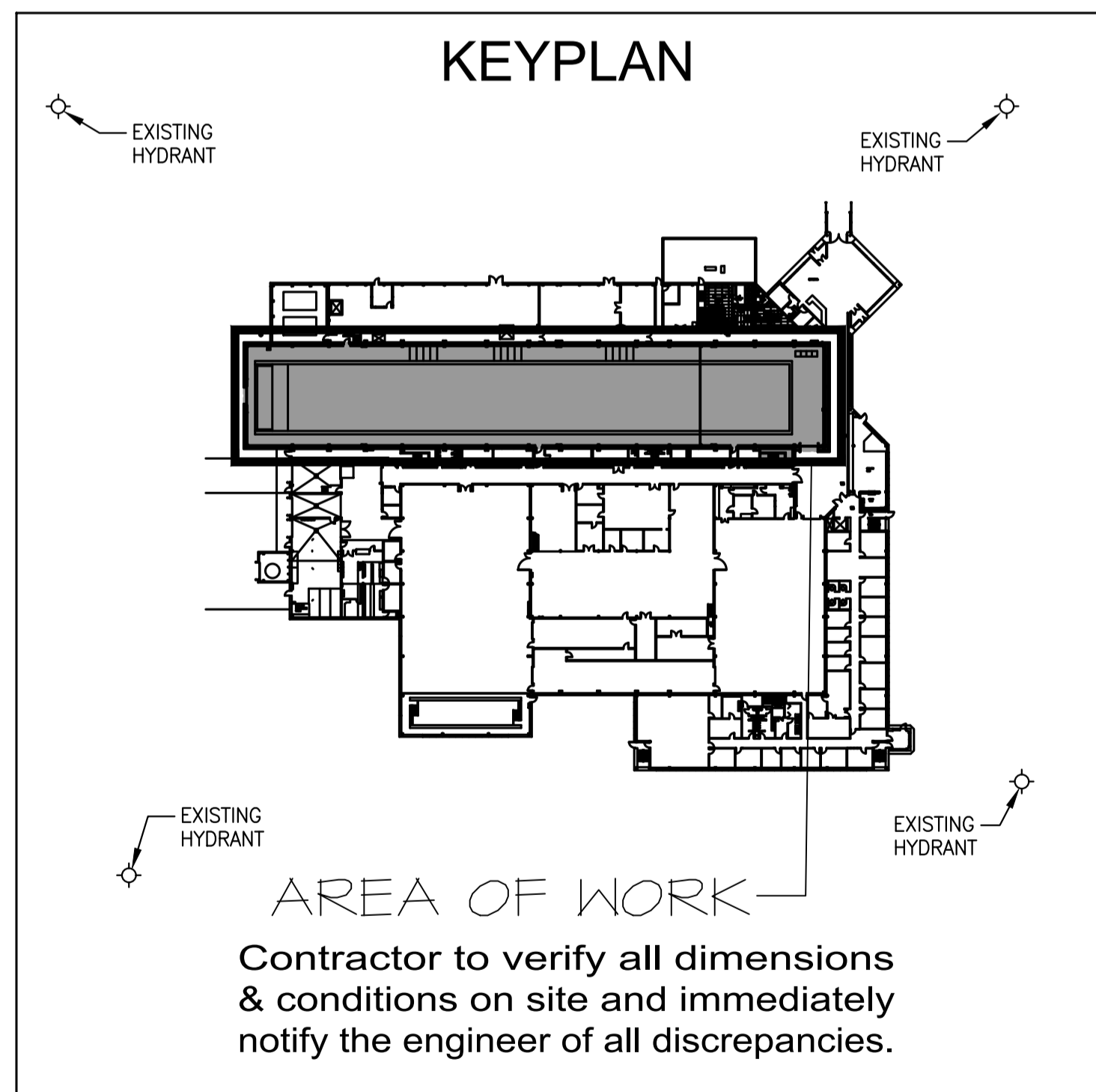


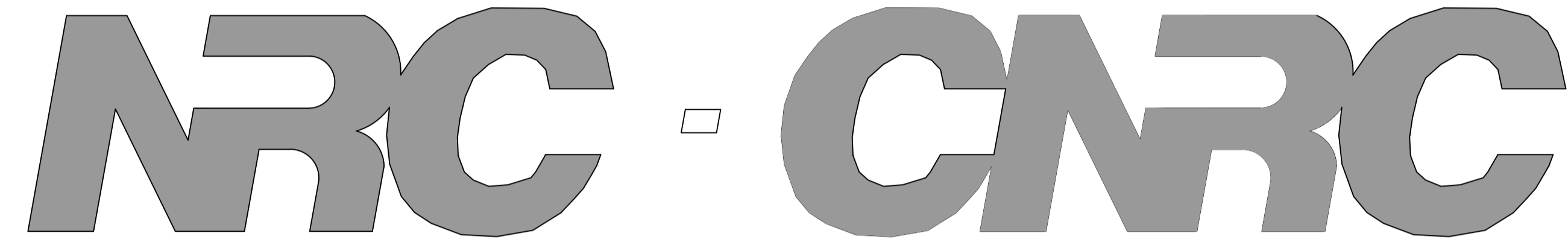
DRAWING LIST	
Drawing No.	Drawing Title
M00	COVER SHEET
M01	MECHANICAL EXISTING/DEMOLITION UPPER LEVEL (WEST)SPRINKLER LAYOUT
M02	MECHANICAL EXISTING/DEMOLITION UPPER LEVEL (EAST)SPRINKLER LAYOUT
M03	MECHANICAL REVISED UPPER LEVEL (WEST) SPRINKLER LAYOUT
M04	MECHANICAL REVISED UPPER LEVEL (EAST) SPRINKLER LAYOUT AND DETAILS

PLUMBING LEGEND	
SPRINKLER PIPING TO BE REMOVED	⎓-----⎓
NEW SPRINKLER PIPING	⎓—————⎓
SPRINKLER PIPING TO REMAIN	⎓—————⎓
SPRINKLER HEAD (DRY TYPE)	⊗
SPRINKLER HEAD (UP-RIGHT TYPE)	●
PIPE RISER DOWN	⎓————→
PIPE RISER UP	⎓————←
BALL VALVE	⎓— ⊕ —⎓
FLEXIBLE CONNECTION	⎓— ⊠ —⎓
PIPE ANCHOR	×P.A.



PRIME/MECH CONSULTANT:

CBCL **CBCL LIMITED**
Consulting Engineers
 187 KENMOUNT ROAD
 ST. JOHN'S, NL, A1B 3P9
 Phone: (709) 364-8623
 Fax: (709) 364-8627

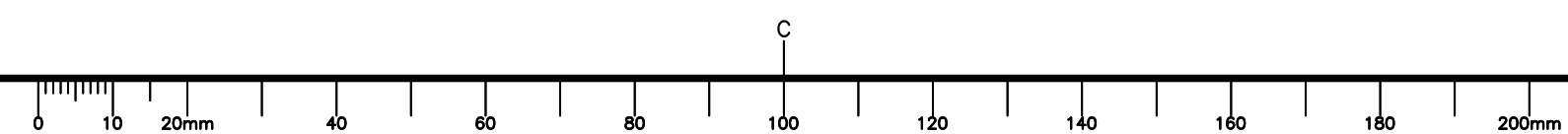


**National Research Council of Canada
 SPRINKLER SYSTEM
 UPGRADES**

30 Arctic Ave, St.John's, NL
 PROJECT NO. STJ-6043

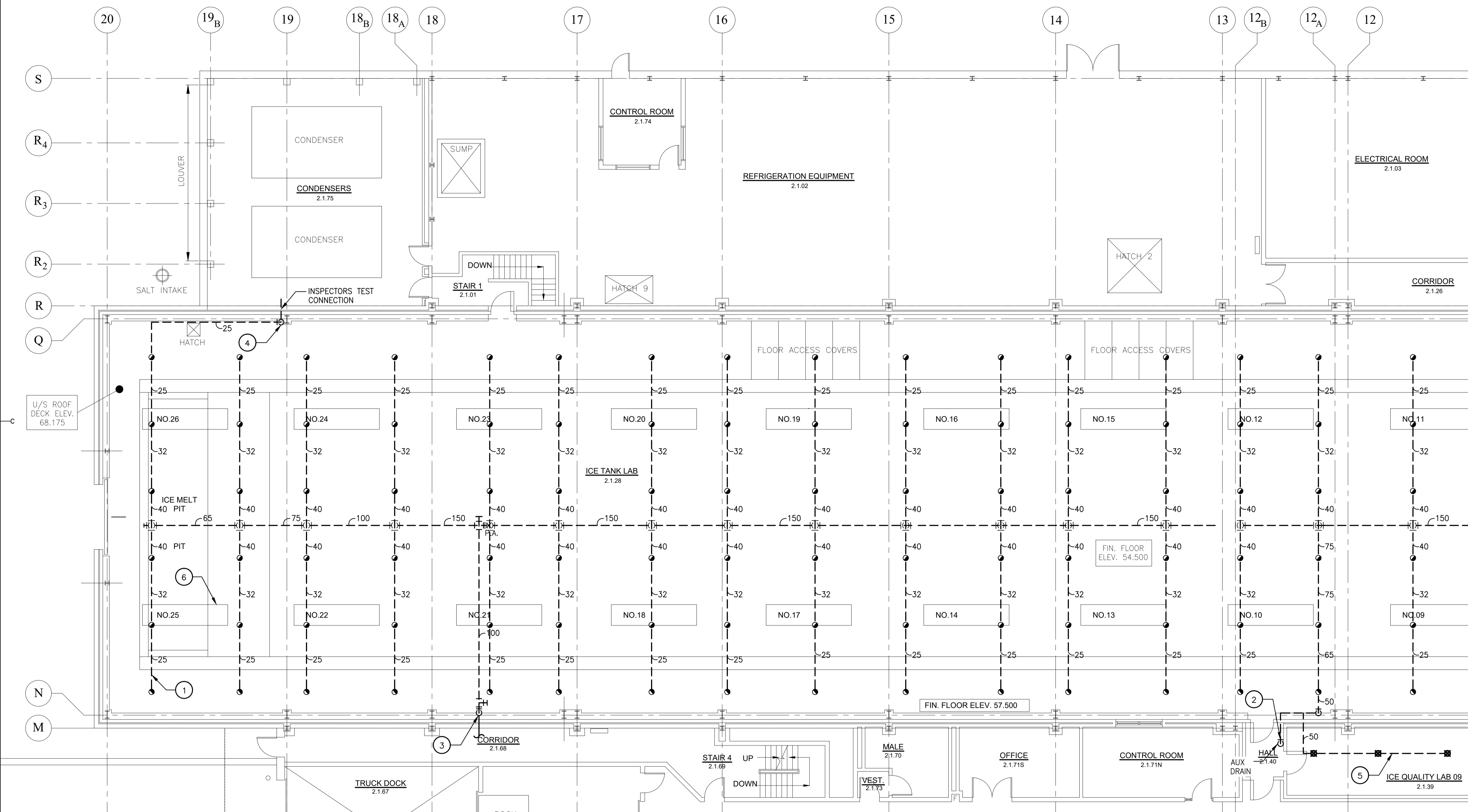
ISSUED FOR
 TENDER

DATE: JULY 21, 2021



GENERAL NOTES:

- ACCESS TO CEILING SPRINKLER PIPING IS RESTRICTED BY OTHER ITEMS SUPPORTED FROM ROOF STRUCTURE INCLUDING REFRIGERATION PIPING AND EVAPORATOR UNITS, CATWALKS, BAY CRANE, UNIT HEATERS AND GLYCOL PIPING, LIGHTING, ETC. EXISTING DRAWINGS ARE PROVIDED WITH SPECIFICATION SHOWING THESE SYSTEMS. CONTRACTOR TO VISIT SITE PRIOR TO BIDDING WORK.
- ARRANGE WITH OWNER FOR MOVING BAY CRANE AND ICE TANK CARRIAGES DURING CONSTRUCTION.
- CONTRACTOR TO PROVIDE PLAN ON HOW SPRINKLER PIPING WILL BE ACCESSED- SCAFFOLD, ZOOM BOOM, ETC.

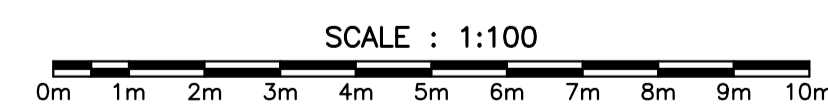


DEMOLITION NOTES:

- REMOVE ALL OVERHEAD DRY SPRINKLER PIPING AND HEADS IN ICE TANK ROOM.
- EXISTING AUX DRAIN TO BE REPLACED.
- REMOVE PIPE UP TO FLANGED ELBOW CONNECTION WHERE PIPE PENETRATES WALL. REMOVE FLEXIBLE CONNECTION.
- REMOVE INSPECTORS TEST CONNECTION PIPING.
- REMOVE EXISTING DRY SPRINKLER HEADS AND PIPING IN ICE QUALITY LAB CEILING.
- EXISTING REFRIGERATION EVAPORATORS SUSPENDED FROM ROOF STRUCTURE.

EXISTING/DEMOLITION SPRINKLER LAYOUT (WEST)

1 M01



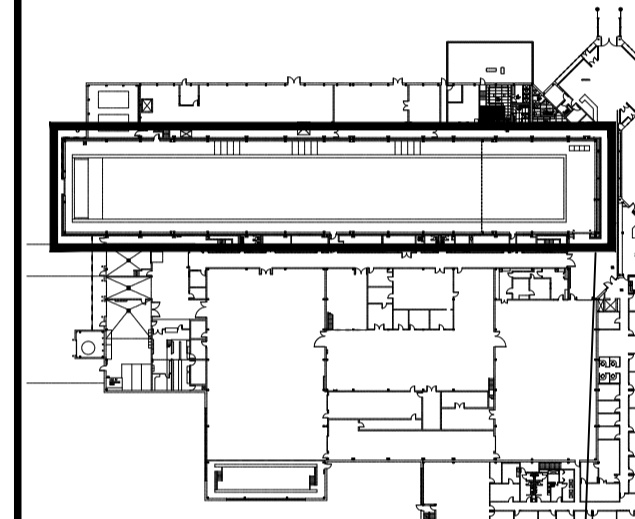
NRC - CMRC



CBCL

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT D0178
 CBCL Limited
 M.I.R.C. PAUL SCEVIOUR #02782
 Signature or Member Number (Member-in-Responsible Charge)

KEY PLAN



AREA OF WORK
 Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

MATCHLINE SEE DWG. M02 FOR CONTINUATION

0	ISSUED FOR TENDER	JUL 21 2021
revisions		date
project		project

**NRC ICE TANK FACILITY
 SPRINKLER SYSTEM REPAIRS**

**MECHANICAL
 EXISTING/DEMOLITION
 UPPER LEVEL (WEST)
 SPRINKLER LAYOUT**

designed	PS	conçu
date	AUGUST 2020	
drawn	JSJ	dessiné
date	AUGUST 2020	
approved		approuvé
date		
Tender		Soumission
PWSC Project Manager	Administrateur de projets TPSCG	
project number	no. du projet	
STJ-6043		
drawing no.	no. du dessin	
M01		

DEMOLITION NOTES:

- 1 REMOVAL TO START AT FLEXIBLE CONNECTION. (INCLUDING FLEXIBLE CONNECTION).
- 2 REMOVE ALL OVERHEAD DRY SPRINKLER PIPING AND HEADS IN ICE TANK ROOM.
- 3 REMOVE PIPING PASSING THROUGH THERMAL BARRIER. REUSE EXISTING BARRIER SEAL IF SUITABLE.
- 4 EXISTING 150mm DRY PIPE MAIN UP TO ICE TANK ROOM TO REMAIN.
- 5 EXISTING DRY PIPE VALVE, AND TRIM TO REMAIN.
- 6 EXISTING FIRE PROTECTION WATER HEADER TO REMAIN.
- 7 EXISTING DRY SYSTEM AIR COMPRESSOR TO BE REPLACED WITH A NITROGEN GENERATOR SYSTEM.
- 8 DISCONNECT EXISTING CONDUCTORS AND CONDUIT TO EXISTING DRY SYSTEM AIR COMPRESSOR. EXTEND EXISTING CONDUCTORS AND CONDUIT AND CONNECT TO NEW NITROGEN GENERATOR SYSTEM. PROVIDE JUNCTION BOX, LB, SUPPORTS AND CONNECTORS AS REQUIRED. COORDINATE LOCATION AND REQUIREMENTS ON SITE.
- 9 APPROXIMATE LOCATION OF EXISTING 100A, 120/208V, 3Ø, 4W, 18CCT PANEL 'EMB'. PROVIDE UPDATED TYPE WRITTEN PANEL SCHEDULE TO INCLUDE THE REVISION OF 20A, 2P BREAKER (2.4) FROM "ICE TANK DRY SYSTEM COMPRESSOR MOTOR" TO "NITROGEN GENERATOR SYSTEM". COORDINATE LOCATION AND REQUIREMENTS ON SITE.

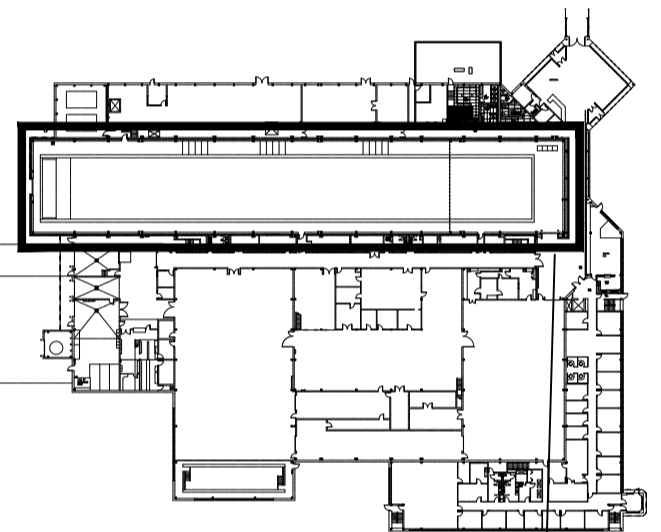
NRC - CNRC



CBCL

PROVINCE OF NEWFOUNDLAND AND LABRADOR
pegn ENGINEERING PERMIT
 D0178
 CBCL Limited
 M.I.R.C. PAUL SCEVIOUR #02782
 Signature or Member Number
 (Member-in-Responsible Charge)

KEY PLAN



AREA OF WORK

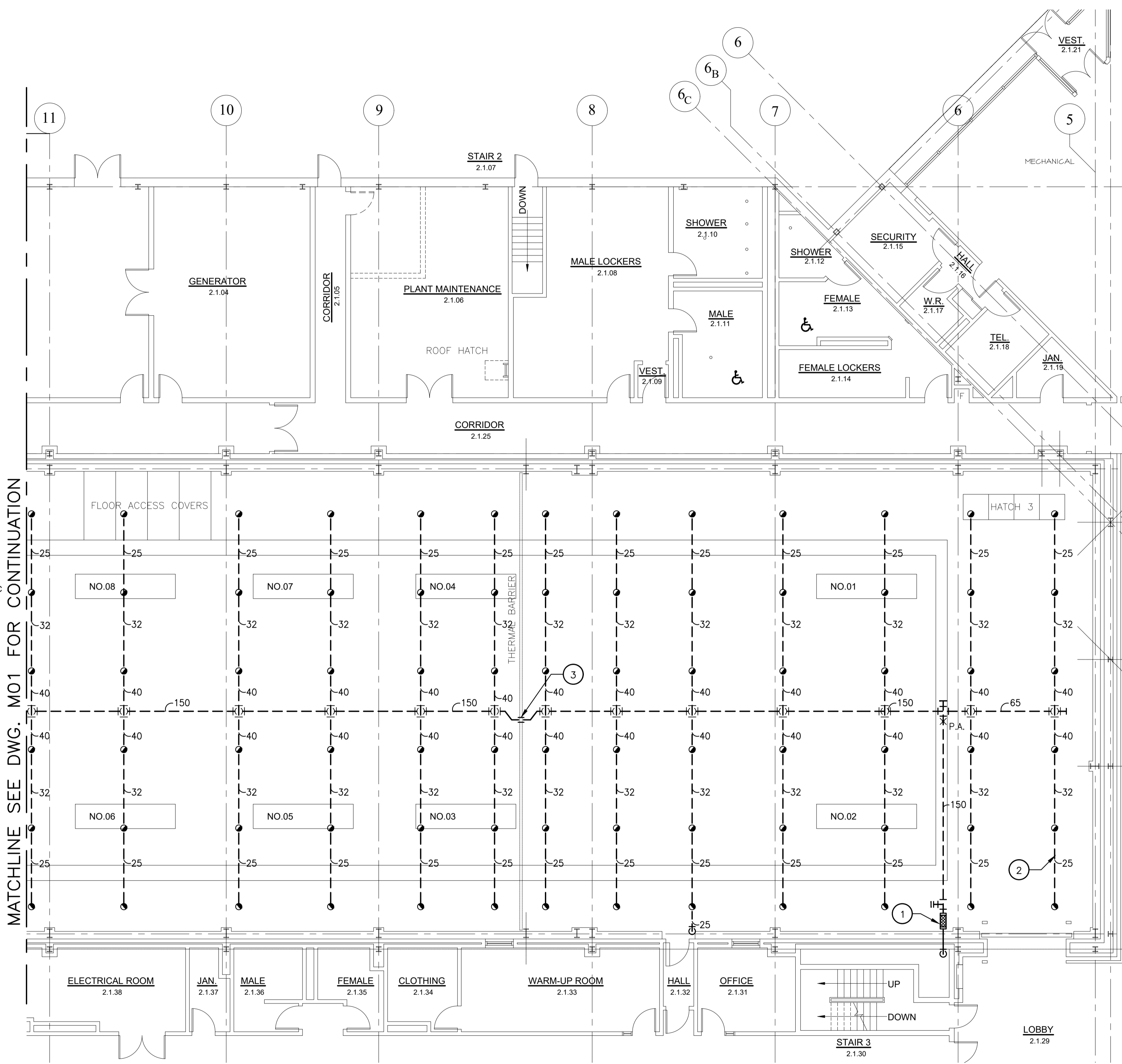
Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

0	ISSUED FOR TENDER	JUL 21 2021
revisions		date
project		projct

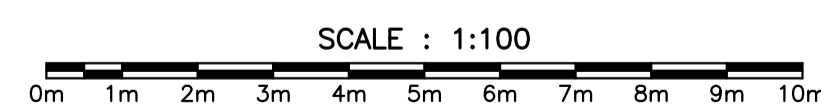
NRC ICE TANK FACILITY SPRINKLER SYSTEM REPAIRS

MECHANICAL EXISTING/DEMOLITION UPPER LEVEL (EAST) SPRINKLER LAYOUTS

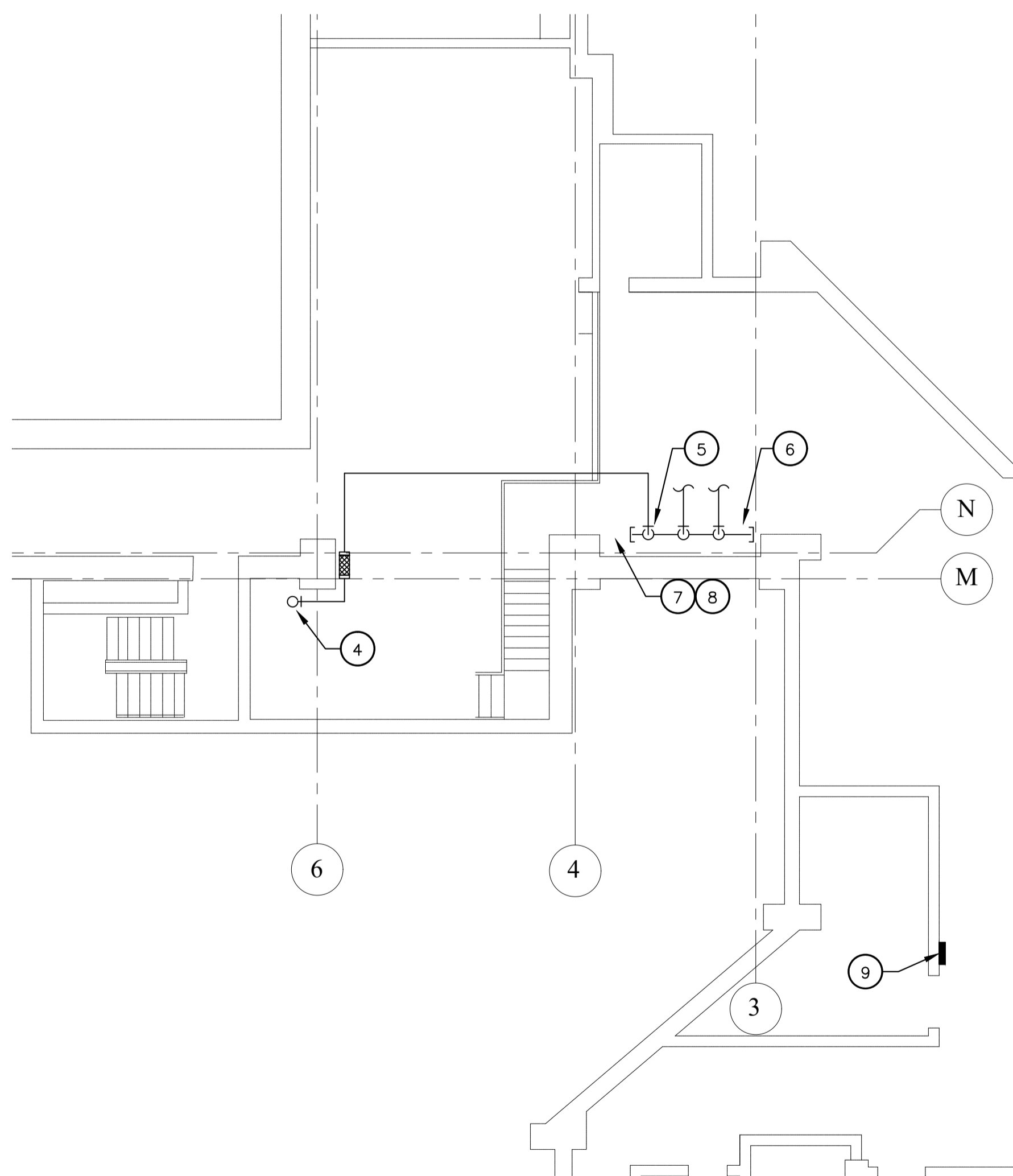
designed	PS	conçu
date	AUGUST 2020	
drawn	JSJ	dessiné
date	AUGUST 2020	
approved		approuvé
date		
Tender		Soumission
PWGSC Project Manager	Administrateur de projets TPSGC	
project number	no. du projet	
STJ-6043		
drawing no.	no. du dessin	
M02		



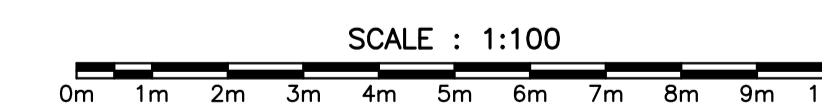
EXISTING/DEMOLITION SPRINKLER LAYOUT (EAST)



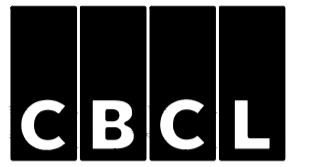
1
M02



EXISTING FIRE PROTECTION - MEZZANINE LEVEL

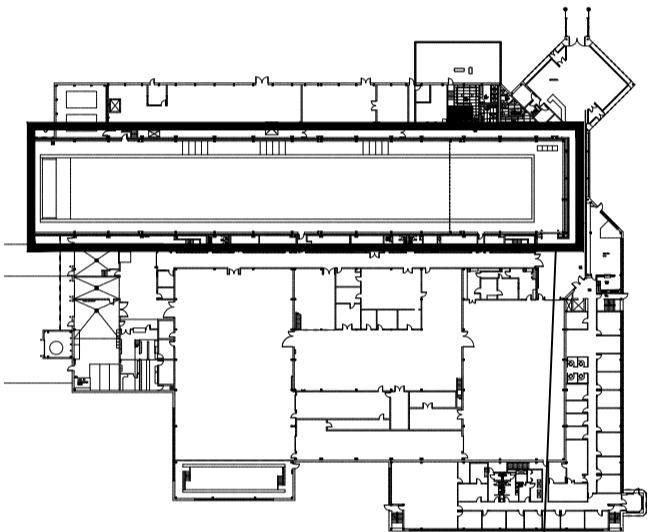


2
M02



PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT
D0178
CBCL Limited
 M.I.R.C. PAUL SCEVIOUR #02782
 Signature or Member Number
 (Member-in-Responsible Charge)

KEY PLAN



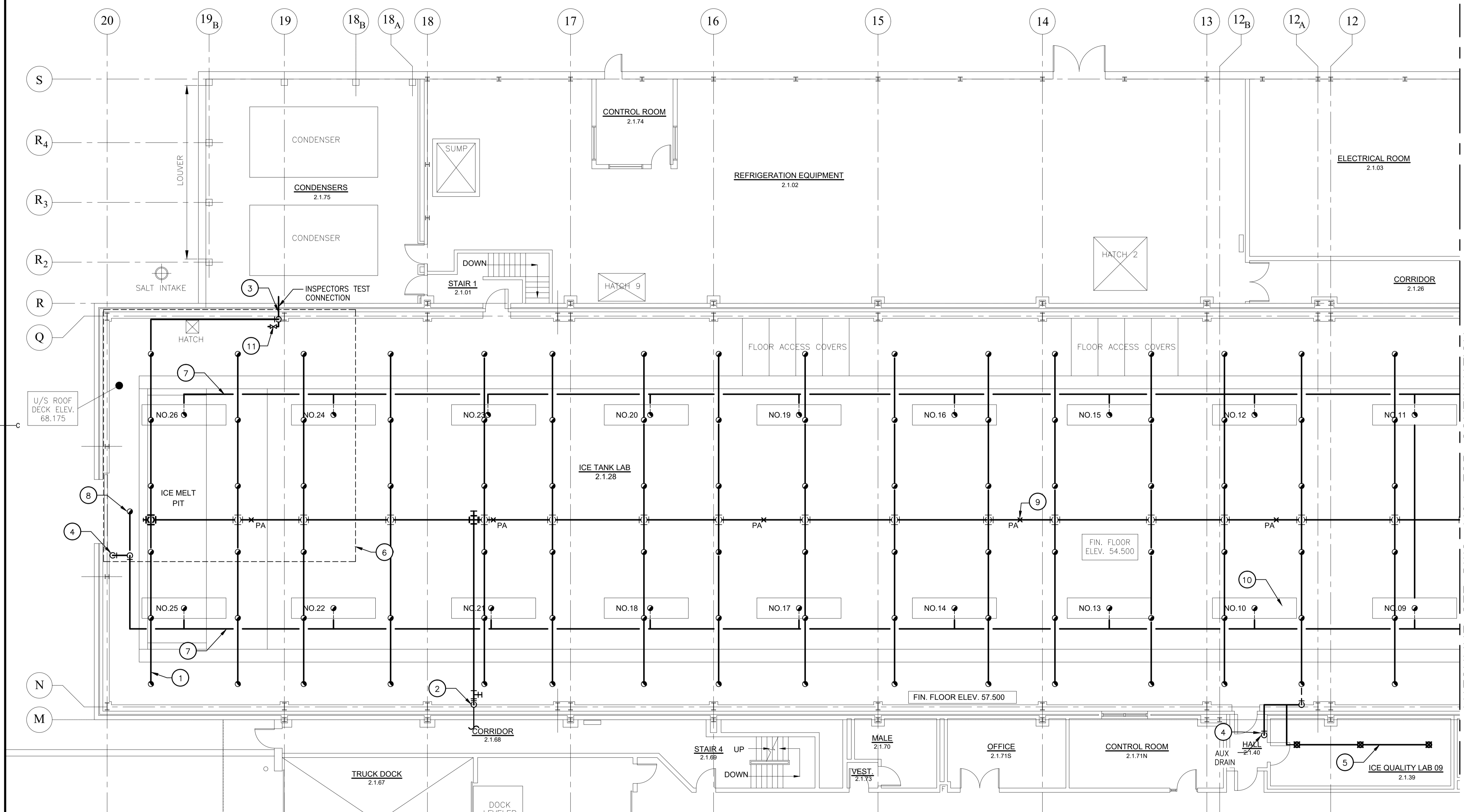
AREA OF WORK
 Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

0	ISSUED FOR TENDER	JUL 21 2021
revisions		date
project		project

**NRC ICE TANK FACILITY
 SPRINKLER SYSTEM REPAIRS**

**MECHANICAL
 REVISED
 UPPER LEVEL (WEST)
 SPRINKLER LAYOUT**

designed	PS	conçu
date	AUGUST 2020	
drawn	JSJ	dessiné
date	AUGUST 2020	
approved		approuvé
date		
Tender		Soumission
PWGSC Project Manager	Administrateur de projets TPSCG	
project number	no. du projet	
STJ-6043		
drawing no.		no. du dessin
M03		

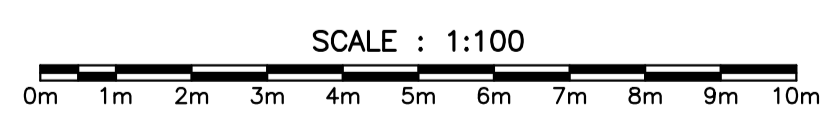


MATCHLINE SEE DWG. M04 FOR CONTINUATION

FIRE PROTECTION DESIGN PARAMETERS

HAZARD:	LIGHT
DESIGN AREA:	140M ²
DENSITY:	4.1 LPM/M ²
SPRINKLER WATER FLOW:	574 LPM
INSIDE OUTSIDE HOSE ALLOWANCE:	378 LPM
TOTAL FIRE WATER FLOW:	952 LPM
MAX SPRINKLER COVERAGE:	20M ²
MAX SPRINKLER SPACING:	4.6M

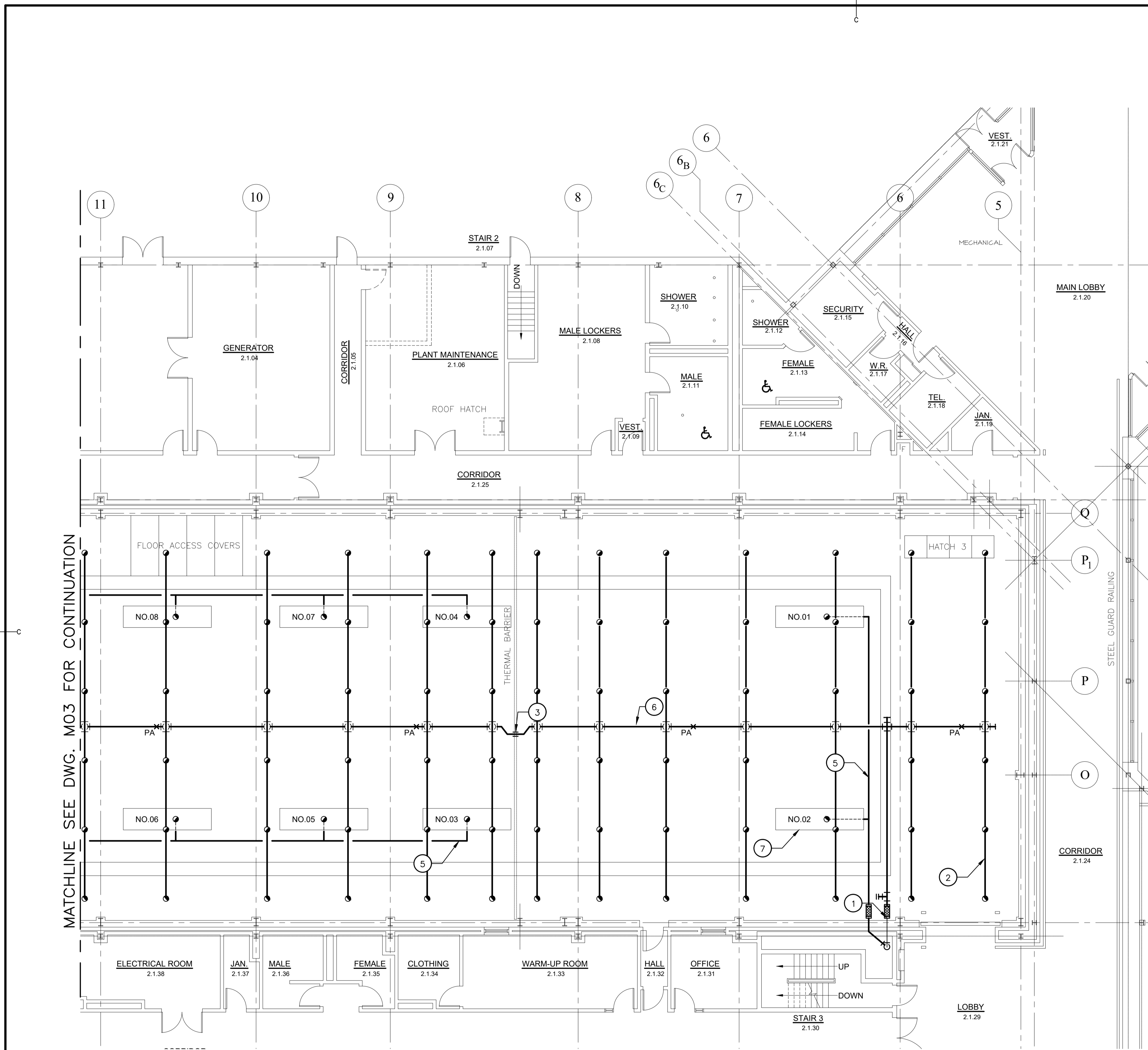
REVISED SPRINKLER LAYOUT (WEST)



1
M03

REVISED NOTES:

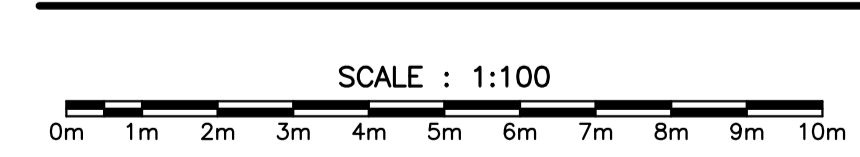
- 1 NEW SPRINKLER PIPING AND HEADS AT ROOF LEVEL. SLOPE PIPING AT 4mm/m PER NFPA 13-16.10.3.3.
- 2 CONNECT TO EXISTING FLANGED ELBOW WITH NEW FLEXIBLE CONNECTION.
- 3 RUN NEW INSPECTORS TEST CONNECTION OUT THROUGH EXISTING OPENING AND WEATHER SEAL.
- 4 NEW AUXILLARY DRAIN.
- 5 NEW PIPING AND DRY SPRINKLERS IN ICE QUALITY LAB. SEAL DRY PIPE SPRINKLERS AT CEILING PENETRATIONS.
- 6 SPRINKLER DESIGN AREA APPROX. 140M².
- 7 NEW SPRINKLER PIPING AND HEAD BELOW EVAPORATOR LEVEL SLOPE PIPING AT 4mm/M PER NFPA 13-16.10.3.3.
- 8 SPRINKLER PROTECTION UNDER OVERHEAD DOOR.
- 9 PROVIDE LONGITUDINAL SWAY BRACING EVERY 24,000mm AND LATERAL SWAY BRACING EVERY 12,000mm PER NFPA 13 PART 18.5.
- 10 REFRIGERATION EVAPORATOR UNITS.
- 11 NITROGEN PURGE VALVE INSTALLED AT FLOOR LEVEL OF TEST CONNECTION PIPING.



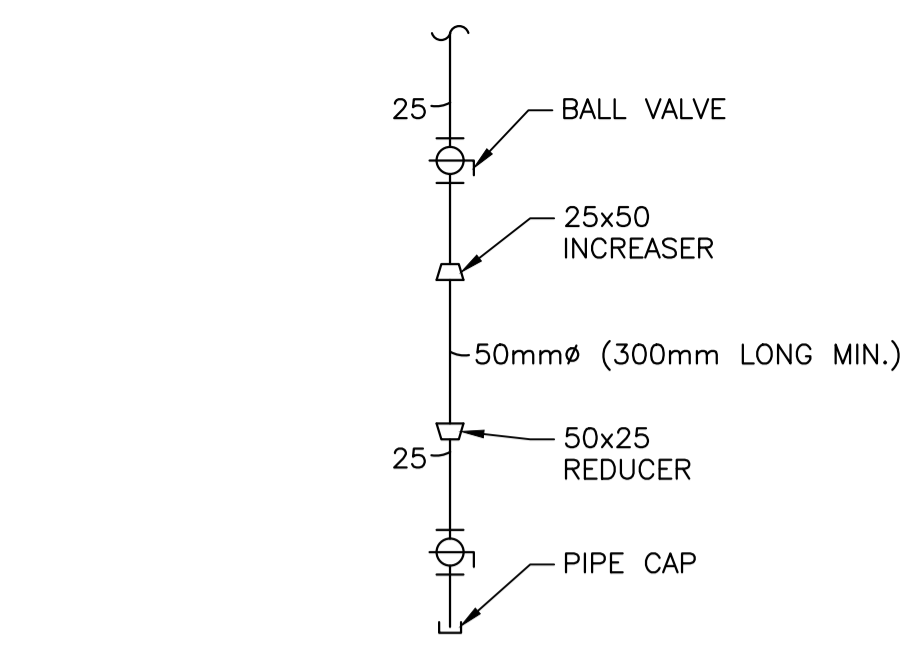
REVISED NOTES:

- 1 CONNECT TO EXISTING FLANGED CONNECTION WITH NEW FLEXIBLE CONNECTION.
- 2 NEW SPRINKLER PIPING AND HEADS. SLOPE PIPING AT 4mm/m PER NFPA 13-16.10.3.3.
- 3 OFFSET SPRINKLER PIPING AS REQUIRED WHERE PASSING THROUGH EXISTING THERMAL BARRIER SEAL.
- 4 CONNECT INTO EXISTING 150mm RISER AND PENETRATE INTO ICE TANK ROOM. SEAL PENETRATION AND PROVIDE FLEXIBLE CONNECTION.
- 5 NEW SPRINKLER PIPING AND HEADS BELOW EVAPORATOR LEVEL. SLOPE PIPING AT 4MM/M PER NFPA-16.10.3.3. CONNECT TO EXISTING RISER AND PENETRATE ICE TANK WALL. SEAL WALL PENETRATION.
- 6 PROVIDE LONGITUDINAL SWAY BRACING EVERY 24,000MM AND LATERAL SWAY BRACING EVERY 12,000MM PER NFPA 13 PART 18.5.
- 7 REFRIGERATION EVAPORATOR UNITS.

REVISED SPRINKLER LAYOUT (EAST)

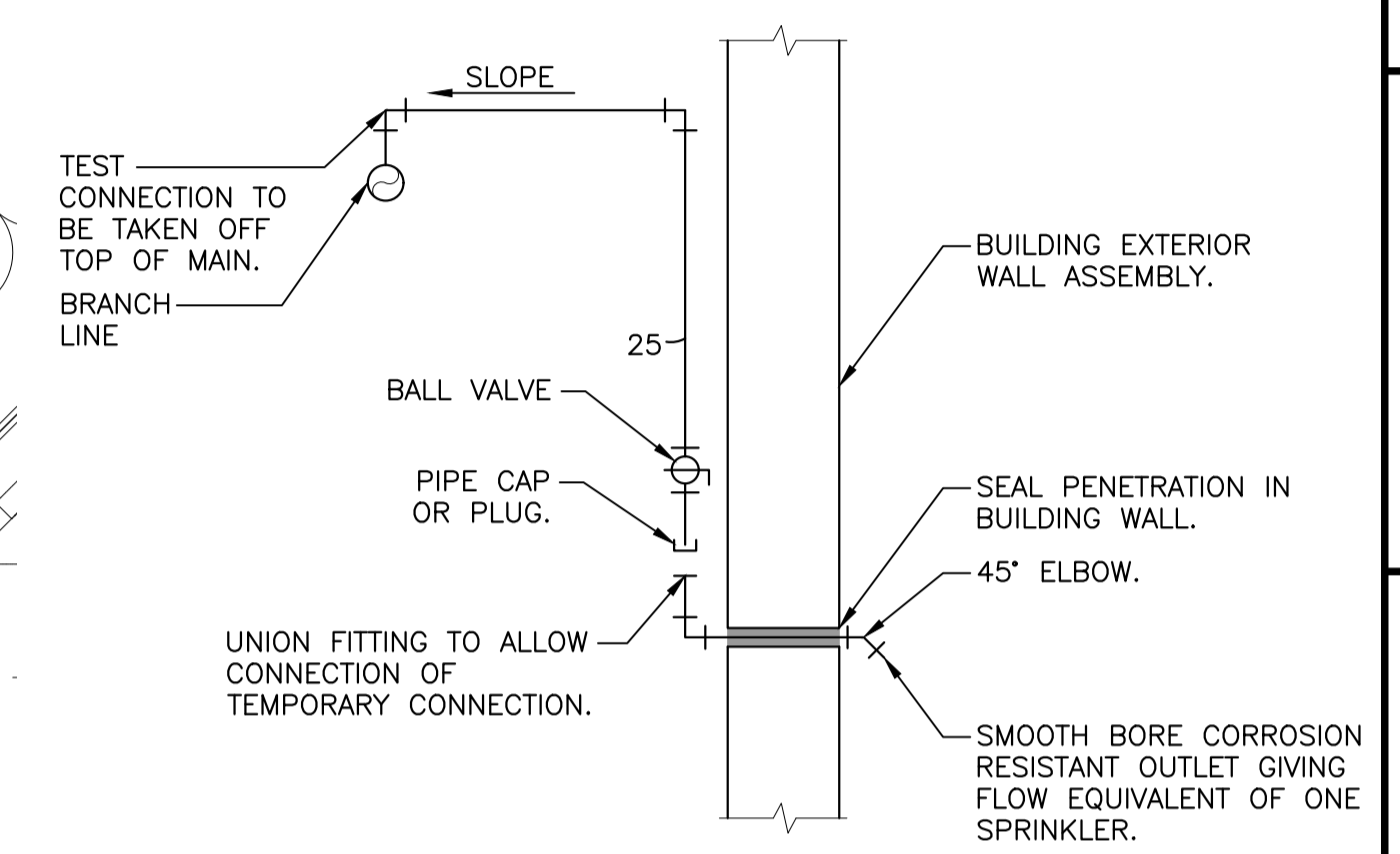


1
M04



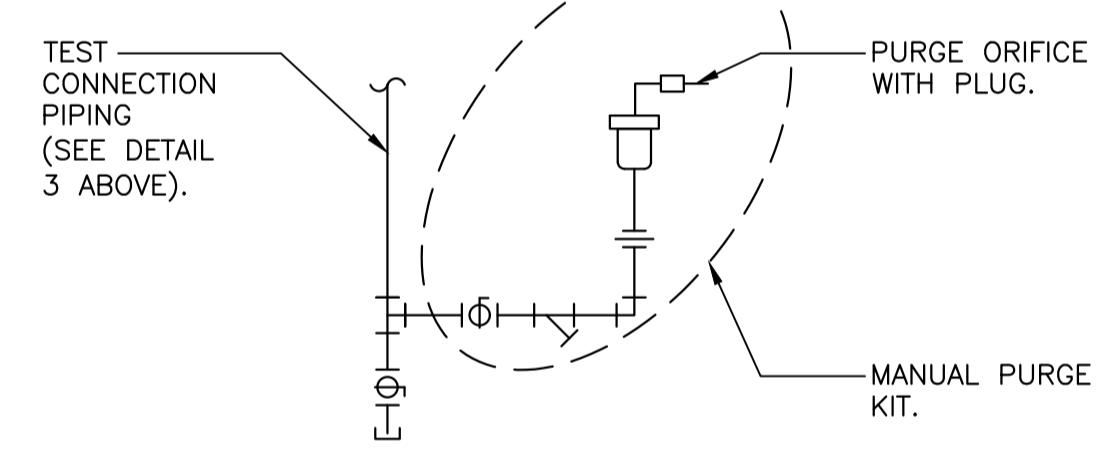
DETAIL - DRY SYSTEM AUXILIARY DRAIN

N.T.S. 2
M04



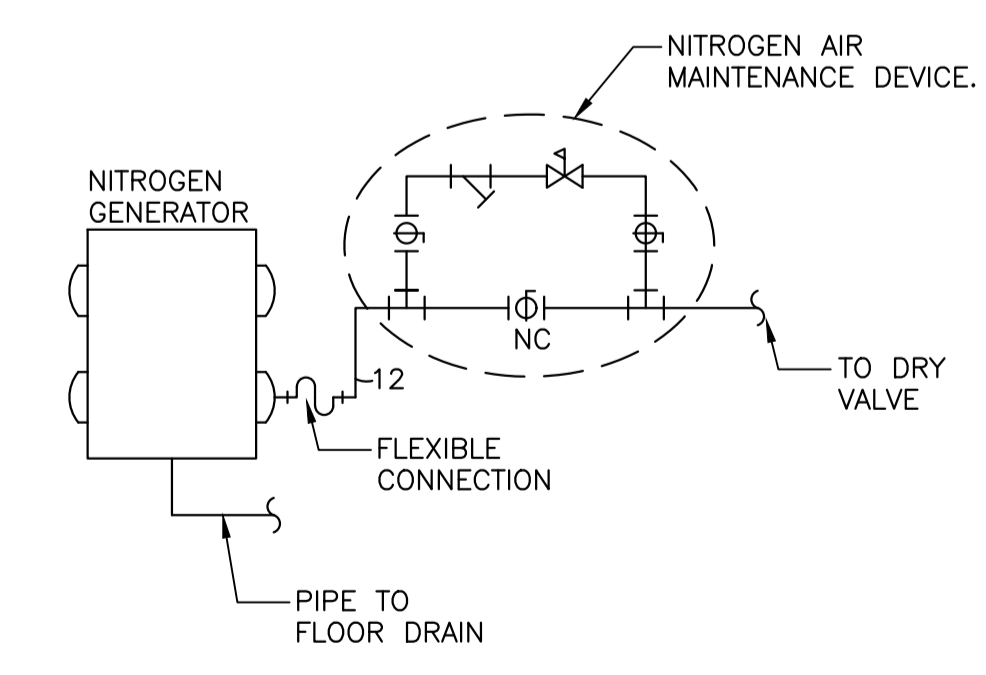
DETAIL - DRY SYSTEM TEST CONNECTION

N.T.S. 3
M04



DETAIL - NITROGEN PURGE VALVE

N.T.S. 4
M04



DETAIL - NITROGEN GENERATOR

N.T.S. 5
M04

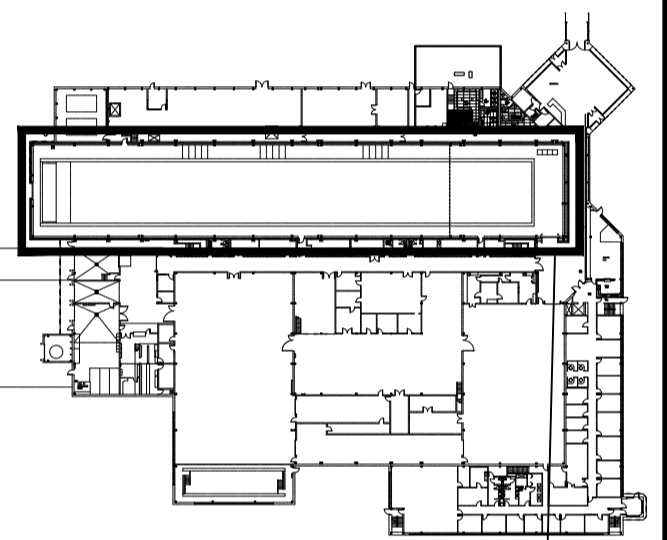
NRC - CNRC



CBCL

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT
D0178
CBCL Limited
M.I.R.C. PAUL SCEVIOUR #02782
Signature or Member Number
(Member-in-Responsible Charge)

KEY PLAN



AREA OF WORK
Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

0	ISSUED FOR TENDER	JUL 21 2021
revisions		date
project		project

NRC ICE TANK FACILITY SPRINKLER SYSTEM REPAIRS

MECHANICAL REVISED UPPER LEVEL (EAST) SPRINKLER LAYOUT AND DETAILS

designed	PS	conçu
date	AUGUST 2020	
drawn	JSJ	dessiné
date	AUGUST 2020	
approved		approuvé
date		
Tender		Soumission

PWGSC Project Manager Administrateur de projets TPSGC
project number no. du projet

STJ-6043

drawing no. no. du dessin

M04