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Mechanical

Addendum No. M-03

Reference: Added Scope and clarification

Issue Date: November 12, 2024

Project: UHN TWH – SEM & Corridor (EXP Project Number MRK-23004289-A0)

This addendum shall form an integral part of the Bid Documents for the above project and shall be read in conjunction therewith. This addendum shall, however, take precedence over all requirements of the previously issued Drawings and Specifications with which it may prove to be at variance, unless otherwise clarified by the Consultant.

This addendum must be signed by the Bidder in the appropriate space and must be attached to the back of the Bid Form for submission at the time of bidding. Bids not including this addendum signed as requested may be rejected as informal.

Revisions / Clarifications

The following changes and clarifications shall be considered when submitting your bid.

1.1. MECHANICAL DRAWINGS

1.1.1. M-004 - SNOW MELT SYSTEM - COURTYARD -SEM CENTRE

- .1 Revised as shown.

1.1.2. M-100A - CHILLER RELOCATION -DEMOLITION AND NEW WORK - MECHANICAL

- .1 Revised as shown.

1.1.3. M-101 – UNDERGROUND FLOOR PLAN – DEMO – PLUMBING

- .1 Revised scope of work boundary to include demo for storm and sanitary line.
- .2 Revised general notes for structural excavation procedure.
- .3 Revised note for existing pipe support during excavation.

- 1.1.4. **M-102 – LEVEL 1 FLOOR PLAN – DEMO - PLUMBING**
 - .1 Added demo for pipe falling outside of wall enclosure.
 - .2 Revised existing DHWR piping to remain.
 - .3 Added keynote for sink to be removed.
 - .4 Added keynote for existing risers to remain.
- 1.1.5. **M-111 – UNDERGROUND FLOOR PLAN – NEW WORK – MECHANICAL**
 - .1 Added two options to run the incoming water main.
 - .2 Added new piping for the incoming fire main.
 - .3 Added core drilling for pipe sleeve.
 - .4 Added existing mechanical equipment tags.
 - .5 Added water tight seal provision for sump pit cover.
 - .6 Added connect to existing note for booster pump.
 - .7 Added keynotes for the fire main and water main.
- 1.1.6. **M-112 – LEVEL 1 FLOOR PLAN – NEW WORK - PLUMBING**
 - .1 Domestic hot water recirculation line updated to serve additional fixtures.
 - .2 Pipe sizes for the domestic hot water recirculation have been updated.
 - .3 Keynote for sink tie-back connections has been updated.
 - .4 Storm and Sanitary lines have been re-routed to fall within the pipe enclosure.
- 1.1.7. **M-113 – BELOW GRADE FLOOR PLAN – CORRIDOR – NEW WORK - PLUMBING**
 - .1 All floor cleanout have been deleted, storm piping revised accordingly.
 - .2 Revised keynote for underground services and removed cost allowance.
- 1.1.8. **M-114 – LEVEL 1 FLOOR PLAN – CORRIDOR – NEW WORK - PLUMBING**
 - .1 All floor cleanouts have been deleted, wall cleanouts added.
 - .2 Added fire rating for pipe sleeves.
- 1.1.9. **M-211A - LEVEL 1 FLOOR PLAN - NEW WORK -VENTILATION**
 - .1 Revised as shown.
- 1.1.10. **M-301 - LEVEL 1 FLOOR PLAN - DEMO – HVAC PIPING**
 - .1 Revised as shown.
- 1.1.11. **M-311A - LEVEL 1 FLOOR PLAN - NEW WORK – HVAC PIPING**
 - .1 Revised as shown.
- 1.1.12. **M-313 - PENTHOUSE & ROOF FLOOR PLAN – NEW WORK – HVAC**

.1 Revised as shown.

1.1.13. M-601 - VENTILATION SCHEMATIC DIAGRAMS

.1 Revised as shown.

1.1.14. M-602 - HYDRONIC & PIPING SCHEMATIC DIAGRAMS

.1 Revised as shown.

1.1.15. M-701 – MECHANICAL SCHEDULES #1

.1 Revised as shown.

1.1.16. M-702 – MECHANICAL SCHEDULES #2

.1 Revised as shown.

1.1.1. M-703 – MECHANICAL SCHEDULES #3

.1 Revised as shown.

1.1.2. M-901 – TYPICAL DETAILS #1

.1 Revised as shown.

1.1.3. M-902 – TYPICAL DETAILS #2

.1 Revised as shown.

1.1.4. M-903 – TYPICAL DETAILS #3

.1 Revised as shown.

1.1.5. M-904 – TYPICAL DETAILS #4

.1 Revised as shown.

1.1.6. M-1001– PLUMBING SECTIONS

.1 Elevations updated.

.2 Location of fire main and water main updated.

1.2. MECHANICAL SPECIFICATIONS (New added sections)

1.2.1. 22 13 29 Drainage Pumps and Accessories

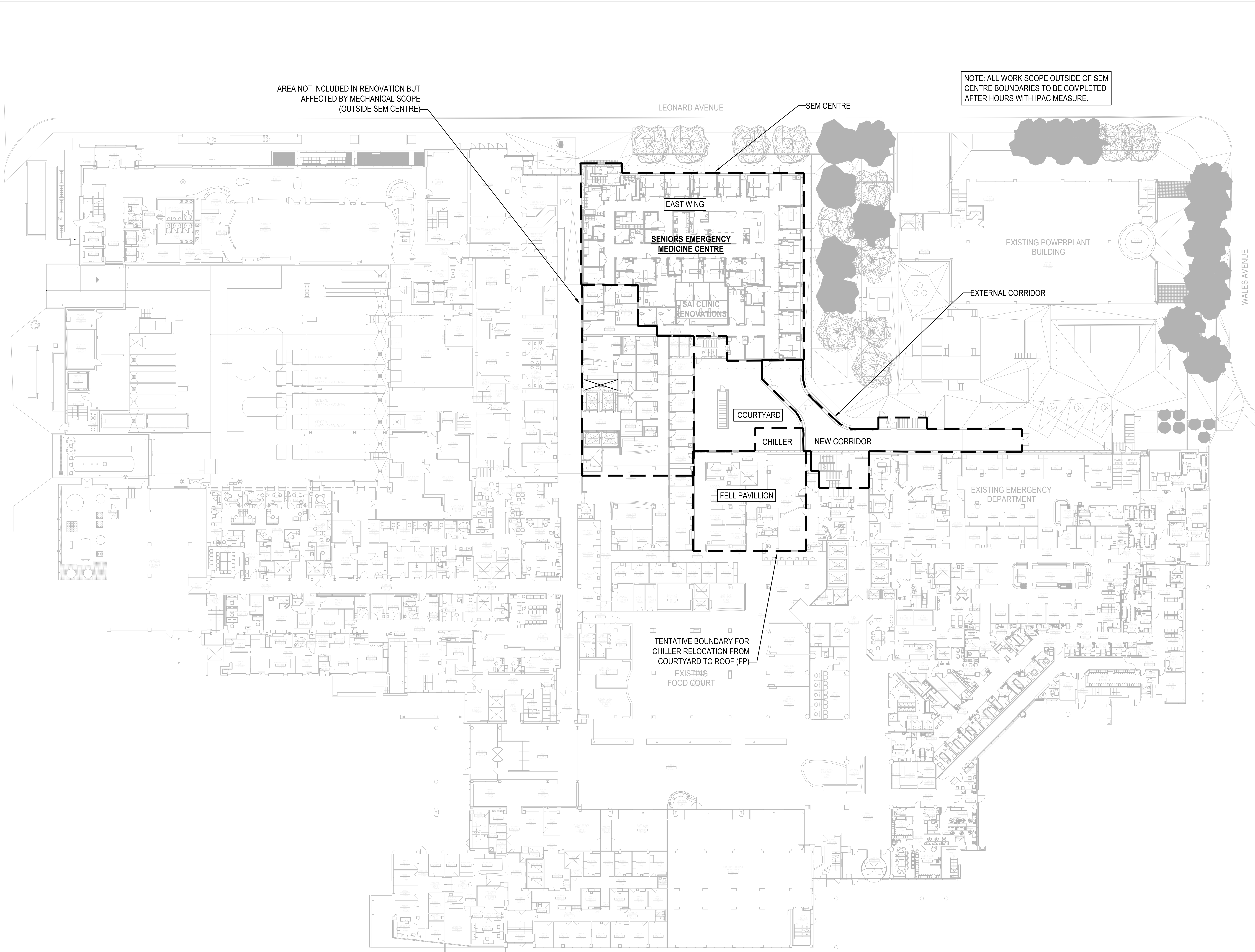
1.2.2. 22 35 00 Domestic Water Heat Exchangers

1.2.3. 23 34 18 Roof Mounted Exhaust Fans

1.3. MECHANICAL SPECIFICATIONS (Revised sections)

1.3.1. 22 12 19 DOMESTIC WATER PIPING SPECIALTIES

----- END OF MECHANICAL ADDENDUM No. M-03 -----



AREA NOT INCLUDED IN RENOVATION BUT
AFFECTED BY MECHANICAL SCOPE
(OUTSIDE SEM CENTRE)

LEONARD AVENUE

SEM CENTRE

NOTE: ALL WORK SCOPE OUTSIDE OF SEM
CENTRE BOUNDARIES TO BE COMPLETED
AFTER HOURS WITH IPAC MEASURE.

EAST WING

SENIORS EMERGENCY
MEDICINE CENTRE

SAI CLINIC
RENOVATIONS

EXISTING POWERPLANT
BUILDING

EXTERNAL CORRIDOR

COURTYARD

CHILLER

NEW CORRIDOR

FELL PAVILLION

EXISTING EMERGENCY
DEPARTMENT

TENTATIVE BOUNDARY FOR
CHILLER RELOCATION FROM
COURTYARD TO ROOF (FP)

EXISTING
FOOD COURT

CLIENT:

UHN University Health Network
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9	Issued for Addendum M-03	2024.11.12
8	Issued for Addendum M-02	2024.11.06
7	Issued for Addendum M-01	2024.10.29
6	Issued for Review	2024.10.11
5	Issued for 100% CD	2024.09.27
4	Issued for 90% CD	2024.09.09
3	Issued for 50% CD - Permit	2024.08.02
2	Issued for 100 DD	2024.05.10
1	Issued for Design Development Progress	2024.04.05
NO	DESIGN INTENT	DATE

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

TITLE:
KEYPLAN

PROJECT NO:
MRK-23004289
CHECKED:
S.S.

DRAWING NO:
M-002

LEGEND - SEPARATE PRICE

- PATIENT TRANSFER
- FELL REMEDIATION WATERPROOFING
- SAI TOUCHDOWN DAY AREA
- BELOW GRADE CRAWL SPACE
- COURTYARD LANDSCAPING, IRRIGATION & SNOW MELT
- SENIORS EMERGENCY MEDICINE CENTRE & CORRIDOR & CHILLER

CLIENT:

University Health Network
Toronto Western Hospital
399 Bathurst Street
Toronto, ON M5T 2S8
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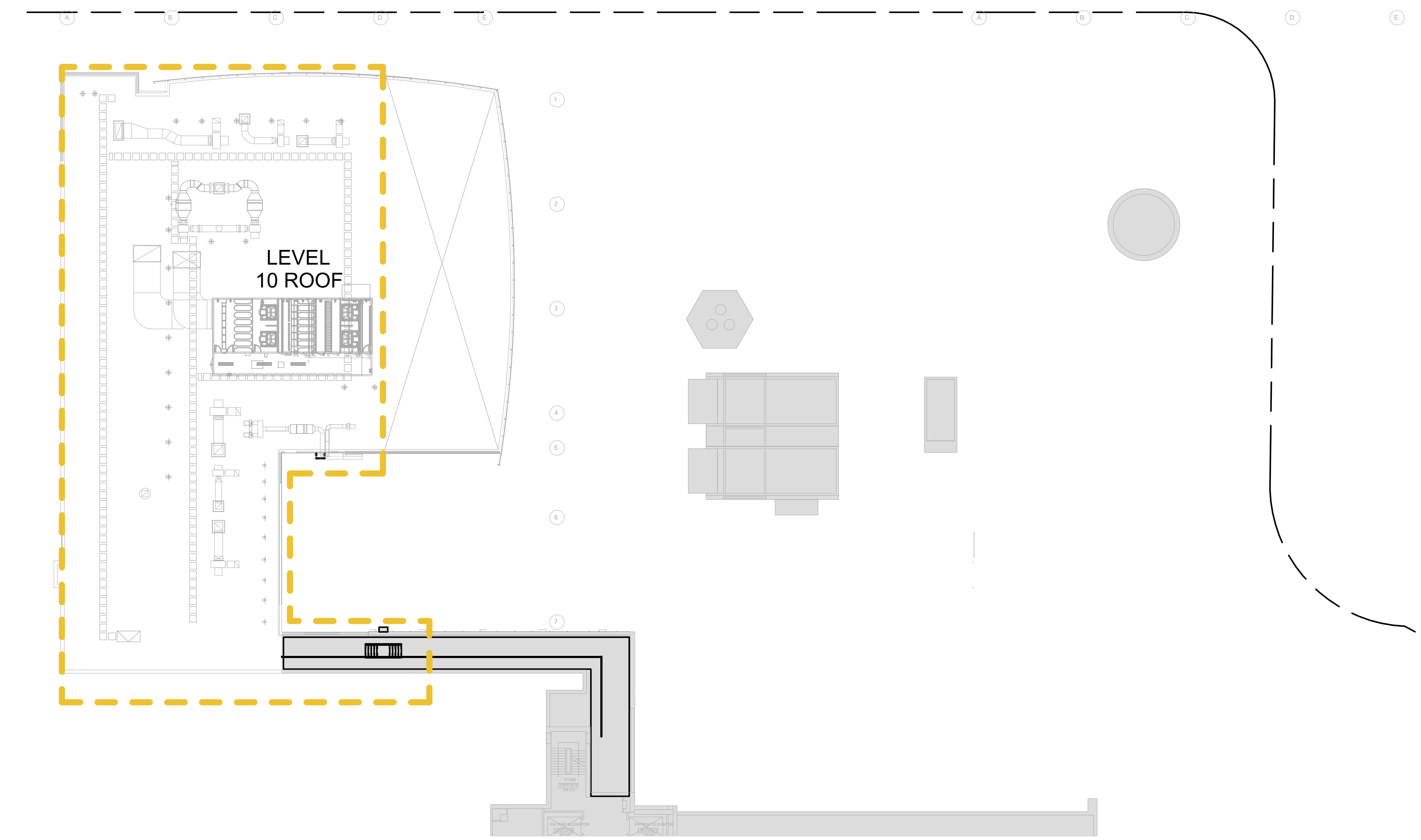
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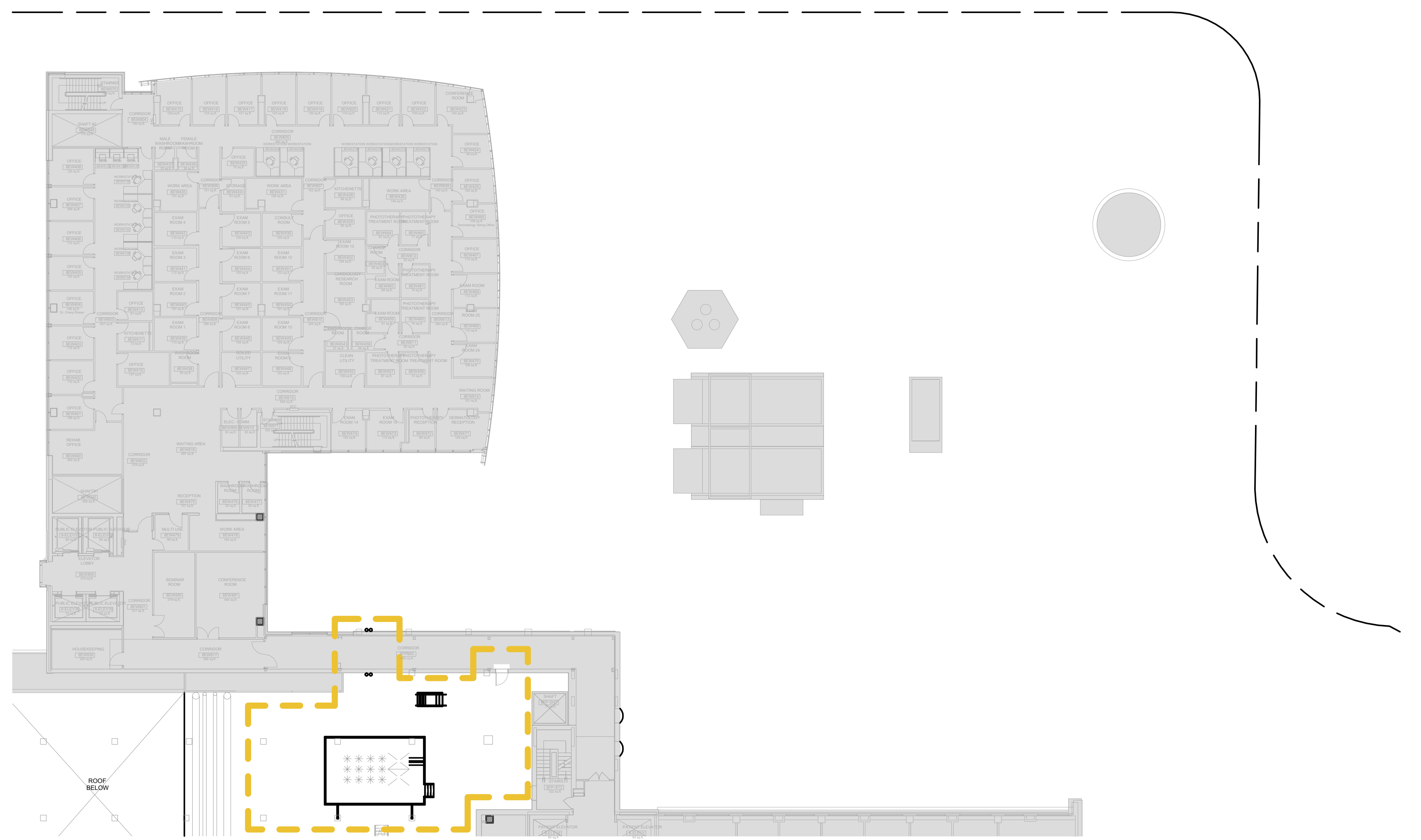
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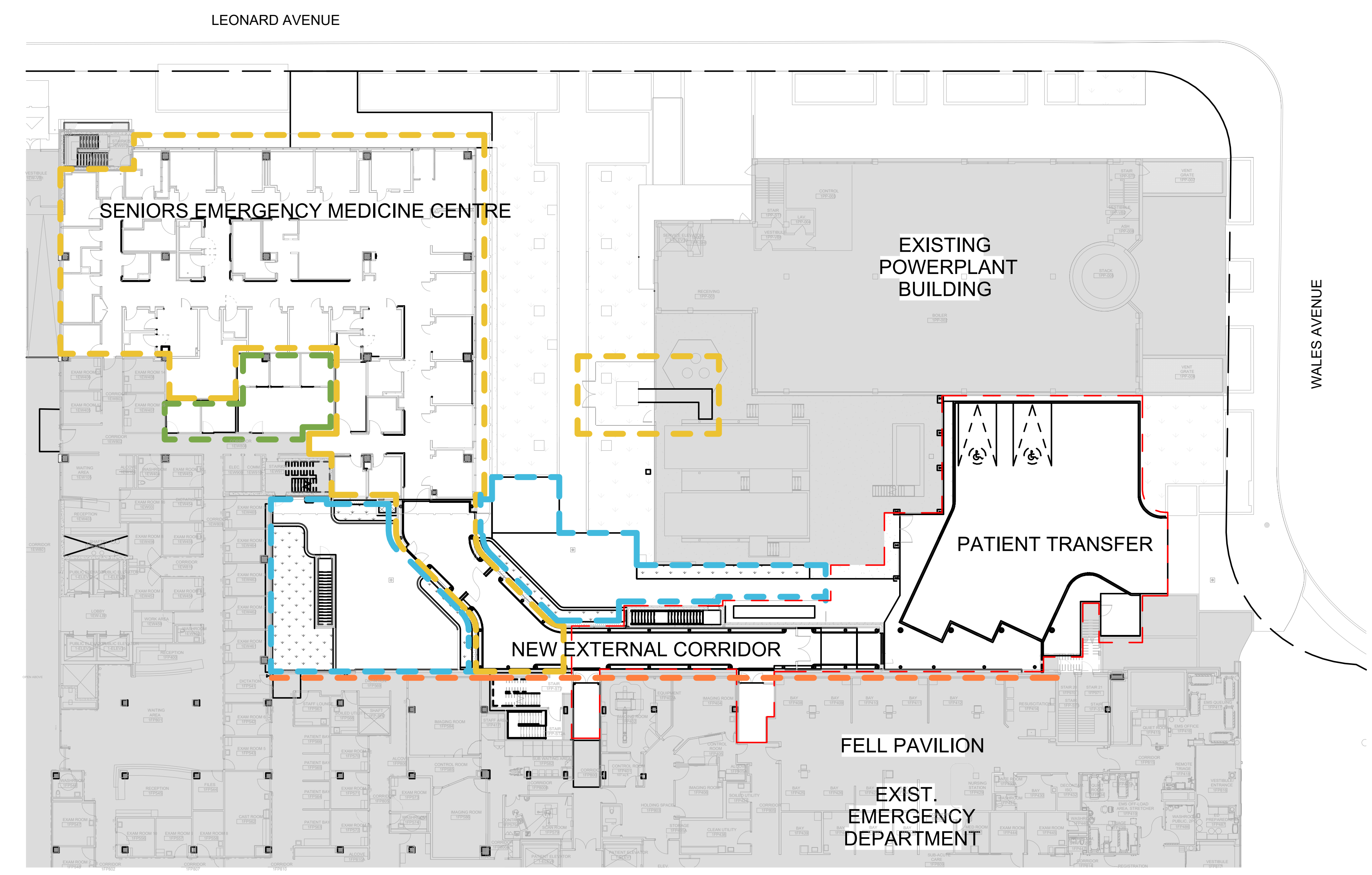
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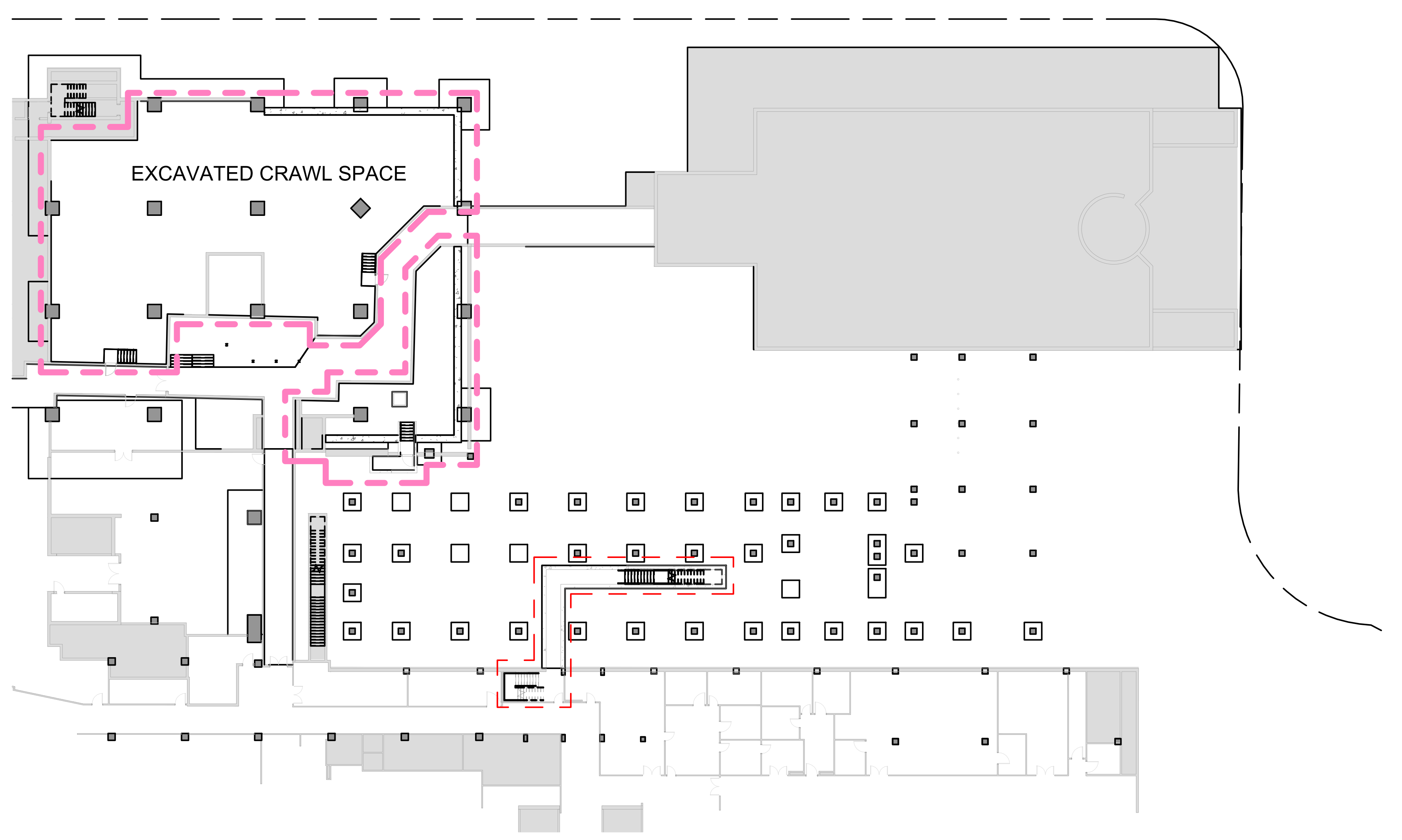
4 Separate Price - Level 10
1:250



3 Separate Price - Level 8
1:250



2 Separate Price - Level 1
1:250



1 Separate Price - Basement Plan
1:250

NOTE: SEPRATE SCOPE IDENTIFICATION DRAWINGS PREPARED BY ARCH.

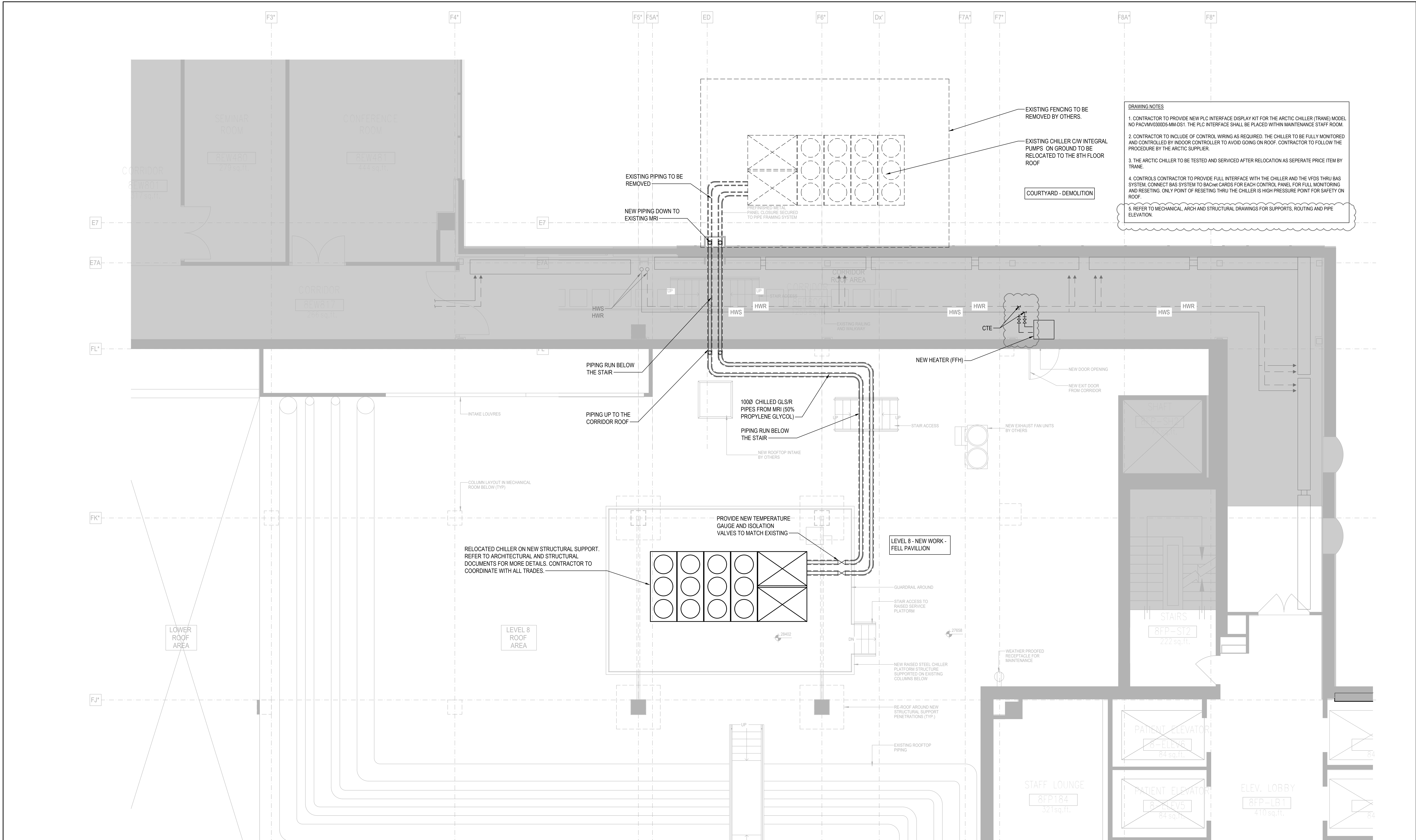
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1	Issued for Design Development Progress	2024.04.05
NO	DESCRIPTION	DATE

PROJECT:
Seniors Emergency Medicine Centre (SEMC) & External Corridor
Toronto Western Hospital
399 Bathurst Street Toronto, ON M5T 2S8

TITLE:
SEPARATE PRICE PLAN

PROJECT NO:
MRK-23004289

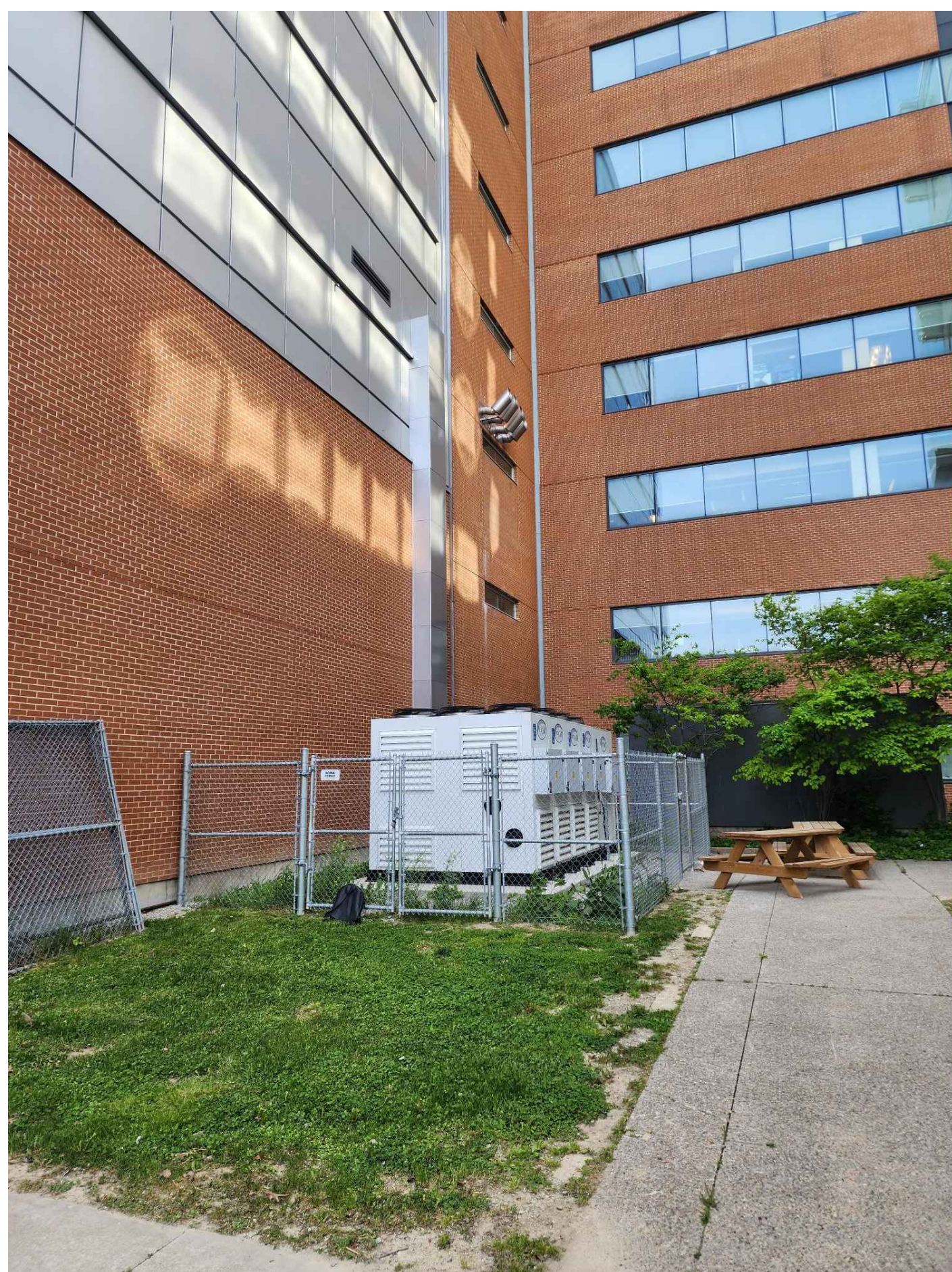
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M-003



1 LEVEL 8 FLOOR PLAN - NEW WORK
1:50



EXISTING CHILLER



EXISTING CHILLER



EXISTING CHILLER ISOLATION VALVES



EXISTING CHILLER TEMPERATURE GAUGE

- GENERAL NOTES**
- A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF THE ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.
 - B. THE EXISTING SERVICES SHOWN ON THIS DRAWING ARE FOR INFORMATION. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND EQUIPMENT SIZE BEFORE THE COMMENCEMENT OF ANY WORK.
 - C. CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.
 - D. PROVIDE ALL CUTTING AND PATCHING. REFER TO SPECIFICATIONS.
 - E. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT-DOWN WITH FACILITY. CONTRACTOR SHALL INCLUDE P&R AND DETERMINE THE BEST METHOD TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION, INCLUDING FOR AFTER-HOUR WORK AS REQUIRED.
 - F. THE NEW PIPING AND ASSOCIATED WORK SHALL BE PERFORMED BEFORE THE CHILLER CAN BE MOVED AND SWITCH OVER TO NEW SYSTEM.
 - G. CONTRACTOR IN INCLUDE CONTROLS SCOPE FOR EXTENSION OF CONTROLS FOR THE CHILLER WITH BASE BUILDING CONTRACTOR.
 - H. CONTRACTOR IN INCLUDE FOR EXTENSION OF CONTROLS FROM THE CHILLER SUPPLIER (TRANE).

- DRAWING NOTES**
- 1. CONTRACTOR TO PROVIDE NEW PLC INTERFACE DISPLAY KIT FOR THE ARCTIC CHILLER (TRANE) MODEL NO PACVMV500DS-IMDS1. THE PLC INTERFACE SHALL BE PLACED WITHIN MAINTENANCE STAFF ROOM.
 - 2. CONTRACTOR TO INCLUDE OF CONTROL WIRING AS REQUIRED. THE CHILLER TO BE FULLY MONITORED AND CONTROLLED BY INDOOR CONTROLLER TO AVOID GOING ON ROOF. CONTRACTOR TO FOLLOW THE PROCEDURE BY THE ARCTIC SUPPLIER.
 - 3. THE ARCTIC CHILLER TO BE TESTED AND SERVICED AFTER RELOCATION AS SEPARATE PRICE ITEM BY TRANE.
 - 4. CONTROLS CONTRACTOR TO PROVIDE FULL INTERFACE WITH THE CHILLER AND THE VFDs THRU BAS SYSTEM. CONNECT BAS SYSTEM TO BACKUP CARDS FOR EACH CONTROL PANEL FOR FULL MONITORING AND RESETTING. ONLY POINT OF RESETTING THRU THE CHILLER IS HIGH PRESSURE POINT FOR SAFETY ON ROOF.
 - 5. REFER TO MECHANICAL, ARCH AND STRUCTURAL DRAWINGS FOR SUPPORTS, ROUTING AND PIPE ELEVATION.

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1	Issued for Design Development Program	2024.04.05
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SHEET REVISION		
PROJECT:		
Seniors Emergency Medicine Centre (SEMC) & External Corridor		
Toronto Western Hospital		
399 Bathurst Street Toronto, ON M5T 2S8		
TITLE:		
CHILLER RELOCATION - DEMOLITION AND NEW WORK - MECHANICAL		
PROJECT NO:	DRAWING NO:	
MRK-23004289	M-100A	
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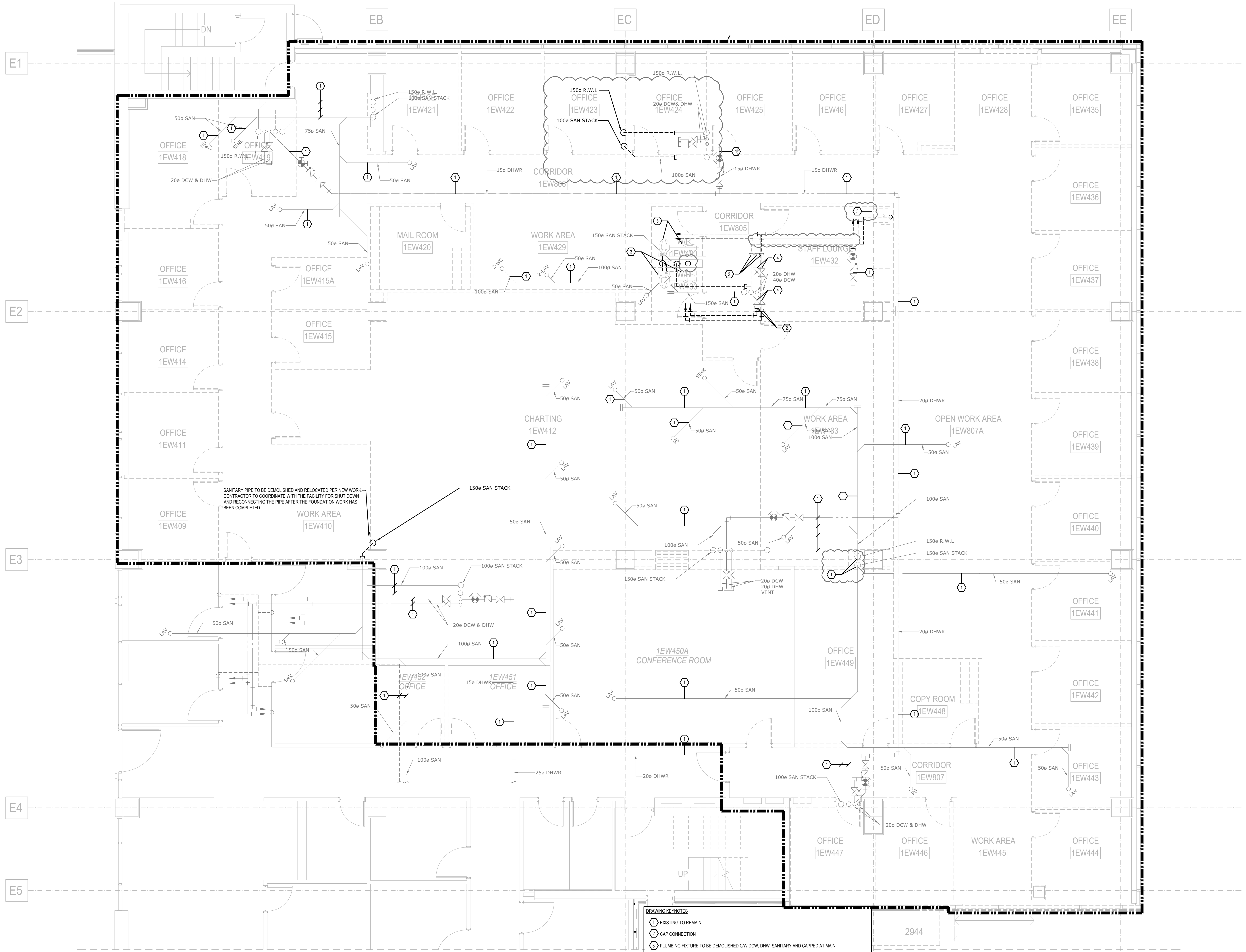
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NO	DESCRIPTION	DATE	

PROJECT:	Seniors Emergency Medicine Centre (SEMC) & External Corridor Toronto Western Hospital 399 Bathurst Street Toronto, ON, M5T 2S8
TITLE:	BASEMENT & LEVEL 1 - DEM MECHANICAL

PROJECT NO:	MRK-23004289
CHECKED:	

NO: **M-100B**





- DRAWING KEYNOTES**
- EXISTING TO REMAIN
 - CAP CONNECTION
 - PLUMBING FIXTURE TO BE DEMOLISHED C/W DCW, DHW, SANITARY AND CAPPED AT MAIN.
 - ASSUME ALL EXISTING VALVES NOT HOLDING AND INCLUDE FOR PIPE FREEZING AND NEW VALVES.

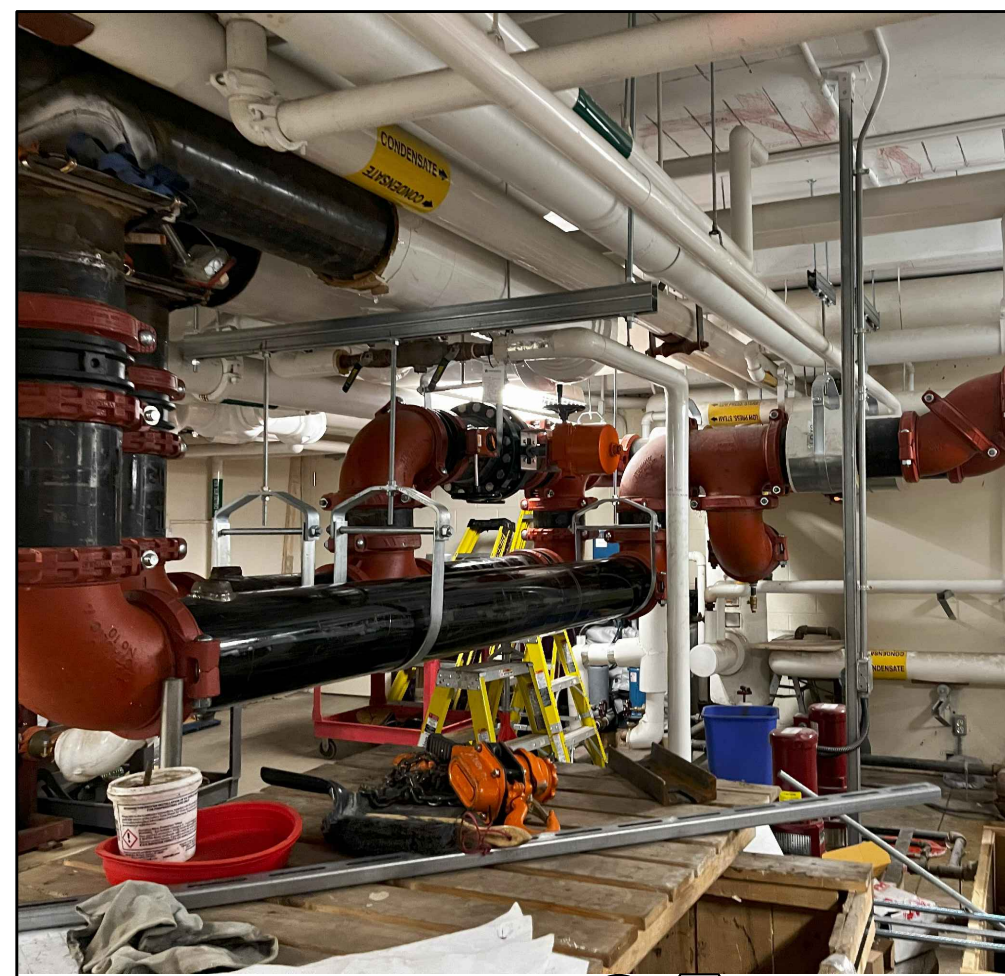
- GENERAL NOTES**
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF THE ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.
 - THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES BEFORE THE COMMENCEMENT OF ANY WORK.
 - CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.
 - CONTRACTOR TO FIELD VERIFY ALL PIPE CONNECTION LOCATIONS AND ROUTING WITH BUILDING SERVICES PRIOR TO COMMENCEMENT OF WORK. NOT ALL PIPING AND DUCTWORK SHOWN FOR CLARITY.
 - FOR DUST CONTROL, CAP EXISTING DUCTS IN THE CONSTRUCTION AREA. CONNECTION TO EXISTING AIR DUCTS TO BE DONE AFTER COMPLETION OF ALL DUST PRODUCING TASKS.
 - PROVIDE ALL CUTTING AND PATCHING. REFER TO SPECIFICATIONS.
 - REMOVE ALL REDUNDANT PIPES, CONDUITS, INCLUDING LOOSE WIRES AND DUCTWORK. CAP AT MAIN.
 - PROVIDE CORING OF FLOOR SLAB SCAN OR X-RAY SLAB BEFORE CORING TO INVESTIGATE EXISTING REBAR LOCATION (TOP & BOTTOM). CUTTING EXISTING REBARS IN THE SLAB IS NOT PERMITTED.
 - THE DRAWINGS AND SPECIFICATIONS ARE PROVIDING THE MINIMUM PERFORMANCE REQUIREMENTS. FIRE PROTECTION SYSTEM SHALL BE PREPARED, COMPLETE, STAMPED, SIGNED, AND APPROVED BY A LICENSED FIRE PROTECTION CONTRACTOR.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE CURRENT FLOW TEST INFORMATION PRIOR TO PREPARATION OF DRAWINGS AND HYDRAULIC CALCULATIONS.
 - PROVIDE GUARDS ON ALL UPRIGHT SPRINKLERS SUBJECT TO DAMAGE, AND ON SPRINKLER HEADS IN STORAGE ROOMS, ELECTRICAL ROOMS, IT ROOMS.
 - REFER TO ARCHITECTURAL CODE COMPLIANCE PLANS FOR ALL FIRE RATED WALL PARTITIONS. PROVIDE "FIRE WRAP" TO ALL VERTICAL AND HORIZONTAL STANDPIPE THAT IS "NOT" ENCLOSED IN 2HR RATED ASSEMBLY AS PER NFPA REQUIREMENTS.
 - CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPE AREA.
 - COORDINATE WITH BUILDING SUPERVISOR FOR APPROVAL TO SWITCH OFF VALVES FEEDING THE AREA PRIOR TO DEMOLISHING WORK.
 - DRAIN THE FIRE PIPE LINE PRIOR TO COMMENCING WORK. COORDINATE ON SITE.
 - REMOVE OBSOLETE SPRINKLER HEADS AND REPLACE THEM WITH PENDANT SPRINKLERS.
 - RE-ROUTE THE EXISTING PIPES TO SUIT NEW LOCATION. ADD NEW PIPES WHERE NECESSARY. CAP ANY UNUSED PIPES.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT-DOWN WITH FACILITY. CONTRACTOR SHALL INCLUDE FOR AND DETERMINE THE BEST METHOD TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION, INCLUDING USE OF HOT TAP/TEMPORARY FREEZING AND AFTER-HOUR WORK AS REQUIRED.
 - CONTRACTOR SHALL PROVIDE FIRE STOPPING ON ALL NEW PIPING AND CONDUIT PENETRATIONS THROUGH A FIRE-RATED WALL OR FLOOR AND ANY HOLES THAT RESULT FROM REMOVAL OF EXISTING SERVICES THROUGH A FIRE-RATED WALL OR FLOOR. FIRE STOPPING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - CONTRACTOR SHALL CUT BACK AND CAP ALL INACTIVE/DECOMMISSIONED PIPING BRANCHES TO THE NEAREST ACTIVE MAIN ON THIS FLOOR/BELOW SLAB. REPAIR/FILL FLOOR SLAB PENETRATIONS AND MAKE GOOD. REMOVE ALL REDUNDANT PIPES, CONDUITS INCLUDING LOOSE WIRES AND DUCTWORK COMPLETE. CAP AT MAIN.
 - RELOCATE OR REROUTE EXISTING MECHANICAL EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW WORK.

NO.	REVISION	DATE
1	ISSUED FOR DESIGN DEVELOPMENT	2024.04.05
2	ISSUED FOR 100% CD	2024.05.10
3	ISSUED FOR 90% CD / Permit	2024.06.02
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6	ISSUED FOR REVIEW	2024.07.11
7	ISSUED FOR ADDENDUM M-01	2024.10.25
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9	ISSUED FOR ADDENDUM M-03	2024.11.12

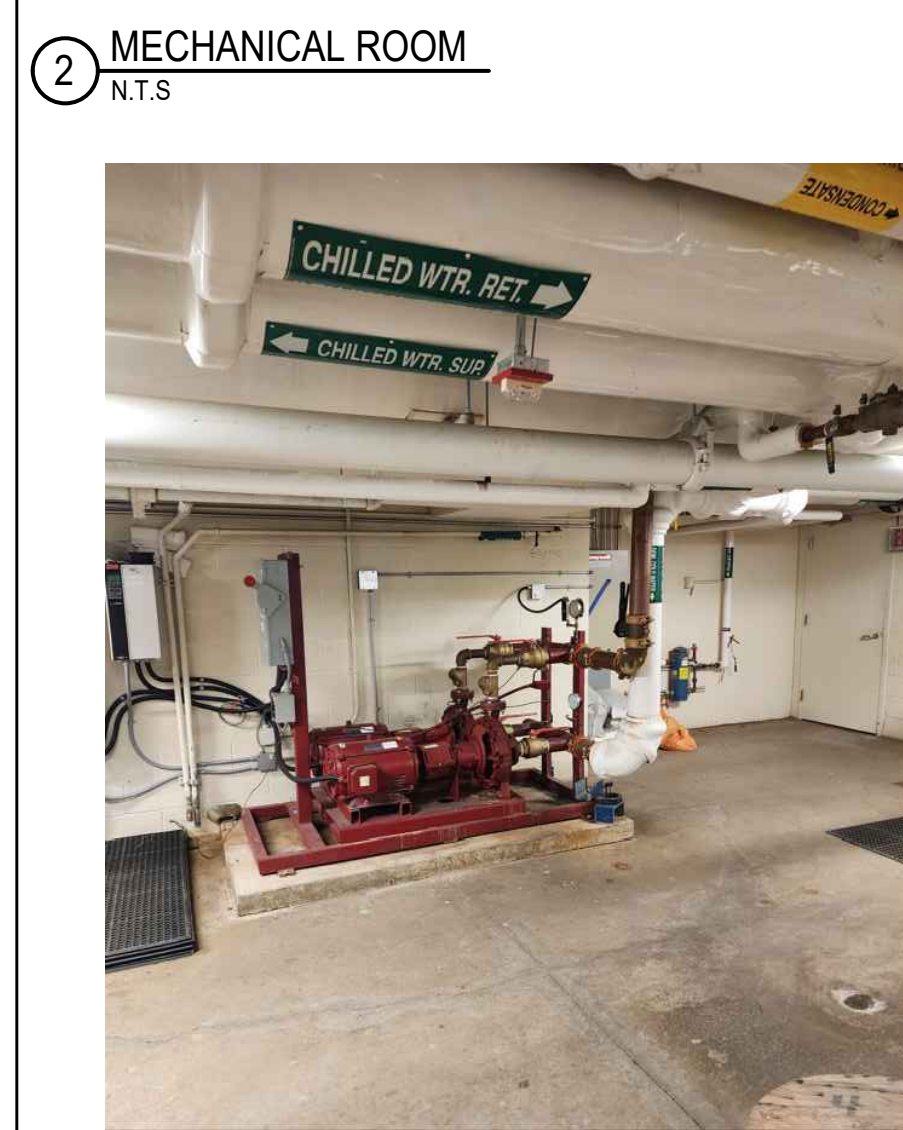
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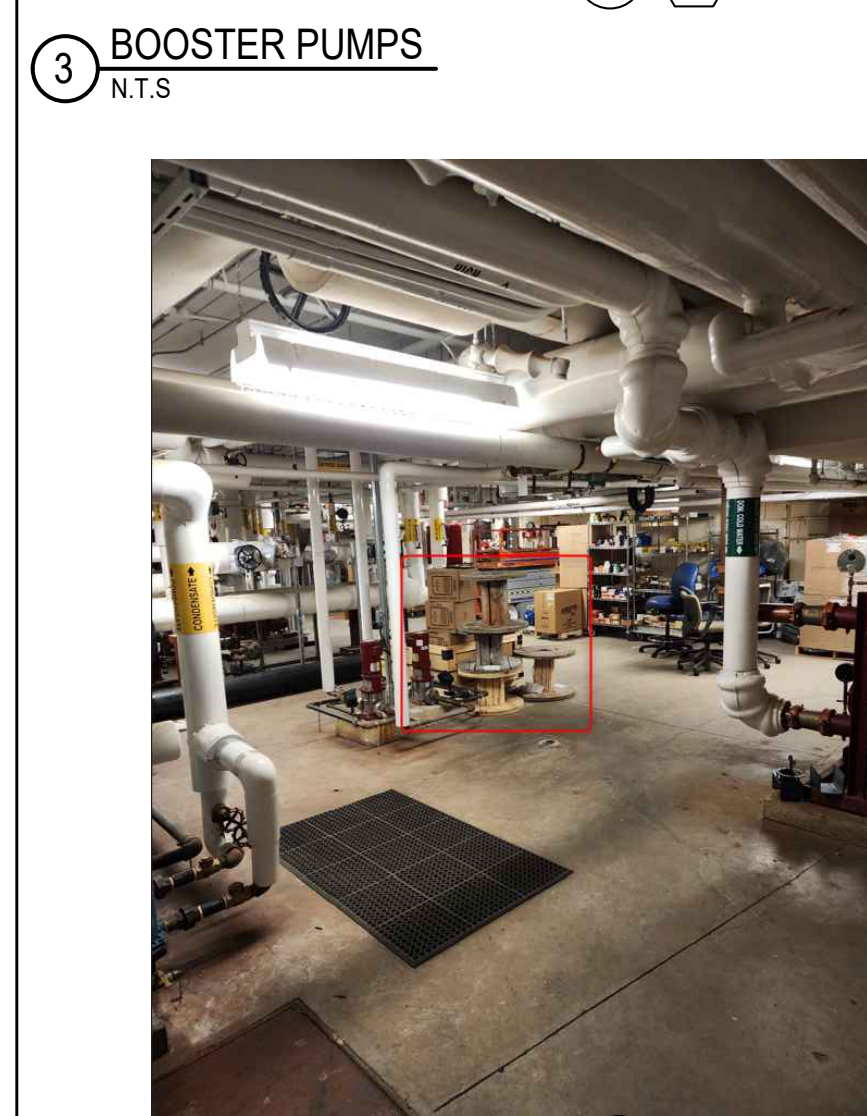
LEVEL 1 FLOOR PLAN - DEMO - PLUMBING



PICTURE REFERENCE 1 (2)

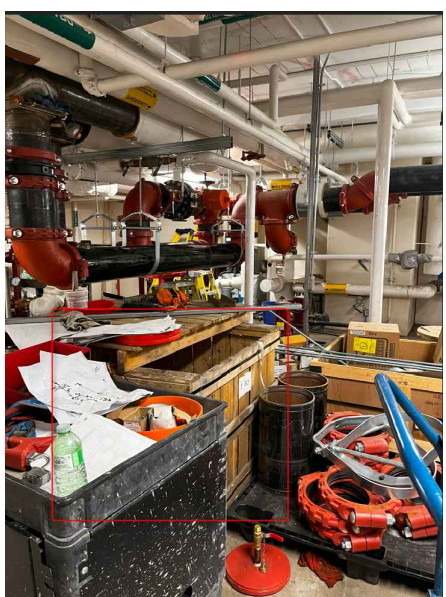


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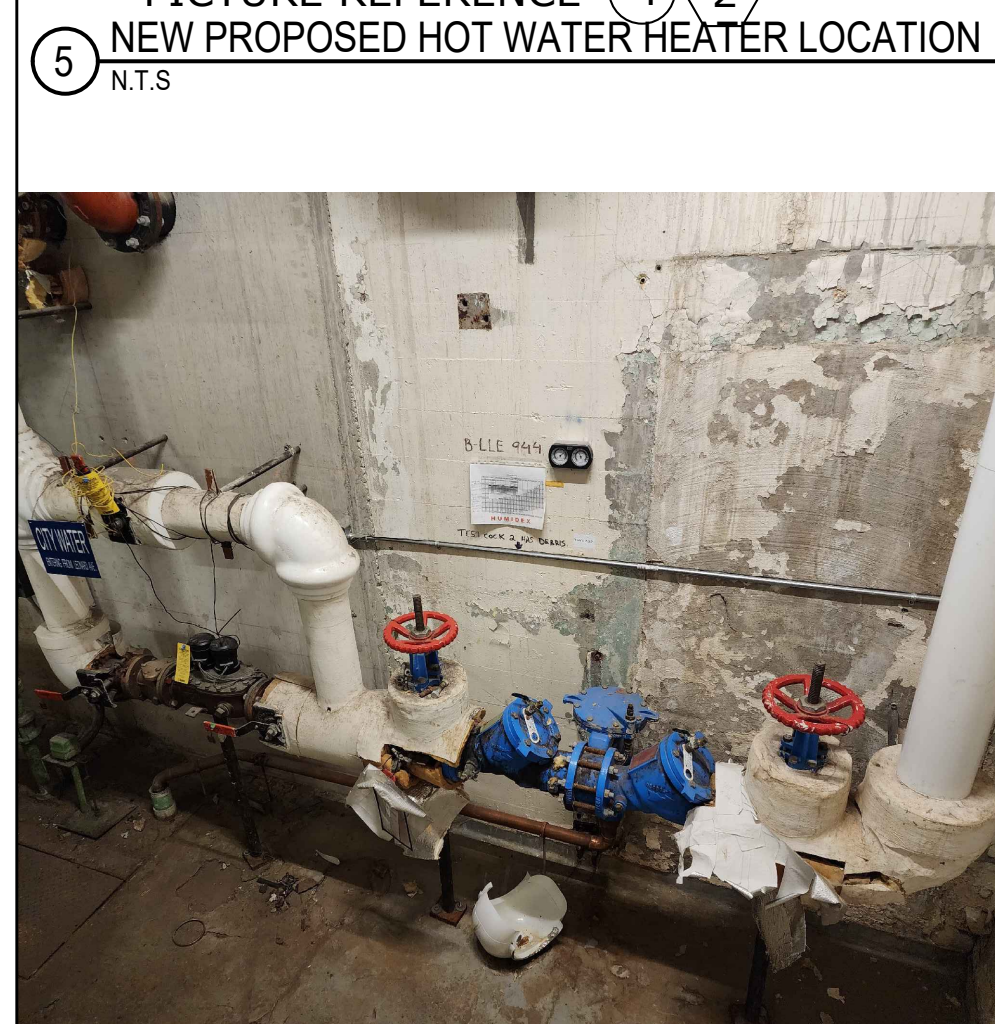


PICTURE REFERENCE 3 (2)

4 NEW PROPOSED HOT WATER HEATER LOCATION
N.T.S.

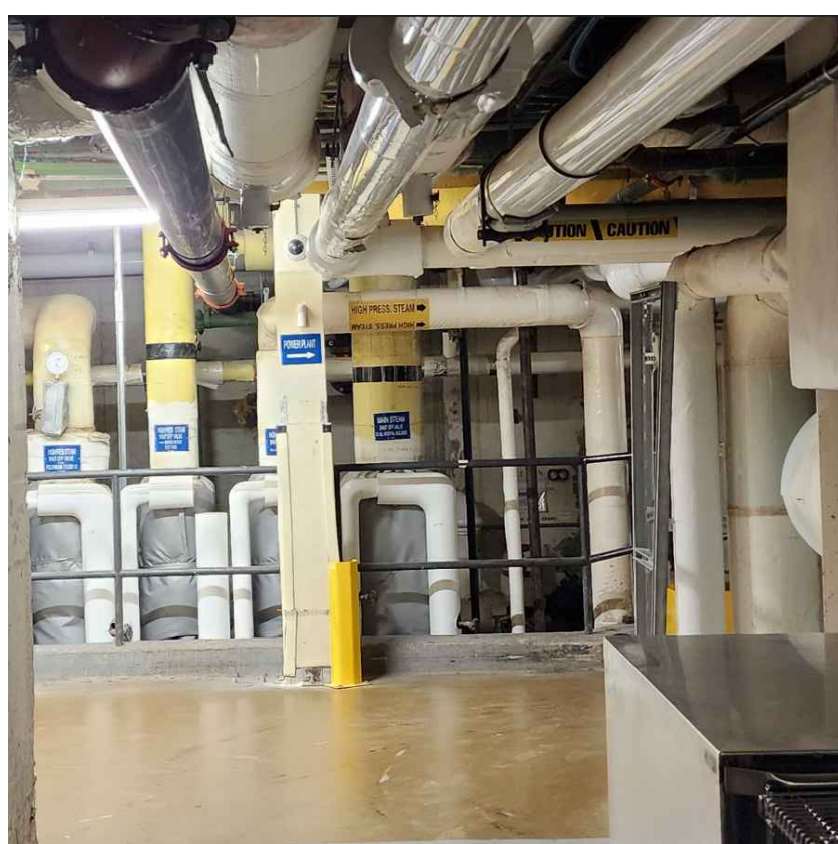


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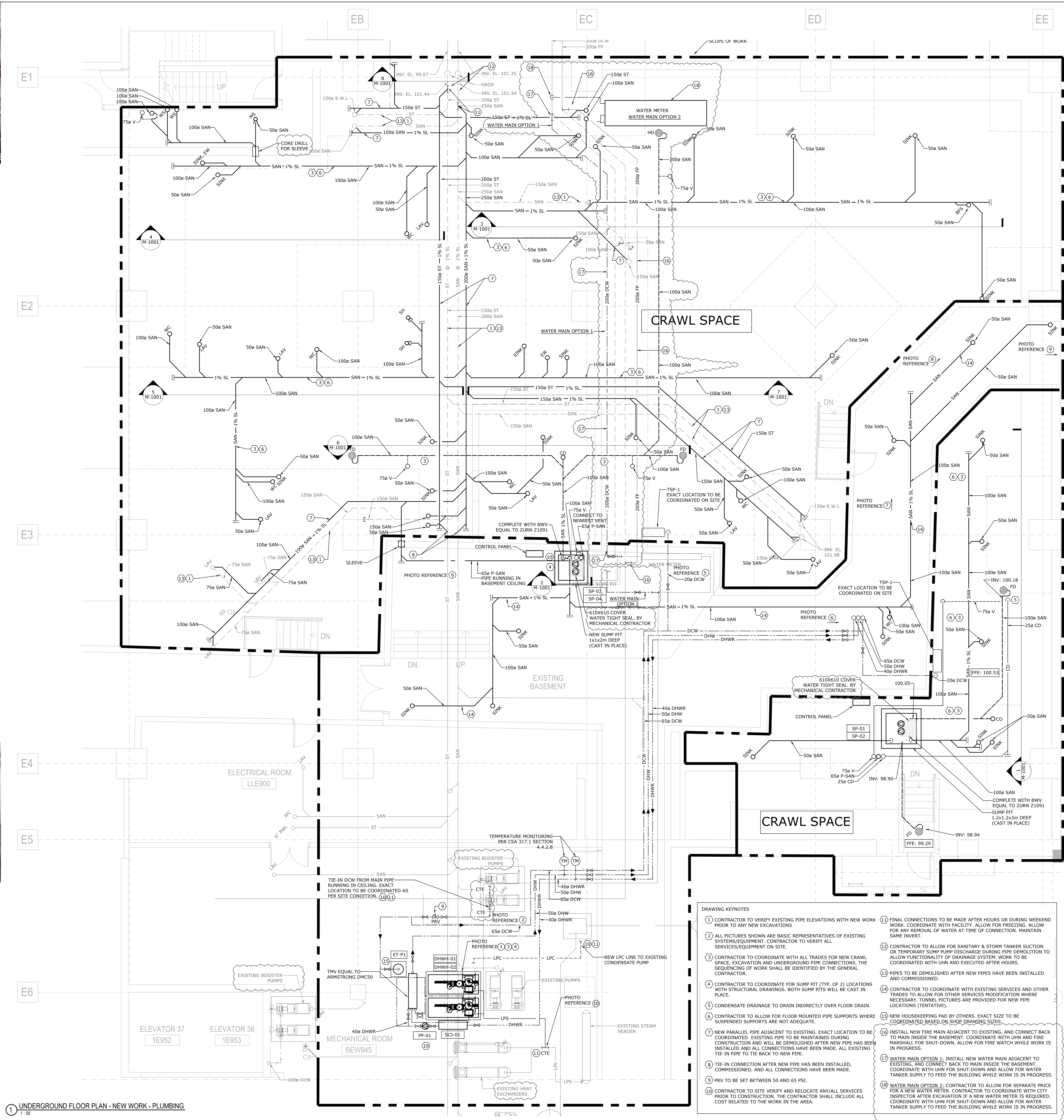
PICTURE REFERENCE 5 (2)

6 EXISTING WATER METER
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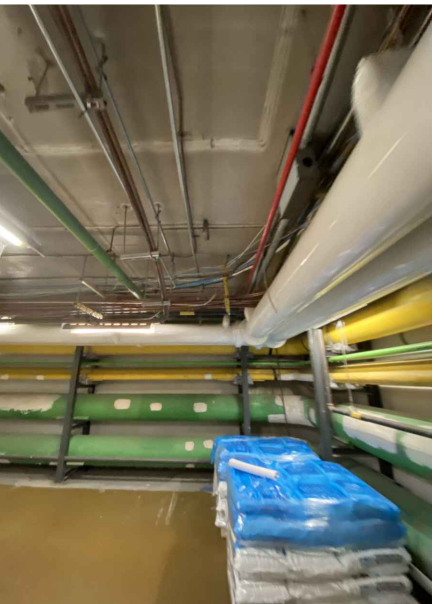


PICTURE REFERENCE 6 (2)

7 STEAM
N.T.S.

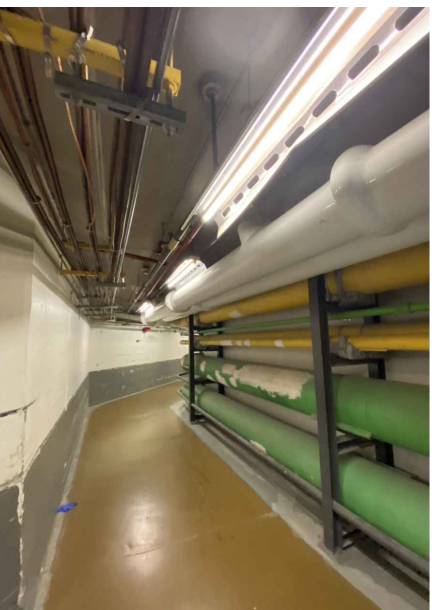


1 UNDERGROUND FLOOR PLAN - NEW WORK - PLUMBING
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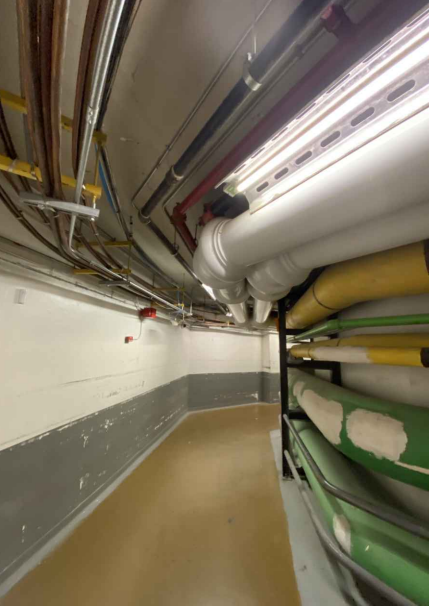
PICTURE REFERENCE 6 (2)

8 CORRIDOR
N.T.S.



PICTURE REFERENCE 7 (2)

9 CORRIDOR
N.T.S.



PICTURE REFERENCE 8 (2)

10 CORRIDOR
N.T.S.



PICTURE REFERENCE 9 (2)

11 CORRIDOR
N.T.S.



PICTURE REFERENCE 10 (2)

12 MECHANICAL ROOM
N.T.S.

- DRAWING KEYNOTES**
- CONTRACTOR TO VERIFY EXISTING PIPE ELEVATIONS WITH NEW WORK PRIOR TO ANY NEW EXCAVATIONS
 - ALL PICTURES SHOWN ARE BASIC REPRESENTATIVES OF EXISTING SYSTEMS/EQUIPMENT. CONTRACTOR TO VERIFY ALL SERVICES/EQUIPMENT ON SITE.
 - CONTRACTOR TO COORDINATE WITH ALL TRADES FOR NEW CRAWL SPACE. EXCAVATION AND UNDERGROUND PIPE CONNECTIONS, THE SEQUENCING OF WORK SHALL BE IDENTIFIED BY THE GENERAL CONTRACTOR.
 - CONTRACTOR TO COORDINATE FOR SUMP PIT (TYP. OF 2) LOCATIONS WITH STRUCTURAL DRAWINGS. BOTH SUMP PITS WILL BE CAST IN PLACE.
 - CONDENSATE DRAINAGE TO DRAIN INDIRECTLY OVER FLOOR DRAIN.
 - CONTRACTOR TO ALLOW FOR FLOOR MOUNTED PIPE SUPPORTS WHERE SUSPENDED SUPPORTS ARE NOT ADEQUATE.
 - NEW PARALLEL PIPE ADJACENT TO EXISTING. EXACT LOCATION TO BE COORDINATED. EXISTING PIPE TO BE MAINTAINED DURING CONSTRUCTION AND WILL BE DEMOLISHED AFTER NEW PIPE HAS BEEN INSTALLED AND ALL CONNECTIONS HAVE BEEN MADE. ALL EXISTING TIE-IN PIPE TO TIE BACK TO NEW PIPE.
 - TIE-IN CONNECTION AFTER NEW PIPE HAS BEEN INSTALLED, COMMISSIONED, AND ALL CONNECTIONS HAVE BEEN MADE.
 - PRV TO BE SET BETWEEN 50 AND 65 PSI.
 - CONTRACTOR TO SITE VERIFY AND RELOCATE ANY/ALL SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE ALL COST RELATED TO THE WORK IN THE AREA.
 - FINAL CONNECTIONS TO BE MADE AFTER HOURS OR DURING WEEKEND WORK. COORDINATE WITH FACILITY. ALLOW FOR FREEZING. ALLOW FOR ANY REMOVAL OF WATER AT TIME OF CONNECTION. MAINTAIN SAME INVERT.
 - CONTRACTOR TO ALLOW FOR SANITARY & STORM TANKER SUCTION, OR TEMPORARY SUMP PUMP DISCHARGE DURING PIPE DEMOLITION TO ALLOW FUNCTIONALITY OF DRAINAGE SYSTEM. WORK TO BE COORDINATED WITH UHN AND EXECUTED AFTER HOURS.
 - PIPES TO BE DEMOLISHED AFTER NEW PIPES HAVE BEEN INSTALLED AND COMMISSIONED.
 - CONTRACTOR TO COORDINATE WITH EXISTING SERVICES AND OTHER TRADES TO ALLOW FOR OTHER SERVICES MODIFICATION WHERE NECESSARY. TUNNEL PICTURES ARE PROVIDED FOR NEW PIPE LOCATIONS (TENTATIVE).
 - NEW HOUSEKEEPING PAD BY OTHERS. EXACT SIZE TO BE COORDINATED BASED ON SHOP DRAWINGS SIZES.
 - INSTALL NEW FIRE MAIN ADJACENT TO EXISTING, AND CONNECT BACK TO MAIN INSIDE THE BASEMENT. COORDINATE WITH UHN AND FIRE MARSHALL FOR SHUT-DOWN. ALLOW FOR FIRE WATCH WHILE WORK IS IN PROGRESS.
 - WATER MAIN OPTION 1: INSTALL NEW WATER MAIN ADJACENT TO EXISTING, AND CONNECT BACK TO MAIN INSIDE THE BASEMENT. COORDINATE WITH UHN FOR SHUT-DOWN AND ALLOW FOR WATER TANKER SUPPLY TO FEED THE BUILDING WHILE WORK IS IN PROGRESS.
 - WATER MAIN OPTION 2: CONTRACTOR TO ALLOW FOR SEPARATE PRICE FOR A NEW WATER METER. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR AFTER EXCAVATION IF A NEW WATER METER IS REQUIRED. COORDINATE WITH UHN FOR SHUT-DOWN AND ALLOW FOR WATER TANKER SUPPLY TO FEED THE BUILDING WHILE WORK IS IN PROGRESS.

CLIENT: University Health Network
Toronto Western Hospital
399 Bathurst Street
Toronto, ON M5T 2S8
www.uhn.ca

ARCHITECT: CUMULUS ARCHITECTS INC.
160 Pears Ave., Suite 300
Toronto, ON M5R 3P6
416-598-0763
www.cumulusarch.com

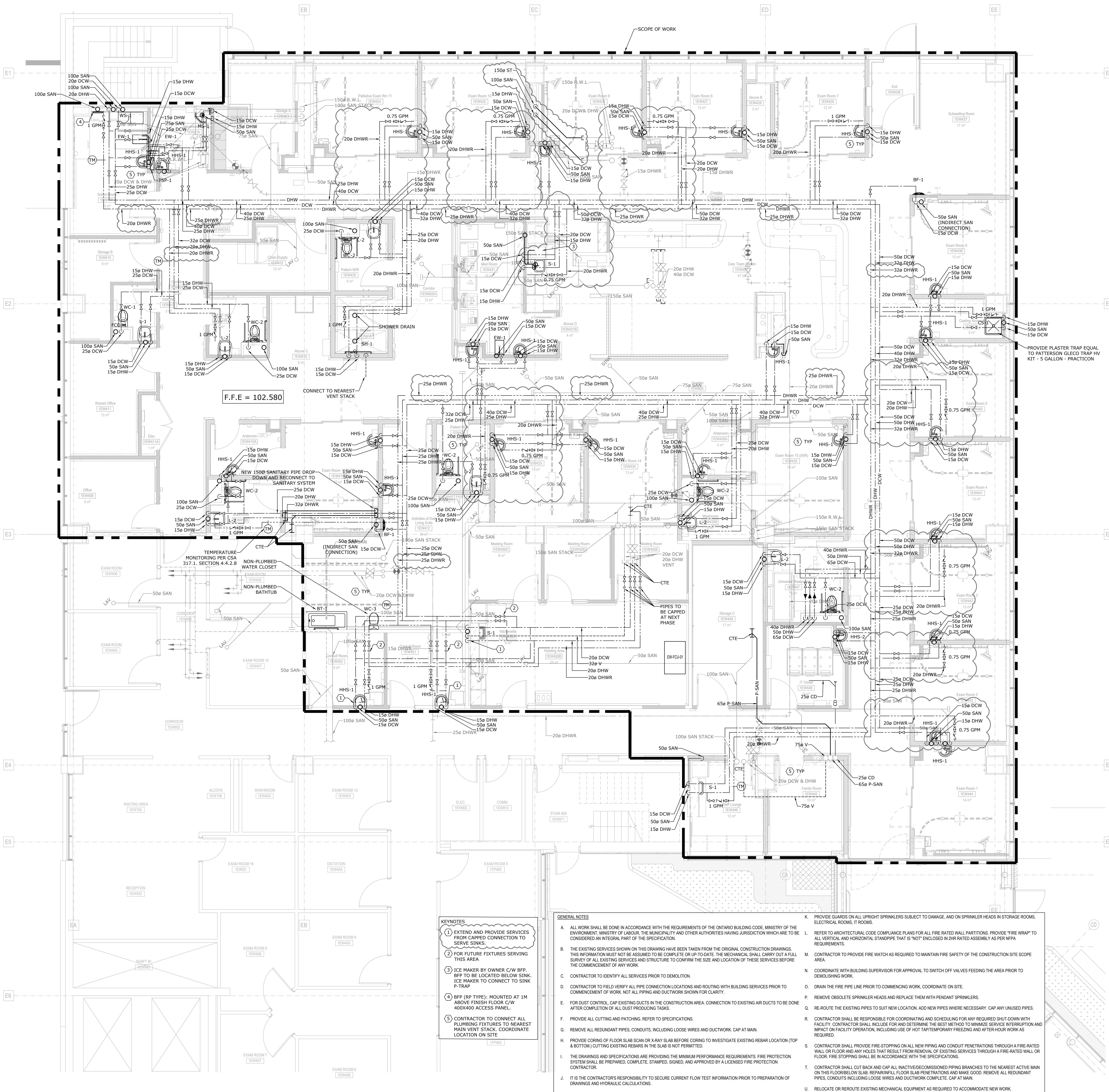
CONSULTANT: exp.
• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

PROJECT: Seniors Emergency Medicine Centre (SEMC) & External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

UNDERGROUND FLOOR PLAN - NEW WORK - MECHANICAL

PROJECT NO: MRK-23004289
DRAWING NO: M-111

NO.	REVISION	DESCRIPTION	DATE
1	ISSUED FOR ADDENDUM M-03		2024.11.12
2	ISSUED FOR ADDENDUM M-02		2024.11.06
3	ISSUED FOR ADDENDUM M-01		2024.10.29
4	ISSUED FOR REVIEW		2024.10.17
5	ISSUED FOR 100% CD		2024.09.27
6	ISSUED FOR 90% CD		2024.09.09
7	ISSUED FOR 50% CD - PERMIT		2024.08.02
8	ISSUED FOR 100 DD		2024.05.10
9	ISSUED FOR DESIGN DEVELOPMENT PROGRESS		2024.04.05
10	NO	DESCRIPTION	DATE



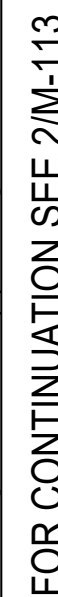
NO.	DESCRIPTION	DATE
1	Issued for Design Development Progress	2024.04.05
2	Issued for 100 LOD	2024.05.10
3	Issued for 90% CDD / Permit	2024.06.02
4	Issued for 90% CDD	2024.06.05
5	Issued for 100% CDD	2024.06.27
6	Issued for Tender	2024.07.11
7	Issued for Addendum M-01	2024.10.29
8	Issued for Addendum M-02	2024.11.05
9	Issued for Addendum M-03	2024.11.12

PROJECT:
Seniors Emergency Medicine Centre (SEMC) & External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

LEVEL 1 FLOOR PLAN - NEW WORK - PLUMBING



2 BELOW GRADE FLOOR PLAN - PATIENT TRANSFER - NEW WORK - PLUMBING
1:50



1 BELOW GRADE FLOOR PLAN - CORRIDOR - NEW WORK - PLUMBING
1:50


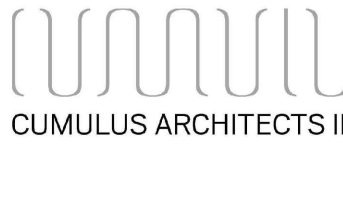

- ① CONTRACTOR TO ALLOW FOR UNDERGROUND SERVICES COORDINATION WITH OTHER TRADES.
- ② CONTRACTOR TO COORDINATE TIE-IN CONNECTION AND ALLOW FOR PUMPED DISCHARGE AS REQUIRED. COORDINATE WITH UHN.
- ③ PROVIDE 50MM RIGID INSULATION AROUND CAST-IRON PIPE.

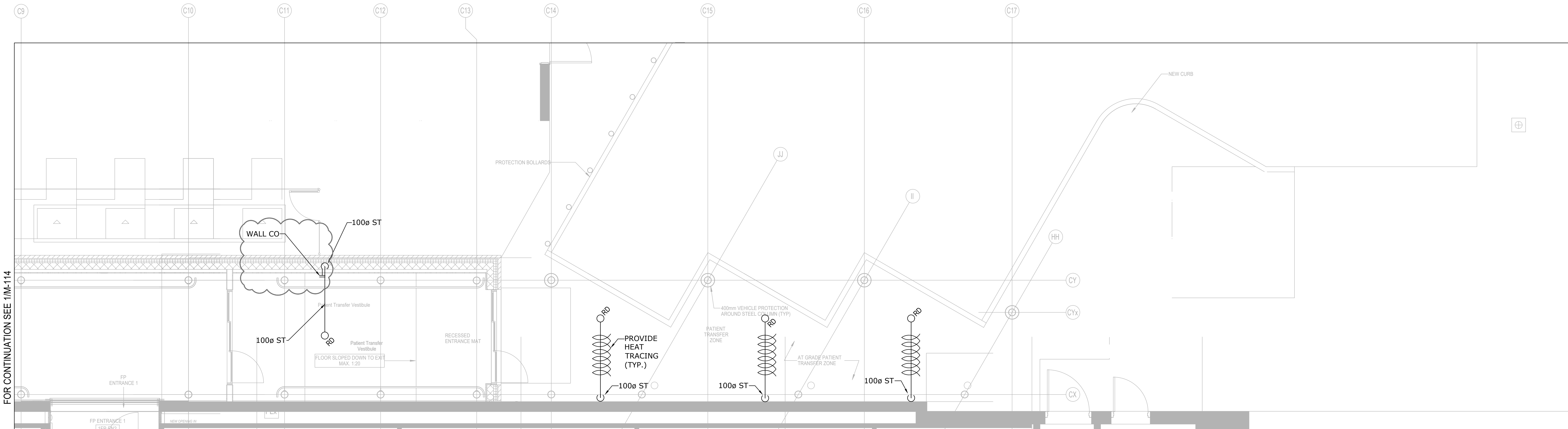
- A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.
- B. THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL SHALL CARRY OUT A SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES BEFORE THE COMMENCEMENT OF ANY WORK.
- C. CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.
- D. CONTRACTOR TO FIELD VERIFY ALL PIPE CONNECTION LOCATIONS AND ROUTING WITH BUILDING SERVICES PRIOR TO COMMENCEMENT OF WORK. NOT ALL PIPING AND DUCTWORK SHOWN FOR CLARITY.
- E. FOR DUST CONTROL, CAP EXISTING DUCTS IN THE CONSTRUCTION AREA. CONNECTION TO EXISTING AIR DUCTS TO BE MADE AFTER COMPLETION OF ALL DUST PRODUCING TASKS
- F. PROVIDE ALL CUTTING AND PATCHING. REFER TO SPECIFICATIONS.
- G. REMOVE ALL REDUNDANT PIPES, CONDUITS, INCLUDING LOOSE WIRES AND DUCTWORK. CAP AT MAIN.
- H. PROVIDE CORING OF FLOOR SLAB SCAN OR X-RAY SLAB BEFORE CORING TO INVESTIGATE EXISTING REBAR LOCATION (1" BOTTOM); CUTTING EXISTING REBAR IN THE SLAB IS NOT PERMITTED.

THE DRAWINGS AND SPECIFICATIONS ARE PROVIDED THE MINIMUM PERFORMANCE REQUIREMENTS. FIRE PROTECTION SYSTEM SHALL BE PREPARED, COMPLETE, STAMPED, AND APPROVED BY A LICENSED FIRE PROTECTION CONTRACTOR.

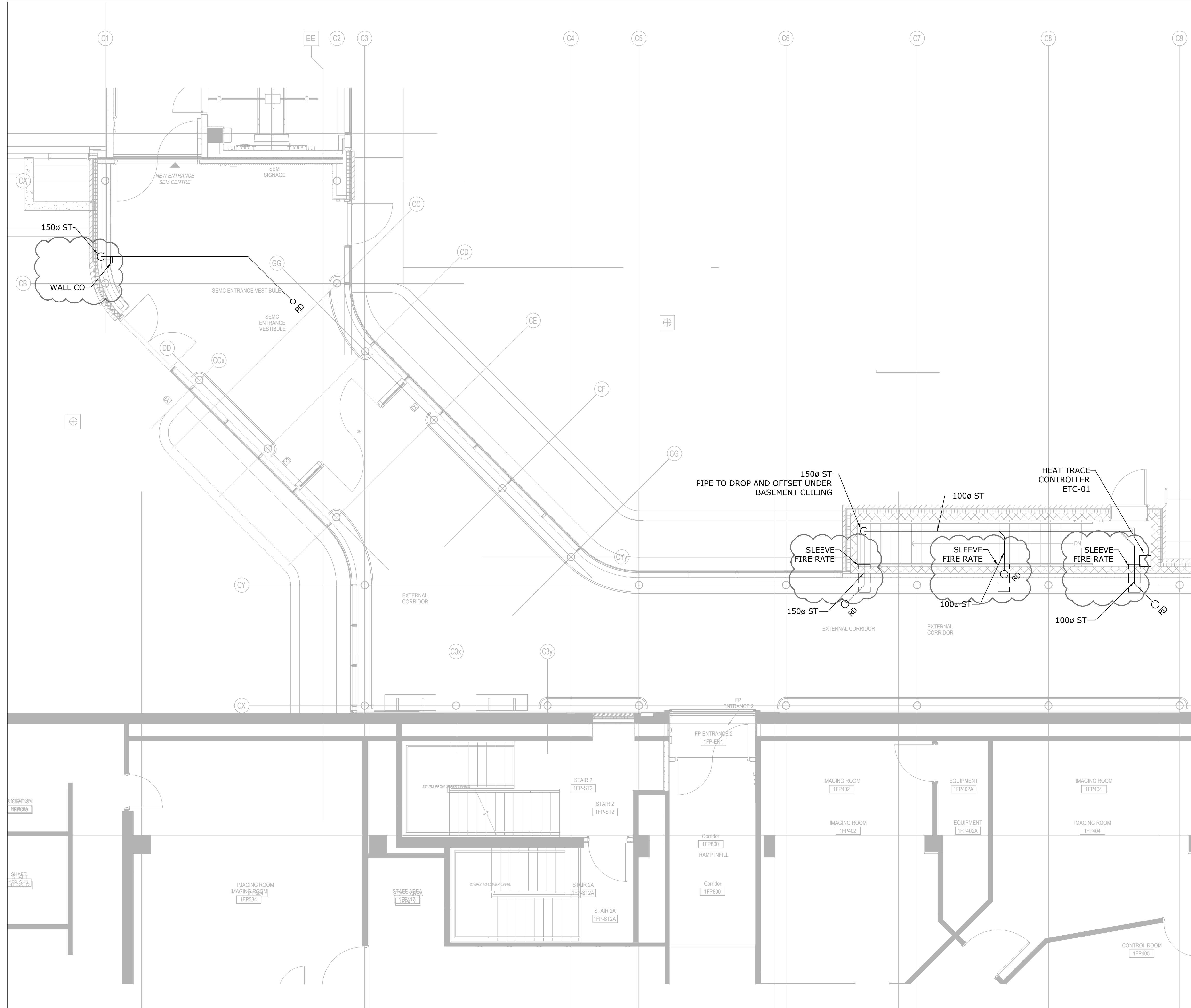
- J. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE CURRENT FLOW TEST INFORMATION PRIOR TO PREPARATION OF DRAWINGS AND HYDRAULIC CALCULATIONS.

K.	PROVIDE GUARDS ON ALL UPRIGHT SPRINKLERS SUBJECT TO DAMAGE, AND ON SPRINKLER HEADS IN STORAGE ROOMS, ELECTRICAL ROOMS, IT ROOMS.
L.	REFER TO ARCHITECTURAL CODE COMPLIANCE PLAN FOR SPRINKLER WALL PARTITIONS. PROVIDE THE WRAP TO ALL VERTICAL AND HORIZONTAL STANDPIPE THAT IS NOT "ENCLOSED IN FIRE RATED ASSEMBLY AS PER VFWA" REQUIREMENTS.
M.	CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPE AREA.
N.	COORDINATE WITH BUILDING SUPERVISOR FOR APPROVAL TO SWITCH OFF VALVES FEEDING THE AREA PRIOR TO DEMOLISHING WORK.
O.	DRAIN THE FIRE PIPE LINE PRIOR TO COMMENCING WORK. COORDINATE ON SITE.
P.	REMOVE OBSOLETE SPRINKLER HEADS AND REPLACE THEM WITH PENDANT SPRINKLERS.
Q.	RE-ROUTE THE EXISTING PIPES TO SUIT NEW LOCATION. ADD NEW PIPES WHERE NECESSARY. CAP ANY UNUSED PIPES.
R.	CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT DOWN WITH FACILITY. CONTRACTOR SHALL INCLUDE FOR AND DETERMINE THE BEST METHOD TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION, INCLUDING USE OF HOT TAP/TEMPERARY FREEZING AND AFTER-HOUR WORK AS REQUIRED.
S.	CONTRACTOR SHALL PROVIDE FIRE STOPPING ON ALL NEW PIPING AND CONDUNIT PENETRATIONS THROUGH A FIRE-RATED WALL OR FLOOR AND ANY HOLES THAT RESULT FROM REMOVAL OF EXISTING SERVICES THROUGH A FIRE-RATED WALL OR FLOOR. FIRE STOPPING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
T.	CONTRACTOR SHALL CUT BACK AND CAP ALL INACTIVE/DECOMMISSIONED PIPING BRANCHES TO THE NEAREST ACTIVE MAIN ON THE FLOOR/LEVEL. C-48B. REPAIR/INSTALL FLOOR AS REQUIRED. DEMOLITION AND MAKE GOOD REMOVE ALL EXISTING PIPES, CONDUNITS INCLUDING CABLE WIRES AND DUCTWORK COMPLETE. CAP AT MAIN.
U.	RELOCATE OR REROUTE EXISTING MECHANICAL EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT.

CLIENT:		
		University Health Network Toronto Western Hospital 399 Bathurst Street Toronto, ON M5T 2S8 www.uhn.ca
ARCHITECT:		
		160 Pears Ave. - Suite 300 Toronto, ON M5R 3P8 416-539-0763 www.cumulusarch.com
CONSULTANT:		
1: 905.695.3217 F: 905.695.0167 220 Commerce Valley Drive West, Suite 110 Markham, ON L3T 0A4 Canada www.exp.com		
• BUILDINGS • EARTH & ENVIRONMENT • ENERGY • • INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •		
PROJECT:		
Seniors Emergency Medicine Centre (SEMC) & External Corridor Toronto Western Hospital 399 Bathurst Street, Toronto, ON, M5T 2S8		
BELOW GRADE FLOOR PLAN - CORRIDOR - NEW WORK - PLUMBING		
TITLE:		
PROJECT NO: MTK-23004289		
DRAWING NO:		
CHECKED: S.S		
M-113		



2 LEVEL 1 FLOOR PLAN - PATIENT TRANSFER - NEW WORK - PLUMBING
1:50



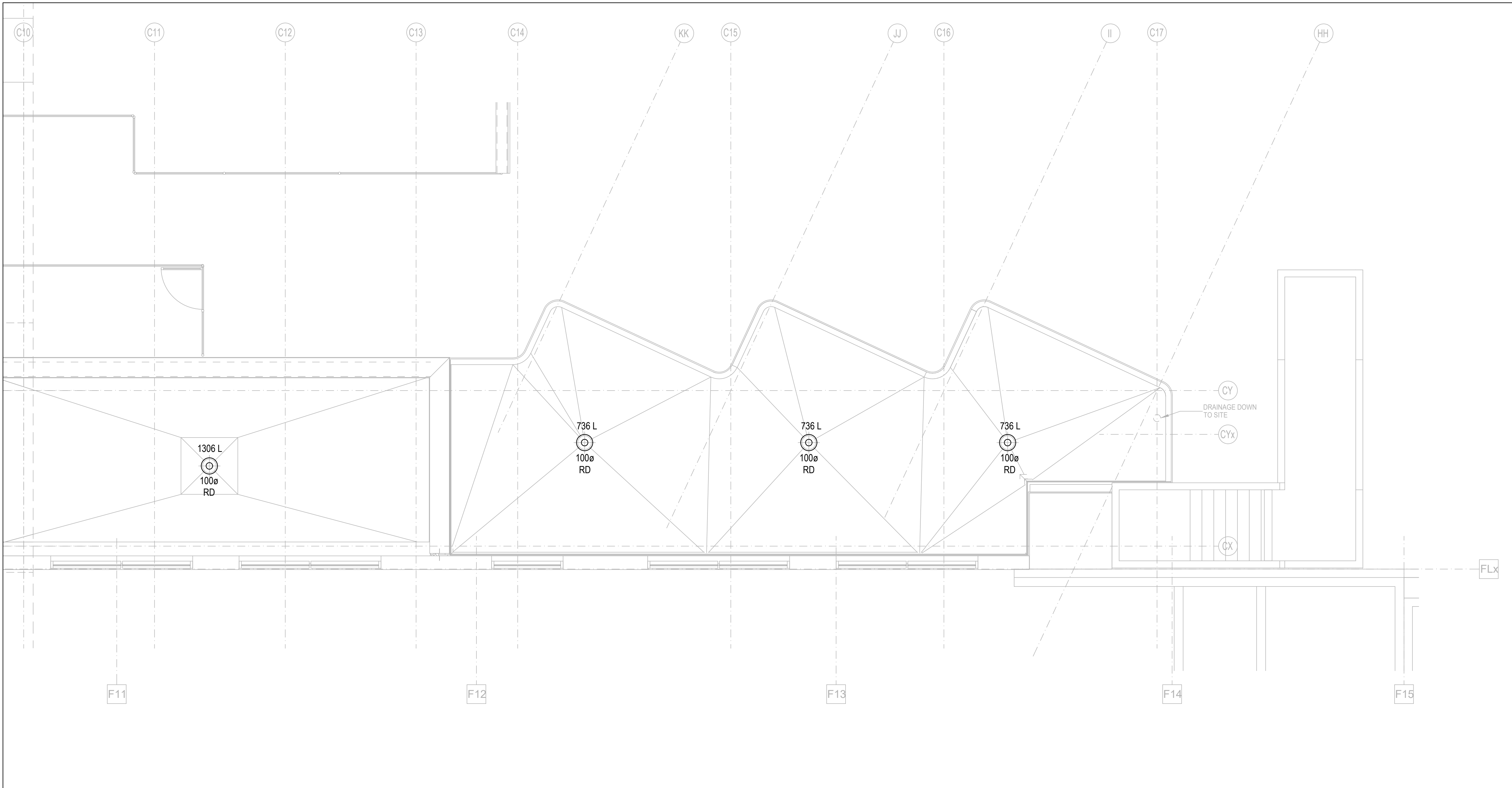
1 LEVEL 1 FLOOR PLAN - CORRIDOR - NEW WORK - PLUMBING
1:50

- GENERAL NOTES**
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF THE ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.
 - THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES BEFORE THE COMMENCEMENT OF ANY WORK.
 - CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.
 - CONTRACTOR TO FIELD VERIFY ALL PIPE CONNECTION LOCATIONS AND ROUTING WITH BUILDING SERVICES PRIOR TO COMMENCEMENT OF WORK. NOT ALL PIPING AND DUCTWORK SHOWN FOR CLARITY.
 - FOR DUST CONTROL, CAP EXISTING DUCTS IN THE CONSTRUCTION AREA. CONNECTION TO EXISTING AIR DUCTS TO BE DONE AFTER COMPLETION OF ALL DUST PRODUCING TASKS.
 - PROVIDE ALL CUTTING AND PATCHING. REFER TO SPECIFICATIONS.
 - REMOVE ALL REDUNDANT PIPES, CONDUITS, INCLUDING LOOSE WIRES AND DUCTWORK, CAP AT MAIN.
 - PROVIDE CORING OF FLOOR SLAB SCAN OR X-RAY SLAB BEFORE CORING TO INVESTIGATE EXISTING REBAR LOCATION (TOP & BOTTOM). CUTTING EXISTING REBARS IN THE SLAB IS NOT PERMITTED.
 - THE DRAWINGS AND SPECIFICATIONS ARE PROVIDING THE MINIMUM PERFORMANCE REQUIREMENTS. FIRE PROTECTION SYSTEM SHALL BE PREPARED, COMPLETE, STAMPED, SIGNED, AND APPROVED BY A LICENSED FIRE PROTECTION CONTRACTOR.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE CURRENT FLOW TEST INFORMATION PRIOR TO PREPARATION OF DRAWINGS AND HYDRAULIC CALCULATIONS.
 - PROVIDE GUARDS ON ALL UPRIGHT SPRINKLERS SUBJECT TO DAMAGE, AND ON SPRINKLER HEADS IN STORAGE ROOMS, ELECTRICAL ROOMS, IT ROOMS.
 - REFER TO ARCHITECTURAL CODE COMPLIANCE PLANS FOR ALL FIRE RATED WALL PARTITIONS. PROVIDE "FIRE WRAP" TO ALL VERTICAL AND HORIZONTAL STANDPIPE THAT IS "NOT" ENCLOSED IN 2HR RATED ASSEMBLY AS PER NFPA REQUIREMENTS.
 - CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPE AREA.
 - COORDINATE WITH BUILDING SUPERVISOR FOR APPROVAL TO SWITCH OFF VALVES FEEDING THE AREA PRIOR TO DEMOLISHING WORK.
 - DRAIN THE FIRE PIPE LINE PRIOR TO COMMENCING WORK. COORDINATE ON SITE.
 - REMOVE OBSOLETE SPRINKLER HEADS AND REPLACE THEM WITH PENDANT SPRINKLERS.
 - RE-ROUTE THE EXISTING PIPES TO SUIT NEW LOCATION. ADD NEW PIPES WHERE NECESSARY. CAP ANY UNUSED PIPES.
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 - CONTRACTOR SHALL CUT BACK AND CAP ALL INACTIVE/DECOMMISSIONED PIPING BRANCHES TO THE NEAREST ACTIVE MAIN ON THIS FLOOR/BELOW SLAB. REPAIR/FILL FLOOR SLAB PENETRATIONS AND MAKE GOOD. REMOVE ALL REDUNDANT PIPES, CONDUITS INCLUDING LOOSE WIRES AND DUCTWORK COMPLETE. CAP AT MAIN.
 - RELOCATE OR REROUTE EXISTING MECHANICAL EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW WORK.

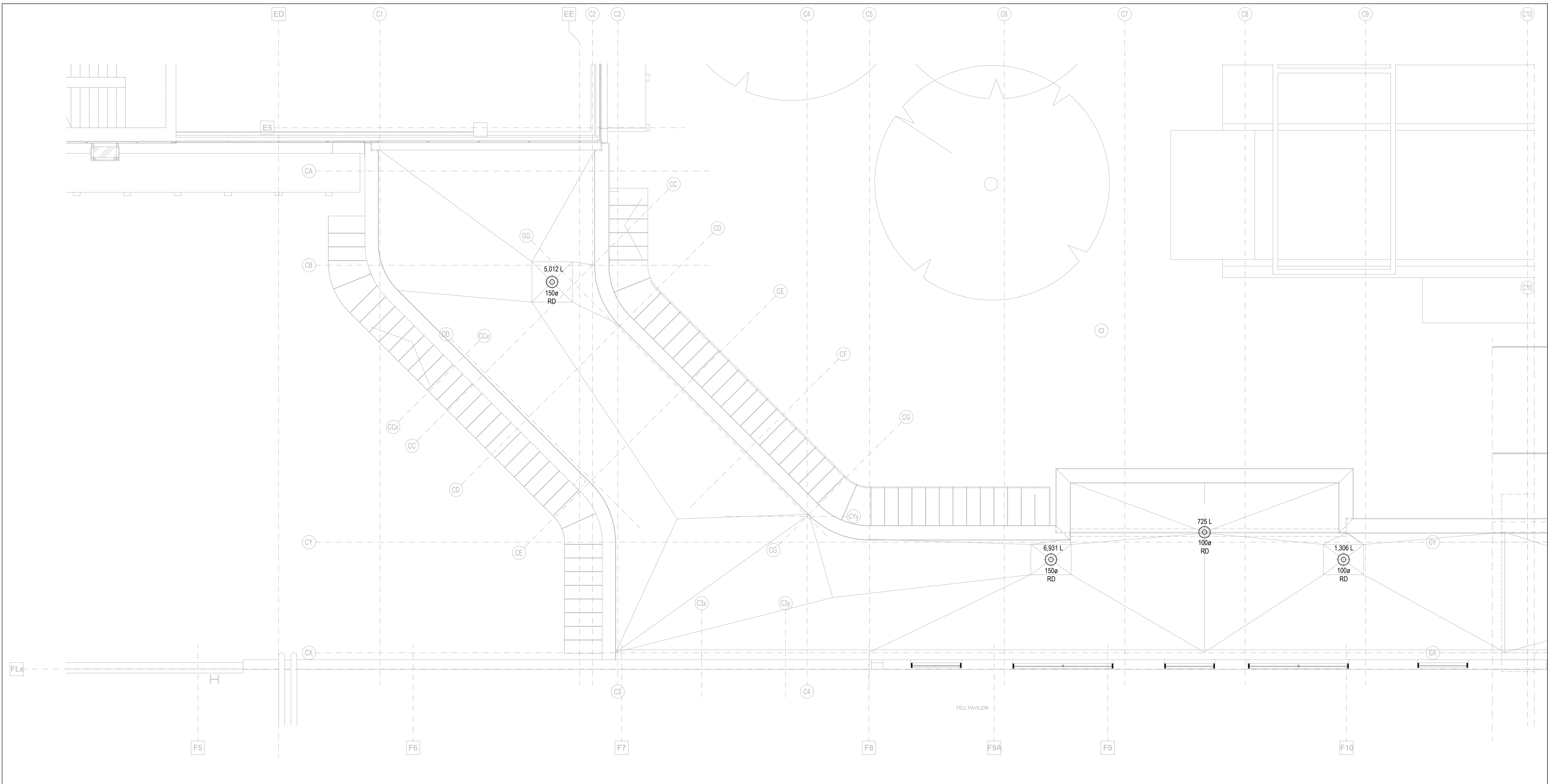
NO.	REVISION	DATE
1	Issued for Design Development Progress	2024.04.05
2	Issued for 100 DD	2024.05.10
3	Issued for 90% CD / Permit	2024.06.02
4	Issued for 90% CD	2024.06.06
5	Issued for 100% CD	2024.06.27
6	Issued for Permit	2024.10.11
7	Issued for Addendum M-01	2024.10.29
8	Issued for Addendum M-02	2024.11.06
9	Issued for Addendum M-03	2024.11.12

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

TITLE:
LEVEL 1 FLOOR PLAN - CORRIDOR - NEW
WORK - PLUMBING



2 ROOF PLAN - PATIENT TRANSFER CANOPY - NEW WORK - PLUMBING
1:50



1 ROOF PLAN - CORRIDOR - NEW WORK - PLUMBING
1:50

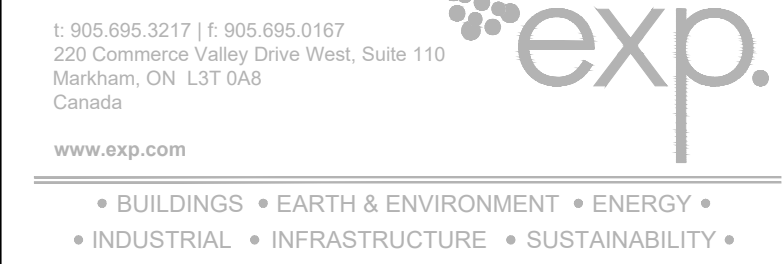
CLIENT:



ARCHITECT:



CONSULTANT:



NO.	DESCRIPTION	DATE
1	Issued for Design Development Progress	2024.04.05
2	Issued for 100 DD	2024.05.10
3	Issued for 90% CD / Permit	2024.06.02
4	Issued for 90% CD	2024.06.06
5	Issued for 100% CD	2024.06.27
6	Issued for Review	2024.10.11
7	Issued for Addendum M-01	2024.10.29
8	Issued for Addendum M-02	2024.11.06
9	Issued for Addendum M-03	2024.11.12

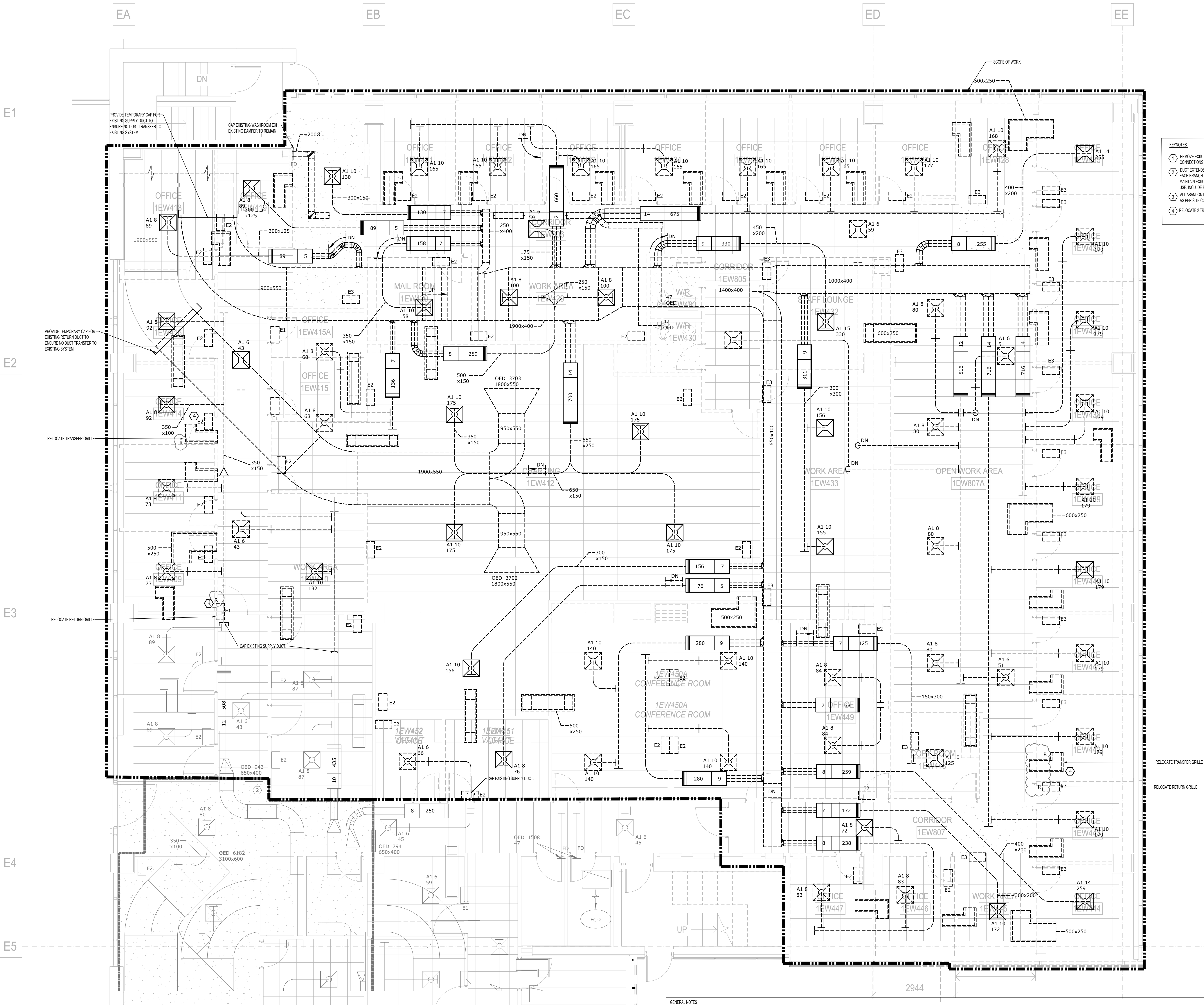
PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street Toronto, ON, M5T 2S8

TITLE:
ROOF PLAN - CORRIDOR - NEW WORK -
PLUMBING

PROJECT NO:
MRK-23004289
CHECKED:
S.S.

DRAWING NO:

M-115



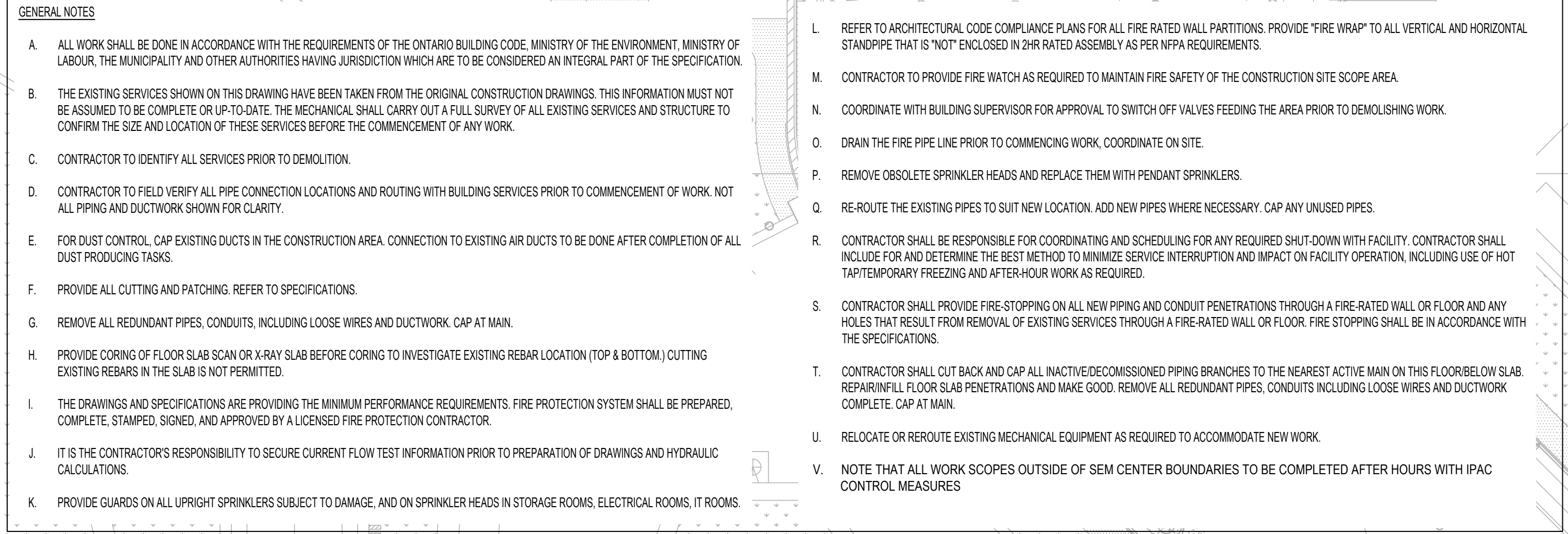
- KEYNOTES:
- 1 REMOVE EXISTING DUCT CAPS TO CONNECT NEW DUCT WORK. CONTRACTOR TO MAKE SURE ALL DUCT CONNECTIONS ARE SEALED PROPERLY AND ENSURE PROPER CLEARANCE FOR ALL ACCESS POINTS.
 - 2 DUCT EXTENDS TO EXISTING DUCTWORK AND NOT INCLUDED IN THE SCOPE. CONTRACTOR TO VERIFY EACH BRANCH ON SITE AND ENSURE NO INTERRUPTION TO OCCUPIED SPACES. CONTRACTOR TO MAINTAIN EXISTING SPACES AT ALL TIMES AND MAKE SURE NO DUST IS TRANSFERRED TO SPACES IN USE. INCLUDE FOR AFTER HOURS WORK IF REQUIRED FOR MAIN CONNECTION IF REQUIRED.
 - 3 ALL ABANDON DUCTS WITHIN THE RENOVATION AREAS SHALL BE REMOVED, CUT BACK AND CAP AT MAIN AS PER SITE CONDITION.
 - 4 RELOCATE 2 TRANSFER GRILLES AND 2 RETURN GRILLES.

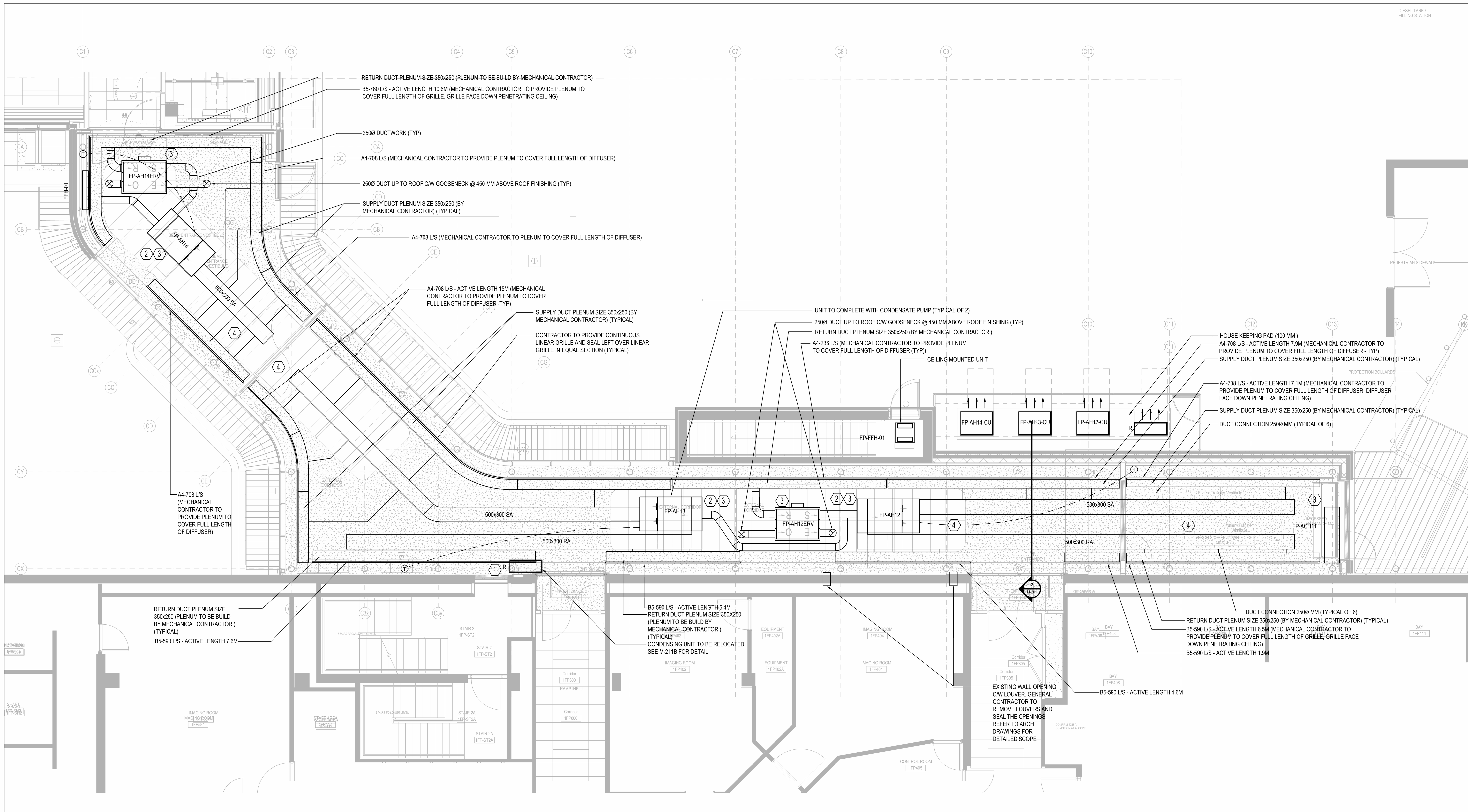
- GENERAL NOTES:
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF THE ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.
 - THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES BEFORE THE COMMENCEMENT OF ANY WORK.
 - CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.
 - CONTRACTOR TO FIELD VERIFY ALL PIPE CONNECTION LOCATIONS AND ROUTING WITH BUILDING SERVICES PRIOR TO COMMENCEMENT OF WORK. NOT ALL PIPING AND DUCTWORK SHOWN FOR CLARITY.
 - FOR DUST CONTROL, CAP EXISTING DUCTS IN THE CONSTRUCTION AREA. CONNECTION TO EXISTING AIR DUCTS TO BE DONE AFTER COMPLETION OF ALL DUST PRODUCING TASKS.
 - PROVIDE ALL CUTTING AND PATCHING: REFER TO SPECIFICATIONS.
 - REMOVE ALL REDUNDANT PIPES, CONDUTS, INCLUDING LOOSE WIRES AND DUCTWORK, CAP AT MAIN.
 - PROVIDE CORING OF FLOOR SLAB SCAN OR X-RAY SLAB BEFORE CORING TO INVESTIGATE EXISTING REBAR LOCATION (TOP & BOTTOM). CUTTING EXISTING REBARS IN THE SLAB IS NOT PERMITTED.
 - THE DRAWINGS AND SPECIFICATIONS ARE PROVIDING THE MINIMUM PERFORMANCE REQUIREMENTS. FIRE PROTECTION SYSTEM SHALL BE PREPARED, COMPLETE, STAMPED, SIGNED, AND APPROVED BY A LICENSED FIRE PROTECTION CONTRACTOR.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE CURRENT FLOW TEST INFORMATION PRIOR TO PREPARATION OF DRAWINGS AND HYDRAULIC CALCULATIONS.
 - PROVIDE GUARDS ON ALL UPRIGHT SPRINKLERS SUBJECT TO DAMAGE, AND ON SPRINKLER HEADS IN STORAGE ROOMS, ELECTRICAL ROOMS, IT ROOMS.
 - REFER TO ARCHITECTURAL CODE COMPLIANCE PLANS FOR ALL FIRE RATED WALL PARTITIONS. PROVIDE "FIRE WRAP" TO ALL VERTICAL AND HORIZONTAL STANDPIPE THAT IS "NOT" ENCLOSED IN DNR-RATED ASSEMBLY AS PER NFPA REQUIREMENTS.
 - CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPE AREA.
 - COORDINATE WITH BUILDING SUPERVISOR FOR APPROVAL TO SWITCH OFF VALVES FEEDING THE AREA PRIOR TO DEMOLISHING WORK.
 - DRAIN THE FIRE PIPE LINE PRIOR TO COMMENCING WORK. COORDINATE ON SITE.
 - REMOVE OBSOLETE SPRINKLER HEADS AND REPLACE THEM WITH PENDANT SPRINKLERS.
 - RE-ROUTE THE EXISTING PIPES TO SUIT NEW LOCATION. ADD NEW PIPES WHERE NECESSARY. CAP ANY UNUSED PIPES.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT DOWN WITH FACILITY. CONTRACTOR SHALL INCLUDE FOR AND DETERMINE THE BEST METHOD TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION, INCLUDING USE OF HOT TAP TEMPORARY FREEZING AND AFTER HOURS WORK AS REQUIRED.
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 - CONTRACTOR SHALL CUT BACK AND CAP ALL INACTIVE/DECOMMISSIONED PIPING BRANCHES TO THE NEAREST ACTIVE MAIN ON THIS FLOOR/BELOW SLAB. REPAIR WALL FLOOR SLAB PENETRATIONS AND MAKE GOOD. REMOVE ALL REDUNDANT PIPES, CONDUTS INCLUDING LOOSE WIRES AND DUCTWORK COMPLETE, CAP AT MAIN.
 - RELOCATE OR REMOVE EXISTING MECHANICAL EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW WORK.
 - NOTE THAT ALL WORK SCOPES OUTSIDE OF SEM CENTER BOUNDARIES TO BE COMPLETED AFTER HOURS WITH IPAC CONTROL MEASURES.

NO.	DESCRIPTION	DATE
1	Issued for Design Development Progress	2024.04.05
2	Issued for 100 D.D.	2024.05.10
3	Issued for 50% C.D. (Permit)	2024.06.02
4	Issued for 90% C.D.	2024.06.06
5	Issued for 100% C.D.	2024.06.27
6	Issued for Review	2024.07.11
7	Issued for Addendum M-01	2024.10.29
8	Issued for Addendum M-02	2024.11.06
9	Issued for Addendum M-03	2024.11.12

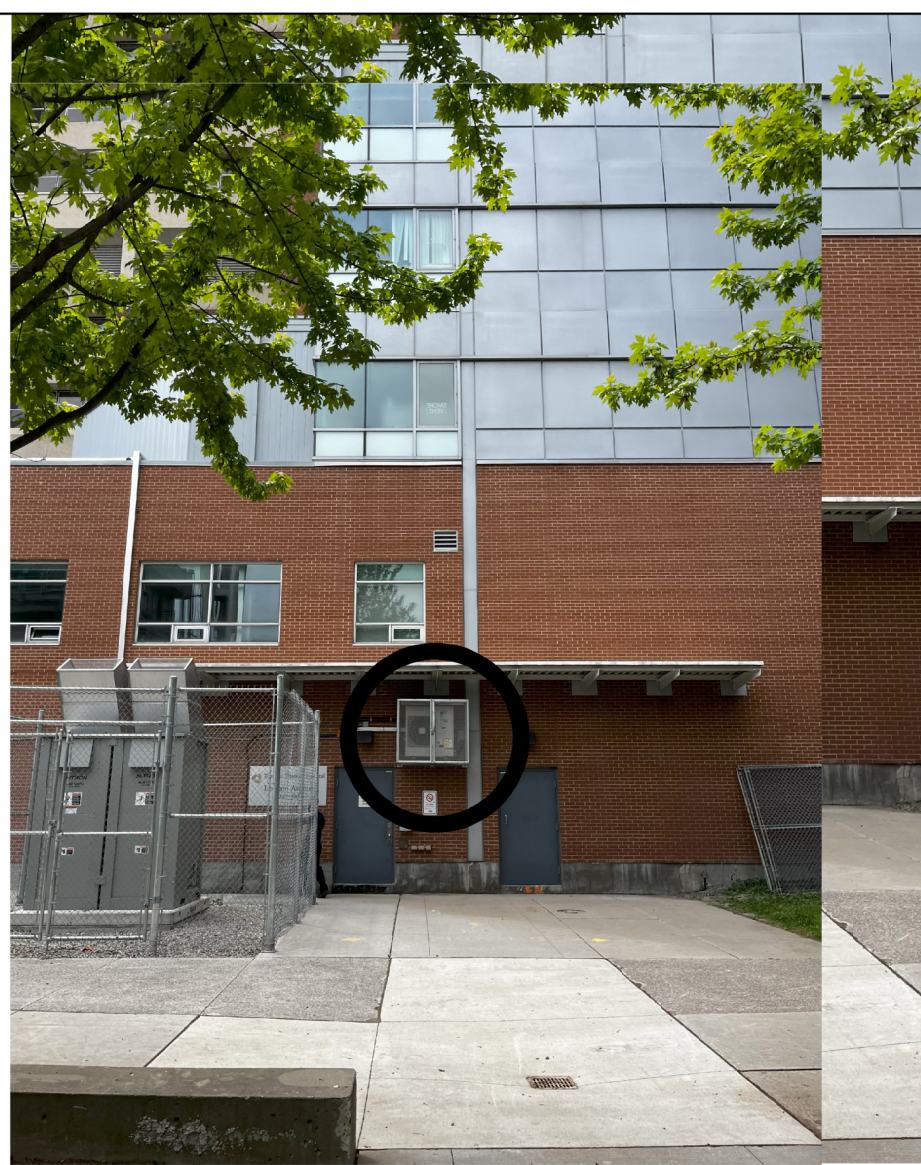
PROJECT:
Seniors Emergency Medicine Centre (SEMC) & External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

LEVEL 1 FLOOR PLAN - DEMO - VENTILATION

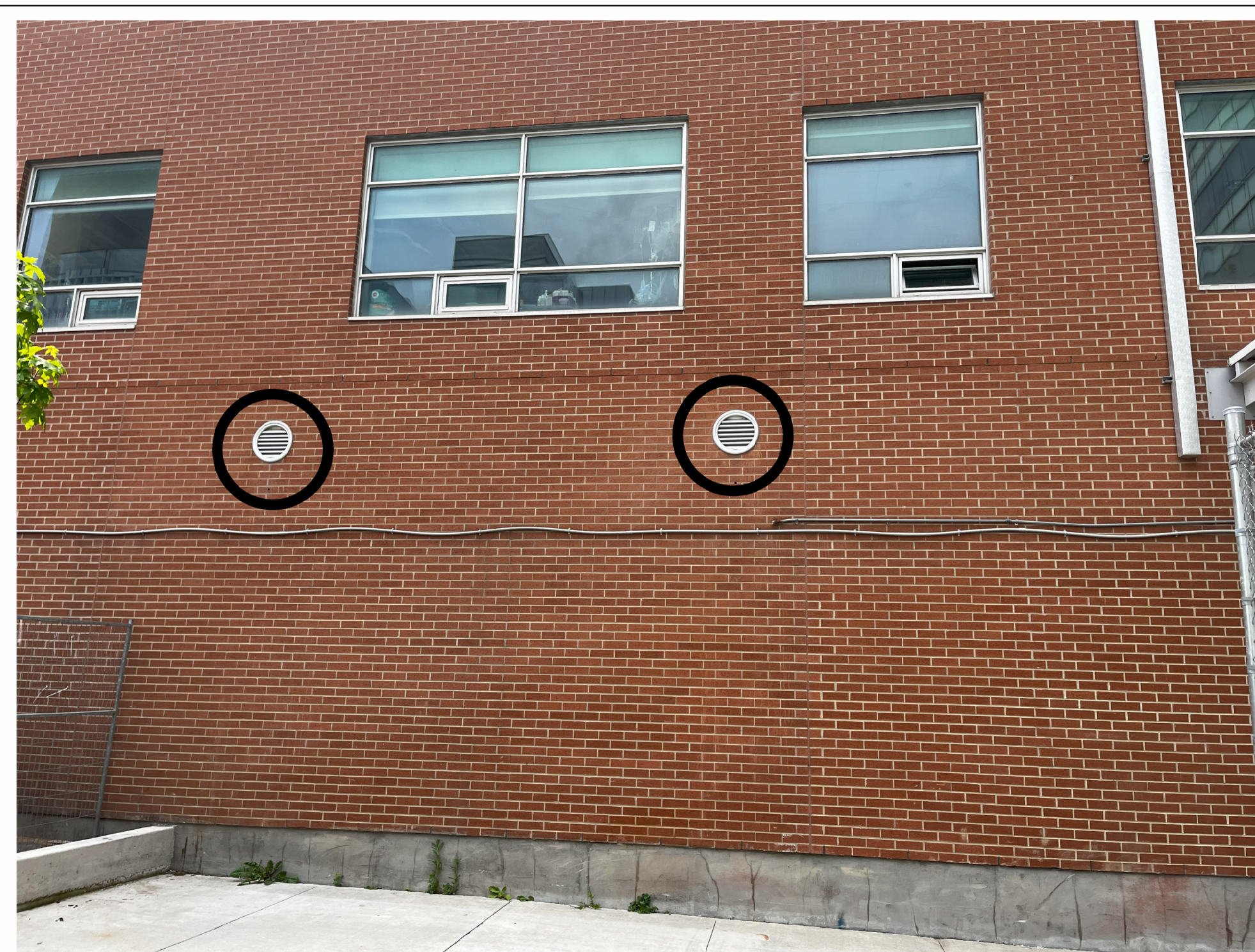




1 LEVEL 1 FLOOR PLAN - CORRIDOR - NEW WORK - VENTILATION
1:50

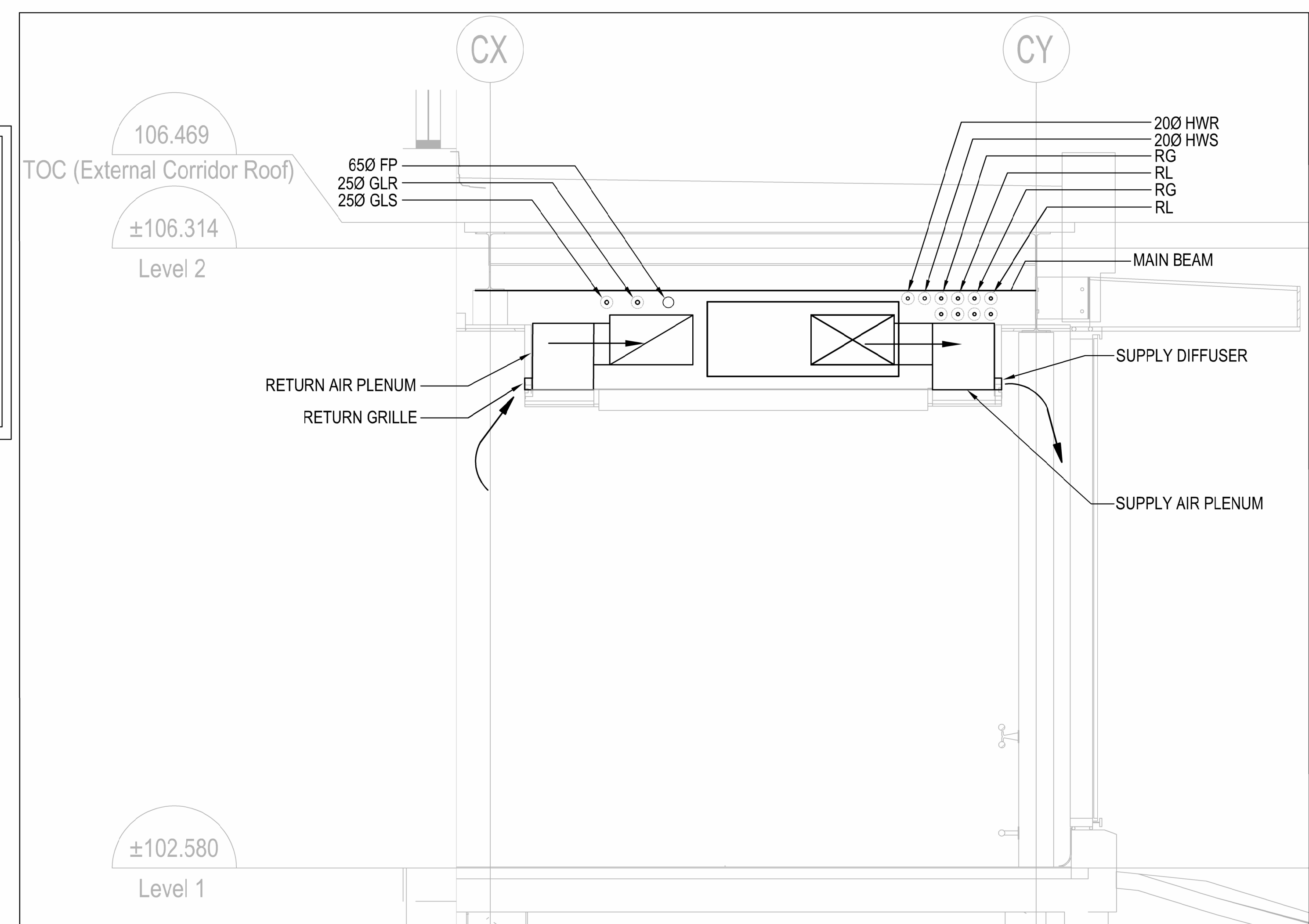


3 DETAIL: CONDENSING UNIT TO BE RELOCATED
N.T.S.



4 DETAIL: EXISTING EXHAUST GRILLES TO BE CAPPED
N.T.S.

- DRAWING NOTES:
- EXISTING CONDENSING UNIT TO BE RELOCATED (REFER TO DETAIL 3 ON DWG No. M-211B)
 - ALL AHUs TO BE INSTALLED WITH CONDENSATE PUMP (TYPICAL OF 3)
 - ALL SERVICES TO BE INSTALLED IN SUCH A WAY THAT THE MECHANICAL EQUIPMENT CAN BE REMOVED WITHOUT REMOVING ANY SERVICES. DO NOT INSTALL ANY PIPE, CABLE, WIRE, ETC. UNDER THE MECHANICAL UNITS
 - LINEAR GRILLES ARE SIDE AND BOTTOM FACING BASED ON THE ARCH. RCP DRAWING. MECHANICAL CONTRACTOR TO COORDINATE THE INSTALLATION WITH ARCH. RCP BEFORE ORDERING THE GRILLES



2 CORRIDOR SECTION - NEW WORK - VENTILATION
1:20

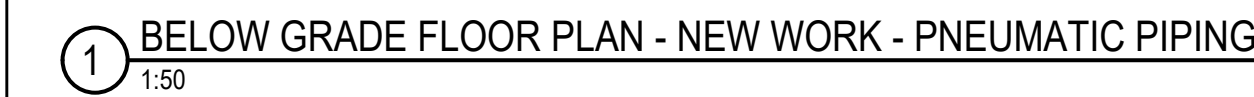
NO.	REVISION	DATE
9	Issued for Addendum M-03	2024.11.12
8	Issued for Addendum M-02	2024.11.06
7	Issued for Addendum M-01	2024.10.29
6	Issued for Tender	2024.10.17
5	Issued for 100% CIP	2024.09.27
4	Issued for 90% CIP	2024.09.06
3	Issued for 50% CIP - Permit	2024.08.02
2	Issued for 100 DD	2024.05.10
1	Issued for Design Development Progress	2024.04.05

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

LEVEL 1 FLOOR PLAN - CORRIDOR - NEW
WORK - VENTILATION

PROJECT NO:
MRK-23004289
CHECKED:
S.S.

DRAWING NO:
M-211B



DRAWING NOTES

- 1 PNEUMATIC TUBE DRAWING SHOWN FOR COORDINATION USE ONLY. REFER TO SWISS LOG DRAWINGS FOR MORE INFORMATION AND FULL SCOPE.
- 2 MECHANICAL CONTRACTOR TO SITE VERIFY THE ROUTING AND INCLUDE FOR ANY SERVICES NEED RELOCATION



A. ALL WORK MUST BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF THE ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.

B. THE EXISTING SERVICES SHOWN ON THIS DRAWING ARE FOR INFORMATION. THIS INFORMATION MUST NOT BE ASSUMED TO BE CORRECT UP TO DATE. THE CONTRACTOR SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND EQUIPMENT SIZE BEFORE THE COMMENCEMENT OF ANY WORK.

C. CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.

D. PROVIDE ALL CUTTINGS AND PATCHING.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT-DOWN WITH FACILITY. CONTRACTOR SHALL INCLUDE FOR AND DETERMINE THE BEST METHOD TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION INCLUDING HOT TAP/TEMPORARY FREEZING AND AFTER-HOURS WORK AS REQUIRED.

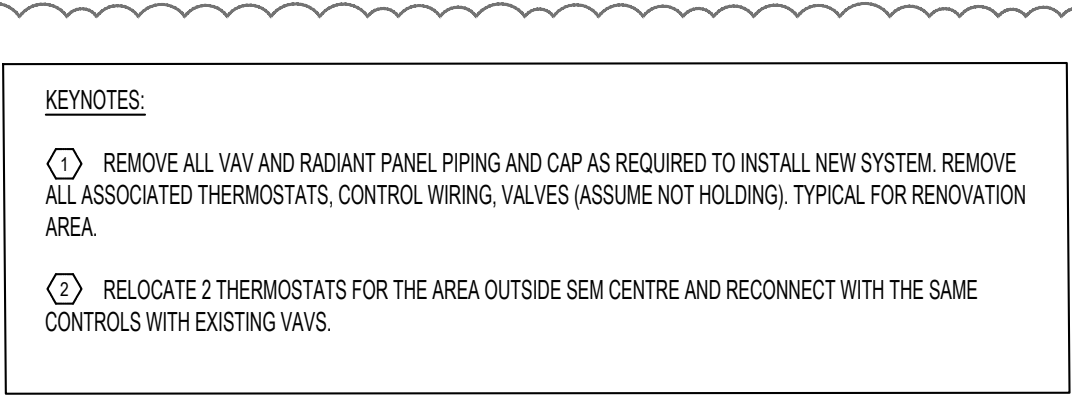
F. CONTRACTOR TO INCLUDE FOR ALL WAYS SERVICES TO BE RELOCATED IN THE CORRIDOR CEILING IN ORDER TO INSTALL THE NEW SERVICES.

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9	Issued for Addendum M-03		2024.11.02
8	Issued for Addendum M-02		2024.10.16
7	Issued for Addendum M-01		2024.10.25
6	Issued for Tender		2024.10.11
5	Issued for 100% CD		2024.09.27
4	Issued for 90% CD		2024.09.06
3	Issued for 50% CD / Permit		2024.08.02
2	Issued for 100 LOI		2024.05.10
1	Issued for Design Development Progress		2024.04.05
NO	DESCRIPTION	DATE	


BELOW GRADE FLOOR PLAN - NEW WORK
- HVAC & PIPING

M-300B



- L. REFER TO ARCHITECTURAL/ENGINEER COMPLIANCE PLANS FOR ALL FIRE RATED WALL PARTITIONS. PROVIDE "FIRE WRAP" TO ALL VERTICAL AND HORIZONTAL STANPODE THAT IS "NOT" ENGULFED IN 2 HR RATED ASSEMBLY AS PER NFA REQUIREMENTS.
- M. CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPED AREA.
- N. COORDINATE WITH BUILDING SUPERVISOR FOR APPROVAL TO SWITCH OFF VALVES FEEDING THE AREA PRIOR TO DEMOLISHING WORK.
- O. DRAIN THE FIRE PIPE LINE PRIOR TO COMMENCING WORK. COORDINATE ON SITE.
- P. REMOVE OBSOLETE SPRINKLER HEADS AND REPLACE THEM WITH PENDANT SPRINKLERS.
- Q. RE-ROUTE THE EXISTING PIPES TO SUIT NEW LOCATION, ADD NEW PIPES WHERE NECESSARY. CAP ANY UNUSED PIPES.
- R. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT-DOWN WITH ALL AFFECTED DEPARTMENTS AND PROVIDE SUFFICIENT NOTICE TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION, INCLUDING USE OF HOT TAP/TEMPERATURE FREEZING AND AFTER-HOUR WORK AS REQUIRED.
- S. CONTRACTOR SHALL PROVIDE FIRE STOPPING FROM ALL NEW PIPING AND CONDUNIT PENETRATIONS THROUGH A FIRE-RATED FLOOR AND FLOOR JOINTS THAT RESULT FROM REMOVAL OF EXISTING SERVICES THROUGH A FIRE-RATED FLOOR OR FLOOR FIRE STOPPING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- T. CONTRACTOR SHALL CUT BACK AND CAP ALL INACTIVE/DECOMMISSIONED PIPING BRANCHES TO THE NEAREST ACTIVE MAIN ON THIS FLOOR/LEVEL BACK REPAIR/IN FLOOR SLAB PENETRATIONS AND MAKE GOOD. REMOVE ALL REDUNDANT PIPING INCLUDING LOOSE WIRES AND DUCTWORK COMPLETE. CAP IT MAIN.
- U. RELOCATE OR REROUTE EXISTING MECHANICAL EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT.
- V. NOTE THAT ALL WORK SCOPES OUTSIDE OF SEMI-CONTAINER BOUNDARIES TO BE COMPLETED AFTER HOURS WITH P&G CONTROL MEASURES.

CONSULTANT:

The logo for exp. features a stylized flower-like icon composed of six dots arranged in a circle, followed by the lowercase letters "exp." in a serif font.

1: 905.696.3217 | f: 905.696.0167
120 Commerce Valley Drive West, Suite 110
Markham, ON L3T 0A8
Canada

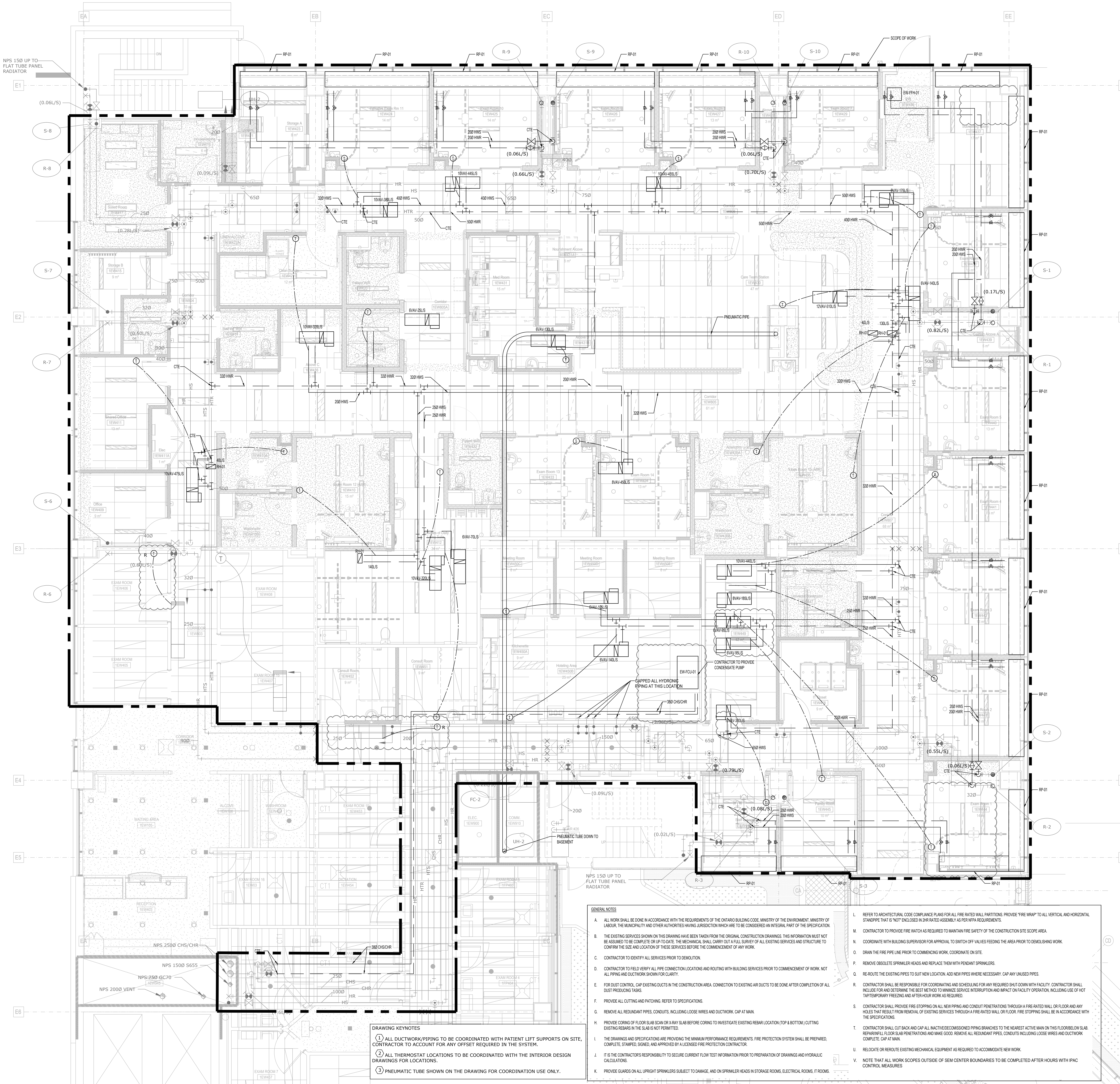
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9	Issued for Addendum M-03	2024.
8	Issued for Addendum M-02	2024.
7	Issued for Addendum M-01	2024.
6	Issued for Tender	2024.
5	Issued for 100% CD	2024.
4	Issued for 90% CD	2024.
3	Issued for 50% CD / Permit	2024.
2	Issued for 100 DD	2024.
1	Issued for Design Development Progress	2024.
NO	DESCRIPTION	DATE

PROJECT:
**Seniors Emergency Medicine Centre (SEMC) &
External Corridor**
Toronto Western Hospital
399 Bathurst Street Toronto, ON. M5T 2S8

PROJECT NO: MRK-23004289	DRAWING NO: M-301
CHECKED: S.S.	



DRAWING KEYNOTES

- 1 ALL DUCTWORK/PIPPING TO BE COORDINATED WITH PATIENT LIFT SUPPORTS ON SITE, CONTRACTOR TO ACCOUNT FOR ANY OFFSET REQUIRED IN THE SYSTEM.
- 2 ALL THERMOSTAT LOCATIONS TO BE COORDINATED WITH THE INTERIOR DESIGN DRAWINGS FOR LOCATIONS.
- 3 PNEUMATIC TUBE SHOWN ON THE DRAWING FOR COORDINATION USE ONLY.

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, MINISTRY OF THE ENVIRONMENT, MINISTRY OF LABOUR, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION WHICH ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SPECIFICATION.
- THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES BEFORE THE COMMENCEMENT OF ANY WORK.
- CONTRACTOR TO IDENTIFY ALL SERVICES PRIOR TO DEMOLITION.
- CONTRACTOR TO FIELD VERIFY ALL PIPE CONNECTION LOCATIONS AND ROUTING WITH BUILDING SERVICES PRIOR TO COMMENCEMENT OF WORK. NOT ALL PIPING AND DUCTWORK SHOWN FOR CLARITY.
- FOR DUST CONTROL, CAP EXISTING DUCTS IN THE CONSTRUCTION AREA. CONNECTION TO EXISTING AIR DUCTS TO BE DONE AFTER COMPLETION OF ALL DUST PRODUCING TASKS.
- PROVIDE ALL CUTTING AND PATCHING. REFER TO SPECIFICATIONS.
- REMOVE ALL REDUNDANT PIPES, CONDUITS, INCLUDING LOOSE WIRES AND DUCTWORK. CAP AT MAIN.
- PROVIDE CORING OF FLOOR SLAB AS SCAN OR RAY SLAB BEFORE CORING TO INVESTIGATE EXISTING REBAR LOCATION (TOP & BOTTOM). CUTTING EXISTING REBAR IN THE SLAB IS NOT PERMITTED.
- THE DRAWINGS AND SPECIFICATIONS ARE PROVIDING THE MINIMUM PERFORMANCE REQUIREMENTS. FIRE PROTECTION SYSTEM SHALL BE PREPARED, COMPLETE, STAMPED, SIGNED, AND APPROVED BY A LICENSED FIRE PROTECTION CONTRACTOR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE CURRENT FLOW TEST INFORMATION PRIOR TO PREPARATION OF DRAWINGS AND HYDRAULIC CALCULATIONS.
- PROVIDE GUARDS ON ALL UPRIGHT SPRINKLERS SUBJECT TO DAMAGE, AND ON SPRINKLER HEADS IN STORAGE ROOMS, ELECTRICAL ROOMS, IT ROOMS.

- REFER TO ARCHITECTURAL CODE COMPLIANCE PLANS FOR ALL FIRE RATED WALL PARTITIONS. PROVIDE "FIRE WRAP" TO ALL VERTICAL AND HORIZONTAL STANDOFFS THAT IS NOT ENCLOSED IN 2HR RATED ASSEMBLY AS PER NFPA REQUIREMENTS.
- CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPE AREA.
- COORDINATE WITH BUILDING SUPERVISOR FOR APPROVAL TO SWITCH OFF VALVES FEEDING THE AREA PRIOR TO DEMOLISHING WORK.
- DRAIN THE FIRE PIPE LINE PRIOR TO COMMENCING WORK. COORDINATE ON SITE.
- REMOVE OBSOLETE SPRINKLER HEADS AND REPLACE THEM WITH PENDANT SPRINKLERS.
- RE ROUTE THE EXISTING PIPES TO SUIT NEW LOCATION. ADD NEW PIPES WHERE NECESSARY. CAP ANY UNUSED PIPES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING FOR ANY REQUIRED SHUT-DOWN WITH FACILITY. CONTRACTOR SHALL INCLUDE FOR AND DETERMINE THE BEST METHOD TO MINIMIZE SERVICE INTERRUPTION AND IMPACT ON FACILITY OPERATION, INCLUDING USE OF HOT TAP/TEMPORARY FREEZING AND AFTER-HOURS WORK AS REQUIRED.
- CONTRACTOR SHALL PROVIDE FIRE STOPPING ON ALL NEW PIPING AND CONDUIT PENETRATIONS THROUGH A FIRE-RATED WALL OR FLOOR AND ANY HOLES THAT RESULT FROM REMOVAL OF EXISTING SERVICES THROUGH A FIRE-RATED WALL OR FLOOR. FIRE STOPPING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONTRACTOR SHALL CUT BACK AND CAP ALL UNWANTED/EXCESSIVE PIPING BRANCHES TO THE NEAREST ACTIVE MAIN ON THIS FLOOR/BELOW SLAB. REPAIR/FILL FLOOR SLAB PENETRATIONS AND MAKE GOOD. REMOVE ALL REDUNDANT PIPES, CONDUITS INCLUDING LOOSE WIRES AND DUCTWORK. COMPLETE. CAP AT MAIN.
- RELOCATE OR REROUTE EXISTING MECHANICAL EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW WORK.
- NOTE THAT ALL WORK SCOPES OUTSIDE OF SEM CENTER BOUNDARIES TO BE COMPLETED AFTER HOURS WITH IPAC CONTROL MEASURES.

CLIENT:

UHN University Health Network
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399 Bathurst Street
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ARCHITECT:

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NO.	REVISION	DESCRIPTION	DATE
9	Issued for Addendum M-03		2024.11.12
8	Issued for Addendum M-02		2024.11.06
7	Issued for Addendum M-01		2024.10.29
6	Issued for Review		2024.10.17
5	Issued for 100% CD		2024.09.27
4	Issued for 90% CD		2024.09.09
3	Issued for 50% CD - Permit		2024.08.02
2	Issued for 100 DD		2024.05.10
1	Issued for Design Development Progress		2024.04.05

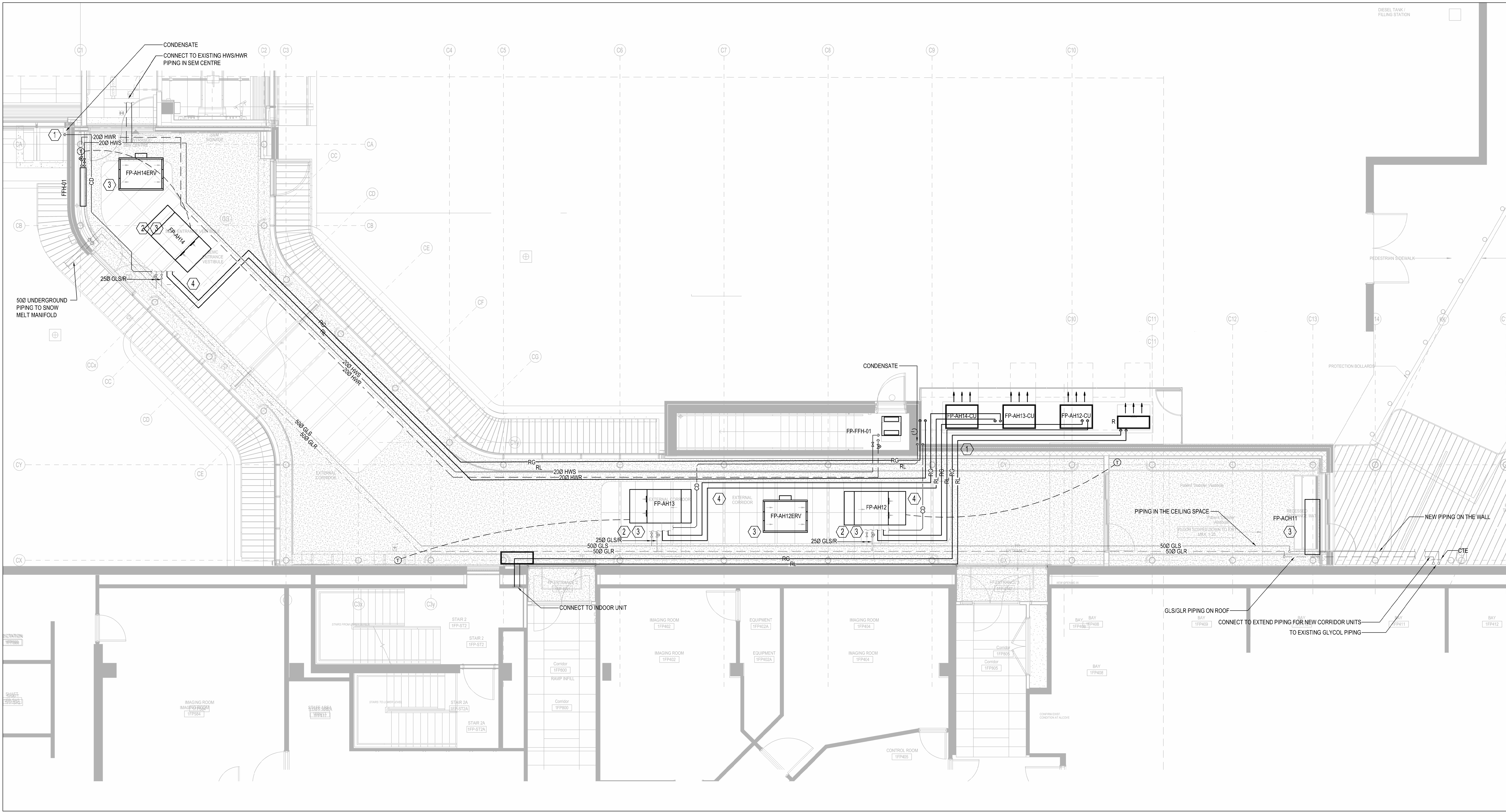
PROJECT:

Seniors Emergency Medicine Centre (SEMC) & External Corridor
Toronto Western Hospital
399 Bathurst Street Toronto, ON, M5T 2S8

TITLE:

LEVEL 1 FLOOR PLAN - NEW WORK - HVAC PIPING

PROJECT NO.: MRK-23004289
DRAWING NO.: M-311A
CHECKED: S.S.



1 LEVEL 1 FLOOR PLAN - CORRIDOR - NEW WORK - PIPING
1:50

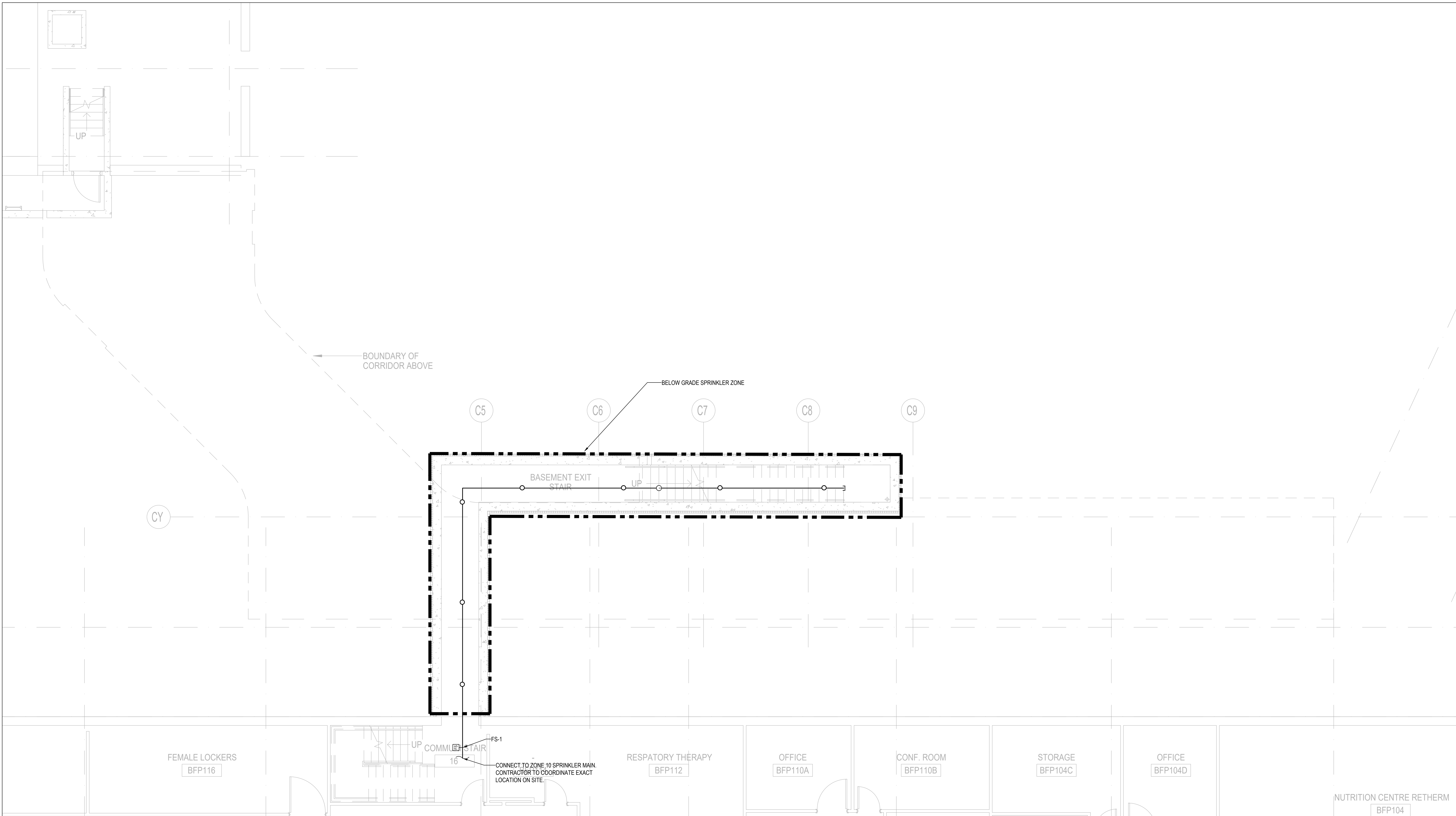
- DRAWING NOTES:
- CONTRACTOR TO INSTALL ALL PIPING TO CONDENSER UNIT CLOSE TO THE WALL. PIPES SHOWN FOR SCOPE CLARIFICATION
 - ALL AHUS TO BE INSTALLED WITH CONDENSATE PUMP (TYPICAL OF 3)
 - ALL SERVICES TO BE INSTALLED IN SUCH A WAY THAT THE MECHANICAL EQUIPMENT CAN BE REMOVED WITHOUT REMOVING ANY SERVICES. DO NOT INSTALL ANY PIPE, CABLE, WIRE, ETC. UNDER THE MECHANICAL UNITS
 - THE PIPING SHALL BE COORDINATED WITH EQUIPMENT LOCATION AND INSTALL AROUND THE UNITS

NO.	DESCRIPTION	DATE
1	Issued for Design Development Program	2024.04.05
2	Issued for 100 DD	2024.05.10
3	Issued for 90% CDD Permit	2024.08.02
4	Issued for 90% CDD	2024.09.06
5	Issued for 100% CDD	2024.09.27
6	Issued for Tender	2024.10.15
7	Issued for Addendum M-01	2024.10.29
8	Issued for Addendum M-02	2024.11.06
9	Issued for Addendum M-03	2024.11.12

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

LEVEL 1 FLOOR PLAN - CORRIDOR - NEW
WORK - PIPING





1 BELOW GRADE FLOOR PLAN - NEW WORK - FIRE PROTECTION
1:50

NOTE: CONTRACTOR TO SUBMIT SPRINKLER SHOP DRAWINGS WITH THE ENGINEER'S STAMP AND THE HYDRAULIC LOAD CALCULATIONS TO THE CITY AS PART OF PERMIT SUBMISSION.

FIRE PROTECTION SYSTEM SHALL BE IN ACCORDANCE WITH AND SUBJECT TO NFPA AND OBC REGULATIONS.

- FIRE PROTECTION NOTES**
- CONTRACTOR TO INCLUDE FOR ALL OFFSETS REQUIRED FOR COORDINATION WITHIN MECHANICAL AND ELECTRICAL SERVICES. THE OFFSETTING INCLUDES ALL HVAC, HYDRONICS, PLUMBING AND FIRE PROTECTION SERVICES.
 - THE DRAWINGS AND SPECIFICATIONS ARE PROVIDING THE MINIMUM PERFORMANCE REQUIREMENTS. THE FIRE PROTECTION SYSTEM SHALL BE PREPARED, COMPLETE, STAMPED, SIGNED, AND APPROVED BY A LICENSED SPRINKLER CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR THE FLOW TEST INFORMATION PRIOR TO PREPARATION OF DRAWINGS AND HYDRAULIC CALCULATIONS.
 - CONTRACTOR TO PROVIDE FIRE WATCH AS REQUIRED TO MAINTAIN FIRE SAFETY OF THE CONSTRUCTION SITE SCOPE AREA.
 - THE CONTRACTOR SHALL PROVIDE FIRE-STOPPING ON ALL NEW PIPING AND CONDUIT PENETRATIONS THROUGH A FIRE-RATED WALL OR FLOOR AND ANY HOLES THAT RESULT FROM REMOVAL OF EXISTING SERVICES THROUGH A FIRE-RATED WALL OR FLOOR.
 - COORDINATE WITH HOSPITAL OF SHUTTING DOWN AND DRAINING FIRE LINE PRIOR TO COMMENCING NEW WORK. PROVIDE FIRE WATCH AS REQUIRED TO ENSURE BUILDING SAFETY DURING SPRINKLER MAIN PIPE REMOVAL.
 - SPRINKLER PIPES SHALL NOT BE INSTALLED BENEATH CEILING MOUNTED MECHANICAL EQUIPMENT.

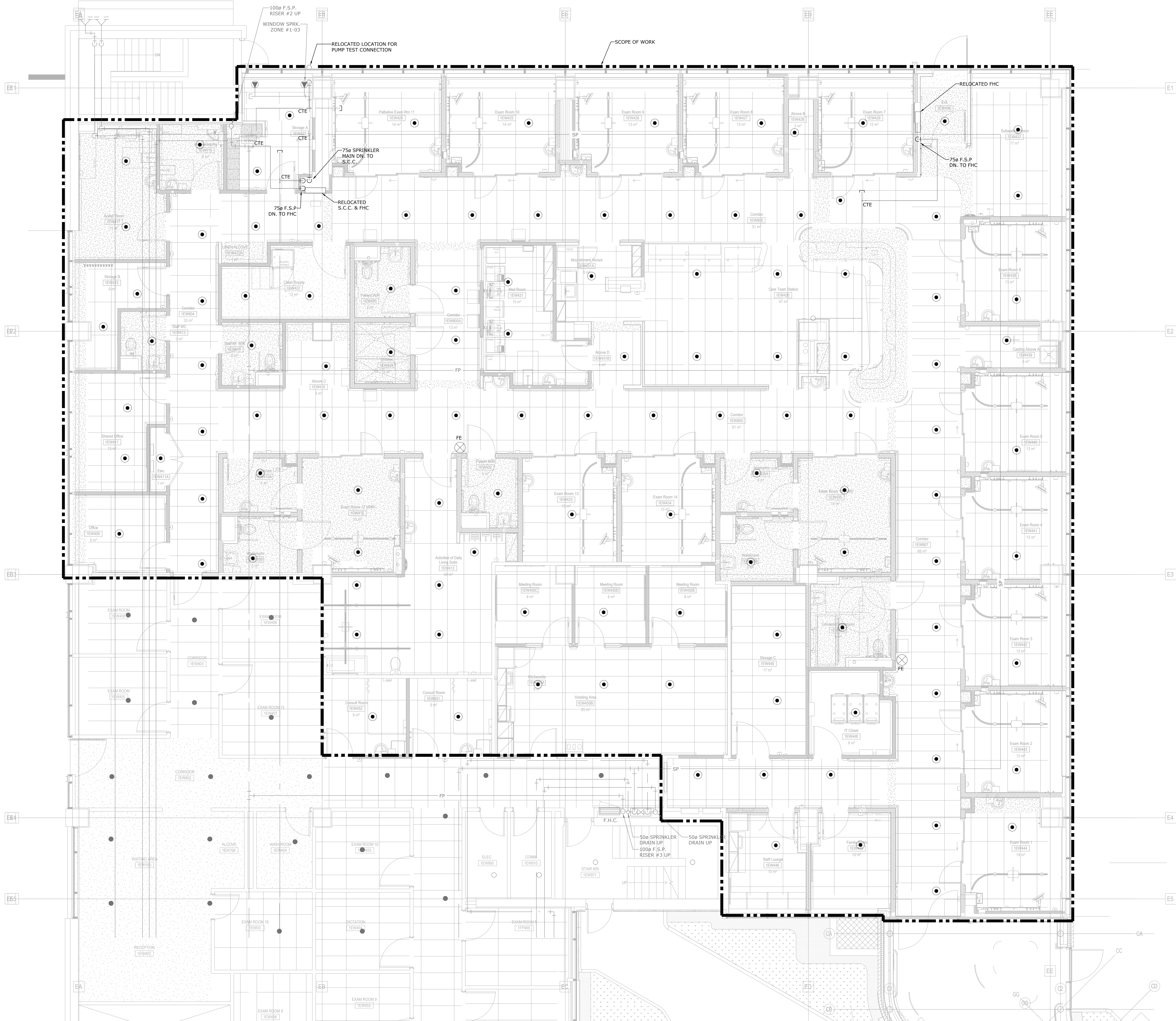
NO.	DESCRIPTION	DATE
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8	Issued for Addendum M-02	2024.11.06
7	Issued for Addendum M-01	2024.10.29
6	Issued for Permit	2024.10.11
5	Issued for 100% CD	2024.09.27
4	Issued for 90% CD	2024.09.09
3	Issued for 50% CD / Permit	2024.08.02
2	Issued for 100 DA	2024.05.10
1	Issued for Design Development Progress	2024.04.09

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

TITLE:
BELOW GRADE FLOOR PLAN - NEW WORK
- FIRE PROTECTION

PROJECT NO:
MRK-23004289
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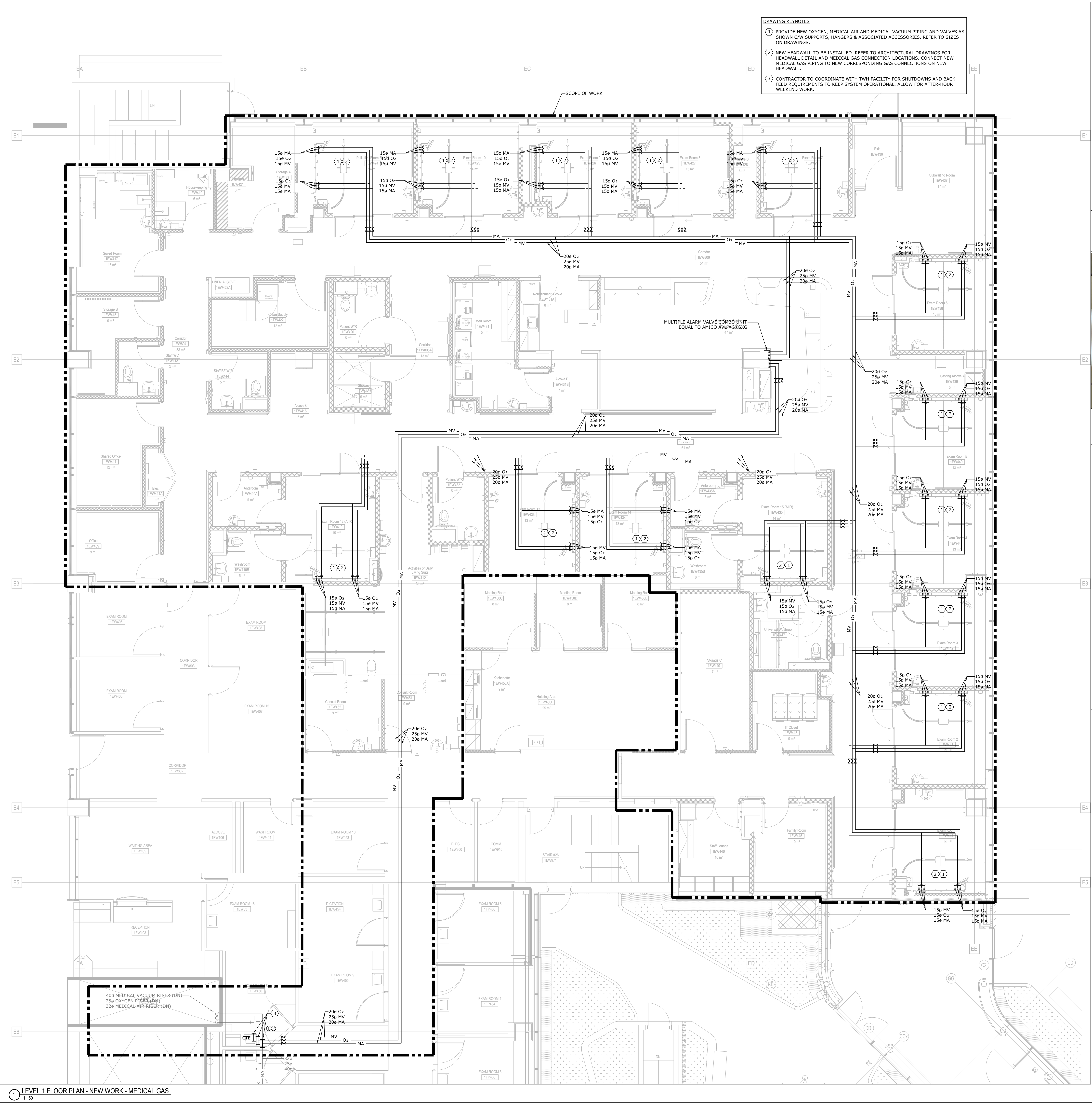
DRAWING NO:
M-400



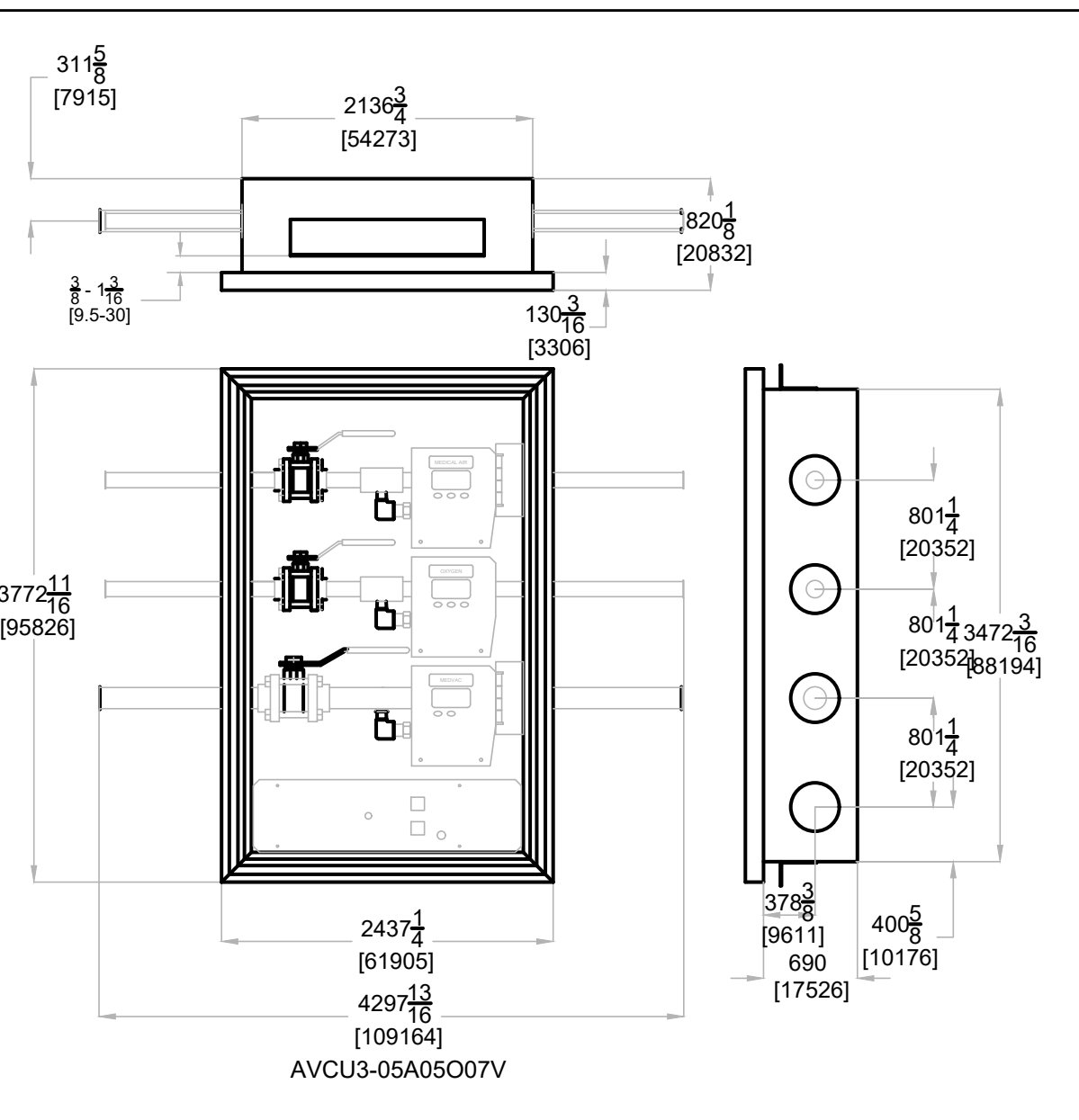
NO.	REVISION	DATE
1	Issued for Design Development Progress	2024.04.05
2	Issued for 100 DD	2024.05.10
3	Issued for 90% CD / Permit	2024.06.02
4	Issued for 90% CD	2024.09.09
5	Issued for 100% CD	2024.09.27
6	Issued for Review	2024.10.11
7	Issued for Addendum M-01	2024.10.25
8	Issued for Addendum M-02	2024.11.05
9	Issued for Addendum M-03	2024.11.12

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street Toronto, ON M5T 2S8

LEVEL 1 FLOOR PLAN - NEW WORK - FIRE PROTECTION



- DRAWING KEYNOTES**
- 1 PROVIDE NEW OXYGEN, MEDICAL AIR AND MEDICAL VACUUM PIPING AND VALVES AS SHOWN C/W SUPPORTS, HANGERS & ASSOCIATED ACCESSORIES. REFER TO SIZES ON DRAWINGS.
 - 2 NEW HEADWALL TO BE INSTALLED. REFER TO ARCHITECTURAL DRAWINGS FOR HEADWALL DETAIL AND MEDICAL GAS CONNECTION LOCATIONS. CONNECT NEW MEDICAL GAS PIPING TO NEW CORRESPONDING GAS CONNECTIONS ON NEW HEADWALL.
 - 3 CONTRACTOR TO COORDINATE WITH TWH FACILITY FOR SHUTDOWNS AND BACK FILL REQUIREMENTS TO KEEP SYSTEM OPERATIONAL. ALLOW FOR AFTER-HOUR WEEKEND WORK.



2 MEDICAL GAS ZONE VALVE BO2 DETAIL

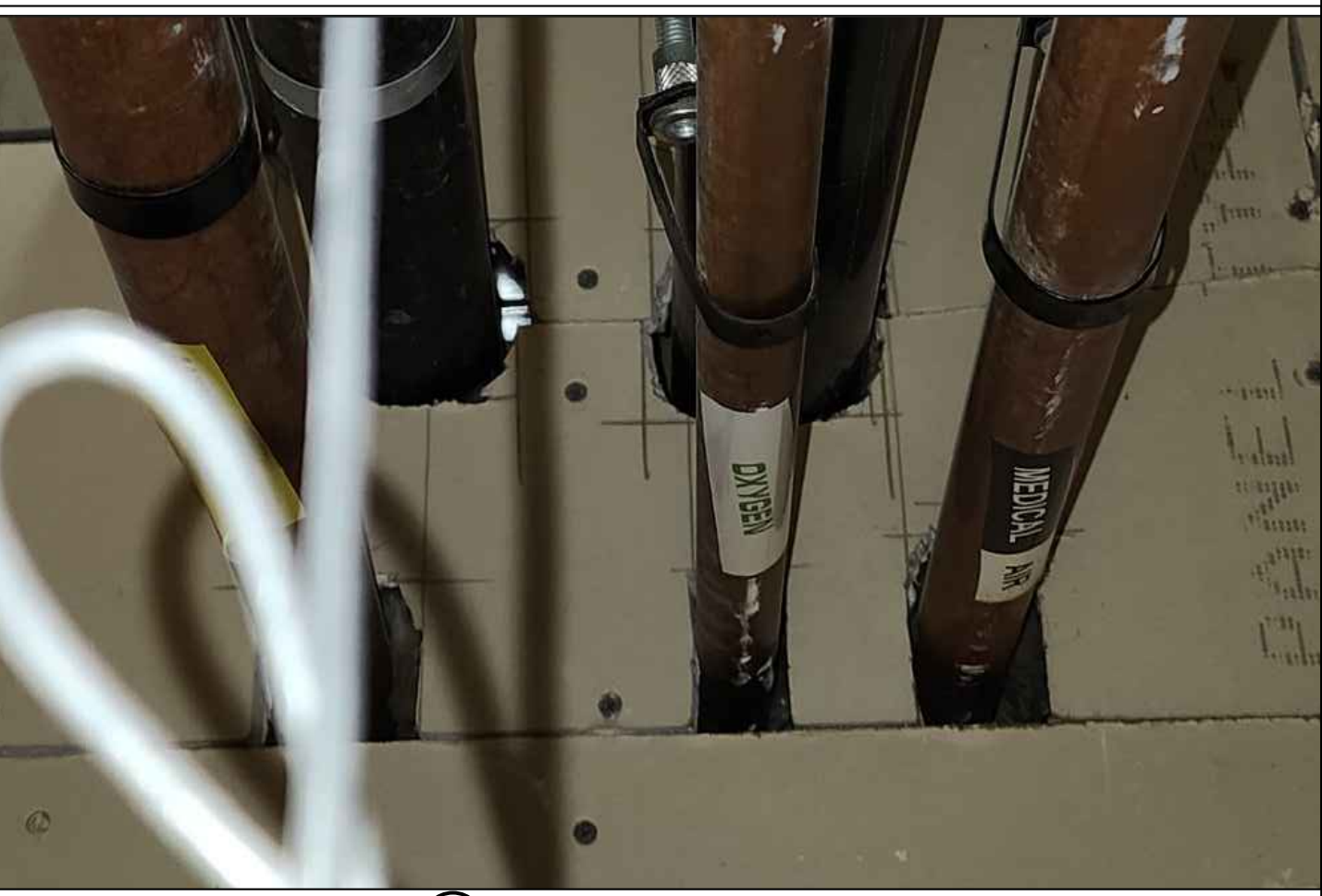


PHOTO REFERENCE 1

3 EXISTING MEDICAL GAS PIPING

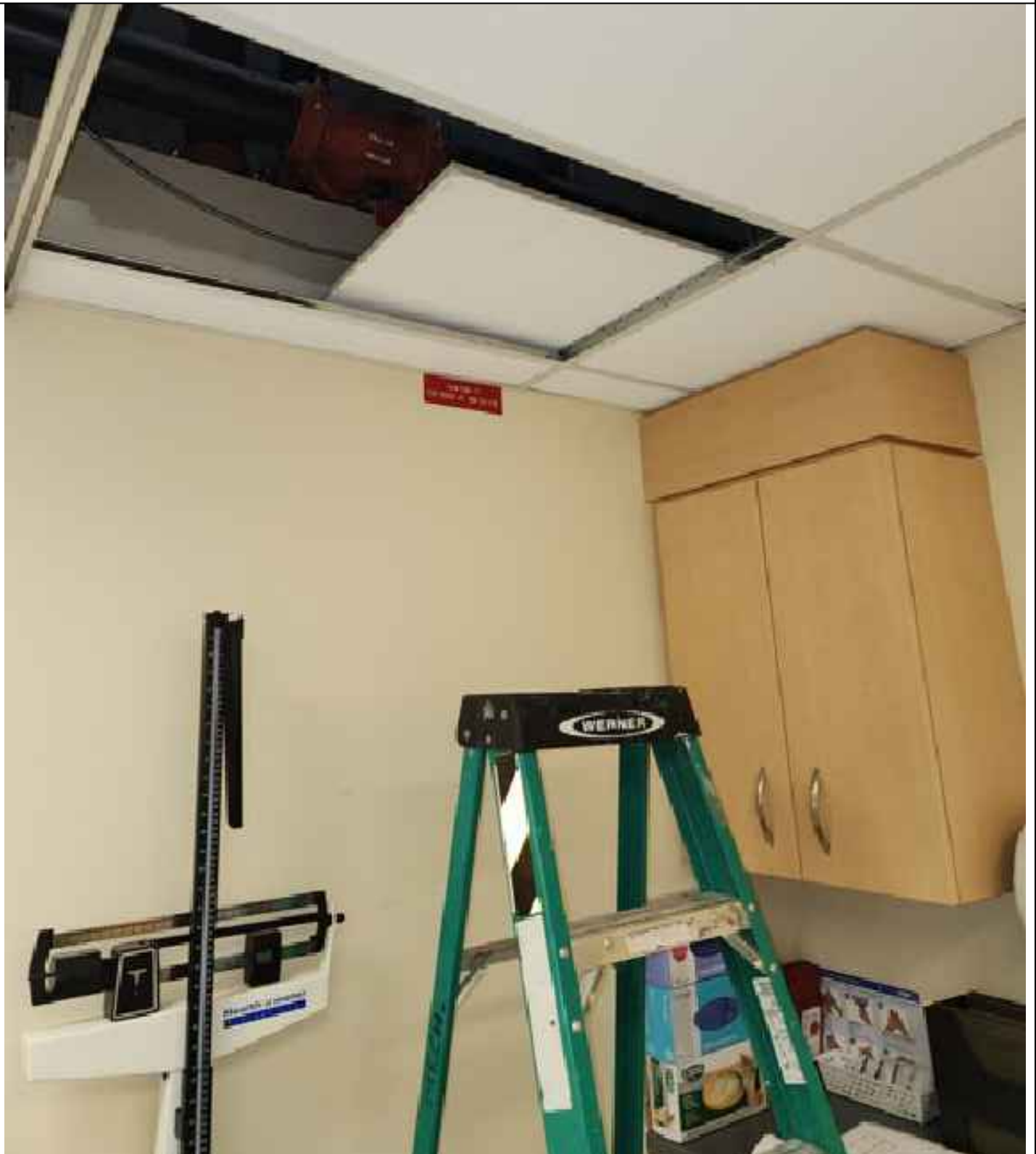


PHOTO REFERENCE 2

4 EXISTING MEDICAL GAS PIPING LOCATION

CLIENT:
University Health Network
Toronto Western Hospital
399 Bathurst Street
Toronto, ON M5T 2S8
www.uhn.ca

ARCHITECT:
CUMULUS ARCHITECTS INC.
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CONSULTANT:
exp.
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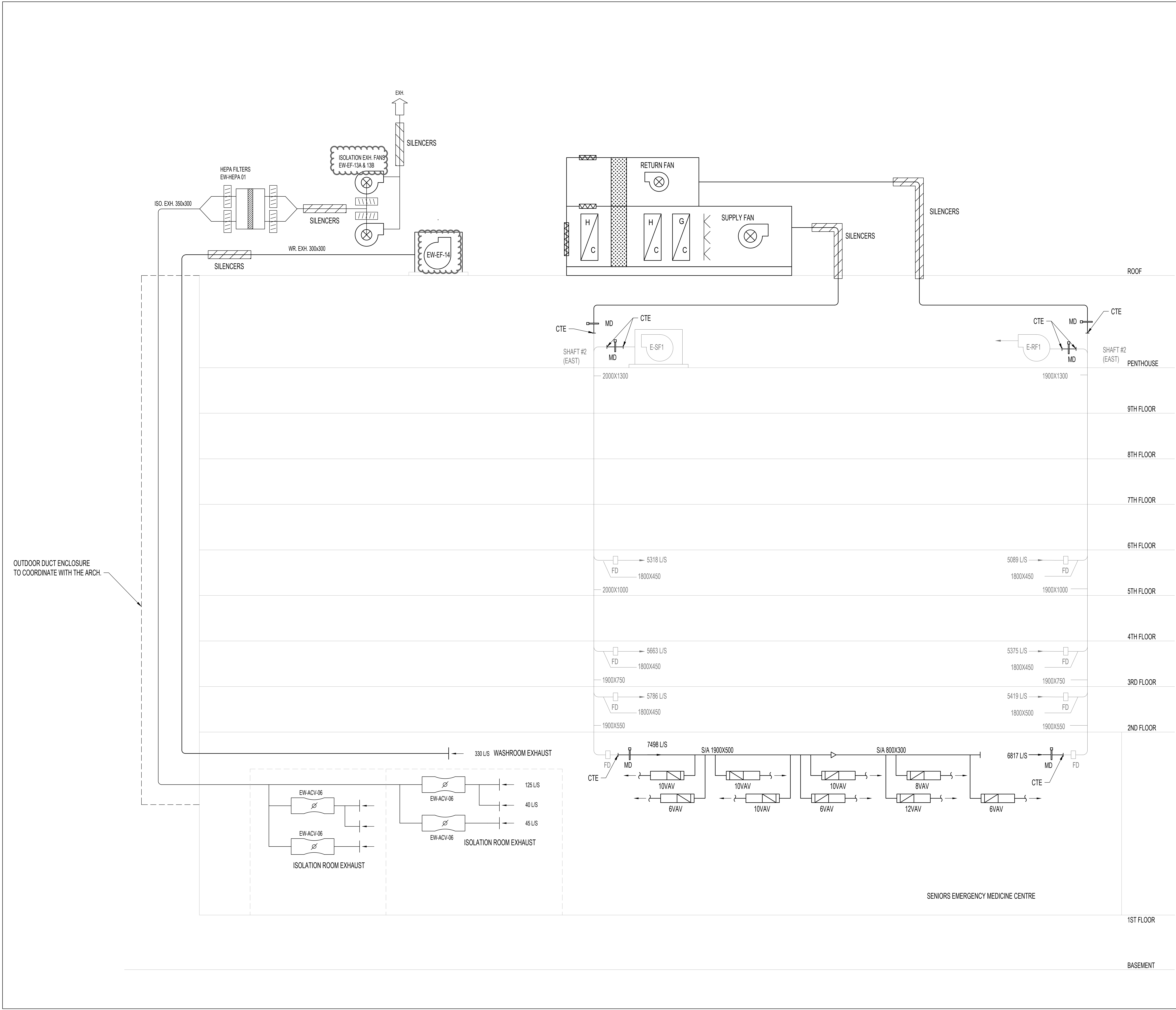
NO.	REVISION	DATE
1	ISSUED FOR DESIGN DEVELOPMENT PROGRESS	2024.04.05
2	ISSUED FOR 100% CD	2024.05.10
3	ISSUED FOR 90% CD - Permit	2024.06.02
4	ISSUED FOR 90% CD	2024.06.06
5	ISSUED FOR 100% CD	2024.06.27
6	ISSUED FOR REVIEW	2024.10.11
7	ISSUED FOR ADDENDUM M-01	2024.10.25
8	ISSUED FOR ADDENDUM M-02	2024.11.06
9	ISSUED FOR ADDENDUM M-03	2024.11.12

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street Toronto, ON, M5T 2S8

LEVEL 1 FLOOR PLAN - NEW WORK - MEDICAL GAS

PROJECT NO: MRK-23004289 **DRAWING NO:** M-501

CHECKED: P.R.



CLIENT:

UHN University Health Network
Toronto Western Hospital
399 Bathurst Street
Toronto, ON M5T 2S8
www.uhn.ca

ARCHITECT:

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416-598-0763
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CONSULTANT:

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PROJECT:

Seniors Emergency Medicine Centre (SEMC) & External Corridor
Toronto Western Hospital
399 Bathurst Street Toronto, ON, M5T 2S8

TITLE:

VENTILATION SCHEMATIC DIAGRAMS

PROJECT NO:

MRK-23004289

CHECKED:

S.S.

DRAWING NO:

M-601

NO	REVISION	DATE
9	Issued for Addendum M-03	2024-11-12
8	Issued for Addendum M-02	2024-11-06
7	Issued for Addendum M-01	2024-10-29
6	Issued for Permit	2024-10-11
5	Issued for 100% CD	2024-09-27
4	Issued for 90% CD	2024-09-09
3	Issued for 50% CD / Permit	2024-08-02
2	Issued for 100 DD	2024-05-10
1	Issued for Design Development Progress	2024-04-05

AIR HANDLING UNIT SCHEDULE - 1 of 2																																																																		
SYSTEM REFERENCE TAG	DESCRIPTION	LOCATION	MANUFACTUR...	MODEL	OPERATION				AIRFLOW FRESH AIR	SUPPLY FAN E.S.P. (Pa)	RETURN FAN E.S.P. (Pa)	PRE-HEATING COIL (GLYCOL 30% PG)								COOLING COIL								RE-HEATING COIL (GLYCOL 30% P)								HUMIDIFICATION-STEAM		WHEEL ENERGY...		ELECTRICAL			ECONOMIZE R (Y/N)	EMERGENCY POWER (Y/N)	FIRE SHUT DOWN (Y/N)	SILENCER INLET (Y/N)	OUTLET (Y/N)	UNIT WEIGHT (KG)	REMARKS																	
					AIR FLOW (CFM)	AIR FLOW (L/S)						TOTAL CAP (KW)	EAT DB (°C)	LAT DB (°C)	EGT (°C)	LGT (°C)	PD (KPA)	FLOW (L/S)	TOTAL (KW)	SENSIBLE (KW)	EAT DB (°C)	LAT DB (°C)	LAT DB (°C)	EGT (°C)	LGT (°C)	PD (KPA)	FLOW (L/S)	TOTAL CAP (KW)	EAT DB (°C)	LAT DB (°C)	EGT (°C)	LGT (°C)	PD (KPA)	FLOW (L/S)	TYPE	PRESSURE (PSI)	CAPACITY (KG/H)	SUMMER (KW)	WINTER (KW)	POWER (V/PH/Hz)	MCA (A)	MOP (A)																								
EW-AHU01B	EAST WING UNIT SERVING SEM CENTRE (L1, L2, L3 & L5)	ROOF	HAAKON	APK	28605	13500	UNITS RUNNING IN PARALLEL (NORMAL MODE)	33%	672	374	87.0	-20.0	-14.7	51.7	25.3	1.2	0.83	253.3	200.8	24.3	17.7	12.2	12.1	8.3	17.2	12.6	7.6	52.9	10.0	14.1	51.7	32.2	0.3	0.8	LPS	10.0	94.0	258	622	575/3/60	188	225	Y	Y	NO MATCH EXISTING	Y	Y	41364	AHU C/W VESTIBULE IS DESIGNED WITH LADDER, PLATFORM FOR ACCESS BY THE MANUFACTURER																	
					28605	13500	UNITS RUNNING IN PARALLEL (PANDEMIC MODE)	100%			140.7	-20.0	-14.4	51.7	23.9	4.5	1.7	518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7																518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7
					57210	27000	EXISTING UNIT OUT OF SERVICE (NORMAL MODE)	33%			140.7	-20.0	-14.4	51.7	23.9	4.5	1.7	518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7																518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7
					57210	27000	EXISTING UNIT OUT OF SERVICE (PANDEMIC MODE)	100%			140.7	-20.0	-14.4	51.7	23.9	4.5	1.7	518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7																518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7
					57210	27000	INTERNAL CATASTROPHIC MODE (PANDEMIC MODE)	0%			140.7	-20.0	-14.4	51.7	23.9	4.5	1.7	518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7																518.0	518.0	24.3	17.7	12.2	12.1	8.3	17.2	43.6	15.14	125.1	10.0	13.8	51.7	32.2	1.2	1.7
NOTES: 1. OUTDOOR UNIT C/W VESTIBULE SHALL BE SUPPORTED ON STRUCTURAL SUPPORT AND SHALL BE COORDINATED ON SITE 2. VFD TO BE SUPPLIED AND BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR 3. UNIT SIZED WITH ECONOMIZER MODE 4. PROVIDE 25-50MM MINIMUM RUBBERNEOPRENE PADS TO APPROVED BY THE UNIT MANUFACTURER 5. PROVIDE MERV 14 MIN. FINAL FILTERS AND MERV 8 PRE-FILTERS 6. PROVIDE 1500 SILENCER FOR AIR INTAKE AND EXHAUST WITH 25% FREE AREA 7. PROVIDE MIN. 2500MM WIDE VESTIBULE FOR THE AHU FOR MAINTENANCE C/W LOUVER AND HEATER TO BE SIZED BY THE MANUFACTURER. VESTIBULE SHALL BE HEATED. ELECTRICAL TO PROVIDE SEPARATE POWER FOR THE VESTIBULE. 8. DUAL SUPPLY FANS @50HP EACH, DUAL RETURN FANS @30HP EACH 9. 2HP WHEEL MOTOR WITH VFD 10. DEDICATED POWER FEED FOR AHU INCLUDING WHEEL 11. DEDICATED POWER FEED FOR UNIT LIGHTS 120 V POWER SUPPLY 12. DEDICATED POWER FEED FOR VESTIBULE LIGHTS 120V POWER SUPPLY 13. DEDICATED POWER FEED FOR VESTIBULE HEATER 120V POWER SUPPLY 14. UNIT OPERATION AT 57210 CFM @100% O/A WILL ACCOUNT FOR HEAT WHEEL. DESIGN FOR COILS IS FOR 3 MAIN SCENARIOS.																																																																		

[illegible]

FORCE FLOW HEATER SCHEDULE																			
EQUIPMENT TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	AIRFLOW	HEATING CAPACITY (KW)	FLUID			PRESSURE DROP (kPa)	ELECTRICAL		EMERGENCY POWER (VA)	REMOTE THERMOSTAT (Y/N)	DIMENSIONS			WEIGHT (KG)	REMARKS
							EWI (°C)	LWT (°C)	FLOW (L/S)		MOTOR (KW)	POWER (V/Phz)			LENGTH (MM)	WIDTH (MM)	HEIGHT (MM)		
EW-FPH-01	EXIT 1EW436 (SEM CENTRE)	CEILING MOUNTED	SIGMA	SFF-A-02	104	4	66	54	0.1	0.07	0.075	120/160	Y	N	660	241	660	34.0	
FP-FPH-01	EXIT DOOR AT FP ROOF & STAIR	CEILING MOUNTED	SIGMA	SFF-A-02	104	4	66	54	0.1	0.71	0.075	120/160	Y	N	660	241	660	34.0	
FP-4H0101	LOWER LEVEL	CEILING MOUNTED	SIGMA	015H	132	4	66	54	0.18	2.09	0.037	120/160	Y	N	483	368	343	13.2	
NOTES: 1. CW/L/LOCALISED PACKAGED CONTROLS.																			

ELECTRIC HEAT TRACING SCHEDULE							
TAG	SERVICE	PIPE DIAMETER	PIPE LENGTH		ELECTRICAL V/Ph/Hz	EMERGENCY POWER	COMMENTS
		(mm)	(FT)	(m)			
ETC-01	CHILLED WATER	150	64.0	19.5	208/1/60	(Y/N) Y	

FAN SCHEDULE															REMARKS
SYSTEM REFERENCE TAG	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	AIR FLOW (CFM)	AIR FLOW (US)	FAN E.S.P. (Pa)	MIN OUTLET VELOCITY (M/S)	ELECTRICAL		FAN EFFICIENCY %	EMERGENCY POWER (V/N)	FIRE SHUT DOWN (Y/N)	UNIT WEIGHT (KG)	
EW-EF-14	WASHROOM EXH.	ROOF	PENNBARRY	D10	700	330	374	8	575/603	0.9	1.18	Y	N	13.6	
EW-EF-13A & 13B	ISOLATION EXH.	ROOF	PENNBARRY	D08	850	401	747	8	575/603	2.4	99.00	Y	N	16.8	
EW-EF-6A & 6B	EXISTING TB EXHAUST SYSTEM	ROOF	PENNBARRY	VCR-SWSI-AF 222	7842	3,701	1643	8	575/603	17.0	1.26	Y	N	90.7	EXISTING FANS TO BE REPLACED WITH NEW FANS TO ADD HEPA FILTERS IN THE...
NOTES:	1. ALL ROOF MOUNTED FANS CW 450 MM HIGH ROOF CURB. 2. DIRECT DRIVE WITH EC MOTOR. 3. PROVIDE WEATHER PROOF DISCONNECTS FOR ALL OUTDOOR FANS. 4. PROVIDE LOCAL DISCONNECTS FOR CEILING/ROOF MOUNTED FANS. 5. PROVIDE VFDS FOR ALL FANS IN THE PENTHOUSE AND LOCAL DISCONNECT. COORDINATE EXACT LOCATION ON SITE. 6. EXHAUST STACK SHOULD BE MINIMUM 3M ABOVE ANY NEARBY AIR INTAKE (EW-AHU-01b) 7. FAN/STACK SUPPORTS SHALL BE PROVIDED														

FAN COIL UNIT SCHEDULE (2P CHILLED WATER)																					
SYSTEM REFERENCE TAG	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	AIR FLOW (CFM)	AIR FLOW (L/S)	UNIT E.S.P. (Pa)	COOLING COIL						ELECTRICAL				EMERGENCY POWER (Y/N)	FIRE SHUT DOWN (Y/N)	UNIT WEIGHT (KG)	REMARKS
								TOTAL (KW)	SENSIBLE (KW)	EWI (°C)	LWT (°C)	FLOW (L/S)	PD (KPA)	FLA (A)	MCA (A)	MROPD (A)	POWER (V/HZ/PH)				
EW-FCU-01	IT ROOM COOLING UNIT	IT ROOM	IEC	HYL16	1230	581	50	10.79	10.55	5.6	12.2	0.38	13.45	8.4	9.45	15	115/60/1	N	Y	102.06	
NOTES:	1. FAN COIL UNIT TO BE COMPLETE WITH 2" (50MM) MERV 13 FILTER SECTION. 2. PROVIDE ECM MOTOR 3. FAN COIL UNIT TO HAVE BOTTOM ACCESS FOR SERVICE. 4. FCU IS COMPLETE WITH DRAIN PAN AND DRAIN PUMP																				

HEPA FILTER SCHEDULE																							
SYSTEM REFERENCE TAG	DESCRIPTION SERVICE	LOCATION	MANUFACTURER	MODEL NO.	AIR FLOW		TOTAL FILTER AREA (SMT)	EFFECTIVE FILTER AREA (N+1) (SMT)	FILTER FACE VELOCITY (M/S)	1st STAGE FILTER (PRE-FILTERS)				2nd STAGE FILTER (HEPA)				FILTER ASSEMBLY			TOTAL PRESSURE DROP (KPA)	TOTAL WEIGHT (KPA)	REMARKS
					(CFM)	(L/s)				FILTER DESCRIPTION	EFFICIENCY	INITIAL EST.	PRESS. DROP (PA) FINAL (RECOMMENDED)	FILTER DESCRIPTION	EFFICIENCY	INITIAL EST.	PRESS. DROP (PA) FINAL (RECOMMENDED)	WIDTH (MM)	HEIGHT (MM)	LENGTH (MM)			
EW-HEPA-01	ISOALATION EXHAUST	ROOF	CTC	B2-412-21-RCD-M605-B	890	420	0.37	0.37	1.125	600x600x100 (4)	MERV 11	50	188	600x600x300 (4)	99.90%	200	500	762	1676	1905	875	366	N+1 CONFIGURATION DUTY/STANDBY
EW-HEPA-02 & 03	TB EXHAUST	ROOF	CTC	B2-412-22-TD24M-PG-B	7840	3,700	1.49	1.49	2.479	600x600x100 (4)	MERV 11	50	188	600x600x300 (4)	99.90%	200	500	1397	1626	2514.6	875	500	
NOTES: 1. EACH HEPA FILTER ASSEMBLY SHALL BE COMPLETE WITH BASE 2. MANUAL ISOLATION DAMPER AT THE INLET OF THE FILTER AND MOTORIZED DAMPER AT THE OUTLET OF THE FILTER ASSEMBLY																							

RADIANT PANEL SCHEDULE								
SYSTEM REFERENCE TAG	MANUFACTURER	MODEL	WIDTH (MM)	TUBE PASSES (QTY)	HEATING CAPACITY (KW/M)	MEAN TEMPERATURE ("C)	FLOW (L/S)	REMARKS
RP-01	SIGMA	SLC	457	6	0.222	60	0.0048	
NOTES: 1. REFER TO FLOOR PLANS FOR EXACT QUANTITY AND PANEL LENGTH. 2. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR CEILING TYPE BEFORE ORDERING THE RADIANT PANELS								

SILENCER SCHEDULE																				REMARKS		
SYSTEM REFERENCE TAG	DESCRIPTION	UNITS SERVED	LOCATION	MANUFACTURER	MODEL	AIR FLOW (L/S)	VELOCITY (M/S)	SIZE (MM)			PRESSURE DROP		REQUIRED ATTENUATION (DB)									
								W (mm)	H (mm)	L (mm)	IDEAL (PA)	WITH SYSTEM (PA)	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz		8000 Hz	
SL-01	AHU SUPPLY AIR	AHU-01	ROOF DUCT MOUNTED	Kinetics Noise Control	575 KCRS-F-TF	26500	9	2300	1350	1829	37	37	4	8	16	19	17	13	8	4	Tiedler firm-lined silencer. System effect pressure drop assumes turning vanes at outlet side elbow.	
SL-02	AHU RETURN AIR	AHU-01	ROOF DUCT MOUNTED	Kinetics Noise Control	575 KCRS-F-TF	26500	-9	2300	1350	2134	27	37	6	8	18	21	15	12	8	6		Tiedler firm-lined silencer.
SL-03	TOILET EXHAUST	E-EF-08	ROOF DUCT MOUNTED	Kinetics Noise Control	700 KCRS-F-TF	350	3	300	300	914	10	37	2	6	12	11	9	7	5	3		Tiedler firm-lined silencer.
SL-04	ISOLATION EXHAUST	E-EF-07 A & B	ROOF DUCT MOUNTED	Kinetics Noise Control	350 KCRS-F-TF	420	4	350	300	2439	7	37	5	13	21	23	20	11	9	7		Tiedler firm-lined silencer.
NOTES: 1. VELOCITY SHOWN IS + (FORWARD FLOW) OR - (REVERSE FLOW) AS DEFINED BY ASTM E477-13.																						

AIR CONTROL VENTURI VALVE SCHEDULE							
SYSTEM REFERENCE	MANUFACTURER	SIZE	MAX	INLET	OUTLET	MIN AIR	REMARKS
			AIR FLOW (TAG)	SIZE (MM)	SIZE DIA (MM)	PD MAX (Pa)	
EW-ACV-6	JCI	6	170	150	150	150	VALVE IS C/W CONTROL PANEL C/W BACNET.
EW-ACV-8	6 JCI	8	200	200	200	200	VALVE IS C/W CONTROL PANEL C/W BACNET.
NOTES:	1. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF AIR VALVES 2. CONTRACTOR TO PROVIDE CLANGING FOR THE CONTROL PANEL AS PER MANUFACTURER RECOMMENDATION 3. MEDICAL GAS EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER RECOMMENDATION BY MEDICAL GAS CONTRACTOR						

REHEAT COILS SCHEDULE											REMARKS
SYSTEM REFERENCE TAG	MANUFACTURER	MODEL	MAX. AIR FLOW (L/S)	TOTAL CAP. (KW)	AIR SIDE			WATER SIDE			
					EAT (°C)	LAT (°C)	FLOW (L/S)	EWIT (°C)	LWT (°C)	PD (KPA)	
RH-01XJLS	DAIKIN	58S1001C	150	2.59	12.8	25.6	0.067	65.6	54.4	0.986	
RH-02XXJLS	DAIKIN	58S0901C	315	4.99	12.8	25.6	0.107	65.6	54.4	2.989	

NOTES:

1. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF REHEAT COILS
2. CONTRACTOR TO PROVIDE ACCESS TO EACH COIL AS PER MANUFACTURER RECOMMENDATION AND COORDINATE WITH ARCHITECTURAL CEILING PLANS

VIBRATION ISOLATION SCHEDULE							
SYSTEM REFERENCE TAG	LOCATION	ISOLATION TYPE MODEL	CURB HEIGHT (MM)	STATIC DEFLECTION (MM)	BASE TYPE	SEISMIC RESTRAINT (Y/N)	REMARKS
AHU	ROOF	KIP-RT	REFER TO STR. DWGS	50	STRUCTURAL SUPPORT	N	THE EQUIPMENT IS ON EXISTING ROOF
EW-EF-14				FACTORY SUPPLIED SPRING ISOLATORS			
EW-EF-13A & 13B				FACTORY SUPPLIED SPRING ISOLATORS			
EW-EF-6A & 6B				FACTORY SUPPLIED SPRING ISOLATORS			
EW-FCU-01	CEILING MOUNTED	SHAA	-	25	-	-	SPRING HANGERS
FP-AQH12	CEILING MOUNTED	SRH-1	-	25	-	-	SPRING HANGERS
FP-AQH13	CEILING MOUNTED	SRH-1	-	25	-	-	SPRING HANGERS
FP-AQH14	CEILING MOUNTED	SRH-1	-	25	-	-	SPRING HANGERS
FP-AH12ERV-1	CEILING MOUNTED	SRH-1	-	25	-	-	SPRING HANGERS
FP-AH14ERV-1	CEILING MOUNTED	SRH-1	-	25	-	-	SPRING HANGERS
DHW HEATERS	HSKP PAD			PAD AS PER MANUFACTURER RECOMMENDATION			
NOTES:	1. SELECTIONS ARE BASED ON KINETICS NOISE CONTROL DESIGN						

VAV BOXES WITH REHEAT COILS SCHEDULE															REMARKS
SYSTEM REFERENCE TAG	MANUFACTURER	MODEL	SIZE	MAX. AIR FLOW (L/S)	INLET SIZE (MM)	OUTLET		REHEAT COIL							
						WIDTH (MM)	HEIGHT (MM)	EAT (°C)	LAT (°C)	NO OF ROWS	FLOW (L/S)	EWT (°C)	LWT (°C)	WPD (KPA)	
8VAV-XXLS	PRICE	SDV	6	160	200	305	203	12.8	25.6	1	0.024	65.6	54.4	0.239	
8VAV-XXLS	PRICE	SDV	8	315	250	305	254	12.8	25.6	1	0.041	65.6	54.4	0.867	
10VAV-XXLS	PRICE	SDV	10	515	300	356	318	12.8	25.6	1	0.060	65.6	54.4	0.299	
12VAV-XXLS	PRICE	SDV	12	735	350	406	381	12.8	25.6	1	0.082	65.6	54.4	0.717	


NOTES:

1. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF VAV BOXES.
2. EACH UNIT SHALL BE WITH INTEGRAL COIL AND 3FT ATTENUATOR
3. VAV BOX MIN. POSITION IS 30%
4. CONTRACTOR TO PROVIDE ACCESS TO EACH VAV BOX AS PER MANUFACTURER RECOMMENDATION AND COORDINATE WITH ARCHITECTURAL CEILING PLANS
5. CONTRACTOR TO PROVIDE VENT AND DRAIN CONNECTION FOR EVERY COIL CONNECTION
6. MECHANICAL EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER RECOMMENDATION BY MECHANICAL CONTRACTOR

HEPA FILTER SCHEDULE													
1st STAGE FILTER (PRE-FILTERS)				2nd STAGE FILTER (HEPA)				FILTER ASSEMBLY			TOTAL	TOTAL	REMARKS
EFFICIENCY	INITIAL EST.	PRESS. DROP (PA)	FINAL (RECOMMENDED)	FILTER DESCRIPTION	EFFICIENCY	INITIAL EST.	PRESS. DROP (PA)	WIDTH (MM)	HEIGHT (MM)	LENGTH (MM)	PRESSURE DROP (KPA)	WEIGHT (KPA)	
MERV 11	50	188		600x600x300 (4)	99.90%	200	500	762	1676	1905	875	386	N+1 CONFIGURATION DUTY/STANDBY
MERV 11	50	188		600x600x300 (4)	99.90%	200	500	1397	1626	2514.6	875	500	

SILENCER SCHEDULE														
SYSTEM REFERENCE TAG	DESCRIPTION	UNITS SERVED	LOCATION	MANUFACTURER	MODEL	AIR FLOW (L/S)	VELOCITY (M/S)	SIZE (MM)			PRESSURE DROP		63 Hz	1
								W (mm)	H (mm)	L (mm)	IDEAL (PA)	WITH SYSTEM (PA)		
SL-01	AHU SUPPLY AIR	AHU-01	ROOF DUCT MOUNTED	Kinetics Noise Control	575 KCRS-F-TF	26500	9	2300	1350	1829	37	37	4	
SL-02	AHU RETURN AIR	AHU-01	ROOF DUCT MOUNTED	Kinetics Noise Control	575 KCRS-F-TF	26500	9	2300	1350	2134	27	37	6	
SL-03	TOILET EXHAUST	E-EF-08	ROOF DUCT MOUNTED	Kinetics Noise Control	700 KGRS-F-TF	350	3	300	300	914	10	37	2	
SL-04	ISOLATION EXHAUST	E-EF-07 A & B	ROOF DUCT MOUNTED	Kinetics Noise Control	350 KCRS-F-TF	420	4	350	300	2439	7	37	5	

NOTES:	1. VELOCITY SHOWN IS + (FORWARD FLOW) OR - (REVERSE FLOW) AS DEFINED BY ASTM E477-13.
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TITLE:	
SHEET REVISION	
PROJECT	
Seniors Emergency Medicine Centre (SEMC) & External Corridor	
Toronto Western Hospital 390 Bathurst Street Toronto, ON M5T 2S8	
MECHANICAL SCHEDULES #1	
PROJECT NO:	DRAWING NO:
MRK-23004289	M-701
CHECKED:	

AIR CURTAIN SCHEDULE (ELECTRIC)																
SYSTEM REFERENCE TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	AIRFLOW (L/S)	HEATING CAPACITY (KW)	ELECTRICAL		EMERGENCY POWER (Y/N)	REMOTE THERMOSTAT (Y/N)	UNIT				WEIGHT (KG)	REMARKS
							MOTOR (KW)	POWER (V/PH/Hz)			NZ WIDTH (MM)	WIDTH (MM)	HEIGHT (MM)	DEPTH (MM)		
FP-ACH11	CORRIDOR EAST DOOR	CEILING MOUNTED	POWERED AIR	CHA-2-72 (E)	1659	20	2 x 0.75	575/360	Y	N	1800	1900	426	515	182	
NOTES:	1. UNIT IS CIV LOCAL CONTROL PANEL/DISCONNECT WITH BACnet CARD TO BE CONNECTED TO BAS CONTROLS 2. MECHANICAL CONTRACTOR TO INCLUDE FOR STEP DOWN TRANSFORMER IF REQUIRED AND ELEC. TO PROVIDE POWER. 3. INTERLOCK UNIT WITH CONCEALED DOOR SWITCH AND UNIT TO BE BOTTOM SUPPLY AND BOTTOM RETURN. 4. UNIT COLOR TO BE COORDINATED ON SITE AND WITH ARCH. BEFORE ORDERING 5. FOR EQUALS OR ALTERNATES - THE MIN LENGTH WILL BE TO COVER THE DOOR OPENING AND IF THE UNIT IS LONGER ITS TO BE ACCEPTED BY THE CONSULTANTS. 6. MOUNTING AS PER MANUFACTURER RECOMMENDATION															

ENERGY RECOVERY VENTILATOR SCHEDULE (ERV)															
SYSTEM REFERENCE TAG	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	AIR	AIR	ELECTRICAL (UNIT AND ELEC. HEATER)				EMERGENCY	FIRE	UNIT	REMARKS	
					FLOW (CFM)	FLOW (L/S)	TOTAL (KVA)	FLA (A)	MCA (A)	MRODP (A)	POWER (V/Hz/PH)	POWER (V/Hz/PH)	SHUT DOWN (Y/N)		WEIGHT (KG)
FP-AH12ERV-1	ENERGY RECOVERY	CEILING MOUNTED	OXYGEN 8	A16N	500	236	2.00	14.9	18.3	20	208/60/1	Y	Y	200.0	
FP-AH14ERV-1	ENERGY RECOVERY	CEILING MOUNTED	OXYGEN 8	A16N	500	236	2.00	14.9	18.3	20	208/60/1	Y	N	200.0	
NOTES: 1. ERV DESIGNED WITH FAN AND ELEC. HEATER FOR PRE HEAT 2. PROVIDE ECM MOTOR 3. ALL UNITS TO HAVE BOTTOM ACCESS FOR SERVICE. 4. MERV 13/8 FILTERS 5. MAIN POWER WILL FEED THE ELEC. HEATER AND ELECTRICAL CONTRACTOR TO PROVIDE WIRING FROM HEATER TO THE UNIT 6. MAINTAIN CLEARANCE AS REQUIRED, UNIT TO BE INSTALLED SUCH A WAY THAT IT CAN BE DROPPED FOR MAINTENANCE WITHOUT PIPING REWORK.															

CEILING MOUNTED VENTILATION UNIT SCHEDULE																													
SYSTEM REFERENCE TAG	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	AIR FLOW		UNIT E.S.P. (Pa)	TOTAL		COOLING COIL (DX)					HEATING COIL (30% P GLY)					SILENCER		ELECTRICAL			EMERGENCY POWER (W)	FIRE SHUT DOWN	UNIT WEIGHT (KG)	REMARKS	
					(CFM)	(L/S)		(KW)	(KW)	EAT DB (°C)	EAT WB (°C)	LAT DB (°C)	LAT WB (°C)	TOTAL (KW)	EAT DB (°C)	LAT DB (°C)	EWT (°C)	LWT (°C)	FLOW (L/S)	PD (KPA)	INLET (Y/N)	DISCHARGE (Y/N)	MCA (A)	MROPD (A)					POWER (V/Hz/PH)
FP-ACH12	CORRIDOR VENT.	CORRIDOR CEILING MOUNTED	DAIKIN	BCHD0161	1500	708	124	15.6	13	26.7	18.3	12.0	11.7	5.4	21.10	27.3	50.7	37.8	0.095	0.81	N	N	19.8	25	115/60/1	Y	N	216	
FP-ACH13	CORRIDOR VENT.	CORRIDOR CEILING MOUNTED	DAIKIN	BCHD0161	1500	708	124	15.6	13	26.7	18.3	12.0	11.7	5.4	21.10	27.3	50.7	37.8	0.095	0.81	N	N	19.8	25	115/60/1	Y	N	216	
FP-ACH14	CORRIDOR VENT.	CORRIDOR CEILING MOUNTED	DAIKIN	BCHD0161	1500	708	124	15.6	13	26.7	18.3	12.0	11.7	5.4	21.10	27.3	50.7	37.8	0.095	0.81	N	N	19.8	25	115/60/1	Y	N	216	
NOTES: 1. UNITS TO BE COMPLETE WITH 2" (50MM) MERV 13 FILTER SECTION. 2. PROVIDE ECM MOTOR 3. ALL UNITS TO HAVE BOTTOM ACCESS FOR SERVICE AND INSTALLED IN SUCH A WAY THAT THE UNIT CAN BE DROPPED DOWN FOR MAINTENANCE WITHOUT THE PIPING REWORK. 4. REFER TO FLOOR PLANS FOR LOCATIONS AND PROVIDE REQUIRED CLEARANCE AS PER THE MANUFACTURER RECOMMENDATION 5. REFER TO CONDENSING UNIT SCHEDULE FOR OUTDOOR UNITS. 6. FOCUS ARE COMPLETE WITH DRAIN PAN AND LEAK DETECTION																													

AIR COOLED CONDENSING UNIT SCHEDULE												
SYSTEM REFERENCE	AC INDOOR UNIT REFERENCE	LOCATION	MANUFACTURER	MODEL	NOMINAL COOLING CAPACITY (KW)	MOP AMPS	ELECTRICAL MCA AMPS	VOLTAGE V/PHz	EMERGENCY POWER (Y/N)	FIRE ALARM SHUT DOWN (Y/N)	WEIGHT (KG)	REMARKS
FP-AH12-CU	FP-AH12	OUTDOOR	REFPLUS	OE2-050-1H1-5D	15.94	40	26.38	208/60/3	Y	N	172	
FP-AH13-CU	FP-AH13	OUTDOOR	REFPLUS	OE2-050-1H1-5D	15.94	40	26.38	208/60/3	Y	N	172	
FP-AH14-CU	FP-AH14	OUTDOOR	REFPLUS	OE2-050-1H1-5D	15.94	40	26.38	208/60/3	Y	N	172	
NOTES:												
1. REFRIGERANT SHALL BE R410A OR ANY LATEST REF. AVAILABLE AS LONG AS THE UNIT CAPACITY AND SIZING IS MET.												
2. CONTRACTOR TO COORDINATE ON SITE FOR THE REFRIGERANT PIPING SIZE AND INSTALLATION BASED ON MANUFACTURER RECOMMENDATION.												
3. MECHANICAL CONTRACTOR TO COORDINATE WITH ELEC. LINING AND ROOF PENETRATIONS AND ELECTRICAL REQUIREMENTS ON SITE.												
4. REFER TO ASSOCIATED INDOOR UNIT SCHEDULE FOR COMPLETE SYSTEM INFORMATION.												
5. UNITS COMPLETE WITH LOW-AMBIENT KIT. FINAL LOCATION AND ENCLOSURE TO BE COORDINATED WITH ARCH. DRAWINGS.												

SNOW MELT ZONES CAPACITY OUTPUT SCHEDULE															
REFERENCE ZONE TAG	DESCRIPTION LOCATION	FLUID TYPE	TOTAL OUTPUT		FLOW (L/s)	EGT ("C)	LGT ("C)	FLUID PD (kPa)	PRESSURE RATING (kPa)	APP. AREA (m2)	OUTPUT/AREA (W / m2)	TUBE DIAMETER (MM)	NO OF CIRCUITS (QTY)	MANIFOLD CABINET SIZE (MMxMMxMM)	REMARKS
			(MBH)	(KW)											
SM-ZONE-01	SEM COURTYARD	GLYCOL	129.0	37.8	0.86	51.6	40.6	23.50	600.0	90.0	420.0	20.0	12.0	1000x500x150	FINAL COORINATION TO BE DONE BASED ON SHOP DRAWINGS
NOTES: 1. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR FOR MANIFOLD LOCATION. 2. MECHANICAL CONTRACTOR TO COORDINATE WITH ARCHITECTURAL/LANDSCAPE DRAWINGS FOR EXACT ZONE BOUNDARY. 3. INSTALL SNOW ICE DETECTOR IN LOCATION EXPOSED TO OUTDOOR WEATHER CONDITIONS, SLEEVE SENSOR CABLE TO THE CONTROL. 4. COORDINATE THE WIRE MESH, INSULATION ETC. WITH THE SUPPLIER AND WITH GENERAL CONTRACTOR 5. USE GLYCOL MIN. 30% FOR THE SNOW MELT SYSTEM TO MATCH EXISTING. 6. SUPPLIER TO INCLUDE THE CONTROLLER ETC. WITH BACHEL CARD IN THE CORRIDOR CEILING. 7. CONTRACTOR TO ENSURE FULL INSTALLATION AND OPERATION ON SITE 8. SLEEVE ALL PIPING PASSING THRU THE SNOW MELT ZONE.															

HEAT EXCHANGER SCHEDULE																		
SYSTEM REFERENCE TAG	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	HEAT TRANSFER (KW)	COLD SIDE (BUILDING - WATER)					COLD SIDE (AHU COIL - GLYCOL)					PRESSURE RATING (PSI)	WEIGHT (KG)	REMARKS
						FLUID	FLOW (L/S)	EWI (°C)	LWT (°C)	PD (KPA)	FLUID	FLOW (L/S)	EWI (°C)	LWT (°C)	PD (KPA)			
EW-HX-AHU-01b	AHU COOLING	AHU VESTIBULE	BELL & GOSSETT	AP86	530	WATER	14	7.2	16.1	27	30%...	15	17.2	8.3	33.5	1,034	2,230	
NOTES: 1. HEAT EXCHANGER IS TO BE RATED IN ACCORDANCE WITH AHRI STANDARD 400 2. PROVIDE 25-50MM RUBBER/NEOPRENE PADS, THE HEX IS TO BE INSTALLED INTEGRAL TO THE UNIT VESTIBULE AND COORDINATED BY AHU UNIT SUPPLIER. CONTRACTOR TO PROVIDE PROPER CLEARANCE FOR MAINTENANCE.																		

PUMP SCHEDULE (HYDRONIC SYSTEM)															REMARKS
SYSTEM REFERENCE TAG	DESCRIPTION SYSTEM	LOCATION	MANUFACTURER	MODEL	FLUID TYPE	FLOW RATE (L/S)	PUMP HEAD (KPA)	MOTOR SIZE		ELECTRICAL (V/PH/Hz)	VFD (Y/N)	OPERATION (DUTY/STANDBY)	PRESSURE RATING (KPA)	EMERGENCY POWER (Y/N)	
								MOTOR POWER (KW)	DUTY POINT POWER (KW)						
EW-P-AHU-01b	COOLING PUMP	AHU VESTIBULE	BELL & GOSSETT	E-80 SERIES 4X4XTB	30% P.G.	15	82	2.2	2.0	575/3/60	Y	DUTY	1207	Y	
NOTES:	1. BAS INTERFACE FOR SETPOINT MONITORING, ALARM, ETC. 2. PUMP COMPLETE WITH VFD. MECHANICAL CONTRACTOR TO SUPPLY AND ELECTRICAL CONTRACTOR TO INSTALL THE VFD. 3. PROVIDE SUCTION GUIDE & FLO-TREX VALVE 4. PROVIDE 25-50MM RUBBER/NEOPRENE PADS, THE PUMP IS TO BE INSTALLED INTEGRAL TO THE UNIT VESTIBULE AND COODINATED BY AHU UNIT SUPPLIER. CONTRACTOR TO PROVIDE PROPER CLEARANCE FOR MAINTENANCE.														

STEAM PRESSURE REDUCING VALVE (PRV) SCHEDULE								
SYSTEM RESOURCE	DESCRIPTION	MODEL	INLET PRESSURE (KPA)	OUTLET PRESSURE (KPA)	FLOW REQUIRED (KGHR)	BYPASS Y/N	PRESSURE RATING (KPA)	REMARKS
PRV-01	FOR DHW HEATER STEAM SIDE	Colton-FM F 1100-PR1	690	68.9	1044	Y/N	1035	
NOTES:		1. 50MM INLET AND 100MM OUTLET						

CLIENT:



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BUILDINGS EARTH & ENVIRONMENT ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

9	Issued for Addendum M-03	2024.11.12
8	Issued for Addendum M-02	2024.11.06
7	Issued for Addendum M-01	2024.10.25
6	Issued for Tender	2024.10.11
5	Issued for 100% CD	2024.09.26
4	Issued for 90% CD	2024.09.06
3	Issued for 50% CD (Permit)	2024.08.02
2	Issued for 100 DD	2024.05.10
1	Issued for Design Development Progress	2024.04.05
NO	DESCRIPTION	DATE

PROJECT:
**Seniors Emergency Medicine Centre (SEMC) &
 External Corridor**
 Toronto Western Hospital
 399 Bathurst Street Toronto, ON. M5T 2S8

MECHANICAL SCHEDULES #2

PROJECT NO:	DRAWING NO
MRK-23004289	
CHECKED:	

M-702

1/8"	3mm	1"	25mm	3"	75mm
1/4"	6mm	1-1/4"	32mm	3-1/2"	90mm
3/8"	10mm	1-1/2"	40mm	4"	100mm
1/2"	15mm	2"	50mm	5"	125mm
3/4"	20mm	2-1/2"	65mm	6"	150mm

EXPANSION TANK SCHEDULE									
EQUIPMENT TAG	DESCRIPTION	SERVICE	LOCATION	MANUFACTURER - MODEL	DIMENSIONS (MM)	MAX. WORKING PRESSURE (KPA)	TANK CAPACITY (L)	OPERATING WEIGHT (KG)	COMMENTS
ET-1	EXPANSION TANK	DOMESTIC WATER	LEVEL 0 MECH ROOM	HAZOP - CAM 125P	610 x 600	1650	140	280	POTABLE WATER BACKUP TYPE
ET-2	EXPANSION TANK	CHILLED GLYCOL	ROOF AHU VESTIBULE	AMTROL - 200-L	610 x 965	-	-	287	

DOMESTIC HOT WATER - COPPER SILVER IONIZATION SCHEDULE																									
REFERENCE TAG	MANUFACTURER	MODEL	SYSTEM	SERVICE	DHWR SIZE	TOTAL IONIZATION OUTPUT REQUIREMENTS	WATER TREATMENT TYPE	CONTROLLER					FLOW CELL												REMARKS
								CONTROLLER MODEL	PASSWORD PROTECTION	CONTROLLER TYPE	VARIABLE DC VOLTAGE OUTPUT CAPACITY	OPERATIONAL STATUS (VOLT FREE CONTACT(S))	VISUAL ALARM	FLOW CELL MODEL NO.	NO. OF INSTALLED & ACTIVE ION CHAMBER CELLS	NO. OF SPARE ION CHAMBER CELLS	EXTERNAL JACKET COMPOSITION	ELECTRODES PER CELL	ORIENTATION	PRESSURE TOLERANCE (PSI)	TEMPERATURE TOLERANCE (C)	CONNECTION	LOCATION INSTALLED	BI-DIRECTIONAL INTERNAL LAMINAR FLOW	
SC1-1	CSI DEFENDER	CSI-E1	DHWR	DOMESTIC HOT WATER RETURN	32mm	10 AMPS	COPPER SILVER IONIZATION	CSI-E1+1 (or) SMX-A1+1	YES	PLC	0 - 180	1	YES - LED (GREEN / AMBER / RED)	ICR-820	2	NA	316 - SCHEDULE 40 STAINLESS STEEL		VERTICAL	≤ 250	99	32mm	DHWR	YES	1,2,3,4,5,6,7,8,9,10
NOTES: 1. CONTROLLER MUST INCLUDE INTEGRATED ELECTRICAL BREAKERS FOR EACH CHAMBER CELL(S) AND PLC 2. IONIZATION SYSTEM TO PROVIDE AUTOMATED PLC VARIABLE VOLTAGE AND CONSTANT CURRENT 3. CONTROLLER TO PROVIDE INDEPENDENT CHAMBER CELL ACTIVATION AND MONITORING 4. PROVIDE 208/160 (15 amps) TO THE COPPER SILVER IONIZATION CONTROLLER 5. ELECTRODES SHALL CONTAIN NO LESS THAN 90% COPPER AND 10% SILVER 6. CONTROLLER MUST BE INSTALLED NO MORE THAN 12 FEET FROM CHAMBER CELL(S) 7. CONTROLLER AND CHAMBER CELLS MUST BE INSTALLED AT NO LESS THAN 4 FEET FROM FLOOR 8. CONTROLLER AND CHAMBER CELLS MUST BE INSTALLED AT NO MORE THAN 6.5 FEET FROM THE FLOOR 9. CONTROLLER AND CHAMBER CELLS MUST BE EASILY ACCESSIBLE FOR MAINTENANCE 10. PROVIDE LAMOTTE DC1500 ELECTRONIC COLORIMETER (COPPER)																									

NOTES:	4. COMMUNICATIONS CABLE IS REQUIRED TO BE EXTENDED FROM PIPE MOUNTED RTD BACK TO CONTROLLER. ALLOW FOR SUFFICIENT CONTROLS CABLING AND CONDUIT. 5. CONTROL'S CABLE TO BE IN CONDUIT 6. HEAT TRACING AND PIPE SYSTEMS ARE DESIGNED FOR -23°C (-10°F) AMBIENT TEMPERATURE. 7. THIS SCHEDULE IS TO BE READ IN CONJUNCTION WITH SPECIFICATION 20 05 25 REGARDING STANDARDS FOR PIPE INSULATION.
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9.	Issued for Addendum M-03	2024.11.12
8.	Issued for Addendum M-02	2024.11.06
7.	Issued for Addendum M-01	2024.10.20
6.	Issued for Tender	2024.10.11
5.	Issued for 10% CD	2024.09.26
4.	Issued for 50% CD	2024.09.06
3.	Issued for 50% CD / Permit	2024.08.02
2.	Issued for 10% CD	2024.05.10
1.	Issued for Design Development Progress	2024.04.05

NO	DESCRIPTION	DATE
SHEET REVISION		

9	Issued for Addendum M-03	2024-11-12
8	Issued for Addendum M-02	2024-11-06
7	Issued for Addendum M-01	2024-10-25
6	Issued for Tender	2024-10-11
5	Issued for 10% CD	2024-09-26
4	Issued for 10% CD	2024-09-08
3	Issued for 10% CD / Permit	2024-08-02
2	Issued for 10% CD	2024-06-10
1	Issued for Design Development Progress	2024-04-05
	DESCRIPTION	DATE

SHEET REVISION

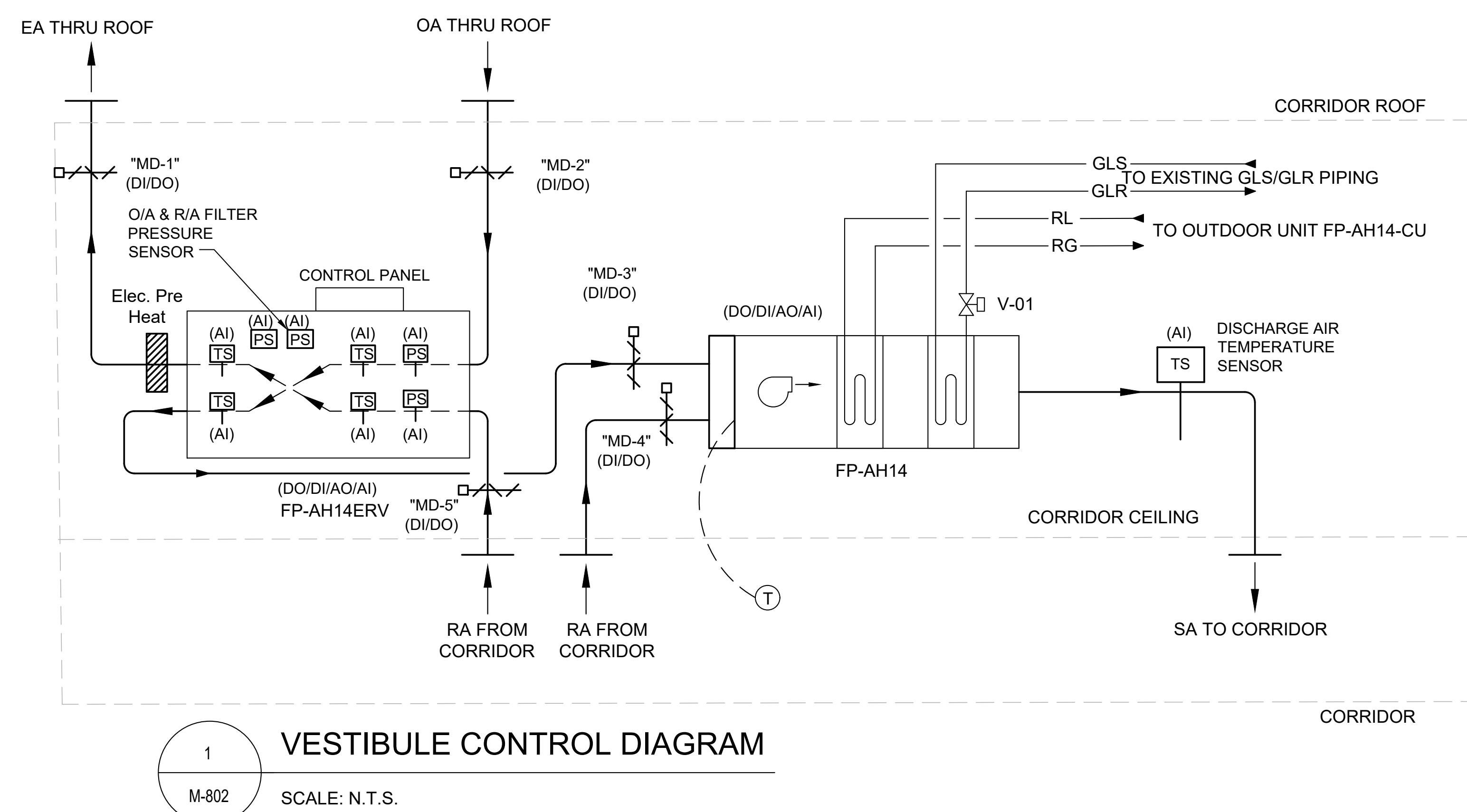
PROJECT
Seniors Emergency Medicine Centre (SEMC) & External Care
 Toronto Western Hospital
 390 Bathurst Street Toronto, ON M5T 2S8

TITLE

MECHANICAL SCHEDULES #3

PROJECT NO.	DRAWING NO.
MRK-23004289	
CHECKED	

M-703

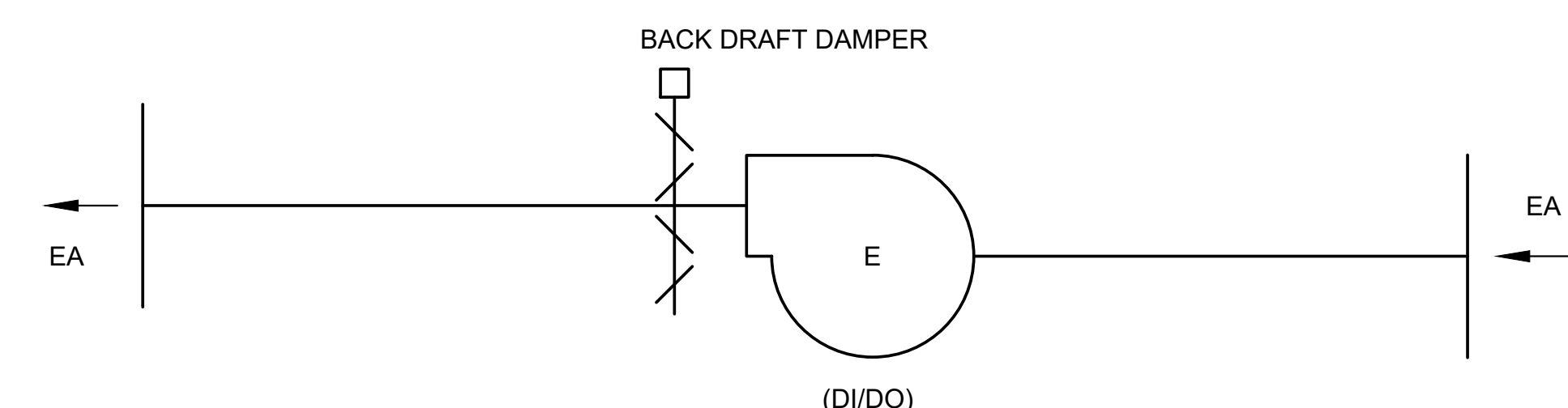


SEQUENCE OF OPERATION FOR VARIABLE AIR VOLUME SYSTEM:

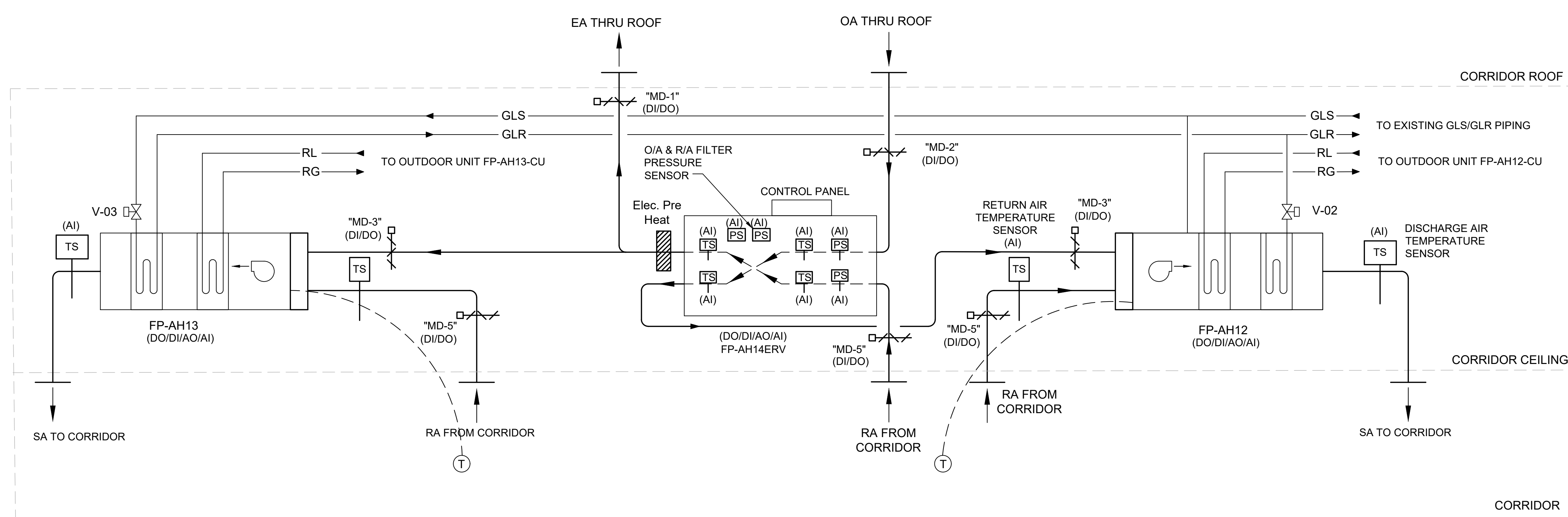
REFER TO DIAGRAM BELOW

DURING EMERGENCY AND EVACUATION MODE:

THE RETURN AIR DAMPER AND EXHASUR AIR DAMPERS SHALL BE CLOSED TO PRESSURIZED THE VESTIBULE



- SEQUENCE OF OPERATION:
- VENTILATION MODE:
- ① EXHAUST FAN SHALL BE STARTED AND STOPPED THROUGH THE BAS BY EITHER THE OPERATOR OR THE PRE-PROGRAMMED TIME SCHEDULE, AND RUN CONTINUOUSLY.
 - ② THE BAS SHALL MONITOR THE STATUS OF EXHAUST FAN AT THE MCC AND PROVIDE TROUBLE ALARM AT BAS
 - ③ BAS SHALL START/STOP EXHAUST FANS BASED ON PROGRAMMABLE SCHEDULE.

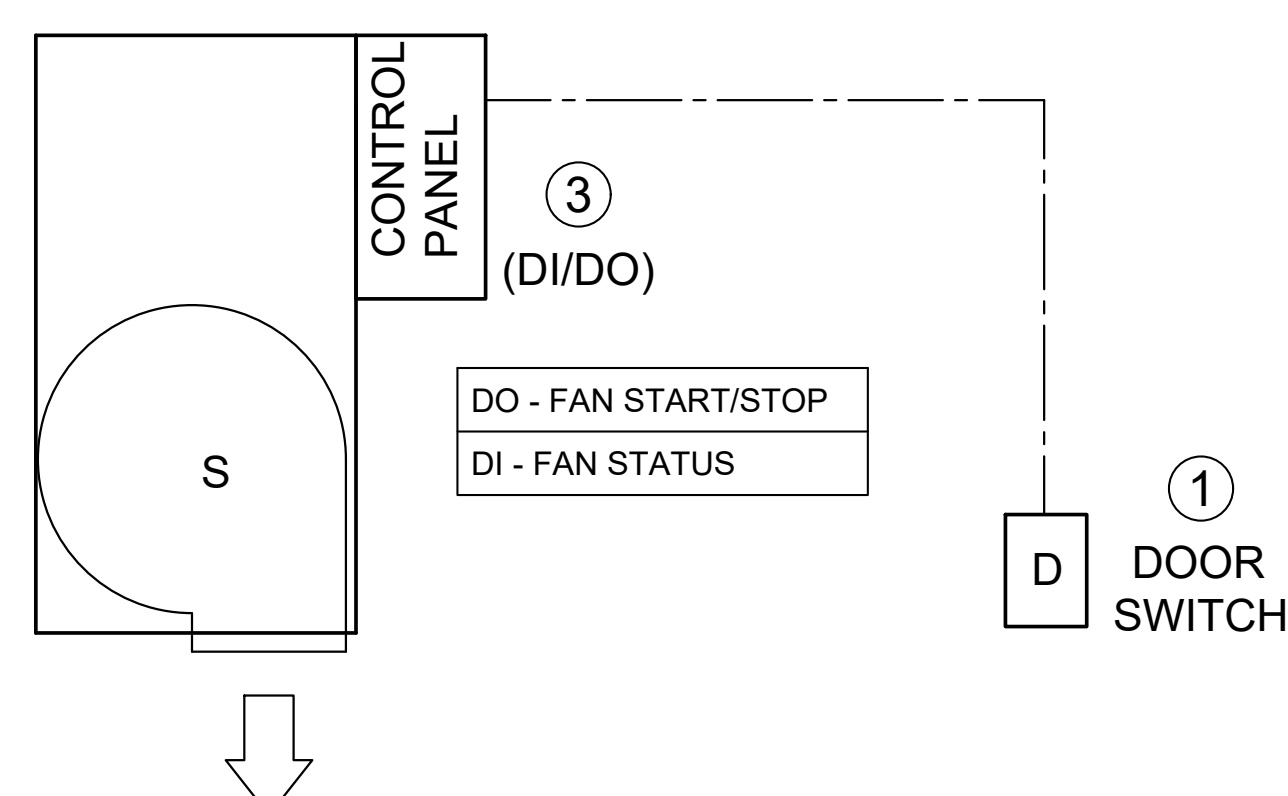


SEQUENCE OF OPERATION FOR VARIABLE AIR VOLUME SYSTEM:

GENERAL

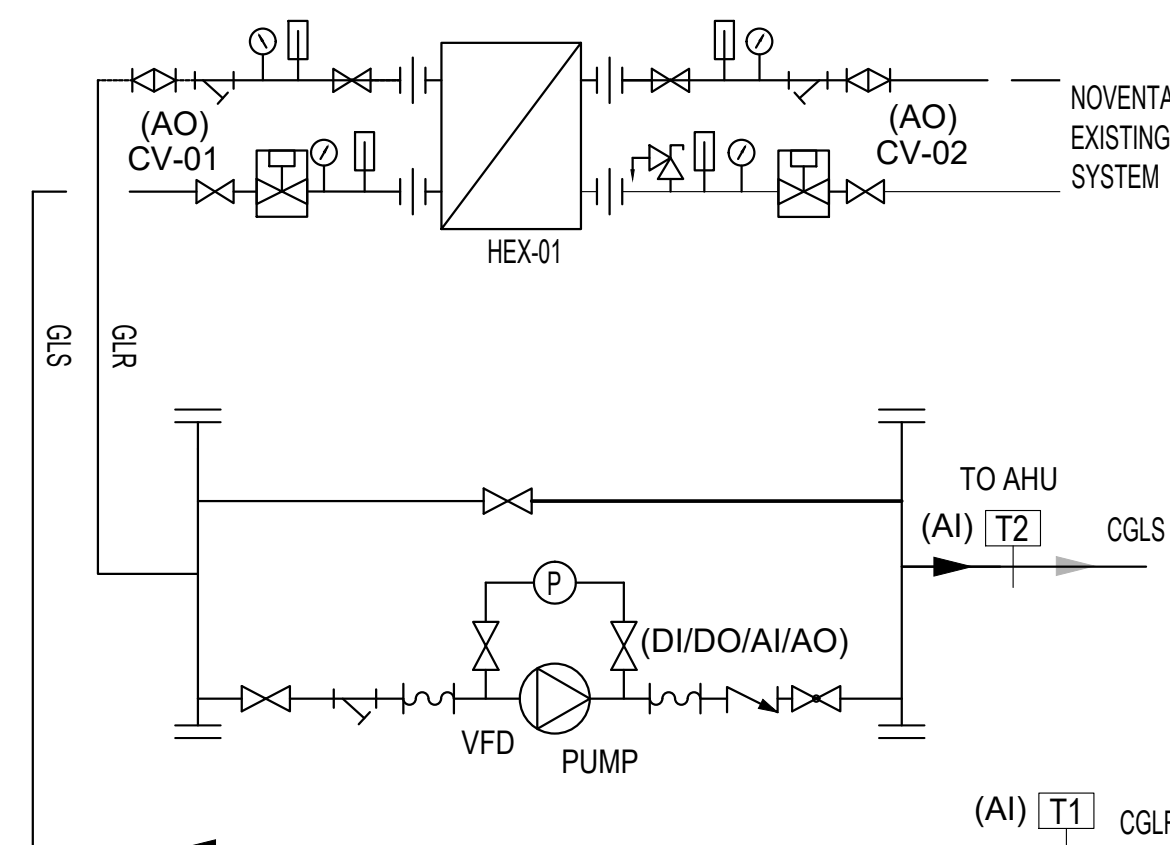
- a. THE SYSTEM START IS INITIATED BY A BAS SCHEDULE 24/7 (ADJ.).
 - b. THE OPERATOR SHALL BE ABLE TO OVERRIDE THE SCHEDULE AND START/STOP THE SYSTEM THROUGH THE BAS.
 - c. THE SYSTEM SHALL OPERATE AS A MIXED AIR UNIT IN NORMAL OPERATION, WITH THE OUTDOOR AIR DAMPER SET TO A MINIMUM POSITION (33%) REFER O SCHEDULE FOR VARIOUS STAGES OF THIS UNIT.
 - d. ALL TEMPERATURE SENSORS IN THE AIR HANDLING UNIT SHALL BE AVERAGE TYPE.
 - e. THE UNIT SHALL BE EQUIPPED WITH CONTROLLER FOR INTEGRATION TO THE BAS. THE CONTROLLER SHALL BE CONTROLLING THE COMPONENTS OF THE UNIT. THE BAS IS TO SCHEDULE, ENABLE/DISABLE, MONITOR AND HAVE SETPOINT ADJUSTMENTS OF THE UNIT.
2. UNIT START UP
- a. ON STARTUP, THE OUTSIDE AIR DAMPER AND THE EXHAUST AIR DAMPER SHALL CLOSE. THE RE-CIRCULATION AIR DAMPER SHALL OPEN.
3. UNIT SHUTDOWN
- a. ONCE THE UNIT(S) HAVE BEEN PROVEN OFF THE OUTDOOR AIR DAMPER AND EXHAUST AIR DAMPER SHALL FULLY CLOSE. AFTER 4 SECONDS' DELAY.
 - b. THE RE-CIRCULATION AIR DAMPER SHALL FULLY OPEN.
4. SUPPLY AIR TEMPERATURE CONTROL
- a. SUPPLY AIR TEMPERATURE SETPOINT SHALL BE MAINTAINED AT 22.22 TO 23.8°C (ADJ.).
5. ERV UNIT: ALARM SHALL BE GENERATED AT BAS SYSTEM UPON FAILURE AND OUTDOOR AIR INTAKE DAMPER SHALL BE CLOSED.

NOTE: REFRIGERANT VALVES ETC. SHALL PROVIDED AS PER MANUFACTURER RECOMMENDATION



SEQUENCE:

- ① FFH TO BE INTERLOCKED WITH DOOR VIA DOOR SWITCH
- ② FAN SHALL RUN AT HIGH SPEED WHEN DOOR IS OPENED. FAN SHALL REMAIN ON UNTIL SET DELAY TIME EXPIRES.
- ③ CONTROL PANEL TO RELAY GENERAL ALARM TO BAS SYSTEM.
- ④ UNIT CONFIGURATION IS AS PER THE LAYOUTS



SEQUENCE OF OPERATION (NEW SYSTEM):

COOLING

THE CONTROL VALVES AT THE HEAT EXCHANGER WILL BE OPEN
PUMPS WILL TURN ON AS PER AHU COOLING DEMAND

BAS TO PROVIDE ALARM IF PUMP FAILS

MISCELLANEOUS CONTROL / MONITOR

FIRE ALARM

1. THE BAS SHALL PICK UP A FIRE ALARM OUTPUT ALARM CONTACT FROM THE FIRE ALARM PANEL AND REPORT TO THE OPERATOR'S WORKSTATION.

ELECTRICAL ROOM

- | | | |
|----|----------------------------------------------------------------------------------|----|
| 1. | BAS TO MONITOR THE FOLLOWING: | |
| | ROOM TEMPERATURE | AI |
| | AC UNITS STATUS | DI |
| | TROUBLE ALARM | DI |
| | WATER LEAK DETECTION ALARM | DI |
| 2. | WHEN ROOM TEMPERATURE EXCEEDS 29.4°C (85°F), AN ALARM SHALL REGISTER AT THE BAS. | |

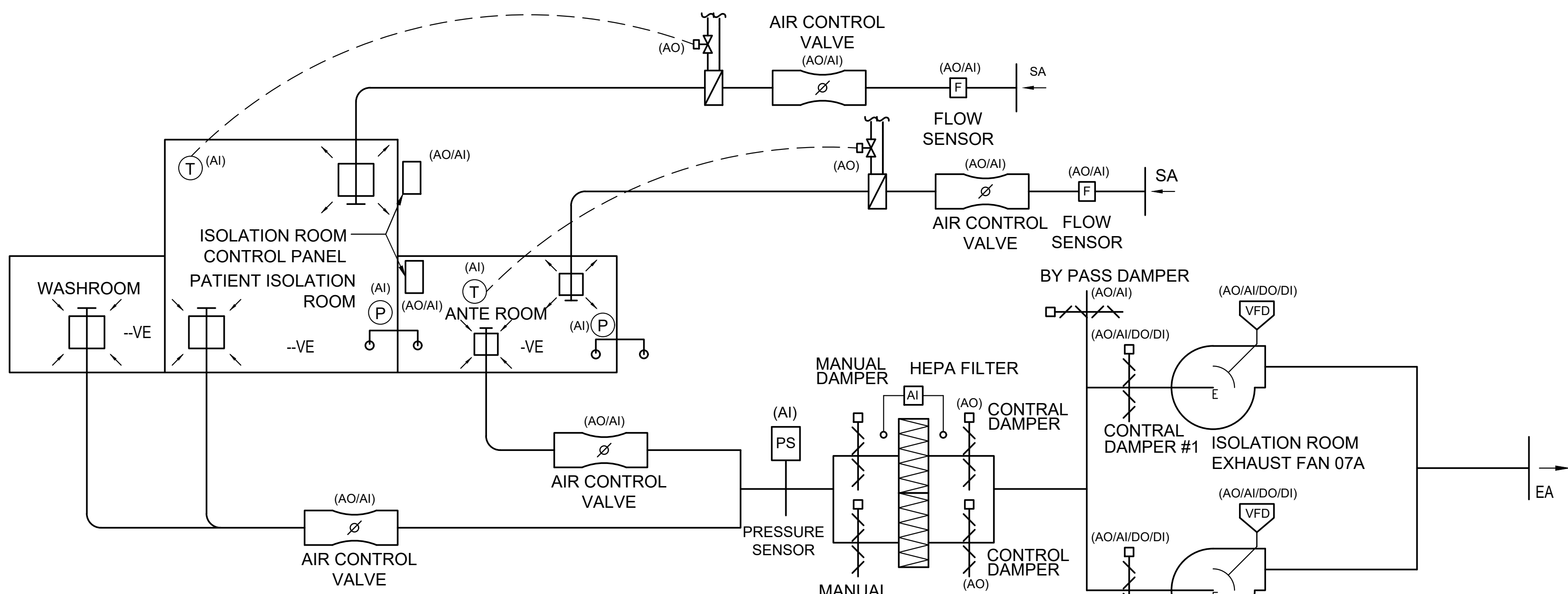
AI
DI
DI
DI

D
DD
DD
D

ELECTRICAL HEAT TRACING

1. BAS TO MONITOR THE ELECTRICAL HEAT TRACING; A BAS ALARM SHALL BE GENERATED FOR ANY FAILURE.

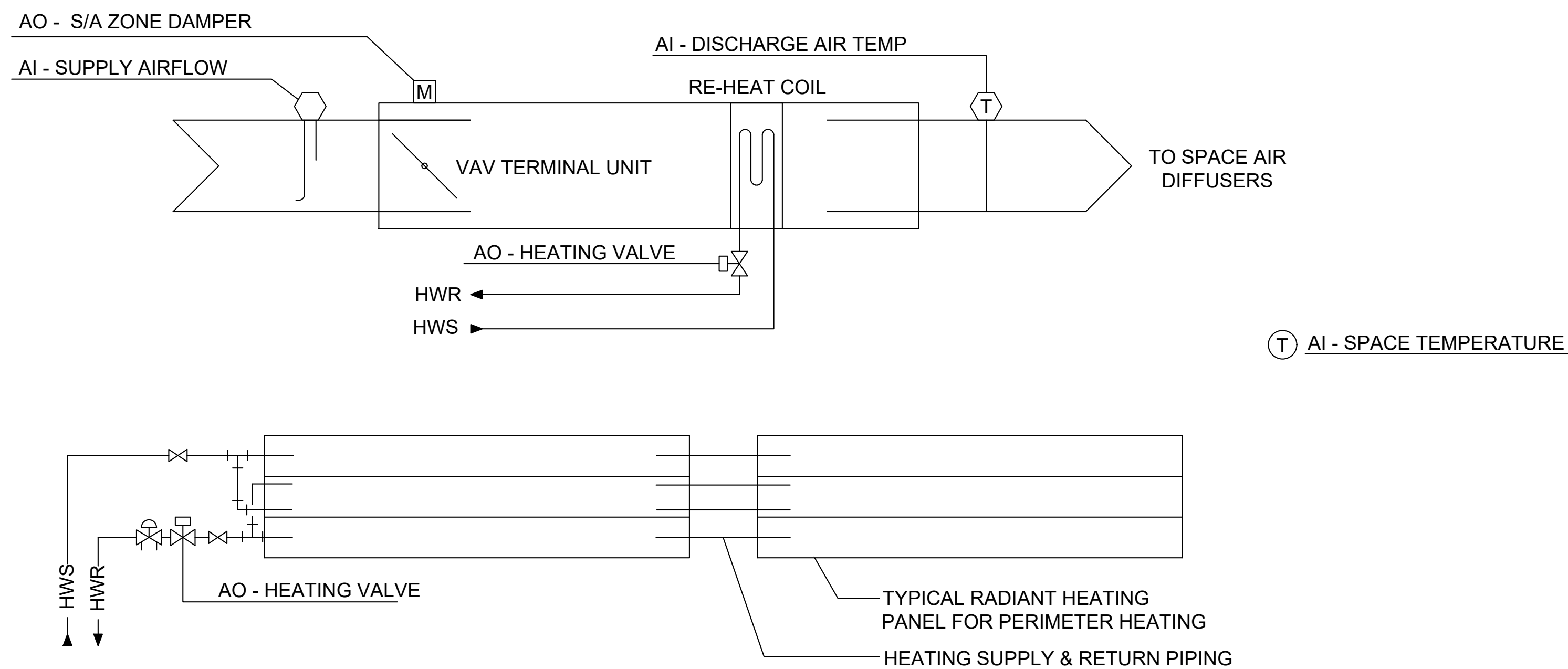
GENERAL NOTE: ALL FLOW MEASURING DEVICES SHALL BE REVIEWED WITH CONSULTANT BEFORE INSTALLATION
UPSTREAM AND DOWNSTREAM DISTANCES SHALL BE COMPLIED AS PER MANUFACTURER RECOMMENDATIONS



SEQUENCE:

1. THERMOSTAT IN ANTE ROOM AND PATIENT ISOLATION ROOM WILL MAINTAIN SPACE TEMPERATURE BY MODULATING THEIR RESPECTIVE REHEAT COIL CONTROL VALVE.
2. BUILDING AUTOMATION SYSTEM (BAS) SHALL RECEIVE A FLOW SIGNAL FROM FLOW STATIONS FOR RESPECTIVE ANTE ROOM AND PATIENT ISOLATION ROOM SUPPLY DUCTS AND MODULATE THEIR RESPECTIVE CONSTANT SUPPLY AIR VOLUME TO ANTE ROOM AND PATIENT ISOLATION ROOM.
3. DEDICATED SPACE PRESSURE CONTROLLERS SHALL MONITOR THE ANTE ROOM AND PATIENT ISOLATION ROOM PRESSURES, REFERENCE THIS TO THE CORRIDOR PRESSURE AND MODULATE RESPECTIVE AIR CONTROL VALVES TO HOLD SPECIFIED NEGATIVE PRESSURES. PRESSURE DIFFERENTIALS BETWEEN PATIENT ISOLATION ROOM, ANTE ROOM AND CORRIDOR SHALL BE AS FOLLOWS:
 - 3.1 NEGATIVE PRESSURE DIFFERENTIAL BETWEEN ANTE ROOM AND CORRIDOR - 2.5 PA (MINIMUM)
 - 3.2 NEGATIVE PRESSURE DIFFERENTIAL BETWEEN PATIENT ISOLATION ROOM AND ANTE ROOM - 2.5 PA (MINIMUM)
 - 3.3 NEGATIVE PRESSURE DIFFERENTIAL BETWEEN PATIENT ISOLATION ROOM AND CORRIDOR - 7.5 PA (MINIMUM)
 - 3.4 NEGATIVE PRESSURE DIFFERENTIAL BETWEEN PATIENT ISOLATION ROOM AND ADJACENT ROOMS - 7.5 PA (MINIMUM)
 - 3.5 READINGS FOR SPACE PRESSURES FOR BOTH PATIENT ISOLATION ROOM AND ANTE ROOM SHALL BE PROVIDED AT BOTH LOCAL ISOLATION ROOM CONTROL PANELS AND AT BAS. IF NEGATIVE PRESSURE DIFFERENTIAL RISES ABOVE, AN ALARM SHALL BE GENERATED AT THE BAS
4. STATION AND AT THE PANEL IN THE CORRIDOR TO AVOID ANYONE ENTERING THE ROOM.
5. SPECIFIED PRESSURE DIFFERENTIALS, AN AUDIBLE AND VISUAL ALARM SHALL BE INITIATED AT LOCAL ISOLATION ROOM CONTROL PANELS AND AN ALARM SIGNAL SHALL BE INITIATED AT BAS.
6. UPON INITIAL START, WHEN ISOLATION ROOM EXHAUST FANS ARE ENERGIZED, DAMPERS IN AIR CONTROL VALVES, HEPA FILTERS AND EXHAUST FANS ARE FULLY OPEN. IF BOTH EXHAUST FANS ARE DE-ENERGIZED THE DAMPERS IN AIR CONTROL VALVES, HEPA FILTERS AND EXHAUST FANS ARE FULLY CLOSED.
7. DURING NORMAL OPERATION, BOTH ISOLATION ROOM EXHAUST FANS SHALL OPERATE AT 50% SPEED AND EACH EXHAUST FAN SHALL EXHAUST 50% OF THE REQUIRED AIRFLOW FROM THE PATIENT ISOLATION ROOM AND ANTE ROOM. IN THE EVENT OF FAILURE OF EITHER EXHAUST FAN, THE RESPECTIVE DAMPER FOR THE ISOLATION ROOM EXHAUST FAN SHALL FULLY CLOSE, THE RESPECTIVE DAMPER FOR THE OTHER ISOLATION ROOM EXHAUST FAN SHALL FULLY OPEN AND THE OTHER ISOLATION ROOM EXHAUST FAN SHALL RAMP UP TO 100% SPEED TO ENSURE THAT THE REQUIRED EXHAUST AIRFLOW FROM THE SPACES IS MAINTAINED.
8. DURING NORMAL OPERATION, AIR FROM THE PATIENT ISOLATION ROOM AND ANTE ROOM SHALL BE EXHAUSTED THROUGH BOTH HEPA FILTERS. IN THE EVENT OF FAILURE, OR CLOGGING OF ONE HEPA FILTER, THE RESPECTIVE CONTROL DAMPER FOR OTHER HEPA FILTER SHALL FULLY OPEN AND EXHAUST AIR SHALL FLOW FULLY THROUGH OTHER HEPA FILTER.
9. PROVIDE DIFFERENTIAL PRESSURE SENSORS AT FILTERS. PROVIDE READINGS AND ALARMS AT SENSORS.
10. PROVIDE DOOR CONTACT FOR ANTE ROOM AND ISOLATION ROOM. (MECHANICAL CONTROLS CONTRACTOR TO COORDINATE WITH DOOR MANUFACTURER ON SITE)
11. PROVIDE BY PASS DAMPER TO ENSURE AIR VELOCITY ON EXHAUST AIR IN CASE THE AIR VALVES ARE CLOSING.

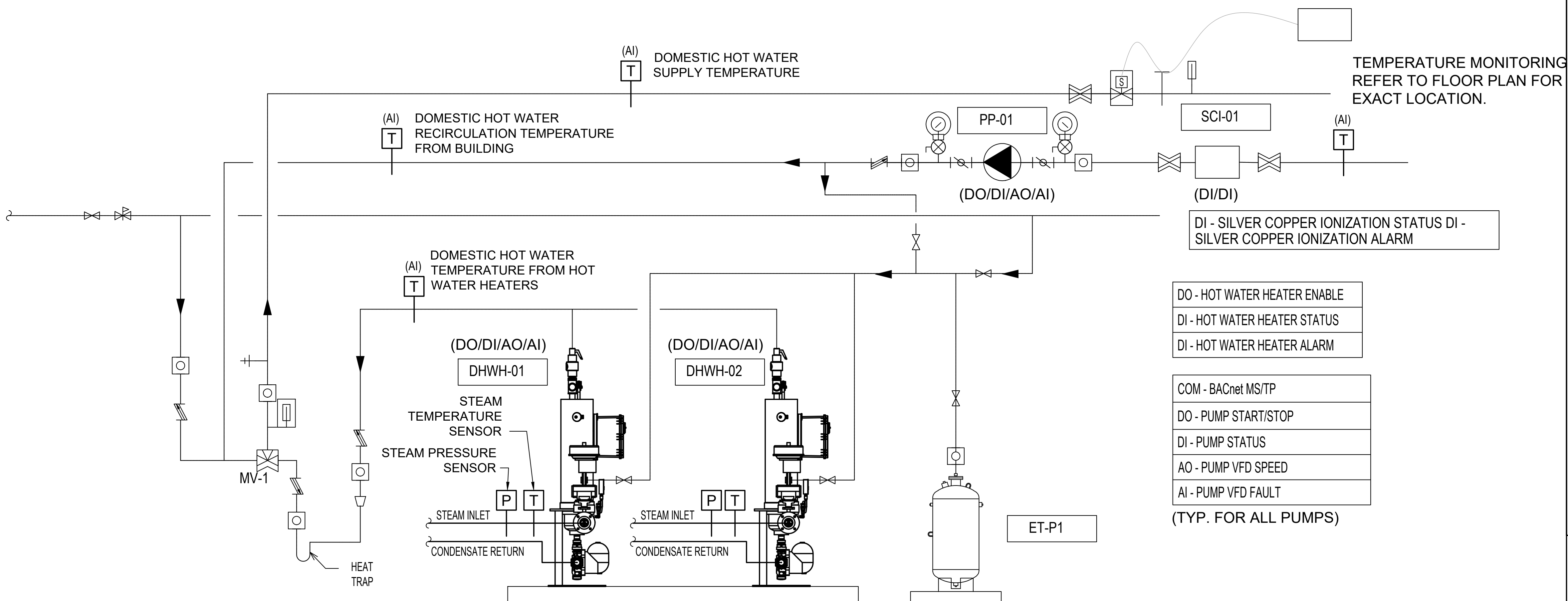
1 ISOLATION ROOM EXHAUST CONTROL DIAGRAM SEQUENCE OF OPERATION
M-803 SCALE: N.T.S.



SEQUENCE OF OPERATION:

1. THE RADIANT PANEL AND VAV BOX ARE CONTROLLED BY A ROOM TEMPERATURE SENSOR COMPLETE WITH LOCAL SET POINT CONTROL. THE ROOM TEMPERATURE SENSOR SHALL MODULATE THE CONTROL VALVES IN SEQUENCE TO MAINTAIN ROOM SET POINT OF 72°F (ADJUSTABLE).
2. THE BAS SHALL CONTROL THE RADIANT PANEL (FIRST STAGE HEATING) AND THE REHEAT COIL (SECOND STAGE HEATING) IN SEQUENCE TO MAINTAIN THE HEATING SET POINT. THE CONTROLS SHALL BE NON-OVERLAPPING.
3. DURING COOLING OPERATION, THE RADIANT PANEL CONTROL VALVES ARE FULLY CLOSED.
4. THE NIGHT SETBACK TEMPERATURE SHALL BE 65°F IF REQUIRED (TO BE ADJUSTED BY FACILITY STAFF).
5. ALL VAVS SHALL BE EQUIPPED WITH DISCHARGE AIRFLOW TEMP SENSOR AND A 24V MODULATING AIRFLOW DAMPER

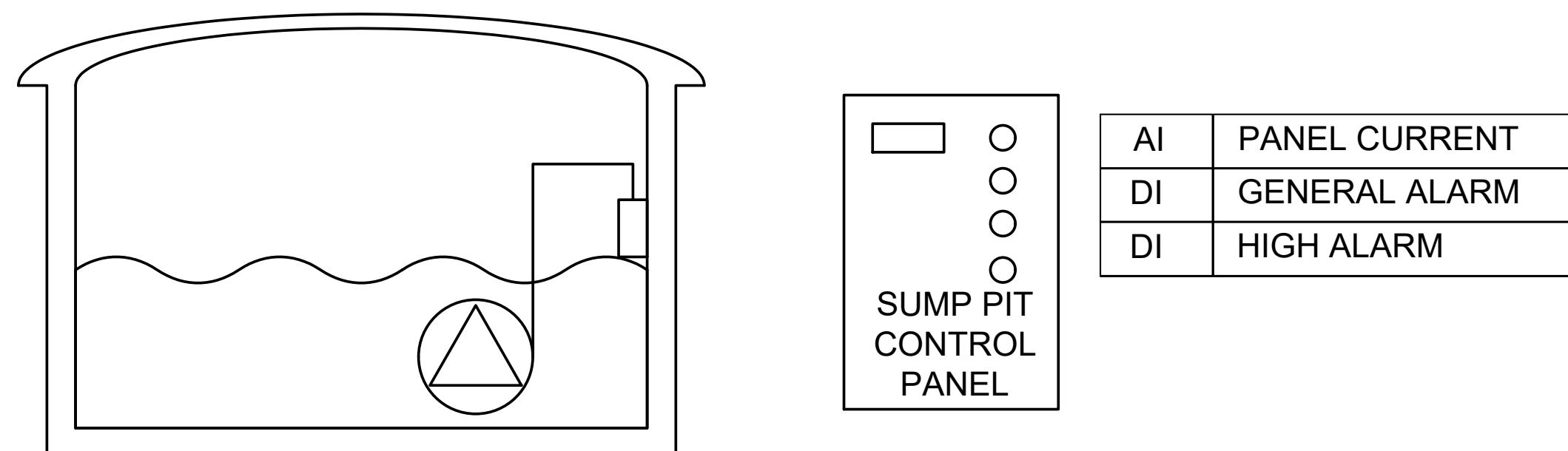
3 CONTROL SCHEMATIC - VAV BOX WITH REHEAT AND RADIANT HEATING PANEL
M-803 SCALE: N.T.S.



SEQUENCE OF OPERATION:

- 1 THE DOMESTIC HOT WATER RECIRCULATION AND SUPPLY TEMPERATURE SHALL MONITORED BY THE BAS. HIGH OR LOW TEMPERATURES SHALL BE ALARMED AT THE OPERATOR'S WORKSTATION. DHWR PUMP SHALL BE SCHEDULED TO RUN AND ALARMED AT THE OPERATOR'S WORKSTATION.
- 2 DOMESTIC STEAM HEATERS PANEL SHALL CONTROL THE TEMPERATURE CONTROL VALVE AND MODULATE IT TO MAINTAIN REQUIRED. PANEL TO COMMUNICATE TO BAS VIA BACNET MSTP. (PROCESS VALUE, ALARM, TCV OPENING)
- 3 MONITOR DHW TEMPERATURE AND INITIATE ALARM IF THIS WATER TEMPERATURE EXCEEDS 65°C (149°F).
- 4 THE DHW RECIRCULATION PUMP SHALL RUN CONTINUOUSLY WITH THE OPTION OF TEMPERATURE CONTROL AT THE OPERATOR'S WORKSTATION. MONITOR PUMP STATUS.
- 5 BAS SHALL MONITOR THE DHW SUPPLY, DHW RETURN TEMPERATURES AND ALL TEMPERATURE MONITORING SENSOR.
- 6 BAS SHALL MONITOR THE SILVER COPPER IONIZATION STATUS AND GENERATE FAULT ALARM

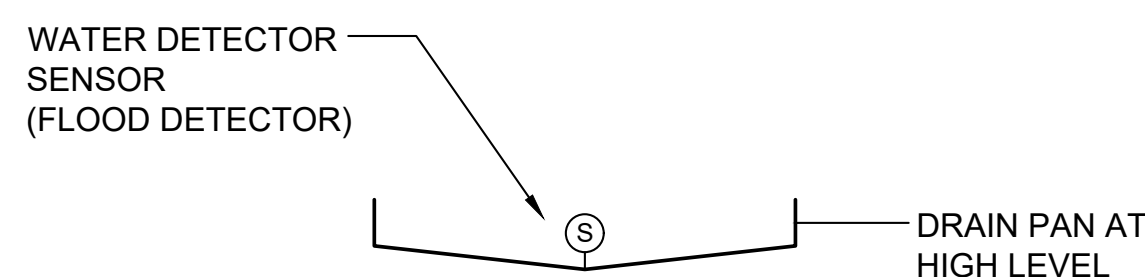
2 CONTROL SCHEMATIC - DOMESTIC HOT WATER HEATERS
M-803 SCALE: N.T.S.



SEQUENCE OF OPERATION:

- 1 THE BAS SHALL PROVIDE PUMP STATUS AND HIGH LEVEL ALARM INDICATION.

4 CONTROL SCHEMATIC - SUMP PUMP
M-803 SCALE: N.T.S.



SEQUENCE OF OPERATION:

- 1 A WATER DETECTOR SENSOR SHALL BE PROVIDED TO GENERATE ALARM AT BAS IN THE EVENT OF THE PLUGGED UP DRAIN OF DRIP PAN

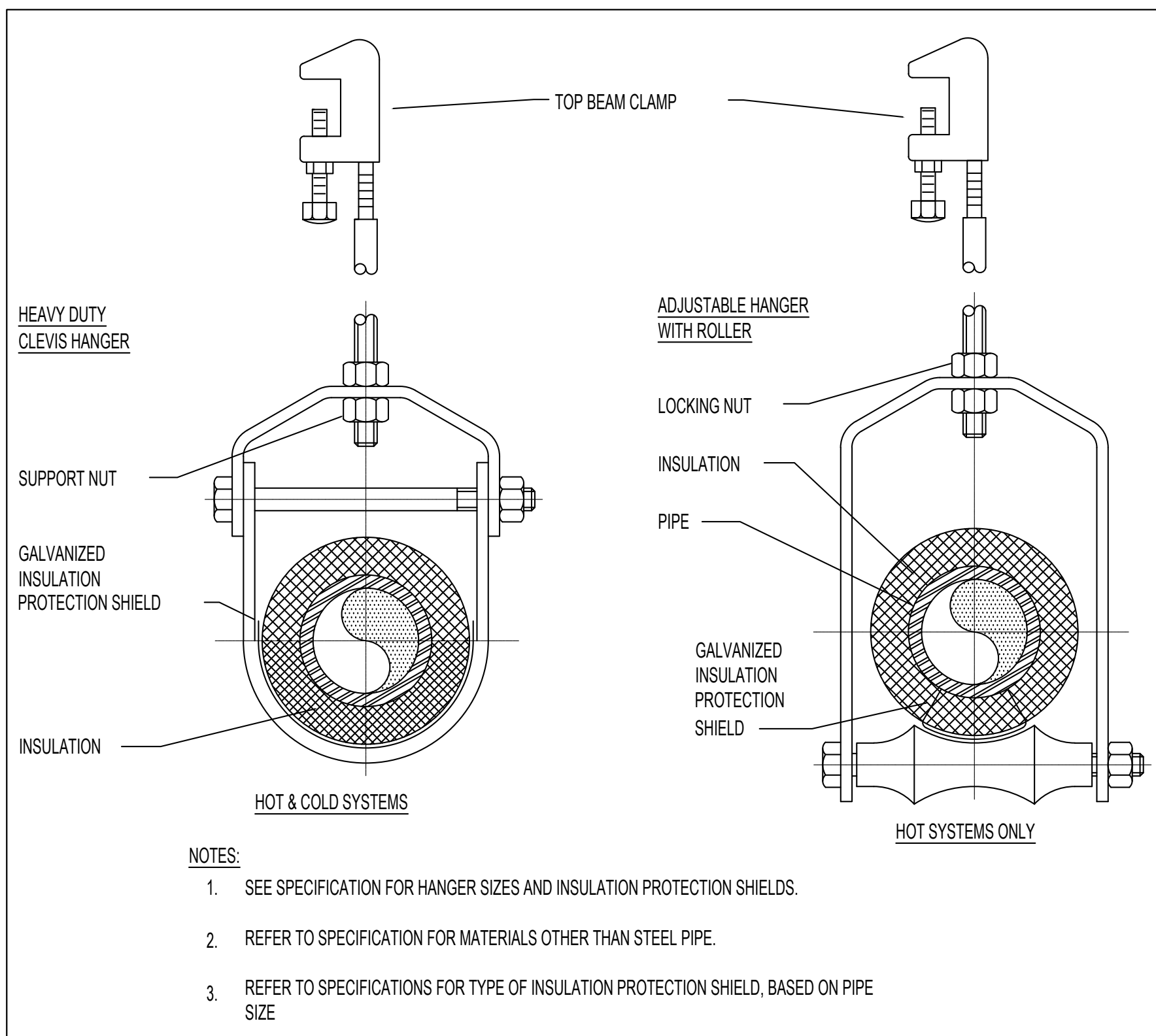
5 DRIP PAN WATER DETECTION - CONTROLS
M-803

GENERAL NOTE: ALL FLOW MEASURING DEVICES SHALL BE REVIEWED WITH CONSULTANT BEFORE INSTALLATION AND UPSTREAM AND DOWNSTREAM DISTANCES SHALL BE COMPLIED AS PER MANUFACTURER RECOMMENDATIONS

NO.	DESCRIPTION	DATE
9	Issued for Addendum M-03	2024-11-12
8	Issued for Addendum M-02	2024-11-06
7	Issued for Addendum M-01	2024-10-29
6	Issued for Review	2024-10-11
5	Issued for 100% CD	2024-09-27
4	Issued for 90% CD	2024-09-09
3	Issued for 50% CD / Permit	2024-08-02
2	Issued for 100 DD	2024-05-10
1	Issued for Design Development Progress	2024-04-05
NO.	DESCRIPTION	DATE

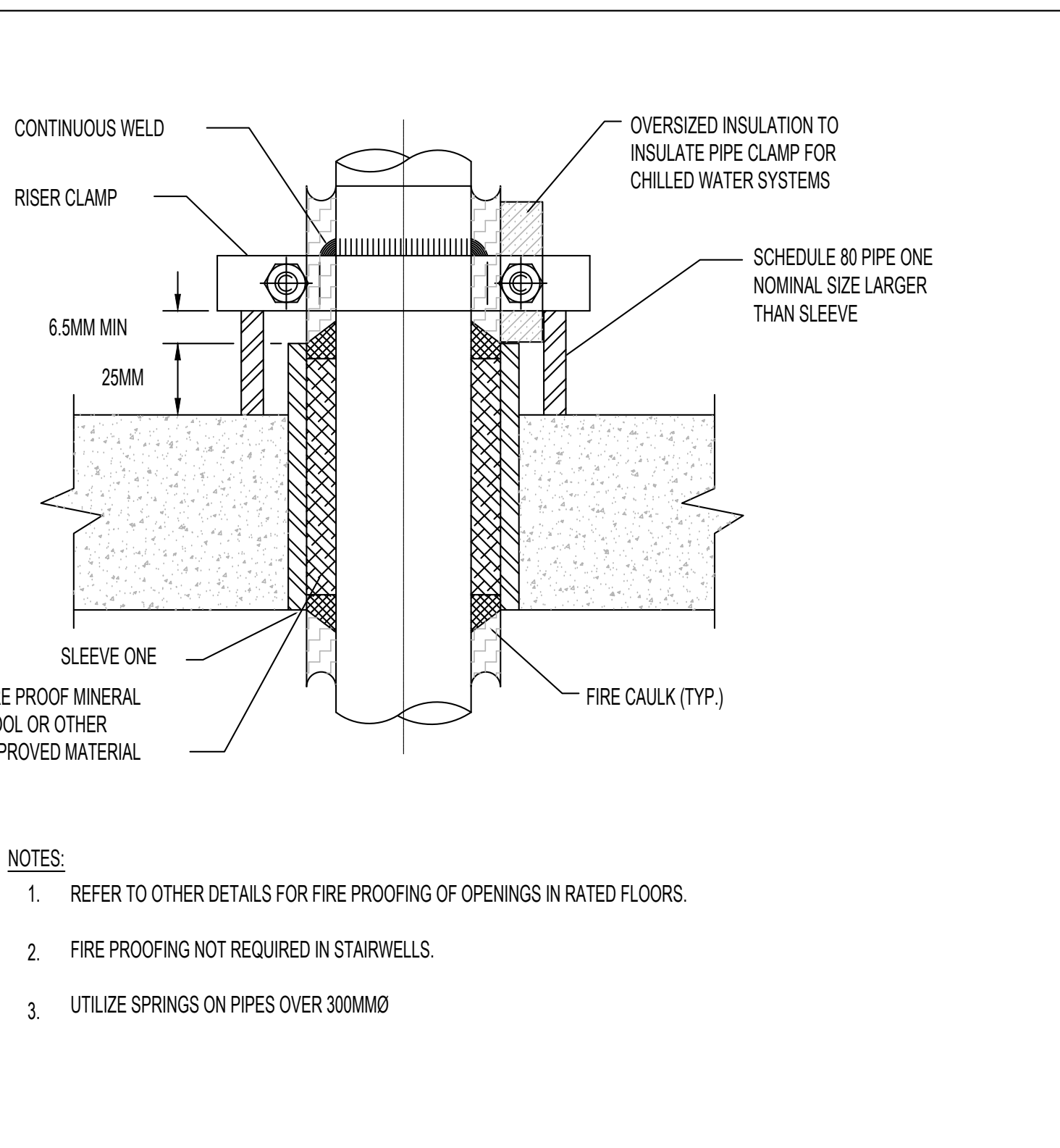
PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

CONTROL DIAGRAMS #3



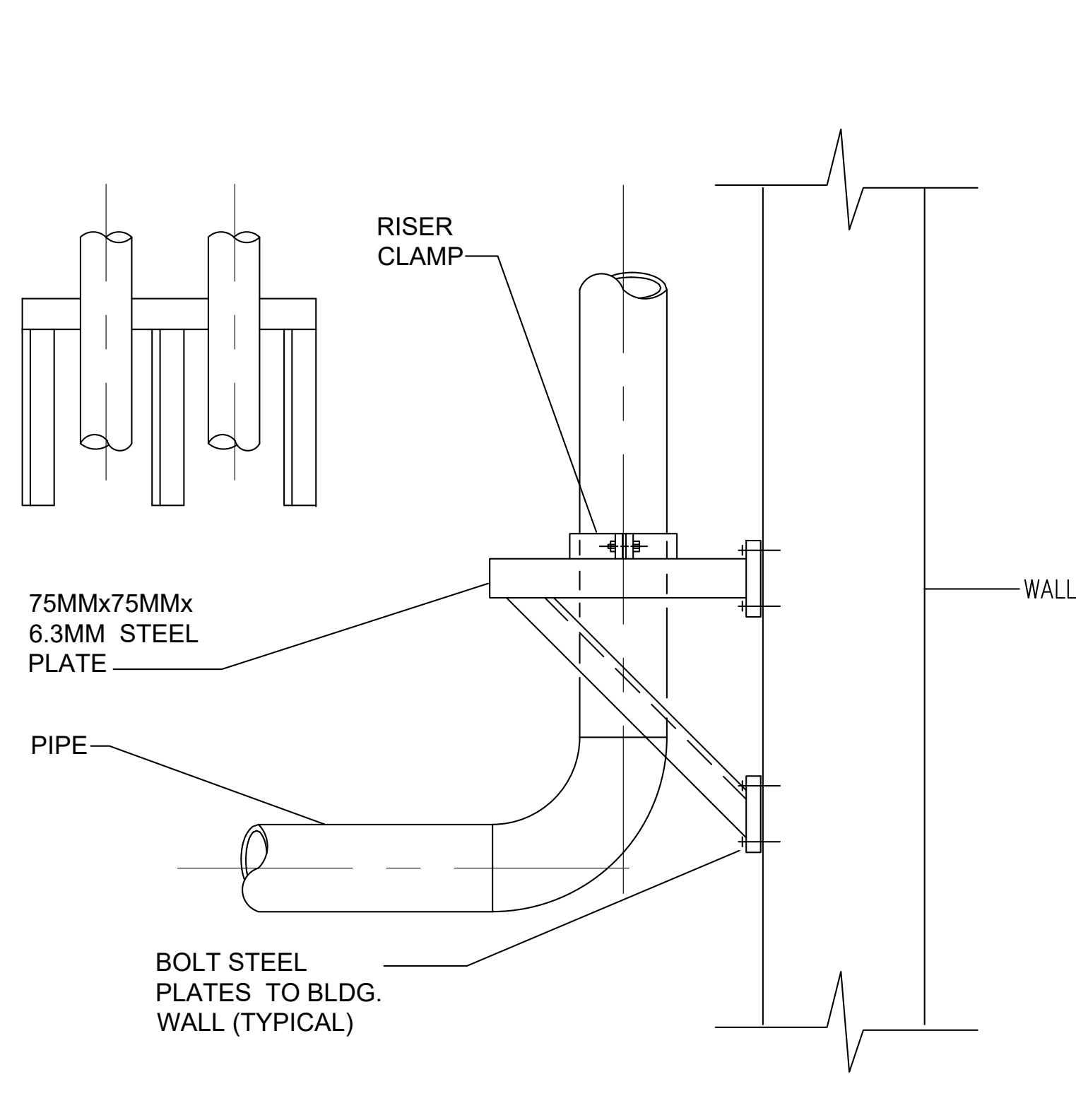
PIPE HANGER SUPPORT LESS THAN OR EQUAL TO 200MM DIAMETER PIPE DETAIL

SCALE: N.T.S. 01



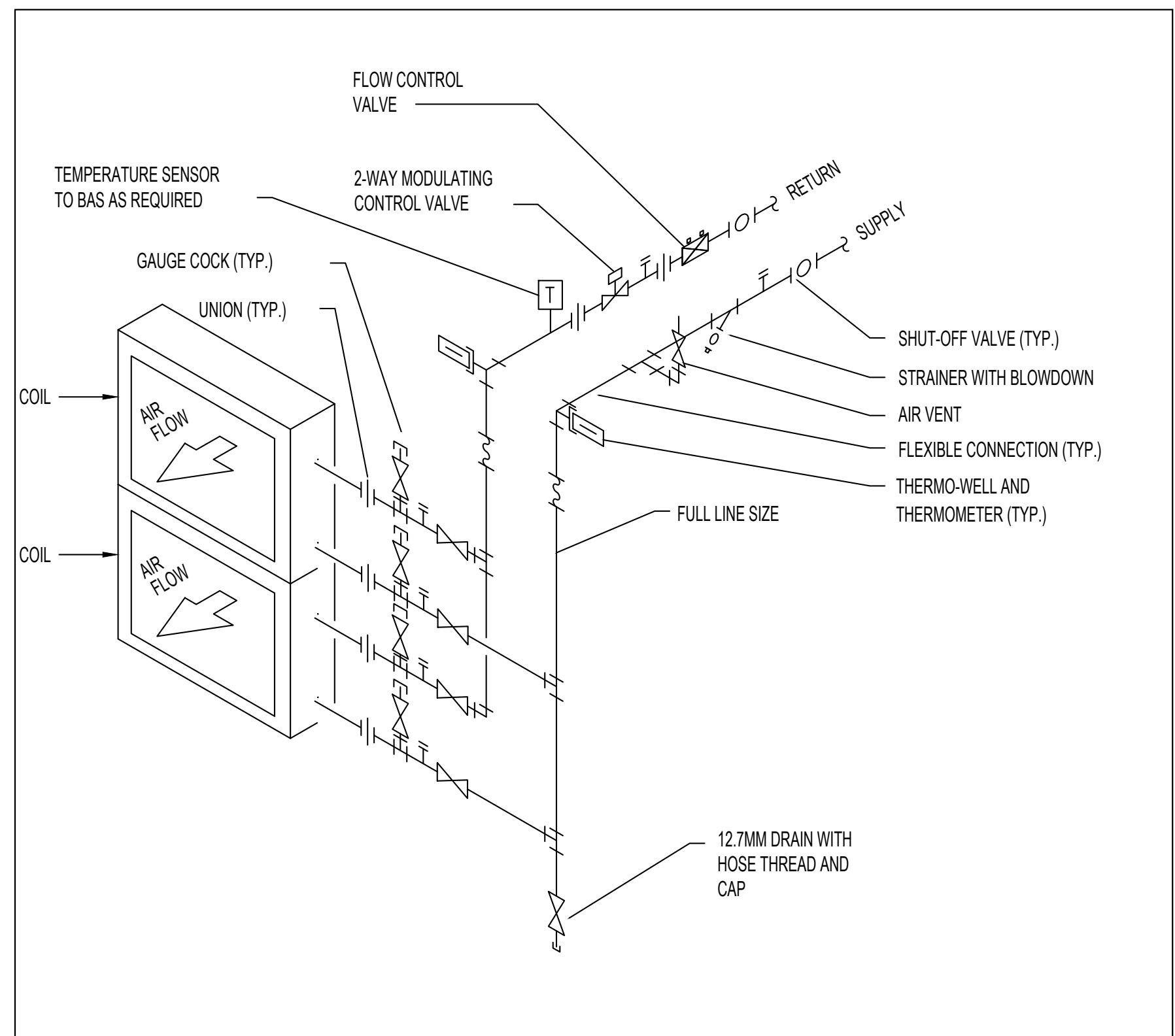
TYPICAL PIPE RISER SUPPORT DETAIL

SCALE: N.T.S. 02



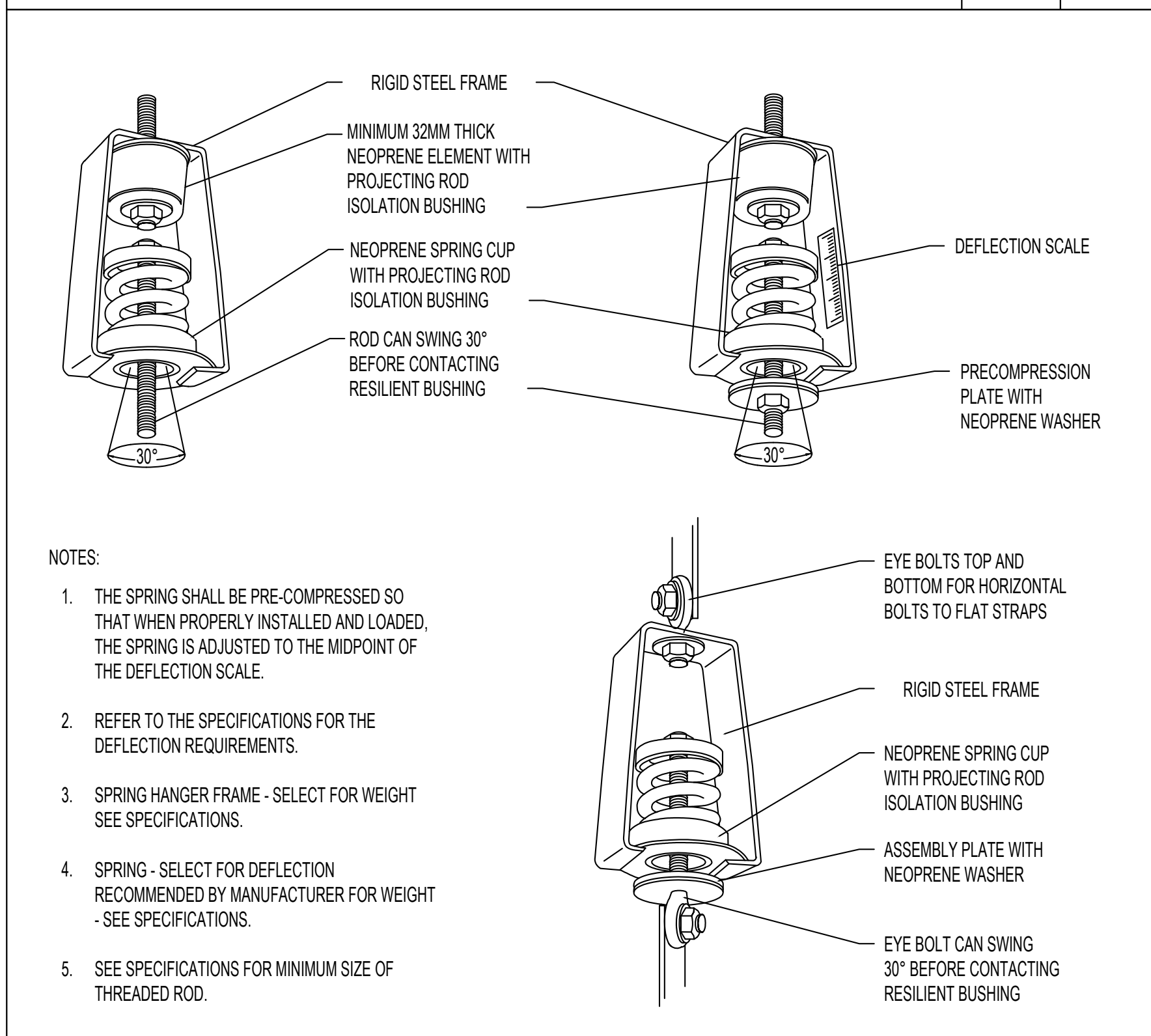
EXTERIOR PIPE RISER SUPPORT DETAIL

SCALE: N.T.S. 03



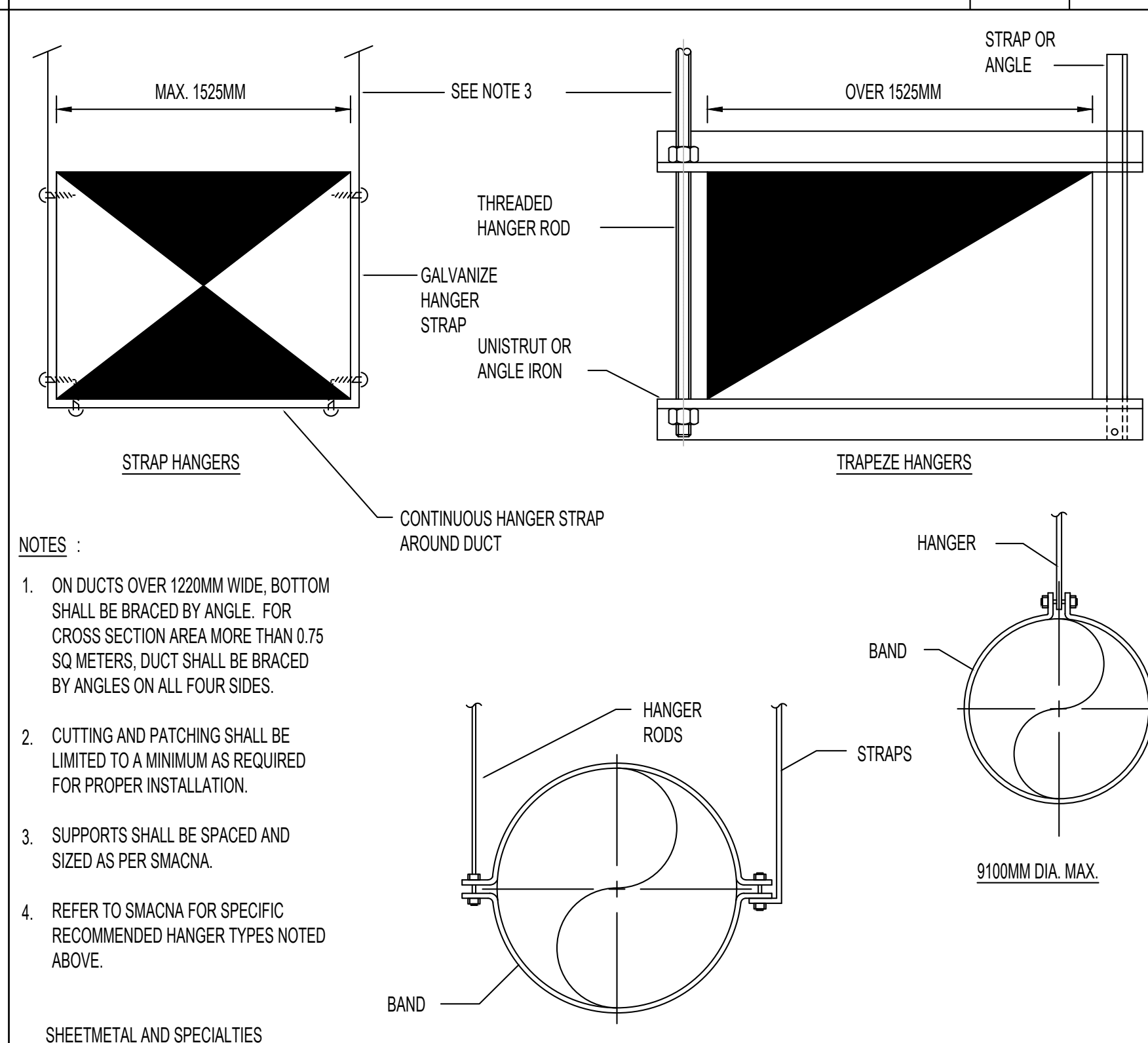
TWO-WAY MODULATING WATER COIL DETAIL

SCALE: N.T.S. 07



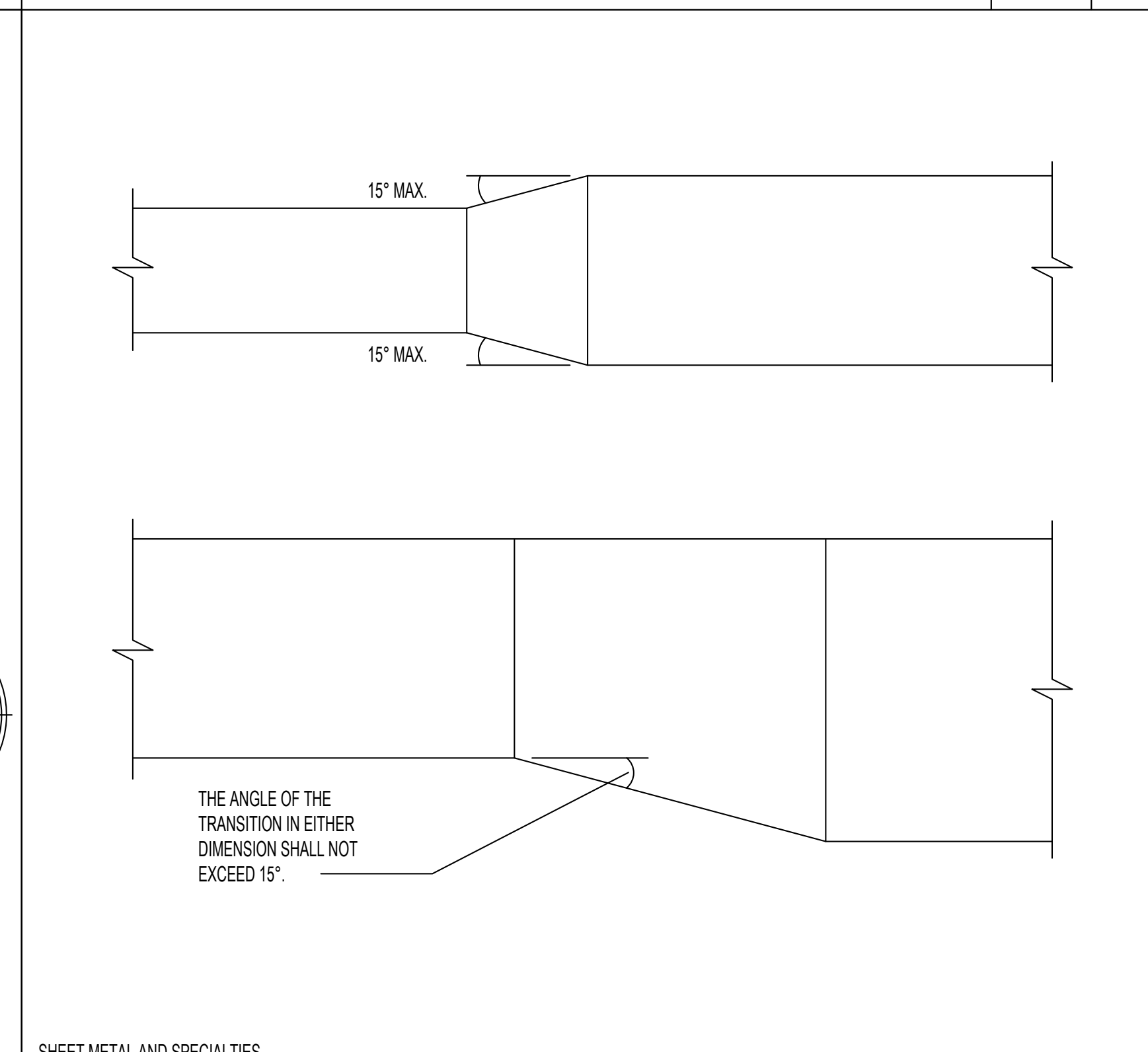
SPRING ISOLATED HANGERS FOR PIPE OR EQUIPMENT DETAIL

SCALE: N.T.S. 04



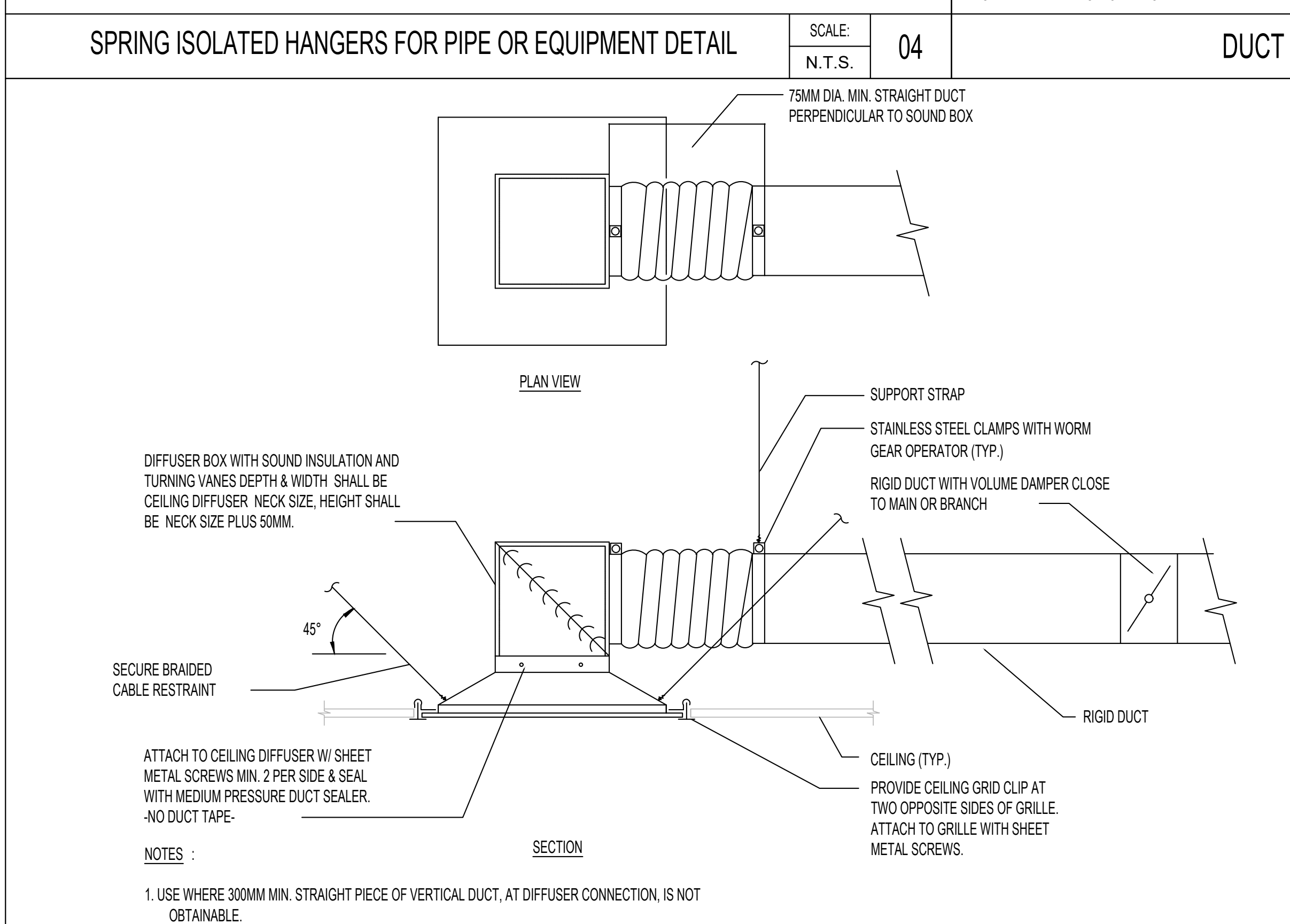
DUCT HANGER SUPPORT

SCALE: N.T.S. 05



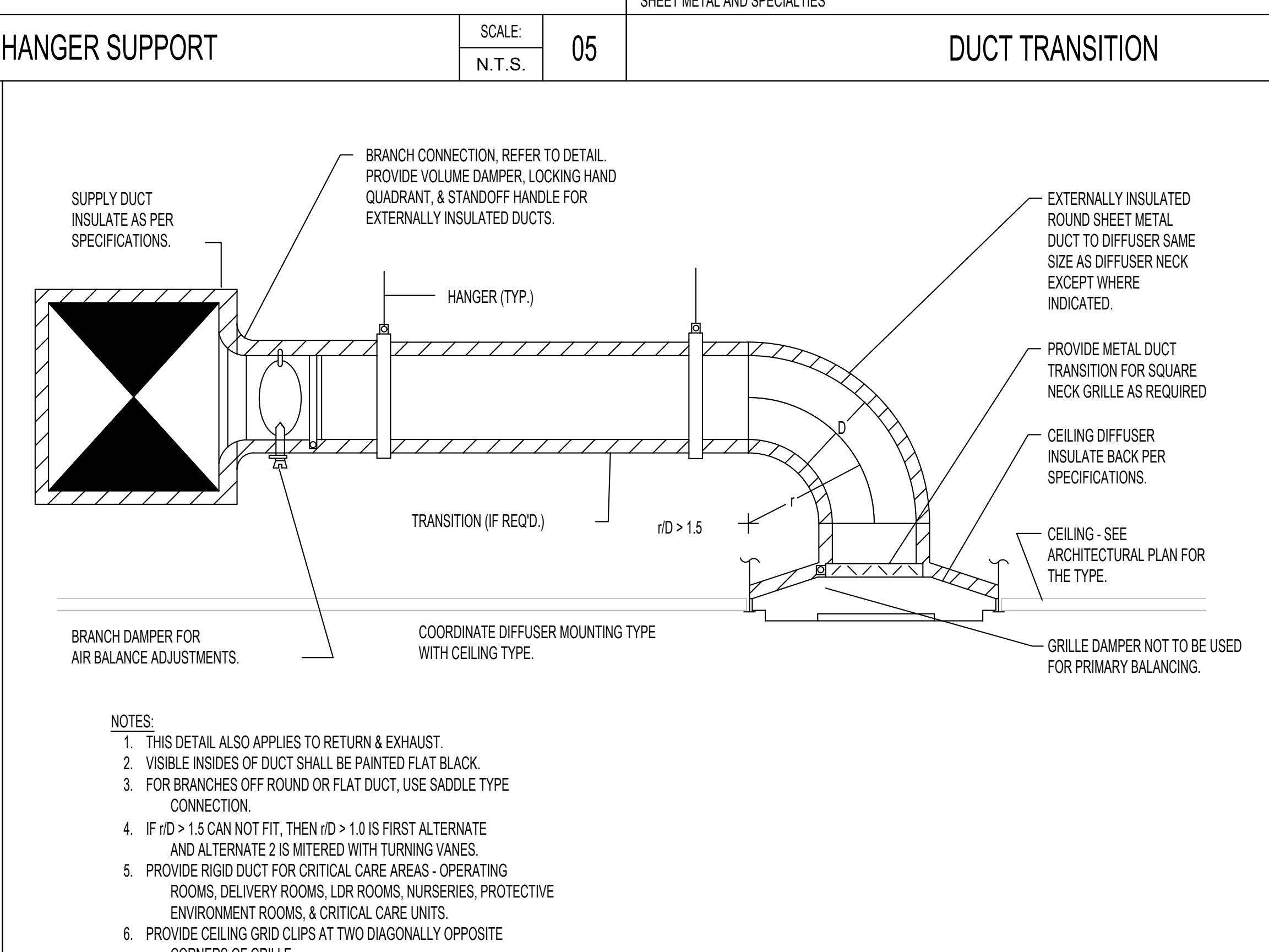
DUCT TRANSITION

SCALE: N.T.S. 06



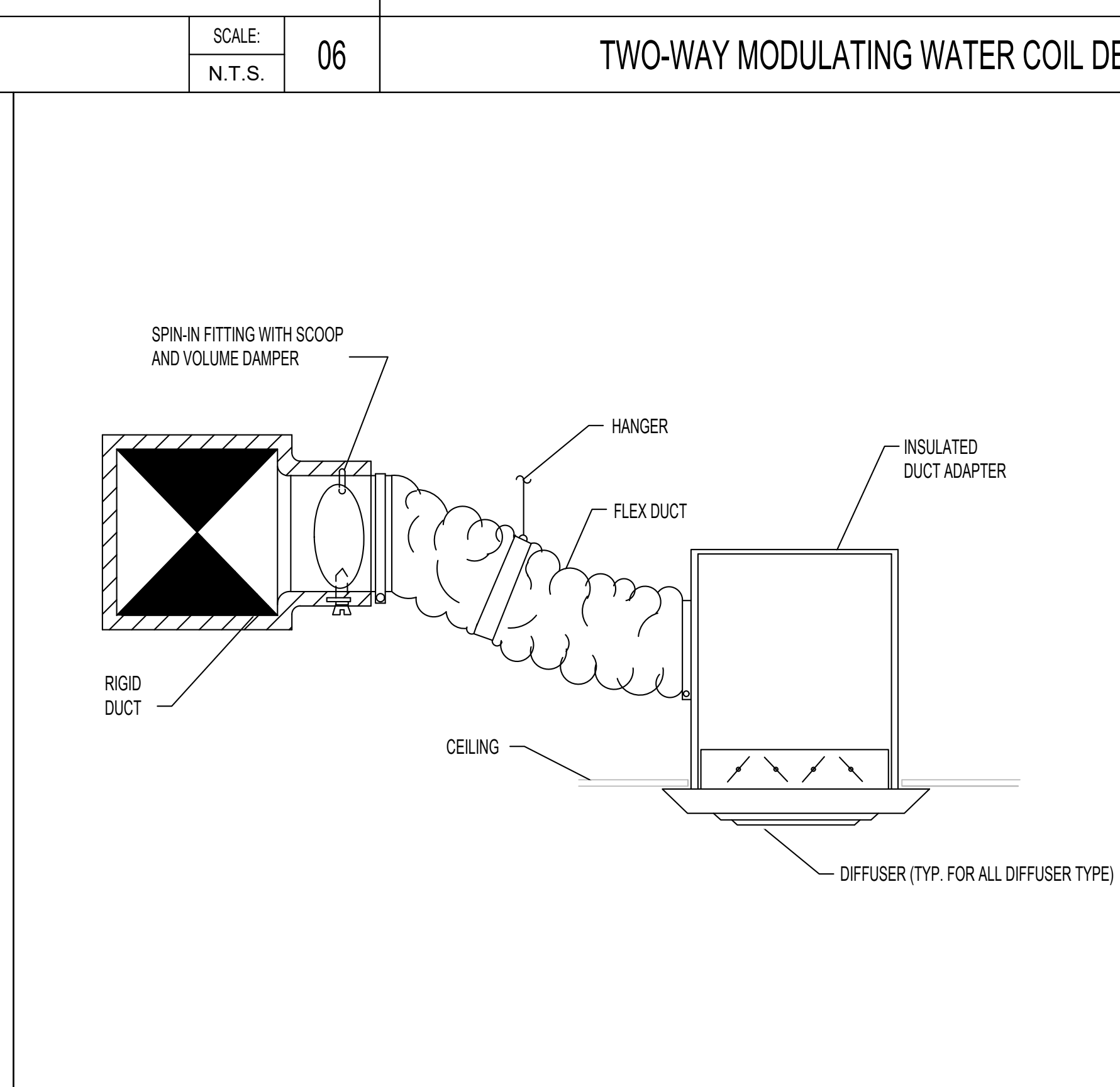
LOW CLEARANCE CEILING DIFFUSER

SCALE: N.T.S. 08

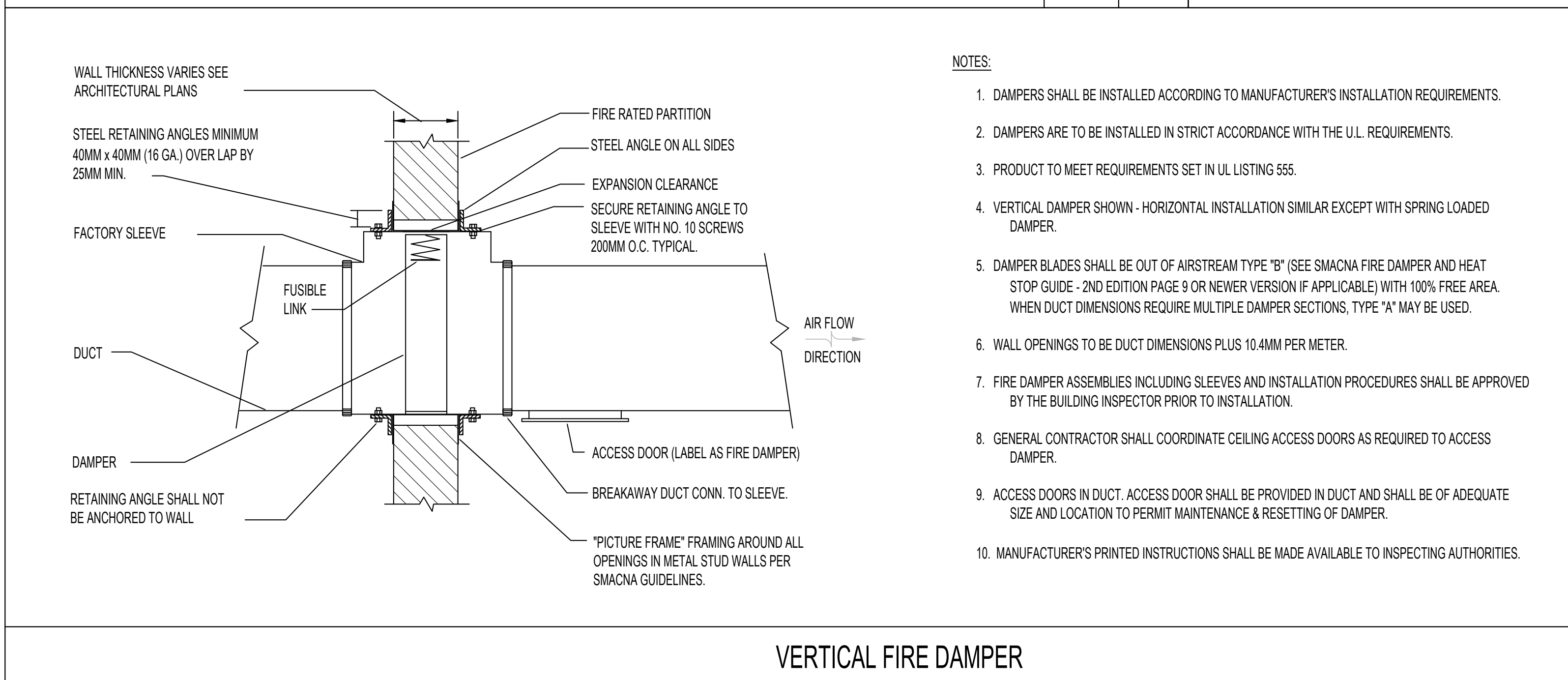


CEILING DIFFUSER - RIGID DUCT

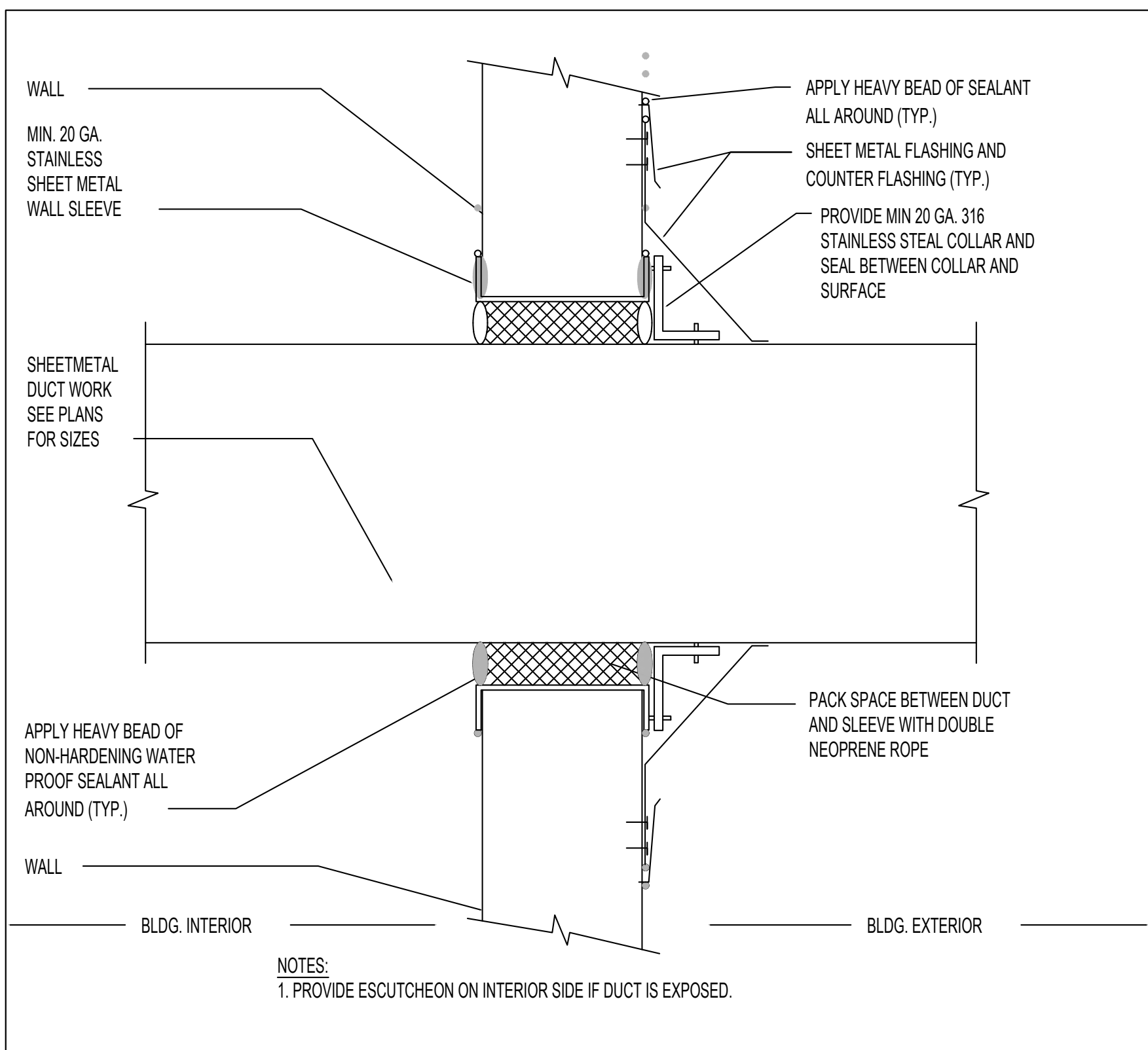
SCALE: N.T.S. 09



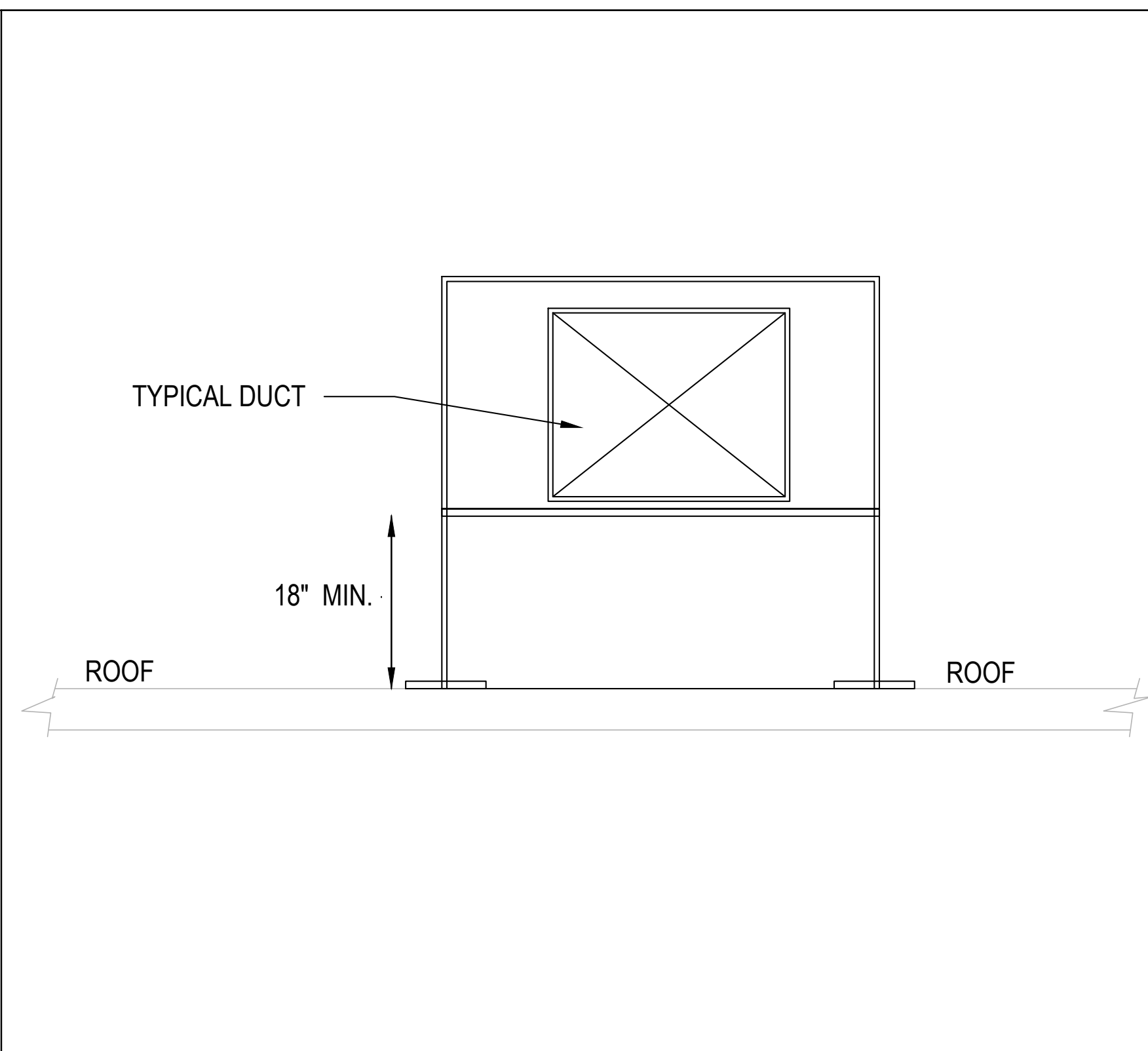
DIFFUSER WITH INSULATED PLENUM



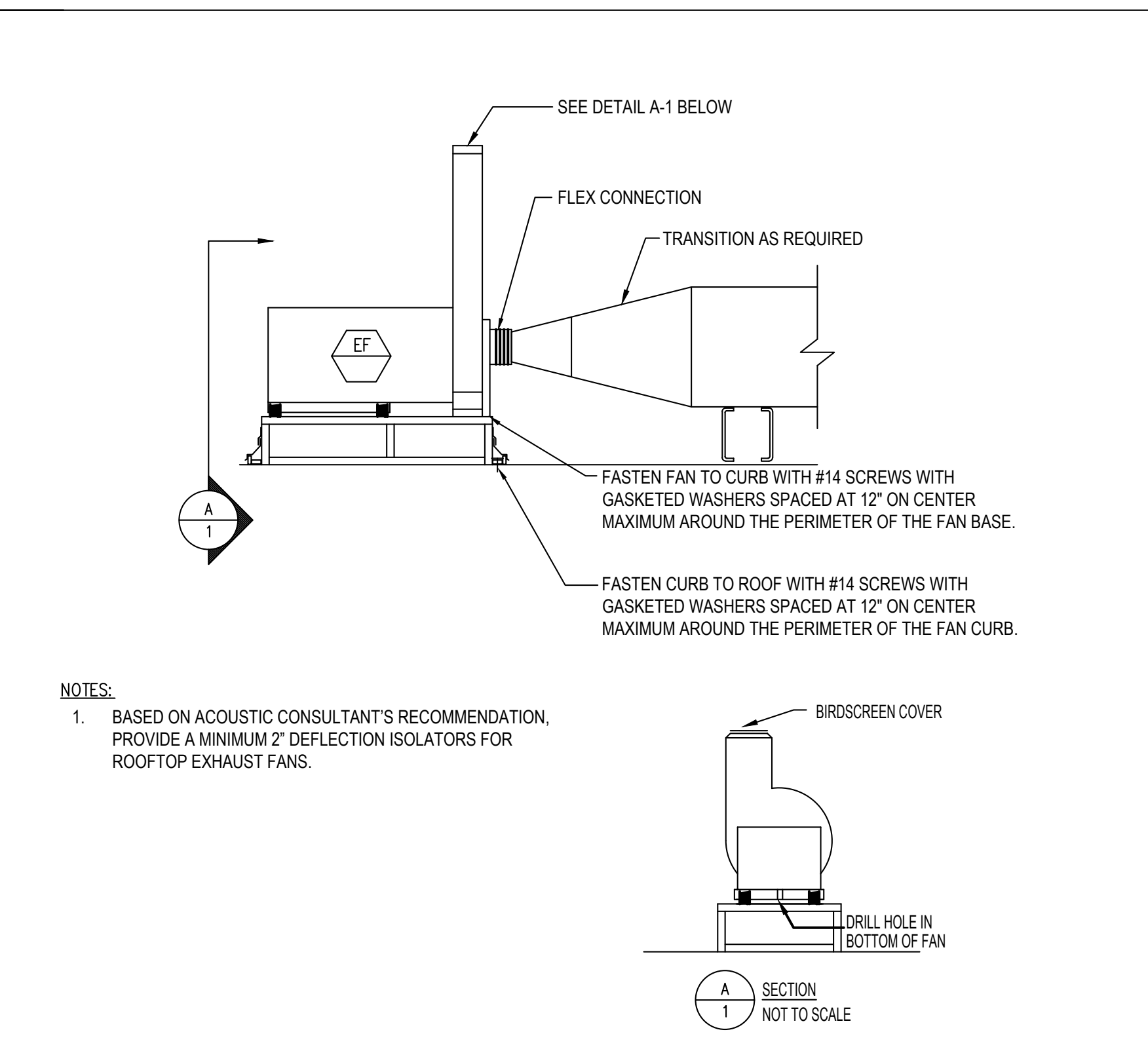
VERTICAL FIRE DAMPER



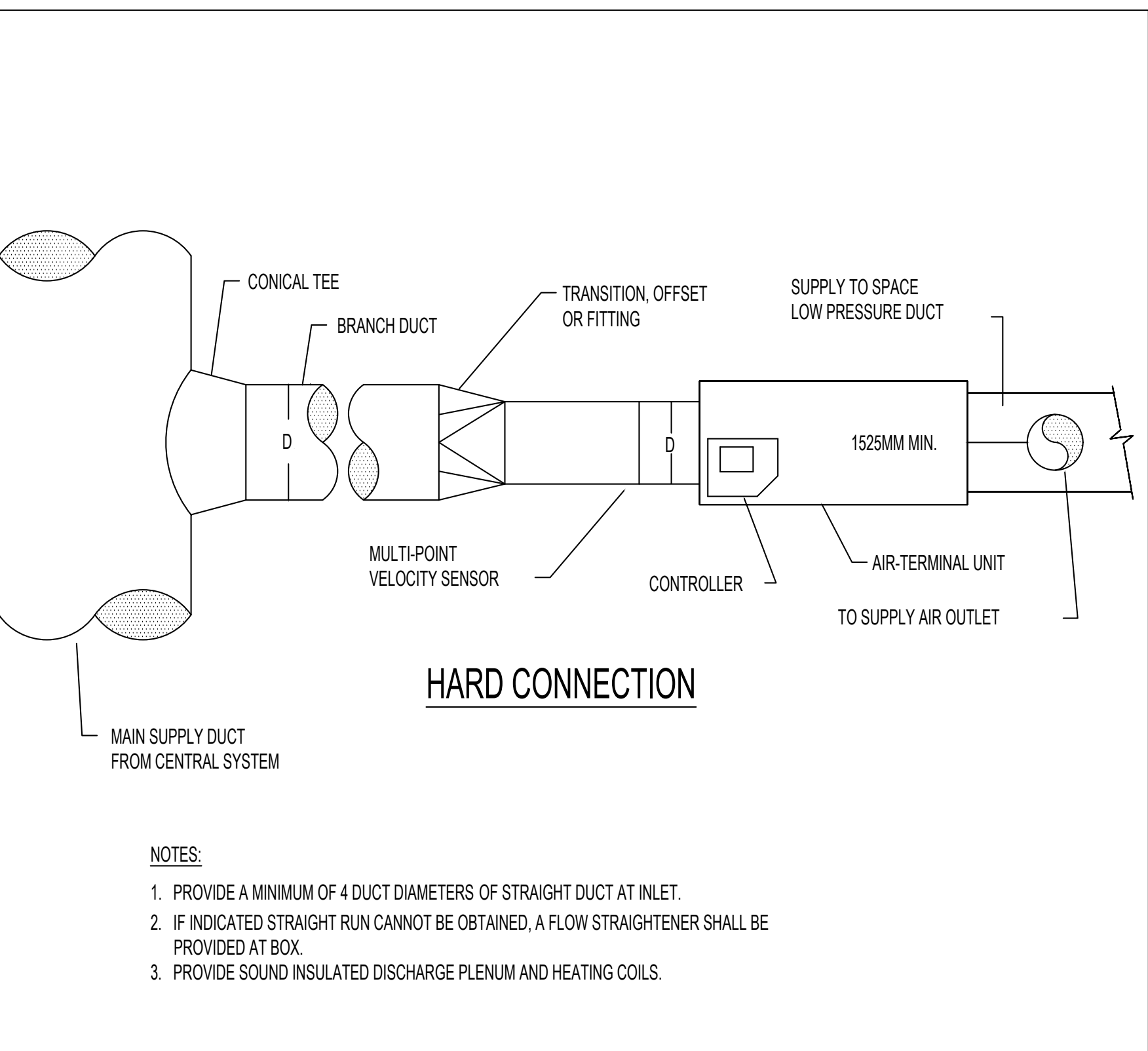
DUCT PENETRATION THROUGH EXTERIOR WALL

SCALE:
N.T.S. 01

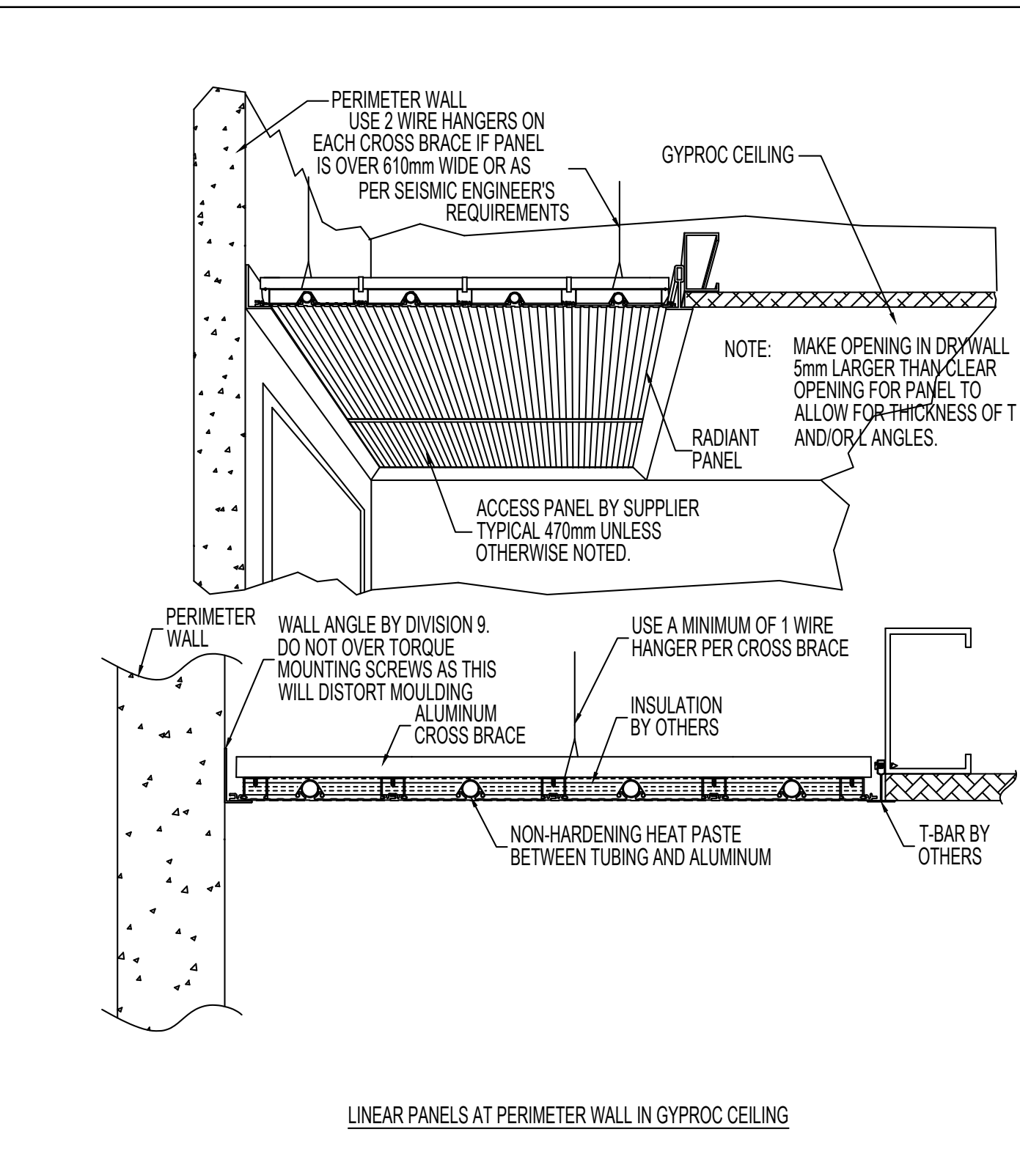
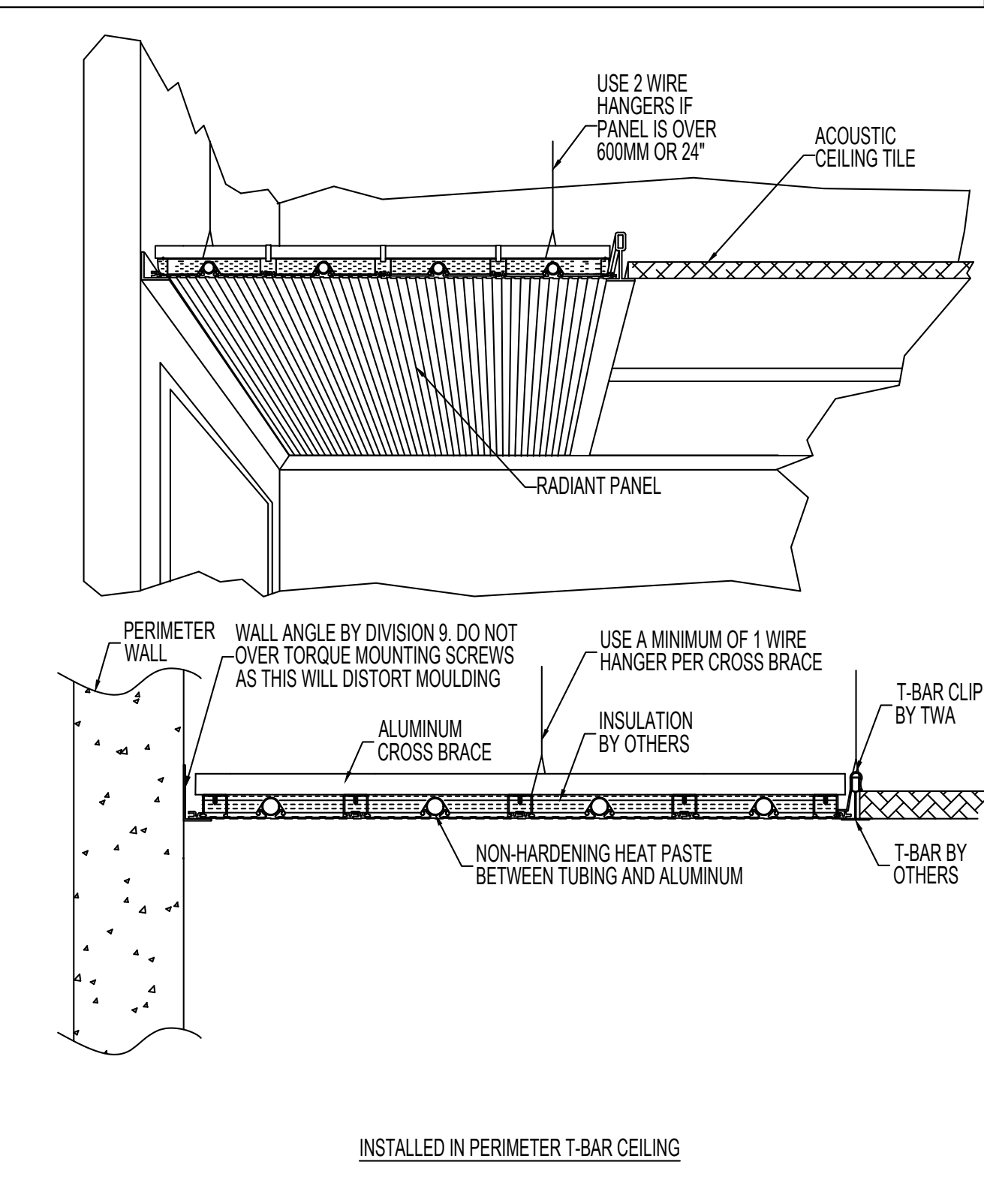
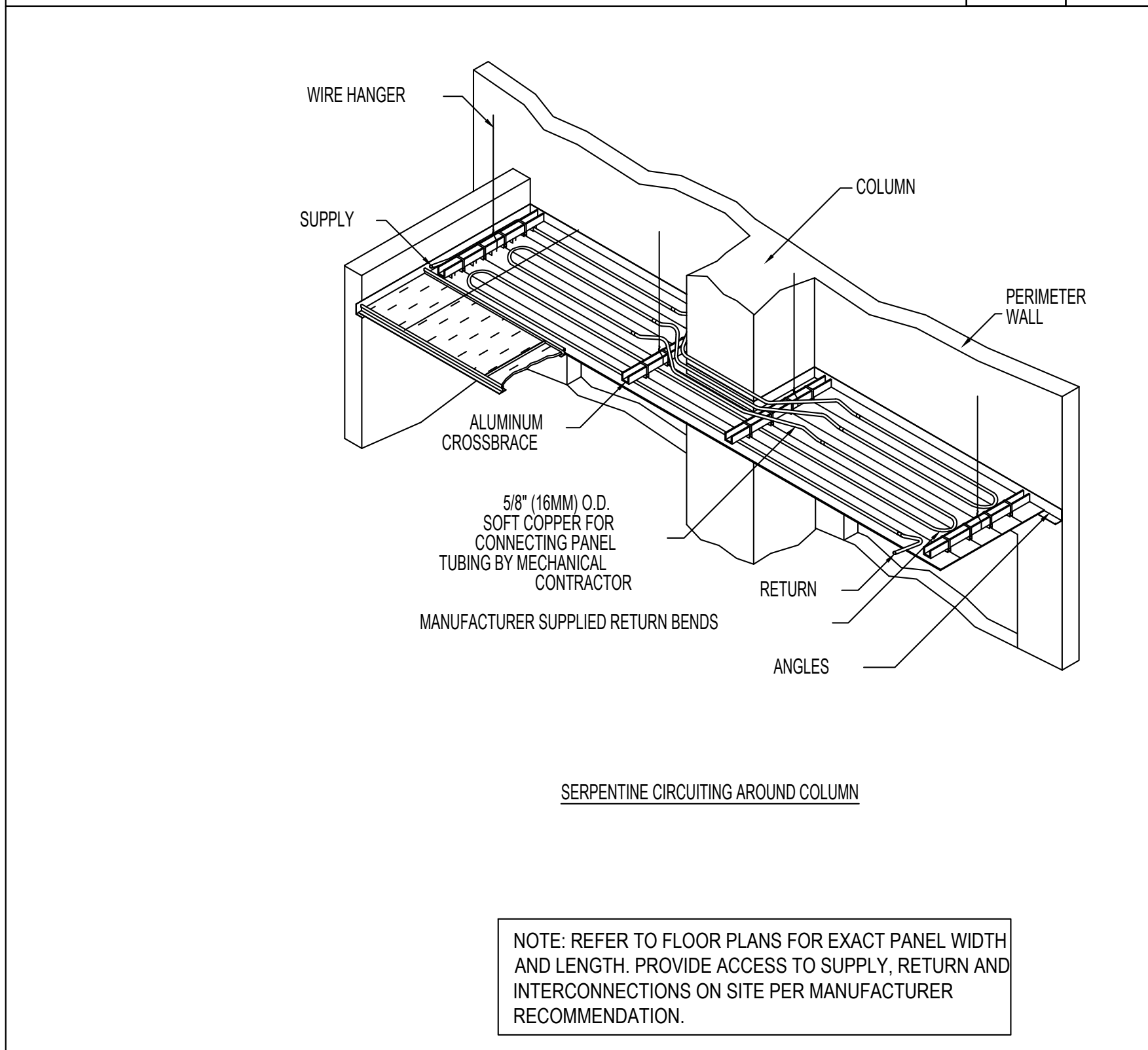
ROOF DUCTWORK SUPPORT DETAIL

SCALE:
N.T.S. 02

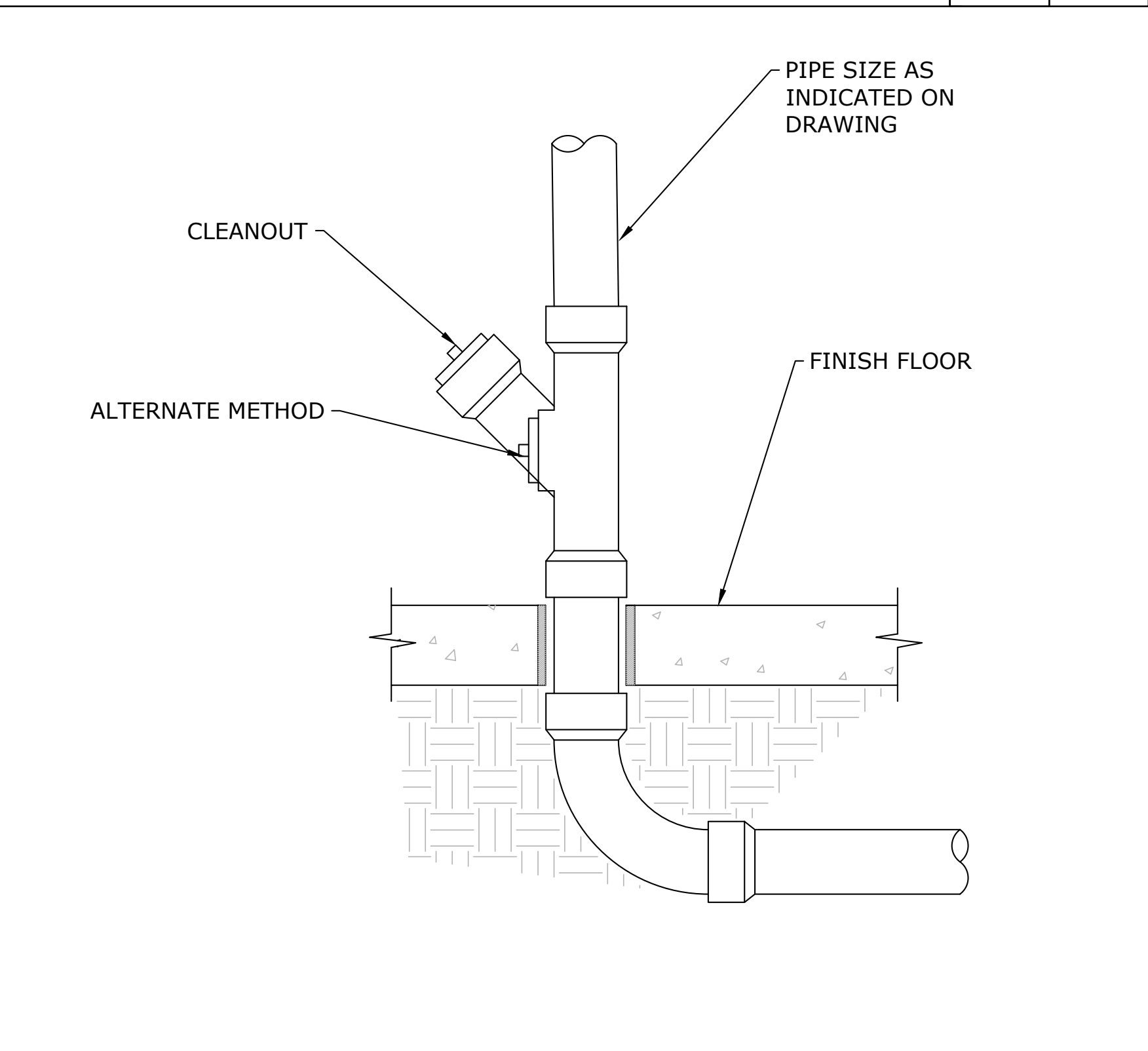
UTILITY FAN SET DETAIL

SCALE:
N.T.S. 03

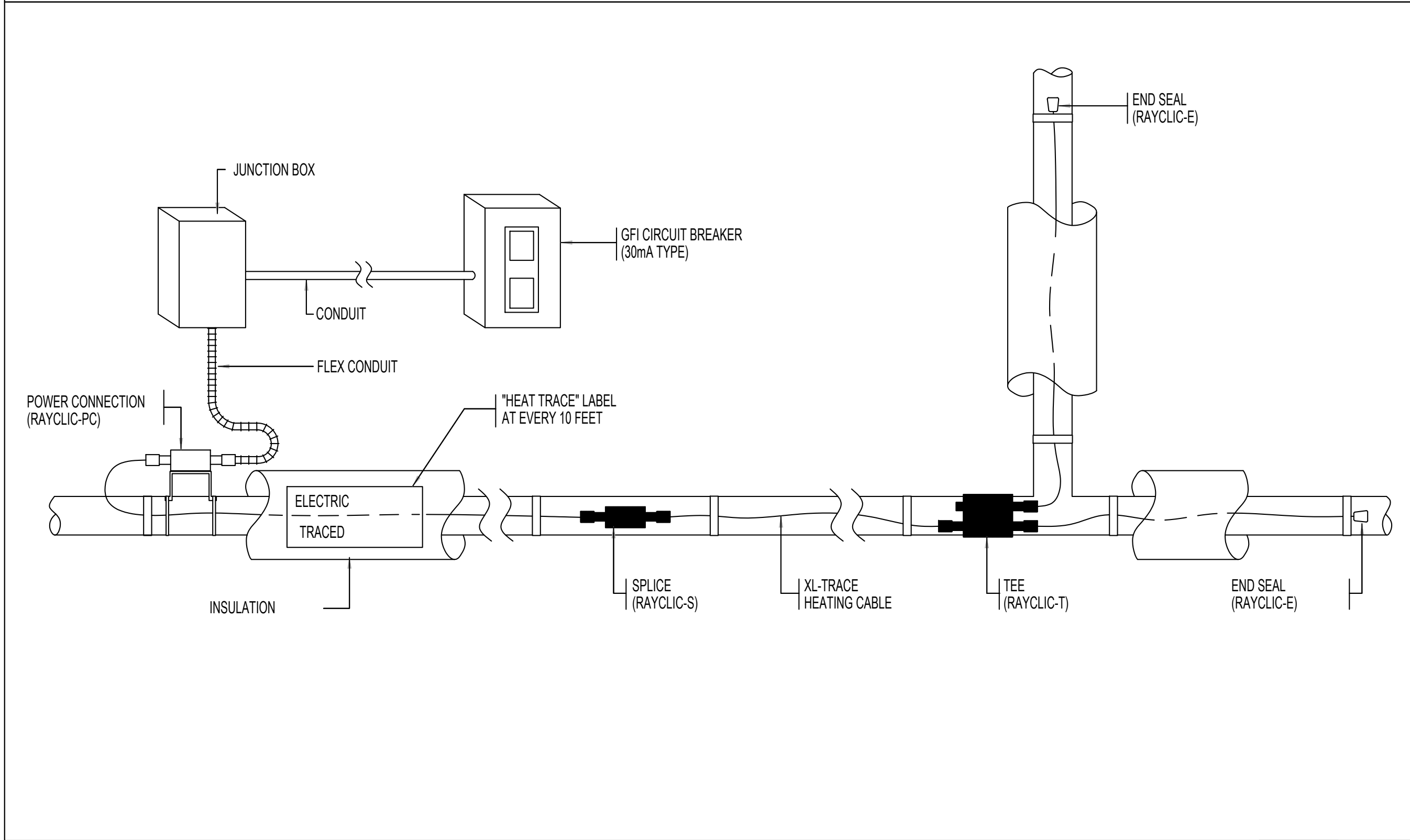
AIR TERMINAL UNIT CONNECTION

SCALE:
N.T.S. 04

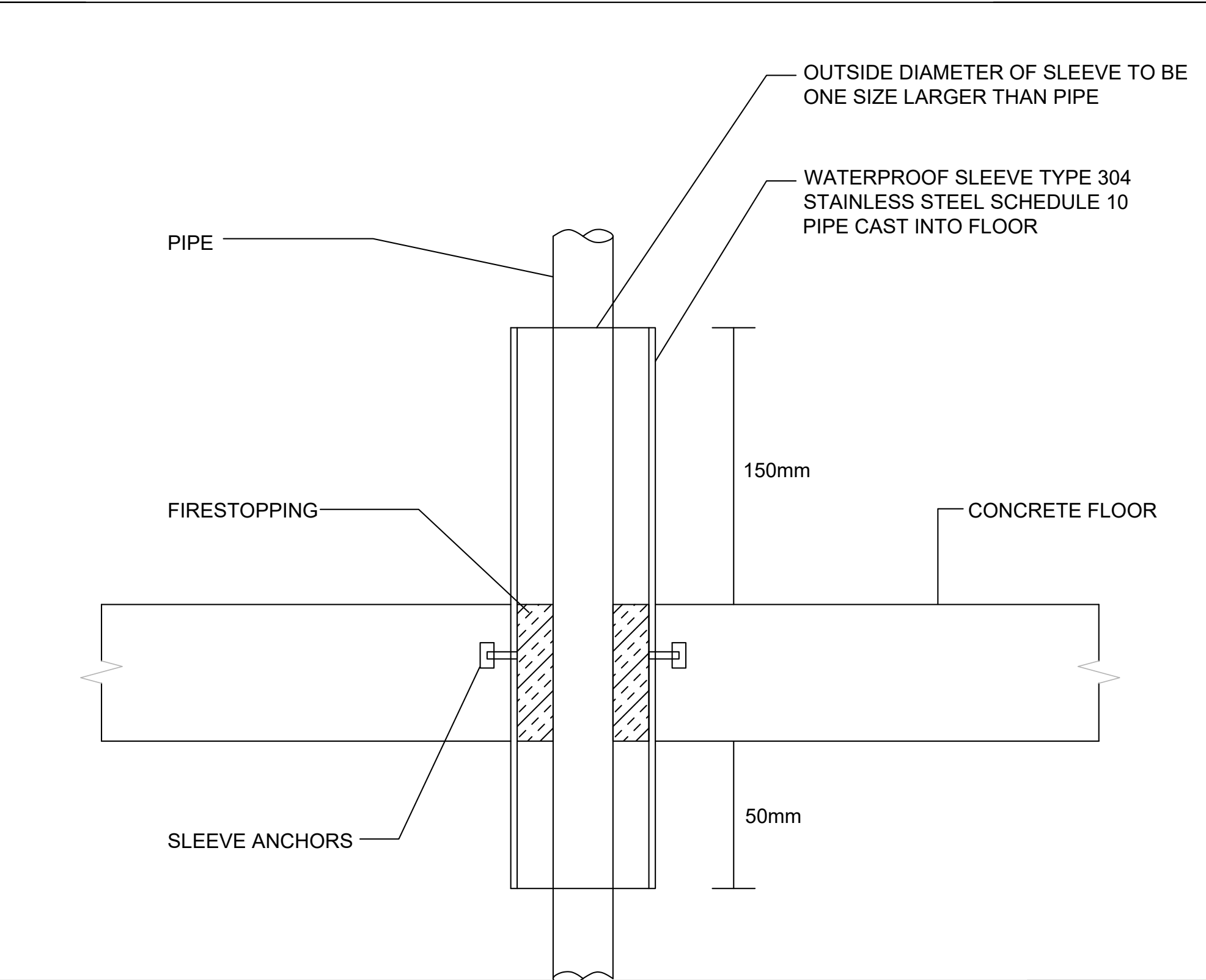
RADIANT PANEL TYPICAL INSTALLATION DETAILS

SCALE:
N.T.S. 05

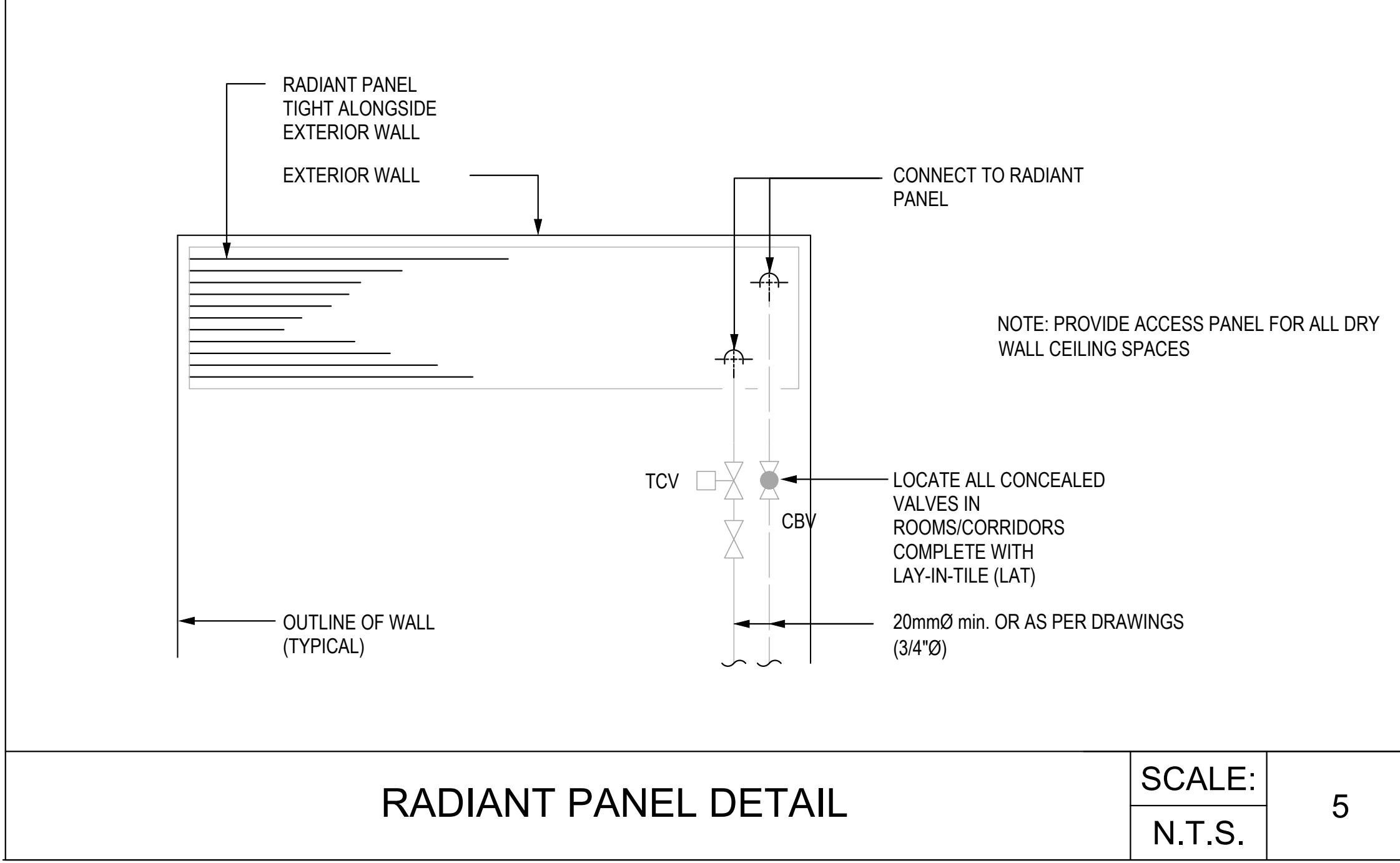
CLEANOUT NEAR BASE OF STACK

SCALE:
N.T.S. 06

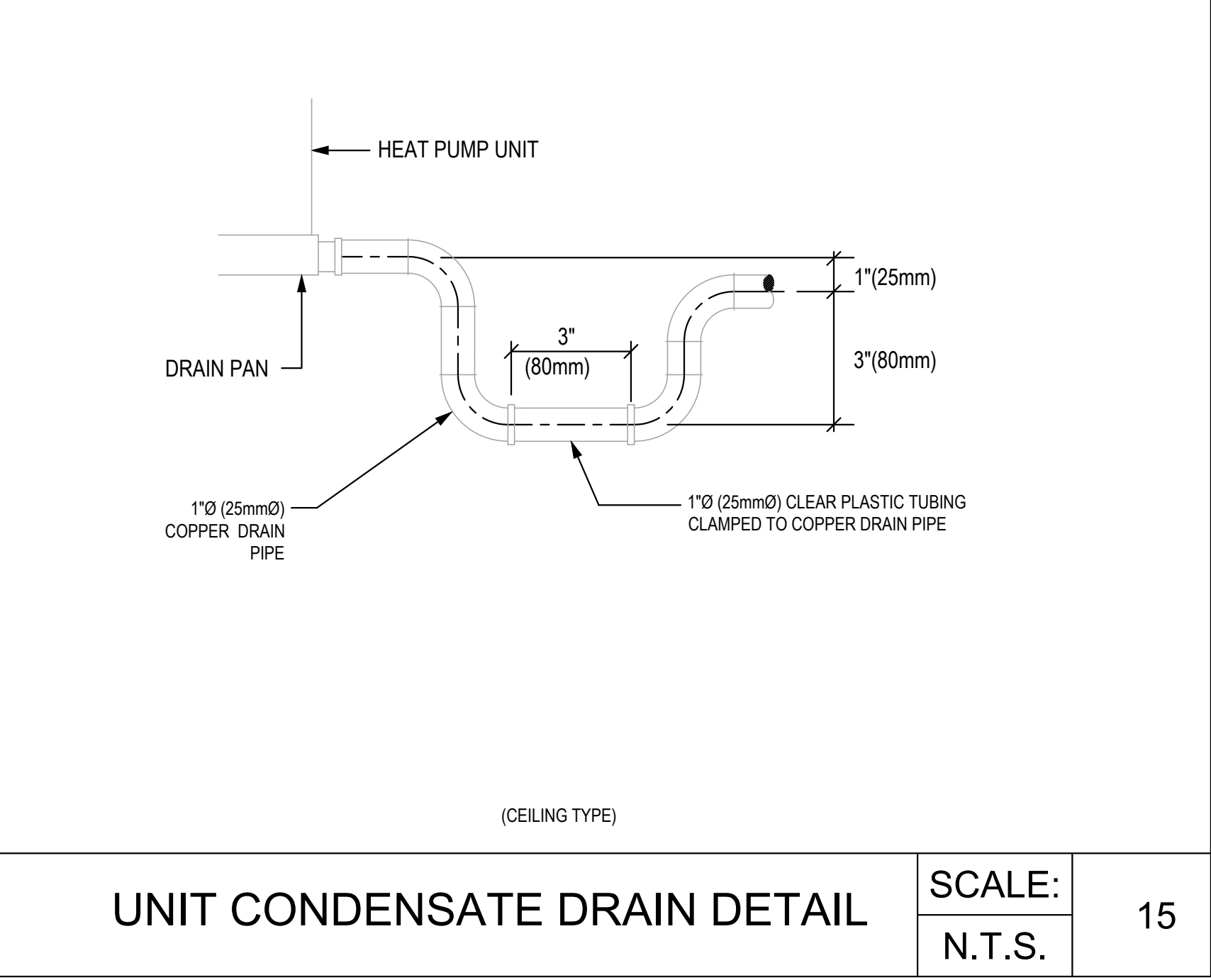
ELECTRIC HEAT TRACING INSTALLATION DETAIL - WATER PIPING

SCALE:
N.T.S. 07

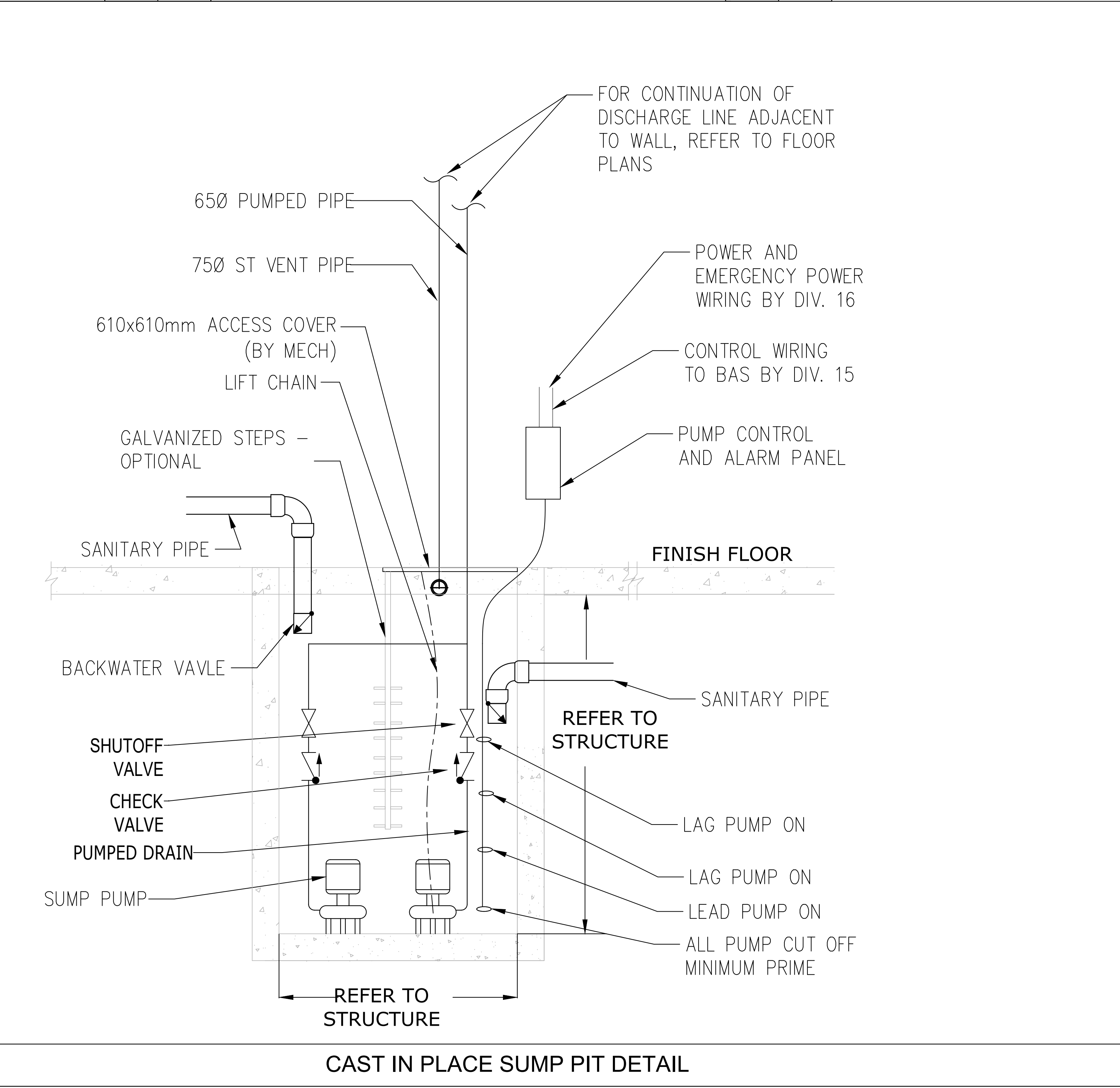
WATERSTOP PIPE SLEEVE

SCALE:
N.T.S. 08

RADIANT PANEL DETAIL

SCALE:
N.T.S. 5

UNIT CONDENSATE DRAIN DETAIL

SCALE:
N.T.S. 15

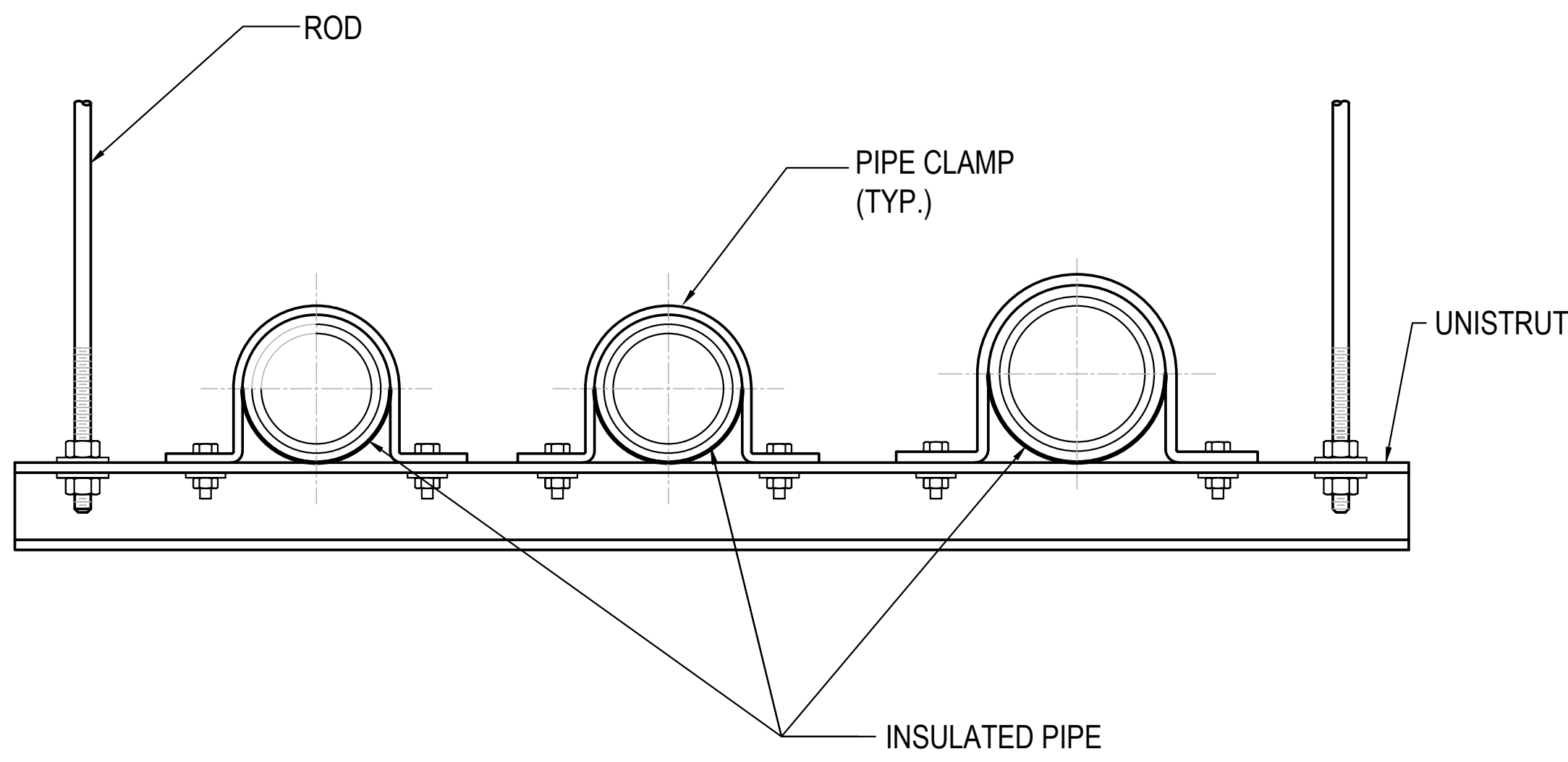
CAST IN PLACE SUMP PIT DETAIL

NO.	REVISION	DESCRIPTION	DATE
1	Issued for Addendum M-03		2024.11.12
2	Issued for Addendum M-02		2024.11.06
3	Issued for Addendum M-01		2024.10.29
4	Issued for Tender		2024.10.11
5	Issued for 100% CIP		2024.09.27
6	Issued for 90% CIP		2024.09.09
7	Issued for 50% CIP - Permit		2024.08.02
8	Issued for 100 DD		2024.05.10
9	Issued for Design Development Progress		2024.04.05
10			

PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
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Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

TITLE:
TYPICAL DETAILS - 2

PROJECT NO:
MRK-23004289
DRAWING NO:
M-902



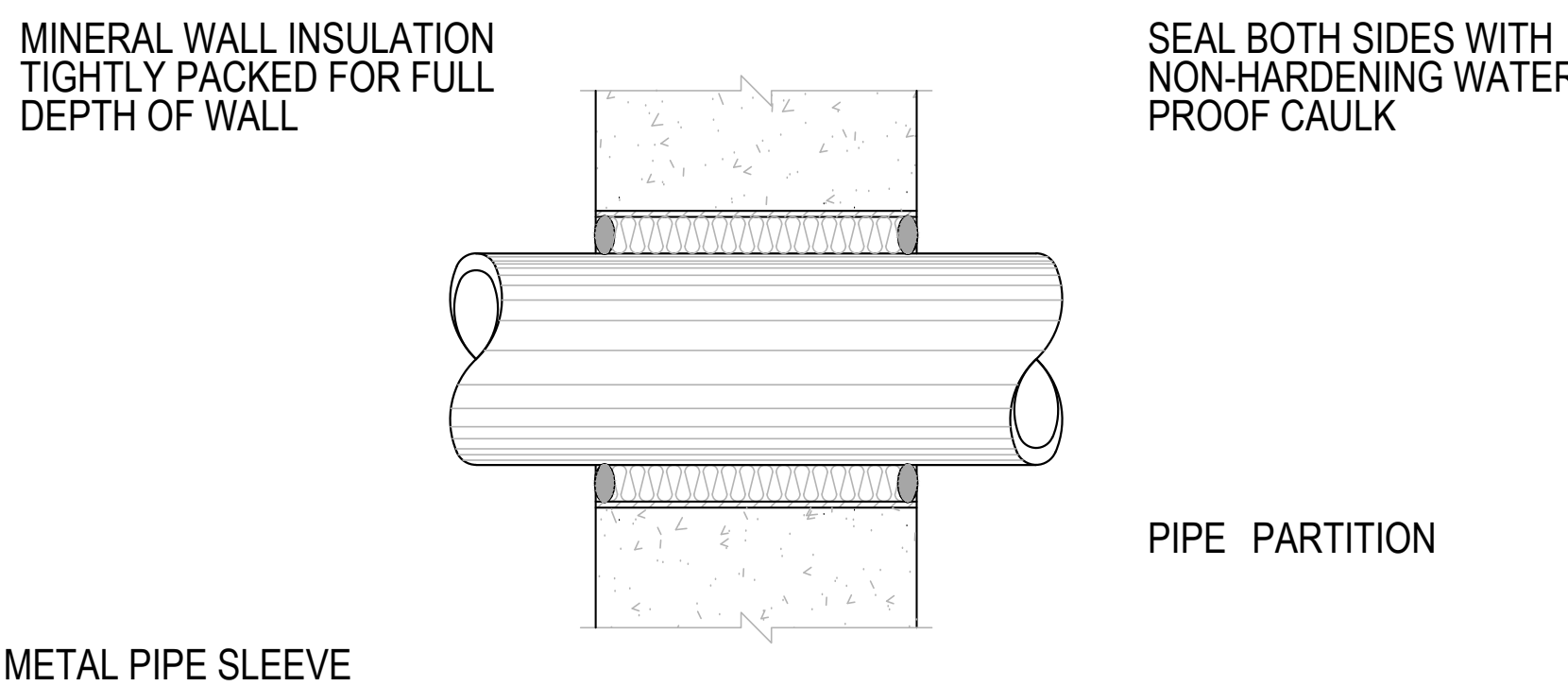
NOTES:

1. ALL HANGING METHODS TO BE COORDINATED WITH STRUCTURAL.

PIPE GROUP HANGER SUPPORT

SCALE:
N.T.S.

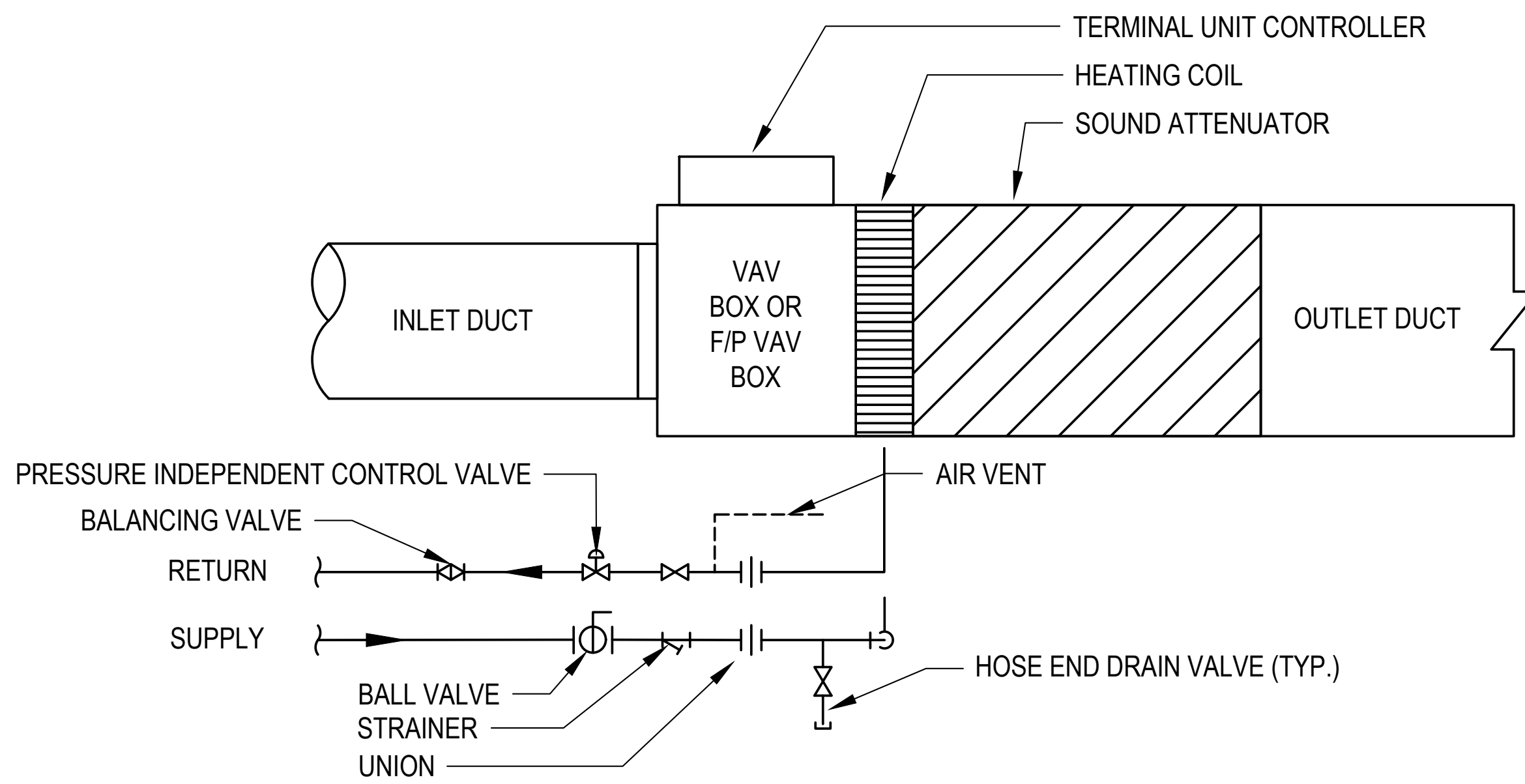
01



PIPE PENETRATION THROUGH NON-FIRE RATE WALL DETAIL

SCALE:
N.T.S.

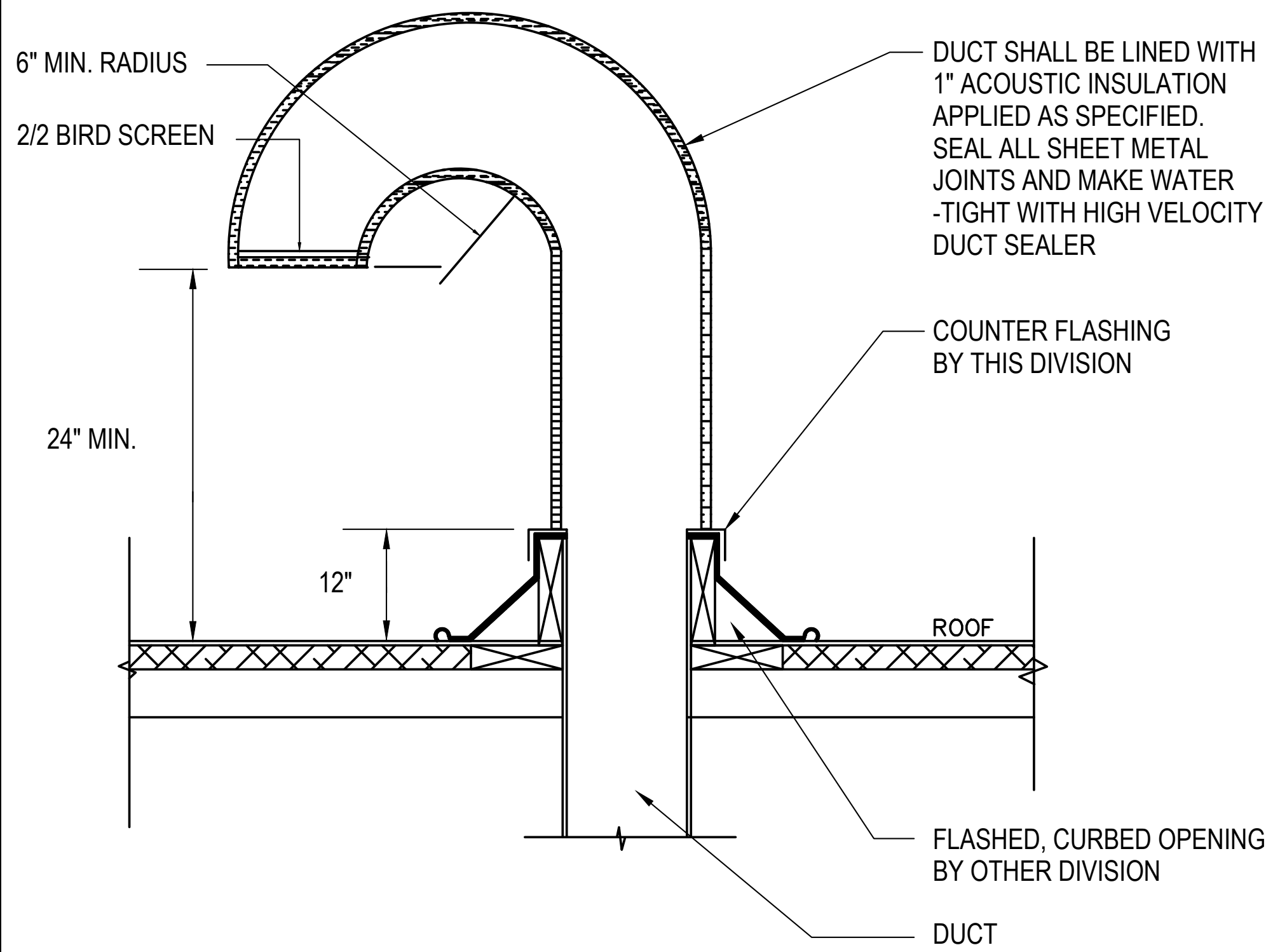
02



VAV BOX DETAIL

SCALE:
N.T.S.

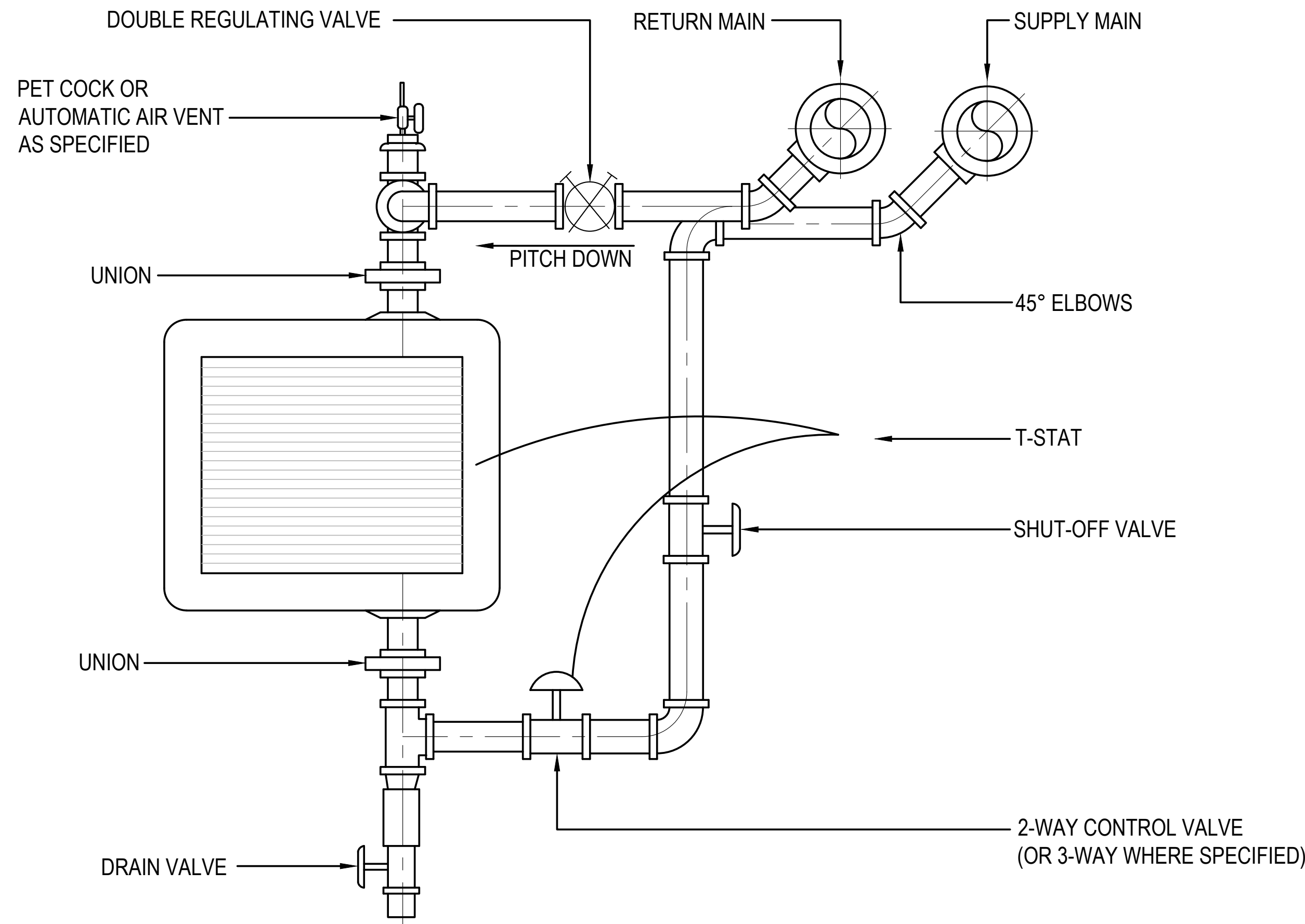
03



VENT C/W GOOSENECK

SCALE:
N.T.S.

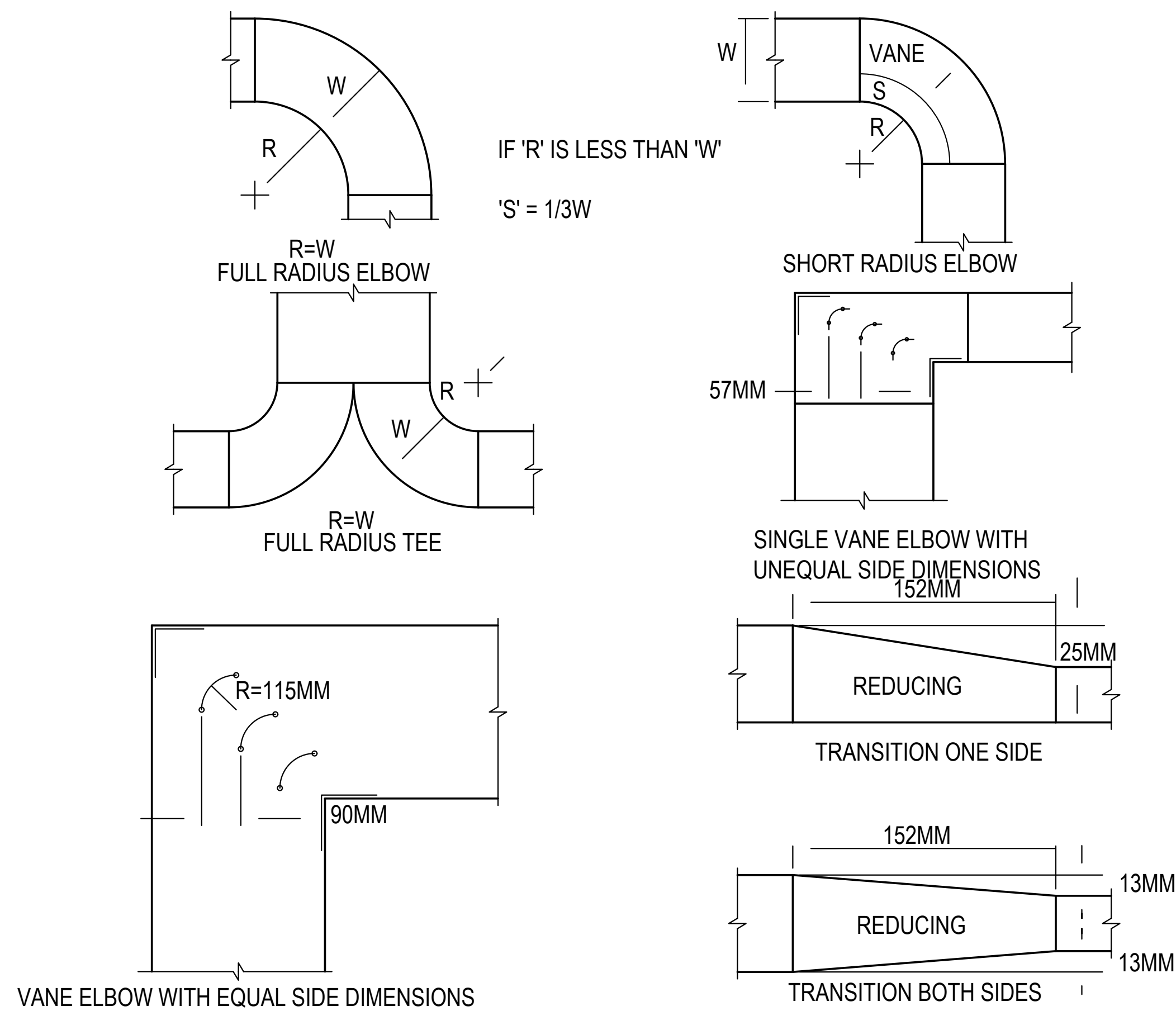
04



TYPICAL CONNECTIONS TO HOT WATER UNIT HEATER

SCALE:
N.T.S.

05



SQUARE AND RADIUS ELBOW DETAILS

SCALE:
N.T.S.

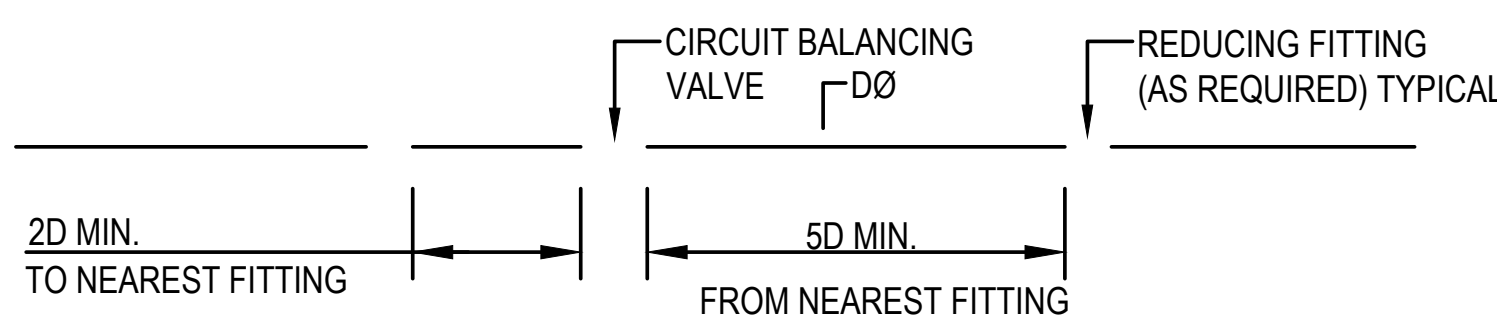
06

CIRCUIT BALANCING VALVE SCHEDULE (IMPERIAL)		
SIZE	NOM FLOW (GPM)	MAX. GPM
1/2"	UP TO	3.1
3/4"	3	6.9
1"	8.8	10.1
1 1/4"	10.2	16.2
1 1/2"	15	24
2"	25	40
2 1/2"	40	100
3"	95	145
4"	145	235
5"	230	320
6"	320	490
8"	500	900

CIRCUIT BALANCING VALVE SCHEDULE (METRIC)		
SIZE	NOM FLOW (GPM)	MAX. L/S
15	UP TO	0.20
20	0.19	0.44
25	0.43	0.64
32	0.64	1.02
40	0.95	1.51
50	1.58	2.52
65	2.52	6.3
75	5.99	9.1
100	9.15	15
125	14.51	20
150	20.19	31
200	31.55	57

NOTE:

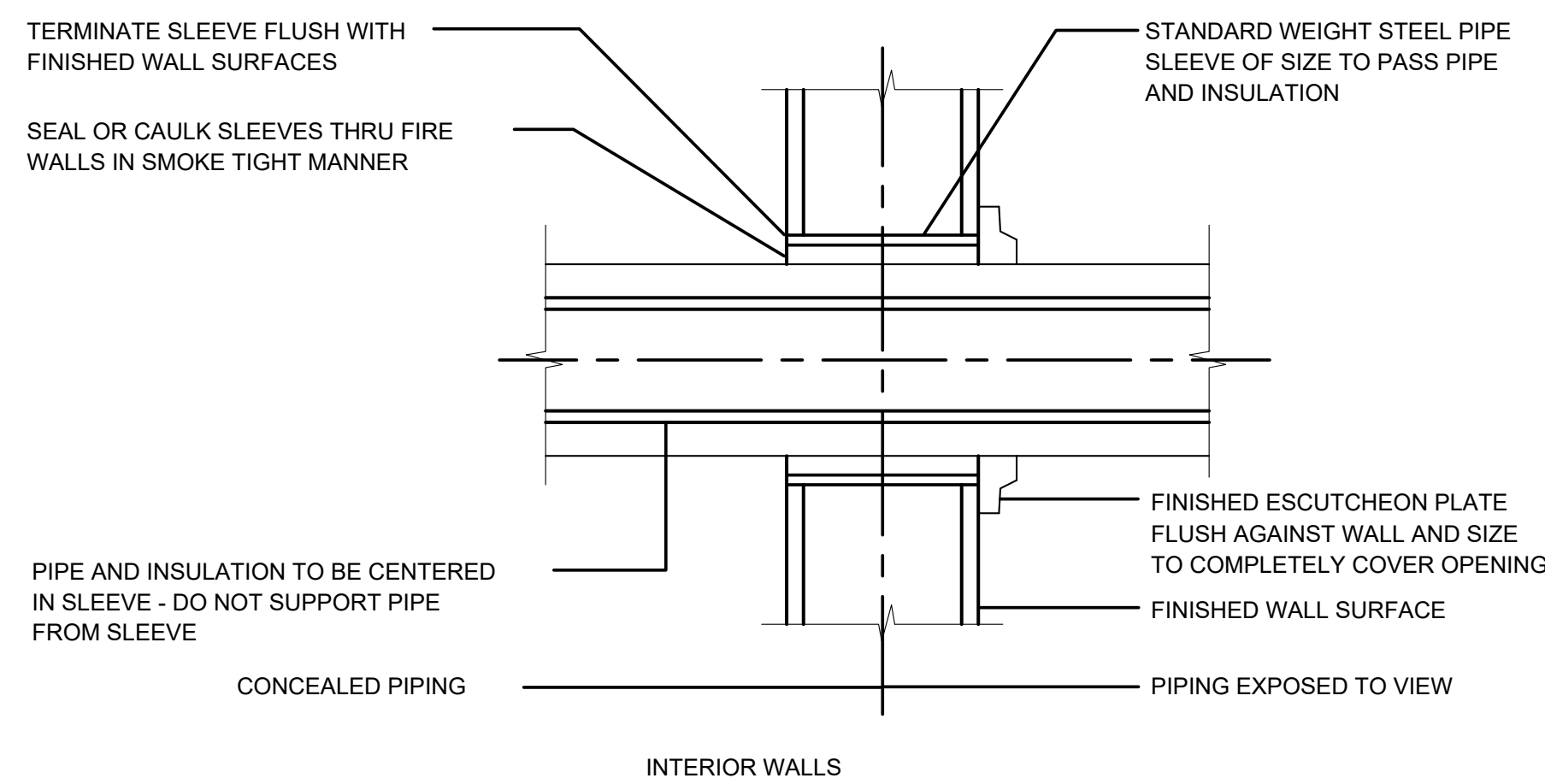
1. ABOVE SELECTION BASED ON TOUR & ANDERSSON: 1FT ΔP @ MIN., 1 PSI (6.9KPa) NOMINAL & 2 PSI (13.8 KPa) MAX. AT FULL OPEN.
2. MECHANICAL CONTRACTOR MUST SIZE AND PROVIDE WATER CIRCUIT BALANCING VALVE AS PER SCHEDULE AND DETAIL.



CIRCUIT BALANCING VALVE DETAIL/SCHEDULE

SCALE:
N.T.S.

07



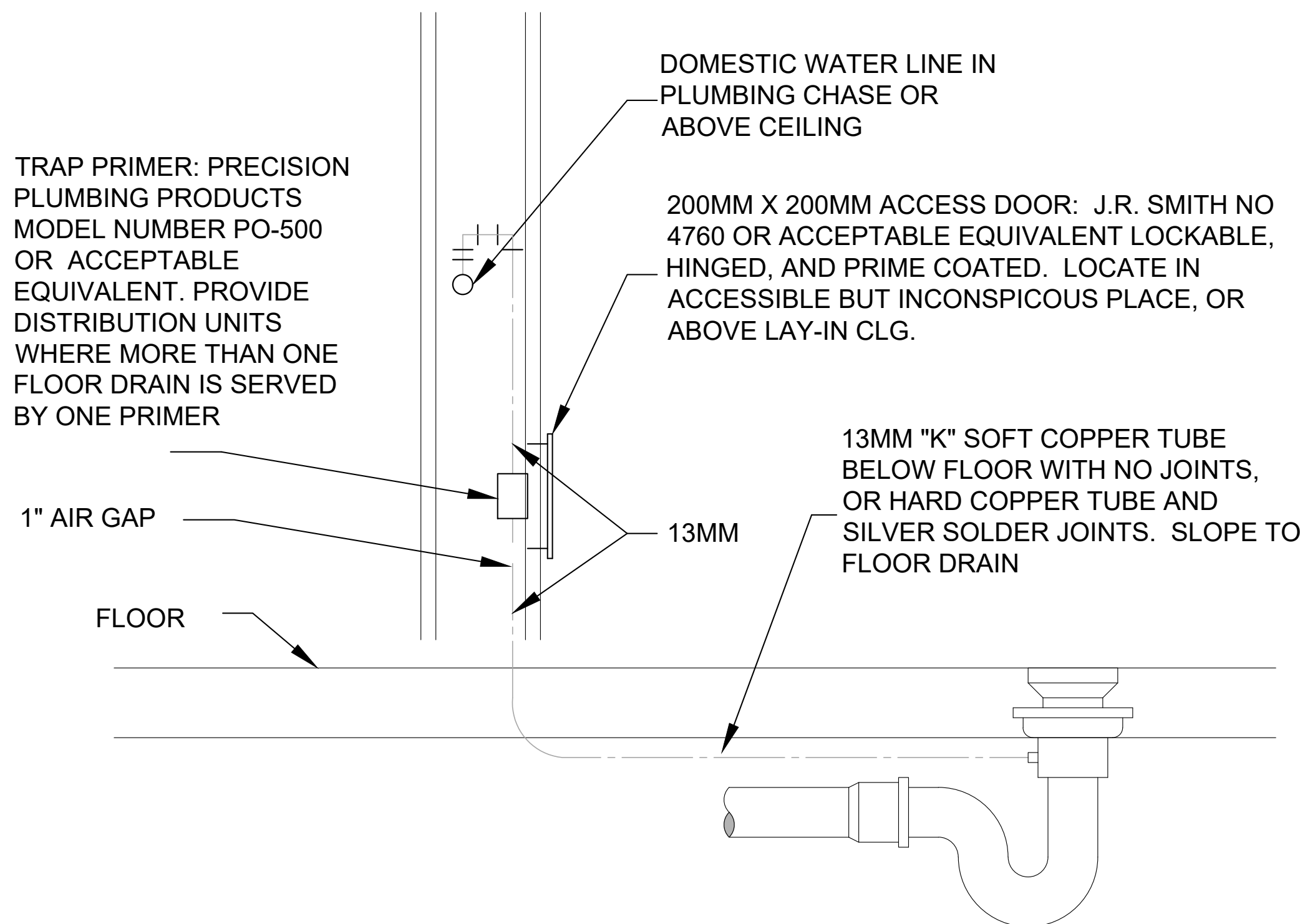
NOTE:

UTILIZE APPROVED ULC ASSEMBLY FOR FIRE WALLS.

PIPE SLEEVE THROUGH WALL DETAIL

SCALE:
N.T.S.

08



TRAP SEAL PRIMER DETAIL

SCALE:
N.T.S.

09

CLIENT:

UHN University Health Network
Toronto Western Hospital
399 Bathurst Street
Toronto ON M5T 2S8
www.uhn.ca

ARCHITECT:

CUMULUS ARCHITECTS INC. 160 Pears Ave - Suite 300
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CONSULTANT:

exp.
1-800-695-2017 / 1-800-695-0167
520 Commerce Valley Drive West, Suite 1110
Markham, ON L3T 0A8
Canada
www.exp.com
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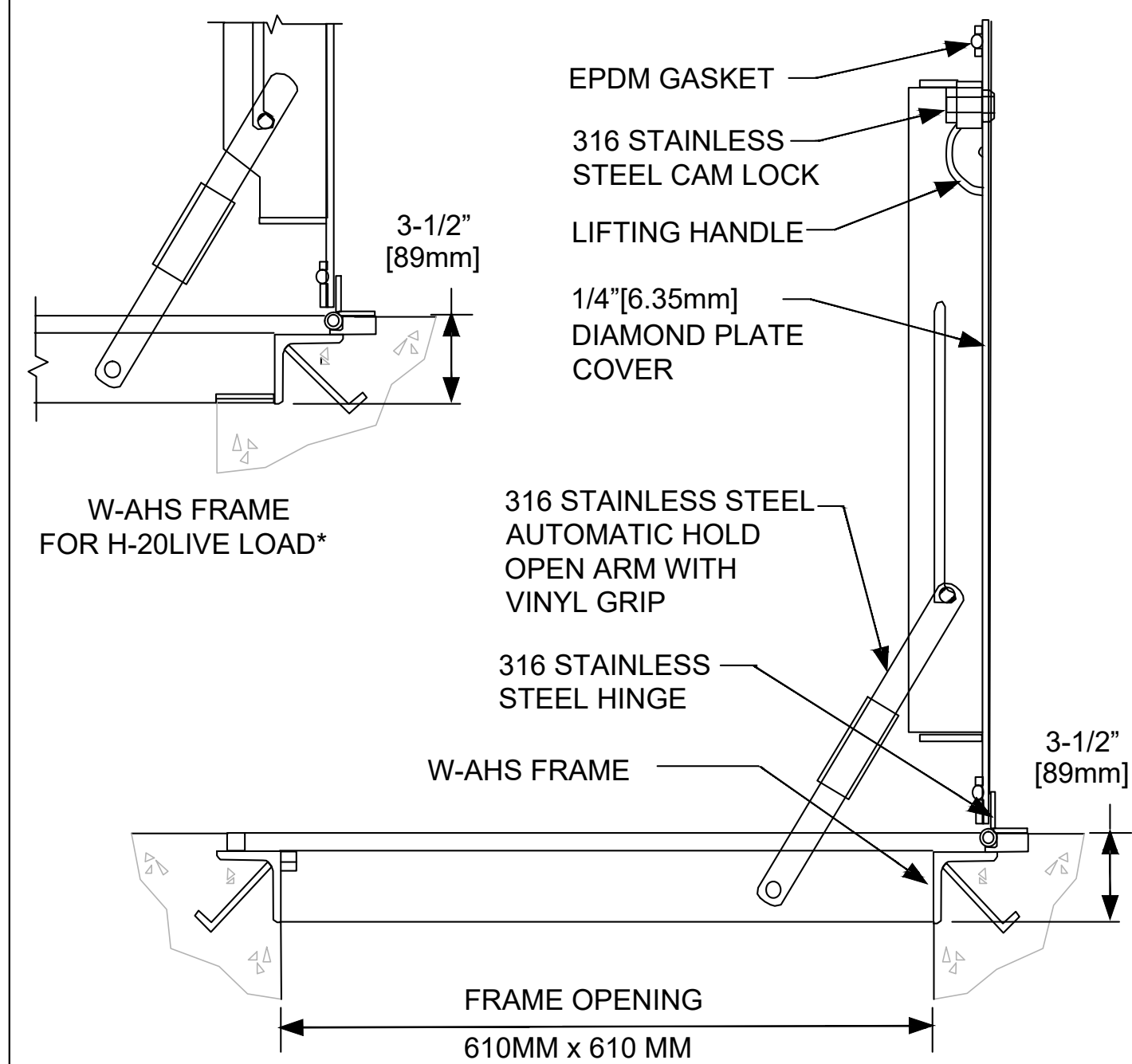
TITLE:
TYPICAL DETAILS - 3

PROJECT NO:
MRK-23004289

CHECKED:
S.S

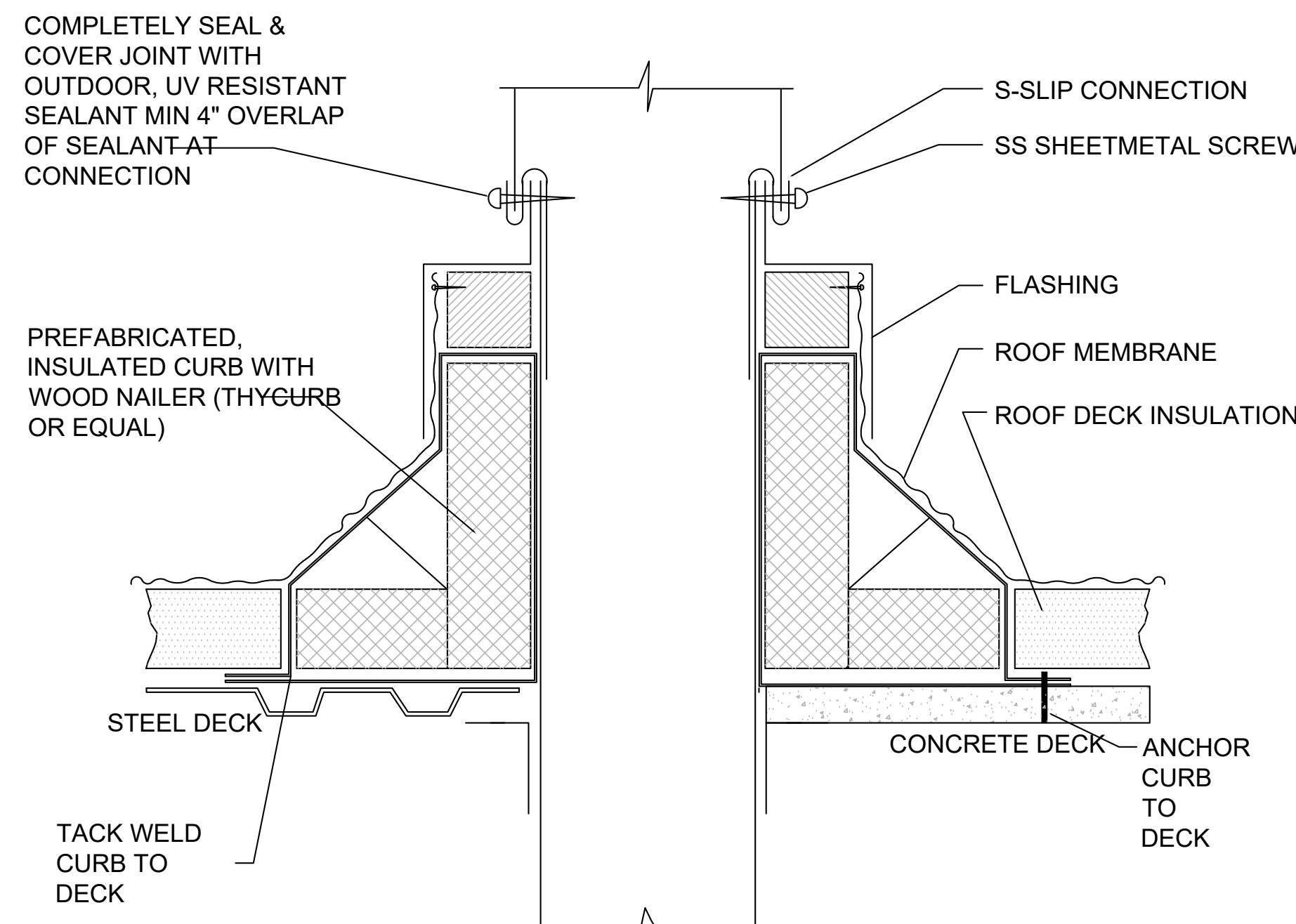
DRAWING NO:

M-903



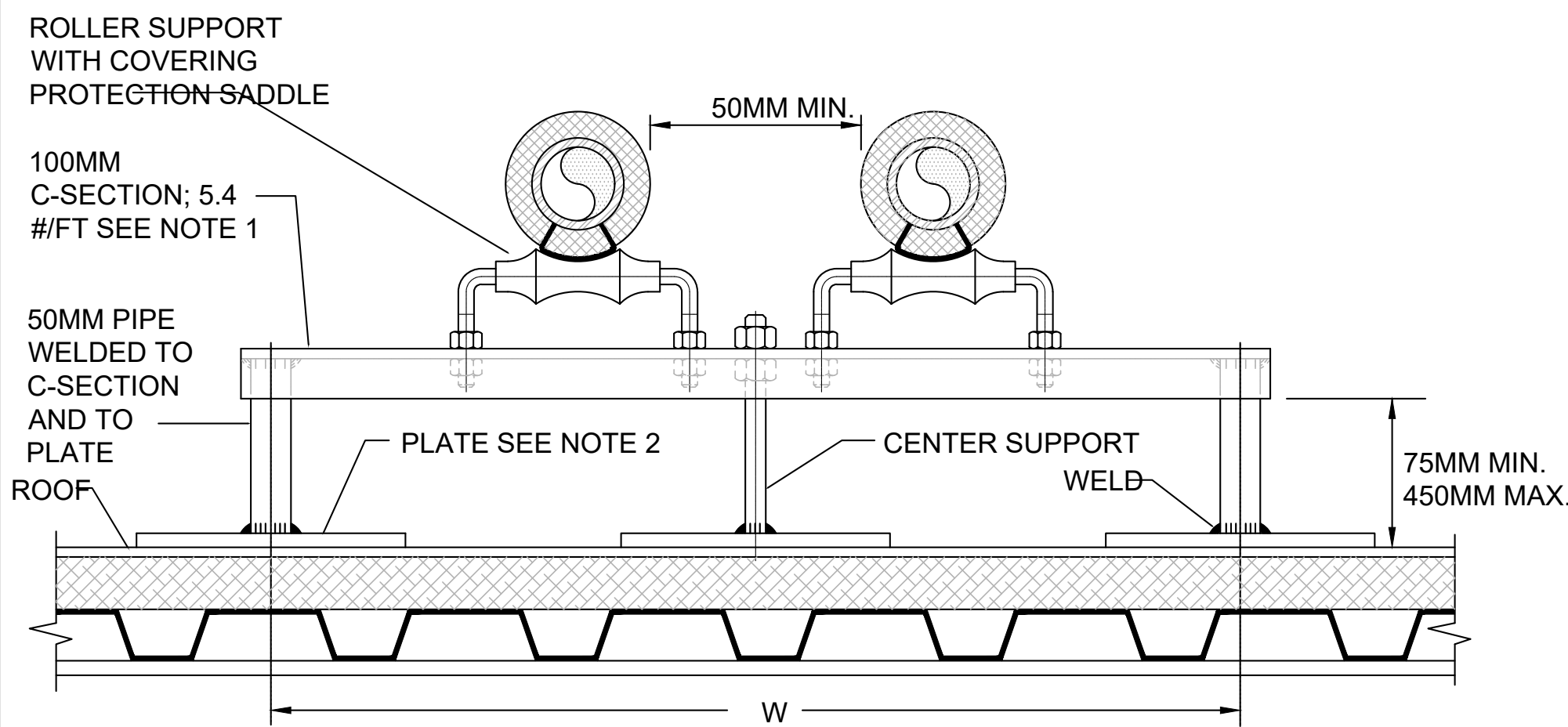
SUMP PITS COVER DETAIL

SCALE: 01
N.T.S.



DUCT PENETRATION THROUGH ROOF DETAIL

SCALE: 02
N.T.S.



- NOTES:
- FOR $W \geq 600\text{MM}$ AND PIPES $\geq 75\text{MM}$ PROVIDE 20ϕ CENTER SUPPORT WITH NUT AND NUT LOCK.
 - SIZE PLATE SUFFICIENT TO AVOID ROOF DAMAGE, BUT NO LESS THAN $200\text{MM} \times 200\text{MM}$. BRAKE EDGES TO AVOID ROOF MEMBRANE DAMAGE. OBTAIN WRITTEN, APPROVED DRAWINGS OF COORDINATION AND ACCEPTANCE BY ROOFING CONTRACTOR.
 - FOR DISTANCE BETWEEN SUPPORTS REFER TO SPECIFICATIONS.
 - THE SUPPORTS SHALL BE SUBMITTED AS SHOP DRAWINGS AND SHALL BE REVIEWED BY A REGISTERED STRUCTURAL ENGINEER IN THE PROJECT'S STATE.

ROOF PIPING SUPPORT FOR GREATER THAN 75MM PIPE

SCALE: 03
N.T.S.

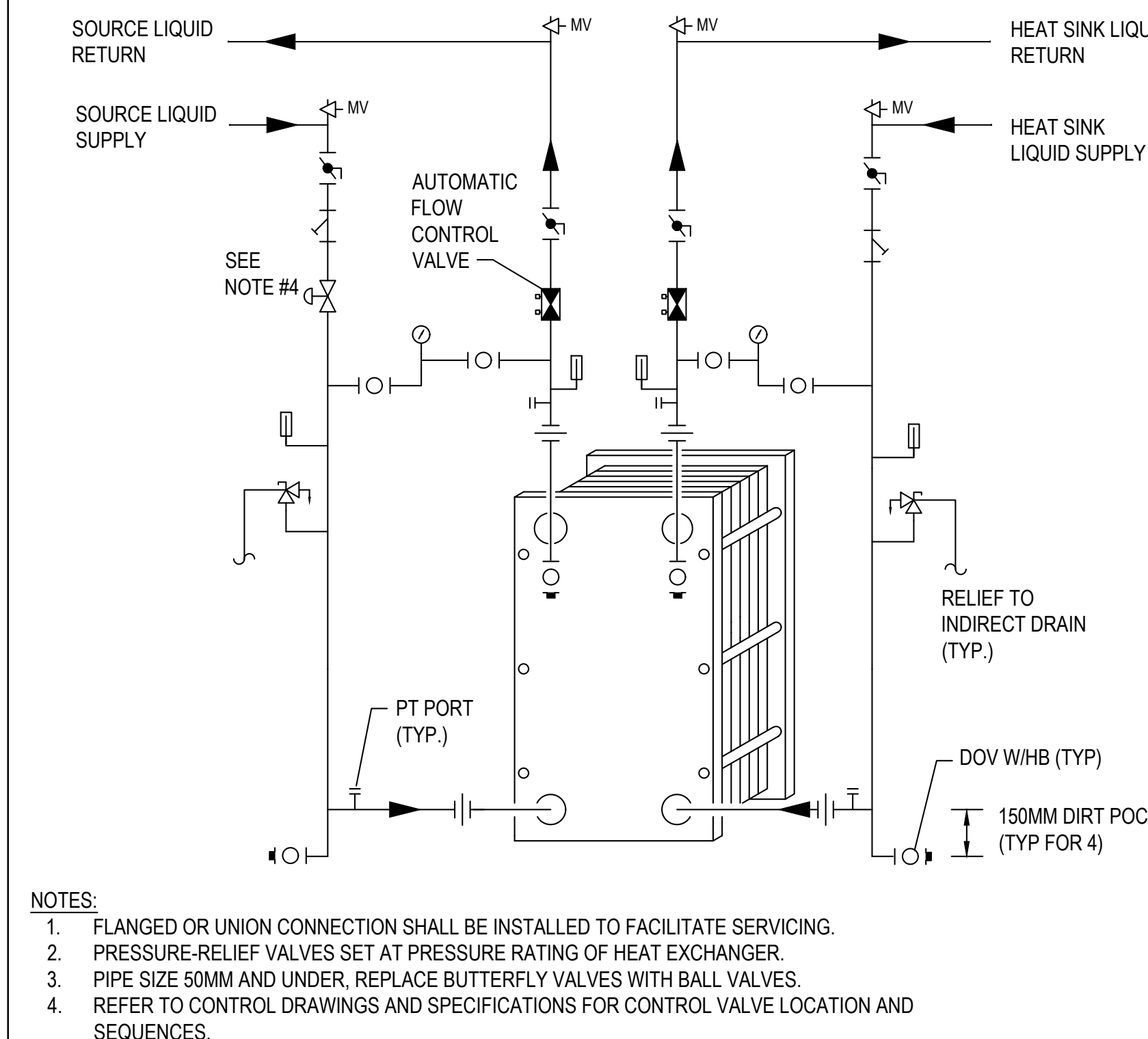
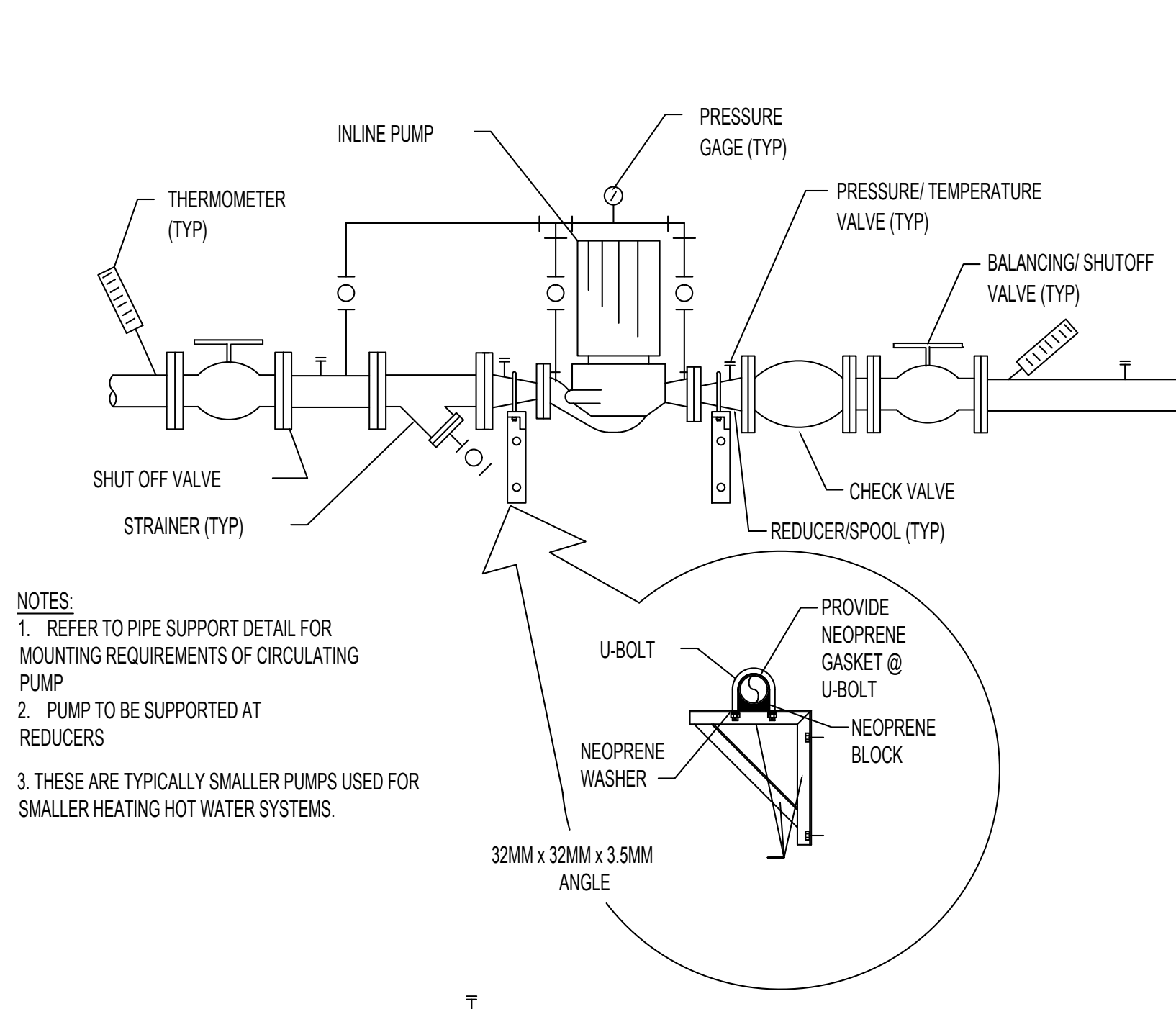


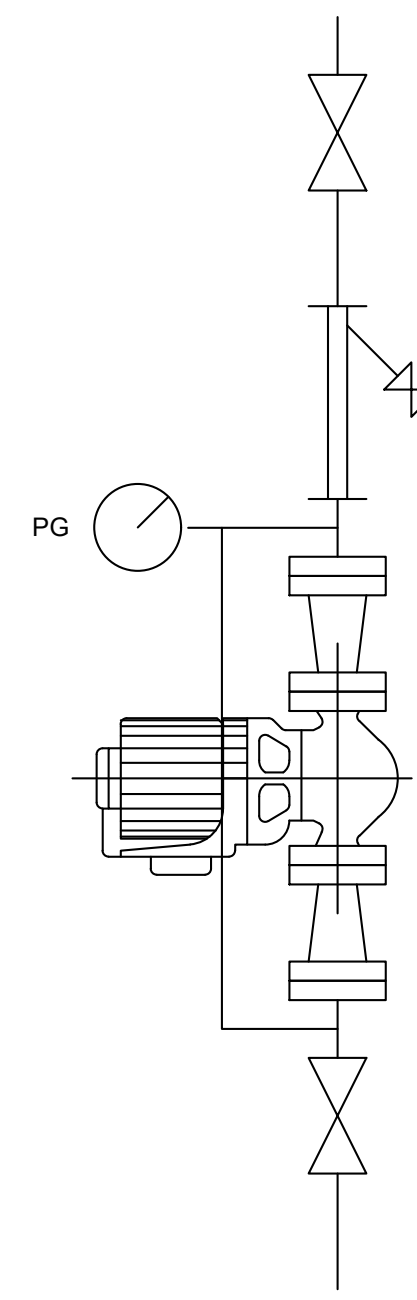
PLATE AND FRAME HEAT EXCHANGER PIPING

SCALE: 04
N.T.S.



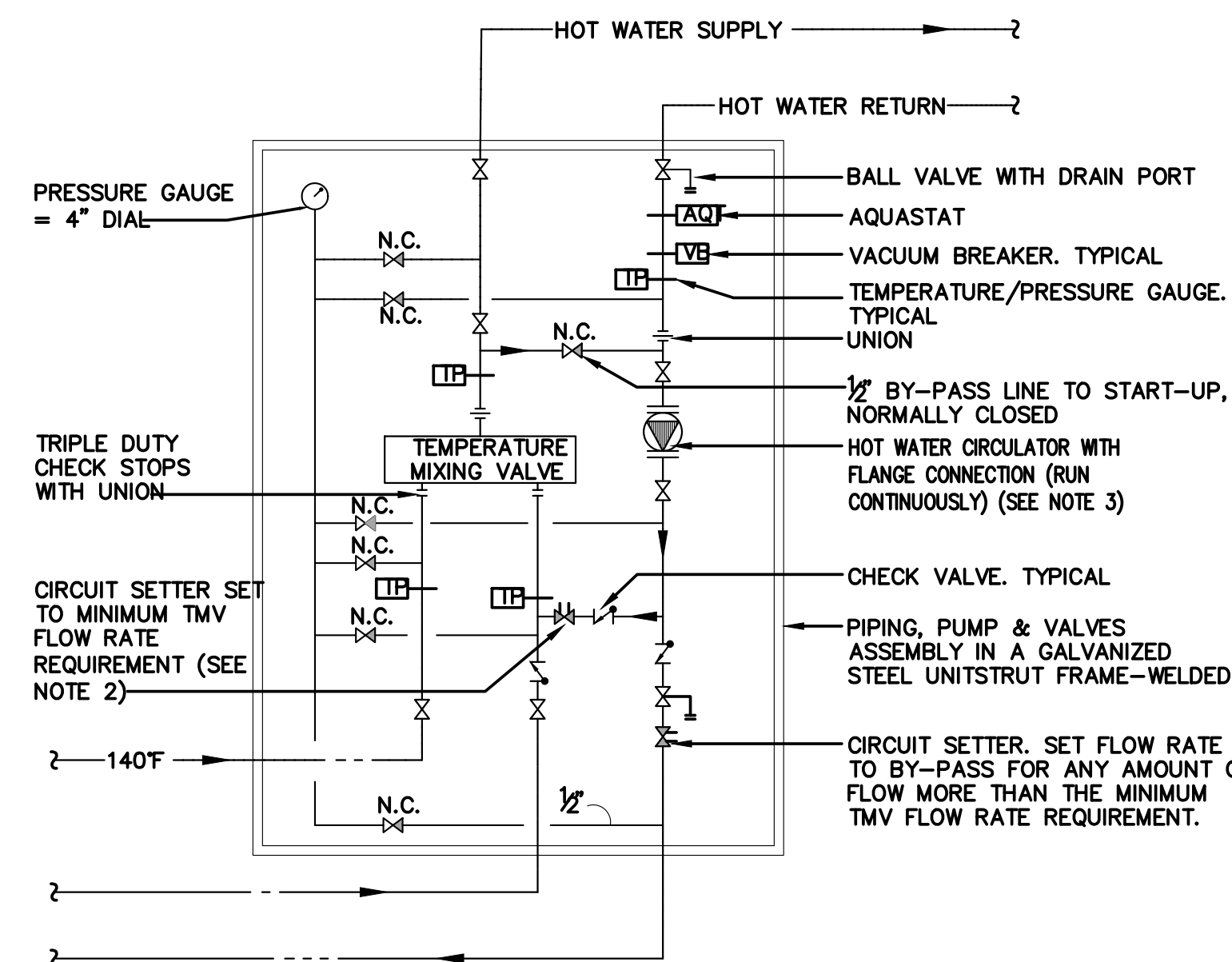
IN-LINE CIRCULATING PUMP DETAIL

SCALE: 05
N.T.S.



IN-LINE CIRCULATING PUMP

SCALE: 06
N.T.S.



- NOTES
- CIRCUIT SETTER SHALL BE OF GRISWOLD K-VALVE, STAINLESS STEEL CARTRIDGE, 20 MESH S.S. STRAINER, NO LEAD, SUITABLE FOR POTABLE WATER USE WITH HEAD LOSS OF NO MORE THAN 4 FEET.
 - BY-PASS PIPE SIZE SHALL BE AS FOLLOWS:
 - UP TO 1 GPM - 1/2"
 - 1.1 TO 2.5 GPM - 3/4"
 - 2.6 TO 5 GPM - 1"
 - 5.1 TO 10 GPM - 1-1/2"
 - 10.1 TO 17 GPM - 2"
 - OVER 2" AS DIRECTED BY ENGINEER ON SITE.
 - REFER TO IN-LINE CIRCULATING PUMP PIPING DETAIL FOR ACCESSORIES & OTHER REQUIREMENT.

THERMOSTATIC MIXING VALVE STANDARD DETAIL

SCALE: 07
N.T.S.

CLIENT:

UHN University Health Network
Toronto Western Hospital
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PROJECT:

Seniors Emergency Medicine Centre (SEMC) &
External Corridor
Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

TITLE:

TYPICAL DETAILS - 4

PROJECT NO:

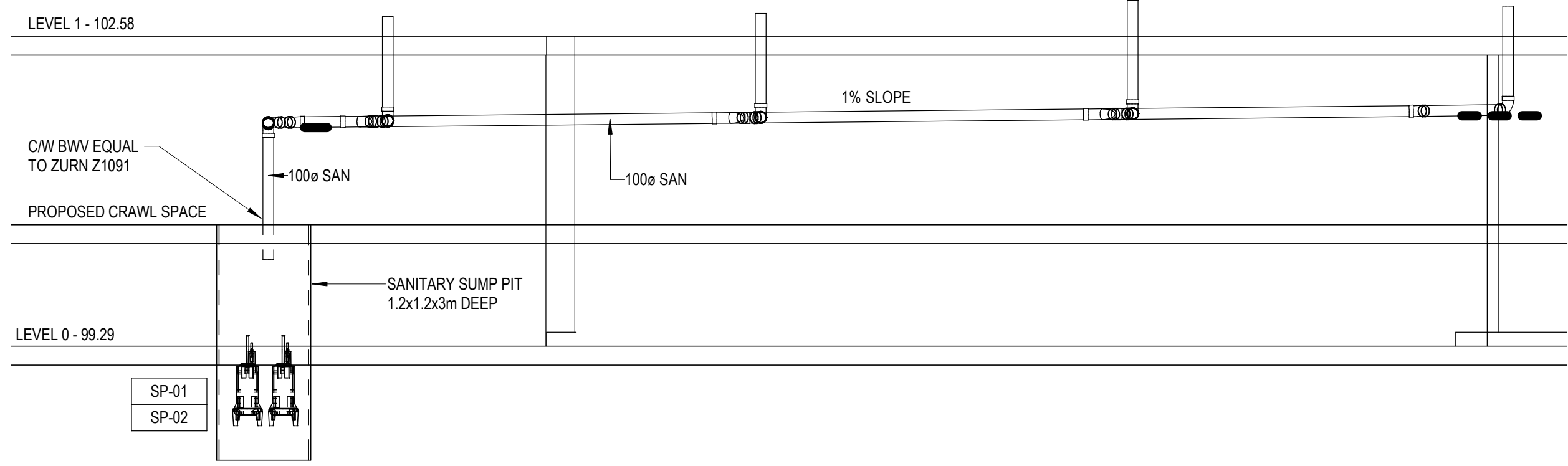
MRK-23004289

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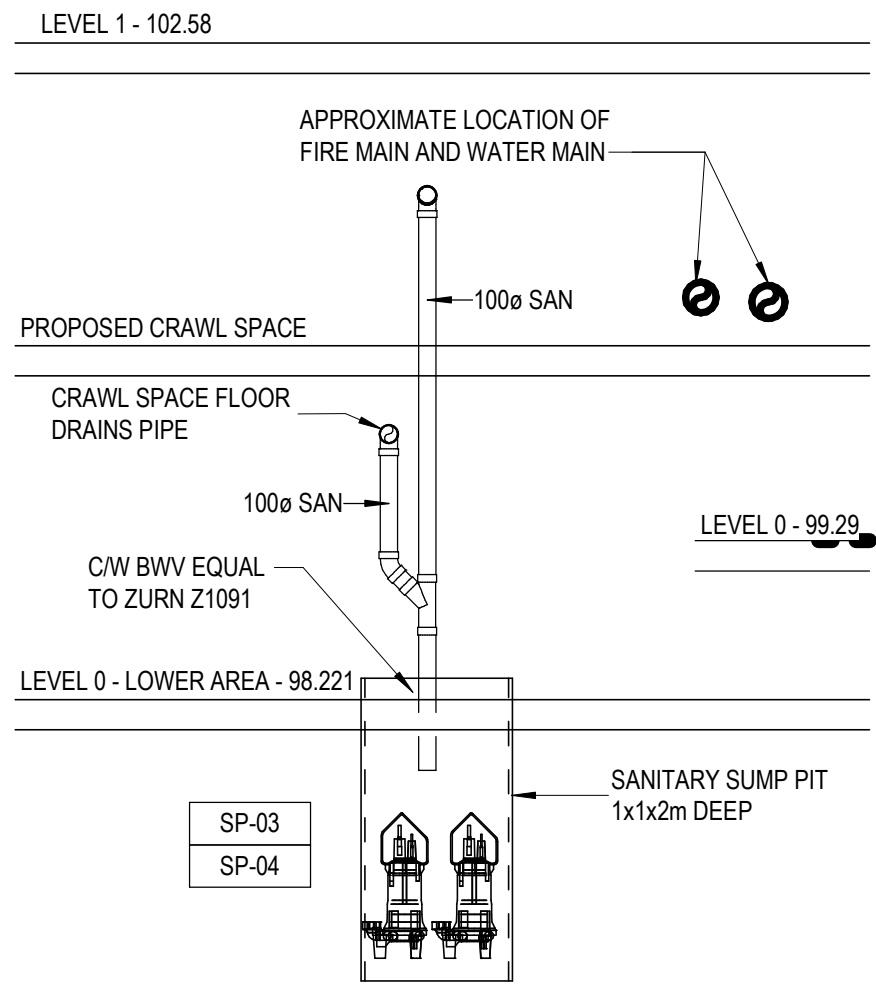
S.S.

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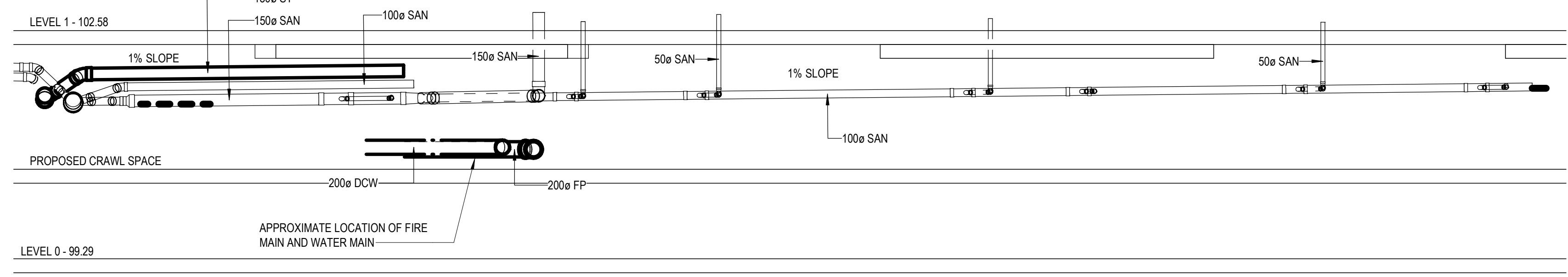
M-904



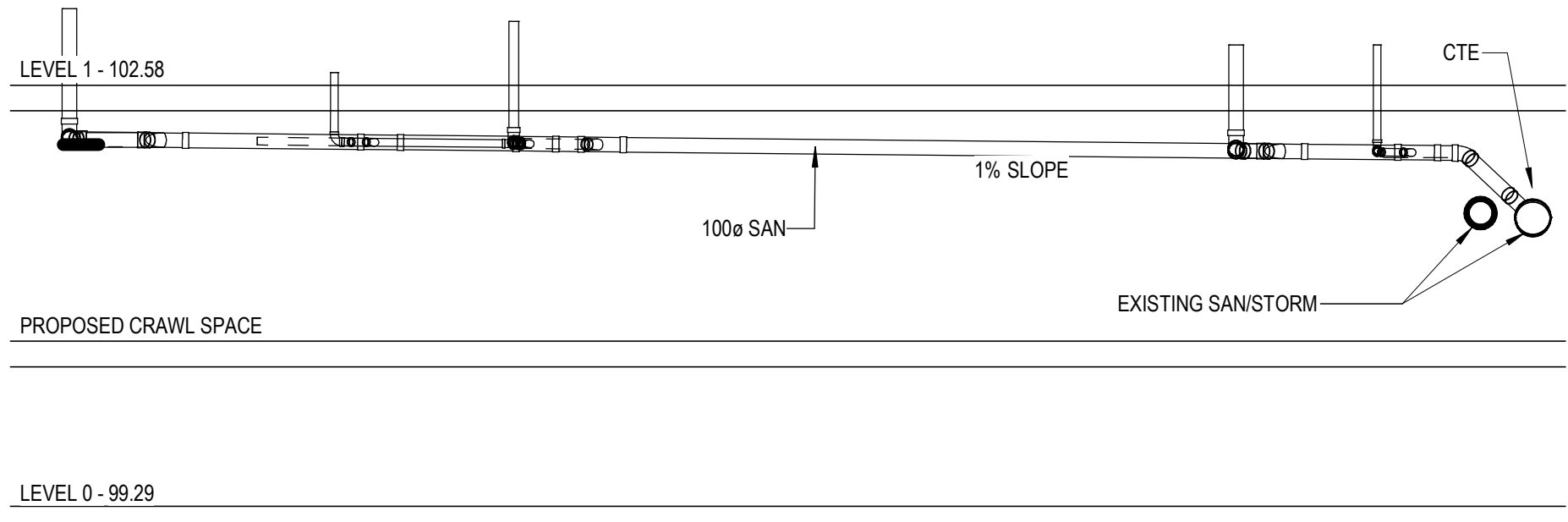
1 SECTION 1
1:50



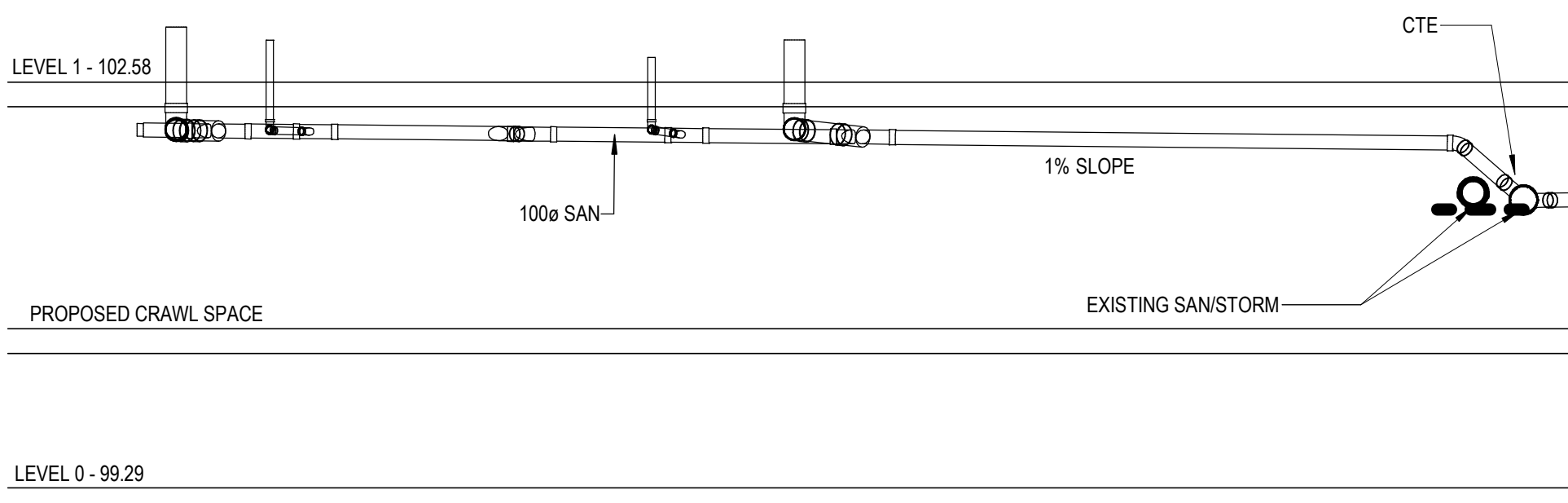
2 SECTION 2
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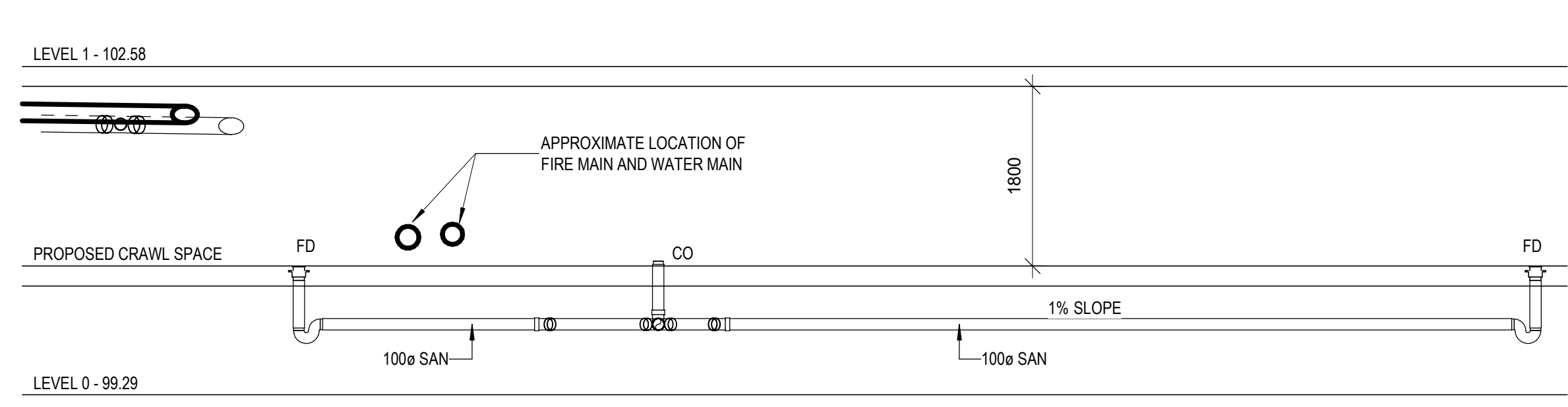
3 SECTION 3
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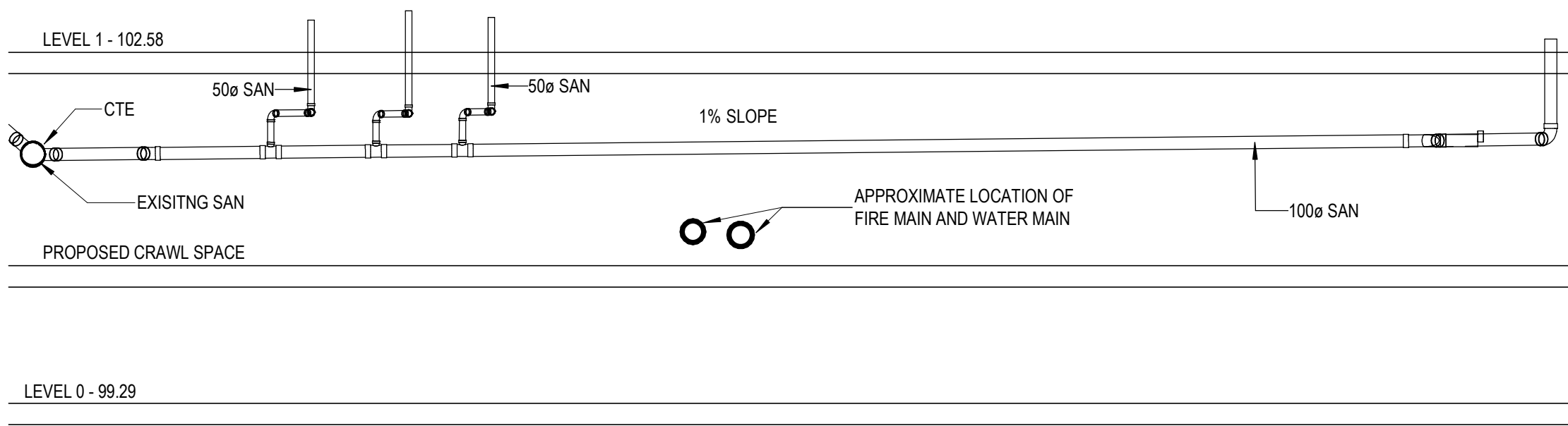
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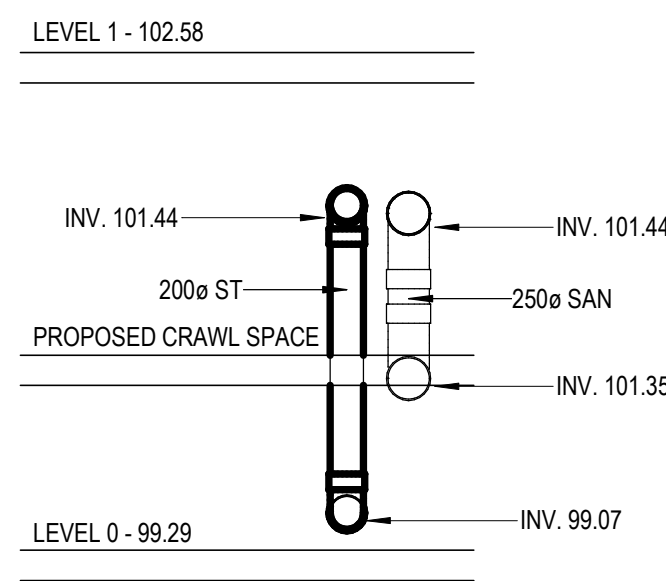
5 SECTION 5
1:50



6 SECTION 6
1:50



7 SECTION 7
1:50



8 SECTION 8
1:50

CLIENT:

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BUILDINGS EARTH & ENVIRONMENT ENERGY
INDUSTRIAL INFRASTRUCTURE SUSTAINABILITY

NO	DESCRIPTION	DATE
9	Issued for Addendum M-03	2024.11.12
8	Issued for Addendum M-02	2024.11.06
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PROJECT:
Seniors Emergency Medicine Centre (SEMC) &
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Toronto Western Hospital
399 Bathurst Street, Toronto, ON, M5T 2S8

TITLE:
PLUMBING SECTIONS

PROJECT NO:

MRK-23004289

CHECKED:
PK

DRAWING NO:

M-1001