

This Addendum forms part of the Tender Documents and is to be read, interpreted and coordinated with all other parts. The cost of all work contained herein is to be included in the Tender sum. The Specifications and Drawings are complementary. Items listed under the Specifications in this Addendum and having influence on the Drawings are so deemed to alter the Drawings. Items listed under the Drawings in this Addendum and having influence on the Specifications are so deemed to alter the Specifications.

1.0 **ARCHITECTURAL**

1.1 **Change to Drawing**

1. Drawing A2-0 R5 - reissued with changes noted
2. Drawing A2-2 R5 - reissued with changes noted
3. Drawing A2-4 R5 – reissued with changes noted
4. Drawing A3-2 R5 – reissued with changes noted

1.2 **Change to Specifications**

1. See attached revised section 00 01 10 Table of Contents
2. Section 00860 Room Finish Schedule – revised see attached
3. Section 00870 List of Detail Drawings – reissued
4. Detail Drawings – see attached details 7-506 R1, 8-401 R1, 8-404 R1, 8-500a
5. Section 01 14 00 Work Restrictions – revised see attached.
6. Section 04200 Masonry – revised see attached
7. Section 084413 Glazed Aluminum Curtain Walls - revised
8. Section 08710 Hardware – add attached Hardware Schedule, 13 pages
9. Section 09310 Ceramic Tile – revised see attached
10. Section 09410 Terrazzo – new section added
11. Section 14 24 23 16 Electric Traction Passenger Elevator – revised see attached

2.0 **MECHANICAL & ELECTRICAL**

- 2.1 See attached Mechanical & Electrical addendum #1 dated May 20, 2026 – 10 pages

End of Addendum No. 1

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1.0 GENERAL

1.1. SECTION INCLUDES

- .1 Connecting to existing services
- .2 Special scheduling requirements
- .3 TDSB Specific Requirements

1.2. RELATED SECTIONS

- .1 Section 01 53 00 - Temporary Construction.
- .2 Section 01 33 00 - Submittal Procedures.
- .3 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3. EXISTING SERVICES

- .1 Notify Owner and Consultant and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Consultant and Owner, forty-eight (48) hours of notice for necessary interruption of mechanical or electrical service throughout course of work.
 - .1 Keep duration of interruptions minimum.
 - .2 Perform interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for vehicular, pedestrian and personnel traffic.
- .4 Construct barriers in accordance with Section 01 53 00.

1.4. AFTER HOURS WORK

- .1 Schedule Work with school staff through the Board's contact so as to limit disruption to school operations. Include for any overtime, to ensure orderly and continuous progression of Work and operation of school.
- .2 Direct calls from Contractors to Board staff to adjust alarms and to arrange for access will not be accepted. All correspondence must be through the Project Manager.
- .3 Arrange 48 hours in advance with Board to obtain an access card and adjust security alarms for after hours Work.
- .4 Bidders are cautioned that the Board will be compensated by the Contractor for false alarms. Any costs associated with each false alarm will be levied against the Contractor for false fire alarm activation or security alarm activation. These costs may include, but are not limited to:
 - .1 Fines or penalties imposed by the local Fire Services,
 - .2 Fines or penalties imposed by the local Police Services,
 - .3 Overtime costs borne by the Board.
- .5 Contractors are responsible for ensuring doors and windows are secured prior to leaving school.
- .6 Unless specifically stated otherwise school activities take precedence over Contractor's activities.

1.5. SPECIAL REQUIREMENTS

- .1 Schedule and perform work in occupied areas to Board Representative's approval.
- .2 Schedule and perform noise generating work to Board Representative's approval.
- .3 Submit schedule of special requirements or disruptions in accordance with Section 01 33 00.

- .4 All Contractor personnel are restricted to the job site and necessary access routes. No personnel shall visit other areas or buildings without specific authorization.

1.6. TDSB SPECIFIC SUPPLEMENTARY REQUIREMENTS

Following are TDSB specific SUPPLEMENTARY requirements which are to be read in conjunction with Division 1 in its entirety.

1.1. COMMUNICATION (TDSB SPECIFIC REQUIREMENTS)

- .1 At the outset of the project the Contractor shall provide to the Board Project Manager all relevant contact information for the Site Superintendent and GC Project Manager including names and cell phone numbers.
- .2 The Contractor shall provide at least one “emergency contact” telephone number at which the Contractor’s representative can be reached directly during all work hours.
- .3 The Site Superintendent must have the ability to be reached directly during all times or a contact provided that can be provided during all times.
- .4 In the event of a safety issue requiring contractual clarification or action (i.e. Change Notice, etc.), the contractor shall ensure that, where applicable, the action is followed up with appropriate documentation.

1.2. OPERATION OF MOTOR VEHICLES (TDSB SPECIFIC REQUIREMENTS)

- .1 Vehicles shall not enter, be parked or operate at school sites without first obtaining authorization from the assigned project manager.
- .2 Such vehicles shall be always operated with due caution while on school property on or near school grounds, conforming to all posted traffic controls such as speed limit, stop signs, etc.
- .3 Vehicles or equipment are not permitted on school yards without prior approval from the project manager. Should approval be granted, vehicles and equipment operated in the school yard are not permitted within 30 minutes of school bell times, during recess, lunch hour or other times of outdoor activity.
- .4 Must employ flag person to manage all operations of vehicles and equipment on site at all times they are in operation.
- .5 Vehicles or equipment must never be left unattended with the engine running. Engines must not be left idling unnecessarily.

1.3. SITE SAFETY SIGNAGE (TDSB SPECIFIC REQUIREMENTS)

- .1 Standardized Safety Signage is required at all construction entrances authorization
- .2 If not designated in the Contract Documents, the location of the Safety Signage shall be confirmed with the Board Project Manager and Consultant at the outset of the Project and before the placement of hoarding and fencing.

- .3 Total surface area of signage is to avoid exceeding municipal standards that would require a separate signage permit.

1.4. WORKING HOURS (TDSB SPECIFIC REQUIREMENTS)

- .1 Are to comply with the requirements of the City of Toronto by-law
- .2 From June 26, 2026, to August 28, 2026, Work can be completed anytime, if it complies with the City of Toronto by-law.
- .3 It is the Successful Bidder's responsibility to schedule shift work (as required) to meet Project schedule deadlines; this may mean daytime as well as after-hours Work.
- .4 Prior to June 26, 2026, and after August 28, 2026, all Work must be completed outside of school operational hours of 8:00AM – 6:30PM and on weekends.
- .5 Prior to June 29, 2026, and after August 28, 2026, all Work which would cause a disturbance or safety hazard (including Work that generates odours, any asbestos abatement, any environmental demolition, or cutting/coring) must be completed prior to 8:00 AM or after 6:30 PM Monday to Friday, or anytime on weekends.
- .6 Prior to June 26, 2026, and after August 28, 2026, all tools, equipment, and materials must be brought into or taken out of the construction space(s) prior to 8:00 AM and/or after 6:30 PM.
- .7 A TDSB Caretaker must always be on the premises while construction works are being completed. Caretaking hours are from 6:00am to 11:00pm Monday to Friday, excluding holidays and board closures.

1.5. SIGN-IN REQUIREMENTS (TDSB SPECIFIC REQUIREMENTS)

- .1 The Contractor shall obtain identification badges by filling out the "Request for Issue of Identification Badges for Consultant/Contractor" form and submitting, along with badge deposit (\$75.00 each). **Contact information will be provided during the pre-construction meeting**
- .2 The Contractor is required to sign-in themselves, their subcontractors or any other person associated with the project at school main office to record their arrival time.
- .3 The Contractor will compile a sign-in sheet with for all forces working on the project and submit to the main office at the start of each day.
- .4 ID badges shall be worn at all times while on Board property. It shall be the Bidder's responsibility to assign and track each badge. The wearing of badges by all personnel shall be strictly enforced.
- .5 At the end of each day the Contractor shall obtain the sign-in sheet previously submitted to the main office, record the departure times of themselves, Subcontractors or any other person associated with the project and return the sign-in sheet to the main office.
- .6 The Bidder's inability to access the site due to not having current badges will not absolve the Bidder of not being able to complete the project by the stipulated date.

1.6. USE OF EXISTING FACILITIES (TDSB SPECIFIC REQUIREMENTS)

- .1 Use of school washrooms, both student and staff is strictly prohibited at all times. It is the responsibility of the Contractor to provide appropriate washroom facilities as per the regulations set out by the Authority Having Jurisdiction for all staff, subcontractors and delivery drivers associated with the construction project and coordinate such location with the project supervisor. The contractor is responsible to secure any portable toilet facilities

to mitigate vandalism, security issues, etc. and is responsible for the ongoing maintenance of such facility.

- .2 Use of existing school elevators by the Contractor, Subcontractor, Suppliers or another individual associated with the project is prohibited. The Contractor will not be permitted to utilize the elevator for moving of materials, equipment or personnel while carrying out the works.
- .3 Use of existing school services, including but not necessarily limited too; Water, Hydro, Internet, Phones/Fax and heat are not permitted. The contractor will include in their contract price all temporary services required to carry out the works.

1.7. CONTRACTOR PARKING (TDSB SPECIFIC REQUIREMENTS)

- .1 Contractor parking is not available. The contractor will need to make all arrangements for offsite parking in accordance to all applicable By-law, zoning, etc.

1.8. CONSTRUCTION STAGING (TDSB SPECIFIC REQUIREMENTS)

- .1 No storage is available on site for the contractor. The contractor must make all necessary arrangements for storage containers as needed and ensure security of such.
- .2 Prior to construction start, the contract must provide the Board and Consultant a copy of their construction staging plan. The plan is to include a site plan identifying location of proposed fencing, location of portable toilets, storage containers, etc. The plan is to identify which doors the contractor will be using to enter the school, path of travel for equipment deliveries etc. The Board and consultant reserve the right to request any changes to the plan to ensure the safety of students, staff and maintaining the ongoing operations of the school.
- .3 **The General Contractor shall coordinate with the local fire department to revise, submit, and obtain approval for the temporary fire safety and exit layout plan associated with the closure of Exit #7 during construction of the new elevator addition. The contractor shall implement all required temporary life safety measures, maintain compliance with applicable fire and building codes at all times, and ensure that all occupants are notified of the revised exit arrangements prior to commencement of the work.**

1.9. BOARD HEALTH & SAFETY DEPARTMENT REP (TDSB SPECIFIC REQUIREMENTS)

- .1 A representative of the Board's Health, & Safety Dept. ('Environment, Health and Safety Officer') may visit site at any anytime throughout the duration of the Contract to review the site, as it relates to the safety of the occupied areas of the site. Such site review shall neither constitute an inspection or approval for the Contractor.
- .2 Concerns or issues identified by the representative from the Board's Health, Wellness & Safety Dept. shall be communicated through the Board Project Manager and the school Principal for corrective action.
- .3 Contractor shall ensure full access to all site areas, at all times, for the Board's Health, Wellness & Safety Department Representative.

1.10. INCIDENT REPORTING (TDSB SPECIFIC REQUIREMENTS)

- .1 If at the workplace an accident, explosion, or fire causes a person injured (where they cannot perform their regular duties), a death or a critical injury the Contractor must follow all applicable regulations with respects to reporting. When reporting to the authority having jurisdiction the Board's Project Supervisor and Health & Safety Representative will be copied on the correspondence.

1.11. SITE MEETINGS (TDSB SPECIFIC REQUIREMENTS)

- .1 The Contractors Site Supervisor and Project Manager are required at all site meetings during the course of the project.
- .2 The Contractor shall record minutes of each meeting and promptly distribute copies to be received by all participants not later than three days after meeting has been held. Distribute minutes of meetings to all Consultants, whether in attendance or not.

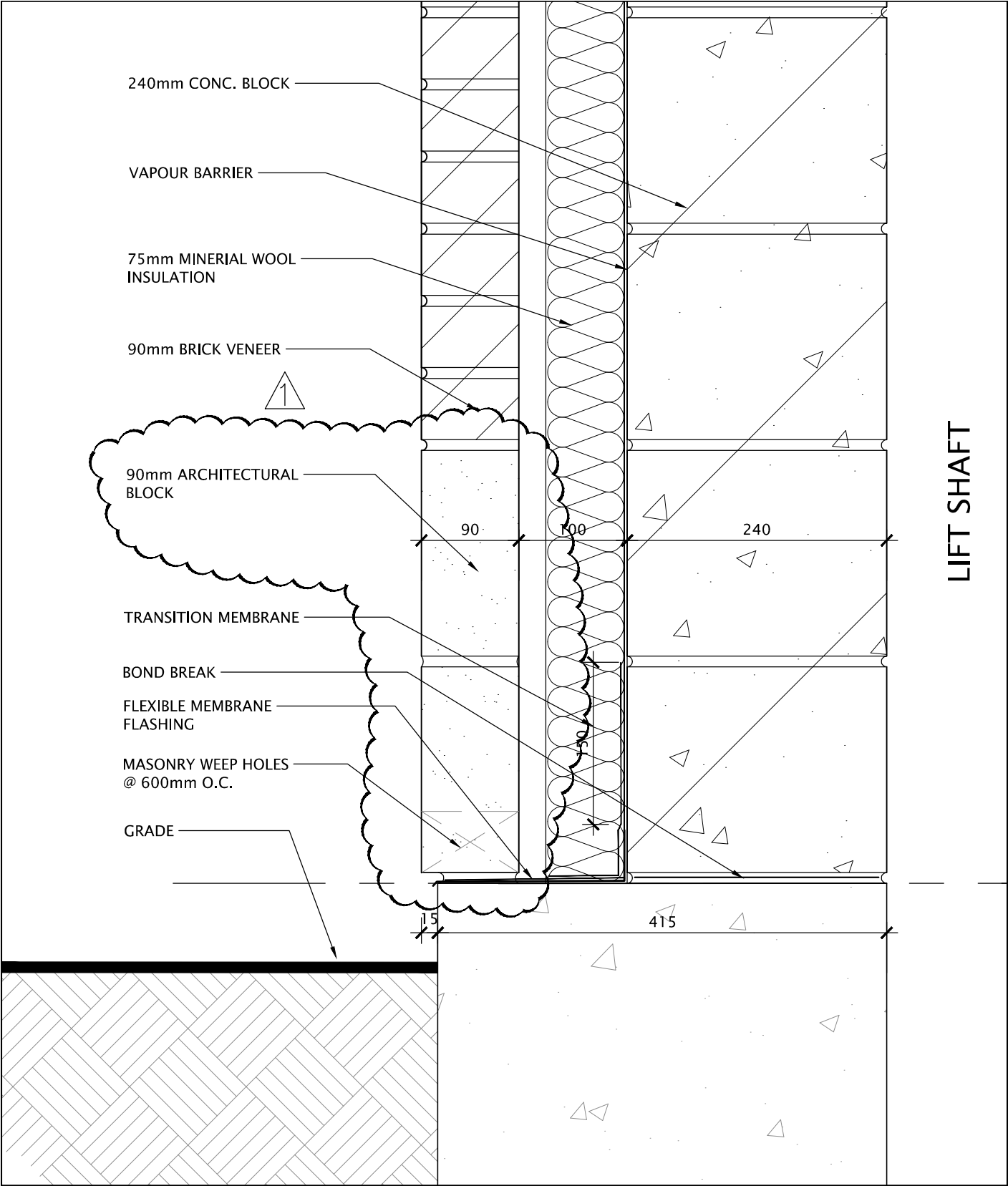
1.12. DOCUMENTS ON SITE (TDSB SPECIFIC REQUIREMENTS)

- 1 Contractor's field office shall at all times contain a complete set of Contract Documents (Drawings and Specifications) with all addenda, site instructions, change orders, reviewed shop drawings and samples, colour schedule, paint materials schedules, hardware list, progress reports and meeting minutes.

1.13. CASH FLOW CHART (TDSB SPECIFIC REQUIREMENTS)

- 1 Within 7 days after award of Contract, submit, in form approved by Consultant, cash flow chart broken down on a monthly basis in an approved manner. Cash flow chart shall indicate anticipated Contractor's monthly progress billings from commencement of work until completion.
- .2 Update cash flow chart whenever changes occur to scheduling and in manner and at times satisfactory to Consultant.
- .3 The Consultant reserves the right to receive from the Contractor at any time, upon request, copies of actual purchase or work orders of any material or products to be supplied for the work.
- .4 If materials and products have not been placed on order, the Consultant may instruct such items to be placed on order, if direct communication in writing from the manufacturer or prime suppliers is not available indicating that delivery of said material will be made in sufficient time for the orderly completion of the Work.
- .5 The Consultant's review of purchase orders or other related documentation shall in no way release the Contractor, or his subcontractors and suppliers from their responsibility for ensuring the timely ordering of all materials and items required, including the necessary expediting, to complete the work as scheduled in accordance with the Contract Documents.

END OF SECTION



<div>Kingsland + ARCHITECTS INC.</div>	ISSUED: ADD#1	DRAWING NAME: SECTION DETAIL AT FOUNDATION	DATE: MAR 2026	SCALE: 1:5	
		PROJECT NAME: William G Miller—Bundle 5	DRAWN: K+	PROJECT NO: A25006	
			CHECKED: K+	DWG NO: 7–506	REV. 1
KINGSLAND + ARCHITECTS INC 110 Cumberland Street, Suite 262 Toronto, Ontario M5R 3V5 ph 416.203.7799 fax 416.203.7763					

Part 1 GENERAL

1.1 GENERAL REQUIREMENTS

- .1 The General Conditions of the Contract, Supplementary Conditions, and the General Requirements of Division 1, form part of this section, and must be read in conjunction with the requirements of this section. The work of this section shall comply with all requirements of Division 1 – General Requirements

1.2 SECTION INCLUDES

- .1 Provision of labour and materials as necessary to provide aluminum curtainwall systems.

1.3 REFERENCE STANDARDS

- .1 Aluminum Association (AA)
 - .1 AA DAF 45-03(R2009), Designation System for Aluminum Finishes.
- .2 American Architectural Manufacturers Association (AAMA)
 - .1 AAMA CW-10-15, Care and Handling of Architectural Aluminum From Shop to Site.
 - .2 AAMA CW-11-85, Design Wind Loads and Boundary Layer Wind Tunnel Testing.
 - .3 AAMA TIR-A1-15, Sound Control for Fenestration Products.
 - .4 AAMA 501-15, Methods of Test for Exterior Walls.
 - .5 AAMA 611-14, Voluntary Specifications for Anodized Finishes Architectural Aluminum.
 - .6 AAMA 612-17a, Voluntary Specifications, Performance Requirements, and Test Procedures for Combined Coatings of Anode Oxide and Transparent Organic Coatings on Architectural Aluminum.
 - .7 AAMA 2603-17a, Voluntary Specification Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
 - .8 AAMA 2604-17a, Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- .3 ASTM International (ASTM)
 - .1 ASTM A36/A36M-14, Specification for Carbon Structural Steel.
 - .2 ASTM A123/A123M-17, Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

- .3 ASTM A653/A653M-18, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .4 ASTM B209-14, Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- .5 ASTM B221-14, Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- .6 ASTM E283-04(2012), Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- .7 ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls, by Uniform Static Air Pressure Difference.
- .8 ASTM E331-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform Static Air Pressure Difference.
- .9 ASTM E413-16, Classification for Rating Sound Insulation.
- .10 ASTM E1105-15, Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference.
- .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-12.20-M89, Structural Design of Glass for Buildings.
- .5 CSA Group (CSA)
 - .1 CSA G40.20-13/G40.21-13(R2018), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA S136/S136.1-16, North American Specification for the Design of Cold Formed Steel Structural Members.
 - .3 CAN/CSA-S157/S157.1-17, Strength Design in Aluminum/Commentary on CAN/CSA-S157, Strength Design in Aluminum.
 - .4 CSA W59.2-18, Welded Aluminum Construction.
- .6 Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual - current edition.
 - .1 MPI #79, Primer, Alkyd, Anti-Corrosive for Metal.
- .7 National Research Council Canada (NRC)
 - .1 National Building Code of Canada 2015 (NBC).
- .8 Society for Protective Coatings (SSPC)
 - .1 SSPC - Paint 20-02(R2004), Zinc Rich Primers Inorganic and Organic.
 - .2

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-installation Meetings:
 - .1 Convene pre-installation meeting one (1) week prior to beginning the work of this Section, with Consultant and TDSB Project Supervisor to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordinate with other building subtrades.
 - .4 Review manufacturer's written installation instructions and warranty requirements.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for curtain wall components, anchorage and fasteners, glass and infill, and internal drainage details and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two (2) copies of WHMIS MSDS to the Consultant and TDSB Project Supervisor.
- .2 Test Reports:
 - .1 Submit substantiating engineering data, test results of previous tests by an independent laboratory which purport to meet performance criteria, and supportive data. Reports shall be less than five (5) years old.
 - .2 All test reports are to be based on AAMA 501 indicating conformance to design and performance requirements, performed by an AAMA qualified North American independent testing laboratory within the past five (5) years. The report must include at minimum:
 - .1 Pre-load: Load the test assembly to 0.5 times the specified design wind pressure and inspect the assembly for detrimental effects.
 - .2 Static Pressure Air Infiltration: To ASTM E283-04(2012) Standard Test Method for Rate of Air Leakage.
 - .3 Static Pressure Water Infiltration: To ASTM E331-00(2016) Standard Test Method for Water Penetration by Uniform Static Air Pressure Difference.
 - .4 Dynamic Pressure Water Infiltration: To AAMA 501.1-17, Standard Test Method for Water penetration of Windows, Curtain Walls, and Doors Using Dynamic Pressure.
 - .5 Structural Loads: To ASTM E330/E330M-14 Structural Performance by Uniform Static Air Pressure Difference, to 75% and 100% of design load. Record deflection at 75% load. Hold pressure for sixty (60) seconds.
 - .6 Repeat Static Pressure Air Infiltration.

- .7 Repeat Static Pressure Water Infiltration.
 - .8 Condensation Resistance / Thermal Cycling: five (5) cycles, one (1) held for condensation resistance test.
 - .9 Supporting Structure Displacement: The anticipated design displacement or deflection will be simulated for the supporting condition of the mockup. Three (3) cycles of movement.
 - .10 Structural Proof Loads: To ASTM E330/E330M-14, Structural performance by Uniform Static Air Pressure Difference, to 150% of design loads. Record permanent set. Hold pressure for ten (10) seconds.
- .3 Structural Sealant Data:
- .1 Submit product information on the sealants to be used, complete with all recommendations and installation instructions, including cleaning and priming procedures.
 - .2 Submit to sealant manufacturer, samples of each type of glass, gasket, glazing accessory and glass framing member that will contact or affect glazing sealants for compatibility and adhesion testing. Submit test samples in sufficient time for testing and analysis of results to prevent delay in progress of work.
 - .3 Submit sealant manufacturer's test reports on adhesion to metal and glass production samples tested in accordance with ASTM C794, 7 day cure and 7 day water submersion, tensile strength at 100% elongation and bite size of sealants.
 - .4 Submit test report for tensile adhesion properties of structural silicone sealants in accordance with test method procedures conforming to ASTM C1135.
 - .5 Submit sealant manufacturer's compatibility statement that all materials in contact with the sealants are compatible with the sealants in accordance with procedures of ASTM C1087.
 - .6 Submit sealant manufacturer's statement and test data indicating that the stress on the sealants when exposed to the maximum load does not exceed 138 kPa (20 psi) and a safety factor of 5:1.
 - .7 Submit sealant manufacturer's verification that sealants are suitable for purposes intended.
 - .8 Provide Quality control test in accordance with ASTM C1401, Standard Guide for Structural Sealants Glazing
 - .9 Submit test result in accordance with ASTM C1294, Compatibility for Insulation Glass Edge Sealants with Liquid-Applied Glazing Materials
- .4 Shop Drawings:
- .1 Submit drawings stamped and signed by professional engineer licensed in the province of Ontario, Canada.
 - .2 Indicate materials and details in full size scale for head, jamb and sill, profiles of components, junction between combination units, interior and exterior trim, elevations of unit, location of isolation coating, description of related

- components and exposed finishes, fasteners, and caulking. Indicate location of manufacturer's nameplates.
- .3 Indicate system dimensions, framed opening requirements and tolerances, adjacent construction, anchor details anticipated deflection under load, affected related Work, weep drainage network, expansion and contraction joint location and details, and field welding required.
- .4 Fastening of wood bucks to building structure to be included in curtain wall shop drawings or to be submitted as a separate engineered shop drawing confirming that the wood bucks can support the curtain wall lateral loads.
- .5 Indicate locations, dimensions, openings and requirements of related work.
- .6 Do not order materials or start fabrication until shop drawings have been reviewed.
- .5 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .1 Submit one (1) complete full-size window sample of each window type.
 - .1 Include frame, sash, sill, glazing and weatherproofing method, insect screens, surface finish and hardware. Show location of manufacturer's nameplates.
 - .2 Include 150 mm (6") long samples of head, jamb, sill and intermediate mullion to indicate profile.
 - .3 Submit one 305mm (12") long sample of each muntin profile proposed for the project complete with manufacturer's product sheet and adhesive tape product sheet

1.6 CLOSEOUT SUBMITTALS

- .1 Operation and Maintenance Data: submit operation and maintenance data for glazed aluminum curtain wall for incorporation into manual.
- .2 As-Built drawings: Submit "As-Built" drawings to Consultant at the completion of work. As-Built drawings are to legibly record all actual construction which deviates from the project drawings; using red-lines on black-line prints of the project drawings.
- .3 Warranty Documentation: submit warranty documents specified.

1.7 QUALITY ASSURANCE

- .1 Work of this section is to be done by Manufacturers of recognized standing, having personnel with minimum five (5) years experience in successful manufacture and installation of work specified herein, and who have the necessary equipment to carry out the work.
- .2 Fabrication of curtain wall to be done by the curtain wall manufacturer.

- .3 Installation shall be by the curtain wall manufacturer or their approved installer using only mechanics skilled in this trade and in sealant trade as applicable.
- .4 Certifications: Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements
- .5 Mock-ups:
 - .1 Provide site mock-up for work of this Section indicating methods and materials, and procedures proposed to achieve final results and to comply with following requirements, using materials indicated for completed work:
 - .1 Build mock-ups in location and of size as directed by Consultant.
 - .2 Build a separate mock-up for each curtain wall type/configuration in the project.
 - .3 Mock-up to include review of:
 - .1 Rough Opening preparation.
 - .2 Curtain wall frame installation.
 - .1 Curtain wall anchors
 - .2 Vision glass lite
 - .3 Spandrel panel
 - .4 Corner Mullion
 - .5 Column cover
 - .6 Expansion joint
 - .3 Air/Vapour barrier installation.
 - .4 Glazing and Sealant installation.
 - .5 Louver Installation.
 - .6 Pre-finished insulating metal panel installation.
 - .4 To properly review all of the items listed in 1.6.5.3, the mock up will need to be reviewed by the Consultant at multiple stages during the installation. The Contractor is to allow 24 hours for review of mock-up by the Consultant before proceeding with the work, The Contractor is to provide the Consultant with 48 hours notice for mock-up review.
 - .5 Obtain Consultant's acceptance of mock-ups before starting construction; mock-up will be used throughout the construction period as standard of acceptance for subsequent work.
 - .2 Mock-up may form part of permanent structure when accepted by the Consultant. The Contractor is to repair or replace unacceptable mock-ups at no additional cost to Owner.
- .6 Inspection and Testing:
 - .1 Windows are to be tested in accordance with Section 01 45 24 – Glazing Testing

- .2 A minimum of two (2) curtain wall sections of each curtain wall type are to be tested.
 - .1 Approved curtain wall mock-up for each curtain wall type/configuration and;
 - .2 One (1) curtain wall section for every 20 curtain wall sections of each type as directed by the Consultant.
- .3 The fixed and operable portions of a curtain wall system are to be tested separately for air leakage.
- .4 In the event of a failed air leakage and water penetration test, the Contractor shall complete the necessary remedial work and retest the curtain wall until the system passes. This shall be done at no cost to the Owner.
 - .1 Once the failed curtain wall test section has passed the air leakage and water penetration test, the remedial work performed on the failed curtain wall is to be completed on all of the remaining curtain wall of that type.
- .7 Once a curtain wall section has failed its initial test, an additional curtain wall section shall be chosen by the Consultant to be tested once the remedial work has been carried out on all of the curtain wall sections.
- .8 The mock-up is to be considered complete once it has passed the on site air leakage and water penetration testing

1.8 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Handle work of this Section in accordance with AAMA CW-10.
 - .2 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .3 Store and protect aluminum glazed curtain wall components from nicks, scratches, and blemishes.
 - .4 Protect prefinished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather.
 - .5 Replace defective or damaged materials with new.

1.9 WARRANTY

- .1 Manufacturer's warranty: Submit, for Consultant acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty in addition to and not limit other rights Owner may have under Contract Documents.

- .2 The Contractor is to warrant work of this Section against defects and deficiencies for a period of five (5) years from the date the Work is certified as substantially performed in accordance with the General Conditions of the Contract and as amended by the Supplementary General Conditions.
- .3 The Contractor is to promptly correct deficiencies which become apparent within the warranty period without cost to the Owner. Defects shall include, but not limited to, leaking, deformation of members, loss of seal in sealed glass units, breakage of glass caused by frame distortions and thermal forces, mechanical failure and discolouration of finishes.

Part 2 Products

2.1 SYSTEMS

- .1 Description:
 - .1 Vertical glazed aluminum curtain wall system includes thermally broken tubular aluminum sections with self supporting framing, shop fabricated, factory prefinished, vision glass, insulated metal panel spandrel infill, and louvers; related flashings, anchorage and attachment devices.
 - .2 Assembled system to permit re-glazing of individual glass (and infill panel) units from exterior without requiring removal of structural mullion sections.
- .2 Performance Requirements:
 - .1 Design and size components to withstand dead and live loads caused by pressure and suction of wind, acting normal to plane of system as calculated in accordance with applicable codes.
 - .2 Design and size components to withstand seismic loads and sway displacement as calculated in accordance with applicable codes.
 - .3 Design curtain wall framing and connections to substrate, where the bottom of the curtain wall extends to a point below 1070mm (3'-6") above finished floor level and separates a floor level from an adjacent interconnected space, to withstand the required guard and handrail loads in accordance with the OBC and applicable local regulations. Compliance with guard and handrail requirements is to be indicated on the sealed shop drawings.
 - .4 Limit horizontal and vertical mullion deflection to less than L/175 and 19mm maximum for heights under 4115mm and L/240 and 25mm maximum for heights over 4115mm. Prevent deflection and permanent or progressive glazing displacement and allow for full recovery of glazing materials.
 - .5 For vertical and horizontal glazing members, the reduction of glass bite shall not exceed 3mm (1/8") at mid-span of any glass lite due to member deflection. Deflection limits to be such that the integrity of the glass and air seals are maintained at design loading. Permanent deformation of members due to applied loads are not permitted.

- .6 Size glass units and glass dimensions to limits established in CAN/CGSB-12.20.
- .7 Ensure system is designed to accommodate the following without damage to components or deterioration of seals:
 - .1 Movement within system.
 - .2 Movement between system and perimeter framing components.
 - .3 Dynamic loading and release of loads.
 - .4 Deflection of structural support framing.
 - .5 Shortening of building concrete structural columns.
 - .6 Creep of concrete structural members.
 - .7 Mid-span slab edge deflection of 6mm (1/4").
- .8 Maximum U values of curtain wall assemblies (including frame, edge, centre of glass and spandrel effects) conditions shall be based on winter design night-time air temperatures and shall be as follows:
 - .1 Typical curtain wall vision area shall have a maximum U value of $1.44\text{W/m}^2 \text{ hr K}$
 - .2 Typical curtain wall spandrel area shall have a maximum U value of $1.0\text{W/m}^2 \text{ hr K}$
- .9 Acoustic:
 - .1 Sound transmission class (STC) of curtain wall system (exterior to interior) shall not be less than 35, when tested in accordance with ASTM E90.
 - .2 Sound transmission class (STC) of party walls and floor including the fire stopping and smoke seals system at the slab edges and at the demising walls shall not be less than 45 when tested in accordance with ASTM E336.
- .10 Limit air infiltration through assembly to 0.3 L/s m^2 of wall area, measured at a reference differential pressure across assembly of 300 Pa as measured in accordance with ASTM E283.
- .11 Vapour seal with interior atmospheric pressure of 25 mm sp, 22 degrees C, 40% RH: no failure.
- .12 Static water penetration: none, when tested in accordance with ASTM E331 under a static pressure difference of 700 Pa for a period of fifteen (15) minutes.
- .13 Dynamic water penetration: none when tested in accordance with AAMA 501 under a dynamic pressure difference of 700 Pa for a period of fifteen (15) minutes.
- .14 Static Structural performance test in accordance with ASTM E330. Design load for testing shall be taken as the greater of applicable wind design loads and PSOS requirements.
- .15 Condensation resistance/thermal cycling test consisting of at least five (5) cycles ranging from -18°C to 60°C exterior and 21°C interior. One (1) cycle shall be maintained at the design winter exterior temperature for a period sufficient to

allow temperatures within the test assembly to stabilize. Maintain air pressure differential of 15Pa between the top and bottom surfaces in the cold drainage chamber so to create air flow through the chamber. Thermocouples are to be placed on interior and exterior surfaces to record surface temperatures. As a minimum, interior thermocouples are to be placed on coldest expected surfaces as determined by computer simulations. Exterior thermocouples are to be placed in exterior chambers. At interior design conditions (69.8°F (21°C), 45% RH) minimize condensation on room side surfaces. Testing to be performed in accordance with AAMA 501.

- .16 Ensure system allows for expansion and contraction within system components when temperature range is 95 degrees C over 12 hour period without causing detrimental affect to system components.
- .17 Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to exterior by weep drainage network.
- .18 Maintain continuous air barrier and vapour retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound.
 - .1 Position thermal insulation on exterior surface of air barrier and vapour retarder.
- .19 Ensure no vibration harmonics, wind whistles, noises caused by thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system occur.
- .20 Reinforce curtain wall system to accommodate window washing guide rails.
 - .1 Supply sufficiently rigid anchors to resist loads caused by equipment platform, without damage to wall system.

2.2 MATERIALS

- .1 Extruded aluminum: to ASTM B221/B221M, AS6063-T6, alloy and temper for framing, and otherwise where not exposed to suit specified and fabricator's requirements. Exposed surfaces of aluminum to be free of die marks, scratches, blisters, "leave-off" marks, or other blemishes, whether left unfinished or finished.
- .2 Sheet aluminum: to ASTM B209, AA1100-H14 or AA3003-H14 alloy.
- .3 Sheet steel: to ASTM A653/A653M; zinc coated (galvanized) sheet steel with metallic designation Z275 (G90), minimum 1.0 mm thickness.
 - .1 For back pans up to 2.3 m² : minimum 100 mm deep, top hat section, glazing adapter section, bird beak section or box section, with corners sealed with one component butyl sealant.
 - .2 Over size back pans: for back pans greater than 2.3 m² , custom fabricated with integrated stiffener system
- .4 Steel sections: to CSA G40.20/G40.21; shaped to suit mullion sections.

- .5 Anchors: 3-way adjustable hot-dip galvanized steel.
- .6 Fasteners:
 - .1 300 series stainless steel to meet window requirements and as recommended by the manufacturer.
 - .2 Use only concealed fasteners.
 - .3 Where fasteners cannot be concealed, countersunk screws finished to match adjacent material may be used upon receipt of written approval from Consultant.
- .7 Isolation Coating:
 - .1 Bituminous paint in accordance with CAN/CGSB 1.108, Type 1, without thinner.
 - .2 Isolate aluminum from following components, by means of isolation coating:
 - .1 Dissimilar metals except stainless steel, zinc, or white bronze of small area.
 - .2 Concrete, mortar and masonry.
 - .3 Wood
- .8 Exterior Metal Sills:
 - .1 Extruded aluminum of type and size to suit job conditions; minimum 2mm thick complete with joint covers, jamb drip deflectors, chairs, anchors and anchoring devices.
- .9 Flashings and Trims:
 - .1 3.2mm pre-finished factory formed aluminum to match curtain wall mullion sections where exposed. Flashings and trims to be mechanically fastened and thermally separated from the interior tubular curtain wall section
- .10 Glazing:
 - .1 Refer to Section 08 80 00 for glazing and accessories.
- .11 Louvers:
 - .1 Refer to Section 08 90 00 – Louvers.
 - .2 Louvers to be supplied with a glazing adapter.
- .12 Operable Sash:
 - .1 Refer to Section 08 51 13 – Aluminum Windows and Vents.
 - .2 Operable Sash to be supplied with a glazing adapter.
 - .3 Operable Sash frame to match Curtain Wall framing.
- .13 Fire Safety Materials:
 - .1 Refer to Section 07 84 00 - Fire Stopping.
- .14 Sealant:

- .1 Refer to Section 07 92 00 – Sealants.
- .15 Semi-Rigid Insulation:
 - .1 To ASTM C612
 - .2 Type: 1VB
 - .3 Density: 64 kg/m³ (4 lbs/ft³)
 - .4 Thickness: 100mm (4”) minimum.
 - .5 Acceptable material: CurtainRock by Roxul Inc. or equal.
- .16 Self Adhesive Modified Bitumen Sheet Membrane Vapour Retarder
 - .1 Self-adhering membrane of rubberized-asphalt integrally bonded to high density, cross-laminated polyethylene film.
 - .2 Acceptable products:
 - .1 Blueskin SA by Henry Company
- .17 Air Barrier Membrane:
 - .1 Gaps equal to or less than 13mm (1/2”): for tie-ins to adjacent construction, minimum 1mm (40mil) self adhering modified bituminous sheet with manufacturer recommended primers, sealants and mastics.
 - .1 Acceptable products:
 - .1 Air and vapour barrier 3015 by 3M
 - .2 Blueskin SA by Henry Company
 - .2 Gaps greater than 13mm (1/2”) and where indicated on the drawings: Pre-engineered aluminum extrusion adapter, silicone rubber extrusion sheet runs and corners, sealant tape secondary seal, and sealant.
 - .1 Acceptable products:
 - .1 Tremco Proglaze ETA (Engineered Transition Assembly)
 - .2 DOWSIL Silicone Transition Strip by DOW Chemical Company
- .18 Foam Insulation Sealant:
 - .1 All voids between perimeter aluminum window frames and window rough opening to be filled with liquid foam insulation - Single Component, moisture cure, low expansion rate spray-in-place polyurethane liquid foam insulation to ULC-S710.1
 - .2 Acceptable Products: CF-I XTW Extreme-Weather Insulating Foam by Hilti or equal

2.3 COMPONENTS

- .1 Stick-built curtain wall:

- .1 **218mm (8.58") Thermally broken, captured, vertically stick-built, double glazed aluminum curtain wall system of tubular aluminum sections with self supported framing:**
 - .1 Structural mullion depth: 168mm
 - .2 Curtain Wall Cap depth: 50mm
 - .3 Acceptable products:
 - .1 Alumicor Limited: ThermaWall TW2600 Series
 - .2 Oldcastle Building Envelope: 6500 Series Arctic Curtain Wall System
 - .3 Kawneer Company Inc.: 1600 UT Curtain Wall System.
 - .4 Windspec Inc.: 5500 HTP Curtain Wall System.
 - .5 Alwind Industries Ltd.: CDS 2500 Series Curtain Wall (complete with polyamide pressure plates).

2.4 FABRICATION

- .1 Fabricate system components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
- .2 Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof
- .3 Prepare components to receive anchor devices. Install anchors.
- .4 Arrange fasteners and attachments to ensure concealment from view.
- .5 Prepare system components to receive exterior doors, specified in Section 08 11 16 – Aluminum Doors and Frames
- .6 Reinforce framing members for external imposed loads.
- .7 Visible manufacturer's identification labels not permitted.
- .8 Infill Panels:
 - .1 Fabricate infill panels with metal covered edge seals around perimeter of panel assembly, enabling installation and minor movement of perimeter seal.
 - .2 Reinforce interior surface of exterior panel sheet from deflection caused by wind and suction loads.
 - .3 Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
 - .4 Place insulation within panel, adhered to exterior face of interior panel sheet over entire area of sheet with impale fasteners.
 - .5 Ventilate and pressure equalize the air space outside the exterior surface of the insulation, to the exterior.
 - .6 Arrange fasteners and attachments to ensure concealment from view.

2.5 ALUMINUM FINISHES

- .1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.
 - .1 Anodized (Colour):
 - 1. Type: Architectural Class I Colour Anodizing
 - 2. AAMA Specification: Comply with AAMA 611
 - 3. Aluminum Association Designation: AA-M10-C21-A44
 - 4. Colour: Match existing

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for aluminum curtain wall installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of the Consultant.
 - .2 Verify dimensions, tolerances, and method of attachment with other work.
 - .3 Verify wall openings and adjoining air barrier and vapour retarder materials are ready to receive work of this Section.
 - .4 Inform the Consultant of unacceptable conditions immediately upon discovery.
 - .5 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from the Consultant.

3.2 INSTALLATION

- .1 Install curtain wall system in accordance with the manufacturer's instructions.
- .2 Do Aluminum welding to CAN/CSA W59.2
- .3 Attach curtain wall assemblies to structure plumb and level, free from warp, and allow for sufficient adjustment to accommodate construction tolerances and other irregularities.
 - .1 Maintain dimensional tolerances and align with adjacent work.
 - .2 Use alignment attachments and shims to permanently fasten elements to building structure.
 - .3 Clean welded surfaces and apply protective primer to field welds and adjacent surfaces.
- .4 Use thermal isolation where components penetrate or disrupt building insulation.
- .5 Install sill flashings:
 - .1 Support extruded sills throughout their lengths.

- .2 Mitre and weld corner sections of metal sills, install drip deflectors and joint covers. Locate joint covers at centres of mullions or columns.
- .6 Co-ordinate installation of fire stop insulation and smoke seal, specified in Section 07 84 00- Fire Stopping, at each floor slab edge and intersection with vertical construction where indicated.
- .7 Co-ordinate attachment and seal of perimeter air barrier and vapour retarder materials.
- .8 Install engineered transition assembly in accordance with manufacturer's instructions and recommendations.
- .9 Fill voids between frames and rough openings, and in mullions with foam insulation in accordance with manufacturer's instructions to maintain continuity of thermal barrier.
- .10 Install operating sash in accordance with Section 08 80 00 – Glass and Glazing.
 - .1 Exterior Dry Method of glazing.
- .11 Install louvres, associated flashings, blank-off plates and screening. Fit blank-off plates tight to ductwork.
 - .1 Exterior Dry Method of glazing.
- .12 Install glass and infill panels in accordance with Section 08 80 00 – Glass and Glazing.
 - .1 Exterior Dry Method of glazing.
- .13 Sealant: in accordance with Section 07 92 00 – Sealant.
 - .1 Seal metal to metal joints between components to provide a weathertight assembly, and in accordance with sealant manufacturer's instructions.
 - .2 Seal between frame members, sills and adjacent construction.

3.3 SITE TOLERANCES

- .1 Curtain wall framing to be installed within the following erection tolerances:
 - .1 Vertical position: plus/minus 3mm (1/8")
 - .2 Horizontal position: plus/minus 3mm (1/8")
 - .3 Racking on face: maximum 6mm (1/4")
 - .4 Racking on elevation: nil
 - .5 Deviation from true plumb over full height of building: 6mm (1/4") maximum.
 - .6 Deviation from true straightness in plane over full length of each building face: 6mm (1/4") maximum.
- .2 Tolerances of relationship of individual components to be as follows:
 - .1 Member to member: 0.2mm (8 mils) maximum.
 - .2 Out of plane between faces of two halves of split mullions, 0.8mm (32 mils) maximum.

- .3 Joint width, mullion snap-on cap to mullion snap-on cap: 1.5mm (1/16") maximum. Each joint to be uniform width.
- .4 Joint width between base and sill panels: 3mm (1/8") maximum, and of uniform width. Do not apply sealants to joints between panels.
- .5 Sealant space between curtain wall and adjacent construction: 13mm (1/2") maximum.
- .6 Tolerances are non-cumulative.

3.4 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:
 - .1 Submit to Consultant a written agreement from the manufacturer to perform the manufacturer's services.
 - .2 Ensure manufacturer's representative of curtain wall is present before and during critical periods of installation.
 - .3 Schedule site visits to review Work at stages listed:
 - .1 After delivery and storage of products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.
 - .2 [Twice] during progress of Work at [25%] and [60%] complete.
 - .3 Upon completion of Work, after cleaning is carried out.
 - .4 Submit manufacturer's written reports to Consultant describing:
 - .1 The scope of work requested.
 - .2 Date, time and location.
 - .3 Procedures performed.
 - .4 Observed or detected non-compliance or inconsistencies with manufacturer's recommended instructions.
 - .5 Limitations or disclaimers regarding the procedures performed.
 - .6 Obtain reports within five (5) business days of review and submit immediately to Consultant.

3.5 ADJUSTING

- .1 Adjust operating sash for smooth operation, with proper tension, throughout their full range of motion and to fit tightly when closed and locked.

3.6 CLEANING

- .1 Progress Cleaning:
 - .1 Leave Work area clean at end of each day.
 - .2 Remove protective material from prefinished aluminum surfaces.

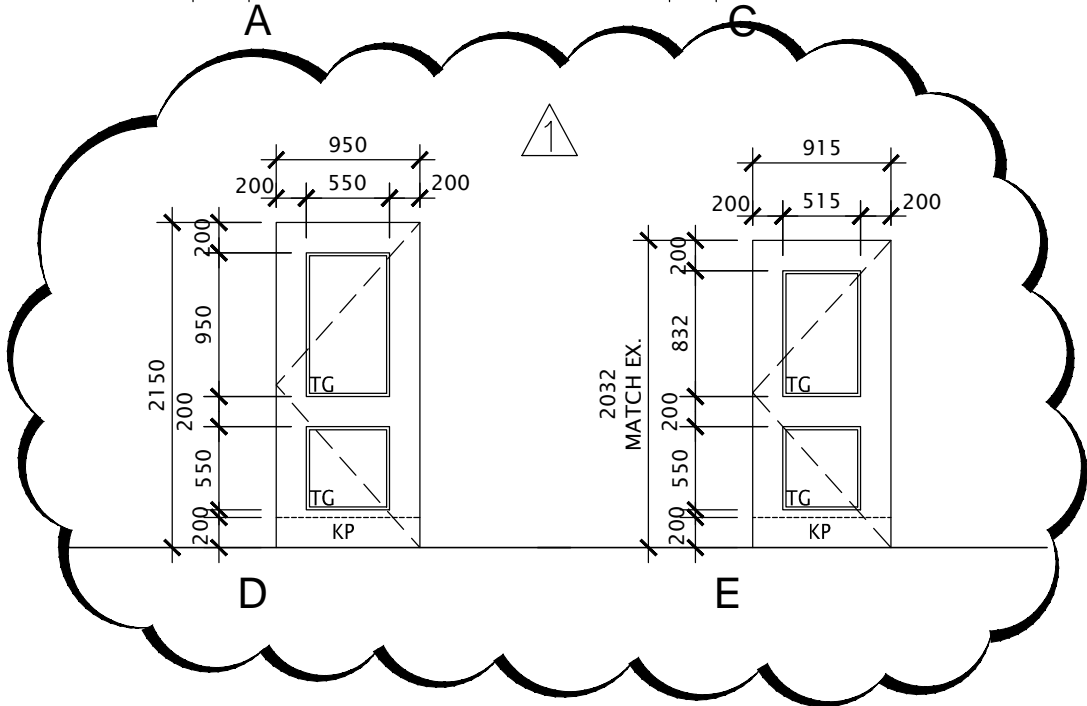
- .3 Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- .4 Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.
- .5 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

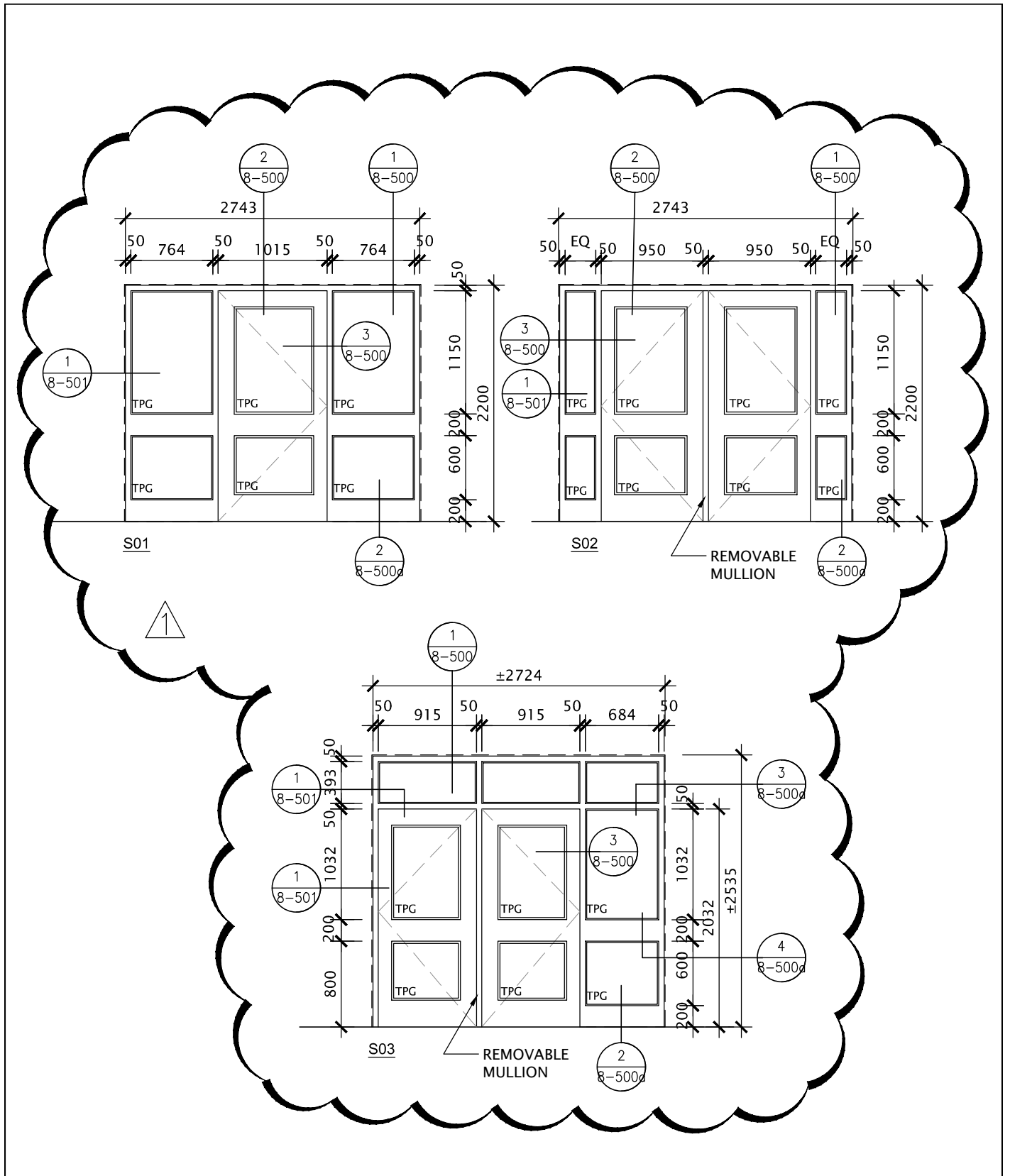
3.7 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by glazed aluminum curtain wall installation.

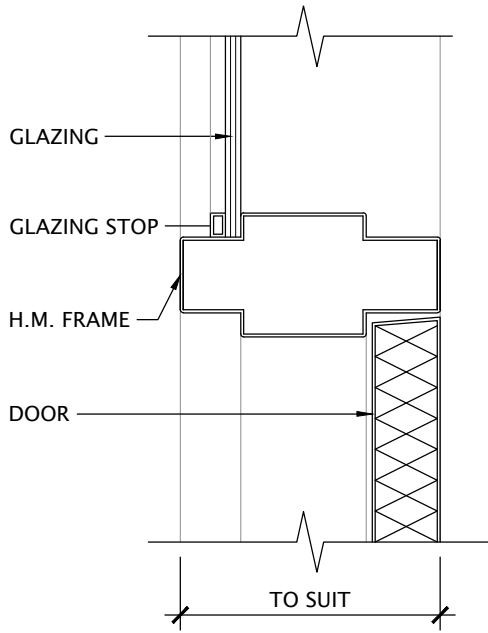
END OF SECTION

TG - TEMPERED GLASS / FRR
 TEMPERED GLASS
KP - KICK PLATE

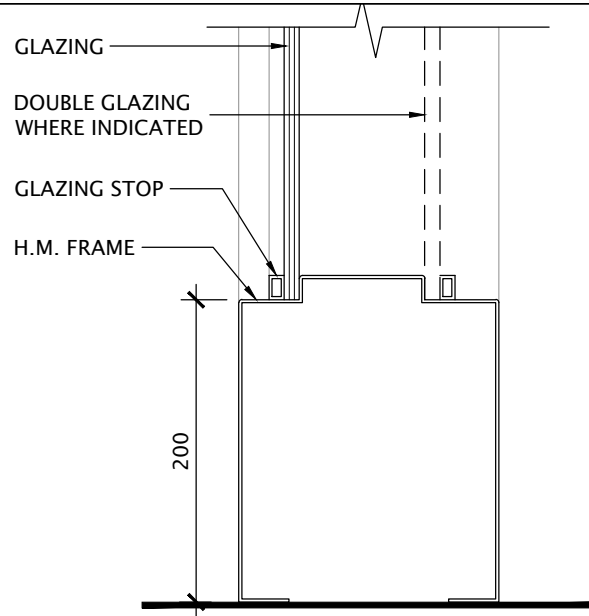




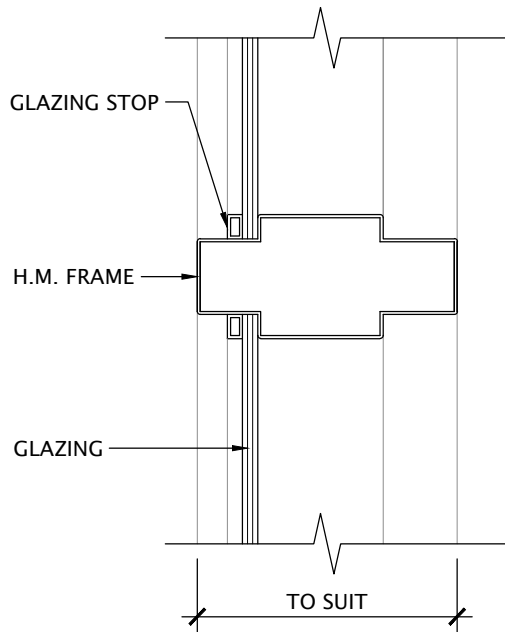
<div>Kingsland + ARCHITECTS INC.</div> <div>KINGSLAND + ARCHITECTS INC 110 Cumberland Street, Suite 262 Toronto, Ontario M5R 3V5 ph 416.203.7799 fax 416.203.7763</div>	ISSUED: ADD#1	DRAWING NAME: H.M. SCREEN	DATE: MAR 2026	SCALE: 1:50	
			DRAWN: K+	PROJECT NO: A25006	
			PROJECT NAME: William G Miller—Bundle 5	CHECKED: K+	DWG NO: 8-404



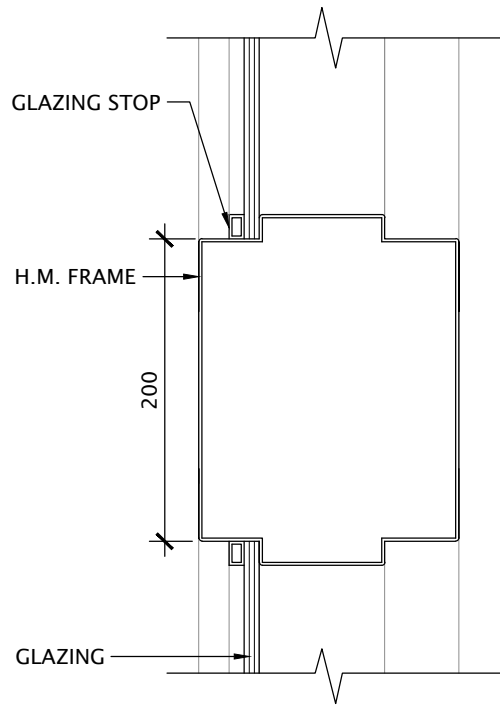
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Kingsland +
ARCHITECTS INC.

KINGSLAND + ARCHITECTS INC
110 Cumberland Street, Suite 262
Toronto, Ontario M5R 3V5
ph 416.203.7799
fax 416.203.7763

ISSUED:
ADD#1

DRAWING NAME:
**HOLLOW METAL
FRAME DETAILS**

PROJECT NAME:
William G Miller—Bundle 5

DATE:
MAR 2026

DRAWN:
K+

CHECKED:
K+

SCALE:
1:5

PROJECT NO:
A25006

DWG NO:
8-500a

REV.

PART 1 - GENERAL

- | | | | |
|-----|------------------------------------|----|---|
| 1.1 | <u>General Requirements</u> | .1 | The General Conditions of the Contract, Supplementary Conditions, and the General Requirements of Division 1, form part of this section, and must be read in conjunction with the requirements of this section. The work of this section shall comply with all requirements of Division 1, |
| | | .2 | This Contractor shall report in writing to the General Contractor and to the Consultant any defects of surfaces or work prepared by other trades which affect the quality or dimensions of this Contractor's work. Commencement of this Contractor's work shall imply complete acceptance of all work by other trades. |
| 1.2 | <u>Section Includes</u> | .1 | Gearless electric traction passenger elevator. |
| | | .2 | Elevator car enclosures, hoistway entrances and signal equipment. |
| | | .3 | Operation and control systems. |
| | | .4 | Accessibility provisions for physically disabled persons. |
| | | .5 | Equipment, machines, controls, systems and devices as required for safely operating the specified elevators at their rated speed and capacity. |
| | | .6 | Materials and accessories as required to complete the elevator installation |
| 1.3 | <u>Manufacturer</u> | .1 | Basis of Design
This specification is based on a Evolution 200 Self-Supported Machine Room Less (MRL)Traction Passenger Elevator by TK Elevator Canada . |
| 1.4 | <u>Quality Assurance</u> | .1 | Employ fully trained mechanics who are regularly employed in this field. |
| 1.5 | <u>Shop Drawings</u> | .1 | Submit five (5) copies of all shop drawings for the Architect to review. Do not commence work until reviewed drawings have been returned. |
| 1.6 | <u>Guarantee</u> | .1 | The Elevator Contractor shall guarantee the work and materials and will make good any defects, not due to ordinary wear and tear, or to improper use or care, which may develop within One (1) year from the date of substantial performance. |
| | | .2 | In addition, the Elevator Contractor shall provide a Ten (10) year manufacturer's extended warranty |
| | | .3 | Workmanship and any materials supplied and used in this work to be in strict accordance with this specification. |
| 1.7 | <u>Measurements</u> | .1 | General Contractor to confirm all hoist way measurements as per Elevator shop drawings. |
| 1.8 | <u>Maintenance</u> | .1 | A quality maintenance service consisting of regular examinations at least once a month, adjustments and lubrication of the elevator equipment shall be provided by the Elevator Contractor for a period of twelve (12) months after the elevator has been turned over for the owner's use and this service shall not be subcontracted. |
| | | .2 | All work shall be performed by competent employees during regular working hours of regular working days and shall include emergency 24 |

hour call back service. This service shall not cover adjustments or repairs due to negligence, misuse, abuse or accidents caused by persons other than the Elevator Contractor. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided. This service shall be supplied by the elevator contractor and shall not be subcontracted.

.3 Separate Price

Provide a Separate Price for additional maintenance for a term of **sixty (60) months**. A detailed report at the end of the period is to be submitted by Elevator Manufacturer to TDSB.

**1.9 Work
By Others**

.1 A properly framed and enclosed legal hoistway, including adequate guards and protection of hoistway during the erection period.

.2 Door jamb controller option - controller landing wall thickness must be a minimum of 8 1/2 inches thick. This is due to the controller being mounted on the top floor landing in the door frame on the return side of the door. For center opening doors, the controller is located on the right hand frame (from inside the elevator cab looking out). Provide telephone line, light fixture (200 lx / 19 fc), and convenience outlet in the hoistway at the landing where the elevator controller is located. Final location must be coordinated with elevator contractor. These requirements must be coordinated between the general contractor and the elevator contractor.

.3 Hoistway must be maintained between 32°F (0°C) and 122°F (50°C) measured at the machine.

.4 Adequate supports to carry the loads of all equipment, including overhead machine and machine beams located in hoistway including supports for guide rail brackets.

.5 Complete 3 phase connections from the electric power mains to each controller, including necessary circuit breakers and fused mainline disconnect switches unless otherwise specified herein by elevator manufacture.

.6 Electric power of the same characteristics as the permanent supply without charge for the construction, testing and adjusting.

.7 Provide proper piping and conduit.

.8 Divider beams for rail bracket support as required.

.9 Cutting of walls floor, etc. and removal of such obstructions as may be necessary for proper installation of the elevator.

.10 Grouting of door sills, hoistway frames, and signal fixtures after installation of the elevator equipment.

1.9 Work

.11 All painting, except as otherwise specified.

**By Others
(Cont'd)**

- .12 Provide hoistway walls designed and constructed in accordance with the required fire rating (including those places where elevator fixture boxes, rail bracket fastenings, and any other penetration into the hoistway walls).
- .13 Temporary enclosures, barricades and other protection from open hoistways and elevator work area during the time the elevator is being installed to meet all permanent installation safety codes. A temporary work platform to be provided at the top landing across the hoistway; if required, it should conform to all code and safety requirements.
- .14 Smoke detector /sensing devices and contacts wired to elevator control as required by local code. A means to automatically disconnect the main line power supply to the elevator prior to the application of water in the elevator controller room shall be furnished by the electrical contractor. This means shall not be self-resetting.
- .15 Before erection of rough walls and doors; erect hoistway sills, headers, and frames. After rough walls are finished; erect fascias and toe guards. Set sill level and slightly above finished floor at landings.
- .16 A standby power source, including necessary transfer switches and auxiliary contact, where elevator operation from an alternate power supply is required.
- .17 Adequate storage facilities for elevator equipment prior to and during installation at ground level within 150 feet of hoistway.
- .18 Setting of anchors and sleeves.
- .19 Install bevel guards at 75° on all recesses, projections or setbacks over 2" (4" for A17.1 2000 areas) except for loading or unloading.
- .20 For car light and fan: provide a feeder and branch wiring circuits to elevator control cabinet.
- .21 Locate a light fixture (200 lx / 19 fc) and convenience outlet in pit with switch located adjacent to the access door.
- 22. Where pit access is by means of the lowest hoistway entrance, a vertical ladder of non-combustible material extending 42" minimum, (48" minimum for A17.1-2019 areas) shall be provided at the same height, above sill of access door or handgrips.

1.10 **Codes**

- .1 Installation, elevator, components, accessories and operation must comply with all governing Codes and By-Laws including A17.1/CSA B44.
- .2 All welding of elevator components shall be done by a CWB certified company according to CSA Standards W47.1-92 and W59-1989.

- | | | | |
|------|--|----|--|
| 1.11 | <u>Fire-Rated Entrance Assemblies</u> | .1 | Opening protective assemblies including frames, hardware, and operation shall comply with ASTM E2074, CAN4-S104 (ULC-S104), UL10(b), and NFPA Standard 80. Provide entrance assembly units bearing 2-hour label by a Nationally Recognized Testing Laboratory |
| 1.12 | <u>Permit and Inspections</u> | .1 | Elevator contractor shall obtain and pay for all required inspections, tests, permits and fees for elevator installation. |
| | | .2 | Arrange for inspections and make required tests. |
| | | .3 | Deliver to the Owner upon completion and acceptance of elevator work. |
| 1.13 | <u>Site Conditions</u> | .1 | The Elevator Contractor to be familiar with job conditions on the site. |
| | | .2 | Temporary Use: Elevators shall not be used for temporary service or for any other purpose during the construction period before Substantial Completion and acceptance by the purchaser unless agreed upon by Elevator Contractor and General Contractor with signed temporary agreement. |

PART 2 - PRODUCTS

- | | | |
|-----|------------------------|--|
| 2.1 | <u>Elevator</u> | MRL Gearless Traction Passenger |
| | | Rated Load: 1361 kg (3000 lb.) |
| | | Rated Speed: 200 fpm |
| | | Car Inside Dimensions: 2033 mm wide x 1676 mm deep |
| | | Hoistway Size: Refer to Architectural Drawings |
| | | Operation: EOX controller. Selective Collective (Simplex) |
| | | Car Controls: Illuminated Type with faceplate in Stainless Steel #4 finish. |
| | | Hall Call Stations: Illuminated type. Stainless steel #4 Cover plates. |
| | | Hoistway Entrances Size: 1067 mm wide by 2134 mm high |
| | | Door Frame: Non Standard: 240 mm thick block |
| | | Type: Single Slide Left or Right |
| | | Door Operations: Automatic ECI operator for hoistway and car. Opening and closing speed to suit Barrier Free requirements. |
| | | Travel: Refer to Architectural Drawings. |

Stops: **Two (2)**

Openings: **Two (2 Front)**

Power Supply: 400 V, 3 phase, 60 Hertz.

Lighting Supply: 120 Volts, 60 Hertz.

Elevator must comply with CAN 3-B44- (Latest Version Including Supplements) Code for Passenger and Freight Elevators. Elevators must meet the appendix E barrier free requirements.

2.2 **Car Cab**

.1 **Shell Enclosure:**

- .1 Car Top 14 g. (1.9mm) furniture steel, white enamel finish.
- .2 Shell Walls 16 ga. (1.52mm) furniture steel - cage frame type construction.
- .3 Strike Column 16 ga. (1.52mm) Stainless steel #4.
- .4 Fascia 16 ga. (1.52mm) Stainless steel #4, full width, straight type.
- .5 Car Doors 16 ga. (1.52mm) Stainless steel #4 clad car door.

.2 **Architectural Features:**

- .1 Side Walls: Plastic Laminate - raised hang-on panels removable from inside the car. Colour to be selected by Consultant from full range of colours. Refer to Colour Schedule.
- .2 Front Return: Stainless steel
- .3 Car Door: Stainless steel
- .4 Base: **Stainless Steel # 4**
- .5 Reveals: **Stainless Steel # 4**
- .6 Flooring: Shall be supplied and installed by others.
- .7 Hoistway Doors and Frames: At All Floors: Finish to be **Stainless Steel #4.**

.3 **Supplementary Features:**

- .1 Lighting: LED downlight type mounted in stainless steel #4 ceiling panels.
- .2 Ventilation: Single speed fan.
- .3 Emergency Exit: Top exit in car top in accordance with code.
- .4 Car sill(s): Extruded Aluminum.

2.2 **Car Cab**
(Cont'd)

- .5 Overall Height: 2438mm (8' 0") (2286mm clear inside)
- .6 Car Operating Station Buttons:
 - .1 Braille and tactile buttons to be horizontally sequenced rather than vertically
 - .2 Buttons located maximum 890 -1220mm from floor for accessibility by the handicapped.
- .7 Handrail: Located on all non-entrance walls: **6 mm x 102 mm Flat Stainless Steel #4.**
- .8 Pad Hooks with Cab Pads –One set for each elevator.
- .9 Other Buttons: Emergency stop switch, alarm button door open button, door close button.
- .10 Emergency Car Lighting: An emergency power unit employing a 6 volt sealed rechargeable battery and totally static circuits shall be provided that shall illuminate the elevator car and provide current to the alarm bell in the event of normal power failure. The equipment shall comply with the requirements of the current Code.
- .11 Labels: Entrances shall be manufactured in accordance with procedures established by Under-Writers laboratories and shall be so labelled.
- .12 Sight Guards: Sight guards shall be furnished on the leading edge of the doors to conceal the hoistway beyond the doors. Finish to match door panels.
- .13 Car Floor Indicator: One (1) to be installed in each car as part of the car station.
- .14 Hall Floor Indicator: One (1) for each elevator to be installed at main landing.
- .15 Certificate Frame: Stainless Steel #4.
- .16 Car Lantern and Gong: A directional lantern visible from the corridor shall be provided in the car entrance.
- .17 Car Top Inspection: Provide a car top inspection station with an "Auto-Inspection" switch, an "emergency stop" switch, and constant pressure "up and down" direction and safety buttons to make the normal operating devices inoperative. The station shall give the inspector complete control of the elevator. The car top inspection station shall be mounted in the door operator assembly.

2.3 **Hoistway**
Equipment

- .1 Platform: Fabricated frame of formed or structural steel shapes, gusseted and riveted/clinch. The car platform shall be designed and fabricated to support one-piece loads weighing up to 25% of the rated capacity.

- .2 Deflector Sheaves: None
- .3 Guide Rails: Dry, non-lubricated steel, fastened to the building with steel brackets.
- .4 Guides: Slide guides shall be mounted on top and bottom of the car.
- .5 Buffers: Provide substantial buffers in the elevator pit. Mount buffers on continuous channels fastened to the elevator guide rail or securely anchored to the pit floor. Predefined buffer stands for 4' and 5' pit depths.
- .6 Machine: The hoisting machine shall be a compact energy efficient permanent magnet Gearless traction type, consisting of PMAC motor, brake and driving sheave mounted on a rigid bedplate in the top of the hoistway. A large solid, forged shaft shall serve as support for the motor rotor assembly and for the drive sheave and brake system. It shall be supported by roller bearings mounted in the machine housing.
- .7 Drive System:
 - .1 The drive system shall be of the Variable Voltage Variable Frequency (VVVF) regenerative.
 - .2 The system shall be a vector controlled pulse-width modulated AC drive. The variable voltage variable frequency drive shall convert the AC power supply using a two-step process to a variable voltage variable frequency power supply for use by the hoist motor.
 - .3 The speed control shall be by means of vector control providing direct torque and field excitation automatically provided by permanent magnet. A digital absolute velocity encoder shall be provided giving feedback to the controller on armature position and motor speed.
 - .4 Dual solid state electronics (IGBT Insulated Gate Bipolar Transistor) in series shall be used in place of mechanical contactors.
- .8 Motor/Machine: The motor shall be PMAC, totally enclosed, non-ventilated with class "F" insulation. The motor armature shall be dynamically balanced and supported by roller bearings of ample capacity. The armature and driving sheave shall be properly balanced for smooth, high-speed elevator performance. The PM machine shall be mounted horizontally in the top of the hoistway in a unitized formed steel structure on bearing plates furnished by the elevator installer. The unitized formed steel structure shall be securely fastened to the supports supplied by other trades.
- .9 Brake: The brake shall be a spring applied electric brake; held open by an electro-magnet actuated by a digital brake controller and designed to make smooth, positive stops. The Brake shall be designed to

automatically apply in the event of interruption of power supply from any cause. Operation and control of the brake shall be all digital. The setting and lifting of the brake shall be software based and all electronic. All adjustments and setup of the brake shall be made using a PC interface. No contactors or resistors shall be used in the actuation of the brake.

- .10 **Suspension Belts and Governor Rope: Suspension belts shall be flat belts of polyurethane with an inner core of 14 steel cords with an FT1 fire rating such that hoistway sprinklers are not required by NFPA-13.** Each belt shall have a suspension strength of 64 KN (14,388 pounds) for 150 and 200 fpm car speed. Suspension strength increases to 80 KN (17,985 pounds) for 350 fpm car speed.
 - .1 Three belts.
 - .2 Suspension tension monitor shall detect differences in belt tension and for loss of tension. If fault is detected, the car shall stop at the nearest floor and an Out of Service call be registered.
 - .3 Trip criteria shall be monitored, and data shall be stored in redundant non-volatile locations. Belts shall be replaced prior to the end of service life. Messages shall be issued at 180, 90, and 30 days prior to the last day of service life.
 - .4 Governor ropes shall be of steel wire construction.
 - .5 Any special tools, devices, software or equipment required for monitoring the wear of suspension shall be included with the installation of the equipment and become the property of the owner at time of elevator completion. This includes special ongoing monitoring systems, special tools and instruction needed to monitor the suspension system.
- .11 **Counterweight:** Counterbalance each elevator for smooth and economical operation by using steel and/or cement weights securely fastened in a steel counterweight frame. Counterweight shall equal the weight of the complete elevator car and approximately 50 percent of the specified capacity load.
- .12 **Safety and Governor:** Car safety shall be mounted on the bottom members of the car frame and be operated by a centrifugal speed governor. The governor shall be designed to cut off power to the motor and apply the brake whenever the governor indicates the car has excessive speed. The governor shall function when the car over speeds.
- .13 **Emergency Terminal Limits:** Place electric limit devices in the hoistway near the terminal landings. Limit switch(es) shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
- .14 **Automatic Self-Leveling:** Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for

over travel or under travel. Self-leveling shall, within its zone, be automatic and independent of the operating device. The car shall be maintained at approximately level with the landing irrespective of its load

2.4 **Control Systems**

- .1 Controller: The elevator control system shall be microprocessor based and software oriented. The system shall operate in real time, continuously analyzing the car(s) changing position, condition, and work load. All controller and operational circuits including the brake control and drive system shall be digital. Control of the elevator shall be automatic in operation by means of push buttons in the car numbered to correspond to floors served, for registering car stops, and by "up-down" push buttons at each intermediate landing and "call" push buttons at terminal landings.
 - .1 Momentary pressing of one or more buttons shall dispatch the car to the designated landings in the order in which the landings are reached by the car, irrespective of the sequence in which the buttons are pressed. Each landing call shall be canceled when answered.
 - .2 When the car is traveling in the up direction, it shall stop at all floors for which car buttons or "up" hall buttons have been pressed. The car shall not stop at floors where "down" buttons have been pressed, unless the stop for that floor has been registered by a car button or unless the down call is at the highest floor for which any buttons have been pressed. Pressing the "up" button when the car is traveling in the down direction shall not intercept the travel unless the stop for that floor has been registered by a car button or unless the up call is the lowest for which any button has been pressed.
 - .3 When the car has responded to its highest or lowest stop, and stops are registered for the opposite direction, its direction of travel shall reverse automatically and it shall then answer the calls registered for that direction. If both up and down calls are registered at an intermediate floor, only the call corresponding to the direction of car travel shall be canceled upon the stopping of the car at the landing.
 - .4 A car that is stopping for the last hall call in the preference direction, and that hall call is for the opposite direction with no onward car calls, shall reverse preference when the selector position advances to the landing at which the car is committed to stop. A car that is stopping for the last hall call in the preference direction, and that hall call is for the same direction, shall hold its preference until the door is almost closed allowing time for a passenger to register an onward car call which shall maintain the preference. If no car call is registered before the door is almost closed, the car shall lose its preference and shall be available to accept calls in either direction.
- .2 Operation: Selective Collective – ETA based. The system is optimized to get a car to the floor where a hall call has been registered, in the

shortest time. The system receives input information from standard call pushbuttons located in the hall, car position and car load information from individual car loadweighers.

- .1 When group operation is required, the group supervisory operation shall be embedded within selected car controllers. No separate group controller shall be supplied. The microprocessor shall constantly scan the system for hall calls. When hall calls are registered, the control system shall immediately calculate the estimated time for arrival using such information as, number of floors to travel from the current position, the time it takes to travel one floor at top speed, calls assigned to a car, and car reversal time to respond to a call in the opposite direction of travel. When a car's status changes or additional hall calls are registered, the estimated time of arrival shall be recalculated and calls reassigned if necessary.
- .2 Traffic Pattern: The microprocessor shall provide flexibility to meet well defined patterns of traffic, including up peak, down peak, and heavy interfloor demands, and adjust for indeterminate variations in these patterns which occur in buildings.
- .3 Artificial Intelligence: Artificial Intelligence shall be an integral part of the group control system software. The enhanced artificial intelligence shall optimize the interfloor traffic performance. Inputs for the artificial intelligence shall include accurate passenger load from an electronic loadweigher, probable car calls generated from each hall call, type of building and observed traffic patterns.
- .3 Load Weighing Device: Provide a load weighing device on each car which, when the particular car is filled to an adjustable percentage of the capacity load, shall cause the car to bypass landing calls but not car calls. The passed landing calls shall remain registered for the next following car.
 - .1 The device shall be unaffected by the action of compensating chain or rope. The device shall detect a 50-pound (23 Kg.) load change under all conditions.
 - .2 The load sensor shall use a load cell to accurately measure the weight in the car. The information shall be transferred via a serial link to the elevator controller.
- .4 Anti-Nuisance Call Control: The microprocessor control system shall evaluate the number of people on the car and compare that value to the number of car calls registered. If the number of car calls exceeds the number of people by a field programmable value, the car calls shall be canceled after the first call has been answered.
- .5 Position Selector: The position selector shall be part of the microprocessor system. The car position in the hoistway shall be digitized through a primary position encoder. The microprocessor control system shall store the floor position and slow down points in memory.

- .6 Motion Control: The drive control system shall be dual-loop feedback system based primarily on car position. The velocity profile shall be calculated by the microprocessor control system producing extremely smooth and accurate stops. The velocity encoder shall permit continuous comparison of machine speed to velocity profile and to actual car speed. This accurate position/velocity feedback shall permit a fast and accurate control of acceleration and retardation.
- .7 Motor Pre-Torque: Current shall be applied to the elevator drive before the brake is released and the speed pattern is dictated to eliminate roll back and sling shot effects of unbalanced loads in the car. The electronic loadweigher shall determine the load on the car determining a pre-torque reference to send to the drive.
- .8 Emergency Power Operation: In the event of power loss, this elevator(s) should be equipped with a battery powered automatic rescue operation device. This operation is designed to only move the car up or down to the nearest landing depending on the load in the car. It is NOT designed to lower the car to a specified landing such as Battery Lowering used for Hydraulic applications. An isolation transformer is required if the building voltage is NOT 480VAC. A single rescue unit is not capable of rescuing a group of cars --- this is a per car option. Maximum travel on rescue operation is 100 feet. Average time of operation for Rescue is 3 minutes. This feature is only available for jobs with 60HP and below. This battery automatic rescue operation is not allowed with the Green Drive.
- .9 Automatic Light and Fan shut down: The control system shall evaluate the system activity and automatically turn off the cab lighting and ventilation fan during periods of inactivity. The settings shall be field programmable.
- .10 Digital Services:
Cloud-based IoT Monitoring System (standard): Contractor shall provide a cloud-based IoT (internet of things) monitoring system capable of tracking door movements and timing, trips, power cycles, car calls, out-of-service events and modes. This observation will continue 24/7 and it shall be capable of providing service technicians a minimum of three recommended solutions for defined failure events and automatically dispatch service technicians in the event of failure(s) while sending notifications to end users of changes in their equipment's state via both email and mobile device. Access to IoT and related equipment data and status will be made available in both a web portal and mobile application secured by password and username with at least two-factor authentication. Finally, this system must be self-contained and not require internet provision by others.

2.5 **Door Operation**

- .1 Doors on the car and at the hoistway entrances shall be power operated by means of a quality operator mounted on top of the car. The motor shall have positive control over the door movement for smooth operation. The car door shall have a safety shoe to cause instant re-opening should contact be made with any obstruction during the closing cycle.
- .2 Door operation shall be automatic at each landing with door opening

being initiated as the car arrives at the landing and closing taking place after expiration of a time interval. A car door electric contact shall prevent starting the elevator away from the landing unless the car door is in its closed position.

- .3 Door hold / delay button to be provided to allow disabled persons to control door close operation as needed.
- .4 An approved positive interlock shall be provided for each hoistway entrance which shall prevent operation of the hydraulic unit unless all doors for that elevator are closed and shall maintain the doors in their closed position while the elevator is away from the landing. Provide emergency access to the hoistway as required by governing codes.
- .5 The elevator contractor shall install at each landing served, a hoistway entrance of the type and size as previously described. Each entrance shall consist of flush hollow metal doors with build in hanger assembly, frames assembled for one piece unit installation, extruded aluminum sill, fascia, toe guard, hanger cover, header, hanger track assembly, and formed structural strut supports. Entrance design and construction must be in compliance with NBC 1975 requirements for fire labels.
- .6 Sill supporting angles required for flush hoistway construction shall be furnished by the elevator contractor.
- .7 Door Protection Device: Provide a door protection system using microprocessor controlled infra-red light beams supporting 2D or 3D light curtains per code. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.

2.6 **Telephone & Video**

- .1 Elevator shall have two way verbal and non verbal communication via video (in-cab camera) and audio (VoIP phone lines) and LCD screen within the cab, with 24/7 monitoring, separate internet connection from the rest of the building (such as direct data cable connection or cell modem sim card data drop coordination with client networks, firewalls, security protocols-extensive) within the machine room..
- .2 All communication systems must operate for a least 4 hours during a power loss.
- .3 An ADA-approved AUTODIAL telephone shall be furnished and installed as part of the car station A separate phone line to the elevator controller shall be provided and located in the elevator machine room under another section of the specifications.
- .4 Must be compatible with TDSB software for audio & visual 2 way communication **MosaicONE by MAD Elevator INC.**

2.7 **Special**

- .1 **Provision for card reader in car and door jamb (card reader**

	<u>Emergency Service</u>		provided and installed by Division 26).
		.2	Battery powered emergency lowering operation.
		.3	Provide equipment according to seismic zone
2.8	<u>Non-Proprietary Controls</u>	.1	Elevator control equipment must be non-proprietary, a site specific service tool which renders the control equipment non-proprietary must be provided with the elevator (ie. Map unit type, diagnostic service tool). The controller interface/service tool shall allow full access to fault codes and maintenance related parameters, and shall allow complete and thorough maintenance service to be performed by any properly licensed and qualified elevator Service Company. The controller and/or site specific service tool must come with a user's manual that effectively communicates to a qualified mechanic how to use the controller and/or tool, and also defines and explains all respective error codes, including required fixes. The service tool shall remain property of the building owner.
2.9	<u>Controller Location</u>		Location: Door Jamb Mount is integrated with controller in the door jamb. Control power and cab light are provided by the elevator contractor and included with the integrated assembly. Main power disconnect is provided by others.

PART 3 - EXECUTION

3.1	<u>Examination</u>	.1	Before starting elevator installation, inspect hoistway, hoistway openings, pits and/or control room, as constructed, verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
		.2	Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
3.2	<u>Installation</u>	.1	Install elevator systems components and coordinate installation of hoistway wall construction.
		.1	Work shall be performed by competent elevator installation personnel in accordance with ASME A17.1, manufacturer's installation instructions and approved shop drawings.
		.2	Comply with the National Electrical Code for electrical work required during installation.
		.2	Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced

foreman.

- .3 Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
- .4 Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts. Comply with AWS Standards for workmanship and for qualification of welding operators.
- .5 Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
- .6 Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
- .7 Alignment: Coordinate installation of hoistway entrances with installation of elevator guide rails for accurate alignment of entrances with cars. Where possible, delay final adjustment of sills and doors until car is operable in shaft. Reduce clearances to minimum safe, workable dimensions at each landing.
- .8 Erect hoistway sills, headers, and frames before erection of rough walls and doors; erect fascia and toe guards after rough walls finished. Set sill units accurately aligned and slightly above finish floor at landings.
- .9 Lubricate operating parts of system, including ropes, as recommended by the manufacturer.

3.3 Field Quality Control

- .1 Acceptance testing: Upon completion of the elevator installation and before permitting use of elevator, perform acceptance tests as required and recommended by Code and governing regulations or agencies. Perform other tests, if any, as required by governing regulations or agencies.
- .2 Advise Owner, Contractor, Architect, and governing authorities in advance of dates and times tests are to be performed on the elevator.

3.4 Adjusting

- .1 Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.

- 3.5 **Cleaning**
- .1 Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided. Stainless steel shall be cleaned with soap and water and dried with a non-abrasive surface; it shall not be cleaned with bleach-based cleansers.
 - .2 At completion of elevator work, remove tools, equipment, and surplus materials from site. Clean equipment rooms and hoistway. Remove trash and debris.
 - .1 Use environmentally preferable and low VOC emitting cleaners for each application type. Cleaners that contain solvents, pine and/or citrus oils are not permitted.
- 3.6 **Protection**
- .1 At time of Substantial Completion of elevator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect elevator work from damage or deterioration. Maintain protective measures throughout remainder of construction period.
- 3.7 **Demonstration**
- .1 Instruct Owner's personnel in proper use, operations, and daily maintenance of elevators. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 - .2 Make a final check of each elevator operation, with Owner's personnel present, immediately before date of substantial completion. Determine that control systems and operating devices are functioning properly.

End of Section

Room Finish Schedule

Room No.	Room Name	Floor		Base		Wall		Ceiling			Remarks
		mat'l	finish	mat'l	finish	mat'l	finish	mat'l	finish	height	
111	Universal Washroom	CONC.	CT	-	RUB	CONC BLK	SG-PT	ACT	-	2500	POR ON PLUMBING WALLS (SINK & TOILET)
112	Existing Washroom	CONC	EX	-	RUB	CONC BLK	SG-PT	EX	-	EX	MAKE GOOD NEW SINK AREA
113	Existing Stage	WD	WD	-	WD	EX	ST	EX	-	EX	MAKE GOOD EXSITNG WD FLOOR
114	Existing Vestibule	CONC	RFS	-	RUB	EX / BLK	SG-PT	GB	EG-PT	MATCH EX	WOOD STAIR
101	Existing Corridor	CONC	Terrazzo EX.	-	MATCH EX	EX GB	SG-PT	EX	-	EX	MAKE GOOD AFFECTED AREA
102	Existing Corridor	CONC	MATCH EX	-	MATCH EX	EX	MATCH EX	EX	-	EX	NEW INFILL BLOCK WALL TO MATCH EX
7-1	New Vestibule	CONC.	CT	-	RUB	CONC. GB	SG-PT	ACT	-	3050	
7-2	New Vestibule	CONC	CT	-	RUB	CONC. GB	SG-PT	ACT	-	2725	
201	Existing Corridor	CONC	Terrazzo EX.	-	MATCH EX	EX GB	SG-PT	EX	-	EX	MAKE GOOD AFFECTED AREA

LEGEND:

ACRYL	INTERIOR ACRYLIC PAINT	EP	EPOXY	P.LAM	PLASTIC LAMINATE	S/S	STAINLESS STEEL
ACT	ACOUSTIC CEILING TILE	EX	EXISTING	POR	PORCELAIN TILE	TER	TERRAZZO
BLK	BLOCK	EXP	EXPOSED	PT	PAINT	RUB	RUBBER BASE
CONC	CONCRETE	GYP	GYPSUM BOARD	SFT	SAFETY FLOORING	VCT	VINYL COMPOSITE TILE
CPT	CARPET	LEP	LATEX EPOXY	SG	SEMI-GLOSS	CT	CERAMIC TILE
EG	EGGSHELL	LVT	LUXURY VINYL TILE	SPF	SPORTS FLOORING	RFS	RESILIENT FLOOR

End of Section

DIVISION – 1

- 1-101 Standard abbreviations
- 1-102 Standard abbreviations
- 1-103 Standard symbols

DIVISION – 2

- 2-105 Typical Bollard Details

DIVISION 4 – 1

- 4-101 Control Joint at Interior Door
- 4-103 Typical Bullnose Block Corner Detail.
- 4-107 Typ. Door Jamb at Block Wall

DIVISION – 5 - 1

- 5-117 Steel Ladder Detail at Elevator Pit

DIVISION – 7 - 0

- 7-041 Expansion Joint cover Plan Detail

DIVISION – 7 - 2

- 7-201 First Floor Plan Detail Grid 1/B
- 7-202 First Floor Plan Detail Grid 1/C
- 7-203 First Floor Plan Detail Grid 2/C
- 7-204 First Floor Plan Detail Grid 1/C

DIVISION – 7 - 5

- 7-501 Section Roof Detail Roof Curb
- 7-502 Spare
- 7-503 Section Roof Detail
- 7-504 Section Roof Detail Roof Curb
- 7-505 Section Roof Detail at Existing Roof
- 7-506 Section Detail at Foundation – R1 issued**
- 7-507 Section Detail at Curtainwall
- 7-508 Section Detail at Sill
- 7-509 Section Detail at 2nd Floor Level
- 7-510 Section Detail at Foundation
- 7-511 Section Roof Detail at curtainwall
- 7-512 Section Detail at Door Head
- 7-513 Section Detail at 2nd Floor Level
- 7-514 Section Detail at Door Head
- 7-515 Section Detail at Floor Level

DIVISION – 8 – 4

- 8-401 Door Types – R1 issued**
- 8-402 Window Schedule
- 8-403 Window Schedule
- 8-404 Hollow Metal Screen -R1 issued**

DIVISION – 8 - 5

8-500 Hollow Metal Frame Details
8-500a Hollow Metal Frame Details – detail added
8-501 Hollow Metal Frame Details

DIVISION 10 – 1

10-100 Barrier-Free Washroom Front Elevation
10-101 Barrier-Free Washroom Side Elevation
10-102 Barrier-Free Washroom Accessory Installation

End of Section

PART 1 - GENERAL

- | | | | | |
|-----|---|----|---|------------------|
| 1.1 | <u>General Requirements</u> | .1 | Comply with requirements of Division 1. | |
| 1.2 | <u>Related Sections</u> | .1 | Mortar | Section 04100 |
| | | .2 | Metal Fabrications | Section 05500 |
| | | .3 | Air Barrier | Section 07196 |
| | | .4 | Caulking: | Section 07900 |
| | | .5 | Supply of steel door frames | Section 08100 |
| | | .6 | Supply of access doors for mechanical and electrical Work. | Sections 20 & 26 |
| 1.3 | <u>Work Installed But Supplied By Others</u> | .1 | Build into masonry elements inserts, anchors, bolts, sleeves and other items supplied by other Sections and which are required for installation and performance of work of other Sections. | |
| | | .2 | Install loose steel lintels. | |
| | | .3 | Coordinate installation of lateral supports required for final support of masonry partitions with Section 05500. | |
| | | .4 | Install steel window and door frames and access doors occurring in masonry elements. | |
| | | .5 | Install reinforcing steel and concrete fill into block lintels. | |
| 1.4 | <u>Reference Standards</u> | .1 | Confirm to requirements of CSA A370.94, CSA A371.94 and CSA S304.1.94. | |
| 1.5 | <u>Qualifications</u> | .1 | The work of this section is to be done by a masonry contractor of recognized standing having personnel with experience in this type of work and who has the necessary equipment to carry out the work. | |
| | | .2 | Ensure that work is executed under the continuous supervision and direction of a competent foreman. | |
| 1.6 | <u>Submittals</u> | .1 | Before ordering any materials submit two samples of all materials for approval. | |
| | | .2 | Submit additional materials as required for testing to a Testing Company approved by the Consultant and provide results of standard tests on the actual production run of exterior brick including compression, absorption and saturation coefficient and 50 cycle freeze thaw resistance test. | |
| | | .3 | Submit shop drawings in accordance with the General Conditions of all special masonry units. | |
| 1.7 | <u>Inspection & Testing</u> | .1 | The Consultant may at his discretion call for tests of mortar or other masonry materials to be made by an independent inspection company. | |
| | | .2 | A Cash Allowance for these tests will be carried by the General Contractor in accordance with the General Conditions. | |

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|------|---------------------------------------|----|--|
| 1.8 | Source Quality Control | .1 | Submit laboratory test reports certifying compliance of masonry units and mortar ingredients with Specification requirements. |
| | | .2 | For clay units, in addition to requirements set out in referenced Standards include data indicating initial rate of absorption for units proposed for use. |
| 1.9 | Product Handling & Storage | .1 | Handle masonry units so as to prevent soiling and chipping and deliver to the job site in dry condition. |
| | | .2 | Store masonry units above and off ground on level platforms which permit air circulation under stacks. |
| | | .3 | During storage, protect masonry units against moisture absorption, damage, staining and freezing. |
| | | .4 | Keep materials dry until use. |
| 1.10 | Environmental Conditions | .1 | In cold weather, construct and protect masonry elements in accordance with Clause 5.15.2 and 5.15.3 of CAN3-A71-M84. Maintain temperature of mortar between 5 degrees C and 50 degrees C until used. |
| 1.11 | Protection | .1 | Keep masonry dry using waterproof non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain. Anchor securely in position. |
| | | .2 | In hot weather, protect freshly laid masonry from drying too rapidly by means of waterproof, non-staining coverings. |
| | | .3 | Protect sills, projections and exposed edges so that finished work will not be damaged or defaced. |
| | | .4 | Protect face work from splashing or marking. Protect interior block walls which are to be painted or left unfinished from staining and other damage. |
| | | .5 | Protect all work installed by other trades from splashing and marking and other damage. |
| | | .6 | Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place. |

PART 2 - PRODUCTS

- | | | | |
|-----|-------------------------|----|--|
| 2.1 | <u>Materials</u> | .1 | <u>Face Brick</u> |
| | | .1 | Hard burned clay brick to CSA A82.1-M87. |
| | | .2 | Brick Veneer: |
| | | | Size: Premier Plus - 90 x 79 x 257 |
| | | | Series: Contemporary Series |
| | | | Colour: Charcoal Matt |
| | | | Distributor: Brampton Brick |
| | | | Contact: Andrew Bimm |
| | | | abimm@bramptonbrick.com |

2.1 **Materials
(Cont'd)**

.2 **Concrete Masonry Veneer**

.1 **Architectural Stone Veneer:**

Size: 90 x 190 x 590

polished with chamfered upper edges

Series: Finesse

Colour: Polar White, Smooth Finish

Distributor: Brampton Brick

Contact: Andrew Bimm

abimm@bramptonbrick.com

Reference the following;

<https://bramptonbrick.com/en/finesse-stone?f%5B0%5D=color%3AWhite>

.3 **Concrete Block:** Metric size and autoclaved.

.1 Lightweight block: Ultra Lite to CSA Standard A-165.1M

.2 Standard weight block: to CAN3-A165.1M85.

.3 Units must be cured for at least 28 days before delivery and shall have a moisture content of not more than 30% of total absorption.

.4 Size: unless indicated otherwise 190 x 390 mm x thickness as shown on drawings.

.5 Exposed block units shall be uniform in size, free of perceptible warp or twist, without chipped, ragged or broken edges; have a uniform surface texture, free of cracks, blemishes or defects detrimental to appearance or performance.

.6 Where indicated on Drawings and/or Specifications, provide solid or semi-solid units.

.7 Provide manufacturer's catalogued special units such as bullnose corner, lintel block and 45° corner blocks.

.4 **Acoustic Block Masonry**

.1 **RESERVED**

.5 **Metal Reinforcement and Anchors**

.1 Material: high tensile strength steel wire meeting ASTM A82, by Bloklok or Durowall.

.2 Finish: hot dip galvanized after fabrication to ASTM A153, Class B.

.3 Provide prefabricated assemblies for corners and intersections.

2.1 **Materials**
(Cont'd)

.4 **Horizontal Reinforcement:**

- .1 Single wythe and solid walls: truss type with minimum 3.66 mm thick side and cross rods unless otherwise indicated; width 50 mm less than wall thickness: BLOK-TRUS BL30.
- .2 Cavity walls at walls with concrete block back-up: Refer to Structural drawings. Ferro Slotted Block Tie (type i) consisting of 1.6 mm thick steel connector plate of length to suit insulation and concrete block thickness, steel wire V-tie, 4.8 mm diameter. Refer to structural drawings.
- .3 Cavity walls at walls with structural steel backup: Ferro Rap Tie consisting of slotted connector plate of length to suit insulation thickness, anchored with predrilled anchors, and steel wire V-tie. Refer to structural drawings.

.5 **Anchors and Ties:**

- .1 Non-bearing walls and partitions to bearing walls: corrugated wall ties minimum 0.7 mm thick, 21 x 175 mm BLOK-LOK BLT7A.
- .2 Masonry walls, partitions and veneer to concrete elements: Flexible wire tie, 4.76 mm thick, length to suit wall condition, and dovetail anchor slot: BLOK-LOK BLT8, or POS-1-TIE NWTC-TAPCON screw anchors by National Wire Products Industries Inc.
- .3 Masonry to structural steel: flexible triangular 4.76 mm thick ties and weld on anchor straps: BLOK-LOK FLEX-O-LOK BLT9 or POS-1-TIE NWDI-DRIL-IT screw anchors by National Wire Products Industries Inc.
- .4 Masonry veneer to exterior wall steel stud: M.A.S.S. Assembly by A.C. Wild Inc., consisting of reinforce stainless steel angle clip, screws fastened to steel stud with co-polymer coated, self drilling screws (with EPDM Gasket) spring steel washer, stainless steel washer, stainless steel insulation retainer, stainless steel wire tie.
- .5 Strap anchors: galvanized, 2 mm thick, crimped, 50 mm x 150 mm.

.6 **Cavity Wall Insulation:**

- .1 Semi-rigid mineral wool insulation to CAN/ULC S702 and ASTM C612, CAVITYROCK DD by Roxul Inc., R15, 88 mm thickness.
- .2 Wedge type plastic fastener: BLOK-LOK Wedge-Lok.

.7 **Membrane Flashing/Dampproof Course:** Minimum 0.5 mm thick flexible membrane: Bakor Blueskin TWF (self adhering SBS Modified Flashing

- Membrane) or F20 by Lexsuco or Rodoply (20 mils) by Sternson.
- 2.1 **Materials**
(Cont'd)
- .8 **Membrane Flashing Back-up:** minimum 0.9 mm thick hot dipped galvanized sheet steel meeting Z275 zinc coating designation
- .9 **Weep Holes, Vent Holes:** Weep Hole Ventilator by BLOK-LOK Ltd. or Goodco Plastic Brick Vent.
- .10 **Nailing Inserts:** 0.6 mm purpose made galvanized steel inserts for setting in mortar joints.
- .11 **Premoulded Joint Filler** - Closed cell vinyl foam, compressed 25% when in joint, one of the following:
- .1 Unifoam R 1009 - Flexible by Goodco Ltd
- .2 Rodofoam PR by Sternson Ltd.
- .12 **Fire stop:** ULC labelled, firebarrier mineral wool by Double A/D Distributors Ltd., Fire-Bloc by M.W. McGill and Associates. Use Bakelite 910-10 Adhesive.
- .13 **Dovetail anchor slots:** 26 ga. galvanized steel, glass fibre filled. Supply to Section 03300 for installation.
- .14 **Preformed Control Joint Key:** Titewall BL.A Rubber Preformed Joint Key by BLOK-LOK.
- .15 **Bond Break:** 0.1 mm thick polyethylene.
- .16 **Compressible Filler:** Rockwool Insulation
- .17 **Asphalt Impregnated Board:** 12 mm thick asphalt impregnated fibre boards.
- .18 **Mortar Drainage System**
- .1 **Products:** "Mortar Net" manufactured by Mortar Net USA Ltd., supplied by JV Building Supply, 905-851-3744.

PART 3 - EXECUTION

- 3.1 **Erection**
General
- .1 Build masonry work true to line, plumb, square and level, with vertical joints in proper alignment.
- .2 Assume complete responsibility for dimensions, plumbness and levels of this work and constantly check same with graduated rod.
- .3 Masonry courses to be of uniform height, and both vertical and horizontal joints to be of equal and uniform thickness.
- .4 Extend all non-bearing partitions to within 25 mm of underside of floor or roof construction above and pack joint with a compressible filler of fire stop mineral wool, leave no voids.

- .5 Carry wall up in uniform manner, no one portion being raised more than 750 mm above another at any time. Build no more than 1500 mm of wall measured vertically in any one day.
- .6 Buttering corners of units, throwing mortar into joints, deep or excessive furrowing of bed joints not permitted. Do not shift or tap units after mortar has taken initial set. Where adjustments must be made after mortar has started to set, remove mortar and replace with fresh supply.
- .7 Isolate masonry from vertical structural framing in exterior walls using 12 mm thick asphalt impregnated rigid board cemented to columns.
- .8 Cut exposed masonry units with power driven masonry saw only. Ragged or chipped edges will not be permitted.
- .9 Consult with other sections to avoid cutting and patching. Co-operate in setting and aligning built-in items. Build in conduit and piping so that they are not exposed. Do not break masonry bond to accommodate concealed built-in items.
- .10 Install access doors occurring in masonry elements, required by Division 15 and 16. Install access doors, level, plumb properly aligned and securely anchored, in locations directed by Division 15 and 16.
- .11 Grout solid with mortar all spaces around built-in items.
- .12 Build in metal nailing plugs, grounds, inserts, anchor bolts, bearing plates, loose and miscellaneous items of steel and iron, isolated beams, lintels and shelf angles, sleeves, blocking and items furnished by other Sections.

3.2 **Blockwork**

- .1 Lay all block in running bond, except where noted to be stack bond, with thicker end of face shell upward. Coursing to be modular 200 mm for one block and one joint.
- .2 Do not wet blocks before laying.
- .3 Lay units with webs aligning one over the other in full bed of mortar over entire laying surface including webs. Vertical joints shall be fully filled with mortar on both faces and squeezed tight.
- .4 Exposed faces shall be full units laid out to minimize cutting with not less than 100 mm at any vertical edge or corner.
- .5 Top course of block walls shall be laid with semi-solid blocks at door and window sills, at wall changes to brick and where shown on Drawings.
- .6 Use solid block for at least two courses under all point bearing loads.
- .7 Use special shaped units where indicated, specified or required. Use bull nosed units for exposed external corners, window jambs, door jambs and as detailed. Exposed open cells not permitted.
- .8 Use square cornered block for first course at floor at locations with exposed

external bullnose corners. Grind square corner above top of base to match bullnose of blocks above as detailed.

- .9 Where resilient base is indicated, tool the joints to within 100 mm of the floor. Cut joints flush behind the base.
- .10 Provide minimum 400 mm solid or grouted block for jambs of openings and at ends of walls.
- .11 Cope or cut with power saw exposed units to accommodate flush mounted electrical outlets, grilles and other components. Leave maximum 5 mm clearance. Cover plates and flanges must cover cut edges.
- .12 Take special care to prevent mortar or other substances from staining exposed block faces. Replace stained blocks as directed by the Consultant at no extra cost to Contract.
- .13 Tie intersecting non-bearing walls together with masonry reinforcing every second course.
- .14 Concrete block to receive thinset ceramic tile installation shall be laid plumb with maximum variation of 3 mm in 2 M with joints finished flush.
- .15 Provide continuous 0.1 mm thick polyethylene bond breaker at base of partitions and walls which bear on concrete slabs.
- .16 Use lightweight blocks for all interior block walls and partitions.

3.3 Face Brick

- .1 Lay face brick in common running bond except where specifically shown otherwise. Provide special band courses, where indicated.
- .2 Completed brickwork shall appear uniform and well blended, free of contrasting areas. Replace at no cost to contract, brickwork which does not meet this requirement.
- .3 Brick with an absorption rate of over 1g/min./100 sq.mm when tested in accordance with ASTM C67 shall be dampened before laying.
- .4 Tops of walls which have been left exposed for any period of time shall be dampened before work is commenced again, if required.
- .5 Brickwork at different levels shall be stepped in regular proportions between levels.
- .6 Brickwork shall be laid up with the shave joint method in full bed of mortar with vertical and horizontal joints filled flush. Slushing mortar into joints after brick is laid, is not permitted.
- .7 All joints in brickwork, including bed and collar joints, shall be filled full as each course is laid. Pull down and rebuild walls/partitions which do not meet this requirement as directed by consultant and at no extra cost to Contract.
- .8 Variations in size of brick shall be evenly distributed in wall so that mortar joints are uniform throughout.
- .9 At first brick course over steel lintels place brick directly on membrane

flashing without mortar.

- 3.4 **Cavity Walls**
- .1 Discuss all aspects of cavity wall construction with Consultant before proceeding to ensure that the cavity wall is constructed in accordance with the best masonry practice and recommendations of the Ontario Masons' Relations Council (O.M.R.C.).
 - .2 Keep the cavity completely clean and free from mortar droppings or projection. Bevel the "cavity" edge of the mortar bed immediately after "stringing" the mortar. Following the setting of the masonry unit, spread any mortar which protrudes into the cavity over the back of the unit using the back of the trowel.
 - .3 Bond inner and outer wythes of cavity wall with cavity wall reinforcement system at 400 mm vertically. Provide additional reinforcement at openings as specified hereinafter.
 - .4 Ensure that sheet air barrier and foamed insulation is complete and has been inspected and accepted by Consultant prior to installation of face brick
 - .5 Provide, unless otherwise indicated, mineral wool fire stops to block off concealed spaces within a cavity wall.
 - a) at every floor level;
 - b) so that the maximum horizontal dimension is not more than 20 m and the maximum vertical dimension is not more than 3 m.
 - .6 Provide continuous mortar drainage system at bottom of cavity and at all areas where cavity is interrupted with thru wall flashings.
- 3.5 **Mortar & Pointing**
- .1 Make all joints uniform in thickness, straight, in line, with mortar compressed to form concave joints.
 - .2 After joints have been tooled rub walls with burlap.
 - .3 Strike joints flush where walls are to receive insulation, ceramic tile or similar finishes.
- 3.6 **Building-In**
- .1 Build in door and window frames, steel lintels, sleeves, anchor bolts, anchors, nailing strips and other items to be built into masonry.
 - .2 Do not distort metal frames. Bed anchors of frames in mortar and fill frame voids with mortar or grout as wall is erected.
- 3.7 **Bearings**
- .1 Fill concrete block solid with 20 mPa concrete for two courses below bearing points of structural members, and where indicated.
 - .2 Install building paper and wire mesh reinforcing in the bed below second block course from top.
 - .3 Use 100% solid concrete blocks where indicated.
 - .4 Build masonry neatly around beam and lintel bearings.

- .5 Complete fill voids beneath steel bases bearing on masonry with an approved non-shrink grout having a compressive strength at 28 days of at least 35MPa. Where grout is exposed to view or weather, use no-ferrous expansion agents.
- 3.8 **Membrane Flashings/ Dampproof Course**
- .1 Install dampproof course on top of foundation walls above grade.
- .2 Install membrane flashing at bottom of cavity walls, at door and window heads, immediately above horizontal interruptions with exterior walls and elsewhere where shown on drawings.
- .3 Lap membrane flashing minimum 100 mm at joints./ Seal lap with adhesive.
- .4 Extend membrane flashing 13 mm beyond face of wall or outside edge of steel lintels. Trim as required to Consultants later instructions.
- .5 Carry membrane flashing up behind exterior wythe masonry minimum 300 mm and coordinate with Sections 07196 and 07219.
- .6 At wall/ low roof junctions coordinate with Section 07513. DO NOT INSTALL VENEER UNTIL COMPLETED MEMBRANE FLASHING INSTALLATION HAS BEEN WATER TESTED AND INSPECTED BY CONSULTANT.
- 3.9 **Control Joints**
- .1 Provide continuous vertical control joints in concrete block partitions and walls at locations indicated and at heads of all doors and openings over 300 mm wide. Provide continuous vertical control joints maximum 10 M apart and at all corners and intersections.
- .2 Form control joints as detailed. Stop masonry reinforcing each side of joints and provide continuous preformed rubber joint key.
- 3.10 **Construction Joints**
- .1 Where fresh masonry joins partially or totally set masonry, clean exposed surfaces of set masonry and remove loose mortar and foreign material prior to laying fresh masonry.
- .2 If necessary to stop off a horizontal run of masonry, rack back one-half masonry length in each course. Toothing will not be permitted unless approved by the Consultant.
- 3.11 **Expansion Joints**
- .1 Construct expansion joints where indicated, as detailed.
- 3.12 **Chases, Openings & Holes**
- .1 Chases and openings shall be built in during erection of masonry work, and purpose-made chased units shall be built into proper position.
- .2 Openings in masonry work exceeding 200 mm opening width shall be provided with lintels in accordance with lintel schedule.
- .3 No horizontal or diagonal chasing of completed walls or formation of holes shall only be carried out with Consultant's prior approval, and then only with a tool designed to cleanly cut masonry units.
- .4 Chases shall be plumb and shall be minimum of one unit length from jambs of openings.

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|------|---|----------------------------------|--|
| 3.13 | Anchoring,
Bonding &
Reinforcement | .1
.2
.3
.4
.5
.6 | <p>Anchor or bond walls and partitions at points where they intersect.</p> <p>Anchor masonry walls and partitions to concrete elements with anchors spaces at 400 mm vertically.</p> <p>Unless otherwise indicated reinforce all walls and partitions with continuous horizontal metal reinforcement, installed at 400 mm o.c. vertically.</p> <p>At all wall openings place continuous reinforcement in first and second mortar joints above and below openings. Additional reinforcement at openings shall extend 610 mm beyond both sides of openings.</p> <p>Install prefabricated corner assemblies at outside corners.</p> <p>Lap continuous reinforcement 150 mm at splices. Cut reinforcement at control joints.</p> |
| 3.14 | Cutting
Masonry | .1
.2
.3 | <p>Cutting of masonry units exposed in finished work shall be done with approved type power saw. Where electrical conduit outlet or switch boxes occur, grind and cut units before services installed.</p> <p>Obtain Consultant's approval before cutting any part or area which may impair appearance or strength of work.</p> <p>Patching of masonry not permitted.</p> |
| 3.15 | Reinforced
Lintels | .1
.2
.3
.4
.5
.6 | <p>Install reinforced concrete block lintels at openings where steel lintels are not indicated.</p> <p>Support masonry units of reinforced block lintels built in place. Provide a level platform, true to the proper elevation and of sufficient strength to support the load without visible deflection. Maintain supports in place for a minimum of 7 days and for a period sufficient to permit the concrete to cure and gain sufficient strength to safely support all loads.</p> <p>Cast and cure lintels on a plank. Set special channel lintel blocks using specified mortar. Place wood stops at each end of lintel to prevent movement.</p> <p>Place 25 mm of 20 mPa concrete in voids, lay in reinforcing bars as indicated on drawings and place concrete to level of block sides. Rod and tamp concrete well without disturbing reinforcing. Allow lintels to cure 7 days before moving.</p> <p>Minimum bearing shall be 200 mm each side.</p> <p>Provide building paper in joint at bearings and at vertical joint at ends of block lintels to break bond.</p> |
| 3.16 | Reglets &
Recesses | .1
.2
.3 | <p>Form continuous reglets and recesses in masonry elements as shown on Drawings and as required to accommodate work of other Sections.</p> <p>Rake out mortar joints and make sawcuts in masonry elements as shown on Drawings and as required to accommodate work of other Sections.</p> <p>Make reglets 25 mm deep, unless otherwise shown.</p> |

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| 3.17 | <u>Steel Door Frames</u> | .1 | Install steel frames in masonry walls. Build in frames rigid, true and plumb. Fill voids between frames and masonry with mortar grout. |
| | | .2 | Brace frames solidly in position while being built in. Provide temporary horizontal wood spreader at mid-height of frames to ensure maintenance of required frame width until masonry work is completed. For frames over 1200 mm width provide temporary vertical support at centre of head. |
| | | .3 | Comply with installation requirements specified under Section 08100. |
| 3.18 | <u>Weep & Vent Holes</u> | .1 | Form weep holes by inserting weep hole inserts into brick mortar joint immediately above all membrane flashings and where shown on Drawings; space weep holes at 600 mm o.c. horizontally. |
| | | .2 | Form vent holes by placing inserts near top of cavity compartments and where indicated on drawings. Space inserts at 600 mm o.c. |
| | | .3 | Keep face of inserts back from face of brick minimum 6 mm. Keep weep/vent holes free of mortar. |
| 3.19 | <u>Patching & Cleaning</u> | .1 | At completion of work, holes and other defects in masonry joints shall be repaired, and masonry surfaces shall be thoroughly cleaned. |
| | | .2 | Holes in masonry joints shall be filled with mortar and suitably tooled. Cut out and repoint defective joints. |
| | | .3 | Dry brush masonry surfaces at end of each day's work and after all final pointing. |
| | | .4 | Remove mortar smears and droppings from concrete block masonry surfaces after such smears and droppings have dried. When mortar joints are dry and hard, clean masonry surfaces by rubbing down with abrasive blocks and stiff fibre brushes. |
| | | .5 | Remove large particles from brickwork and with wood paddles without damaging surface. Do not use wire brushes. Saturate masonry with clean water and flush off loose mortar and dirt. Scrub with solution of 25 mL trisodium phosphate and 25 mL household detergent dissolved in 1 L of clean water using stiff fibre brushes, then clean off immediately with clean water using hose. Alternatively, use proprietary compound recommended by brick masonry manufacturer in accordance with manufacturer's directions. Repeat cleaning process as often as necessary to remove mortar and other stains. |
| | | .6 | Remove efflorescence from masonry surfaces by wet cleaning in accordance with manufacturer's recommendations. |
| | | .7 | Upon completion of work, clean blockwork by brushing and washing. In extreme cases a 5% solution of muriatic acid may be used preceded and followed by a copious bath of clean water. Clean blockwork to be painted to suit requirements of Section 09900. |

End of Section

PART 1 - GENERAL

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|-----|------------------------------------|----|---|------------------|
| 1.1 | <u>General Requirements</u> | .1 | Comply with requirements of Division 1. | |
| 1.2 | <u>Related Sections</u> | .1 | Finishing of Concrete Slabs: | Section 03302 |
| | | .2 | Sealants | Section 07900 |
| 1.3 | <u>Reference Standards</u> | .1 | Do tile work in accordance with installation manual 200-1979 (Revised 1989), 'Ceramic Tile', by Terrazzo Tile and Marble Association of Canada and CSC Architectural Specification Study 09300 on Ceramic Tile. | |
| | | .2 | American National Standards Institute (ANSI) / Ceramic Tile Institute (CTI) | |
| | | .1 | ANSI A108.1, Specification for the Installation of Ceramic Tile (Includes ANSI A108.1A-C, 108.4-.13, A118.1-.10, ANSI A136.1) | |
| | | .3 | American Society for Testing and Materials (ASTM) | |
| | | .1 | ASTM C144, Specification for Aggregate for Masonry Mortar. | |
| | | .2 | ASTM C207, Specification for Hydrated Lime for Masonry Purposes. | |
| | | .4 | Canadian General Standards Board (CGSB) | |
| | | .1 | CGSB 71-GP-22M, Adhesive, Organic, for Installation of Ceramic Wall Tile | |
| | | .2 | CAN/CGSB-75.1, Tile Ceramic | |
| | | .5 | Canadian Standards Association (CSA) | |
| | | .1 | CAN/CSA-A3000, Cementitious Materials Compendium (Consists of A5, A8, A23.5, A362, A363, A456.1, A456.2, A456.3) | |
| 1.4 | <u>Qualifications</u> | .1 | <u>Installer:</u> Work to be performed by a qualified Contractor and who has personnel with experience of successful work on similar projects, and who has the necessary equipment to complete the work. | |
| 1.5 | <u>Guarantee</u> | .1 | Provide the following guarantees in accordance with the General Conditions, notwithstanding the time provisions therein, including but not limited to such defects as cracks and delamination, except where proven the defect is a direct result of structural failure. | |
| | | .2 | Provide certificate of quality compliance from tile manufacturer. | |
| | | .3 | Provide certificate of quality compliance from tile installer upon satisfactory completion of installation. | |
| | | .1 | General Tile Work | - 2 years |

- 1.6 **Submittals** .1 **Samples:**
- .1 Prior to ordering materials submit, for Consultant's review, duplicate samples of each tile, trim, fitting and base, mounted on panels complete with grout and mortar joints. Also submit samples of mitre cut base (if indicated on Finishes Drawings and Colour Schedule) and field tiles.
- .2 **Maintenance Data:**
- .1 Submit manufacturer's maintenance data for inclusion into the maintenance manuals specified in Division 1. Also submit manufacturer's specification sheets for mortar and grout systems installed.
- .3 **Maintenance Materials:**
- .1 Supply a minimum 2%, but not less than 1 box, of each tile specified, for maintenance purposes. Store material where directed by Consultant.
- .2 Maintenance materials to be of same run as materials installed.
- 1.7 **Site Mock-Up** .1 Prior to commencing work, review all details and provide mock-up for Consultants review. Mock-up will remain in place throughout installation as a representation of finish work standard and may become part of the finished work if approved by Consultant.
- .2 Review tile patterns and layout with Consultant, on site, prior to commencing work.
- 1.8 **Product Delivery & Storage** .1 Deliver materials to site in original unopened containers. Store in safe dry protected area free of moisture. Take precautions so no foreign matter contaminates materials.
- 1.9 **Environmental Conditions** .1 Do not install tiles when ambient air temperature and substrate temperature is less than 12°C.
- .2 Maintain a temperature of between 12°C to 20°C in areas of work for 24 hours prior to and during installation and for duration of curing time.
- .3 Inspect areas to receive work and certify surfaces are acceptable for installation. Do not commence installation until improper conditions have been corrected.
- 1.10 **Protection** .1 Exclude construction traffic from areas to receive tile, during installation and for duration of curing time.

PART 2 - PRODUCTS

- 2.1 **Tile General** .1 Specifications for tile and supporting accessories is based on materials manufactured and/or distributed by Olympia Tile International Inc., at 1-800-268-1613.

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| | | .2 | <u>Tile:</u> CAN2-75T-M77, except that no blisters or chips will be allowed; colours and patterns selected by Consultant. |
| 2.3 | Ceramic & Porcelain Tile | .1 | Colour to be selected by Consultant.
Refer to Section 00865 Colour Schedule for material selections. |
| 2.4 | Mortar/ Adhesives & Grout | .1 | All interior wall tile to use Ultra/Mastic 1. |
| | | .2 | All floor tiles to use Karalastic/Karabond. |
| | | .3 | Colour to be selected by Consultant.
Refer to Section 00865 Colour Schedule for material selections. |
| | | .4 | Provide "Grout Boost" Stain resistant grout additive by Specialty Construction Brands Inc, to grout for all porcelain floor tile applications. |
| | | .5 | Unless otherwise indicated all grout lines on walls to line up with grout lines on floors in all directions. |
| | | .6 | Apply grout conditioner to all exposed grout. |
| | | .7 | Apply grout sealer to all exposed grout. |
| 2.5 | Transition Strips | .1 | Provide Schluter Schiene transition strips in satin anodized aluminum at the top edge and exposed side edges of porcelain tiles and at all changes to other or existing flooring materials. |
| | | .2 | Transitions strips are required to clean up edge of tiles where different thicknesses of tiles are specified and vertical edges.
Refer to interior elevations for notes regarding location of transition strips. |
| | | .3 | Provide Schluter Quadec in brushed stainless steel for at outside corners where tile meets tile unless otherwise specified. Refer to Section 00865 Colour Schedule. |
| | | .4 | Grind all sharp edges smooth. Careful attention to corner conditions to ensure smooth finish to touch. |
| | | .5 | Use full length strips where possible. All connecting transition strips to have a seamless appearance and smooth to the touch. |
| 2.8 | General Materials | .1 | <u>Water:</u> Potable and non-staining |
| | | .2 | <u>Portland Cement:</u> CAN3-A5-M83. |
| | | .3 | <u>Sand:</u> CSA A82.56-M1976. |
| | | .4 | <u>Control Joint Sealant:</u> Urethane sealant equal to Vulkem 245 self leveling sealant manufactured by Mameco Canada Ltd. Colour to match grout. Architect to make final colour selection. |

PART 3 - EXECUTION

- 3.1 **Inspection**
- .1 Examine floors for defects that are detrimental to installation and bonding of tile.
 - .2 Examine drywall surfaces for adequate fixing, plumb, joint filling and freedom from waves.
 - .3 Examine masonry and concrete surfaces for soundness, excessive moisture, efflorescence and variation tolerance.
- 3.2 **Preparation**
- .1 Substrates to be clean and free of foreign matter and minimum 10° C.
 - .2 Clean substrates as required to produce acceptable surface.
 - .3 Where substrate conditions require it, apply leveling coat and allow to cure.
- 3.3 **Tile / Stone General**
- .1 Finished work shall be level, plumb, or sloped as shown, true, square and free of defective, chipped, broken, discoloured or blemished tiles. Maximum allowable finished surface variation is 3 mm in 3 m when measured, in any direction, with a 3 m straightedge.
 - .2 Lay out tile patterns symmetrically within each area using full tiles where possible, and to patterns shown. Unless otherwise indicated provide stacked pattern. Review with architect/interior designer on site prior to installation of any and all tiles.
 - .3 Joints shall be parallel, uniform, neat, straight, square and completely filled.
 - .4 Fit tile or stone accurately against and around interruptions, penetrations and abutting dissimilar surfaces. Wherever possible, drill holes for penetrating elements to ensure neat fitting.
 - .5 After setting, sound tiles and replace hollow backed tiles.
 - .6 Provide tile manufacturer's standard trim pieces at changes in direction and at terminations. Unless otherwise indicated provide the following corner and edge conditions.
 - .1 Internal horizontal corners: coved.
 - .2 External vertical and horizontal corners and edges: bullnose.
 - .3 Internal vertical corners and unexposed edges: square butt joint.
 - .4 Top of base: curved surface cap.
- 3.4 **Floor Tile Installation**
- .1 At floors shown to be sloped install setting bed to slopes indicated screed and tamp firmly, minimum 20 mm thick, with reinforcing mesh embedded approximately in centre of setting bed. Lap mesh 50 mm at joints.
 - .2 Over setting bed trowel or brush on bond coat approximately 1.5 mm thick, or apply evenly over back of tiles. Set tiles onto setting bed and beat firmly and evenly in place so as to achieve true, uniform and properly bonded

installation but without causing damage to tiles.

- .3 Provide minimum 1% slope to floor drains.
- .4 Floor tiles at floors without slopes, and base tiles may be installed with the thin set method using dry set mortar.
- .5 Unless otherwise indicated provide 3 mm wide joints.
- .6 Provided caulked control joints at 6 m on centres.

**3.5 Wall Tile
Installation**

- .1 Install tile on dry wall surfaces with organic adhesive or thin set bond coat (TTMAC 200-5 & -5A). Install wall tile on masonry or concrete with organic adhesive or dryset mortar (TTMAC 200-3, -3A).
- .2 Use presanded dry set mortar or latex Portland Cement mortar for setting tile on glass fiber reinforced concrete backer board base as follows:
 - .1 Fill space between edge of board and tub or shower receptor with mortar.
 - .2 Fill backer board joints and joints between backer board and other materials solid with mortar. Apply skim coat of mortar and embed fiberglass tape over joints.
 - .3 Apply mortar setting bed in one coat to 2.4 mm minimum thickness after tiles are beat in. Initially apply mortar coat smoothly, then notch.
- .3 Set wall tile in adhesive with 2 mm joint maximum both vertically and horizontally. Carry tile to ceiling unless otherwise indicated.
- .4 At internal corners where tile abuts tile, tile and grout one plane before commencing work on intersecting plane to ensure proper filling of void at corners. Grout corner joint with sealant, same colour as mortar grout.
- .5 Do tile work before ceilings are begun. Provide level and straight termination 50 mm above ceiling heights.
- .6 On cast-in-place concrete wall, use bonding agent before applying adhesive.
- .7 Install joint filler and seal behind escutcheon plates at every pipe penetrating tile work.
- .8 Consult and review tile patterns with architect/interior designer on site prior to installation.

3.6 Grouting

- .1 Remove mortar and adhesive from tile face as work progresses with CLEAN water.
- .2 Commence grouting not earlier than 24 hours after setting tiles unless otherwise directed by grout manufacturer.

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|-----|------------------------------|----|---|
| | | .3 | Force maximum grout into joint so as to fill them flush, leaving no voids. |
| | | .4 | Promptly as work progresses remove excess grout from adjacent tile surfaces with CLEAN water before grout establishes tight permanent adhesion. |
| | | .5 | Cure grout in accordance with manufacturer's directions, minimum of 10 days. |
| | | .6 | Use MORE™ Surface Acidic Cleaner - to remove grout haze from the surface. Product supplied by Olympia Tile & Stone. |
| | | .7 | Seal all polished tiles and grout with manufacturer's recommended sealer prior to and after grouting. Review and consult architect prior to tile installation and grouting. |
| 3.7 | <u>Control Joints</u> | .1 | Provide control joints at substrate control joint locations, at abutting dissimilar materials. |
| | | .2 | Unless otherwise detailed provide control joints 10 mm wide and fill with control joint sealant. |
| 3.8 | <u>Cleaning</u> | .1 | Thoroughly clean tiles in accordance with manufacturers' instructions rinse with clean water and polish with clean dry cloths. |

End of Section

PART 1 - GENERAL

- | | | | |
|-----|------------------------------------|----|---|
| 1.1 | <u>General Requirements</u> | .1 | Comply with requirements of Division 1. |
| 1.2 | <u>Related Sections</u> | .1 | Cast-in-place Concrete: Section 03300 |
| | | .2 | Masonry: Section 04200 |
| | | .3 | Sealants: Section 07900 |
| 1.3 | <u>Submittals</u> | .1 | <u>Samples:</u> |
| | | .1 | Colours and Patterns, unless otherwise specified herein or shown on Drawings, shall match terrazzo in existing building. |
| | | .2 | Submit two samples, 300 mm x 300 mm x 20 mm of each type of finish to be used on the work. Make changes in mix and prepare new samples of changed mix if required by Architect, until samples are approved. |
| 1.4 | <u>Product Handling</u> | .1 | Deliver products to site and store packaged materials in original unopened containers with manufacturer's labels and seals intact. |
| 1.5 | <u>Protection</u> | .1 | Prohibit all traffic on terrazzo floors during installation, for 48 hours after installation, for 48 hours after initial grinding and application of curing compound, and 48 hours after final grinding, polishing and until final sealing. |
| | | .2 | Cover finished surfaces with stout fibre reinforced "Kraft" paper. Secure in place with gummed tape. Remove cover when requested by Architect. |

PART 2 - PRODUCTS

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| 2.1 | <u>Materials</u> | .1 | <u>Cement:</u> To CAN/CSA-A5, type 10 grey for under bed and white for topping. |
| | | .2 | <u>Sand:</u> Fine and coarse aggregates to CAN/CSA-A23.1. |
| | | .3 | <u>Water:</u> Potable. |
| | | .4 | <u>Marble Chips:</u> Soundness and abrasion resistance. Grade chips in accordance with TTMAC standard. |
| | | .5 | <u>Pigments:</u> Non-fading mineral pigments in colours to match existing. |
| | | .6 | <u>Divider Strips:</u> 3 mm thick white alloy zinc with depth of 32 mm. |
| | | .7 | <u>Accessories:</u> Base caps and base divider strips, separator strips, purpose made and of same material to match divider strips. |

- 2.1 **Materials (Cont'd)**
- .8 Expansion Strips: 3mm thick white alloy zinc laminated both sides 3mm black neoprene with depth of 32mm.
 - .9 Curing Compound: To manufacturer's standard.
 - .10 Cleaning Compound: To TTMAC standard 1001.
 - .11 Sealing Compound: To TTMAC standard 2001.
 - .12 Finishing Compound: To TTMAC standard 3001.
 - .13 Reinforcing Mesh: 50mm x 50mm No. 16 x No. 16 steel mesh, welded. galvanized after fabrication conforming to CSA G30.5.
 - .14 Slip Sheet: 2 mil polyethylene film to CGSB 70-GP-1, type 1.

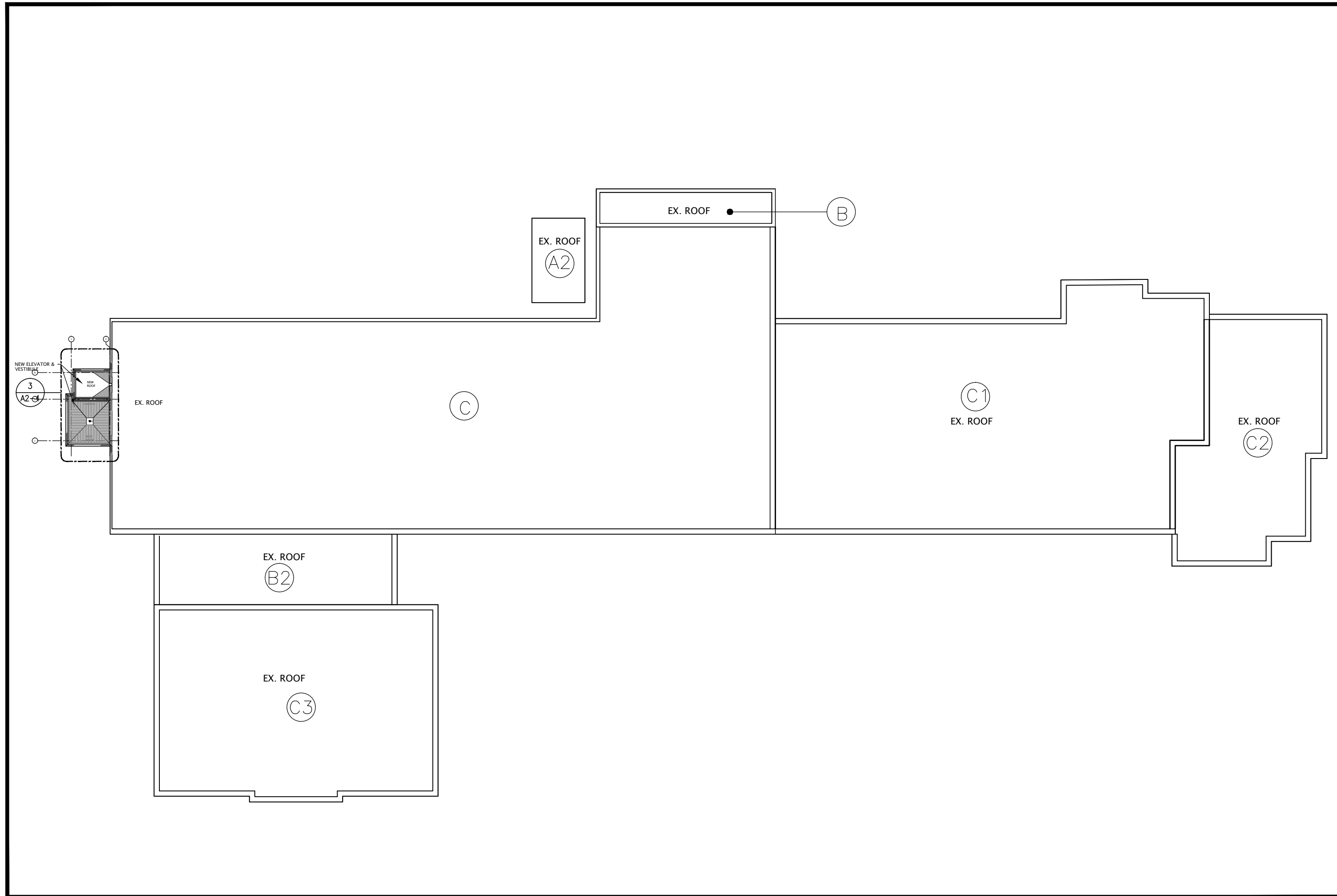
PART 3 - EXECUTION

- 3.1 **Workmanship**
- .1 Do terrazzo work in accordance with CSC Architectural Specification Study on Portland Cement Terrazzo, produced in cooperation with Terrazzo, Tile and Marble Association of Canada (TTMAC).
- 3.2 **Installation**
- .1 Install terrazzo after concrete slabs have cured 28 days.
 - .2 Install divider strips true and level to detailed pattern.
 - .3 Slope finished terrazzo floors to drains.
 - .4 Produce terrazzo finished surfaces to match samples.
 - .5 Floors:
Floating terrazzo: broom clean base slab. Fill all voids with loose sand. Apply 1 ply polyethylene slip sheet over sand lapping joints minimum 100 mm.
 - .6 Bases:
.1 Terrazzo bases to TTMAC detail to match existing.
 - .7 Clean, seal and finish terrazzo surfaces to TTMAC recommendations.
- 3.3 **Preparation of Substrate**
- .1 Saturate base slab with water. Remove free water. Apply slurry consisting of a thick paste of cement and water immediately preceding application of underbed.
- 3.4 **Underbed**
- .1 Provide underbed of thickness such that the finished thickness of terrazzo and underbed combined is not less than 64 mm.
 - .2 Carefully place underbed to exact level, minimum 16 mm below finished floor level.

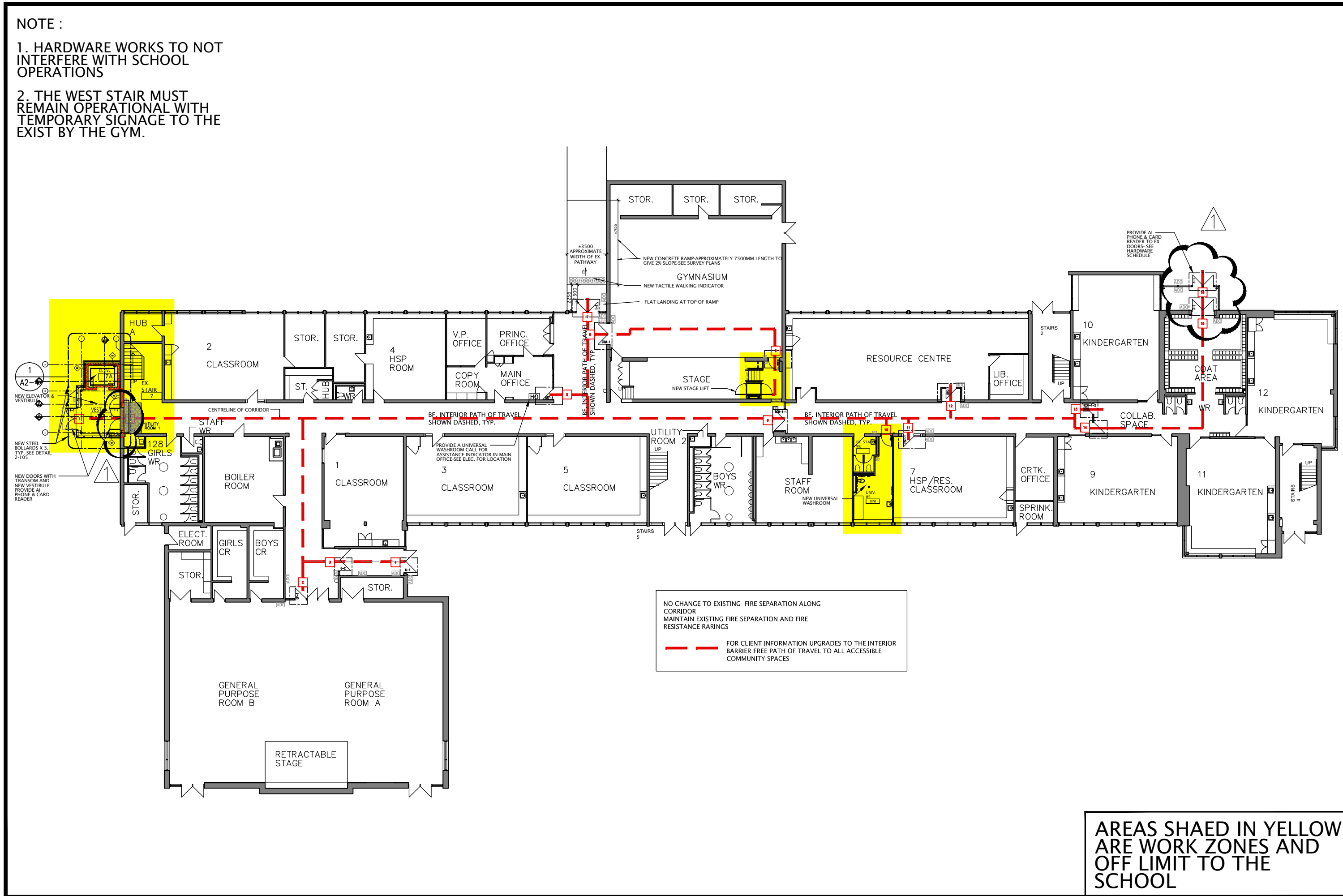
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| 3.4 | <u>Underbed
(Cont'd)</u> | .3 | Build up underbed as may be required, to form any platforms, curbs and the like where indicated. |
| | | .4 | Cover underbed with 4 mil polyethylene film and allow to cure for a minimum of 24 hours before removing polyethylene film and placing terrazzo topping. |
| 3.5 | <u>Divider
Strips</u> | .1 | Install divider strips in underbed while it is still in a plastic state. Locate divider strips as shown. If locations not shown, locate divider strips to form regular panels maximum 900 m x 900 m to Architect's approval. |
| | | .2 | Where floor finish changes from terrazzo to other type of flooring at door openings and the like, extend terrazzo into opening and terminate against divider strip. |
| 3.6 | <u>Terrazzo
Topping</u> | .1 | Soak underbed, remove excess water and place a slurry consisting of cement and colour using same proportions as used for topping. |
| | | .2 | Use stainless cement, coloured if required to match approved sample and marble chips. |
| | | .3 | Wet topping mixture, mix thoroughly and apply to underbed while slurry is still wet. |
| | | .4 | Sprinkler topping with wetted marble chips using same formula used in topping mix to ensure finished surface will consist of marble chips to match approved samples. |
| | | .5 | Roll topping with heavy rollers to compact topping and remove excess water and cement. |
| | | .6 | Hand trowel to level terrazzo topping flush with top of divider strips and cure. |
| 3.7 | <u>Surfacing of
Terrazzo</u> | .1 | Surface and grout terrazzo when it has set sufficiently hard. Surface by machine rubbing with #24 grit or finer abrasive blocks. Use plenty of water during grinding. |
| | | .2 | Immediately following initial grinding, flush terrazzo surfaces thoroughly using water only and apply a grout to fill voids. Mix grout in same proportions of cement and colour as used for topping. Allow grouted surface to cure for at least 48 hours and then resurface by machine rubbing using #120 grit abrasive blocks and plenty of water. |
| | | .3 | Following removal of grout, scrub thoroughly using machine scrubbers and Type 1001 cleaner. Rinse with clean water and then dry thoroughly. Dry clean with industrial vacuum cleaning machine, removing all traces of dust. |
| | | .4 | Apply first coat of Type 2001 sealers, as soon after cleaning as possible. Apply sealer in accordance with manufacturer's written directions, and wipe off excess sealer before it dries. |

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| 3.7 | Surfacing of
Terrazzo
(Cont'd) | .5 | Apply second coat of Type 2001 sealer in same manner as first, but not until all other work is complete and terrazzo has been cleaned again as previously specified above. |
| | | .6 | Apply two coats of surface finish Type 3001. |
| 3.8 | Repair to
Existing
Terrazzo | .1 | Repair existing terrazzo floors and coved bases as indicated. Remove existing topping in complete squares to the nearest divider strip. |
| | | .2 | Reinstated work shall match adjacent existing terrazzo in all respects including chip and matrix proportion and colour and divider strip type and pattern. |
| | | .3 | Where replacement is necessary, finish patched areas as specified for new work. |

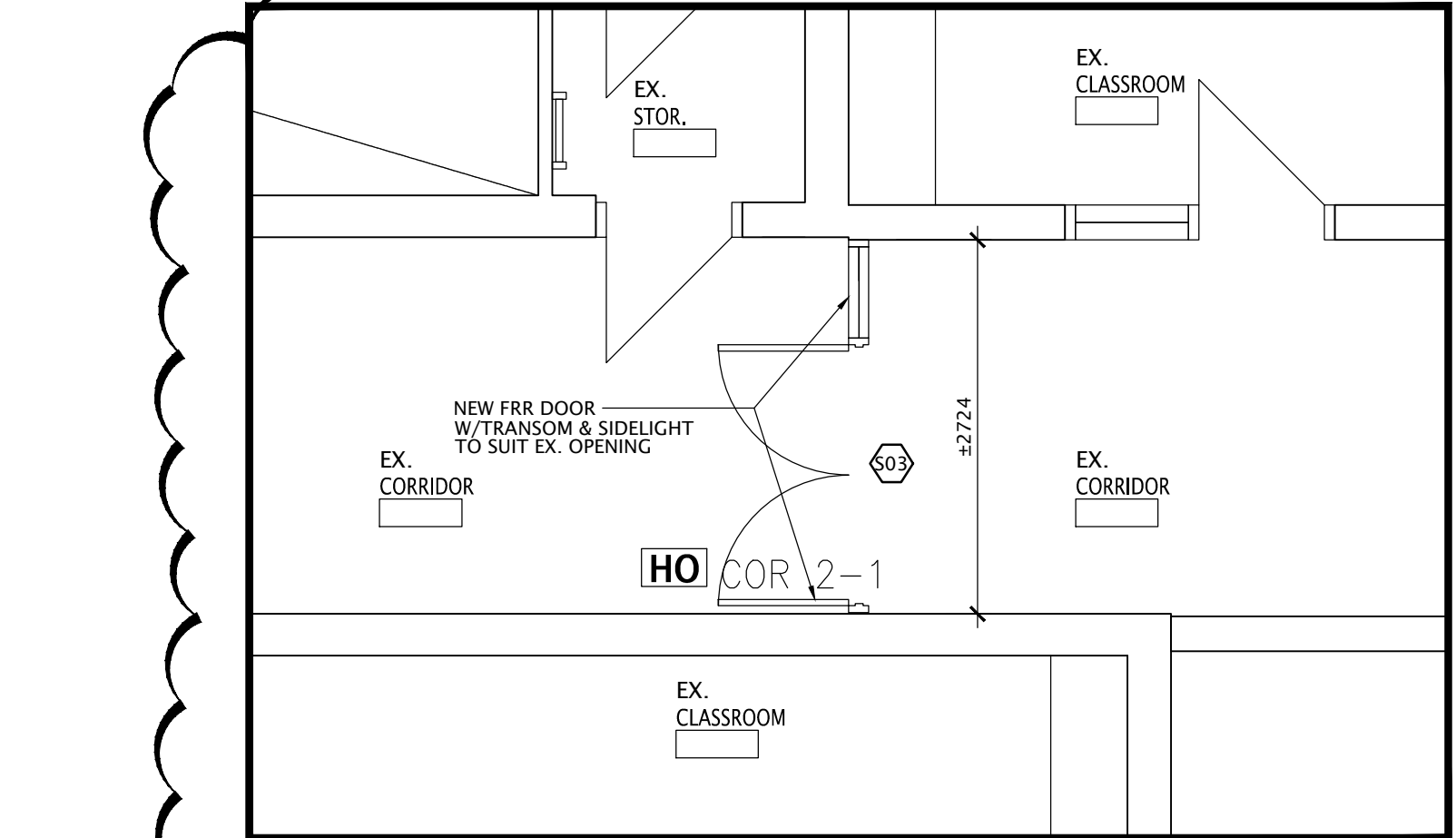
END OF SECTION



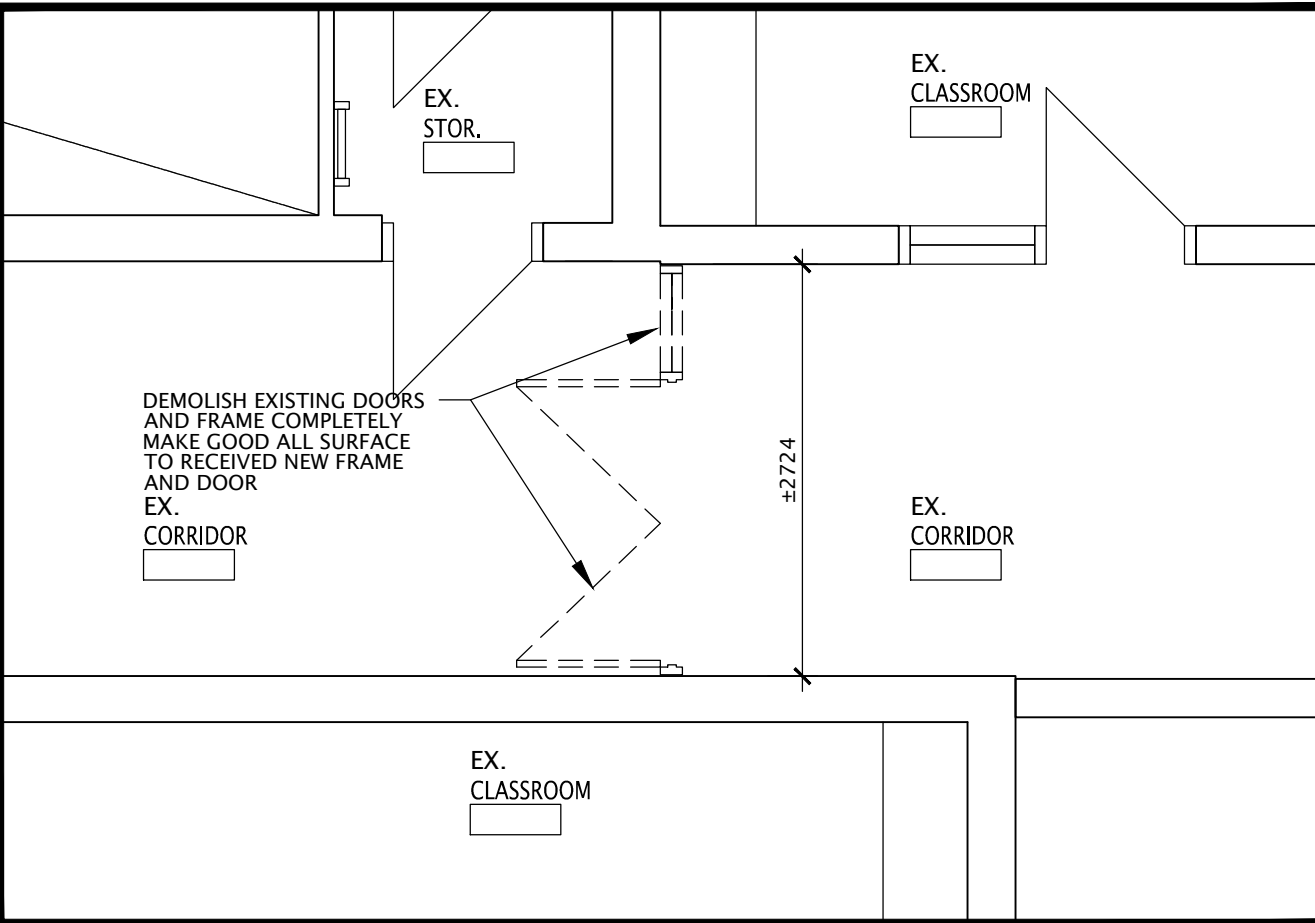
3 OVERALL ROOF PLAN
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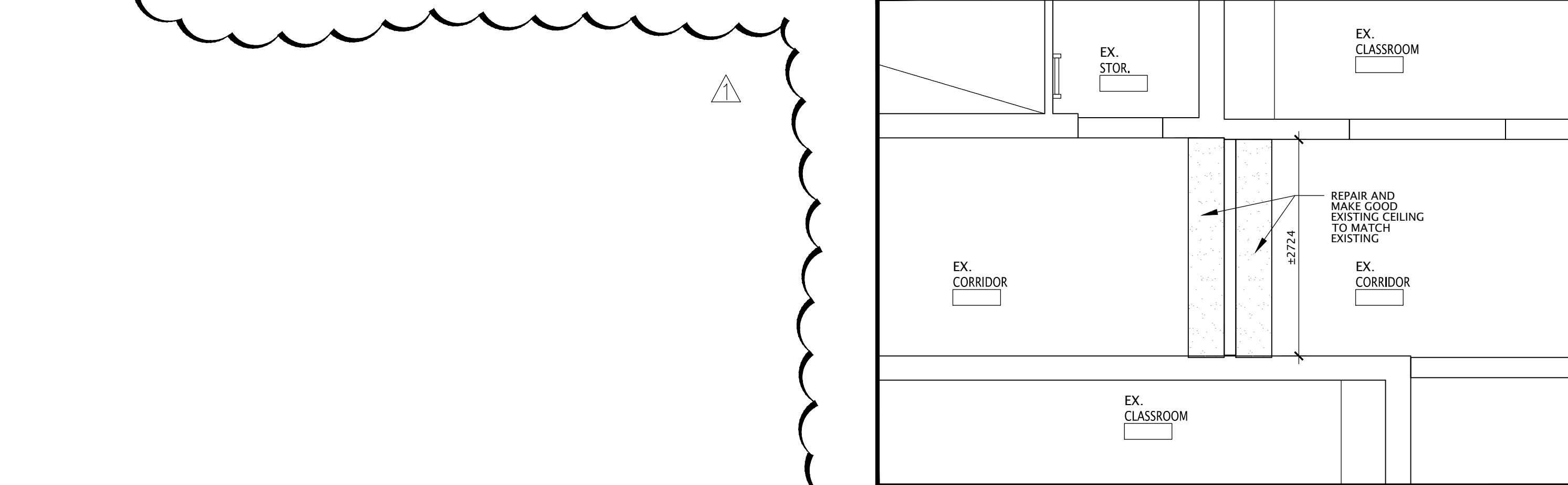
1 OVERALL FIRST FLOOR PLAN
SCALE: 1:300



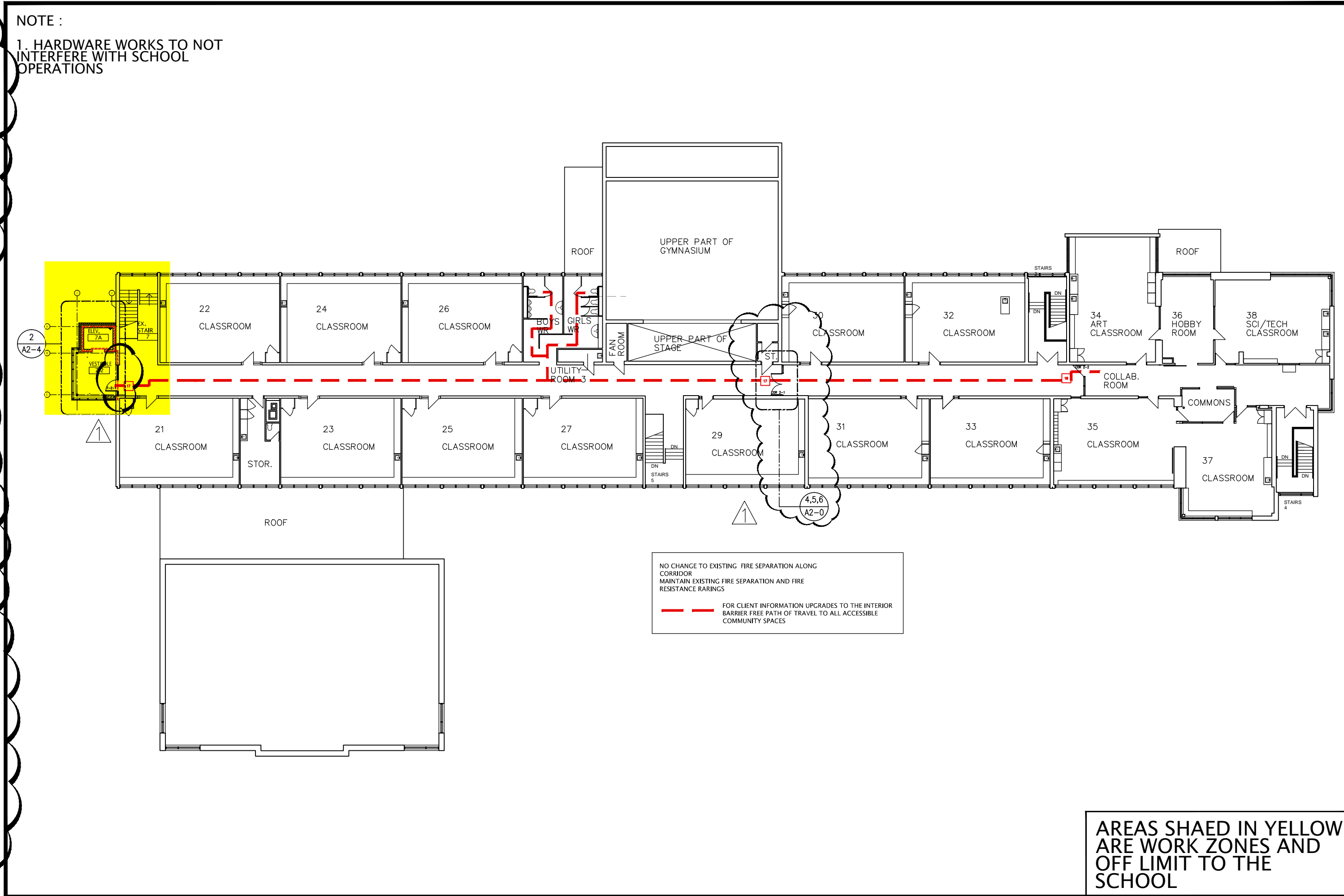
5 PARTIAL SECOND FLOOR PLAN - NEW LAYOUT
SCALE: 1:50



4 PARTIAL SECOND FLOOR PLAN - DEMOLITION
SCALE: 1:50



6 PARTIAL SECOND FLOOR PLAN - CEILING
SCALE: 1:50

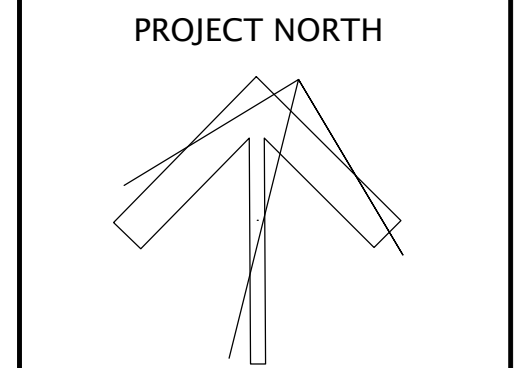


2 OVERALL SECOND FLOOR PLAN
SCALE: 1:300

NO.	DATE	REVISION
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2	26/09/13	ISSUED FOR ADDENDUM #02
3	26/09/13	ISSUED FOR PERMIT AND TENDER
4	26/09/13	ISSUED FOR CLIENT REVIEW
5	26/09/13	ISSUED FOR CLIENT REVIEW
6	26/09/13	ISSUED FOR CLIENT REVIEW
7	26/09/13	ISSUED FOR CLIENT REVIEW
8	26/09/13	ISSUED FOR CLIENT REVIEW
9	26/09/13	ISSUED FOR CLIENT REVIEW
10	26/09/13	ISSUED FOR CLIENT REVIEW

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- GENERAL NOTES
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 6. ALL DIMENSIONS GIVEN ARE IN METRIC.










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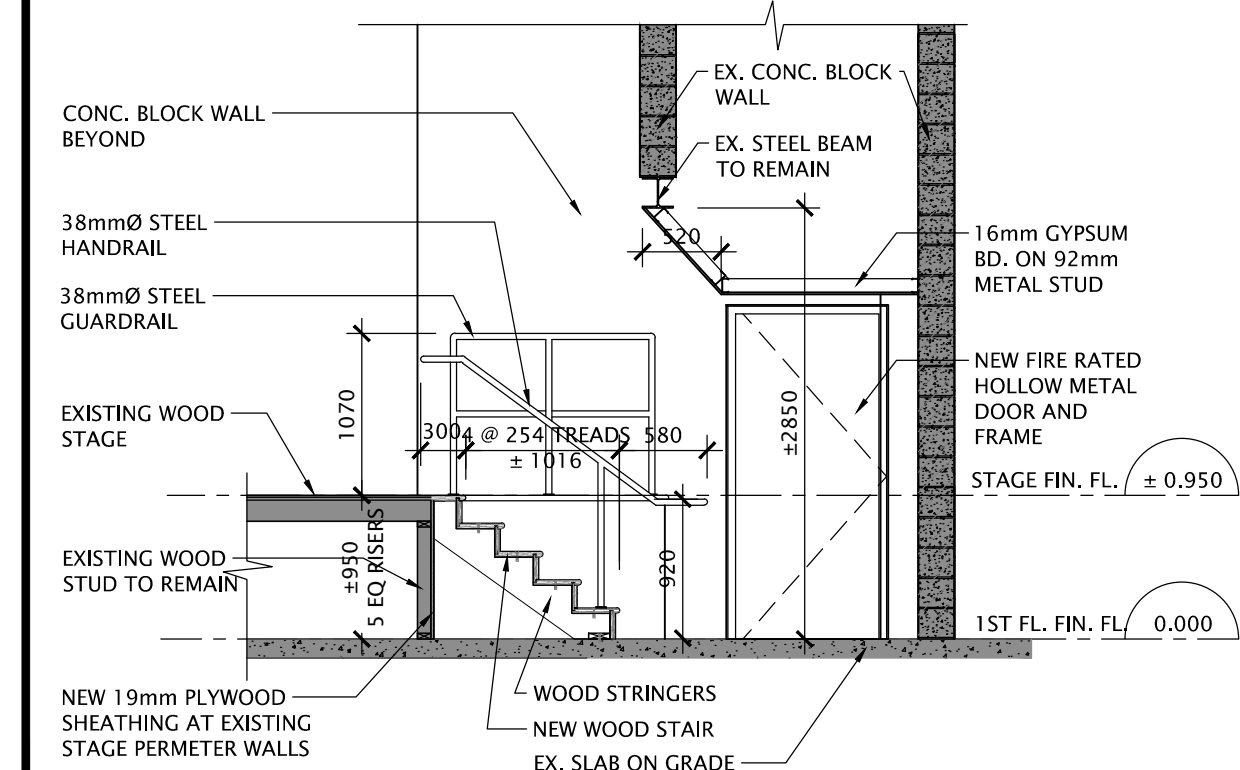


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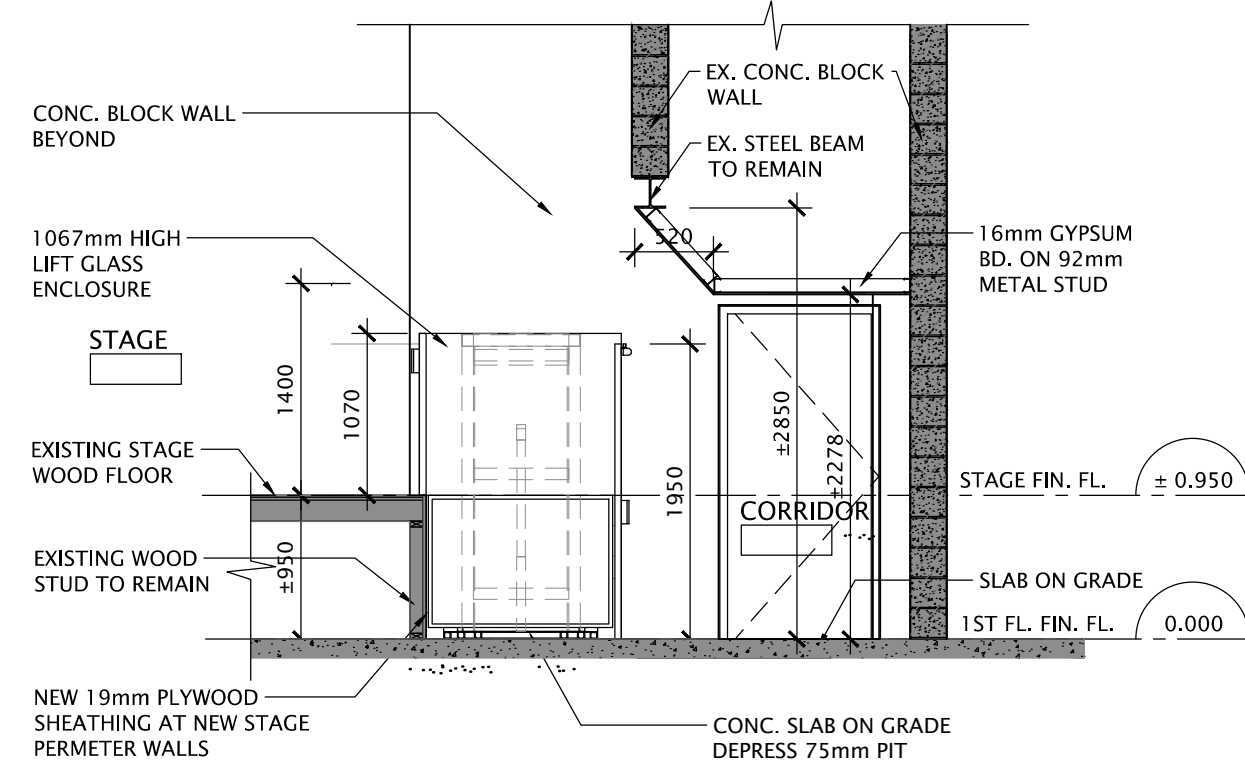
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CHECKED: K+	DATE: DEC. 2025		

	NEW ADDITION WALLS
	EXISTING WALLS TO REMAIN
	SEE DOOR & FRAME SCHEDULE FOR TYPE OF MODIFICATION REQ'D TO EXISTING DOOR
	SEE DOOR & FRAME SCHEDULE FOR NEW DOOR
	NEW BARRIER FREE DOOR OPERATORS
	NEW HOLD-OPEN DOOR OPERATORS
	TYPICAL

5 SECTION - STAGE STAIR
A2-2 SCALE: 1:50



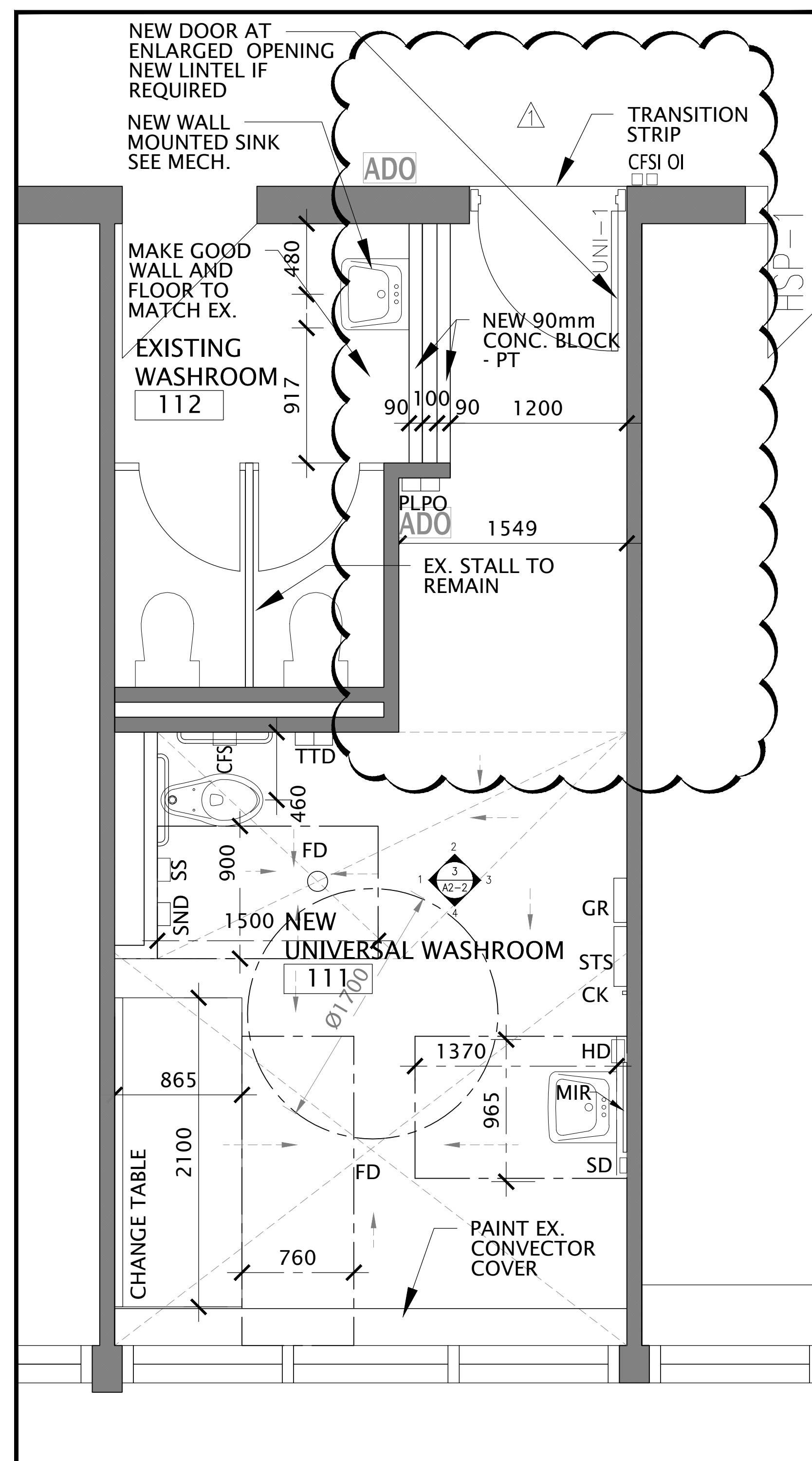
4 SECTION - STAGE LIFT
A2-2 SCALE: 1:50



MIR	TILTED MIRROR	TTD	TOILET TISSUE DISPENSER
SD	SOAP DISPENSER	OI	OCCUPANCY INDICATOR
HD	HAND DRYER	SND	SANITARY NAPKIN DISPOSAL
CK	COAT HOOK	SS	SHOWER SPRAY / BED PAN CLEANSER
STS	SHELF		

3 INTERIOR ELEVATIONS - UNIVSUAL WASHROOM
A2-2 SCALE: 1:50

2 PARTIAL ENLARGED FIRST FLOOR PLAN-NEW (STAGE LIFT)
A2-2 SCALE: 1:25



1 PARTIAL ENLARGED FIRST FLOOR PLAN-NEW (UNIV. WR)
A2-2 SCALE: 1:25

GENERAL NOTES

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DRAWING TITLE:
PARTIAL ENLARGED FIRST
FLOOR PLANS-NEW
(STAGE LIFT & UNIVERSAL WASHROOM)

PROJECT NO: A25006	SCALE: 1:25	
DRAWN: K+	DRAWING NO:	REV.
CHECKED: K+	A2-2	5
DATE: DEC. 2025		

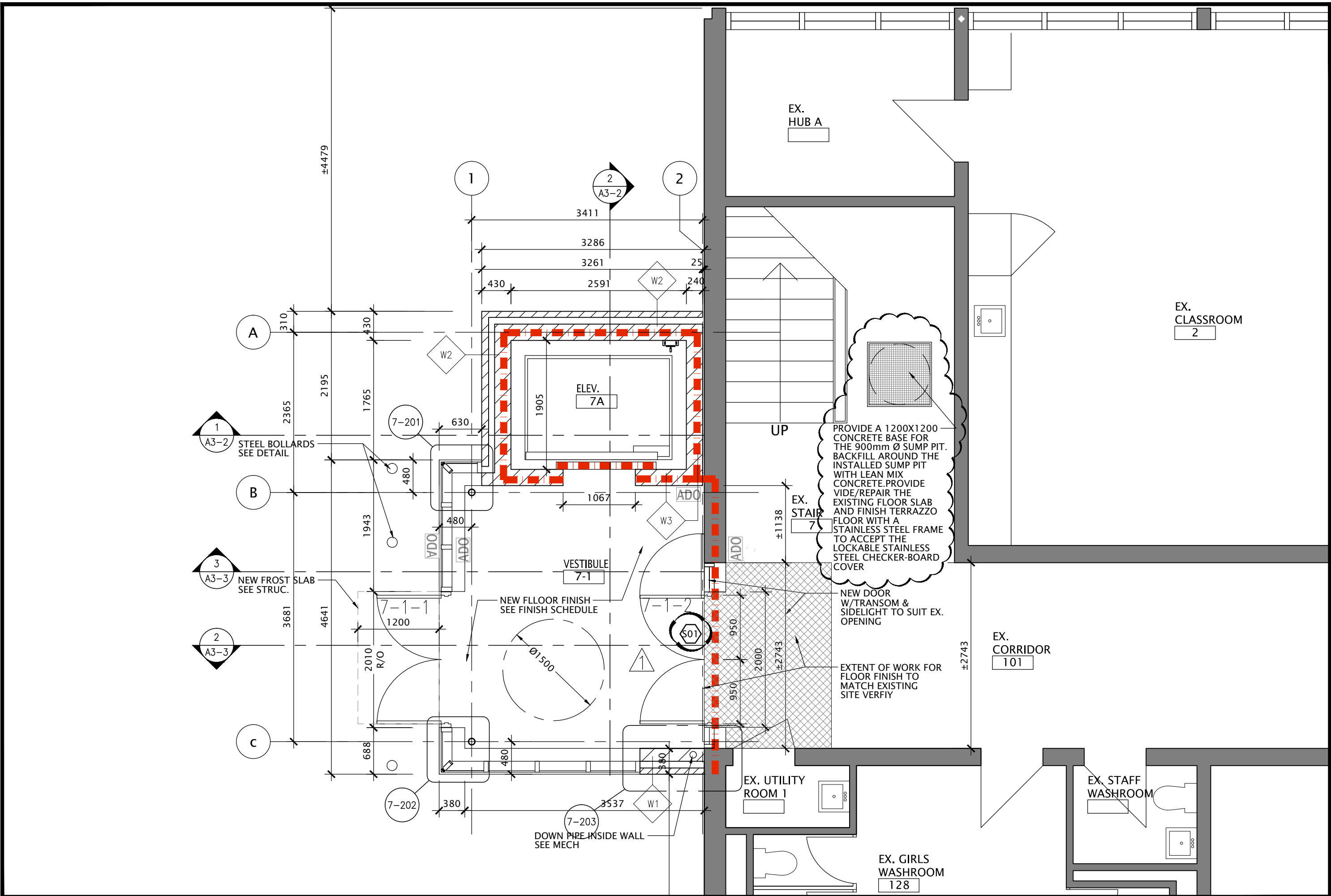
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ROOFING SPECIFIC NOTES

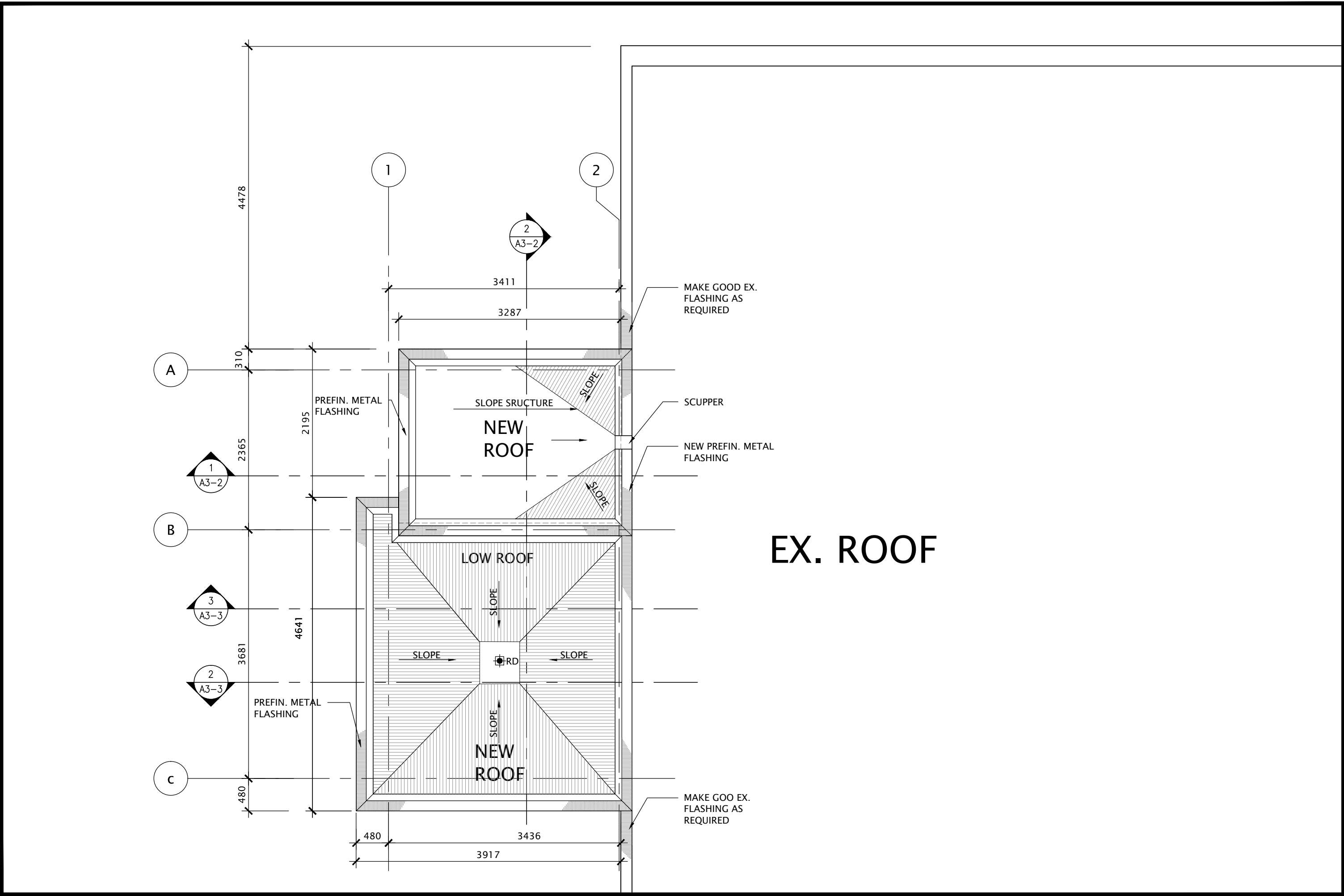
1. ROOFING CONTRACTOR TO NOTIFY TDSB IN ADVANCE WHEN THEY WILL BE WORKING AT THE SITE, INFORM THE TDSB ABOUT THE USE OF A LIFT MACHINE AND THE PROPOSED LOCATION, AND NOTIFY THE TDSB ABOUT CLASSROOMS OR OTHER INDOOR SPACES THAT MAY BE AFFECTED BY THE WORK.
2. ROOFING CONTRACTOR TO COMMUNICATE WITH THE HEAD CARETAKER THAT THE WORK IS COMMENCING
3. ROOFING CONTRACTOR TO INQUIRE WITH THE TDSB ABOUT ANY APPLICABLE WARRANTIES ON ROOF AREAS WITHIN THE SCOPE OF WORK AND COORDINATE WITH THE MANUFACTURER TO ENSURE THE WARRANTY IS MAINTAINED.
4. ANY WORK ON ROOF AREAS WHICH DO NOT HAVE A WARRANTY IS TO BE PERFORMED WITH BEST ROOFING PRACTICES IN COORDINATION WITH TDSB MAINTENANCE STAFF. IF ROOF CURB MEMBRANE FLASHINGS ARE REVEALED TO BE DETEIORATED, REPAIR WORK TO BE COMPLETED WITH BEST ROOFING PRACTICES TO PREVENT MOISTURE INGRESS TO THE INTERIOR OF THE BUILDING.
5. ALL ROOFING WORK IS TO BE FLAMELESS, ROOFING TORCHES ARE NOT TO BE USED ON TDSB BUILDINGS.
6. PROVIDE PLASTIC SHEETING OVER SKYLIGHT OPENING IF LOW-ODOUR ASPHALT ROOFING IS BEING INSTALLED TO MINIMIZE THE IMPACT OF THE ODOURS.
7. CONTRACTOR TO PROVIDE INTERIOR PROTECTION TO FLOORING AND FURNITURE BENEATH THE WORKING AREA.
8. VENTILATION PACKAGES AND AIR QUALITY TESTING MAY BE REQUIRED FOR ASPHALT ROOFING APPLICATIONS.
9. NEW ROOFING PRODUCTS MUST BE COMPATIBLE WITH EXISTING MANUFACTURER'S PRODUCTS. ROOFING CONTRACTOR TO BE APPROVED WITH EXISTING MANUFACTURER. ROOFING CONTRACTOR IS RESPONSIBLE TO NOTIFY MANUFACTURER ABOUT ANY MODIFICATION PRIOR TO EXECUTION IN OTHER TO NOT VOID THE WARRANTY.

LEGEND:

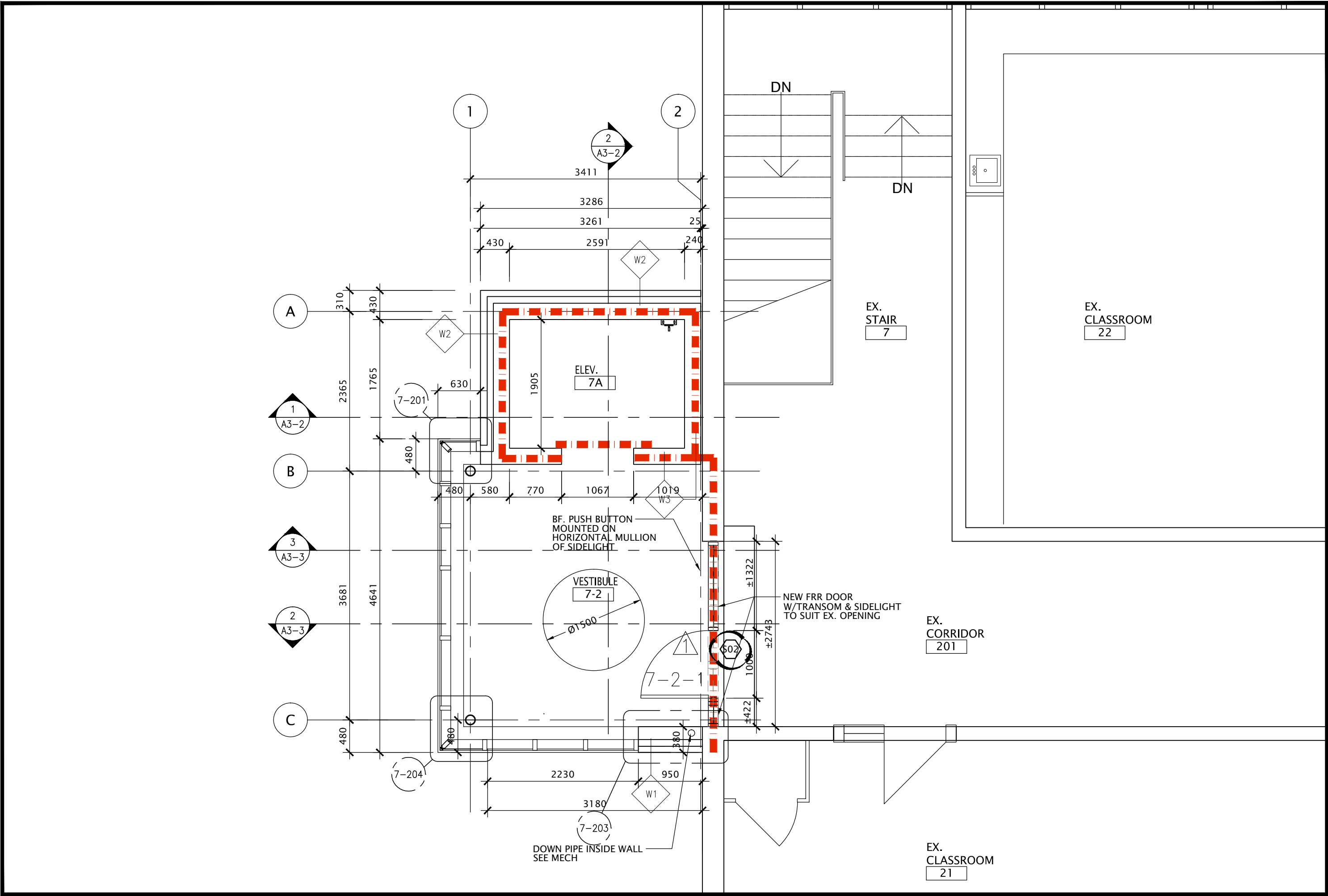
- NEW ADDITION WALLS
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- ADO NEW BARRIER FREE DOOR OPERATORS
- HO NEW HOLD-OPEN DOOR OPERATORS
- TYP. TYPICAL
- FIRE SEPARATION WITH 2 HR FIRE-RESISTANCE RATING



1 PARTIAL FIRST FLOOR PLAN - NEW ELEVATOR
SCALE: 1:50



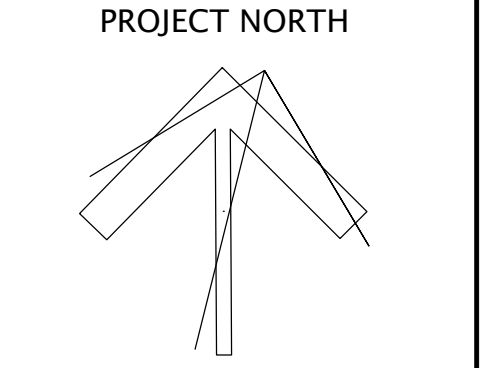
3 PARTIAL ROOF PLAN - NEW ELEVATOR
SCALE: 1:50



2 PARTIAL SECOND FLOOR PLAN - NEW ELEVATOR
SCALE: 1:50

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1	26/09/13	ISSUED FOR PERMIT AND TENDER
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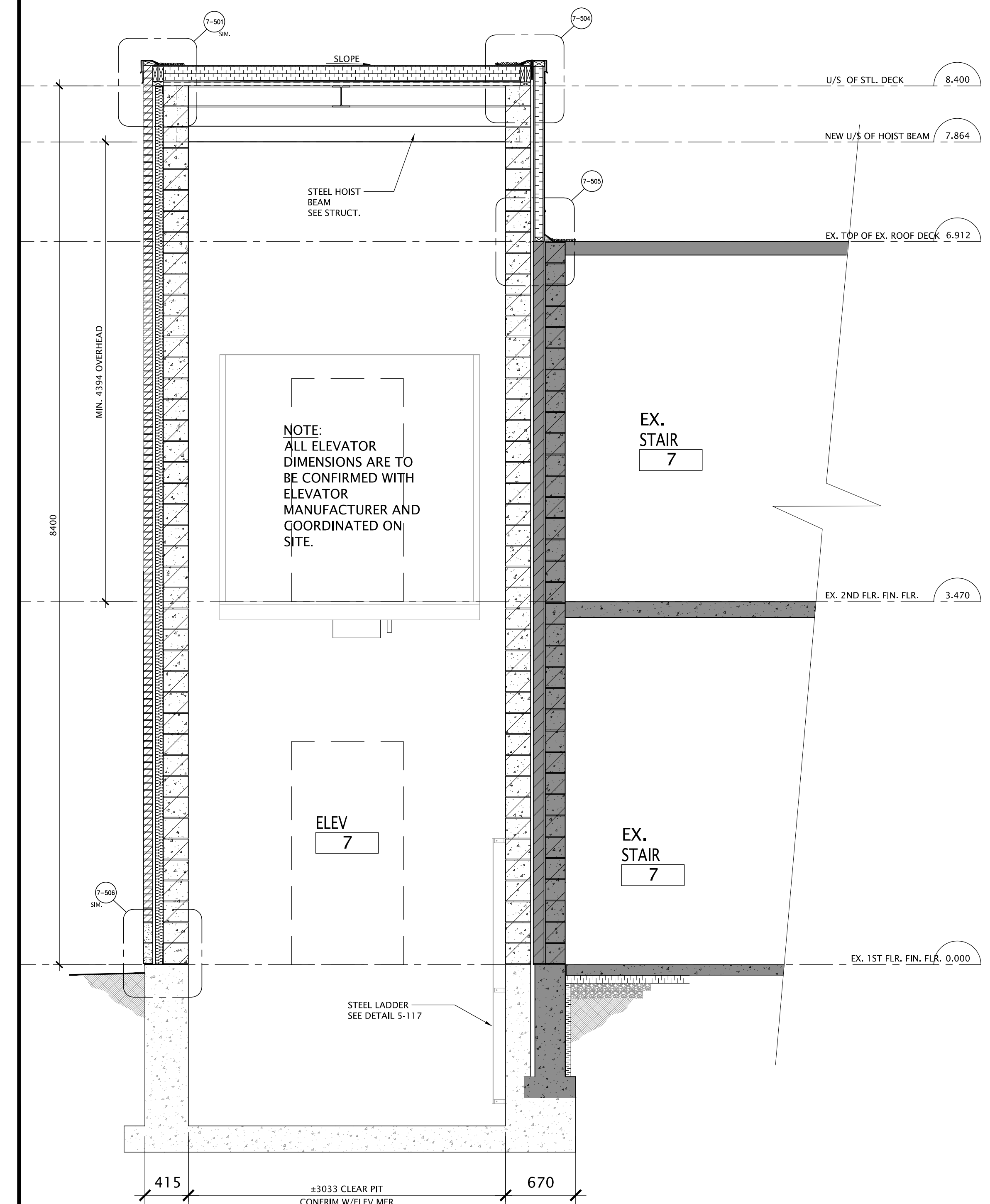
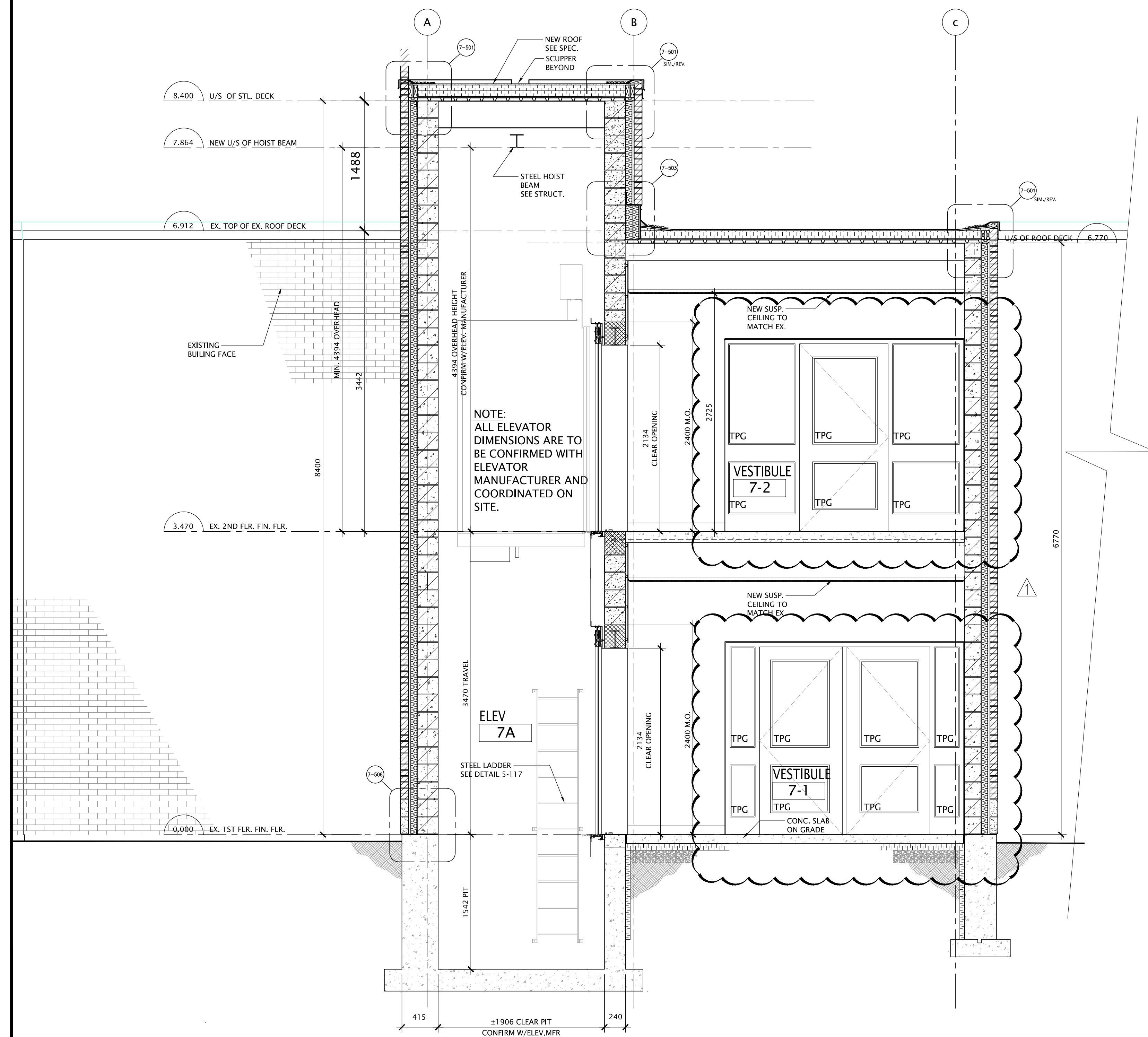
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TR-25-0951
60 Bennett Rd,
Scarborough, Ontario
M1E 3Y3

DRAWING TITLE:
PARTIAL ENLARGED FIRST,
SECOND & ROOF FLOOR PLANS-
NEW ELEVATOR

PROJECT NO: A25006	SCALE: 1:250
DRAWN: K+	DRAWING NO.: REV.
CHECKED: K+	A2-4 (5)
DATE: DEC. 2025	

[illegible]

DO NOT SCALE DRAWINGS. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE JOB. ALL DRAWINGS REMAIN THE PROPERTY OF THE ARCHITECTS.

GENERAL NOTES

1. ALL MATERIALS AND WORKSMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, LATEST EDITION, AND ALL OTHER ACTS ADMINISTERED BY ALL AUTHORITIES HAVING JURISDICTION.
2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS AND SPECIFICATIONS.
3. THE DESIGN LOADS SHALL NOT BE EXCEEDED DURING CONSTRUCTION.
4. ALL DIMENSIONS, SHOWN ON THE DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
5. THE STABILITY OF THE STRUCTURAL FRAME IS DEPENDENT ON THE FULL INTERACTION OF ALL STRUCTURAL COMPONENTS. THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY BRACING DURING CONSTRUCTION.
6. ALL DIMENSIONS GIVEN ARE IN METRIC.

Kingsland
ARCHITECTS INC. 

KINGSLAND + ARCHITECTS INC
110 Cumberland Street, Suite 262
Toronto, Ontario M5R 3V5
ph 416.203.7799
fax 416.203.7763



**William G Miller
Public School**
ACCESSIBILITY UPGRADES

TR-25-0951
60 Bennett Rd,
Scarborough, Ontario
M1E 3Y3

DRAWING TITLE:

ELEVATOR SHAFT SECTION

PROJECT NO: A25006	SCALE: 1:30	
DRAWN: K+	DRAWING NO:	REV.
CHECKED: K+	A3-2	5
DATE: DEC. 2025		

FILES: A25006- A3-2 ELEVATOR SHAFT.DWG

FINISHING HARDWARE SCHEDULE

PROJECT: WILLIAM G MILLER PUBLIC SCHOOL, TDSB
ACCESSIBILITY UPGRADES
60 BENNETT ROAD
SCARBOROUGH, ONTARIO M1E 3Y3

ARCHITECT: KINGSLAND + ARCHITECTS INC.
219 DUFFERIN STREET, SUITE 308B
TORONTO, ONTARIO M6K 3J1
TEL: (416) 203-7799
FAX: (416) 203-7763

SCHEDULE BY: EMPIRE HARDWARE LIMITED
126 MARTIN ROSS AVENUE
TORONTO, ONTARIO M3J 2L4
TEL: (416) 638-5400
FAX: (416) 638-0254

CONSULTANT: JOHN EDWARDS

PROJECT COORDINATOR: MIRA CARLOS

DATE: MAY 14,2026

REVISED DATE: MAY 19,2026

*WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE*

ITEM 1 1 PAIR DOORS GYM-1 CORRIDOR FROM GYMNASIUM LHR/RHRA

2/860 X 2150 X 45 WD DR X EXIST HM FR

4	HINGE/S	CB168 114 X 101 NRP	26D
2	HINGE/S	CE58-CB168 114 X 101	26D
1	EXIT DEVICE/S	12-56-NB-8710 F X ETL X LHR	32D
1	EXIT DEVICE/S	12-56-NB-8704 F X ETL X RHR	32D
2	AUTO OPERATOR/S	HA-8 (IN DBLE HEADER)	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
2	KICKPLATE/S	GSH 80A 200 X 820	32D
2	OVERHEAD STOP/S	104S	32D
1	POWER SUPPLY	AQD-2	

NOTE:
ALL OTHER HARDWARE EXISTING TO REMAIN.

*WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE*

ITEM 2 1 SGL DOOR GYM-2 GYMNASIUM TO STAGE LH

950 X 2150 X 45 WD DR X HM FR

3	HINGE/S	CB179 114 X 101	26D
1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
1	DOOR PULL/S	GSH 4012-2	32D
1	PUSH PLATE/S	GSH 81A 127 X 508	32D
1	KICKPLATE/S	GSH 80A 203 X 910	32D
1	WALL STOP/S	GSH 250	32D

ITEM 3 1 SGL DOOR OFF-1 FOYER TO MAIN OFFICE LH

EX X EX X EX EX DR X EX FR ULC 45 MIN

1	MAGNETIC HOLDER/S	SEM7850	689
---	-------------------	---------	-----

NOTES:
SEM TIED TO FIRE ALARM SYSTEM.
ALL OTHER HARDWARE EXISTING TO REMAIN.

WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE

ITEM 4	1 PAIR DOORS COR-1-1 CORRIDOR FROM CORRIDOR	LHR/RHR
	EX X EX X EX WD DR X HM FR ULC 45 MIN	
<hr/>		
1	HOLD OPEN CLOSER/S 4040SE X ST X VOLTAGE (24V OR 120) - TBC PULL SIDE	689
1	DROP PLATE/S 4040SE-18	689
1	MAGNETIC HOLDER/S SEM7850 RHR DOOR	689
1	MAGNET EXTENSION LINK/S SEM7810-514	689
1	MAGNET EXTENSION/S SEM7810-E400	689
1	OVERHEAD STOP/S 904SE	32D
NOTES: SEM TIED TO FIRE ALARM SYSTEM. ALL OTHER HARDWARE EXISTING TO REMAIN.		

*WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE*

ITEM 5 2 SGL DOORS COR-1-2 CORRIDOR TO/FROM COLLAB. SPACE DOUBLE EGRESS - LHR
2/915 X EX X 45 HM DR X HM FR ULC 45 MIN

6	HINGE/S	CB168 114 X 101	26D
2	EXIT DEVICE/S	12-8810 F X LHR	32D
2	HOLD OPEN CLOSER/S	4040SE TBSRT X VOLTAGE (24V OR 120) - TBC PUSH SIDE	689
2	KICKPLATE/S	GSH 80A 203 X 875 X TEK	32D
2	WALL STOP/S	GSH 250	32D

NOTE;
SE TIED TO FIRE ALARM SYSTEM.

ITEM 6 1 SGL DOOR RES-1 CORRIDOR FROM RESOURCE CENTRE LHR
EX X EX X EX HM DR X HM FR

1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
1	ELECTRIC STRIKE/S	9500	630

NOTE:
ALL OTHER HARDWARE EXISTING TO REMAIN.

*WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE*

ITEM 7	1 SGL DOOR	UNI-1 CORRIDOR TO NEW UNIVERSAL WASHROOM	LH
	950 X 2150 X 45	WD DR X HM FR ULC 45 MIN	
<hr/>			
3	HINGE/S	CB168 114 X 101	26D
1	STOREROOM LOCKSET/S	11G04 LL	26D
1	ELECTRIC STRIKE/S	1006CLB	630
1	AUTO OPERATOR/S	HA-8	
1	EMERGENCY CALL SYSTEM/S	CX-WEC10	
1	TOUCHLESS SWITCH W/R KIT/S	CX-WC16	
1	KICKPLATE/S	GSH 80A 203 X 910	32D
1	WALL STOP/S	GSH 250	32D

ITEM 8 1 PAIR DOORS 7-1-1 EXTERIOR FROM VESTIBULE 7 LHRA/RHR

2/950 X 2150 X 45 AL DR X AL FR TYPE D

8	HINGE/S	CB199 127 X 114 NRP	32D
1	KEY REMOVABLE MULLION/S	980	
1	MORTISE CYLINDER KIT/S	980-CI	26D
1	EXIT DEVICE/S	16-8804 J X LHR	32D
1	EXIT DEVICE/S	16-8810 J X RHR	32D
1	ELECTRIC STRIKE/S	9600	630
1	DOOR CLOSER/S	4040XP PA	689
1	DROP PLATE/S	4040XP-18PA	689
1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
2	DOOR PULL/S	GSH 1181-2 TB	32D
2	OVERHEAD STOP/S	104S	32D
1	THRESHOLD/S	CT-45 X 1900	
2	DOOR SWEEP/S	W-24S X 950	

NOTES:

BALANCE OF WEATHERSTRIPS BY DOOR SUPPLIER.

AI INTERCOM BY OTHERS.

CARD READER BY OTHERS.

WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE

ITEM 9	1 PAIR DOORS 7-1-2 VESTIBULE 7 FROM CORRIDOR		LHRA/RHR
	2/950 X 2150 X 45 HM DR X HM FR TYPE D ULC 1.5 HR		
	<hr/>		
	8 HINGE/S	CB168 127 X 114	26D
	1 KEY REMOVABLE MULLION/S	12-L980	
	1 MORTISE CYLINDER KIT/S	980-CI	26D
	1 EXIT DEVICE/S	12-8813 J X ETL X LHR	32D
	1 EXIT DEVICE/S	12-8813 J X ETL X RHR	32D
	1 ELECTRIC STRIKE/S	9500	630
	1 DOOR CLOSER/S	4040XP PA	689
	1 DROP PLATE/S	4040XP-18PA	689
	1 AUTO OPERATOR/S	HA-8	
	2 TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
	2 KICKPLATE/S	GSH 80A 203 X 910 X TEK	32D
	1 OVERHEAD STOP/S	104S RHR DOOR	32D
	1 WALL STOP/S	GSH 250	32D
	NOTES: AI INTERCOM BY OTHERS. CARD READER BY OTHERS.		

ITEM 10 1 PAIR DOORS 6-1 EXTERIOR FROM VESTIBULE LHRA/RHR

EX X EX X EX HM DR X HM FR

1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
1	ELECTRIC STRIKE/S	9600	630

NOTES:
CARD READER BY OTHERS.
ALL OTHER HARDWARE EXISTING TO REMAIN.

ITEM 11 1 PAIR DOORS 6-2 VESTIBULE FROM CORRIDOR LHRA/RHR

EX X EX X EX HM DR X HM FR

1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D

NOTE:
ALL OTHER HARDWARE EXISTING TO REMAIN.

WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE

ITEM 12 1 PAIR DOORS 3-1 EXTERIOR FROM KINDERGARTEN VESTIBULE LHR/RHRA

EX X EX X EX AL DR X AL FR

1	ELECTRIC STRIKE/S	9600	630
1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D

NOTES:
CARD READER BY OTHERS.
ALL OTHER HARDWARE EXISTING TO REMAIN.

ITEM 13 1 PAIR DOORS 3-2 KINDERGARTEN VEST/ FROM KINDERGARTEN COAT AREA LHRA/RHR

EX X EX X EX HM DR X HM FR

1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D

NOTE:
ALL OTHER HARDWARE EXISTING TO REMAIN.

ITEM 14 3 SGL DOORS GP-1 CORRIDOR FROM GEN. PURPOSE ROOM 2-LHR/1-RHR

3/950 X EX X EX WD DR X HM FR

- | | | | |
|---|-------------------------|------------------|-----|
| 1 | AUTO OPERATOR/S | HA-8
RHR DOOR | |
| 2 | TOUCHLESS PUSH BUTTON/S | CM-7536SSVR/4 | 32D |

NOTE:
ALL OTHER HARDWARE EXISTING TO REMAIN.

ITEM 15 1 SGL DOOR HSP-1 CORRIDOR TO HSP/RES CLASSROOM RH

EX X EX X EX EX DR X EX FR

- | | | | |
|---|-------------------------|---------------|-----|
| 1 | AUTO OPERATOR/S | HA-8 | |
| 2 | TOUCHLESS PUSH BUTTON/S | CM-7536SSVR/4 | 32D |
| 1 | ELECTRIC STRIKE/S | 5000C | 630 |

NOTE:
ALL OTHER HARDWARE EXISTING TO REMAIN.

WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE

ITEM 16	1 PAIR DOORS COR-2-1 CORRIDOR FROM CORRIDOR	LHR/RHR
	1/750, 1/950 X EX X 45 WD DR X HM FR ULC 45 MIN	
<hr/>		
6	HINGE/S CB168 114 X 101	26D
1	EXIT DEVICE/S 12-NB-8713 E X ETL TB 29" X LHR	32D
1	EXIT DEVICE/S 12-NB-8713 J X ETL TB 37" X RHR	32D
1	DOOR CLOSER/S 4040SE LHR DOOR	689
1	DOOR CLOSER/S 4040XP PA RHR DOOR	689
2	DROP PLATE/S 4040XP-18PA	689
1	MAGNETIC HOLDER/S SEM7850 RHR DOOR	689
1	MAGNET EXTENSION LINK/S SEM7810-514	689
1	MAGNET EXTENSION/S SEM7810-E400	689
1	KICKPLATE/S GSH 80A 203 X 710	32D
1	KICKPLATE/S GSH 80A 203 X 910	32D
1	OVERHEAD STOP/S 104SE	32D
1	WALL STOP/S GSH 250	32D

NOTE;
SEM TIED TO FIRE ALARM SYSTEM.

*WILLIAM G MILLER PUBLIC SCHOOL
HARDWARE SCHEDULE*

ITEM 17 1 SGL DOOR COR-2-2 CORRIDOR FROM COLLAB. ROOM LH

EX X EX X EX WD DR X HM FR ULC 45 MIN

1	HOLD OPEN CLOSER/S	4040SE X VOLTAGE (24V OR 120) - TBC PUSH SIDE	689
---	--------------------	--	-----

NOTES:
SE TIED TO FIRE ALARM SYSTEM.
ALL OTHER HARDWARE EXISTING TO REMAIN.

ITEM 18 1 SGL DOOR 7-2-1 CORRIDOR TO VESTIBULE 7-2 LH

950 X 2150 X 45 HM DR X HM FR TYPE D ULC 1.5 HR

3	HINGE/S	CB168 114 X 101	26D
1	CLASSROOM LOCKSET/S	11G37 LL	26D
1	ELECTRIC STRIKE/S	1006CLB	630
1	AUTO OPERATOR/S	HA-8	
2	TOUCHLESS PUSH BUTTON/S	CM-7536SSVR/4	32D
1	KICKPLATE/S	GSH 80A 203 X 910 X TEK	32D
1	OVERHEAD STOP/S	904S	32D

WILLIAM G. MILLER PUBLIC SCHOOL
ACCESSIBILITY UPGRADES
MAY 20, 2026
MECHANICAL & ELECTRICAL ADDENDUM #1

The following document is hereby made a part of the Contract Documents.

The following revisions and/or additions shall be made to Drawings and/or specifications and the cost shall be included in Tender Price.

General - Mechanical:

1. Elevator Drain installation shall comply with ASME A17.1 / CSA B44 and OBC Div. B. 7.4.3.6.(1). Provide a backwater valve and running trap (downstream of the BWV). Running trap shall be complete with cleanout. BWV and Running Trap shall be fully accessible. Provide an electronic trap seal primer to provide trap seal priming of the new elevator drain; locate the electronic trap seal primer assembly in a concealed location. Allow for 100' of ½" DCW piping to serve the assembly and connect to the nearest DCW piping in the ceiling space – site locate.

General - Electrical:

1. New Elevator must not exceed 15 Horsepower. Voltage shall be 208V/3P.
2. Elevator Recall:
 - a. The Electrical Contractor is responsible for ensuring that the new Elevator is tied into the Fire Alarm System for Elevator Recall.
 - b. Provide all necessary wiring/raceways to the Fire Alarm System as required. Provide a new addressable loop from the FACP to the Elevator for the recall. Provide relays to interface the Elevator to the Fire Alarm System.
 - c. Note that the smoke detector at the top of the shaft, smoke detectors in the Elevator Vestibules/at the doors and the heat detector in the elevator pit are intended to trigger the Elevator Recall. Primary Recall level shall be to the First Floor. Alternate recall level shall be the Second Floor. Alternate recall level shall be initiated if the detector in the pit or the First Floor SD is triggered.
 - d. Provide all necessary upgrades to the fire alarm control panel as necessary.
 - e. Provide zone isolators as required for the complete install.
3. Elevator Supplier/Installer shall include for rough-in for a card reader inside of the elevator cab as well as new traveling cables, with sufficient cabling to support the usage of card readers in the following locations: 1 card reader in the elevator cab, a card reader on each floor that the elevator supports, mounted in the elevator vestibule. The card readers and controller itself will be supplied by a Electrical Contractor. the elevator supplier/installer shall allow for programming of the elevator to work in conjunction with the card reader system.

Drawing M4 – Elevator – Mechanical Part Plans:

1. See attached re-issued Drawing with clouded revision(s).

Drawing M5 – Washroom – Mechanical Part Plans:

1. See attached re-issued Drawing with clouded revision(s).

Drawing M6 – Schedules & Schematics:

1. Detail #5 – Termination of the cabling at the Security Panel for the sump pump is to be completed by TDSB In-House.

Drawing E2 – First Floor Key Plan:

1. See attached re-issued Drawing with clouded revision(s).

Drawing E3 – Second Floor Key Plan:

1. See attached re-issued Drawing with clouded revision(s).

Drawing E4 – Electrical Part Plans:

1. See attached re-issued Drawing with clouded revision(s).

Drawing E6 – Electrical Part Plans:

1. Pit and top of Elevator Light shall be Lithonia CLX-L48-4000-HEF-FDL-MVOLT-GZ10-40K-80CRI-WH-WGCLX36WG.
2. See attached re-issued Drawing with clouded revision(s).

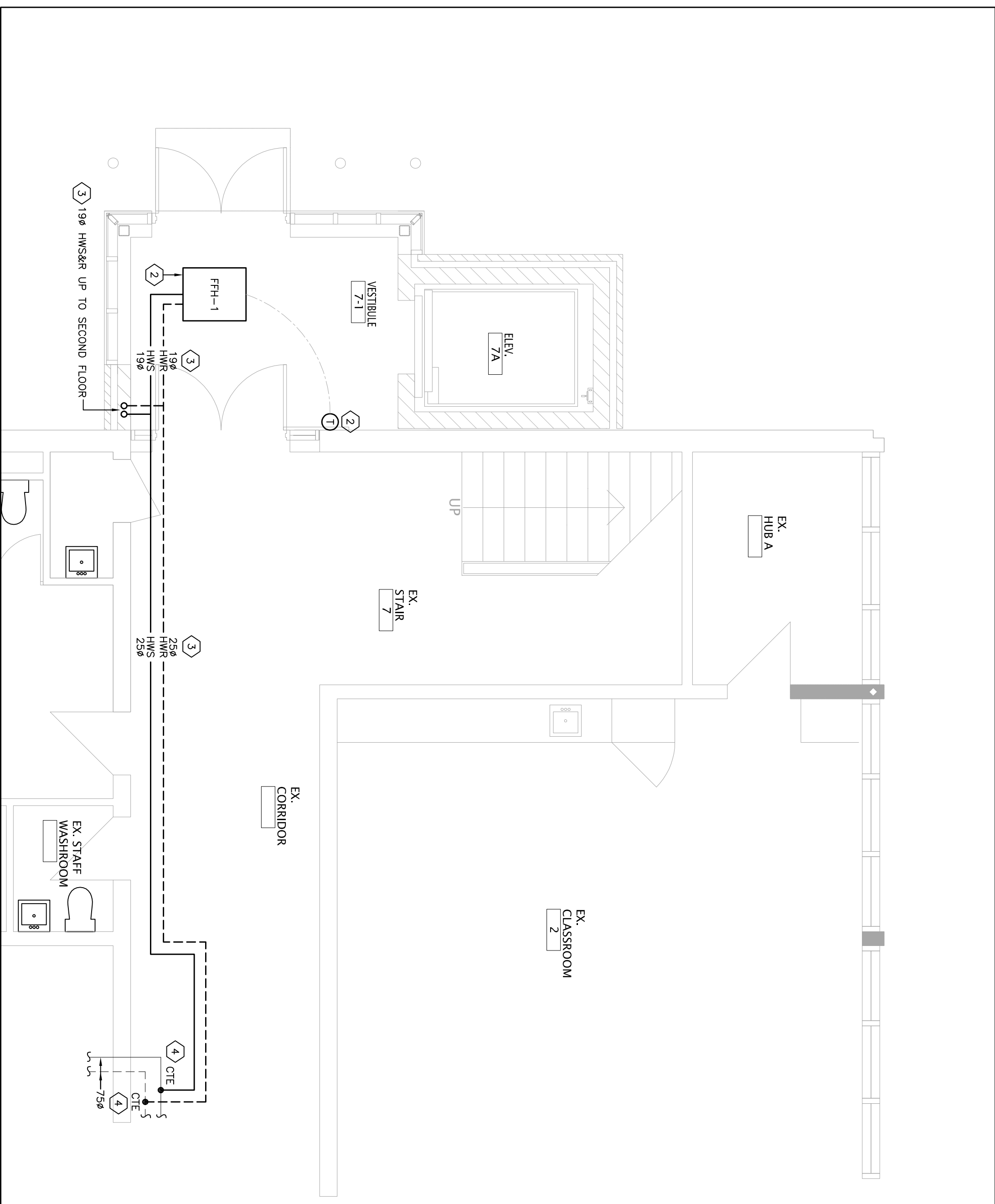
Drawing E7 – Schedules & Schematics:

1. See attached re-issued Drawing with clouded revision(s).

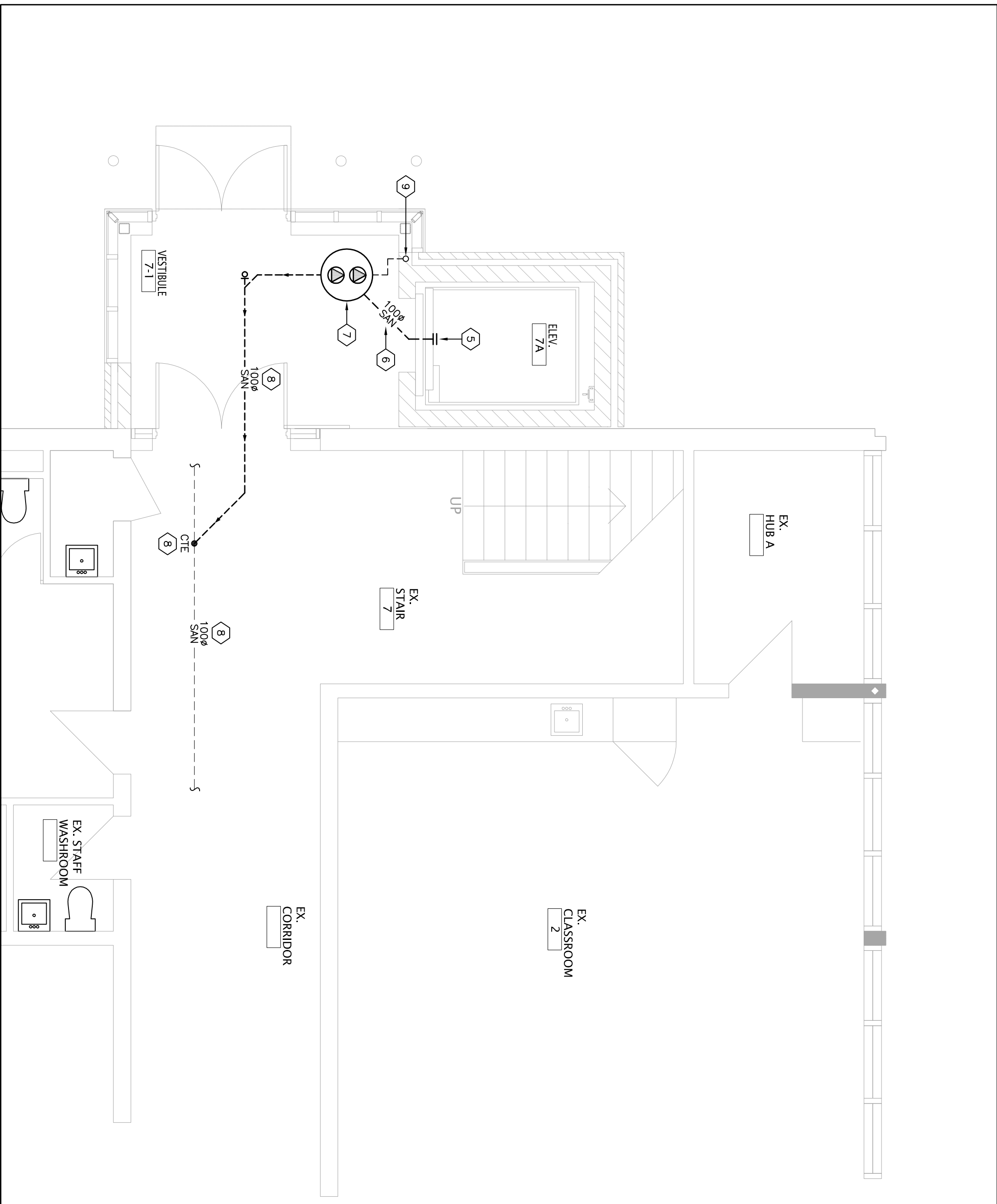
Drawing E8 – Schedules & Schematics:

1. See attached newly-issued Drawing to be added to the Drawing Set.

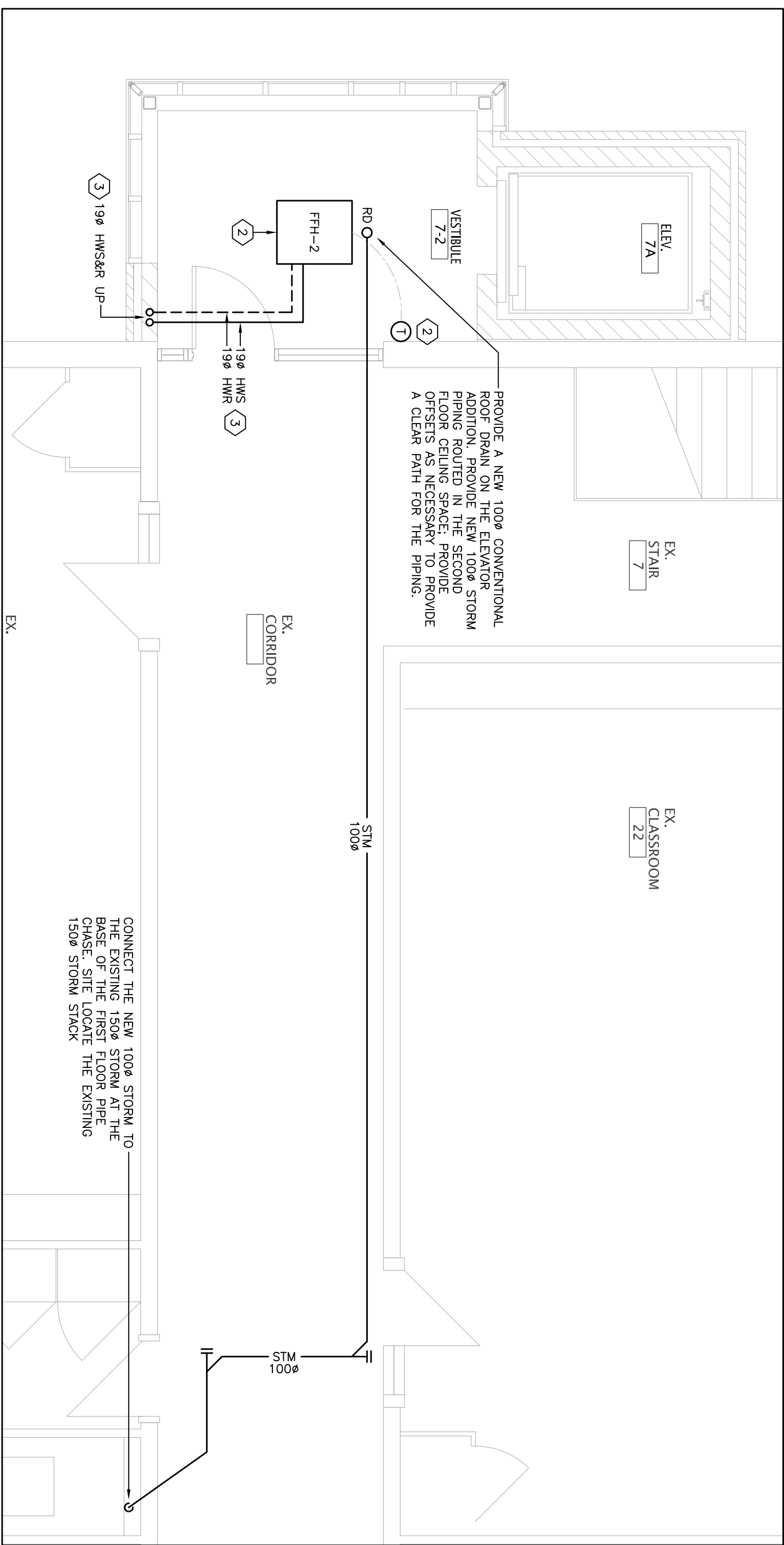
END OF M&E ADDENDUM #1



1 FIRST FLOOR ELEVATOR ADDITION - NEW HEATING PLAN



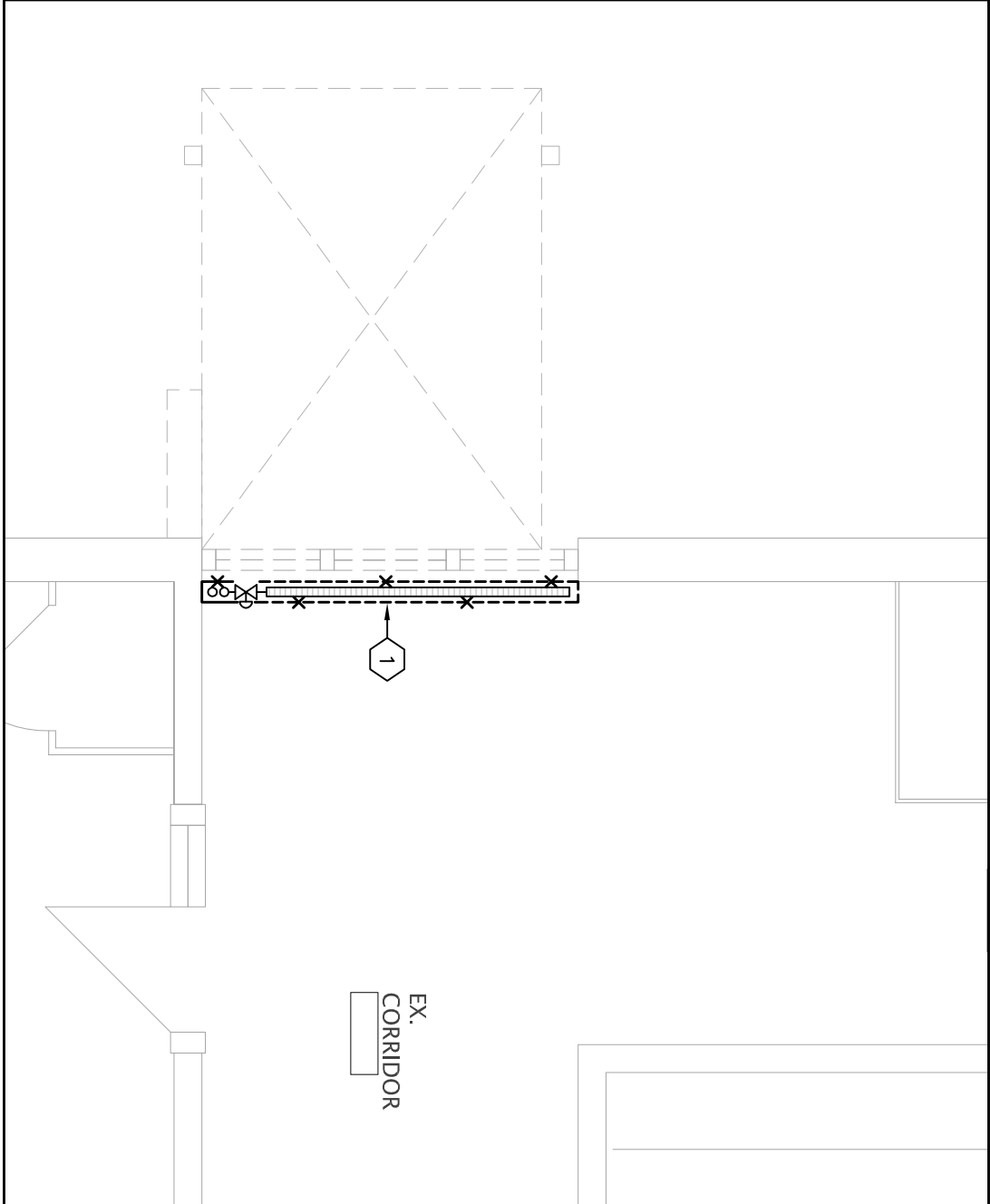
2 FIRST FLOOR ELEVATOR ADDITION - NEW DRAINAGE PLAN



3 SECOND FLOOR ELEVATOR ADDITION - NEW HEATING & ROOF DRAINAGE PLAN

SUMP PUMP SCHEDULE										
TAG	MAKE	MODEL	SYSTEM	TYPE	CAPACITY L/S (GPM)	HEAD MPS (FT)	RPM	MOTOR HP	ELECTRICAL (V/PH/Hz)	REMARKS
SP-1 & SP-2	BARNES ON COAL	ZSEV-XXXX	ELEVATOR SUMP PUMPS	SLIDABLE PUMPS	3.2 (50)	75.0 (25)	-	1.0	208/1/60	C/W STARTER, PLUGS & CONTROL PANEL - SEE DETAIL, SUITABLE FOR SANITARY

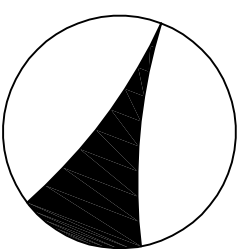
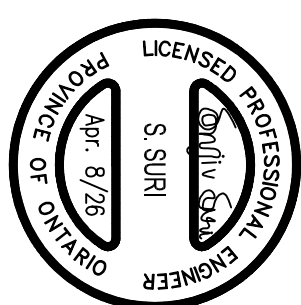
- NOTES:**
1. PROVIDE ALL VALVES AND ACCESSORIES AS PER SLUMP PUMP SCHEMATICS.
 2. PUMPS SHALL BE DUTLEY TYPE C/W CONTROL, PANEL AND 4-SPEED LEVEL, FLOATS
 3. FOR PUMPS, MECHANICAL CONTRACTOR TO PROVIDE A STARTER AND CONTROL PANEL, CAPABLE OF ALTERNATING ROW TIME OF THE PUMPS AFTER 6 HOURS OF ROW TIME. 3-POSITION SELECTION SWITCH AND PILOT LIGHTS



- 1 REMOVE THE EXISTING HOT WATER CONNECTOR IN ENTIRETY. REMOVE THE EXISTING 19# HASKAS PIPING DOWN TO THE CEILING SPACE OF THE FIRST FLOOR AND CAP. REMOVE ALL REDUNDANT CONTROLS (CONTROL VALVE AND THERMOSTAT) AND CAP ALL REDUNDANT PIPENUTS.
- 2 PROVIDE A NEW REDUCED HOT WATER FEDER FLOW HEATER IN THE CEILING AS SCHEDULED AND DETAILD. PROVIDE A NEW 3/4" SPKLE THERMOCOUP SENSOR AS SHOWN. PROVIDE NEW 19# HASKAS PIPING TO THE FTH AS SHOWN.
- 3 PROVIDE NEW HASKAS PIPING AS SHOWN, CONCEAL ALL PIPING.
- 4 EXPOSE THE CEILING IN THE CORRIDOR AREA TO REVEAL ALL EXISTING HASKAS PIPING ABOVE THE CEILING. EXACT THE 19# HASKAS ARE TO BE CORRECTED BY THE CONTRACTOR ON SITE DURING CONSTRUCTION.
- 5 PROVIDE A NEW SUPPLY DOWN AT THE BASE OF THE ELEVATOR PIT. VERIFY EXACT LOCATION AND CONSTRUCTION. PROVIDE WITH THE ELEVATOR CONNECTION. PIT TO BE SLOPED TOWARDS THE SUMP DRAIN. PROVIDE A BLOWDOWN VALVE.
- 6 PROVIDE NEW 100# BURIED SANITARY FROM THE SCOOPER DRAIN TO THE INDOOR SUMP PIT.
- 7 PROVIDE A NEW 100#MM X 3.0 METERS DEEP FIBERGLASS SUMP PIT C/W DUPLEX SUMP PUMP ASSEMBLY AS DETAILD AND SCHEDULED.
- 8 PROVIDE NEW PUMPED 100# BURIED SANITARY AND CONNECT TO THE EXISTING BURIED SANITARY IN THE CORRIDOR. PROVIDE WITH THE ELEVATOR CONNECTION. PIT TO BE SLOPED TOWARDS THE SUMP DRAIN. PROVIDE A BLOWDOWN VALVE.
- 9 PROVIDE A NEW 75# VENT FROM THE PIT UP TO THE SECOND FLOOR AND UP THROUGH THE ROOF. REFER TO ARCHITECTURAL DRAWINGS FOR TERMINATION DETAIL.

<p>CONTRACTORS MUST APPEAR AND CARRY ALL NECESSARY AND USE SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO SETTING OUT. CONSULTING ENGINEER'S OFFICE SHALL BE NOTIFIED AND A LETTER OF CORRECTION ISSUED. NO WORK SHALL BE PROCEEDED UNTIL THE CORRECTIONS ARE MADE. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE APPROVED BY THE CONSULTANT PRIOR TO BEING RETAINED FOR THE PROJECT. USE THE LATEST REVISION DRAWINGS ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS IN WHICH A FEE/GRANT WITHOUT THE WRITTEN PERMISSION OF THE CONSULTANT SHALL BE CONSIDERED AS A VIOLATION OF THE SPECIFICATIONS. DO NOT SCALE DRAWINGS.</p>		
2	APR. 8/26	ISSUED FOR PERMIT/TENDER
1	MAR. 20/26	ISSUED FOR COORDINATION
No.	DATE	DESCRIPTION
STAMP		NORTH

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCING CONSTRUCTION. ALL DRAWINGS AND SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF TDSB AND MUST BE RETURNED UPON REQUEST. USE THE LATEST REVISED DRAWINGS ONLY. REPRODUCTIONS OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT TDSB'S WRITTEN PERMISSION. DRAWINGS TO BE READ IN CONJUNCTION WITH SPECIFICATIONS. DO NOT SCALE DRAWINGS.



**Toronto
District
School
Board**

Design & Construction Division
15 Oakburn Cres. Toronto, Ontario M2N 2T5
T. 416-395-4588 / F. 416-395-9734

William G. Miller
Public School
60 Bennett Road
Toronto, Ontario. M1E 3Y3

PROJECT

ACCESSIBILITY UPGRADES

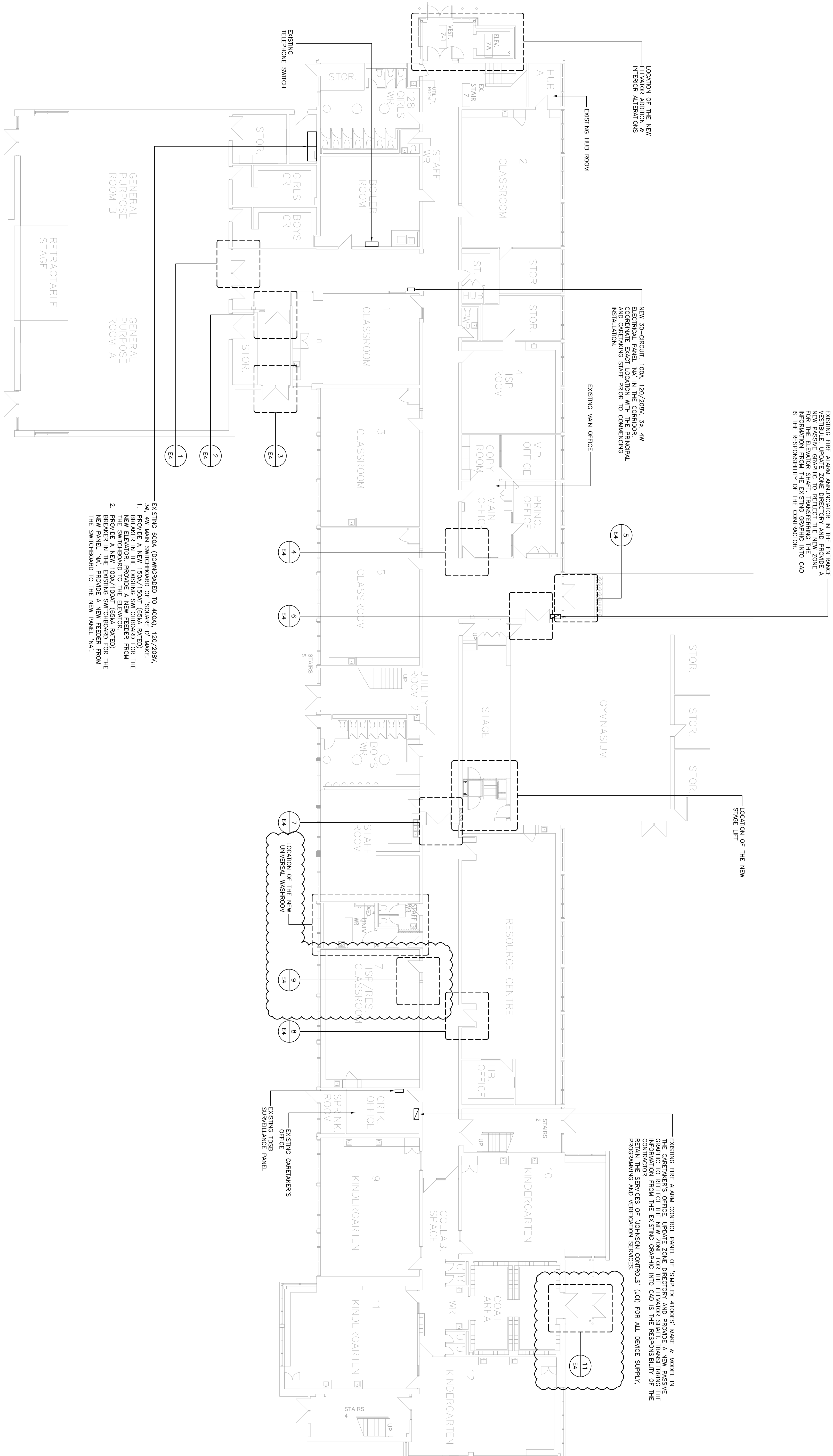
DRAWING TITLE	
ELEVATOR – MECHANICAL PART PLANS	
TDSB PROJECT No:	DRAWING No
TR-25-XXXX	
DATE:	
FEBRUARY 2026	
SCALE:	
AS NOTED	
DRAWING BY:	
RS	
APPROVED BY:	

CONSULTANTS LOGG

SURI & ASSOCIATES LTD.
ENGINEERING CONSULTANTS

1022 WHITE CLOVER WAY
MISSISSAUGA, ONTARIO
L5V 1C8
T (905)-290-7861
F (289)-327-3420

ELECTRICAL
MECHANICAL
LIGHTING
COMMUNICATION
SECURITY

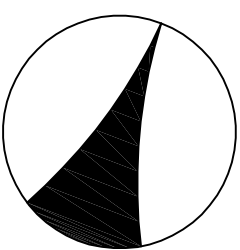
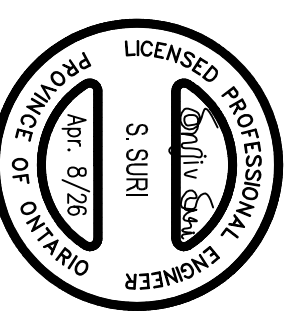


1 FIRST FLOOR KEY PLAN
E2 SCALE: 1:150

SCALE: 1:150

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCING CONSTRUCTION. ALL DRAINAGES AND SPECIFICATIONS ARE RELATED TO EXISTING CONDITIONS. THE CONTRACTOR IS ADVISED THAT ANY CHANGES OR MODIFICATIONS TO THE SPECIFICATIONS OF DRAINAGES MUST BE REDESIGNED BY THE CONSULTANT. NO ALTERATIONS OR ADDITIONS TO THE DRAINAGE SYSTEMS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE CONSULTANT. IN WHOLE IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE CONSULTANT. DO NOT SCALE DRAINAGES.

STAMP		NORTH
No.	DATE	DESCRIPTION
2	APR. 8/26	ISSUED FOR PERMIT/TENDEE
1	MAR. 20/26	ISSUED FOR COORDINATION



**Toronto
District
School
Board**

**Facility Services Department
Design & Construction Division**

15 Oakburn Cres. Toronto, Ontario M2N 2T5
T. 416-393-4588 / F. 416-393-9734

**Facility Services Department
Design & Construction Division**
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t. 416-395-4588 / f. 416-395-9734

William G. Miller
Public School
60 Bennett Road
Toronto, Ontario, M1E 3Y3

PROJECT

ACCESSIBILITY UPGRADES

DRAWING TITLE

TDSB PROJECT No:	DRAWING No
TR-25-XXXX	

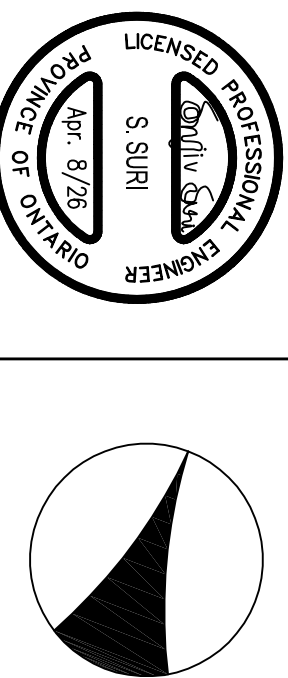
DATE: _____

DRAWING BY:

APPROVED BY:

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND JOBS SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCEMENT OF WORK. THE CONSULTANT'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND SPECIFICATIONS PROVIDED IN THESE DRAWINGS. THE CONSULTANT'S RESPONSIBILITY DOES NOT EXTEND TO THE CONSTRUCTION OF THE WORK OR TO THE PERFORMANCE OF THE WORK. THE CONSULTANT'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND SPECIFICATIONS PROVIDED IN THESE DRAWINGS. THE CONSULTANT'S RESPONSIBILITY DOES NOT EXTEND TO THE CONSTRUCTION OF THE WORK OR TO THE PERFORMANCE OF THE WORK. THE CONSULTANT'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND SPECIFICATIONS PROVIDED IN THESE DRAWINGS. THE CONSULTANT'S RESPONSIBILITY DOES NOT EXTEND TO THE CONSTRUCTION OF THE WORK OR TO THE PERFORMANCE OF THE WORK.

1	MAR. 20/26	ISSUED FOR PERMIT/TENDER
2	APR. 8/26	ISSUED FOR PERMIT/TENDER
No.	DATE	DESCRIPTION
STAMP	NORTH	



Toronto District School Board
Facility Services Department
Design & Construction Division
15 Oakburn Cres. Toronto, Ontario M2N 2Y5
T: 416-595-4588 / F: 416-595-5734

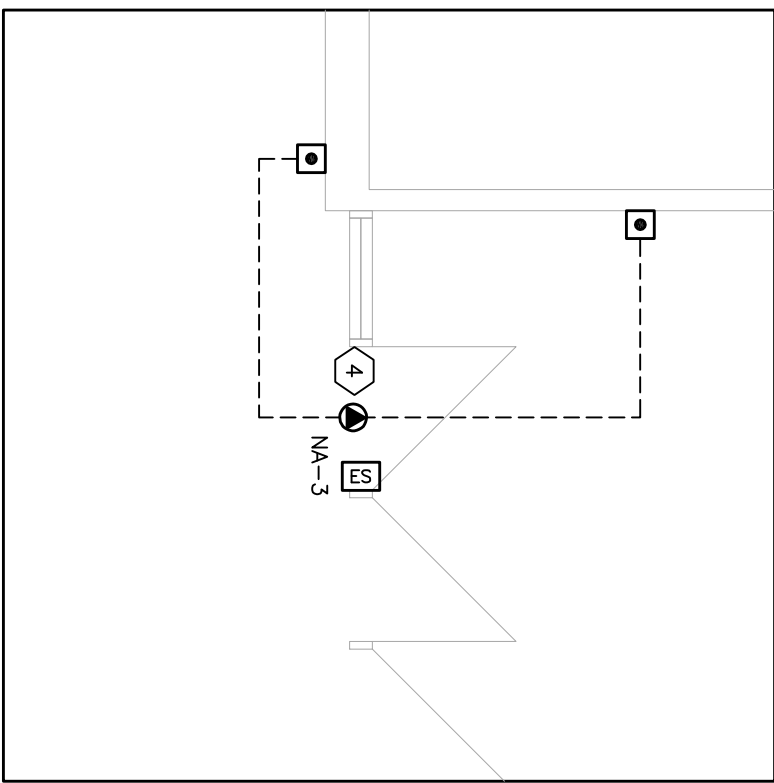
LOCATION
William G. Miller
Public School
60 Bennett Road
Toronto, Ontario, M1E 3Y3

ACCESSIBILITY UPGRADES

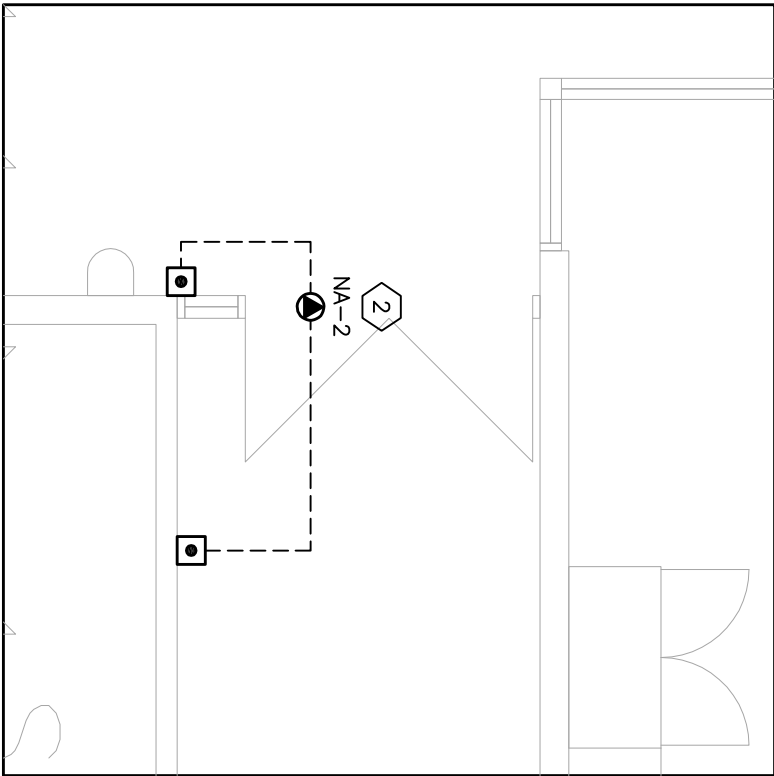
DRAWING TITLE	
ELECTRICAL PART PLANS	
TDSB PROJECT No.: TR-25-XXXX	DRAWING No
DATE: FEBRUARY 2026	
SCALE: AS NOTED	
DRAWING BY: RS	
APPROVED BY: SS	E4

DRAWING NOTES:

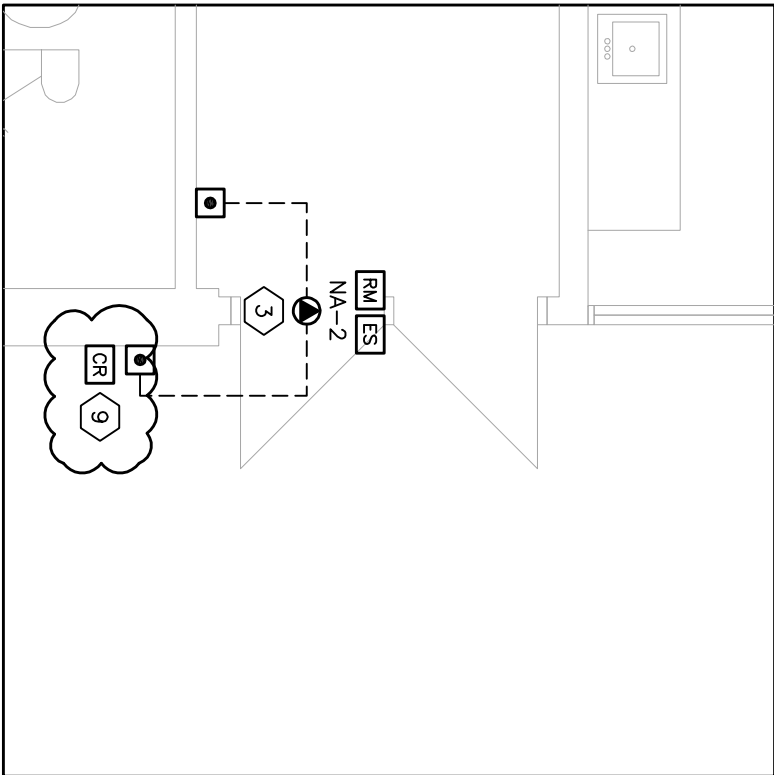
- PROVIDE 120V POWER CONNECTION TO THE NEW HOLD OPEN DEVICE POWER SUPPLY. CONNECT TO THE CIRCUIT NOTED. TIE THE CLOSER(S) TO THE FIRE ALARM SYSTEM TO CLOSE UPON A LOCAL OR GENERAL ALARM ON THE FIRE ALARM SYSTEM. PROVIDE SMOKE DETECTORS TIED TO THE FIRE ALARM SYSTEM ON BOTH SIDES OF THE DOOR(S). LOCATE WITHIN 150MM OF THE DOOR-OPENING. INSTALL DETECTORS WITHIN 1500MM OF THE DOOR-OPENING. PROVIDE A NEW ALARM CONTROL PANEL. PROVIDE A NEW RELAY AND WIRING/RACEWAYS TO THE FIRE ALARM CONTROL PANEL. COMPLETE S1001 INTEGRATED TESTING AFTER COMPLETION OF WORK.
- PROVIDE 120V POWER CONNECTION TO THE DOOR OPERATOR HEADER. CONNECT TO THE CIRCUIT NOTED. PROVIDE WIRING AND RACEWAYS TO THE TWO (2) ACTUATOR BUTTONS FOR A COMPLETE AND OPERATIONAL DOOR OPERATOR SYSTEM. PROVIDE A NEW ALARM CONTROL PANEL. PROVIDE A NEW RELAY AND WIRING/RACEWAYS TO THE FIRE ALARM CONTROL PANEL. COMPLETE S1001 INTEGRATED TESTING AFTER COMPLETION OF WORK.
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- RELOCATE THE EXISTING APHONE DOOR STATION TO ADJACENT THE NEW DOOR OPERATOR ACTUATOR BUTTON.
- PROVIDE A NEW CARD READER AT THIS DOOR. INTERLOCK WITH THE DOOR OPERATOR AT THIS ENTRANCE.
- PROVIDE NEW ACTUATOR BUTTONS C/M LOW-VOLTAGE WIRING/RACEWAYS FOR THE EXISTING DOOR OPERATORS AT THESE DOORS. RUN WIRING/RACEWAYS TO THE EXISTING DOOR OPERATOR HEADER.
- PROVIDE A NEW APHONE DOOR STATION AT THIS DOOR. INTERLOCK WITH THE DOOR OPERATOR AT THIS ENTRANCE.



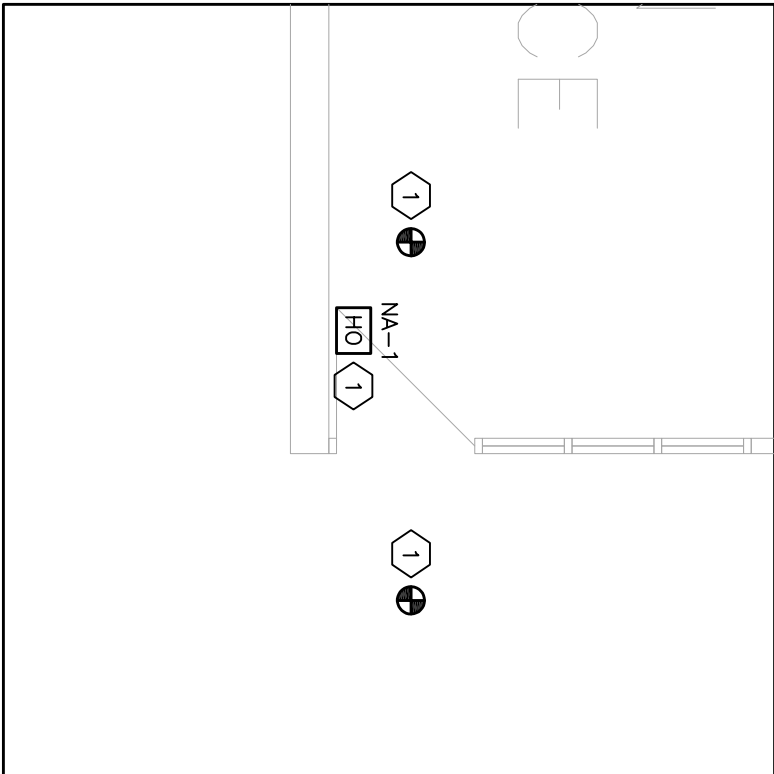
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E4 SCALE: 1:50



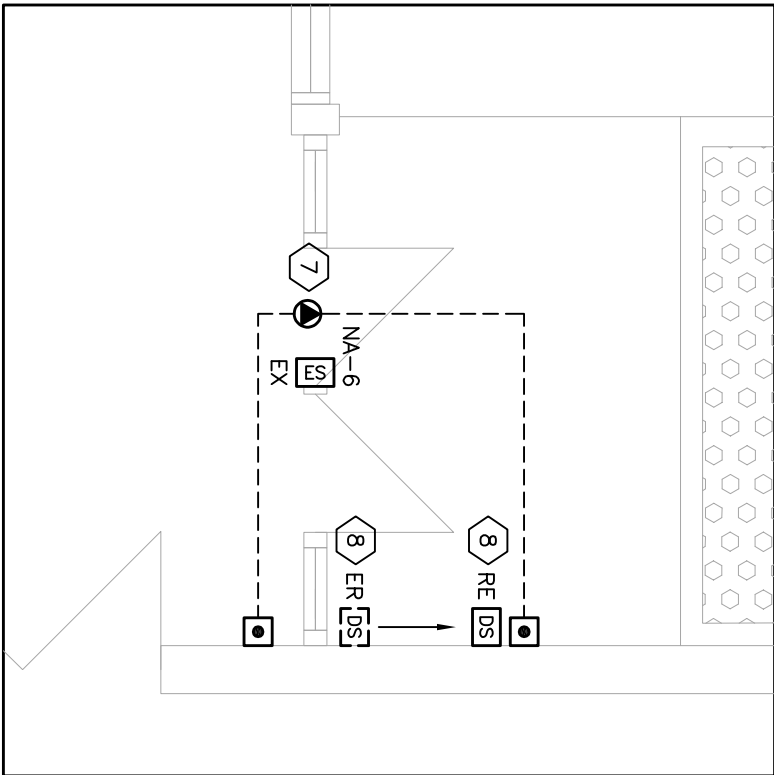
2 ELECTRICAL PART PLAN
E4 SCALE: 1:50



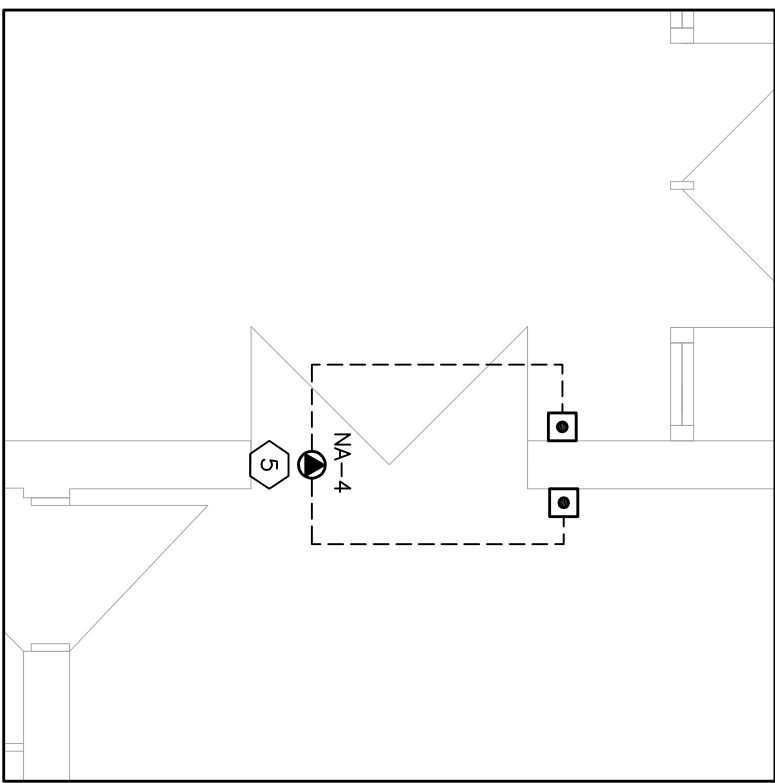
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E4 SCALE: 1:50



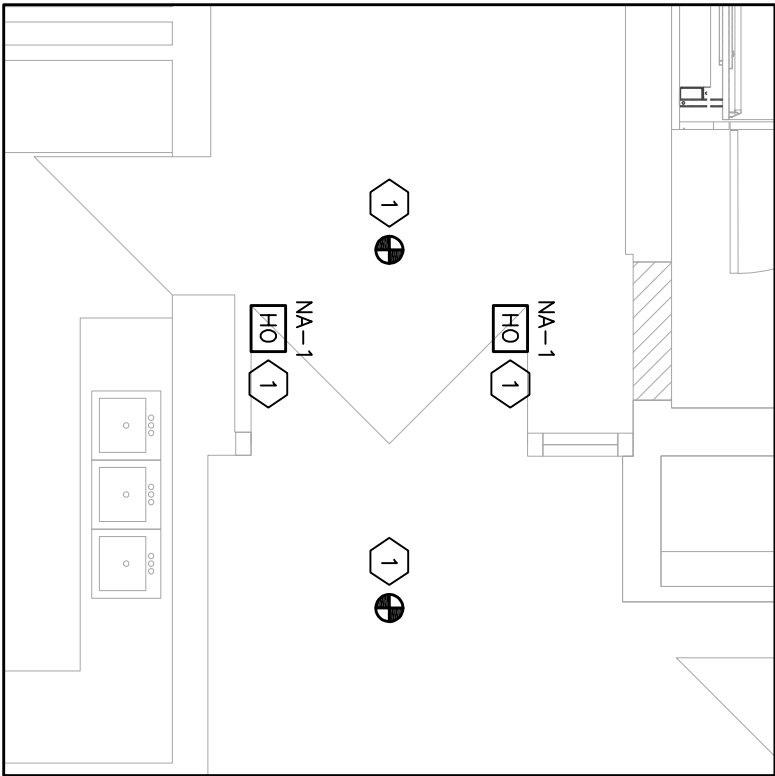
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E4 SCALE: 1:50



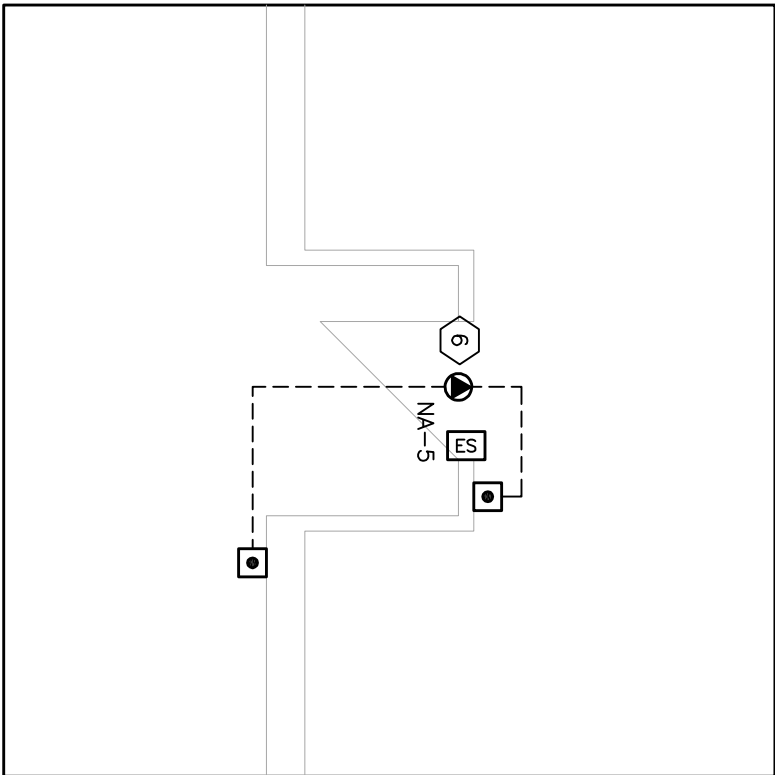
5 ELECTRICAL PART PLAN
E4 SCALE: 1:50



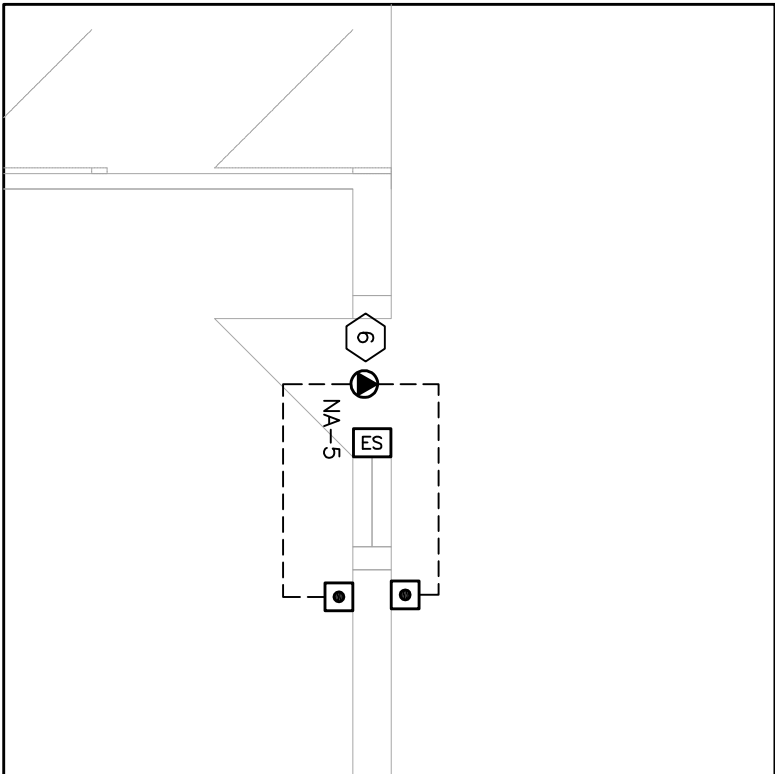
6 ELECTRICAL PART PLAN
E4 SCALE: 1:50



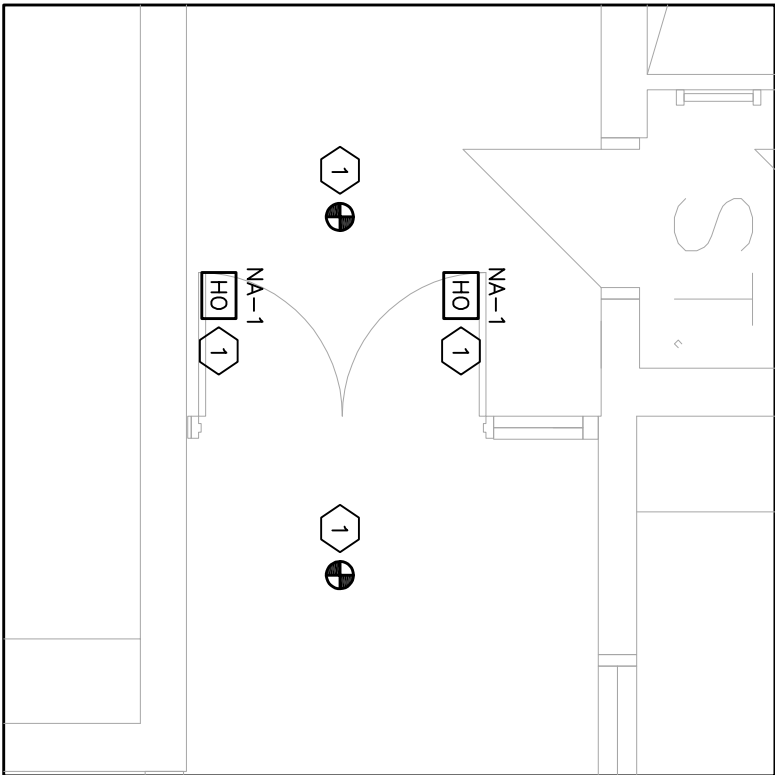
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E4 SCALE: 1:50



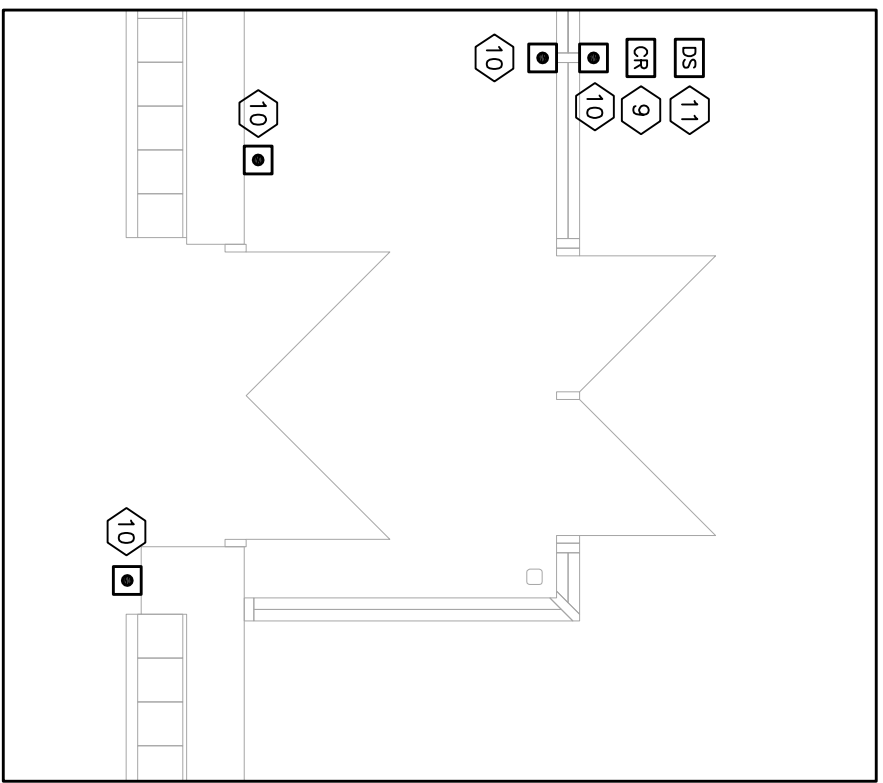
8 ELECTRICAL PART PLAN
E4 SCALE: 1:50



9 ELECTRICAL PART PLAN
E4 SCALE: 1:50



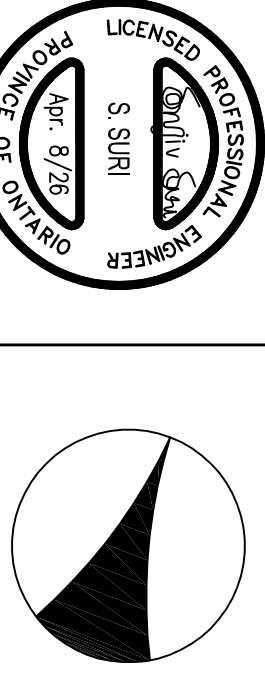
10 ELECTRICAL PART PLAN
E4 SCALE: 1:50



11 ELECTRICAL PART PLAN
E4 SCALE: 1:50

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCING WORK. THE CONSULTANT'S RESPONSIBILITY IS LIMITED TO THE DESIGN OF THE ELECTRICAL SYSTEM. THE CONSULTANT DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO OR LOSS OF ANY PROPERTY OR PERSONS ARISING OUT OF THE USE OF THE INFORMATION PROVIDED BY THE CLIENT. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO OR LOSS OF ANY PROPERTY OR PERSONS ARISING OUT OF THE USE OF THE INFORMATION PROVIDED BY THE CLIENT. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO OR LOSS OF ANY PROPERTY OR PERSONS ARISING OUT OF THE USE OF THE INFORMATION PROVIDED BY THE CLIENT.

1	APR. 8/26	ISSUED FOR PERMIT/TENDER
2	MAR. 20/26	ISSUED FOR COORDINATION
No.	DATE	DESCRIPTION

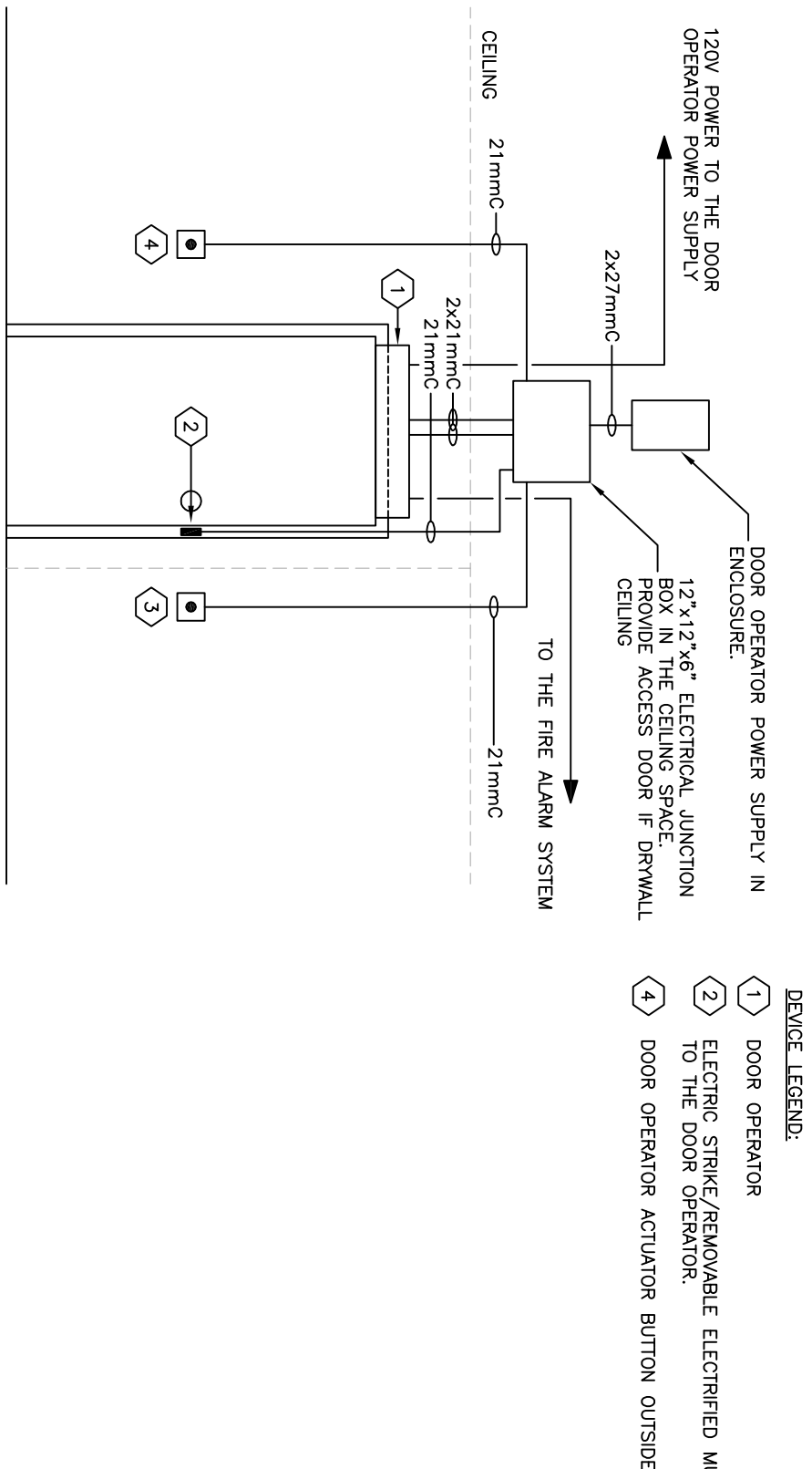


Toronto District School Board
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LOCATION
William G. Miller
Public School
60 Bennett Road
Toronto, Ontario, M1E 3Y3

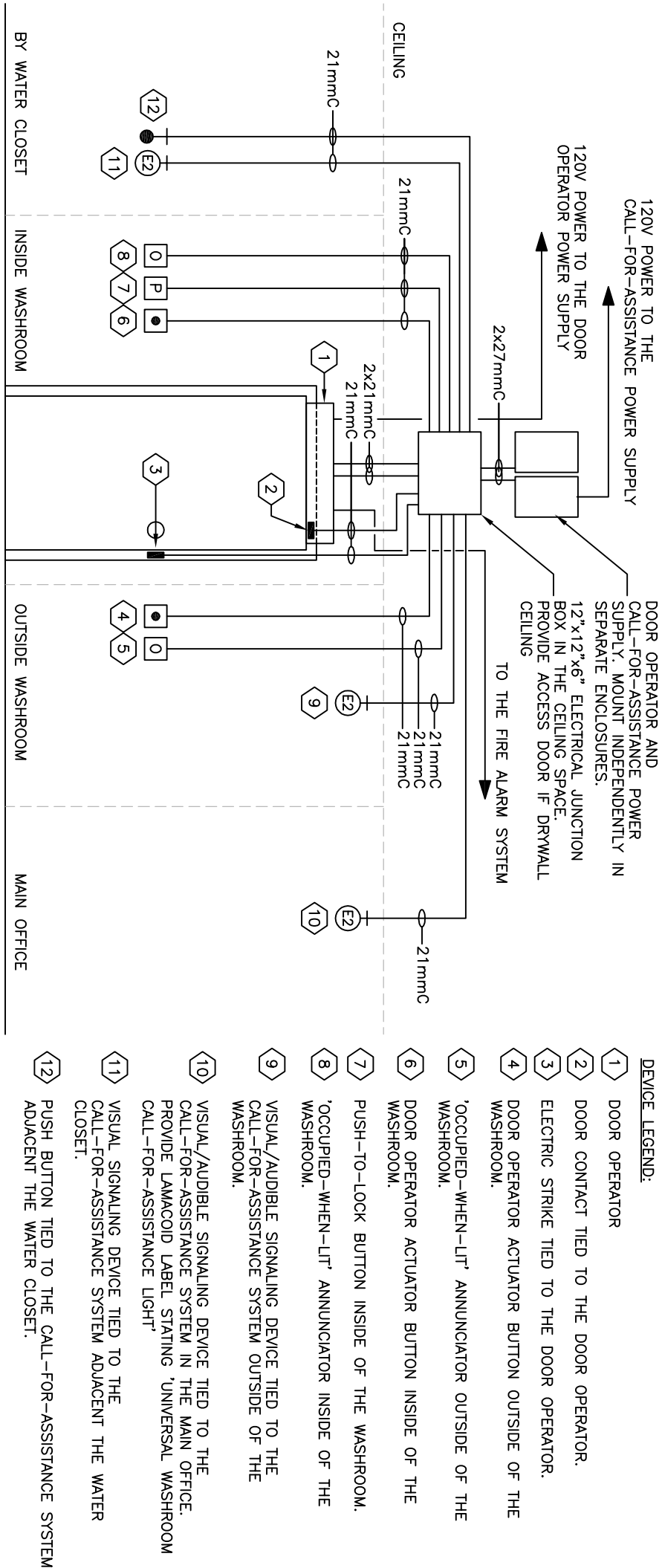
PROJECT
ACCESSIBILITY UPGRADES

DRAWING TITLE	DRAWING No
SCHEDULES & SCHEMATICS	
TDSB PROJECT No.: TR-25-XXXX	
DATE: FEBRUARY 2026	
SCALE: AS NOTED	E7
DRAWING BY: RS	
APPROVED BY: SS	



- NOTES:
- THE DOOR OPERATOR, DOOR CONTACT, ELECTRIC STRIKE, ACTUATOR BUTTONS, "OCCUPIED WHEN-UP" ANNUNCIATOR AND "PUSH-TO-LOCK" BUTTON ARE TO BE SUPPLIED AND INSTALLED BY THE ARCHITECTURAL DRAWING PROVIDER. THE DOOR OPERATOR, DOOR CONTACT, ELECTRIC STRIKE, ACTUATOR BUTTONS, "OCCUPIED WHEN-UP" ANNUNCIATOR AND "PUSH-TO-LOCK" BUTTON ARE TO BE SUPPLIED AND INSTALLED BY THE ARCHITECTURAL DRAWING PROVIDER.
 - THE CALL-FOR-ASSISTANCE SYSTEM AND ALL ASSOCIATED COMPONENTS ARE TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THE CALL-FOR-ASSISTANCE SYSTEM AND ALL ASSOCIATED COMPONENTS ARE TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
 - ALL CONDUITS FOR THE DOOR OPERATOR SYSTEM FOR THE WASHROOM ARE TO BE CONCEALED, CU/PATCH/MAKE GOOD WALL AS NECESSARY. CONDUITS SHALL BE 21mmC.
 - REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT MOUNTING LOCATION AND HEIGHT OF ALL DEVICES.
 - ALL LOW-VOLTAGE WIRING IS TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. SIZE SHALL BE MINIMUM #16 GAUGE, UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWING.
 - ALL ACTUATOR BUTTONS SHALL BE INSTALLED AT 1100mm AFF MEASURED TO THE CENTER OF THE DEVICES UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWING.
 - OTHERWISE BY THE MANUFACTURER OR TO SUIT THE VOLTAGE DROP ACROSS THE REQUIRED DISTANCE. PROVIDE UPSIZED WIRING AT NO EXTRA COST.
 - PROVIDE ALL NECESSARY COMPONENTS: WIRING, RIGGING, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
 - PROVIDE A NEW FEEDER (4/3 R954C IN 35mmC) TO THE PANEL FROM A NEW BREAKER LOCATED IN THE ELECTRICAL ROOM (SEE KEY PLAN).
 - EVENT OF GENERAL ALARM FROM THE FIRE ALARM SYSTEM, ONLY WHERE THE RELAY IN THE DOOR OPERATOR HEAD IS NOT CAPABLE OF RECEIVING AN INPUT FROM THE FIRE ALARM SYSTEM WILL A RELAY TO INTERRUPT THE POWER SUPPLY TO THE DOOR OPERATOR WILL BE PERMITTED IN ITS PLACE.

2 DOOR OPERATOR ELECTRICAL INSTALLATION TYPICAL SCHEMATIC
E7 SCALE: N.T.S.

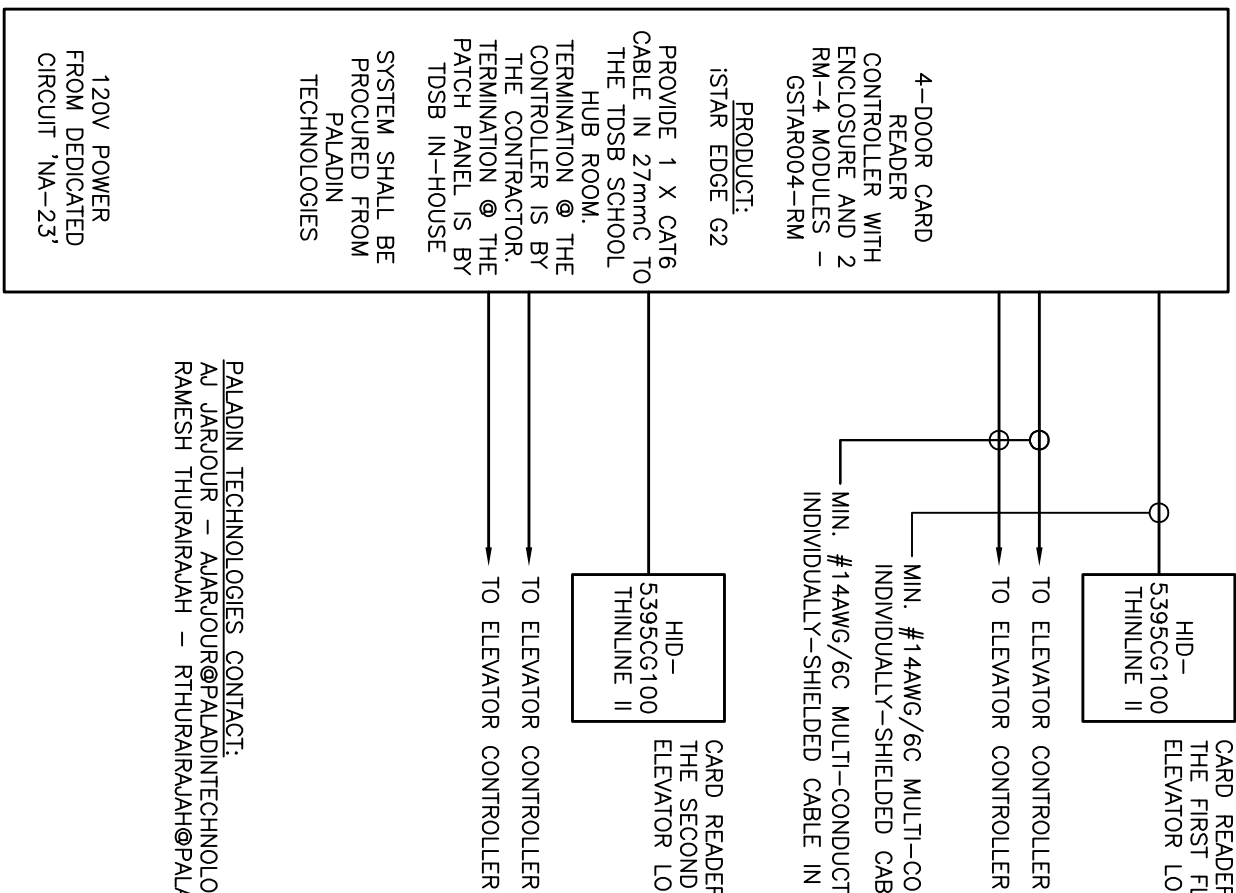


- NOTES:
- THE DOOR OPERATOR, DOOR CONTACT, ELECTRIC STRIKE, ACTUATOR BUTTONS, "OCCUPIED WHEN-UP" ANNUNCIATOR AND "PUSH-TO-LOCK" BUTTON ARE TO BE SUPPLIED AND INSTALLED BY THE ARCHITECTURAL DRAWING PROVIDER. THE DOOR OPERATOR, DOOR CONTACT, ELECTRIC STRIKE, ACTUATOR BUTTONS, "OCCUPIED WHEN-UP" ANNUNCIATOR AND "PUSH-TO-LOCK" BUTTON ARE TO BE SUPPLIED AND INSTALLED BY THE ARCHITECTURAL DRAWING PROVIDER.
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 - REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT MOUNTING LOCATION AND HEIGHT OF ALL DEVICES.
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 - ALL ACTUATOR BUTTONS SHALL BE INSTALLED AT 1100mm AFF MEASURED TO THE CENTER OF THE DEVICES UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWING.
 - OTHERWISE BY THE MANUFACTURER OR TO SUIT THE VOLTAGE DROP ACROSS THE REQUIRED DISTANCE. PROVIDE UPSIZED WIRING AT NO EXTRA COST.
 - PROVIDE ALL NECESSARY COMPONENTS: WIRING, RIGGING, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
 - PROVIDE A NEW FEEDER (4/3 R954C IN 35mmC) TO THE PANEL FROM A NEW BREAKER LOCATED IN THE ELECTRICAL ROOM (SEE KEY PLAN).
 - EVENT OF GENERAL ALARM FROM THE FIRE ALARM SYSTEM, ONLY WHERE THE RELAY IN THE DOOR OPERATOR HEAD IS NOT CAPABLE OF RECEIVING AN INPUT FROM THE FIRE ALARM SYSTEM WILL A RELAY TO INTERRUPT THE POWER SUPPLY TO THE DOOR OPERATOR WILL BE PERMITTED IN ITS PLACE.

1 UNIVERSAL WASHROOM DOOR OPERATOR & EMERGENCY CALL-FOR-ASSISTANCE SYSTEM TYPICAL SCHEMATIC
E7 SCALE: N.T.S.

NEW PANEL, NA'	TYPE: 100A	MAIN BR: 100A-3P	LOCATION: SEE KEY PLAN
120V/208V, 3PH, 4W	WATTS	DESCRIPTION	WATTS
DOOR-OPEN DEVICES	15A	1	15A
DOOR OPERATORS	15A	3	15A
SPARE	15A	5	15A
UMR DOOR OPERATOR/CALL-FOR-ASSISTANCE SYSTEM	15A	7	15A
UMR LIFT TRACK RECEPTACLE	15A	9	15A
STAGE LIFT	20A	11	20A
STAGE LIFT PIT LIGHT	15A	13	15A
SLIP PUMP "SP-1"	20A	15	20A
ELEVATOR PIT RECEPTACLE	15A	17	15A
ELEVATOR SHUT LIGHTING	15A	21	15A
SPARE	15A	23	15A
SPARE	15A	25	15A
SPARE	20A	27	20A
SPARE	20A	29	20A

- NOTES:
- PROVIDE PANELBOARD C/W COVERS, COPPER BUS.
 - PROVIDE PRINTED PANEL DIRECTORY WITH CIRCUIT NUMBER, TYPE AND LOCATION OF ALL LOADS. ALL SPARE CIRCUITS SHALL BE IDENTIFIED AND LABELED. PROVIDE OVERCURRENT PROTECTION AND FEEDER SIZE.
 - PROVIDE A NEW FEEDER (4/3 R954C IN 35mmC) TO THE PANEL FROM A NEW BREAKER LOCATED IN THE ELECTRICAL ROOM (SEE KEY PLAN).

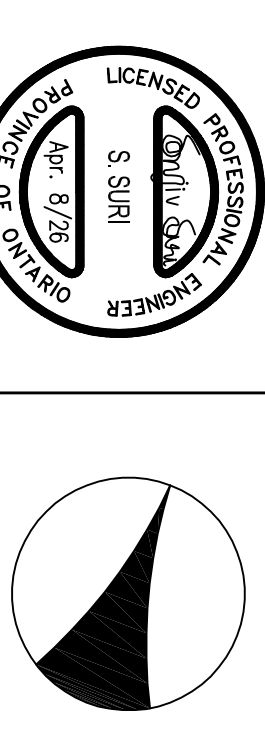


- SYSTEM NOTES:
- PROVIDE ALL DEVICES AND CONTROLLER AND CABLING AS SHOWN ON THE SCHEMATIC AND ON THE FLOOR PLAN.
 - PROVIDE ALL WIRING AS PER THE MANUFACTURER'S RECOMMENDATIONS AND TO SUIT THE DEVICE-TO-DEVICE DISTANCE.
 - LOCATE THE CONTROLLER AND ASSOCIATED POWER SUPPLY UNITS IN A LOCATION THAT IS ACCESSIBLE TO THE MANUFACTURER AND/OR ITS DELEGATE, COMMISSIONED BY THE ARCHITECTURAL DRAWING PROVIDER.
 - ENTIRE SYSTEM SHALL BE SITE COMMISSIONED BY THE MANUFACTURER AND/OR ITS DELEGATE, COMMISSIONED BY THE ARCHITECTURAL DRAWING PROVIDER.
 - PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR A FULLY OPERATIONAL DOOR ACCESS CONTROL SYSTEM.
 - ALL 120V AND LOW-VOLTAGE WIRING IS TO BE BY DIVISION 26, TO THE CENTER OF THE DEVICE.
 - ALL CARD READER ARE TO BE MOUNTED AT 1100mm MEASURED TO THE CENTER OF THE DEVICE.
 - PROVIDE WIRING & CONDUIT FROM THE DOOR CONTROLLER TO THE INTERCONNECTION OF THE ACCESS CONTROL SYSTEM TO THE INTRUSION ALARM SYSTEM.
 - PROVIDE FORTY (40) PROGRAMMABLE CARDS AND HAND THEM TO THE HEAD CAMEL FOR THE SCHOOL'S USE.
 - ALL PROGRAMMING AND SETUP OF THE CARD READER SYSTEM IS TO BE COMPLETED BY THE CONTRACTOR. COORDINATE PERMITS AND PASSWORD SETUP WITH TDSB'S CARD ADMIN GROUP.

- SYSTEM SEQUENCE OF OPERATIONS:
- ACCESS TO THE ELEVATOR IS INTENDED TO BE LIMITED TO THE FOLLOWING:
- TDSB - SCHOOL PRINCIPAL
 - TDSB - DESIGNATED STAFF MEMBERS
 - TDSB - DESIGNATED STUDENTS WITH ACCESSIBILITY NEEDS
- THE ELEVATOR DOORS ARE TO BE KEPT NORMALLY CLOSED AT ALL TIMES.
- UPON A SUCCESSFUL SWIPE OF THE CARD READER ON ANY OF THE FLOORS, THE DOOR OF THE ELEVATOR ARE TO OPEN.

3 CARD READER ACCESS CONTROL SYSTEM
E7 SCALE: N.T.S.

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS, AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCING CONSTRUCTION. ALL DRAWINGS AND SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF TOSR, AND MUST BE RETURNED UPON REQUEST. USE THE LATEST REVISED DRAWINGS ONLY. REPRODUCTIONS OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT TOSR'S WRITTEN PERMISSION. DRAWINGS TO BE READ IN CONJUNCTION WITH SPECIFICATIONS. DO NOT SCALE DRAWINGS.



**Toronto
District
School
Board**

**Facility Services Department
Design & Construction Division**

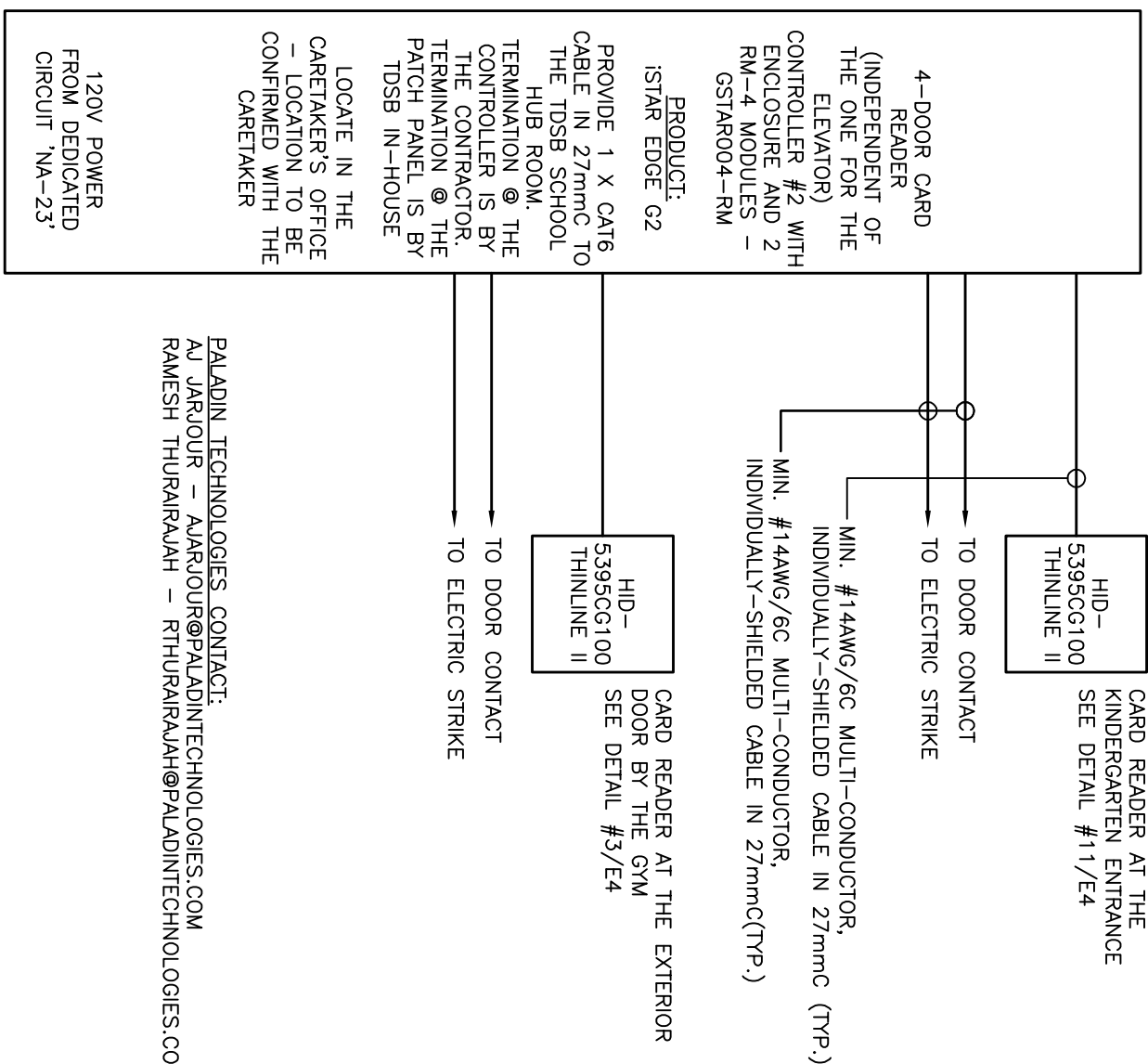
15 Oakburn Cres., Toronto, Ontario M2N 2T5
T: 416-393-4548 / F: 416-393-5974

LOCATION	William G. Miller Public School 60 Bennett Road Toronto, Ontario, M1E 3Y3		
PROJECT	ACCESSIBILITY UPGRADES		
DRAWING TITLE	SCHEDULES & SCHEMATICS		
TDSB PROJECT No:	TR-25-XXXX		DRAWING
DATE:	FEBRUARY 2026		E8
SCALE:	AS NOTED		
DRAWING BY:	RS		
APPROVED BY:	SS		

1. PROVIDE ALL DEVICES AND CONTROLLER AND CABLING AS SHOWN ON THE SCHEMATIC AND ON THE FLOOR PLAN.

2. RECOMMENDATIONS AND TO STUDY THE EFFECT OF DEVICE DISTANCE.
3. LOCATE THE CONTROLLER AND ASSOCIATED POWER SUPPLY WHERE NOTED ON THE DRAWINGS, CONNECT TO THE CIRCUIT
4. ENTER SYSTEM SHALL BE SITE COMMISSIONED BY THE CONSULTANT AND/OR SITE CLIENT, COMMISSION IN CONJUNCTION WITH THE DOOR INVOICE, INDOOR AND COMMISSIONER.
5. PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR A FULLY OPERATIONAL DOOR ACCESS CONTROL SYSTEM.
6. ALL 120V AND LOW-VOLTAGE WIRING IS TO BE BY DIVISION 26.
7. TO THE CENTER OF THE DOOR.
8. PROVIDE WIRING & CONDUIT FROM THE DOOR CONTROLLER TO THE EXISTING INTRUSION ALARM SECURITY PANEL, TO PROVIDE FOR INTERCONNECTION OF THE ACCESS CONTROL SYSTEM TO INTRUSION ALARM SYSTEM.
9. PROVIDE FORTY (40) PROGRAMMABLE CARDS AND HAND THEM TO THE HEAD CHARGEMAN FOR THE SCHOOL'S USE.
10. ALL PROGRAMMING AND SETUP OF THE CARD READER SYSTEM IS TO BE COMPLETED BY THE CONSULTANT AND/OR SITE CLIENT, COMMISSION IN CONJUNCTION WITH THE DOOR INVOICE, INDOOR AND COMMISSIONER AND ASSIGNED SETUP WITH 1995'S CARB ADMIN GROUP.

- UPON A SUCCESSFUL SWIPE OF THE CARD READER ON ANY OF THE FLOORS, THE DOOR OF THE ELEVATOR ARE TO OPEN.

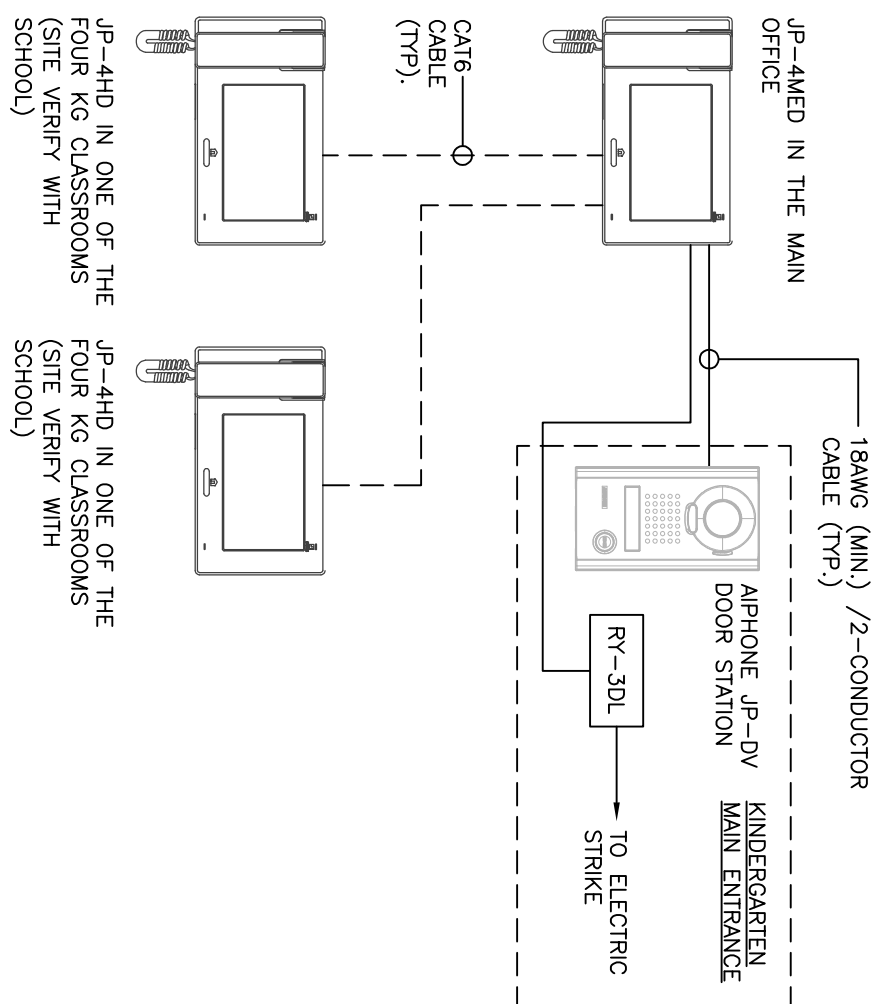


PALADIN TECHNOLOGIES CONTACT:
AJ JARJOUR – AJJARJOUR@PALADINTECHNOLOGIES.COM
RAWESH THURAIRAJAH – RTHURAIRAJAH@PALADINTECHNOLOGIES.COM

1 CARD READER ACCESS CONTROL SYSTEM

E8 SCALE: N.T.S

*NOT ALL ASPECTS OF THE INSTALLATION ARE DEPICTED HERE. REFER TO APHONETECHNICAL DOCUMENTS FOR FULL INSTALLATION DETAILS.



- [illegible]

2 NEW ALPHONE DOOR ACCESS CONTROL SYSTEM SCHEMATIC

E8 SCALE: N.T.S

5