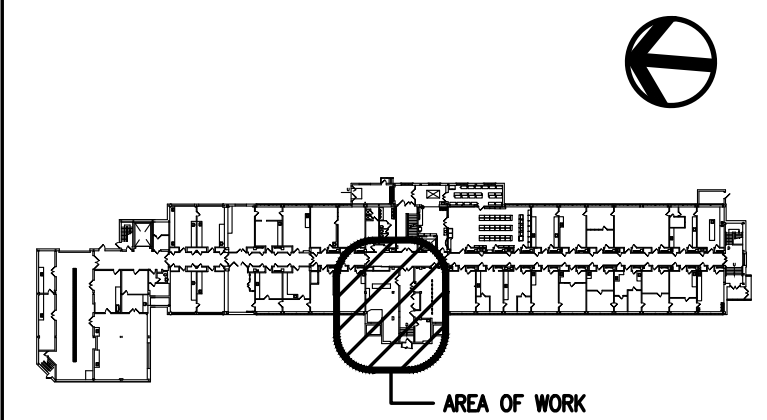


GENERAL NOTES

- CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND REPORT ANY ERRORS OR OMISSIONS TO DEPARTMENTAL REPRESENTATIVE.
- CONTRACTORS MUST VISIT THE SITE & FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK.
- PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.
- MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.
- COORDINATE ALL SHUTDOWNS WITH THE DEPARTMENTAL REPRESENTATIVE.
- PROVIDE ALL LABOUR AND MATERIAL REQUIRED TO FORM A COMPLETE, FUNCTIONAL SYSTEM AS DESCRIBED ON DRAWINGS.

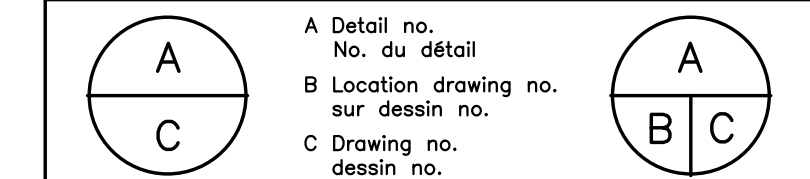
KEY PLAN



No.	Date	Revision	By:	For:
1	29 04 2016	ISSUED FOR TENDER		ALS
0	25 04 2016	ISSUED FOR TSSA REGISTRATION		ALS

Date Printed 25 04 2016 Date imprimée

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité



project M-12 DOMESTIC HOT WATER HEATER REPLACEMENT projet

MONTREAL ROAD CAMPUS
DRAWING LIST, LEGEND, MECHANICAL GENERAL NOTES AND DEMOLITION LAYOUT

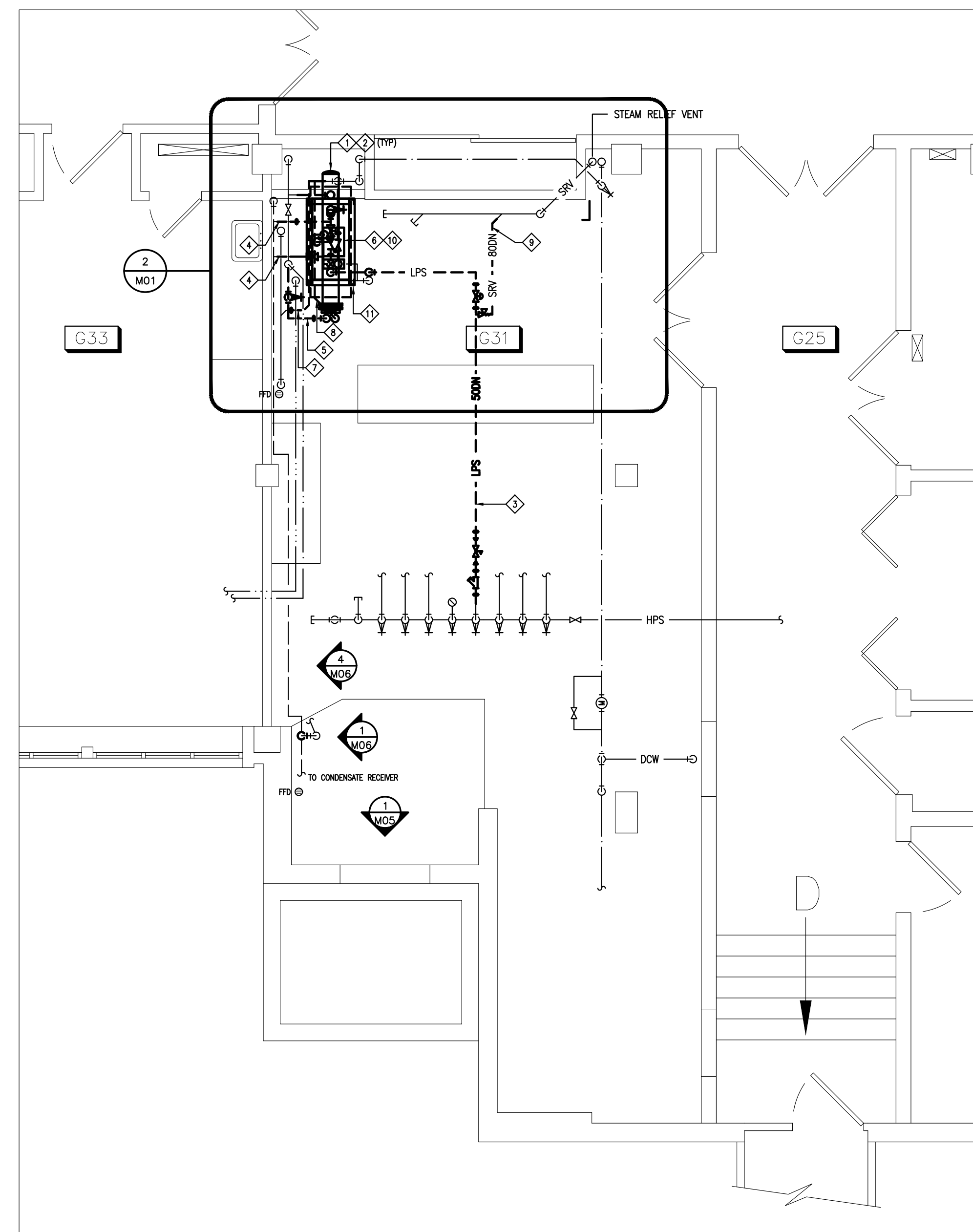
designed	conçu	date	date
ALS/KXL		MAR 2016	
drawn	dessiné	scale	échelle
ALS/KXL		AS SHOWN	
checked	vérifié	sheet	feuille
RGC		M01 of/de	M07
approved	approuvé	W.O.no.	D.T.no.
BV		A1-006913-06-01	
dwg.no.	dessin no.		
5154-M01			

DRAWING LIST

5154-M01	DRAWING LIST, LEGEND, MECHANICAL GENERAL NOTES AND DEMOLITION LAYOUT
5154-M02	DEMOLITION SCHEMATIC
5154-M03	NEW WORK LAYOUT AND MISCELLANEOUS DETAILS
5154-M04	NEW WORK SCHEMATIC
5154-M05	EQUIPMENT SPECIFICATIONS, MISCELLANEOUS DETAILS AND REFERENCE PHOTOS
5154-M06	MISCELLANEOUS REFERENCE PHOTOS
5154-M07	SAFETY RELIEF VENT ELEVATION AND MISCELLANEOUS DETAILS

MECHANICAL LEGEND

EXISTING	NEW
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHR	DOMESTIC HOT WATER RECIRC
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
SRV	SAFETY RELIEF VENT
SD	SANITARY DRAIN
(Symbol)	VALVE IN VERTICAL ORIENTATION
(Symbol)	BALL VALVE
(Symbol)	GATE VALVE
(Symbol)	GLOBE VALVE
(Symbol)	PRESSURE REDUCING VALVE
(Symbol)	CONTROL VALVE
(Symbol)	CHECK VALVE
(Symbol)	SAFETY RELIEF VALVE
(Symbol)	STRAINER
(Symbol)	STEAM TRAP
(Symbol)	PIPE CAP
(Symbol)	ELBOW, TURNED DOWN
(Symbol)	ELBOW, TURNED UP
(Symbol)	PIPE CONTINUATION
(Symbol)	PIPE UNION
(Symbol)	PIPE RISER
(Symbol)	ECCENTRIC REDUCER
(Symbol)	CONCENTRIC REDUCER
(Symbol)	FUNNEL FLOOR DRAIN
(Symbol)	PRESSURE GAUGE
(Symbol)	THERMOMETER
(Symbol)	BAS PRESSURE SENSOR
(Symbol)	BAS ALARM POINT
(Symbol)	BAS TEMPERATURE SENSOR
(Symbol)	BAS STATUS SENSOR
(Symbol)	BAS REMOTE TEMPERATURE SETPOINT
(Symbol)	PUMP
(Symbol)	EQUIPMENT IDENTIFICATION



1 DOMESTIC HOT WATER HEATING SYSTEM LAYOUT – DEMOLITION
 1:50

GENERAL OVERVIEW OF CONSTRUCTION SEQUENCE:

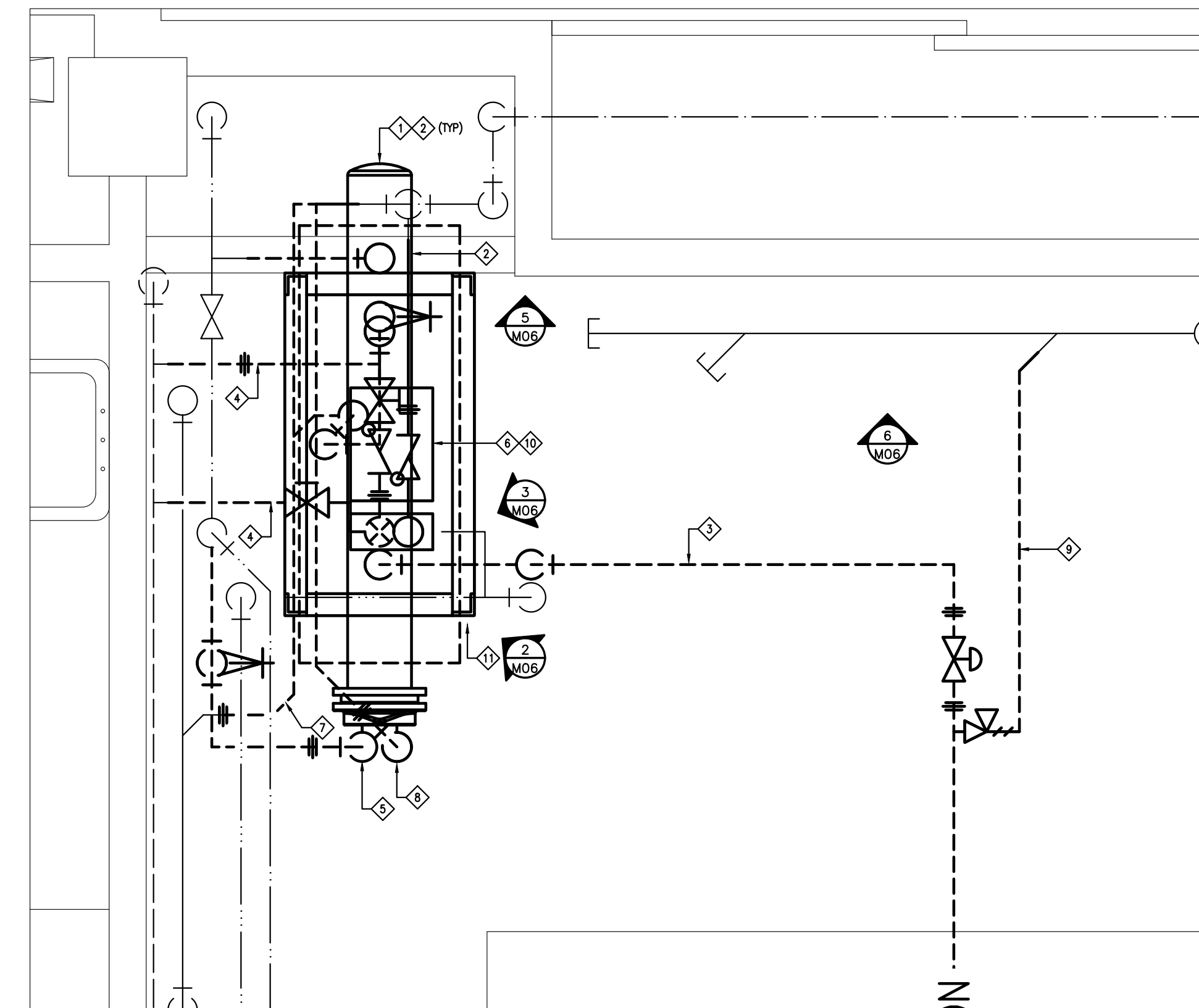
- NEW STEAM PIPING CONNECTION OFF EXISTING HIGH PRESSURE STEAM HEADER C/W ISOLATION VALVE SHALL BE COMPLETED BY NRC DURING SCHEDULED MAY SHUTDOWN AHEAD OF COMMENCEMENT OF WORK.
- INSTALL AND COMMISSION NEW DOMESTIC HOT WATER HEATING SYSTEM C/W ALL REQUIRED VALVES, PIPING, ACCESSORIES, FITTINGS, HANGERS, SUPPORTS, INSULATION AND CONTROL CONNECTIONS. RUN NEW SYSTEM FOR A PERIOD OF 60 DAYS MINIMUM PRIOR TO DEMOLITION OF EXISTING SYSTEM.
- DECOMMISSION, CUT BACK, CAP, REMOVE AND DISPOSE OF EXISTING ABANDONED DOMESTIC HOT WATER HEATING SYSTEM FOLLOWING COMMISSIONING OF NEW INSTALLATION. DATE TO BE DETERMINED BY NRC DEPARTMENTAL REPRESENTATIVE.

GENERAL CONTROL WORK NOTES:

- GENERAL CONTRACTOR SHALL SUBCONTRACT AIRTRON FOR ALL CONTROLS WORK REQUIRED UNDER THIS PROJECT.
 CONTACT: AARON DOBSON (613) 247-7938.
- M-12 CONTROL GRAPHICS TO BE UPDATED TO INCORPORATE MODIFICATIONS AND INTEGRATED CONTROLS PER THE NRC CAMPUS STANDARD.
- MODIFICATION OF THE EXISTING DDC SYSTEM UNDER THIS PROJECT SHALL INCORPORATE UPDATES FOR THE CONTROL POINTS INDICATED.
 - SAFETY RELIEF VENT ALARM
 - DOMESTIC HOT WATER SUPPLY TEMPERATURE SETPOINT (ADJUSTABLE)
 - DOMESTIC HOT WATER SUPPLY TEMPERATURE
 - DOMESTIC HOT WATER HEATER ALARM/FAULT
 - DOMESTIC COLD WATER SUPPLY PRESSURE
 - DOMESTIC HOT WATER RECIRC PUMP STATUS
 - STEAM SUPPLY VALVE POSITION
 - STEAM SUPPLY PRESSURE
- SEQUENCES OF OPERATION TO BE UPDATED AND INCORPORATED TO THE OWS SEQUENCE LINK.
- DDC CONTROLLER FOR M-12 TO HAVE POINTS LIST UPDATED UPON PROJECT COMPLETION.
- CONTROL WIRING TO BE APPROPRIATELY TAGGED WITH POINT NAMES AS PER THE NRC CAMPUS STANDARD.
- CONTROLS CONTRACTOR TO PROVIDE ELECTRONIC AS-BUILT DRAWINGS FOR STORAGE ON THE ASPM BAS SERVER.
- CONTRACTOR SHALL INSTALL ALL REQUIRED WELD-O-LETS FOR THE CONTROLS CONTRACT. CONTROLS CONTRACTOR TO SUPPLY ALL REQUIRED WELLS FOR INSTRUMENTATION INSTALLATION (NO STRAP-ON SENSORS SHALL BE PERMITTED).

GENERAL DEMOLITION NOTES:

- REMOVE AND DISPOSE OF PORTIONS OF EXISTING PIPING INSULATION REQUIRED TO ALLOW TIE-INS FOR NEW DOMESTIC HOT WATER SYSTEM INSTALLATION.
- REMOVE AND DISPOSE OF EXISTING DOMESTIC HOT WATER HEATING SYSTEM C/W EXISTING STEAM HEAT EXCHANGER, STORAGE TANK, PIPING, CONTROLS, ACCESSORIES, SUPPORTS, ETC.
- REMOVE AND DISPOSE OF EXISTING STEAM SUPPLY PIPING. CAP EXISTING STEAM PIPING 300mm FROM ISOLATION VALVE AT MAIN HIGH PRESSURE STEAM HEADER.
- REMOVE AND DISPOSE OF EXISTING 6SDN LOW PRESSURE STEAM CONDENSATE PIPING, ACCESSORIES AND SUPPORTS FROM DOMESTIC HOT WATER HEATING SYSTEM BACK TO MAIN CONDENSATE PIPING ALONG WALL. CAP PIPING AT MAIN BRANCH CONNECTION.
- REMOVE AND DISPOSE OF EXISTING DOMESTIC HOT WATER PIPING, ACCESSORIES AND SUPPORTS FROM DOMESTIC HOT WATER HEATING SYSTEM BACK TO MAIN DOMESTIC HOT WATER DISTRIBUTION PIPING AT CEILING. ADD FUTURE PIPING SPOOL AT MAIN BRANCH CONNECTION.
- REMOVE AND DISPOSE OF EXISTING DOMESTIC HOT WATER RECIRC PUMP. CUT BACK AND CAP DOMESTIC HOT WATER RECIRC PIPING AS INDICATED.
- REMOVE AND DISPOSE OF EXISTING SANITARY DRAIN PIPING FROM DOMESTIC HOT WATER HEATING SYSTEM. CUT BACK AND CAP AT MAIN BRANCH CONNECTION.
- REMOVE AND DISPOSE OF EXISTING DOMESTIC COLD WATER PIPING TO DOMESTIC HOT WATER HEATING SYSTEM BACK TO MAIN DOMESTIC COLD WATER DISTRIBUTION PIPING. CAP PIPING AT MAIN BRANCH CONNECTION.
- REMOVE AND DISPOSE OF EXISTING SAFETY RELIEF VALVE, ASSOCIATED FITTINGS, PIPING AND SUPPORTS. CAP PIPING AT HEADER CONNECTION.
- DISCONNECT AND REMOVE ELECTRICAL WIRING FOR EXISTING PUMP 12DCP01 BACK TO SOURCE PANEL.
- DISCONNECT AND REMOVE EXISTING 120V RECEPTACLE, ELECTRICAL WIRING BACK TO SOURCE PANEL.



2 DEMOLITION DETAIL
 1:16

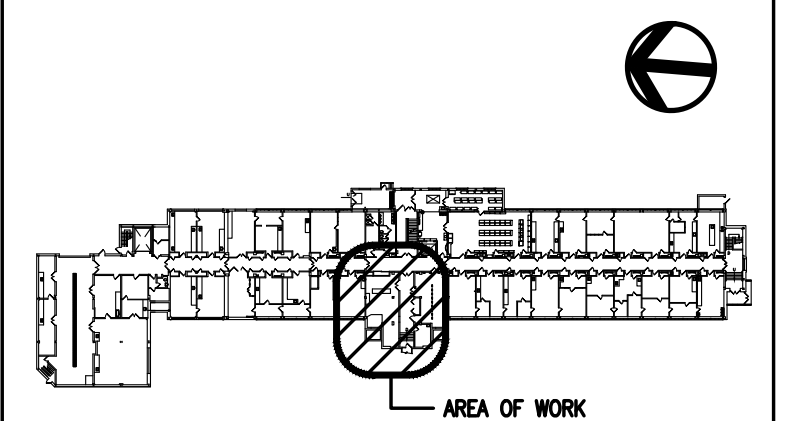
GENERAL STEAM PIPING REQUIREMENTS:

- CERTIFICATION AND QUALIFICATION REQUIREMENTS:
 - CERTIFICATE OF AUTHORIZATION FROM TSSA TO UNDERTAKE WORK ON PROCESS PIPING IN ACCORDANCE TO B31.1.
 - SUBMIT WELDING PROCEDURE FOR ALL WELDING TYPES.
 - COPY OF A VALID WELDING QUALIFICATION RECORD FOR ALL EMPLOYEES THAT WILL BE PERFORMING WELDING WORK.
- PROVIDE MILL TEST REPORT FOR ALL PIPING USED.
- THE CONTRACTOR IS RESPONSIBLE TO ORGANIZE AND ARRANGE FOR ALL LICENSE AND WELDING PROCEDURES AND WELDER QUALIFICATION VERIFICATION BY TSSA. THIS SHALL ALSO INCLUDE INSPECTION COSTS ASSOCIATED WITH TSSA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOUR AND MATERIAL NECESSARY TO BLANK OFF TEST SECTIONS, AND REMOVE ITEMS WHICH CANNOT SUSTAIN TEST PRESSURE.
- REGISTRATION OF THE MODIFICATIONS TO THE HIGH PRESSURE STEAM PIPING SYSTEM WITH TSSA SHALL BE COMPLETED BY NRC. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH ALL TESTING AND TSSA WITNESS AND INSPECTION FEES. THE CONTRACTOR SHALL PROVIDE NRC DEPARTMENTAL REPRESENTATIVE WITH AN INDEPENDENT REPORT DETAILING EVALUATION OF ALL RADIOGRAPHY RESULTS. RADIOGRAPHY REPORT SHALL BE COMPLETED BY INDIVIDUAL CERTIFIED TO CAN-CGSB-48.9712 OR EQUIVALENT. ALL COSTS FOR NDE, PRESSURE TESTING AND INSPECTION SHALL BE CARRIED BY THE CONTRACTOR.
- CONTRACTOR SHALL PROVIDE RECORDS OF THE ALL PRESSURE TESTS, DATA ON INSTRUMENTATION USED AND CALIBRATION INFORMATION OF EQUIPMENT USED. ALL PRESSURE TEST RESULTS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: DATE/TIME OF TEST, PIPE SECTION BEING TESTED, TESTING FLUID, STARTING TEST PRESSURE, ENDING TEST PRESSURE, DURATION OF TEST, FULL RANGE OF PRESSURE GAUGE, OUTSIDE TEMPERATURE, INDIVIDUAL/COMPANY COMPLETING TEST, INDEPENDENT INDIVIDUAL/COMPANY WITNESSING TEST, TSSA INSPECTOR NAME PRESENT DURING TEST IF DIFFERENT THEN ABOVE. PRESSURE SCALE ON ANY TESTING GAUGE SHALL NOT EXCEED 1.2 TIMES TEST PRESSURE.
- THIS DRAWING SET WAS PREPARED FOR TENDER PURPOSES AND IS INTENDED TO CONVEY GENERAL INSTALLATION REQUIREMENTS OF NEW PIPING. CONTRACTOR IS RESPONSIBLE TO VERIFY SITE CONDITIONS AND MEASUREMENTS AT TIME OF BIDDING. SUBMITTAL OF TENDER SHALL MEAN ACCEPTANCE OF SITE CONDITIONS. AS SUCH CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE ANY OFFSETS OR ADJUSTMENTS INCLUDING EXTRA FITTINGS AND/OR OTHER MATERIAL AND LABOUR WHICH MAY BE REQUIRED TO SUIT SITE CONDITIONS AND MEASUREMENTS.
- PROVIDE SHOP DRAWINGS FOR REVIEW BY NRC DEPARTMENTAL REPRESENTATIVE BEFORE ORDERING MATERIAL.
- CONFIRM LOCATION OF ALL INSTRUMENT PORTS WITH THE NRC DEPARTMENTAL REPRESENTATIVE PRIOR TO INSTALLATION.
- ADVISE NRC DEPARTMENTAL REPRESENTATIVE A MINIMUM OF 48 HOURS PRIOR TO PERFORMANCE OF VISUAL EXAMINATION AND PRESSURE TESTS.
- SAFETY PRECAUTIONS IN THE EVENT OF PIPE RUPTURE SHOULD BE IN PLACE TO ELIMINATE HAZARDS TO PERSONNEL IN THE PROXIMITY OF PIPING BEING TESTED.
- ALL ABOVEGROUND EXTERIOR SAFETY VENT PIPING TO BE PRIMED AND PAINTED WITH A MINIMUM OF TWO (2) COATS HIGH TEMPERATURE PAINT. PIPING TO BE PREPARED TO RECEIVE PAINT IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS. DO NOT PAINT ANY PARTS OF THE PIPING BEFORE ALL INSPECTIONS AND TESTS HAVE BEEN COMPLETED AND REVIEWED BY NRC DEPARTMENTAL REPRESENTATIVE AND TSSA AS APPLICABLE. STANDARD OF ACCEPTANCE: SHERMIN WILLIAMS, SILVER-BRITE ALUMINUM PAINT, MODEL: B59511.
- USE ONLY NEW GASKETS AND BOLTING HARDWARE.

GENERAL NOTES

- CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND REPORT ANY ERRORS OR OMISSIONS TO DEPARTMENTAL REPRESENTATIVE.
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- PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.
- MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.
- COORDINATE ALL SHUTDOWNS WITH THE DEPARTMENTAL REPRESENTATIVE.
- PROVIDE ALL LABOUR AND MATERIAL REQUIRED TO FORM A COMPLETE, FUNCTIONAL SYSTEM AS DESCRIBED ON DRAWINGS.

KEY PLAN



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0	25 04 2016	ISSUED FOR TSSA REGISTRATION	ALS

Date Printed 25 04 2016 Date imprimée

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C	B Location drawing no. sur dessin no.	B
	C Drawing no. dessin no.	C

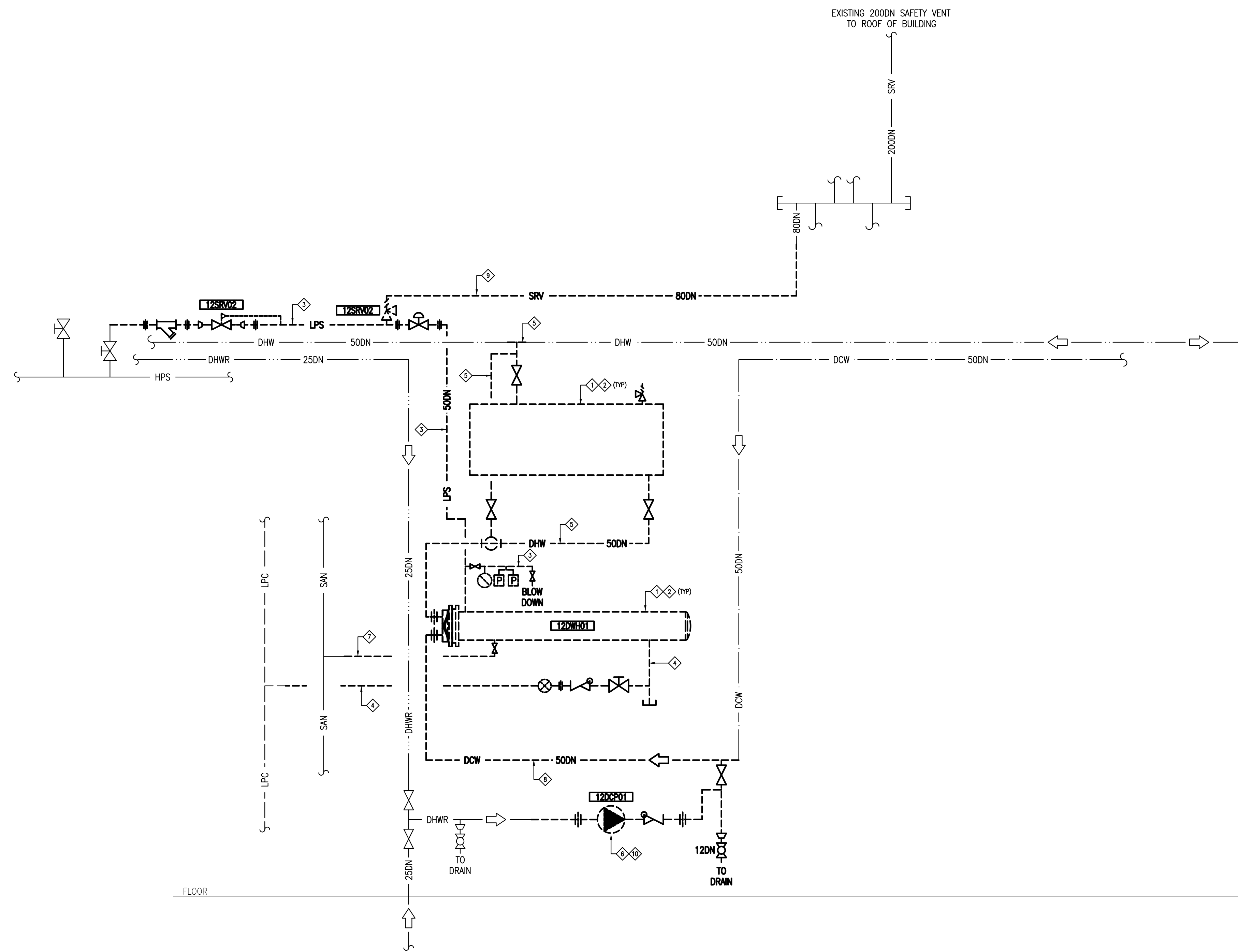
project **M-12 DOMESTIC HOT WATER HEATER REPLACEMENT** projet

MONTREAL ROAD CAMPUS

drawing **DEMOLITION SCHEMATIC** dessin

designed ALS	conçu ALS	date MAR 2016	date
drawn ALS	dessiné ALS	scale AS SHOWN	échelle
checked RGC	vérifié RGC	sheet M02 of/de M07	feuille
approved BV	approuvé BV	W.O.no. A1-006913-06-01	D.T.no.

dwg.no. **5154-M02** dessin no.



1 DOMESTIC HOT WATER HEATING SYSTEM SCHEMATIC – DEMOLITION
 M02 NTS

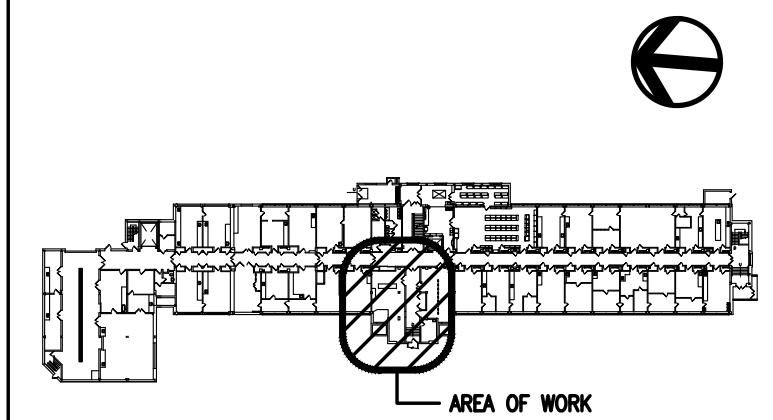
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- REMOVE AND DISPOSE OF EXISTING DOMESTIC HOT WATER HEATING SYSTEM C/W EXISTING STEAM HEAT EXCHANGER, STORAGE TANK, PIPING, CONTROLS, ACCESSORIES, SUPPORTS, ETC.
- REMOVE AND DISPOSE OF EXISTING STEAM SUPPLY PIPING. CAP EXISTING STEAM PIPING 300mm FROM ISOLATION VALVE AT MAIN HIGH PRESSURE STEAM HEADER.
- REMOVE AND DISPOSE OF EXISTING 65DN LOW PRESSURE STEAM CONDENSATE PIPING, ACCESSORIES AND SUPPORTS FROM DOMESTIC HOT WATER HEATING SYSTEM BACK TO MAIN CONDENSATE PIPING ALONG WALL. CAP PIPING AT MAIN BRANCH CONNECTION.
- REMOVE AND DISPOSE OF EXISTING DOMESTIC HOT WATER PIPING, ACCESSORIES AND SUPPORTS FROM DOMESTIC HOT WATER HEATING SYSTEM BACK TO MAIN DOMESTIC HOT WATER DISTRIBUTION PIPING AT CEILING. ADD FUTURE PIPING SPOOL AT MAIN BRANCH CONNECTION.
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- REMOVE AND DISPOSE OF EXISTING DOMESTIC COLD WATER PIPING TO DOMESTIC HOT WATER HEATING SYSTEM BACK TO MAIN DOMESTIC COLD WATER DISTRIBUTION PIPING. CAP PIPING AT MAIN BRANCH CONNECTION.
- REMOVE AND DISPOSE OF EXISTING SAFETY RELIEF VALVE, ASSOCIATED FITTINGS, PIPING AND SUPPORTS. CAP PIPING AT HEADER CONNECTION.
- DISCONNECT AND REMOVE ELECTRICAL WIRING FOR EXISTING PUMP 120CP01 BACK TO SOURCE PANEL.
- DISCONNECT AND REMOVE EXISTING 120V RECEPTACLE, ELECTRICAL WIRING BACK TO SOURCE PANEL.

GENERAL NOTES

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- PROVIDE ALL LABOUR AND MATERIAL REQUIRED TO FORM A COMPLETE, FUNCTIONAL SYSTEM AS DESCRIBED ON DRAWINGS.

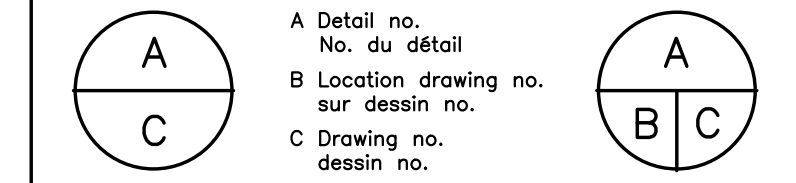
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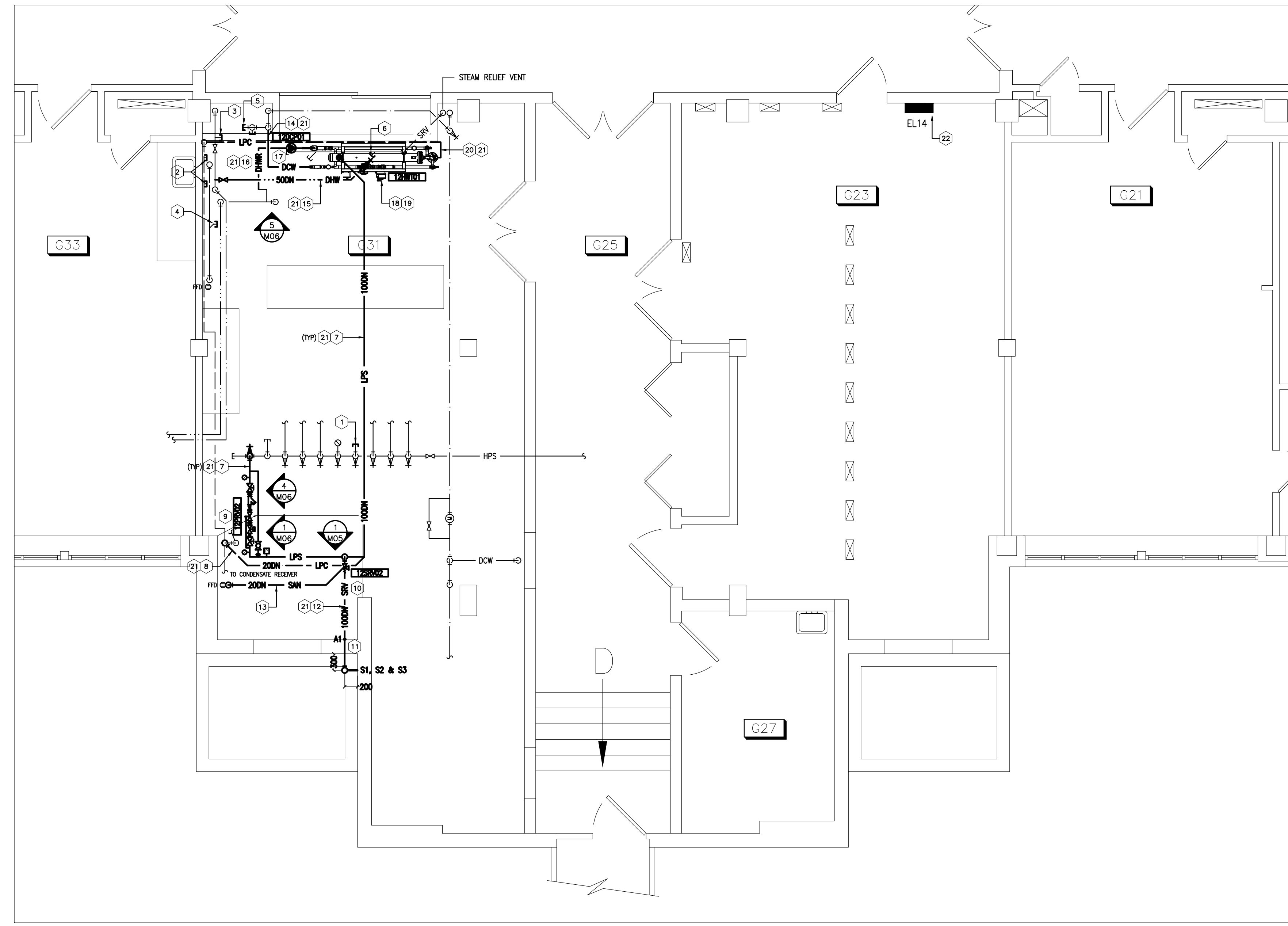
project **M-12 DOMESTIC HOT WATER HEATER REPLACEMENT** projet

MONTREAL ROAD CAMPUS

drawing **NEW WORK LAYOUT AND MISCELLANEOUS DETAILS** dessin

designed	conçu	date	date
ALS/KXL		MAR 2016	
drawn	dessiné	scale	échelle
ALS/KXL		AS SHOWN	
checked	vérifié	sheet	feuille
RGC		M03 of/de	M07
approved	approuvé	W.O.no.	D.T.no.
BV		A1-006913-06-01	

drawg.no. **5154-M03** dessin no.

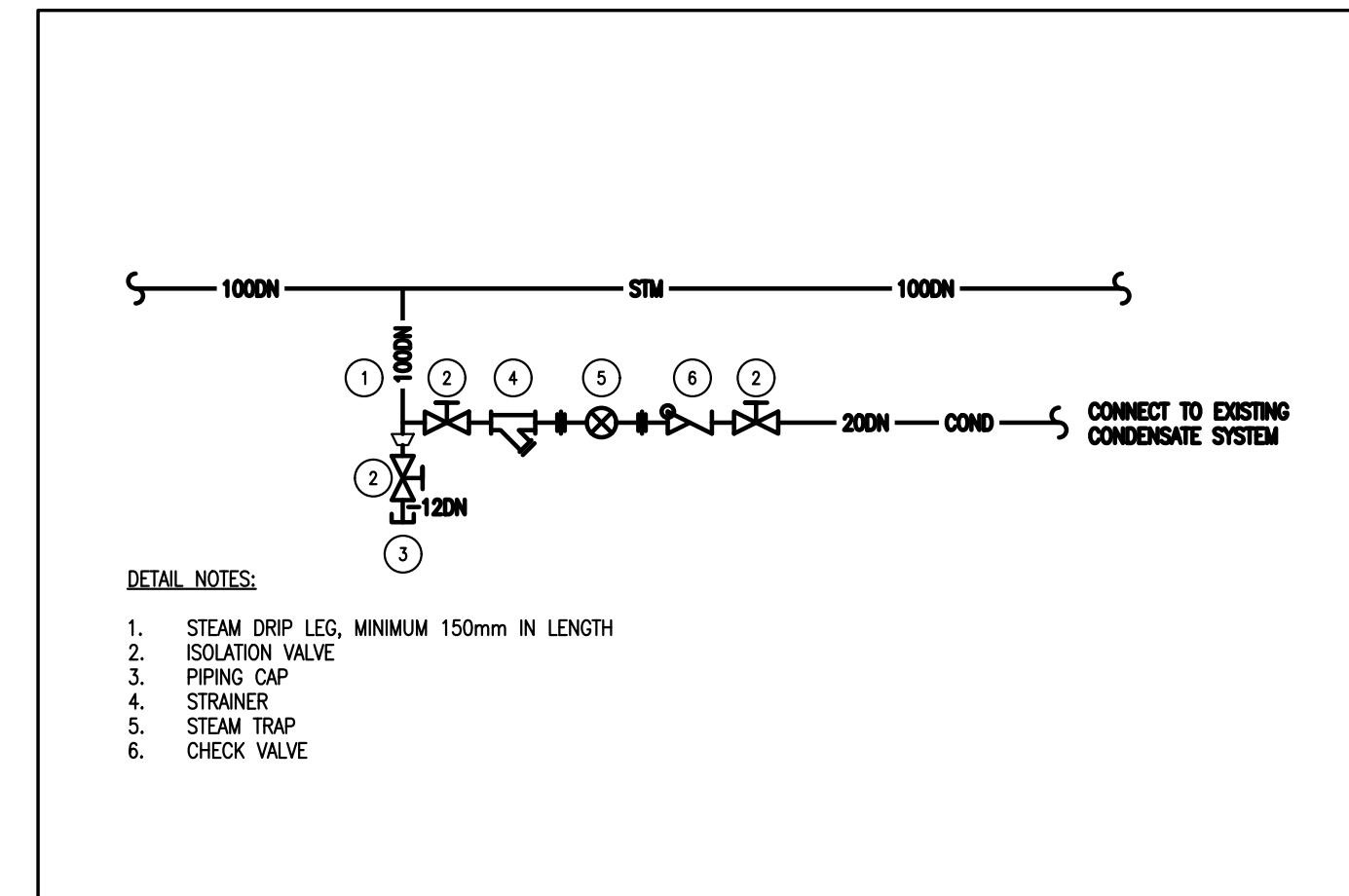


- GENERAL CONTROL WORK NOTES:**
- GENERAL CONTRACTOR SHALL SUBCONTRACT AIRTRON FOR ALL CONTROLS WORK REQUIRED UNDER THIS PROJECT. CONTACT: AMRON DOBSON (613) 247-7938.
 - M-12 CONTROL GRAPHICS TO BE UPDATED TO INCORPORATE MODIFICATIONS AND INTEGRATED CONTROLS PER THE NRC CAMPUS STANDARD.
 - MODIFICATION OF THE EXISTING DDC SYSTEM UNDER THIS PROJECT SHALL INCORPORATE UPDATES FOR THE CONTROL POINTS INDICATED.
 - SAFETY RELIEF VENT ALARM
 - DOMESTIC HOT WATER SUPPLY TEMPERATURE SETPOINT (ADJUSTABLE)
 - DOMESTIC HOT WATER SUPPLY TEMPERATURE
 - DOMESTIC HOT WATER HEATER ALARM/FAULT
 - DOMESTIC COLD WATER SUPPLY PRESSURE
 - DOMESTIC HOT WATER RECIRC PUMP STATUS
 - STEAM SUPPLY VALVE POSITION
 - STEAM SUPPLY PRESSURE
 - SEQUENCES OF OPERATION TO BE UPDATED AND INCORPORATED TO THE OWS SEQUENCE LINK.
 - DDC CONTROLLER FOR M-12 TO HAVE POINTS LIST UPDATED UPON PROJECT COMPLETION.
 - CONTROL WIRING TO BE APPROPRIATELY TAGGED WITH POINT NAMES AS PER THE NRC CAMPUS STANDARD.
 - CONTROLS CONTRACTOR TO PROVIDE ELECTRONIC AS-BUILT DRAWINGS FOR STORAGE ON THE ASPM BAS SERVER.
 - CONTRACTOR SHALL INSTALL ALL REQUIRED WELD-O-LETS FOR THE CONTROLS CONTRACT. CONTROLS CONTRACTOR TO SUPPLY ALL REQUIRED WELDS INSTRUMENTATION INSTALLATION (NO STRAP-ON SENSORS SHALL BE PERMITTED).

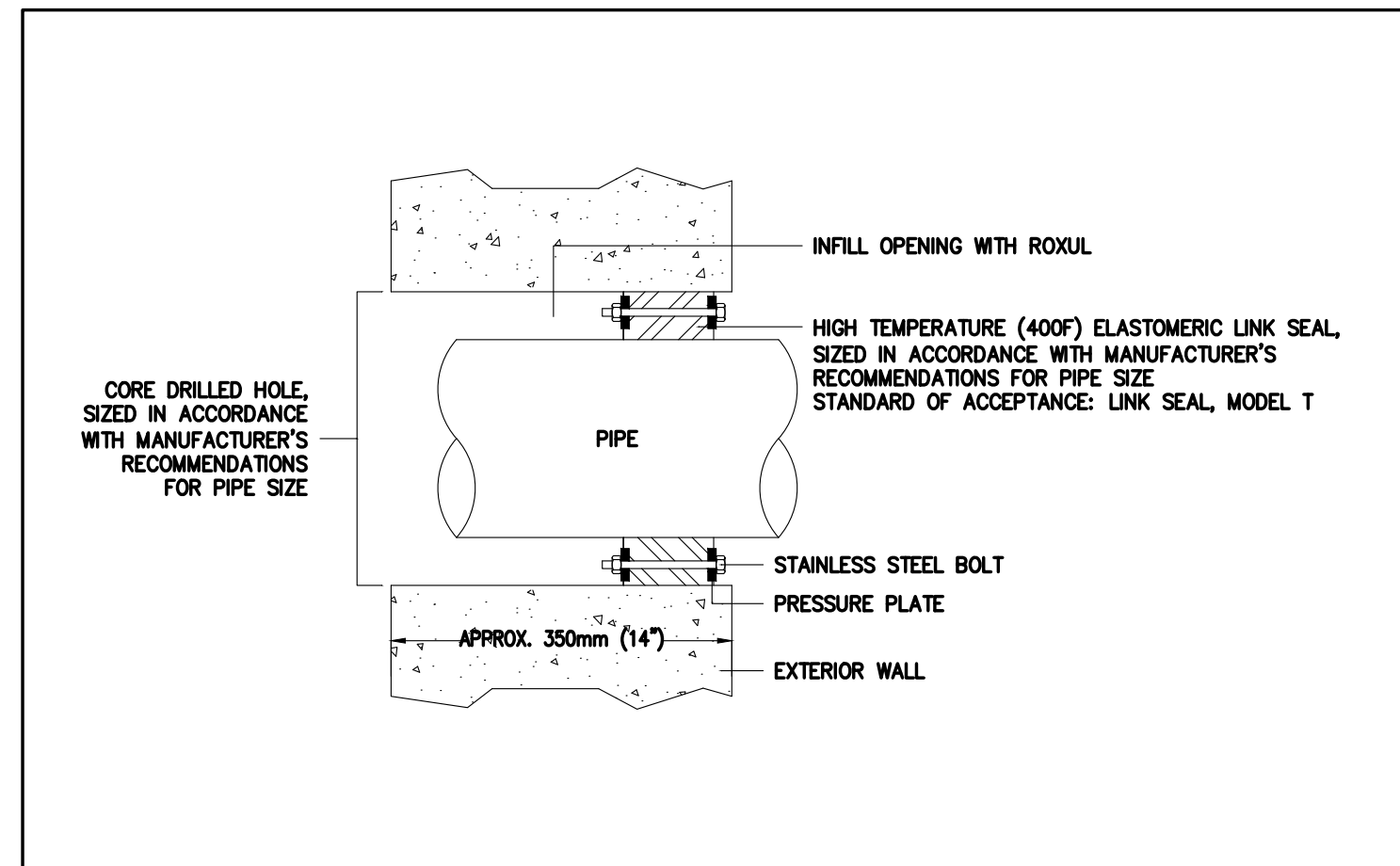
- GENERAL NEW DOMESTIC HOT WATER SYSTEM CONTROL OPERATING NOTES:**
- UTILIZING A CONSTANT STEAM SUPPLY PRESSURE THE DIGITAL-FLO INSTANTANEOUS DOMESTIC HOT WATER HEATER COMPLETE WITH BRAUN DIGITAL RECIRCULATING VALVE (DRV) CONTROLS THE DOMESTIC HOT WATER SUPPLY TEMPERATURE TO MEET DOMESTIC WATER SUPPLY TEMPERATURE SETPOINT (ADJUSTABLE) WITH HIGH ACCURACY.
 - AS AN ADDITIONAL EQUIPMENT PROTECTION SAFETY FEATURE A PRESSURE SENSOR ON THE DOMESTIC COLD WATER SUPPLY TO THE NEW DOMESTIC HOT WATER HEATER SHALL BE INTERLOCKED WITH THE STEAM SUPPLY ISOLATION VALVE.
 - WHEN DOMESTIC HOT WATER HEATER IS OPERATIONAL WITH NO FAULTS DETECTED AND DOMESTIC COLD WATER SUPPLY PRESSURE ABOVE MINIMUM LEVEL (ADJUSTABLE) THE STEAM SUPPLY VALVE SHALL BE OPEN.
 - UPON DETECTION OF FAULTS (SAFETY RELIEF VENT ALARM OR DOMESTIC HOT WATER HEATER ALARM) OR DECREASE IN DOMESTIC COLD WATER SUPPLY PRESSURE TO BELOW MINIMUM LEVEL (ADJUSTABLE) THE STEAM SUPPLY VALVE SHALL BE CLOSED AND AN ALARM SHALL BE INDICATED ON THE BAS.
 - SAFETY RELIEF VENT ALARM SHALL MONITOR IF SAFETY RELIEF VALVE OPERATES.
 - DOMESTIC HOT WATER RECIRC PUMP STATUS SHALL BE MONITORED.
 - STEAM SUPPLY PRESSURE SHALL BE MONITORED.

- NEW CONSTRUCTION NOTES:**
- CAP DEMOLISHED STEAM SUPPLY PIPING 300mm FROM ISOLATION VALVE AT MAIN HIGH PRESSURE STEAM HEADER.
 - CAP DEMOLISHED CONDENSATE PIPING AT MAIN BRANCH CONNECTION.
 - ADD NEW SPOOL PIECE FOR DEMOLISHED DOMESTIC HOT WATER PIPING AT MAIN BRANCH CONNECTION AT CEILING LEVEL DISTRIBUTION PIPING.
 - CAP DEMOLISHED SANITARY DRAIN PIPING AT MAIN BRANCH CONNECTION.
 - CAP DEMOLISHED DOMESTIC COLD WATER PIPING AT MAIN BRANCH CONNECTION.
 - CAP DEMOLISHED SAFETY RELIEF VENT PIPING AT MAIN SAFETY RELIEF VENT HEADER.
 - PROVIDE NEW STEAM SUPPLY PIPING C/W REQUIRED FITTINGS, VALVES, HANGERS AND SUPPORTS TO NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER. REFER TO SPECIFICATIONS AND DRAWINGS M04, M05, M06 & M07 FOR ADDITIONAL DETAILS.
 - PROVIDE NEW CONDENSATE DRIP LEG ON STEAM PIPING. CONNECT TO EXISTING CONDENSATE PIPING IN APPROXIMATE LOCATION INDICATED. REFER TO SPECIFICATIONS AND DETAIL 2/M03 FOR ADDITIONAL DETAILS.
 - PROVIDE NEW PRESSURE REDUCING VALVE (12PRV02) C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES FOR NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER. REFER TO SPECIFICATIONS AND DRAWINGS M04 & M05 FOR ADDITIONAL DETAILS.
 - PROVIDE NEW SAFETY RELIEF VALVE (12SRV02) C/W ALL REQUIRED FITTINGS, HANGERS, SUPPORTS AND ACCESSORIES. REFER TO SPECIFICATIONS AND DRAWINGS M04, M05, M06 & M07 FOR ADDITIONAL DETAILS.
 - CORE DRILL EXTERIOR WALL PENETRATION FOR SAFETY VENT PIPING. REFER TO SPECIFICATION AND DETAIL 3/M03 FOR ADDITIONAL REQUIREMENTS.
 - PROVIDE NEW 100DN SAFETY RELIEF VENT PIPING FROM NEW SAFETY RELIEF VALVE (12SRV02) THROUGH EXTERIOR WALL AND UP EXTERIOR FACE OF BUILDING. TERMINATE VENT WITH 45DEG ELBOW C/W BIRDSCREEN FACING AWAY FROM BUILDING. SEAL EXTERIOR WALL PENETRATION WATER TIGHT. REFER TO DRAWINGS M04, M05, M06 & M07 FOR ADDITIONAL DETAILS.
 - PROVIDE NEW 20DN DRAIN PIPING CONNECTION FROM EXISTING SAFETY RELIEF VENT AND TERMINATE OVER NEAREST FLOOR DRAIN ADJACENT EXISTING CONDENSATE RECEIVER.
 - PROVIDE NEW 50DN DOMESTIC COLD WATER PIPING CONNECTION C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES TO SERVICE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER.
 - PROVIDE NEW 50DN DOMESTIC HOT WATER PIPING CONNECTION C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES TO SERVICE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER.
 - PROVIDE NEW 25DN DOMESTIC HOT WATER RECIRC PIPING CONNECTION C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES TO SERVICE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER.
 - PROVIDE NEW DOMESTIC HOT WATER RECIRC PUMP C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES. REFER TO SPECIFICATIONS AND DRAWINGS M04 & M05 FOR ADDITIONAL DETAILS.
 - PROVIDE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER 12DW02. REFER TO SPECIFICATIONS AND DRAWINGS M04, M05 & M07 AND DETAIL 4/M03 FOR ADDITIONAL DETAILS.
 - INSULATE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER IN ACCORDANCE WITH SPECIFICATIONS. ENSURE NAMEPLATE REMAINS LEGIBLE.
 - PROVIDE NEW 25DN CONDENSATE PIPING C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES FROM NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER AND CONNECT TO EXISTING CONDENSATE PIPING IN APPROXIMATE LOCATION INDICATED.
 - INSULATE ALL NEW PIPING IN ACCORDANCE WITH SPECIFICATIONS.
 - PROVIDE DEDICATED CIRCUITS FOR NEW PUMP, WATER HEATER AND CONTROL VALVE FROM PANEL EL14 IN RM. G23:
 - PROVIDE (3) 15A, 1P 00 BOLT-ON BREAKER ON EXISTING SQ D M000 PANEL.
 - PROVIDE IN-LINE MANUAL STARTER FOR NEW PUMP, TOGGLE TYPE, 1 POLE, "AUTO-OFF-HAND" SELECTOR, PILOT LIGHT, SQ D CLASS 2510CA0701P1.
 - PROVIDE 2#12 T90 + GND IN EMT FROM SOURCE PNL. FLEX CONNECTION AT MOTOR, HEATER AND VALVE.
 - 20A, 1P INDUSTRIAL GRADE SERVICE SWITCH ON PUMP MOTOR.

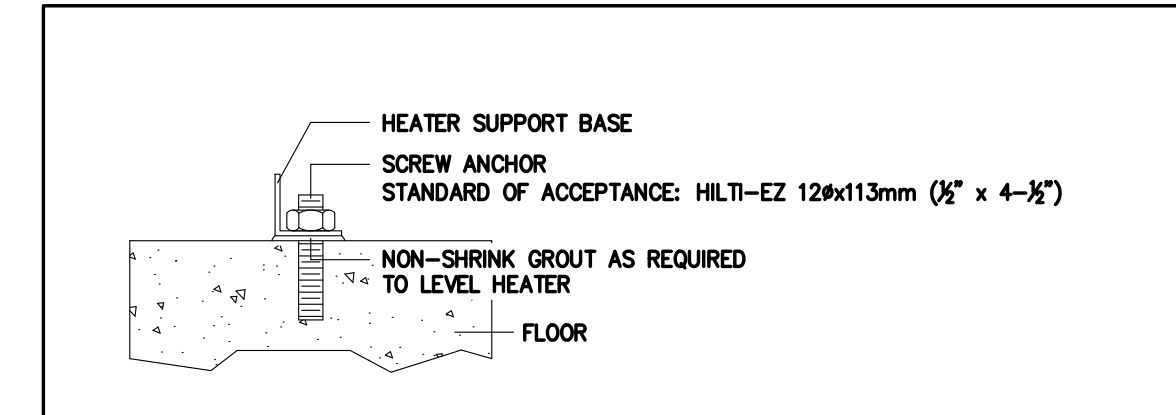
1 DOMESTIC HOT WATER HEATING SYSTEM LAYOUT – NEW WORK
 1:50



2 TYPICAL STEAM DRIP LEG INSTALLATION
 NTS



3 TYPICAL EXTERIOR PENETRATION SEALANT INSTALLATION
 NTS

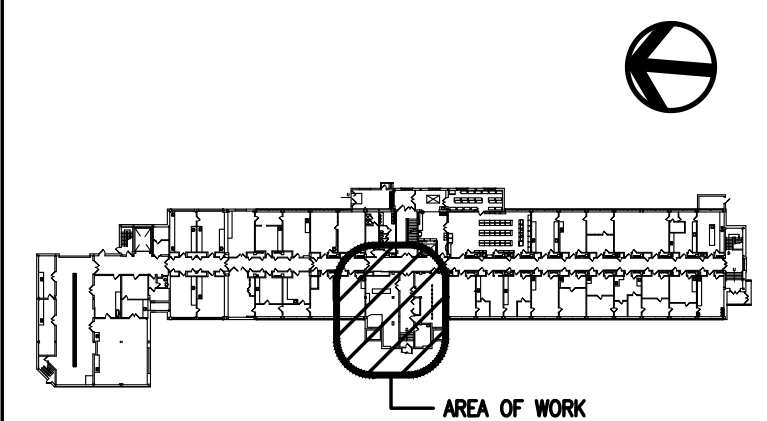


4 TYPICAL HEATER SUPPORT FRAME SECUREMENT
 NTS

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- COORDINATE ALL SHUTDOWNS WITH THE DEPARTMENTAL REPRESENTATIVE.
- PROVIDE ALL LABOUR AND MATERIAL REQUIRED TO FORM A COMPLETE, FUNCTIONAL SYSTEM AS DESCRIBED ON DRAWINGS.

KEY PLAN



No.	Date	Revision	By:
1	29 04 2016	ISSUED FOR TENDER	ALS
0	25 04 2016	ISSUED FOR TSSA REGISTRATION	ALS

Date Printed 25 04 2016 Date imprimée

- Verify all dimensions and site conditions and be responsible for same.
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité.

A	A Detail no. No. du détail	A
B	B Location drawing no. sur dessin no.	B
C	C Drawing no. dessin no.	C

project **M-12 DOMESTIC HOT WATER HEATER REPLACEMENT** projet

MONTREAL ROAD CAMPUS

NEW WORK SCHEMATIC dessin

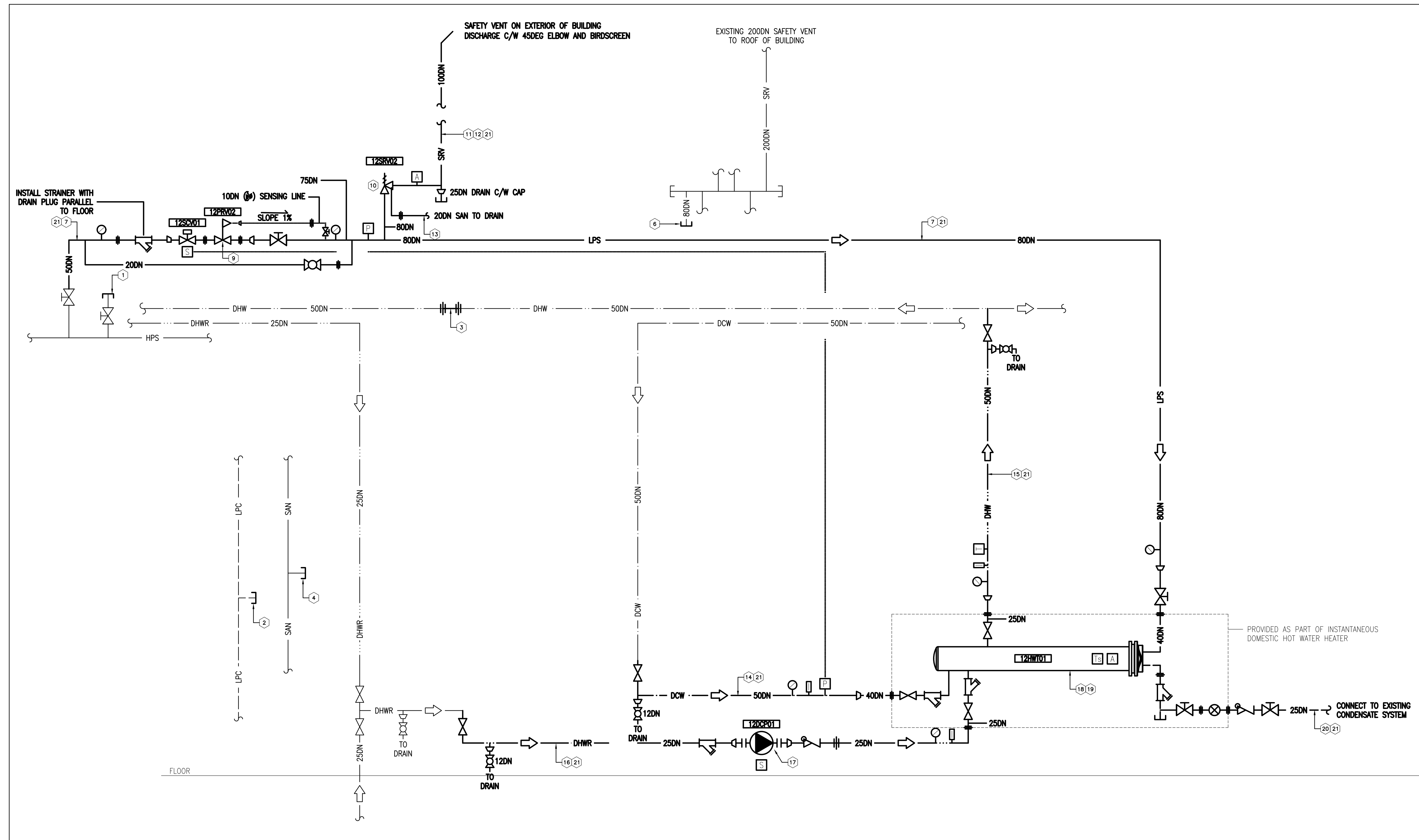
designed **ALS** conçu **date MAR 2016** date

drawn **ALS** dessiné **scale AS SHOWN** échelle

checked **RGC** vérifié **sheet M04 of/de M07** feuille

approved **BV** approuvé **W.O.no. A1-006913-06-01** D.T.no.

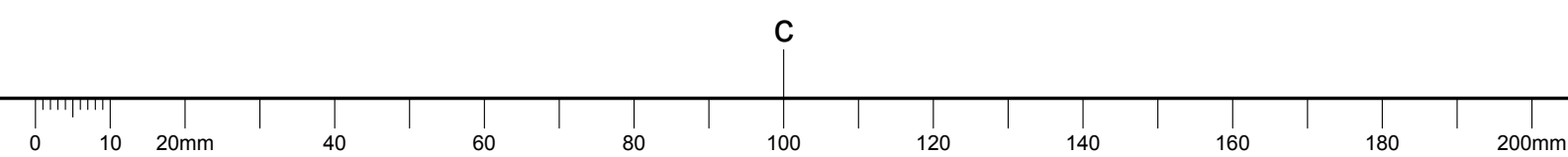
dwg.no. **5154-M04** dessin no.



1 DOMESTIC HOT WATER HEATING SYSTEM SCHEMATIC – NEW WORK
 M04 NTS

NEW CONSTRUCTION NOTES:

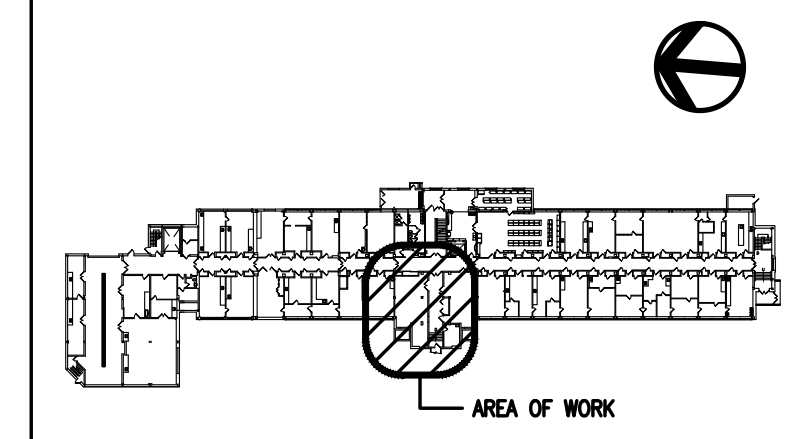
- CAP DEMOLISHED STEAM SUPPLY PIPING 300mm FROM ISOLATION VALVE AT MAIN HIGH PRESSURE STEAM HEADER.
- CAP DEMOLISHED CONDENSATE PIPING AT MAIN BRANCH CONNECTION.
- ADD NEW SPOOL PIECE FOR DEMOLISHED DOMESTIC HOT WATER PIPING AT MAIN BRANCH CONNECTION AT CEILING LEVEL DISTRIBUTION PIPING.
- CAP DEMOLISHED SANITARY DRAIN PIPING AT MAIN BRANCH CONNECTION.
- CAP DEMOLISHED DOMESTIC COLD WATER PIPING AT MAIN BRANCH CONNECTION.
- CAP DEMOLISHED SAFETY RELIEF PIPING AT MAIN SAFETY RELIEF VENT HEADER.
- PROVIDE NEW STEAM SUPPLY PIPING C/W ALL REQUIRED FITTINGS, VALVES, HANGERS AND SUPPORTS TO NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER. REFER TO SPECIFICATIONS AND DRAWINGS M04, M05, M06 & M07 FOR ADDITIONAL DETAILS.
- PROVIDE NEW CONDENSATE DRIP LEG ON STEAM PIPING. CONNECT TO EXISTING CONDENSATE PIPING IN APPROXIMATE LOCATION INDICATED. REFER TO SPECIFICATIONS AND DETAIL 2/M03 FOR ADDITIONAL DETAILS.
- PROVIDE NEW PRESSURE REDUCING VALVE (12PRV02) C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES FOR NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER. REFER TO SPECIFICATIONS AND DRAWINGS M04 & M05 FOR ADDITIONAL DETAILS.
- PROVIDE NEW SAFETY RELIEF VALVE (12SRV02) C/W ALL REQUIRED FITTINGS, HANGERS, SUPPORTS AND ACCESSORIES. REFER TO SPECIFICATIONS AND DRAWINGS M04, M05 & M07 FOR ADDITIONAL DETAILS.
- CORE DRILL EXTERIOR WALL PENETRATION FOR SAFETY VENT PIPING. REFER TO SPECIFICATION AND DETAIL 3/M03 FOR ADDITIONAL REQUIREMENTS.
- PROVIDE NEW 100DN SAFETY RELIEF VENT PIPING FROM NEW SAFETY RELIEF VALVE (12SRV02) THROUGH EXTERIOR WALL AND UP EXTERIOR FACE OF BUILDING. TERMINATE VENT WITH 45DEG ELBOW C/W BIRDSCREEN FACING AWAY FROM BUILDING. SEAL EXTERIOR WALL PENETRATION WATER-TIGHT. REFER TO DRAWINGS M04, M05, M06 & M07 FOR ADDITIONAL DETAILS.
- PROVIDE NEW 200DN DRAIN PIPING CONNECTION FROM EXISTING SAFETY RELIEF VENT AND TERMINATE OVER NEAREST FLOOR DRAIN ADJACENT EXISTING CONDENSATE RECEIVER.
- PROVIDE NEW 500DN DOMESTIC COLD WATER PIPING CONNECTION C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES TO SERVICE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER.
- PROVIDE NEW 500DN DOMESTIC HOT WATER PIPING CONNECTION C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES TO SERVICE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER.
- PROVIDE NEW 250DN DOMESTIC HOT WATER RECIRC PIPING CONNECTION C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES TO SERVICE NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER.
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- PROVIDE NEW 250DN CONDENSATE PIPING C/W ALL REQUIRED FITTINGS, VALVES, HANGERS, SUPPORTS AND ACCESSORIES FROM NEW INSTANTANEOUS DOMESTIC HOT WATER HEATER AND CONNECT TO EXISTING CONDENSATE PIPING IN APPROXIMATE LOCATION INDICATED.
- INSULATE ALL NEW PIPING IN ACCORDANCE WITH SPECIFICATIONS.
- PROVIDE DEDICATED CIRCUITS FOR NEW PUMP, WATER HEATER AND CONTROL VALVE FROM PANEL EL14 IN RM. G23:
 - PROVIDE (3) 15A, 1P GROUND BOLT-ON BREAKER ON EXISTING SQ D 1000D PANEL.
 - PROVIDE IN-LINE MANUAL STARTER FOR NEW PUMP, TOGGLE TYPE, 1 POLE, "AUTO-OFF-HAND" SELECTOR, PILOT LIGHT, SQ D CLASS 2510,CAT:FG71P.
 - PROVIDE 2#12 TH0 + GND IN EMT FROM SOURCE PNL. FLEX CONNECTION AT MOTOR, HEATER AND VALVE.
 - 20A, 1P INDUSTRIAL GRADE SERVICE SWITCH ON PUMP MOTOR.



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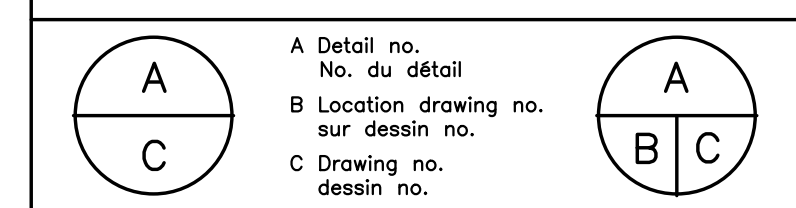
KEY PLAN



No.	Date	Revision	By:
1	29 04 2016	ISSUED FOR TENDER	ALS
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Date Printed 25 04 2016 Date imprimée

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project **M-12 DOMESTIC HOT WATER HEATER REPLACEMENT** projet

MONTREAL ROAD CAMPUS dessin

EQUIPMENT SPECIFICATIONS, MISCELLANEOUS DETAILS AND REFERENCE PHOTOS

designed	ALS	conçu	date	MAR 2016	date
drawn	ALS	dessiné	scale	AS SHOWN	échelle
checked	RGC	vérifié	sheet	M05 of/de	M07 feuille
approved	BV	approuvé	W.O.no.	A1-006913-06-01	D.T.no.

dwg.no. **5154-M05** dessin no.



1 MISCELLANEOUS PIPING ADJACENT WEST MECHANICAL ROOM WALL
 M05 NTS

DOMESTIC WATER	
MEDIA	DOMESTIC WATER
DESIGN TEMPERATURE (°C)	4.4 TO 82.2 (40F TO 180F)
DESIGN PRESSURE (kPa)	861.8 (125 PSI)
TUBING	COPPER TYPE L DRAWN
TUBING CONNECTION	FITTINGS SOLDERED VALVES THREADED C/W EXTENDED VALVE HANDLES
TEST PRESSURE	HYDROSTATIC: 1.5 TIMES DESIGN
TEST MEDIA	POTABLE WATER
TEST DURATION	90 MINS
SYSTEM DESIGN STANDARD	LATEST VERSION OF ONTARIO BUILDING CODE
ASME STANDARDS	FITTINGS: B16.5 THREADS: B16.5/B16.11 VALVES: B16.34

HIGH PRESSURE STEAM & CONDENSATE PIPING	
MEDIA	STEAM & CONDENSATE
DESIGN TEMPERATURE (°C)	-28.9 TO 171.1 (-20F TO 340F)
OPERATING PRESSURE (kPa)	689.5 (100 PSI)
PIPING	STEAM: SCH40 CONDENSATE: SCH80
PIPING CONNECTION	50DN & UNDER: THREADED, WELDED OR FLANGED ABOVE 50DN: WELDED AND FLANGED
TEST PRESSURE	HYDROSTATIC: 1.5 TIMES DESIGN
TEST MEDIA	PNEUMATIC: 1.2 TIMES DESIGN WATER
TEST DURATION	90 MINS
RADIOGRAPHY	20%
ASME STANDARDS	DESIGN CODE: B31.1 FITTINGS: B16.5 FLANGES: B16.5, A105 NUTS: B18.2.2, A194 Gr 7 BOLTS: B18.2.1, A193 Gr B7 GASKETS: B16.20/B16.21 THREADS: B16.5/B16.11 VALVES: B16.34 PIPING: A106 Gr B SEAMLESS FLANGE CLASS: CL300

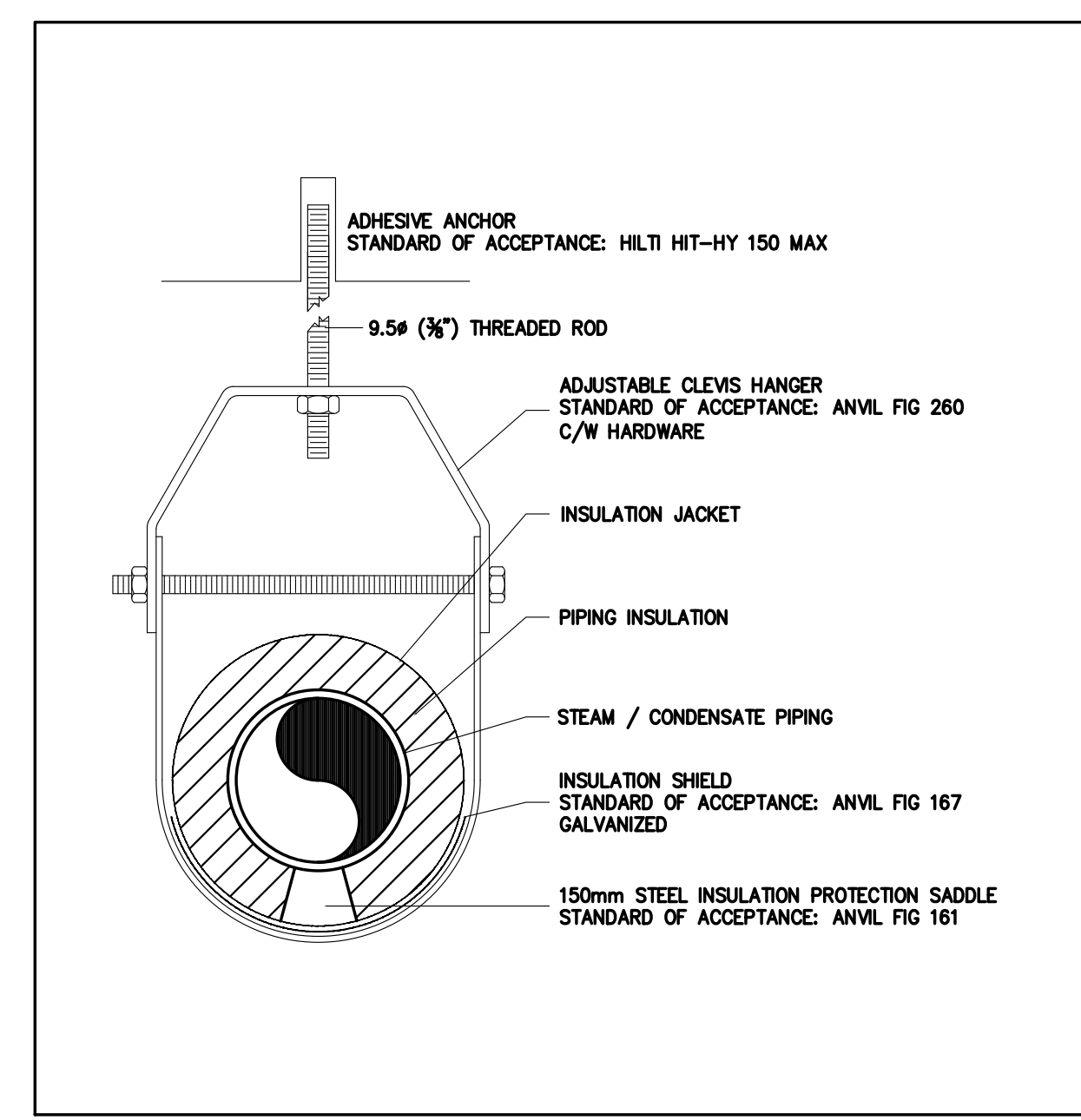
LOW PRESSURE STEAM & CONDENSATE PIPING	
MEDIA	STEAM & CONDENSATE
DESIGN TEMPERATURE (°C)	-28.9 TO 171.1 (-20F TO 340F)
OPERATING PRESSURE (kPa)	69 (10 PSI)
PIPING	STEAM: SCH40 CONDENSATE: SCH80
PIPING CONNECTION	50DN & UNDER: THREADED, WELDED OR FLANGED ABOVE 50DN: WELDED AND FLANGED
TEST PRESSURE	HYDROSTATIC: 1.5 TIMES DESIGN
TEST MEDIA	PNEUMATIC: 1.2 TIMES DESIGN WATER
TEST DURATION	90 MINS
RADIOGRAPHY	20%
ASME STANDARDS	DESIGN CODE: B31.1 FITTINGS: B16.5 FLANGES: B16.5, A105 NUTS: B18.2.2, A194 Gr 7 BOLTS: B18.2.1, A193 Gr B7 GASKETS: B16.20/B16.21 THREADS: B16.5/B16.11 VALVES: B16.34 PIPING: A106 Gr B SEAMLESS FLANGE CLASS: CL150

PILOT OPERATED SAFETY VALVE	
EQUIPMENT TAG	12SRV02
SET PRESSURE (kPa)	102.7 (14.9 PSI)
CAPACITY AT SET PRESSURE (#/HR)	5,580
INLET CONNECTION	80DN (3 NPS) FNPT
OUTLET CONNECTION	100DN (4 NPS) FNPT
BODY	CAST IRON
INTERNAL	STAINLESS STEEL
CODE OF CONSTRUCTION	ASME SECTION VIII
STANDARD OF ACCEPTANCE	APOLLO SAFETY RELIEF VALVE MODEL: 119KALM40014 CRN: 908547.5C
ADDITIONAL NOTES:	1. VALVE SHALL BE SUPPLIED WITH VALID CRN FOR ONTARIO. 2. VALVE SHALL BE EQUIPPED WITH LIFTING HANDLE.

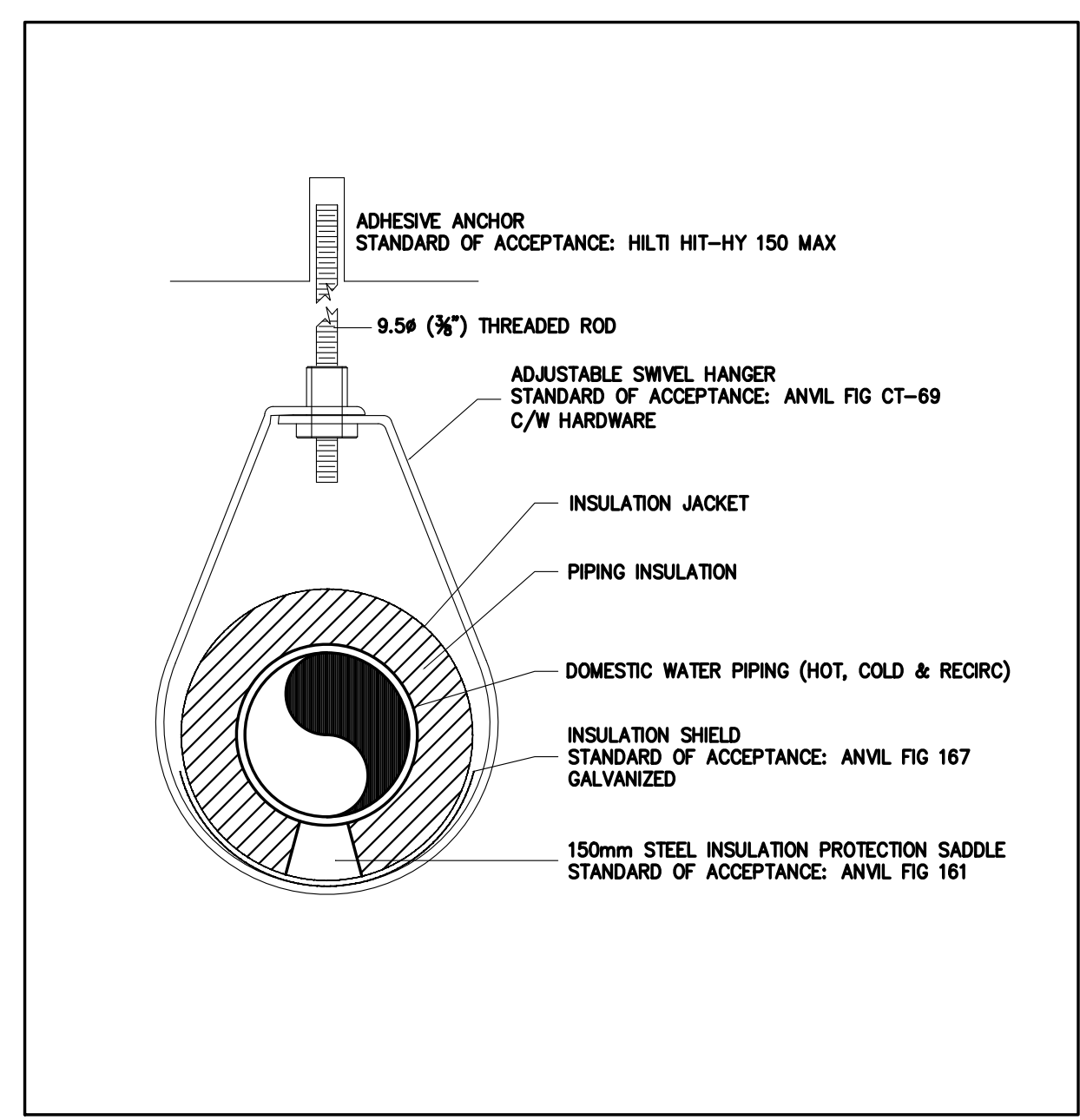
PILOT OPERATED PRESSURE REDUCING VALVE	
EQUIPMENT TAG	12PRV02
INLET PRESSURE (kPa)	689.5 (100 PSI)
OUTLET PRESSURE (kPa)	48.3 (7 PSI)
VALVE SIZE	25DN (1 NPS)
END CONNECTIONS	NPT
BODY MATERIAL	CAST IRON
MAIN SPRING MATERIAL	STAINLESS STEEL
MAXIMUM OPERATING CONDITIONS	1723.7 kPa @ 208°C (250 PSI @ 406°F)
DIAPHRAGM MATERIAL	STAINLESS STEEL
TRIM MATERIAL	STAINLESS STEEL
TRIM TYPE	STANDARD
ORIFICE	1
GASKETS	COMPOSITION
PRESSURE REGISTRATION	EXTERNAL
PILOT BODY MATERIAL	CAST IRON
PILOT SPRING CASE MATERIAL	CAST IRON
PILOT DIAPHRAGM MATERIAL	STAINLESS STEEL
PILOT TRIM	S41600 STAINLESS STEEL
PILOT TUBING & FITTING MATERIAL	COPPER/BRASS
MAX INLET PRESSURE (kPa)	1723.7 (250 PSIG)
MAX DIFFERENTIAL PRESSURE (kPa)	1709.9 (248 PSI)
MIN DIFFERENTIAL PRESSURE (kPa)	137.9 (20 PSI)
STANDARD OF ACCEPTANCE	FISHER MODEL: TYPE 928
ADDITIONAL NOTES:	1. PILOT SHALL BE FACTORY INSTALLED. 2. COMMISSIONING AND START-UP OF PRV SHALL BE BY CERTIFIED MANUFACTURER'S REPRESENTATIVE.

STEAM INSTANTANEOUS DOMESTIC WATER HEATER	
EQUIPMENT TAG	12HW01
DESIGN INLET TEMP (°C)	4.4 (40F)
DESIGN OUTLET TEMP (°C)	60 (140F)
MAX WATER DESIGN PRESSURE (kPa)	1034.2 (150 PSI)
MAX STEAM DESIGN PRESSURE (kPa)	103.4 (15 PSI)
STEAM OPERATING PRESSURE (kPa)	69 (10 PSI)
HEAT EXCHANGER CAPACITY	1,954 #/HR
WATER FLOW RATE	0 - 2.5 L/s (0 - 41 USGPM)
ELECTRICAL	110V 1ph 0.7A
HEAT EXCHANGER CONNECTIONS	STEAM: 400N NPT (1-1/2 NPS) CONDENSATE: 25DN NPT (1 NPS) DOMESTIC COLD WATER: 400N NPT (1-1/2 NPS) DOMESTIC HOT WATER: 400N NPT (1-1/2 NPS) DOMESTIC RECIRC: 25DN NPT (1 NPS)
STANDARD OF ACCEPTANCE	ARMSTRONG DF53540
ADDITIONAL NOTES:	1. UNIT SHALL BE CAPABLE OF INTERFACE WITH EXISTING BUILDING AUTOMATION SYSTEM USING BACKNET. 2. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.

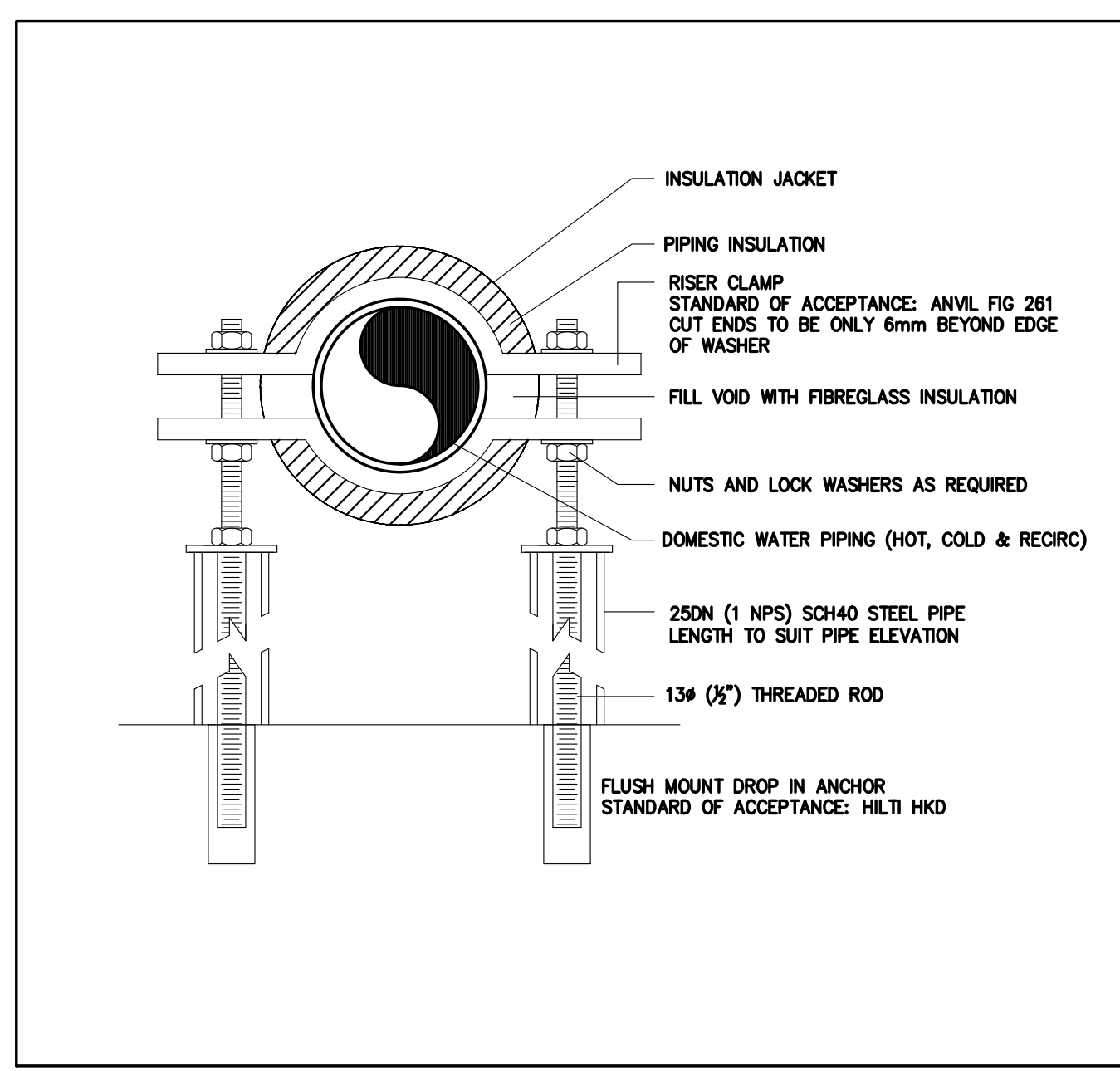
DOMESTIC HOT WATER RECIRC PUMP	
EQUIPMENT TAG	12DCP01
MAX FLUID TEMPERATURE (°C)	110 (230F)
MAX AMBIENT TEMPERATURE (°C)	50 (122F)
MAX OPERATING PRESSURE (kPa)	1034.2 (150 PSI)
ELECTRICAL	120V 1ph 2A
MATERIALS OF CONSTRUCTION	PUMP BODY: LEAD FREE BRONZE IMPELLER: 30% GLASS-FILLED NYLON FACE PLATE AS: SHAFT: STAINLESS STEEL SEAL: SILICON CARBIDE ENVIROSEAL GASKET: EPDM BEARINGS: PERMANENTLY LUBRICATED STAINLESS STEEL
END CONNECTIONS	32DN (1-1/4 NPS) 2-BOLT FLANGED
MIN CAPACITY	0.32 L/s @ 12.2m (5 USGPM @ 40')
STANDARD OF ACCEPTANCE	ARMSTRONG E9.2B
ADDITIONAL NOTES:	1. SUITABLE FOR POTABLE WATER USE. 2. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.



2 STEAM & CONDENSATE PIPING HANGER DETAIL
 M05 NTS



3 DOMESTIC WATER PIPING HANGER DETAIL
 M05 NTS

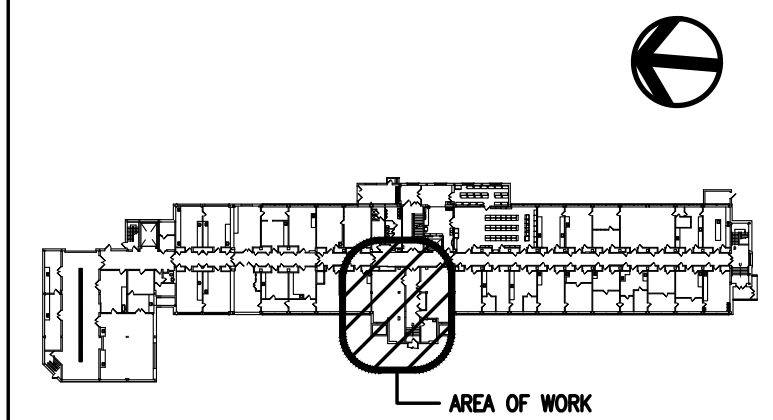


4 DOMESTIC WATER PIPING FLOOR SUPPORT DETAIL
 M05 NTS

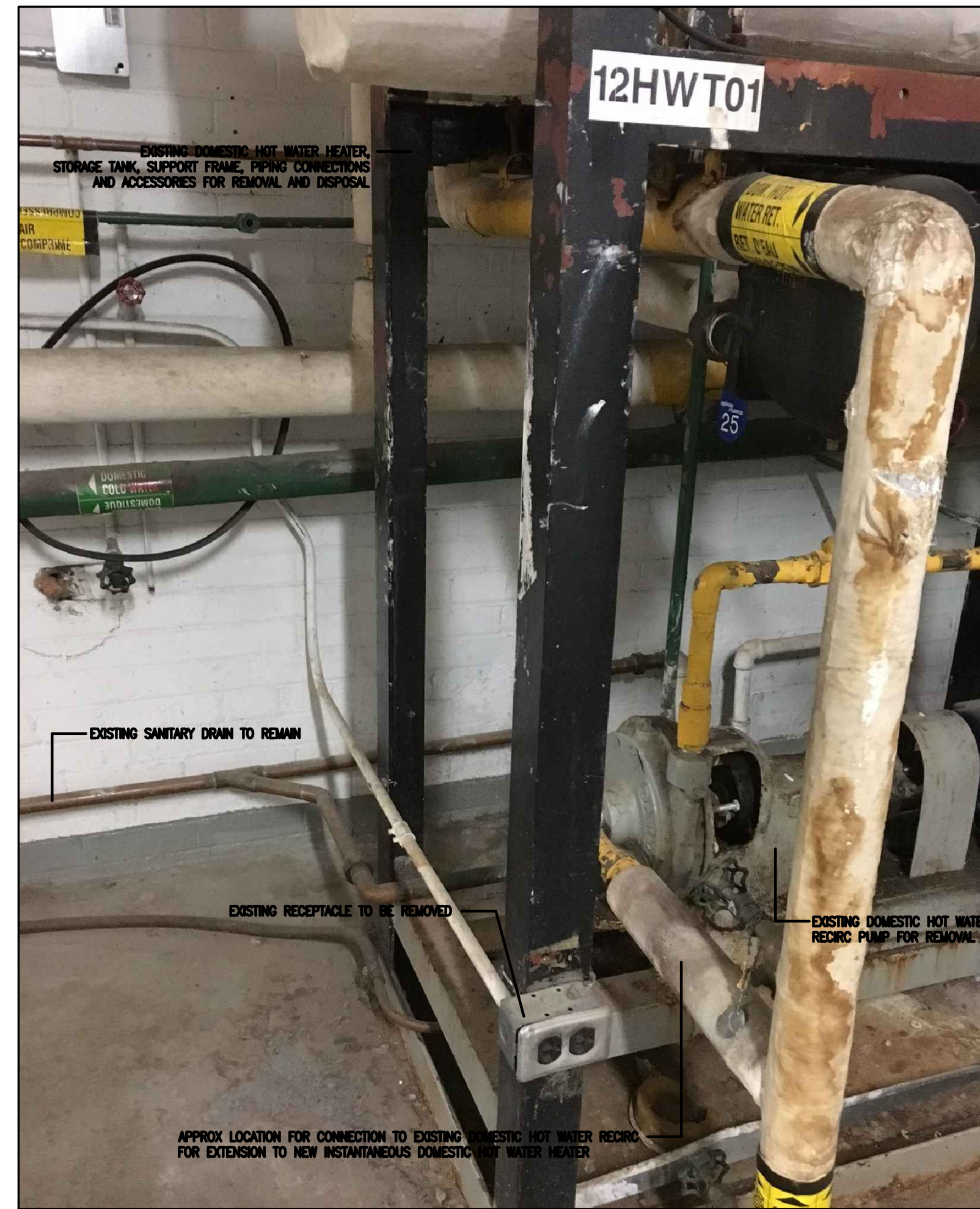
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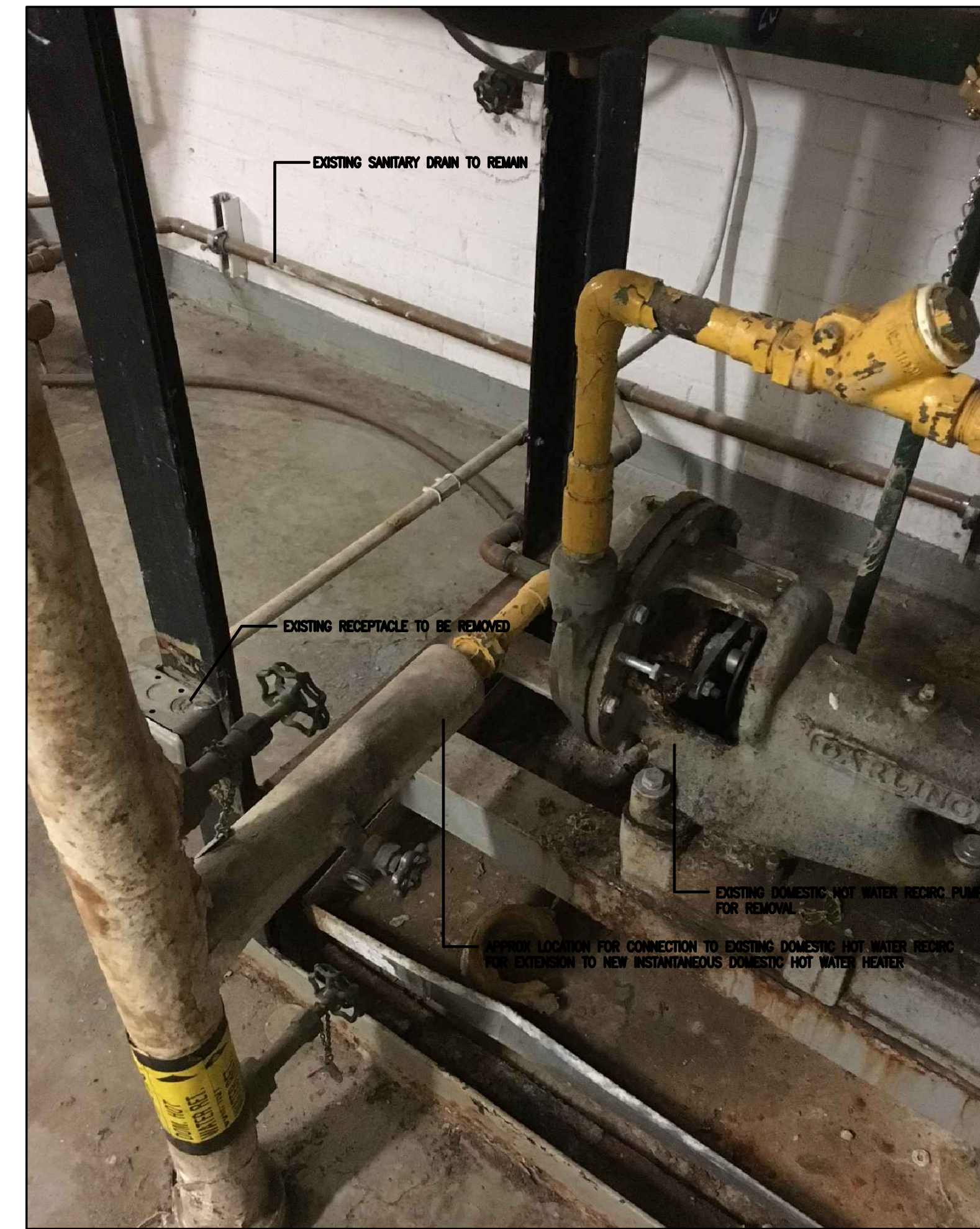
KEY PLAN



1 MISCELLANEOUS PIPING NEAR CONDENSATE RECEIVER
 M06 NTS



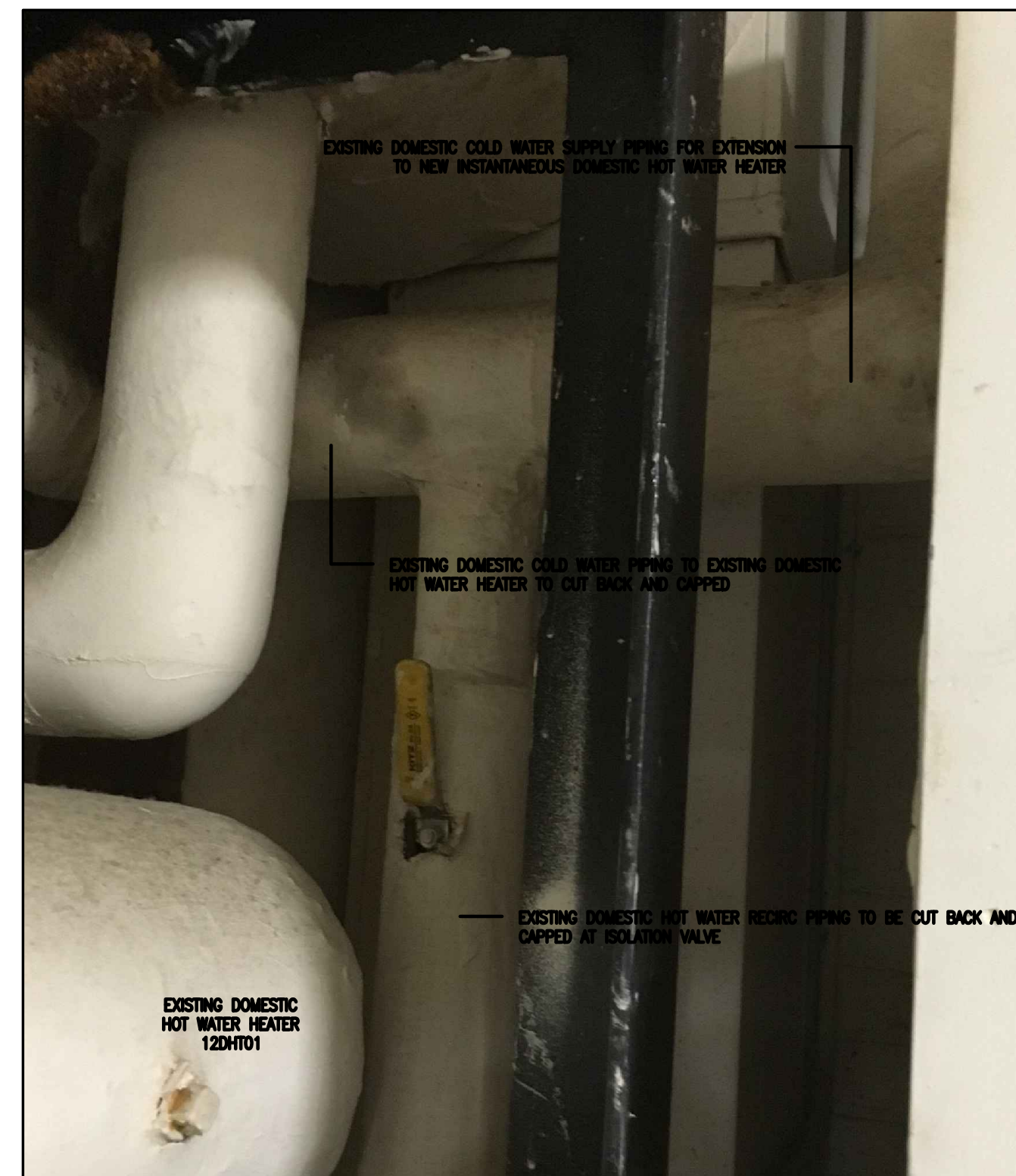
2 MISCELLANEOUS PIPING NEAR EXISTING DHWT
 M06 NTS



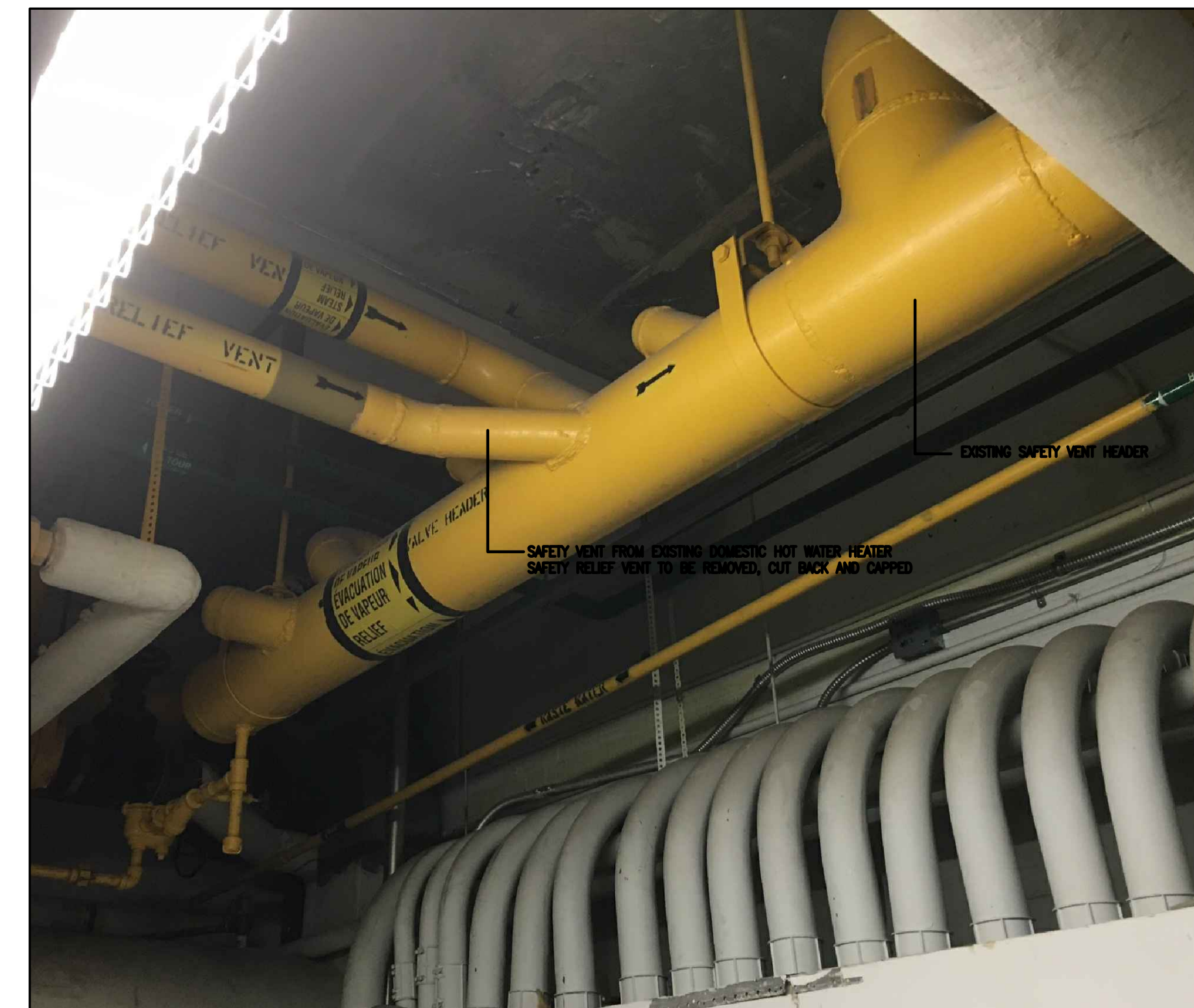
3 MISCELLANEOUS PIPING NEAR DHWR PUMP
 M06 NTS



4 HIGH PRESSURE STEAM HEADER
 M06 NTS



5 DCW PIPING ADJACENT EXISTING DHWT
 M06 NTS

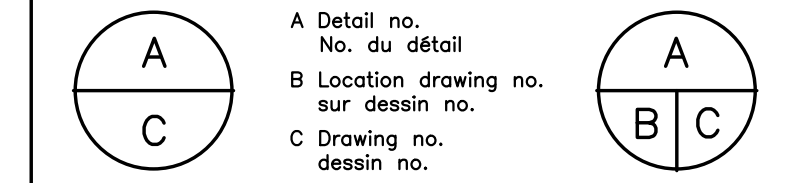


6 EXISTING SAFETY RELIEF VENT HEADER
 M06 NTS

No.	Date	Revision	By:
1	29 04 2016	ISSUED FOR TENDER	ALS
0	25 04 2016	ISSUED FOR TSSA REGISTRATION	ALS

Date Printed 25 04 2016 Date imprimée

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project M-12 DOMESTIC HOT WATER HEATER REPLACEMENT

MONTREAL ROAD CAMPUS
 drawing MISCELLANEOUS REFERENCE PHOTOS

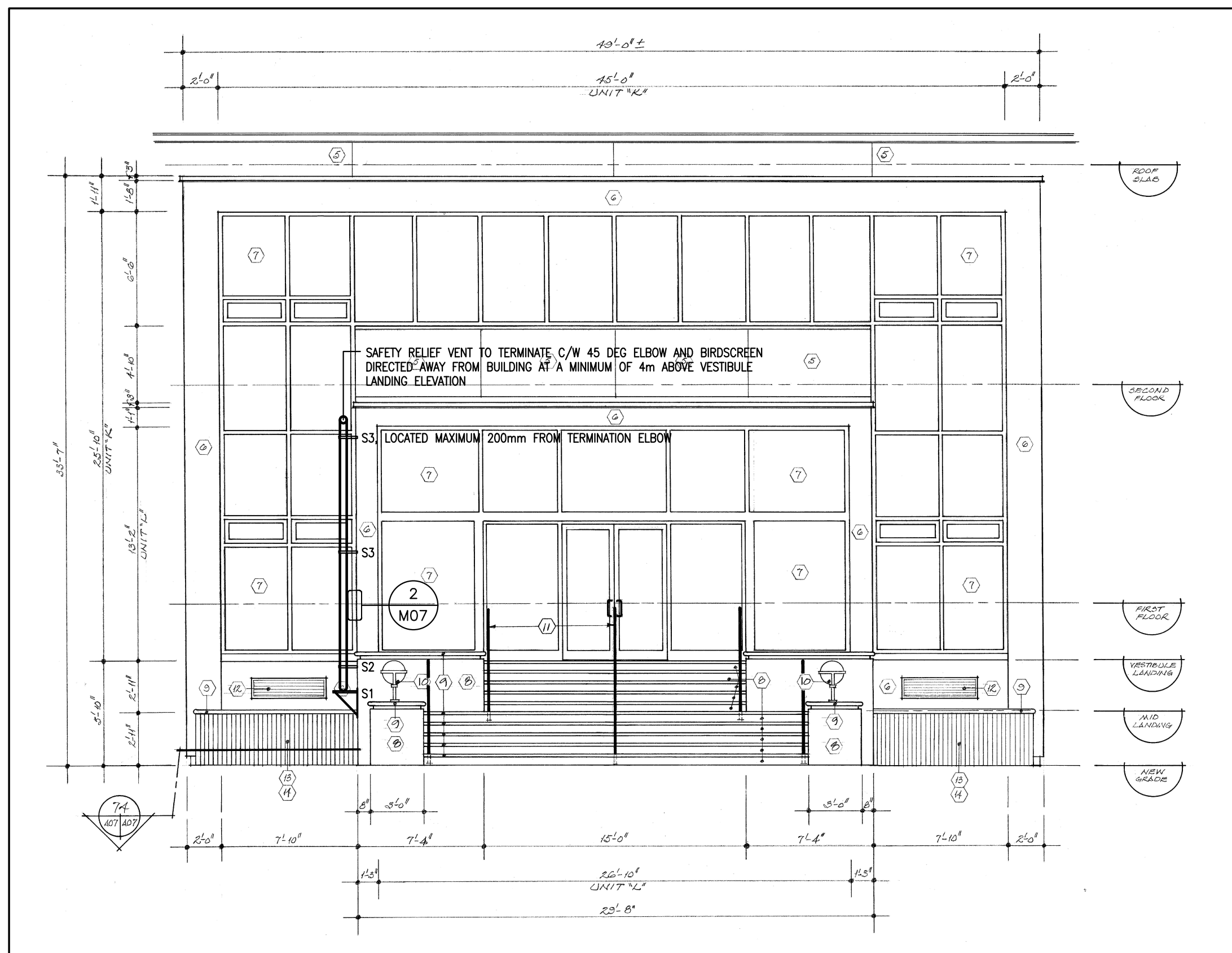
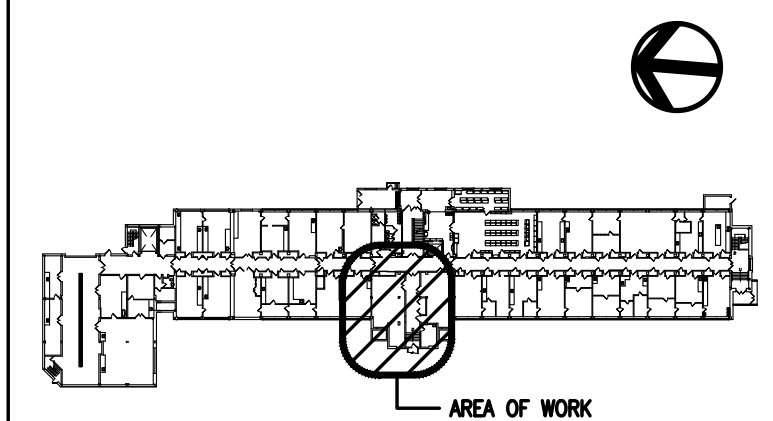
designed	conçu	date	date
ALS		MAR 2016	
drawn	dessiné	scale	échelle
ALS		AS SHOWN	
checked	vérifié	sheet	feuille
RGC		M06 of/de	M07
approved	approuvé	W.O.no.	D.T.no.
BV		A1-006913-06-01	

dwg.no. 5154-M06 dessin no.

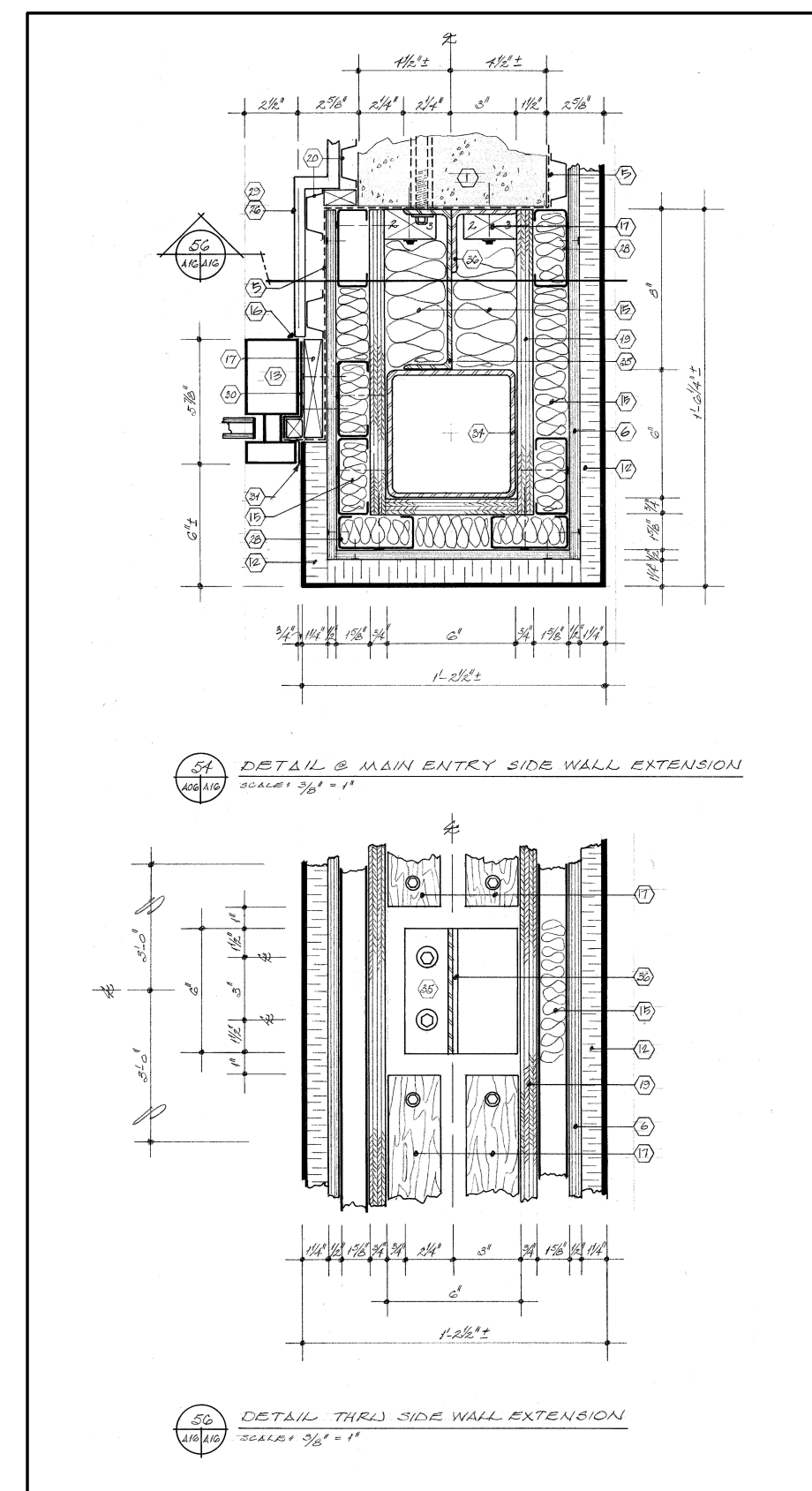
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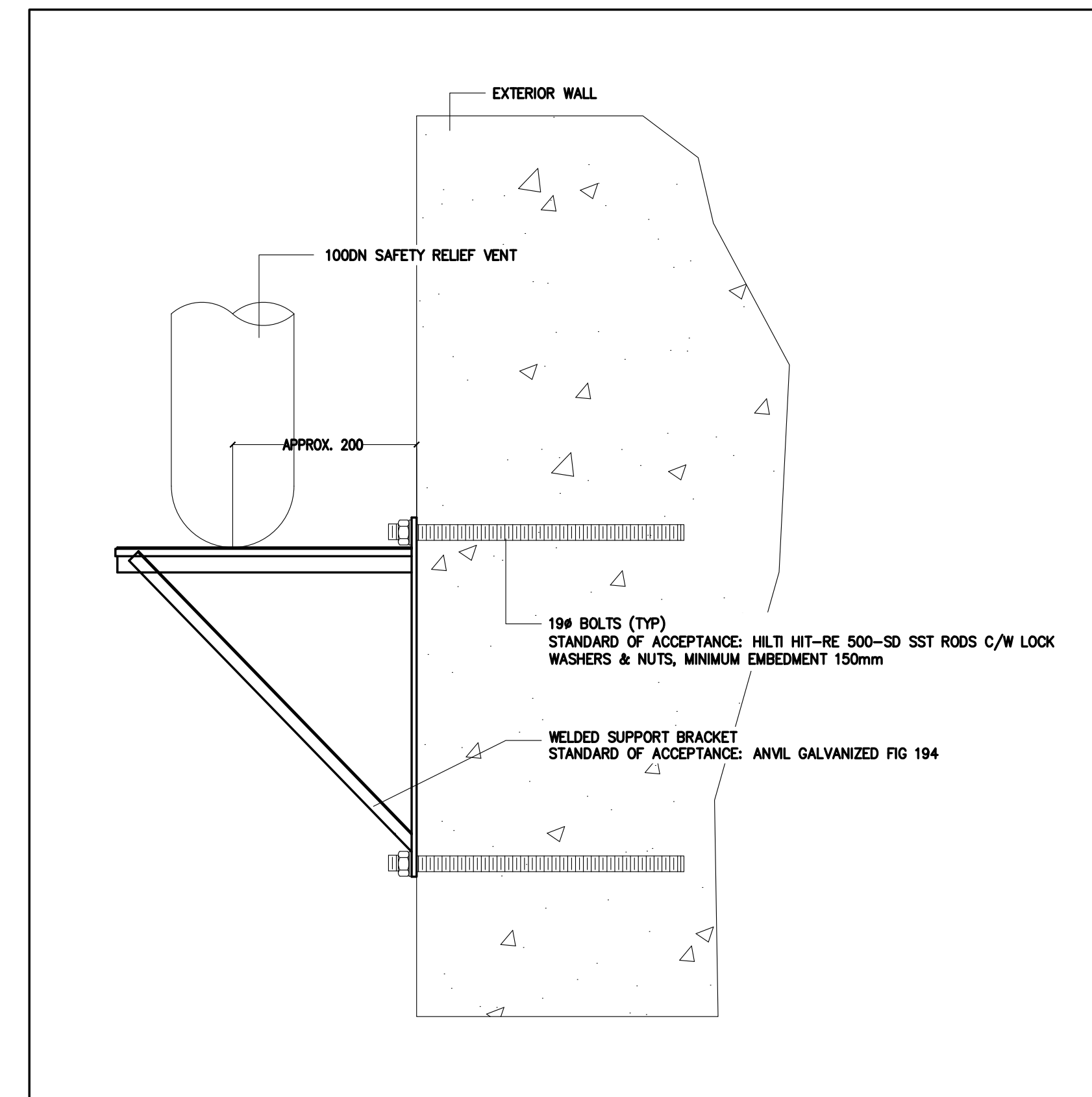
KEY PLAN



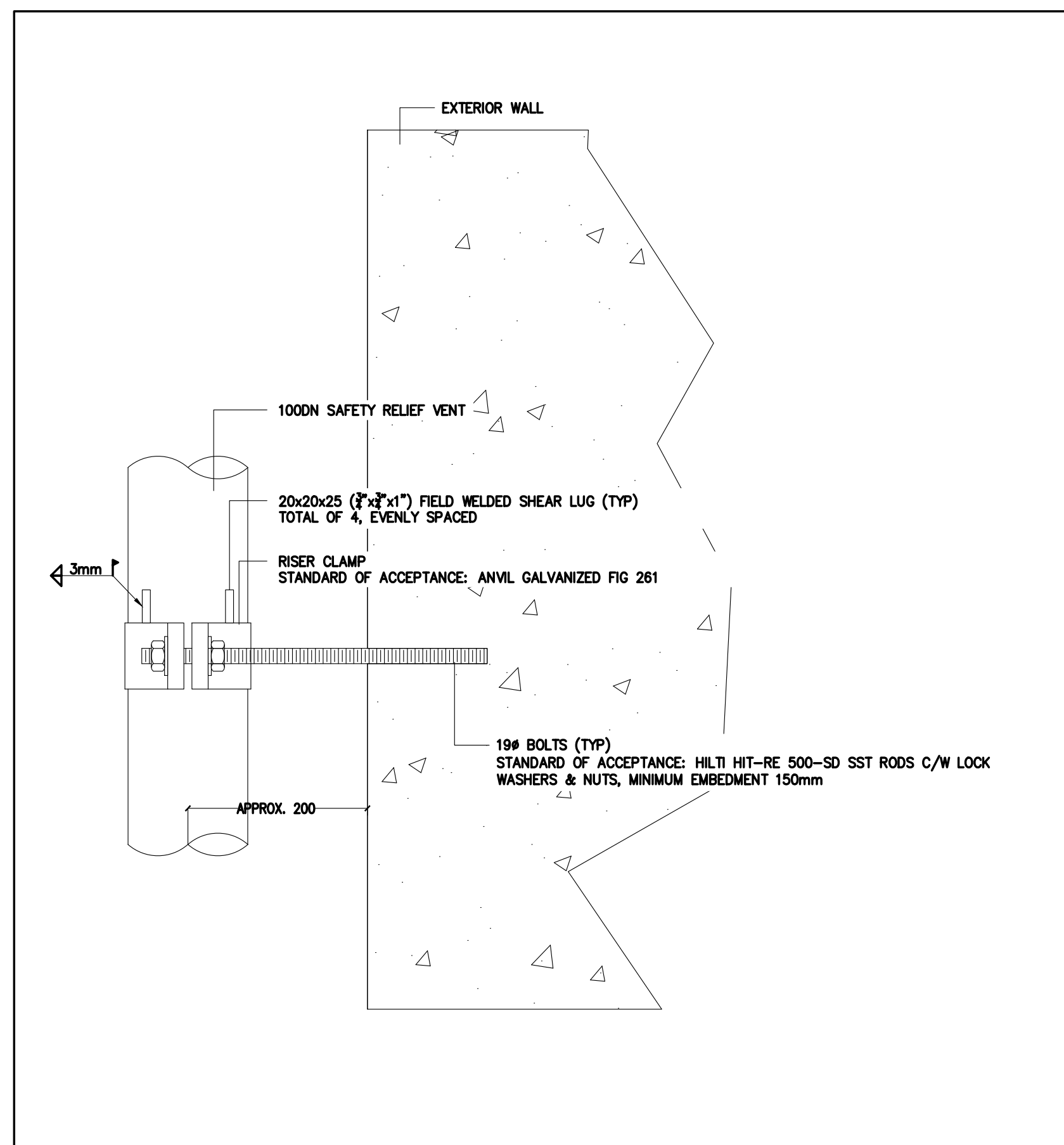
1 SAFETY VENT PIPING ELEVATION VIEW
 NTS



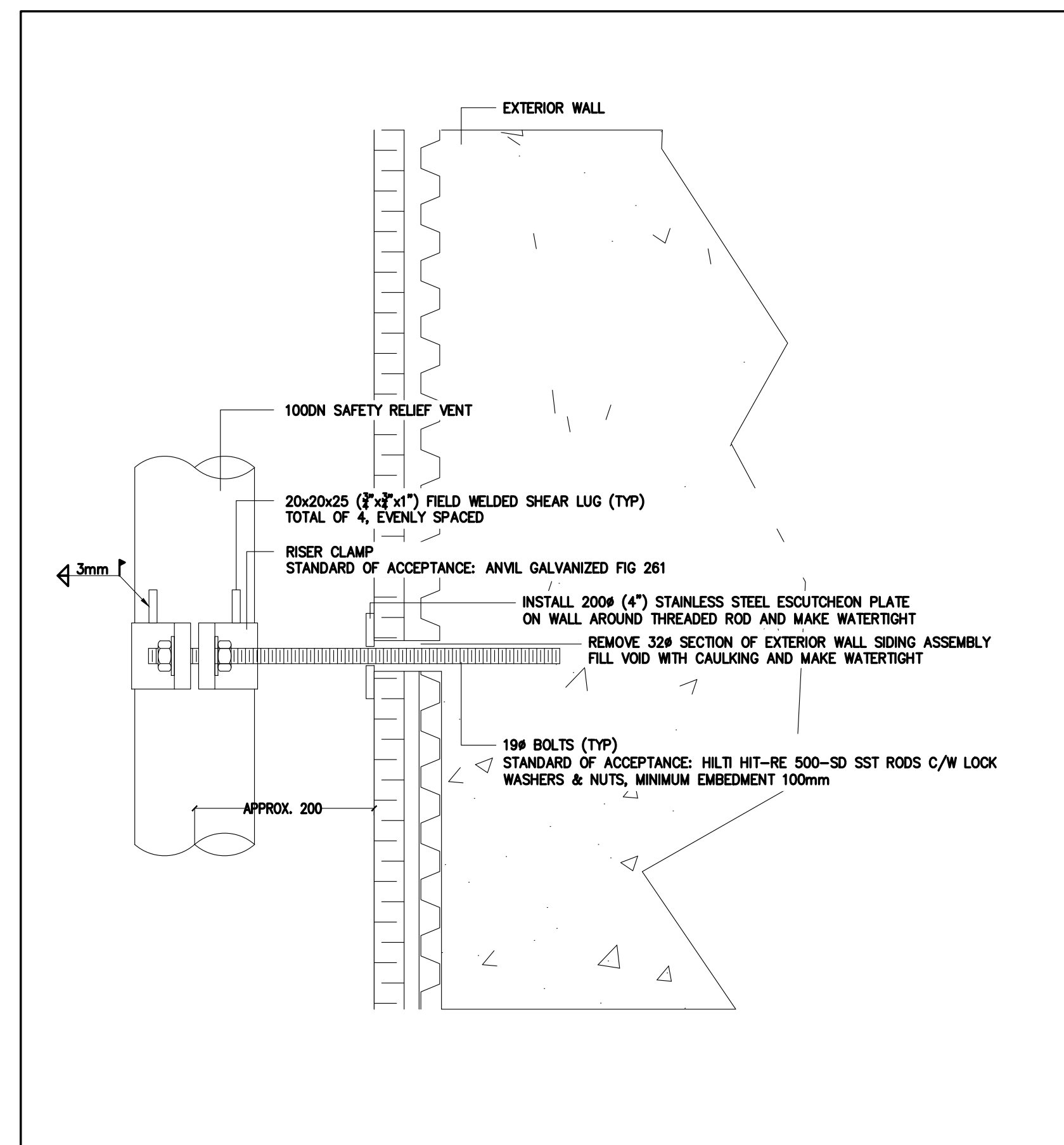
2 REFERENCE CONSTRUCTION DETAILS
 NTS



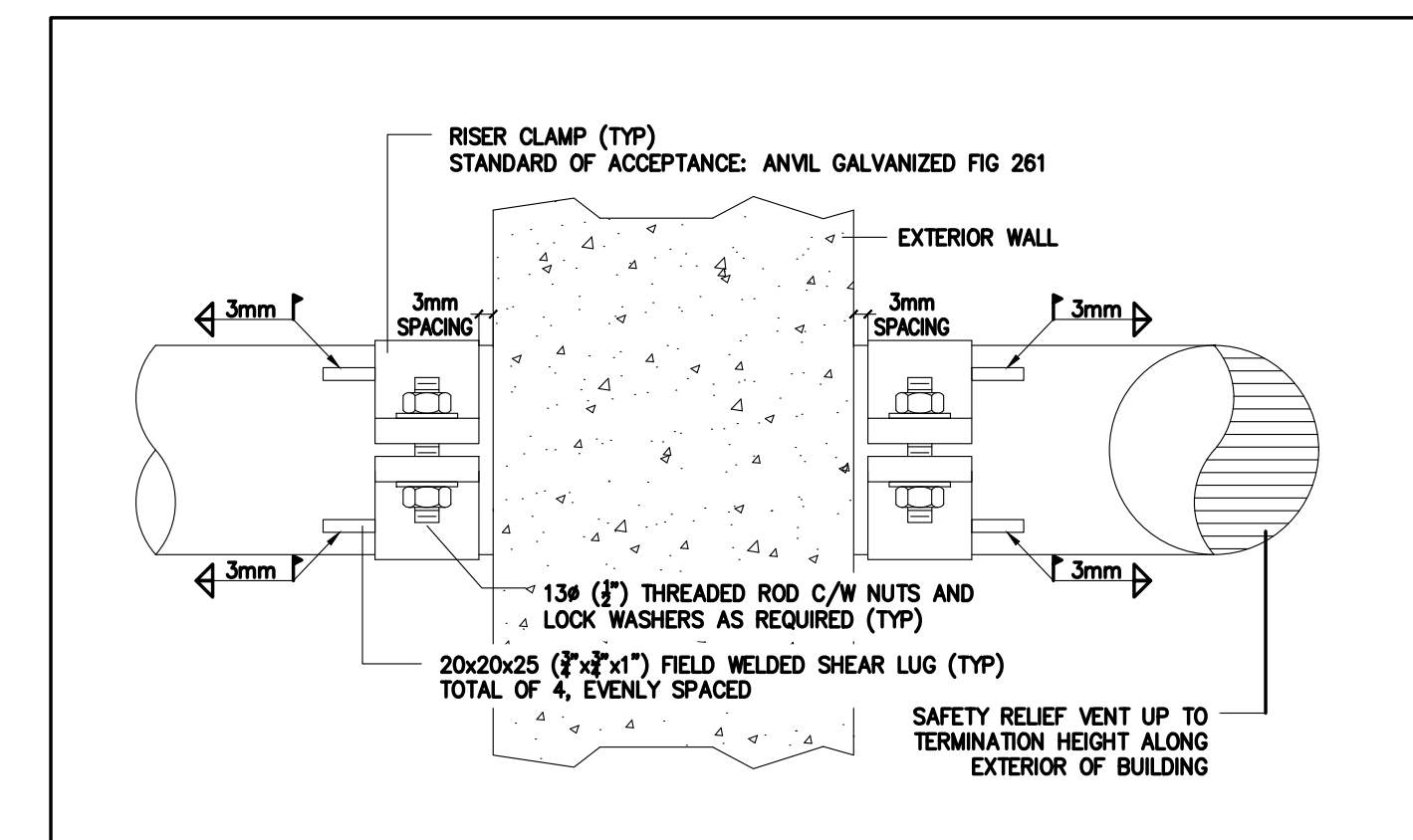
3 TYPICAL SAFETY VENT PIPING SUPPORT - S1
 NTS



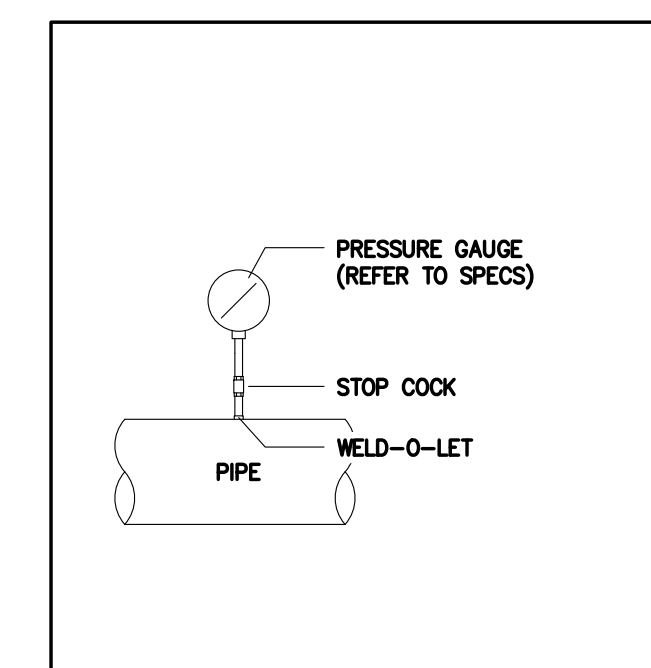
4 TYPICAL SAFETY VENT PIPING SUPPORT - S2
 NTS



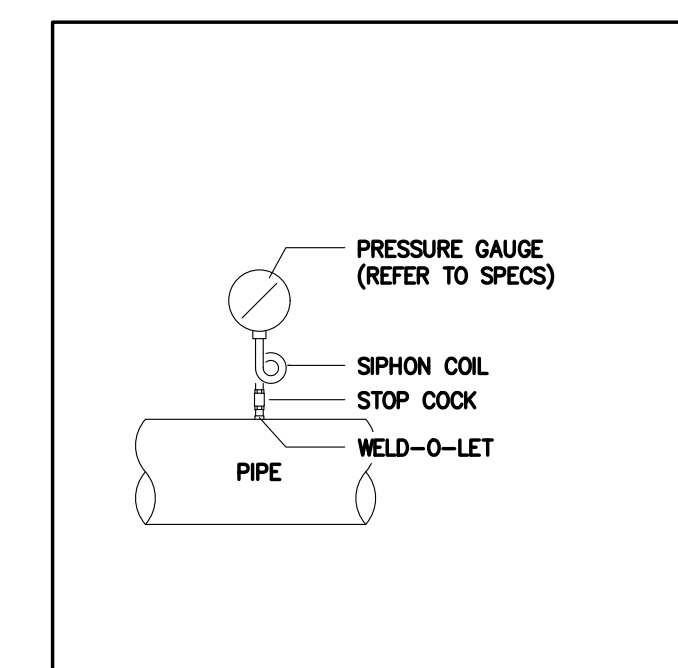
5 TYPICAL SAFETY VENT PIPING SUPPORT - S3
 NTS



6 TYPICAL SAFETY VENT ANCHOR - A1 (TOP VIEW)
 NTS



7 TYPICAL PIPING PRESSURE GAUGE INSTALLATION
 NTS

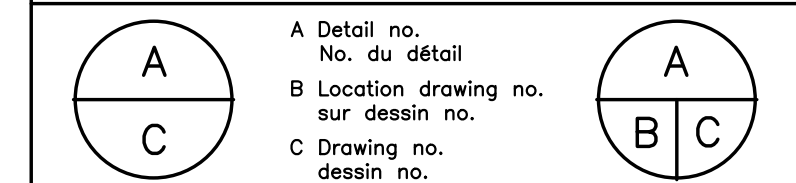


8 TYPICAL STEAM PIPING PRESSURE GAUGE INSTALLATION
 NTS

No.	Date	Revision	By:	For:
1	29 04 2016	ISSUED FOR TENDER	ALS	
0	25 04 2016	ISSUED FOR TSSA REGISTRATION	ALS	

Date Printed 25 04 2016 Date imprimée

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité



project M-12 DOMESTIC HOT WATER HEATER REPLACEMENT projet

drawing MONTREAL ROAD CAMPUS dessin

SAFETY RELIEF VENT ELEVATION AND MISCELLANEOUS DETAILS

designed ALS conçu date MAR 2016 date

drawn ALS dessiné scale AS SHOWN échelle

checked RGC vérifié sheet M07 of/de M07 feuille

approved BV approuvé W.O.no. A1-006913-06-01 D.T.no.

dwg.no. 5154-M07 dessin no.