ADDENDUM 4

PART 1 GENERAL

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

PART 2 INFORMATION/CLARIFICATION (N/A)

PART 3 DRAWINGS

3.1 ARCHITECTURAL

.1 **Remove** Drawing A8402 from the contract documents.

.2 The following drawings have been **revised** as attached – refer to rev cloud areas.

.1 Drawings A0001, A2202, A2205, A2207, A2401, A2601, A2602

.2 Drawings A3101, A3102, A3103, A3201, A3301, A3304, A3411, A3501, A3502

.3 Drawings A7301, A7302

.4 Drawings A8101, A8401, A8501, A8601

3.2 STRUCTURAL

.1 **Amend Drawing S0001 Concrete Types Schedule as follows:**

.1 Mix 1 – PRIMARY AND SECONDARY CLARIFIER CONCRETE **(NOT APPLICABLE)**

Mix 14 – AERATION TANK CONCRETE **(NOT APPLICABLE)**

.2 **Amend Drawing S0004 – Typical Stair and Handrail Detail – Aluminum – Note 1 as follows:**

.1 All stairs and handrails shall be hot dipped galvanized (see typical stair and handrail detail – galvanized steel this drawing). The only aluminum stair/handrail is the single flight of exterior stair noted on drawing S3103 top left corner.

.3 **Drawing S2602 revised as attached – refer to rev cloud areas**

.4 **Drawing S3103 revised as attached – refer to rev cloud areas**

.5 **Amend Drawing S3302 Section 3 as follows:**

.1 Amend note: ‘200 thk concrete apron slab c/w 15M @ 300 o.c. each direction at mid-depth. Refer to Civil’ and replace with ‘Refer to Detail

6/C0301 for apron slab details'. Delete rebar shown in the slab and replace with wire mesh per 6/C0301.

PART 4 SPECIAL PROVISIONS

4.1 DIVISION 02

.1 **Add Specification** 02 05 20 Temporary By-Pass Pumping as per the attached.

4.2 DIVISION 09

.1 **Add** Specification 09 51 00 Acoustical Ceilings as per the attached

.2 Specification 09 65 16 Resilient Sheet Flooring

.1 **Remove** "FC Flush Cove" from specification and **replace** with "Rubber Base (RBR)"

4.3 DIVISION 12

.1 Refer to revised Specification **12 31 00 Metal Casework**

4.4 DIVISION 31

.1 Specification 31 23 16 Rock Removal

.1 **Remove** Section 1.5 "Vibration Control"

4.5 DIVISION 44

.1 Specification 44 07 51 Process Water Pumps

.1 **Add** Section 2.11 Pressure/Drawdown Tanks.

PART 5 QUESTIONS AND ANSWERS

5.1

.1 **Q: Reference drawing P0011, please provide a specification for the Drawdown tanks.**

A: See revised Specification 44 07 51 Section 2.11

.2 **Q: Reference item 4.2.2 of Addendum #3. The new Specification 02 05 20 Temporary By-Pass Pumping is not attached to the addendum. Please provide it.**

A: Section 02 05 20 has been added to this Addendum.

.3 **Q: Request clarification: Section 03 30 00 Cast In Place Concrete Item 1.6 1 states Concrete hauling time: maximum allowable time for concrete to be delivered to site of Work and discharged not to exceed 120 minutes after batching. Item 3.2.6.5 states Concrete will be rejected if not placed within 90min. since commencement of plant mixing.**

A: Modify Item 3.2.6.5 to read 120 minutes.

.4 **Q: Request for Clarification: 03 30 01 capillary waterproofing – 1.2.1 add to concrete mixture during mixing cycle but they want the material delivered to site (1.8.2), then it says 3.3 to add at the plant.**

A: Revise 1.8.2 to read to deliver packages waterproofing materials to the batching plan.

.5 **Q: Refer to detail 7 on drawing C0301 and drawing S0005. Both drawings provide details for the HVAC Slab/ Generator slab. These details conflict regarding insulation placement. Please clarify, which detail should be used?**

A: Use insulation thickness and extents shown on Drawing S0005.

.6 **Q: Refer to detail 6 on drawing C0301 and drawing S3302. The exterior apron slab details differ from each other. Please clarify the following:**

(A) What are the depths of the exterior apron slabs?

(B) What is the reinforcing; is rebar or wire mesh required?

A: Use depth of slab, reinforcing and insulation shown on Drawing C0301.

.7 **Q: Refer to drawing S3105 and specification section 03 41 13. There are a few contradictions within the specification and the drawings regarding hollowcore. Please clarify the following:**

(A) 1.4.4 states that the concrete mix should achieve 41 MPa @ 28 days, while 2.1.1 states 35 MPa @ 56 days.

(B) 2.5.1 states the nominal thickness will be 203mm and 305mm and drawing S3105 states 350mm and 200mm.

A: Concrete strength shall achieve 41 MPa compressive strength at 28 days or as otherwise required by design by the pre-cast hollowcore manufacturer.

Reference Drawing S3105 for hollowcore thickness (200 and 350).

.8 **Q: Refer to section 03 01 37 for concrete restoration. Article 1.1.2 states that this section is for repairing existing surfaces as shown on the drawings. The drawings do not indicate any repair, demonstrate**

quantities, or even indicate the different types of repairs that may be required. Please clarify, will concrete restoration of existing surfaces be required? If so, please provide quantities and indicate the type of repair required or alternatively provide a cash allowance for this work.

A: This section is provided only for concrete repairs to small areas of new concrete (if accepted by the owner/consultant).

.9 **Q: Refer to drawing S0001. The concrete mix schedule provides a mix for the aeration tank concrete. It does not appear that any concrete work is required in the existing aeration tanks. Please clarify.**

A: Correct, the aeration tank concrete is not part of this contract.

.10 **Q: Refer to drawing S0001. The concrete mix schedule provides a mix for the primary and secondary clarifier. It does not appear that any concrete work is required in the existing clarifiers. Please clarify.**

A: Correct, the primary and secondary clarifier concrete is no part of this contract.

.11 **Q: Reference drawing S3103 notes aluminum stairs. Whereas the grating is noted as galvanized. a. Please advise if the guardrails are to be aluminum or galvanized. Please clarify.**

A: All stairs and guards under this contract are hot dipped galvanized. The only aluminum stair/guard/handrail is the single stair flight noted on Drawing S3103 top left corner.

.12 **Q: Section 3/S6301 and 5/S6302 shows T/O SLAB ELEV.=74.60m. Is this correct? Section 2/S6301 and 3/S6302 shows T/O SLAB ELEV. = 72.85m.**

A: Yes, the elevations are correct. The sections are taken at various locations (different elevations) of the trench/tank.

.13 **Q: Reference drawing S7101 Biosolids Storage New Sludge Tank. Please provide top of concrete elevation of the slab.**

A: Current elevation set at 77.70m. To be verified during construction.

.14 **Q: Reference section 44 00 10, clause 1.8.1.3 "Contract Administrators may witness factory test" as this is optional, please confirm all Administrator costs will be at the owners expense.** (20)

A: Contract Administrators costs for Factory Testing will not be part of the contractors scope.

.15 **Q: Reference drawing P0011, there are references to Note 23, there are no notes on this drawing, please clarify what is required.** (114)

A: Notes can be found on Drawing P0001 – General Notes, Nomenclature, and Detail

.16 **Q: Can you please provide a spec for the ceramic tile to be used? There are references to VCT1 & CT on the room finish schedule, but we are unable to find a detail.**

A: Admin Building 8000, Male Washroom 116 and Female Washroom 110 to be remove from scope of work. No specifications required. See revised drawings A8101, A8501, and A8601. Remove from drawing list A8402.

.17 **Q: The Room Finish Schedule on Drawing A8501 shows VCT1 and ceramic tile (CT). We could not locate the specs for these finishes.**

A: Admin Building 8000, Male Washroom 116 and Female Washroom 110 to be remove from scope of work. No specifications required. See revised drawings A8101, A8501, and A8601. Remove from drawing list A8402.

.18 **Q: Is there a spec for the RBR rubber base and the FC Flush Cove Wall Base as shown on various Room Finish Schedule**

A: FC Flush Cove to be removed from specification section 09 65 16 and replaced with Rubber Base (RBR). See revised drawing A8501.

.19 **Q: The Room Finish Schedule on Drawing A8501 shows T-Bar ceiling. We could not locate the specs for this material/works.**

A: See attached specification section 09 51 00. Add to table of contents.

.20 **Q: I had a quick look at the drawings and from what I can tell, the only scope of work for laboratory casework is a sink replacement? I see there is a full specification for Metal Casework, but I don't think there is any new casework required.**

A: Refer to Admin Building 8000 drawing A8401 and A8601 for scope of work for Laboratory Room 108. All existing millwork to be removed and replaced with new metal casework as per specification section provided. See attached revised drawings A8401 and A8601.

.21 **Q: Reference drawing A7302 note 6 states "Repair all areas required at perimeter of exterior foundation wall. Refer to detail 3/A9302 for extent of work" Drawing A9302 is not provided.**

a. Please provide drawing A9302 that shows detail repairs.

b. Please provide area or areas of repairs.

A: Detail reference has been updated in note 6, see revised drawings A7301 and A7302.

.22 **Q: Request for Clarification: Division 12 – Metal Casework is not listed on the schedule of values, but there are specifications.**

A: Div 12 metal casework is to be added to the schedule of values.

.23 **Q: We would like to request SAI Systems be added as an alternate manufacturer for Lab Casework. They state that they can meet all specifications for the painted steel casework on this project.**

A: SAI Systems are acceptable. See revised specification 12 31 00.

.24 **Q: Reference drawing A2401 Detail 3 Expansion Joint Parapet. It would appear that wall/parapet assembly Exw5 is required. a. Drawing A2207 shows the section detail, but the length of Exw5 is unknown. Please advise the length of Exw5. That includes masonry, carpentry and cladding.**

A: See attached the revised drawings A2207, 3/A2401 and 2/A3201.

.25 **Q: Reference drawing A8402. Washroom Key Notes, note 5 provide millwork?. Refer to millwork specifications. Please provide technical specifications. a. Also drawing A8401. Laboratory Millwork General Notes. Note 9. "Whiteboard not supplied by the lab supplier?" Please provide dimensions and quantities required.**

A: Admin Building 8000, Male Washroom 116 and Female Washroom 110 to be remove from scope of work. No specifications required. See revised drawings A8101, A8403, A8501, and A8601. Whiteboard is not required, note 9 has been removed from General Notes, see revised drawing A8401.

.26 **Q: Reference drawing A8501, Room Finishes Schedule, Male Washroom notes floor and wall finish as CT. Is CT ceramic tile If ceramic floor and wall tiles are required for the Male Washroom. Please provide technical specifications.**

A: Admin Building 8000, Male Washroom 116 and Female Washroom 110 to be remove from scope of work. No specifications required. See revised drawings A8101, A8402, A8501, and A8601.

.27 **Q: Reference drawing A8501, Laboratory Room 108, Female Washroom 110 and Male Washroom notes Gypsum Wall board to some of the walls. Are these new drywall stud partitions or new drywall to concrete/ block wall. a. If new, please provide interior stud assemblies.**

A: Admin Building 8000, Laboratory room 108, existing gypsum walls to be painted, new walls are not required. See revised drawings A8401, A8501, and A8601.

.28 **Q: Reference drawing A6502, Room Finishes Schedule calls for a PVC Ceiling. Please confirm that the ceiling is to be PVC any not drywall. If PVC Ceiling, please provide technical specifications.** (77)

A: Ceiling to be PVC as per drawing A6502. Refer to specification section 07 46 13.

.29 **Q: Reference drawing A3102 and S3103 Headworks Building, shows the exterior elevated platform. The number of steps do not align with one another. Please advise which layout is correct, drawing A3102 or S3103.**

A: Both layouts are correct, see attached revised drawing A3102.

END OF SECTION

TEMPORARY BY-PASS PUMPING

PART 1 GENERAL

1.1 SUMMARY

.1 Comply with Division 1 – General Requirements.

.2 Section Includes:

.1 Under this item the Contractor is required to furnish all materials, labour, equipment, power, maintenance, etc. to implement a temporary pumping system for the purpose of diverting the existing wastewater flows to the existing WWTP around the work area as required during the project. The diversions will consist of the diversion of both gravity flows and pumped flows as required.

.2 The design, installation, operation and maintenance of the temporary bypass pumping system shall be the Contractor's responsibility.

.3 The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction.

.4 Co-ordination will be required with the plant operations staff to ensure; smooth transition between normal and temporary flows and back again; coordinated shut downs for tie-ins and removals as required; training on use of the supplied equipment for emergency situations, etc.

1.2 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work

.2 Section 01 35 43 – Environmental Protection

.3 Section 01 51 00 – Temporary Utilies

.4 Section 01 52 00 – Construction Facilities

1.3 SUBMITTALS

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

.2 Prior to execution of the Work associated with this Section, the Contractor shall prepare and submit for approval a specific, detailed description of the proposed bypass pumping system.

.3 The Contractor shall submit to the Contract Administrator for review shop drawings providing detailed design and descriptions outlining all provisions required and precautions to be taken by the Contractor regarding the handling of existing wastewater flows. This plan must be specific and complete, including such items as schedules, locations, elevations, flows to the pumped at each location, piping routes, capacities of equipment, materials and all other incidental items necessary and/or required to insure proper operation of the system and

protection of the facilities, including protection of the access and bypass pumping locations from damage due to the discharge flows, and compliance with the requirements specified in these Contract Documents. No construction requiring bypass pumping shall begin until all the shop drawings required illustrating all provisions and requirements of the submission have been reviewed and accepted by the Contract Administrator.

.4 The plan shall include, but not be limited to, details of the following for each temporary bypass pumping requirement/location during the project:

.5 Purpose, location and schedule for the bypass pumping requirement involved;

.6 Volume of sewage to be bypassed;

.7 Staging areas for pumps and piping;

.8 Sewer plugging method, types and locations of plugs;

.9 Number, size, material, location and method of installation of suction piping;

.10 Number, size, material, method of installation and location of installation of discharge piping and any temporary pipe supports, protection (including from freezing) and thrust anchoring required;

.11 Bypass pump sizes, capacity, number of each size to be on site and power requirements, calculations of static lift, friction losses, and flow velocity (pump curves showing pump operating range shall be submitted);

.12 Standby power generator size, location;

.13 Downstream discharge plan including method of protecting discharge structures from erosion and damage;

.14 Method of noise control for each pump and/or generator;

.15 Schedule for installation of, and maintenance of, bypass pumping equipment and lines;

.16 Method for removal of plugs and dams and removal and demobilization of temporary bypass pumping system.

.17 A contingency plan and mitigation measures for bypass pumping during high flow periods, including rain events.

1.4 PERMITS

.1 Perform work in accordance with Section 01 35 43 – Environmental Protections.

.2 No amendment to the Certificate of Approval is required to carry out temporary bypass pumping. Notification shall be given to the Ministry of the Environment, Conservation and Parks (MECP) prior to commencement of any temporary pumping.

1.5 PROTECTION AND DAMAGES

.1 Prevent damage to all existing and proposed pipes, maintenance holes, structures, ground cover and surface features in the vicinity of the area of work. Make good any damage at no cost to the Owner.

1.6 QUALITY ASSURANCE

.1 Qualifications

.1 The Contractor shall employ the services of a vendor who can demonstrate to the Contract Administrator that he specializes in the design and operation of temporary bypass pumping systems. The vendor shall provide at least five (5) references of projects of a similar size and complexity as this project performed by his firm within the past three years.

1.7 SYSTEM DESCRIPTION AND REQUIREMENTS

.1 Engage a professional Contract Administrator with demonstrated competence and licensed to practice in Ontario to design, and to supervise construction, operation and maintenance of the temporary bypass pumping system or systems.

.2 Coordinate with the construction of new structures, excavation and backfilling operations and with the proposed schedule of Work and required shutdowns.

.3 It is essential to the operation of the existing sewage treatment plant that there be no interruption in the flow of sewage throughout the duration of the project. A minimum flow of 8 MGD is to be maintained at all times. To this end, the Contractor shall provide, maintain and operate all temporary facilities such as dams, plugs, pumping equipment (both primary and back-up units as required), conduits, all necessary power, and all other labour, materials and equipment necessary to intercept the sewage flow before it reaches the point where it would interfere with his work, carry it past his work and return it to the existing sewer/building as required downstream of his work.

.4 The expected flows into the plant are summarized below:

.5		m^3/d	L/s
.1	Minimum Flows	2,500	30
.2	Average Day Flows (ADF)	7,500	90

.3 Maximum WWF (MDF) 40,000 463 (Wet Weather Peak Flow Recorded)

.6 The temporary bypass pumping system will be required to be maintained and operated 24 hours per day for each day it is in operation.

.7 The Contractor shall have adequate standby equipment available and ready for immediate operation and use in the event of an emergency or breakdown. One standby pump for each size pump utilized shall be installed at the bypassing locations, ready for use in the event of a primary pump failure.

.8 The design, installation and operation of the temporary bypass pumping system shall be the Contractor's responsibility. The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction.

.9 The Contractor shall provide all necessary means to safely convey the wastewater flows past the relevant work area. The Contractor will not be permitted to stop or impede the wastewater flows at any time or under any circumstances.

.10 The Contractor shall maintain the wastewater flows around the work area in a manner that will not cause surcharging of the upstream system or damage to sewers and, that will protect public and private property from damage and flooding.

.11 The Contractor must obtain approval of the proposed locations for all bypass pumping system related equipment from the Contract Administrator.

.12 The Contractor must coordinate all bypass pumping operations with the City of Timmins staff in advance of the initiation of any bypass pumping system operation.

.13 The Contractor shall protect water resources, wetlands and other natural resources during the temporary bypass pumping operations.

PART 2 PRODUCTS

2.1 MATERIALS

.1 All pumps used shall be fully automatic self-priming units that do not require the use of foot-valves or vacuum pumps in the priming system. The pumps may be electric or diesel powered. All pumps used must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of effluent flows. All motors, pumps and generators are to be appropriately silenced to a level which will not cause disruption or annoyance to the other parts of the site or to neighboring properties (max. 85dB at 1metre distance from pumps and power generators).

.2 The Contractor shall provide the necessary stop/start controls for each pump.

.3 The Contractor shall include one stand-by pump of each size to be maintained on site. Back-up pumps shall be on-line, isolated from the primary system by a valve.

.4 Discharge Piping - In order to prevent the accidental spillage of flows all discharge systems shall be temporarily constructed of rigid pipe with positive, restrained joints. Under no circumstances will aluminum "irrigation" type piping or glued PVC pipe be allowed. Discharge hoses will only be allowed in short sections and following specific approval by the Contract Administrator.

.5 Pumps and temporary pumping system shall be supplied by:

.1 AQUATECH

.2 ITT FLYGT XYLEM

.3 ATLAS

PART 3 EXECUTION

3.1 PREPARATION

.1 Contractor is responsible for locating any existing utilities in the area the Contractor selects to locate the bypass pumps and pipelines. The Contractor shall locate his bypass pipelines to minimize any disturbance to existing utilities and ongoing construction operations and, shall obtain approval of the pipeline locations from the City and the Contract Administrator prior to installation. All costs associated with relocating existing utilities/features and obtaining all approvals shall be the responsibility of the Contractor.

.2 During all bypass pumping operations, the Contractor shall protect all existing treatment plant, inlet sewer mains, all local sewer lines and other site services/utilities from damage. The Contractor shall be responsible for all damage caused by human or mechanical failure related to the temporary bypass pumping.

.3 When working inside chambers or manholes, the Contractor shall exercise caution and comply with OSHA requirements and confined space regulations when working in the presence of sewer gases, combustible or oxygen-deficient atmospheres, and confined spaces.

.4 A meeting shall be held involving the City, the Contract Administrator, the plant operators, the Contractor and the bypass pumping subcontractor to go over all requirements for each shut down, tie-in and other work on site which will require temporary bypass pumping and/or affect regular plant operations.

3.2 INSTALLATION AND MAINTENANCE

.1 Install, maintain, operate and remove the temporary bypass pumping systems in operation until a written authorization is given by the Contract Administrator that the temporary systems can be shutdown.

.2 The Contractor shall make connections to the existing sewers/buildings and construct temporary bypass pumping systems only at the location approved by the Contract Administrator and as may be required to provide an adequate suction conduit or chamber.

.3 Temporary piping is to be installed above ground where possible. No temporary piping is to be buried without prior approval from the Contract Administrator. The proposed piping will require adequate insulation to prevent freezing during operations as necessary.

.4 Plugging or blocking of wastewater flows shall incorporate a primary and secondary plugging device. A minimum of twenty-four (24) hours notice shall be given to the Contract Administrator prior to the plugging of any existing sewer/piping.

.5 Contractor shall inspect the bypass pumping systems every two (2) hours to ensure that the system is functioning adequately and that no leaks have developed.

.6 The Contractor shall ensure that the temporary pumping system is properly maintained and a trained, responsible operator shall be on hand at all times (ie. 24 hours per day, 7 days a week) when any pumps are operating.

.7 Spare parts for pumps and piping shall be kept on site as required, and adequate hoisting equipment for each pump and accessories shall be maintained on the site at all times during bypass pumping operations.

.8 Contractor and sub-contractor emergency contact details shall be supplied to the Contract Administrator and plant operators and displayed clearly on or near the temporary pumps.

3.3 FIELD PUMP TEST

.1 The Contractor shall perform leakage and pressure tests of the bypass pumping discharge piping using clean water prior to actual operation. Perform a field pumping test prior to any shutdowns or permanent diversions to ensure the adequacy of the bypass pumping system and to establish the rate of pumping to be used during various construction activities.

.2 The Contract Administrator shall be notified 24 hours prior to any proposed system testing.

3.4 REMOVAL OF PUMPING SYSTEM

.1 When plugging or blocking is no longer needed for performance and acceptance of work, it is to be removed in a manner that permits the sewage flow to slowly return to normal without surge, to prevent surcharging or causing other major disturbances downstream.

.2 Temporary pumping systems are to be shut down and partially removed to allow new works to be put into service. Temporary pumping systems are to be retained on site for 48 hours after removal in the event the new works are required to be shut down for emergency or deficiency repairs.

3.5 FIELD QUALITY CONTROL

.1 Top water level in all chambers and manholes (including those within the public sewer system) are to remain at, or below, the normal operating levels in place prior to initiation of the construction project at all times.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 09 21 16 – Gypsum Board Assemblies

1.2 REFERENCE STANDARDS

.1 American Society for Testing and Materials International (ASTM International).

.1 ASTM C423-17, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

.2 ASTM C635/C635M-17, Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

.3 ASTM C636/C636M-19, Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.

.4 ASTM E1264-19, Standard Classification for Acoustical Ceiling Products.

.5 ASTM E1414/E1414M-21a, Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.

.6 ASTM E1477-98a(2017), Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Safety Data Sheets (SDS).

.3 Underwriters Laboratories of Canada (ULC).

.1 CAN/ULC-S102:2018, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.3 SUBMITTALS

.1 Submit samples in accordance with the Owner's procurement documentation.

.1 Submit duplicate 300 x 300 mm samples of acoustical unit.

.2 Submit shop drawings in accordance with the Owner's procurement documentation.

.1 Submit reflected ceiling plans for special grid patterns as indicated.

.2 Indicate lay-out, insert and hanger spacing and fastening details, splicing method for main and cross runners, and acoustical unit support at ceiling fixture.

.3 Seismic Design: Submit shop drawings stamped by a professional engineered licensed in the Province of Ontario for all ceiling suspension systems and components to provide seismic restraints.

1.4 SAMPLES

.1 Submit samples in accordance with the Owner's procurement documentation.

.2 Submit one representative module of each type ceiling suspension system.

.3 Ceiling system to show basic construction and assembly, treatment at walls, recessed fixtures, splicing, interlocking, finishes, acoustical unit installation.

1.5 DESIGN REQUIREMENTS

.1 Maximum deflection: 1/360th of span to ASTM C635/C635M deflection test.

1.6 STORAGE AND HANDLING

.1 Store materials inside, level, under cover. Protect from weather, damage from construction operations and other causes, in accordance with manufacturer's printed instructions.

.2 Handle materials to prevent damage to edges or surfaces. Protect metal accessories and trim from being bent or damaged.

Part 2 Products

2.1 ACOUSTICAL CEILING PANELS

.1 Acoustic Tile - **ACT**: Armstrong Clean Assure ceiling tiles with suspension system, colour white, non-directional tile, 600 x 1 200 x 20 mm square edge.

2.2 ACOUSTICAL SUSPENSION SYSTEM

.1 Acoustic T-Bar Suspension System: Armstrong Prelude XL 15/16”, CertainTeed Classic Stab, Donn DX or approved alternate by Chicago Metalic, colour white, 24 mm wide.

.2 Intermediate duty system to ASTM C635/C635M.

.3 Basic materials for suspension system: Commercial quality cold rolled steel, zinc coated.

.4 Suspension System: Non fire rated, two directional exposed tee bar grid.

.5 Exposed tee bar grid components: shop painted satin sheen, white. Components die cut. Main tee with double web, rectangular bulb and rolled cap on exposed face. Cross tee with rectangular bulb; web extended to form positive interlock with main tee webs; lower flange extended and offset to provide flush intersection.

.6 Hanger wire: galvanized soft annealed steel wire, 2.6 mm diameter for access tile ceilings.

.7 Hanger inserts: purpose made.

.8 Accessories: splices, clips, wire ties, retainers, and wall moulding flush, to complement suspension system components, as recommended by system manufacturer.

.9 Install outside bullnose track at all bullnose corner unit blocks.

Part 3 Execution

3.1 INSTALLATION OF SUSPENSION SYSTEM

.1 Installation: in accordance with ASTM C636/C636M except where specified otherwise. Provide aluminum faced grid in laboratory.

.2 Do not erect ceiling suspension system until work above ceiling has been reviewed and accepted by the Consultant.

.3 Secure hangers to overhead structure using attachment methods acceptable by the Consultant. Do not suspend from or secure to steel deck.

.4 Install hangers spaced at maximum 1200 mm centres and within 150 mm from ends of main tees.

.5 Lay out system according to reflected ceiling plan.

.6 Install wall moulding to provide correct ceiling height.

.7 Completed suspension system to support super-imposed loads, such as lighting fixtures diffusers grilles and speakers.

.8 Support at light fixtures diffusers with additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.9 Interlock cross member to main runner to provide rigid assembly.

.10 Finished ceiling system to be square with adjoining walls and level within 1:1000.

3.2 INSTALLATION OF ACOUSTIC PANELS

.1 Install acoustical panels and tiles in ceiling suspension system.

.2 Co-ordinate ceiling work to accommodate components of other sections, such as light fixtures, diffusers, speakers, sprinkler heads, to be built into acoustical ceiling components.

.1 Installation: in accordance with ASTM C636/C636M except where specified otherwise. Provide aluminum faced grid in laboratory.

3.3 MAINTENANCE

.1 Provide percent of amount of main tees, cross tees and ceiling tiles installed.

.2 Store on site in location directed by Owner.

END OF SECTION

Part 1 General

1.1 RELATED WORK

.1 Section 03 33 00 – Cast-in-Place Concrete.

.2 Section 06 10 00 - Rough Carpentry.

.3 Division 07 – Thermal and Moisture Protection.

.4 Division 22 – Plumbing.

1.2 REFERENCES

.1 ASTM F710-22, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

.2 ASTM F1303-04(2021), Standard Specification for Sheet Vinyl Floor Covering with Backing.

.3 ASTMF1869-23, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

.4 Underwriters Laboratories of Canada (ULC).

.1 CAN/ULC 102.2:2019 (R2024), Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.

1.3 SAMPLES

.1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.

.2 Submit duplicate 300 x 300 mm sample pieces of sheet material.

1.4 SHOP DRAWINGS

.1 Upon request, submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.

.2 Submit manufacturer’s current printed product literature, specifications, installation instructions, and field reports.

.3 Submit shop drawings to show layout, treatment at walls, floor drains, and other objects. Indicate details of proposed treatment, where flooring material meets other floor materials.

.4 Closeout submittals: submit manufacturer’s operation and maintenance data for incorporation into manual specified in accordance with Section 01 78 00 – Closeout Submittals. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.

1.5 ENVIRONMENTAL REQUIRMENTS

.1 Maintain air temperature and structural base temperature at flooring installation area above 20 degrees Celsius for 48 hours before, during and 48 hours after installation.

.2 Should storage temperature be below 18 degrees Celsius or the floor temperature is below 18C, the flooring product to be moved to a warmer place and allowed to reach this temperature before unrolling or installation.

1.6 QUALITY ASSURANCE

.1 Sheet vinyl flooring to be installed by contractors approved by the material manufacturers and to have minimum 5 years' experience in the type of application required.

.2 Bond Test: Install multiple bond tests using 1m x 1m pieces of material adhered with the appropriate adhesive to verify quality of adhesion. Remove half of each piece after 24 hours, then the other half after 48 hours. To help assess resistance to indentation, place end user equipment onto a sample for 72 hours. Document all results.

1.7 DELIVERY, STORAGE AND HANDLING

.1 Deliver material to project site in Storage and manufacturer's original, unopened containers with labels indicating brand names, colors, and patterns, and quality designations legible and intact.

.2 Do not open containers or remove markings until materials are inspected and accepted.

.3 Store on end and protect accepted materials in accordance with manufacturer's directions and recommendations.

.4 Unless otherwise directed, store materials in original containers at not less than 21 degrees Celsius for not less than 24 hours immediately before installation.

1.8 WARRANTY

.1 Deliver material to project site in store, and in manufacturer's original unopened containers with labels indicating brand names,

Part 2 Products

2.1 MATERIALS

.1 Resilient sheet flooring: Altro Aquarius, 2 mm thick, having a density of 2.6 kg/m. One solid colour will be selected from standard range.

.2 Adhesives: as recommended by flooring manufacturer to suit application requirements.

.3 Sub-floor filler and leveler: Portland cement base latex underlayment as recommended by flooring manufacturer for use with their product.

.4 Resilient Base RBR: ASTM F1861, Type TS by Johnsonite or approved alternate (rubber, vulcanized thermoset), Group I (solid, homogeneous).

.5 Install wall base in strict accordance with manufacturer's written instructions and specifications including inside and outside corners. Height 100 mm, thickness 3.2 mm.

2.2 ACCESSORIES

.1 Provide all accessories as per manufacturer's written specifications.

.2 Vinyl welding rod: Altro Weld Rod.

.3 Cove former - sized to suit application: Altro Cove former 20R - 24 mm radius.

.4 Cap strip - sized to suit application, stainless steel.

.5 Subfloor Filler and Leveler: Use only grey Portland cement-based “moisture tolerant” underlayments, and patching compounds. Use for filling cracks, holes or leveling. White gypsum materials are not acceptable.

.6 Metal edge strips: smooth stainless steel with lip to extend over flooring.

.7 Adhesives

.1 Altrofix 30 – 2-part Polyurethane adhesive.

.2 Altrofix 31 – 2-part Polyurethane fast set version for repairs and small areas.

Part 3 Execution

3.1 INSPECTION

.1 Comply with manufacturer’s product data, including product technical bulletins, product catalog, and installation instructions.

.2 Site Verification of Conditions: verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer’s instructions.

.3 Ensure concrete floors are dry by using test methods recommended by flooring manufacturer. Commencement of work implies acceptance of conditions.

3.2 SUB-FLOOR PREPARATION

.1 Remove substrate paint, coatings and other substances that are incompatible with adhesives or contain soap, wax, oil, solvents, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

.2 Permanent and non-permanent markers, pens, crayons, and paint to not be used to write on the back of the flooring material or used to mark the substrate as they could bleed through and stain the flooring material.

.3 Safety flooring to be installed over subfloors conforming to ASTM F710 for concrete and other monolithic floors.

.4 Always conduct moisture tests per ASTM F2170 on all concrete slabs regardless of age or grade level. Do not proceed with work until results of moisture condition tests are acceptable.

.5 Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.

.6 Inspect and allow for smooth transition from other floor finishes to this flooring material.

.7 When patching, a moisture tolerant patching compound must always be used.

.8 Dry vacuum entire floor area immediately before application of adhesive.

.9 Ensure concrete slopes to drains.

3.3 FLOORING APPLICATION

.1 Install resilient sheet flooring in strict accordance with manufacturer's printed instructions and National Floor Covering Association, Specifications Standards Manual.

.2 Weld all seams by heat welding with Altro Weldrod™ only. Failure to install Altro Aquarius flooring in accordance with recommended procedures will void the Limited

Product Warranty.

.2 Apply adhesive uniformly using recommended trowel. Do not spread more adhesive than can be covered by flooring before initial set takes place.

.3 Lay flooring with seams parallel to building lines to produce a minimum number of seams.

.4 As installation progresses, roll flooring with 75 kg minimum roller to ensure full adhesion.

.5 Cut flooring neatly around fixed objects. Where recommended, glue 300 mm around perimeter with epoxy and seal junction.

.6 Continue flooring through areas which will be under built-in furniture.

.7 Terminate flooring at centreline of door in openings where adjacent floor finish or colour is dissimilar.

.8 Install metal edge strips at unprotected or exposed edges where flooring terminates.

.9 Drains: Fit safety flooring and mechanically fasten to drain outlets to ensure a permanent, watertight installation. New Round Drains: Install round flash clamping ring type drains to accommodate safety flooring. Install drains to fit flush with surrounding floor surface. Acceptable drain manufacturers and drain types include Wade FC-1100. Please refer to manufacturer's current Installation Guide for approved drain manufacturers and styles.

3.4 INITIAL CLEANING

.1 Remove excess adhesive from floor, base and wall surfaces without damage.
.2 Clean, floor surface to flooring manufacturer's printed instructions.

3.5 PROTECTION OF FINISHED WORK

.1 Sweep or vacuum all construction debris and dust first, then clean the flooring with AltroClean 44 /AltroClean 44 Plus using an auto scrubber.

.2 Cover and protect finished installation from damage from other trades using a non-staining, temporary floor protection system, such as reusable textured plastic sheeting.

.3 Never use tapes on the surface on the finish flooring, Sharpies, pens, crayons or construction markers on either the finish flooring or the substrate.

.4 No traffic for 24 hours after installation.

.5 No heavy traffic, rolling loads, or furniture placement for 72 hours after installation.

.6 Wait 72 hours after installation before performing initial cleaning. Start a regular maintenance program after the initial cleaning as recommended by manufacturer

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Painted steel cabinets and bases.

.2 Counter tops and reagent shelves.

.3 Casework hardware.

.4 Service fittings and outlets.

1.2 RELATED SECTIONS

.1 Section 06 10 00 – Rough Carpentry.

1.3 REFERENCES

.1 American Society for Testing and Materials (ASTM).
- .1 ASTM A240/A240M-25, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- .2 ASTM A653/A653M-23, Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .3 ASTM A1008/A1008M-24, Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
- .4 ASTM C1036-21, Standard Specifications for Flat Glass.
- .5 ASTM C1048-18, Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.

.2 American National Standards Institute/Builders Hardware Manufacturer's Association (ANSI/BHMA).
- .1 ANSI/BHMA A156.9-2020, Cabinet Hardware.

.3 Science Equipment and Furniture Association (SEFA).

1.4 QUALITY ASSURANCE

.1 Reinforce frame and support counters, to safely support a load of 90kg concentrated on 0.093 square metre in any area with no indentation showing on surface.

.2 Coordination:
- .1 Coordinate with other work having a direct bearing on work of this section.
- .2 Coordinate casework installation with size, location and installation of service utilities.

.3 Sequencing: Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

.4 Products of This Section: Manufactured to ISO 9001 certification requirements.

.5 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum 10 years' experience.

.6 Installer Qualifications:

.1 Installer to have a minimum of 5 years continued experience in installation or application of systems like those required for this project.

.2 Installer to be authorized by either the distributor or manufacturer. Warranty will be void if unauthorized installer executes the installation.

1.5 SUBMITTALS

.1 Submit product data sheets in accordance with Section 01 33 00 – Submittal Procedures.

.2 Product Data: Provide component dimensions, configurations, construction details, joint details, and attachments, utility and service requirements and locations.

.3 Test Reports: Manufacturer to submit test data and design criteria which follow the project specifications.

.4 Certificates: Certifications required in the specifications to be submitted with the original submittal package under separate cover. Certificates to be provided with the signature of a qualified individual of the supplier.

.5 Shop Drawings:
- .1 The laboratory casework manufacturer to furnish shop drawings illustrating the layout and placement of all laboratory casework and fume hoods as well as any products included in this section.
- .2 Indicate casework locations, large scale plans, elevations and cross sections.
- .3 Indicate the type and location of all service fittings and associated supply connections.
- .4 Preparation instructions and recommendations.
- .5 Storage and handling requirements and recommendations.
- .6 Provide manufacturer's instructions for installation and maintenance of all products provided and installed within this section. Instructions will be in bound form, tabbed and organized by section number.

.6 Samples: One complete set of colour chips representing the manufacturer's full range of available colours. Minimum sample size 250 mm x 76 mm.

1.6 DELIVERY, STORAGE AND PROTECTION

.1 Transport, handle, store, and protect products in accordance with Section 01 61 00 – Common Product Requirements.

.2 Packaging: Products to have packaging adequate to protect finished surfaces from soiling or damage during shipping, delivery and installation.

.3 Delivery: Casework delivery to only take place after painting, utility rough-ins and related activities are completed that could otherwise damage, soil or deteriorate casework in installation areas.

.4 Handling:
- .1 Accept casework on site and inspect on arrival for damage.
- .2 Care, such as the use of proper moving equipment, and experienced movers to be always used to avoid damaging the casework.
- .3 Until installation takes place, any wrapping, insulation or other method of protection applied to products from the factory to be left in place to avoid accidental damage.
- .4 Coordinate size of access and route to place of installation.

.5 Storage: Casework to be stored around installation. When it is necessary for casework to be temporarily stored in an area other than the installation area, the environmental conditions meet the environmental requirements specified under the Project Site Conditions article of this Section.

.6 Waste Management and Disposal: The supplier of the laboratory casework is responsible for removing any waste or refuse resulting from the installation of, or work pertaining to laboratory casework; thereby leaving the project site clean and free of debris.

1.7 PROJECT SITE CONDITIONS

.1 Building to be enclosed (windows and doors sealed and weather-tight).

.2 An operational HVAC system that maintains temperature and humidity at occupancy levels to be functional.

.3 Adjacent and related work to be complete.

.4 Ceiling, overhead ductwork and lighting to be installed.

.5 Site to be free of any further construction such as “wet work”.

.6 Required backing and reinforcements to be installed accurately and the project to be ready for casework installation.

1.8 WARRANTY

.1 Furnish a written warranty that work performed under this section to remain free from defects as to materials and workmanship for a period of two (2) years from date of shipment. Defects in materials and workmanship that may develop within this time are to be replaced without cost or expense to the Owner.

Part 2 Products

2.1 MANUFACTURERS

.1 Mott Manufacturing Ltd SIGMA Barrier Coating System.

.2 Air Master Systems Corp., CIF Laboratory Solutions and SAI Systems are approved alternates provided materials meet the requirements of this Section.

2.2 CASEWORK MATERIALS

.1 Sheet Steel: Mild steel, cold rolled furniture grade to requirements of ASTM A1008/A1008M, Grade C or higher, with smooth surfaces to furniture quality.

.2 Galvanized Sheet Steel: Commercial quality galvanized sheet steel to ASTM A653/A653M, Designation Z275.

.3 Stainless Steel: Sheet to ASTM A240, Type 316.

.4 Glass:
- .1 Clear float, 6 mm thick, glazing quality.
- .2 Laminated glass: Type 1 with clear PVB interlayer. Total nominal thickness of laminated glass: 6 mm.

.5 Sealant: One component, RTV silicone sealant. Colour to suit application.

.6 Resilient Base and Adhesive: Top set coved, 3 mm thick, 100 mm (4") high as indicated for base units, including pre-molded stops and external corners or colour selected by Engineer from full range. Adhesive for rubber base to be troweled on giving 100 percent coverage. Use an adhesive compatible with both surfaces, as recommended by the base manufacturer.

2.3 FABRICATION - GENERAL

.1 Fabricate casework, assembled and welded.

.2 Fabricate corners and joints without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.

.3 Fabricate components and cold rolled sheet steel. From each unit rigid, not dependent on adjacent unit for rigidity.

.4 Form edges and seams smooth.

.5 Set glass in doors with gasket and removable stops to minimize rattles or vibration.

.6 Cut and drill counter tops, backs, and other components for service outlets and fixtures.

.7 Install fixtures and fittings built into or part of casework. Provide access panels for maintenance of utility service and mechanical and electrical components.

2.4 CASEWORK CONSTRUCTION

.1 Use the following materials and minimum steel thicknesses for furniture manufacturing:
- .1 3 mm (11 Ga) leveling bolt gusset plates.
- .2 1.9 mm (14 Ga) drawer slides and side suspension channels.
- .3 1.5 mm (16 Ga) for tubular rails, legs for tables, gusset plates, cabinet top and intermediate horizontal rails.
- .4 1.2 mm (18 Ga) for door and drawer fronts, cabinet floor, cabinet sides, vertical front members, cabinet toe kick, service cover panels, table and kneehole frames, front rails, gable legs and dust caps, false panels, furring and filler panels.
- .5 0.9 mm (20 Ga) for drawer backs, door backs, vertical closure channel, removable back panels, shelves, drawer bodies, drawer dividers, bin bodies, and pull-out shelves.

2.5 CABINET FRAME

.1 Provide one-piece die-formed cabinet bottom construction with return side flanges turned down. Spot weld flanges to cabinet sides. Provide sink cabinets with galvanized bottom painted to match cabinet.

.2 Cabinet bottoms to be turned down at front to form 32 mm "U" channel to accept toe kick and turn down 133 mm at back with 16 mm return to form the back lower member of cabinet base. Provide punched 19 mm diametre corner holes for access to levelers and to accept PVC press plugs. Allow for access levelers from above cabinet without removing drawers or drawer supports.

.3 Provide additional vertical 75 mm “HAT” shaped channels, spot-welded to or formed with the rear vertical corner. Channel to be provided with pre-punched holes to receive shelf clips, and slotted holes to receive drawer suspension tracks. Cabinets 762 mm wide and larger to be provided with intermediate 117 mm “HAT” channels to brace cabinet and accept shelf clips and drawer tracks.

.4 Where applicable, the front corner posts to be pre-punched and slotted to accept drawer suspension systems and suspension pull-out shelves. Front vertical posts to form inboard flush front construction for doors and drawers acting as the cabinet main member side gable tying the cabinet bottom and horizontal member together to form a rigid case. Front post rear closure channels to be “J” shaped 9 mm x 33 mm x 49 mm. Provide channel with pre-punched holes to receive shelf clips.

.5 Doors and drawers to overlay top intermediates and floor horizontal members.

.6 Top horizontal front framing member to form a “J” shaped section 75 mm wide, 10 mm return by 25 mm deep with 16 mm return.

.7 Intermediate horizontal framing members to form a “U” 32 mm high with a 25 mm return on top and 16 mm return on bottom.

.8 Top rear horizontal framing member to be 50 mm x 32 mm angle section welded to back corner lapped post and side gables with welded corner gusset plates acting as cabinet bracing and countertop material fixing member.

.9 Enclose cabinetry toe space to be 75 mm deep x 100 mm high and to act as a total enclosure to bottom of cabinet. Toe space section to key up into “U” shaped front floor member and act as reinforcement. Toe space, front floor of cabinet and corner post sections to be spot welded together forming one structural member.

.10 The toe space members, side gable returns, and back lower member to form all welded structural corner to accept leveler gussets and 10 mm levelling bolts.

.11 Cabinet construction to be electro spot-welded to form a strong well-fitted, one-piece unit.

.12 Exposed horizontal structural cabinet members between doors and drawers to be unacceptable.

2.6 CABINET HARDWARE

.1 Pulls: Provide handles for drawers and hinged doors in 100 mm satin finish aluminum.

.2 Door Hinges: Provide five knuckle-type barrel door hinges of 1.9 mm (14 Ga) steel screwed into door and fastened to cabinet side stile with two counter sunk #8-32 zinc plated machine screws & captive serrated tooth washer nuts. Standard hinge finish to be bright chrome.

.3 Locks:

.1 Removable core, 5-disc tumbler with 229 key changes on a single cut key complete with master key.

2.7 BASE CABINET

.1 Provide removable back panels for cupboard base cabinets. Provide partial back panels 229 mm in height to accommodate plumbing at sink units. When requested, provide back panels and security panels on cabinets requiring locks.

.2 Shelving edges; turned down on all four sides 25 mm and returned under on front and back 25 mm. Shelves 914 mm and longer to be provided with “HAT’ channel reinforcement at front edge.

.3 Doors:

.1 Fabricate doors of two telescoping metal panels, 19 mm thick, painted internally with a sound-deadening material extending continuously full-width, and top to bottom. Reinforce hinged side of door adequately with hinge machine screws to prevent sagging. Secure recessed hinges to cabinet posts with machine screws and concealed self-locking nuts. Provide nylon roller friction catches, mounted on horizontal top or intermediate members pull side of doors. Provide each hinged door with two rubber bumpers.

.2 Doors, drawers, tracks and back panels to be replaceable in the field without requiring special tools.

.3 All standard double door cabinets to be designed without center stiles to maximize access to the cabinet.

.4 Drawers:

.1 Fabricate drawer fronts of two telescoping metal panels painted internally and totally filled with sound-deadening material to eliminate possible drumming effect. The exterior drawer front to have a channel formation on the top edge with fully finished return edges telescoping together to form fully sounded-deadened drawer front. Removable outside panel with lip to fit over inside panel on top edge, and to lock into position at bottom with rivets to form a rigid, one-piece 19 mm thick drawer front.

.2 Conventional drawer track systems to be designed to eliminate metal surface-to-surface contact and reduce side play, while incorporating a self-closing action for 150 mm of drawer travel. Made up of custom manufactured components. Each drawer track assembly to incorporate 2 nylon rimmed, plated steel ball bearing rollers.

.3 Provide drawer operation on full extension drawer slides, load capacity 45kg (100 pounds).

.4 Drawer body to consist of one-piece construction including the bottom, two sides, back and inner front flanged end which to be welded to the interior drawer front head. Drawer bodies to have a reinforcing bend on top edges.

.5 Provide built-in stops to prevent inadvertent removal of drawers, with allowance for drawers to be removed by lifting front of drawers and pulling out.

.6 Provide drawer pulls in central location of drawer face. Two handles to be provided on units 762 mm and larger.

.5 Filler Panels:

.1 Fabricate front filler panels complete with flanges on both sides and a 75 mm x 100 mm toe space along the working face.

.2 Scribe filler panels to be flanged on one side and flat on the other, to be cut on jobsite to suit wall conditions, and to fit into double angles secured to the wall. No visible mounting screws permitted.

.3 Corner filler panels to be a 2-piece construction, one fixed panel and the other a variable panel to facilitate room dimensions. Each to have flanges and an integral 75 mm x 100 mm toe space filler to interlock with its counterpart.

.4 End closing filler panels to be flanged on one side 25 mm and secured to back of cabinet. The edge extending to wall to be flat and fit into a double angle secured to wall. No visible mounting screws permitted.

2.8 FINISHES

.1 Metal (Except Stainless Steel): Degrease and phosphate etch followed by electrostatic powder coat.

.2 Stainless Steel: No.4 finish (finish for stainless steel countertop as indicated on the drawings).

.3 Shop finish all components.

Part 3 Execution

3.1 EXAMINATION

.1 Verify existing conditions before starting work.

.2 Verify adequacy of support framing and anchors.

3.2 CASEWORK INSTALLATION

.1 Install casework, components and accessories to manufacturer instructions.

.2 Use anchoring devices to suit conditions and substrate materials encountered.

.3 Casework to be set with components plumb, straight and square, securely anchored to building structure with no distortion. Concealed shims to be used as required.

.4 Cabinets in continuous runs to be fastened together with joints flush, uniform and tight with misalignment of adjacent units not to exceed 0.06 mm.

.5 Wall casework to be secured to solid material, not lath, plastic or gypsum board.

.6 Top edge surfaces to be abutted in one true plane. Joints are to be flush and gap to not exceed 3 mm between tops.

.7 Casework and hardware to be adjusted and aligned to allow for accurate connection of contact points and efficient operation of doors and drawers without any warping or binding.

.8 Insulate to prevent electrolysis between dissimilar metals.

.9 Scribe to abutting surfaces and align adjoining components. Apply matching filler pieces where casework abuts dissimilar construction.

.10 Field weld joints in stainless steel work, without open seams. Grind smooth and polish to match adjacent surfaces.

.11 Field touch-up blemished to original finish.

3.3 COUNTERTOP INSTALLATION

.1 Countertops are to have been fabricated in lengths according to drawings, with ends abutting tightly and sealed with corrosion resistant sealant.

.2 Tops will be anchored to base casework in a single true plane with ends abutting at hairline joints with no raised edges at joints.

.3 Joints to be factory prepared having no need for in-field processing of top and edge surfaces.

.4 Joints to be dressed smoothly, surface scratches removed and entire surface cleaned thoroughly.

3.4 ADJUSTING

.1 Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly.

3.5 CLEANING

.1 Ensure all products are unsoiled and match factory finish. Remove or repair damaged or defective units.

.2 Clean all finished surfaces, including drawers and cabinet shelves, and touch up as necessary.

.3 Counter tops to be cleaned and free of grease or streaks.

3.6 PROTECTION OF FINISHED WORK

.1 Do not permit finished casework to be exposed to continued construction activity.

.2 Counter tops and ledges to be protected with 6 mm ribbed cardboard for the remainder of the construction process.

.3 Examine casework for damaged or soiled areas; replace, repair, and touch-up as required.

.4 Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

ROCK REMOVAL

PART 1 GENERAL

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedure.

.2 Section 01 35 43 – Environmental Protection

.3 Section 01 56 00 - Temporary Barriers and Enclosures.

.4 Section 01 35 29.06 - Health and Safety Requirements.

.5 Section 02 23 40 – Vibration Monitoring.

.6 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

1.2 DEFINITION

.1 Rock: any solid material in excess of 2.0m^3 and which cannot be removed by means of mechanical excavating equipment having 1.95m^3 bucket. Frozen material not classified as rock.

1.3 MEASUREMENT PROCEDURES

.1 Rock removal quantities for building excavation, trench excavation, etc. will be considered inclusive to the work and will not be measured for any other purpose other than documenting as-built conditions.

.1 Contractors shall provide all survey equipment needed and provide assistance to Owner's Representative in taking cross sections. Sections shall be taken at 5 m intervals for mass and trench rock excavation. Sections will be submitted to contractor's site representative for verification. Additional sections shall be taken at points or significant change in elevation or at any other locations as determined by Owner's Representative. Contractor to schedule work to allow sufficient time for Owner's Representative to take necessary sections.

1.4 SUBMITTALS

.1 Submit to Owner's Representative and local authorities having jurisdiction for approval, written proposal of operations for removal of rock by mechanical means, blasting will not be accepted.

~~**1.5 VIBRATION CONTROL**~~

~~.1 Reduce ground vibrations to avoid damage to structures or remaining rock mass.~~

~~.2 Vibration monitoring shall be as per Specification 02 23 40.~~

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION

3.1 PROTECTION

.1 Prevent damage to surroundings and injury to persons in accordance with Section 01 56 00 - Temporary Barriers and Enclosures. Sound warnings and display signs when blasting to take place.

.2 Monitor and repair any/all damage to surrounding infrastructure. Monitoring impacts as indicated in Vibration Monitoring section 01 35 43.

3.2 ROCK REMOVAL

.1 Co-ordinate this Section with Section 01 35 29.06 - Health and Safety Requirements.

.2 Remove rock to alignments, profiles, and cross sections in order to install work as indicated.

.3 Explosive blasting is not permitted.

.4 Use rock removal procedures to produce uniform and stable excavation surfaces. Minimize overbreak, and to avoid damage to adjacent structures.

.5 Excavate rock to horizontal surfaces.

.6 Scale, pressure wash and broom clean rock surfaces which are to bond to concrete.

.7 Excavate trenches to lines and grades to minimum of 300 mm below pipe invert indicated. Provide recesses for bell and spigot pipe to ensure bearing will occur uniformly along barrel of pipe.

.8 Cut trenches to widths as indicated.

.9 Remove boulders and fragments which may slide or roll into excavated areas.

.10 Correct unauthorized rock removal at no extra cost, in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.

3.3 DAMAGE

.1 Upon completion of blasting or immediately following the receipt of a complaint, a site condition survey shall be performed to determine if any damage has resulted. The Contractor shall record all incidents of any damage or injury, which shall be reported immediately in writing to the Contract Administrator. All other complaints shall be reported to the Contract Administrator in writing within 24

hours of receipt. Each complaint report shall include the name and address of the complainant, time received, and description of the circumstances that led to the complaint.

.2 The contractor shall be responsible for any and all damage caused by their choice of rock removal.

3.4 ROCK DISPOSAL

.1 Dispose of surplus removed rock off site. Dispose in locations acceptable to authorities having jurisdiction and Contract Administrator. The Contractor may be permitted to crush rock on site for use as Granular A or Granular B material if crushed material conforms to Section 31 05 16.

.2 Do not dispose removed rock into landfill. Material must be sent to appropriate location as approved by the Contract Administrator.

END OF SECTION

PROCESS WATER PUMPING SYSTEM

PART 1 GENERAL

1.1 SUMMARY

.1 The Contractor shall supply and install a triplex pumping system, complete with three (3) variable speed, 24-hour continuous duty, centrifugal effluent water pumps complete with all ancillary equipment as specified hereinafter.

.2 The effluent water system is to be installed in a basement in the UV disinfection building as noted on the Contract Drawings.

.3 This section specifies the supply, installation, testing and commissioning of the effluent water pumping system using treated secondary effluent at a water source.

.4 Provide process water pumping system complete with pumps, electric motors, pressure tanks, control panel, and all specified appurtenances.

1.2 RELATED SECTIONS

.1 Section 01 33 00 – Submittals

.2 Division 26 – Electrical

.3 Section 26 29 20 – Variable Frequency Drives

.4 Section 44 00 10 – Process General Requirements

.5 Section 44 05 50 – Process Piping

.6 Section 25 05 01 – Control Panels

1.3 REFERENCE STANDARDS

.1 Conform to the following reference standards in accordance with:

.1 Ontario Building Code (OBC).

.2 Canadian Standards Association (CSA).

.3 American National Standard Institute (ANSI): B-16.5 - Pipe Flanges and Flanged Fittings.

.4 American Society of Mechanical Engineers (ASME): Section VIII, Division 1-: Pressure Vessels Design and Fabrication.

.5 American Wastewater Association (AWWA): C504 - Rubber Sealed Valves.

.6 American Society for Testing Materials (ASTM): A536 - Standard Specification for Ductile Iron Casting, Grade 65-45-12.

.7 Canadian Standards Association, CSA C22.1, Canadian Electrical Code (CEC), Safety Standard for Electrical Safety Installations

1.4 SUBMITTALS

.1 Provide the following information in one complete submittal in accordance with Section 01 33 00.

.1 Manufacturer's data including equipment weight.

.2 Performance curves developed for specified operating conditions indicating relationship between speed, capacity, head, horsepower, and efficiency; indicate the rated operating points on the curve.

.3 Shop drawings, including dimensions and sectional view of equipment and sump arrangement for pipe and access opening showing details of construction, arrangement and installation.

.4 Parts list complete with a list of recommended spare parts.

1.5 SERVICE CONDITIONS

.1 Select and design pumps specifically for continuous and intermittent duty pumping of treated secondary effluent.

.2 The fluid temperature is expected to range from 0°C to 25°C.

.3 Total suspended solids is expected to range from 15 mg/L (average) to 30 mg/L (maximum).

.4 Pumps shall be designed for quiet operation. The desirable maximum sound power level (PWL) shall not exceed 100 dB. The maximum sound pressure level (SPL) of any point one meter from pump shall not exceed 80 kB.

1.6 MAINTENANCE DATA

.1 Provide maintenance data for incorporation into manual specified in Section 01 33 00 – Submittals.

.2 Data to include:

.1 Manufacturers name, type, model, capacity, head, serial number and performance curves.

.2 Mill certifications confirming hardness of rotor.

.3 Applicable operation and maintenance information as specified in Section 01 33 00.

.4 Installation certification form.

.5 Training Certification form.

PART 2 PRODUCTS

2.1 PRODUCTS

.1 Provide products, modified as necessary, to meet the specified features and operating conditions.

.2 Design Standard: The system has been designed around the named supplier. Any alternates to be considered shall fit into the available space. Any design changes to accommodate the alternate equipment shall be the responsibility of the General Contractor.

.3 Acceptable Manufacturers are:

.1 Grundfos

2.2 PUMPS (PWA-PMP-6105, PWA-PMP-6205 AND PWA-PMP-6305)

.1 All pumps shall be ANSI/NSF 61 approved for drinking water.

.2 The pumps shall be of the submersible, vertically mounted, multi-stage design.

.3 The head-capacity curve shall have a steady rise in head form maximum to minimum flow within the preferred operating region. The shut-off head shall be a minimum of 20% higher than the head at the best efficiency point.

.4 Submersible Pumps:

.1 General

.1 The Submersible pump and motor shall be designed for continuous submerged operation.

.2 The pump shall be driven by a motor attached above the pump section.

.3 The pump system shall be Grundfos model 150S75-4 pumps or approved equivalent.

.2 Pump Capacity and Electrical Requirements

.1 Each pump shall have the following characteristics:

.1 Discharge Connection: 75mm

.2 Design duty point: 8 L/s at 42 m TDH.

.3 Minimum Shutoff head: 57m TDH

.4 Minimum overall efficiency at duty point: 58%

.2 The motor shall be:

.1 Maximum Speed: 3450 RPM

.2 Maximum Horsepower: 5.5 kW (7.5 hp)

.3 Power: 575 V/3 ph / 60 Hz.

.4 Suitable for VFD use.

.3 The cable between the motor and service entry shall be at least 10 meter, 600-volt insulation.

.3 Pump Design

.1 Pumps shall be mounted in a vertical flow sleeve designed specifically for the pump by the pump manufacturer. The flow sleeve is intended to induce cooling flow over the pump motor.

.2 There shall be a check valve integrally designed into the pump discharge housing.

.3 The pump shall have integrated protection against upthrust.

.4 The pumping downthrust shall be absorbed by the motor thrust bearing.

.5 Each impeller shall be fitted with a seal ring around its eye or skirt to prevent hydraulic losses.

.6 A filter screen shall be included as part of the suction inlet assembly.

.4 Pump Materials of Construction

.1 The pump bowls, impellers, guide vanes, strainer, and check valve shall be 300 Series stainless steel. The shaft and coupling shall be 300 or 400 Series stainless steel. No moving parts shall be constructed from plastic or other brittle materials.

.2 The intermediate and top bearings shall be Nitrile Rubber (NBR).

.5 Motor Design

.1 The motor shall be a Squirrel-Cage induction motor designed for continuous underwater operation in conformance to NEMA standards.

.2 The motor shall have a Kingsbury-type or Michell thrust bearing capable of carrying the maximum pump thrust loads.

.3 The motor shall be water filled for cooling and lubrication. No oils or grease lubrication shall be used.

.4 A flexible diaphragm shall be provided to permit expansion and contraction of the internal motor fluid when the motor heats and cools during operation.

.5 A shaft seal shall be provided to ensure the internal motor fluid is not mixed with the pumped fluid.

.6 Motor Materials of Construction

.1 The motor diaphragm shall be Nitrile Rubber or Type 100 Hydrin.

.2 The shaft seal shall be a Nitrile Rubber or Type 100 Hydrin.

.3 The motor shall be of 200 or 300 Series stainless steel.

2.3 VARIABLE FREQUENCY DRIVE

.1 VFDs shall be as specified in Section 26 29 20 - Variable Frequency Drives.

.2 VFDs to control each effluent water pumps shall be supplied as part of this section's package.

2.4 PUMP SYSTEM CONTROLLER

.1 The pump system controller shall be a product developed and supported by the pump supplier.

.2 The controller shall be microprocessor based capable of having software changes and updates via personal computer (notebook). The controller user interface shall have a VGA display with a minimum screen size of 3½" x 4-5/8" for easy viewing of system status parameters and for field programming. The display shall have a back light with contract adjustment. Password protection of system settings shall be standard.

.3 The controller shall display the following as status readings from a single display on the controller.

.1 Current value of the control parameter (Discharge pressure).
.2 Most recent existing alarm (if any).
.3 System status with current operating mode.
.4 Status of each pump with current operating mode and rotational speed as a percentage (%).

.4 The controller shall have as a minimum the following inputs and outputs for connection to the plant SCADA:

.1 Effluent wet well water level (4-20mA signal).
.2 Each pump's running status (dry contact).
.3 Each pump's running speed (4-20 mA signal).
.4 Each pump's fault status (dry contact).
.5 System pressure on the discharge manifold (4-20 mA signal).
.6 System discharge flow (4-20 mA signal).

.5 Pump system programming (field adjustable) shall include as a minimum the following:

.1 Transducer Settings (Discharge Analog supply/range).
.2 High system pressure indication and shut-down.
.3 Low system pressure indication and shut-down.
.4 Low suction pressure (via digital contact).
.5 Low suction pressure (via analog signal).
.6 Discharge flow meter settings (analog 4-20 mA signal).
.7 Wet well low level pump stop.

.6 The system pressure set-point shall be capable of being automatically adjusted by using an external set-point influence. The set-point influence function enables the user to adjust the control parameter (typically pressure) by measuring an additional

parameter. (Example: Lower the system pressure set-point based on a flow measurement to compensate for lower friction losses at lower flow rates).

.7 The controller shall be capable of receiving a remote analog set-point (4-20mA) as well as a remote system on/off (digital) signal.

.8 The pump system controller shall store up to 24 warning and alarms in memory. The time, date and duration of each alarm shall be recorded. A potential-free relay shall be provided for alarm notification to the plant SCADA. The controller shall display the following alarm conditions:

High System Pressure	Low System Pressure
Low Suction Pressure (warning and/or alarm	Individual Pump Failure
VFD Trip/Failure	Loss of Sensor Signal (4-20mA)
Loss of Remote Set-Point Signal (4-20mA)	System Power Loss

.9 The pump system controller shall be mounted in a NEMA 4 enclosure (NEMA 3R if cooling fan is required). The entire control panel shall be CSA approved. The control panel shall include a main disconnect, circuit breakers for each pump and the control circuit and control relays for alarm functions.

Control panel options shall include, but not be limited to:

Pump Run Lights	Pump Alarm Lights
System Fault Light	Audible Alarm (80 dB [A])
Surge Arrestor	Control Panel Internal Illumination
Emergency/Normal Operation Switches	Service Disconnect Switches

2.5 SEQUENCE OF OPERATION

.1 The system controller shall operate from three equal capacity pumps and three Variable Frequency Drive (VFD) to maintain a constant discharge pressure (system set-point). The system controller shall receive an analog signal [4-20mA] from the discharge installed pressure transducer on the discharge manifold, indicating the actual system pressure. When a flow demand is detected (drop in system pressure) the VFD duty-controlled pump shall start first. As flow demand increases, the speed of the VFD controlled pump shall be increased to maintain the system set-point pressure. When the VFD controlled pump cannot maintain the system set-point as flow increases (pressure starts to drop below system set-point), an additional pump will be started. Then both pumps shall immediately

adjust speed to maintain the system set-point. Additional pumps shall be started as flow demand increases. As flow demand decreases, the pump speed shall be reduced while system set-point pressure is maintained. The system controller shall switch off pumps as required with decreasing flow. The system controller shall be capable of switching pumps on and off to satisfy system demand without the use of flow switches, motor current monitors or temperature measuring devices.

2.6 SYSTEM CONSTRUCTION

.1 A properly sized, bladder expansion tank, be provided under this section for field installation on the discharge manifold.

.2 A pressure transducer shall be supplied under this section for field installed on the discharge manifold. Pressure transducers shall be made of 316 stainless steel. Transducer accuracy shall be ±1.0% full scale with hysteresis and repeatability of no greater than 0.1% full scale. The output signal shall be 4-20 mA with a supply voltage range of 9-32 VDC.

.3 A bourdon tube pressure gauge, 64mm diameter, shall be placed on the suction and discharge manifolds. The gauge shall be liquid filled and have copper alloy internal parts in a stainless-steel case. Gauge accuracy shall be 2.5%. The gauge shall be capable of a pressure of 30% above its maximum span without requiring recalibration.

.4 Effluent Water Pumping System shall be supplied complete with a 304SS guide rail system for the individual pump removal and insertion without dewatering the wet well.

2.7 WARRANTY

.1 The warranty period shall be a non-prorated period of 12 months from date of installation, not to exceed 30 months form date of manufacture on which the Contract is Substantially Performed. [Addendum 01].

2.8 VIBRATION

.1 The pump assembly shall be properly balanced and mounted so that the vibration do not exceed 0.13mm per meter distance above the mounting flange, in the operating speed range.

2.9 TESTING

.1 The standard non-witnessed performance test of the pump units shall be performed at the factory by taking readings at a minimum of five capacity points, including one point at the design capacity specified above (Duty Point) in accordance with the American National Standard for Vertical Turbine Pumps ANSI/AWWA E101, Section A6 - Factor inspection and Tests.

.2 At the conclusion of the test, two certified copies of the test data sheet and the anticipated field performance curve shall be supplied to the Contract Administrator before the equipment is delivered to the site. The acceptance of the pump unit will be based on the achievement of test results satisfactory to the Contract Administrator. If the efficiencies of the pump or drive are more than 3% below that guaranteed, the Owner reserves the right to reject the equipment.

2.10 SPARE PARTS

.1 Provide the following spare parts: 2 sets of all gaskets.

.2 Tag and store spare parts.

2.11 PRESSURE/DRAWDOWN TANKS

.1 Pressure/Drawdown Tank shall be a bladder type pre-pressurized storage tank, manufactured using welded steel, constructed, tested and stamped in accordance with Section VIII, Division 1 of the ASME Code for a working pressure of 860 kPa (125 psig) and air pre-charged.

.2 The tank shall be supported by steel legs or a base (integral ring mount) for a vertical installation. Tank will have a heavy-duty butyl bladder with a minimum thickness of 2.5mm. The vessel shall be painted with on shop coat of red oxide primer.

.3 The tank shall be model WX-453-C as manufactured by Amtrol Inc., or approved equivalent.

PART 3 EXECUTION

3.1 INSTALLATION

.1 General:

.1 Install pumps in accordance with manufacturer's instructions and shop drawings and Hydraulic Institute Standards.

.2 Support pump foundation plates on concrete pads as shown on Drawings.

.3 Set anchor bolts according to specifications prior to placing pump foundation plates. Accurately level plates, bedded in non-shrink grout prior to placing pump base.

.4 Pumps to operate smoothly and quietly and within vibration limits set by Hydraulics Institute.

.2 Lubrication, Grease, Oil and Fuel

.1 Perform the complete initial lubrication of all equipment in accordance with the manufacturer's instructions. Provide all grease, oil, lubricants, etc., as required for the initial operation of the equipment.

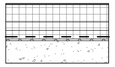
.3 Certify proper installation and operation of all components.

3.2 COMMISSIONING

.1 Commission pumping unit in accordance with Section 01 91 13 – Commissioning Requirements.

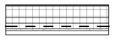
END OF SECTION

TYPICAL ROOF ASSEMBLIES



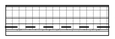
RO1 - ROOF 1 (BUILDING 3000)

- 2 PLY MODIFIED BITUMINIOUS ROOFING SYSTEM
- 6.3mm PROTECTION/RECOVERY BOARD
- SLOPED/TAPERED INSULATION. MIN. 2% (POLYISO)
- 2 LAYERS 75mm THK EACH RIGID INSULATION (POLYISO)
- VAPOUR RETARDER
- CONCRETE TOPPING, REFER TO STRUCTURAL
- PRECAST CONCRETE HOLLOWCORE ROOF STRUCTURE. REFER TO STRUCTURAL



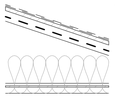
RO2 - ROOF 2 (BUILDING 3000 LINK ROOF)

- 2 PLY MODIFIED BITUMINIOUS ROOFING SYSTEM
- 6.3mm PROTECTION/RECOVERY BOARD
- SLOPED/TAPERED INSULATION. MIN. 2% (POLYISO)
- 2 LAYERS 50mm THK EACH RIGID INSULATION (POLYISO)
- VAPOUR RETARDER
- 16mm EXTERIOR GYPSUM SHEATHING
- ROOF DECK. REFER TO STRUCTURAL



RO3 - ROOF 3 (BUILDING 2000) **NOT INCLUDED IN PHASE 1**

- 2 PLY MODIFIED BITUMINIOUS ROOFING SYSTEM
- 6.3mm PROTECTION/RECOVERY BOARD
- SLOPED/TAPERED INSULATION. MIN. 2% (POLYISO)
- 2 LAYERS 50mm THK EACH RIGID INSULATION (POLYISO)
- VAPOUR RETARDER
- 16mm EXTERIOR GYPSUM SHEATHING
- EXISTING AND NEW METAL ROOF DECK. REFER TO STRUCTURAL



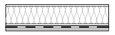
RO4 - ROOF 4 (BUILDING 6000)

- 24 ga. STEEL ROOFING
- 19mm x 89mm HORIZ. STRAPPING @ 610mm O.C. PERPENDICULAR TO ROOF TRUSS
- ICE & WATER SHIELD ENTIRE ROOF AREA
- 16mm TONGUE & GROOVE PLYWOOD SHEATHING
- PRE-ENGINEERED ROOF TRUSSES
- LOOSE FILL (BLOWN) INSULATION MIN. R-60
- 6MIL POLY VAPOR/AIR BARRIER (ALL EDGES TAPED)
- 19mm x 64mm STRAPPING @ 400mm O.C.
- 12.5mm PVC SOFFIT (TRUSSCORE BY AGWAY)

PO1 - PARAPET 1 (BUILDING 3000)

- 22mm HORIZONTAL PRE-FIN. METAL CLADDING
- 60mm AIR SPACE
- 102mm RIGID INSULATION C/W 125mm VERTICAL "Z" BARS
- AIR VAPOUR BARRIER
- 16mm EXTERIOR GRADE GYPSUM SHEATHING
- 152mm METAL STUD @ 400mm O.C. C/W SEMI RIGID INSULATION
- 19mm EXTERIOR P/T PLYWOOD SHEATHING

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION



PO1a - PARAPET 1a (BUILDING 3000)

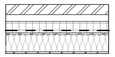
- 16mm EXTERIOR GRADE GYPSUM SHEATHING
- 152mm METAL STUD @ 400mm O.C. C/W SEMI RIGID INSULATION
- 16mm EXTERIOR GRADE GYPSUM SHEATHING
- AIR VAPOUR BARRIER
- 50mm AIR SPACE FOR BUILDING EXPANTION JOINT
- REFER TO ROOF PLANS FOR LOCATIONS

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION

PO1b - PARAPET 1b (BUILDING 3000)

- AIR VAPOUR BARRIER
- 16mm EXTERIOR GRADE GYPSUM BOARD SHEATHING
- 152mm METAL STUD @ 400mm O.C. C/W SEMI RIGID INSULATION
- 19mm EXTERIOR P/T PLYWOOD SHEATHING

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION



PO2 - PARAPET 2 (BUILDING 3000)

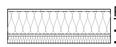
- 90mm MASONRY VENEER
- 60mm AIR SPACE
- 102mm RIGID INSULATION C/W MASONRY SUPPORT TIES. REFER TO STRUCTURAL
- AIR VAPOUR BARRIER
- 16mm EXTERIOR GRADE GYPSUM BOARD SHEATHING
- 152mm METAL STUD @ 400mm O.C. C/W SEMI RIGID INSULATION
- 19mm EXTERIOR P/T PLYWOOD SHEATHING

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION

PO3 - PARAPET 3 (BUILDING 2000) **NOT INCLUDED IN PHASE 1**

- 100mm INSULATED METAL PANELS (VERTICAL)
- 16mm EXTERIOR GRADEGYPSUM BOARD SHEATHING
- 152mm METAL STUD @ 400mm O.C. C/W SEMI RIGID INSULATION
- 19mm EXTERIOR P/T PLYWOOD SHEATHING

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION



PO4 - PARAPET 4 (BUILDING 2000)

- 16mm GYPSUM BOARD SHEATHING
- 203mm METAL STUD @ 400 O.C. C/W SEMI RIGID INSULATION
- 16mm EXTERIOR GRADE GYPSUM SHEATHING
- 64mm METAL STUD @ 400 O.C. C/W SEMI RIGID INSULATION
- AIR VAPOUR BARRIER

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION

PO5 - PARAPET 5 (BUILDING 2000)

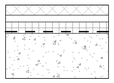
- 22mm HORIZONTAL PRE-FIN. METAL CLADDING
- 25mm AIR SPACE
- 102mm RIGID INSULATION C/W 125mm VERTICAL "Z" BARS
- AIR VAPOUR BARRIER
- 16mm EXTERIOR GRADE GYPSUM SHEATHING
- 152mm METAL STUD @ 400mm O.C. C/W SEMI RIGID INSULATION
- 19mm EXTERIOR P/T PLYWOOD SHEATHING

- REFER TO TYPICAL P/T PARAPET CAP CONSTRUCTION

TYPICAL P/T PARAPET CAP CONSTRUCTION

- PRE-FINISHED METAL CAP FLASHING c/w DRIP EDGE, BOTH SIDES, C/W 100mm WIDE HOLD DOWN METAL CLIPS @ 400mm O.C. FOR INTERIOR PARAPET SIDE, AND CONTINUOUS METAL HOLD DOWN CHANNEL ON EXTERIOR SIDE
- EXTERIOR SIDE PRE-FINISHED METAL FASCIA HEIGHT TO BE 150mm AND INTERIOR SIDE PRE-FINISHED METAL FASCIA HEIGHT TO BE 100mm.
- ROOFING MEMBRANE SYSTEM UP AND OVER P/T SLOPED CAP.
- 19mm THK. SLOPED P/T PLYWOOD SHEATHING AS SHOWN
- 19mm X 64mm STRAPPED P/T PERIMETER BLOCKING AT OUTER EDGE
- 19mm THK. P/T PLYWOOD SHEATHING

TYPICAL EXTERIOR WALL ASSEMBLIES

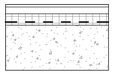


EXW1 - EXTERIOR WALL (BUILDING 3000)

- 90mm MASONRY VENEER
- 60mm AIR SPACE
- 102mm RIGID INSULATION C/W MASONRY SUPPORT TIES.
- REFER TO STRUCTURAL
- AIR VAPOUR BARRIER
- CIP CONCRETE. REFER TO STRUCTURAL

EXW2a - EXTERIOR WALL (BUILDING 3000)

- 22mm HORIZONTAL PRE-FIN. METAL CLADDING
- 60mm AIR SPACE
- 102mm RIGID INSULATION C/W GALV. 125mm VERTICAL "Z" BARS @ 400mm O.C.
- AIR VAPOUR BARRIER
- 240mm CONCRETE BLOCK MASONRY UNITS (CMU). REFER TO STRUCTURAL

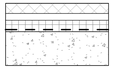


EXW2b - EXTERIOR WALL (BUILDING 3000)

- 22mm HORIZONTAL PRE-FIN. METAL CLADDING
- 60mm AIR SPACE
- 102mm RIGID INSULATION C/W GALV. 125mm VERTICAL "Z" BARS @ 400mm O.C.
- AIR VAPOUR BARRIER
- CIP CONCRETE. REFER TO STRUCTURAL

EXW3 - EXTERIOR WALL (BUILDING 6000)

- 90mm MASONRY VENEER
- 50mm AIR SPACE
- 102mm RIGID INSULATION C/W MASONRY SUPPORT TIES . REFER TO STRUCTURAL
- AIR VAPOUR BARRIER
- 190mm CONCRETE BLOCK MASONRY UNITS (CMU). REFER TO STRUCTURAL

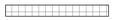


EXW4 - EXTERIOR WALL (BUILDING 3000)

- 90mm MASONRY VENEER
- 60mm AIR SPACE
- 102mm RIGID INSULATION C/W MASONRY SUPPORT TIES. REFER TO STRUCTURAL
- AIR VAPOUR BARRIER
- CIP CONCRETE. REFER TO STRUCTURAL

EXW5 - EXTERIOR WALL (BUILDING 2000)

- 22mm HORIZONTAL PRE-FIN. METAL CLADDING
- 50mm AIR SPACE
- 100mm RIGID INSULATION C/W MASONRY SUPPORT TIES. REFER TO STRUCTURAL
- AIR VAPOUR BARRIER
- 190mm CONCRETE BLOCK MASONRY UNITS (CMU). REFER TO STRUCTURAL



EXW6 - EXTERIOR WALL (BUILDING 2000) **NOT INCLUDED IN PHASE 1**

- 100mm INSULATED METAL PANEL SYSTEM
- EXISTING HORIZONTAL GIRTS

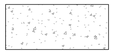
TYPICAL INTERIOR WALL ASSEMBLIES

INT1 - INTERIOR CMU WALL 190mm (1hr FRR)

- REFER TO ROOM FINISH SCHEDULE
- 190 CONCRETE MASONRY UNIT
- REFER TO ROOM FINISH SCHEDULE

INT2 - INTERIOR CMU WALL 240mm (1hr FRR)

- REFER TO ROOM FINISH SCHEDULE
- 240 CONCRETE MASONRY UNIT
- REFER TO ROOM FINISH SCHEDULE



INT3 - INTERIOR CIP WALL 400mm

- REFER TO ROOM FINISH SCHEDULE
- 400 CONCRETE MASONRY UNIT
- REFER TO ROOM FINISH SCHEDULE

INT4 - INTERIOR CIP WALL 300mm

- REFER TO ROOM FINISH SCHEDULE
- 300 CONCRETE MASONRY UNIT
- REFER TO ROOM FINISH SCHEDULE

TYPICAL FIRE RATED CEILING ASSEMBLIES

CL1 - GYPSUM CEILING (1hr FRR)

- 19 PLYWOOD SHEATHING (EXTEND OVER CMU WALL, PT)
- 16 GYPSUM BOARD 'TYPE X'
- 16 GYPSUM BOARD 'TYPE X'
- 152 METAL JOIST 406 O.C.
- 16 GYPSUM BOARD 'TYPE X'
- 16 GYPSUM BOARD 'TYPE X'
- REFER TO ROOM FINISH SCHEDULE

4

ABBREVIATION

ACT	ACOUSTICAL CEILING TILES
ADMIN.	ADMINISTRATION
A.F.F.	ABOVE FINISHED FLOOR
ALUM.	ALUMINUM
ANOD.	ANODIZED FINISH
AVB	AIR VAPOUR BARRIER
BF	BARRIER FREE
BLK.	BLOCK
CB	CATCH BASIN
CIP	CAST IN PLACE CONCRETE
CRM	CEMENTITIOUS REPAIR MORTAR
CG	CORNER GUARD
CJ	CONTROL JOINT
CL	CENTER LINE
COL.	COLOUR
C. CMU	COLOURED CONCRETE MASONRY UNIT
CMU	CONCRETE MASONRY UNIT
CBLK	CONCRETE BLOCK
COMM.	COMMUNICATION
CONC.	CONCRETE
CONTIN.	CONTINUOUS
C.R.	CARD READER
CT	CERAMIC TILE
CWT	CERAMIC WALL TILE
c/w	COMPLETE WITH
DH	DOG HOUSE
DIA.	DIAMETER
DWGS.	DRAWINGS
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EP	EPOXY
EQ	EQUAL
EXIST.	EXISTING
EX.	EXISTING
EXP.	EXPOSED STRUCTURE
EXT.	EXTERIOR
FC	FLASH COVE WALL BASE
F.R.R.	FIRE RESISTANCE RATING
FAAF	FLUID APPLIED ATHLETIC FLOORING
FD.	FLOOR DRAIN
FDN	FOUNDATION
FIN.	FINISH
FIP	FILL IN PLACE
FL.	FLOOR
FR	FRAME
GALV.	GALVANIZED
GC	GENERAL CONTRACTOR
GL	GLAZING
GWB	GYPSUM WALL BOARD
GWG	GEORGIAN WIRED GLASS
HDWD	HARDWOOD
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR	HOUR
H.S.S.	HOLLOW STRUCTURAL STEEL
INSUL.	INSULATED
INT.	INTERIOR
JAN.	JANITOR
m	METERS
MAT'L	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MIC.	MICROWAVE OVEN
MIN.	MINIMUM
mm	MILLIMETERS
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.H.D.	OVERHEAD DOOR
OWSJ	OPEN WEB STEEL JOIST
PART.	PARTITION
P.LAM	PLASTIC LAMINATE TYPE
PREFAB	PREFABRICATED
PREFIN.	PRE-FINISHED (BY MANUFACTURER)
PRMS	PRE-FINISHED METAL SIDING/CLADDING
P	PRIME
PT.	PAINT
P/PT	PRIME AND PAINT
PT	PRESSURE TREATED WOOD
R	RADIUS
RBR	RUBBER BASE TO BE 100 mm HIGH x 3.2 THK MODEL TYPE TS BY JOHNSONITE OR APPROVED ALTERNATE
RCP	REFLECTED CEILING PLAN
RD.	ROOF DRAIN
REQ'D	REQUIRED
RM.	ROOM
RO	ROUGH OPENING
RSF1	RESILIENT SHEET FLOORING
S/A	SELF ADHERED
SCWD	SOLID CORE WOOD DOOR
S.H.	SEALER AND HARDENER
SIM.	SIMILAR
S.O.G.	SLAB ON GRADE
SPECS	SPECIFICATIONS
SP	SPANDREL PANEL
S.S.	STAINLESS STEEL
SS	DENOTES SOLID SURFACE TO BE ACRYLIC-MODIFIED POLYESTER SOLID SURFACE "CORIAN" SOLID SURFACE OR APPROVED ALTERNATE, REFER TO DRAWINGS FOR LOCATIONS
sq. m.	SQUARE METER
STOR.	STORAGE
STRC.	STRUCTURAL
T&T	TEMPERED AND THERMAL GLAZING
T-BAR	SUSPENDED ACOUSTICAL CEILING GRID SYSTEM
TEMP.	TEMPERED GLAZING
THERM.	THERMAL
THK.	THICK
TWF	THROUGH WALL FLASHING
TYP.	TYPICAL
u/s	UNDERSIDE OF STRUCTURE
U/NO	UNLESS NOTED OTHERWISE
URETH	URETHANE FINISH
VCT	VINYL COMPOSITE TILE (OR RESILIENT TILE FLOORING)
V.G.	VISION GLAZING
w/	WITH
WR	WASHROOM
WD	WOOD
"X"	FIRE RATED TYPE "X" GWB
+/-	SITE VERIFY

SYMBOLS

Ref
1 — A101 — DENOTES "CALL-OUT/DETAIL" NUMBER
DRAWING BUBBLE INDENTIFICATION
DENOTES SHEET SEQUENCE NUMBER
DENOTES SHEET TYPE DESIGNATOR
DENOTES BUILDING DESIGNATOR
DENOTES DICIPLINE DESIGNATOR

Ref
1 — A3401 — DENOTES "BUILDING SECTION" NUMBER
DENOTES SHEET NUMBER REFERNECE LOCATION FOR "BUILDING SECTION". (REFER TO "BUBBLE IDENTIFICATION" NOTED ABOVE).

Room name
101
ROOM NAME AND NUMBER. REFER TO ROOM FINISH SCHEDULE FOR FINISHES.

VARIES
300 A.F.F.
REFLECTED CEILING PLAN NOTATION SHOWING ELEVATION AND MATERIAL

1i
DENOTES PARTITION TYPE. REFER TO TYPICAL WALL ASSEMBLIES FOR DETAILS.

1i
DENOTES ROOF TYPE. REFER TO TYPICAL ROOF ASSEMBLIES FOR DETAILS.

101
DOOR NUMBER. REFER TO DOOR SCHEDULE AND SPECIFICATIONS FOR HARDWARE.

GL-1
GLAZING NUMBER. REFER TO GLAZING ELEVATIONS.

Ref / Ref / 1 / 1 / 101 / Ref / Ref
INTERIOR ELEVATION MARKER.

BF
BARRIER FREE AUTOMATIC DOOR OPERATOR, REFER TO PLANS FOR LOCATIONS

A
PUSH BUTTON ACTUATORS (2 of) OPPOSITE SIDE OF EACH BARRIER FREE OPERATOR REFER TO PLAN FOR LOCATIONS

CR
PROXIMITY READER, REFER TO FINISH HARDWARE SCHEDULE AND ELECTRICAL

1
DENOTES RENOVATION KEYNOTES TYPE

1
DENOTES DEMOLITION KEYNOTES TYPE

4

GENERAL NOTES:

1. ALL WORK TO COMPLY WITH THE ONTARIO BUILDING CODE. ONTARIO CONSTRUCTION SAFETY ACT, LOCAL CODES AND BYLAWS AND OTHER APPLICABLE REQUIREMENTS. THE BUILDING CODE COMPLIANCE INFORMATION PRESENTED IS TO BE READ IN CONJUNCTION WITH ALL OTHER ARCHITECTURAL AND ENGINEERING DOCUMENTS. PERFORM ALL WORK IN FULL ACCORDANCE WITH ONTARIO BUILDING CODE, INCLUDING ALL REVISIONS, OF APPLICABLE CODES AND REGULATIONS OF FEDERAL, PROVINCIAL, OR LOCAL APPLICATION. IN ANY CASE OF CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY. MEET OR EXCEED THE REQUIREMENTS OF SPECIFIED STANDARDS, CODES AND REFERENCED DOCUMENTS.
2. DO NOT SCALE DRAWINGS.
3. VERIFY ALL LINES, LEVELS, AND CENTERS ON SITE, PRIOR TO PROCEEDING WITH THE WORK. ENSURE THAT ALL DIMENSIONS AGREE WITH THE DRAWINGS AND THEIR CORRECT INTERRELATION. REPORT ANY DISCREPANCIES TO THE CONSULTANT.
4. COORDINATE AND ESTABLISH ON SITE THE EXACT LOCATION OF ALL OPENINGS IN WALLS, FLOORS AND ROOF PRIOR TO CONSTRUCTION. REFER ALSO TO STRUCTURAL, ELECTRICAL AND MECHANICAL AND MECHANICAL PROCESS DOCUMENTS.
5. PROVIDE POURED CONCRETE HOUSEKEEPING PADS FOR FLOOR MOUNTED MECHANICAL, ELECTRICAL AND MECHANICAL PROCESS EQUIPMENT AS INDICATED. REFER TO MECHANICAL, MECHANICAL PROCESS AND ELECTRICAL APPROVED SHOP DRAWINGS FOR EXACT LOCATION AND SIZE. REFER TO STRUCTURAL DRAWINGS FOR SIZE AND REINFORCEMENT.
6. FOR OPENINGS IN EXTERIOR WALLS INCLUDING BUT NOT LIMITED TO: LOUVERS, PIPES, HOSE BIBS, ETC., REFER TO MECHANICAL & ELECTRICAL DRAWINGS, AND PROCESS DRAWINGS. COORDINATE AND VERIFY EXACT SIZE AND LOCATIONS AND DIMENSIONS, PRIOR TO ANY FABRICATIONS AND CONSTRUCTION.
7. REFER TO MECHANICAL, ELECTRICAL AND MECHANICAL PROCESS DRAWINGS FOR SUPPORTS TO SUSPEND INCLUDING BUT NOT LIMITED TO: LIGHTS, SILENCER, FANS, EQUIPMENT, HEATERS, ACOUSTIC PANELS, ETC. FROM THE UNDERSIDE OF STRUCTURE.
8. ALL PRODUCTS, MATERIALS, EQUIPMENT INCORPORATED INTO WORK SHALL BE NEW AND OF BEST QUALITY (COMPATIBLE WITH REQUIREMENTS) FOR PURPOSES INTENDED. ENSURE QUALITY OF WORK IS OF HIGHEST STANDARD EXECUTED BY WORKERS EXPERIENCED AND SKILLED IN THEIR RESPECTIVE TRADE.
9. VISIT PROJECT SITE PRIOR TO SUBMITTING BID AND EXAMINE DRAWINGS, SPECIFICATIONS AND EXISTING CONDITIONS. NO CLAIM WILL BE ACCEPTED FOR EXTRA WORK DUE TO MISUNDERSTANDING OR IGNORANCE OF THE EXISTING CONDITIONS OR TERMS AND CONDITIONS OF THE CONTRACT.
10. SUBMIT SHOP DRAWINGS FOR ITEMS AS NOTED IN DOCUMENTS, OR WHERE COMPLEXITY AND COORDINATION ISSUES WARRANT.
11. ALL EXTERIOR AND INTERIOR FINISHES SHALL BE INSTALLED PLUMB, WITH ALL FASTENERS REGULARLY SPACED & IN TRUE ALIGNMENT, WITH NEAT CORNERS, TRANSITIONS & CLOSURES.
12. ALL EXTERIOR WORK TO BE WEATHER TIGHT USING FOAM IN PLACE INSULATION, BACKER ROD TO SUIT SIZE & SEALED THROUGHOUT. JOINT SEALANT COLOUR(S) TO BE DETERMINED BY CONSULATNT. SUBMIT JOINT SEALANT COLOUR SAMPLES PRIOR TO ANY INSTALLATIONS.
13. ALL INTERIOR DOOR FRAMES TO BE WRAP AROUND THE WALL TYPE.

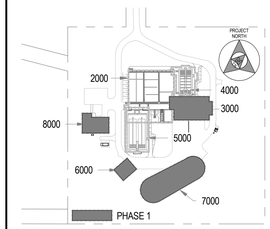
GENERAL ROOF NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK IN THE CONTRACT.
2. ROOFING CONTRACTOR IS RESPONSIBLE TO IDENTIFY THE LOCATION OF ELECTRICAL/MECHANICAL CONDUITS RUNNING INSIDE, ALONG, AND/OR THE UNDERSIDE OF THE STRUCTURAL DECK BEFORE ANY ROOFING COMPONENTS ARE MECHANICALLY SECURED. GENERAL CONTRACTOR/SUB-TRADES TO COORDINATE WORK PRIOR TO ANY FASTENERS INSTALLATIONS TO AVOID ANY INTERFERENCES.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE ALL HEALTH AND SAFETY REGULATIONS ARE FOLLOWED DURING ROOF INSTALLATION AND SAFETY EQUIPMENT IS INSTALLED AND UTILIZED.
4. INSTALL ROOF ASSEMBLY IN STRICT ACCORDANCE WITH ROOFING, SPECIFICATIONS AND DETAILS.
5. PROVIDE 100 WIDE METAL CLEATS AT 400 O.C. FOR SUPPORT OF MAIN PREFINISHED CAP FLASHINGS FOR TOPS OF ALL PARAPETS AND UPSTANDS (TYP) FOR SIDES OF PARAPET. ON EXTERIOR SIDE OF PARAPETS PROVIDE CONTINUOUS SUPPORT CHANNEL, COUNTER FLASHING C/W DRIP EDGE.
6. BENEATH PREFINISHED METAL CAP FLASHINGS, EXTEND ROOFING MEMBRANES UP AND OVER CURBS AND UPSTANDS (I.E.) DO NOT TERMINATE ROOFING MEMBRANES AT THE BOTTOM OF ANY PARAPETS, UPSTANDS AND/OR EQUIPMENT/UNIT FLASHINGS), PROVIDE SPACE AS REQ'D BETWEEN PREFINISHED FLASHINGS AND THE FACE OF ANY EQUIP./UNIT CURBS TO ENSURE A WATERTIGHT SEAL.
7. ROOF PLAN DRAWING SHOWS THE APPROXIMATE NUMBER AND LOCATION OF ROOFING CONDITIONS DETAILED THAT WILL BE REQUIRED IN THE AREA OF ROOFING. DETERMINE THE EXACT NUMBER AND LOCATION OF EACH DETAIL REQUIRED ON SITE AND DRAWINGS, AND COORDINATE WITH CONTRACTOR., ROOFER, MECHANICAL, ELECTRICAL. AND PROCESS DOCUMENTS.
8. COMMENCEMENT OF ANY WORK IS ONLY TO BE STARTED WHEN CONTRACTOR HAS RECEIVED 'REVIEWED' AND/OR 'REVIEWED AS NOTED' ROOFING SHOP DRAWINGS FROM THE CONSULTANT. PROVIDE ENLARGED DETAILED SECTION VIEWS AT MIN. 1:10 SCALE OF ROOFING SHOP DRAWINGS, INCLUDING BUT NOT LIMITED TO; ROOF DRAINS, ROOF COWL, ROOF EXHAUST, MECHANICAL ROOF TOP UNIT CURBS, SLEEPERS, CURBS, CONTROL PARAPETS, HSS UNIT OR EQUIPMENT SUPPORTS, GAS PIPE SUPPORT, PERIMETER PARAPETS AND/OR CURBS, VENTS, FLASHINGS, SCUPPERS, AND ANY PENETRATIONS THRU NEW AND EXISTING ROOFING SYSTEM. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. PROVIDE TO THE CONSULTANT AN ENLARGED ASSEMBLY VIEW OF THE NEW ROOF SYSTEM FOR EACH TYPE OF ROOF ASSEMBLY. THIS SKETCH IS TO BE SUBMITTED IN COLOR FORMAT AND DESCRIBES ALL COMPONENTS OF THE ROOFING SYSTEM, INCLUDING BUT NOT LIMITED TO: CAP SHEET MEMBRANE, BASE SHEET MEMBRANE, FIBERBOARD PROTECTION/RECOVERY BOARD, SLOPED INSULATION, INSULATIONS, VAPOUR RETARDER, PRIMERS, ALL FASTENERS, ETC.. DIFFERENTIATE EACH ROOFING COMPONENT IN CONTRASTING COLOUR. ALSO, PROVIDE DATA OR CUT SHEETS OF EACH ROOFING COMPONENT LISTED.
9. PRIOR TO ROOF WORK PROVIDE ROOF SLOPED INSULATION SHOP DRAWINGS TO THE CONSULATNT FOR REVIEW.

GENERAL CEILING NOTES:

1. REFER TO ROOM FINISH SCHEDULE FOR FINISHES.
2. AT ALL EXPOSED CEILING AREAS, PRIME AND PAINT ALL STRUCTURAL EXPOSED STEEL BEAM AND COLUMNS AS WELL AS STRUCTURAL CONCRETE BEAMS AND COLUMNS, ETC. INCLUDING BUT NOT LIMITED TO: OWSJ'S, METAL DECK, CONCRETE DECK, MISC METALS, BRACKETS, ANGLES, DUCTWORK, PIPING, CONDUIT, SUPPORTS, BLOCKING, ETC. UNLESS NOTED OTHERWISE. NOTE: DO NOT PAINT PRE-PAINTED FACTORY APPLIED EQUIPMENT AND MATERIALS.

2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT
DATE	NO.	REVISION



KEY PLAN

SCALE: N.T.S.

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CLIENT:

TOWNSHIP OF SOUTH STORMONT

PROJECT:

INGLESIDE WWTP UPGRADES PHASE 1

TITLE:

GENERAL NOTES, ABBREVIATIONS, ASSEMBLY LEGENDS AND DRAWING LIST

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A0001
CHECKED BY: AB	

RENOVATION KEYNOTES:

1. CONTINUOUS SOLID CLOSURE BETWEEN EXISTING WALL AND FACE OF STEEL STAIR STRINGER. CLOSURE TO BE STEEL ANGLE PRIME AND PAINTED WELDED IN PLACE. CLOSURE ANGLE TO FOLLOW SLOPE OF STEEL STAIR STRINGER SLOPE.
2. FOR LINK DETAILS, DOOR SCHEDULE AND STAIR DETAILS REFER TO DRAWINGS A3000 FOR EXTENT OF NEW WORK.
3. HATCH DENOTES TO PROVIDE SEALER AND HARDENER ON FLOOR SURFACES
4. LINE DENOTES ONE HOUR FIRE SEPARATION.
5. HATCH DENOTES TO INFILL WALL OPENING WITH CONCRETE. REFER TO STRCUTURAL FOR ADDITIONAL WORK
6. SHADED AREA DENOTES "NOT APPLICABLE IN PHASE 1".

1 A2202 ENLARGED RENOVATION BASEMENT PLAN

1 : 50

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
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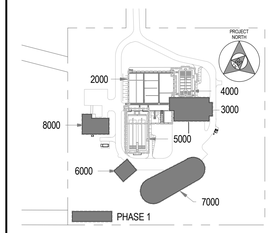

KEY PLAN

SCALE: N.T.S.

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TOWNSHIP OF SOUTH STORMONT

PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:

AERATION - ENLARGED RENOVATION FLOOR PLAN

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A2202
CHECKED BY: AB	

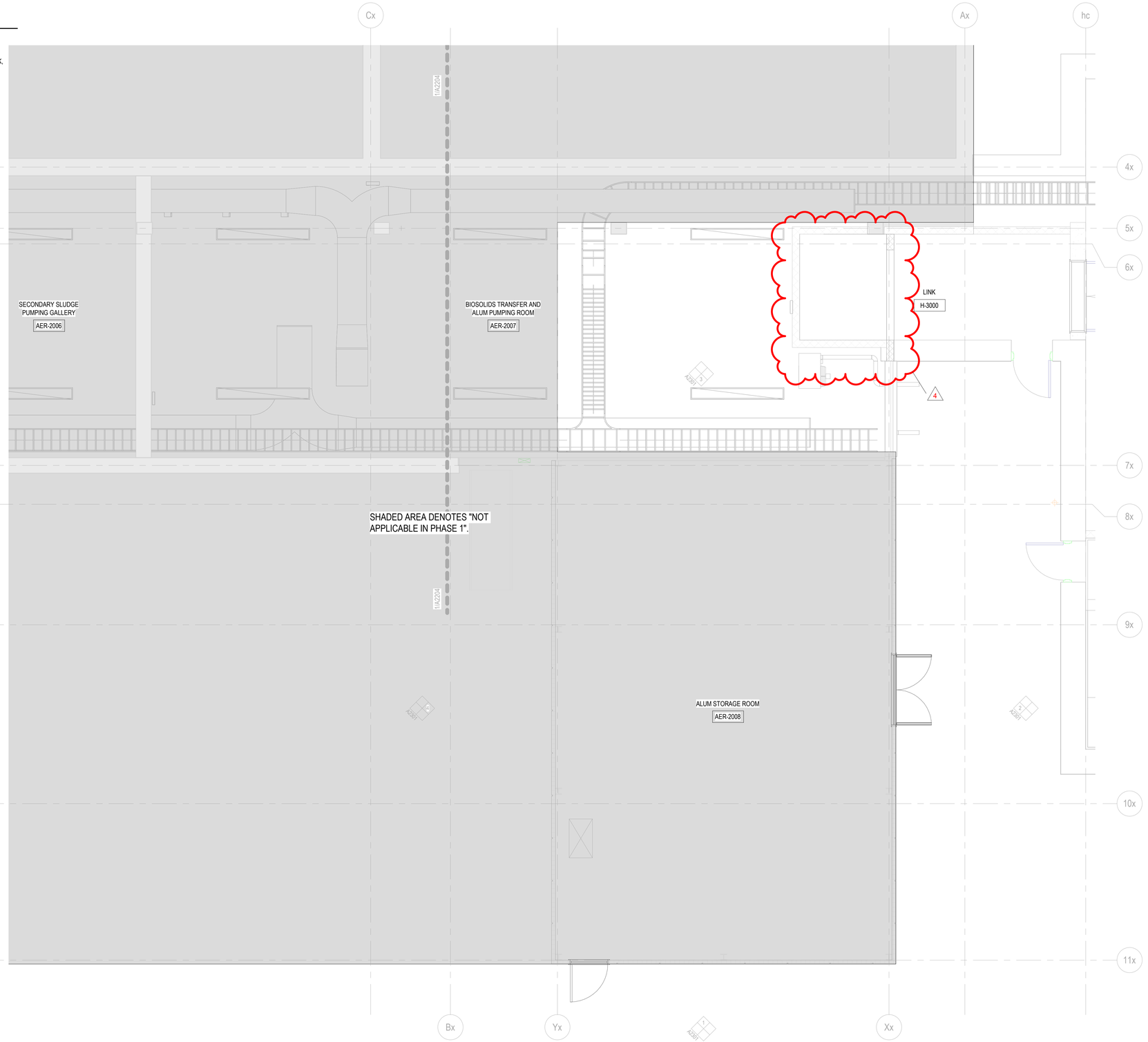
CEILING PLAN LEGEND

AT ALL EXPOSED CEILING AREAS, PRIME AND PAINT ALL STRUCTURAL EXPOSED STEEL BEAM AND COLUMNS AS WELL AS STRUCTURAL CONCRETE BEAMS AND COLUMNS, ETC. INCLUDING BUT NOT LIMITED TO: OWSJ'S, METAL DECK, CONCRETE DECK, MISC METALS, BRACKETS, ANGLES, DUCTWORK, PIPING, CONDUIT, SUPPORTS, BLOCKING, ETC. UNLESS NOTED OTHERWISE. NOTE: DO NOT PAINT PRE-PAINTED FACTORY APPLIED EQUIPMENT AND MATERIALS.

CABLE TRAY, REFER TO ELECTRICAL DRAWINGS.

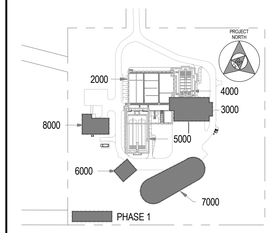
LIGHTING FIXTURES AND CABLE TRAYS. REFER TO ELECTRICAL DRAWINGS FOR EXACT SIZE AND LOCATION

MECHANICAL DUCTS. REFER TO MECHANICAL DRAWINGS FOR EXACT SIZE AND LOCATION.



1 A2205 AERATION - ENLARGED RENOVATION CEILING PLAN
1 : 50

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

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CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:
AERATION - ENLARGED RENOVATION CEILING PLAN

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A2205
CHECKED BY: AB	

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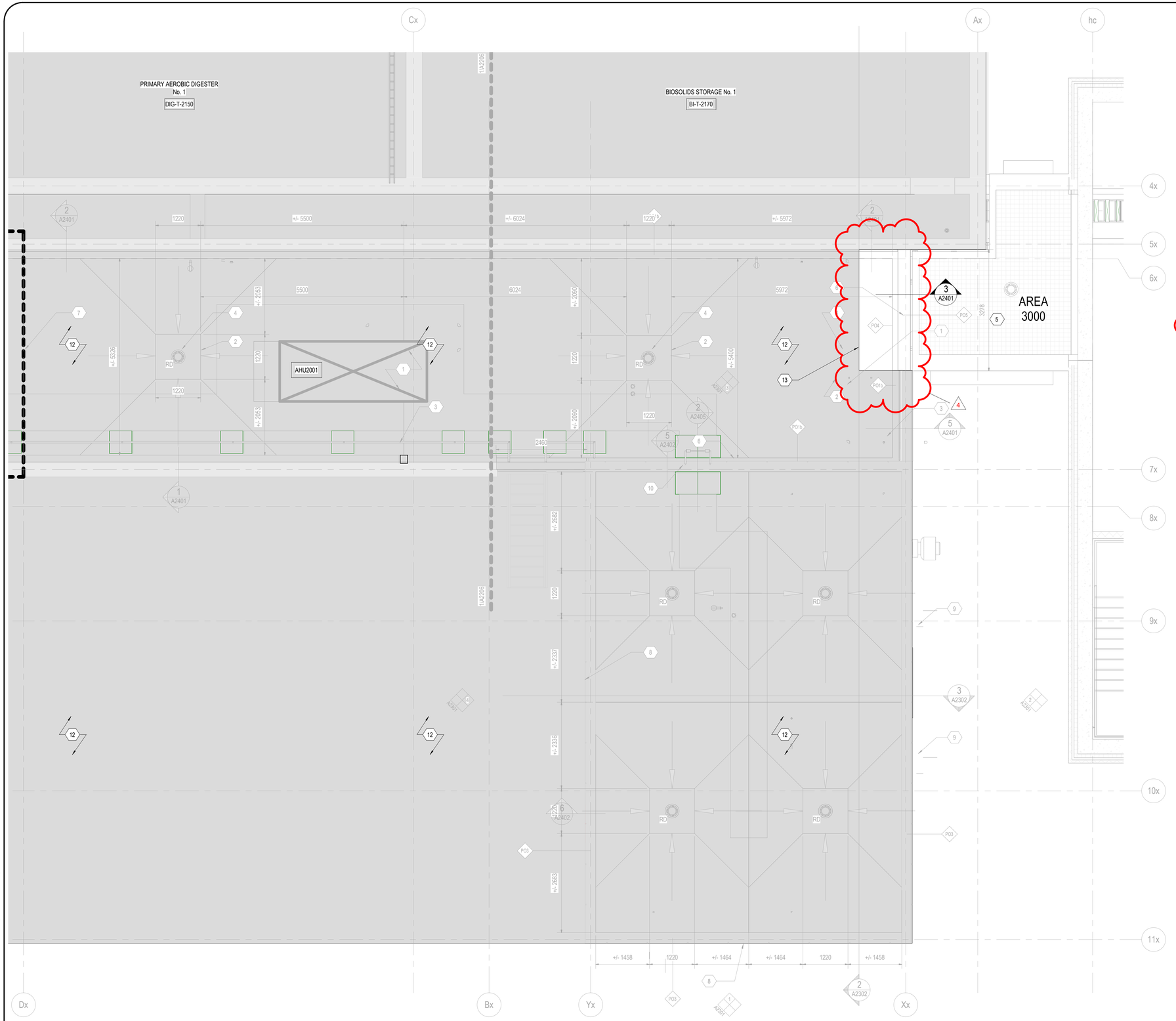

1 A2207 ENLARGED RENOVATION ROOF PLAN
1 : 50

ROOF RENOVATION KEY NOTES:

1. RTU C/W CURB. REFER TO ROOF DETAILS IN A2404. REFER TO MECHANICAL DRAWINGS FOR EXTENT OF WORK.
2. 1220x1220 ROOF SUMPS.
3. PRE-MANUFACTURER RAILING FOR ROOF C/W WEIGHTED METAL BASE PLATES EXACT LOCATION TO BE DETERMINED ON SITE. PRIOR TO INSTALLATION OF BASE METAL PLATE, INSTALL EXTRA ROOF MEMBRANE CAP SHEET, TYPICAL.
4. PROVIDE NEW ROOF DRAIN. PRIOR TO LOCATION OF NEW ROOF DRAINS CONFIRM LOCATIONS WITH MECHANICAL, ELECTRICAL, MECHANICAL PROCESS AND SHOP DRAWINGS. DIMENSIONS SHOWN ARE FOR APPROXIMATE LOCATION.
5. FOR LINK ROOF ASSEMBLY AND DETAILS REFER TO DRAWINGS A3000 FOR EXTENT OF WORK.
6. FOR PARAPET DETAILS REFER TO A2401.
7. DASHED LINE DENOTES NEW ROOF AND METAL DECK AREA, REFER TO A2602 AND STRUCTURAL DRAWINGS FOR EXTENT OF WORK.
8. FOR PARAPET DETAILS REFER TO A2402.
9. EXTERIOR LIGHTING, REFER TO ELECTRICAL DRAWINGS FOR EXTENT OF WORK.
10. VERTICAL ACCESS LADDER.
11. INSTALL SCUPPER AS PER MANUFACTURER WITTEN SPECIFICATIONS AND DETAILS.
12. SHADED AREA DENOTES NOT APPLICABLE IN PHASE 1.
13. INFILL AREA WITH NEW ROOF ASEEMBLY.

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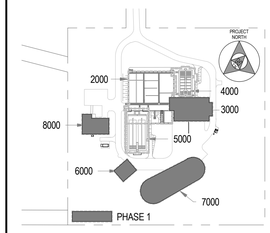

KEY PLAN
SCALE: N.T.S.

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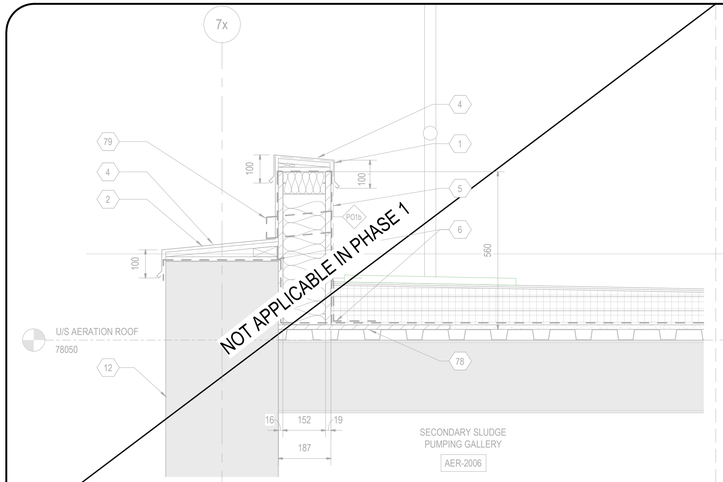
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:

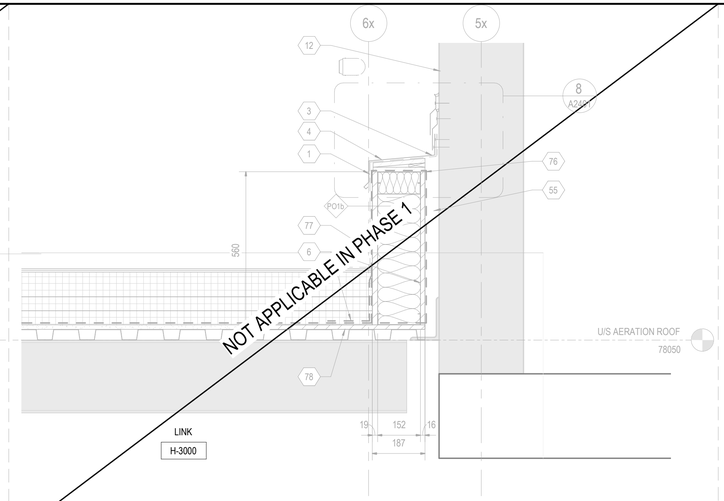
AERATION - ENLARGED
RENOVATION ROOF PLAN

SCALE:	JOB NO:
As indicated	209-00150-00
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A2207
CHECKED BY:	
AB	



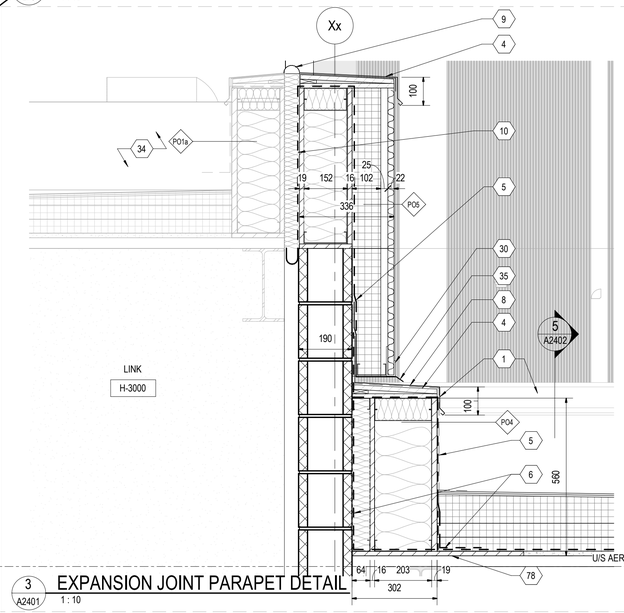
NOT APPLICABLE IN PHASE 1

1 A2401 **TYPICAL SECTION DETAIL**
1 : 10

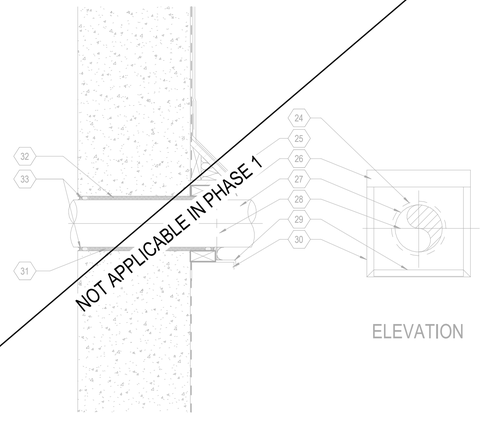


NOT APPLICABLE IN PHASE 1

2 A2401 **TYPICAL SECTION DETAIL**
1 : 10



3 A2401 **EXPANSION JOINT PARAPET DETAIL**
1 : 10

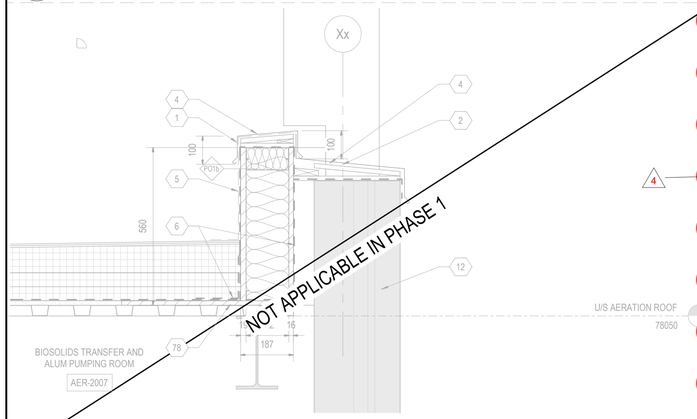


NOT APPLICABLE IN PHASE 1

4 A2401 **TYPICAL PIPE THRU CONC. WALL**
1 : 10

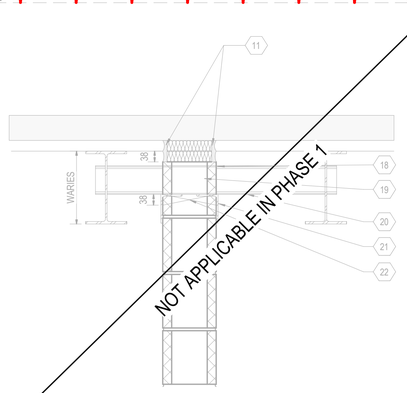
SECTION DETAIL KEYNOTES:

1. THE 100mm HIGH PARAPET CAP FLASHING IS TO BE AT SAME ELEVATION AROUND PERIMETER OF ALL AERATION PARAPET CURBS. MAINTAIN 200mm VERTICALLY FROM T/O PARAPET CAP FLASHING TO T/O OF FINISHED ROOF.
2. PRE-FINISHED METAL CAP FLASHING c/w DRIP EDGE AND COUNTER FLASHING. FLASHING MIN. 100mm DOWN ONE SIDE ON EXISTING WALL. EXTENT FLASHING UP ON NEW PARAPET WALL AS REQUIRED. PROVIDE TYPICAL HOLD DOWN CLIPS @ 305 O.C. SLOPE AS SHOWN.
3. PRE-FINISHED METAL CAP FLASHING c/w DRIP EDGE AND COUNTER FLASHING. FLASHING MIN. 100mm DOWN ONE SIDE ON NEW PARAPET WALL. EXTENT FLASHING UP ON EXITING WALL AS REQUIRED. PROVIDE TYPICAL HOLD DOWN CLIPS @ 305 O.C.
4. REFER TO "TYPICAL P/T PARAPET CAP CONSTRUCTION".
5. EXTENT ROOFING MEMBRANE SYSTEM UP AND OVER P/T SLOPED CAP.
6. ENSURE AIR/VAPOUR RETARDER IS CONTINUOUS, OVERLAP MEMBRANES BY 150mm MIN.
7. STEEL BEAMS AND STEEL DECK ROOF, REFER TO STRUCTURAL.
8. PRE-FINISHED METAL CAP FLASHING, PROFILE AS SHOWN, UNDERSIDE OF RIGID INSULATION AND SIDING. EXTEND FLASHING UP ON WALL AS SHOWN.
9. PRE-FINISHED METAL FLASHING CAP C/W 100 mm FRONT FASCIA AND 100 mm INTERIOR FASCIA AS SHOWN. PROVIDE DRIP EDGE AND HOLD DOWN CLIPS, TYPICAL. COLOUR TO MATCH METAL PANEL.
10. 50 mm EXPANSION JOINT, TYPICAL.
11. MINERAL WOOL AND FIRESTOPPING BETWEEN DECK FLUTES AND GYPSUM BOARD.
12. SHADED AREA DENOTES EXISTING FLOOR/WALL STRUCTURE
13. FIRESTOP @ DECK ALL SIDES.
14. 2 LAYERS 16 TYPE 'X' GYP BD 92 STEEL STUD @ 400 O.C. 92 ACOUSTIC BATT INSULATION 2 LAYERS 16 TYPE 'X' GYP BD.
15. NEATLY SCRIBE GYP. BD. AND FIRESTOP AROUND OWSJ CHORD AND FLANGE PENETRATIONS.
16. 75x150x6.4 ANGLE 150 LONG, EACH SIDE OF BLOCK AND WELDED TO U/S OF OWSJ @ EACH JOIST.
17. MINERAL WOOL AND FIRESTOPPING BETWEEN BLOCK WALL AND U/S OF GYP. BD.
18. CUT BLOCK TO SUIT CHANNEL, PACK BETWEEN CHANNEL AND BLOCK WITH MINERAL WOOL AND CAULK (BEYOND).
19. CUT BLOCK AS REQUIRED.
20. C100x8 WELDED TO OWSJ ON EACH SIDE OF BLOCK WALL. REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF WORK.
21. L102x76x6.4x150 LONG EA. SIDE CENTERED ON AND WELDED TO CHANNEL.
22. CLEAR SPACE BELOW OWSJ (BEYOND) PACKED WITH MINERAL WOOL AND CAULKED TO SEAL.
23. REFER TO STRUCTURAL FOR REBAR LOCATIONS, AND BONDBEAM SIZES, CONSTRUCTION AND LOCATIONS.
24. DASHED LINES DENOTE CORE-DRILLED ROUGH OPENING IN CONCRETE WALL.
25. P/T 38 x 89 PERIMETER BLOCKING.
26. PRE-FINISHED METAL DRIP FLASHINGS, TYPICAL.
27. PIPE, REFER TO MECHANICAL OR PROCESS.
28. PREFINISHED FLASHING NEATLY CUT TIGHT TO CIRCUMFERENCE OF OUTER SIDE OF PIPE. CAULK TO SEAL AROUND PIPE AND CAULK TO SEAL AROUND PERIMETER OF SQUARE OPENING OR SIDES, TOP & BOTTOM OF 'J' OR DRIP/SILL FLASHINGS ALL AS SHOWN.
29. EXTRA PRE-FINISHED SILL FLASHING STARTING FROM WITHIN ROUGH OPENING AND PRE-BENT AS REQUIRED DOWN ON TOP OF SIDING 'J' FLASHING c/w DRIP EDGE AS SHOWN.
30. TYPICAL PRE-FINISHED METAL SIDING `J' FLASHING. COLOUR TO MATCH STEEL SIDING PANEL.
31. FOAM IN PLACE c/w BACKER ROD AROUND PIPE IN CORE DRILLED HOLE. CAULK TO SEAL AROUND AIR/VAPOUR BARRIER & INTERIOR SIDE OF WALL, TYPICAL.
32. FOAM IN PLACE.
33. SEALANT, TYPICAL.
34. FOR LINK DETAILS REFER TO DRAWINGS A3000 FOR EXTENT OF WORK.
35. PRE-FINISHED METAL FLASHING C/W DRIP EDGE.
55. EXISTING EXPANSION JOINT.
56. METAL CLEAT.
73. LIQUID MEMBRANE AND REINFORCING MESH.
74. CONTINUOUS URETHANE SEALANT.
75. PRE-FIN. CONTINUOUS REGLET METAL FLASHINGS, PROVIDE TWO AS SHOWN.
76. PARAPET CURBS AROUND AERATION ROOF TO BE SAME HEIGHT.
77. 2 PLY MEMEBRANE FLASHING. EXTENT MEMBRANE FLASHING SYSTEM UP AND OVER P/T SLOPED CAP AND BEHIND REGLET FLASHING.
78. 16mm THK PLYWOOD SHEATHING, 610mm LONG UNDER ALL PARAPET CURBS, TYPICAL.
79. DASHED LINES DENOTES PRE-FINISHED METAL FLASHING SCUPPER "SCU". WITHIN PARAPET/CURB EXTENT METAL FLASHING MIN. 50mm PAST PARAPET/CURB. INSTALL SCUPPER AS PER MANUFACTURER DETAILS.
80. CONTINUOUS HOT DIPPED GALVANIZED METAL CLOSURE CHANNEL, GAUGE TO MATCH VERTICAL Z GIRTS.



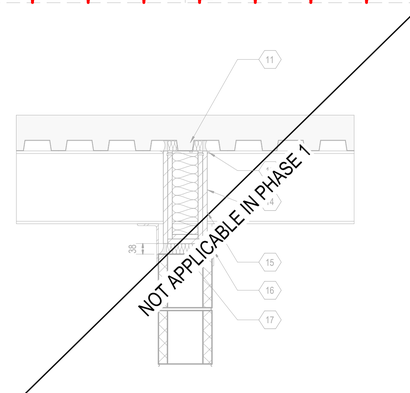
NOT APPLICABLE IN PHASE 1

5 A2401 **TYPICAL SECTION DETAIL**
1 : 10



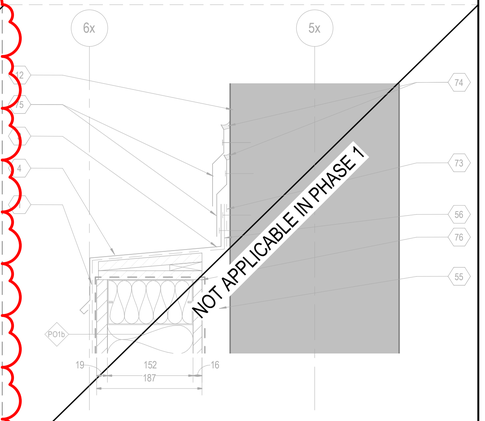
NOT APPLICABLE IN PHASE 1

6 A2401 **TYPICAL FIRESTOPPING DETAIL**
1 : 10



NOT APPLICABLE IN PHASE 1

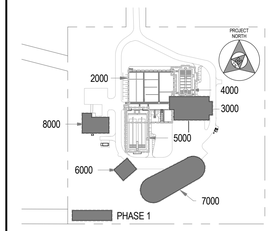
7 A2401 **TYPICAL FIRESTOPPING DETAIL**
1 : 10



NOT APPLICABLE IN PHASE 1

8 A2401 **TYPICAL REGLET DETAIL**
1 : 5

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN

SCALE: N.T.S.

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CLIENT:
TOWNSHIP OF SOUTH STORMONT

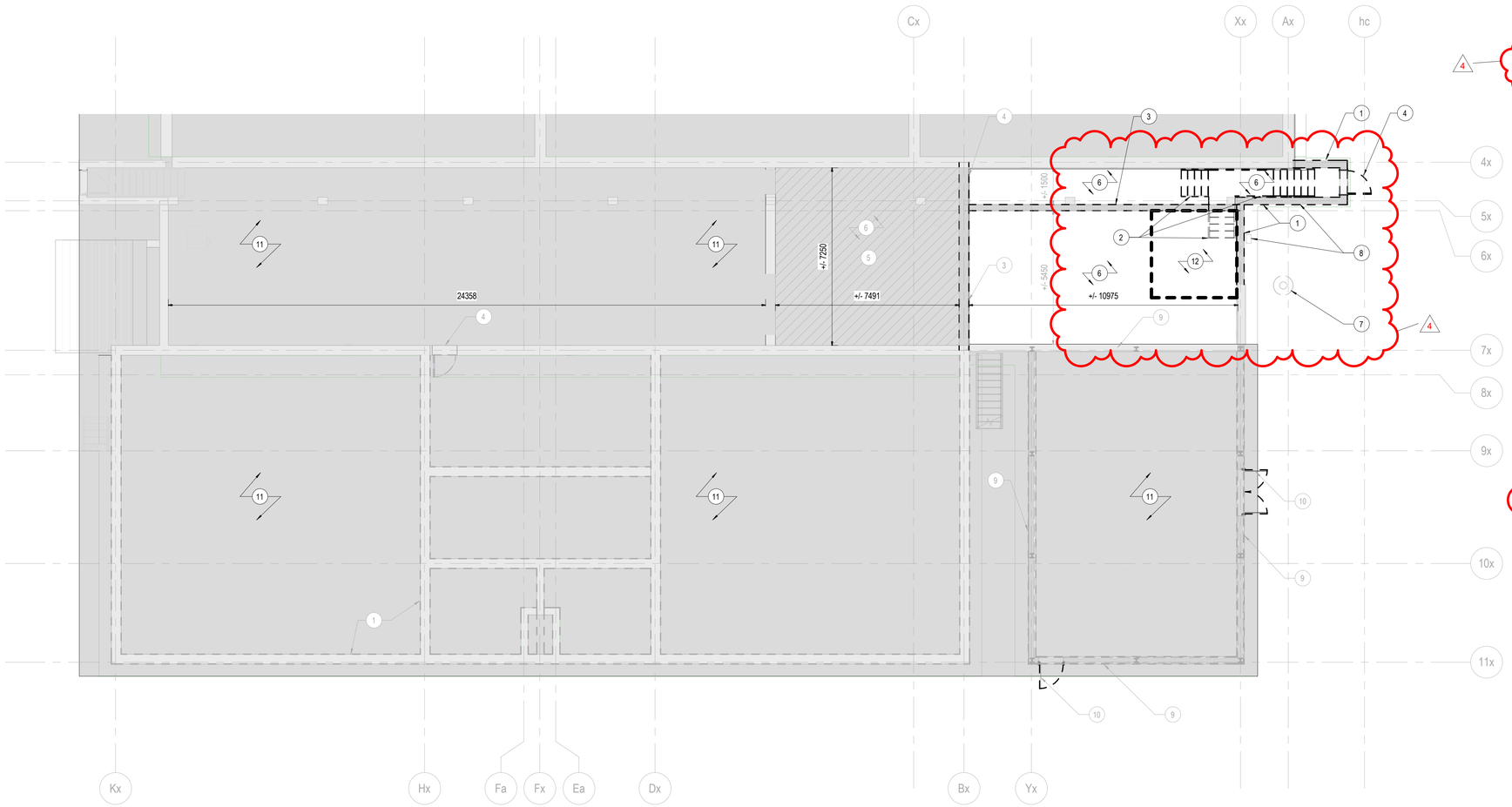
PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:

AERATION - SECTION DETAILS

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A2401
CHECKED BY: AB	

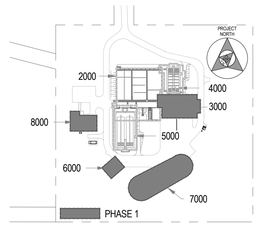


1 A2601 BASEMENT PLAN DEMOLITION
1 : 100

DEMOLITION KEYNOTES:

1. DASHED LINES DENOTES TO REMOVE EXISTING EXTERIOR WALLS AND ALL ASSOCIATED COMPONENTS OF EXISTING WALL ASSEMBLY. REFER TO STRUCTURAL FOR EXTENT OF WORK.
2. DASHED LINES DENOTE TO REMOVE EXISTING STAIRS, HANDRAILS, FASTENERS, ETC. AS REQUIRED. UPON REMOVALS, PREPARE EXISTING SURFACES READY TO RECEIVE NEW FINISHES.
3. DASHED LINE DENOTES TO CAREFULLY SAW CUT CONCRETE WALL. DIAMOND GRIND EXISTING SURFACE AND REPAIR AS REQUIRED. PREPARE EXISTING SURFACES UPON REMOVALS.
4. DASHED LINES DENOTE REMOVE DOOR AND FRAMES INCLUDING BUT NOT LIMITED TO ALL ASSOCIATED FASTENERS, HINGES, DOOR STOP, RELATED HARDWARE, SEALANTS, ETC. PREPARE EXISTING SURFACES UPON REMOVALS.
5. HATCH DENOTES TO REMOVE EXISTING FLOORING TILE AND GROUT. DIAMOND GRIND AND REPAIR FLOOR SURFACES AS REQUIRED. PREPRARE SURFACES READY TO RECEIVE NEW WORK. REFER TO RENOVATION DRAWINGS FOR EXTENT OF WORK.
6. REMOVE ALL LIGHT FIXTURES, ELECTRICAL CABLES, CONDUITS, ETC. REFER TO ELECTRICAL FOR EXTENT OF WORK.
7. REMOVE EXISTING LIGHT POST AND CONCRETE BASE. REFER TO ELECTRICAL FOR EXTENT OF WORK.
8. REMOVE EXISTING EXHAUST FAN, GAS METER, GAS PIPES, ETC. REFER TO MECHANICAL FOR EXTENT OF WORK.
9. REMOVE EXISTING METAL CLADDING, FASTENERS, FLASHINGS, ETC. PREPARE EXISTING STRUCTURE READY TO RECEIVE NEW WORK.
10. EXISTING DOORS TO BE CAREFULLY REMOVED, STORE AND PROTECTED ON SITE. DOORS TO BE RE-INSTALL AT SAME LOCATIONS. REFER TO DETAILS IN A2402.
11. SHADED AREA DENOTES NOT APPLICABLE IN PHASE 1*.
12. DASHED LINE DENOTES APPROXIMATE LOCATION OF EXISTING FLOOR SLAB SURFACE TO BE REPAIR PRIOR TO COMMENCING NEW WORK, REFER TO ROOM FINISH SCHEDULE IN HEADWORKS BUILDING 3000.

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

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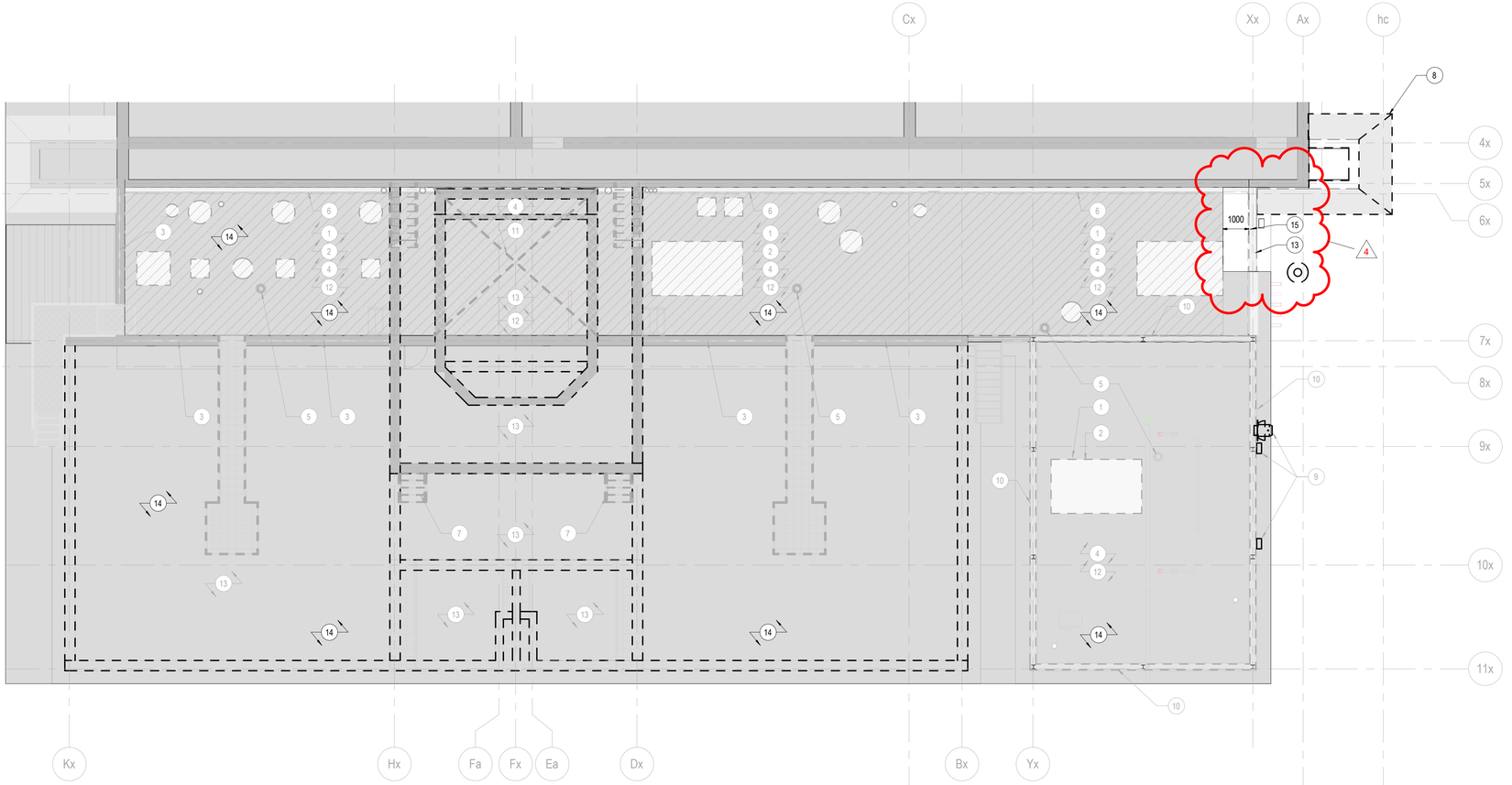
CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:
AERATION - DEMOLITION
BASEMENT PLAN

SCALE:	JOB NO:
As indicated	209-00150-00
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A2601
CHECKED BY:	
AB	

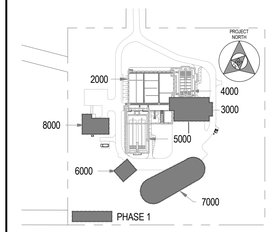


1 A2602 ROOF PLAN DEMOLITION
1 : 100

ROOF DEMOLITION KEYNOTES:

1. DASHED LINE DENOTES TO CAREFULLY REMOVE EXISTING MECHANICAL UNITS. REFER TO MECHANICAL, ELECTRICAL, PROCESS, AND STRUCTURAL FOR EXTENT OF REMOVAL WORK.
2. GREY HATCH DENOTES TO PREPARE SURFACES READY TO RECEIVE NEW METAL DECK INFILL, REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF WORK.
3. REMOVE EXISTING RAILING, FASTENERS, ETC.
4. REMOVE EXISTING ROOF, SUBSTRATE, INSULATION, ETC. DIAGONAL HATCH DENOTES APPROXIMATE AREA OF ROOFING TO BE REMOVED.
5. REMOVE EXISTING ROOF DRAIN.
6. REMOVE EXISTING PARAPET FLASHINGS, FASTENERS, BLOCKINGS, SEALANTS, ETC.
7. REMOVE EXISTING STAIRS AND RAILINGS.
8. REMOVE EXISTING EXTERIOR METAL ROOF CLADDING, INCLUDING BUT NO T LIMITED TO, ALL FLASHINGS, TRIMS, FASTENERS, SEALANTS, SUPPORTS, FLASHINGS, ETC. PREPARE SURFACES UPON REMOVALS.
9. REMOVE EXISTING EXHAUST FAN AND EXTERIOR LIGHTING. REFER TO MECHANICAL/ELECTRICAL FOR EXTEND OF WORK.
10. REMOVE EXISTING PARAPET METAL CLADDING, BLOCKING FLASHINGS, TRIMS, FASTENERS, SEALANTS, SUPPORTS, FLASHINGS, ETC.
11. 'X' DENOTES APPROXIMATE AREA OF NEW METAL DECK AND STEEL BEAMS. REFER TO STRUCTURAL DRAWINGS FOR EXTEND OF WORK.
12. PREPARE EXISTING SURFACES THAT ARE TO REMAIN, READY TO RECEIVE NEW WORK.
13. DASHED LINE WALLS DENOTE TO BE REMOVED. REFER TO STRUCTURAL FOR EXTENT OF WORK.
14. SHADED AREA DENOTES "NOT APPLICABLE IN PHASE 1"
15. CAREFULLY SAWCUT EXISTING ROOF ASSEMBLY ONE METER AWAY FROM EXISTING WALL. PREPARE ALL SURFACES READY TO RECEIVE NEW WORK.

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

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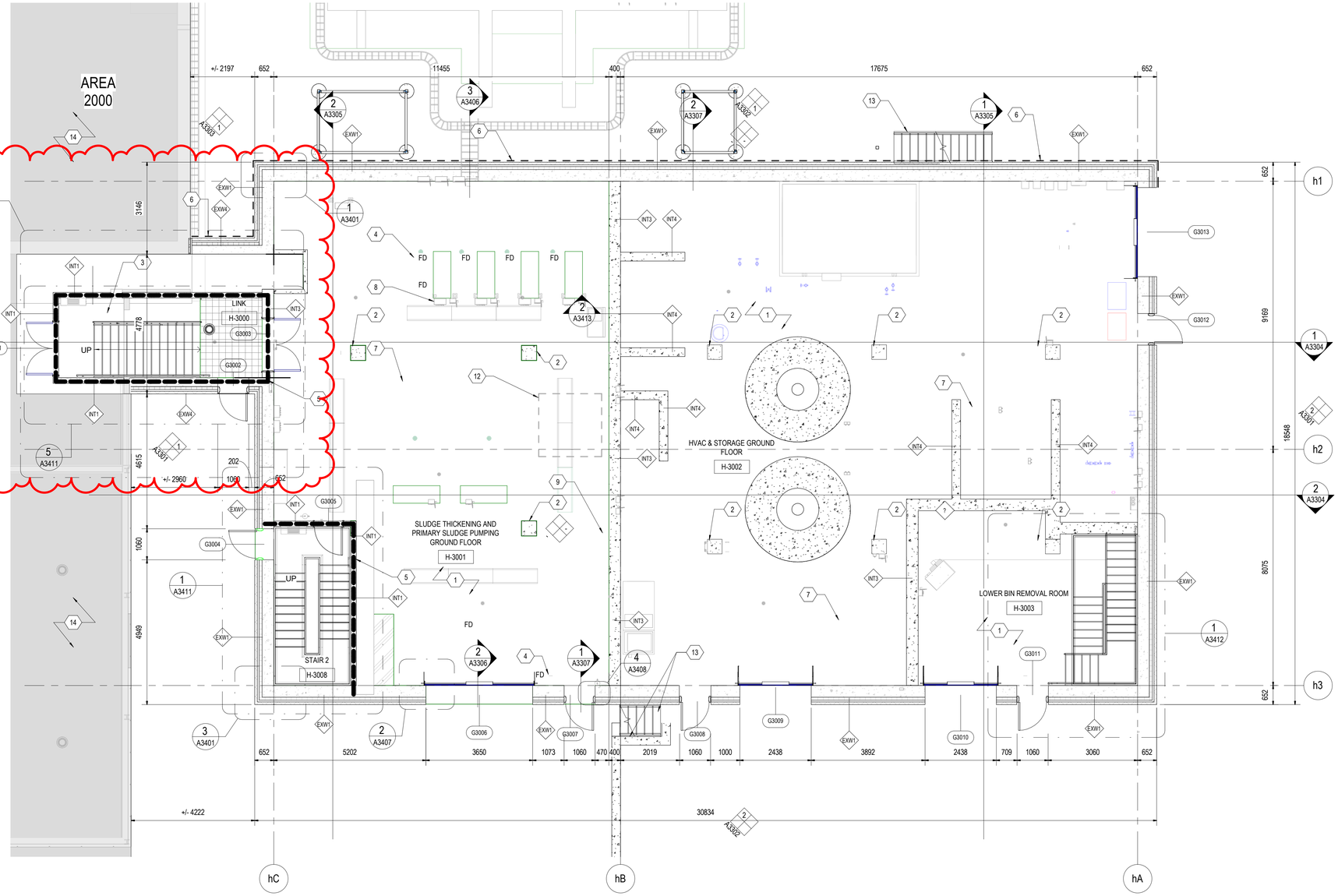
CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES PHASE 1

TITLE:
AERATION - DEMOLITION ROOF PLAN

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A2602
CHECKED BY: AB	

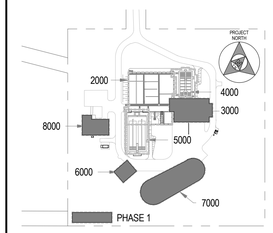


1 A3101 LOWER LEVEL PLAN
1 : 75

OVERALL PLAN KEYNOTES:

1. FOR FLOOR SLABS, FOUNDATIONS, COLUMNS, ETC. REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF WORK.
2. PAINT ALL CONCRETE COLUMNS AND CONCRETE SUPPORT BEAMS, TYPICAL.
3. REFER TO DRAWINGS A2000 FOR EXTENT OF WORK.
4. SLOPE CONCRETE FLOOR TO FLOOR DRAINS. REFER TO STRUCTURAL DRAWINGS FOR EXTENT.
5. DASHED LINE DENOTES ONE HOUR FIRE SEPARATION.
6. DASHED LINE DENOTES SELF-ADHERING SHEET WATERPROOFING SYSTEM C/W 75MM RIGID INSULATION, REFER TO DETAIL 1/A3404
7. FOR PROCESS EQUIPMENT REFER TO PROCESS DRAWINGS FOR EXTENT OF WORK.
8. FOR ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL DRAWINGS FOR EXTENT OF WORK.
9. HANDWASH STATION, PROVIDE SOAP DISPENSER, MIRROR, PAPER TOWEL DISPENSER AND WASTE DISPENSER.
10. FOR MECHANICAL EQUIPMENT, REFER TO MECHANICAL DRAWINGS FOR EXTENT OF WORK.
11. CONCRETE PAD, REFER TO PROCESS FOR EXTENT OF WORK.
12. DASHED LINE DENOTES RECESSED FLOOR HATCH OPENING ABOVE. REFER TO SPECIFICATIONS
13. FOR ALL EXTERIOR STAIR DETAILS AND RETAINING WALL, REFER TO STRUCTURAL DRAWINGS.
14. SHADED AREA DENOTES "NOT APPLICABLE IN PHASE 1".

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN

SCALE: N.T.S.

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CLIENT:

TOWNSHIP OF SOUTH STORMONT

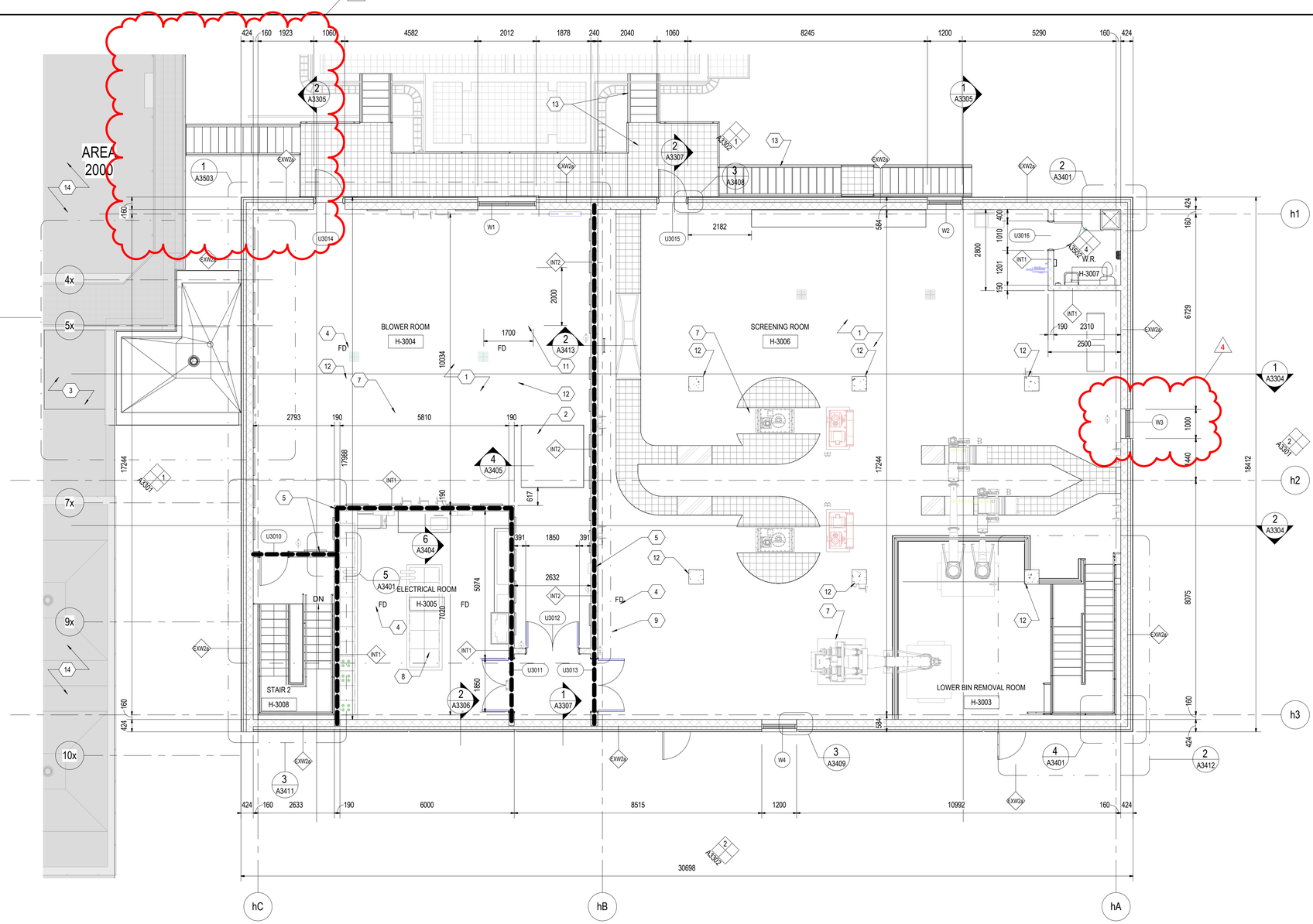
PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:

HEADWORKS BUILDING -
OVERALL LOWER LEVEL PLAN

SCALE:	JOB NO:
As indicated	19070
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A3101
CHECKED BY:	
AB	



1 A3102 UPPER LEVEL PLAN
1 : 75

OVERALL PLAN KEYNOTES:

1. FOR FLOOR SLABS, FOUNDATIONS, COLUMNS, ETC. REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF WORK.
2. RECESSED FLOOR HATCH. REFER TO TYP. FLOOR ACCESS HATCH DETAIL
3. REFER TO DRAWINGS A2000 FOR EXTENT OF WORK.
4. SLOPE CONCRETE FLOOR TO FLOOR DRAINS. REFER TO STRUCTURAL DRAWINGS FOR EXTENT.
5. DASHED LINE DENOTES ONE HOUR FIRE SEPARATION.
6. PROVIDE 75 RIGID INSULATION AT PERIMETER OF EXTERIOR WALLS.
7. FOR PROCESS EQUIPMENT REFER TO PROCESS DRAWINGS FOR EXTENT OF WORK.
8. FOR ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL DRAWINGS FOR EXTENT OF WORK.
9. HANDWASH STATION, PROVIDE SOAP DISPENSER, MIRROR, PAPER TOWEL DISPENSER AND WASTE DISPENSER.
10. FOR MECHANICAL EQUIPMENT, REFER TO MECHANICAL DRAWINGS FOR EXTENT OF WORK.
11. CONCRETE PAD, REFER TO PROCESS FOR EXTENT OF WORK.
12. PAINT ALL CONCRETE COLUMNS AND COCONCRETE SUPPORT BEAMS, TYPICAL.
13. FOR ALL EXTERIOR STAIRS AND GRATING DETAILS, REFER TO STRUCTURAL DRAWINGS.
14. SHADED AREA DENOTES "NOT APPLICABLE IN PHASE 1".

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
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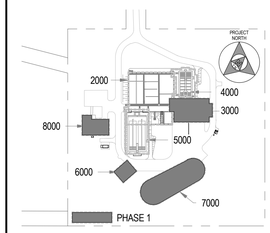

KEY PLAN

SCALE: N.T.S.

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CLIENT:

TOWNSHIP OF SOUTH STORMONT

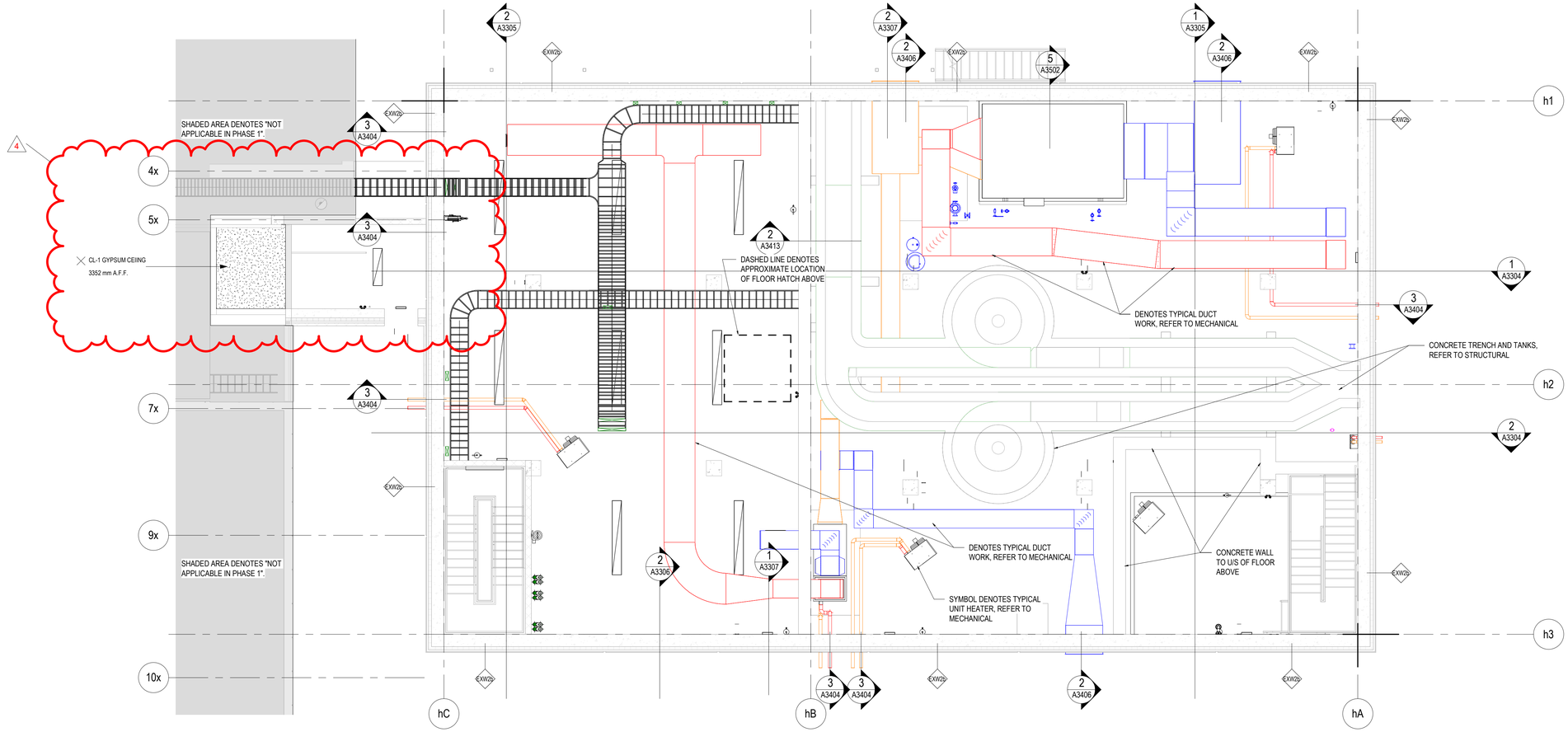
PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:

HEADWORKS BUILDING -
OVERALL UPPER LEVEL PLAN

SCALE:	JOB NO:
As indicated	19070
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A3102
CHECKED BY:	
AB	



1 A3103 LOWER LEVEL REFLECTED CEILING PLAN

1 : 75

REFLECTED CEILING PLAN NOTES:

1. REFER TO MECHANICAL, ELECTRICAL AND MECHANICAL PROCESS DRAWINGS FOR LOCATION OF FIXTURES, EQUIPMENT ETC. FOR EXPOSED CEILING STRUCTURES (I.E. HOLLOW CORE SLABS AND POURED CONCRETE SLABS) INCLUDED BUT NOT LIMITED TO PIPES, HANGERS, LIGHTS, DIFFUSERS, GRILLES, CEILING FANS, DETECTORS, ETC. IT IS THE RESPONSIBILITY OF THE ELECTRICAL, MECHANICAL AND MECHANICAL PROCESS CONTRACTORS TO COORDINATE EXACT LOCATIONS PRIOR TO ANY INSTALLATIONS.
2. REFER TO BUILDING SECTIONS AS PER DETAIL BUBBLES SHOWN ON THIS PLAN FOR ELEVATION VIEWS OF ALL STRUCTURAL CONCRETE TRENCHES, COLUMNS, BEAMS, TANKS, ETC. INCLUDING MECHANICAL, ELECTRICAL, AND PROCESS DRAWINGS FOR DUCT WORK, LIGHTS, SUPPORTS, PIPING, ETC. REFER ALSO TO STRUCTURAL, MECHANICAL, ELECTRICAL, AND PROCESS DRAWINGS FOR ELEVATION VIEWS.

CEILING PLAN LEGEND

AT ALL EXPOSED CEILING AREAS, PRIME AND PAINT ALL STRUCTURAL EXPOSED STEEL BEAM AND COLUMNS AS WELL AS STRUCTURAL CONCRETE BEAMS AND COLUMNS, ETC. INCLUDING BUT NOT LIMITED TO: OWSJ'S, METAL DECK, CONCRETE DECK, MISC METALS, BRACKETS, ANGLES, DUCTWORK, PIPING, CONDUIT, SUPPORTS, BLOCKING, ETC. UNLESS NOTED OTHERWISE. NOTE: DO NOT PAINT PRE-PAINTED FACTORY APPLIED EQUIPMENT AND MATERIALS.

GYPSUM BOARD CEILING

CABLE TRAY; REFER TO ELECTRICAL DRAWINGS.

LIGHTING FIXTURES. REFER TO ELECTRICAL DWG'S FOR EXACT SIZE AND LOCATION

MECHANICAL DUCTS. REFER TO MECHANICAL DWG'S FOR EXACT SIZE AND LOCATION.

CRANE BEAM. REFER TO STRUCTURAL DWG'S FOR EXACT SIZE AND LOCATION.

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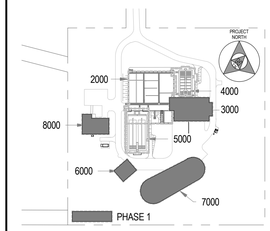

KEY PLAN

SCALE: N.T.S.

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CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:

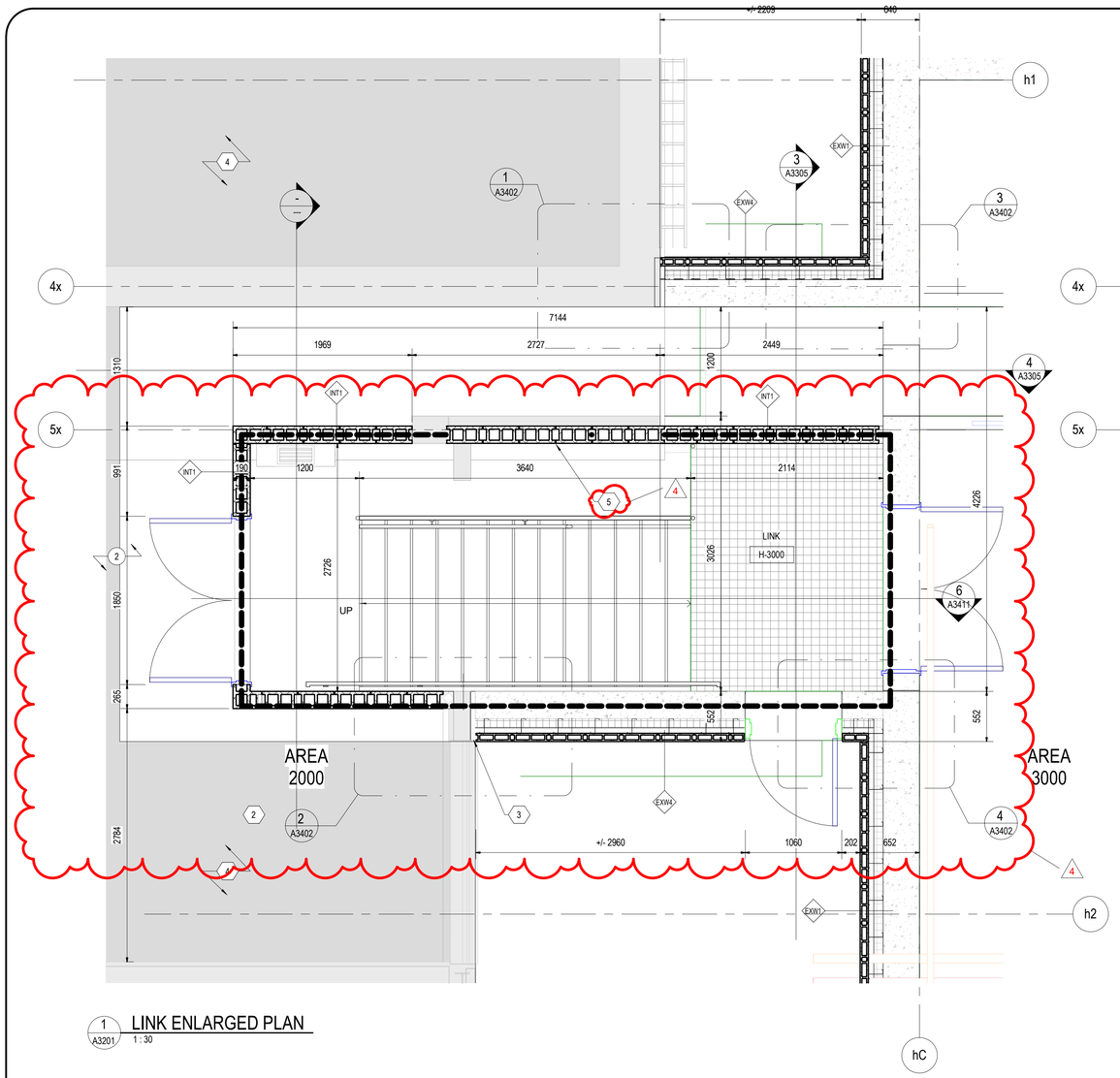
INGLESIDE WWTP UPGRADES PHASE 1

TITLE:

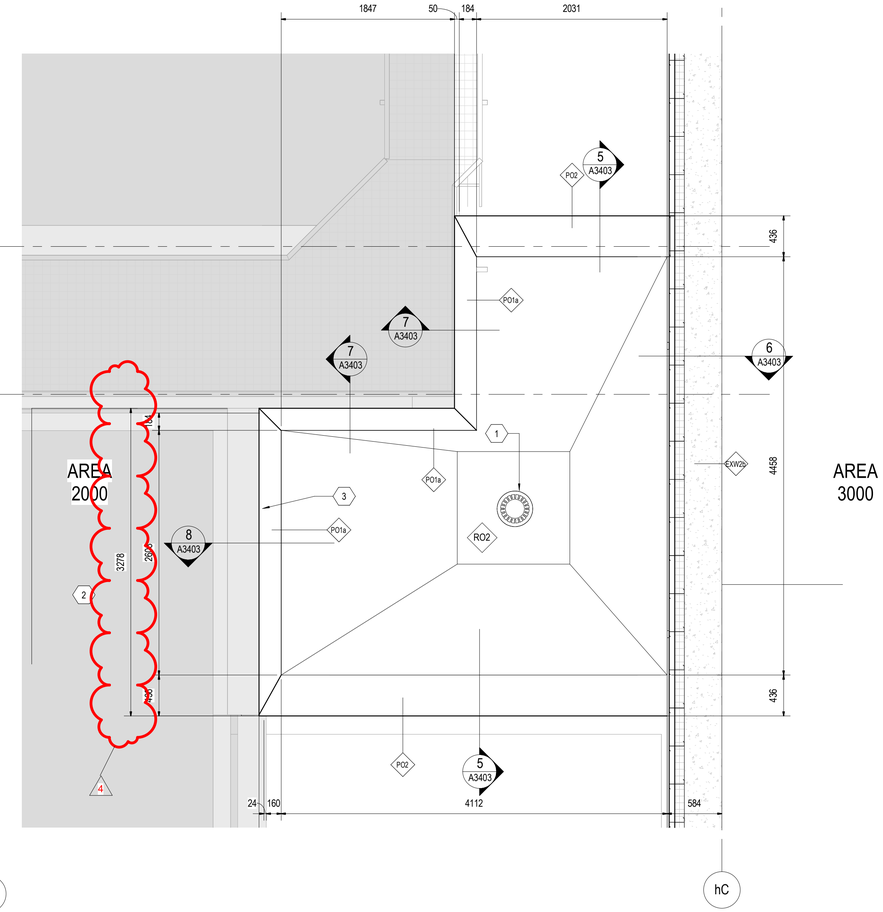
HEADWORKS BUILDING - CEILING LOWER LEVEL PLAN

SCALE: As indicated	JOB NO: 19070
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A3103
CHECKED BY: AB	

2025-04-17 1:27:54 PM Autodesk Docs://Ingleside WWTP - Upgrades - R19\19070-3000-New Headworks - Architectural.rvt



1 A3201 LINK ENLARGED PLAN
1 : 30

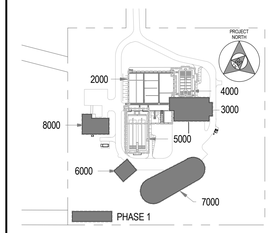


2 A3201 LINK ENLARGED ROOF PLAN
1 : 30

LINK KEYNOTES:

1. PROVIDE ROOF DRAIN. REFER TO TYPICAL ROOF DETAILS.
2. REFER TO DRAWINGS A2000 FOR EXTENT OF WORK.
3. 50mm EXPANSION JOINT, REFER TO DETAILS IN A3403.
4. SHADED AREA DENOTES "NOT APPLICABLE IN PHASE 1".
5. FOR EXISTING FOUNDATIONS REFER TO STRUCUTRUAL DRAWINGS FOR EXTENT OF WORK.

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

CONSULANT:

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800 SECOND STREET WEST
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TEL:613-935-3775 | FAX: 613-935-6450
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SUB-CONSULANT:

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Consulting Engineers
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OTTAWA, ON, CANADA K2C 3R8
PHONE: 613-727-5111 | FAX: 613-727-5115

CLIENT:

TOWNSHIP OF SOUTH STORMONT

PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

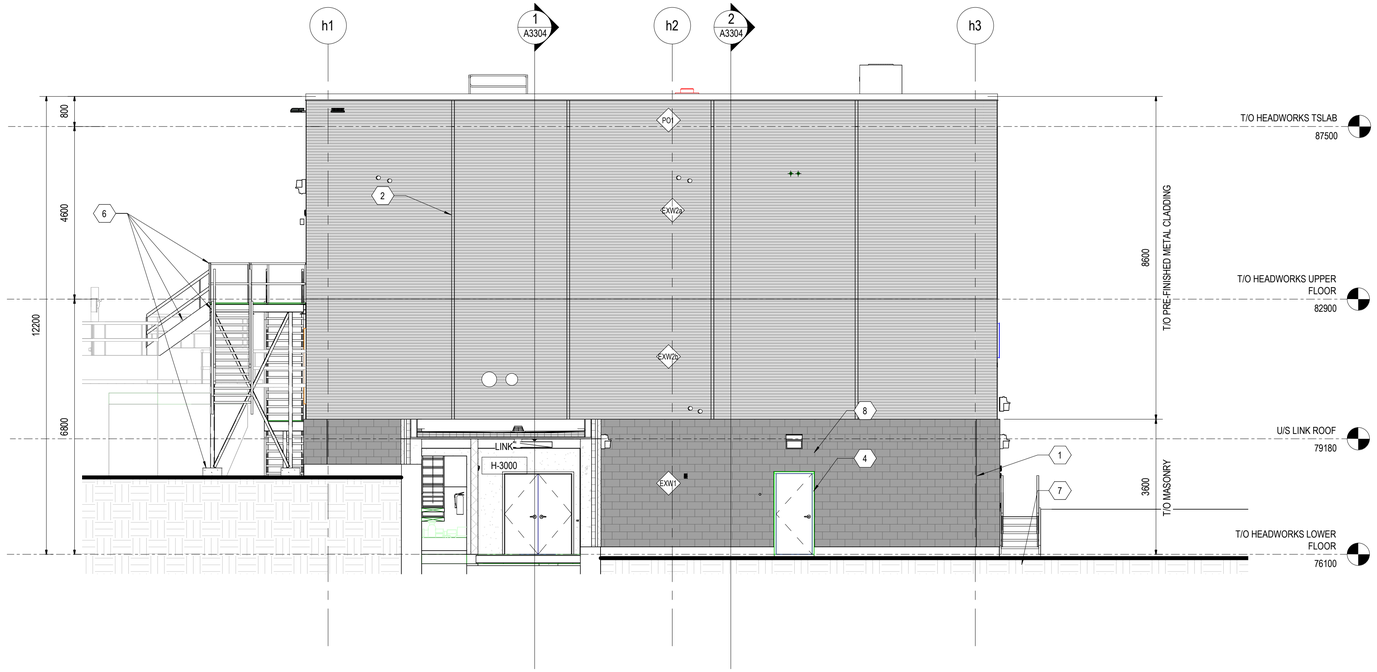
TITLE:

HEADWORKS BUILDING - ENLARGED LINK FLOOR AND ROOF PLAN

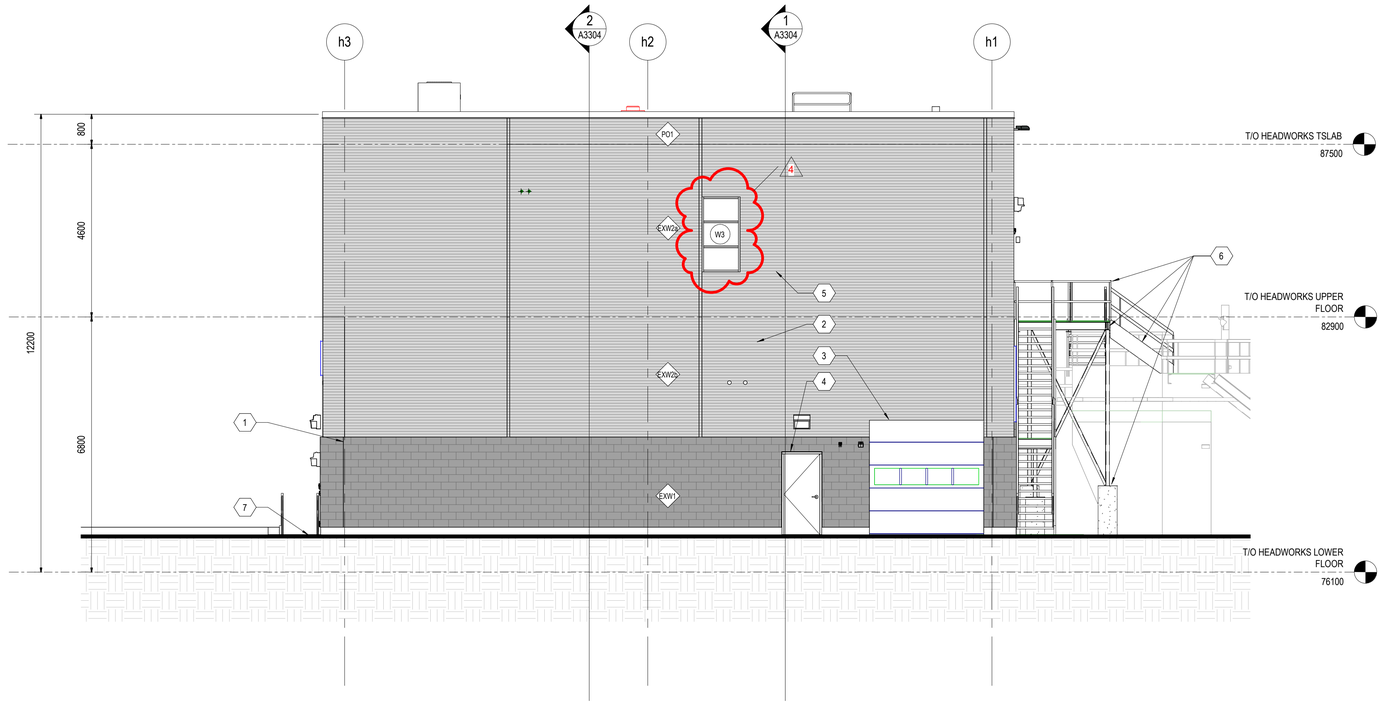
SCALE: As indicated	JOB NO: 19070
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A3201
CHECKED BY: AB	

EXTERIOR ELEVATION KEYNOTES:

1. "CJ" DENOTES CONTROL JOINT, REFER TO TYPICAL EXTERIOR CONTROL JOINT ("CJ") DETAIL.
2. CUSTOM BENT TRANSITION TRIM (FULL LENGTH), FINISH TO MATCH SIDING, REFER TO DETAIL 2/A3401
3. REFER TO TYPICAL OVERHEAD DOOR DETAILS AND DOOR SCHEDULE.
4. REFER TO TYPICAL HOLLOW METAL DOOR DETAILS AND DOOR SCHEDULE.
5. REFER TO TYPICAL WINDOW DETAILS AND WINDOW SCHEDULE.
6. FOR EXTERIOR PLATFORMS, GUARDRAILS, STAIRS, CONCRETE PIERS, ETC. REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF WORK.
7. FOR GRADE ELEVATIONS REER TO CIVIL DRAWINGS FOR EXTENT OF WORK.
8. FOR EXTERIOR LIGHTING, REFER TO TYPICAL EXTERIOR LIGHTING DETAILS AND TO ELECTRICAL DRAWINGS FOR EXTENT OF WORK.
9. SHADED AREA DENOTES "NOT APPLICABLE IN PHASE 1".
10. LOUVRE, REFER TO MECHANICAL.



1 A3301 **WEST ELEVATION**
1 : 75



2 A3301 **EAST ELEVATION**
1 : 75

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
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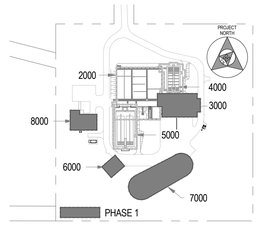
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

CONSULTANT:
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800 SECOND STREET WEST
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PROJECT:
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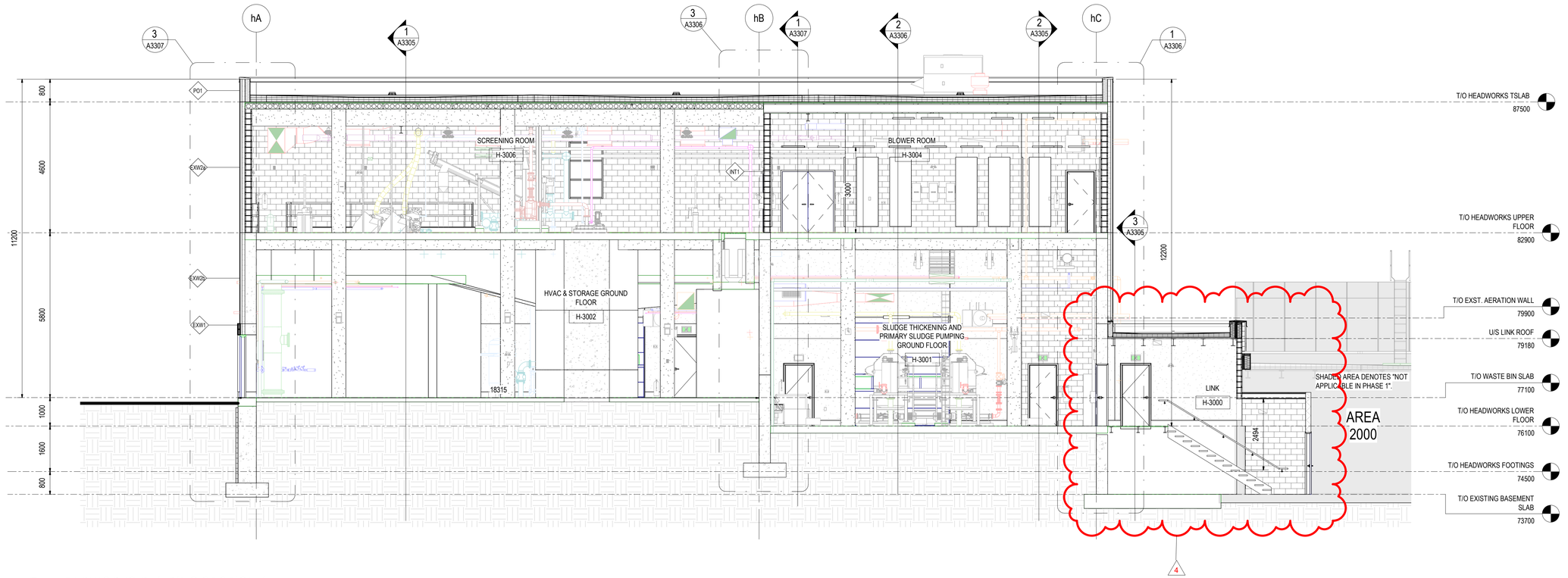
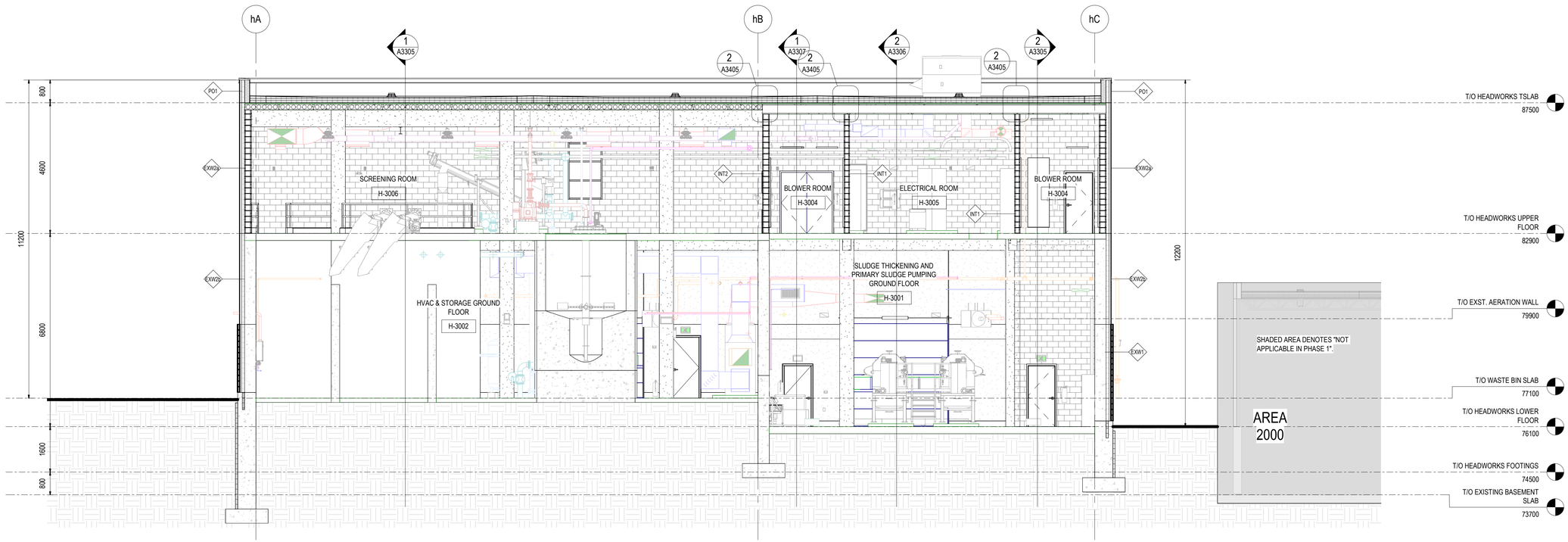
PHASE 1

TITLE:
HEADWORKS BUILDING - EXTERIOR ELEVATIONS

SCALE: As indicated	JOB NO: 19070
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A3301
CHECKED BY: AB	



1 A3304 HEADWORKS BUILDING SECTION 1
1 : 75



2 A3304 HEADWORKS BUILDING SECTION 2
1 : 75

2025/04/17	4	ISSUED FOR ADDENDUM #4
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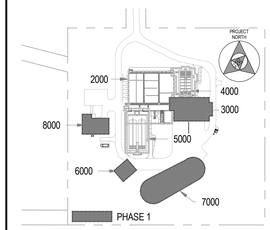
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT
DATE	NO.	REVISION



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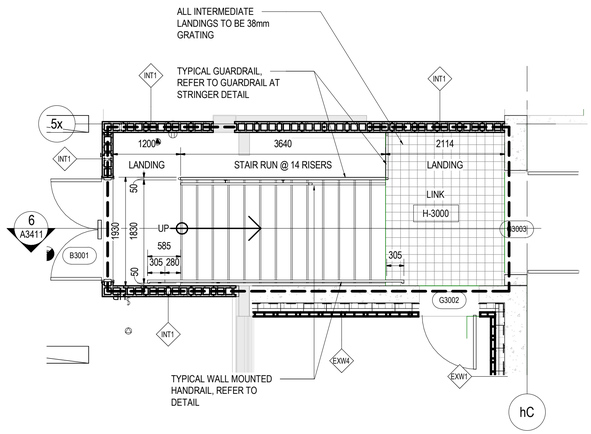
PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

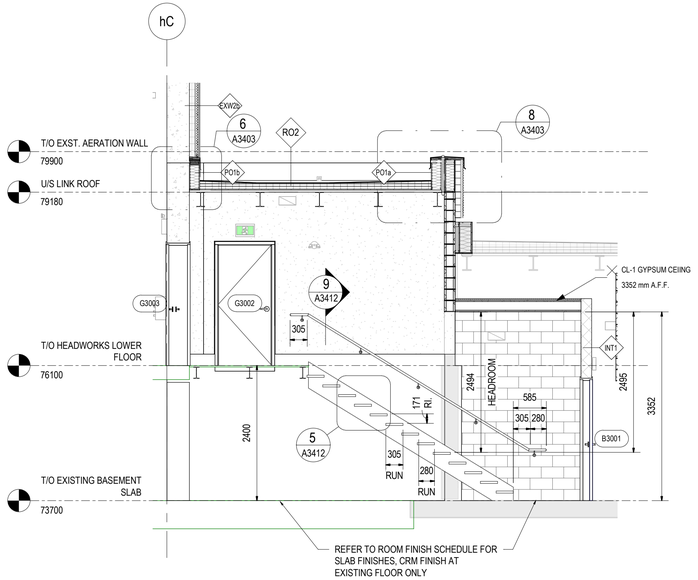
TITLE:

HEADWORKS BUILDING - BUILDING SECTIONS

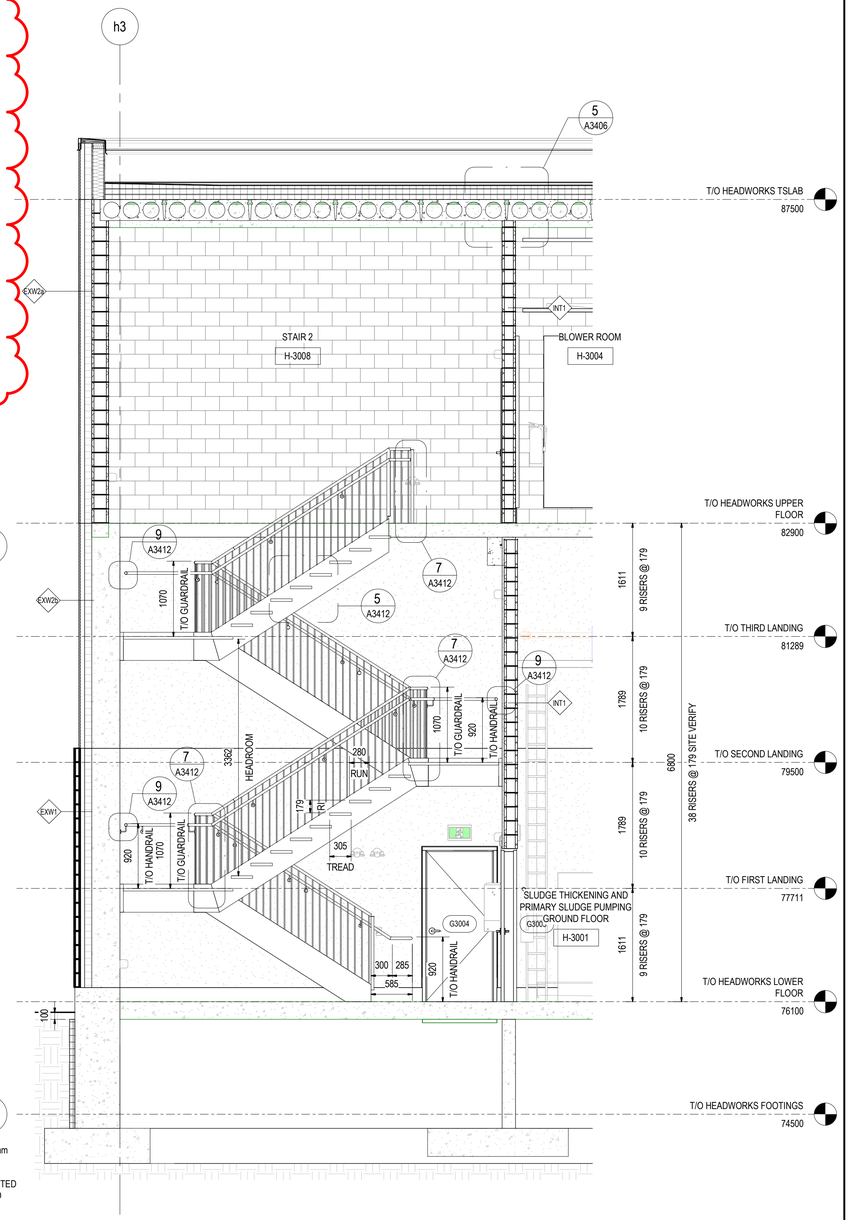
SCALE: 1 : 75 STED	JOB NO: 19070
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A3304
CHECKED BY: AB	



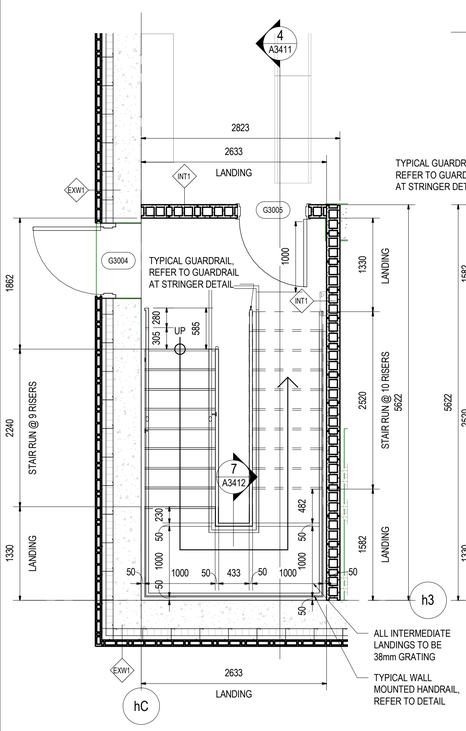
5 A3411 **STAIR 1 - PLAN**
1 : 50



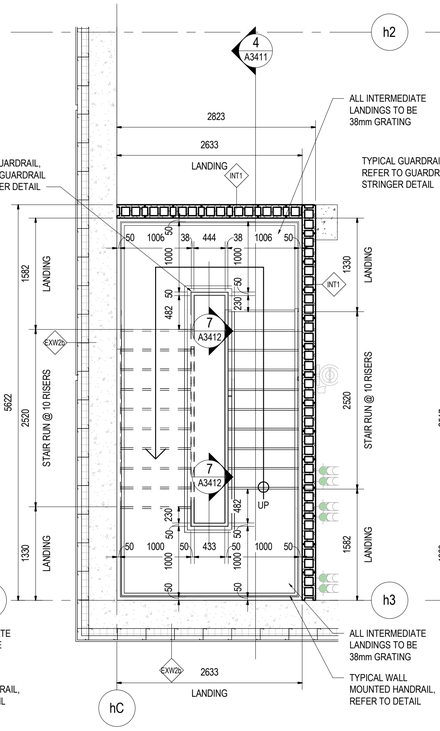
6 A3411 **TYPICAL STAIR SECTION**
1 : 50



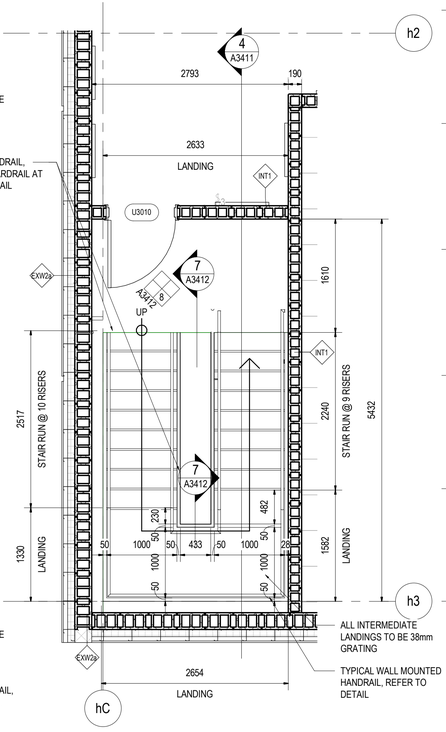
4 A3411 **STAIR 2 - TYPICAL SECTION**
1 : 40



1 A3411 **STAIR 2 - LOWER LEVEL**
1 : 40



2 A3411 **STAIR 2 - INTERMEDIATE LANDINGS**
1 : 40



3 A3411 **STAIR 2 - UPPER LEVEL**
1 : 40

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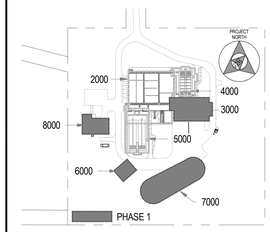

KEY PLAN
SCALE: N.T.S.

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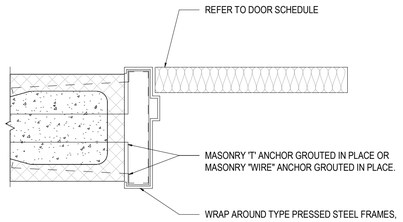
CLIENT:
TOWNSHIP OF SOUTH STORMONT

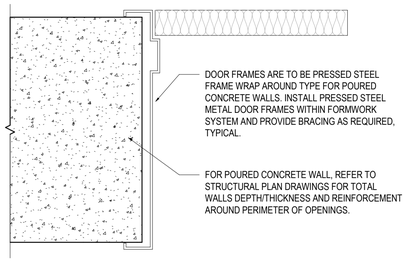
PROJECT:
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:
HEADWORKS BUILDING - STAIR DETAILS

SCALE:	JOB NO:
As indicated	19070
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A3411
CHECKED BY:	
AB	



CONCRETE BLOCK WALLS



POURED CONCRETE WALLS

GENERAL DOOR FRAME NOTES:

1. REFER TO DOOR DETAILS FOR DOOR SECURITY LOCATIONS.
2. AT DOUBLE DOOR LOCATIONS, DOOR SECURITY CONTACT POINT LOCATION TO BE AT TOP OF DOOR SLAB (AT LOCKSET) TO PRESSED STEEL FRAME. RUN CONDUITY/WIRING FROM THIS LOCATIONWITHINHEAD SECTION PF PS FRAME TO CONCRETE BLOCK. NEATLY COREDRILL CONCRETE BLOCK AT JAMBS AS REQUIRED. AVOID ANY LOAD-BRG AND/OR STEEL LINTELS.
3. AT FIRE RATED OR LABELLED DOORS, ENSURE MAX, 19 mm UNDERCUT FROM UNDERSIDE OF DOORS SLAB TO FLOOR.
4. WALL BASE IS TO NEATLY BUTT UP TO PS DOOR FRAME, TYPICAL.

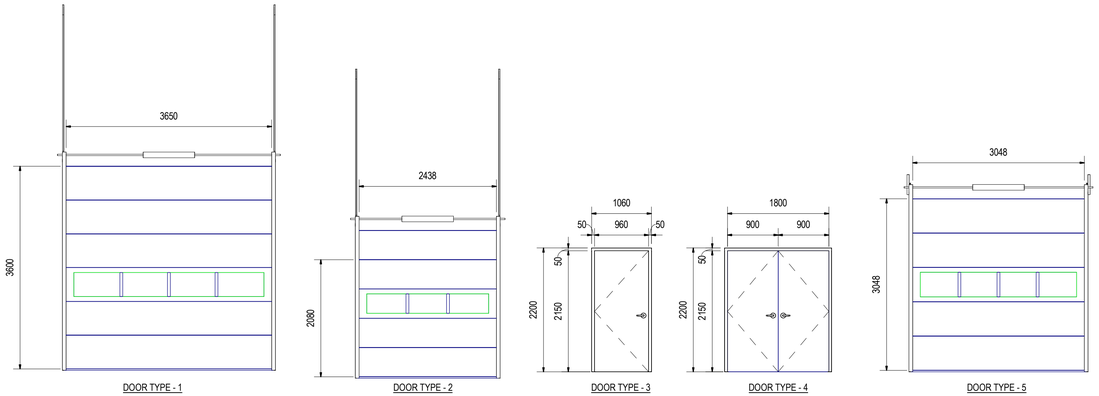
REFER TO STRUCTURAL DRAWINGS FOR TYPICAL BLOCK LINTELS AND/OR REINFORCEMENT AROUND PERIMETER OF DOOR OPENINGS.

DOOR AND FRAME GENERAL NOTES:

1. CONTRACTOR TO PROVIDE AUTOCAD VERSION 2000 SHOP DRAWINGS INCLUDING BUT NOT LIMITED TO: ENLARGED DETAILS OF JAMB, HEAD AND SILL, INCLUDING FLASHINGS, BLOCKINGS, MASONRY BRICK VENEER CONNECTIONS, PROFILES, ETC. FOR REVIEW.
2. CONTRACTOR TO FIELD MEASURE DOOR OPENINGS ON SITE PRIOR TO ANY FABRICATIONS. VERIFY ANY DISCREPANCIES WITH CONSULTANT.
3. SUBMIT SHOP DRAWINGS TO CONSULTANT FOR APPROVAL BEFORE FABRICATION AND / OR AND INSTALLATION.
4. REFER TO FLOOR PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
5. REFER TO SPECIFICATIONS FOR FRONT EXTERIOR ALUMINUM ENTRANCE DOOR.
6. REFER TO DRAWING A001 FOR ABBREVIATIONS LEGEND.
7. REFER TO ENLARGED DETAILS OF DOOR AND FRAMES FOR ADDITIONAL INFORMATION.
8. ALL DOOR AND FRAMES IN RATED PARTITIONS, IF GLAZED, SHALL BE GLAZED WITH GEORGIAN WIRED GLASS.
9. ALL HOLLOW METAL PRESSED STEEL FRAMES TO BE WRAP AROUND TYPE. SITE VERIFY ALL THROATS SIZES.

DOOR SCHEDULE

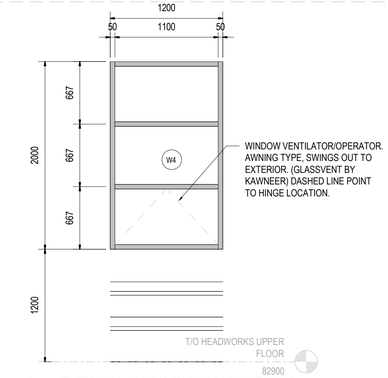
	DOOR						FRAME			DOOR HARDWARE SET	
Mark	HEIGHT	WIDTH	TYPE	MATERIAL	FINISH	GLASS	MATERIAL	FINISH	FIRE RATING		Comments
B3001	2150	1800	3	H.M.	P&P		H.M.	P&P	45 MIN.		
G3002	2150	960	3	H.M.	P&P		H.M.	P&P	45 MIN.		
G3003	2150	1800	3	H.M.	P&P		H.M.	P&P	45 MIN.		
G3004	2150	960	3	H.M.	P&P		H.M.	P&P			
G3005	2150	960	3	H.M.	P&P		H.M.	P&P	45 MIN.		
G3006	3600	3650	1	PRE-FIN.	P&P	THERM & TEMP	COSTUME	P&P			INSULATED OVERHEAD DOOR
G3007	2150	960	3	H.M.	P&P		H.M.	P&P			
G3008	2150	960	3	H.M.	P&P		H.M.	P&P			
G3009	2600	2438	2	PRE-FIN.	P&P	THERM & TEMP	COSTUME	P&P			INSUALTED OVERHEAD DOOR
G3010	2600	2438	2	PRE-FIN.	P&P	THERM & TEMP	COSTUME	P&P			INSUALTED OVERHEAD DOOR
G3011	2150	960	3	H.M.	P&P		H.M.	P&P			
G3012	2150	960	3	H.M.	P&P		H.M.	P&P			
G3013	3048	3048	5	PRE-FIN.	P&P	THERM & TEMP	COSTUME	P&P			INSULATED OVERHEAD DOOR
U3010	2150	960	3	H.M.	P&P		H.M.	P&P	45 MIN.		
U3011	2150	1800	4	H.M.	P&P		H.M.	P&P	45 MIN.		
U3012	2150	1800	4	H.M.	P&P		H.M.	P&P			
U3013	2150	1800	4	H.M.	P&P		H.M.	P&P	45 MIN.		
U3014	2150	960	3	H.M.	P&P		H.M.	P&P			
U3015	2150	960	3	H.M.	P&P		H.M.	P&P			
U3016	2150	960	3	H.M.	P&P		H.M.	P&P			



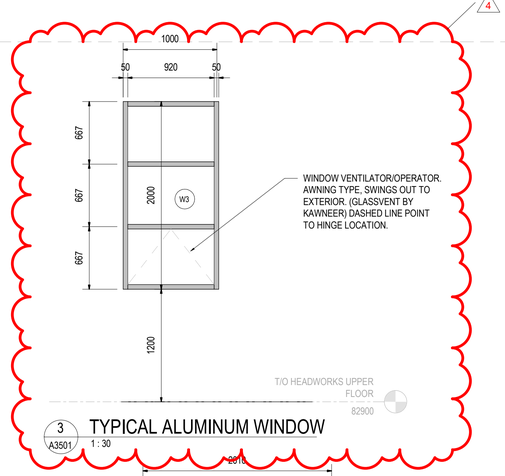
DOOR TYPES

WINDOW GENERAL NOTES:

1. CONTRACTOR TO PROVIDE SHOP DRAWINGS PRODUCE BY CAD, INCLUDING BUT NOT LIMITED TO: ENLARGED DETAILS OF JAMB, HEAD AND SILL, INCLUDING FLASHINGS, BLOCKINGS, MASONRY VENEER CONNECTIONS, SUPPORTS PROFILES, ETC. FOR REVIEW. REFER TO SPECIFICATIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS.
2. CONTRACTOR TO FIELD MEASURE WINDOW OPENINGS ON SITE PRIOR TO ANY FABRICATIONS. VERIFY ANY DISCREPANCIES WITH CONSULTANT.
3. SUBMIT SHOP DRAWINGS TO CONSULTANT FOR REVIEW BEFORE FABRICATION AND / OR AND INSTALLATION.
4. REFER TO FLOOR PLANS, ELEVATIONS, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. ALUMINUM WINDOWS TO BE KAWNEER 1600 UT SERIES CURTAIN WALL SYSTEM, COMPLETE WITH VENTILATORS. GLAZING TO BE DOUBLE THERMAL TINTED, ARGON FILLED. REFER TO TYPICAL WINDOW DETAILS ON DRAWING, WALL SCHEDULE FOR WALL ASSEMBLY AT THESE WINDOW LOCATIONS AND SPECIFICATIONS.
6. REFER TO DRAWING A001 FOR ABBREVIATIONS LEGEND.
7. REFER TO WINDOW ELEVATIONS FOR ADDITIONAL INFORMATION.
8. ALL WINDOWS SHOWN IN RATED PARTITIONS SHALL BE GLAZED WITH GEORGIAN WIRED GLASS.



4 A3501 — TYPICAL ALUMINUM WINDOW
1 : 30



3 A3501 — TYPICAL ALUMINUM WINDOW
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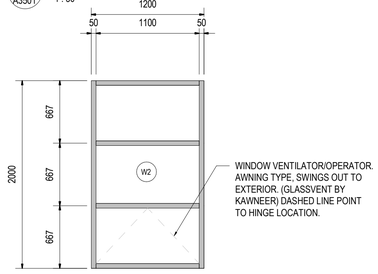
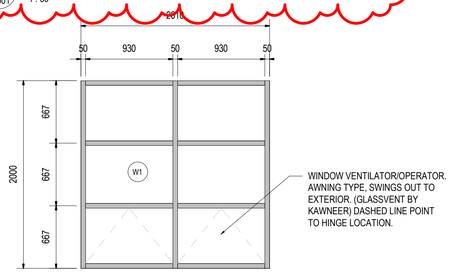
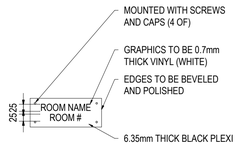


2 A3501 — TYPICAL ALUMINUM WINDOW
1 : 30



1 A3501 — TYPICAL ALUMINUM WINDOW
1 : 30



SIGN TYPE A

PROVIDE FOR A TOTAL OF # SIGNS

INTERIOR SIGNAGE GENERAL NOTES:

1. PROVIDE ONE SIGN PER ROOM
2. ROOM NAMES AND NUMBERS AS PER ROOM FINISH SCHEDUL
3. EXACT LOCATION OF SIGNAGE TO BE MOUNTED ON WALL ADJACENT TO DOOR, EXACT LOCATION TO BE DETERMINED ON SITE BY ENGINEER
4. REFER TO INTERIOR SIGNAGE SPECIFICATIONS
5. UNDERSIDE OF WASHROOM SIGNS TO BE MOUNTED AT 1200 AFF

6 A3501 — TYPICAL ROOM SIGNAGE
1 : 10

7 A3501 — TYPICAL INTERIOR FRAME DETAILS
1 : 5

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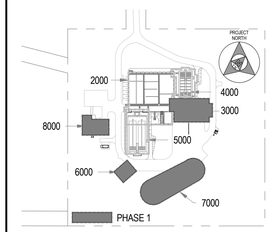
DATE	N0.	REVISION



KEY PLAN

SCALE: N.T.S.

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PHONE: 613-727-5111 | FAX: 613-727-5115

CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES PHASE 1

TITLE:
HEADWORKS BUILDING - DOOR AND WINDOW SCHEDULES

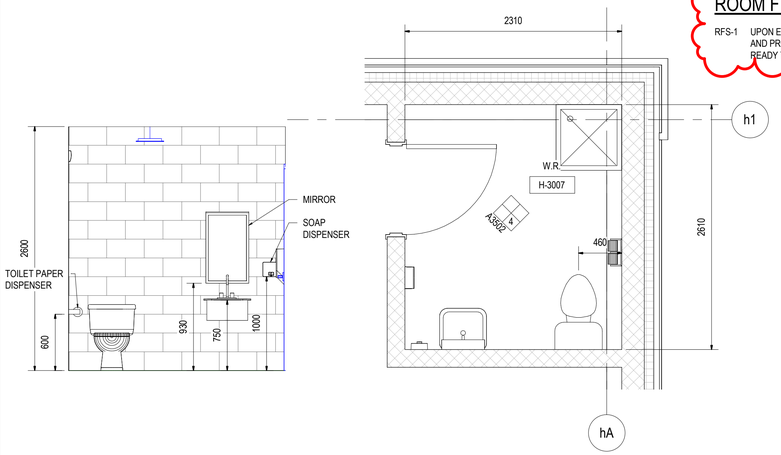
SCALE: As indicated	JOB NO: 19070
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A3501
CHECKED BY: AB	

ROOM FINISH SCHEDULE GENERAL NOTES

RFS-1 UPON EMOVALS OF MECHANICAL, ELECTRICAL, STRUCTURAL, AND PROCESS EQUIPMENT REPAIR EXISTING FLOOR AS REQUIRED READY TO RECEIVE NEW FINISH.

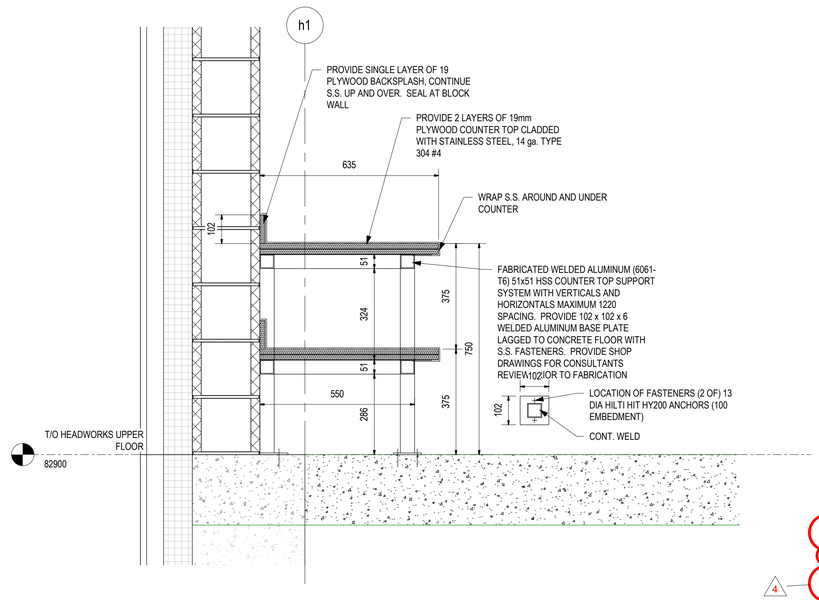
ROOM FINISH SCHEDULE - GROUND FLOOR

ROOM		FLOOR			WALLS								CEILING	
					NORTH		EAST		SOUTH		WEST			
NO.	NAME	MATERIAL	FINISH	BASE	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING HEIGHT
H-3000	LINK	CONC	CRM/S&H/ RFS1	RBR	CBLK	PT	CBLK	PT	CBLK	PT	CBLK	PT	F.R.R. GWB	3352 mm AFF
H-3001	SLUDGE THICKENING AND PRIMARY SLUDGE PUMPING GROUND FLOOR	CONC	S&H	RBR	CONC	PT	CONC	PT	CONC	PT	CONC	PT	CONC. EXP.	-
H-3002	HVAC & STORAGE GROUND FLOOR	CONC	S&H	RBR	CONC	PT	CONC	PT	CONC	PT	CONC	PT	CONC. EXP.	
H-3003	LOWER BIN REMOVAL ROOM	CONC	S&H	RBR	CBLK	PT	CBLK	PT	CBLK	PT	CBLK	PT	CONC. EXP.	-
H-3004	BLOWER ROOM	CONC	S&H	RBR	CBLK	PT	CBLK	PT	CBLK	PT	CBLK	PT	CONC. EXP.	-
H-3005	ELECTRICAL ROOM	CONC	S&H	RBR	CBLK	PT	CBLK	PT	CBLK	PT	CBLK	PT	CONC. EXP.	-
H-3006	SCREENING ROOM	CONC	S&H	RBR	CBLK	PT	CBLK	PT	CBLK	PT	CBLK	PT	CONC. EXP.	-
H-3007	W.R.	CONC	S&H	RBR	CBLK	PT	CBLK	PT	CONC	PT	CONC	PT	CONC. EXP.	-
H-3008	STAIR 2	CONC	S&H	RBR	CBLK	PT	CBLK	PT	CONC	PT	CONC	PT	CONC. EXP.	-

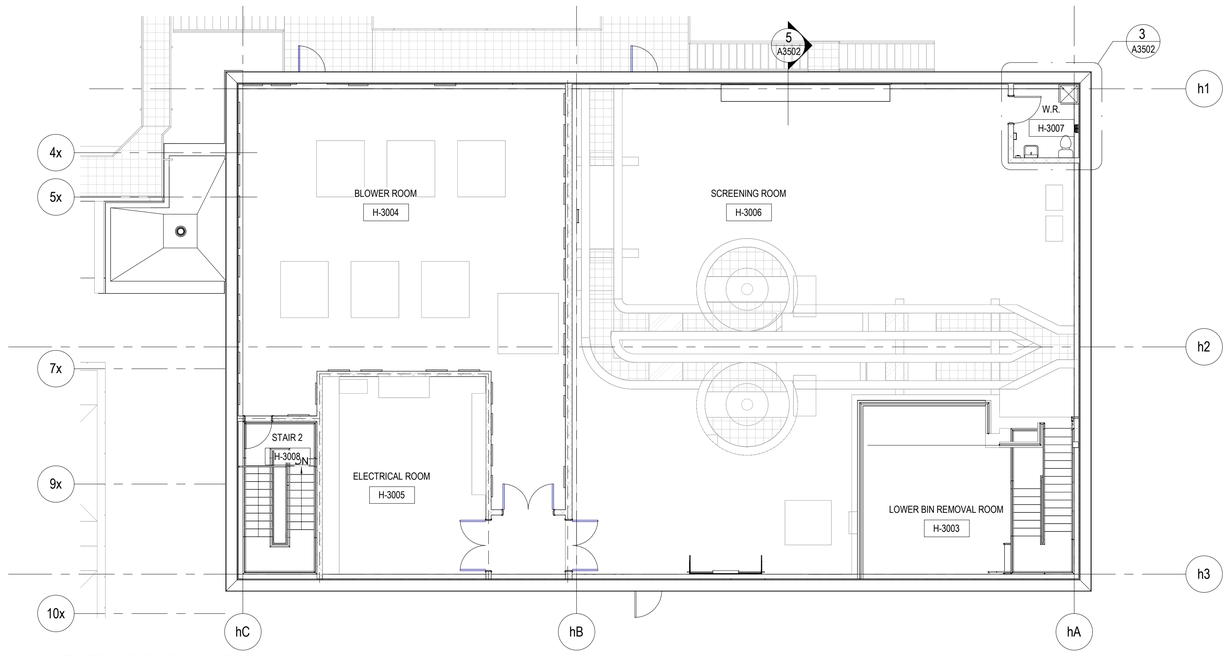


4 A3502 WASHROOM ELEV. 1
1 : 30

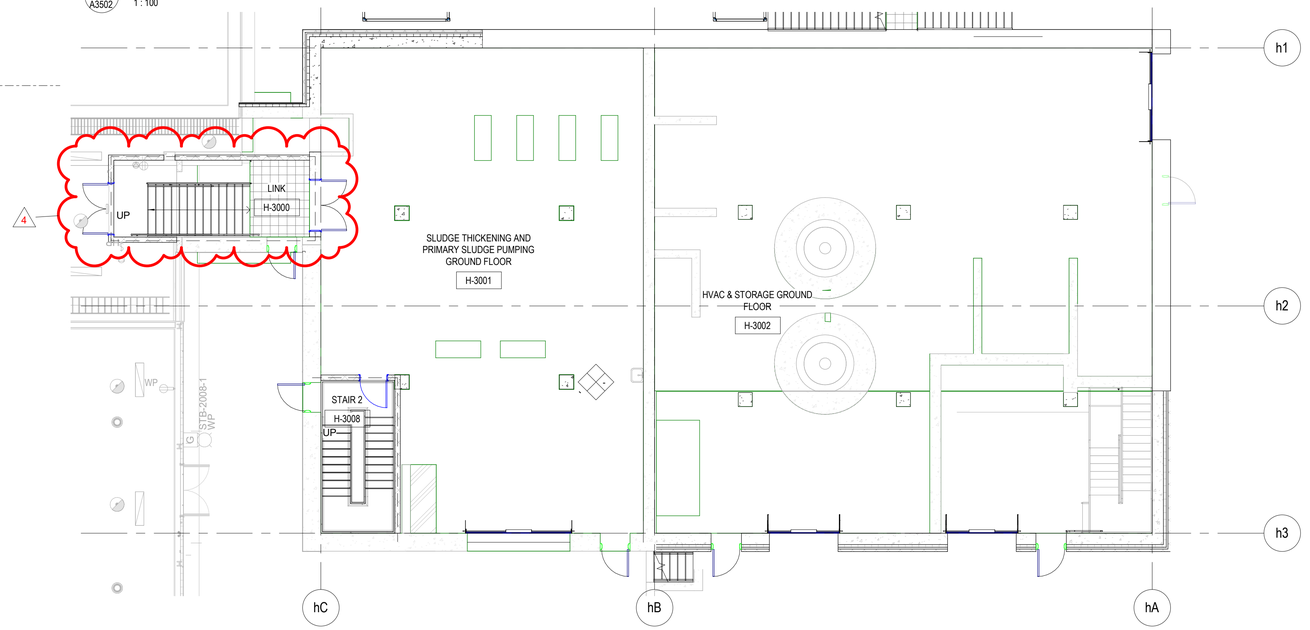
3 A3502 ENLARGED WASHROOMS FLOOR PLAN
1 : 30



5 A3502 TYPICAL WORK BENCH DETAIL
1 : 10

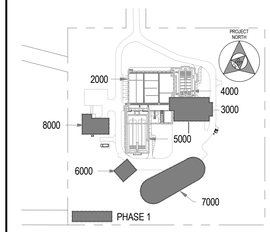


2 A3502 UPPER LEVEL FINISHESPLAN
1 : 100



1 A3502 LOWER LEVEL FINISHES PLAN
1 : 100

2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT
DATE	NO.	REVISION



KEY PLAN

SCALE: N.T.S.

CONSULANT:
EVB ENGINEERING
800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA. K6J 1H6
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CLIENT:
TOWNSHIP OF SOUTH STORMONT

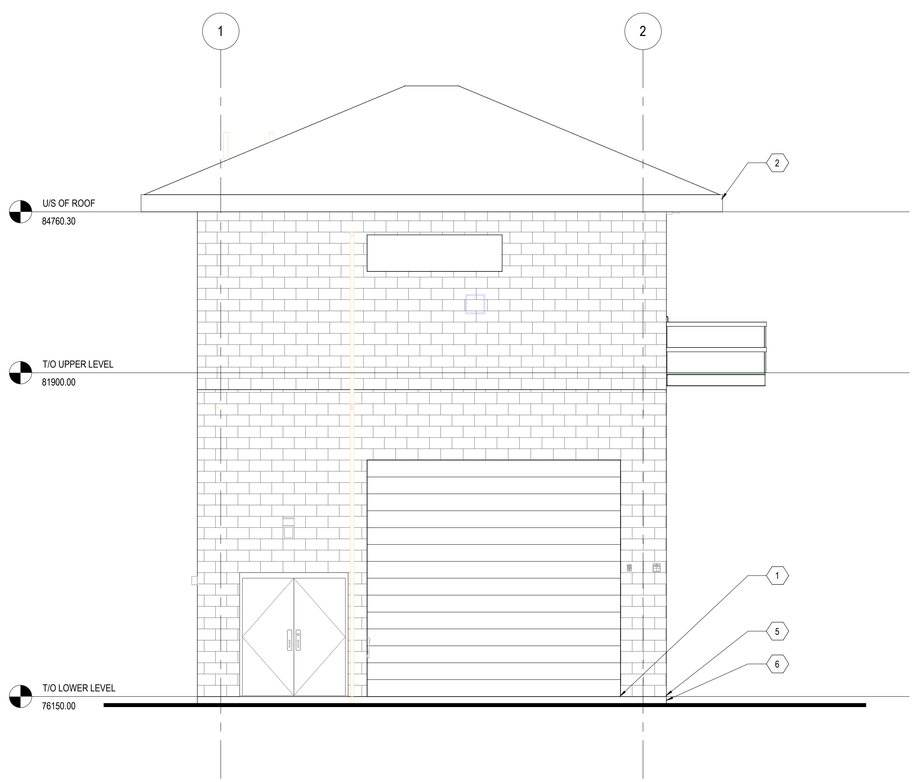
PROJECT:

INGLESIDE WWTP UPGRADES PHASE 1

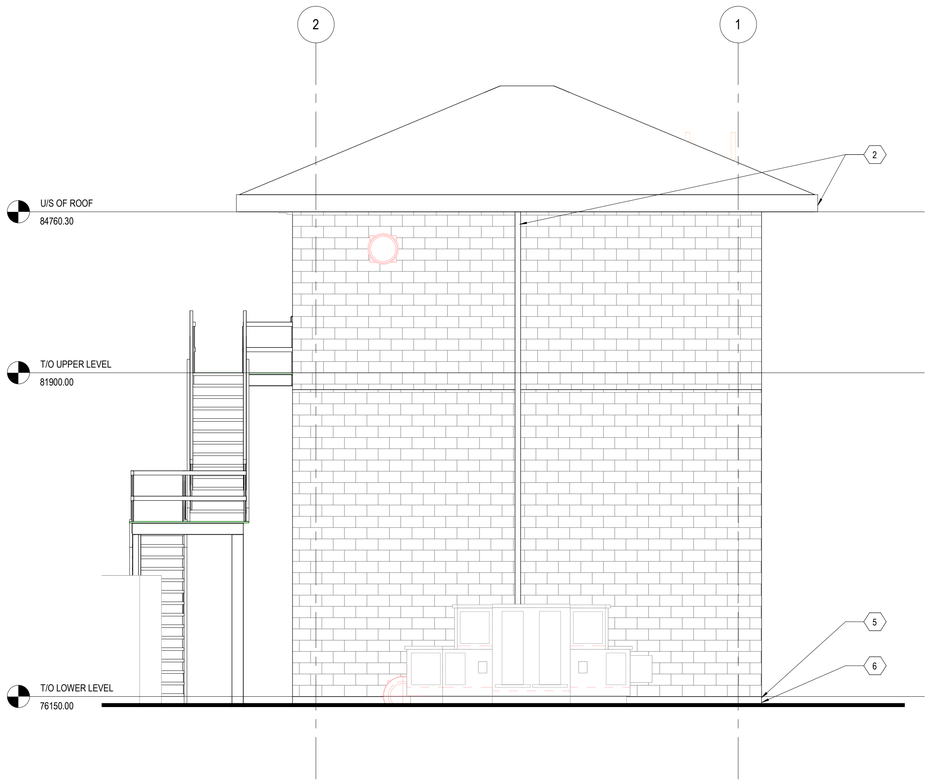
TITLE:

HEADWORKS BUILDING - ROOM FINISH SCHEDULE

SCALE: As indicated	JOB NO: 19070
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A3502
CHECKED BY: AB	



1 A7301 NORTH ELEVATION
1 : 50



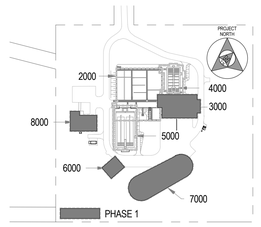
2 A7301 SOUTH ELEVATION
1 : 50

EXTERIOR ELEVATION KEYNOTES:

1. AT EXTERIOR ROLL-UP DOOR, AT EITHER SIDE OF CONCRETE PAD , NEATLY CUT AND REMOVE METAL FLASHING CAP (GREEN) AT EDGE OF ROLL-UP DOOR JAMB. SAWCUT ASPHALT ONLY AS REQUIRED TO INSTALL A GALVANIZED ANGLE TO COVER THE TOP OF THE FOUNDATION INSULATION . GALVANIZED ANGLE TO BE APPROXIMATELY 100mm X 100mm X 6.35mmTHK. SECURE ANGLE WITH S.S. TAPCONS TO TOP OF ROLL-UP DOOR CONCRETE SILL. PROVIDE DETAILED SHOP DRAWINGS.
2. REMOVE EAVESTROUGH AND DOWNSPOUTS. REPLACE EAVESTROUGH AND DOWNSPOUTS TO MATCH EXISTING SIZE, PROFILE, GAUGE AND COLOUR. ENSURE EAVESTROUGH ARE CONTINUOUS AND SEAMLESS. REPLACE ALL EAVESTROUGH SUPPORTS WITH SIZE, PROFILE AND GAUGE TO MATCH EXISTING.
3. UPON REMOVAL OF EXHAUST PIPING AND ALL FLASHINGS AT METAL ROOF, PREPARE OPENING LEFT FROM REMOVALS READY TO RECEIVE NEW METAL ROOFING. NEW METAL ROOFING TO BE PREFINISHED TO MATCH EXISTING SIZE, PROFILE, GAUGE AND COLOUR. ENSURE NEW ROOFING PIECE IS LARGER THAN OPENING AND ENSURE A WATERTIGHT SEAL. CONSULT WITH EXISTING ROOF PROFILE ROOF MANUFACTURER FOR INSTALLATION DETAIL. PROVIDE SHOP DRAWING.
4. HATCH AREA DENOTES CLEAN EXTERIOR MASONRY AT UNDERSIDE OF 2ND FLOOR PLATFORM LANDING AND AT BOTTOM OF EACH ANGLED PLATFORM LANDING SUPPORT.
5. CLEAN EXTERIOR GREEN COLOURED SILL FLASHINGS AROUND PERIMETER OF BUILDING.
6. REPAIR ALL AREAS REQUIRE AT PERIMETER OF EXTERIOR FOUNDATION WALL. REFER TO DETAIL 2/A8403 FOR EXTENT OF NEW WORK. CONTRACTOR TO SITE VERIFY ALL AREAS OF REPAIR.

4

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

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PHONE: 613-727-5111 | FAX: 613-727-5115

CLIENT:
TOWNSHIP OF SOUTH STORMONT

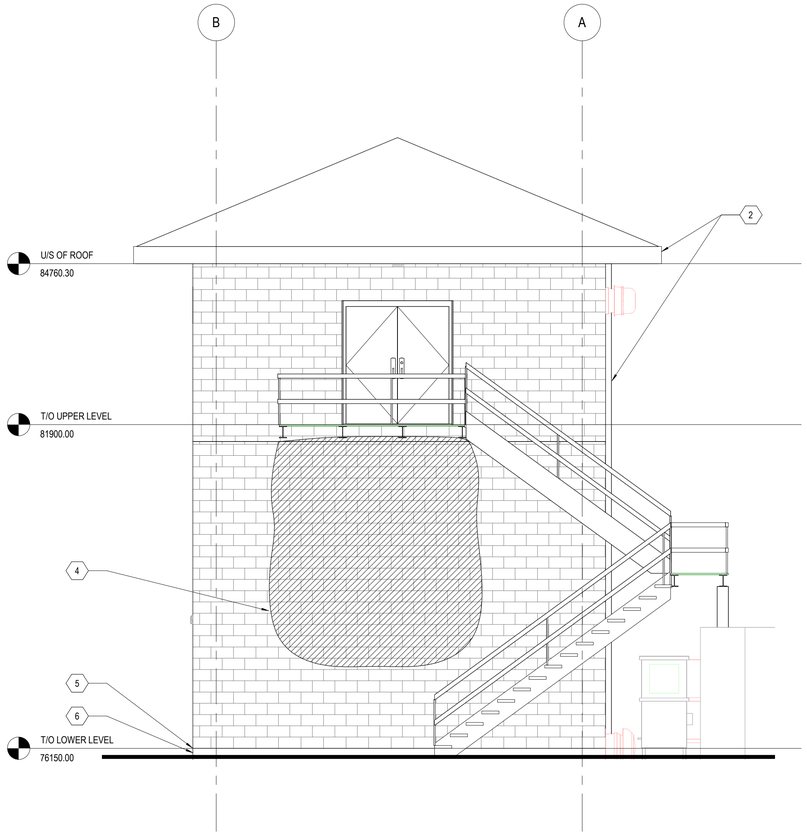
PROJECT:

INGLESIDE WWTP UPGRADES PHASE 1

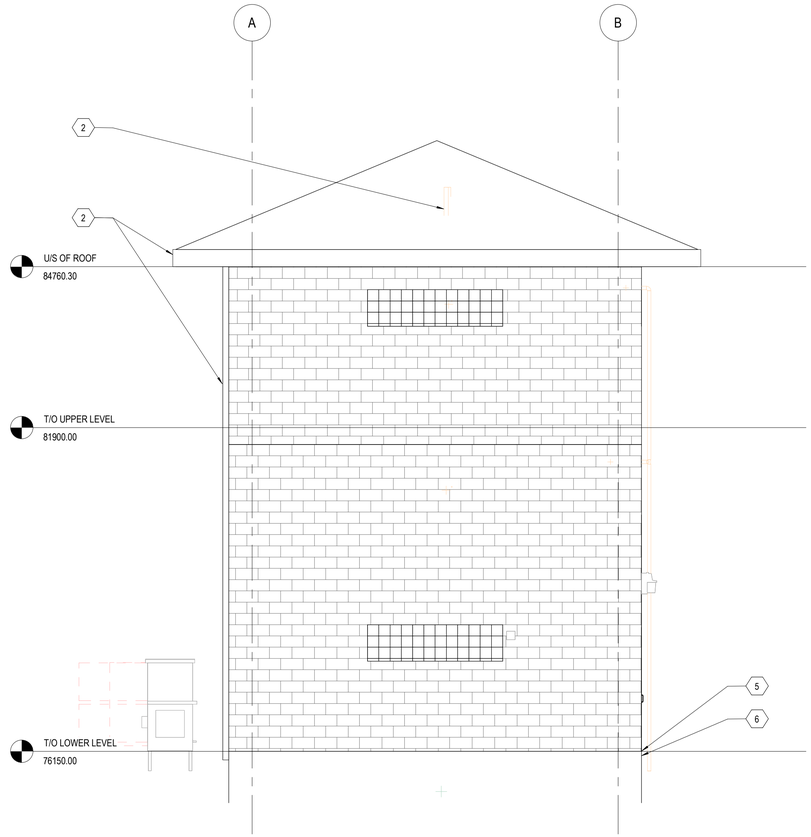
TITLE:

BIOSOLIDS STORAGE BUILDING - EXTERIOR ELEVATIONS

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A7301
CHECKED BY: AB	



1 A7302 WEST ELEVATION
1 : 50



2 A7302 EAST ELEVATION
1 : 50

EXTERIOR ELEVATION KEYNOTES:

1. AT EXTERIOR ROLL-UP DOOR, AT EITHER SIDE OF CONCRETE PAD , NEATLY CUT AND REMOVE METAL FLASHING CAP (GREEN) AT EDGE OF ROLL-UP DOOR JAMB. SAWCUT ASPHALT ONLY AS REQUIRED TO INSTALL A GALVANIZED ANGLE TO COVER THE TOP OF THE FOUNDATION INSULATION . GALVANIZED ANGLE TO BE APPROXIMATELY 100mm X 100mm X 6.35mmTHK. SECURE ANGLE WITH S.S. TAPCONS TO TOP OF ROLL-UP DOOR CONCRETE SILL. PROVIDE DETAILED SHOP DRAWINGS.
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5. CLEAN EXTERIOR GREEN COLOURED SILL FLASHINGS AROUND PERIMETER OF BUILDING.
6. REPAIR ALL AREAS REQUIRE AT PERIMETER OF EXTERIOR FOUNDATION WALL. REFER TO DETAIL 2/A8403 FOR EXTENT OF NEW WORK. CONTRACTOR TO SITE VERIFY ALL AREAS OF REPAIR.

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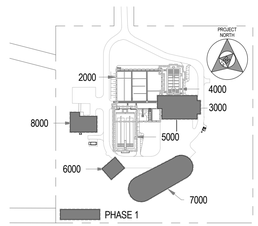
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

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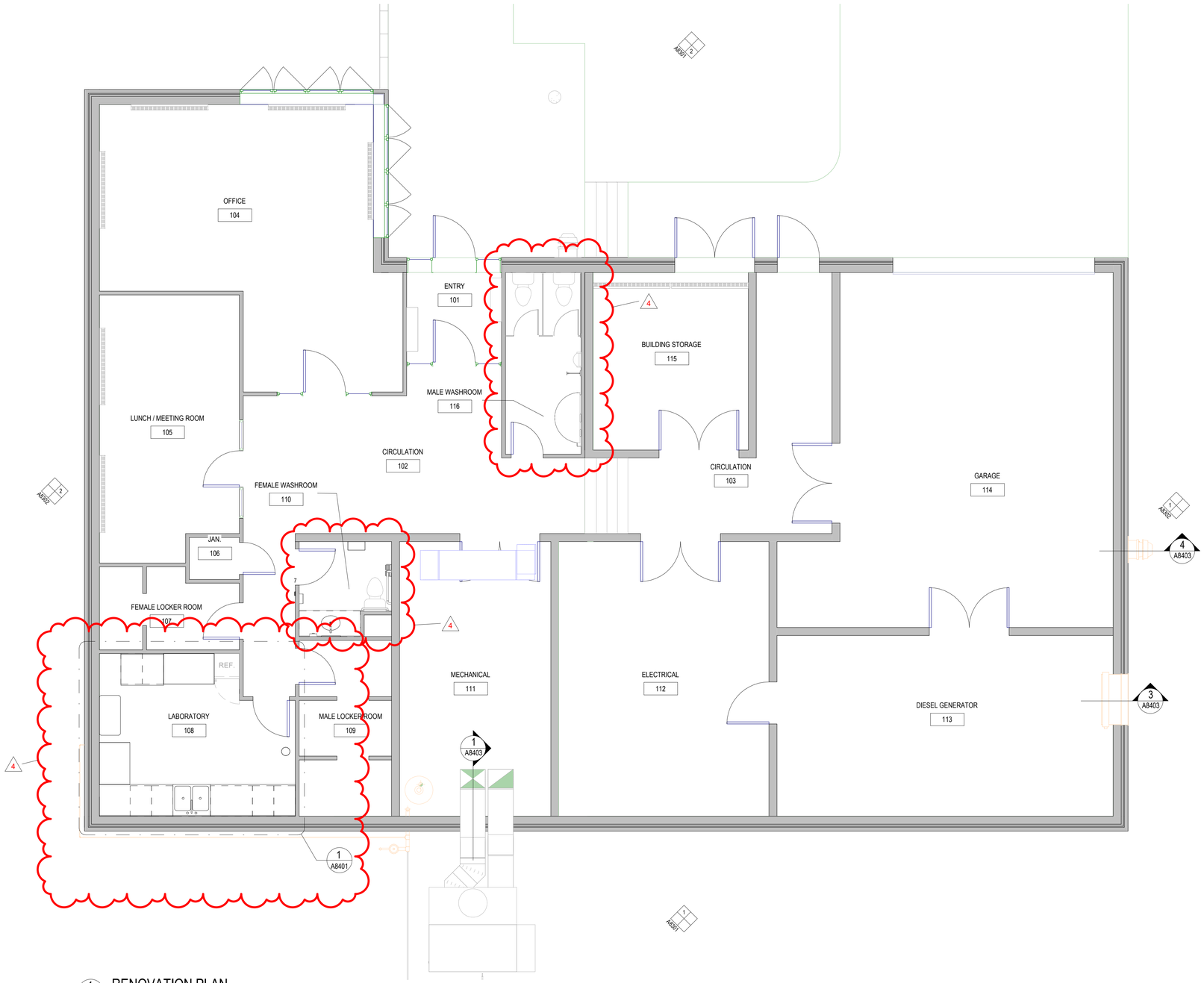
CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:
BIOSOLIDS STORAGE BUILDING - EXTERIOR ELEVATIONS

SCALE:	JOB NO:
As indicated	209-00150-00
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A7302
CHECKED BY:	
AB	



1 RENOVATION PLAN
1 : 50

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
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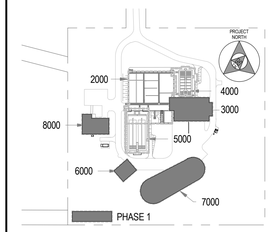

KEY PLAN
SCALE: N.T.S.

CONSULTANT:
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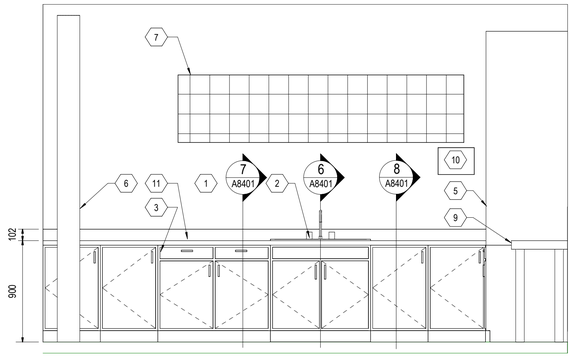
PHONE: 613-727-5111 | FAX: 613-727-5115

CLIENT:
TOWNSHIP OF SOUTH STORMONT

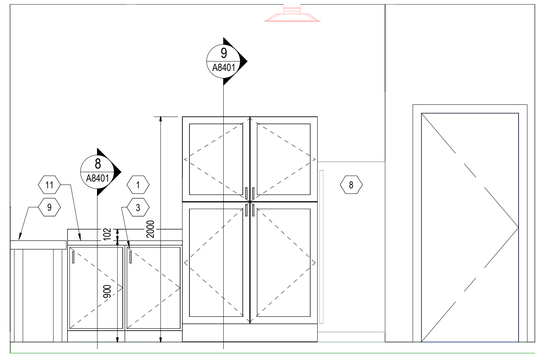
PROJECT:
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:
EXISTING ADMINISTRATION BUILDING - OVERALL FLOOR PLAN

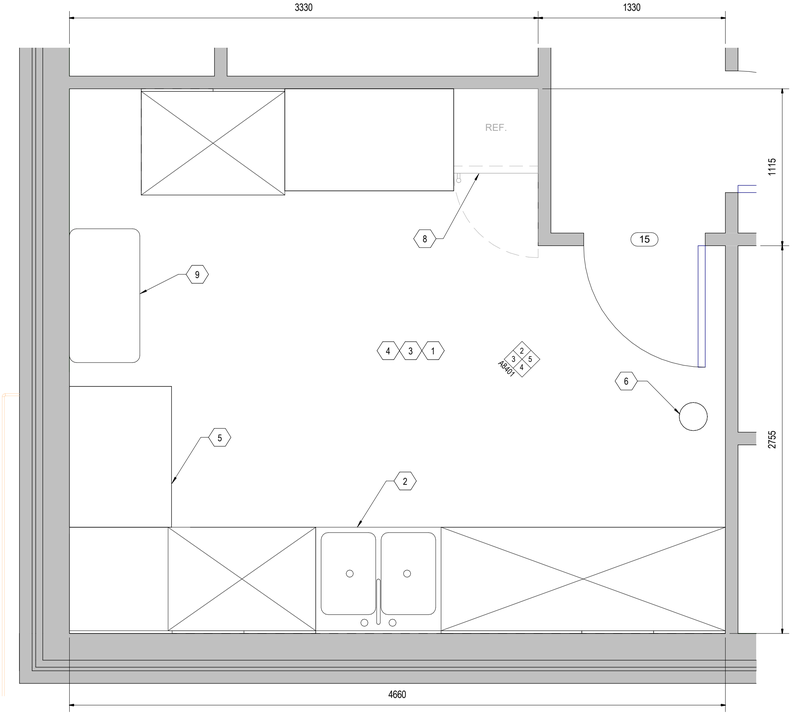
SCALE: /1 : 50TED	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A8101
CHECKED BY: AB	



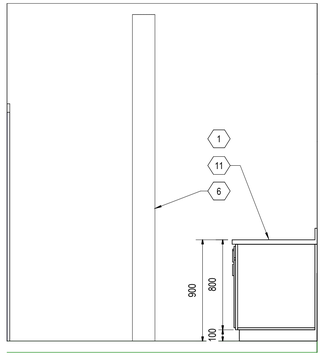
4 A8401 LABORATORY MILLWORK ELEV. 3
1 : 25



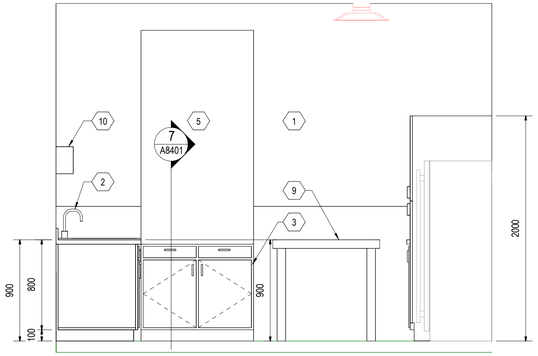
2 A8401 LABORATORY MILLWORK ELEV. 1
1 : 25



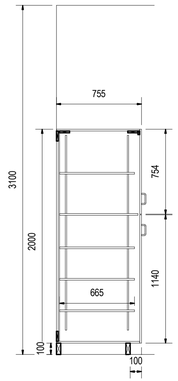
1 A8401 ENLARGED LABORATORY FLOOR PLAN
1 : 25



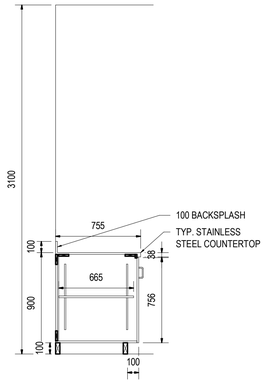
5 A8401 LABORATORY MILLWORK ELEV. 4
1 : 25



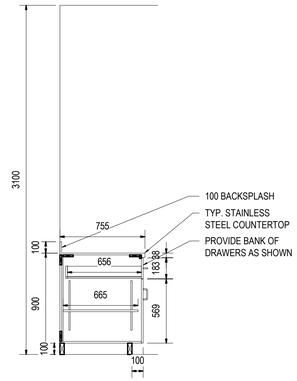
3 A8401 LABORATORY MILLWORK ELEV. 2
1 : 25



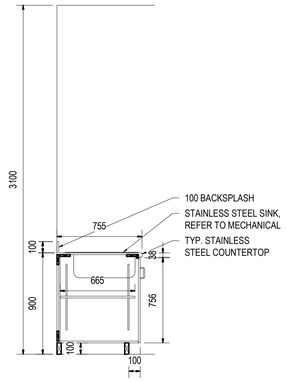
9 A8401 TYPICAL TALL CABINET
1 : 25



8 A8401 TYPICAL BASE CABINETS
1 : 25



7 A8401 TYPICAL CABINET WITH DRAWER
1 : 25



6 A8401 TYPICAL CABINET SINK IN BASE
1 : 25

RENOVATION KEY NOTES:

1. PROVIDE FOR NEW PAINTING OF ALL EXISTING WALLS AND GB/PLASTER. REFER TO SPECIFICATIONS AND ROOM FINISH SCHEDULE.
2. REFER TO MECHANICAL DRAWINGS FOR NEW INSTALLATIONS OF FIXTURES, LAVS, ETC.
3. PROVIDE NEW METAL CASEWORK AS SHOWN. REFER TO METAL CASEWORK DRAWINGS AND SPECIFICATIONS.
4. PROVIDE FOR NEW FLOORING. ALL FLOORING TO BE INSTALLED UNDERSIDE OF ALL BASE, CABINETS, AND APPLIANCES. REFER TO SPECIFICATIONS AND ROOM FINISH SCHEDULE.
5. UPON MILLWORK COMPLETION FUME HOOD TO BE REINSTALL AT EXISTING LOCATION.
6. EXISITNG EMERGENCY SHOWER STATION.
7. EXISTING GLASS BLOCK WINDOW.
8. EXISTING REFRIGERATOR TO REINSTALL AT EXISTING LOCATION. N.I.C.
9. PROVIDE NEW WEIGHT TABLE.
10. PROVIDE NEW PAPER TOWEL DISPENSER.
11. PROVIDE NEW STAINLESS STEEL COUNTERTOP.

LABORATORY MILLWORK GENERAL NOTES:

1. ALL NEW FURNITURE TO BE STANDARD "SIGMA SYSTEMS FURNITURE" BY MOTTLAB OR APPROVED ALTERNATE.
2. ALL COUNTER TOPS TO BE 25mm STAINLESS STEEL.
3. BACK/SIDESPLASHES (WHERE SHOWN ON DRAWING) ARE SAME MATERIAL AS ADJOINING TOP.
4. COLOUR: BY OWNER FROM LAB SUPPLIER'S STANDARD COLOUR CHART.
5. HANDLES ARE BLACK FLUSH PVC PULLS.
6. HINGES ARE BLACK.
7. SINK AREAS ARE ALL STAINLESS STEEL, 610mm DEEP TOPS.
8. COAT RACK, SHELF AND END GABLE SUPPORT PANEL ALL BY LAB SUPPLIER. IT WILL BE SUPPLIED AND INSTALLED BY LAB SUPPLIER.
9. PROVIDE AUTOCAD VERSION SHOP DRAWINGS CLEARLY INDICATING ENLARGED DETAILS OF INCLUDED BUT NOT LIMITED TO: UPPER AND LOWER BASE CABINET CASEWORK SHOWING PLAN, ELEVATION AND SECTION DETAILS AT 1:20 SCALE, CONNECTIONS, PROFILES, REAGENTS, ELECTRICAL CHASES, FASTENERS, JOINTS, TOE KICKS, ETC. FOR OWNER AND CONSULTANT REVIEW. SHOW LABORATORY UPPER & LOWER BASE CABINETS & COUNTERTOP LOCATION, DETAILS OF CONSTRUCTION FEATURES AND SPECIAL CONDITIONS AND RELATIONSHIP TO MATERIALS AS REQUIRED TO COMPLETE THE WORK. LABORATORY CABINETRY SUPPLIER/INSTALLER TO SITE VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATIONS AND/OR INSTALLATIONS.
10. PRIOR TO FABRICATION OF LABORATORY CABINETRY AND/OR COUNTERTOP, CONFIRM WITH MECHANICAL EXACT SIZE AND LOCATION OF ANY ASSOCIATED PLUMBING/PIPES. IT IS THE LABORATORY CABINETRY SUPPLIER/INSTALLER'S RESPONSIBILITY TO ENSURE THE EXACT SIZE AND LOCATIONS OF PLUMBING/FIXTURES HAVE BEEN RECEIVED AND DIMENSIONS CONFIRMED PRIOR TO FABRICATIONS OR INSTALLATIONS. REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO FABRICATION.

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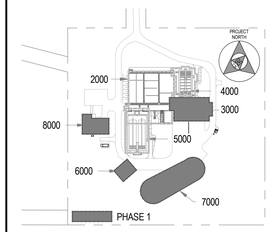

KEY PLAN

SCALE: N.T.S.

CONSULTANT:
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CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:

INGLESIDE WWTP UPGRADES PHASE 1

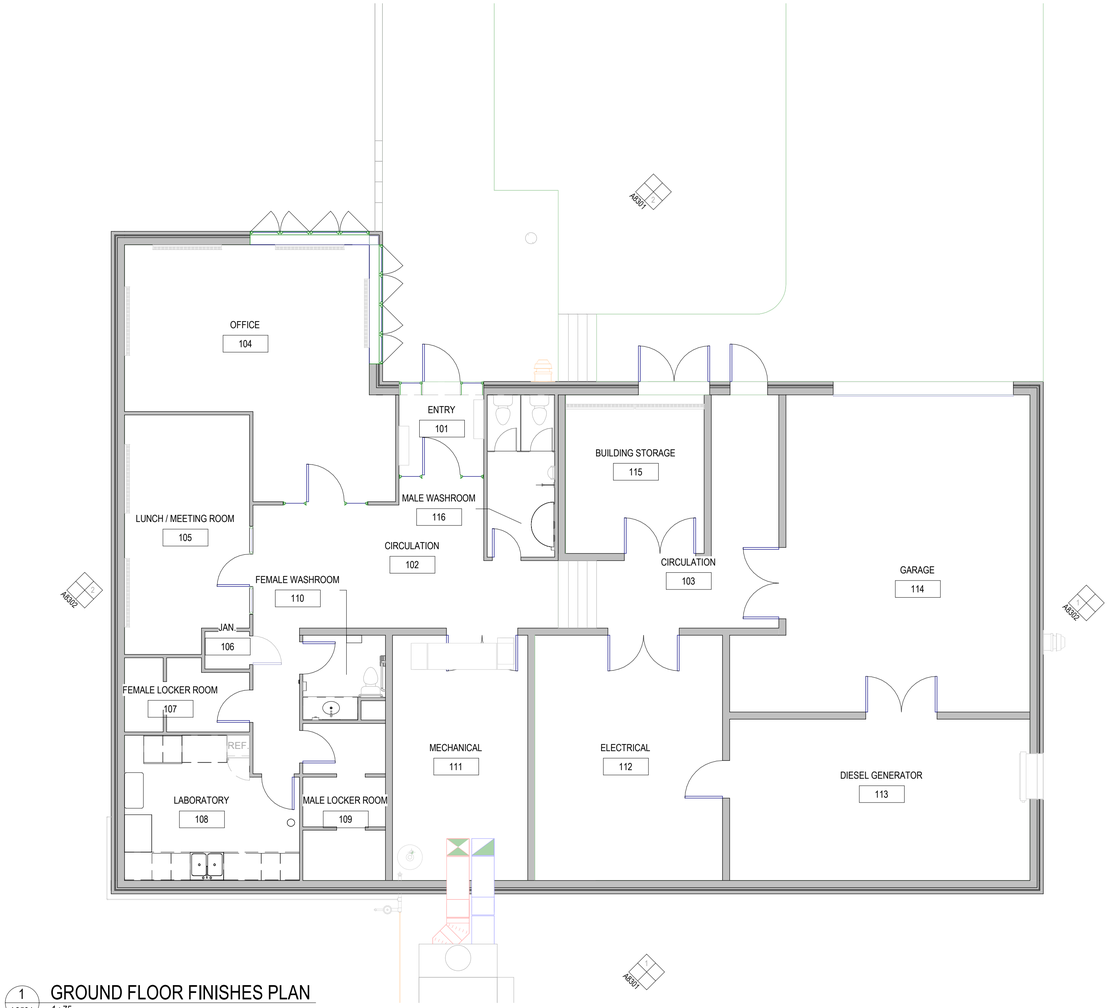
TITLE:

EXISTING ADMINISTRATION BUILDING - LABORATORY FLOOR PLAN AND MILLWORK DETAILS

SCALE: As indicated	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A8401
CHECKED BY: AB	

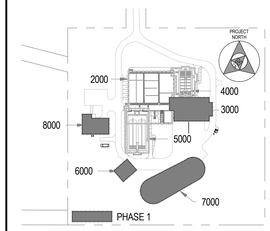
ROOM FINISH SCHEDULE - GROUND FLOOR

ROOM		FLOOR			WALLS								CEILING	
					NORTH		EAST		SOUTH		WEST			
NO.	NAME	MATERIAL	FINISH	BASE	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	COMMENTS
101	ENTRY	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
102	CIRCULATION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
103	CIRCULATION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
104	OFFICE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
105	LUNCH / MEETING ROOM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
106	JAN.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
107	FEMALE LOCKER ROOM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
108	LABORATORY	CONC	RSF1	RBR	EX. GWB	PT	EX. GWB	PT	EX. CBLK	PT	EX. CBLK	PT	NEW ACT	HEIGHT TO MATCH EX.
109	MALE LOCKER ROOM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
110	FEMALE WASHROOM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
111	MECHANICAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
112	ELECTRICAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
113	DIESEL GENERATOR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
114	GARAGE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
115	BUILDING STORAGE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
116	MALE WASHROOM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA



1 A8501 GROUND FLOOR FINISHES PLAN
1 : 75

2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT
DATE	N0.	REVISION



KEY PLAN
SCALE: N.T.S.

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CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:
EXISTING ADMINISTRATION BUILDING - ROOM FINISH SCHEDULE

SCALE: 1 : 75OTED	JOB NO: 209-00150-00
DESIGNED BY: DM	DATE: 2025/03/13
DRAWN BY: AS	DRAWING NO. A8501
CHECKED BY: AB	

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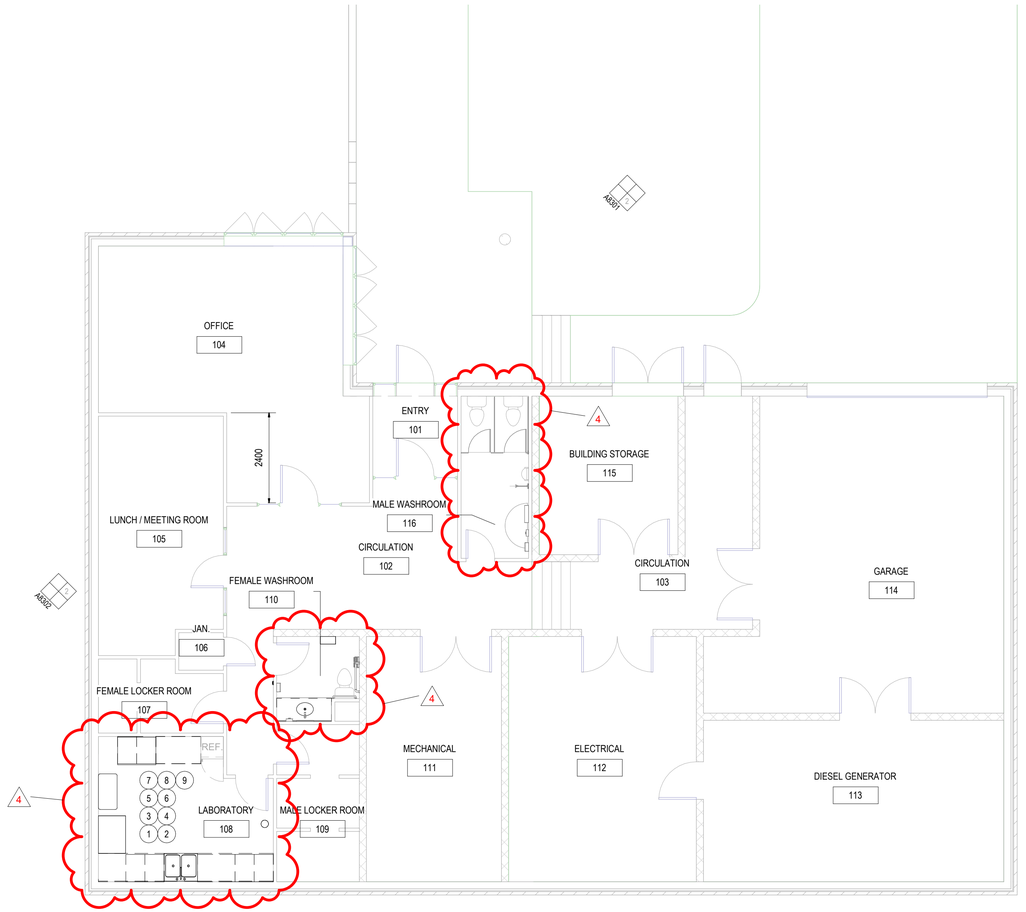


1 A8601 DEMOLITION PLAN
1 : 75

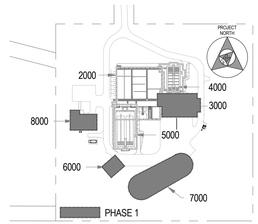
A8601

4

DEMOLITION KEY NOTES:

1. CAREFULLY REMOVE EXISTING MILLWORK AND ALL ASSOCIATED HARDWARE. PREPARE EXISTING SURFACES READY TO RECEIVE NEW MILLWORK/PAINTING. REFER TO RENOVATION FLOOR PLAN.
2. REFER TO MECHANICAL DRAWINGS FOR EXTENT OF REMOVALS OF FIXTURES, LAVATORIES, ETC.
3. REMOVE EXISTING FLOORING AND BASE MATERIAL AS REQUIRED, PREPARE FLOOR SURFACES READY TO RECEIVE NEW FLOORING. PREPARE WALL SURFACES READY TO RECEIVE NEW WALL BASE.
4. CONTRACTOR TO CAREFULLY REMOVE AND RE-INSTALL ALL EXISTING LIGHT FIXTURES, GRILLES, AND ANY T-BAR CEILING SUPPORTING DEVICES, ETC. PROTECT AND STORE AT A LOCATION DETERMINED BY OWNER DURING THE CONSTRUCTION. ANY DAMAGE TO EXISTING ACCESORIES TO BE REPLACED AT NO COST TO THE OWNER.
5. CAREFULLY REMOVE AND PROTECT ANY EQUIPMENT AND STORE ON SITE AT LOCATION TO BE DETERMINED BY OWNER. UPON COMPLETION OF WORK, REINSTALL ALL EQUIPMENT.
6. PREPARE EXISTING WALL SURFACES READY TO RECEIVE NEW PAINTING. REFER TO RENOVATION FLOOR PLAN.
7. CAREFULLY REMOVE EXISTING FUMEHOOD, DISCONNECT FUMEHOOD AND DEVICES AND UPON MILLWORK COMPLETION TO BE REINSTALL AT EXISTING LOCATION. PROPERLY STORE FUME HOOD, LOCATION TO BE DETERMINED BY OWNER.
8. REMOVE EXISTING T-BAR CEILING.

DATE	NO.	REVISION
2025/04/17	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN
SCALE: N.T.S.

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CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:
INGLESIDE WWTP UPGRADES PHASE 1

TITLE:
EXISTING ADMINISTRATION BUILDING - DEMOLITION FLOOR PLAN

SCALE:	JOB NO:
As indicated	209-00150-00
DESIGNED BY:	DATE:
DM	2025/03/13
DRAWN BY:	DRAWING NO.
AS	A8601
CHECKED BY:	
AB	

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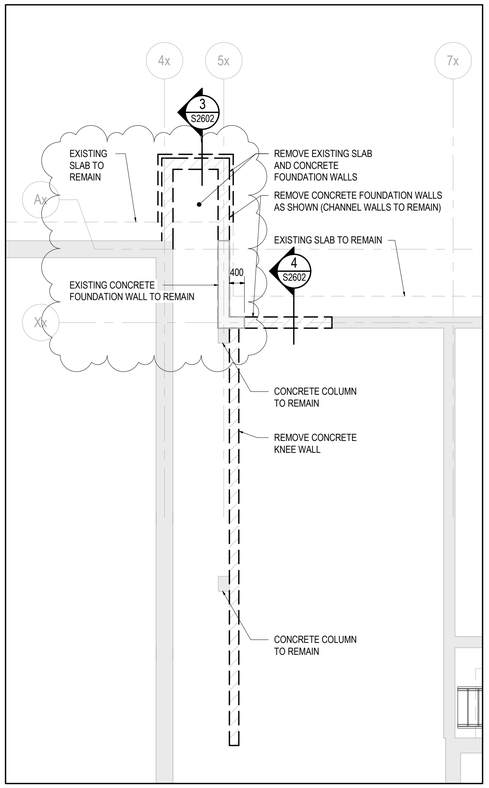
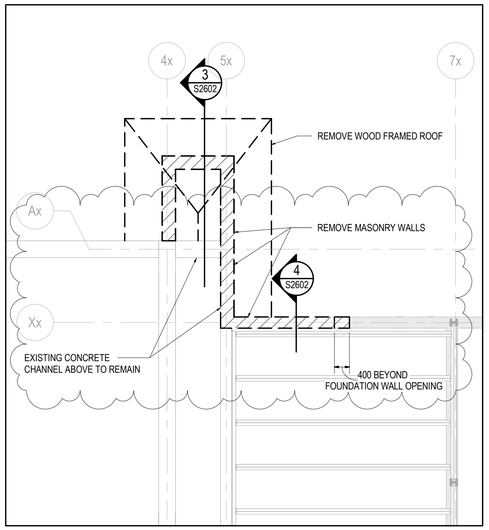
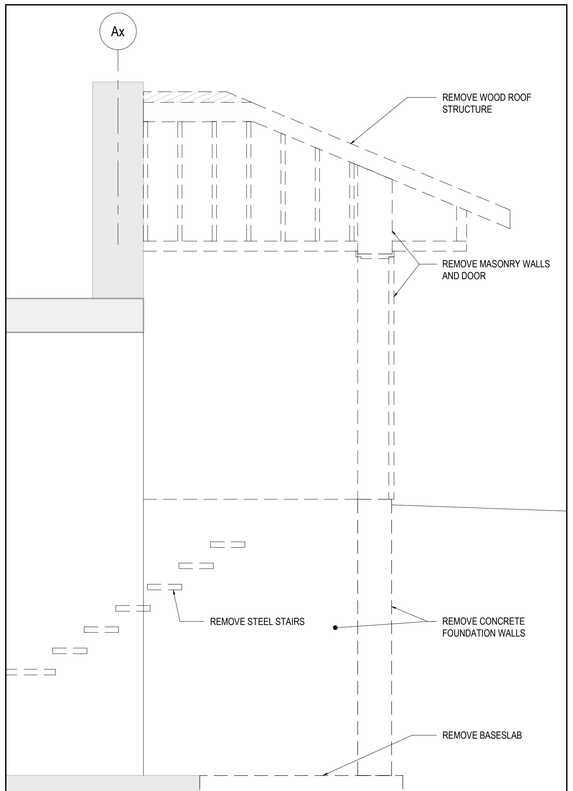


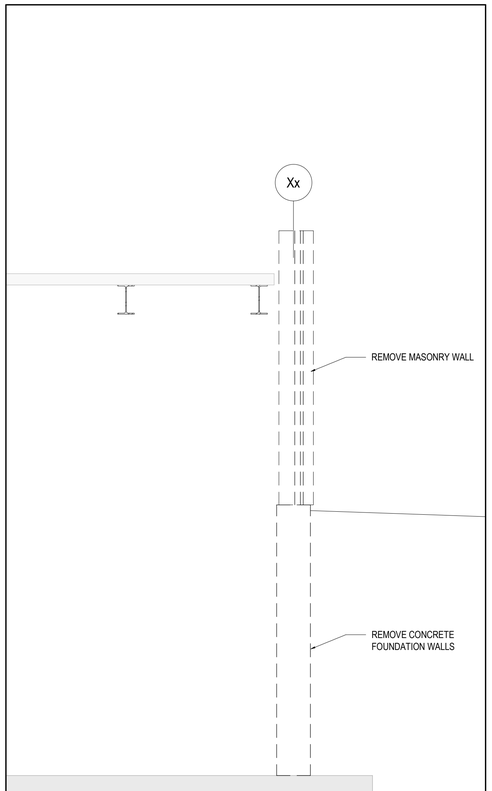
1 S2602 HEADWORKS LINK DEMOLITION PLAN - FOUNDATION
1 : 75



2 S2602 HEADWORKS LINK DEMOLITION PLAN - ROOF
1 : 75



3 S2602 SECTION
1 : 25



4 S2602 SECTION
1 : 25

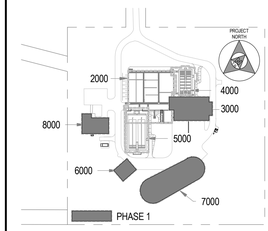
NOTE: REFER TO DRAWINGS S2501 TO S2504 AND ALL OTHER DISCIPLINE DEMOLITION / REMOVALS DRAWINGS FOR ADDITION INFORMATION

LEGEND:

- STRUCTURE DEMOLITION
- EXISTING STRUCTURE TO REMAIN

REFER TO CIVIL DRAWINGS FOR EXTENT OF SITE REMOVALS AND DEMOLITION PHASING.

DATE	NO.	REVISION
2025/04/16	4	ISSUED FOR ADDENDUM #4
2025/03/13	3	ISSUED FOR TENDER
2025/02/28	2	ISSUED FOR 100% REVIEW
2025/02/14	1	ISSUED FOR PERMIT



KEY PLAN

SCALE: N.T.S.

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CLIENT:
TOWNSHIP OF SOUTH STORMONT

PROJECT:

INGLESIDE WWTP UPGRADES PHASE 1

TITLE:

EXISTING WWTP AREA - HEADWORKS LINK REMOVALS

SCALE: AS NOTED	JOB NO: 19070
DESIGNED BY: G.E.	DATE: 2025/03/13
DRAWN BY: J.G.	DRAWING NO. S2602
CHECKED BY: G.E.	

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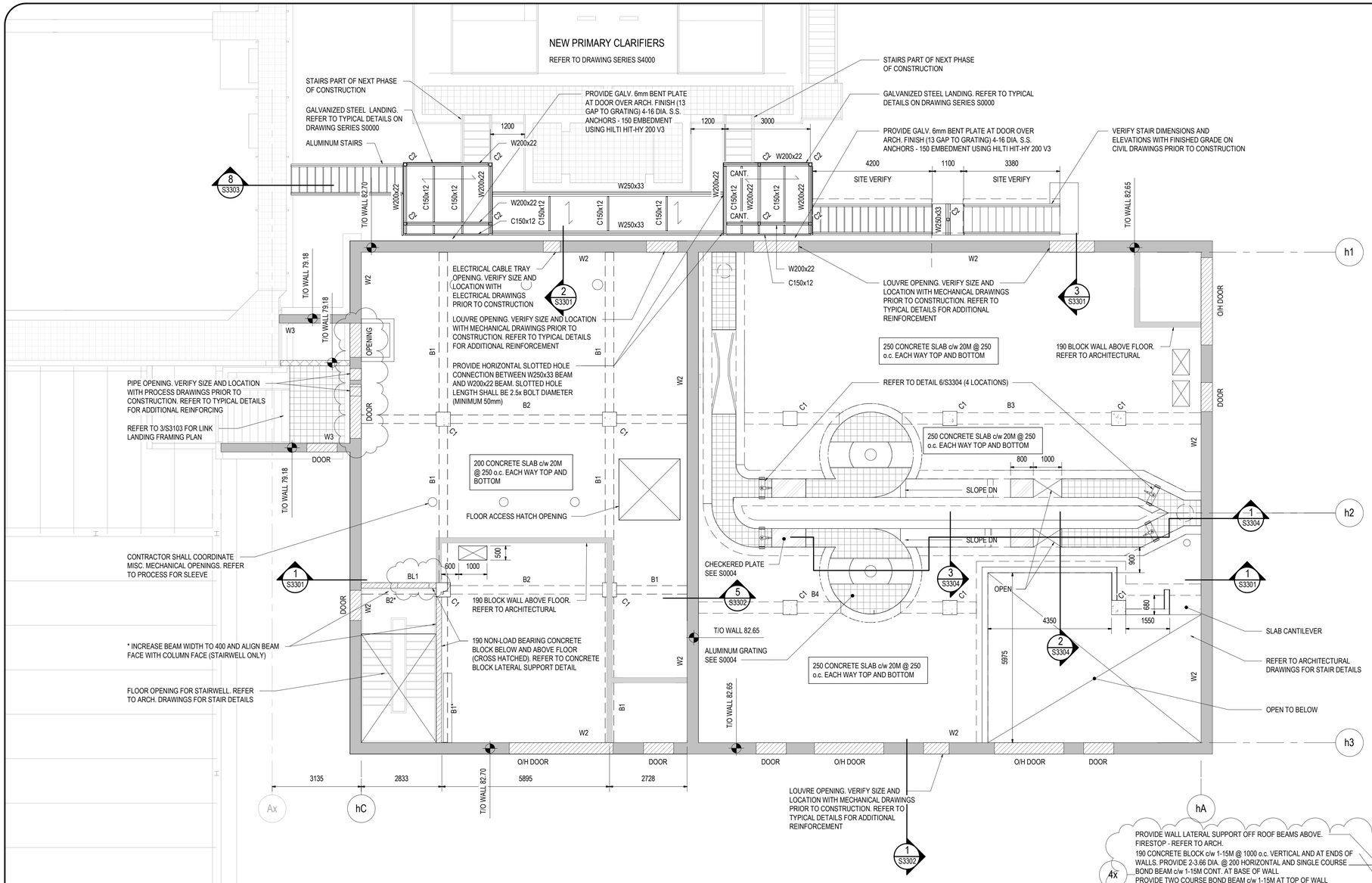


UPPER LEVEL FLOOR FRAMING PLAN

1 : 75

NOTES:

1. TOP OF SLAB ELEVATION = 82.90m.
2. TOP OF WALL ELEVATION = 82.65m (AT 250 SLAB AREAS) UNLESS NOTED OTHERWISE. TOP OF WALL ELEVATION = 82.70m (AT 200 SLAB AREAS)
3. REFER TO DRAWING S3305 FOR CONCRETE BEAM DETAILS.
4. REFER TO DRAWING S0003 FOR ADDITIONAL REINFORCING AT WALL/SLAB OPENINGS.
5. COORDINATE GUARD LAYOUT AND GEOMETRY WITH PROCESS AND ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
6. NOT ALL SLAB AND WALL OPENINGS ARE SHOWN. THOSE SHOWN ARE APPROXIMATE ONLY. COORDINATE EXACT SIZE AND LOCATION WITH PROCESS, ELECTRICAL, MECHANICAL, AND ARCHITECTURAL DRAWINGS. REFER TO S0003 FOR ADDITIONAL REINFORCING AROUND SLAB AND WALL OPENINGS.
7. SEE S3104 FOR FUTURE BLOWER LOCATIONS AND WEIGHT.
8. DESIGN LOADS
   DEAD LOAD:
   MECHANICAL AND ELECTRICAL = 1.0 kPa
   SLAB SELF WEIGHT
   HOUSEKEEPING PAD WEIGHT
   LIVE LOAD:
   BLOWER ROOM = 6.0 kPa
   ELECTRICAL ROOM = 7.2 kPa
   SCREENING ROOM = 6.0 kPa
   REFER TO PLAN FOR BLOWER AND MECHANICAL UNITS WEIGHT

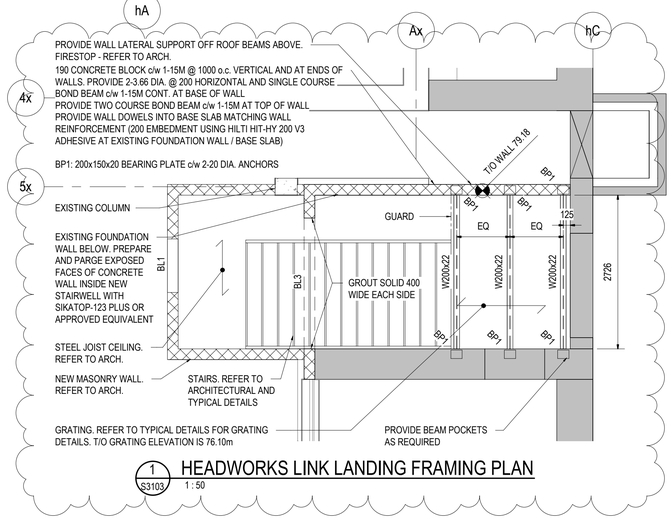
COLUMN SCHEDULE

DESIGNATION	DIMENSIONS	VERTICAL REINFORCEMENT	TIES	REINFORCING ARRANGEMENT
C1	500x500	8-25M	10M TIES @ 300 8-10M TIES @ 100 TOP AND BOTTOM COLUMN TIES SHALL BE CONTINUOUS THROUGH BEAMS/SLABS. INTERRUPT BEAM STIRRUPS AT FACE OF COLUMNS. BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMNS AS INDICATED.	
C2	HSS 102x102x7.9 c/w 250x250x20 BASEPLATE AND 4-20Ø HDG ANCHOR BOLTS			

WALL SCHEDULE

DESIGNATION	SIZE	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	DOWELS
W1	640	15M @ 300 o.c. EACH FACE	15M @ 300 o.c. EACH FACE	MATCH VERTICALS
W2	400	15M @ 300 o.c. EACH FACE	15M @ 300 o.c. EACH FACE	MATCH VERTICALS
W3	300	15M @ 300 o.c. EACH FACE	15M @ 400 o.c. EACH FACE	MATCH VERTICALS
W4	540	15M @ 300 o.c. EACH FACE	15M @ 400 o.c. EACH FACE	MATCH VERTICALS
W5	190	15M @ 300 o.c. CENTER	15M @ 400 o.c. CENTER	MATCH VERTICALS

NOTES:
1. PROVIDE DOWELS AT TOP OF WALL MATCHING BLOCK WALL VERTICAL REINFORCING SIZE AND SPACING.



1 S3103 HEADWORKS LINK LANDING FRAMING PLAN
1 : 50

NOTE:
ALL DIMENSIONS ARE IN mm
ALL ELEVATIONS ARE IN METRES

DATE	NO.	REVISION
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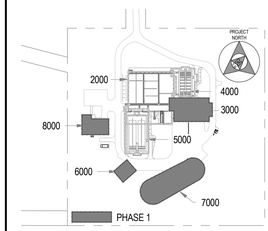

KEY PLAN

SCALE: N.T.S.

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PROJECT:

INGLESIDE WWTP UPGRADES
PHASE 1

TITLE:

HEADWORKS
UPPER LEVEL FLOOR
FRAMING PLAN

SCALE:	JOB NO.
AS NOTED	19070
DESIGNED BY:	DATE:
G.E.	2025/03/13
DRAWN BY:	DRAWING NO.
J.G.	S3103
CHECKED BY:	
G.E.	