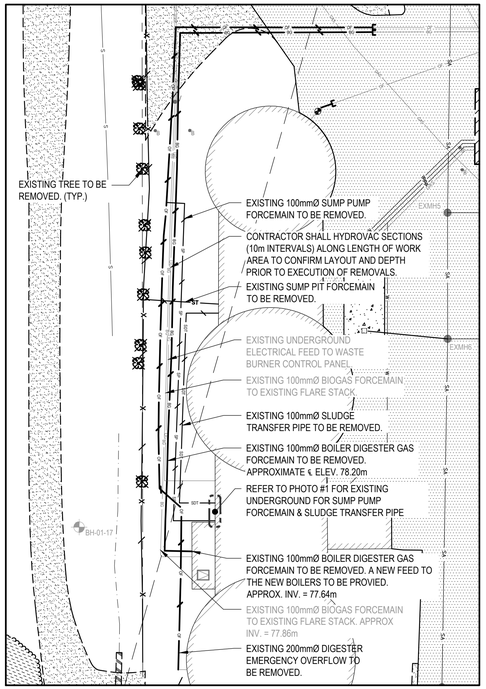
.2 The contractor shall have manufacturer's representative instruct plant personnel on operation and maintenance of filters.

.3 The manufacturer shall include two (2) trips to the site, each 2 days: one (1) trip to start-up and calibration and one (1) trip to train the operators.

.4 Upon completion of testing of each device, affix a tag to the instrument certifying that calibration and testing have been completed and specifying the calibration points. Include loop check sheet and instrument calibration sheets in instruction books.

END OF SECTION





1 C0100 PARTIAL SITE REMOVALS DETAIL @ EX. DIGESTERS
SCALE: 1:250

PHOTO #1
SCALE: N.T.S.

LEGEND:

- SITE PROPERTY LINE
- EXISTING PROPERTY LINE
- EXISTING EDGE OF ASPHALT TO BE REMOVED
- EXISTING EDGE OF ASPHALT
- EXISTING CURB TO BE REMOVED
- EXISTING EDGE OF SHOULDER
- EXISTING DITCH CENTERLINE
- EXISTING TOP OF SLOPE
- EXISTING BOTTOM OF SLOPE
- EXISTING SANITARY SEWER TO BE REMOVED
- EXISTING SANITARY SEWER
- EXISTING SEWAGE FORCEMAIN
- EXISTING STORM SEWER TO BE REMOVED
- EXISTING STORM SEWER
- EXISTING WATERMAIN
- EXISTING BIOGAS PIPE TO BE REMOVED
- EXISTING BIOGAS PIPE
- EXISTING EMERGENCY OVERFLOW PIPE TO BE REMOVED
- EXISTING EMERGENCY OVERFLOW PIPE
- EX. SLUDGE TRANSFER PIPE
- EXISTING SUMP PUMP LINE
- EXISTING CULVERT TO BE REMOVED
- EXISTING CULVERT
- EXISTING SANITARY MANHOLE TO BE REMOVED
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE TO BE REMOVED
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN TO BE REMOVED
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING VALVE TO BE REMOVED
- EXISTING VALVE
- EXISTING UNDERGROUND BELL
- EXISTING NATURAL GAS
- EXISTING UNDERGROUND
- EXISTING OVERHEAD WIRE
- EXISTING LIGHT STANDARD TO BE REMOVED
- EXISTING LIGHT STANDARD
- EXISTING UTILITY POLE
- EXISTING BELL PEDESTAL
- EXISTING CABLE PEDESTAL
- EXISTING NATURAL GAS METER
- EXISTING TRANSFORMER
- EXISTING SIGNAGE TO BE REMOVED
- EXISTING SIGNAGE
- TEMPORARY BENCHMARK
- EXISTING TREE TO BE REMOVED
- EXISTING TREE
- EXISTING ASPHALT TO BE MILLED
- EXISTING ASPHALT TO BE REMOVED
- EXISTING SIDEWALK TO BE REMOVED
- EXISTING BUILDING OUTLINE TO BE REMOVED
- EXISTING BUILDING OUTLINE
- CLEARING AND GRUBBING AS REQ.'D TO SUITE NEW CONSTRUCTION

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
2. TOPOGRAPHIC INFORMATION PROVIDED BY HOPKINS CHITTY LAND SURVEYORS INC.
3. ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM SIMULTANEOUS GPS OBSERVATIONS AND ARE REFERRED TO CGVD28 DATUM.
4. ALL DISTURBED AREAS TO BE REINSTATED WITH 100mm TOPSOIL AND SOD UNLESS OTHERWISE NOTED.
5. CONTRACTOR SHALL REVIEW EXISTING DRAWINGS TO COORDINATE EXISTING UNDERGROUND SERVICES, HYDROVAC AREAS OF TIE-IN AND ALONG EXTENTS OF NEW SERVICES.

REMOVALS DEMOLITION PROVISIONAL ITEMS TABLE

ITEM	BASE CONTRACT	PROVISIONAL
ADMIN BUILDING		•
HEADWORK & INLET CHANNEL		•
EXISTING SEPTAGE		•
PRIMARY CLARIFIER #1		•
PRIMARY CLARIFIER #2		•
OPERATIONS BUILDING # 1		•
OPERATIONS BUILDING #2		•
EXISTING GRAVITY THICKENER		•
EXISTING CCT #1		•
EXISTING AERATION TANKS & SECONDARY CLARIFIER		•
ALUM TANKS/YARD PIPING & ELECTRICAL	•	
DE-CHLORINATION BUILDINGS	•	

TEMPORARY BENCH MARKS

T.B.M. No.	ELEV. (m)	T.B.M. DESCRIPTION
T.B.M.#1	81.46	TOP OF IRON BAR
T.B.M.#2	76.64	TOP OF IRON BAR

DATE	No.	REVISION
2025/03/03	3	ISSUED FOR ADDENDUM No.3
2025/01/23	2	ISSUED FOR TENDER
2024/08/23	1	ISSUED FOR ECA APPROVAL

PROJECT NORTH
T.N. = TRUE NORTH

CONSULTANT :
EVB ENGINEERING
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WEBSITE: EVBengineering.com

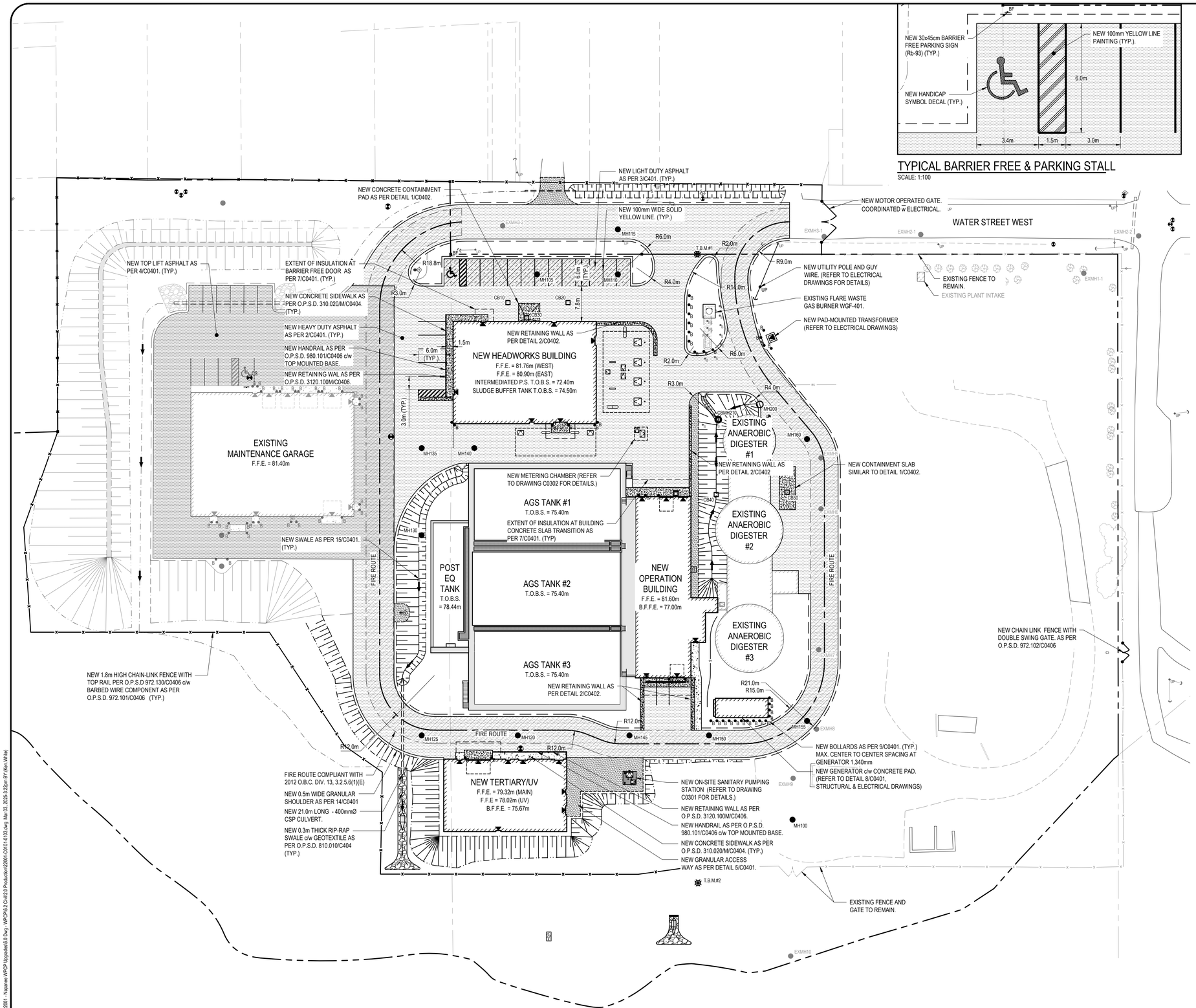
SUB-CONSULTANT :
CIMA+

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

PROJECT:
NEW NAPANEE WPCP

TITLE:
REMOVALS SITE PLAN

SCALE: 1:400	JOB NO: 22001
DESIGNED BY: J.B.	DATE: 2025/01/23
DRAWN BY: K.B.W.	DRAWING NO. C0100
CHECKED BY: J.B.	



LEGEND:

- EXISTING PROPERTY LINE
- NEW EDGE OF ASPHALT
- EXISTING EDGE OF ASPHALT
- NEW CURB
- NEW DEPRESSED CURB
- NEW GRANULAR SHOULDER AS PER 14/C0401
- EXISTING GRANULAR SHOULDER
- EXISTING DITCH CENTERLINE
- NEW SWALE
- NEW TOP OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING BOTTOM OF SLOPE
- NEW FENCE
- EXISTING FENCE
- NEW CULVERT
- EXISTING CULVERT
- NEW SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- NEW STORM MANHOLE
- EXISTING STORM MANHOLE
- NEW CATCH BASIN MANHOLE
- EXISTING CATCH BASIN MANHOLE
- NEW DITCH INLET
- EXISTING DITCH INLET
- NEW CATCH BASIN
- EXISTING CATCH BASIN
- NEW HYDRANT
- EXISTING HYDRANT
- NEW VALVE
- EXISTING VALVE
- NEW SIAMESE CONNECTION
- NEW UTILITY POLE
- EXISTING UTILITY POLE
- EXISTING LIGHT STANDARD
- NEW PAD MOUNT TRANSFORMER
- SITE TEMPORARY BENCH MARK
- NEW SIGN AND POST
- EXISTING SIGN AND POST
- NEW BARRIER FREE SIGN AND POST
- NEW BOLLARD AS PER 5/C0401
- BUILDING ENTRANCE
- NEW RETAINING WALL AS PER DETAIL 2/C0402
- NEW HEAVY DUTY ASPHALT AS PER DETAIL 2/C0401
- NEW LIGHT DUTY ASPHALT AS PER DETAIL 3/C0401.
- NEW ASPHALT TOP LIFT AS PER DETAIL 4/0401.
- NEW CONCRETE SIDEWALK
- RIP-RAP c/w GEOTEXTILE AS PER O.P.S.D. 810.010/C0406.
- NEW BUILDING OUTLINE
- EXISTING BUILDING OUTLINE

F.F.E. = FINISHED FLOOR ELEVATION
B.F.F.E. = BASEMENT FINISHED FLOOR ELEVATION
T.O.B.S. = TOP OF CONCRETE BASE SLAB ELEVATION

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
2. TOPOGRAPHIC INFORMATION PROVIDED BY HOPKINS CHITTY LAND SURVEYORS INC.
3. ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM SIMULTANEOUS GPS OBSERVATIONS AND ARE REFERRED TO CGVD28 DATUM.
4. ALL DISTURBED AREAS TO BE REINSTATED WITH 100mm TOPSOIL AND SOD UNLESS OTHERWISE NOTED.

DATE	No.	REVISION
2025/03/03	3	ISSUED FOR ADDENDUM No.3
2025/01/23	2	ISSUED FOR TENDER
2024/08/23	1	ISSUED FOR ECA APPROVAL

PROJECT NORTH

T.N. = TRUE NORTH

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SUB-CONSULTANT :
CIMA+

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

PROJECT:

NEW NAPANEE WPCP

TITLE:

OVERALL SITE PLAN

TEMPORARY BENCH MARKS

T.B.M. No.	ELEV. (m)	T.B.M. DESCRIPTION
T.B.M.#1	81.46	TOP OF IRON BAR
T.B.M.#2	76.64	TOP OF IRON BAR

SCALE: 1:400	JOB NO: 22001
DESIGNED BY: J.B.	DATE: 2025/01/23
DRAWN BY: K.B.W.	DRAWING NO. C0101
CHECKED BY: J.B.	

M:\22022\22001 - Napanee WPCP 2 Upgrades\6.0 Dwg_WPCP\6.2 Civil\2.0 Production\22001-C0101(0103.dwg, Mar 03, 2025-3:22pm BY:Alex White)

TEMPORARY BENCH MARKS

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T.B.M.#1	81.46	TOP OF IRON BAR
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LEGEND:

- EXISTING PROPERTY LINE
- EXISTING EDGE OF ASPHALT
- EXISTING GRANULAR SHOULDER
- EXISTING DITCH CENTERLINE
- EXISTING TOP OF SLOPE
- EXISTING BOTTOM OF SLOPE
- EXISTING FENCE
- EXISTING CULVERT
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN MANHOLE
- EXISTING DITCH INLET
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING VALVE
- EXISTING UTILITY POLE
- EXISTING LIGHT STANDARD
- SITE TEMPORARY BENCH MARK
- EXISTING SIGN AND POST
- EXISTING BUILDING OUTLINE
- F.F.E. = FINISHED FLOOR ELEVATION
- B.F.F.E. = BASEMENT FINISHED FLOOR ELEVATION
- T.O.B.S. = TOP OF CONCRETE BASE SLAB ELEVATION

2025/03/03	3	ISSUED FOR ADDENDUM No.3
2025/01/23	2	ISSUED FOR TENDER
2024/08/23	1	ISSUED FOR ECA APPROVAL
DATE	No.	REVISION

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SUB-CONSULTANT :
CIMA+

CLIENT:
Greater Napanee
GREATER FOR MANY REASONS

PROJECT:

NEW NAPANEE WPCP

TITLE:

EXISTING GRADE PLAN

SCALE: 1:400	JOB NO: 22001
DESIGNED BY: J.B.	DATE: 2025/01/23
DRAWN BY: K.B.W.	DRAWING NO. G0009
CHECKED BY: J.B.	