HVAC SYMBOLS

- ###x### — RECTANGULAR DUCT
- ###Ø — ROUND DUCT
- SQUARE ELBOW TURN (SUPPLY AIR UP / DOWN)
- SQUARE ELBOW TURN (RETURN AIR UP / DOWN)
- SQUARE ELBOW TURN (EXHAUST AIR UP / DOWN)
- SQUARE ELBOW TURN (OUTSIDE AIR UP / DOWN)
- ELBOW, ROUND, SMOOTH RADIUS (UP / DOWN)
- TEE, 45 DEG., RECTANGULAR MAIN AND BRANCH
- TEE, 45 DEG., RECTANGULAR MAIN AND BRANCH, SQUARE TO ROUND
- TEE, 45 DEG., ROUND MAIN AND BRANCH
- CONICAL WYE, 45 DEG., ROUND MAIN AND BRANCH
- ELBOW, RECTANGULAR, SMOOTH RADIUS WITHOUT VANES (1.5 R/W DEFAULT)
- ELBOW, ROUND, SMOOTH RADIUS (1.5 R/W DEFAULT)
- ELBOW, RECTANGULAR, MITERED WITH TURNING VANES
- ELBOWS, 90 DEG., RECTANGULAR TEE
- TRANSITION, RECTANGULAR, PYRAMIDAL (30° CONTRACTUAL ANGLE DEFAULT)
- M — MOTORIZED DAMPER
- F — FIRE DAMPER
- FSD — BACK DRAFT DAMPER
- T — THERMOSTAT
- AIR FLOW ARROWS
- UH 1 — EQUIPMENT TAG (REFER TO SCHEDULE)
- TYPE / SIZE (mm) / VOLUME (L/s) — AIR TAG
- CONTROL LINE
- DENOTES ITEM TO BE DEMOLISHED

PIPING IDENTIFICATION AND SYMBOLS

- NGA — NATURAL GAS
- GLYS — GLYCOL HEATING SUPPLY
- GLYR — GLYCOL HEATING RETURN
- LPS — LOW-PRESSURE STEAM (0-15PSI)
- ROW — REVERSE OSMOSIS WATER
- CHLS — CHILLED WATER SUPPLY
- CHLR — CHILLED WATER RETURN
- DA — DEALKALIZED WATER
- S — SOFT WATER
- DCW — DOMESTIC COLD WATER
- SW — STORM WATER
- PIPE CAP
- PIPE BREAK
- FLOW ARROW
- PIPING ELBOW DOWN
- PIPING ELBOW UP
- PIPING TEE UP
- PIPING TEE DOWN
- PIPING TEE
- GATE VALVE
- SWING GATE CHECK VALVE
- BUTTERFLY VALVE
- Y STRAINER
- UNION CONNECTION
- BACKFLOW PREVENTER, DOUBLE CHECK TYPE
- THREE WAY CONTROL VALVE
- PUMP (REFER TO SCHEDULE)

DRAWING LIST

DRAWING No.	DRAWING NAME
MECHANICAL	
M001	MECHANICAL DRAWING LIST, LEGENDS & SYMBOLS
M100	MECHANICAL DEMOLITION PLAN - MECHANICAL ROOM - MAIN LEVEL
M101	MECHANICAL DEMOLITION PLAN - MECHANICAL ROOM - INTERSTITIAL LEVEL
M102	MECHANICAL DEMOLITION PLAN - SUPPORT BLOCK - INTERSTITIAL LEVEL
M103	MECHANICAL DEMOLITION PLAN - MECHANICAL ROOM - FAN LOFT LEVEL
M104	MECHANICAL DEMOLITION PLAN - SUPPORT BLOCK - FAN LOFT LEVEL
M105	MECHANICAL DEMOLITION PLAN - HIGH HAZARD BLOCK - BASEMENT & MAIN LEVEL
M106	MECHANICAL DEMOLITION PLAN - 500 WING BUILDING - SECOND LEVEL
M200	MECHANICAL RENOVATION PLAN - MECHANICAL ROOM - MAIN LEVEL
M201	MECHANICAL RENOVATION PLAN - MECHANICAL ROOM - INTERSTITIAL LEVEL
M202	MECHANICAL RENOVATION PLAN - SUPPORT BLOCK - INTERSTITIAL LEVEL
M203	MECHANICAL RENOVATION PLAN - MECHANICAL ROOM - FAN LOFT LEVEL
M204	MECHANICAL RENOVATION PLAN - SUPPORT BLOCK - FAN LOFT LEVEL
M205	MECHANICAL RENOVATION PLAN - HIGH HAZARD BLOCK - BASEMENT & MAIN LEVEL
M206	MECHANICAL RENOVATION PLAN - 500 WING BUILDING - SECOND LEVEL
M300	MECHANICAL RENOVATION PLAN - MECHANICAL ROOM - SECTIONS
M301	MECHANICAL RENOVATION PLAN - MECHANICAL ROOM - SECTIONS
M400	MECHANICAL SCHEMATICS - VENTILATION - PHASE 1
M401	MECHANICAL SCHEMATICS - VENTILATION - PHASE 2
M402	MECHANICAL SCHEMATICS - VENTILATION - PHASE 3
M403	MECHANICAL SCHEMATICS - VENTILATION - PHASE 4
M404	MECHANICAL SCHEMATICS - HEATING GLYCOL PIPING
M405	MECHANICAL SCHEMATICS - CHILLED WATER PIPING
M500	MECHANICAL DETAILS
M501	MECHANICAL DETAILS - AIR HANDLING UNITS
M600	MECHANICAL SCHEDULES
M601	MECHANICAL SCHEDULES
STRUCTURAL	
S101	STRUCTURAL UNIT SF-7 SUPPORT FRAMING DESIGN NOTES & TABLES TYPICAL DETAILS
ELECTRICAL	
E001	ELECTRICAL SYMBOL LEGEND, GENERAL NOTES, DRAWING LIST
E100	DEMOLITION PLAN - MECHANICAL ROOM - PARTIAL MAIN LEVEL - POWER AND FIRE ALARM SYSTEMS
E101	DEMOLITION PLAN - MECHANICAL ROOM - INTERSTITIAL LEVEL - POWER AND FIRE ALARM SYSTEMS
E102	DEMOLITION PLAN - MECHANICAL ROOM - FAN LOFT LEVEL - POWER AND FIRE ALARM SYSTEMS
E103	DEMOLITION PLAN - SUPPORT BLOCK - FAN LOFT LEVEL - POWER AND FIRE ALARM SYSTEMS
E104	DEMOLITION PLAN - HIGH HAZARD BLOCK - BASEMENT & MAIN PARTIAL LEVEL - POWER AND FIRE ALARM SYSTEMS
E105	DEMOLITION PLAN - 500 WING BUILDING - PARTIAL SECOND LEVEL - POWER AND FIRE ALARM SYSTEMS
E200	RENOVATION PLAN - MECHANICAL ROOM - PARTIAL MAIN LEVEL - POWER AND FIRE ALARM SYSTEMS
E201	RENOVATION PARTIAL PLAN - MECHANICAL ROOM - INTERSTITIAL LEVEL - POWER AND FIRE ALARM SYSTEMS
E202	RENOVATION PLAN - MECHANICAL ROOM - FAN LOFT LEVEL - POWER AND FIRE ALARM SYSTEMS
E203	RENOVATION PLAN -SUPPORT BLOCK - FAN LOFT LEVEL - POWER AND FIRE ALARM SYSTEMS
E204	RENOVATION PLAN - HIGH HAZARD BLOCK - BASEMENT & MAIN PARTIAL LEVEL - POWER AND FIRE ALARM SYSTEMS
E205	RENOVATION PLAN - 500 WING BUILDING - SECOND LEVEL - POWER AND FIRE ALARM SYSTEMS
E300	MOTORLIST
E301	ELECTRICAL PANEL SCHEDULES & PARTIAL SINGLE LINE DIAGRAM
E400	ELECTRICAL SPECIFICATIONS & DETAILS

Public Works and Government Services Canada
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REAL PROPERTY SERVICES
Western Region
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Région de l'ouest

Stantec

PROFESSIONAL ENGINEER — PROVINCE OF ALBERTA — Jul 7 2020

PERMIT TO PRACTICE
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Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
5		
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1		
0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

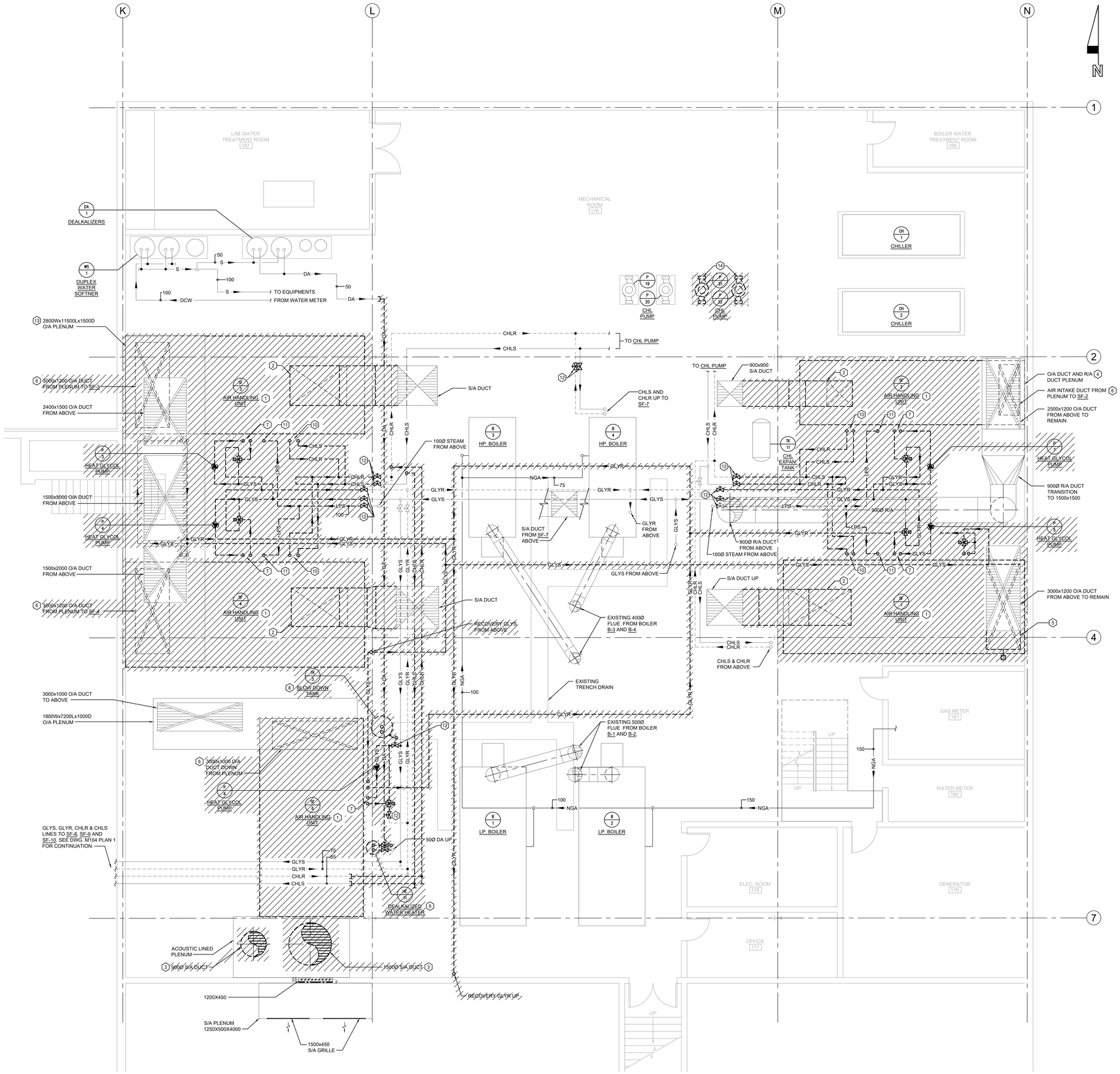
Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DRAWING LIST, LEGENDS & SYMBOLS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M001 1 OF 27	**0**



1 M100 **DEMOLITION PLAN MECHANICAL ROOM - MAIN LEVEL**
1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.
2. INSTALL NEW ISOLATION VALVES PRIOR TO COMMENCING WORK ON AIR HANDLING UNITS.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2, SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT ALONG WITH EMERGENCY BYPASS BETWEEN UNITS COMPLETE WITH DUCTWORK, DAMPERS, AND CONTROLS TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
4. DEMOLISH ALL RECOVERY GLYCOL PIPING AND ASSOCIATED PUMPS AND VALVES.

KEY NOTES

1. DEMOLISH EXISTING AIR HANDLING UNIT SF-1 SF-2, SF-3, SF-4 AND SF-6 IN SEQUENCE AS PER GENERAL NOTE 3.
2. DEMOLISH SUPPLY AIR DUCT TO RISER.
3. DEMOLISH 900Ø AND 1500Ø SUPPLY AIR DUCTS UP TO ELBOW. REFER TO M101 FOR CONTINUATION.
4. EXISTING OUTSIDE AIR AND RETURN AIR PLENUM TO REMAIN.
5. DEMOLISH OUTSIDE AIR DUCT FROM SF-1 UP TO MOTORIZED DAMPER. MOTORIZED DAMPER TO BE DEMOLISHED.
6. DEMOLISH AIR INTAKE DUCT FROM AIR HANDLING UNIT UP TO PLENUM.
7. DEMOLISH EXISTING HEATING GLYCOL BRANCH PIPING C/W GLYCOL COIL PUMP BACK TO BRANCH SHUT OFF VALVE.
8. RELOCATE BLOW DOWN TANK TK-3. DEMOLISH ASSOCIATED PIPES AND VALVES AS REQUIRED. SEE DRAWING M200 FOR NEW LOCATION.
9. RELOCATE DEALKARIZED WATER HEATER HE-11. DEMOLISH ASSOCIATED PIPES AND VALVES AS REQUIRED. SEE DRAWING M200 FOR NEW LOCATION.
10. DEMOLISH EXISTING CHILLED WATER SUPPLY AND RETURN PIPING BACK TO BRANCH SHUT OFF VALVE.
11. DEMOLISH EXISTING STEAM PIPING BACK TO BRANCH SHUT OFF VALVE.
12. INSTALL NEW ISOLATION VALVE.
13. OUTSIDE AIR PLENUM TO BE MODIFIED. REFER TO DWG. M200 FOR MODIFICATION.
14. DEMOLISH EXISTING CHILLED WATER PUMPS AND ASSOCIATED VALVES.

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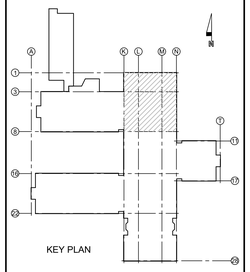

KEY PLAN

PERMIT TO PRACTICE
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Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Jul 7 2020

Revision	Description	Date
5		
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DEMOLITION PLAN MECHANICAL ROOM MAIN LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M100 2 OF 27	0

PWGSC – A0 – 1189X841
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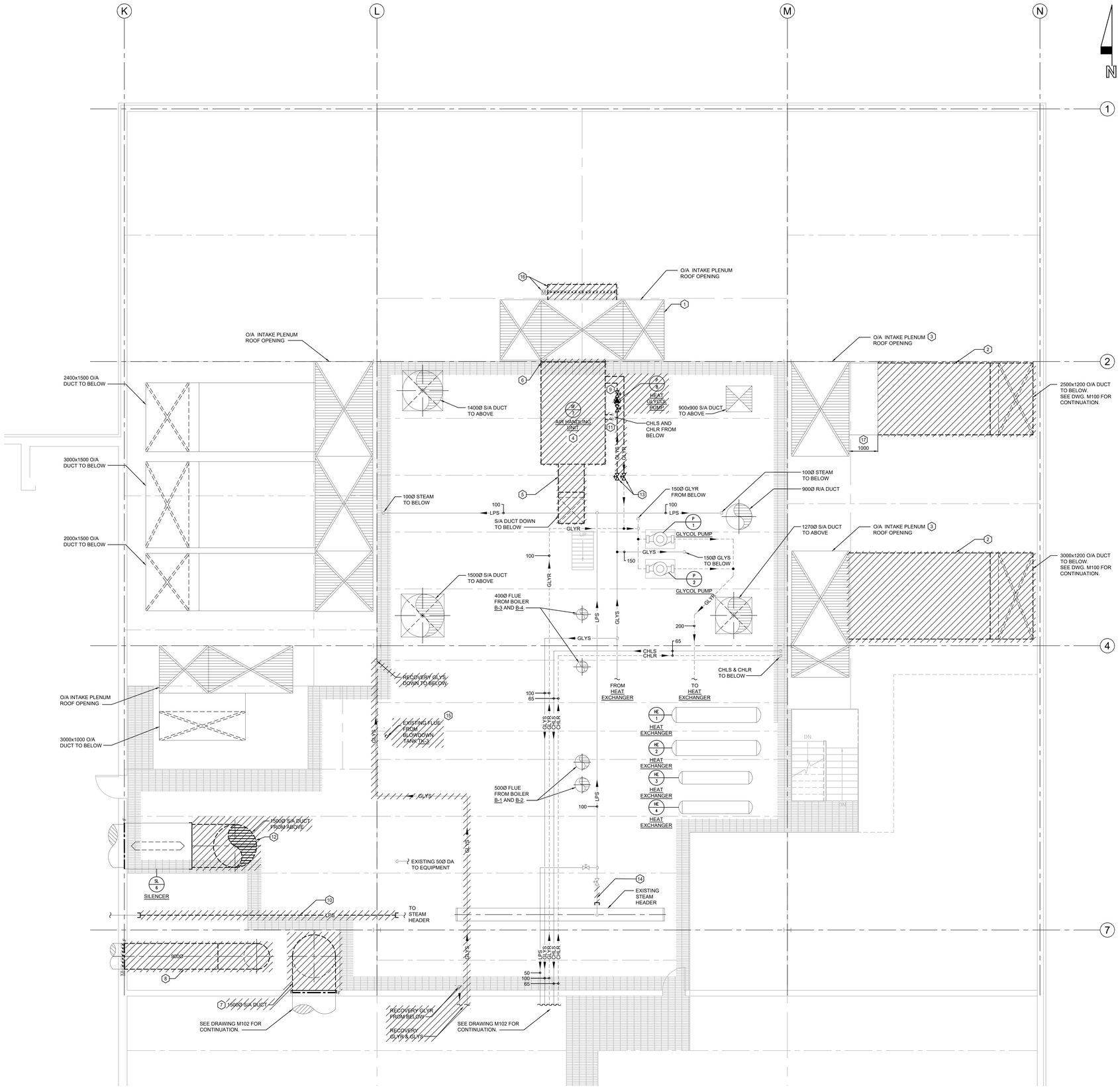
M100



1 DEMOLITION PLAN
MECHANICAL ROOM - INTERSTITIAL LEVEL
M101 1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.
2. INSTALL NEW ISOLATION VALVES PRIOR TO COMMENCING WORK ON AIR HANDLING UNITS.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2, SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT ALONG WITH EMERGENCY BYPASS BETWEEN UNITS COMPLETE WITH DUCTWORK, DAMPERS, AND CONTROLS TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
4. DEMOLISH ALL RECOVERY GLYCOL PIPING AND ASSOCIATED VALVES.

KEY NOTES

1. MODIFY EXISTING OUTSIDE AIR PLENUM AS REQUIRED DURING REPLACEMENT OF SF-7. REFER TO DWG. M201 FOR NEW OUTSIDE AIR PLENUM.
2. DEMOLISH EXISTING OUTSIDE AIR DUCT FROM PLENUM TO RISER AS SHOWN.
3. OUTSIDE AIR PLENUM TO BE PATCHED AND ABANDONED.
4. DEMOLISH EXISTING AIR HANDLING UNIT SF-7 AND STRUCTURAL SUPPORT.
5. DEMOLISH SUPPLY AIR DUCT TO RISER.
6. DEMOLISH OUTSIDE AIR DUCT TO PLENUM.
7. DEMOLISH 1500Ø SUPPLY AIR DUCT RISER AND ELBOW.
8. DEMOLISH 900Ø SUPPLY AIR DUCT UP TO FIRE DAMPER.
9. DEMOLISH EXISTING GLYCOL BRANCH PIPING C/W GLYCOL COIL PUMP BACK TO BRANCH SHUT OFF VALVE.
10. RELOCATE EXISTING STEAM PIPE. SEE M201 FOR NEW LOCATION.
11. DEMOLISH EXISTING CHILLED WATER SUPPLY AND RETURN PIPING UP TO RISERS.
12. DEMOLISH 1500Ø SUPPLY AIR DUCT RISER AND ELBOW.
13. INSTALL NEW ISOLATION VALVE.
14. DEMOLISH EXISTING STEAM PIPE AND CAP END.
15. DEMOLISH EXISTING FLUE FROM BLOWDOWN TANK TK-3.
16. COMBUSTION AIR DAMPER TO BE REMOVED AND REINSTALLED IN NEW DUCTWORK. REFER TO DRAWING M201 FOR NEW LOCATION.
17. 1000mm EXISTING OUTSIDE AIR DUCT CONNECTED TO OUTSIDE AIR INTAKE PLENUM TO REMAIN.

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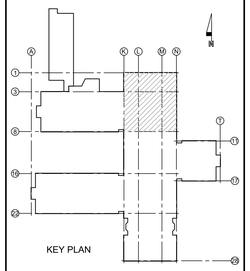

KEY PLAN

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Date Jul. 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Jul. 7 2020

Revision	Description	Date
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DEMOLITION PLAN MECHANICAL ROOM INTERSTITIAL LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M101	0

3 OF 27

PWGSC – A0 – 1189X841

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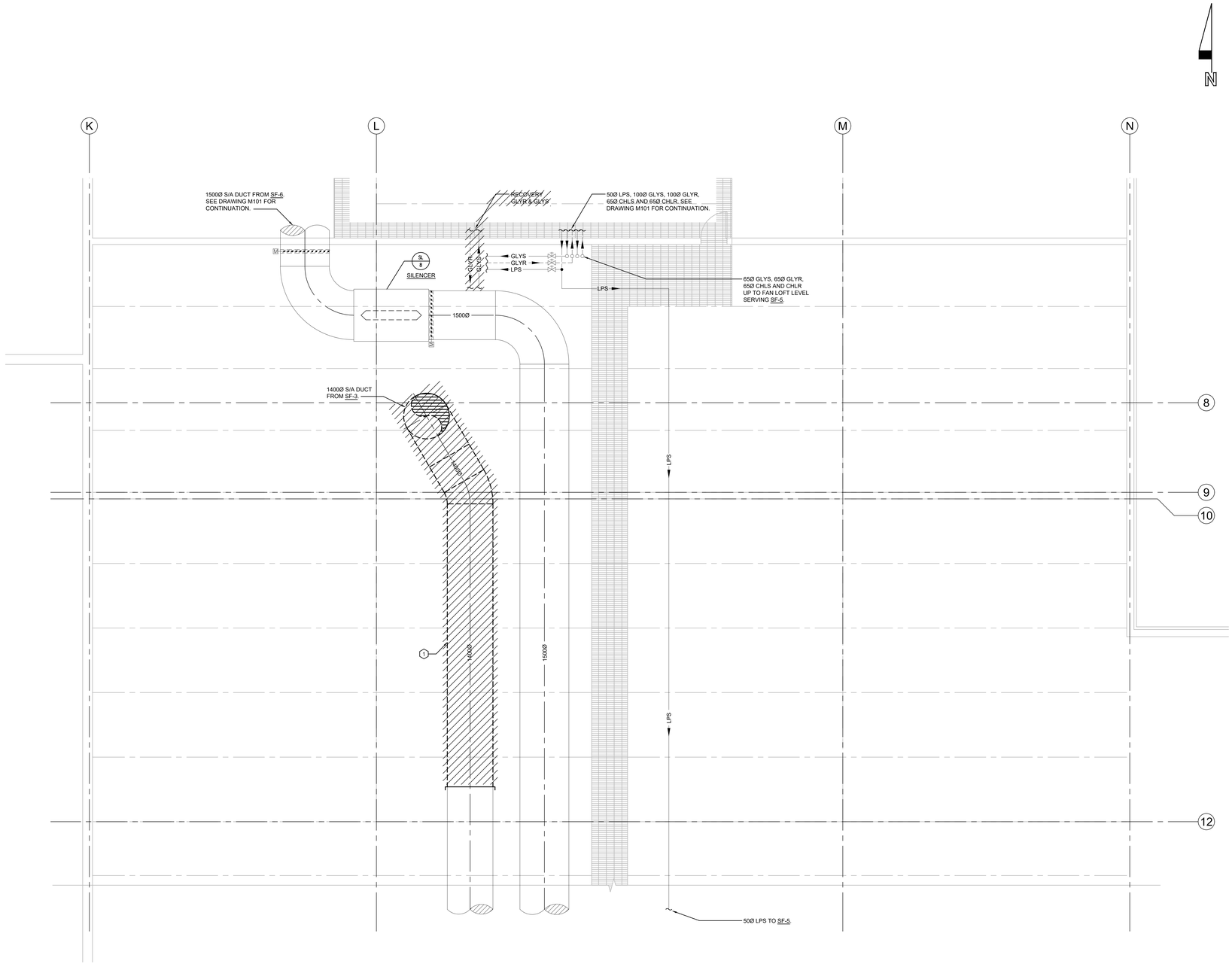
M101



1 M102 **DEMOLITION PLAN**
SUPPORT BLOCK - INTERSTITIAL LEVEL
1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.
2. INSTALL NEW ISOLATION VALVES PRIOR TO COMMENCING WORK ON AIR HANDLING UNITS.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2, SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT ALONG WITH EMERGENCY BYPASS BETWEEN UNITS COMPLETE WITH DUCTWORK, DAMPERS, AND CONTROLS TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
4. DEMOLISH ALL RECOVERY GLYCOL PIPING AND ASSOCIATED VALVES.

KEY NOTES

1. DEMOLISH 14000Ø SUPPLY AIR DUCT AND ELBOW.

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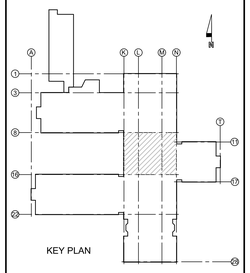

KEY PLAN

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Signature
Date Jul. 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
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0	ISSUED FOR TENDER	2020.07.07

Client / client

Public Services and Procurement Canada

Project / Projet

LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin

MECHANICAL DEMOLITION PLAN SUPPORT BLOCK INTERSTITIAL LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M102	0

4 OF 27

PWGSC – A0 – 1189X841

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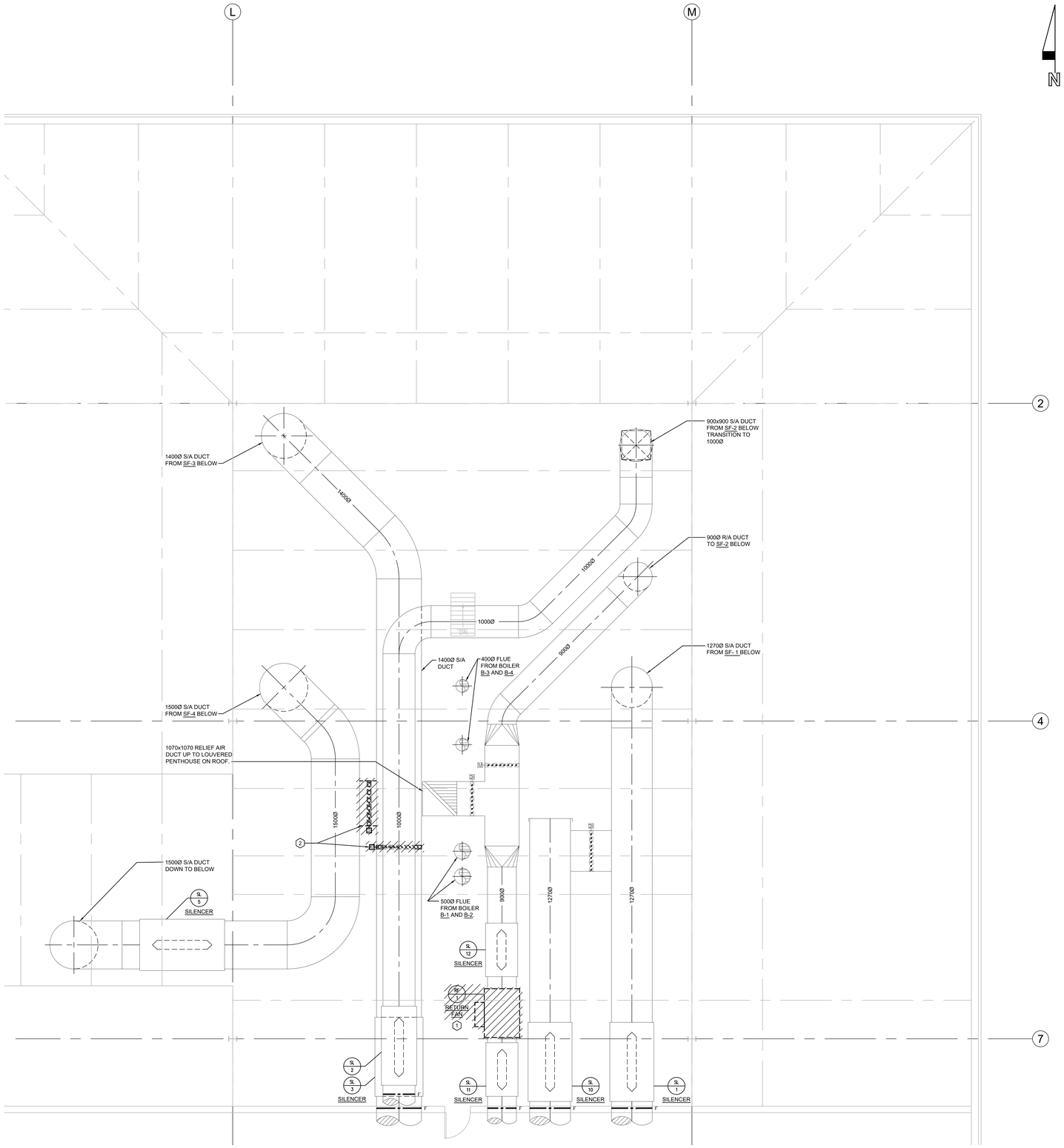

1 / M103 **DEMOLITION PLAN**
MECHANICAL ROOM - FAN LOFT LEVEL
1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.
2. INSTALL NEW ISOLATION VALVES PRIOR TO COMMENCING WORK ON AIR HANDLING UNITS.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2, SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT ALONG WITH EMERGENCY BYPASS BETWEEN UNITS COMPLETE WITH DUCTWORK, DAMPERS, AND CONTROLS TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.

KEY NOTES

1. DEMOLISH EXISTING RF-1.
2. DEMOLISH EXISTING 1400Ø INTERCONNECTION AND MOTORIZED DAMPERS AND PATCH EXISTING DUCTS.

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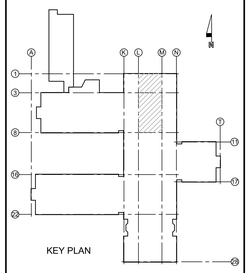

KEY PLAN

PROFESSIONAL ENGINEER PROVINCE OF ALBERTA
Jul 7 2020

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DEMOLITION PLAN MECHANICAL ROOM FAN LOFT LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M103 5 OF 27	0

PWGSC – A0 – 1189X841
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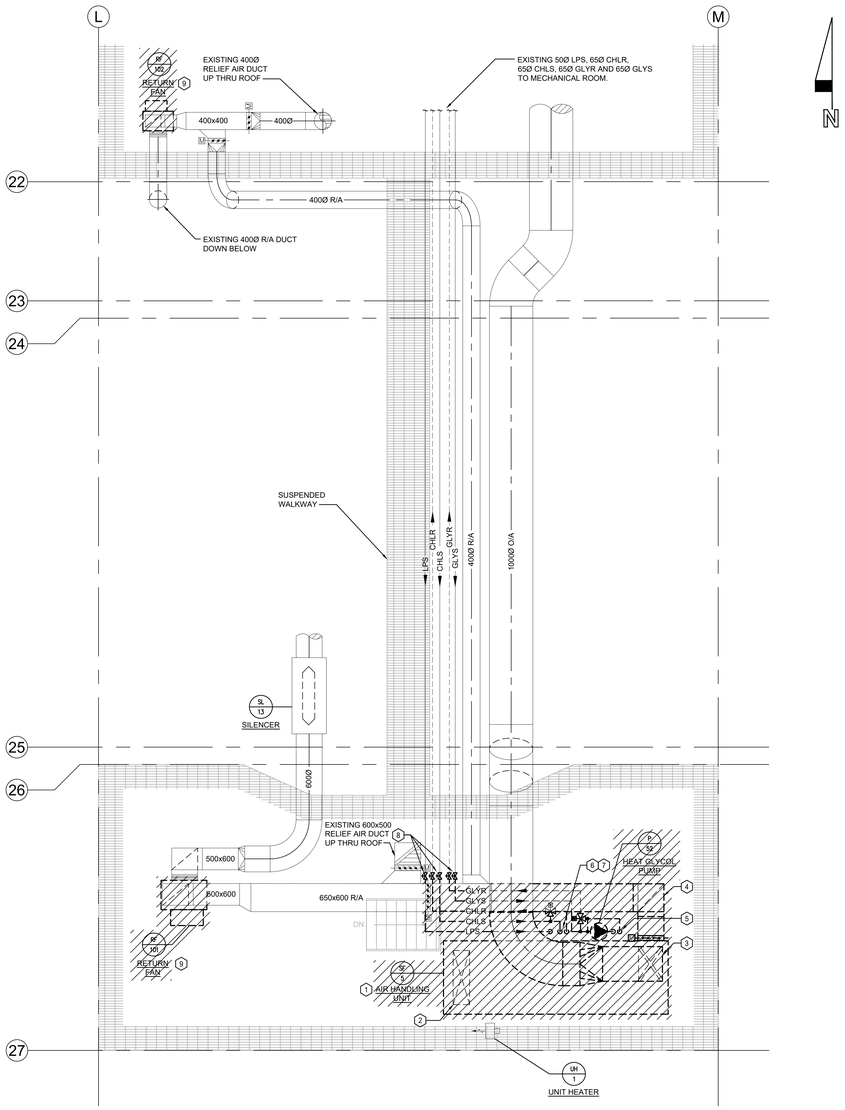
M103



1 M104 **DEMOLITION PLAN**
SUPPORT BLOCK - FAN LOFT
1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.

KEY NOTES

1. DEMOLISH EXISTING AIR HANDLING UNIT SF-5.
2. DEMOLISH SUPPLY AIR DUCT CONNECTION BELOW TO ELBOW.
3. DEMOLISH OUTSIDE AIR DUCT.
4. DEMOLISH RETURN AIR DUCT AND ELBOW.
5. DEMOLISH EXISTING GLYCOL BRANCH PIPING C/W GLYCOL PUMP BACK TO BRANCH SHUT OFF VALVE.
6. DEMOLISH EXISTING CHILLED WATER SUPPLY AND RETURN PIPING BACK TO BRANCH SHUT OFF VALVE.
7. DEMOLISH EXISTING STEAM PIPING BACK TO BRANCH SHUT OFF VALVE.
8. INSTALL NEW ISOLATION VALVE.
9. DEMOLISH EXISTING RETURN FANS RF-101 AND RF-102.

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SERVICES IMMOBILIERS
Région de l'ouest

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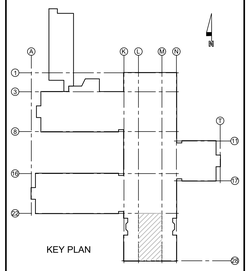

KEY PLAN

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STANTEC CONSULTING LTD.
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Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DEMOLITION PLAN SUPPORT BLOCK FAN LOFT LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M104 (6 OF 27)	0

PWGSC – A0 – 1189X841

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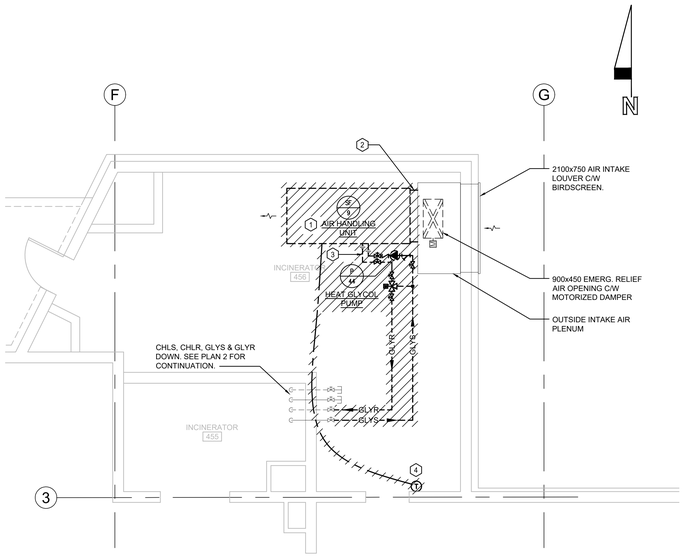
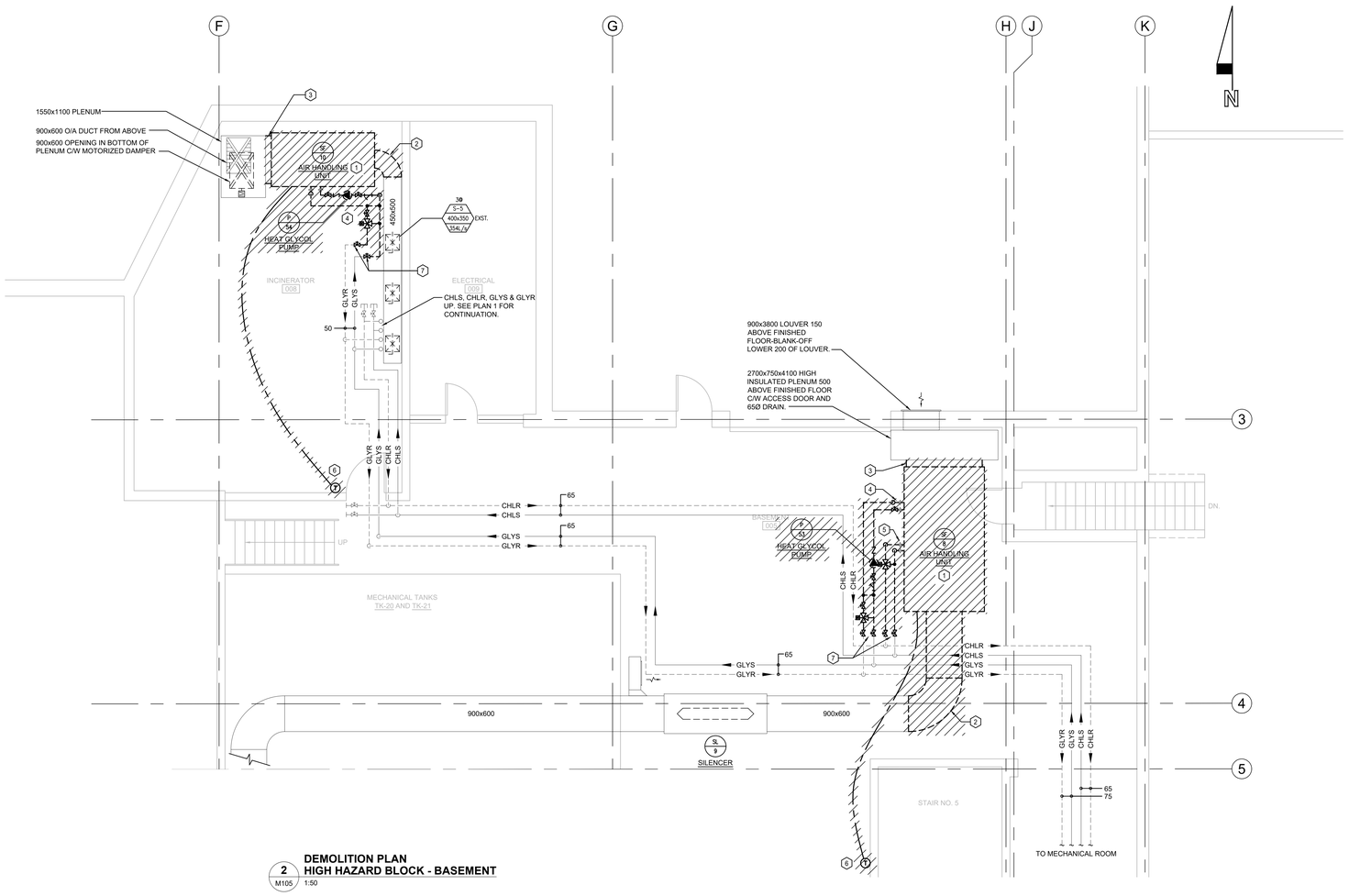


1 DEMOLITION PLAN
HIGH HAZARD BLOCK - MAIN LEVEL
M105 1:50



2 DEMOLITION PLAN
HIGH HAZARD BLOCK - BASEMENT
M105 1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.
2. AIR HANDLING UNITS TO BE REPLACED ONE AT A TIME. REMAINING AIR HANDLING UNITS TO REMAIN IN OPERATION.
3. AIR HANDLING UNIT SF-9 TO BE DEMOLISHED AND REPLACED PRIOR TO WORK ON SF-10. COMPLETE ALL CONNECTIONS OF SF-9 PRIOR TO COMMENCING DEMOLITION WORK OF SF-10.

KEY NOTES - 1

1. DEMOLISH EXISTING AIR HANDLING UNIT SF-9 .
2. DEMOLISH OUTSIDE AIR DUCT TO PLENUM.
3. DEMOLISH EXISTING GLYCOL BRANCH PIPING C/W GLYCOL PUMP BACK TO BRANCH SHUT OFF VALVE.
4. DEMOLISH EXISTING THERMOSTAT.

KEY NOTES - 2

1. DEMOLISH EXISTING AIR HANDLING UNIT SF-8 AND SF-10.
2. DEMOLISH SUPPLY AIR DUCT AND ELBOW.
3. DEMOLISH OUTSIDE AIR DUCT TO PLENUM.
4. DEMOLISH EXISTING GLYCOL BRANCH PIPING C/W GLYCOL PUMP BACK TO BRANCH SHUT OFF VALVE.
5. DEMOLISH EXISTING CHILLED WATER SUPPLY AND RETURN PIPING BACK TO BRANCH SHUT OFF VALVE.
6. DEMOLISH EXISTING THERMOSTAT.
7. INSTALL NEW ISOLATION VALVE.

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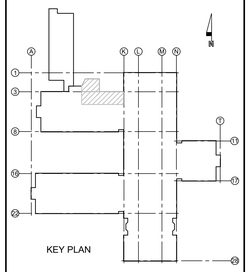

KEY PLAN

PROFESSIONAL ENGINEER ALBERTA
Jul. 7 2020

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul. 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
5		
4		
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DEMOLITION PLAN HIGH HAZARD BLOCK BASEMENT & MAIN LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M105	0

7 OF 27

PWGSC – A0 – 1189X841

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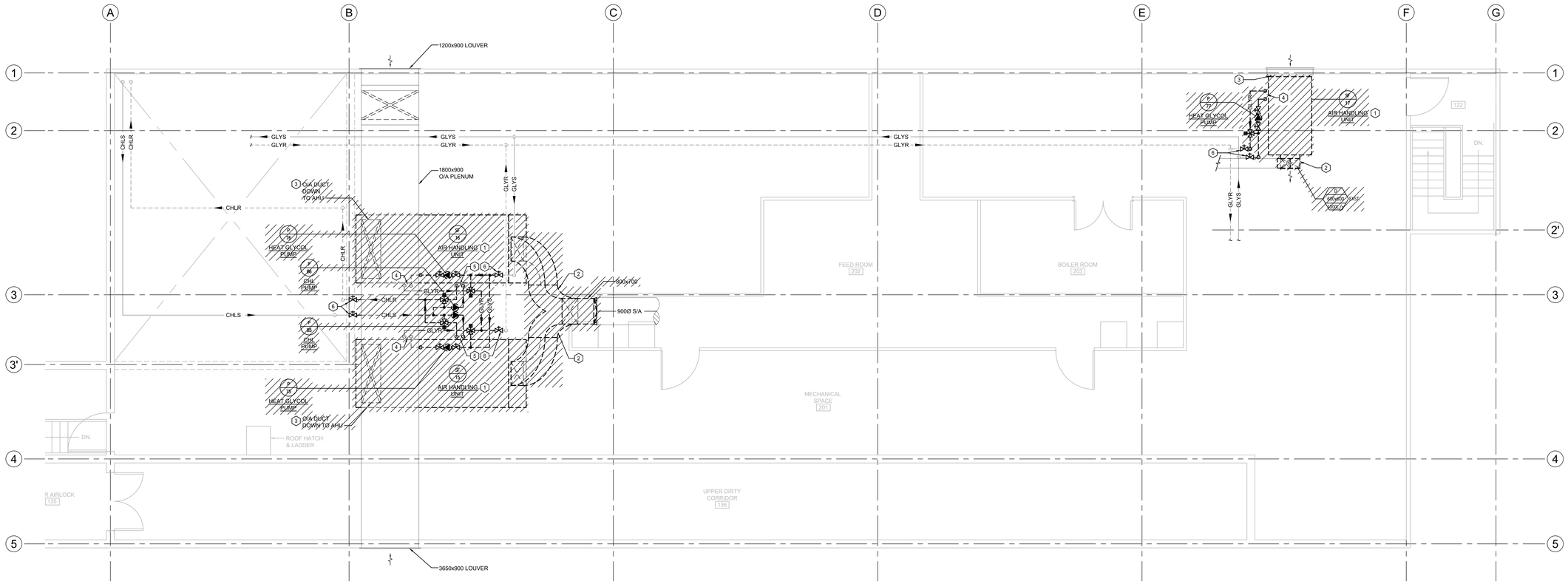

1 M105 **DEMOLITIONPLAN**
500 WING - SECOND LEVEL
1:50

GENERAL NOTES

1. ALL OPEN DUCT AND PIPE ENDS TO BE SEALED DURING CONSTRUCTION.
2. INSTALL NEW ISOLATION VALVES PRIOR TO COMMENCING WORK ON AIR HANDLING UNITS.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-15, SF-16, SF-17. AIR HANDLING UNITS TO BE REPLACED ONE AT A TIME. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT ALONG WITH EMERGENCY BYPASS BETWEEN UNITS COMPLETE WITH DUCTWORK, DAMPERS, AND CONTROLS TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.

KEY NOTES

1. DEMOLISH EXISTING AIR HANDLING UNIT SF-15, SF-16 AND SF-17.
2. DEMOLISH SUPPLY AIR DUCT AND ELBOW.
3. DEMOLISH OUTSIDE AIR DUCT TO PLENUM.
4. DEMOLISH EXISTING GLYCOL BRANCH PIPING C/W GLYCOL PUMP BACK TO BRANCH SHUT OFF VALVE.
5. DEMOLISH EXISTING CHILLED WATER SUPPLY AND RETURN PIPING BACK TO BRANCH SHUT OFF VALVE.
6. INSTALL NEW ISOLATION VALVE.

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Région de l'ouest

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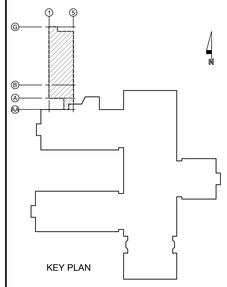

KEY PLAN

PROFESSIONAL ENGINEER ALBERTA
Jul 7 2020

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
5		
4		
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0	ISSUED FOR TENDER	2020.07.07

Client / client

Public Services and Procurement Canada

Project / Projet

LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin

MECHANICAL DEMOLITION PLAN 500 WING BUILDING SECOND LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M106 8 OF 27	**0**

PWGSC – A0 – 1189X841

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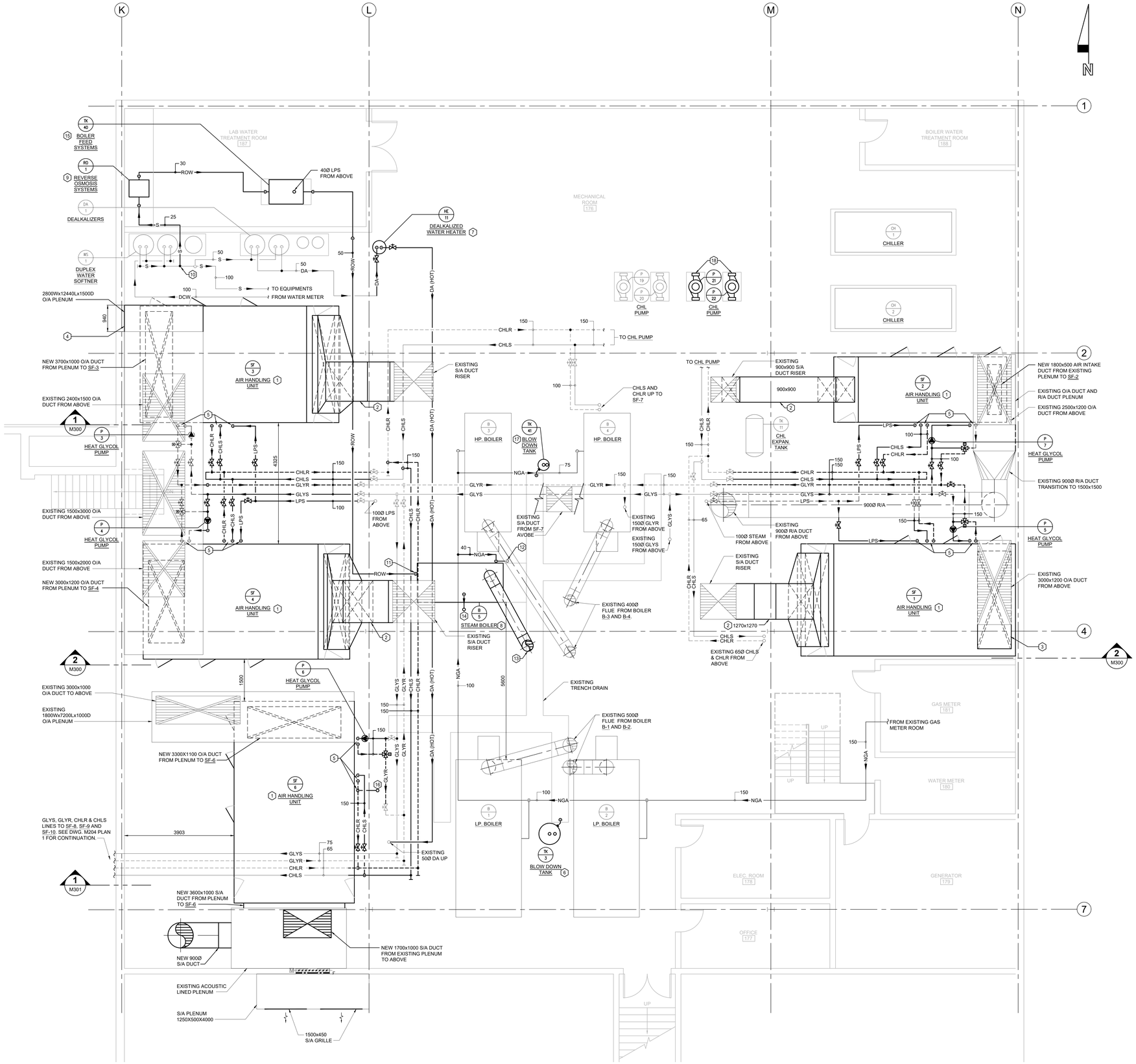

RENOVATION PLAN
MECHANICAL ROOM - MAIN LEVEL
1 / M200 1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. ALL EXISTING HOUSEKEEPING PADS TO BE MODIFIED TO SUIT NEW AIR HANDLING UNITS IF NECESSARY.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2 AND SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING.
4. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
5. TURNING VANES IN ALL MITER ELBOWS AND SPLITTER VANES IN ALL SMOOTH RADIUS RECTANGULAR ELBOWS.
6. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES

1. INSTALL NEW AIR HANDLING UNIT SF-2, SF-1, SF-3, SF-4 AND SF-6.
2. RECONNECT SUPPLY AIR DUCTS FROM EXISTING SUPPLY AIR DUCT RISERS TO NEW AIR HANDLING UNITS.
3. RECONNECT OUTSIDE AIR DUCT FROM SF-1 TO EXISTING RISER.
4. EXTEND OUTSIDE AIR PLENUM 940mm AS SHOWN.
5. RECONNECT GLYCOL, CHILLED WATER, AND STEAM LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M404 AND M405 FOR DETAILS.
6. RE-INSTALL BLOW DOWN TANK TK-3. RECONNECT ASSOCIATED PIPES AND VALVES.
7. RE-INSTALL DEALKALIZED WATER HEATER HE-11. RECONNECT ASSOCIATED PIPES AND VALVES.
8. INSTALL NEW BOILER B-5 IN LOCATION SHOWN. INSTALL NEW 100mm HOUSEKEEPING PAD AS REQUIRED.
9. INSTALL NEW REVERSE OSMOSIS SYSTEM ON EXISTING HOUSE KEEPING PAD. MODIFY EXISTING HOUSE KEEPING PAD AS NEEDED.
10. BRANCH OUT 25Ø SOFT WATER PIPE AND CONNECT TO NEW REVERSE OSMOSIS SYSTEM.
11. CONNECT FILTERED BOILER FEED WATER PIPE FROM NEW BOILER FEED SYSTEM TO NEW BOILER.
12. BRANCH OUT 40Ø GAS PIPE AND CONNECT TO NEW BOILER.
13. INSTALL NEW 40ØØ FLUE UP TO INTERSTITIAL LEVEL. REFER TO DWG. M201 FOR CONTINUATION.
14. NEW 100Ø LOW PRESSURE STEAM UP TO INTERSTITIAL LEVEL.
15. INSTALL NEW BOILER FEED SYSTEM TK-40 ON EXISTING HOUSE KEEPING PAD. MODIFY EXISTING HOUSE KEEPING PAD AS NEEDED.
16. NEW 50Ø LOW PRESSURE STEAM FROM ABOVE.
17. INSTALL NEW BLOW DOWN TANK TK-41 AS SHOWN.
18. INSTALL NEW CHILLED WATER PUMPS AND RECONNECT EXISTING CHILLED WATER SUPPLY PIPES.

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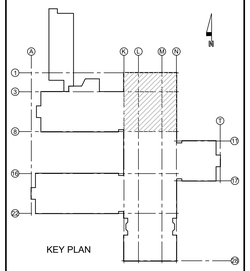

KEY PLAN

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Jul 7 2020

Revision	Description	Date
5		
4		
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0	ISSUED FOR TENDER	2020-07-07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN MECHANICAL ROOM MAIN LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M200	0

9 OF 27

PWGSC – A0 – 1189X841

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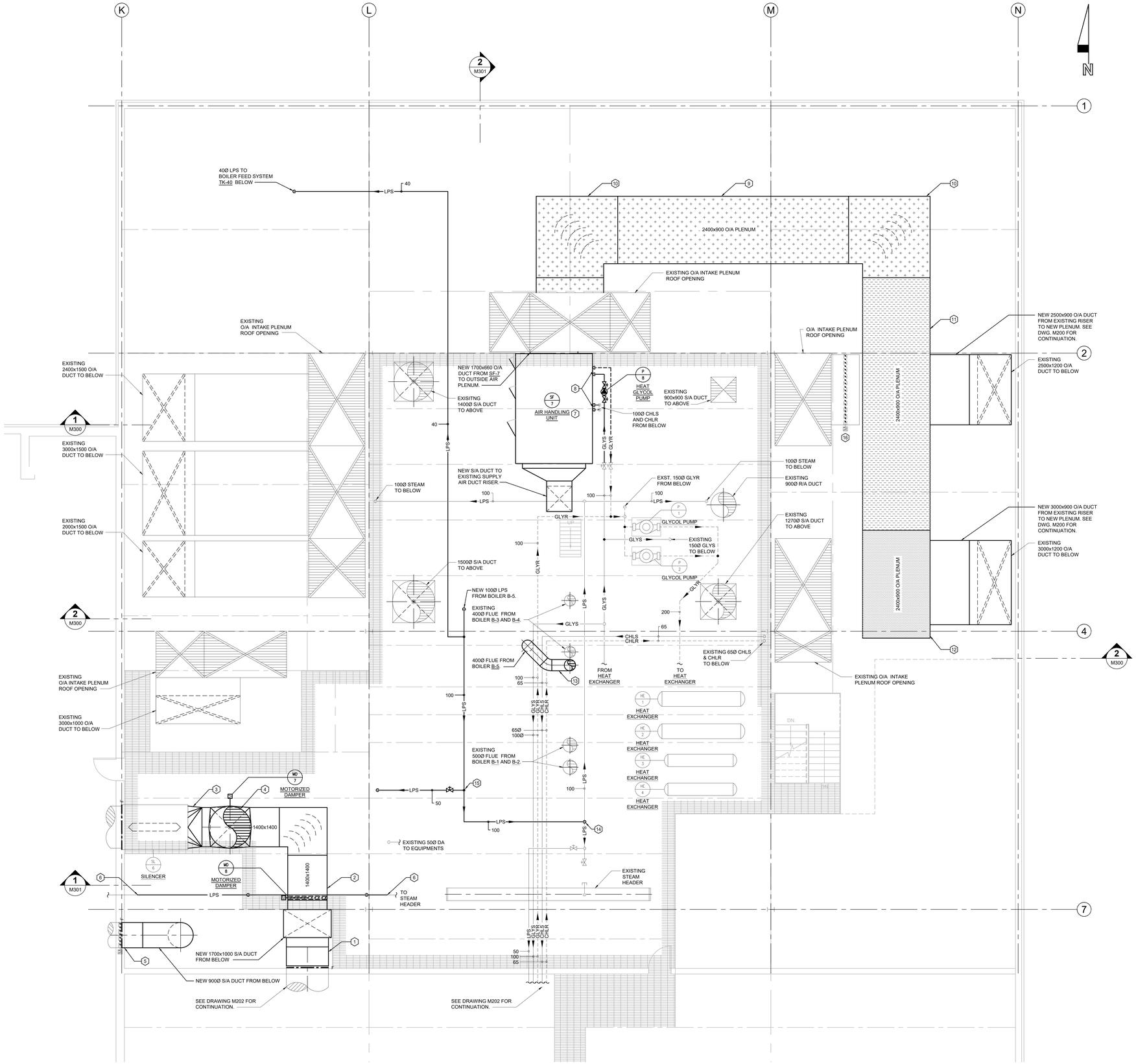

1 M201 **RENOVATION PLAN**
MECHANICAL ROOM - INTERSTITIAL LEVEL
1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2 AND SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING.
3. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
4. TURNING VANES IN ALL MITER ELBOWS.
5. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES

1. BRANCH OUT NEW 1500Ø SUPPLY AIR DUCT FROM NEW 1700x1000 SUPPLY AIR DUCT AND CONNECT TO EXISTING 1500Ø AIR DUCT.
2. BRANCH OUT 1400x1400 SUPPLY AIR DUCT FROM NEW 1700x1000 SUPPLY AIR DUCT AS SHOWN C/W MOTORIZED DAMPER.
3. DUCT TRANSITION FROM 1400x1400 TO 1500Ø AND CONNECT TO EXISTING SILENCER AS SHOWN.
4. CONNECT 1500Ø SUPPLY AIR DUCT FROM ABOVE AS SHOWN C/W MOTORIZED DAMPER.
5. CONNECT NEW 900Ø SUPPLY AIR DUCT TO EXISTING 900Ø SUPPLY AIR DUCT.
6. RECONNECT EXISTING STEAM PIPE. OFFSET AS NEEDED TO AVOID INTERFERENCE WITH NEW DUCTWORK.
7. INSTALL NEW AIR HANDLING UNIT SF-7 ON NEW STRUCTURAL SUPPORT BY AIR HANDLING UNIT MANUFACTURE.
8. RECONNECT GLYCOL AND CHILLED WATER AND ASSOCIATED VALVES AND PUMPS TO NEW AIR HANDLING UNIT.
9. INSTALL NEW 2400x900 OUTSIDE AIR PLENUM DURING REPLACEMENT OF SF-7 AS INDICATED BY [ ] REGION. CAP END.
10. INSTALL 2400x900 RECTANGULAR ELBOWS C/W TURNING VANES DURING REPLACEMENT OF SF-7.
11. CONNECT NEW 2400x900 OUTSIDE AIR PLENUM DURING REPLACEMENT OF SF-2 AS INDICATED BY [ ] REGION AND CAP END FOR FUTURE.
12. CONNECT NEW 2400x900 OUTSIDE AIR PLENUM DURING REPLACEMENT OF SF-1 AS INDICATED BY [ ] REGION AND CAP END FOR FUTURE.
13. 400Ø FLUE FROM NEW BOILER B-5 TO OFFSET AND RUN UP TO FAN LOFT LEVEL. REFER TO DRAWING M203 FOR CONTINUATION.
14. NEW 100Ø LOW PRESSURE STEAM TIE IN TO EXISTING 100Ø LOW PRESSURE STEAM.
15. BRANCH OUT 50Ø LOW PRESSURE STEAM TO SERVE SF-6.
16. REINSTALL EXISTING 2000x1500 COMBUSTION AIR DAMPER IN DUCTWORK TO TERMINATE OPEN ENDED C/W WIRE MESH.

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Western Region
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Région de l'ouest

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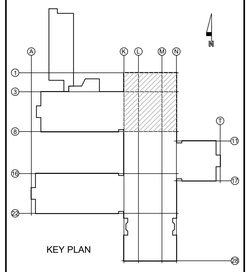

KEY PLAN

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Jul 7 2020

Revision	Description	Date
5		
4		
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0	ISSUED FOR TENDER	2020-07-07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

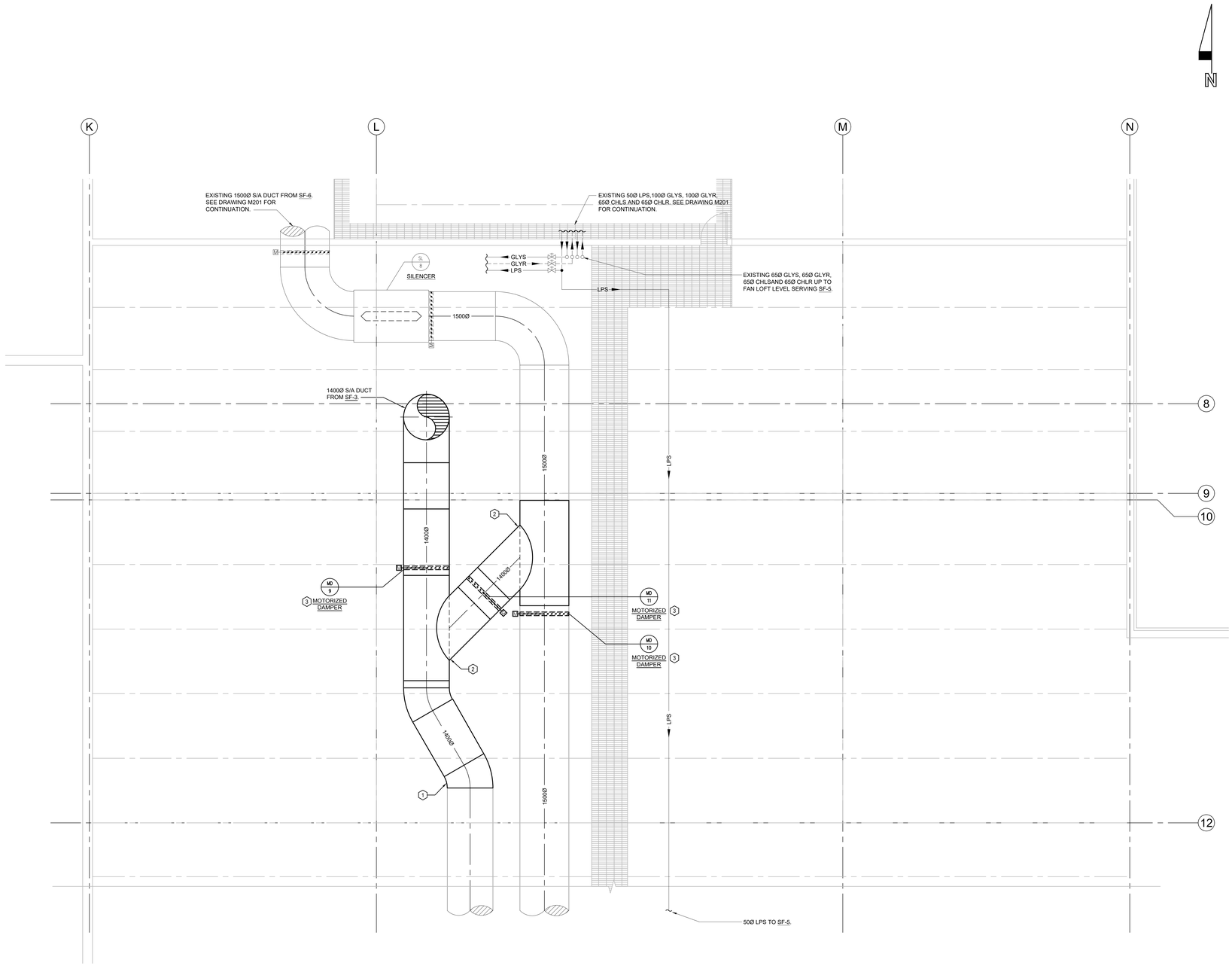
NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN MECHANICAL ROOM INTERSTITIAL LEVEL

Project no./No. du projet
Drawing no./No. du dessin: **M201**

Revision no.: **0**



1 / M202 **RENOVATION PLAN**
SUPPORT BLOCK - INTERSTITIAL LEVEL
1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. INSTALL DUCTWORK IN ACCORDANCE WITH VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING.
3. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES

1. RECONNECT 1400Ø SUPPLY AIR DUCT AS SHOWN.
2. 1400Ø DUCT TIE INTO EXISTING 1400Ø AND 1500Ø SUPPLY AIR DUCTS C/W WYE FITTING.
3. INSTALL NEW MOTORIZED DAMPERS.

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Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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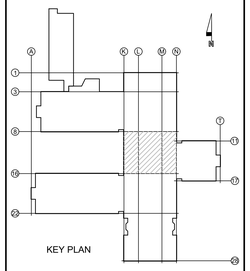

KEY PLAN

PROFESSIONAL ENGINEER PROVINCE OF ALBERTA
Jul 7 2020

PERMIT TO PRACTICE
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Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

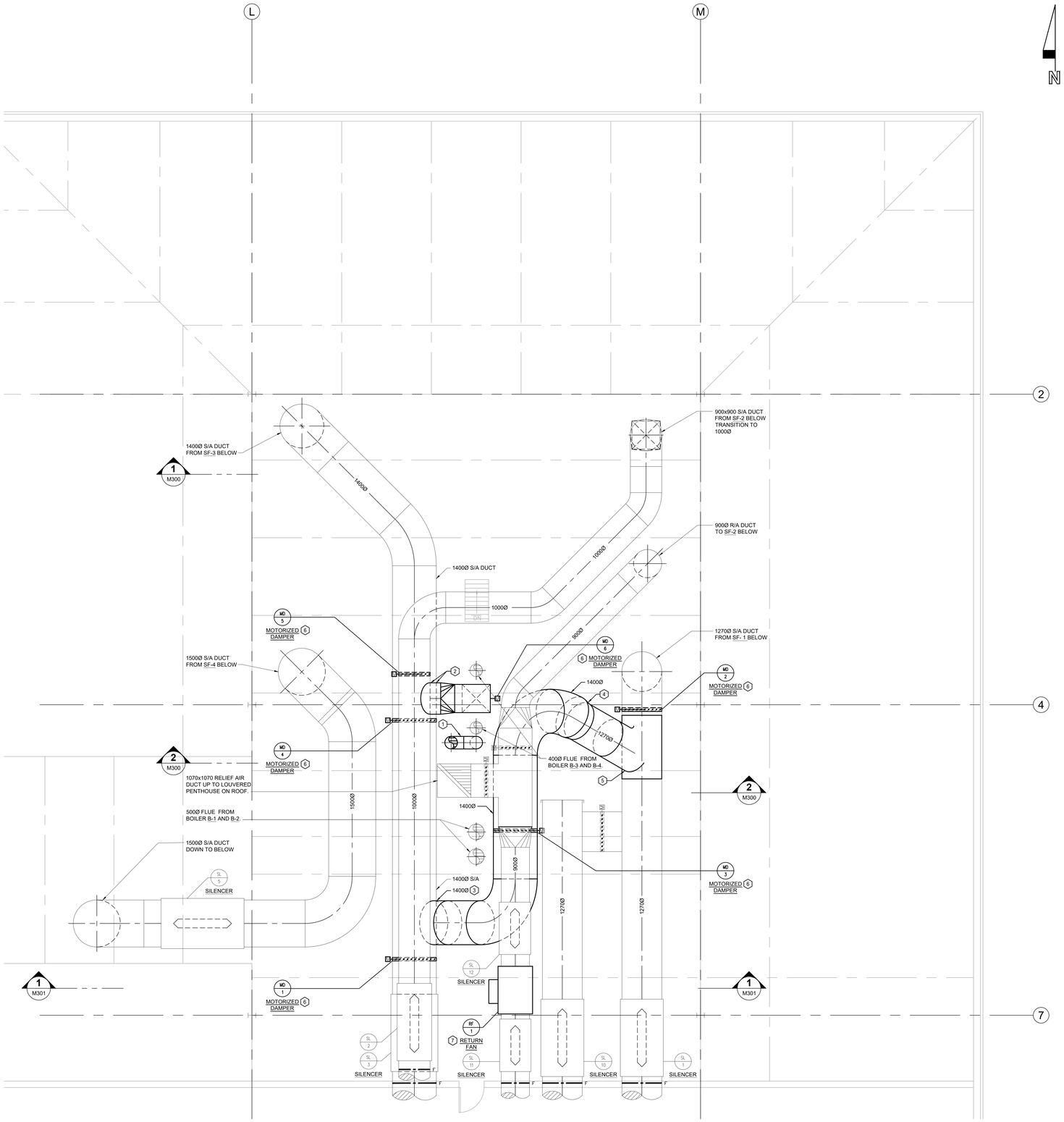
Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN SUPPORT BLOCK INTERSTITIAL LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M202 11 OF 27	**0**



1 M203 **RENOVATION PLAN**
MECHANICAL ROOM - FAN LOFT LEVEL
1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. COMPLETE DUCTWORK IN ACCORDANCE WITH VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING.
3. TURNING VANES IN ALL MITER ELBOWS.
4. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES

1. 400Ø FLUE FROM NEW BOILER B-5 TO OFFSET AND RUN UP THRU ROOF.
2. INSTALL 1000Ø DUCT INTO EXISTING 1000Ø AND 1400Ø DUCTS. TRANSITION TO 900x900 FOR MOTORIZED DAMPER IN VERTICAL. REFER TO DWG. 2-M300 FOR DETAILS.
3. INSTALL 1400Ø DUCT INTO EXISTING 1400Ø SUPPLY AIR DUCT.
4. TRANSITION 1400Ø DUCT TO 1270Ø DUCT.
5. NEW 1270Ø DUCT TIE INTO EXISTING 1270Ø SUPPLY AIR DUCT C/W WYE FITTING.
6. INSTALL NEW MOTORIZED DAMPER.
7. INSTALL NEW RETURN AIR FAN RF-1.

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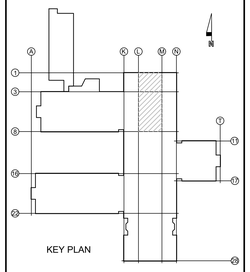
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

Stantec



KEY PLAN

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Jul 7 2020

Revision	Description	Date
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN MECHANICAL ROOM FAN LOFT LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M203	0

12 OF 27

PWGSC – A0 – 1189X841

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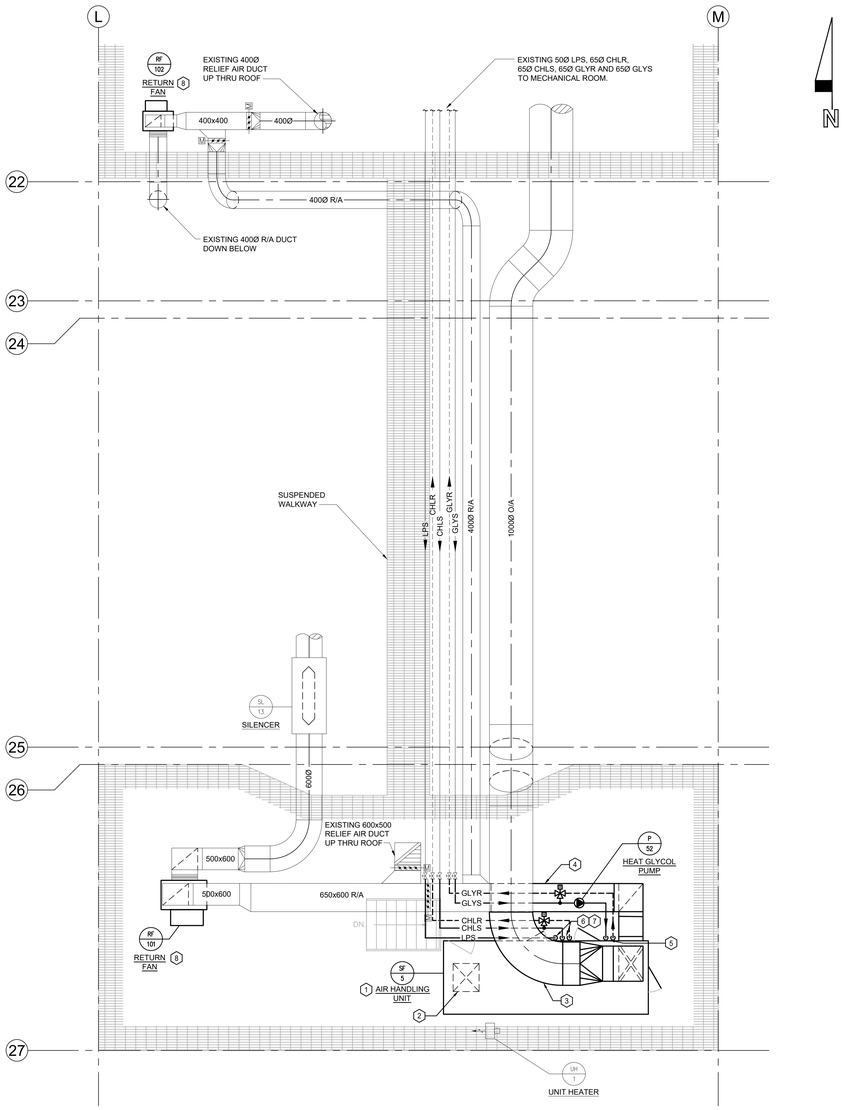

1 / M204 **RENOVATION PLAN SUPPORT BLOCK - FAN LOFT**
1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. ALL EXISTING HOUSEKEEPING PADS TO BE MODIFIED TO SUIT NEW AIR HANDLING UNITS IF NECESSARY.
3. TURNING VANES IN ALL MITER ELBOWS AND SPLITTER VANES IN ALL SMOOTH RADIUS RECTANGULAR ELBOWS.
4. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES

1. INSTALL NEW AIR HANDLING UNIT SF-5.
2. NEW 650x600 SUPPLY AIR DUCT DOWN THRU MODIFIED STRUCTURAL OPENING AND CONNECT TO EXISTING SUPPLY AIR DUCT.
3. RECONNECT OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING OUTSIDE AIR DUCT.
4. RECONNECT RETURN AIR DUCT TO NEW AIR HANDLING UNIT.
5. RECONNECT GLYCOL SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M404 FOR DETAILS.
6. RECONNECT CHILLED WATER SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M405 FOR DETAILS.
7. RECONNECT STEAM PIPE AND ASSOCIATED VALVES AND PUMPS TO NEW AIR HANDLING UNIT.
8. INSTALL NEW RETURN FAN RF-101 AND RF-102 AND RECONNECT EXISTING DUCTS.

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REAL PROPERTY SERVICES
Western Region
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Région de l'ouest

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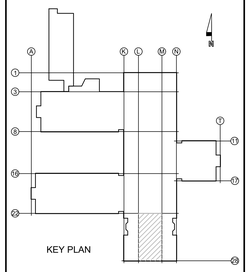

KEY PLAN

PROFESSIONAL ENGINEER ALBERTA
Jul. 7 2020

PERMIT TO PRACTICE STANTEC CONSULTING LTD.
Signature
Date Jul. 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
5		
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1		
0	ISSUED FOR TENDER	2020.07.07

Client / client

Public Services and Procurement Canada

Project / Projet

LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin

MECHANICAL RENOVATION PLAN SUPPORT BLOCK FAN LOFT LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M204	0

13 OF 27

PWGSC – A0 – 1189x841

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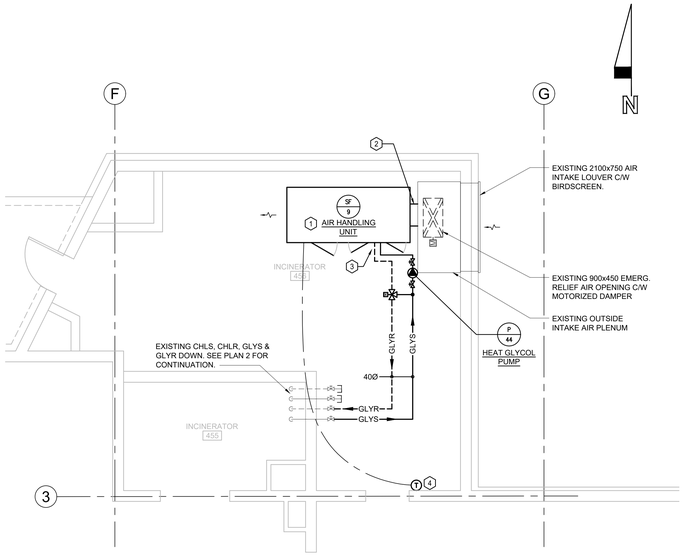
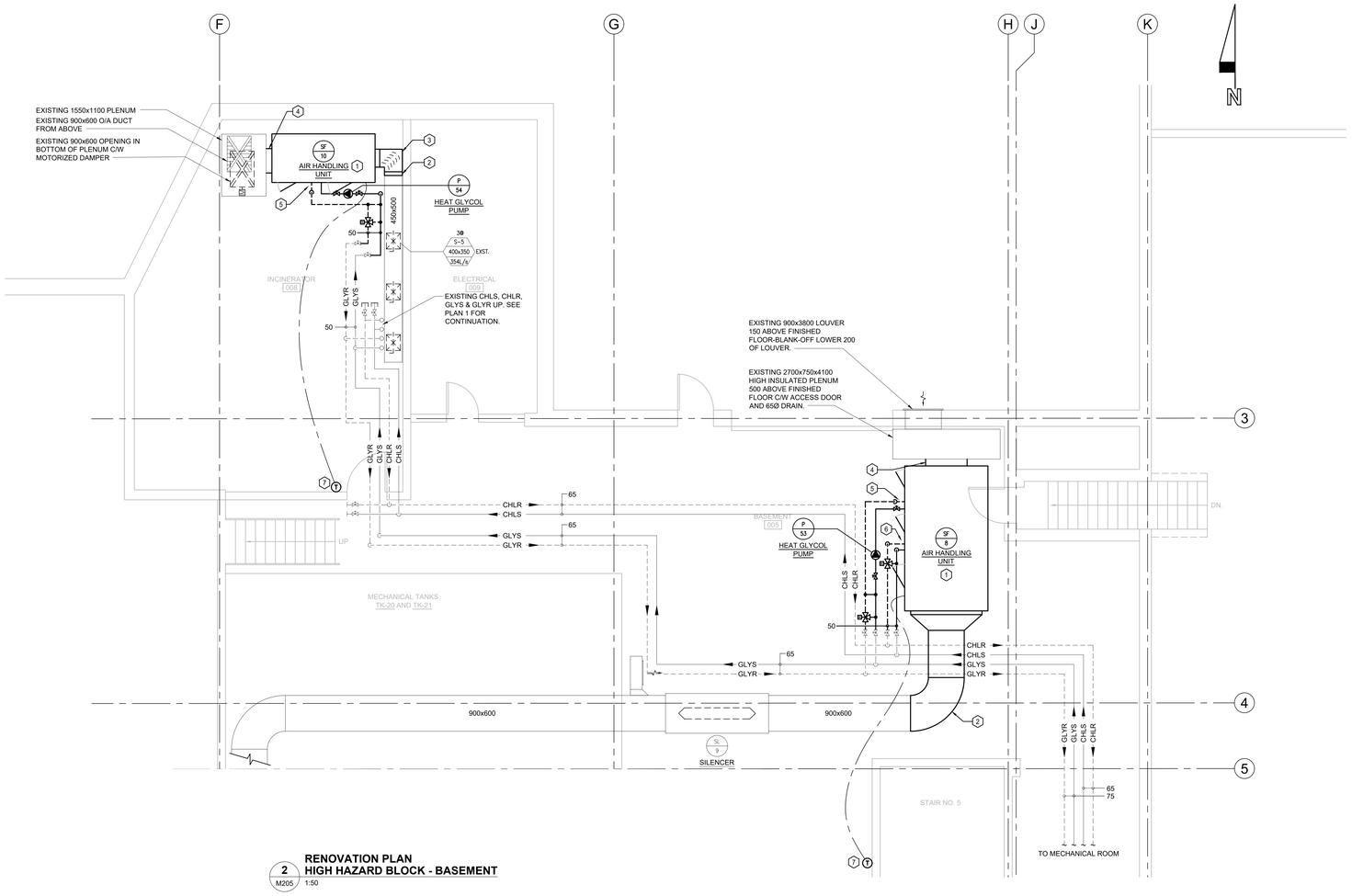
M204



1 / M205 RENOVATION PLAN HIGH HAZARD BLOCK - MAIN LEVEL
1:50



2 / M205 RENOVATION PLAN HIGH HAZARD BLOCK - BASEMENT
1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. AIR HANDLING UNITS TO BE REPLACED ONE AT A TIME. REMAINING AIR HANDLING UNITS TO REMAIN IN OPERATION.
3. AIR HANDLING UNIT SF-9 TO BE REPLACED PRIOR TO WORK ON SF-10. COMPLETE ALL CONNECTIONS OF SF-9 PRIOR TO COMMENCING WORK OF SF-10.
4. TURNING VANES IN ALL MITER ELBOWS AND SPLITTER VANES IN ALL SMOOTH RADIUS RECTANGULAR ELBOWS.
5. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES - 1

1. INSTALL NEW AIR HANDLING UNIT SF-9 ON NEW STRUCTURAL SUPPORT BY AIR HANDLING UNIT MANUFACTURE. HANGERS RODS LOCATION SHALL BE VERIFIED ON SITE AND SHALL BE LOCATED WITHIN THE AREA OF THE CEILING SLAB ABOVE. LOCATION SHALL BE CONFIRMED WITH STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
2. RECONNECT OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING OUTSIDE AIR PLENUM.
3. RECONNECT GLYCOL SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M403 FOR DETAILS.
4. INSTALL NEW THERMOSTAT AND CONNECT TO NEW AIR HANDLING UNIT

KEY NOTES - 2

1. INSTALL NEW AIR HANDLING UNITS SF-8 AND SF-10 ON NEW STRUCTURAL SUPPORT BY AIR HANDLING UNIT MANUFACTURE.
2. RECONNECT SUPPLY AIR DUCT TO EXISTING SUPPLY AIR DUCT.
3. 450x500 MITER ELBOW.
4. RECONNECT OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING OUTSIDE AIR PLENUM.
5. RECONNECT GLYCOL SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M404 FOR DETAILS.
6. RECONNECT CHILLED WATER SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M405 FOR DETAILS.
7. INSTALL NEW THERMOSTAT AND CONNECT TO NEW AIR HANDLING UNIT.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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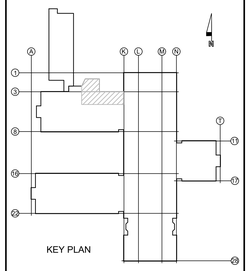

KEY PLAN

PROFESSIONAL ENGINEER ALBERTA
Jul. 7 2020

PERMIT TO PRACTICE STANTEC CONSULTING LTD.
Signature
Date Jul. 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
5		
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

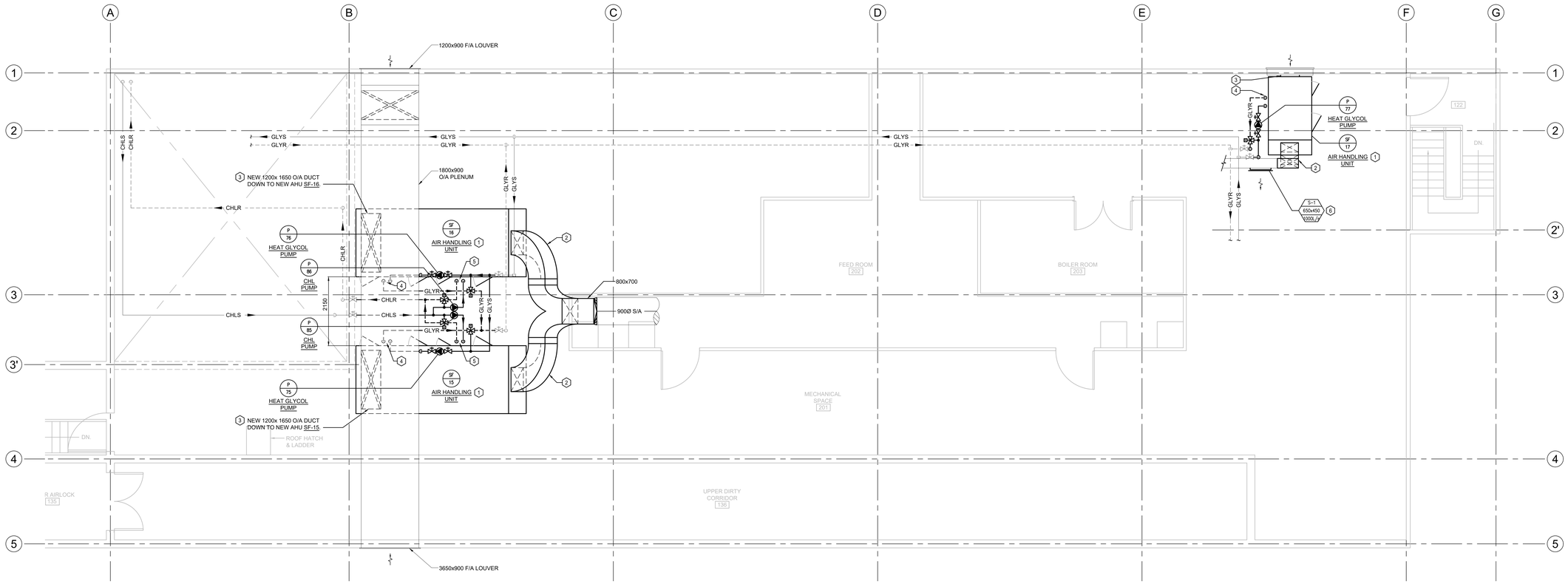
Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN HIGH HAZARD BLOCK BASEMENT & MAIN LEVEL

Project no./No. du projet
Drawing no./No. du dessin: **M205** 14 OF 27
Revision no.: **0**



1 / M205 RENOVATION PLAN
500 WING - SECOND LEVEL
1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. ALL EXISTING HOUSEKEEPING PADS TO BE MODIFIED TO SUIT NEW AIR HANDLING UNITS IF NECESSARY.
3. AIR HANDLING UNITS TO BE REPLACED ONE AT A TIME. REMAINING AIR HANDLING UNITS TO REMAIN IN OPERATION.
4. AIR HANDLING UNIT SF-15 TO BE REPLACED PRIOR TO WORK ON SF-16.
5. TURNING VANES IN ALL MITER ELBOWS AND SPLITTER VANES IN ALL SMOOTH RADIUS RECTANGULAR ELBOWS.
6. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS TO BE INSULATED. NEWLY INSTALLED SUPPLY AIR DUCTS FROM SF-15 AND SF-16 TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES

1. INSTALL NEW AIR HANDLING UNITS SF-15, SF-16 AND SF-17.
2. RECONNECT SUPPLY AIR DUCT TO EXISTING SUPPLY AIR DUCT.
3. RECONNECT OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING OUTSIDE AIR PLENUM.
4. RECONNECT GLYCOL SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M404 FOR DETAILS.
5. RECONNECT CHILLED WATER SUPPLY AND RETURN LINES TO NEW AIR HANDLING UNIT. REFER TO DWG. M405 FOR DETAILS.
6. INSTALL NEW 650x450 SUPPLY AIR GRILLE AS SHOWN.

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Région de l'ouest

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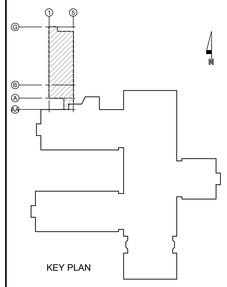

KEY PLAN

PROFESSIONAL ENGINEER ALBERTA
Jul 7 2020

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STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
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The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN 500 WING BUILDING SECOND LEVEL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M206 15 OF 27	**0**

PWGSC – A0 – 1189X841
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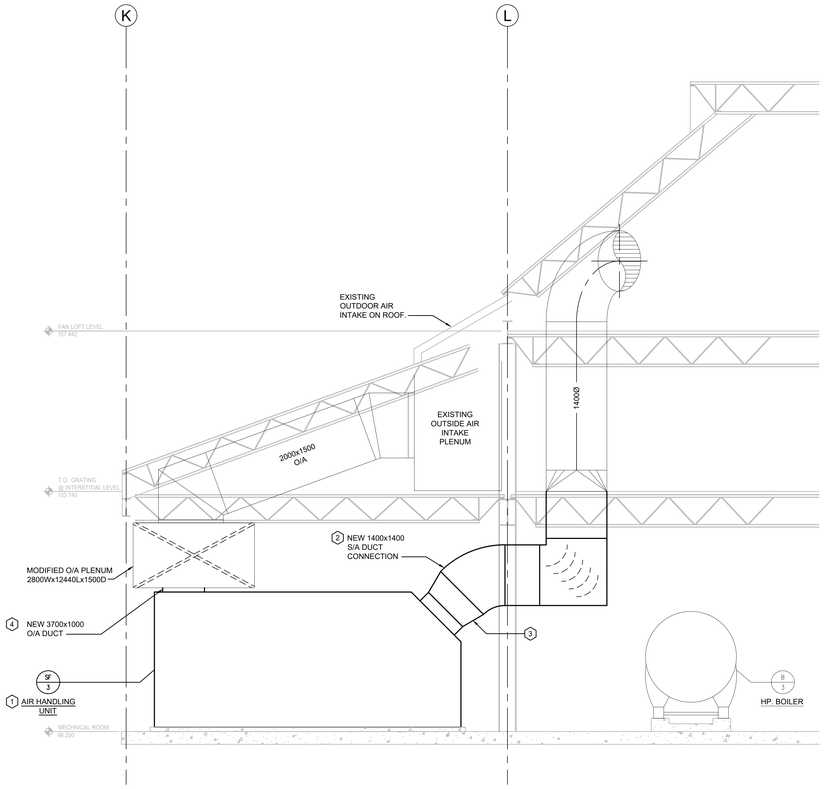
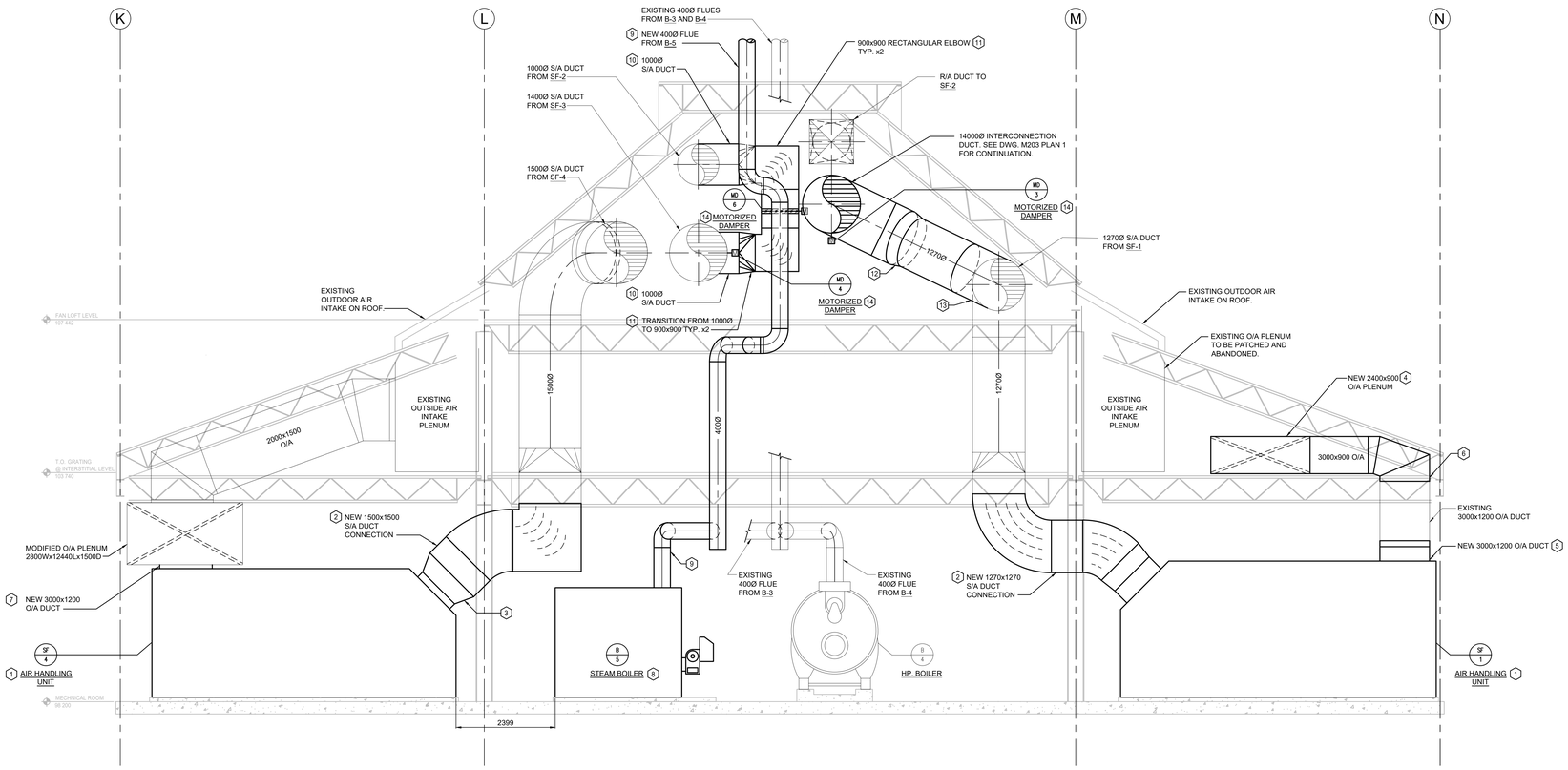
M206



1 SECTION PLAN
M300 1:50



2 SECTION PLAN
M300 1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. ALL EXISTING HOUSEKEEPING PADS TO BE MODIFIED TO SUIT NEW AIR HANDLING UNITS IF NECESSARY.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2 AND SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING.
4. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
5. TURNING VANES IN ALL MITER ELBOWS AND SPLITTER VANES IN ALL SMOOTH RADIUS RECTANGULAR ELBOWS.
6. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES - 1

1. INSTALL NEW AIR HANDLING UNIT.
2. INSTALL NEW SUPPLY AIR DUCT FROM EXISTING SUPPLY AIR DUCT RISER TO NEW AIR HANDLING UNIT.
3. NEW CUSTOM TRANSITION TO BE INSTALLED TO AVOID INTERFERENCE WITH EXISTING COLUMN.
4. CONNECT NEW OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO MODIFIED EXISTING OUTSIDE AIR PLENUM.

KEY NOTES - 2

1. INSTALL NEW AIR HANDLING UNIT.
2. INSTALL NEW SUPPLY AIR DUCT FROM EXISTING SUPPLY AIR DUCT RISER TO NEW AIR HANDLING UNIT.
3. NEW CUSTOM TRANSITION TO BE INSTALLED TO AVOID INTERFERENCE WITH EXISTING COLUMN.
4. CONNECT NEW 2400x900 OUTSIDE AIR PLENUM DURING REPLACEMENT OF SF-1.
5. INSTALL NEW OUTSIDE AIR DUCT FROM SF-1 TO EXISTING RISER.
6. CONNECT NEW 3000x900 OUTSIDE AIR DUCT FROM NEW 2400x900 OUTSIDE AIR PLENUM TO EXISTING 3000x900 RISER.
7. CONNECT NEW OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO MODIFIED EXISTING OUTSIDE AIR PLENUM.
8. INSTALL NEW BOILER. INSTALL NEW 100mm HOUSEKEEPING PAD AS REQUIRED.
9. INSTALL NEW 400Ø FLUE UP TO ROOF. OFFSET AS NEEDED TO AVOID INTERFERENCE.
10. INSTALL 1000Ø DUCT INTO EXISTING 1000Ø AND 1400Ø DUCTS.
11. DUCT TRANSITION TO 900x900 FOR MOTORIZED DAMPER IN VERTICAL.
12. DUCT TRANSITION FROM 1400Ø TO 1270Ø.
13. 1270Ø DUCT TIE INTO EXISTING 1270Ø SUPPLY AIR DUCT C/W WYE FITTING. SEE DWG. M203 FOR DETAILS.
14. INSTALL NEW MOTORIZED DAMPER.

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REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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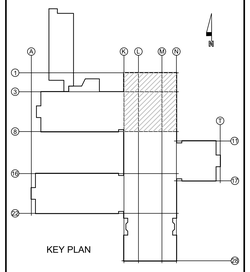

KEY PLAN

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta
Jul 7 2020

Revision	Description	Date
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN MECHANICAL ROOM SECTIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M300	0

16 OF 27

PWGSC – A0 – 1189X841

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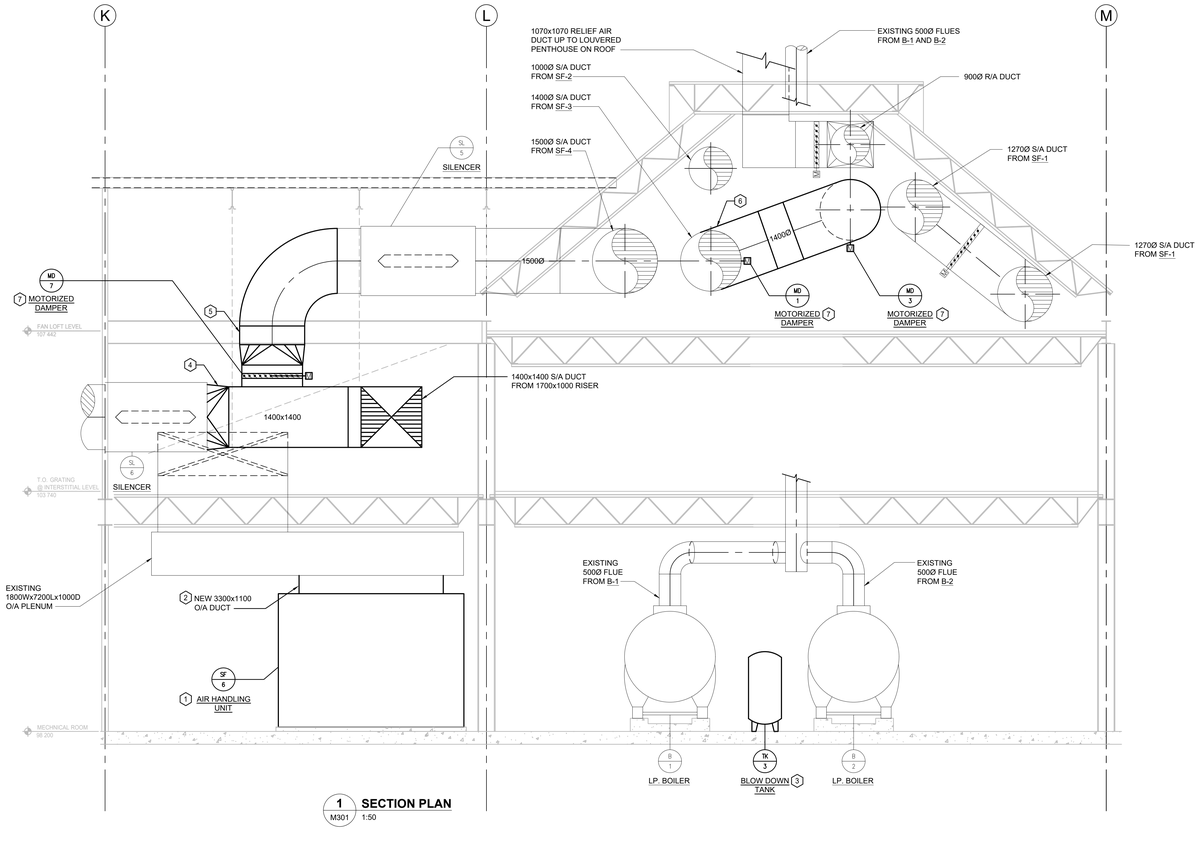
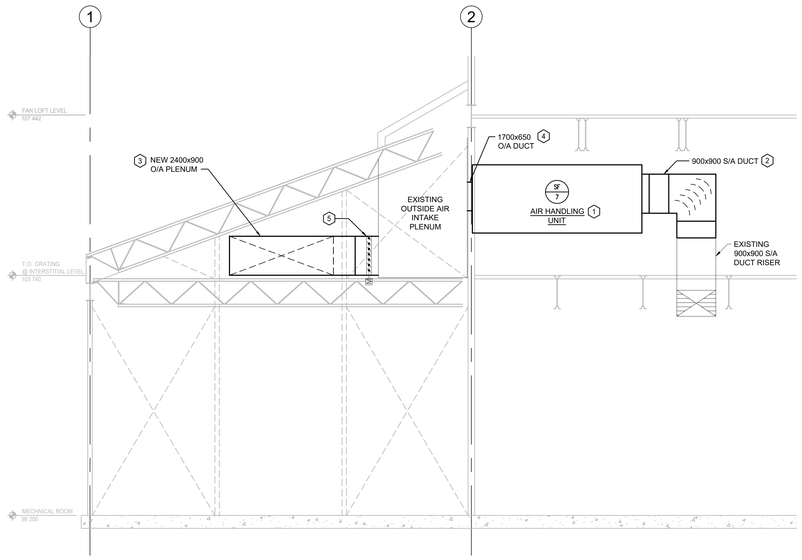


1 SECTION PLAN
M301 1:50



2 SECTION PLAN
M301 1:50

GENERAL NOTES

1. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
2. ALL EXISTING HOUSEKEEPING PADS TO BE MODIFIED TO SUIT NEW AIR HANDLING UNITS IF NECESSARY.
3. COMPLETE AIR HANDLING UNIT REPLACEMENT WORK IN THE FOLLOWING ORDER: SF-6, SF-3, SF-4, SF-7, SF-2 AND SF-1. REFER TO VENTILATION SCHEMATICS M400, M401, M402 AND M403 FOR PHASING.
4. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
5. TURNING VANES IN ALL MITER ELBOWS AND SPLITTER VANES IN ALL SMOOTH RADIUS RECTANGULAR ELBOWS.
6. NEWLY INSTALLED AND MODIFIED OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS TO BE INSULATED. REFER TO MECHANICAL SPECIFICATION FOR DETAILS.

KEY NOTES - 1

1. INSTALL NEW AIR HANDLING UNIT SF-6.
2. CONNECT NEW OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING OUTSIDE AIR PLENUM.
3. RELOCATE BLOW DOWN TANK TK-3. INSTALL NEW PIPE AND RECONNECT VALVES.
4. DUCT TRANSITION FROM 1400x1400 TO 1500Ø AND CONNECT TO EXISTING SILENCER AS SHOWN.
5. 1500Ø DUCT FROM ABOVE TRANSITION TO 1400x1400 AND CONNECT TO NEW 1400x1400 SUPPLY AIR PLENUM C/W MOTORIZED DAMPER.
6. INSTALL 1400ØØ DUCT INTO EXISTING 1400Ø AS SHOWN. SEE DWG. M203 FOR DETAILS.
7. INSTALL NEW MOTORIZED DAMPER.

KEY NOTES - 2

1. INSTALL NEW AIR HANDLING UNIT SF-7 ON NEW STRUCTURAL SUPPORT BY AIR HANDLING UNIT MANUFACTURE.
2. INSTALL NEW SUPPLY AIR DUCT FROM EXISTING SUPPLY AIR DUCT RISER TO NEW AIR HANDLING UNIT.
3. INSTALL NEW 2400x900 OUTSIDE AIR PLENUM DURING REPLACEMENT OF SF-7. REFER TO DWG. M201 FOR DETAILS.
4. CONNECT NEW OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING OUTSIDE AIR PLENUM.
5. REINSTALL EXISTING COMBUSTION AIR DAMPER.

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Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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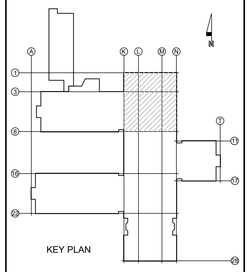

KEY PLAN

PROFESSIONAL ENGINEER PROVINCE OF ALBERTA
Jul 7 2020

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul 7 2020
PERMIT NUMBER: P 0258
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Revision	Description	Date
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL RENOVATION PLAN MECHANICAL ROOM SECTIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M301	0

PWGSC – A0 – 1189X841
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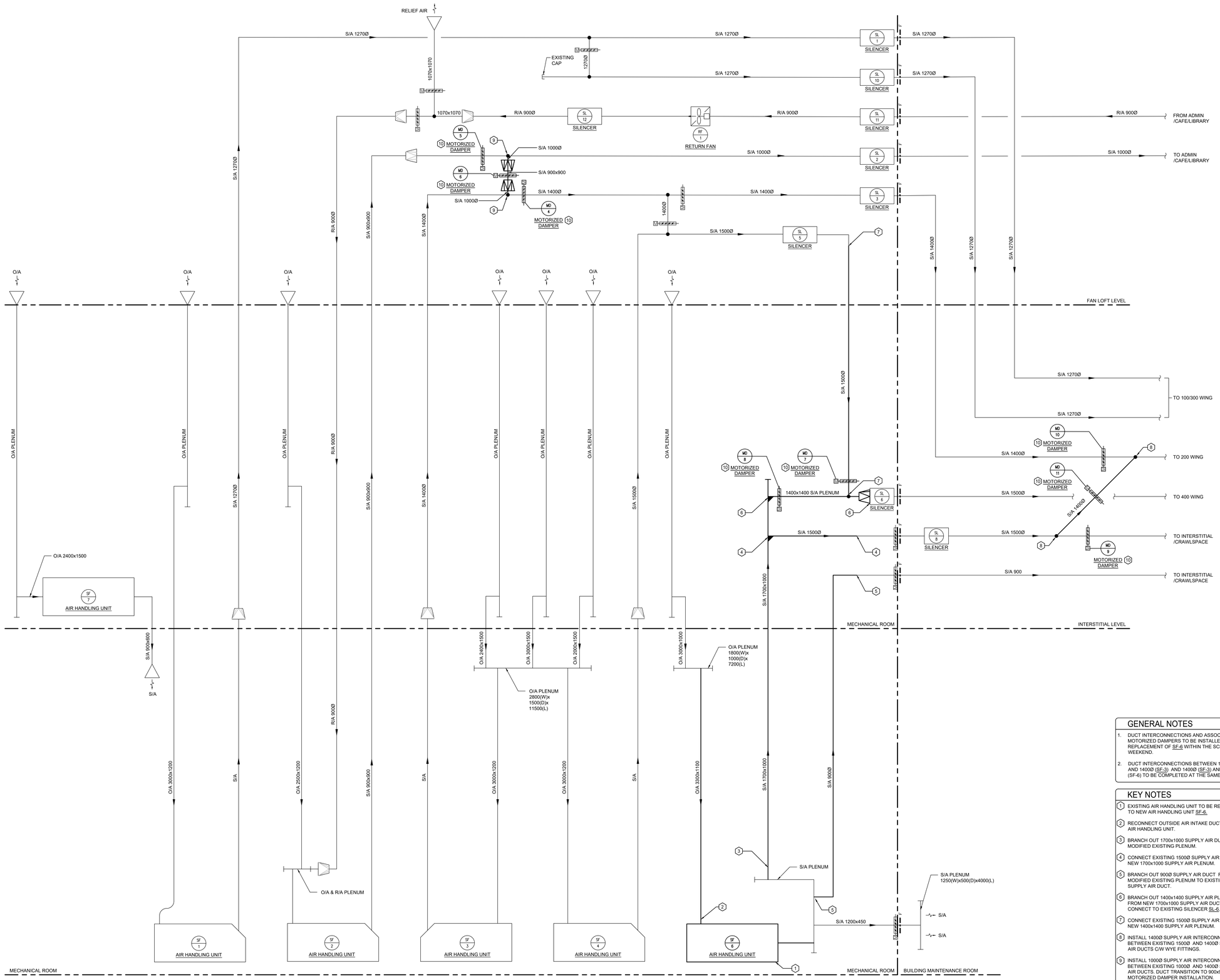
M301



GENERAL NOTES

1. DUCT INTERCONNECTIONS AND ASSOCIATED MOTORIZED DAMPERS TO BE INSTALLED AFTER REPLACEMENT OF SF-6 WITHIN THE SCHEDULED WEEKEND.
2. DUCT INTERCONNECTIONS BETWEEN 1000Ø (SF-2) AND 1400Ø (SF-3) AND 1400Ø (SF-3) AND 1500Ø (SF-6) TO BE COMPLETED AT THE SAME TIME.

KEY NOTES

1. EXISTING AIR HANDLING UNIT TO BE REPLACED TO NEW AIR HANDLING UNIT SF-6.
2. RECONNECT OUTSIDE AIR INTAKE DUCT TO NEW AIR HANDLING UNIT.
3. BRANCH OUT 1700x1000 SUPPLY AIR DUCT FROM MODIFIED EXISTING PLENUM.
4. CONNECT EXISTING 1500Ø SUPPLY AIR DUCT TO NEW 1700x1000 SUPPLY AIR PLENUM.
5. BRANCH OUT 900Ø SUPPLY AIR DUCT FROM MODIFIED EXISTING PLENUM TO EXISTING 900Ø SUPPLY AIR DUCT.
6. BRANCH OUT 1400x1400 SUPPLY AIR PLENUM FROM NEW 1700x1000 SUPPLY AIR DUCT AND CONNECT TO EXISTING SILENCER SL-6.
7. CONNECT EXISTING 1500Ø SUPPLY AIR DUCT TO NEW 1400x1400 SUPPLY AIR PLENUM.
8. INSTALL 1400Ø SUPPLY AIR INTERCONNECTION BETWEEN EXISTING 1500Ø AND 1400Ø SUPPLY AIR DUCTS C/W WYE FITTINGS.
9. INSTALL 1000Ø SUPPLY AIR INTERCONNECTION BETWEEN EXISTING 1000Ø AND 1400Ø SUPPLY AIR DUCTS. DUCT TRANSITION TO 900x900 FOR MOTORIZED DAMPER INSTALLATION.
10. PROVIDE MOTORIZED DAMPER.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

Stantec

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature
Date Jul. 7 2020
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The Association of Professional Engineers, Geologists and Geophysicists of Alberta
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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL VENTILATION SCHEMATIC PHASE 1

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M400	0

18 OF 27

PWGSC – A0 – 1189X841

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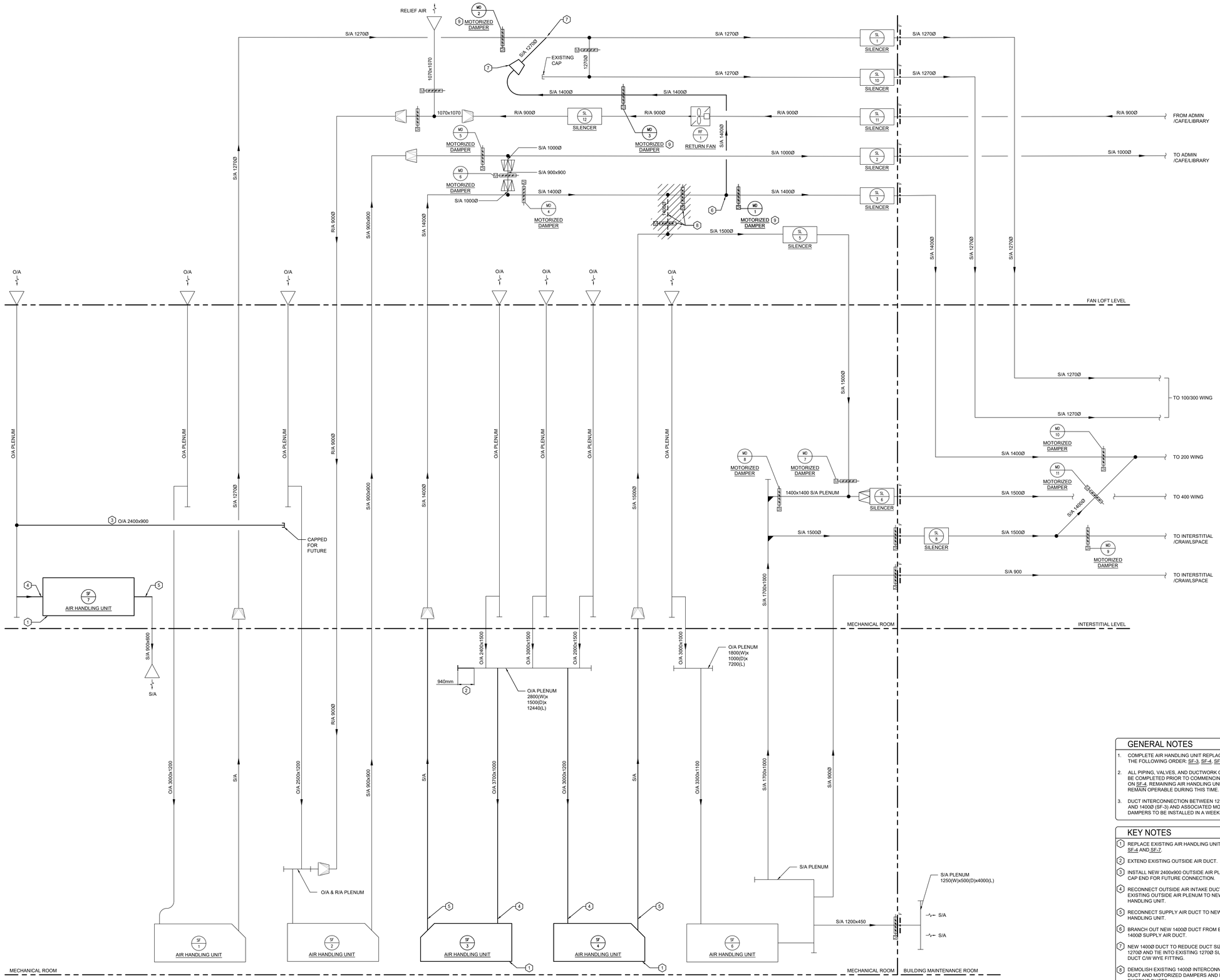

GENERAL NOTES

1. COMPLETE AIR HANDLING UNIT REPLACEMENT IN THE FOLLOWING ORDER: SF-3, SF-4, SF-7.
2. ALL PIPING, VALVES, AND DUCTWORK OF SF-3 TO BE COMPLETED PRIOR TO COMMENCING WORK ON SF-4. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.
3. DUCT INTERCONNECTION BETWEEN 1270Ø (SF-1) AND 1400Ø (SF-3) AND ASSOCIATED MOTORIZED DAMPERS TO BE INSTALLED IN A WEEKEND.

KEY NOTES

1. REPLACE EXISTING AIR HANDLING UNITS SF-3, SF-4 AND SF-7.
2. EXTEND EXISTING OUTSIDE AIR DUCT.
3. INSTALL NEW 2400x900 OUTSIDE AIR PLENUM AND CAP END FOR FUTURE CONNECTION.
4. RECONNECT OUTSIDE AIR INTAKE DUCT FROM EXISTING OUTSIDE AIR PLENUM TO NEW AIR HANDLING UNIT.
5. RECONNECT SUPPLY AIR DUCT TO NEW AIR HANDLING UNIT.
6. BRANCH OUT NEW 1400Ø DUCT FROM EXISTING 1400Ø SUPPLY AIR DUCT.
7. NEW 1400Ø DUCT TO REDUCE DUCT SIZE TO 1270Ø AND TIE INTO EXISTING 1270Ø SUPPLY AIR DUCT C/W WYE FITTING.
8. DEMOLISH EXISTING 1400Ø INTERCONNECTION DUCT AND MOTORIZED DAMPERS AND PATCH EXISTING DUCTS.
9. PROVIDE MOTORIZED DAMPER.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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Client / client

Public Services and Procurement Canada

Project / Projet

LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin

MECHANICAL VENTILATION SCHEMATIC PHASE 2

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M401	0

19 OF 27

PWGSC – A0 – 1189X841

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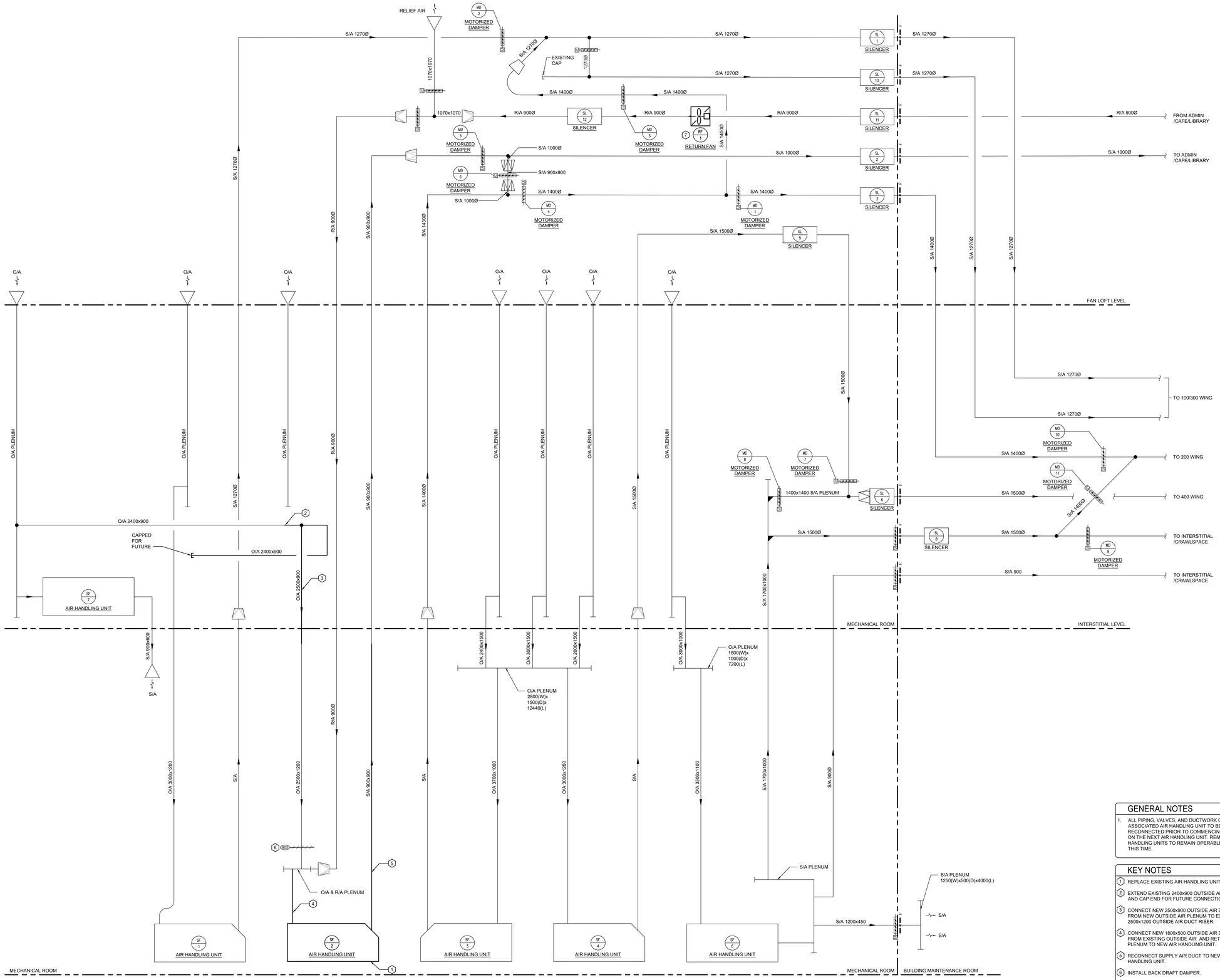
M401



GENERAL NOTES

1. ALL PIPING, VALVES, AND DUCTWORK OF ASSOCIATED AIR HANDLING UNIT TO BE RECONNECTED PRIOR TO COMMENCING WORK ON THE NEXT AIR HANDLING UNIT. REMAINING AIR HANDLING UNITS TO REMAIN OPERABLE DURING THIS TIME.

KEY NOTES

1. REPLACE EXISTING AIR HANDLING UNIT SF-2.
2. EXTEND EXISTING 2400x900 OUTSIDE AIR PLENUM AND CAP END FOR FUTURE CONNECTION.
3. CONNECT NEW 2500x900 OUTSIDE AIR DUCT FROM NEW OUTSIDE AIR PLENUM TO EXISTING 2500x1200 OUTSIDE AIR DUCT RISER.
4. CONNECT NEW 1800x500 OUTSIDE AIR DUCT FROM EXISTING OUTSIDE AIR AND RETURN AIR PLENUM TO NEW AIR HANDLING UNIT.
5. RECONNECT SUPPLY AIR DUCT TO NEW AIR HANDLING UNIT.
6. INSTALL BACK DRAFT DAMPER.
7. REPLACE EXISTING RETURN AIR FAN TO NEW FAN RF-1.

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Jul 7 2020

Revision	Description	Date
5		
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0	ISSUED FOR TENDER	2020.07.07

Client / client

Public Services and Procurement Canada

Project / Projet

LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

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Drawing title / Titre du dessin

MECHANICAL VENTILATION SCHEMATIC PHASE 3

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M402	0

20 OF 27

PWGSC – A0 – 1189X841

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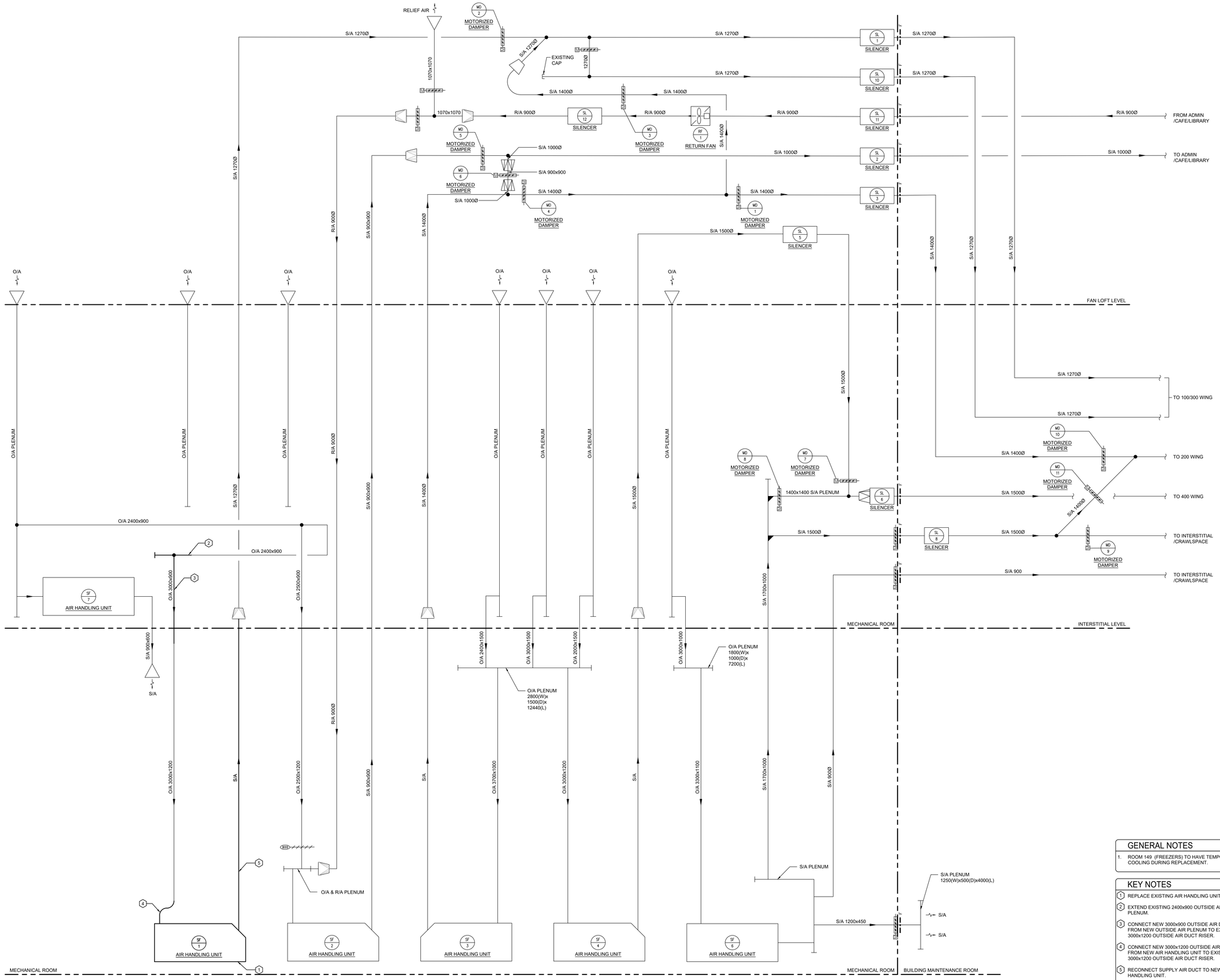

GENERAL NOTES

1. ROOM 149 (FREEZERS) TO HAVE TEMPORARY COOLING DURING REPLACEMENT.

KEY NOTES

1. REPLACE EXISTING AIR HANDLING UNIT SF-1.
2. EXTEND EXISTING 2400x900 OUTSIDE AIR PLENUM.
3. CONNECT NEW 3000x900 OUTSIDE AIR DUCT FROM NEW OUTSIDE AIR PLENUM TO EXISTING 3000x1200 OUTSIDE AIR DUCT RISER.
4. CONNECT NEW 3000x1200 OUTSIDE AIR DUCT FROM NEW AIR HANDLING UNIT TO EXISTING 3000x1200 OUTSIDE AIR DUCT RISER.
5. RECONNECT SUPPLY AIR DUCT TO NEW AIR HANDLING UNIT.

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LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: JC
Drawn by / Dessiné par: EJ
Approved by / Approuvé par: MB
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL VENTILATION SCHEMATIC PHASE 4

Project no./No. du projet
Drawing no./No. du dessin: **M403** 21 OF 27
Revision no.: **0**

PWGSC – A0 – 1189X841

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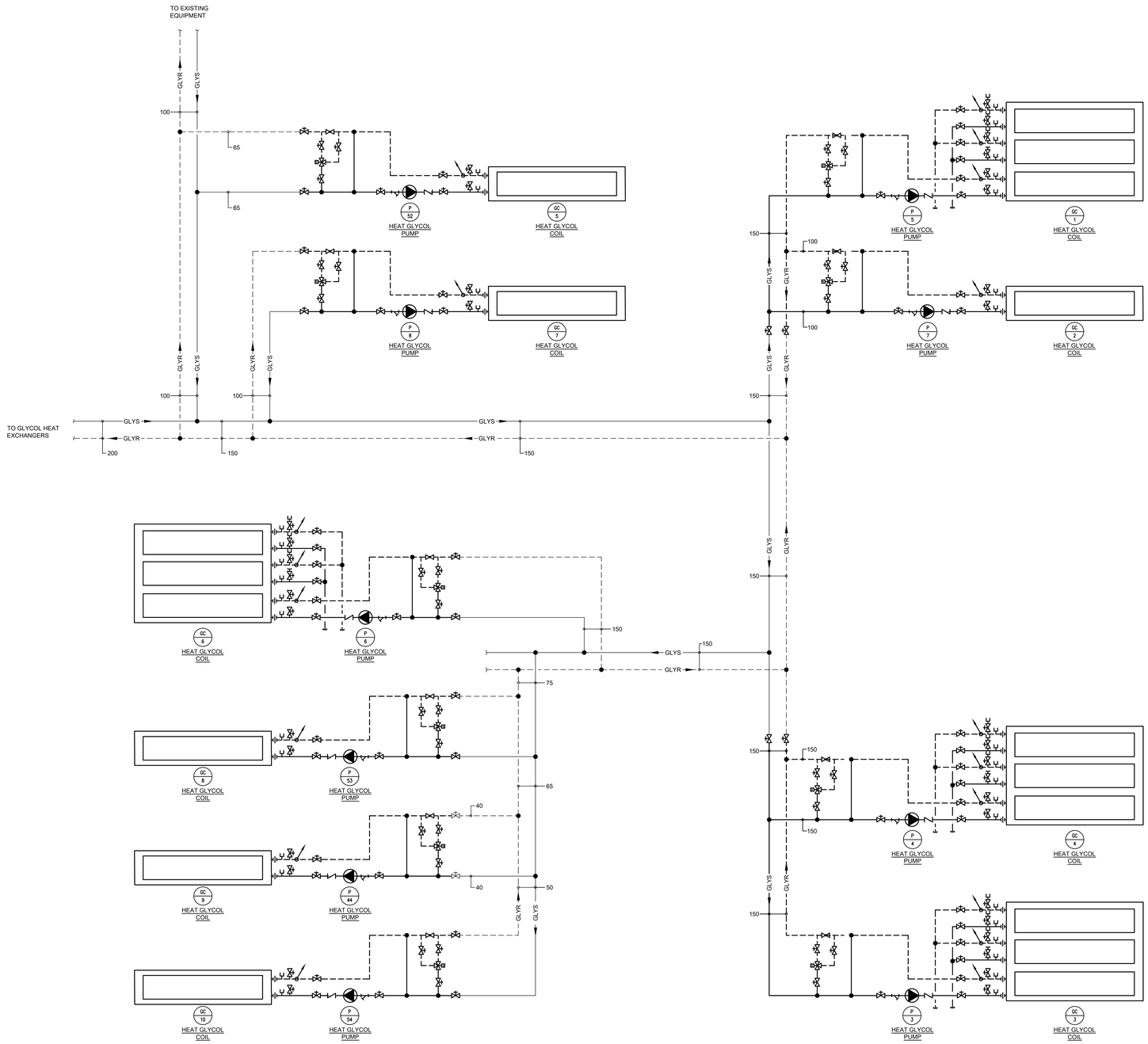
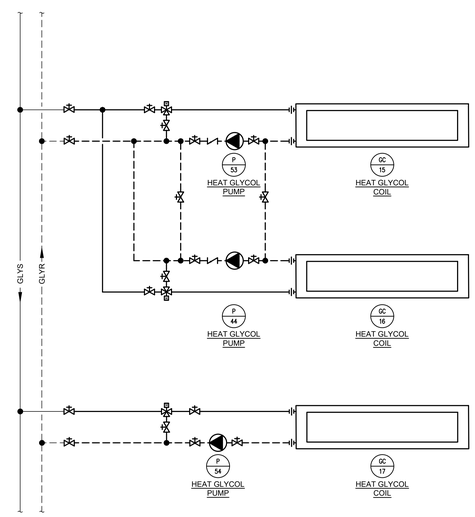


1 SF-1, 2, 3, 4, 5, 6, 7 AND 8
HEATING GLYCOL PIPING SCHEMATIC
M404 N.T.S.



2 SF-15, 16 AND 17
HEATING GLYCOL PIPING SCHEMATIC
M404 N.T.S.

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LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL SCHEMATICS HEATING GLYCOL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M404	0

22 OF 27

PWGSC – AD – 1189X841

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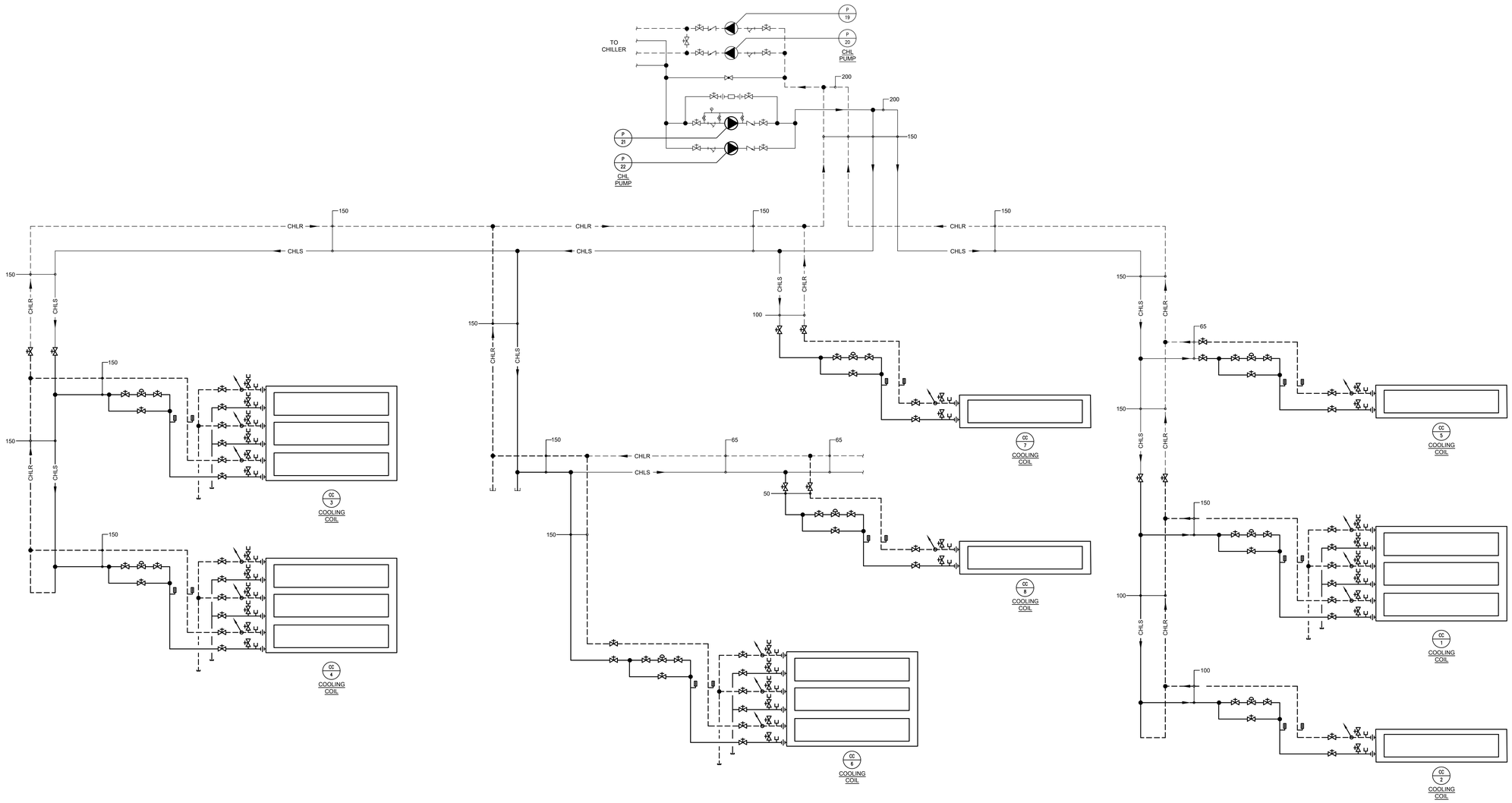
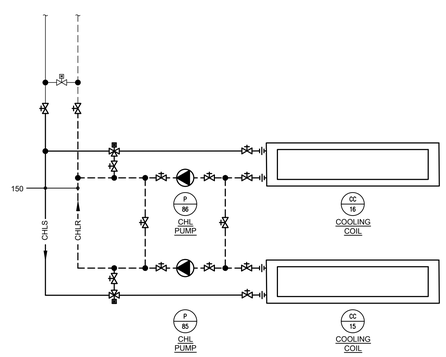
M404



1 M405 **SF-1, 2, 3, 4, 5, 6, 7 AND 8 CHILLED WATER PIPING SCHEMATIC**
N.T.S.



2 M405 **SF-15 AND 16 CHILLED WATER PIPING SCHEMATIC**
N.T.S.

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Jul 7 2020

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TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
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Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL SCHEMATICS CHILLED WATER PIPING

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M405 23 OF 27	**0**

PWGSC – A0 – 1189X841
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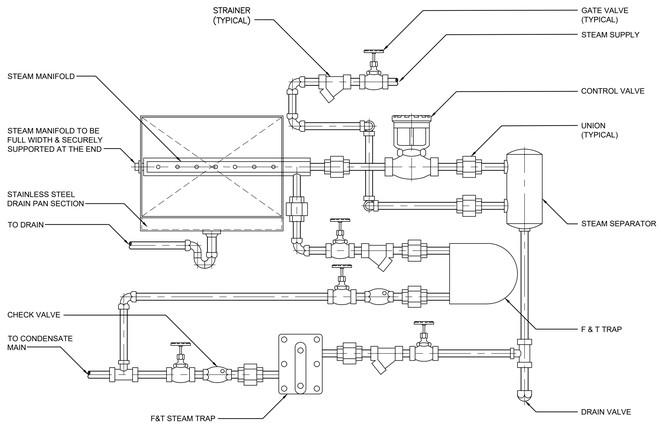
M405



1 M500 **DUCT HUMIDIFIER DETAIL**
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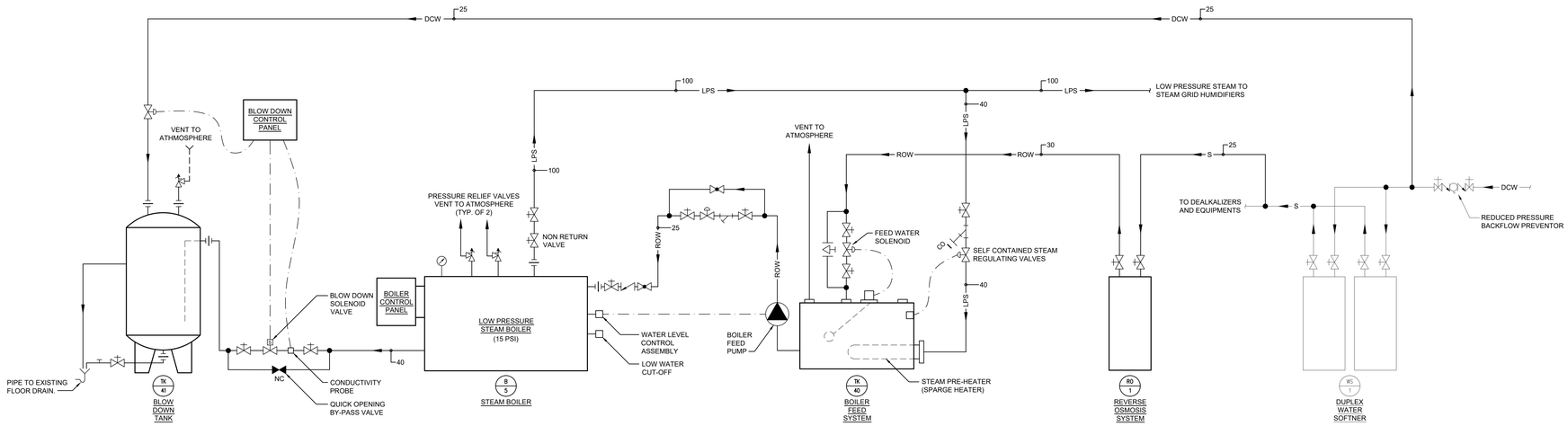

2 M500 **STEAM HUMIDIFICATION SCHEMATIC**
N.T.S.

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LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

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PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	M500 24 OF 27	**0**

PWGSC – A0 – 1189X841

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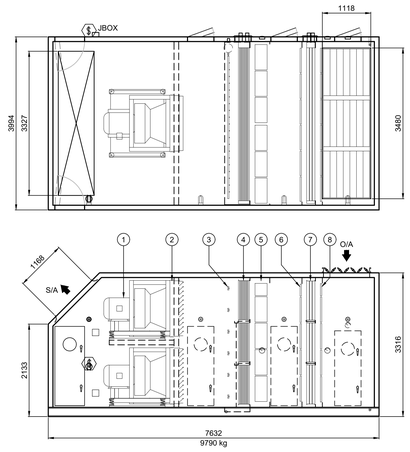
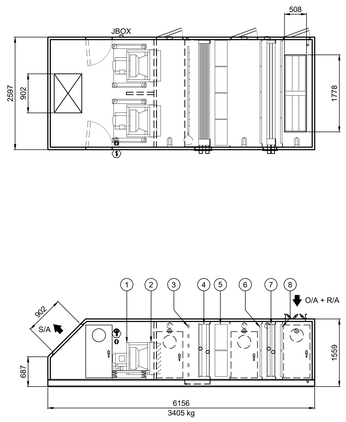
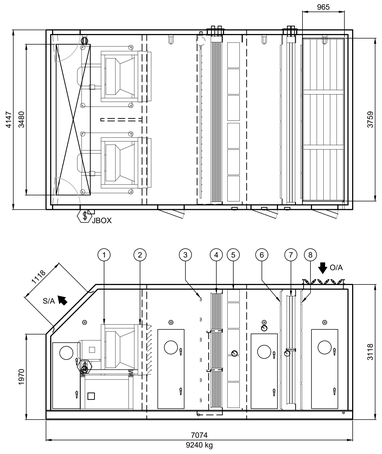


1 SF-1 AIR HANDLING UNIT DETAIL
M501 N.T.S.

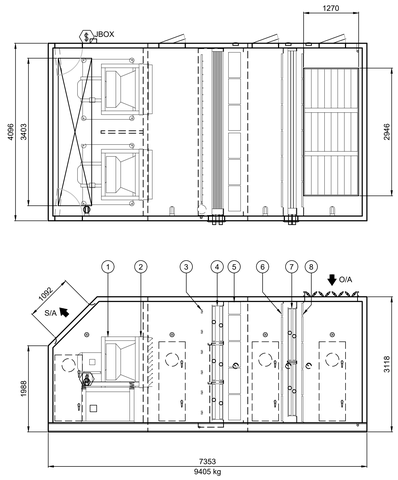


2 SF-2 AIR HANDLING UNIT DETAIL
M501 N.T.S.

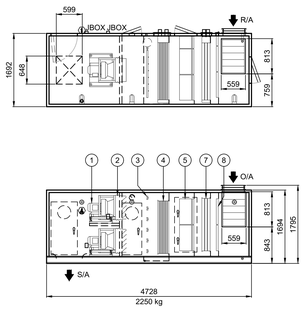


3 SF-3 AIR HANDLING UNIT DETAIL
M501 N.T.S.

LEGEND	
1	SUPPLY FAN
2	FAN INLET DAMPER
3	HUMIDIFIER
4	COOLING COIL
5	FILTERS
6	WINTER FILTERS
7	HEATING COIL
8	SUMMER FILTERS
9	FAN DISCHARGE DAMPER
10	HEAT RECOVERY COIL (FUTURE)



4 SF-4 AIR HANDLING UNIT DETAIL
M501 N.T.S.



5 SF-5 AIR HANDLING UNIT DETAIL
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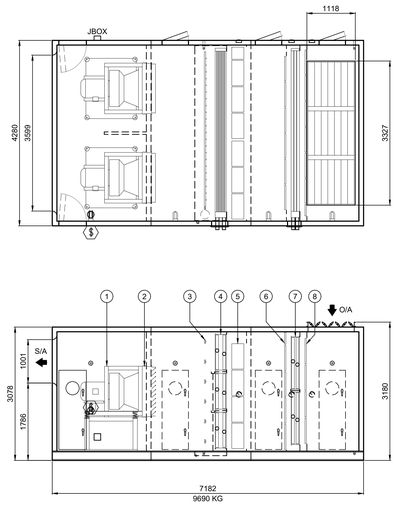
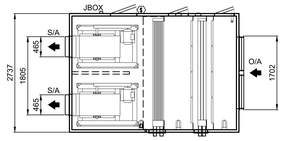
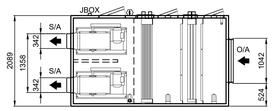
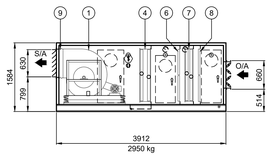


6 SF-6 AIR HANDLING UNIT DETAIL
M501 N.T.S.







7 SF-7 AIR HANDLING UNIT DETAIL
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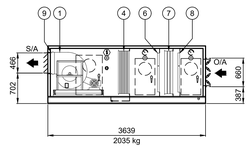
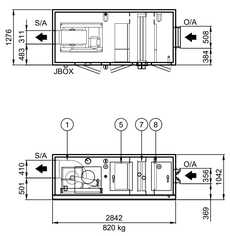


8 SF-8 AIR HANDLING UNIT DETAIL
M501 N.T.S.



9 SF-9 AIR HANDLING UNIT DETAIL
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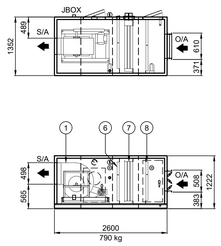

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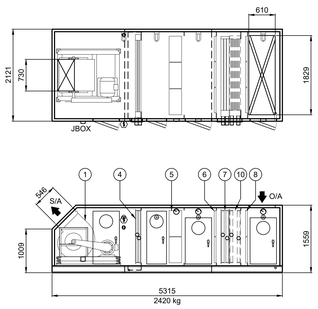

11 SF-15 AIR HANDLING UNIT DETAIL
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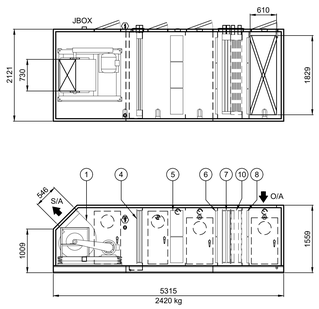

12 SF-16 AIR HANDLING UNIT DETAIL
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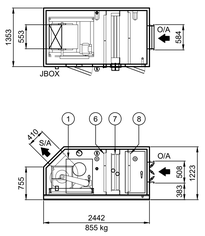

13 SF-17 AIR HANDLING UNIT DETAIL
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LETHBRIDGE, AB
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Drawing title / Titre du dessin
MECHANICAL DETAILS AIR HANDLING UNITS

Project no./No. du projet
Drawing no./No. du dessin: **M501** 25 OF 27
Revision no.: **0**

PWGSC – A0 – 1189X841
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M501

AIR HANDLING UNIT SCHEDULE

TAG No.	SERVICE	AIR FLOW		HEATING		COOLING		HUMIDIFIER		WIDTH (mm)	HEIGHT (mm)	LENGTH (mm)	REMARKS
		SUPPLY AIR (L/s)	RETURN AIR (L/s)	Y/N	TAG NO.	Y/N	TAG NO.	Y/N	TAG NO.				
SF-1	100& 300 WING (CONTAINMENT LEVEL 2 LAB FOR RESEARCH)	24540	0	Y	GC-1	Y	CC-1	Y	HUM-1	3994	3316	7633	
SF-2	ADMIN/CAFE/LIBRARY	5663	4814	Y	GC-2	Y	CC-2	Y	HUM-2	2597	1559	6061	
SF-3	200 WING (CONTAINMENT LEVEL 2 LAB FOR DIAGNOSTIC)	24540	0	Y	GC-3	Y	CC-3	Y	HUM-3	4147	3118	7074	
SF-4	400 WING (CONTAINMENT LEVEL 3 LAB ON RABIES ANTHRAX)	23596	0	Y	GC-4	Y	CC-4	Y	HUM-4	4096	3118	7353	
SF-5	ATRIUM	2832	2550	Y	GC-5	Y	CC-5	Y	HUM-5	1692	1795	4728	
SF-6	INTERSTITIAL/CRAWLSPACE	23596	0	Y	GC-6	Y	CC-6	Y	HUM-6	4172	3315	7182	
SF-7	MECHANICAL SPACE COMBUSTION AIR	7079	0	Y	GC-7	Y	CC-7	N		2737	1584	3981	
SF-8	SEWAGE TREATMENT ROOM	4295	0	Y	GC-8	Y	CC-8	N		2089	1330	3715	
SF-9	SMALL INCINERATOR ROOM	906	0	Y	GC-9	N		N		1276	1041	2848	
SF-10	LARGE INCINERATOR ROOM	1510	0	Y	GC-10	N		N		1353	1222	2600	
SF-15	500 WING (CONTAINMENT LEVEL 3 LAB)	5428	0	Y	GC-15	Y	CC-15	N		2121	1559	5328	
SF-16	500 WING (CONTAINMENT LEVEL 3 LAB)	5428	0	Y	GC-16	Y	CC-16	N		2121	1559	5328	
SF-17	500 WING MECHANICAL SPACE	1500	0	Y	GC-17	N		N		1353	1222	2505	

NOTE: REFER TO COIL SCHEDULE FOR COIL INFORMATION

FAN SCHEDULE

Tag No.	LOCATION	TYPE	AIR FLOW (L/s)	EXT. STATIC PRESS. (Pa)	MOTOR (kW)	RPM	ELECTRICAL (V/Ph/Hz)	MOUNTING ARR'GT	REMARKS
SF-1A	MECHANICAL ROOM	SWSI	12270	1170	37.29	1150	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-1A AND SF-1B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-1B	MECHANICAL ROOM	SWSI	12270	1170	37.29	1150	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-1A AND SF-1B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-2A	MECHANICAL ROOM	SWSI	2831	1185	11.19	3500	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-2A AND SF-2B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-2B	MECHANICAL ROOM	SWSI	2831	1185	11.19	3500	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-2A AND SF-2B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-3A	MECHANICAL ROOM	SWSI	12270	1354	44.74	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-3A AND SF-3B WITH MANUAL STARTER PROTECTION AND VFD BYPASS; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-3B	MECHANICAL ROOM	SWSI	12270	1354	44.74	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-3A AND SF-3B WITH MANUAL STARTER PROTECTION AND VFD BYPASS; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-4A	MECHANICAL ROOM	SWSI	11798	1599	44.74	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-4A AND SF-4B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-4B	MECHANICAL ROOM	SWSI	11798	1599	44.74	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-4A AND SF-4B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-5A	ADMIN. BLDG. LOFT	SWSI	1416	528	3.73	3500	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-5A AND SF-5B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-5B	ADMIN. BLDG. LOFT	SWSI	1416	528	3.73	3500	575/3/60	MOUNTED ON CONCRETE PAD	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-5A AND SF-5B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-6A	MECHANICAL ROOM	SWSI	23579	2022	111.86	1200	575/3/60	MOUNTED ON CONCRETE PAD	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE AND VARIABLE FREQUENCY DRIVE BYPASS; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-7A	MECHANICAL ROOM	SWSI	3539	234	3.00	1750	575/3/60	CEILING HUNG AT THE SIDES	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-7A AND SF-7B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE; CEILING HUNG SUPPORT BY MANUFACTURER.
SF-7B	MECHANICAL ROOM	SWSI	3539	234	3.00	1750	575/3/60	CEILING HUNG AT THE SIDES	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-7A AND SF-7B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE; CEILING HUNG SUPPORT BY MANUFACTURER.
SF-8A	HIGH HAZARD BLOCK BASEMENT	SWSI	2147	528	5.59	1750	575/3/60	CEILING HUNG AT THE SIDES	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-8A AND SF-8B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE; CEILING HUNG SUPPORT BY MANUFACTURER.
SF-8B	HIGH HAZARD BLOCK BASEMENT	SWSI	2147	528	5.59	1750	575/3/60	CEILING HUNG AT THE SIDES	C/W SINGLE UNIT MOUNTED VARIABLE FREQUENCY DRIVE TO SERVE SF-8A AND SF-8B WITH MANUAL STARTER PROTECTION; PROVISION FOR BUILT-IN INERTIAL BASE; CEILING HUNG SUPPORT BY MANUFACTURER.
SF-9	HIGH HAZARD BLOCK, ROOM 456	SWSI	906	141	2.24	1750	575/3/60	CEILING HUNG AT THE SIDES	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE; PROVISION FOR BUILT-IN INERTIAL BASE; CEILING HUNG SUPPORT BY MANUFACTURER.
SF-10	HIGH HAZARD BLOCK BASEMENT	SWSI	1510	117	1.12	1750	575/3/60	CEILING HUNG AT THE SIDES	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE; PROVISION FOR BUILT-IN INERTIAL BASE; CEILING HUNG SUPPORT BY MANUFACTURER.
SF-15	500 WING MECHANICAL SPACE	DWDI	5428	1018	14.91	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-16	500 WING MECHANICAL SPACE	DWDI	5428	1018	14.91	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE; PROVISION FOR BUILT-IN INERTIAL BASE.
SF-17	500 WING MECHANICAL SPACE	DWDI	1500	82	1.12	1750	575/3/60	MOUNTED ON CONCRETE PAD	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE; PROVISION FOR BUILT-IN INERTIAL BASE.
RF-1	MECHANICAL ROOM LOFT	AXIAL BELT DRIVE	4814	374	5.00	1725	575/3/60	DUCT MOUNTED	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE.
RF-101	ADMIN. BLDG. LOFT	SWSI	1890	436	2.00	1725	575/3/60	MOUNTED ON CONCRETE PAD	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE.
RF-102	ADMIN. BLDG. LOFT	SWSI	661	374	1.00	1725	575/3/60	MOUNTED ON CONCRETE PAD	C/W UNIT MOUNTED VARIABLE FREQUENCY DRIVE.

HEATING COIL SCHEDULE

TAG No.	SERVICE	AIR				FLUID					HEATING	COIL CONSTRUCTION			REMARKS
		ENT. AIR DB (°C)	LVG AIR DB (°C)	AIRFLOW (L/s)	MAX APD (Pa)	TYPE	EWT (°C)	LWT (°C)	FLOW (L/s)	WPD (kPa)	CAPACITY (kW)	WIDTH (mm)	HEIGHT (mm)	COILS IN BANK	
GC-1	SF-1	-34.4	20.0	24540	41.51	50% PROPYLENE GLYCOL	87.8	67.3	20.25	24.54	1567	3531	914	3	
GC-2	SF-2	-34.4	12.8	5663	24.16	50% PROPYLENE GLYCOL	87.8	71.3	5.13	18.09	320	2210	1219	1	
GC-3	SF-3	-34.4	18.9	24540	47.49	50% PROPYLENE GLYCOL	87.8	69.2	22.25	34.34	1567	3683	1219	2	
GC-4	SF-4	-34.4	19.3	23596	45.40	50% PROPYLENE GLYCOL	87.8	68.5	20.70	29.89	1507	3632	1219	1	
GC-5	SF-5	-34.4	18.6	2832	19.18	50% PROPYLENE GLYCOL	87.8	70.5	2.77	4.80	181	1321	1219	2	
GC-6	SF-6	-34.4	18.8	23596	43.76	50% PROPYLENE GLYCOL	87.8	67.7	19.90	28.18	1508	3708	1219	1	
GC-7	SF-7	-34.4	18.3	7079	44.53	50% PROPYLENE GLYCOL	87.8	72.1	7.60	16.95	452	2286	1219	1	
GC-8	SF-8	-34.4	18.3	4295	43.83	50% PROPYLENE GLYCOL	87.8	68.2	3.70	25.05	274	1600	1066	1	
GC-9	SF-9	-34.4	18.4	906	13.74	50% PROPYLENE GLYCOL	87.8	69.1	0.82	22.78	57	1016	685	1	
GC-10	SF-10	-34.4	18.3	1510	18.70	50% PROPYLENE GLYCOL	87.8	67.1	1.23	18.22	96	991	914	1	
GC-15	SF-15	-34.4	23.9	5428	62.76	50% PROPYLENE GLYCOL	87.8	72.2	6.50	11.35	383	1651	1219	1	
GC-16	SF-16	-34.4	23.9	5428	62.76	50% PROPYLENE GLYCOL	87.8	72.2	6.50	11.35	383	1651	1219	1	
GC-17	SF-17	-34.4	18.3	1500	21.03	50% PROPYLENE GLYCOL	87.8	71.5	1.55	25.98	95	965	914	3	

HUMIDIFIER SCHEDULE

TAG No.	SERVICE	LOCATION	AIR VOLUME (L/s)	PIPING CONNECTIONS			DISPERSION METHOD	MAXIMUM ABSORPTION DISTANCE (mm)	DUCT DIMENSIONS (mm x mm)	OUTSIDE AIR		SUPPLY AIR		REMARKS
				STEAM CONTROL VALVE										
				OPERATOR	INLET PRESS (kPaG)	CAPACITY (kg/hr)				MINIMUM TEMP. (°C)	MINIMUM R.H. (%)	TEMP. (°C)	RELATIVE HUMIDITY (%)	
HUM-1	100 & 300 WING (CONTAINMENT LEVEL 2 LAB FOR RESEARCH)	MECHANICAL ROOM	24539	GLOBE VALVE	85	385	MULTI STEAM (11) H	211	3530 x 2740	-34	100	18	20	C/W DUCT MOUNT HIGH LIMIT HUMIDISTAT, BRASS STEAM CONTROL GLOBE VALVE, DRAIN COOLER, AND AIR PRESSURE SWITCH
HUM-2	ADMIN/CAFE/LIBRARY	MECHANICAL ROOM	5662	GLOBE VALVE	85	85	MULTI STEAM (6) H	515	2210 x 1219	-34	100	18	20	C/W DUCT MOUNT HIGH LIMIT HUMIDISTAT, BRASS STEAM CONTROL GLOBE VALVE, DRAIN COOLER, AND AIR PRESSURE SWITCH
HUM-3	200 WING (CONTAINMENT LEVEL 2 LAB FOR DIAGNOSTIC)	MECHANICAL ROOM	24539	GLOBE VALVE	85	385	MULTI STEAM (11) H	211	3683 x 2438	-34	100	18	20	C/W DUCT MOUNT HIGH LIMIT HUMIDISTAT, BRASS STEAM CONTROL GLOBE VALVE, DRAIN COOLER, AND AIR PRESSURE SWITCH
HUM-4	400 WING (CONTAINMENT LEVEL 3 LAB ON RABIES ANTHRAX)	MECHANICAL ROOM	23598	GLOBE VALVE	85	385	MULTI STEAM (11) H	211	2900 x 2438	-34	100	18	20	C/W DUCT MOUNT HIGH LIMIT HUMIDISTAT, BRASS STEAM CONTROL GLOBE VALVE, DRAIN COOLER, AND AIR PRESSURE SWITCH
HUM-5	ATRIUM	MECHANICAL ROOM	2832	GLOBE VALVE	85	115	MULTI STEAM (10) H	600	1575 x 1473	-34	100	18	20	C/W DUCT MOUNT HIGH LIMIT HUMIDISTAT, BRASS STEAM CONTROL GLOBE VALVE, DRAIN COOLER, AND AIR PRESSURE SWITCH
HUM-6	INTERSTITIAL / CRAWLSPACE	MECHANICAL ROOM	23595	GLOBE VALVE	85	385	MULTI STEAM (11) H	281	3700 x 2500	-34	100	18	20	C/W DUCT MOUNT HIGH LIMIT HUMIDISTAT, BRASS STEAM CONTROL GLOBE VALVE, DRAIN COOLER, AND AIR PRESSURE SWITCH

COOLING COIL SCHEDULE

TAG No.	SERVICE	AIR						FLUID					COOLING		COIL CONSTRUCTION			REMARKS
		ENT. AIR DB (°C)	ENT. AIR WB (°C)	LVG AIR DB (°C)	LVG AIR WB (°C)	AIRFLOW (L/s)	MAX APD (Pa)	TYPE	EWT (°C)	LWT (°C)	FLOW (L/s)	WPD (kPa)	TOTAL CAPACITY (kW)	SENSIBLE CAPACITY (kW)	WIDTH (mm)	HEIGHT (mm)	COILS IN BANK	
CC-1	SF-1	31.1	17.8	10.0	9.6	24540	179.38	CHILLED WATER	6.70	12.30	28.31	55.33	670.60	628.00	3531	914	3	
CC-2	SF-2	26.0	17.3	10.0	9.7	5663	140.99	CHILLED WATER	6.70	12.30	6.14	56.10	143.10	110.50	2210	1219	1	
CC-3	SF-3	31.1	17.8	10.3	9.7	24540	192.89	CHILLED WATER	6.70	12.30	28.31	57.81	665.70	624.90	3683	838	3	
CC-4	SF-4	31.1	17.8	10.2	9.7	23596	185.16	CHILLED WATER	6.70	12.30	27.22	53.41	642.50	601.50	3632	838	3	
CC-5	SF-5	31.1	17.8	10.1	9.5	2832	71.21	CHILLED WATER	6.70	12.40	3.27	28.29	78.30	72.60	1321	1219	1	
CC-6	SF-6	31.1	17.8	10.2	9.6	23596	179.05	CHILLED WATER	6.70	12.30	27.22	54.11	644.80	603.80	3708	838	3	
CC-7	SF-7	31.1	17.8	20.6	13.9	7079	44.53	CHILLED WATER	6.70	10.30	6.33	10.93	95.60	91.30	2286	1219	1	
CC-8	SF-8	31.1	17.8	21.1	14.2	4295	39.74	CHILLED WATER	6.70	12.40	2.28	48.66	54.50	52.30	1600	1066	1	
CC-15	SF-15	31.1	17.8	21.1	14.2	5428	53.78	CHILLED WATER	6.70	12.60	2.88	11.97	71.40	68.20	1651	1219	1	
CC-16	SF-16	31.1	17.8	20.8	14.0	5428	53.78	CHILLED WATER	6.70	12.60	2.88	11.97	71.40	68.20	1651	1219	1	

PUMP SCHEDULE

TAG No.	SERVICE	LOCATION	TYPE	FLUID	FLOW (L/s)	HEAD (kPag)	MOTOR (kW)	RPM	ELECTRICAL	EFFICIENCY (%)	REMARKS
P-5	AIR HANDLING UNIT SF-1, GLYCOL COIL	MECHANICAL ROOM	VERTICAL INLINE	50% PROPYLENE GLYCOL	20.25	65.76	3.73	1760	575/3/60	76	
P-7	AIR HANDLING UNIT SF-2, GLYCOL COIL	MECHANICAL ROOM	VERTICAL INLINE	50% PROPYLENE GLYCOL	5.13	59.78	1.12	1760	575/3/60	72	
P-3	AIR HANDLING UNIT SF-3, GLYCOL COIL	MECHANICAL ROOM	VERTICAL INLINE	50% PROPYLENE GLYCOL	22.25	77.72	3.73	1760	575/3/60	78	
P-4	AIR HANDLING UNIT SF-4, GLYCOL COIL	MECHANICAL ROOM	VERTICAL INLINE	50% PROPYLENE GLYCOL	20.70	71.74	3.73	1760	575/3/60	78	
P-52	AIR HANDLING UNIT SF-5, GLYCOL COIL	ADMIN BLDG. LOFT	CLOSE COUPLED INLINE	50% PROPYLENE GLYCOL	2.77	41.85	0.37	1760	120/1/60	55	
P-6	AIR HANDLING UNIT SF-6, GLYCOL COIL	MECHANICAL ROOM	VERTICAL INLINE	50% PROPYLENE GLYCOL	19.90	71.74	3.73	1760	575/3/60	78	
P-8	AIR HANDLING UNIT SF-7, GLYCOL COIL	MECHANICAL ROOM	VERTICAL INLINE	50% PROPYLENE GLYCOL	7.60	56.79	0.75	1760	575/3/60	77	
P-53	AIR HANDLING UNIT SF-8, GLYCOL COIL	HIGH HAZARD BLOCK BASEMENT	CLOSE COUPLED INLINE	50% PROPYLENE GLYCOL	3.70	65.76	0.56	1750	575/3/60	60	
P-44	AIR HANDLING UNIT SF-9, GLYCOL COIL	HIGH HAZARD BLOCK ROOM 456	CIRCULATOR	50% PROPYLENE GLYCOL	0.82	74.73	0.33	-	120/1/60	-	
P-54	AIR HANDLING UNIT SF-10, GLYCOL COIL	HIGH HAZARD BLOCK BASEMENT	CIRCULATOR	50% PROPYLENE GLYCOL	1.23	56.79	0.17	-	120/1/60	-	
P-75	AIR HANDLING UNIT SF-15, GLYCOL COIL	500 WING MECHANICAL SPACE	VERTICAL INLINE	50% PROPYLENE GLYCOL	6.50	65.76	0.75	1760	208/3/60	76	
P-76	AIR HANDLING UNIT SF-16, GLYCOL COIL	500 WING MECHANICAL SPACE	VERTICAL INLINE	50% PROPYLENE GLYCOL	6.50	74.73	0.75	1760	208/3/60	76	
P-77	AIR HANDLING UNIT SF-17, GLYCOL COIL	500 WING MECHANICAL SPACE	CIRCULATOR	50% PROPYLENE GLYCOL	1.55	56.79	0.33	-	120/1/60	-	
P-21	CHILLED WATER PUMP	MECHANICAL ROOM	VERTICAL INLINE	CHILLED WATER	101.83	170.38	22.37	1760	575/3/60	81	C/W UNIT MOUNTED VFD.
P-22	CHILLED WATER PUMP	MECHANICAL ROOM	VERTICAL INLINE	CHILLED WATER	101.83	170.38	22.37	1760	575/3/60	81	C/W UNIT MOUNTED VFD.
P-85	AIR HANDLING UNIT SF-15, COOLING COIL	500 WING MECHANICAL SPACE	VERTICAL INLINE	CHILLED WATER	2.78	53.80	0.75	1160	208/3/60	69	
P-86	AIR HANDLING UNIT SF-16, COOLING COIL	500 WING MECHANICAL SPACE	VERTICAL INLINE	CHILLED WATER	2.78	53.80	0.75	1160	208/3/60	69	
P-100	BOILER FEED PUMP	MECHANICAL ROOM	VERTICAL INLINE	RO WATER	1.09	103.72	0.75	1725	208/3/60	-	TO BE SUPPLIED WITH BOILER FEED SYSTEM BFS-1.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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PROFESSIONAL ENGINEER PROVINCE OF ALBERTA
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The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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0	ISSUED FOR TENDER	2020.07.07

Client / client
Public Services and Procurement Canada

Project / Projet
LETHBRIDGE, AB
TOWNSHIP ROAD 9-1, T1J 3Z4

NATIONAL CENTRE FOR ANIMAL DISEASES AHU REPLACEMENT

Designed by / Conçu par: **JC**
Drawn by / Dessiné par: **EJ**
Approved by / Approuvé par: **MB**
PWGSC Project Manager / Administrateur de Projets TPSGC

Drawing title / Titre du dessin
MECHANICAL SCHEDULES

Project no./No. du projet
Drawing no./No. du dessin: **M600**
26 OF 27
Revision no.: **0**

PWGSC – A0 – 1189X841

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M600

BOILER SCHEDULE

TAG No.	SERVICE	TYPE	FUEL	INPUT (kW)	STEAM OUTPUT (kg/hr)	STEAM SUPPLY NOZZLE (kPa)	WIDTH (mm)	LENGTH (mm)	HEIGHT (mm)	REMARKS
B-5	STEAM HUMIDIFICATION	FLEXIBLE WATER TUBE	NATURAL GAS	1319	1684	103	1397	3893	2661	C/W NATURAL GAS LOW NOS BURNER; STAINLESS STEEL CHEMICAL FEED QUILL; INSULATED TANK JACKET.

REVERSE OSMOSIS SCHEDULE

TAG No.	MAXIMUM PRODUCTION (L/day)	RECOVERY (%)	NUMBER OF MEMBRANES	ELECTRICAL		REMARKS
				PUMP (kW)	V/Ph/Hz	
RO-1	45425	75	6	2.2	208/1/60	

TANK SCHEDULE

TAG No.	SERVICE	FLUID	WORKING PRESSURE (kPa)	MAX PRESSURE (kPa)	DIAMETER (MM)	TANK HEIGHT (MM)	STAND HEIGHT (MM)	REMARKS
TK-41	BOILER BLOWDOWN SEPARATOR	WATER	103	276	406	762	762	C/W STAND AND AFTERCOOLER.

BOILER FEED SYSTEM SCHEDULE

TAG No.	SERVICE	FLUID	CAPACITY (L)	MAX PRESSURE (kPa)	LENGTH (MM)	WIDTH (MM)	HEIGHT (MM)	REMARKS
BFS-1	BOILER B-5 FEED WATER	WATER	492	276	870	1220	1750	C/W BOILER FEED PUMP (BOILER FEED PUMP P-100); STEAM PREHEATER.

GRILLE SCHEDULE

TAG No.	MANUFACTURE	MODEL	DESCRIPTION
S-1	E.H. PRICE	620	E.H. PRICE MODEL LOUVER FACED GRILLE TO BE SUITABLE FOR SURFACE MOUNTING. REGISTER SHALLL BE DOUBLE DEFLECTION TYPE WITH ADJUSTABLE BLADES AND 3/4 INCH SPACING. REFER TO DRAWINGS FOR SIZES AND CAPACITIES.

MOTORIZED DAMPER

TAG No.	DUCT SIZE (mm)	PRESSURE DROP (Pa)	FACE VELOCITY (m/s)	REMARKS
MD-1	1400	49.70	12.77	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-2	1270	109	19.37	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-3	1270	69.67	19.37	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-4	1400	69.67	15.44	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-5	1000	14.9	6.99	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-6	900x900	17.4	6.99	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-7	1500	50.0	11.66	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-8	1400x1400	25.0	13.45	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-9	1500	34.8	11.12	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-10	1400	49.768	12.77	HEAVY DUTY AIRFOIL CONTROL DAMPER.
MD-11	1400	59.7	12.77	HEAVY DUTY AIRFOIL CONTROL DAMPER.

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	M601	0

27 OF 27

PWGSC – A0 – 1189X841

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