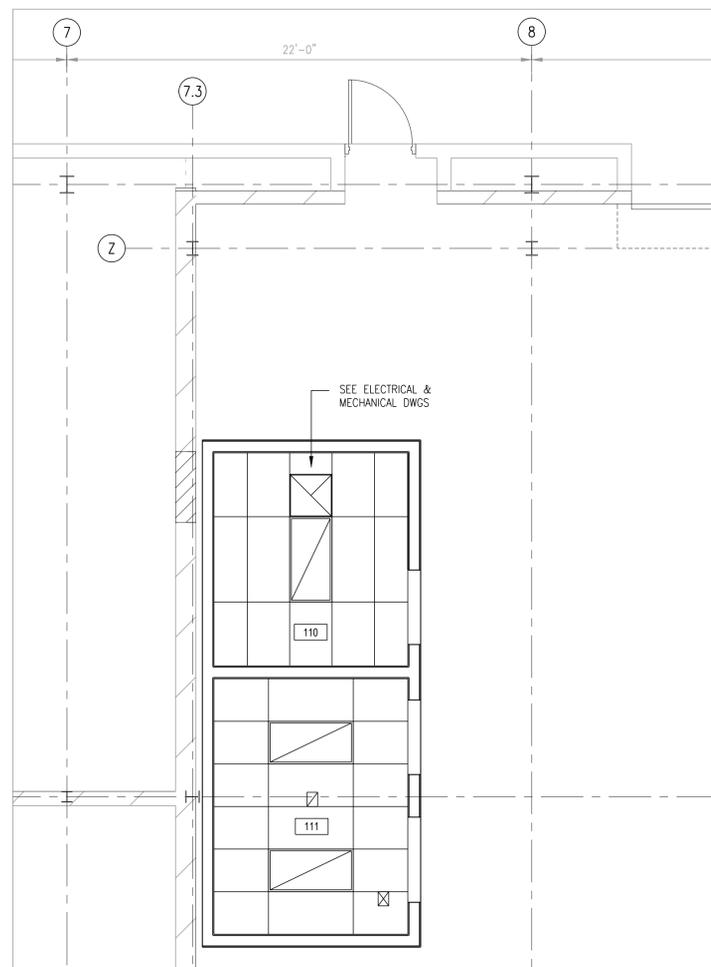


**PART FLOOR PLAN**  
SCALE: 1/4"=1'-0"  
NORTH

- 5/8" ABUSE RESISTANT GYPSUM
- 6" STEEL STUDS @ 16" O.C. MAX.
- BATT INSULATION
- 6 MIL POLY VAPOUR BARRIER
- 5/8" ABUSE RESISTANT GYPSUM



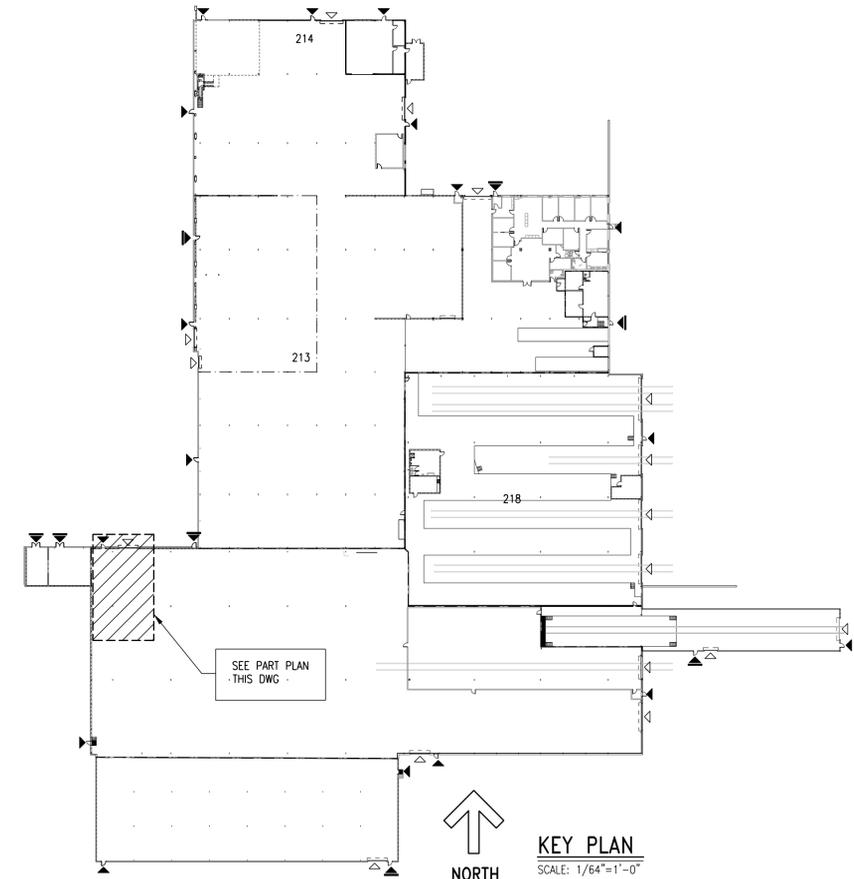
**REFLECTED CEILING PLAN**  
SCALE: 1/4"=1'-0"  
CEILING TO BE 24"x48" ACT T-BAR GRID @ 8'-0" A.F.F.  
NORTH

<b>Name of Practice:</b>		ATKINSON ENGINEERING INC. 786 KING ST EAST, HAMILTON, ON L8M 1A6 TEL: 905-523-1988, FAX: 905-523-6221	
<b>Name of Project:</b>		HAMILTON-OSHAWA PORT AUTHORITY BUILDING 218 UPGRADES	
<b>Location:</b>		204 HILLYARD ST. HAMILTON, ON	
Ontario Building Code Data Matrix, Part 11 – Renovation of Existing Building			Building Code Reference
11.1	Existing Building classification:	Describe Existing Use: WAREHOUSE Construction Index: N/A Hazard Index: N/A  X Not Applicable (no change of major occupancy)	11.2.1 T 11.2.1.1A T 11.2.1.1B to N
11.2	Alteration to Existing Building is:	Basic Renovation: X Extensive Renovation: <input type="checkbox"/>	11.3.3.1 11.3.3.2
11.3	Reduction in Performance Level:	Structural: X No <input type="checkbox"/> Yes By Increase in occupant load: X No <input type="checkbox"/> Yes By change of major occupancy: X No <input type="checkbox"/> Yes Plumbing: X No <input type="checkbox"/> Yes Sewage-system: X No <input type="checkbox"/> Yes	11.4.2 11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5
11.4	Compensating Construction:	Structural: X No <input type="checkbox"/> Yes (explain) Increase in occupant load: X No <input type="checkbox"/> Yes (explain) Change of major occupancy: X No <input type="checkbox"/> Yes (explain) Plumbing: X No <input type="checkbox"/> Yes (explain) Sewage system: X No <input type="checkbox"/> Yes (explain)	11.4.3 11.4.3.2 11.4.3.3 11.4.3.4 11.4.3.5 11.4.3.6
11.5	Compliance Alternatives Proposed:	X No <input type="checkbox"/> Yes (give number[s])	11.5.1



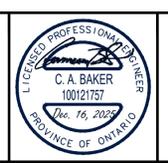
**KEY PLAN – SITE**  
SCALE: N.T.S.  
NORTH

- DRAWING LIST:**
- A101 KEY PLAN, OBC MATRIX, PART FLOOR PLAN, WASHROOM DETAILS & DRAWING LIST
  - A102 DOOR SCHEDULE, FINISH SCHEDULE, WASHROOM DETAILS
  - A201 ROOF PLAN – NEW INSULATION
  - A301 WALL ELEVATIONS – NEW INSULATION
  - A302 SECTIONS & DETAILS
  - S101 FLOOR SLAB DEMOLITION – EAST
  - S102 FLOOR SLAB DEMOLITION – WEST
  - S103 FLOOR SLAB NEW – WEST
  - S104 FLOOR SLAB NEW – EAST
  - S201 WALL ELEVATIONS
  - S202 ROOF OPENING FRAMING PLAN, SECTIONS & DETAILS
  - M101 PART PLAN – HVAC
  - M102 PART PLAN – NATURAL GAS HEATING
  - M103 PART PLANS – PIPING, DRAINAGE & HVAC
  - M104 PART SOUTH PLAN – EXIST. & NEW SPRINKLER
  - M105 CONTROL DIAGRAMS & DETAILS
  - M106 MECHANICAL SPECIFICATION
  - E101 WEST FLOOR PLAN – POWER & SPECIFICATIONS
  - E102 EAST FLOOR PLAN – POWER, ONE-LINE DIAGRAM, SCHEMATIC, PANEL SCHEDULE & NOTES
  - E103 PARTPLANS – LIGHTING & POWER



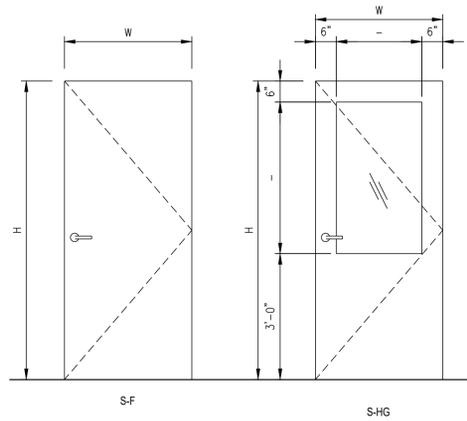
**KEY PLAN**  
SCALE: 1/64"=1'-0"  
NORTH

no	description	date
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1	REVISED FOR ADDED GUARD	NOV. 4, 2025
2	ISSUED FOR CONSTRUCTION	DEC. 16, 2025

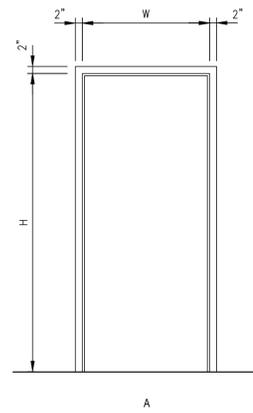


project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES	drawn:	BTD	scale:	AS NOTED
date:	JUNE 2025	checked:	CB	project number:	25-38
drawing title:	KEY PLAN, OBC MATRIX, PART FLOOR PLAN WASHROOM DETAILS & DRAWING LIST	date:	DEC. 2025	drawing number:	A101
				Revision:	2

DOOR TYPES



FRAME TYPES



DOOR SCHEDULE

DOOR #	TYPE	DOOR					FRAME										COMMENTS							
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	GLAZING	PUSH & PULL	CLOSER	DOOR STOP	DOOR SWEEP	WEATHERSTRIP	THRESHOLD		KICK PLATE	LOCKSET	1 1/2" BUTT HINGES	F.R.R. (MIN)			
110 A	S-F	3'-2"	7'-0"	1 3/4"	HM	PT	A	HM	PT	TG				X										
111 A	S-HG	3'-2"	7'-0"	1 3/4"	HM	PT	A	HM	PT	TG			X	X										

DOOR SCHEDULE ABBREVIATIONS

AL ALUMINUM  
EX EXISTING  
GWG GEORGIAN WIRE GLASS

HM HOLLOW METAL  
PT PAINT  
TG TEMPERED GLASS

HARDWARE SCHEDULE ABBREVIATIONS

KL KEYED LOCKSET w/ LEVER HANDLES  
KPD KEYED PANIC DEVICE w/ LEVER HANDLE ON OTHER SIDE  
PD PANIC DEVICE w/ LEVER HANDLE ON OTHER SIDE

PS PASSAGE SET - LEVER HANDLE  
PRIV PRIVACY SET - LEVER HANDLE  
PP PUSH / PULL

ROOM SCHEDULE

NO.	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING		COMMENTS
					FINISH	HEIGHT	
110	NEW WASHROOM	SL	RCB	PT	ACT-1	8'-0"	RCB BASE BOARD & PAINT WALLS
111	NEW OFFICE ROOM	SL	RCB	PT	ACT-1	8'-0"	RCB BASE BOARD & PAINT WALLS

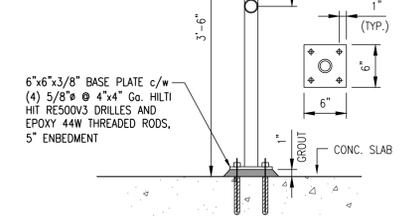
ROOM FINISH SCHEDULE ABBREVIATIONS

CT CERAMIC TILE  
RCB RUBBER COVE BASE

VT VINYL REINFORCED TILE  
PT PAINT

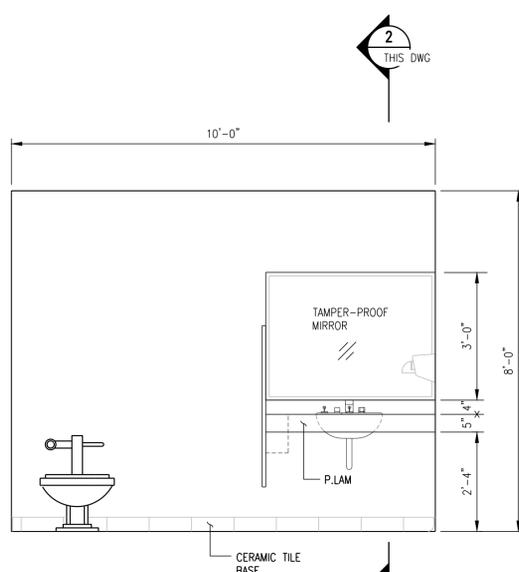
SL CONCRETE SEALER

TYPICAL GUARDRAIL:  
• HSS 1.90"x0.125" TOP AND MID RAILS  
• HSS 0.190"x0.125" SUPPORT POSTS @ 4'-0" o/c MAX.

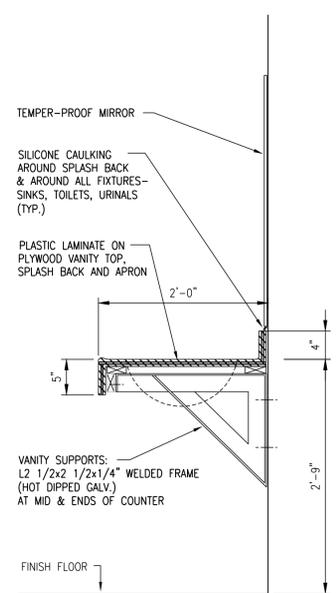


DETAIL

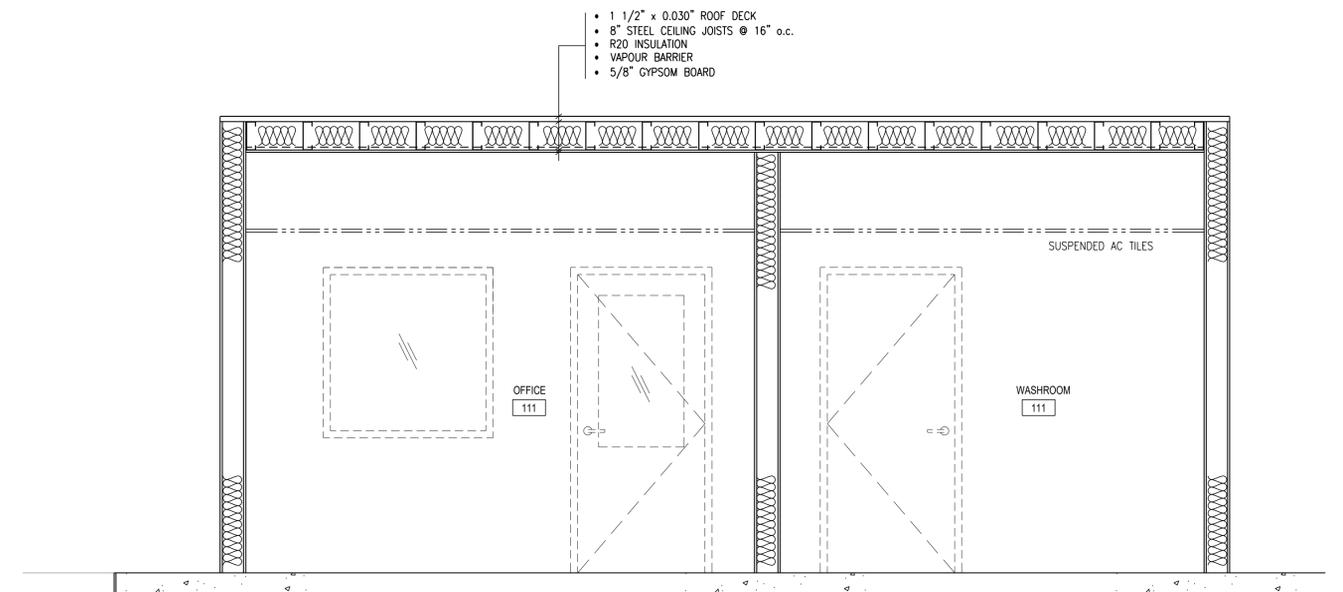
SCALE: 1"=1'-0"  
(TYP. GUARDRAIL ON CONCRETE)



ELEVATION A (LOOKING WEST)  
SCALE: 1/2"=1'-0"

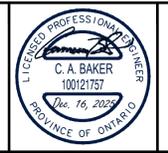


SECTION 2 (TYP. VANITY)  
SCALE: 1"=1'-0"



SECTION 1 (LOOKING WEST)  
SCALE: 1/2"=1'-0"  
DESIGN LOADS:  
DL: 17.2 PSF I<sub>LL</sub> = 1.0  
LL: 20.9 PSF  
WL: 10.0 PSF (INTERNAL) I<sub>WL</sub> = 1.0  
SEISMIC: I<sub>E</sub> = 1.0 PGA = 0.275  
S<sub>0</sub> (0.2) = 0.43  
SITE CLASS 'E'

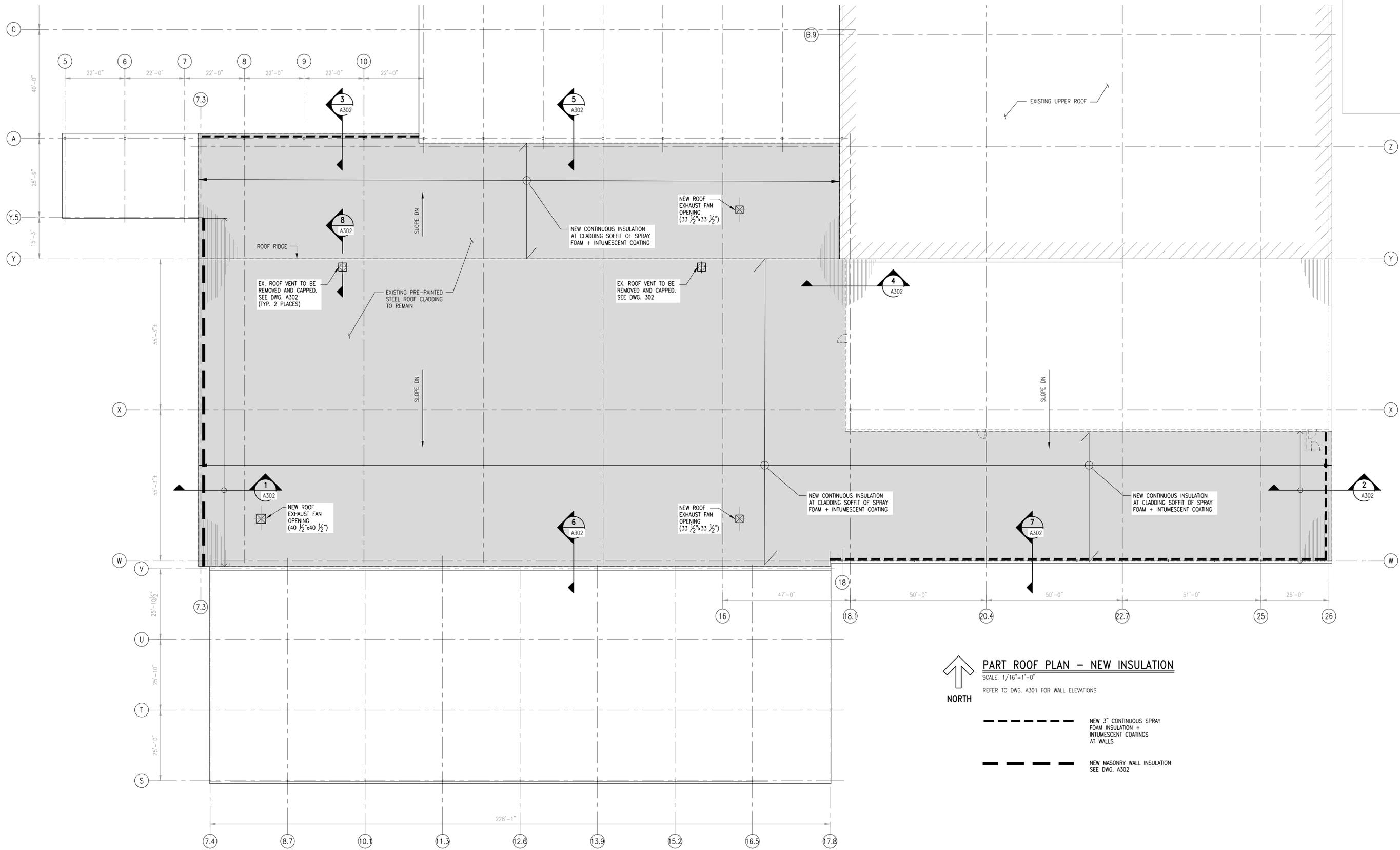
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1	REVISED FOR ADDED GUARD	NOV. 4, 2025
2	REVISED ROOM SCHEDULE FOR	NOV. 13, 2025
3	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



project title:  
HAMILTON-OSHAWA PORT AUTHORITY  
PIER 15 - 204 HILLYARD ST.  
BUILDING 218 UPGRADES

drawing title:  
DOOR SCHEDULE, FINISH SCHEDULE,  
WASHROOM DETAILS

drawn: BTD	scale: AS NOTED
date: JUNE 2025	project number: 25-38
checked: CB	drawing number: A102
date: DEC. 2025	revision: 3



**↑**  
NORTH

**PART ROOF PLAN - NEW INSULATION**  
SCALE: 1/16"=1'-0"  
REFER TO DWG. A301 FOR WALL ELEVATIONS

----- NEW 3" CONTINUOUS SPRAY FOAM INSULATION + INTUMESCENT COATINGS AT WALLS  
 - - - - - NEW MASONRY WALL INSULATION SEE DWG. A302

no	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



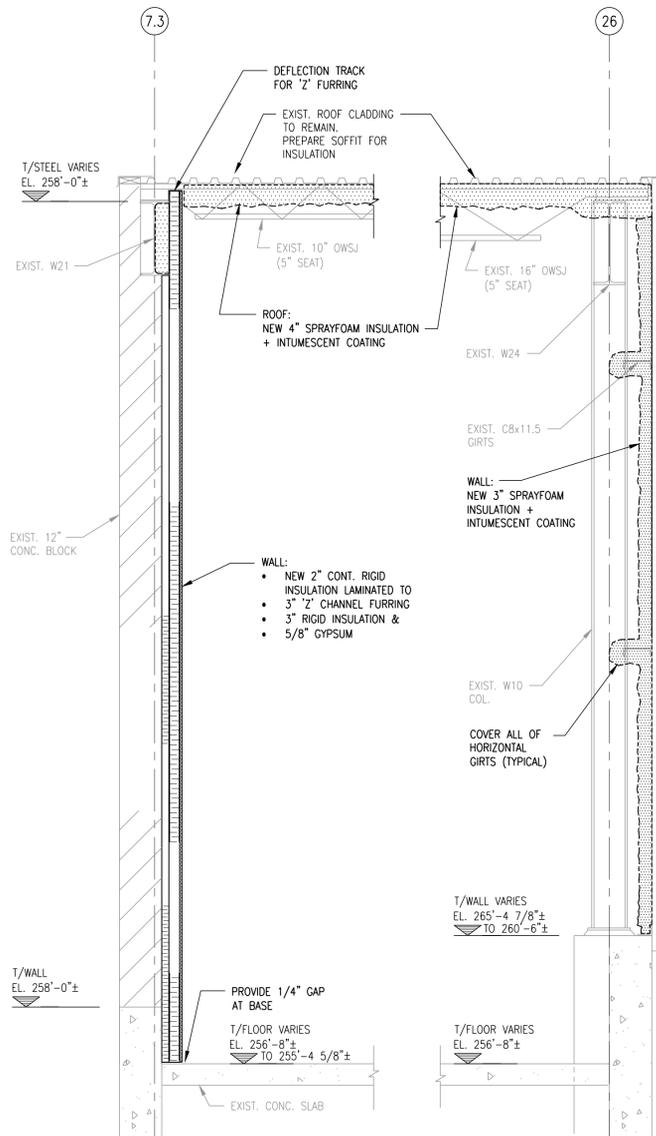
**ATKINSON ENGINEERING INC.**  
 786 King Street East  
 Hamilton ON L8M 1A6  
 Tel. 905.523.1988  
 Fax. 905.523.6221  
 www.atkinsonengineering.com

**HOPA PORTS** | HAMILTON OSHAWA PORT AUTHORITY

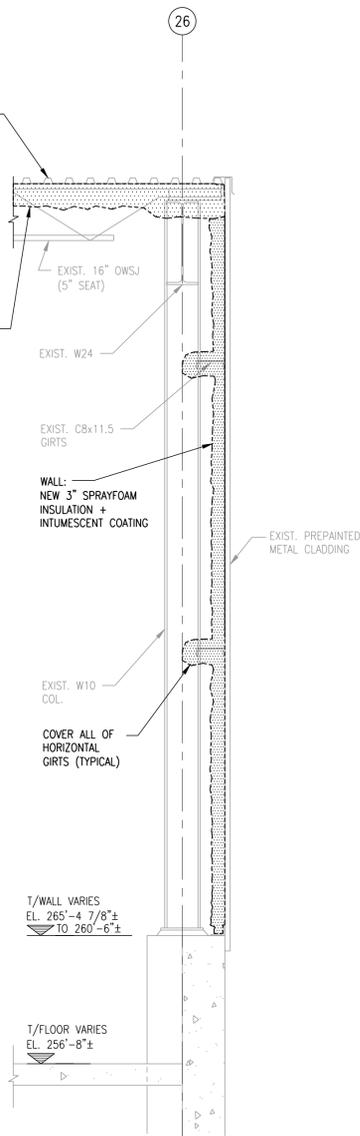
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drawn:	BTD
date:	JUNE 2025
checked:	CB
date:	DEC. 2025

scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	A201
Revision:	1

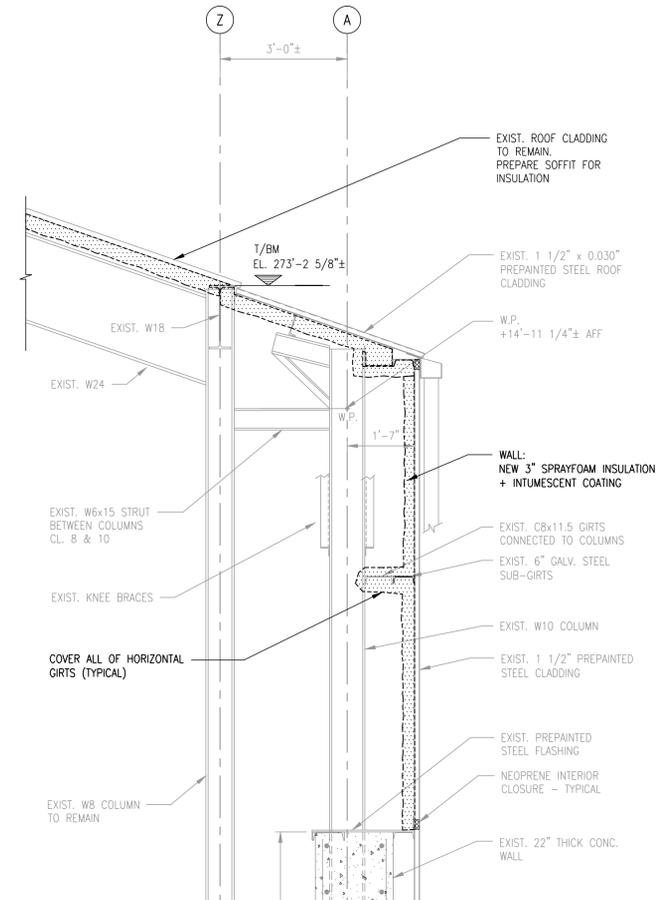




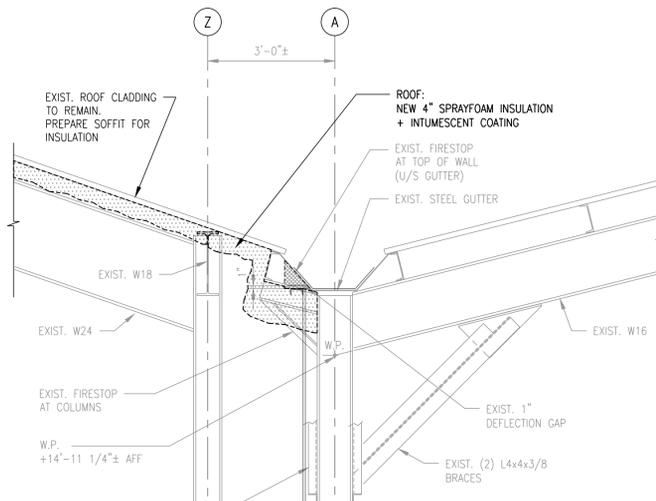
SECTION 1  
SCALE: 1/2"=1'-0"  
A201



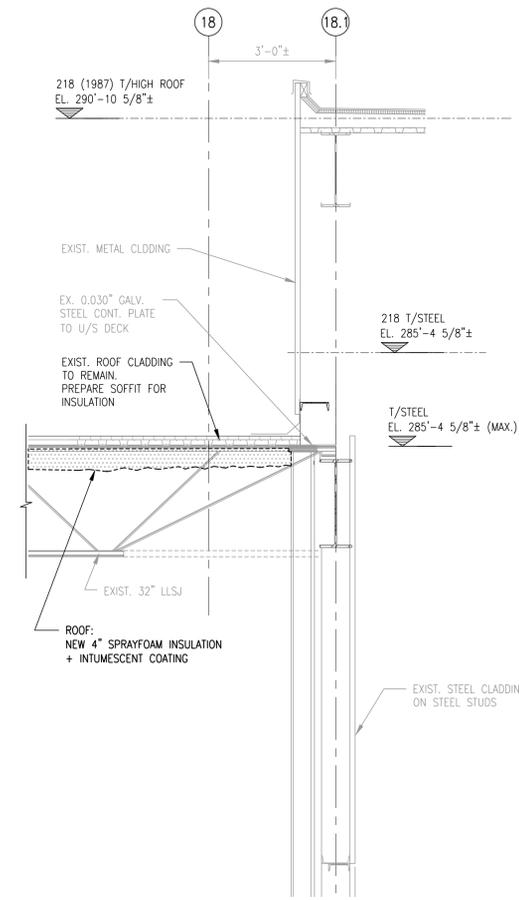
SECTION 2  
SCALE: 1/2"=1'-0"  
A201



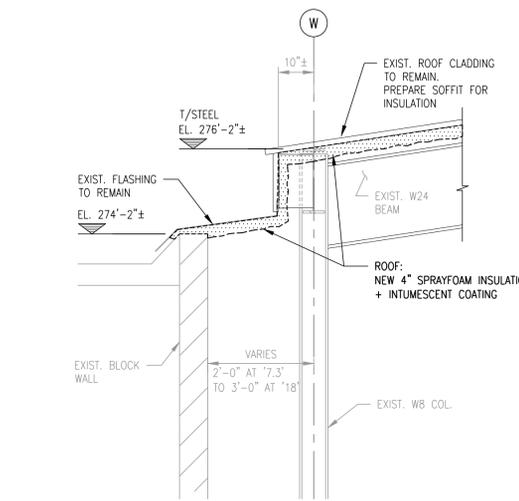
SECTION 3  
SCALE: 1/2"=1'-0"  
A201



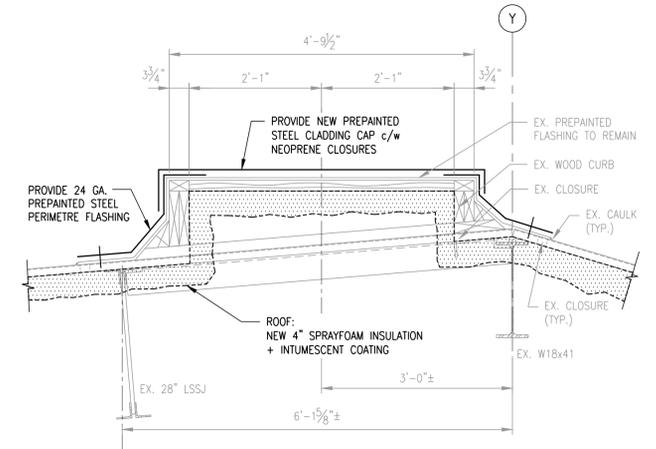
SECTION 5  
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A201



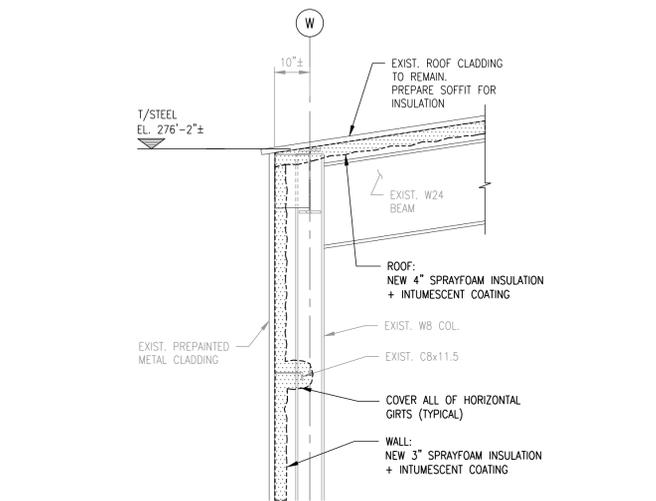
SECTION 4  
SCALE: 1/2"=1'-0"  
A201



SECTION 6  
SCALE: 1/2"=1'-0"  
A201



SECTION 8  
SCALE: 3/4"=1'-0"  
TYP. 2 PLACES  
A201



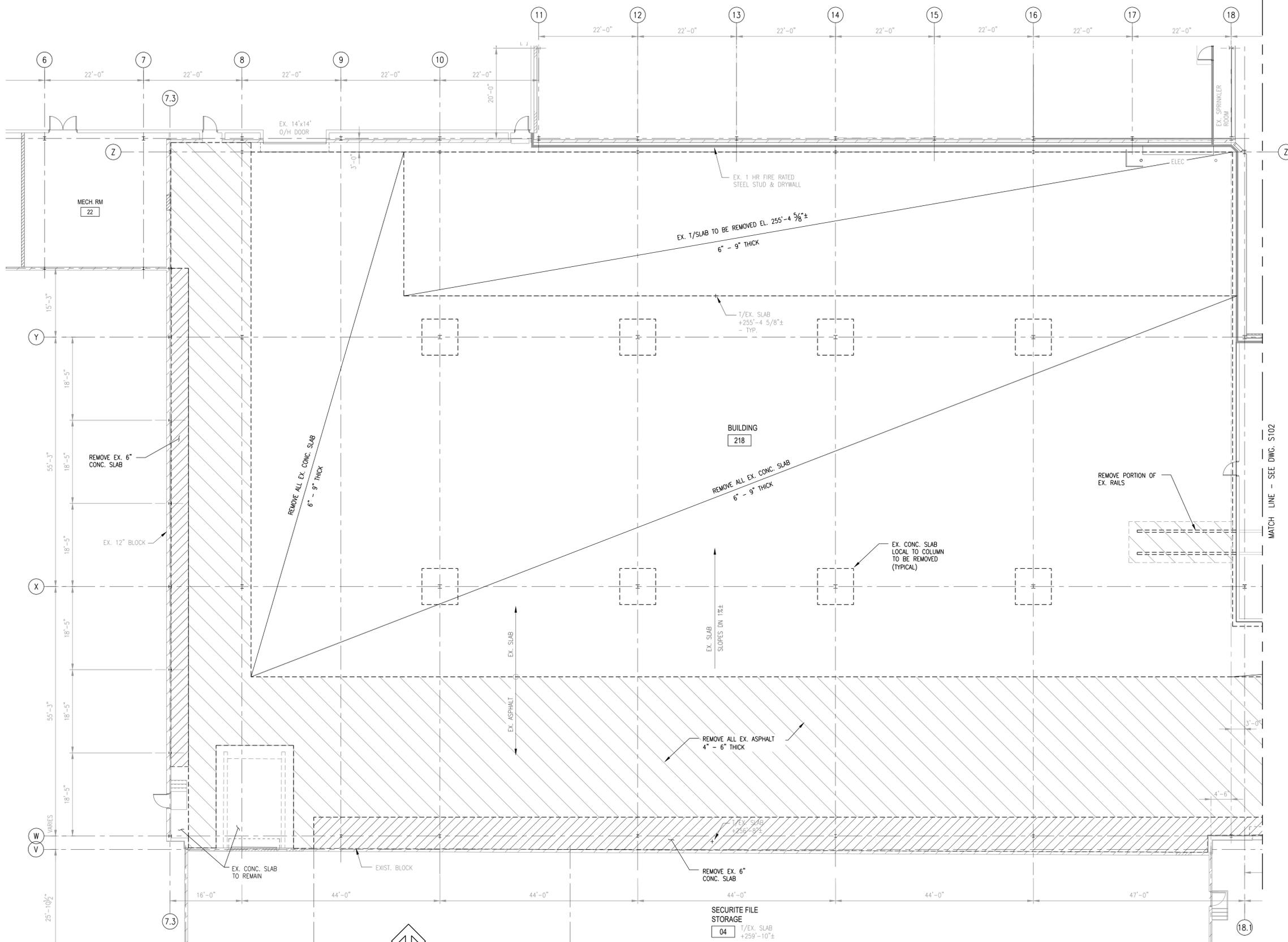
SECTION 7  
SCALE: 1/2"=1'-0"  
A201

no.	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	ISSUED FOR CONSTRUCTION	DEC. 16, 2025

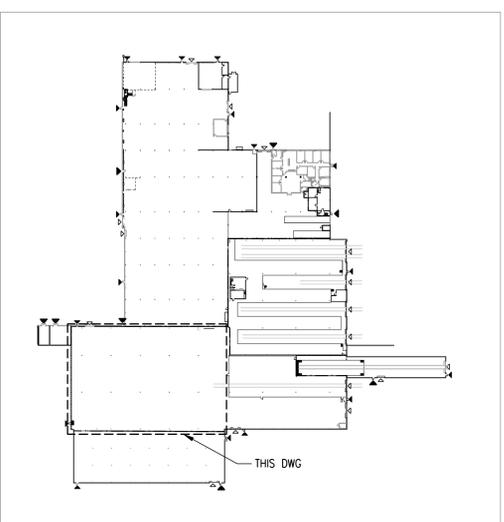


project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawing title:	SECTIONS & DETAILS
drawn:	BTD
date:	JUNE 2025
checked:	CB
date:	DEC. 2025

scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	A302
Revision:	1



- GENERAL NOTES:**
- DO ALL WORK SHOWN ON DRAWINGS AND SPECIFIED HEREIN TO DEMOLISH EXISTING CONCRETE FLOOR, INCLUDING ANY EMBEDDED STEEL SHAPES, EDGE ANGLES, RAIL LINES, BURIED MATERIAL ETC.
  - ANY AND ALL ELECTRICAL AND CONTROL WORK INCLUDING REMOVALS AND RELOCATIONS BY CONTRACTOR. IDENTIFY AND NOTIFY HOPA OF ALL EQUIPMENT, SERVICES AND CONDUITS TO BE REMOVED/RELOCATED.
  - FIELD MEASURE AND MAKE ADJUSTMENTS TO SUIT EXISTING CONDITIONS.
  - DO NOT SCALE DRAWINGS.
  - PRIOR TO EXCAVATION, LOCATE ALL BURIED SERVICES. CONTACT HOPA, BELL CANADA, UNION GAS, AND CITY OF HAMILTON FOR TELEPHONE, GAS, WATER AND SEWER LOCATIONS.
  - PROVIDE PROTECTION FROM EXISTING EQUIPMENT AND ANY OTHER WORK REQUIRED TO ENSURE SAFE CONDITIONS FOR WORKERS.
  - PROTECT ALL EXISTING EQUIPMENT AND CONDITIONS FROM DAMAGE DURING CONSTRUCTION.
- EXCAVATION AND BACKFILL:**
- COORDINATE MATERIALS REMOVALS, EXISTING SOIL REVIEW AND BACKFILL COMPACTION TESTING WITH OWNERS GEOTECHNICAL ENGINEER.
  - GEOTECHNICAL ENGINEER IS  
CHUNG AND VANDERDOELEN ENGINEERING LTD.  
311 VICTORIA STREET NORTH  
KITCHENER, ON N2H 5E1  
519-742-8979
  - EXCAVATE AS REQUIRED TO CONSTRUCT SLABS ON GRADE AND PAVING BRICK SYSTEM INCLUDING BASE COURSE, AND BEDDING. SEE SPECIFICATIONS FOR DISPOSAL OF REMOVED MATERIAL.
  - BACKFILL FOR SLAB ON GRADE BASE COURSE SHALL BE GRANULAR "A" MATERIAL PLACED IN MAXIMUM 8" LIFTS AND COMPACTED TO 100% S.P.M.D.D.
  - EXISTING GRANULAR MAY BE REUSED UNDER DIRECTION AND APPROVAL OF OWNERS GEOTECHNICAL ENGINEER.
- CONCRETE REMOVALS:**
- DISPOSE OF ALL REMOVED MATERIAL OFF SITE.
  - SAWCUT AND REMOVE ALL EXISTING CONCRETE AND ASPHALT WHERE SHOWN.
  - INCLUDE FOR ALL EMBEDDED STEEL REMOVALS VISIBLE AT THE EXISTING TOP SURFACE.
  - CONCRETE AND ASPHALT THICKNESS VARIES AS NOTED. INCLUDE FOR ALL REMOVALS.



**FLOOR PLAN - WEST**  
SCALE: 3/32"=1'-0"  
NORTH

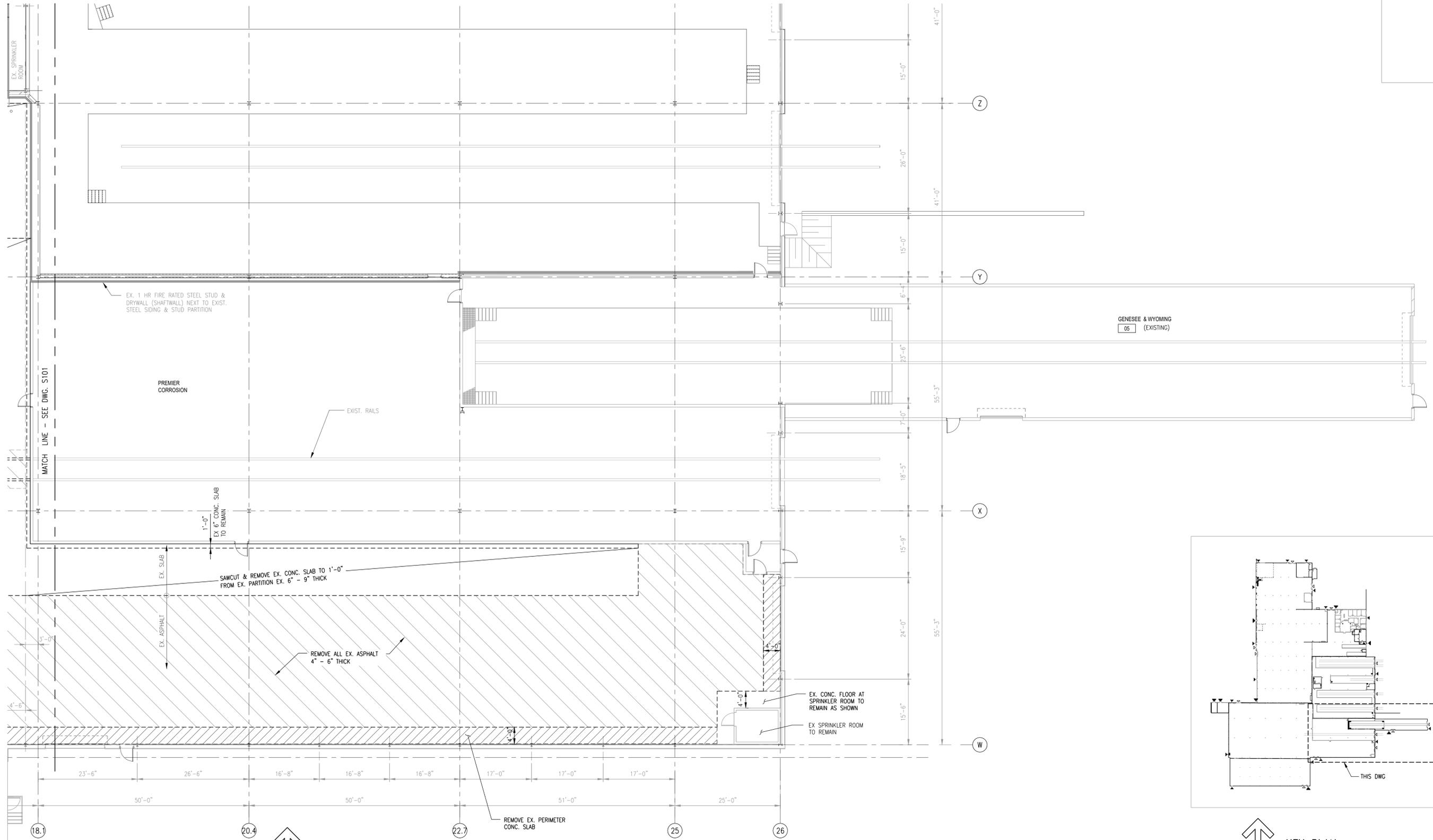
**KEY PLAN**  
SCALE: N.T.S.  
NORTH

no	description	date
0	ISSUED FOR TENDER	SEPT 5, 2025
1	ISSUED FOR CONSTRUCTION	DEC 16, 2025

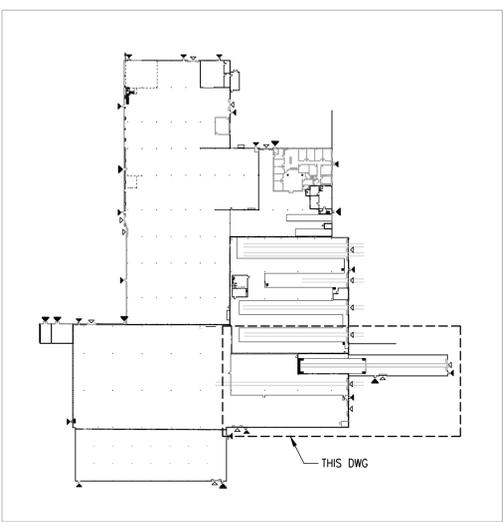


project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawing title:	FLOOR SLAB DEMOLITION - WEST
drawn:	BTD
date:	JUNE 2025
checked:	CB
date:	DEC 2025

scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	<b>S101</b>
Revision:	<b>1</b>



**FLOOR PLAN - EAST**  
SCALE: 3/32"=1'-0"  
NORTH



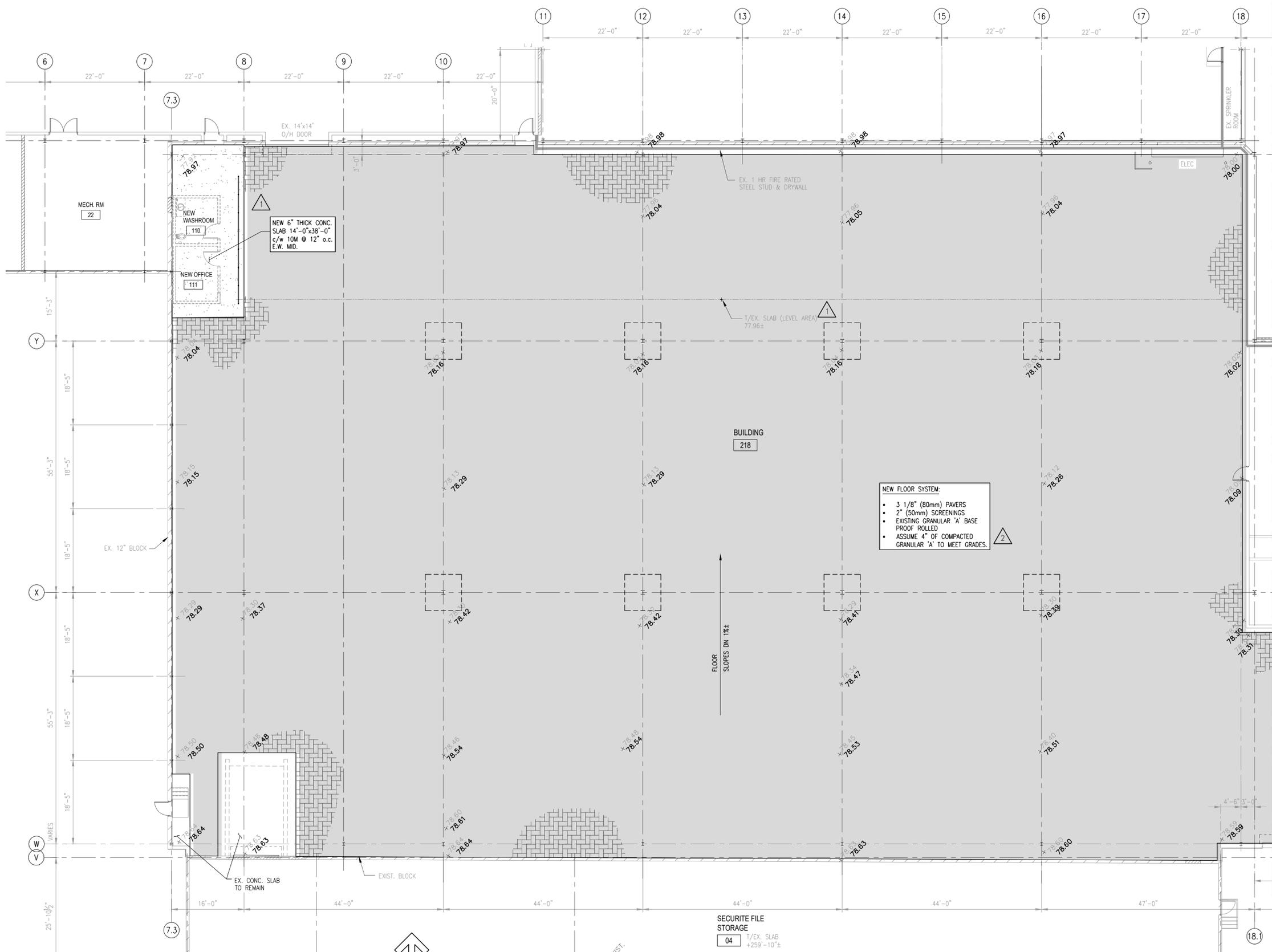
**KEY PLAN**  
SCALE: 3/32"=1'-0"  
NORTH

no	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawn:	BTD
date:	JUNE 2025
checked:	CB
date:	DEC. 2025

scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	S102
Revision:	1



- GENERAL NOTES:**
- DO ALL WORK SHOWN ON DRAWINGS AND SPECIFIED HEREIN TO CONSTRUCT NEW FLOOR INCLUDING NEW CONCRETE AND PAVING BRICK SYSTEM.
  - FIELD MEASURE AND MAKE ADJUSTMENTS TO SUIT EXISTING CONDITIONS.
  - DO NOT SCALE DRAWINGS.
  - PROVIDE PROTECTION FROM EXISTING EQUIPMENT AND ANY OTHER WORK REQUIRED TO ENSURE SAFE CONDITIONS FOR WORKERS.
  - PROTECT ALL EXISTING EQUIPMENT AND CONDITIONS FROM DAMAGE DURING CONSTRUCTION.

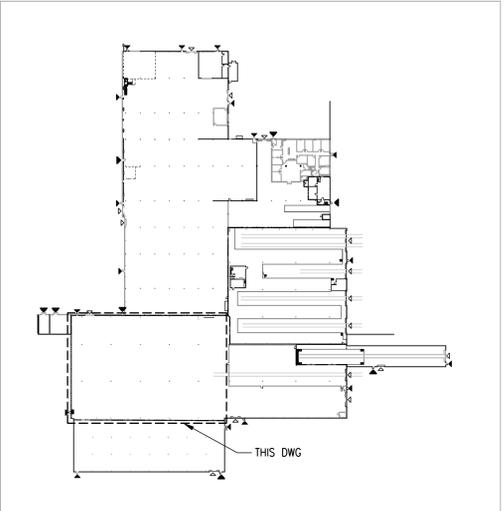
- NEW BRICK PAVER SYSTEM:**
- NEW FLOOR SYSTEM DESIGN BY HOPA PROJECT SPECIFICATIONS AND COORDINATE MATERIALS REMOVALS, EXISTING SOIL REVIEW AND BACKFILL COMPACTION TESTING WITH OWNERS GEOTECHNICAL ENGINEER.
  - GEOTECHNICAL ENGINEER IS CHUNG AND VANDERDOELEN ENGINEERING LTD. 311 VICTORIA STREET NORTH KITCHENER, ON N2H 5E1 519-742-8979
  - CONSTRUCT PAVING BRICK SYSTEM INCLUDING PROOF ROLLING OF EXPOSED BASE COURSE, AND NEW BEDDING. SEE SPECIFICATIONS FOR ALL PRODUCTS AND MATERIALS.
  - BACKFILL FOR SLAB ON GRADE BASE COURSE SOFT SPOTS SHALL BE GRANULAR "A" MATERIAL PLACED IN MAXIMUM 6" LIFTS AND COMPACTED TO 100% S.P.M.D.D. SUB-EXCAVATE AS REQUIRED.
  - EXISTING GRANULAR MAY BE REUSED UNDER DIRECTION AND APPROVAL OF OWNERS GEOTECHNICAL ENGINEER.

- CONCRETE:**
- ALL CONCRETE WORK TO CSA-A23.1- CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION.
  - INTERIOR SLAB ON GROUND CONCRETE TO BE TYPE C-1, 35 MPa 28 DAY STRENGTH, 75± SLUMP, 5-8% AIR. COMPOSITE SLAB CONCRETE TO BE TYPE N, 25 MPa 28 DAY STRENGTH, 75± SLUMP. EXTERIOR CONCRETE TO BE C-2, 32MPa, 5-8% AIR. NO CALCIUM CHLORIDE OR OTHER SALTS TO BE ADDED. SUBMIT MIX DESIGN FOR APPROVAL.
  - SUBMIT MIX DESIGN FOR APPROVAL.
  - REBAR TO BE GRADE 400 DEFORMED BARS TO CAN/CSA-C30.18-M92-BILLET STEEL BARS FOR CONCRETE REINFORCEMENT. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
  - CONTACT ATKINSON ENGINEERING INC. FOR REVIEW OF REINFORCING STEEL A MINIMUM OF 24 HRS. BEFORE PLACEMENT SO ANY DEFICIENCIES CAN BE CORRECTED.
  - PROVIDE A STEEL TROWEL FINISH TO CONCRETE SLAB.
  - CURE SLAB FOR A MINIMUM OF 7 DAYS BY COVERING WITH WET BURLAP AND POLY SHEETING.

**NEW FLOOR SYSTEM:**

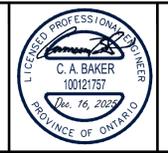
- 3 1/8" (80mm) PAVERS
- 2" (50mm) SCREENINGS
- EXISTING GRANULAR "A" BASE PROOF ROLLED
- ASSUME 4" OF COMPACTED GRANULAR "A" TO MEET GRADES.

**FLOOR PLAN - WEST**  
SCALE: 3/32"=1'-0"  
NORTH



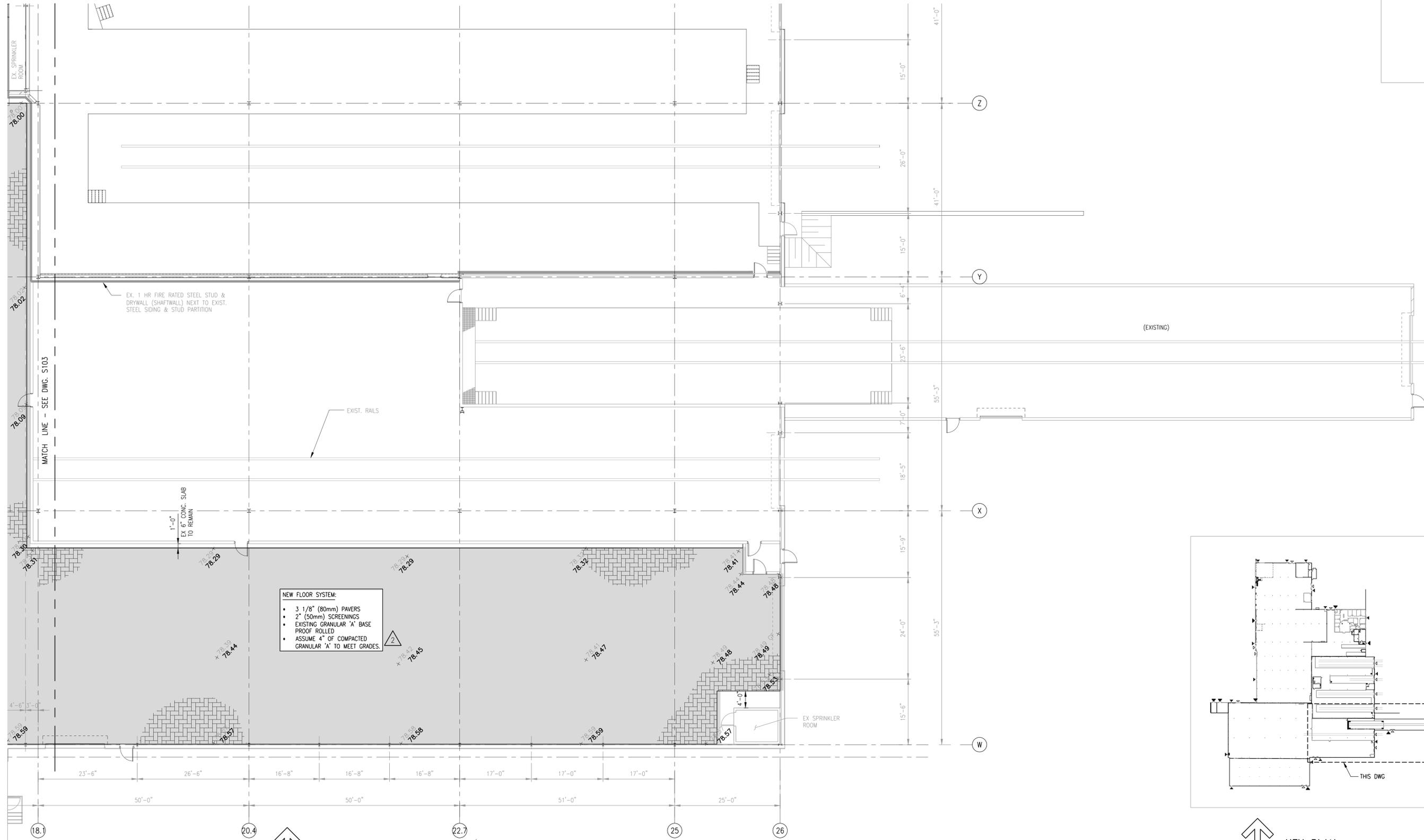
**KEY PLAN**  
SCALE: N.T.S.  
NORTH

no.	description	date
1	ISSUED FOR TENDER	SEPT. 5, 2025
2	REVISED CONG. SLAB AND ELEVATION NOTE	NOV. 11, 2025
3	ADDED NEW	NOV. 11, 2025
4	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawn:	BTD
date:	JUNE 2025
checked:	CB
date:	DEC. 2025

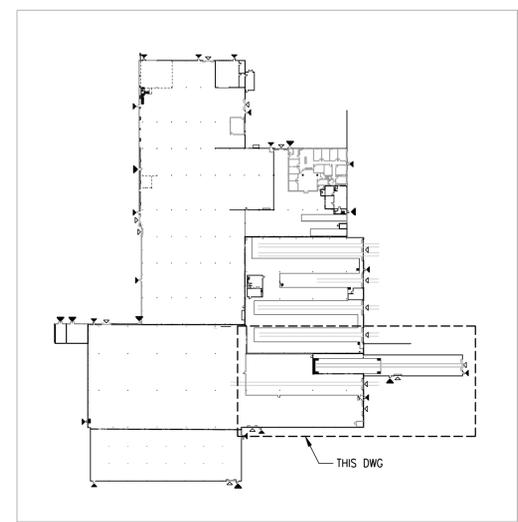
scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	S103
Revision:	3



**FLOOR PLAN - EAST**  
SCALE: 3/32"=1'-0"

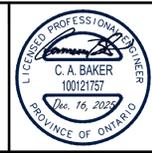
\*78.58 EXIST.  
\*78.59 NEW

NOTE: ELEVATION IN METRIC



**KEY PLAN**  
SCALE: 3/32"=1'-0"

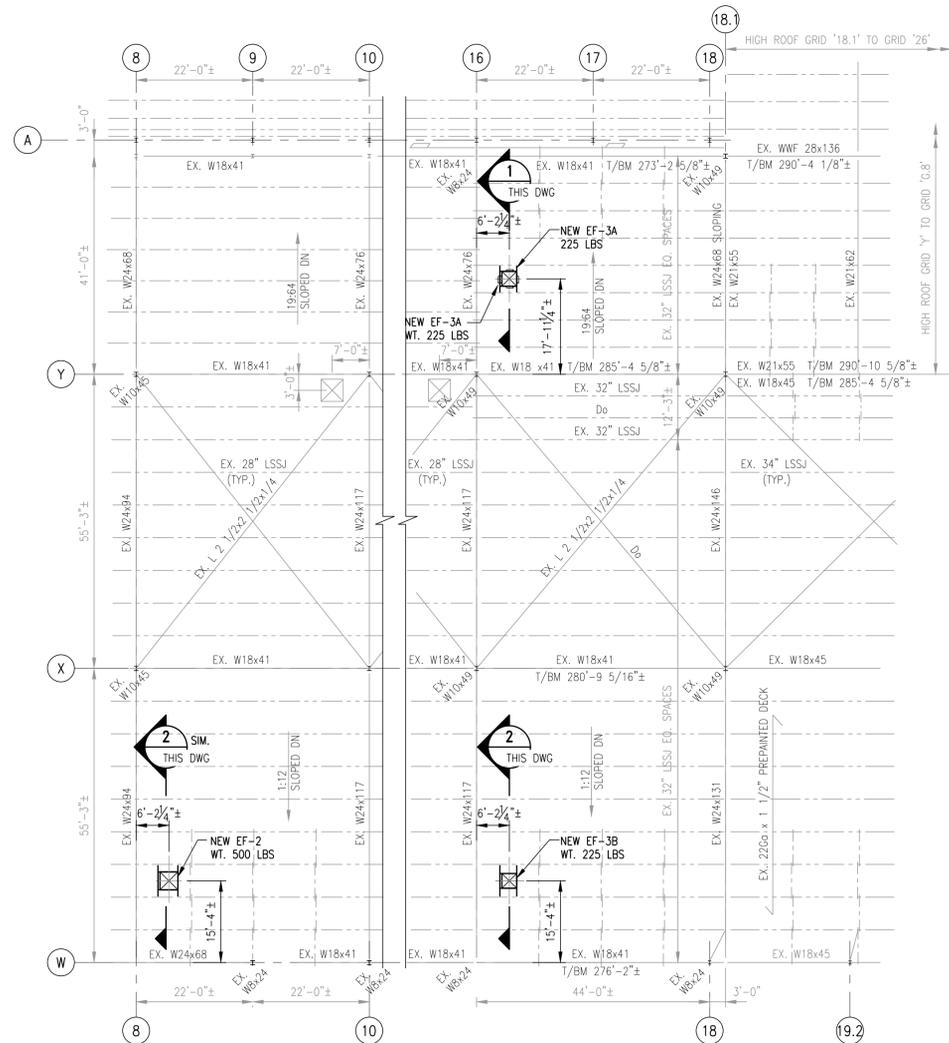
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0	ISSUED FOR TENDER	SEPT 5, 2025
1	REVISED ELEVATION NOTE	NOV 4, 2025
2	ADDED NEW GRADING	NOV 11, 2025
3	ISSUED FOR CONSTRUCTION	DEC 16, 2025

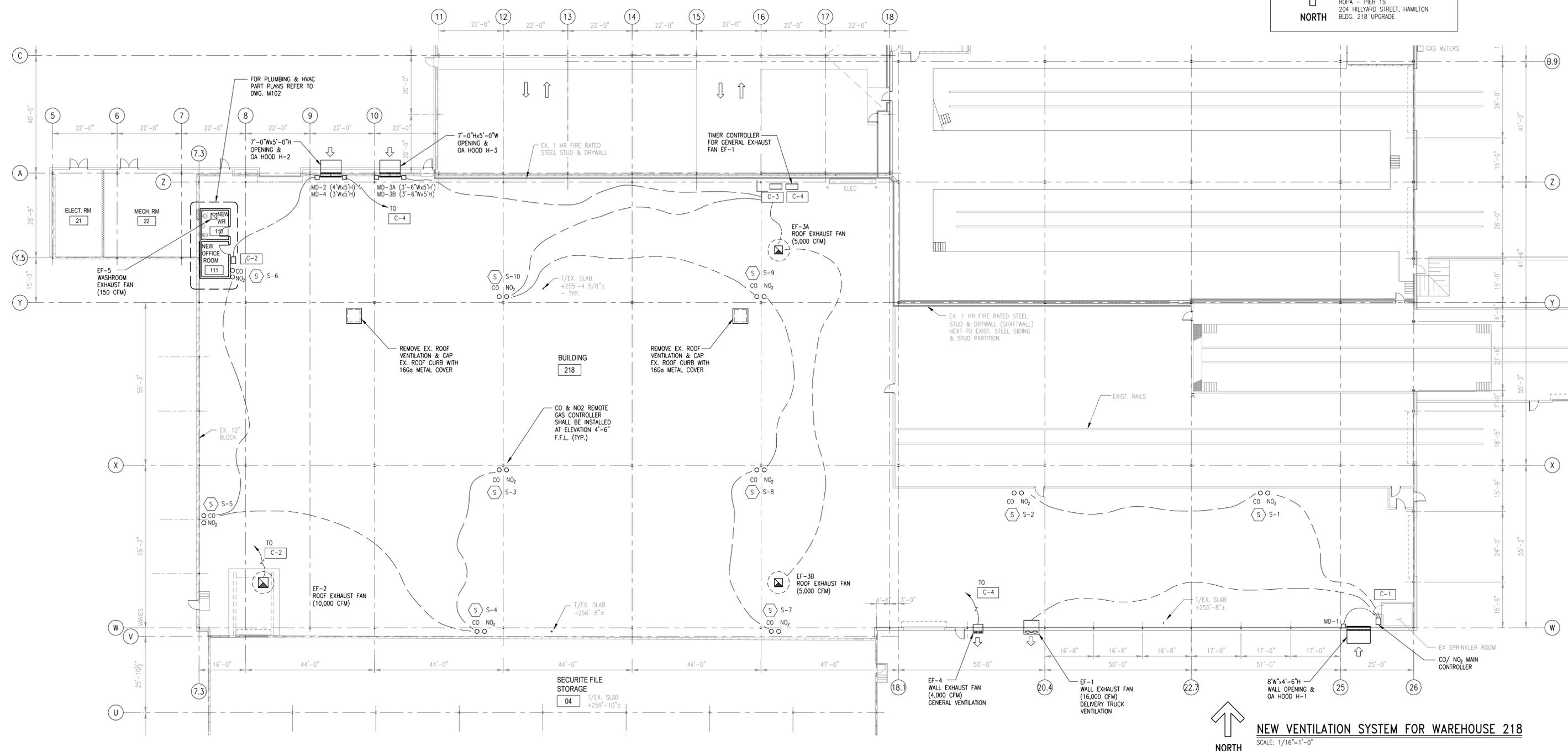
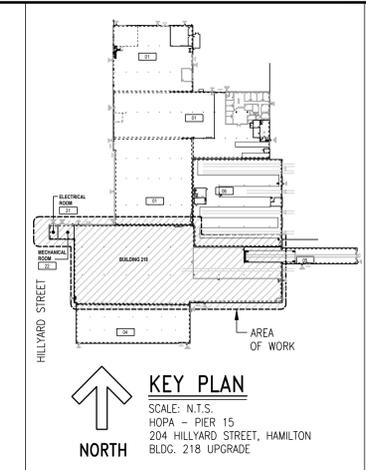


project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawn:	BTD
date:	JUNE 2025
checked:	CB
date:	DEC 2025

scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	<b>S104</b>
Revision:	<b>3</b>







no	description	date
0	ISSUED FOR TENDER	NOV. 4, 2025
1	ISSUED FOR CONSTRUCTION	DEC. 16, 2025

PROJECT TITLE: HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES  
 DRAWING TITLE: PART PLAN - HVAC  
 DRAWN: MK  
 CHECKED: MK  
 DATE: DEC. 2025



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**HOPA PORTS** | HAMILTON OSHAWA PORT AUTHORITY

project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawing title:	PART PLAN - HVAC
drawn:	BTD
date:	JUNE 2025
checked:	MK
date:	DEC. 2025
scale:	AS NOTED
project number:	25-38
drawing number:	M101
revision:	1



NEW SPLIT AIR-CONDITIONING (HEAT PUMP) UNIT SCHEDULE												
Tag Name	Type	Description	Location	Manufacturer	Unit Model	SEER2	EER2	Gross Cooling Capacity (BTUH)	Sensible Cooling Capacity (BTUH)	Rated Heating Capacity (BTUH)	Volts-Ph-Hz	Weight (lbs)
AC-1	Indoor Ductless Wall-mounted Fan unit	Split AC (Heat Pump) System	New Office/Storage	Daikin	FTXM12WVJU9	25.2	13.2	12,000	11,400	13,600	208-230/1/60	29
CU-3	Remote Condensing unit		Outdoor	Daikin	RXM12WVJU9							96

Included:  
 1- Remote Condensing Unit with Heat pump Inverter Compressors  
 2- Wall-mounted Wired Digital LCD Thermostat BRC944B2-A08 With Wiring Kit  
 3- Wind Baffle KPW063B4E  
 4- Precharged R32 refrigerant

5- Wall Bracket: Daikin DACA-WB-3  
 6- 10 years compressor warranty  
 7- Approved Equivalent: Mitsubishi, LG, Trane

ENERGY RECOVERY VENTILATION UNIT SCHEDULE																
Tag Name	Manufacturer	Model/Size	Area Served	Ducts Configuration	Supply Fan Total Airflow (CFM)	Supply Fan ESP (in.wg)	Exhaust Fan Total Airflow (CFM)	Exhaust Fan ESP (in.wg)	Weight (lbs)	Heating - Sensible Recovery Efficiency	Moisture Transfer	Cooling - Latent Recovery Efficiency	Moisture Transfer	Power Supply	MCA	MOCP
ERV-1	Reversomatic	Mini RERV-80	New Office/Storage	Horizontal	75	0.3	75	0.3	20.0	61%	0.42	40%	0.38	120V/160	0.75	15

Notes:  
 1- High Latent transfer (HLT) Recovery Core  
 2- Automatic Fan Cycled Defrost  
 3- Washable MERV 4 Filters  
 4- Variable speed PSC Motors and fans  
 5- Wall-Mounted Brackets (By Division-15)  
 6- TC100-120P-LCD Programmable Time Delay Switch (120V)  
 7-Single Intake Wall Vent SVI

PLUMBING FIXTURES SCHEDULE		
Tag	Description	Specification
EWH-1	Electric Hot water Heater Tank	<b>Giant Model: 106SEO-1R5M</b> , Electric hot water heater tank, CSA, CGA approved, 5 Imp Gallons capacity, 1500 watts, 120V/1Ph, CSA/ASME Rated T&P valve. Approved Equivalent: Rheem, AO Smith. <b>Accessories Included:</b> <b>HoldRite 40-SWHP-WM Water Heater Stands &amp; Hangers</b> - Wall-mounted, Water heater platform, Galvanized steel construction, Static load rating 375 lb. with 2X safety factor (depending on structural anchorage).
WC-1	Water Closet-Floor Mounted	<b>American Standard 3461001.020 Toilet - MADERA™ FloWise®</b> , Toilet, Floor mounted with floor outlet, Toilet operates in the range of 4.2 to 6.0 LPF (1.1 - 1.6 GPF), Vitreous china, White finish, EverClean® antimicrobial surface, Elongated bowl. <b>Centoc 500STSCFE-001 Seat</b> - Open front Toilet seat Without cover, For elongated bowl, White Polypropylene plastic, Color-matched plastic check hinges with one solid metal hinge pin and bolt. <b>Sloan ROYAL 111-YO-1 Flush Valve - ROYAL® Manual Exposed Water closet flushometer</b> , constructed from Semi-red brass, Polished chrome finish, 4.2 LPF (1.1 GPF).
L-1	Lavatory/ Drop-in Sink	<b>Franke Commercial OV1821-5-3 Basin</b> - Drop-in Lavatory, Grade 18-10 Type 304 18 gauge Stainless steel, Mirror finished rim, #4 satin finished bowl. <b>Chicago Faucets 420-T45E2805ABCP Faucet</b> - Manual, Single handle, Lavatory faucet. <b>McGuire 155A Fixture Drain</b> - Straight drain, Cast brass, Chrome-plated finish <b>McGuire LFBV170 Supply - CONVERTIBLE™ Commercial Faucet Supply kit</b> , consisting of (2) stop valves, (2) risers, (2) flanges (standard), Lead Free Brass body, Chrome-plated finish, Convertible loose key/triangle handle, Angle stop, 305 mm (12") C.P. lavatory flexible copper riser tubes (standard), 13 mm (1/2") Sweat inlet x 10 mm (3/8") O.D. outlet. <b>McGuire 8872C P-Trap</b> - Heavy cast brass, 32 mm (1-1/4") x 32 mm (1-1/4") size, Adjustable P-Trap, With cleanout plug.
HB	Hose Bib	<b>Hose Bib Jay R. Smith Fig. 5670-H</b> , Hose bib shall be 3/4" NPT female threaded inlet and 3/4" hose connection complete with vacuum breaker, Brass body, wheel handle.

Plumbing Connections Schedule					
TAG	TYPE	SAN	TRAP	VENT	HW / CW
WC-1	Water Closet	3"			1"
L-1	Lavatory		1-1/4"	1-1/4"	1/2" / 1/2"

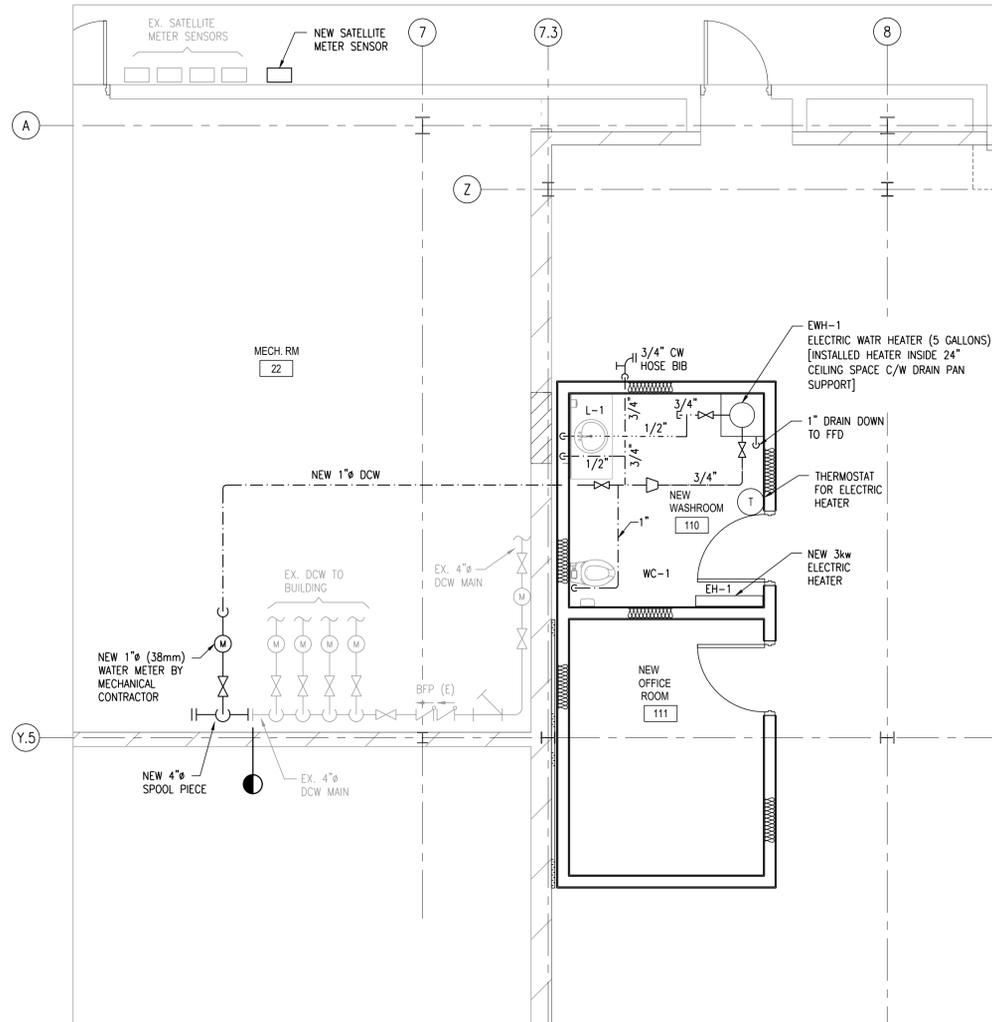
**PLUMBING NOTES:**  
 1. ALL PLUMBING, DRAINAGE AND VENT PIPING SHALL CONFORM TO ONT. REG. 332/12 BUILDING CODE, PART 7.  
 2. DO NOT COVER ANY STORM, SANITARY, VENT AND WATER PIPING PRIOR TO TESTING. INSPECTOR SHALL WITNESS THE TEST.  
 3. ALL PLUMBING AND DRAINAGE PIPES PENETRATING FIRE SEPARATIONS SHALL BE FIRE STOPPED.  
 4. ALL PLUMBING AND DRAINAGE PIPES SHALL BE OF NON-COMBUSTIBLE CONSTRUCTION.  
 5. EVERY INTERIOR LEADER SHALL BE PROVIDED WITH A CLEANOUT FITTING AT THE BOTTOM OF THE LEADER AS PER OBC DIV. B, 7.4.7.1 (3).  
 6. ALL FLOOR DRAIN SHALL BE VENTED AND PRIMED AS PER OBC DIV. B, 7.5.1.1 (1) AND OBC DIV. B, 7.4.5.5.  
 7. SANITARY VENTS LINES FOR PLUMBING FIXTURES ARE NOT SHOWN ON THE DRAWING. MECHANICAL CONTRACTOR TO PROVIDE VENT LINE. VENTS SHALL BE GROUP VENTED AND TERMINATED TO THE ROOF. REFER TO PLUMBING SCHEDULE ON DRAWING FOR VENT REQUIREMENT FOR EACH FIXTURE AND REFER OBC DIV. B, 7.5.

ELECTRIC CONVECTOR HEATER SCHEDULE									
Tag	Description	Heater Location	Manufacturer	Model #	Electric Capacity (KW)	Length inch	Power		Notes
EH-1	Wall-mounted Electric Convector Heater	New Washroom	Ouellet	OL13038	3	37-3/16	Volts	Ph.	1 to 3

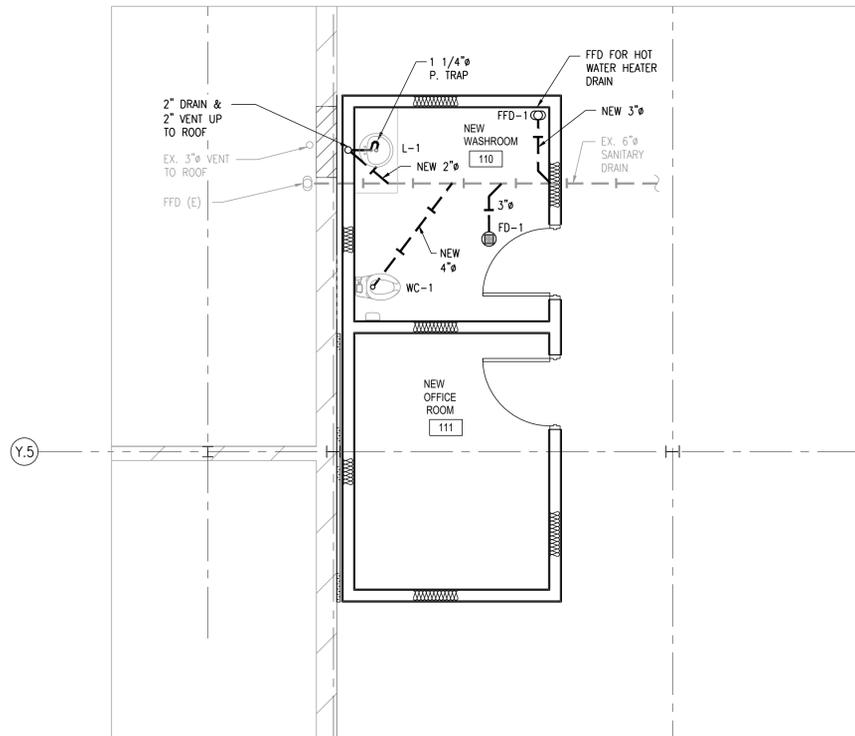
Notes:  
 1- Sloped top with 16 ga Steel front cover  
 2- Disconnect by Div. 16  
 3- Single Pole Line voltage Thermostat OTL221

Electric Duct Heater Schedule									
Tag	Duct Size	Heater Collar Size	Manufacturer	Model #	KW	POWER		ΔT	Notes
EDH-1	5"φ	5"φ	Thermolec	Thermo-Air, TER-5-1120	1	Volts	Phase	°F	1 to 5

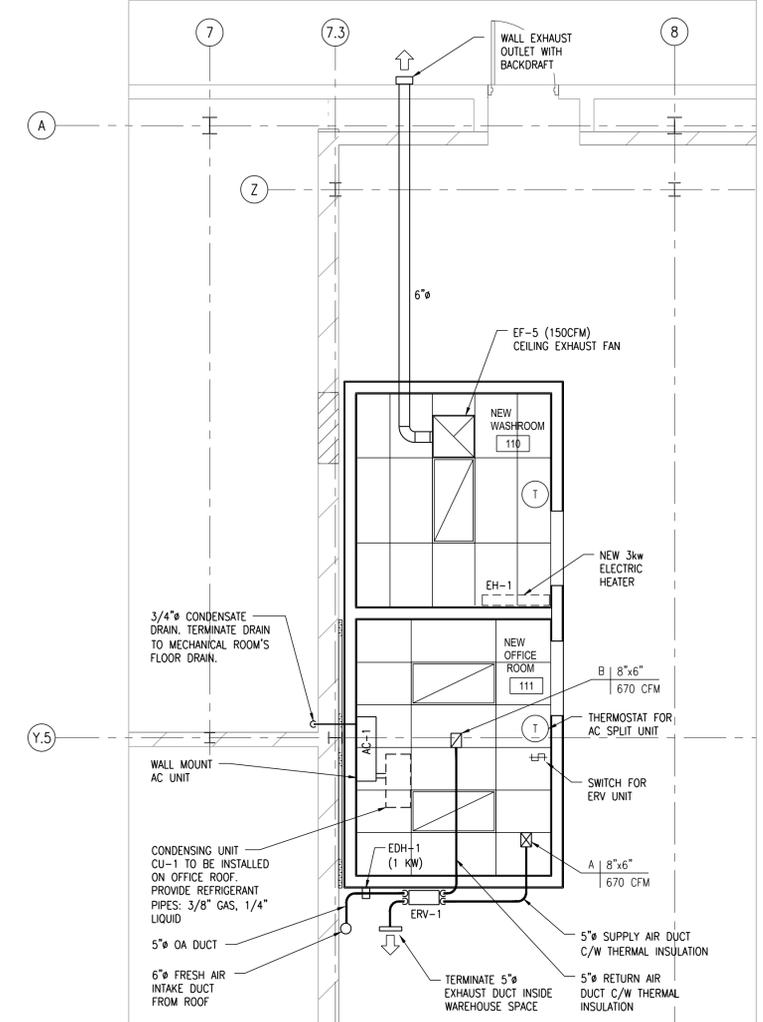
Notes:  
 1- Heater Enclosure c/w Inlet & Outlet Duct Collars  
 2- Automatic Reset Thermal Cutout  
 3- Air Flow Switch  
 4- Built-in Temperature Controller & Temperature Sensor (Set to 43 °F)  
 5- Terminal Block



**NEW DOMESTIC WATER PIPING PART PLAN**  
 SCALE: 1/4"=1'-0"  
 NORTH

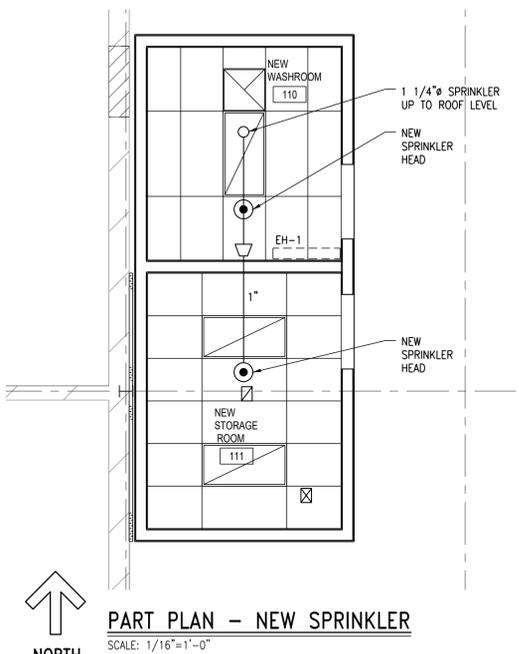
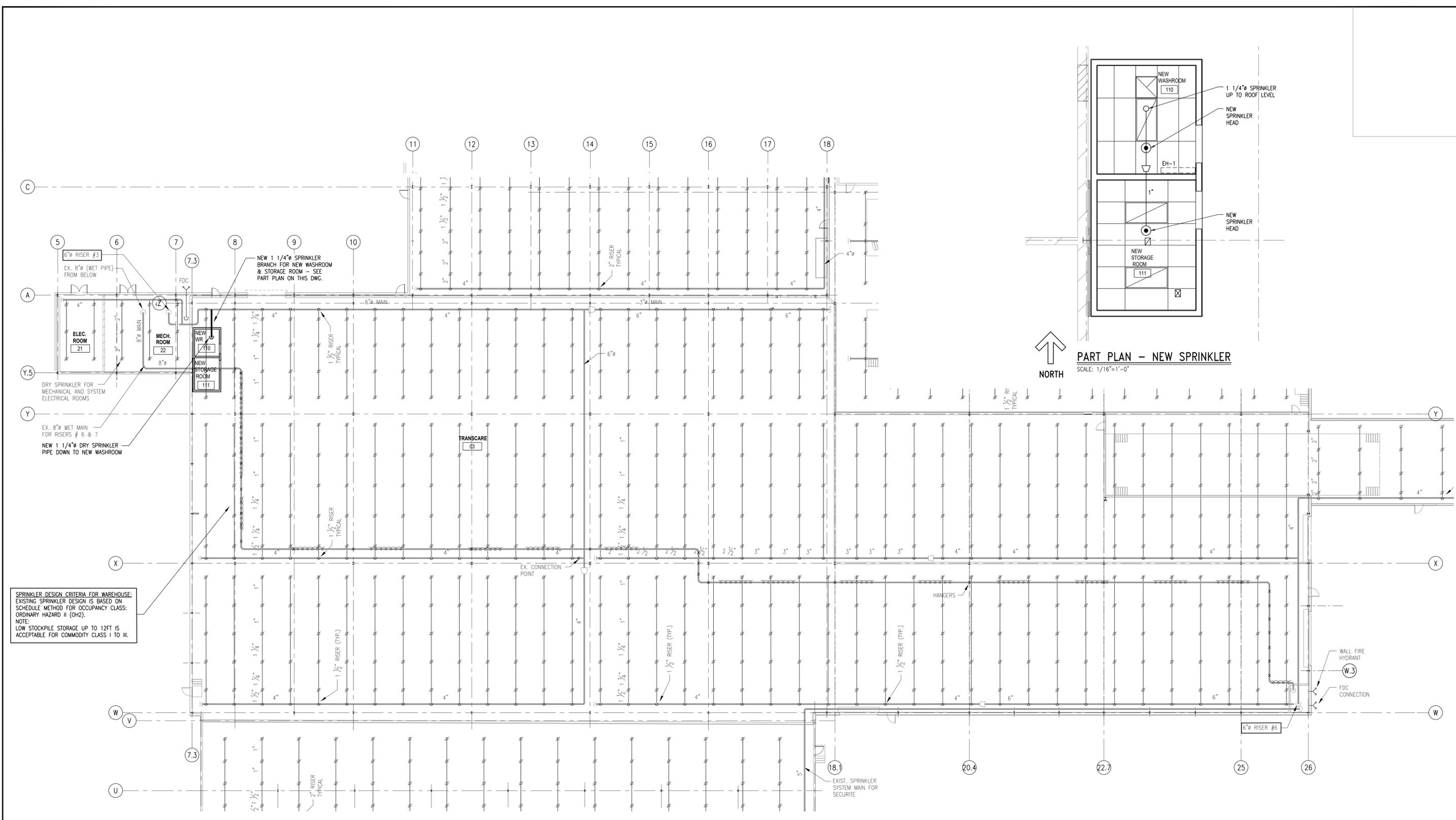


**NEW UNDER SLAB DRAINAGE PART PLAN**  
 SCALE: 1/4"=1'-0"  
 NORTH



**NEW WASHROOM & STORAGE ROOM HVAC PART PLAN**  
 SCALE: 1/4"=1'-0"  
 CEILING TO BE 24"x48" ACT T-BAR GRID @ 8'-0" A.F.F.  
 NORTH

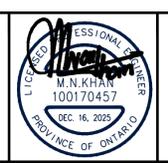
<b>REVISIONS</b> no. description date 0 ISSUED FOR TENDER NOV. 4, 2025 1 ISSUED FOR CONSTRUCTION DEC. 16, 2025	project title: <b>HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES</b>	drawn: BTD	scale: AS NOTED
	drawing title: <b>PART PLANS - PIPING, DRAINAGE &amp; HVAC</b>	checked: MK date: DEC. 2025	project number: 25-38



**SPRINKLER DESIGN CRITERIA FOR WAREHOUSE:**  
 EXISTING SPRINKLER DESIGN IS BASED ON SCHEDULE METHOD FOR OCCUPANCY CLASS: ORDINARY HAZARD II (OH2).  
 NOTE:  
 LOW STOCKPILE STORAGE UP TO 12FT IS ACCEPTABLE FOR COMMODITY CLASS I TO III.

**PART SOUTH PLAN - EXISTING & NEW SPRINKLERS**  
 SCALE: 1/16"=1'-0"

no.	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



project title:	HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES
drawing title:	PART SOUTH PLAN - EXIST. & NEW SPRINKLER
drawn:	BTD
date:	JUNE 2025
checked:	MK
date:	DEC. 2025

scale:	AS NOTED
project number:	25-38
DRAWING NUMBER:	M104
Revision:	1

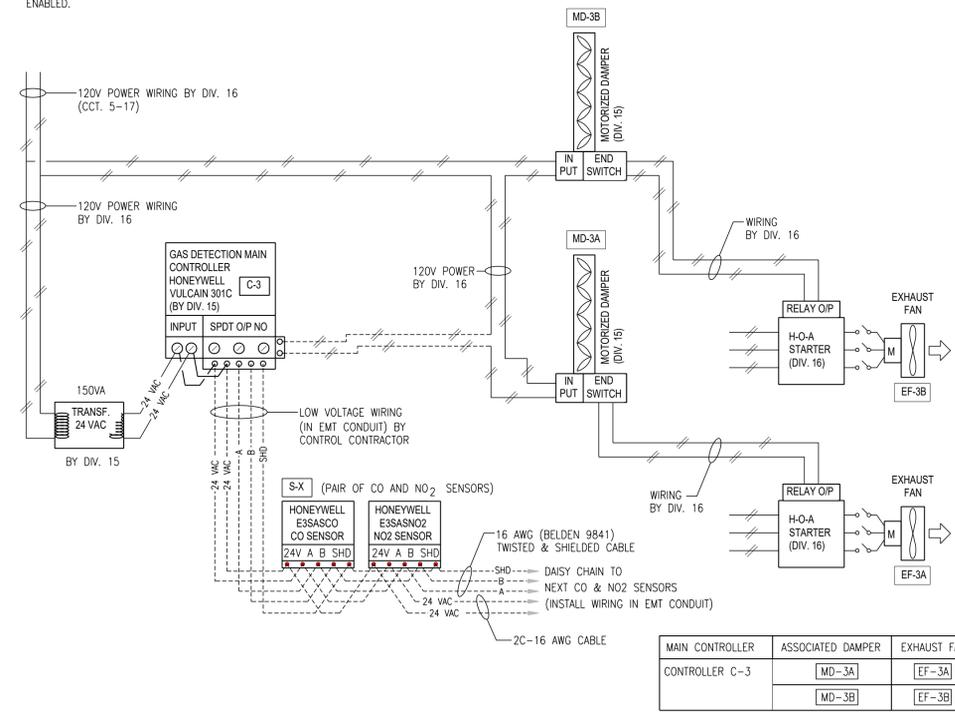
SEQUENCES OF OPERATION - NEW VENTILATION SYSTEMS:

GENERAL VENTILATION SYSTEM:

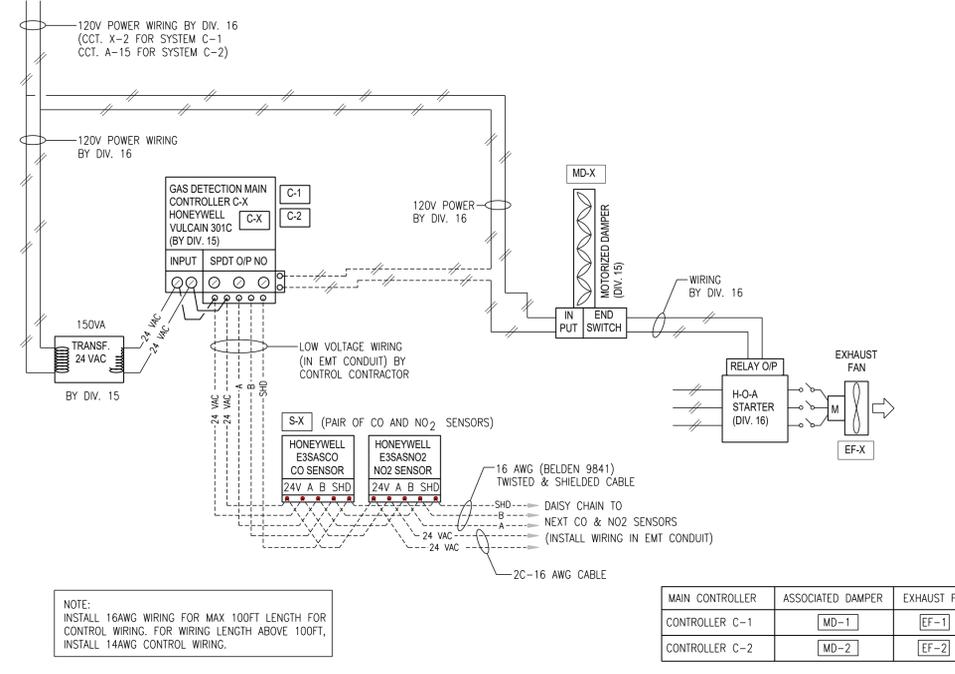
1. GENERAL VENTILATION FANS EF-4 AND TIMER CONTROLLER C-4: THE CONSTANT SPEED FAN TO PROVIDE MINIMUM AMOUNT OF CONTINUOUS VENTILATION REQUIRED AS PER ASHRAE 62.1 DURING OCCUPANCY PERIOD. FAN OPERATION SHALL BE CONTROLLED VIA TIMER CONTROLLER F-1 AND WILL BE PROGRAMMED TO RUN FAN BETWEEN 6:00 AM MORNING TO 10:00 PM EVENING EVERYDAY EXCEPT WEEKEND. FANS OPERATION CAN BE MANUALLY OVERRIDDEN FOR TEMPORARY OPERATION DURING OFF HOURS OR WEEKEND. FAN SHALL BE INTERLOCKED WITH ASSOCIATED MOTORIZED DAMPER MD-4. MOTORIZED DAMPER (ON/OFF TYPE) SHALL BE FULLY OPENED WHEN EF-4 IS ENABLED.

VENTILATION FOR CO & NO2 GAS DETECTION SYSTEMS:

1. EXHAUST FANS EF-1, EF-2 & EF-3A/3B, GAS DETECTION CONTROLLERS C-1, C-2, AND C-3: IT IS INTENDED TO OPERATE CONSTANT SPEED FANS EF-1, EF-2 & EF-3A/3B VIA RESPECTIVE MAIN GAS CONTROLLERS C-1, C-2 & C-3. CONTROLLERS SHALL BE INTERLOCKED WITH THEIR RESPECTIVE MOTORIZED DAMPERS MD-1, MD-2 & MD-3A/MD-3B. EXHAUST FANS SHALL BE PROGRAMMED TO ACTIVATE BY CO & NO2 MAIN CONTROLLER WHEN CO OR NO2 DETECTS FROM ANY OF REMOTE CO/NO2 SENSOR. UPON DETECTION OF GAS, EXHAUST FAN WILL BE ACTIVATED TO REMOVE EXHAUST AIR FROM EFFECTED ZONE UNTIL CO AND NO2 LEVELS REACHES TO THE SET POINTS.



MAIN CONTROLLER	ASSOCIATED DAMPER	EXHAUST FAN	ASSOCIATED CO & NO2 SENSORS
CONTROLLER C-3	MD-3A	EF-3A	S-7 S-8 S-9 S-10
	MD-3B	EF-3B	



MAIN CONTROLLER	ASSOCIATED DAMPER	EXHAUST FAN	ASSOCIATED CO & NO2 SENSORS
CONTROLLER C-1	MD-1	EF-1	S-1 S-2
CONTROLLER C-2	MD-2	EF-2	S-3 S-4 S-5 S-6

TYPICAL WIRING AND CONTROL DIAGRAM OF CO & NO2 CONTROLLERS FOR WAREHOUSE EXHAUST FANS EF-1, EF-2 AND EF-3A, EF-3B

GENERAL, TOXIC AIR REMOVAL AND WASHROOM EXHAUST FANS SCHEDULE

Tag	Description	Fan Location	Type	Manufacturer	Model #	Flow (cfm)	EXT. SP (IN. WC)	RPM	SONES	POWER				Weight (lbs)	Wall / Roof Opening	Notes
										Volts	Phase	HZ	HP			
EF-1	Toxic Air Exhaust Fan	Sidewall- Warehouse	Wall Propeller Belt Drive	PennBarry	PNB-048-09122	16,000	0.25	599	40	575	3	60	2	600	54 1/2" x 54 1/2"	1 to 8 and 12
EF-2	Toxic Air Exhaust Fan	Roof- Warehouse	Down Centrifugal Belt Drive	PennBarry	DX36B	10,000	0.25	390	12	575	3	60	1.5	500	40 1/2" x 40 1/2"	3, 4, 5, 7, 8, 9, 12
EF-3A	Toxic Air Exhaust Fan	Roof- Warehouse	Down Centrifugal Belt Drive	PennBarry	DX24B	5,000	0.25	591	12	575	3	60	3/4	225	29 1/2" x 29 1/2"	3, 4, 5, 7, 8, 10, 12
EF-3B	Toxic Air Exhaust Fan	Roof- Warehouse	Down Centrifugal Belt Drive	PennBarry	DX24B	5,000	0.25	591	12	575	3	60	3/4	225	29 1/2" x 29 1/2"	3, 4, 5, 7, 8, 10, 12
EF-4	General Exhaust Fan	Sidewall- Warehouse	Wall Propeller Direct Drive	PennBarry	PND-021-09118	4,000	0.25	1750	38	575	3	60	1/2	100	25 1/2" x 25 1/2"	1 to 8 and 12
EF-5	Washroom Exhaust Fan	New Washroom	Ceiling Fan Direct Drive	Broan	Losone L150	150	0.25	750	2	115	1	60	87 Watts	23	NR	11

Notes:  
 1- Exterior 45° Weather Hood w/ Birdscreen & Flange  
 2- Wall-Mounted Sleeve  
 3- Backdraft Damper  
 4- Single Speed Motor  
 5- Weather Proof Coating: Entire Fan body and blades  
 6- Rear Fan Guard c/w removable Panel  
 7- Unfused NEMA 3R Disconnect  
 8- H-O-A Starter With dry contacts for interlocking By Division-16  
 9- 12" High 18ga insulated-Sloped Roof Curb (1:3 Pitch)-Type SFP  
 10- 12" High 18ga insulated-Sloped Roof Curb (1:12 Pitch)-Type SFP  
 11- 6" Wall Cap c/w Backdraft and Insect Screen, Broan 641  
 12- Approved Equivalent: Greenheck, Loren Cook, PennBarry, Twincity

PROGRAMMABLE TIMER AND GASEOUS CONTROLLERS SCHEDULE

TAG	DESCRIPTION	SYSTEM SERVING	MAKE	MODEL	ELECTRICAL	TRANSMITTERS CONNECTED	NOTES
C-1	CARBONMONOXIDE & NITROGENDIOXIDE CONTROLLER	EF-1	HONEYWELL	301C	120V/1/60	S-1, S-2	1,3
C-2	CARBONMONOXIDE & NITROGENDIOXIDE CONTROLLER	EF-2	HONEYWELL	301C	120V/1/60	S-3, S-4, S-5, S-6	1,3
C-3	CARBONMONOXIDE & NITROGENDIOXIDE CONTROLLER	EF-3A, EF-3B	HONEYWELL	301C	120V/1/60	S-7, S-8, S-9, S-10	1,3
C-4	GENERAL EXHAUST PROGRAMMABLE TIMER CONTROLLER	EF-4	HONEYWELL	ST7009C1001	120V/1/60		2

Notes:  
 1- EACH SENSOR S-X SHALL BE PAIR OF TWO CO & NO2 TRANSMITTERS/CONTROLLERS: E3SASCO & E3SASNO2 COMPLETE WITH METAL PROTECTIVE GUARD E3PT-CAGE  
 2- APPROVED EQUIVALENT: INTERMATIC, MODEL: FM 1D50A-120  
 3- PROVIDE 24VAC TRANSFORMER (100 VA TO 150 VA)

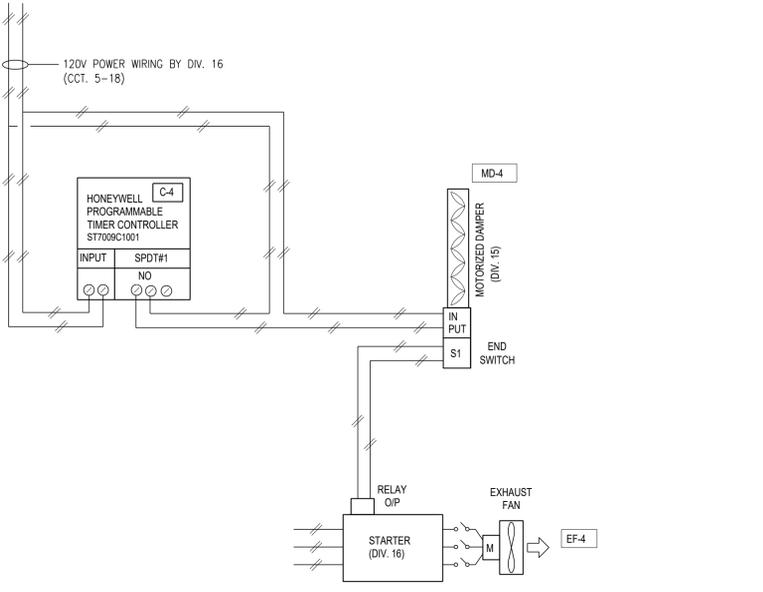
DAMPERS SCHEDULE

Damper Tag	Description	Damper Size Width" x Height"	Multi-Sectional Configuration	Associated Hood	System Serving (Interlocked)	Make and Model	Actuator				Notes
							Volts	Type	Make	Model	
MD-1	Motorized Damper	96"X54"	2x1	H-1 (96"x54")	EF-1	TAMCO, 9000 SERIES	120V	ON/OFF	BELIMO	AFBUP-S	1,2,3,4
MD-2	Motorized Damper	48"X60"	2x1	H-2 (84"x60")	EF-2	TAMCO, 9000 SERIES	120V	ON/OFF	BELIMO	AFBUP-S	1,2,4
MD-4	Motorized Damper	36"X60"	2x1	H-3 (84"x60")	EF-4	TAMCO, 9000 SERIES	120V	ON/OFF	BELIMO	AFBUP-S	1,2,4
MD-3A	Motorized Damper	42"X60"	2x1	H-3 (84"x60")	EF-3A	TAMCO, 9000 SERIES	120V	ON/OFF	BELIMO	AFBUP-S	1,2,4
MD-3B	Motorized Damper	42"X60"	2x1	H-3 (84"x60")	EF-3A	TAMCO, 9000 SERIES	120V	ON/OFF	BELIMO	AFBUP-S	1,2,4

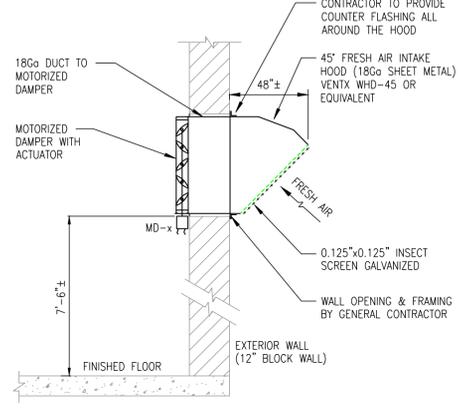
Notes:  
 1- 180 in-lb min. Torque  
 2- Insulated Damper  
 3- Provide MD-1 in two sections 48"Wx54" with two actuators MD-1A and MD-1B  
 4- Approved equivalent: Nailor, Ventex, Ruskin, Greenheck

Outdoor Air Intake Hoods Schedule

Tag	Description	Opening Size	Make & Model
H-1	45 degree 16ga Galvanized Steel (Welded Construction) Outdoor Air Intake Hood c/w Aluminum Birdscreen-1/4"x1/4" Openings	8'-0" Wide X 4'-6" High	VENTEX-WHD-45 or Equivalent
H-2	46 degree 16ga Galvanized Steel (Welded Construction) Outdoor Air Intake Hood c/w Aluminum Birdscreen-1/4"x1/4" Openings	7'-0" Wide X 5'-0" High	VENTEX-WHD-45 or Equivalent
H-3	46 degree 16ga Galvanized Steel (Welded Construction) Outdoor Air Intake Hood c/w Aluminum Birdscreen-1/4"x1/4" Openings	7'-0" Wide X 5'-0" High	VENTEX-WHD-45 or Equivalent



WIRING AND CONTROL DIAGRAM OF TIMER CONTROLLER FOR GENERAL EXHAUST FAN EF-4



TYP. DETAIL OF FRESH AIR INTAKE HOOD w/ MOTORIZED DAMPER  
SCALE: N.T.S.

no	description	date
0	ISSUED FOR TENDER	SEPT 5, 2025
1	ISSUED FOR CONSTRUCTION	DEC 16, 2025



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project number:	25-38
DRAWING NUMBER:	M105
Revision:	1

**GENERAL NOTES:**

- THE DRAWINGS SHOW THE PIPING AND DUCTWORK GENERAL ARRANGEMENT. THE ACTUAL PIPING AND DUCTWORK LAYOUT IS TO BE DETERMINED PRIOR TO FABRICATION ONLY AFTER CLOSE EXAMINATION OF THE FOLLOWING:
  - NEW AND EXISTING INSTALLATIONS INCLUDING ALL PIPING SYSTEMS, DUCTWORK, LIGHTS, STRUCTURAL MEMBERS AND CEILINGS. COORDINATE BETWEEN THE TRADES.
  - THE PIPING/DUCTWORK WILL REQUIRE ADJUSTMENT OFFSETS IN ADDITION TO THOSE INDICATED. TO ACCOUNT FOR ALL RESTRICTIONS ENCOUNTERED, INCLUDE FOR SUCH IN THE TENDER PRICE.
- PROVIDE ALL LABOUR, MATERIAL, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE WORK OF ALL DIVISIONS, INCLUDING MECHANICAL, ELECTRICAL, MILLWORK/GENERAL TRADE WORK.
- ANY EQUIPMENT/FIXTURES OR DEVICES NOT SHOWN ON DEMOLITION DRAWINGS BUT THAT NEED TO BE RELOCATED/REMOVED TO PERFORM THE WORK WILL BE INCLUDED IN THE CONTRACT PRICE.

**SCOPE OF WORK:**

- THE WORK SHALL INCLUDE BUT SHALL NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

**1.1. DEMOLITION:**

- REMOVE EXISTING TWO ROOF VENTILATORS AND CAP EXISTING ROOF CURB WITH 16GA GALVANIZED SHEET METAL CAP. INSTALL 3/4" PLYWOOD AND 1" RIGID INSULATION ABOVE ROOF CURB BEFORE INSTALLING METAL CAP.
- REMOVE EXISTING NATURAL GAS PIPING INSTALLED ON ROOF AND UP TO MAIN GAS METERS STATION. REMOVE ALL INTERIOR ABANDONED GAS PIPING AND ASSOCIATED REGULATORS WITH VENTING.

**1.2. NEW WORK:**

- CONTRACTOR TO LOCATE EXISTING 6" PVC SANITARY DRAIN LINE BEFORE CUTTING FLOOR FOR NEW DRAIN CONNECTIONS. LOCATION OF EXISTING SANITARY DRAIN SHOWN ON THE DRAWING IS NOT ACCURATE. AFTER LOCATING EXISTING DRAIN MAIN, MODIFY NEW PIPING LAYOUT TO SUITE INSTALLATION.
- PROVIDE SANITARY DRAIN, PLUMBING VENTS, DOMESTIC WATER PIPING FOR NEW PLUMBING FIXTURES. PLUMBING VENTS ARE NOT SHOWN ON THE DRAWING. PLUMBING VENTS AS PER OBC. CONTRACTOR TO GROUP ALL VENTS AND TERMINATE TO ROOF. SAW CUT AND PATCH FLOOR FOR NEW SANITARY DRAIN, P-TRAP PRIMER WATER LINE AND VENT.
- PROVIDE NEW ELECTRICAL HOT WATER HEATER AND INSTALL ON DRAINABLE SUPPORT BASIN. PROVIDE 3/4" DRAIN PIPE FROM SUPPORT BASIN TO NEAREST FUNNEL FLOOR DRAIN.
- PAY ALL APPLICABLE FEES REQUIRED FOR DRAINAGE PERMIT AND NEW SATELLITE WATER METER. INSTALL NEW METER ON EXISTING 4" WATER MAIN. MODIFY EXISTING 4" MAIN FOR NEW 1" BRANCH LINE CONNECTION. INSTALL NEW ISOLATION VALVE AND WATER METER.
- PROVIDE NEW ROOF AND WALL EXHAUST FANS C/W ALL ACCESSORIES. REFER TO EXHAUST FANS SCHEDULES AND PLANS. INSTALL ROOF CURBS FOR NEW ROOF EXHAUST FANS.
- PROVIDE NEW GAS DETECTION MAIN CONTROLLERS C/W CARBON MONOXIDE "CO" AND NITROGEN DIOXIDE NO2 REMOTE SENSORS/TRANSMITTERS.
- PROVIDE NEW EXHAUST FANS TIMER CONTROLLER FOR GENERAL EXHAUST FAN.
- PROVIDE NEW WALL INTAKE AIR HOODS C/W MOTORIZED DAMPERS WITH ACTUATORS. REFER TO PLANS AND SCHEDULE.
- PROVIDE NEW PLUMBING FIXTURES FOR NEW WASHROOM. REFER TO PLUMBING SCHEDULE.
- PROVIDE NEW SPLIT AC UNIT WITH REMOTE CONDENSING UNIT FOR NEW STORAGE/OFFICE SPACE.
- PROVIDE NEW ERV UNIT WITH DUCT HEATER FOR NEW STORAGE/OFFICE SPACE.
- PROVIDE NEW ELECTRIC CONVECTOR HEATER FOR NEW WASHROOM C/W WALL THERMOSTAT.
- PROVIDE NEW RADIANT TUBE GAS HEATER C/W ALL ACCESSORIES. HANG HEATER TO OWSJ.
- PROVIDE NEW GAS UNIT HEATER C/W ALL ACCESSORIES. PROVIDE HANGERS AND SUPPORTS FOR NEW HEATERS.
- PROVIDE VENTING AND COMBUSTION AIR INTAKE DUCTS FOR NEW GAS RADIANT HEATERS AND UNIT HEATERS. PROVIDE COUNTER FLASHING ON OPENING TO THE ROOF AND SIDE WALL DUCTS.
- PROVIDE NEW NATURAL GAS PIPING C/W HANGERS, WALL AND ROOF SUPPORTS. PROVIDE ISOLATION VALVES AS NEEDED. HOPA TO CONTACT ENBRIDGE FOR NEW GAS CONNECTION AND METER.
- PROVIDE NEW 5PSI TO 7-14"W.C. GAS REGULATORS AS SHOWN ON THE DRAWING. PROVIDE VENTING AND TERMINATE TO OUTSIDE THROUGH ROOF.
- PROVIDE NEW DRY SPRINKLER PIPE FOR NEW WASHROOM AND OFFICE AND TIE-IN TO EXISTING ZONE FIRE SPRINKLER SYSTEM.
- CONTRACTOR TO BE RESPONSIBLE FOR COMMISSIONING & STARTUP OF ALL NEW MECHANICAL EQUIPMENT. REFER TO COMMISSIONING SPECIFICATION.
- MECHANICAL CONTRACTOR TO CARRY CONTROL CONTRACTOR AS A SUBCONTRACTOR FOR ALL CONTROL RELATED WORK. REFER TO CONTROL SPECIFICATION. ALL LOW VOLTAGE WIRING, INSTALLATION OF TIMER AND CO-NO2 CONTROLLERS, GASEOUS SENSORS, SPLIT AC UNIT, ERV UNIT, ELECTRIC CONVECTOR HEATER, DUCT HEATER, ACTUATORS, FAN AND DAMPERS INTERLOCKING SHALL BE PERFORMED BY THIS CONTRACTOR. REFER TO CONTROL AND WIRING SCHEMATIC ON DRAWING M103.
- PROVIDE TESTING AND BALANCING OF NEW EXHAUST FAN AND SUBMIT REPORT.
- PROVIDE HANGERS AND SUPPORTS FOR PIPING, DUCTWORK AND MECHANICAL EQUIPMENT.
- PROVIDE SEISMIC RESTRAINTS AS PER OBC.
- PROVIDE IDENTIFICATION TAGS ON ALL NEW EQUIPMENT, AND PIPING.
- FOR COMPLETE NEW SCOPE OF WORK, REFER TO DRAWINGS AND NOTES.

**PERMITS, LAWS AND REGULATIONS:**

- EQUIPMENT, INSTALLATION METHODS, AND WORK PROVIDED UNDER THIS DIVISION SHALL CONFORM TO THE LATEST EDITION, AT DATE OF TENDER, OF STANDARDS AND CODES, CURRENT BY-LAWS AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICT, THE CODES, BY-LAWS AND REGULATIONS TAKE PRECEDENCE OVER THE CONTRACT DRAWINGS.
- GIVE ALL NOTICES, OBTAIN AND PAY FOR ALL PERMITS, AND PAY ALL FEES NECESSARY TO COMPLETE THE WORK OF THIS DIVISION.
- FURNISH TO THE OWNER NECESSARY INSPECTION CERTIFICATES AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
- ALL WORK SHALL CONFORM TO THE LATEST REVISION OF THE FOLLOWING CODES AND STANDARDS:
  - THE ONTARIO BUILDING CODE.
  - THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS PREPARED BY THE ONTARIO MINISTRY OF LABOUR.
  - REGULATIONS AND STANDARDS FOR INDUSTRIAL ESTAB. BY THE ONTARIO MINISTRY OF LABOUR.
  - CONSTRUCTION SAFETY ACT.
  - ALL SURFACE PREPARATION SHALL CONFORM TO THE STEEL STRUCTURES PAINTING COUNCIL.
  - UNDERWRITERS' LABORATORIES - ULC AND CANADIAN STANDARDS ASSOCIATION - CSA
  - REGULATIONS OF CITY OF HAMILTON.
  - ONTARIO PLUMBING CODE, REGULATION 901/90, AND SUPPLEMENTS 401/91 AND 134/92.
  - TSSA
  - THE MOST STRINGENT REQUIREMENTS OF THESE AUTHORITIES SHALL APPLY.
- CONTRACTOR SHOULD CONTACT ENGINEER IMMEDIATELY IF ERRORS, AMBIGUITIES, DISCREPANCIES, OMISSIONS, OR CONTRADICTION NOTES ARE FOUND ON THE CONTRACT DRAWINGS OR SPECIFICATION IN ORDER TO HAVE MATTER RESOLVED BEFORE FABRICATING OR INSTALLATION.

**GUARANTEE:**

- GUARANTEE ALL APPARATUS FURNISHED UNDER THIS DIVISION TO REMAIN IN SERVICEABLE CONDITION FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.

**LIABILITY:**

- ASSUME FULL RESPONSIBILITY FOR THE LAYOUT OF WORK AND FOR ANY DAMAGE CAUSED TO THE PROPERTY OF THE OWNER, OR OTHER TRADES, THROUGH THE IMPROPER LOCATION OF MATERIALS, EQUIPMENT, OR CARRYING OUT OF THIS WORK.

**WORKMANSHIP:**

- ONLY FIRST CLASS WORKMANSHIP WILL BE ACCEPTED, NOT ONLY WITH REGARD TO SAFETY, EFFICIENCY, DURABILITY, ETC. BUT ALSO WITH REGARD TO THE NEATNESS OF DETAIL DRAWINGS:

- THE DRAWINGS ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. FOLLOW THESE DRAWINGS IN LAYING OUT THE WORK. BECOME FAMILIAR WITH ALL CONDITIONS AFFECTING THE WORK, AND VERIFY THE SPACES IN WHICH THE WORK WILL BE INSTALLED. ALLOW FOR OFFSETS AND TRANSITIONS IN PIPING TO AVOID INTERFERENCE WITH OBSTRUCTIONS.

- CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF WORK SHOWING ANY DEVIATIONS FROM THE DESIGN DRAWINGS.

- SHOP DRAWINGS: PROVIDE ONE (1) ELECTRONIC COPY OF SHOP DRAWINGS TO ENGINEER FOR REVIEW OF FOLLOWING:

3.1 EXHAUST FANS	3.2 SPLIT AC UNIT
3.3 DAMPERS AND ACTUATORS	3.4 ERV UNIT
3.5 HOODS	3.6 DUCT HEATER
3.7 EXHAUST FAN TIMER CONTROLLER	3.8 ELECTRIC CONVECTOR HEATER
3.9 CO-NO2 SENSORS & CONTROLLERS	3.10 PLUMBING FIXTURES
3.11 CONTROL WIRING SCHEMATIC	3.12 SPRINKLER SYSTEM
3.13 GAS RADIANT TUBE AND UNIT HEATERS	3.14 SEISMIC RESTRAINTS

**CLOSE-OUT DOCUMENTS AND MAINTENANCE MANUALS:**

- PROVIDE HARD COPIES OF MAINTENANCE MANUALS, WARRANTIES LETTERS, APPROVED SHOP DRAWINGS, TESTING AND COMMISSIONING REPORTS, BALANCING REPORTS, ETC. IN A BINDER TO ENGINEER FOR REVIEW AND APPROVAL. MULTIPLE COPIES TO BE PREPARED FOR TURN OVER TO OWNER AT CONCLUSION OF PROJECT.

**MATERIALS:**

- ALL MATERIALS SHALL BE NEW.

**DUCT, PIPING AND EQUIPMENT LABELING:**

- PROVIDE DUCT, PIPING AND EQUIPMENT LABELING INCLUDING CONTENTS, DIRECTION OF FLOW, LOCATIONS OF MARKERS, COLOURS ETC.
- EQUIPMENT TAGS SHALL BE (2) PLY LAMINATED ENGRAVED IDENTIFICATION TAGS.

**TRAINING:**

- ALLOW FOR ONE (1) FULL DAY OF TRAINING TO CLIENT'S DESIGNATED MAINTENANCE STAFF FOR EACH SYSTEM OF PROPER OPERATION, SET-UP AND MAINTENANCE.

**CUTTING AND PATCHING:**

- EACH SECTION SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING AND MAKING GOOD TO EXECUTE HIS WORK PROPERLY. IN EACH CASE, TRADESMEN QUALIFIED IN THE WORK BEING CUT AND PATCHED SHALL BE EMPLOYED TO ENSURE THAT IT IS CORRECTLY AND NEATLY DONE.
- THE SECTION REQUIRING CUTS, HOLES, SLEEVES OR ANCHORS FOR ITS WORK SHALL LOCATE AND PROVIDE THEM. SLEEVE ALL PIPE PENETRATIONS THROUGH WALLS.
- FILL ALL VOIDS AROUND PIPE SLEEVES WITH FIRE STOP MATERIAL SUITABLE FOR THE ASSEMBLY.

**PLUMBING/PIPING:**

- ALL WORK TO CONFORM TO ONTARIO BUILDING CODE, ONTARIO WATER RESOURCES ACT, REGULATION NO. 815/84, RESPECTING PLUMBING, AS REVISED TO DATE; CANADIAN PLUMBING CODE, CONSTRUCTION SAFETY ACT, AND REGULATIONS OF CITY AND PROVINCIAL AUTHORITIES HAVING JURISDICTION. THE MOST SEVERE REQUIREMENTS OF THESE AUTHORITIES SHALL GOVERN.
- DOMESTIC COLD, HOT WATER PIPING:
  - 2-1/2" AND SMALLER SHALL BE TYPE 'L' HARD COPPER TUBING WITH SOLDERED FITTINGS TO ASTM B88-03
  - FITTINGS: 2-1/2" AND SMALLER COPPER FITTINGS WITH SOLDERED ENDS
  - BALL VALVES: 2 1/2" AND SMALLER DOMESTIC WATER ISOLATION BALL VALVES SHALL BE FULL PORT 2-PIECE BRONZE BODY AND CHROME PLATED BRASS BALL, CLASS 150. ACCEPTABLE MATERIAL: WATTS, CRANE, KITZ, M.A. STEWART.
  - INSULATE DOMESTIC HOT, COLD AND RECIRC WATER WITH 1" THICK MANSION ALLEY-K-APT FIBERGLASS INSULATION WITH ALL-PURPOSE VAPOUR BARRIER JACKET (VAPOUR BARRIER FOR COLD LINES ONLY). ALTERNATE: KNAUF REPAIR EXISTING INSULATION TO PIPING EXPOSED DURING CONSTRUCTION. FINISH ALL EXPOSED PIPING AND FITTINGS WITH PVC JACKET. ONLY THE PIPING INSIDE THE NEW DROP CEILING NOT REQUIRED PVC JACKETING
- SANITARY AND VENT - ABOVE GROUND:
  - PIPE SIZE 2" AND SMALLER SHALL BE DWV COPPER PIPE TO ASTM B306 WITH DRAINAGE FITTINGS AND 95/5 TIN/ANTIMONY SOLDER JOINTS.
  - PIPE SIZE 3" AND LARGER SHALL BE CSA CLASS 4000 CAST IRON SOIL PIPE AND FITTINGS WITH MECHANICAL JOINTS AND HEAVY DUTY COUPLINGS MEETING ASTM STANDARD C1540-02 OR IPEX SYSTEM-XFR FIRE RATED.
- SANITARY AND VENT - BELOW GRADE:
  - PIPE SIZE 2" AND SMALLER SHALL BE TYPE L COPPER TUBE WITH 95/5 TIN/ANTIMONY SOLDER JOINTS OR CSA APPROVED ABS PLASTIC CAN/CSA-B181.1 DWV.
  - PIPE SIZE 3" AND LARGER SHALL BE CSA CLASS 4000 CAST IRON SOIL PIPE AND FITTINGS WITH MECHANICAL JOINTS AND HEAVY DUTY COUPLINGS MEETING ASTM STANDARD C1540-02 OR CAN/CSA-B182.2 PVC GASKETED SEWER PIPE.
- REFRIGERANT PIPING:
  - REFRIGERANT PIPING 1" AND UNDER SHALL BE HARD COPPER TO ASTM B280 (TYPE ACR OR TYPE 'B') OR ANNEALED COPPER TO ASTM B280 WITH MINIMUM WALL THICKNESS AS PER CSA B52 AND ANSI/ASME B31.5. FITTINGS SHALL BE WROUGHT COPPER TO ASME B16.22 WITH SILVER SOLDERED JOINTS.
  - REFRIGERANT VALVES 1" AND UNDER SHALL BE CLASS 500, GLOBE TYPE, DIAPHRAGM PACKLESS, WITH FORGED BRASS BODY AND BONNET, MOISTURE PROOF SEAL FOR BELOW FREEZING APPLICATIONS, BRAZED CONNECTION. LEAK AND PRESSURE TEST IN ACCORDANCE WITH CSA B52 AND MANUFACTURER'S RECOMMENDATIONS. CONNECT TO EQUIPMENT WITH ISOLATION VALVES AND UNIONS.
  - INSULATE REFRIGERANT PIPING WITH 3/4" THICK ARMAFLEX SELF-SEAL PIPING INSULATION. ALL EXPOSED GAS OR LIQUID PIPES SHALL BE INSULATED WITH UV PROTECTED COATING.
  - INSTALL REFRIGERANT PIPING AND ALL ACCESSORIES TO THE SPLIT SYSTEM FOR A COMPLETE INSTALLATION ACCORDING TO THE MANUFACTURER'S REQUIREMENTS AND TO CSA B53.
  - PROVIDE WALL SUPPORTS OR ROOF SUPPORTS AS REQUIRED.
  - TEST NEW REFRIGERANT PIPING AS PER A/C UNIT MANUFACTURER'S INSTRUCTIONS.

**NATURAL GAS PIPING:**

- THE ENTIRE GAS PIPING INSTALLATION SHALL CONFORM TO THE ONTARIO GAS UTILIZATION CODE AND CSA B149.1 STANDARD.
- GAS PIPING SHALL BE C.S. SCH. 40 SEAMLESS, GRADE A OR B, ASTM A53.
- GAS PIPING 2" (51MM) AND SMALLER OPEN TO VENTILATED SPACES, SHALL BE SCREWED WITH 15 LB. MALLEABLE IRON FITTINGS.
- GAS PIPING 2" (51MM) AND SMALLER WITHIN SEALED MECHANICAL SHUTS, SHALL BE SOCKET WELDED FITTINGS.
- GAS PIPING 2-1/2" AND ABOVE SHALL HAVE PLAIN END WITH WELDED FITTINGS TO CSA W47.1.
- NATURAL GAS SHUT-OFF VALVES SHALL BE LUBRICATED PLUG VALVES, CLASS 250 SEMI-STEEL BODY AND PLUG, HANDLE OPERATED COMPLETE WITH WRENCH OR PROVINCIAL CODE APPROVED BALL VALVES. ACCEPTABLE MATERIAL: PR (NEO); NEMANMILKEN, OR APPROVED EQUAL.
- PROVIDE NATURAL GAS PRESSURE REGULATOR (INTERNAL RELIEF TYPE) TO REDUCE THE PRESSURE FROM 5 PSI TO 7-14" W.C. (WHERE INDICATED). REGULATOR SHALL BE NORGAS OR EQUIVALENT (FISHER AND ITRON) CERTIFIED TO ANSI Z21.80/CSA 6.22. PROVIDE RELIEF VENT PIPING AND DISCHARGE OUTSIDE THE BUILDING AT LEAST 10FT AWAY FROM ANY FRESH AIR INTAKE. SIZE TO SUIT CAPACITIES SHOWN ON THE DRAWINGS.
  - REGULATOR RG-1: NORGAS MODE: NGR04, INLET PRESSURE=4-5PSI, OUTLET PRESSURE=10" W.C., SIZE=1-1/4", CAPACITY=1,700 SCFH, ORIFICE=3/8", SPRING: BLACK (9"-14" W.C.)
  - REGULATOR RG-2: NORGAS MODE: NGR08, INLET PRESSURE=4-5PSI, OUTLET PRESSURE=10" W.C., SIZE=1-1/4", CAPACITY=2,500 SCFH, ORIFICE=3/8", SPRING: BLACK (8"-18" W.C.)
- PAINT ALL INTERIOR AND EXTERIOR NEW NATURAL GAS PIPING TO COLOR YELLOW.
- PROVIDE EXPANSION JOINTS AND LOOPS IN GAS PIPING AS PER GAS CODE (CAN/CSA B149.1).
- ROOF PIPE SUPPORT SHALL BE EZ-SLEEPER BY PIPE-EASE INC. OR EQUIVALENT.

**FD - FLOOR DRAINS:**

- GENERAL DUTY IN FINISHED AREAS; CAST BODY ROUND, ADJUSTABLE HEAD, NICKEL BRONZE STRAINER, WITH STAINLESS STEEL SCREWS, INTEGRAL SEEPAGE PAN, TRAP PRIMER TAPPING, AND CLAMPING COLLAR. ACCEPTABLE MATERIAL: SMITH 2005A-PO50; ALTERNATES: EQUAL BY ZURN, ENPOCO, WATTS

**FFD - FLOOR DRAINS WITH COMBINATION FUNNEL:**

- FUNNEL FLOOR DRAIN, ALL DUCO COATED CAST IRON BODY, FLASHING CLAMP WITH SEEPAGE OPENINGS AND ADJUSTABLE 8" (216MM) DIAMETER C.I. GRATE WITH 4" X 9" (101.6MM X 228.6MM) OVAL FUNNEL AND TRAP SEAL PRIMER. ACCEPTABLE MATERIAL: SMITH SERIES 2320-3591-PO50; ALTERNATES: EQUAL BY ZURN, ENPOCO, WATTS.

- CLEANOUT - ACCEPTABLE MATERIAL: SMITH 4000 OR EQUAL BY ZURN, WATTS. CAST BODY, MEMBRANE CLAMPING BODY COLLAR, ADJUSTABLE COLLAR, NON-SEIZING SEALING PLUG, T HANDLE SERVICING WRENCH AND SILD NICKEL BRONZE FRAME AND COVER. IN FINISHED AREAS, TOP SHALL BE SUITABLE FOR THE FINISH.

**TRAP SEAL PRIMERS:**

- ALL BRASS WITH INTEGRAL VACUUM BREAKER, NPS 1/2 (13 MM) SOLDER ENDS, NPS 1/2 (13 MM) DRIP LINE CONNECTION. PFP INC. OR EQUIVALENT.

- PROVIDE PLUMBING FIXTURES (WATER CLOSET, WASH BASIN, URINAL, AND ELECTRIC HOT WATER HEATER). REFER TO PLUMBING SCHEDULES ON DRAWING M102 FOR COMPLETE DESCRIPTIONS.

- PIPE SLEEVES REQUIRED THROUGH EXTERIOR WALL SHALL BE CONSTRUCTED OF 10 GAUGE GALVANIZED STEEL AND FINISH PAINTED TO MATCH EXISTING EXTERIOR CLADDING COLOR.

- PROVIDE HANGERS AND SUPPORTS FOR PIPING AS PER PLUMBING CODE. PROVIDE SEISMIC RESTRAINTS AS INDICATED IN THE SEISMIC RESTRAINT SCHEDULE.

**HVAC SPECIFICATIONS:**

- SITE CHECK ALL THE DUCT SIZES SHOWN ON THE DRAWING PRIOR TO THE FABRICATION OF DUCTWORK.
- THE DUCTWORK SHOWN ON THE DRAWINGS ARE SCHEMATIC ONLY. SITE VERIFY THE ACTUAL DUCT RUNS AND INSTALL NEW DUCTWORK TO SUIT EXISTING AND NEW MECHANICAL AND ELECTRICAL SERVICES. ALL SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
- DUCTWORK FABRICATION AND SUPPORTING METHODS SHALL BE AS PER LATEST EDITION OF ASHRAE AND SMACNA STANDARDS AND METHODS FOR LOW VELOCITY DUCTWORK AND SEALED WITH HIGH VELOCITY SEALER.
- HVAC DUCTWORK SHALL BE GALVANIZED STEEL TO +/- 2" W.C. WALL SLEEVE FOR EXTERIOR INTAKE HOOD SHALL BE 18 GA. GALVANIZED STEEL.
- INSULATE COOLING AND HEATING SUPPLY AND RETURN AIR DUCT INSTALLED IN CEILING WITH 1" THERMAL INSULATION C/W VAPOR BARRIER.
- PROVIDE VENTING FOR RADIANT TUBE HEATERS AND GAS UNIT HEATERS AS PER MANUFACTURER'S RECOMMENDATION. PROVIDE TYPE B VENT FOR RADIANT TUBE HEATERS AND DOUBLE WALL STAINLESS STEEL VENT FOR GAS UNIT HEATERS. PROVIDE RAIN CAP (TERMINALS) ON BOTH VENT AND COMBUSTION AIR INTAKE DUCTS.
- PROVIDE HANGERS AND SUPPORTS AS PER ASHRAE AND SMACNA. PROVIDE SEISMIC RESTRAINTS WHERE REQUIRED AS PER CODE.
- SUPPLY AIR GRILLE OR DIFFUSER:
  - TYPE A: SUPPLY AIR GRILLE, EH PRICE 520/F/L/A/B12
  - TYPE B: RETURN AIR GRILLE, EH PRICE 530/F/L/A/B12
- TEST AND BALANCE THE SYSTEM FOR THE AIR QUANTITIES INDICATED. TEST AND BALANCE ALL NEW EXHAUST FANS. MAKE ALL NECESSARY ADJUSTMENTS TO PUT INTO PROPER OPERATION. AN APPROVED INDEPENDENT TESTING AND BALANCING COMPANY WILL BE SELECTED TO DO ALL TESTING AND BALANCING IN ACCORDANCE WITH THIS SPECIFICATION. AN INDEPENDENT TESTING AND BALANCING COMPANY SHALL BE CARRIED BY THE MECHANICAL CONTRACTOR TO DO ALL TESTING AND FAN MEASUREMENTS TO INCLUDE: CFM, S.P., RPM, VOLTS, AMPS AND BALANCING IN ACCORDANCE WITH THIS SPECIFICATION. A WRITTEN REPORT SHALL BE PROVIDED. IF RESULTS INDICATE UNUSUED TESTING ACCURACY, OMISSIONS, OR INCOMPLETE BALANCING/ADJUSTMENT, IN THE OPINION OF THE CONSULTANT, REBALANCE ENTIRE SYSTEM(S) AT NO INCREASE IN CONTRACT PRICE. TESTING AND BALANCING TO BE CONSIDERED COMPLETE ONLY WHEN FINAL REPORTS ARE APPROVED BY CONSULTANT. APPROVED LIST OF CONTRACTORS ARE AS FOLLOWS: DYNAMIC FLOW BALANCING
  - ED MOLNAR (905)338-0808 AIR AUDIT
  - DAVE LIPSIT (905)740-0871
  - TROUP ENGINEERING (905)-562-8080

**CONTROLS:**

- CONTROL CONTRACTOR SHALL BE A SUBCONTRACTOR FOR MECHANICAL TRADE.
- THE CONTROL CONTRACTOR SHALL SUPPLY AND INSTALL ALL LOW VOLTAGE CONTROL WIRING, SWITCHES, CONTACTS, SENSORS, AND RELAYS (AS REQUIRED) PROVIDING THE FUNCTIONS FOR NEW EXHAUST FANS, GAS MONITORING SYSTEM, ERV UNIT, DUCT-MOUNTED ELECTRIC HEATER, THERMOSTATS FOR SPLIT AC UNIT AND ELECTRIC CONVECTOR HEATER. PROVIDE FANS & DAMPERS INTERLOCKING. ALL WIRING SHALL BE WITHIN EMT CONDUIT.
- CONTROL CONTRACTOR SHALL ASSIST BALANCER TO ACTIVATE CONTROLS OF NEW SYSTEMS BEING TESTED AND BALANCED. CONTROL CONTRACTOR TO INSTALL, CALIBRATE, PROGRAM, AND TEST ALL EXHAUST FANS TIMER CONTROLLER AND GAS MONITORING CONTROLLERS C/W SENSORS. SUBMIT FINAL TESTING, CALIBRATION AND COMMISSIONING REPORT OF NEW CO AND NO2 CONTROLLER SYSTEMS.

**COMMISSIONING:**

- ENSURE THAT ALL EQUIPMENT AND SYSTEMS ARE OPERABLE AND SAFE FOR NORMAL OPERATION. ALL TESTING, ADJUSTING, BALANCING WORK AND RECORD KEEPING SHALL BE COMPLETE PRIOR TO COMMISSIONING. OPERATIONAL TESTS ON EQUIPMENT, PIPING, DUCTWORK AND CONTROL SYSTEMS SHALL BE PERFORMED PRIOR TO COMMISSIONING TO VERIFY THAT PRESSURE AND FLOW RATES MEET DESIGN REQUIREMENTS.
- USE QUALIFIED PERSONNEL TO COMMISSION MECHANICAL EQUIPMENT AND SYSTEMS:
  - MECHANICAL EQUIPMENT SHALL BE OPERATED IN SPECIFIED MODES OF CONTROL AND SEQUENCES OF OPERATION, AND EMERGENCY CONDITIONS.
  - MECHANICAL SYSTEMS SHALL BE OPERATED IN ALL MODES OF SYSTEM OPERATION (SEASONAL, OCCUPIED/UNOCCUPIED, ETC.) INCLUDING ALL INDIVIDUAL INTERLOCK AND CONDITIONAL LOGIC, ALL CONTROL SEQUENCES, BOTH FULL AND ABNORMAL CONDITIONS FOR WHICH THERE IS A SPECIFIED SYSTEM OR CONTROL RESPONSE.
- IF VERIFICATION OF FUNCTIONAL PERFORMANCE CANNOT BE COMPLETED DUE TO SEASONAL REASONS, LACK OF OCCUPANCY, DEFICIENCIES BEYOND THE SCOPE OF THE MECHANICAL WORK, OR ANY OTHER REASON, THIS SHALL BE NOTED AND THIS WORK SHALL BE COMPLETED AT A DATE AND TIME TO BE DETERMINED.
- TESTS WHICH FAIL TO VERIFY ACCEPTABLE PERFORMANCE OF EQUIPMENT AND SYSTEMS SHALL BE REPEATED AFTER CORRECTIVE MEASURES ARE CARRIED OUT, AND THIS PROCESS SHALL CONTINUE UNTIL ACCEPTABLE PERFORMANCE IS ACHIEVED.
- ENSURE PARTICIPATION AND COOPERATION OF SPECIALTY TRADES (DIVISION 16, TESTING, ADJUSTING & BALANCING, CONTROLS, EQUIPMENT MANUFACTURER'S TECHNICIANS, ETC.)
- FUNCTIONAL PERFORMANCE TESTS SHALL BE WITNESSED BY OWNER. SUBMIT TEST REPORTS WHICH SHALL INCLUDE SPACE FOR REMARKS AND OWNER'S ACCEPTANCE SIGNATURE.
- ENSURE AND CERTIFY THE FOLLOWING DOCUMENTS ARE COMPLETE AND CORRECT:
  - SHOP DRAWINGS AND PRODUCT DATA.
  - TEST REPORTS.
  - OPERATION AND MAINTENANCE MANUALS.
  - AS-BUILT DRAWINGS
- FULLY INSTRUCT AND TRAIN OPERATING AND MAINTENANCE PERSONNEL IN CARE, ADJUSTMENT, AND OPERATION OF MECHANICAL EQUIPMENT AND SYSTEMS. THESE SHALL INCLUDE THE FOLLOWING FOR THIS PROJECT:
  - EXHAUST FANS
  - FRESH AIR DAMPERS AND ACTUATORS
  - EXHAUST FANS TIMER CONTROLLER
  - CO-NO2 GAS DETECTION CONTROLLER AND REMOTE SENSORS
  - CONTROLS INTERLOCKING FOR NEW HVAC SYSTEM
  - NEW SPLIT AC UNIT
  - ERV UNIT AND ELECTRIC TRAP HEATER
- PROVIDE A WRITTEN REPORT FOR COMMISSIONING AND TESTING OUTLINED ABOVE.

**SEISMIC RESTRAINTS: NOTES REGARDING OBC SECTION 4.1.8.18 FOR THE SEISMIC RESTRAINT OF ELEMENTS OF STRUCTURES, NON-STRUCTURAL COMPONENTS AND EQUIPMENT:**

- ALL STRUCTURAL ELEMENTS, NON-STRUCTURAL COMPONENTS, SERVICES AND EQUIPMENT TO BE RESTRAINED AGAINST SEISMIC FORCES IN ACCORDANCE WITH O.B.C. SECTION 4.1.8.18. CONTRACTORS RESPONSIBLE FOR THE INSTALLATION OF MECHANICAL AND ITEMS MUST ENGAGE A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO TO DESIGN THESE RESTRAINTS AND PROVIDE FIELD REVIEW. ALL AS PER O.B.C. 2012

- FULL SHOP DRAWINGS OF SEISMIC RESTRAINT SYSTEMS INCLUDING CALCULATIONS ARE TO BE SUBMITTED BY CONTRACTOR FOR REVIEW BY PROJECT STRUCTURAL ENGINEER.
- PROVIDE FINAL SIGN-OFF LETTER FROM SEISMIC ENGINEER STATING THAT ALL MECHANICAL ITEMS HAVE BEEN RESTRAINED AS PER ONTARIO BUILDING CODE.

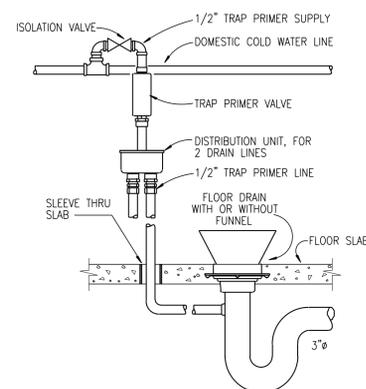
**2. SEISMIC DATA**

IMPORTANCE CATEGORY IS NORMAL DISASTER  $k_1(ULS) = 1.0$   
 $S_a(0.2) = 0.33$ , SITE CLASS E,  $F_o = 1.876$

DESIGN FOR LATERAL FORCE  $V_p = 0.3F_o S_a(0.2) k_1 Sp Wp$   
 $Sp = Cp Ar Ax / R_x$   
 $Cp, Ar, \text{ AND } R_x$  FROM TABLE 4.1.8.18, DEPENDING ON CATEGORY  
 $Ax = 1 + 2H_x / H_r$ , USE VALUES APPROPRIATE FOR THE LOCATION OF THE MECH. EQUIPMENT.

**FIRE PROTECTION SPECIFICATIONS:**

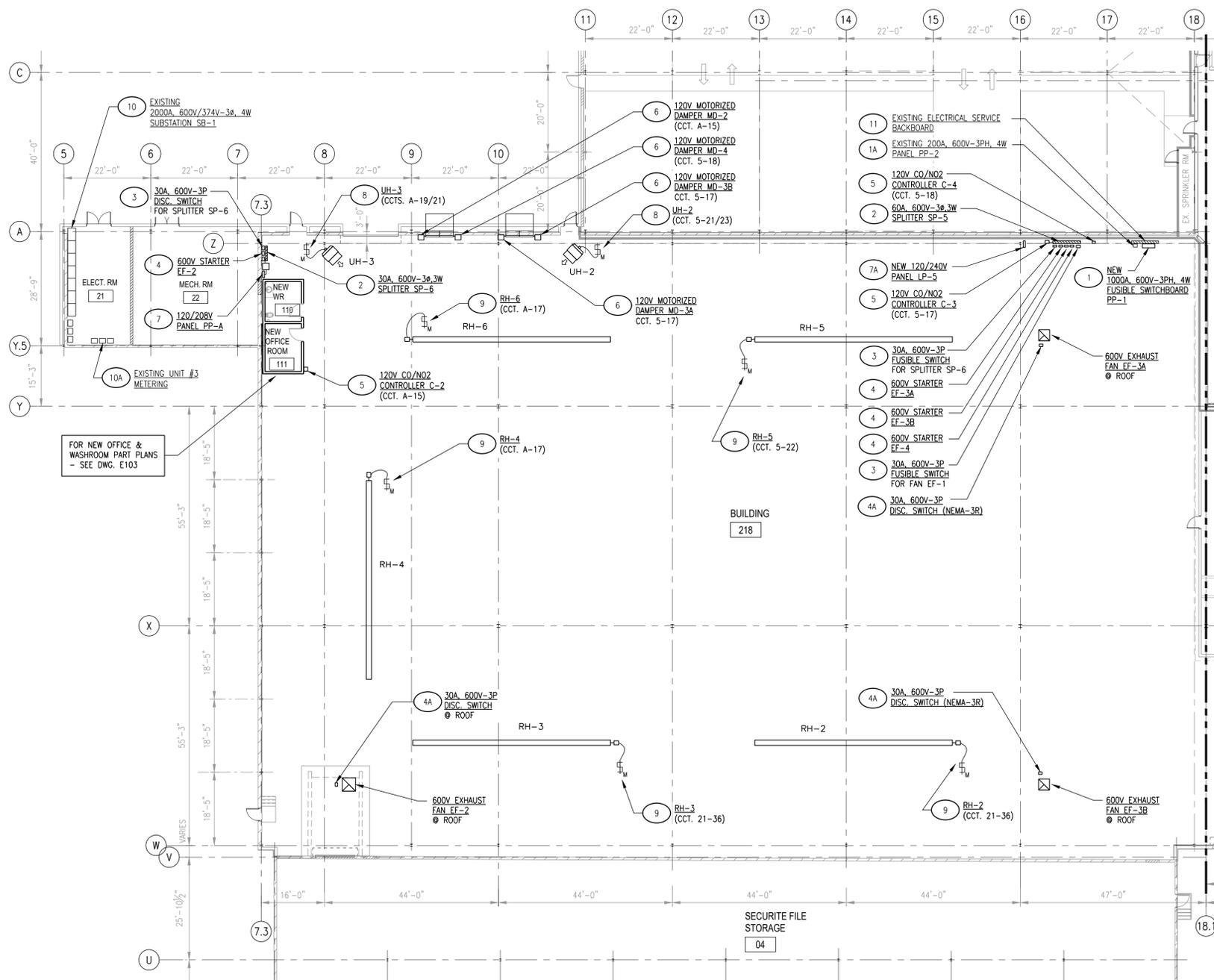
- ALL SPRINKLER AND FIRE MAIN WORK TO BE PERFORMED BY A MEMBER CONTRACTOR OF THE CANADIAN AUTOMATION SPRINKLER ASSOCIATION IN ACCORDANCE WITH FACTORY MUTUAL, NFPA STANDARD NO. 13, NFPA STANDARD NO. 24 (STANDARD FOR THE INSTALLATION OF PRIVATE MAIN AND THEIR APPURTENANCES), ONTARIO FIRE CODE AND LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE ALL ITEMS, MATERIALS, ARTICLES, AND EQUIPMENT, AND PERFORM ALL OPERATIONS SHOWN ON THE DRAWINGS AND/OR HEREAFTER SPECIFIED, INCLUDING THE LABOUR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED FOR INSTALLATION, TESTING, AND PUTTING INTO PROPER OPERATION COMPLETE AUTOMATIC SPRINKLER SYSTEM AS SHOWN, AS SPECIFIED, AND AS OTHERWISE REQUIRED. COMPLETE SYSTEMS SHALL BE LEFT READY FOR CONTINUOUS AND SATISFACTORY OPERATION.
- THE WORK SHALL INCLUDE, BUT SHALL NOT NECESSARILY BE LIMITED TO THE FOLLOWING:
  - PROVIDE DRY SPRINKLER PIPE C/W SPRINKLER HEADS FOR NEW OFFICE AND WASHROOM. CONNECT NEW DRY SPRINKLER LINE TO EXISTING DRY SPRINKLER FIRE ZONE.
  - PROVIDE PIPE HANGERS AND SUPPORT.
  - HYDRAULIC CALCULATION AND FLOW TEST.
- SUPPORT PIPES APPROPRIATELY WITH HANGERS AND SUPPORTS SUPPLIED AND INSTALLED IN ACCORDANCE TO NFPA STANDARDS.
- CONTRACTOR SHALL OBTAIN FIRE DEPARTMENT AND ALL LOCAL APPROVALS AS REQUIRED.
- PROVIDE ALL LOW POINT DRAWS ON ALL TRAPPED PORTIONS OF PIPING IN ACCORDANCE TO NFPA STANDARDS.
- ALL MATERIALS, ACCESSORIES AND EQUIPMENT SHALL BE ULC APPROVED STANDARD PRODUCTS, SPECIFICALLY DESIGNED FOR THE FIRE PROTECTION SYSTEMS SPECIFIED AND SHALL CARRY ULC LABELS.
- DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA USING PIPE SCHEDULE CALCULATION METHOD FOR ORDINARY HAZARD GROUP II OCCUPANCIES.
- PIPE SHALL BE SCHEDULE ASTM A795, ASTM A53, ASTM A135, ANSI B36.10 WITH FITTINGS THAT WITHSTAND A COLD WATER WORKING PRESSURE OF NOT LESS THAN 175 PSI (1210 kPa) AND SHALL BE CAST OR MALLEABLE IRON IN COMPLIANCE WITH UNDERWRITER'S STANDARDS. FOR THREADED STEEL PIPE (2 1/2" AND BELOW), PIPE SHALL BE SCH. 40. FOR WELDED OR ROLL-GROOVED PIPE (3" AND ABOVE), REFER TO NFPA 13 FOR PIPE THICKNESS. PROVIDE VICTAULC COUPLINGS FOR PIPE 3" DIA AND ABOVE.



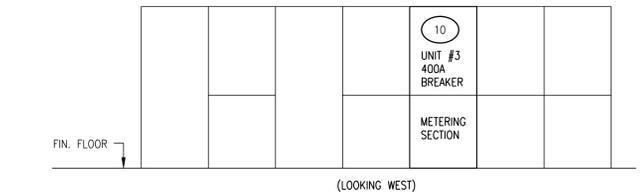
**TYPICAL TRAP SEAL PRIMER DETAIL FOR NEW WASHROOM FLOOR DRAINS**

SCALE: N.T.S.

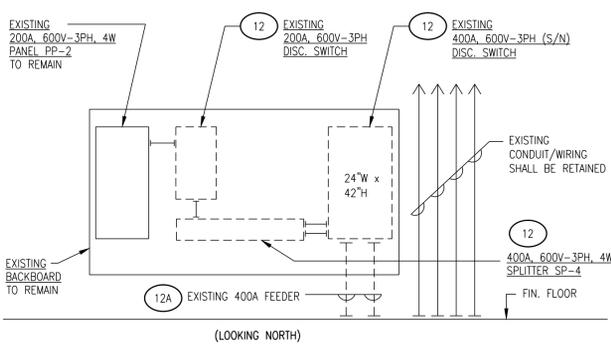
<b>REVISIONS</b> no. description date 0 ISSUED FOR TENDER SEPT. 5, 2025 1 RE-ISSUED FOR TENDER NOV. 4, 2025 2 ISSUED FOR CONSTRUCTION DEC. 16, 2025	project title: HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES	drawing: BTD date: JUNE 2025	scale: AS NOTED
	drawing title: MECHANICAL SPECIFICATION	checked: MK date: DEC. 2025	project number: 25-38
	ATKINSON ENGINEERING INC. 786 King Street East Hamilton ON L8M 1A6 Tel. 905.523.1988 Fax. 905.523.6221 www.atkinsonengineering.com	HAMILTON OSHAWA PORT AUTHORITY	2 Revision



**WEST FLOOR PLAN - POWER**  
SCALE: 1/16"=1'-0"  
NORTH



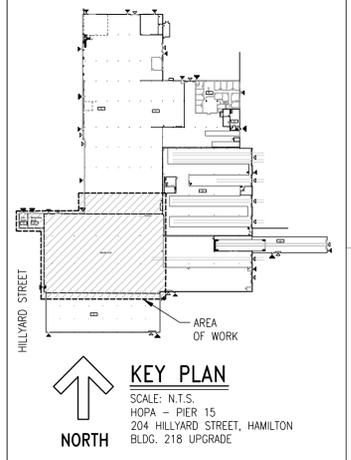
**SUBSTATION SB-1 FRONT VIEW**  
SCALE: 1/4"=1'-0"



**EXISTING 400A SERVICE DEMOLITION DETAIL**  
SCALE: 3/8"=1'-0"

**LEGEND:**  
MANUAL STARTER (M.H. 4'-0" AFF, UNLESS NOTED OTHERWISE)

- CONSTRUCTION NOTES:**
- PROVIDE NEW 600V FUSIBLE SWITCHBOARD PP-1 & CONNECT TO CONFORM TO PARTIAL ONE-LINE DIAGRAM ON DWG. E102.
  - RESTORE 600V POWER TO EXISTING 600V PANEL PP-2 TO CONFORM TO ONE-LINE DIAGRAM ON DWG. E102.
  - PROVIDE 600V SPLITTER & CONNECT TO CONFORM TO ONE-LINE DIAGRAM ON DWG. E102.
  - PROVIDE 600V DISCONNECT SWITCH & CONNECT TO CONFORM TO ONE-LINE DIAGRAM ON DWG. E102.
  - PROVIDE 600V SIZE 1 FVNR STARTER & CONNECT TO CONFORM TO ONE-LINE DIAGRAM ON DWG. E102. REFER TO TYPICAL EXHAUST FAN STARTER SCHEMATIC ON DWG. E102.
  - NOTE: PROVIDE CONTROL INTERLOCKING BETWEEN STARTER AND PERSPECTIVE MOTORIZED DAMPER ENDSWITCH TO CONFORM TO WIRING DIAGRAMS ON DWG. M104.
  - PROVIDE 600V DISCONNECT SWITCH & CONNECT TO RESPECTIVE EXHAUST FAN AS REQUIRED. LOCATE TO SUIT FIELD CONDITIONS.
  - PROVIDE 120V POWER TO CONTROLLER & CONNECT AS INDICATED. CONTROLLER SUPPLIED & INSTALLED BY MECHANICAL TRADE.
  - PROVIDE 120V POWER TO MOTORIZED DAMPERS & CONNECT AS INDICATED. DAMPER SUPPLIED & INSTALLED BY MECHANICAL TRADE.
  - NOTE: PROVIDE CONTROL INTERLOCKING BETWEEN STARTER AND PERSPECTIVE MOTORIZED DAMPER ENDSWITCH TO CONFORM TO WIRING DIAGRAMS ON DWG. M104.
  - REFER TO POWER SCHEDULE ON DWG. E103.
  - REPLACE EXISTING 120/240V PANEL WITH NEW PANEL TO CONFORM TO PANEL SCHEDULE ON DWG. E102. RECONNECT EXISTING POWER FEED & ASSOCIATED BRANCH WIRING AS REQUIRED.
  - PROVIDE 230V MANUAL STARTER & CONNECT AS INDICATED ON PLAN. CONNECT POWER TO UNIT HEATER AS REQUIRED.
  - PROVIDE 120V MANUAL STARTER & CONNECT AS INDICATED. LOCATE ADJACENT TO HEATER TO SUIT FIELD CONDITIONS (APPROX. 20'-0" AFF). CONNECT SWITCH TO HEATER AS REQUIRED.
  - ELECTRICAL CONTRACTOR SHALL ENGAGE THE SERVICES OF EATON TO MODIFY EXISTING SUBSTATION CUBICLE FOR UNIT #3 AS FOLLOWS:
    - REPLACE 400A BREAKER WITH NEW 1200AF/1000AT BREAKER & ASSOCIATED MOUNTING HARDWARE.
    - REVISE RISER BUS IN BREAKER COMPARTMENT COMPLETE WITH PUC & LUG-OUT SECTION.
    - SUPPLY PT'S & CT TO INTERFACE WITH NEW METERING AS REQUIRED.
  - SUPPLY, INSTALL, & CONNECT NEW METERING TO SUIT. COORDINATE METER REQUIREMENTS WITH ALECTRA AS REQUIRED.
  - SERVICE BACKPLATE EQUIPMENT SHALL BE DEMOLISHED TO ACCOMMODATE INSTALLATION OF NEW 600V FUSIBLE SWITCHBOARD PP-1. REFER TO DEMOLITION DETAIL ON THIS DRAWING.
  - DISCONNECT & REMOVE EXISTING SERVICE EQUIPMENT COMPLETE WITH ASSOCIATED CONDUIT/WIRING AS REQUIRED.
  - EXISTING 400A FEEDER FROM SUBSTATION SB-1 FOR UNIT #3 SHALL BE DISCONNECTED COMPLETELY.



**KEY PLAN**  
SCALE: N.T.S.  
HOPA - PIER 15  
204 HILLYARD STREET, HAMILTON  
BLDG. 218 UPGRADE

- SPECIFICATIONS:**
- ALL EQUIPMENT SHALL BE AS SPECIFIED ON THIS DRAWING. ANY DEVIATION FROM THESE SPECIFICATIONS MUST BE APPROVED BY ENGINEER.
  - ALL INDOOR CONDUIT SHALL BE ELECTRICAL METALLIC TUBING (EMT) COMPLETE WITH STEEL CONNECTORS AND COUPLINGS (DIECAST NOT ACCEPTABLE). TECK CABLE SHALL BE PERMITTED WHERE INDICATED ON PLANS.
  - ALL CONDUCTORS SHALL BE MIN. #12 AWG RW90 COPPER (RATED 600V).
  - PROVIDE ALL NECESSARY GROUNDING ASSOCIATED WITH NEW WORK.
  - INSTALLATION SHALL CONFORM TO ONTARIO ELECTRICAL SAFETY CODE (LATEST EDITION). PROVIDE COPY OF ALL INSPECTION REPORTS TO ENGINEER.
  - ELECTRICAL CONTRACTOR FEES SHALL INCLUDE FOR ALL ESA INSPECTION COSTS AND/OR REQUIRED PERMITS.
  - PROVIDE EQUIPMENT NAMEPLATES AS REQUIRED. LAMACOID TYPE - WHITE LETTERING ON BLACK BACKGROUND TO SUIT.
  - PRIOR TO SUBMITTING FEES CONTRACTOR SHALL VISIT SITE AND BE AWARE OF FIELD CONDITIONS AFFECTING THE SCOPE OF WORK. ALL NEW CONDUIT/WIRING SHALL BE ROUTED TO SUIT FIELD CONDITIONS.
  - ALL CONDUIT PENETRATIONS IN FLOORS AND WALLS SHALL BE FIREPROOFED AS REQUIRED.
  - CABLE ROUTINGS SHOWN ON PLAN ARE DIAGRAMMATIC. EXACT ROUTING & TERMINATION POINTS SHALL BE FIELD VERIFIED.
  - UPDATE PANEL DIRECTORIES TO CONFORM WITH SCOPE IDENTIFIED ON THIS DRAWING.
  - DISCONNECT SWITCHES SHALL BE RATED AS PER PLANS. ACCEPTABLE MANUFACTURER: EATON OR SCHNEIDER
  - NEW 120/208V POWER DISTRIBUTION PANEL SHALL BE RATED 100A, 120V/208V-3 PHASE, 4 WIRE, COPPER BUS. COMPLETE WITH REQUIRED CIRCUIT BREAKERS. PANEL SHALL BE MINIMUM 30 CCT COMPLETE WITH PANEL DIRECTORY REFLECTING USAGE FOR EACH CIRCUIT UTILIZED.  
MANUFACTURER: SCHNEIDER (SQ. 'D'), OR APPROVED EQUIVALENT.
  - NEW STEP-DOWN TRANSFORMER SHALL BE RATED 15 KVA, 600V: 120/208V-3PH, 4 WIRE, COPPER.  
MANUFACTURER: HAMMOND, OR APPROVED EQUIVALENT
  - FRACTIONAL HORSEPOWER MANUAL STARTERS SHALL BE RATED 1 HP, 120V OR 230V AS APPLICABLE, EEMAC-1 COMPLETE WITH OVERLOAD PROTECTION AND PILOT LIGHT.  
MANUFACTURER: EATON, OR APPROVED EQUIVALENT.
  - COMBINATION MAGNETIC FVNR STARTERS SHALL BE RATED 600V-3P, SIZE 1 COMPLETE WITH HAND-OFF-AUTO SELECTOR SWITCH AND 'RUNNING' PILOT LIGHT. STARTERS SHALL HAVE CONTROL TRANSFORMERS AND BE CAPABLE TO BE INTERLOCKED WHEN IN 'AUTO' MODE. REFER TO SCHEMATICS ON DRAWINGS E102.  
MANUFACTURER: SCHNEIDER, EATON, OR APPROVED EQUIVALENT.
  - NEW 120/240V POWER DISTRIBUTION PANEL SHALL BE RATED 225A, 120/240V-1PHASE, 3 WIRE, COPPER BUS, COMPLETE WITH REQUIRED CIRCUIT BREAKERS. PANEL SHALL BE MINIMUM 30 CCT COMPLETE WITH PANEL DIRECTORY REFLECTING USAGE FOR EACH CIRCUIT UTILIZED.  
MANUFACTURER: HAMMOND, OR APPROVED EQUIVALENT
  - NEW 600V/347V-3PH, 4W FUSIBLE SWITCHBOARD SHALL BE RATED 1000A, COPPER BUS COMPLETE WITH REQUIRED SWITCHES/FUSING.  
MANUFACTURER: EATON PRL4 PANEL (90" x 44"W x 12"D), OR APPROVED EQUIVALENT
  - ALL COSTS ASSOCIATED WITH EATON SERVICES TO UPGRADE EXISTING SUBSTATION SB-1, AS PER SCOPE OUTLINED ON THE DRAWINGS, SHALL BE CARRIED WITHIN ELECTRICAL CONTRACTOR'S TENDERED FEES.

CONTACT: MOHAMMAD FARROKHI, EATON  
PHONE: 905-577-2420

no.	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	RE-ISSUED FOR TENDER	NOV. 6, 2025
2	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



project title:  
**HAMILTON-OSHAWA PORT AUTHORITY  
PIER 15 - 204 HILLYARD ST.  
BUILDING 218 UPGRADES**

drawing title:  
**WEST FLOOR PLAN - POWER & SPECIFICATIONS**

drawn:  
BTD

date:  
JUNE 2025

checked:  
J.A.M.

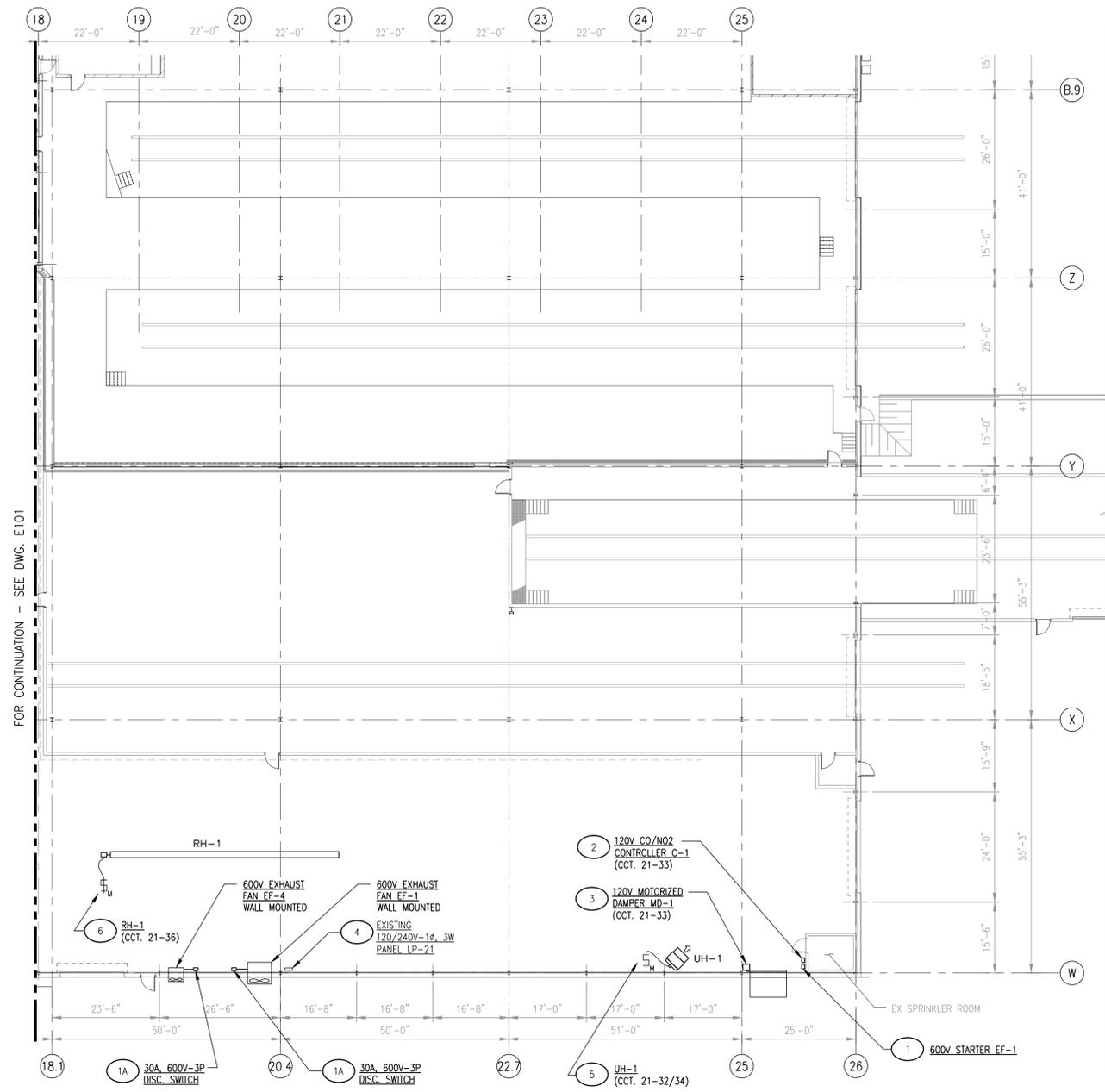
date:  
DEC. 2025

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AS NOTED

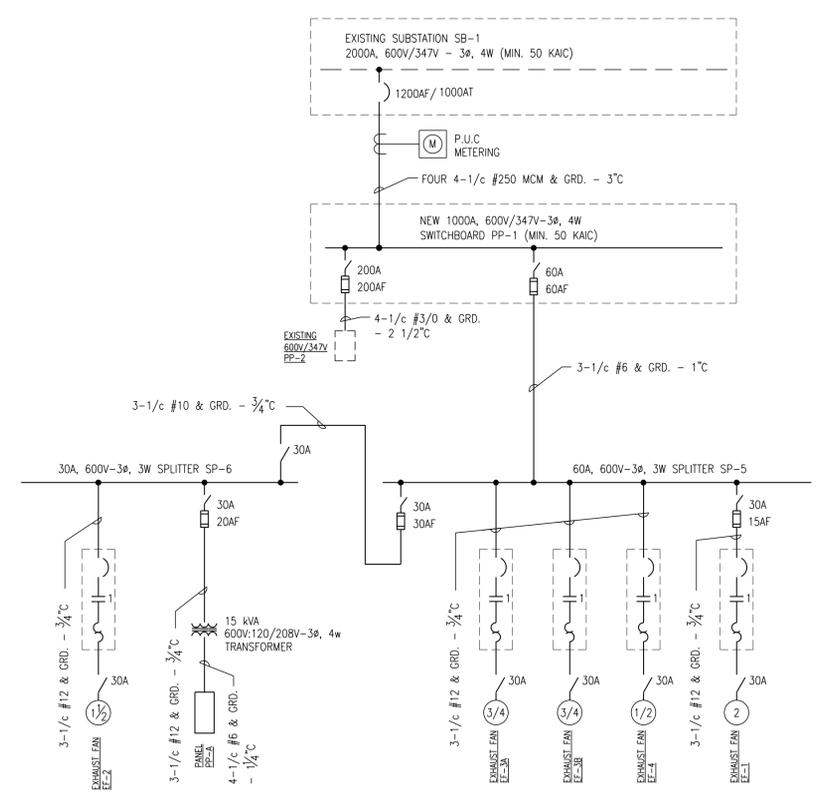
project number:  
25-38

DRAWING NUMBER:  
**E101**

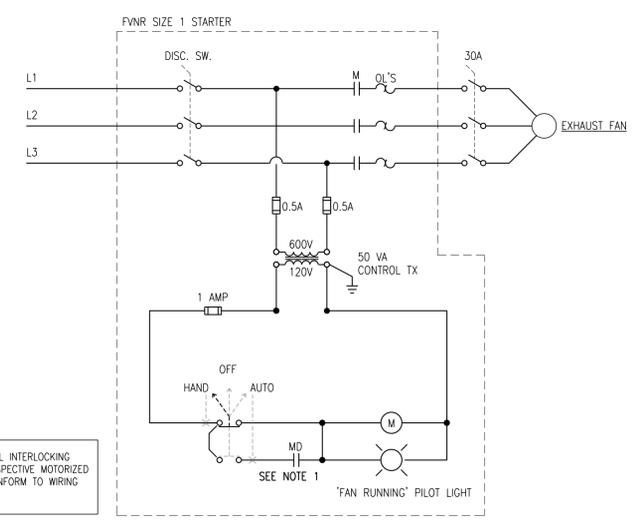
Revision:  
**2**



**EAST FLOOR PLAN - POWER**  
SCALE: 1/16"=1'-0"



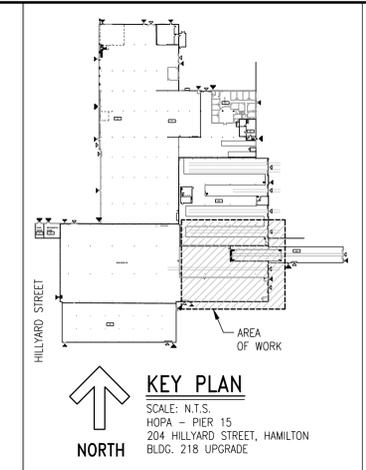
**PARTIAL ONE-LINE DIAGRAM**



**TYPICAL 600V EXHAUST FAN SCHEMATIC**  
(TYPICAL FOR EF-1, EF-2, EF-3A, EF-3B & EF-4)

EXISTING PANEL LP-21		MAIN FEEDER TOP ENTRY		200A, 120/240V-1Ø, 3W (MIN. 10 KAIC)	
CCT.	DESCRIPTION	BREAKER SIZE	WIRING		
32	UNIT HTR UH-1	(3/4 HP)	15A-2P	2#12	
36	HEATERS RH-1, RH-2, RH-3	(FLA-3A)	15A-1P	2#12	
33	CONTROLLER C-1/1/ MOTORIZED DAMPER MD-1		15A-1P	2#12	
35	SPARE		15A-1P	-	

△ PROVIDE NEW BREAKER & CONNECT AS REQUIRED



**KEY PLAN**  
SCALE: N.T.S.  
HOPA - PIER 15  
204 HILLIARD STREET, HAMILTON  
BLDG. 218 UPGRADE

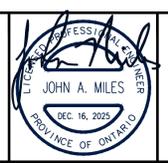
**CONSTRUCTION NOTES:**

- 1 PROVIDE 600V SIZE 1 FVNR STARTER & CONNECT TO CONFORM TO ONE-LINE DIAGRAM ON THIS DRAWING. REFER TO TYPICAL EXHAUST FAN STARTER SCHEMATIC ON THIS DRAWING.  
*NOTE: PROVIDE CONTROL INTERLOCKING BETWEEN STARTER AND RESPECTIVE MOTORIZED DAMPER END SWITCH TO CONFORM TO WIRING DIAGRAMS ON DWG. M104.*
- 1A PROVIDE 600V DISCONNECT SWITCH & CONNECT TO RESPECTIVE EXHAUST FAN AS REQUIRED. LOCATE TO SUIT FIELD CONDITIONS.
- 2 PROVIDE 120V POWER TO CONTROLLER & CONNECT AS INDICATED. CONTROLLER SUPPLIED & INSTALLED BY MECHANICAL TRADE.
- 3 PROVIDE 120V POWER TO MOTORIZED DAMPER & CONNECT AS INDICATED. DAMPER SUPPLIED & INSTALLED BY MECHANICAL TRADE.  
*NOTE: PROVIDE CONTROL INTERLOCKING BETWEEN STARTER AND RESPECTIVE MOTORIZED DAMPER END SWITCH TO CONFORM TO WIRING DIAGRAMS ON DWG. M104.*
- 4 PROVIDE NEW BREAKERS IN EXISTING 120/240V PANEL TO CONFORM TO PARTIAL PANEL SCHEDULE ON THIS DRAWING.
- 5 PROVIDE 230V MANUAL STARTER & CONNECT AS INDICATED ON PLAN. CONNECT POWER TO UNIT HEATER AS REQUIRED.
- 6 PROVIDE 120V MANUAL STARTER & CONNECT AS INDICATED. LOCATE ADJACENT TO HEATER TO SUIT FIELD CONDITIONS (APPROX. 20'-0" AFF). CONNECT SWITCH TO HEATER AS REQUIRED.

NEW PANEL LP-5		MAIN FEEDER TOP ENTRY		225A, 120/240V-1Ø, 3W (MIN. 10 KAIC)	
CCT.	DESCRIPTION	BREAKER SIZE	WIRING		
1	EXISTING LOAD	20A-1P	EXIST.		
3					
5					
7					
9					
11					
13					
15					
17	CONTROLLER C-3/ MOTORIZED DAMPERS MD-3A & MD-3B	15A-1P	2#10		
19	CONTROLLER C-4/ MOTORIZED DAMPER MD-4	15A-1P	2#10		
21	UNIT HTR UH-2	(3/4 HP)	15A-2P	2#12	
23					
25	SPACE				
27					
29					
2	EXISTING LOAD	20A-1P	EXIST.		
4					
6					
8					
10				15A-1P	
12				15A-1P	
14				15A-2P	
16					
18				15A-2P	
20					
22	HEATER RH-5	(FLA-1A)	15A-1P	2#12	
24	SPARE		15A-1P	-	
26	SPACE				
28					
30					

▲ EXISTING BRANCH WIRING SHALL BE CONNECTED TO RESPECTIVE BREAKER AS BEFORE

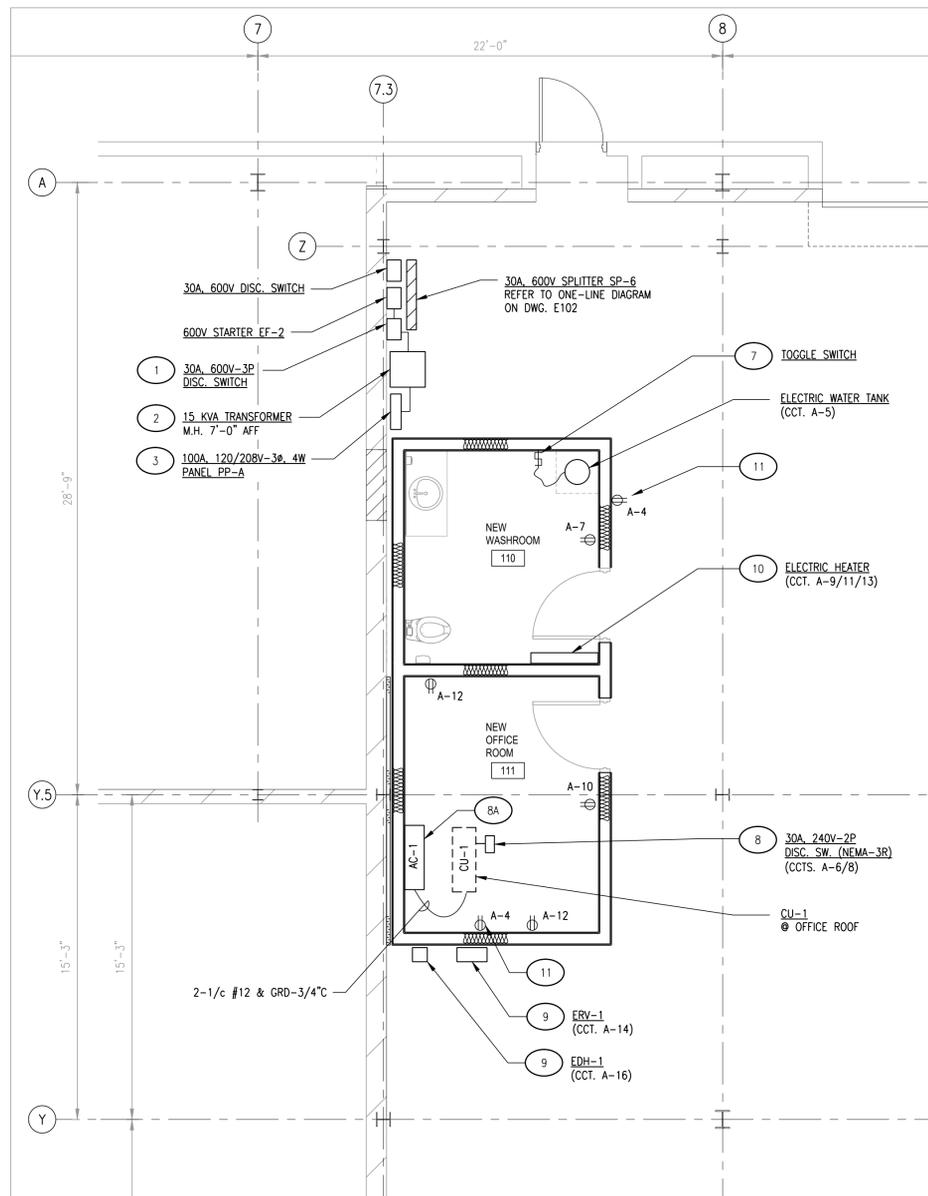
no.	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	RE-ISSUED FOR TENDER	OCT. 23, 2025
2	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



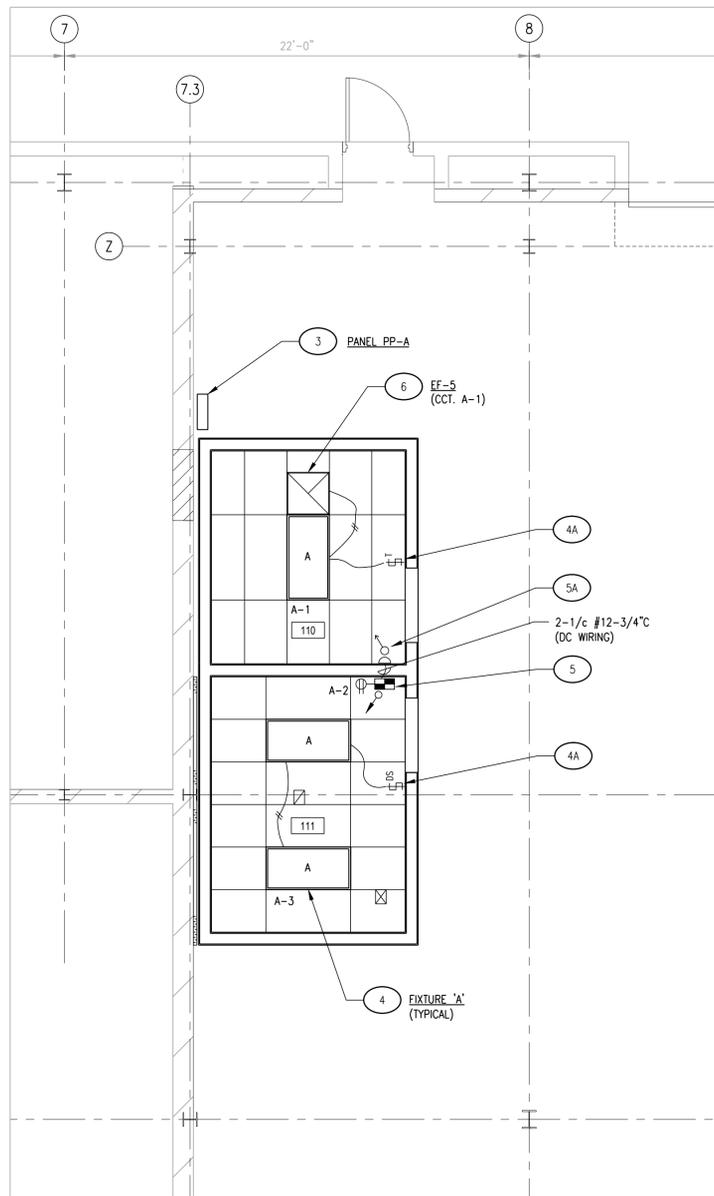
project title:  
**HAMILTON-OSHAWA PORT AUTHORITY  
PIER 15 - 204 HILLIARD ST.  
BUILDING 218 UPGRADES**

drawing title:  
**EAST FLOOR PLAN - POWER, ONE-LINE DIAGRAM,  
SCHEMATIC, PANEL SCHEDULE & NOTES**

drawn: BTD	scale: AS NOTED
date: JUNE 2025	project number: 25-38
checked: JAM	drawing number: <b>E102</b>
date: DEC. 2025	<b>2</b> Revision



**PART PLAN - POWER**  
SCALE: 1/4"=1'-0"  
NORTH



**PART PLAN - LIGHTING**  
SCALE: 1/4"=1'-0"  
CEILING TO BE 24"x48" ACT T-BAR GRID @ 8'-0" A.F.F.  
NORTH

**LEGEND**

- METALUX CAT. #24CGTS-NUV-LOW-3500, 120V, 35W, 3500K, 85 CRI, 0-10V DIMMING, 2'x4' LED LAY-IN FIXTURE
- LEVITON CAT. #00D10-IDW, SMART SENSOR, PIR, 0-10V DIMMING WALLBOX/ OCCUPANCY SENSOR, 120V, 1000W, WHITE C/W COVER PLATE
- LEVITON CAT. #DT230-1LW 20A, 120V, 30 MINUTE COUNTDOWN TIMER SWITCH
- 15A, 120V TOGGLE SWITCH M.H. 4'-6" AFF
- 15A, 120V DUPLEX RECEPTACLE (CSA 5-15R) M.H. 18" AFF, UNLESS NOTED OTHERWISE
- AIMLITE CAT. #EBST-6-36-4WLR-ADT-ACT, 120V INPUT, 6 VDC OUTPUT, 3 WATT WALL MOUNTED STEEL BATTERY UNIT C/W ONE 4W LED LAMP, AND AUTOMATIC TEST SELF-DIAGNOSTIC, PROVIDE 15A, 120V RECEPTACLE ADJACENT TO UNIT C/W AC CORD/PLUG TO SUIT.
- AIMLITE CAT. #RMSM-1-6V-4WLR-WHT, 6 VDC, SINGLE HEAD, 4W LED LAMP, WHITE FINISH

- CONSTRUCTION NOTES:**
- PROVIDE 30A DISCONNECT SWITCH & CONNECT TO CONFORM TO PARTIAL ONE-LINE DIAGRAM ON DWG. E102.
  - PROVIDE 15 KVA TRANSFORMER & CONNECT TO CONFORM TO ONE-LINE ON DWG. E102.
  - PROVIDE POWER PANEL & CONNECT TO CONFORM TO ONE-LINE DIAGRAM ON DWG. E102. REFER TO PANEL SCHEDULE ON DWG. E102.
  - PROVIDE LAY-IN FIXTURE & CONNECT AS INDICATED.
  - PROVIDE LIGHTING CONTROL SWITCH & CONNECT AS REQUIRED.
  - PROVIDE EMERGENCY LIGHTING BATTERY UNIT & CONNECT AS REQUIRED. LOCATE TO SUIT FIELD CONDITIONS.
  - PROVIDE REMOTE 6 VDC LIGHTING HEAD & CONNECT AS REQUIRED. LOCATE TO SUIT FIELD CONDITIONS.
  - PROVIDE 120V POWER TO EXHAUST FAN.  
NOTE: FAN SHALL BE CONNECTED TO TIMER SWITCH AS REQUIRED.
  - PROVIDE 120V TOGGLE SWITCH TO DISCONNECT POWER TO ELECTRIC WATER TANK. LOCATE SWITCH IN CEILING SPACE TO SUIT FIELD CONDITIONS.
  - PROVIDE DISCONNECT SWITCH FOR CONDENSER UNIT CU-1 & CONNECT 208V POWER AS REQUIRED. LOCATE ADJACENT TO UNIT TO SUIT FIELD CONDITIONS.
  - AC-1 POWER SHALL BE FED FROM CU-1. CONNECT AS REQUIRED.
  - PROVIDE 120V POWER TO MECHANICAL EQUIPMENT & CONNECT AS REQUIRED.
  - PROVIDE 208V POWER TO ELECTRIC HEATER & CONNECT AS REQUIRED.
  - PROVIDE 120V RECEPTACLE AT 7'-0" AFF FOR TENANT TV MONITORS. COORDINATE EXACT LOCATION WITH TENANT AS REQUIRED.

CCT.	DESCRIPTION	BREAKER SIZE	WIRING
1	ROOM 110 - LIGHTING/ EF-5 (150 W)	15A-1P	2#12
3	ROOM 111 - LIGHTING (70 W)	15A-1P	2#12
5	HOT WATER TANK (1500 W)	20A-1P	2#12
7	ROOM 110 - RECEPTACLE	15A-1P	2#12
9			
11	ROOM 110 - ELECTRIC HEATER (3 kW)	15A-3P	3#12
13			
15	CONTROLLER C-2/ MD-2	15A-1P	2#12
17	HEATERS RH-4 & RH-6 (FLA-2A)	15A-1P	2#12
19	UNIT HTR UH-3 (3/4 HP)	15A-2P	2#12
21			
23	SPARE	15A-1P	-
25	SPACE	-	-
27			
29			
2	EMERGENCY LIGHTING BATTERY UNIT	15A-1P	2#12
4	TV MONITOR RECEPTACLES	15A-1P	2#12
6	CONDENSER UNIT CU-1/ AC-1 (FLA-12.3A)	20A-2P	2#12
10	ROOM 111 - RECEPTACLE	15A-1P	2#12
12	ROOM 111 - RECEPTACLES	15A-1P	2#12
14	ROOM 111 - ERV-1 (FLA-0.75A)	15A-2P	2#12
16	ROOM 111 - EDH-1 (FLA-8.3A)	15A-1P	2#12
18	SPARE	15A-1P	-
20	SPARE	15A-1P	-
22	SPARE	15A-1P	-
24	SPARE	15A-1P	-
26	SPACE	-	-
28			
30			

**REVISIONS**

no.	description	date
0	ISSUED FOR TENDER	SEPT. 5, 2025
1	RE-ISSUED FOR TENDER	NOV. 6, 2025
2	ISSUED FOR CONSTRUCTION	DEC. 16, 2025



project title: HAMILTON-OSHAWA PORT AUTHORITY PIER 15 - 204 HILLYARD ST. BUILDING 218 UPGRADES	drawn: BTD	scale: AS NOTED
checked: JAM	date: JUNE 2025	project number: 25-38
drawing title: PART PLANS - LIGHTING & POWER	date: DEC. 2025	drawing number: E103
		2 Revision