National Defence / Défense nationale

4CDTC MEAFORD M206 REFRIGERATION LIFECYCLE

MEAFORD, ONTARIO

ISSUED FOR TENDER

Canada

Date: JUN. 27, 2023

SET NO. - SÉRIE NO.

LIST OF DRAWINGS - LISTE DES DESSINS

STRUCTURAL- STRUCTURE

ARCHITECTURAL- ARCHITECTURAL

MECHANICAL - MÉCANIQUE

MF500039-401	NOTES, SYMBOLS, ABBREVIATIONS, AND DESIGN CRITERIA
MF500039-402	EXISTING HYDRONIC SYSTEM SCHEMATIC - DEMOLITION
MF500039-403	EXISTING KITCHEN REFRIGERATION SYSTEMS LAYOUT - DEMOLITION
MF500039-404	EXISTING PENTHOUSE MECHANICAL SYSTEMS LAYOUT - DEMOLITION
MF500039-405	KITCHEN NEW REFRIGERATION SYSTEMS LAYOUT
MF500039-406	PENTHOUSE NEW REFRIGERATION SYSTEMS LAYOUT
MF500039-407	EXISTING PLUMBING DEMOLITION AND NEW PLUMBING LAYOUTS FOR DISHWASHERS
MF500039-408	NEW SCHEMATICS - HYDRONIC, DOMESTIC WATER AND REFRIGERANT
MF500039-409	MODIFIED HYDRONIC SYSTEM SCHEMATIC AND SEQUENCE OF OPERATION
MF500039-410	EQUIPMENT SCHEDULES

ELECTRICAL - ÉLECTRICITÉ

MF500039-501	GENERAL DRAWING NOTES, ABBREVIATIONS, AND SYMBOLS
MF500039-502	ELECTRICAL LAYOUT - KITCHEN
MF500039-503	ELECTRICAL LAYOUT - PENTHOUSE

NOT FOR CONSTRUCTION

DCC NO. – CDC NO.

PROJECT NO. – PROJET NO.

MF500039

JOB NO.

DEMOLITION NOTES

1. BEFORE BEGINNING ANY WORK, CONTRACTOR SHALL THOROUGHLY EXAMINE AND VERIFY ALL EXISTING CONDITIONS, POINTS OF CONNECTIONS, SIZES, LOCATIONS, ELEVATIONS ETC. MALFUNCTIONS AND DISCREPANCIES (ITEMS NOT SHOWN ON THE PLANS BUT FOUND, OR ITEMS SHOWN AS IN-PLACE BUT NOT FOUND) DURING EXAMINATION SHALL BE PROMPTLY REPORTED TO THE DCC REPRESENTATIVE.

2. FAILURE TO REPORT SUCH DISCREPANCIES SHALL RESULT IN ANY AND ALL ADDITIONAL LABOUR AND MATERIALS REQUIRED TO PROVIDE COMPLETE AND OPERABLE SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION, TO BECOME PART OF THE CONTRACTOR'S WORK JUST AS IF IT WERE INDICATED AND IMPLIED ON THE PLANS.

3. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF ALL EXISTING CONDITIONS AFFECTING THE WORK.

4. DUE TO THE NUMBER OF MISCELLANEOUS EXISTING ITEMS AND SUPPORTS, NOT ALL DEMOLITION AND REPAIR WORK IS SHOWN OR DESCRIBED ON THE DRAWINGS. DEMOLITION WORK WILL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING ACTIVITIES:
   - 4.1. REMOVE ALL INDICATED EQUIPMENT, PIPING, PUMPS, VALVES, SENSORS RELATED HANGERS, STRAPS, SUPPORTS, ELECTRICAL CONDUITS AND WIRES.
   - 4.2. PATCH ALL OPENINGS IN WALLS, CEILINGS OR FLOORS REMAINING AFTER REMOVAL OF EQUIPMENT, PIPING, AND SUPPORTS; SEAL OPENINGS WATER AND AIR TIGHT.
   - 4.3. REPAIR AND/OR RECONNECT ANY UTILITIES BROKEN OR DISCONNECTED DURING THE COURSE OF DEMOLITION WORK WHICH MAY BE DEEMED NECESSARY TO MAINTAIN SERVICE TO OTHER AREAS OR OPERATIONS IN THE BUILDING AS REQUIRED.

5. ALL ITEMS IDENTIFIED AS FOR "DEMO" OR "TO BE REMOVED" AND NOT REUSED FOR THE NEW SYSTEM SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR IN AN APPROVED MANNER, UNLESS RETAINED AT DCC REPRESENTATIVE'S DISCRETION.

6. ALL BUILDING DAMAGES DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR.

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MECHANICAL AND OTHER DISCIPLINE DRAWINGS AND SPECIFICATIONS.

2. THESE DRAWINGS AND THE ACCOMPANYING SPECIFICATIONS ARE TO BE CONSIDERED AS DIAGRAMMATIC ONLY AND DO NOT SHOW ALL THE STRUCTURAL AND CONSTRUCTION DETAILS. ANY INFORMATION INVOLVING MEASUREMENTS OF THE BUILDING SHALL BE TAKEN FROM THE EXISTING ARCHITECTURAL AND STRUCTURAL DRAWINGS AND AT THE BUILDING SITE. DRAWINGS CAN BE REQUESTED FROM OWNER. MAKE WITHOUT ADDITIONAL CHARGE ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS TO ACCOMMODATE STRUCTURAL CONDITIONS.

3. THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE CONSIDERED AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. NEITHER THE DRAWINGS NOR THE SPECIFICATIONS SHALL BE USED ALONE. MISINTERPRETATION OF ANY REQUIREMENTS OF EITHER PLANS OR SPECIFICATIONS SHALL NOT CHANGE THE REQUIREMENTS OR INTENT OF THE SPECIFICATIONS FOR PROPER COMPLETION OF THE WORK TO THE FULL APPROVAL OF THE CONSULTANT AND OWNER.

4. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER SO THAT ANY DETAILS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE EXECUTED IN THE SAME MANNER AS IF CONTAINED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS.

5. ALL WORK SHALL CONFORM TO ALL CURRENT CODES OF THE AUTHORITY HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO THE LATEST NATIONAL BUILDING CODE, NATIONAL FIRE CODE, TECHNICAL STANDARDS AND SAFETY AUTHORITY, AND THE ONTARIO ELECTRICAL SAFETY CODE.

6. CONTRACTOR SHALL MAKE ARRANGEMENTS TO SECURE ALL REQUIRED PERMITS, FEES AND INSPECTIONS REQUIRED DURING CONSTRUCTION, INCLUDING ACCEPTANCE TESTS AND INSPECTIONS DURING AND UPON COMPLETION OF WORK.

7. THE LOCATIONS AND SIZES SHOWN FOR ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC, ARE APPROXIMATE ONLY, CONTRACTOR SHALL FIELD VERIFY THEIR EXACT LOCATION, AND SIZE PRIOR TO BEGINNING WORK. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS.

8. DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE WHEN WORK AND MATERIALS CALLED FOR EXCEED MINIMUM CODE REQUIREMENT.

9. CONTRACTOR SHALL PROVIDE SUBMITTALS ON ALL WORK, EQUIPMENT AND ACCESSORIES FOR REVIEW PRIOR TO ORDERING, FABRICATION AND INSTALLATION.

10. SHOULD CONTRACTOR PROPOSE AND/OR INSTALL ALTERNATE EQUIPMENT OR SYSTEMS, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE APPROVALS OF ALL REVIEWING AGENCIES, INCLUDING DND, DCC, DND CHIEF FIRE PROTECTION OFFICE (CFPO), AND/OR AUTHORITIES HAVING JURISDICTION (AHJ).

11. CONTRACTOR'S WORK IS PERFORMED INJURY FREE. PERSONAL SAFETY RISKS ARE IDENTIFIED, MITIGATED AND CONTROLLED TO AN ACCEPTABLE LEVEL. CONTRACTOR MANAGEMENT, THEIR EMPLOYEES AND SUBCONTRACTORS DEMONSTRATE SHARED RESPONSIBILITY FOR ZERO TOLERANCE TO UNMANAGED RISKS TO THEMSELVES AND OTHERS. CONTRACTOR EMPLOYEES APPLY APPROPRIATE PREVENTATIVE MEASURES FOR SAFE WORK EXECUTION. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNS, BARRICADES, AND OTHER FACILITIES TO ADEQUATELY SAFEGUARD THE GENERAL PUBLIC AND OCCUPANTS BY THEIR OPERATION DURING CONSTRUCTION.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING SYSTEMS FACILITY UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ALL THAT ARE DAMAGED BY THEIR OPERATIONS.
   - 12.1. THE BUILDINGS AND ADJACENT AREAS WILL BE OCCUPIED OR IN USE DURING THIS PROJECT, THE CONTRACTOR SHALL CONDUCT WORK TO ALLOW NORMAL OPERATION OF FACILITY AND GROUNDS

CONSTRUCTION NOTES

1. CONTRACTOR SHALL COORDINATE PRIOR TO INSTALLATION ALL WORK WITH OTHER TRADES.

2. ANY INTERFERENCE THAT CAN NOT BE RELOCATED SHALL BE AVOIDED. THE CONTRACTOR SHALL SUBMIT A PLAN FOR THIS WORK TO THE DCC REPRESENTATIVE PRIOR TO COMMENCING.

3. ALL CONTROL WIRING FOR HVAC EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDE ALL COSTS ASSOCIATED WITH THE CONTROLS WORK.

4. CONTROL CONTRACTOR TO PROVIDE SHOP DRAWINGS AND ALL ITEMS, WIRING, REQUIRED FOR PROPER OPERATION AND COMPLIANCE WITH CODES. VERIFY EXACT REQUIREMENTS WITH EQUIPMENT MANUFACTURERS AND ELECTRICAL CONTRACTOR AND EXISTING SYSTEM. THE CONTROL EQUIPMENT AND CONNECTING WIRING SHALL BE INSTALLED BY TRAINED ELECTRICIANS IN THE DIRECT EMPLOY OF THE CONTROLS MANUFACTURER.

5. EXISTING VALVES ARE TO BE USED FOR ISOLATION. IF FOUND DURING CONSTRUCTION THAT EXISTING VALVE IS NON-FUNCTIONAL CONTRACT TO NOTIFY DCC REPRESENTATIVE IMMEDIATELY WITH PROPOSED ACTION PLAN, AND AWAIT DCC FEEDBACK PRIOR TO STARTING WORK AGAIN ON THIS ITEM.

STANDARD ABBREVIATIONS

ABC	ABOVE CEILING
ABV	ABOVE
AC	AIR CONDITION
AD(P)	ACCESS DOOR (PANEL)
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AL	ACOUSTICAL LINING
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
BAU	-
BD	BALANCE DAMPER
BDD	BACKDRAFT DAMPER
BEL	BELOW
BLDG	BUILDING
BOT	BOTTOM
BTU(H)	BRITISH THERMAL UNIT/HOUR
CCW	COUNTER CLOCKWISE
CFM	CUBIC FEET OF AIR PER MINUTE
CL	CLEAR
CLG	CEILING
CONN	CONNECT (ION)
COORD	COORDINATE
CTE	CONNECT TO EXISTING
DB	DRY BULB
DIA	DIAMETER
DL	DOOR LOUVER
DN	DOWN
DWGS	DRAWINGS
Ø	DIAMETER
E	EXTRACTOR
(E)	EXISTING
EA	EACH
E(A)	EXHAUST (AIR)
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ENGR	ENGINEER
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
FC	FLEXIBLE CONNECTION
FIN	FINISHED
FLA	FULL LOAD AMPS
FLR	FLOOR
FUT	FUTURE
GA	GAGE OR GAUGE
GC	GENERAL CONTRACTOR
GI	GALVANIZED IRON
GV	GATE VALVE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MFR	MANUFACTURER
MIN	MINIMUM
(N)	NEW
NI(M)C	NOT IN (MECHANICAL) CONTRACT
OBD	OPPOSED BLADE DAMPER
OH	OVERHEAD
OSA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
POC	POINT OF CONNECTION
(R)	REMOVE
RA(D)(L)	RETURN AIR (DAMPER) (LOUVER)
RAG	RETURN AIR GRILLE
(REL)	RELOCATE
REQMTS	REQUIREMENTS
RR(G)	RETURN REGISTER (GRILLE)
S	SPIN-IN EXTRACTOR
SA	SUPPLY AIR
SM	SHEET METAL
SMS	SHEET METAL SCREWS
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
STRUCT	STRUCTURAL
TCC	TEMPERATURE CONTROL CONTRACTOR
TG	TRANSFER GRILLE
THK	THICK
TRANS	TRANSITION
TSP	TOTAL STATIC PRESSURE
TV	TURNING VANES
TYP	TYPICAL
UCD	UNDERCUT DOOR
UL	UNDERWRITERS' LABORATORY
V	VOLTS
VI	VIBRATION ISOLATOR
VLV	VALVE
W/	WITH
WC	WATER COLUMN
WT	WEATHER TIGHT

PIPING IDENTIFICATION AND SYMBOLS

- PIPE BREAK
- % SLOPE — PIPING SLOPE
- STEAM TRAP
- FIXTURE TRAP
- BUILDING TRAP
- GATE VALVE
- GLOBE VALVE
- PRESSURE REDUCING VALVE
- ELECTRIC CONTROL VALVE
- SAFETY RELIEF
- SWING GATE CHECK VALVE
- BALL VALVE
- BALANCING VALVE
- PLUG VALVE
- BUTTERFLY VALVE
- VENTURI FLOWMETER
- PETES PLUG
- FLOAT OPERATED VALVE ACTUATOR
- NEEDLE VALVE
- BUTTERFLY CHECK VALVE
- Y STRAINER
- BLOW OFF Y STRAINER
- THERMOMETER WELL
- SEPARATOR
- UNION CONNECTION
- FLANGED CONNECTION
- ORIFICE PLATE
- ORIFICE FLOW METER
- SIGHT FLOW GLASS
- M — FLOW METER
- EXPANSION JOINT
- GUIDE
- INTERMEDIATE ANCHOR
- AUTOMATIC AIR VENT
- THERMOMETER
- AIR VALVE
- FS — FLOW SWITCH
- PUMP (REFER TO SCHEDULE)
- S — ELECTRIC SOLENOID OPERATED VALVE ACTUATOR
- M — MOTOR OPERATED VALVE ACTUATOR
- RELIEF (R) OR SAFETY (S) VALVE
- ANGLE GATE VALVE (WITHOUT ACTUATOR)
- THREE WAY VALVE (WITHOUT ACTUATOR)

- DCW — DOMESTIC COLD WATER
- DHW — DOMESTIC HOT WATER
- DHWR — DOMESTIC HOT WATER RETURN
- R — REFRIGERANT PIPE
- V — VENT PIPE
- C — CONDENSATE WATER
- CDWS — CONDENSING WATER SUPPLY
- CDWR — CONDENSING WATER RETURN
- GLYW — GLYCOL WATER

- FD — FLOOR DRAIN
- FFD — FUNNEL FLOOR DRAIN
- HD — HUB DRAIN
- PIPE CAP
- FLOW ARROW
- PIPING ELBOW DOWN
- PIPING ELBOW UP
- PIPING TEE UP
- PIPING TEE DOWN
- PIPING TEE
- CO — STANDARD CLEAN-OUT IN LINE FLOOR IN LINE
- CO — STANDARD CLEAN-OUT THROUGH FLOOR END OF RUN
- CO — STANDARD CLEAN-OUT THROUGH FLOOR IN LINE
- CONCENTRIC REDUCER
- STRAINER
- PRESSURE GAUGE AND COCK
- FLANGED CONNECTION
- UNION
- FLEXIBLE CONNECTOR
- MANUAL AIR VENT
- RPZ BACKFLOW PREVENTER
- M — METER
- SANITARY VENT
- GAS PRESSURE REGULATOR TO ATMOSPHERE VENT
- VACUUM BREAKER
- PLUMBING FIXTURES
- HEAT TRACING

DESIGN CRITERIA

1. APPLICABLE DESIGN STANDARD AND CODES, INCLUDE BUT ARE NOT LIMITED TO
   - NATIONAL BUILDING CODE OF CANADA, 2020 (NBCC)
   - NATIONAL FIRE CODE 2020 (NFC)
   - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
   - CANADIAN STANDARDS ASSOCIATION (CSA)
   - INTERNATIONAL STANDARD ORGANIZATION (ISO)
   - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
   - ASHRAE 62.1 - 2022
   - ASSOCIATION ADVANCING OCCUPATIONAL AND ENVIRONMENTAL HEALTH (ACGIH)
   - NATIONAL PLUMBING CODE OF CANADA 2020 (NPC)
   - CANADIAN ELECTRICAL CODE 2021
2. OUTDOOR DESIGN TEMPERATURES BASED ON NBC 2015 CLIMATIC DATA FOR OWEN SOUND, ONTARIO. SUMMER TEMPERATURE AT 2.5% BASIS: 29°C DRY, 22°C WET; WINTER TEMPERATURE AT 1% BASIS: -21°C. ELEVATION OF 215 M.
3. WALK-IN COOLERS DESIGN TEMPERATURE AT 2°~4°C, WALK-IN FREEZERS DESIGN TEMPERATURE AT -22°C~-18°C.

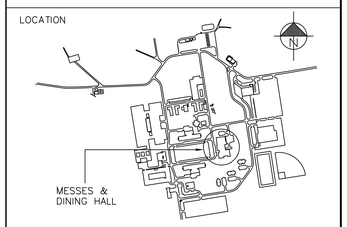
Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC),
MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
MECHANICAL	2021/01/26

SUBJECT | SUJET
NOTES, SYMBOLS, ABBREVIATIONS, AND DESIGN CRITERIA

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

DWG. NO. | NO. DESSIN
L-M95-4901/6- 401

Canada

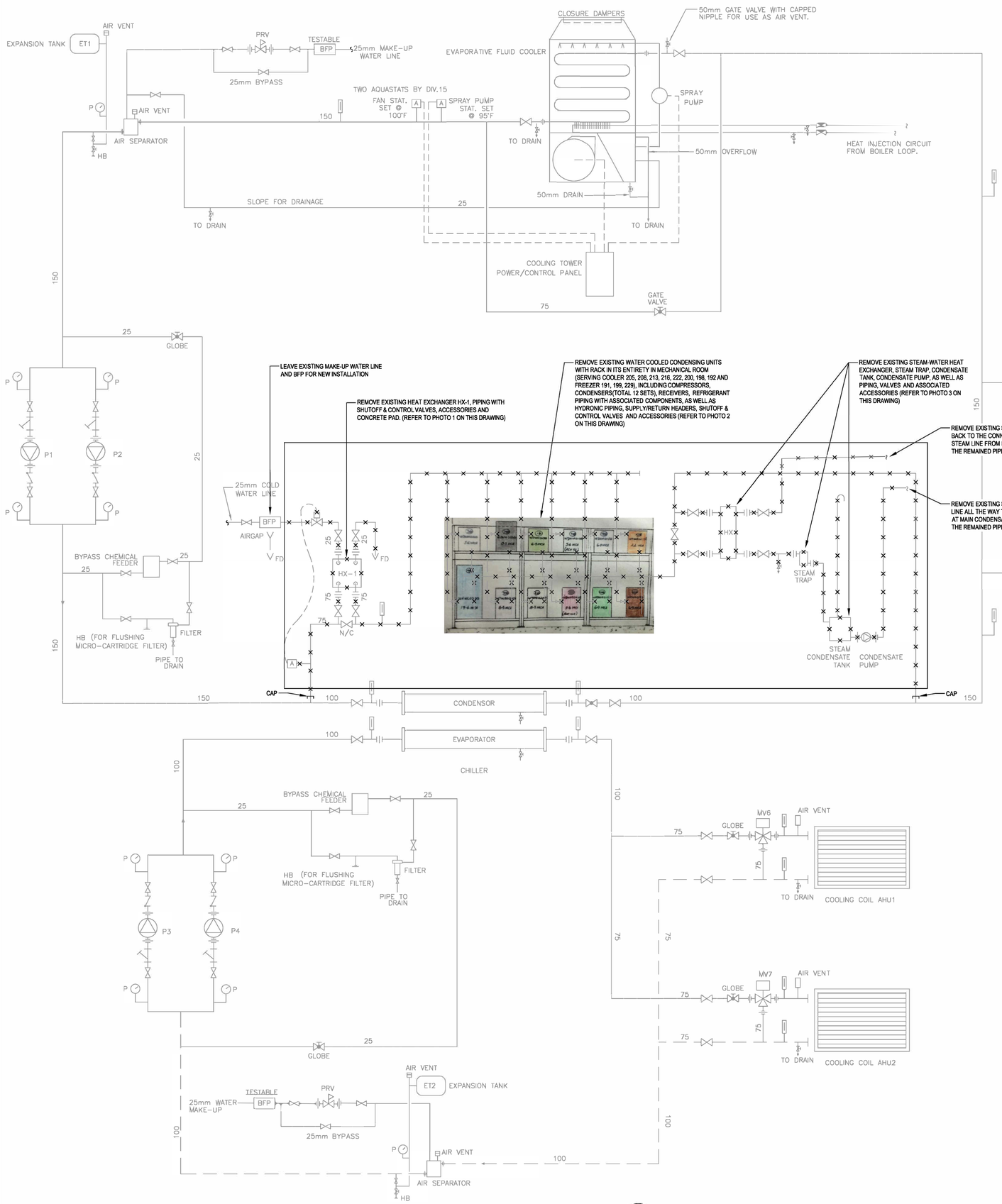


PHOTO 2: EXISTING COMPRESSOR/CONDENSING UNITS ON RACK

(REFER TO DRAWING 404 FOR SYSTEM LOCATION)

PHOTO 1: EXISTING HX-1 ON CONCRETE PAD

(REFER TO DRAWING 404 FOR SYSTEM LOCATION)

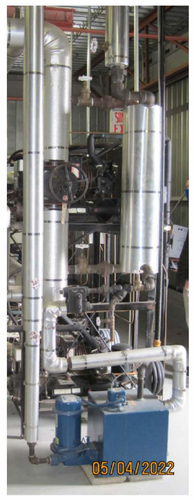


PHOTO 3: EXISTING STEAM-WATER REHEAT SYSTEM FOR CONDENSING WATER

(REFER TO DRAWING 404 FOR SYSTEM LOCATION)

1 / 402 EXISTING HYDRONIC SYSTEM SCHEMATIC - DEMOLITION

SCALE: N.T.S.

Government of Canada / Gouvernement du Canada

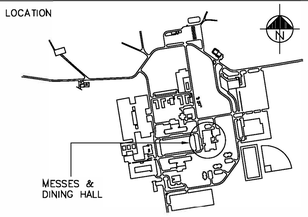
LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ

RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



NO.	DATE	REVISION	APPR
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT

4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET

M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER: MECHANICAL

DATE: 2021/01/26

SUBJECT | SUJET

EXISTING HYDRONIC SYSTEM SCHEMATIC - DEMOLITION

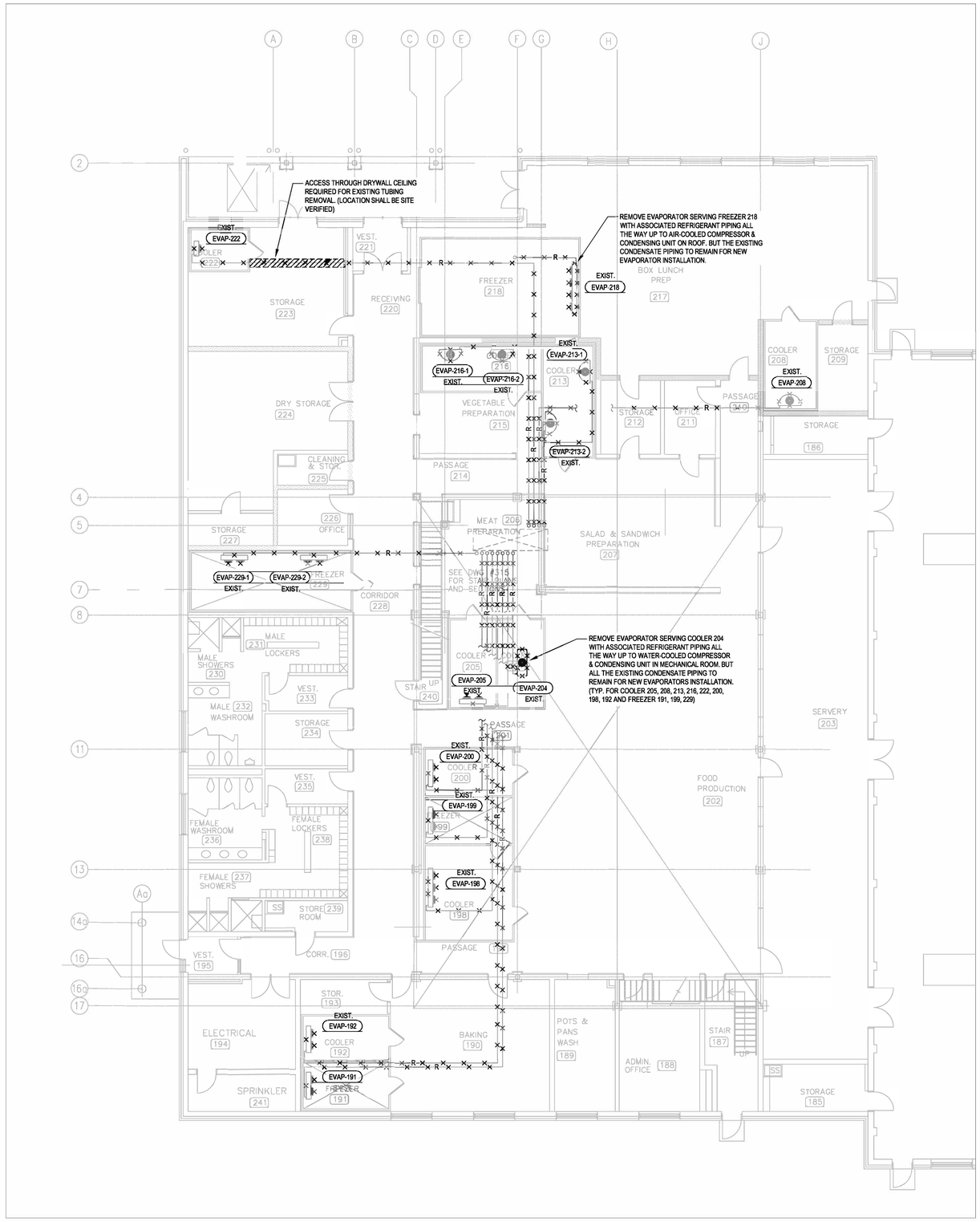
PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ F.P.	XX | XX	DES O| A GEN T CONC
DRAWN | DESSINÉ F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP: N203111.03.02

PF NO. | NO. DP: MF500039

DWG. NO. | NO. DESSIN: L-M95-4901/6- 402

Canada



1 / 403 EXISTING KITCHEN REFRIGERANT SYSTEMS LAYOUT - DEMOLITION
SCALE: 1:100

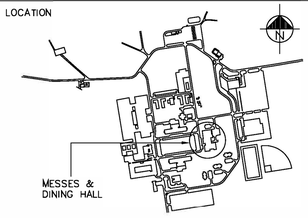
Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



LICENCE PROFESSIONAL ENGINEER
D. E. STARK
2023.06.27
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER: MECHANICAL
DATE: 2021/01/26

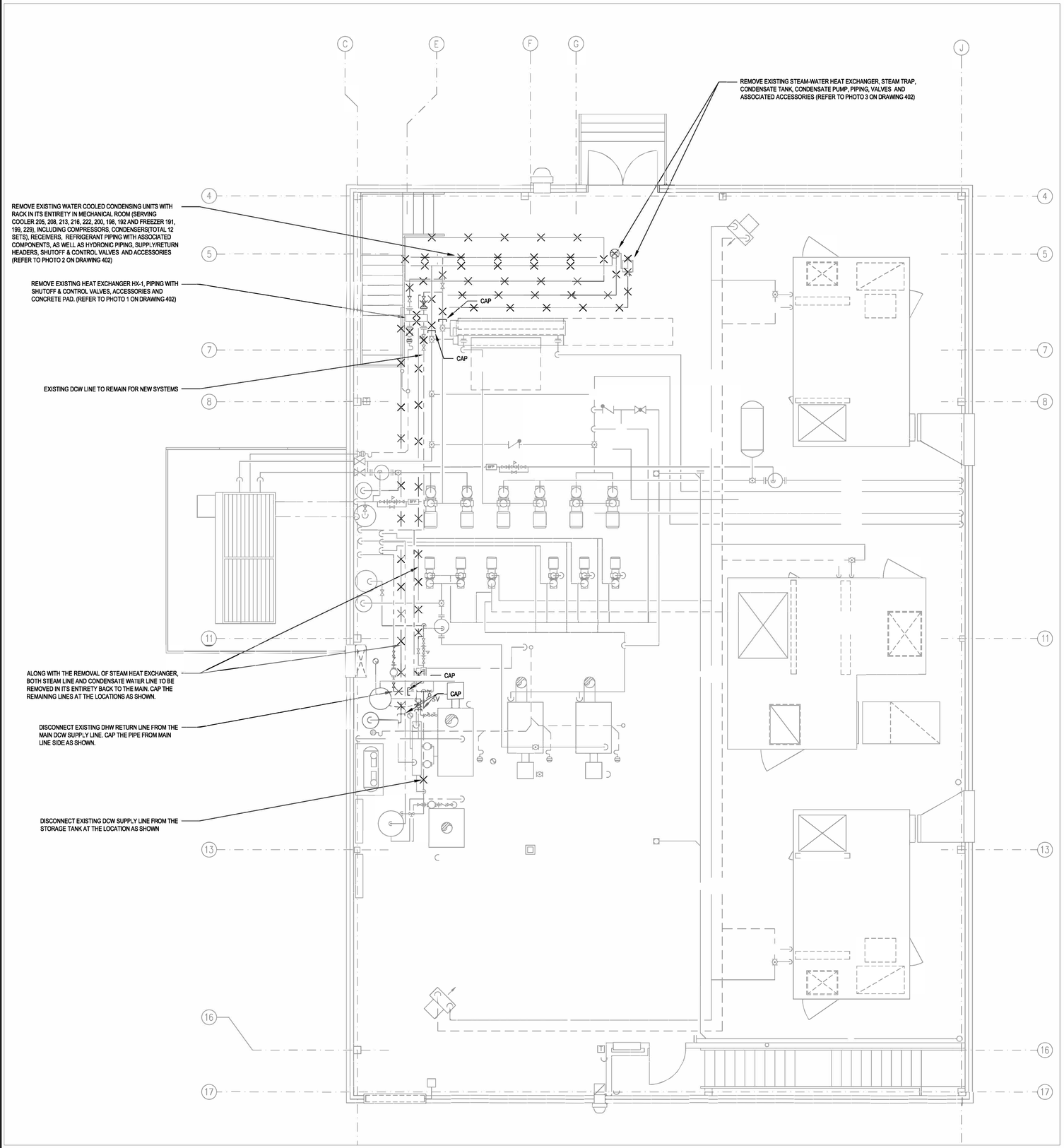
SUBJECT | SUJET
EXISTING KITCHEN REFRIGERATION SYSTEMS LAYOUT - DEMOLITION

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ: F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ: F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ: D.S.		DES MGR | GEST CONC
COORDINATION: D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP: N203111.03.02
PF NO. | NO. DP: MF500039
DWG. NO. | NO. DESSIN: L-M95-4901/6- 403

Canada

2023/Jun/29, 4:37pm fpeng Layout1 V:\01615\active\161500\105\40_Design\42_Drawings\02_Current\Mech\403 - kitchen floor plan - demo.dwg



1 / 404 EXISTING PENTHOUSE MECHANICAL SYSTEMS LAYOUT - DEMOLITION
SCALE: 1:50

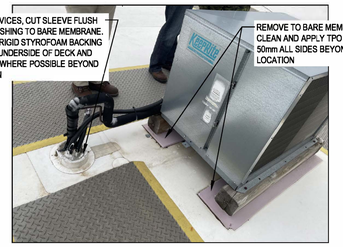
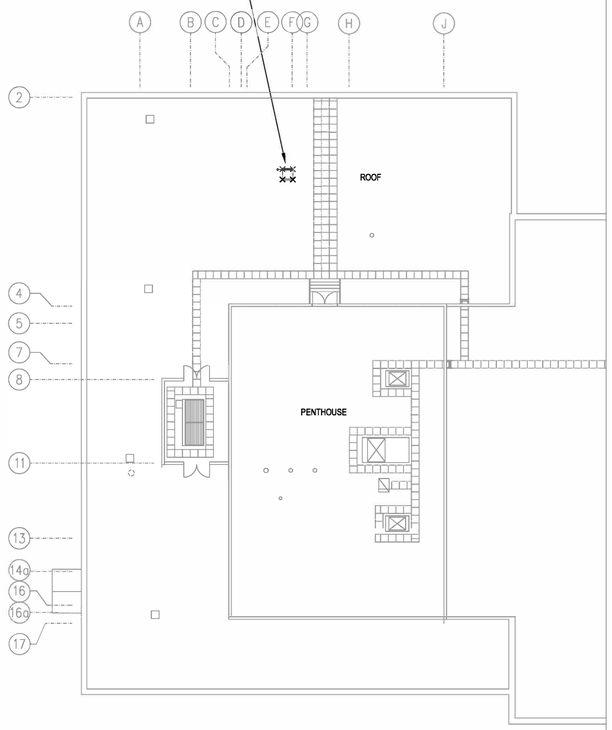


PHOTO 4: EXISTING AIR COOLED CONDENSING UNIT
ON ROOF SERVING FREEZER 218

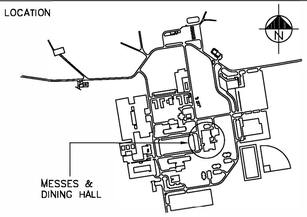


2 / 404 EXISTING ROOF LAYOUT - DEMOLITION
SCALE: 1:200

Government of Canada | Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT
Stantec

LOCATION


LICENCE PROFESSIONAL ENGINEER
D. E. STARK
2023.06.27
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
MECHANICAL	2021/01/26

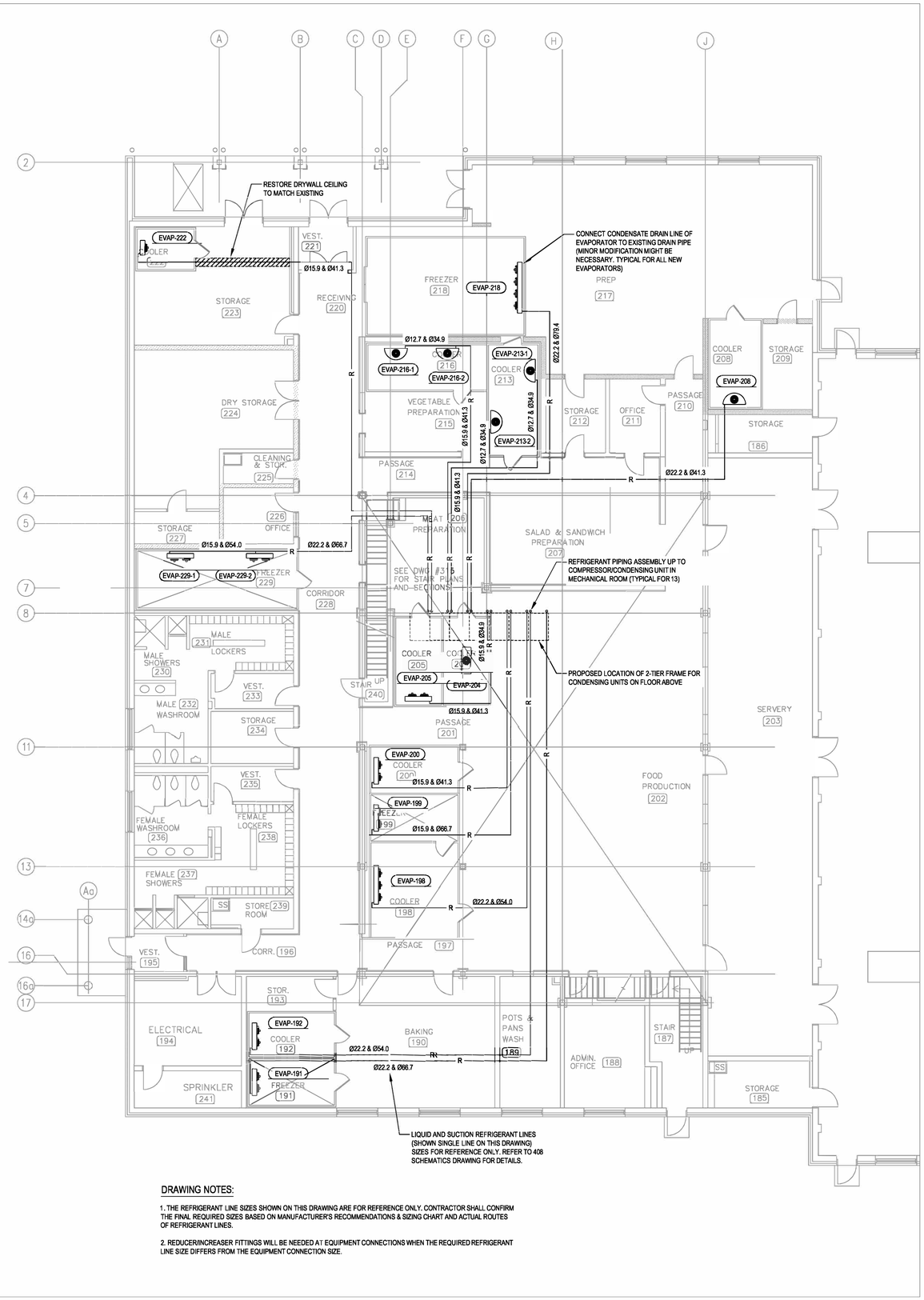
SUBJECT | SUJET
EXISTING PENTHOUSE MECHANICAL SYSTEMS LAYOUT - DEMOLITION

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

DWG. NO. | NO. DESSIN
L-M95-4901/6- 404

Canada

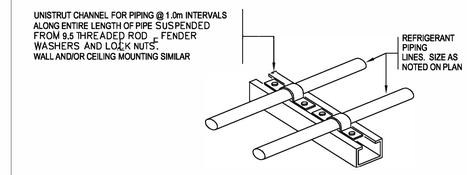


DRAWING NOTES:

1. THE REFRIGERANT LINE SIZES SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE FINAL REQUIRED SIZES BASED ON MANUFACTURER'S RECOMMENDATIONS & SIZING CHART AND ACTUAL ROUTES OF REFRIGERANT LINES.

2. REDUCER/INCREASER FITTINGS WILL BE NEEDED AT EQUIPMENT CONNECTIONS WHEN THE REQUIRED REFRIGERANT LINE SIZE DIFFERS FROM THE EQUIPMENT CONNECTION SIZE.

1/405 KITCHEN NEW REFRIGERATION SYSTEMS LAYOUT
SCALE: 1:100

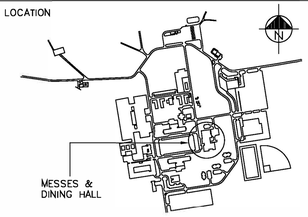


2/405 TYPICAL REFRIGERANT TUBE SUPPORT
SCALE: N.T.S

Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT
Stantec

LOCATION


LICENSED PROFESSIONAL ENGINEER
D. E. STARK
2023.06.27
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
MECHANICAL	2021/01/26

SUBJECT | SUJET
KITCHEN NEW REFRIGERATION SYSTEMS LAYOUT

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ: F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ: F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ: D.S.		DES MGR | GEST CONC
COORDINATION: D.S.		FIRE | INCENDIE

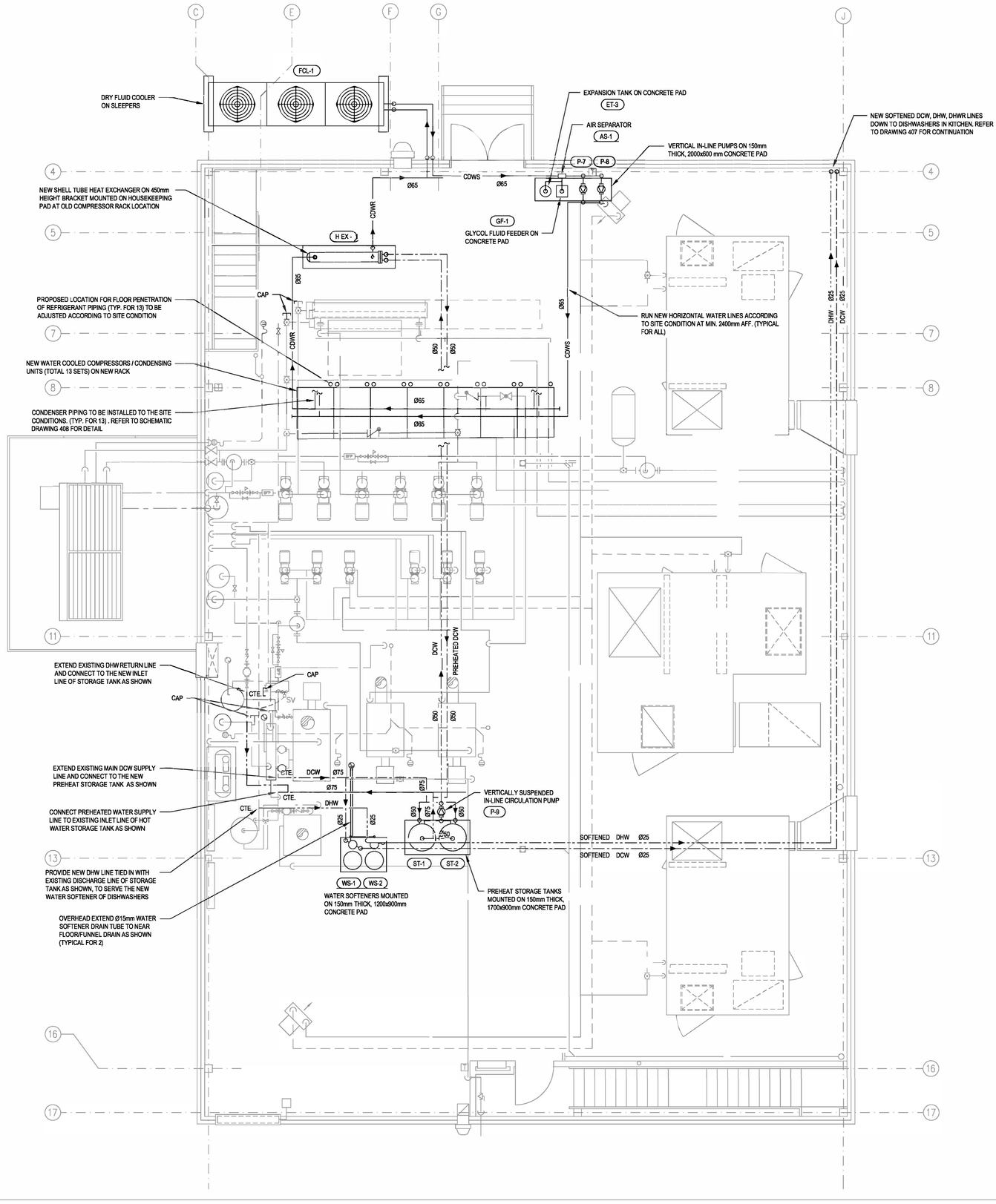
WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

DWG. NO. | NO. DESSIN: L-M95-4901/6- 405

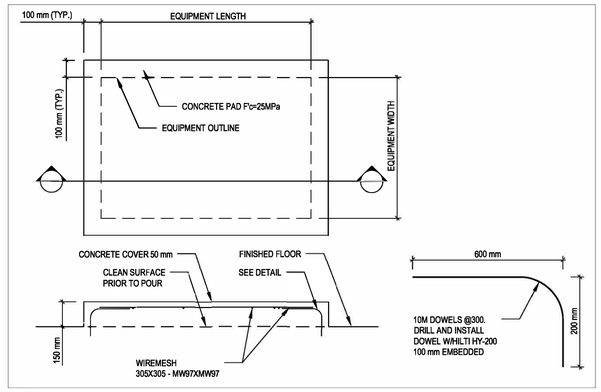
Canada

Sheet # of #

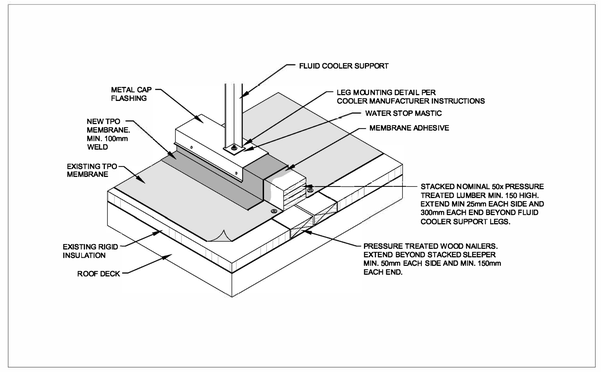
2023/Jun/28, 4:35pm fpeng Layout1 V:\D1615\active\161500105\40_Design\42_Drawings\02_Current\Mech\405 - kitchen floor plan - new.dwg



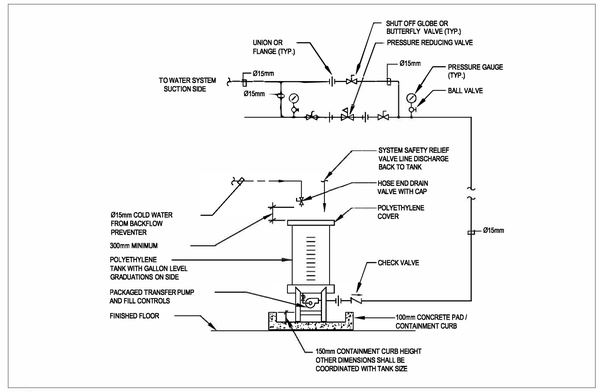
1 406 PENTHOUSE NEW MECHANICAL SYSTEMS LAYOUT
SCALE: 1:50



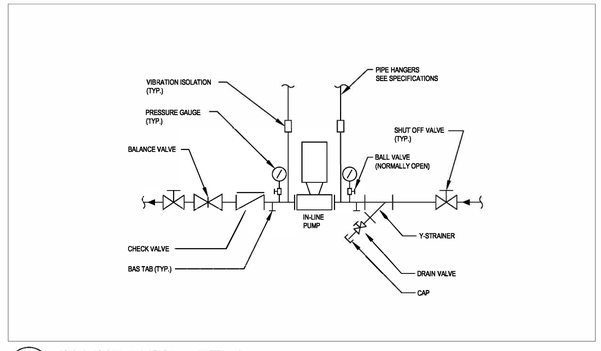
2 406 TYPICAL HOUSEKEEPING PAD DETAIL
SCALE: N.T.S



3 406 ROOF SLEEPER DETAIL
SCALE: N.T.S



4 406 GLYCOL FEEDER DETAIL
SCALE: N.T.S

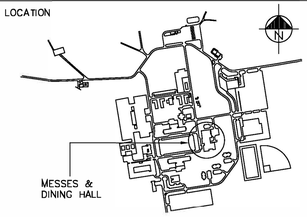


5 406 IN-LINE PUMP DETAIL
SCALE: N.T.S

Government of Canada | Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT
Stantec

LOCATION


LICENSED PROFESSIONAL ENGINEER
D. E. STARK
2023.06.27
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
MECHANICAL	2021/01/26

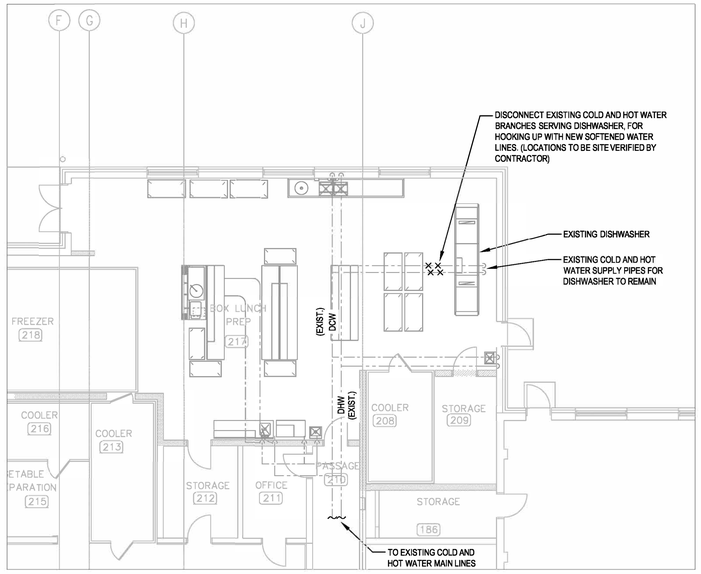
SUBJECT | SUJET
PENTHOUSE NEW MECHANICAL SYSTEMS LAYOUT

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

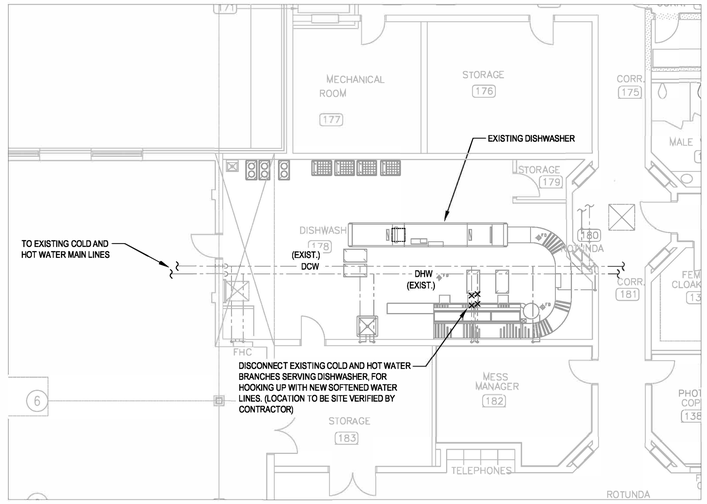
WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

DWG. NO. | NO. DESSIN
L-M95-4901/6- 406

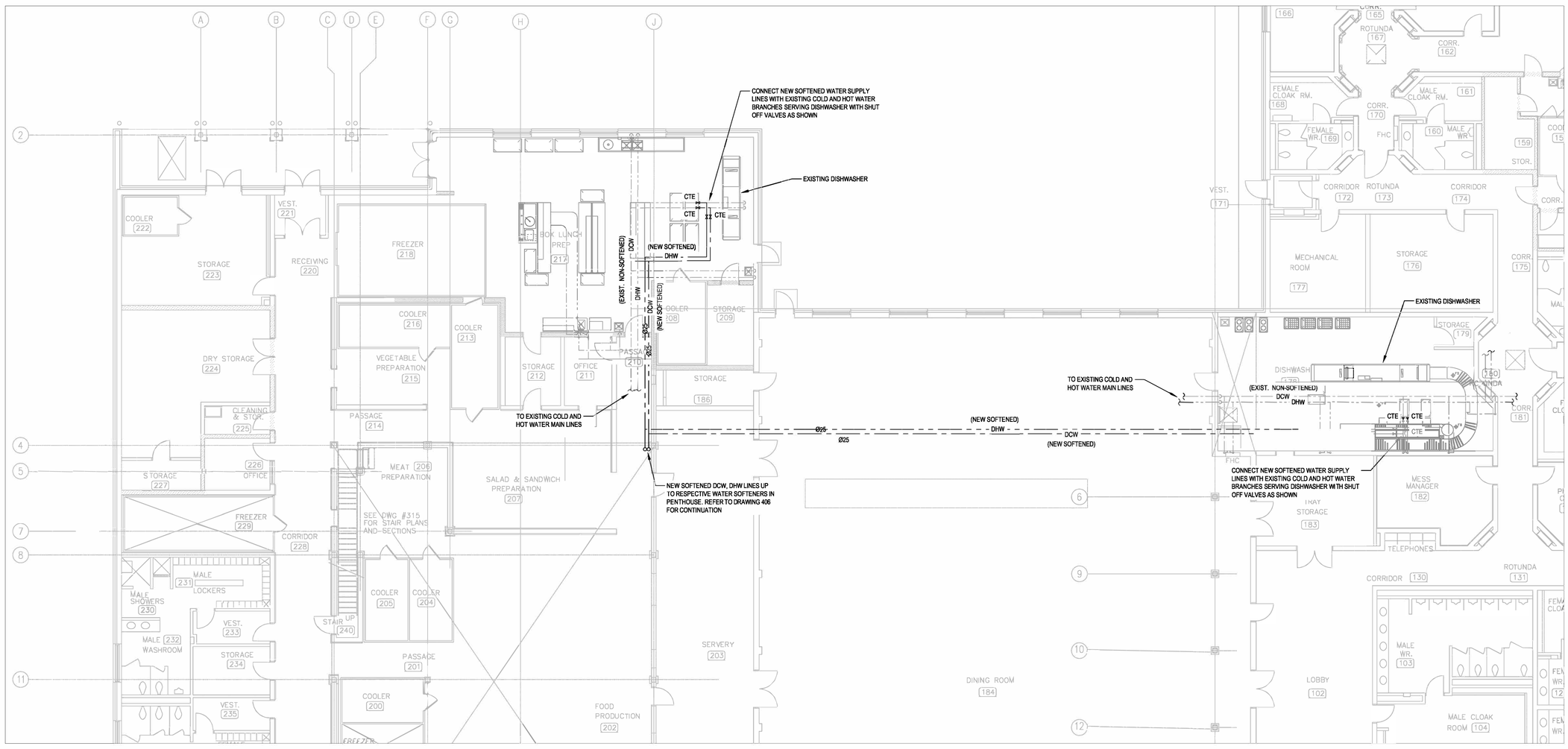
Canada



1 407 EXISTING PLUMBING LAYOUT IN ROOM 217 - DEMOLITION
SCALE: 1:100



2 407 EXISTING PLUMBING LAYOUT IN ROOM 178 - DEMOLITION
SCALE: 1:100



3 407 NEW SOFTENED WATER PIPING LAYOUT
SCALE: 1:100

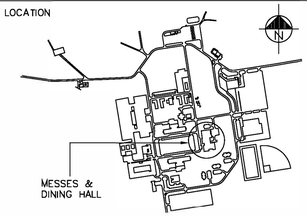
Government of Canada | Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



LICENSED PROFESSIONAL ENGINEER
D. E. STARK
2023.06.27
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

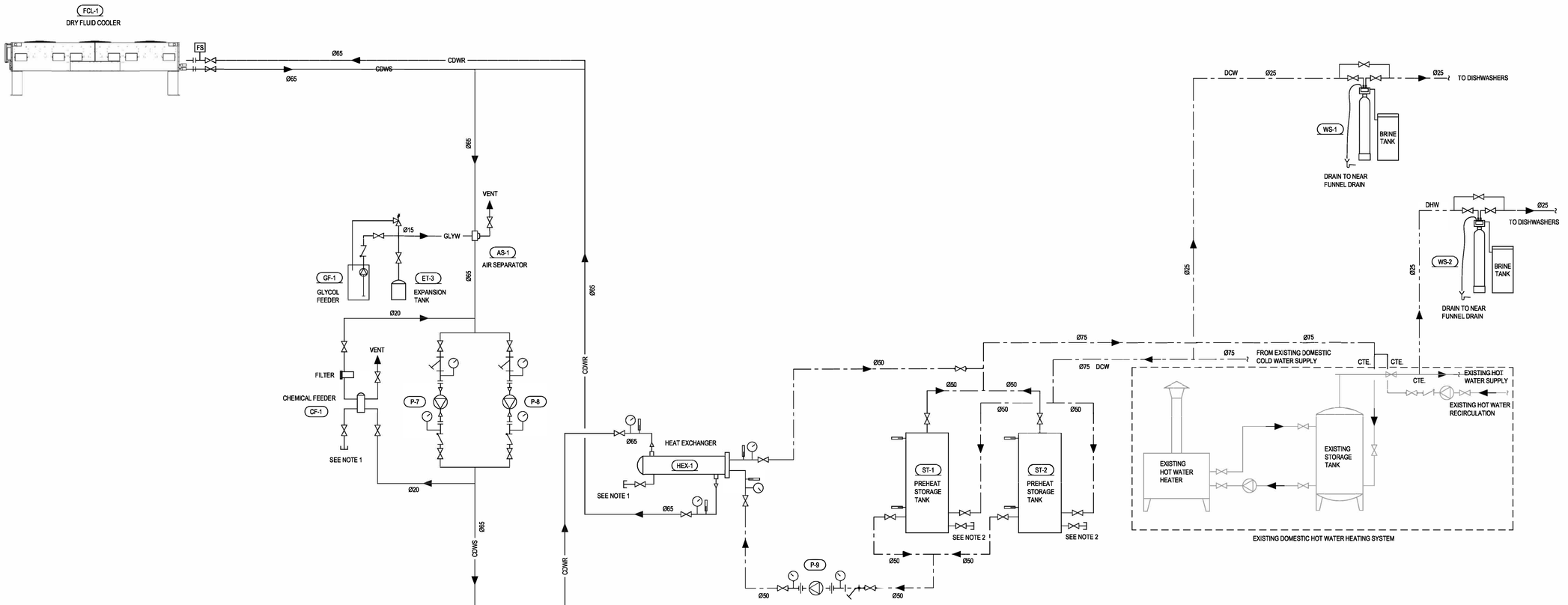
TRADE | MÉTIER: MECHANICAL
DATE: 2021/01/26

SUBJECT | SUJET
EXISTING PLUMBING DEMOLITION AND NEW SOFTENED WATER PIPING LAYOUT FOR DISHWASHERS

PRODUCTION	REVIEWED	REVU
DESIGNED | ÉTUDIÉ: F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ: F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ: D.S.		DES MGR | GEST CONC
COORDINATION: D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP: N203111.03.02
PF NO. | NO. DP: MF500039
DWG. NO. | NO. DESSIN: L-M95-4901/6- 407

Canada



DRAWING NOTES:

1. PROVIDE DRAIN VALVE EQUIPPED WITH END HOSE CONNECTOR FOR HOSE CONNECTION AND DRAIN TO TEMPORARY GLYCOL FLUID CONTAINER AS REQUIRED FOR SYSTEM MAINTENANCE.

2. PROVIDE DRAIN VALVE EQUIPPED WITH END HOSE CONNECTOR FOR HOSE CONNECTION AND DRAIN TO NEAR FLOOR DRAIN AS REQUIRED FOR SYSTEM MAINTENANCE.

SEQUENCE OF OPERATION

1. THE PUMP (P-N1 OR P-N2) SHALL RUN CONTINUOUSLY WITH CONSTANT FLOW VOLUME WHEN ANY OF COMPRESSORS IS WORKING. PROVIDE ALTERNATION FOR DUTY-STANDBY CONTROL FOR P-N1 & P-N2 PUMPS.

2. THE CONTROLLER SHALL MEASURE LEAVING FLUID TEMPERATURE OF FLUID COOLER TO MODULATE EC MOTOR SPEED/RPM OF FLUID COOLER.

3. THE EQUIPMENT STARTING SEQUENCE SHALL BE: PUMP – FLUID COOLER – COMPRESSOR(S). THE STOPPING SEQUENCE SHALL BE OPPOSITE.

4. THE PUMP P-N3 SHALL RUN CONTINUOUSLY WITH CONSTANT FLOW VOLUME ONCE PUMP P-N1 OR P-N2 IS WORKING AND THE INLET FLUID TEMPERATURE ON SHELL SIDE IS HIGHER THAN THE WATER TEMPERATURE AT THE BOTTOM OF PREHEAT STORAGE TANK ST-N1.

1/408 NEW HYDRONIC, DOMESTIC WATER SYSTEMS SCHEMATIC
SCALE: N.T.S.

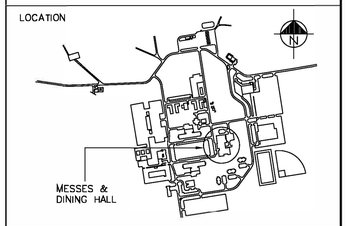
Government of Canada | Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
MECHANICAL	2021/01/26

SUBJECT | SUJET
NEW SCHEMATICS - HYDRONIC, DOMESTIC WATER AND REFRIGERANT

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

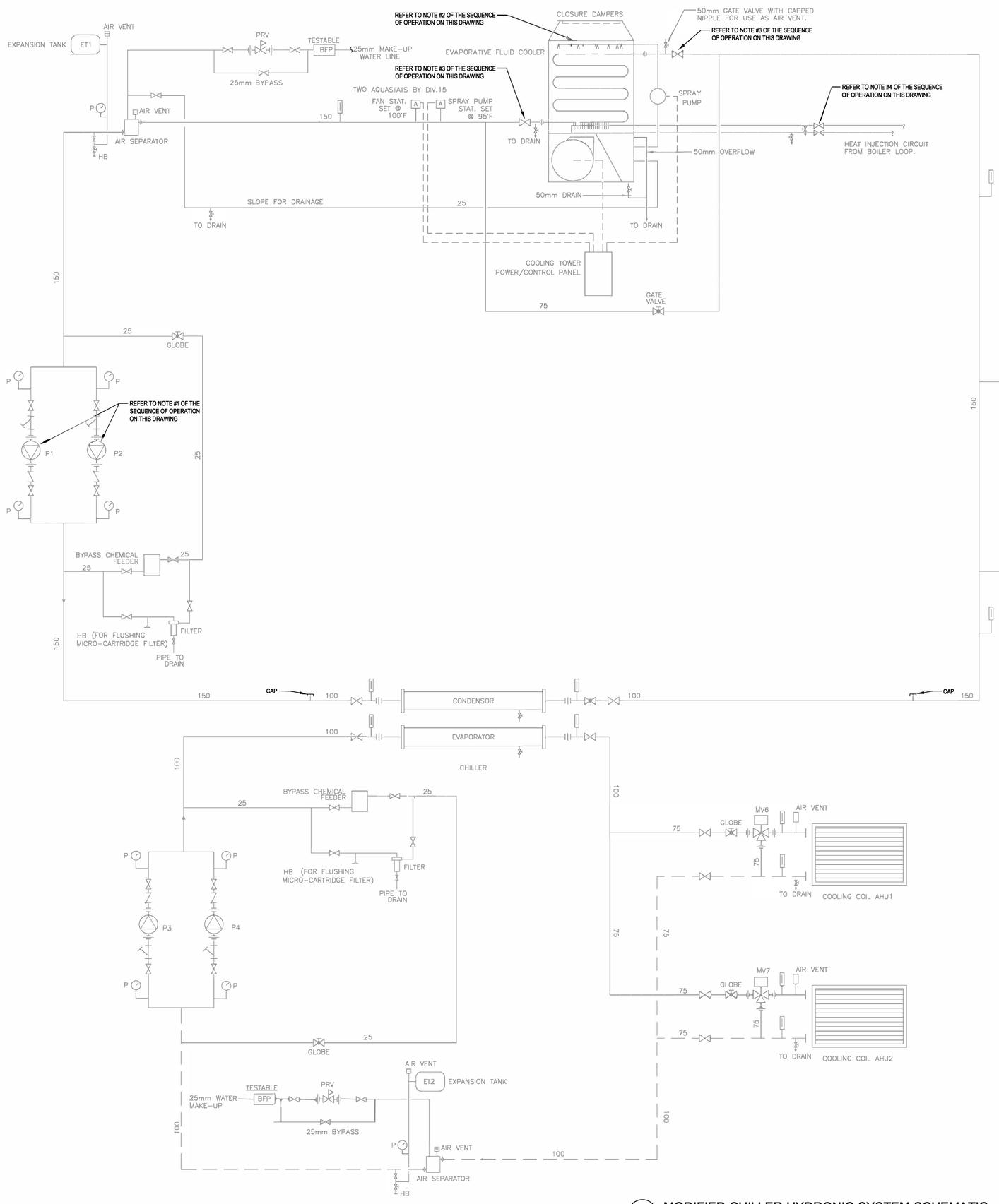
WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

DWG. NO. | NO. DESSIN
L-M95-4901/6- 408

Canada

Sheet # of #

2023/Jun/29, 4:30pm fpeng Layout1 V:\01615\active\61501\05\0 Design\42_Drawings\02_Current\Mech\408 - schematics - new.dwg



1 409 MODIFIED CHILLER HYDRONIC SYSTEM SCHEMATIC

SCALE: N.T.S.

REVISED SEQUENCE OF OPERATION FOR CHILLER CONDENSING WATER SYSTEM

TO SAVE ENERGY, IT'S RECOMMENDED TO MODIFY THE SEQUENCE OF OPERATION FOR THE CHILLER CONDENSING WATER SYSTEM, DUE TO THE REMOVAL OF CONDENSING WATER SYSTEM OF REFRIGERATION COMPRESSOR / CONDENSING UNITS.

1. PROVIDE INTERLOCKING CONTROLS FOR THE CIRCULATION PUMPS P1 & P2 WITH THE CHILLER OPERATION. THE CHILLER SHALL HAVE ON-DELAY AND THE PUMP SHALL HAVE OFF-DELAY CONTROLS.

2. THE COOLING TOWER SHALL BE COMPLETELY SHUT DOWN AND DRIED OUT (OR OTHER PROPER WINTERIZATION OPTIONS) DURING WINTER WHEN CHILLER OPERATION IS NOT REQUIRED.

3. DRYING OUT THE CHILLER INCLUDES CLOSING THE INLET/OUTLET ISOLATION VALVES COMPLETELY AND DRAINING & EMPTYING BOTH THE COIL AND THE BASIN WITH ASSOCIATED SPAY PUMP LINES. IN THE MEANTIME, OTHER WINTERIZATION STEPS MIGHT BE REQUIRED SUCH AS INSPECTION, CLEANING ETC.

4. THE HEAT INJECTION CIRCUIT FROM BOILER LOOP IS NOT REQUIRED ANY LONGER DUE TO NO OPERATING REQUIRED IN WINTER. THIS CIRCUIT SHALL BE EITHER DEMOLISHED COMPLETELY OR SHUT OFF THE ISOLATION VALVES PERMANENTLY WITH THE WATER IN THE COIL DRAINED AND EMPTIED.

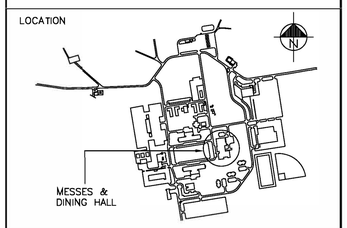
Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



LICENSED PROFESSIONAL ENGINEER
D. E. STARK
2023.06.27
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
MECHANICAL	2021/01/26

SUBJECT | SUJET
MODIFIED CHILLER HYDRONIC SYSTEM SCHEMATIC AND SEQUENCE OF OPERATION

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ F.P.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

DWG. NO. | NO. DESSIN
L-M95-4901/6- 409

Canada

EVAPORATOR SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	SYSTEM REFRIGERANT	BOX TEMP (°C)	EVAP. TEMP (°C)	CAPACITY (W)	FLOW RATE (L/S)	FAN POWER (HP)	DEFROST HTRS (W)	V/PH/HZ	MCA	MOP	WEIGHT (KG)	DISTRB./SUCT. CONN. SIZE (MM)	NOTES
EVAP-191	FREEZER 191			R448A	-20	-25.1	3069	642	2 X 0.07	1890	208/1/60	1.4 / 10.3	15 / 15	38.1	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-192	COOLER 192			R448A	3	-2.3	3199	666	2 X 0.07	-	115/1/60	2.3	15	33.6	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-198	COOLER 198			R448A	2	-2.9	4482	999	3 X 0.07	-	115/1/60	3.3	15	45.4	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-199	FREEZER 199			R448A	-17.8	-22.4	2889	642	2 X 0.07	1890	208/1/60	1.4 / 10.3	15 / 15	38.1	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-200	COOLER 200			R448A	2	-3.2	3101	666	2 X 0.07	-	115/1/60	2.3	15	33.6	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-204	COOLER 204			R448A	3	-1.3	2822	709	2 X 0.1	-	115/1/60	2.2	15	63.1	Ø12.7 / Ø22.2	2, 4, 5, 6
EVAP-205	COOLER 205			R448A	3	-1.6	3254	666	2 X 0.07	-	115/1/60	2.3	15	33.6	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-208	COOLER 208			R448A	3	-2.7	3151	614	1 X 85 W	-	115/1/60	1.9	15	51.8	Ø12.7 / Ø22.2	3, 6, 7, 8
EVAP-213-1	COOLER 213			R448A	2	-3.1	1649	510	1 X 23 W	-	115/1/60	1.9	15	44.5	Ø12.7 / Ø15.9	3, 6, 7, 8
EVAP-213-2	COOLER 213			R448A	2	-3.1	1649	510	1 X 23 W	-	115/1/60	1.9	15	44.5	Ø12.7 / Ø15.9	3, 6, 7, 8
EVAP-216-1	COOLER 216			R448A	2	-3.1	1649	510	1 X 23 W	-	115/1/60	1.9	15	44.5	Ø12.7 / Ø15.9	3, 6, 7, 8
EVAP-216-2	COOLER 216			R448A	2	-3.1	1649	510	1 X 23 W	-	115/1/60	1.9	15	44.5	Ø12.7 / Ø15.9	3, 6, 7, 8
EVAP-218	FREEZER 218			R448A	-22	-27.2	5500	1330	4 X 0.07	3560	208/1/60	2.6 / 19.3	15 / 20	58.0	Ø12.7 / Ø28.6	1, 4, 5, 6
EVAP-222	COOLER 222			R448A	3	-3.0	2221	321	1 X 0.07	-	115/1/60	1.3	15	21.8	Ø9.5 / Ø15.9	1, 4, 5, 6
EVAP-229-1	FREEZER 229			R448A	-20	-25.4	2091	708	2 X 0.07	1890	208/1/60	1.4 / 10.3	15 / 15	34.5	Ø9.5 / Ø22.2	1, 4, 5, 6
EVAP-229-2	FREEZER 229			R448A	-20	-25.4	2091	708	2 X 0.07	1890	208/1/60	1.4 / 10.3	15 / 15	34.5	Ø9.5 / Ø22.2	1, 4, 5, 6

NOTES:
1. LOW PROFILE EVAPORATOR WITH ULTRA EFFICIENT ELECTRONICALLY COMMUTATED MOTOR (ECM).
2. LOW VELOCITY EVAPORATOR WITH ULTRA EFFICIENT ELECTRONICALLY COMMUTATED MOTOR (ECM).
3. HALF ROUND EVAPORATOR WITH ULTRA EFFICIENT ELECTRONICALLY COMMUTATED MOTOR (ECM).
4. C/W ELECTRONIC CONTROLLER, CONTROL BOARD AND DISPLAY.
5. C/W EXPANSION VALVE.
6. C/W LIQUID LINE SOLENOID VALVE.
7. C/W ELECTRONIC CONTROLLER, TEMP+DEFROST.
8. C/W EXPANSION VALVE

COMPRESSOR / CONDENSING UNIT SCHEDULE

TAG	SERVICE	MANUFACTURER	COMPRESSOR MODEL	SYSTEM REFRIGERANT	COND. TEMP (°C)	SUCT. TEMP (°C)	CAPACITY (W)	CONDENSING FLUID (33.3°C/92°F 45% P. GLYCOL) FLOW RATE (L/S)	PD (KPa)	TCOND (°C)	THR (W)	CONDENSER MODEL	POWER (HP)	V/PH/HZ	MCA	MOP	WEIGHT (KG)	LIQD./SUCT. CONN. SIZE (MM)	NOTES
COND-191	FREEZER 191			R448A	40.6	-25.3	3069	0.23	20.0	40.6	4987		2.5	208/3/60	12	20	99.9	Ø9.5 / Ø22.2	1, 2, 3, 4, 5, 6, 7
COND-192	COOLER 192			R448A	40.6	-2.6	3199	0.21	20.0	43.9	4404		0.9	208/3/60	6.6	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-198	COOLER 198			R448A	40.6	-3.2	4482	0.29	22.1	47.2	6343		1.5	208/3/60	12.1	20	68.1	Ø9.5 / Ø22.2	1, 2, 3, 4, 5, 7
COND-199	FREEZER 199			R448A	40.6	-22.7	2889	0.22	20.0	40.6	4692		2.0	208/3/60	10.8	15	90.8	Ø9.5 / Ø22.2	1, 2, 3, 4, 5, 6, 7
COND-200	COOLER 200			R448A	40.6	-3.4	3101	0.20	20.0	43.3	4301		0.9	208/3/60	6.6	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-204	COOLER 204			R448A	40.6	-1.6	2822	0.18	13.8	43.9	3817		0.8	208/3/60	6.5	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-205	COOLER 205			R448A	40.6	-1.9	2788	0.18	13.8	40.6	3850		0.8	208/3/60	6.5	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-208	COOLER 208			R448A	40.6	-3.0	3150	0.20	20.0	40.6	4355		0.9	208/3/60	6.6	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-213	COOLER 213			R448A	40.6	-3.3	3298	0.21	20.0	40.6	4682		1.0	208/3/60	10	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-216	COOLER 216			R448A	40.6	-3.3	3298	0.21	20.0	40.6	4682		1.0	208/3/60	10	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-218	FREEZER 218			R448A	40.6	-27.8	5500	0.41	25.5	40.6	9194		5.5	208/3/60	26.8	40	131.7	Ø12.7 / Ø28.6	1, 2, 3, 4, 5, 6, 7
COND-222	COOLER 222			R448A	40.6	-3.3	2221	0.14	13.1	40.6	2984		0.7	208/3/60	6	15	52.2	Ø9.5 / Ø15.9	1, 2, 3, 4, 5, 7
COND-229	FREEZER 229			R448A	40.6	-25.7	4182	0.38	26.9	40.6	6783		3.5	208/3/60	17.8	25	109.0	Ø12.7 / Ø22.2	1, 2, 3, 4, 5, 6, 7

NOTES:
1. COAXIAL WATER-COOLED SCROLL COMPRESSOR, CONDENSING UNIT.
2. C/W COMPRESSOR CIRCUIT BREAKER.
3. C/W NON-FUSED DISCONNECT SWITCH.
4. C/W LIQUID LINE FILTER + SIGHT GLASS, SEALED.
5. C/W WATER REGULATING VALVE.
6. C/W SUCTION ACCUMULATOR, WITHOUT HEAT EXCHANGER.
7. PROVIDE 2-TIER MULTI-COMP WATER COOLED CONDENSING UNIT FRAME, C/W WATER PIPING COMPONENTS, COMMON WATER LINE AND ELECTRICAL DISCONNECT PANEL.

PUMP SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	TYPE	FLOW RATE (L/S)	HEAD (M)	RPM	HP	EFF. (%)	FLANGE SIZE SUCTION x DISCHARGE (MM)	V/PH/HZ	AMPS	WEIGHT (KG)	NOTES
P-7	CONDENSING GLYCOL-WATER			VERTICAL IN-LINE SPLIT COUPLED	3.3	16.8	1760	2.0	63	38 x 38	208/1/60	-	91	1, 2, 3
P-8	CONDENSING GLYCOL-WATER			VERTICAL IN-LINE SPLIT COUPLED	3.3	16.8	1760	2.0	63	38 x 38	208/1/60	-	91	1, 2, 3
P-9	HOT WATER CIRCULATION			IN-LINE	1.3	4.3	3250	1/6	-	38 x 38	115/1/60	2.0	-	4, 5

NOTES:
1. CAST IRON CASING, S.S. IMPELLER AND SHAFT, STANDARD CONSTRUCTION WITH 125# FLANGE.
2. C/W SUPPORT STAND.
3. PROVIDE VFD CONTROLS.
4. CAST IRON CASING, NON-METALLIC IMPELLER, CERAMIC SHAFT, AND INTEGRAL FLOW CHECK.
5. DIRECT DRIVE.

SHELL TUBE HEAT EXCHANGER SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	HOT SIDE MEDIA	HOT SIDE INLET TEMP. (°C)	HOT SIDE OUTLET TEMP. (°C)	HOT SIDE FLOW RATE (L/S)	HOT SIDE PD. (KPA)	COLD SIDE MEDIA	COLD SIDE INLET TEMP. (°C)	COLD SIDE OUTLET TEMP. (°C)	COLD SIDE FLOW RATE (L/S)	COLD SIDE MAX. PD. (KPA)	CAPACITY (KW)	HTG. SURFACE (SQM / SQF)	DIMENSION Ø x L (MM)	DRY WEIGHT (KG)	SHELL SIDE CON. SIZE (MM)	TUBE SIDE CON. SIZE (MM)	NOTES
HEX-1	CONDENSING FLUID HEAT RECOVERY			45% PROP. GLYCOL	40.6	35.0	3.0	2.8	WATER	20.0	32.2	1.3	4.8	64.4	3.9	Ø318x1967	254	Ø75	Ø50	1, 2, 3

NOTES:
1. MATERIAL: STAINLESS STEEL (316SS) TUBESHEETS, CARBON STEEL SHELL, AND DOUBLE WALL COPPER TUBES.
2. RATING: 1035 KPA AT 190.6°C.
3. IN ACCORDANCE WITH ASME CODE SECT. VIII, DIV. 1.

DRY FLUID COOLER SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	FLUID TYPE	AIR INLET TEMP (°C)	AIR OUTLET TEMP (°C)	FLUID INLET TEMP (°C)	FLUID OUTLET TEMP (°C)	CAPACITY (W)	FLUID FLOW RATE (L/S)	PD (KPa / PSI)	AIR FLOW RATE (L/S)	FAN POWER (HP)	V/PH/HZ	MCA	MOP	WEIGHT (KG)	NOTES
FCL-1	CONDENSING UNITS			45% P. GLYCOL	29.4	33.7	38.9	33.3	72729	3.3	68.3	13735	3 X 2.0	575/3/60	8.5	15	579	1, 2, 3

NOTES:
1. C/W EC MOTOR SPEED CONTROLLER, CONTROLLED BY FLUID TEMPERATURE.
2. C/W MOTOR OVERCURRENT PROTECTION, INDIVIDUAL FAN MOTOR FUSING.
3. C/W NON-FUSED DISCONNECT.

ACCEPTABLE MANUFACTURER: KEEPRITE, LIEBERT, CARRIER.

WATER SOFTENER SCHEDULE

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	MAX/MIN ION EXCHANGE CAPACITY	KG OF SALT REQUIRED FOR MAX/MIN CAPACITY	SALT STORAGE CAPACITY (KG)	FLOW RATE @ 103 KPA DROP (L/S)	BACKWASHING FLOW RATE (L/S)	INLET/OUTLET PIPE SIZE (MM)	DRAIN LINE SIZE (MM)	V/PH/HZ	WEIGHT (KG)	MINERAL TANK SIZE (MM)	BRINE TANK SIZE (MM)	NOTES
WS-1	DISHWASHERS COLD WATER SUPPLY	PENTHOUSE			30000/20000	6.8 / 2.7	136.2	0.55	0.13	25.4	12.5	120/1/60	50.8	Ø229X1219	Ø457X1016	SEE BELOW
WS-2	DISHWASHERS HOT WATER SUPPLY	PENTHOUSE			30000/20000	6.8 / 2.7	136.2	0.55	0.13	25.4	12.5	120/1/60	50.8	Ø229X1219	Ø457X1016	SEE BELOW

NOTES:
FEED WATER GUIDELINES:
PH = 6 TO 10
WATER PRESSURE 171 KPa TO 8.5 Bar
TEMPERATURE 1°C TO 65°C
FREE CHLORINE (MAXIMUM) 1 mg/L
IRON (MAXIMUM) 1 mg/L
OIL AND H2S NONE ALLOWED
TURBIDITY LESS THAN 5.0 NTU

PREHEATED WATER STORAGE TANK SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	TYPE	CAPACITY (L)	DIMENSION DIA. x H (MM)	WEIGHT (KG)	CON. SIZE (MM)	NOTES
ST-1	PREHEATED DOMESTIC WATER			VERTICAL ROUND	450	Ø711x1588	166	Ø50	1, 2, 3, 4
ST-2	PREHEATED DOMESTIC WATER			VERTICAL ROUND	450	Ø711x1588	166	Ø50	1, 2, 3, 4

NOTES:
1. FACTORY JACKED AND R-13 INSULATED STORAGE TANK TO MEET THE ENERGY EFFICIENCY REQUIREMENTS OF ASHRAE 90.1.
2. ASME CONSTRUCTION, 863KPA.
3. DURABLE GLASS LINED VESSEL.
4. C/W INNER CHAMBER BAFFLE THAT ABSORBS AND FLATTENS TURBULENCE ALSO PERMITS HOT AND COLD WATER TO STRATIFY.

EXPANSION TANK SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	TYPE	FLUID	TANK VOLUME (L)	ACCEPT VOLUME (L)	DIMENSION DIA. x H (MM)	WEIGHT (KG)	CON. SIZE (MM)	NOTES
ET-3	CONDENSING WATER LOOP			VERTICAL WITH STANDS	45% PROP. GLYCOL	30	19	Ø356x564	41	Ø20	1, 2

NOTES:
1. STEEL FABRICATED SHELL WITH HEAVY DUTY REMOVABLE SEAMLESS BLADDER.
2. ASME CODE CONSTRUCTION, MAX. WORKING PRESSURE 863 KPA, MAX. OPERATING TEMPERATURE 116°C.

GLYCOL FEEDER SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	TANK VOLUME (L)	PUMP POWER RATE (W)	V/PH/HZ	PRESS. RANGE (KPA)	DIMENSION L x W x H (MM)	WEIGHT (KG)	NOTES
GF-1	CONDENSING WATER LOOP			64	50	115/1/60	0-310	305x305x918	8.16	1, 2, 3, 4, 5

NOTES:
1. STORAGE/MIXING TANK WITH MOLDED-IN LIQUID LEVEL GAUGE,100MM FILL/ACCESS OPENING AND COVER.
2. PUMP SUCTION HOSE WITH INLET STRAINER, PRESSURE PUMP WITH FUSE PROTECTION.
3. C/W LOW FLUID LEVEL CUT-OUT FLOAT SWITCH, DIGITAL CONTROLS WITH ADJUSTABLE DIGITAL PRESSURE SWITCH, PRESSURE DISPLAY.
4. VISUAL ALARM ON LOW LEVEL. LOW LEVEL ALARM COMES WITH REMOTE DRY CONTACTS.
5. C/W UL LISTED AND FUSED POWER SUPPLY ADAPTER WITH LED POWER INDICATOR.

AIR SEPARATOR SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	TYPE	FLUID	FLOW RATE (L/S)	PRESS. DROP (M)	CON. SIZE (MM)	WEIGHT (KG)	NOTES
AS-1	CONDENSING WATER LOOP			IN-LINE	45% PROP. GLYCOL	3.3	0.1	Ø65	6.8	1, 2

NOTES:
1. ONE PIECE CAST IRON CONSTRUCTION C/W ENGINEERED BAFFLE TO SEPARATE AIR.
2. MAX. WORKING PRESSURE 863 KPA, MAX. OPERATING TEMPERATURE 135°C.
3. C/W AIR VENT AND Ø15MM EXPANSION TANK CONNECTION.

CHEMICAL POT FEEDER SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	TANK VOLUME (L)	DIMENSION DIA. x H (MM)	WEIGHT (KG)	CON. SIZE (MM)	NOTES
CF-1	CONDENSING WATER LOOP			7.6	Ø159x508	12.5	Ø20	1, 2, 3

NOTES:
1. CARBON STEEL CONSTRUCTION TANK & COVER WITH EPOXY FINISH.
2. MAX. WORKING PRESSURE 2070 KPA @ 93°C.
3. WIDE-MOUTH THREADED CLOSURE HIGH PRESSURE CAP FOR SAFETY AND EASE OF ACCESS.

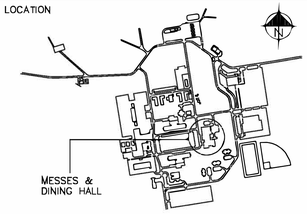
Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC),
MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER: MECHANICAL
DATE: 2021/01/26

SUBJECT | SUJET
EQUIPMENT SCHEDULES

PRODUCTION	REVIEWED	REVU	
DESIGNED	ÉTUDIÉ: F.P.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ: F.P.			PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ: D.S.			DES MGR | GEST CONC
COORDINATION: D.S.			FIRE | INCENDIE

WBS NO. | NO. OTP: N203111.03.02
PF NO. | NO. DP: MF500039
DWG. NO. | NO. DESSIN: L-M95-4901/6- 410

Canada

ELECTRICAL ABBREVIATIONS:

WP	WEATHER PROOF
EP	EXPLOSION PROOF
HP	HORSEPOWER
kW	KILOWATTS
kVA	KILOVOLT AMP
FVNR	FULL VOLTAGE NON REVERSIBLE STARTER
E	EXISTING
D.T.T.	DRY TYPE TRANSFORMER
CTT	CIRCUIT

LINE TYPE LEGEND

	EXISTING DEVICE/FIXTURE TO REMAIN
	EXISTING DEVICE/FIXTURE TO BE REMOVED/RELOCATED AS INDICATED
	NEW OR RELOCATED DEVICE/FIXTURE AS INDICATED
	CONNECTION BETWEEN ELECTRICAL DEVICES

ELECTRICAL SYMBOLS:

$_M	SWITCH SINGLE POLE, MOTOR RATED		TRANSFORMER
J	POWER JUNCTION BOX		TRANSFORMER
	NON-FUSED DISCONNECT SWITCH		240V RECEPTACLE
	FUSED DISCONNECT SWITCH		120V DUPLEX RECEPTACLE
	MAGNETIC STARTER		SPECIAL PURPOSE RECEPTACLE
	COMBINATION MAGNETIC STARTER/DISCONNECT SWITCH		DATA CONNECTION
	COMBINATION MANUAL STARTER/DISCONNECT SWITCH	FA	FIRE ALARM CONTROL PANEL
	SINGLE PHASE MOTOR	AP	ANNUNCIATOR PANEL
	THREE PHASE MOTOR		FIRE ALARM HORN WITH STROBE
	START/STOP PUSHBUTTON	D	DUCT MOUNTED SMOKE DETECTOR
	POWER PANEL		SMOKE DETECTOR
	DISTRIBUTION PANEL		PULL STATION
	LIGHTING PANEL		FIRE ALARM HORN
CD	POWER DIRECT CONNECTION	M	FIRE ALARM MONITOR MODULE
	BELL	C	FIRE ALARM CONTROL MODULE
	DISCONNECT SWITCH		EMERGENCY LIGHTING UNIT C/W BATTERY, 2 HEADS, AND EXIT SIGN
	FUSE		REMOTE EMERGENCY LIGHTING, DOUBLE HEAD,
	MAGNETIC STARTER		CEILING MOUNTED EXIT SIGN , C/W DIRECTIONAL ARROWS
	CIRCUIT BREAKER		LIGHTING FIXTURE
	EVAPORATOR		

NOTE: ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS

DESIGN CODES:

- NATIONAL BUILDING CODE OF CANADA, 2020 (NBCC)
- NATIONAL FIRE CODE 2020 (NFC)
- CANADIAN ELECTRICAL CODE 2021
- CANADIAN STANDARDS ASSOCIATION (CSA)
- INTERNATIONAL STANDARD ORGANIZATION (ISO)
- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND SPECIFICATIONS.
2. THESE DRAWINGS AND THE ACCOMPANYING SPECIFICATIONS ARE TO BE CONSIDERED AS DIAGRAMMATIC ONLY AND DO NOT SHOW ALL THE STRUCTURAL AND CONSTRUCTION DETAILS. ANY INFORMATION INVOLVING MEASUREMENTS OF THE BUILDING SHALL BE TAKEN FROM THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND AT THE BUILDING SITE. MAKE WITHOUT ADDITIONAL CHARGE ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS TO ACCOMMODATE STRUCTURAL CONDITIONS.
3. THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE CONSIDERED AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. NEITHER THE DRAWINGS NOR THE SPECIFICATIONS SHALL BE USED ALONE. MISINTERPRETATION OF ANY REQUIREMENTS OF EITHER PLANS OR SPECIFICATIONS SHALL NOT CHANGE THE REQUIREMENTS OR INTENT OF THE SPECIFICATIONS FOR PROPER COMPLETION OF THE WORK TO THE FULL APPROVAL OF DCC REPRESENTATIVE.
4. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER SO THAT ANY DETAILS SHOWN ON THE DRAWINGS ARE NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE EXECUTED IN THE SAME MANNER AS IF CONTAINED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS.
5. SHOULD ANY DISCREPANCY APPEAR BETWEEN THESE SPECIFICATIONS AND THE DRAWINGS TO CAUSE DOUBT AS TO THE TRUE MEANING AND INTENT OF THE DRAWINGS AND SPECIFICATIONS, AN RFI SHOULD BE SUBMITTED TO DCC REPRESENTATIVE.
6. CONDUITS REMOVED THROUGH WALL/ROOF SHALL BE PATCHED/REPAIRED TO MATCH EXISTING CONSTRUCTION. REFER TO DRAWING L-M95-4901/6-404 FOR PATCHING ASSOCIATED WITH REMOVAL OF AIR COOLED CONDENSER 218 AT ROOF.
7. CONTRACTOR TO REMOVE ALL HANGERS, CLAMPS, AND SUPPORTS TO CONDUITS ASSOCIATED WITH ALL REMOVED HVAC EQUIPMENT.

WIRING FOR MECHANICAL EQUIPMENT SCHEDULE

EQUIPMENT TAG	EQUIPMENT TYPE	EQUIPMENT LOCATION	FROM MCC / PANEL	HP	kW	FLA (A)	MCA (A)	MOP (A)	VOLT (V)	PHASE	EMER. POWER	CIRCUIT BREAKER RATING AMP	CONDUCTOR QUANTITY (EXCL. GND) AND SIZE	CONDUIT SIZE (mm)	STARTER / VFD				PILOT				DISCONNECT				INTERLOCK	NOTES
															TYPE	SUPPLY	INSTALL	WIRE	TYPE	SUPPLY	INSTALL	WIRE	SUPPLY	INSTALL	WIRE		
FCL-1	FLUID COOLER	ROOF	MCC-1	-	-	-	8.5	15	600	3	-	15	3-#12 + G	21	CM	E	E	E	CP	M	M	M	M	M	M		
P-7	GLYCOL LOOP PUMP 1	PENTHOUSE	PP 'N'	-	1.5	-	-	-	208	1	-	15	2-#12 + G	21	VFD	M	M	M	HOA	M	M	M	E	E	E	FCL-1	
P-8	GLYCOL LOOP PUMP 2	PENTHOUSE	PP 'N'	-	1.5	-	-	-	208	1	-	15	2-#12 + G	21	VFD	M	M	M	HOA	M	M	M	E	E	E	FCL-1	
P-9	HEAT RECOVERY PUMP	PENTHOUSE	PP 'N'	1/6	-	2	-	-	120	1	-	15	2-#12 + G	21	-	-	-	-	-	-	-	-	E	E	E		
GF-1	GLYCOL FEEDER	PENTHOUSE	PP 'N'	-	-	-	-	-	120	1	-	15	2-#12 + G	21	-	-	-	-	-	-	-	-	-	-	-		PROVIDE DIRECT CONNECTION
WS-1	WATER SOFTENER - COLD	PENTHOUSE	PP 'N'	-	-	-	-	-	120	1	-	15	2-#12 + G	21	-	-	-	-	-	-	-	-	-	-	-		PROVIDE DIRECT CONNECTION
WS-2	WATER SOFTENER - HOT	PENTHOUSE	PP 'N'	-	-	-	-	-	120	1	-	15	2-#12 + G	21	-	-	-	-	-	-	-	-	-	-	-		PROVIDE DIRECT CONNECTION
COND-191	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	2.5	-	-	12	20	208	3	-	20	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-192	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	0.9	-	-	6.8	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-198	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	1.5	-	-	12	20	208	3	-	20	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-199	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	2.0	-	-	10.8	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-200	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	0.9	-	-	6.6	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-204	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	0.8	-	-	6.5	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-205	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	0.8	-	-	6.5	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-208	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	0.9	-	-	6.6	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-213	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	1.0	-	-	10	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-216	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	1.0	-	-	10	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-218	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	5.5	-	-	26.8	40	208	3	-	40	3-#8 + G	27	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-222	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	0.7	-	-	6	15	208	3	-	15	3-#12 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
COND-229	COMPRESSOR/CONDENSER	PENTHOUSE	PP 'M'	3.5	-	-	17.8	25	208	3	-	25	3-#10 + G	21	-	-	-	-	T	M	M	M	M	M	M		NEW FEED FROM PANEL 'M'
EVAP-191	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.4/10.3	15/15	208	1	-	15/15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-192	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	2.3	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-198	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	3.3	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-199	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.4/10.3	15/15	208	1	-	15/15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-200	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	2.3	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-204	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	2.2	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-205	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	2.3	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-208	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.9	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-213-1	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.9	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-213-2	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.9	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-216-1	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.9	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-216-2	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.9	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-218	EVAPORATOR	KITCHEN	PP 'K'	-	-	-	2.6/19.3	15	208	1	-	15/20	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-222	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.3	15	115	1	-	15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-229-1	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.4/10.3	15	208	1	-	15/15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT
EVAP-229-2	EVAPORATOR	KITCHEN	PP 'J'	-	-	-	1.4/10.3	15	208	1	-	15/15	2-#12 + G	21	-	-	-	-	T	M	M	M					NEW FEED FROM EXISTING DISCONNECT

(A) SUPPLIED BY:
E = ELECTRICAL DIV. 26
M = MECHANICAL DIV. 23
C = BAS CONTROL CONTRACTOR, DIV 25

(B) STARTER TYPE:
M = BY MECHANICAL DIV. 23
MG = MAGNETIC STARTER (HOA) SWITCH
CM = COMBINATION STARTER
VFD = VARIABLE FREQUENCY DRIVE
VSD = VARIABLE SPEED DRIVE
PCS = PACKAGED CONTROL SYSTEM
MS = MANUAL STARTER

(C) PILOT DEVICE:
HOA = HAND/OFF/AUTOMATIC
FS = FLOW SWITCH
T = THERMOSTAT
BA = BUILDING AUTOMATION
CP = CONTROL PANEL
AQ = AQUASTAT
LS = LEVEL SWITCH

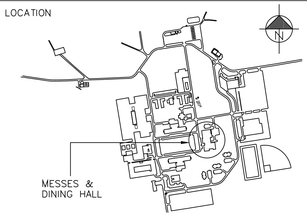
Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



LICENSED PROFESSIONAL ENGINEER
B. K. HOLMES
100074069
30 June 2023
PROVINCE OF ONTARIO

NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	RE-ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/05/03	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4CDTC)
MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER: ELECTRICAL
DATE: 2021/01/26

SUBJECT | SUJET
GENERAL DRAWING NOTES, ABBREVIATIONS, AND SYMBOLS

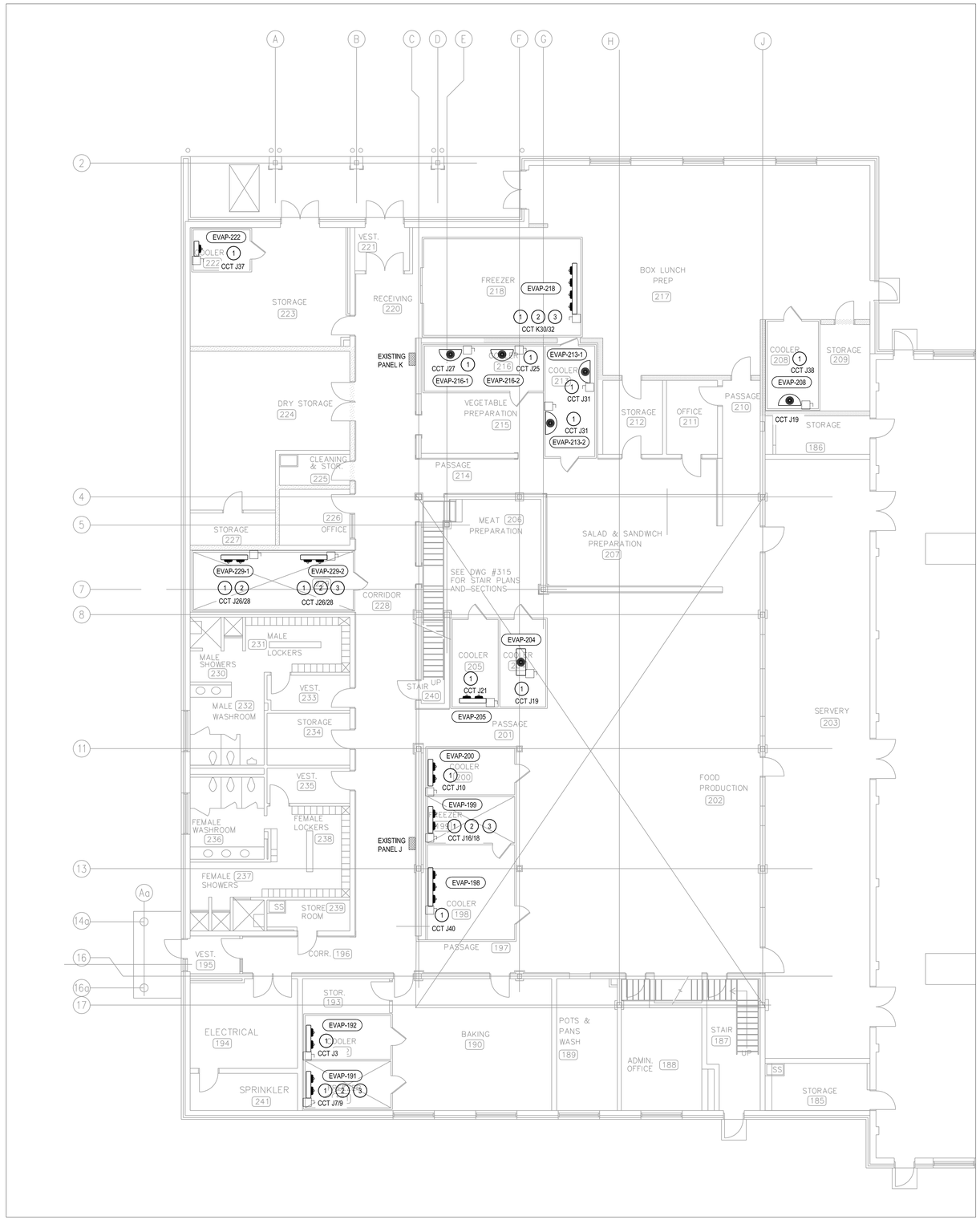
PRODUCTION	REVIEWED	REVU
DESIGNED	ÉTUDIÉ: D.S.	XX | XX — DES O | AGENT CONC
DRAWN	DESSINÉ: D.S.	PROJ MGR | GEST PROJ
CHECKED	VÉRIFIÉ	DES MGR | GEST CONC
COORDINATION: D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP: N203111.03.02
PF NO. | NO. DP: MF500039
DWG. NO. | NO. DESSIN: L-M95-4901/6- 501

Canada

BORDER LAST UPDATED 2012-04-01

2023/Jun/30, 11:02am qingli \\Cd1004-f01016\15\active\16150010504\0_Design\42_Drawings\02_Current\ELEC\501_MISC.dwg LAYOUT 1



KITCHEN REFRIGERATION SYSTEMS DEMO AND NEW LAYOUT

1:100

NOTES

1. REMOVE EVAPORATOR FEED (WIRE, CABLE AND CONDUIT etc.) BETWEEN EXISTING EVAPORATOR FROM DISCONNECT SWITCH.
2. DISCONNECT EXISTING EVAPORATOR HEATER FEED. RE-CONNECT TO NEW EVAPORATOR HEATER.
3. DISCONNECT EXISTING HEAT TRACE FEED FED THROUGH EVAPORATOR. RE-CONNECT WHEN INSTALLING NEW EVAPORATOR.
4. REFER TO MECHANICAL SCHEDULE FOR NEW EQUIPMENT ELECTRICAL DATA.
5. RE-SEAL ALL ELECTRICAL PENETRATIONS AFTER NEW EQUIPMENT INSTALLATION.
6. ALL EVAPORATORS TO BE REMOVED AND REPLACED AT SAME LOCATIONS. EXISTING DISCONNECT SWITCHES TO BE REMAINED.

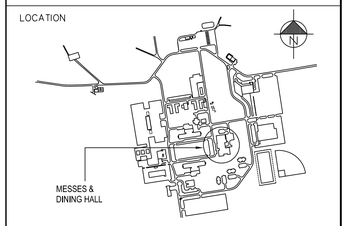
Government of Canada / Gouvernement du Canada

LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION



NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	RE-ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/04/12	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC), MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER	DATE
ELECTRICAL	2021/01/26

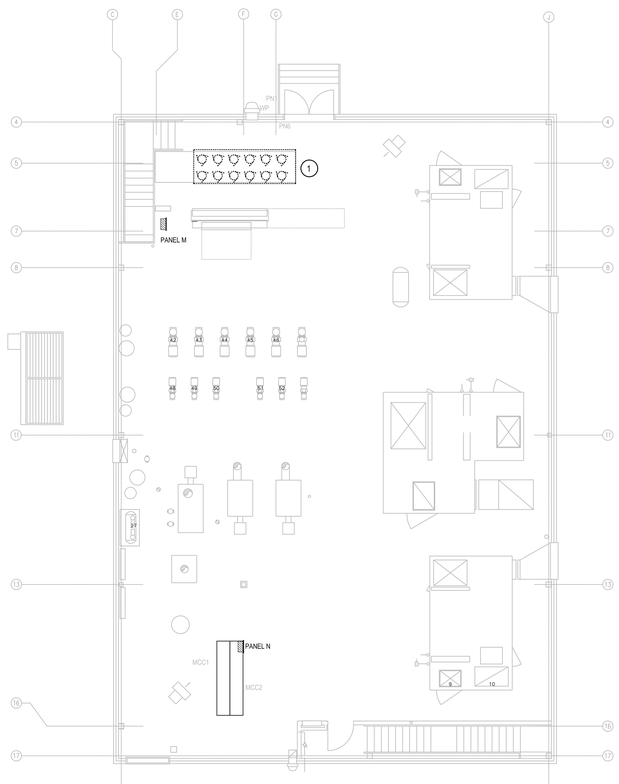
SUBJECT | SUJET
KITCHEN REFRIGERATION SYSTEMS DEMO & NEW LAYOUT

PRODUCTION	REVIEWED | REVU	
DESIGNED | ÉTUDIÉ D.S.	XX | XX	DES O | AGENT CONC
DRAWN | DESSINÉ D.S.		PROJ MGR | GEST PROJ
CHECKED | VÉRIFIÉ D.S.		DES MGR | GEST CONC
COORDINATION D.S.		FIRE | INCENDIE

WBS NO. | NO. OTP	PF NO. | NO. DP
N203111.03.02	MF500039

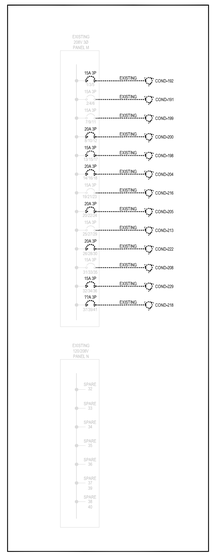
DWG. NO. | NO. DESSIN
L-M95-4901/6- 502

Canada



NOTES

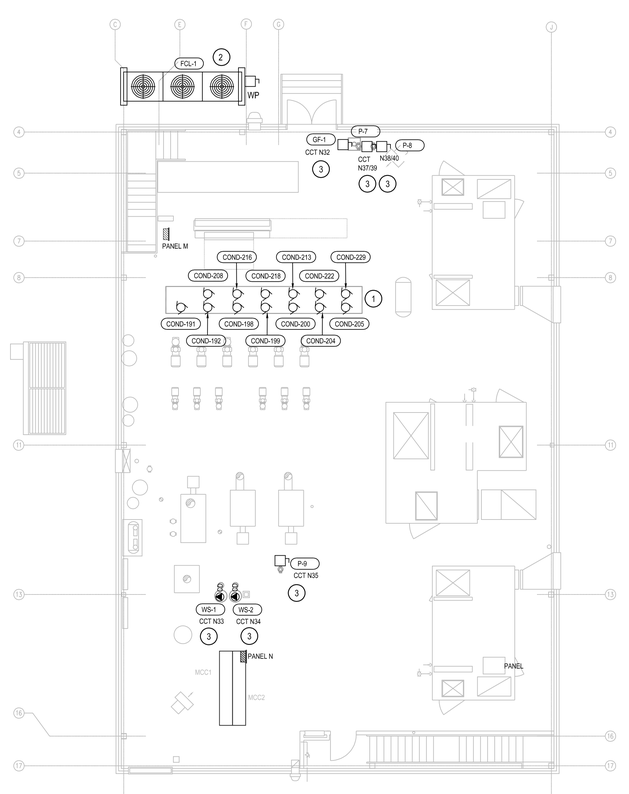
1. DISCONNECT EXISTING CONDENSER/ COMPRESSOR FEEDS INDIVIDUALLY TO ALLOW FOR REMOVAL BY DIVISION 23. REMOVE ALL ASSOCIATED DEVICES, CONDUIT AND WIRING BACK TO PANEL M PER APPROVED PHASING PLAN.
2. DISCONNECT EXISTING AIR-COOLED COMPRESSOR 218 FEED TO ALLOW FOR REMOVAL BY DIVISION 23. REMOVE ALL ASSOCIATED DEVICES, CONDUIT AND WIRING BACK TO PANEL M



PARTIAL SINGLE LINE
PANELS M & N - EXISTING

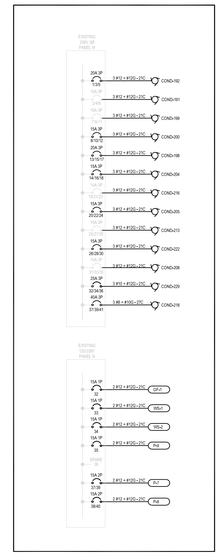
EXISTING ELECTRICAL LAYOUT DEMOLITION - PENTHOUSE

1:100



NOTES

1. RE-FEED NEW COMPRESSORS FROM EXISTING PANEL M PER APPROVED PHASING PLAN. TYPE AND INTERRUPTING CAPACITY OF NEW BREAKERS SHOULD MATCH EXISTING HOWEVE , NOT LESS THAN 12KAIC.
2. FEED FROM MCC1 - 3#12 + 12G - 21C
3. PROVIDE NEW FEED PER MECHANICAL EQUIPMENT SCHEDULE ON E501, TYPE AND INTERRUPTING CAPACITY OF NEW BREAKERS SHOULD MATCH EXISTING.



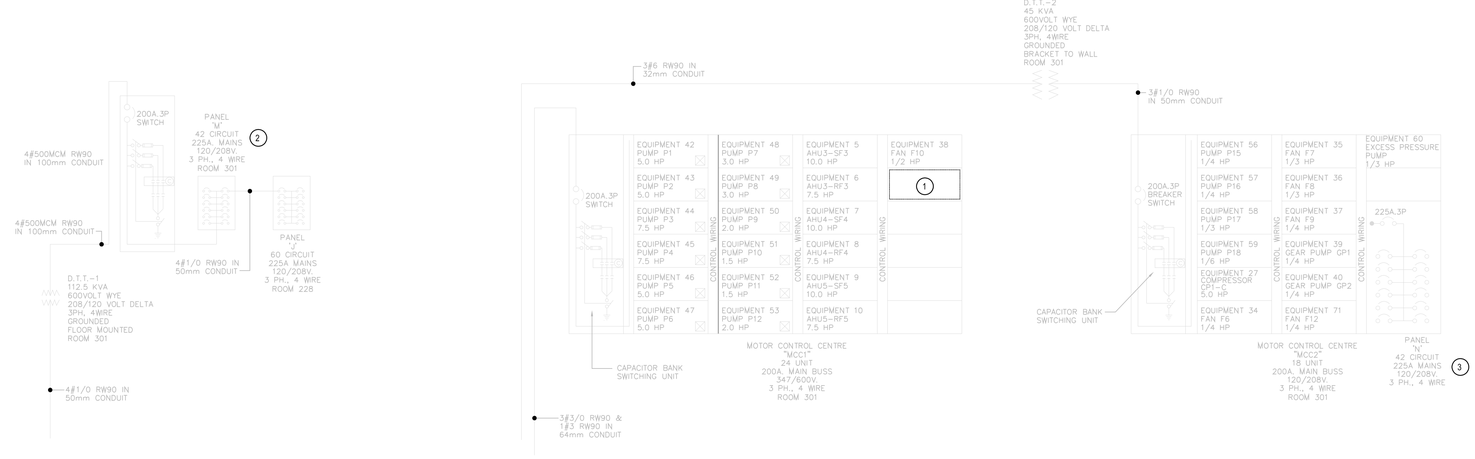
PARTIAL SINGLE LINE
PANELS M & N - NEW

NEW ELECTRICAL LAYOUT - PENTHOUSE

1:100

NOTES

1. COMBINATION STARTER FOR FCL-01. SPARE CELL LOCATION TO BE REVIEWED AND CONFIRMED
2. REFER TO PLAN FOR PANEL M REVISIONS
3. REFER TO PLAN FOR PANEL N REVISIONS



PARTIAL SINGLE LINE DIAGRAM - PENTHOUSE

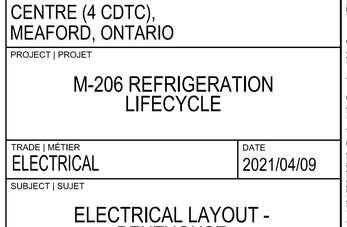
Government of Canada / Gouvernement du Canada

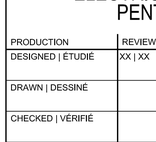
LEVEL OF SECURITY | NIVEAU DE SÉCURITÉ
RELIABILITY | FIABILITÉ

PRIME CONSULTANT

Stantec

LOCATION





NO.	DATE	REVISION	APPR.
7	2023/06/27	ISSUED FOR TENDER	D.S.
6	2023/04/24	ISSUED FOR TENDER / 100% REVIEW	D.S.
5	2023/02/28	RE-ISSUED FOR 99% REVIEW	D.S.
4	2022/12/13	RE-ISSUED FOR 90% REVIEW	D.S.
3	2022/07/21	ISSUED FOR 90% REVIEW	D.S.
2	2022/05/19	RE-ISSUED FOR 60% REVIEW	D.S.
1	2022/05/03	ISSUED FOR 60% REVIEW	D.S.

SCALE | ÉCHELLE
1:100

LOCATION | EMPLACEMENT
4TH CANADIAN DIVISION TRAINING CENTRE (4 CDTC),
MEAFORD, ONTARIO

PROJECT | PROJET
M-206 REFRIGERATION LIFECYCLE

TRADE | MÉTIER: ELECTRICAL
DATE: 2021/04/09

SUBJECT | SUJET
ELECTRICAL LAYOUT - PENTHOUSE

PRODUCTION	REVIEWED	REVU
DESIGNED	ÉTUDIÉ	XX	XX	DES O	AGENT CONC
DRAWN	DESSINÉ		PROJ MGR	GEST PROJ
CHECKED	VÉRIFIÉ		DES MGR	GEST CONC
COORDINATION: D.S.		FIRE	INCENDIE

WBS NO. | NO. OTP: N203111.03.02
PF NO. | NO. DP: MF50039
DWG. NO. | NO. DESSIN: L-M95-4901/6- 503

Canada

2023/Jun/30, 10:58am dinjill Layout1 \\Cd1t004-f01101615\active\161500105\40_Design\42_Drawings\02_Current\ELEC\503 - floor plan electrical - penthouse.dwg