

Parcs
Canada

NEW HVAC SYSTEM ADMINISTRATION BUILDING TERRA NOVA NATIONAL PARK, NL

PROJECT NO. 2016-05

DRAWING LIST

ARCHITECTURAL:

- A-1.01 – EXISTING FLOOR PLAN AND CRAWL SPACE – DEMOLITION
- A-1.02 – EXISTING FLOOR PLAN AND CRAWL SPACE – NEW CONSTRUCTION

MECHANICAL:

- MD-1 FLOOR PLAN – DEMOLITION LAYOUT
- MV-1 FLOOR PLAN – VENTILATION LAYOUT
- MV-2 VENTILATION SCHEDULES
- MV-3 VENTILATION DETAILS

ELECTRICAL:

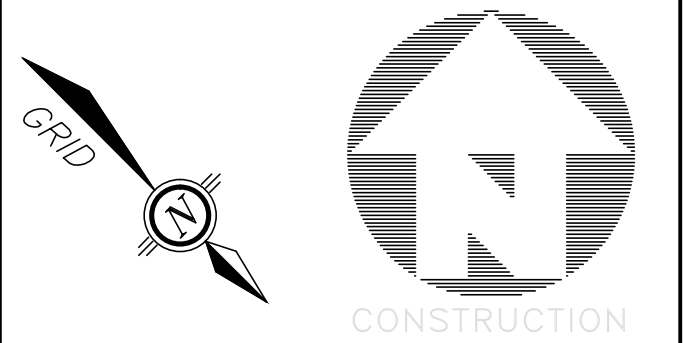
- E1 – DEMOLITION – FLOOR PLAN AND CRAWL SPACE
- E2 – CRAWL SPACE AND FLOOR PLAN LAYOUTS
- E3 – ELECTRICAL SERVICE DETAIL AND PANEL SCHEDULE
- E4 – PANEL, ELECTRIC HEATER SCHEDULE AND SINGLE LINE DIAGRAM

Canada

Architects Architects

Consultants Ingenieurs Conseils

NOTES:
1. CONTRACTOR IS TO CONFIRM ALL EXISTING CONDITIONS AND DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE OWNER PRIOR TO COMMENCEMENT OF ANY WORK.
2. ALL EXISTING STRUCTURE DAMAGED / DISTURBED DURING DEMOLITION / CONSTRUCTION TO BE REPAIRED TO THE SATISFACTION OF PCA.



PROVINCE OF Nfld.
PERMIT HOLDER
CLASS "A"
This Permit Allows
68925 Newfoundland & Labrador
Corp
as DMG
To practice Professional
Engineering in this
Province
N0588 2018
Permit No. Year
REGINALD HEDGES
REGISTERED PROFESSIONAL ENGINEER
SIGNATURE
2018.11.19
DATE
PROV. NO. OF NEWFOUNDLAND

A	ISSUED FOR TENDER	2018/11/19
revisions		date

project projet
NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA
NATIONAL PARK, NL

drawing dessin
EXISTING FLOOR PLAN
& CRAWL SPACE
DEMOLITION

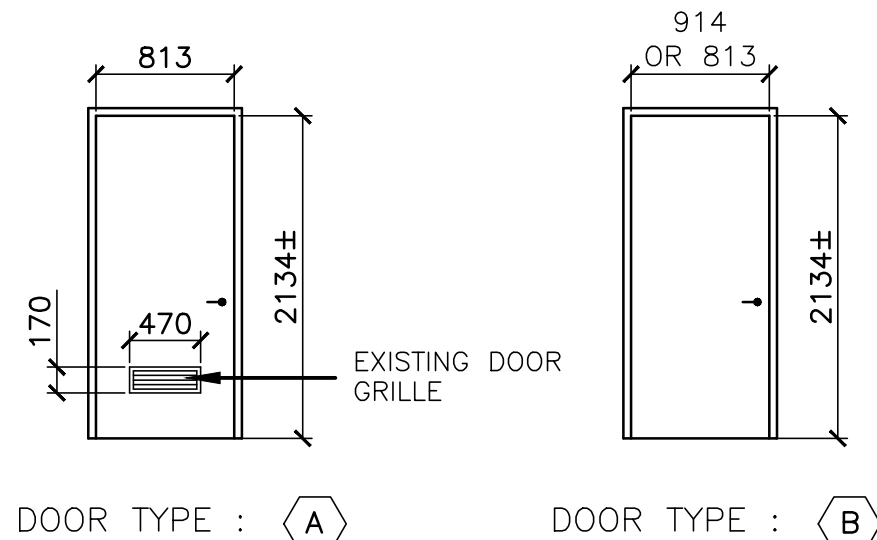
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approved approuvé	
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PWGSC Project Manager Administrateur de projets TPWSC
project number no. du projet

EDMR NUMBER NO. EDMR

drawing no. no. du dessin
A- 1.01

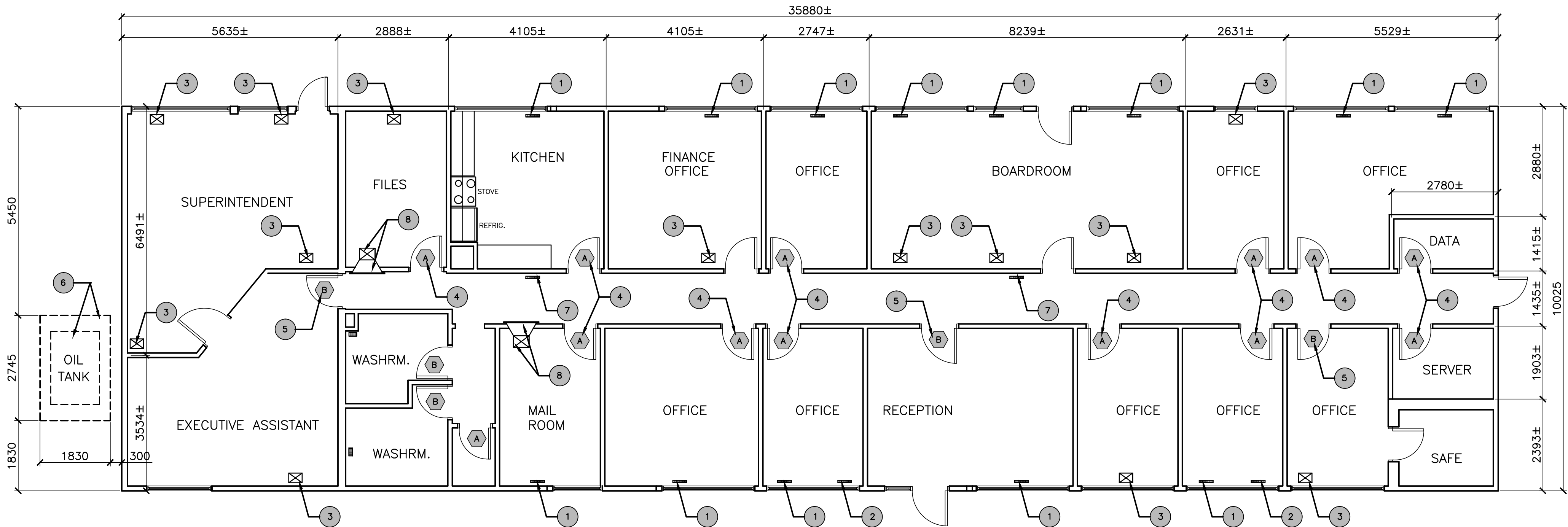
LEGEND



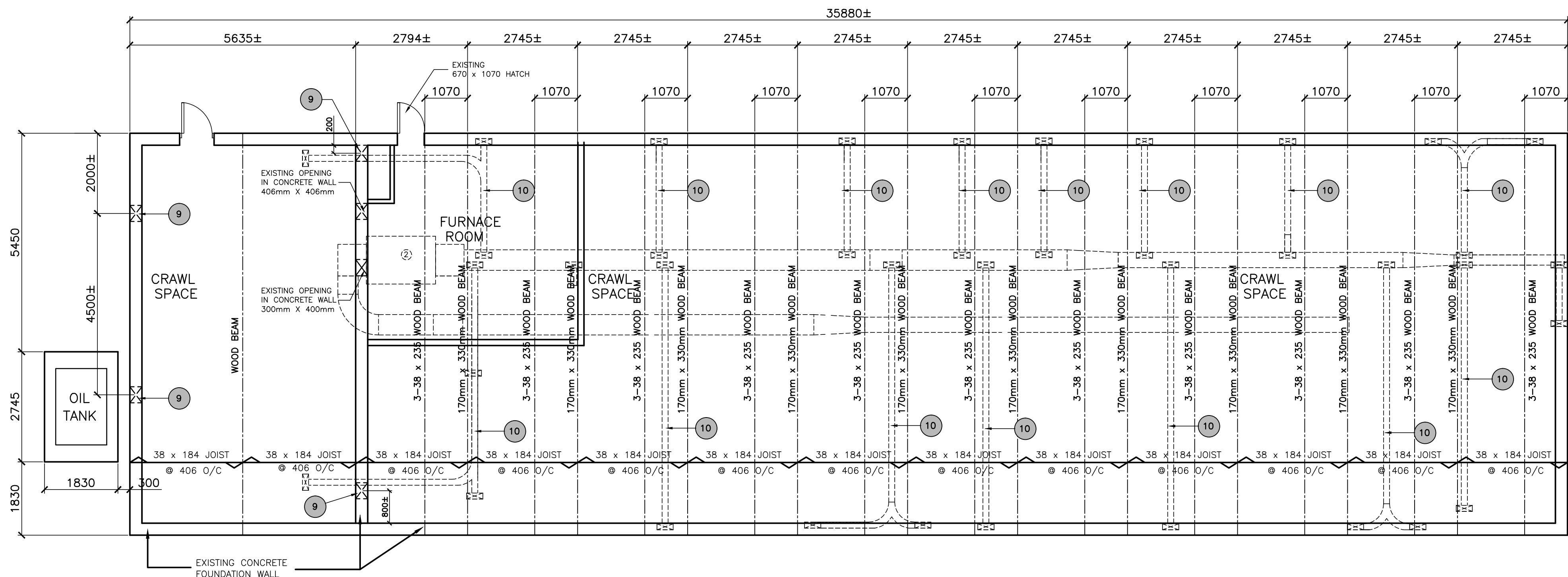
- 64mm x 360 MECHANICAL GRILLE
- 100mm x 200 MECHANICAL GRILLE

DEMOLITION INCLUDE THIS CONTRACT

- REMOVE EXISTING MECHANICAL GRILLE, EXSITING FINISH FLOORING AS REQUIRED AND ENLARGE EXISTING 350mm x 50mm OPENING. SEE MECHANICAL DRAWINGS FOR NEW OPENING SIZE. REINSTATE FINISH FLOOR ONCE OPENING IS ENLARGED. DO NOT CUT OR NOTCH EXISTING WOOD JOIST.
EXISTING FLOOR TILE IN MAIL ROOM TEST POSITIVE FOR ASBESTOS. SEE HAZMAT REPORT APPENDIX A IN SPEC. REMOVE ASBESTOS TILE AS REQUIRED TO ENLARGE 350mm x 50mm OPENING. SEE MECHANICAL DRAWING FOR NEW OPENING SIZE. REMOVAL OF ASBESTOS FLOOR TILE TO BE DONE BY COMPANY CERTIFIED TO DO SO AND THE ABATEMENT COST TO BE INCLUDE IN THIS TENDER.
- REMOVE EXISTING MECHANICAL GRILLE, AND REPAIR EXSITING OPENING 350mm x 50mm WITH 19mm PLYWOOD. SUPPORT EXISTING AND NEW PLYWOOD EDGE WITH NEW WOOD BLOCKING 38 x 184. REPAIR FLOOR TO MATCH EXISTING
- REMOVE EXISTING FINISH FLOORING AS REQUIRED TO CUT OPENING IN EXISTING PLYWOOD SUBFLOOR. SEE MECHANICAL DRAWINGS FOR SIZE OF OPENING. REINSTATE FINISH FLOOR ONCE OPENINGS HAS BEEN CUT. SAVE FINISH FLOOR FOR REINSTATMENT OF FINISH FLOOR NOTE 2. DO NOT CUT OR NOTCH EXISTING WOOD JOIST.
- REMOVE EXISTING DOOR AND EXISTING DOOR MECHANICAL GRILLE. ENLARGE EXISTING OPENING IN DOOR TO ACCOMMODATE NEW DOOR GRILLE DG-1 (MANUF. E.H. PRICE MODEL NO. STG-BF-BIS). INSTALL WOOD BLOCKING ALL AROUND EDGE OF NEW OPENING WITH WOOD TO SUIT. OPENING SIZE AS PER MECHANICAL DRAWINGS. REINSTATE DOOR ONCE COMPLETED.
- REMOVE EXISTING DOOR. CUT NEW OPENING IN DOOR TO ACCOMODATE NEW DOOR GRILLE DG-1 (MANUF. E.H. PRICE MODEL NO. STG-BF-BIS). INSTALL WOOD BLOCKING ALL AROUND EDGE OF NEW OPENING WITH WOOD TO SUIT. OPENING SIZE AS PER MECHANICAL DRAWINGS. REINSTATE DOOR ONCE COMPLETED.
- REMOVE EXISTING DOUBLE WALLED FUEL TANK AND ALL ASSOCIATED EQUIPMENT. SEE MECHANICAL DRAWINGS FOR FURTHER DETAILS. REMOVE EXISTING CONCRETE SLAB AND DISPOSE ALL DEBRIS AS PER CONSTRUCTION WASTE MANAGEMENT SPEC SECTION. INSTALL NEW 200mm TOPSOIL AND NEW SOD. TIE INTO EXISTING LAWN.
- REMOVE EXISTING MECHANICAL GRILLE, AND REPAIR EXSITING OPENING 350mm x 50mm WITH 19mm PLYWOOD. SUPPORT EXISTING AND NEW PLYWOOD EDGE WITH NEW WOOD BLOCKING 38 x 184. REPAIR FLOOR TO MATCH EXISTING
- REMOVE EXISTING FINISH FLOORING AS REQUIRED TO INSTALL NEW MECHANICAL CHASE AND NEW OPENING IN EXISTING PLYWOOD SUB FLOOR TO ACCOMMODATE NEW MECHANICAL FLOOR DUCT SEE MECHANICAL FOR SIZE. EXACT LOCATION TO BE DETERMINE ON SITE. ALSO CUT OPENING INTO EXISTING WALL TO ACCOMMODATE NEW MECHANICAL GRILLE RA-1 OPENING SIZE AS PER MECHANICAL DRAWINGS. EXISTING FLOOR TILE IN MAIL ROOM TEST POSITIVE FOR ASBESTOS. SEE HAZMAT REPORT APPENDIX A IN SPEC. REMOVE ASBESTOS TILE AS REQUIRED TO INSTALL NEW CHASE. REMOVAL OF ASBESTOS FLOOR TILE TO BE DONE BY COMPANY CERTIFIED TO DO SO AND THE ABATEMENT COST TO BE INCLUDE IN THIS TENDER.
- CUT NEW OPENING INTO EXISTING 300mm CONCRETE FOUNDATION WALL TO ACCOMMODATE NEW MECHANICAL DUCT. CO-ORDINATE SIZE OF OPENING AND LOCATION WITH MECHANICAL DRAWINGS. BEFORE CUTTING NEW OPENINGS CONTRACTOR TO GET APPROVAL BY STRUCTURAL ENGINEER. CONTRACTOR TO DISPOSE OF ALL DEBRIS AS PER CONSTRUCTION WASTE MANAGEMENT SPEC SECTION.
- INSULATION WRAP ON EXISTING MECHANICAL DUCTWORK NOTED TO BE REMOVED TESTED POSITIVE FOR ASBESTOS. SEE HAZMAT REPORT APPENDIX A IN SPECIFICATION. CONTRACTOR TO HAVE ASBESTOS ABATED PRIOR TO REMOVAL OF ANY MECHANICAL DUCTWORK. ABATMENT TO BE DONE BY CONTRACTOR QUALIFIED TO DO SO AND AS PER SPEC SECTION 02 82 00.02 ASBESTOS ABATEMENT. SEE MECHANICAL FOR REMOVAL OF DUCTWORK

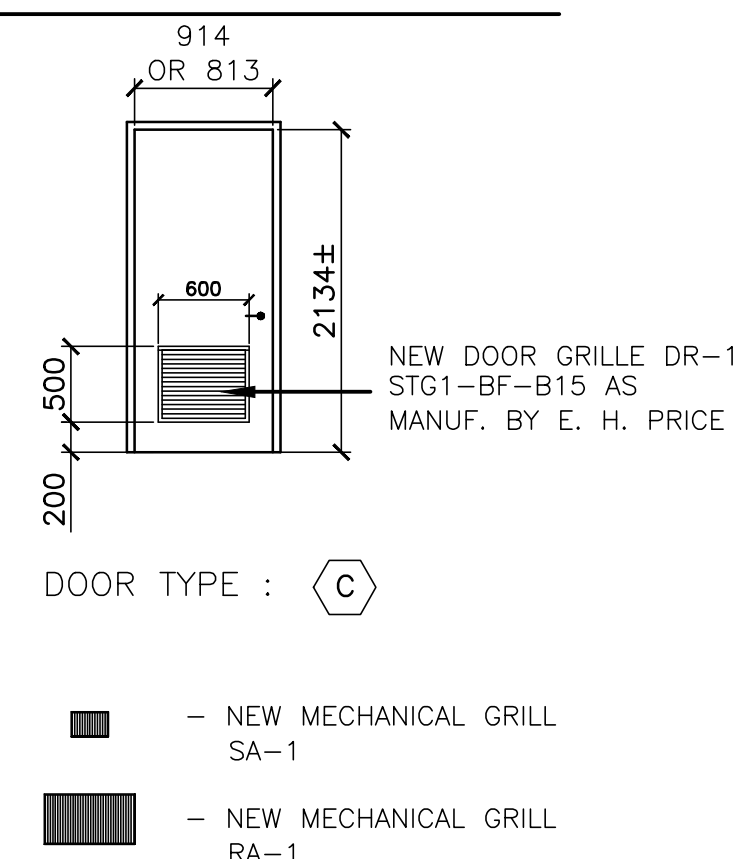


EXISTING FLOOR PLAN - DEMOLITION
SCALE: 1:75



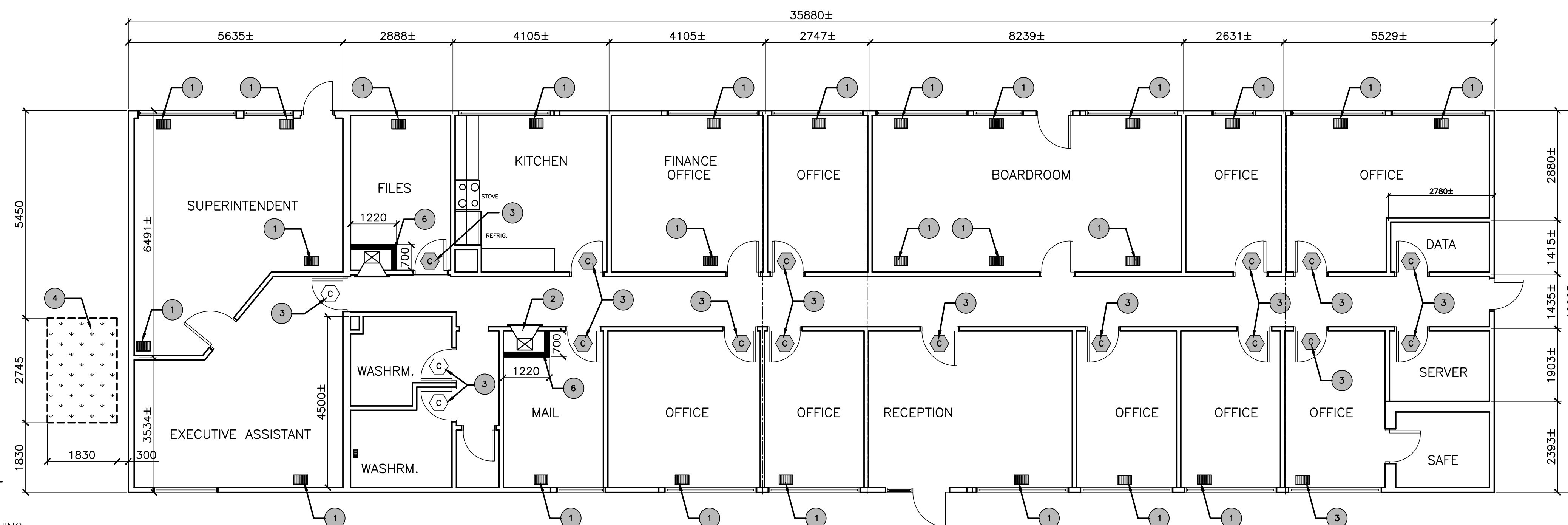
EXISTING CRAWL SPACE - DEMOLITION
SCALE: 1:75

LEGEND



NEW CONSTRUCTION
INCLUDE THIS CONTRACT

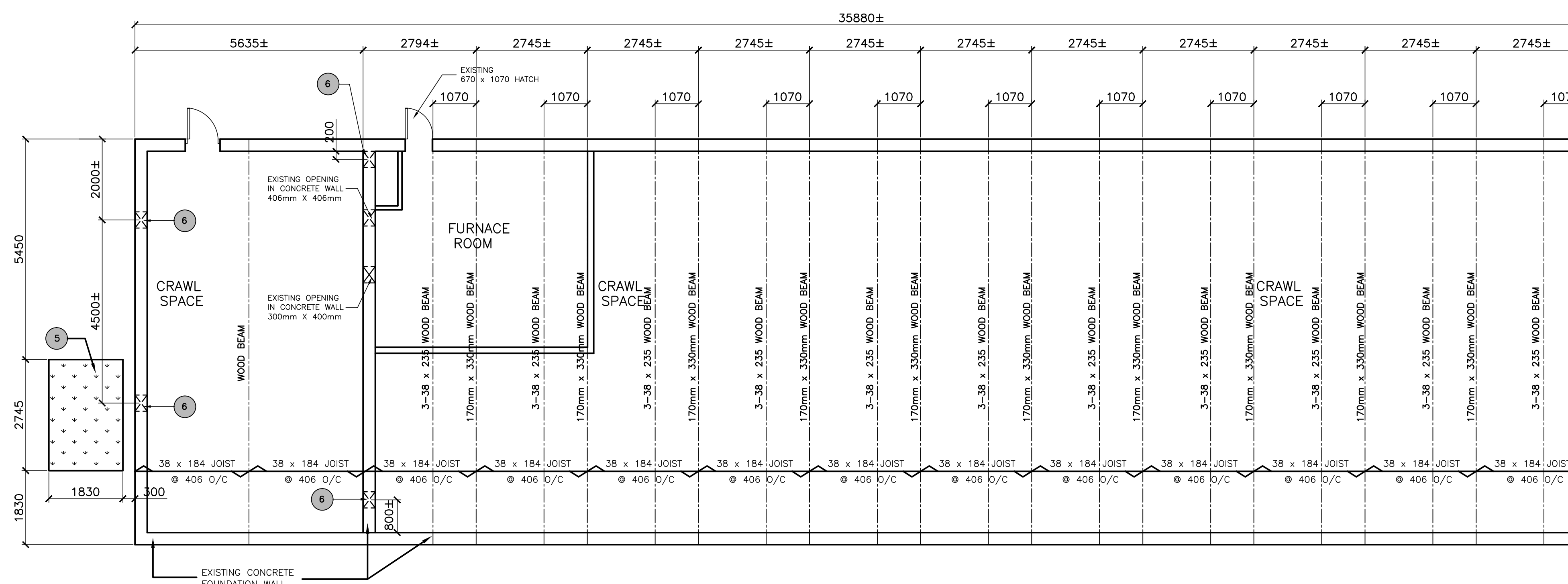
1. INSTALL NEW MECHANICAL GRILLE SA-1 INTO NEW OPENING CUT INTO EXISTING FLOOR, NEW OPENING SIZE AS PER MECHANICAL DRAWINGS. CO-ORDINATE WITH MECHANICAL. INSTALL FIRE DAMPERS ON ALL FLOOR PENETRATIONS.
2. INSTALL NEW MECHANICAL GRILLE RA-1 INTO NEW OPENING CUT INTO EXISTING WALL, NEW OPENING SIZE AS PER MECHANICAL DRAWINGS. CO-ORDINATE WITH MECHANICAL.
3. INSTALL NEW MECHANICAL GRILLE DG-1 (MANUF. BY E.H. PRICE MODEL NO. STG1-BF-B15) INTO NEW OPENING CUT INTO EXISTING DOOR AS REQUIRED BY MECHANICAL GRILLE SUPPLIER REQUIREMENTS. CO-ORDINATE WITH MECHANICAL.
4. INSTALL NEW 200mm TOPSOIL AND NEW SOD IN AREA WHERE EXISTING CONCRETE SLAB WAS REMOVED. TIE NEW SOD INTO EXISTING FLOOR.
5. NEW OPENING IN EXISTING CONCRETE FOUNDATION WALL TO ALLOW INSTALLATION OF NEW MECHANICAL DUCT. SIZE OF OPENING TO SUIT NEW MECHANICAL DUCT. CO-ORDINATE WITH MECHANICAL.
6. INSTALL 1 HR. FIRE RATED CHASE AROUND MECHANICAL RETURN DUCT. HEIGHT OF CHASE TO BE 900mm FROM FINISH FLOOR. CONSTRUCT WALLS AND TOP OF CHASE WITH 38 x 89 WOOD FRAMING @ 305 O/C AND 16mm TYPE X FIRE RATED GYPSUM BOARD BOTH SIDES. PLASTER AND PAINT ONE COAT PRIMER AND TWO FINISH COATS. TIE NEW TO EXISTING AND MATCH EXISTING ADJACENT PAINT COLOR. INSTALL NEW BASE BOARD TRIM TO MATCH EXISTING.



EXISTING FLOOR PLA NEW CONSTRUCTION

SCALE: 1:75

0m 1m 2m 3m 4m 5m



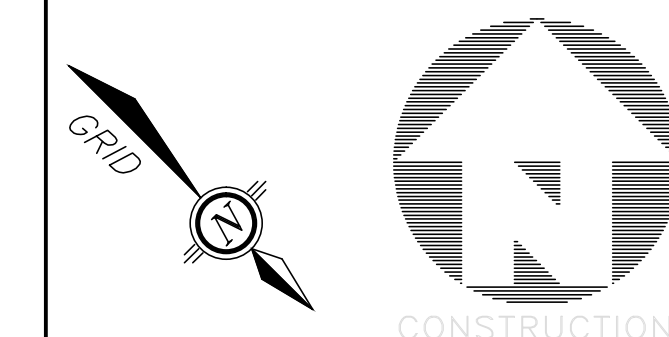
EXISTING CRAWL SPACE NEW CONSTRUCTION

SCALE: 1:75

0m 1m 2m 3m 4m 5m

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68925 Newfoundland & Labrador
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as DMG
To practice Professional
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Province
N0588 2018

REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF NEWFOUNDLAND
REGINALD HEDGECOCK
SIGNATURE
2018.11.19
DATE

A	ISSUED FOR TENDER	2018/11/
revisions		date

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NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA
NATIONAL PARK, NL

drawing

EXISTING FLOOR PLAN
& CRAWL SPACE
NEW CONSTRUCTION

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2017/3/21

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2017/3/21

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Tender	Seamless

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PWGSC Project Manager	Administrateur de projets TP
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A- 102

NEW HVAC SYSTEM ADMINISTRATION BUILDING

TERRA NOVA NATIONAL PARK, NL

ISSUED FOR TENDER
NOVEMBER 19, 2018

DRAWING LIST:

MD-1 FLOOR PLAN – DEMOLITION LAYOUT

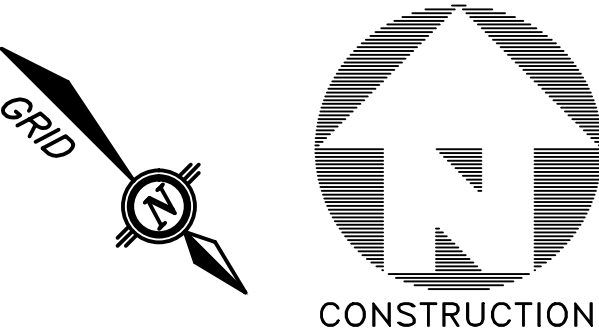
MV-1 FLOOR PLAN – VENTILATION LAYOUT

MV-2 VENTILATION SCHEDULES

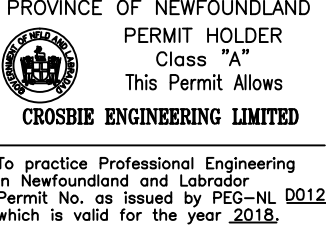
MV-3 VENTILATION DETAILS

MECHANICAL

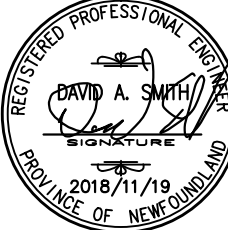
- NOTES:
- DO NOT SCALE FROM THIS DRAWING.
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Permit:Stamp:



PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
Class "A"
This Permit Allows
CROSBIE ENGINEERING LIMITED
To practice Professional Engineering
in Newfoundland and Labrador
Permit No. as issued by PEO-NL 00123
(which is valid for the year 2018)



REGISTERED PROFESSIONAL ENGINEER
DAVID A. SMITH
Engineer
2018/11/19
PROVINCE OF NEWFOUNDLAND

0	ISSUED FOR TENDER	2018/11/19
A	ISSUED FOR TENDER REVIEW	2017/11/14
revisions		date

projectproj

NEW HVAC SYSTEM
ADMINISTRATION BLDG.

TERRA NOVA
NATIONAL PARK, NL

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FLOOR PLAN – DEMOLITION
LAYOUT

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dateD.S.

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approvedapprouvé

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TenderSoumission

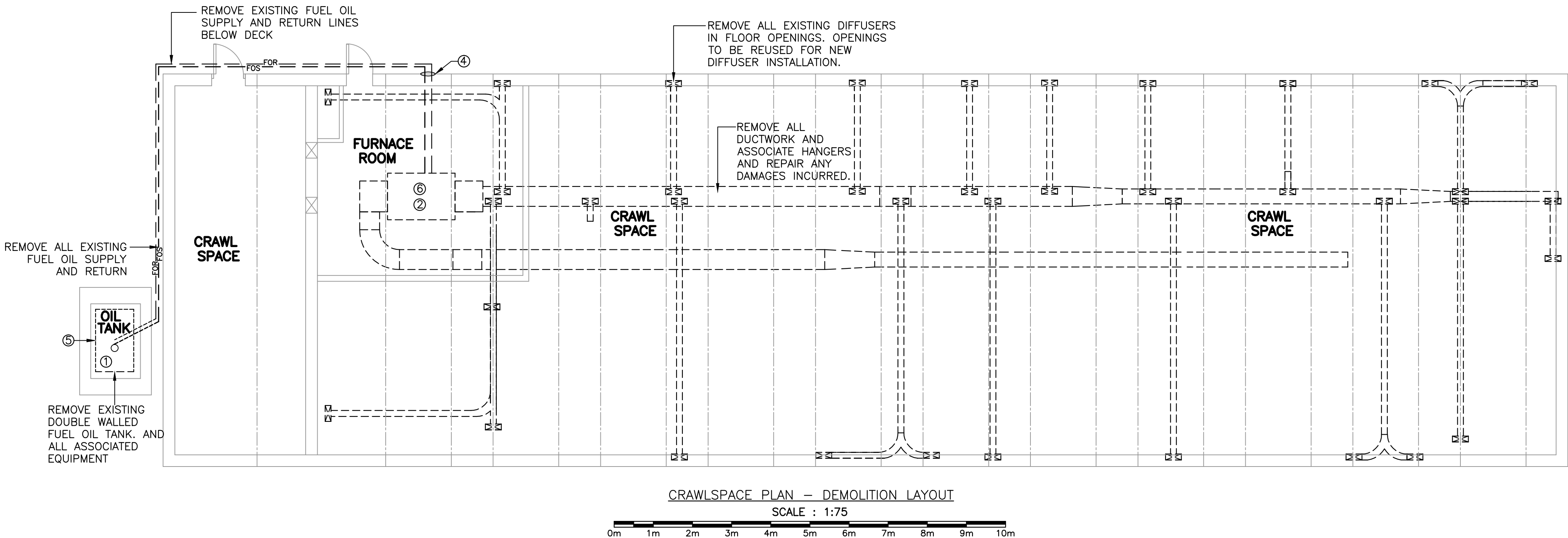
PWGSC Project ManagerAdministrateur de projets TPSCG

project numberno. du projet
17-2230

EDMR NUMBERNO. EDMR

drawing no.no. du dessin

MD-1



ALL EQUIPMENT WITHIN CRAWL SPACE SHALL BE CUT AND REMOVED THROUGH EXISTING HATCH 670mmX1000mm. CONTRACTORS RESPONSIBILITY TO COORDINATE ON SITE AND PATCH ANY DAMAGES INCURRED DURING DEMOLITION.

DEMOLITION NOTES:

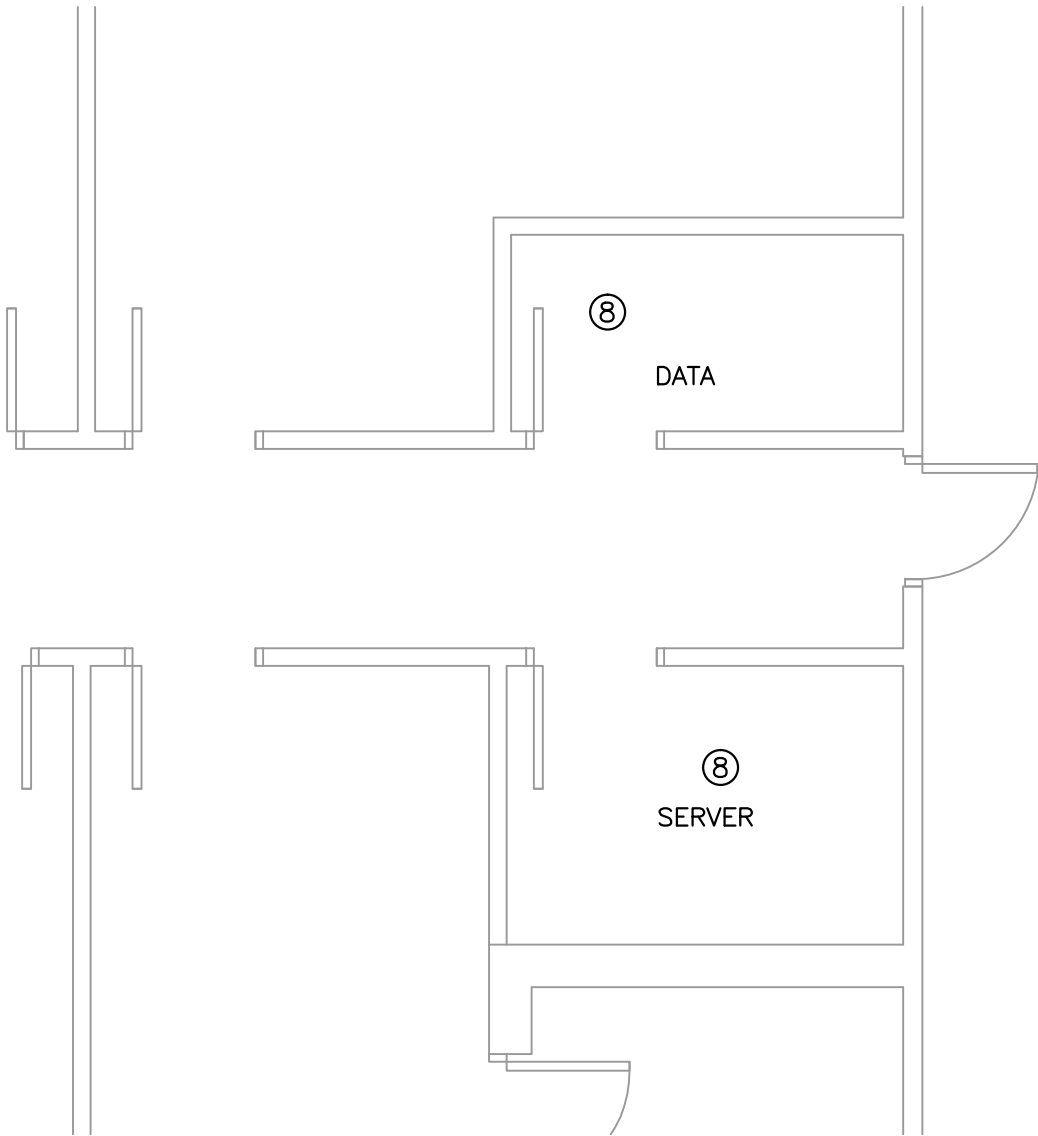
- DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE REMOVAL AND DISCARDING OF ALL DEMOLITION WASTE INCLUDING UNFORESEEN ITEMS WITHIN THE SCOPE OF WORK.
- DEMOLITION CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AFFECTING THE WORK.
- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE REQUIRED BY NEW WORK.
- OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED.

DRAWING NOTES:

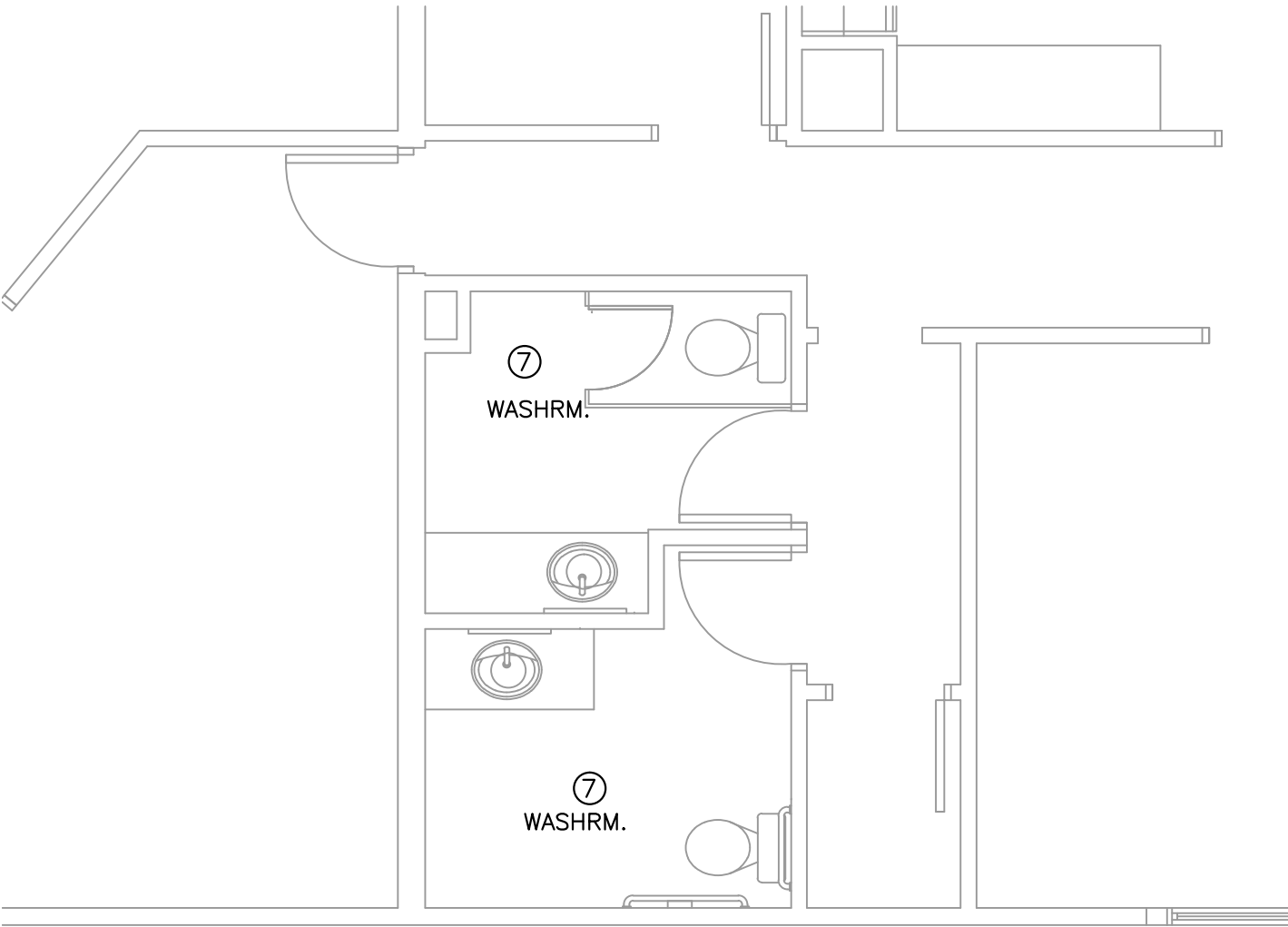
- FUEL TANK TO BE REMOVED, CLEANED, AND TURNED OVER TO PARKS CANADA. TANK TO BE LOADED, TRANSPORTED AND UNLOADED AT BIG BROOK CREEK APPROXIMATELY 2 KILOMETERS AWAY.
- REMOVE FURNACE AND ALL ASSOCIATED DUCTWORK, HUMIDIFIER AND EQUIPMENT. CLEAN AND DEGREASE AREA OF WORK. REPAIR ANY DAMAGES IN AREA OF WORK. FURNACE BURNER TYPE: RIELLO SHALL BE TURNED OVER TO OWNER DURNING DEMOLITION.
- EXISTING CONTROLS FOR FURNACE TO BE DEMOLISHED AND REPLACED WITH NEW LOCALIZED CONTROLS.
- EXITING FUEL OIL PENERATIONS THROUGH FOUNDATION WALL TO BE PATCHED.
- FUEL TANK GROUNDING, LEVEL GAUGE AND LINE TO BE DEMOLISHED.
- DEMOLISH EXISTING CHIMNEY. ROOF TO BE PATCHED TO SUIT.
- DEMOLISH EXISTING EXHAUST FANS IN WASHROOMS.
- EXISTING AC UNITS TO BE DEMOLISHED TURNED OVER TO OWNER. PATCH ANY HOLES RELATED TO AC UNIT.

GENERAL NOTES:

- ALL WORK TO BE COORDINATED WITH THE OWNER REPRESENTATIVE ON SITE. OBTAIN ALL REQUIRED SECURITY CLEARANCE FOR CARRYING OUT WORK IN BUILDING PRIOR TO COMMENCEMENT OF WORK. ARRANGE FOR DAILY ACCESS AND SUPERVISION AS REQUIRED WITH BUILDING MANAGEMENT.
- OBTAIN ALL HOT WORK PERMITS FOR CUTTING INTO EXISTING DUCTWORK AS REQUIRED.
- CLEAN DEBRIS FROM VENTILATION SYSTEM CONTINUOUSLY WHILE WORK IS BEING CARRIED OUT.
- COORDINATE SHUTDOWN OF FUEL SYSTEMS WITH BUILDING MANAGEMENT. A MINIMUM OF 48 HOURS PRIOR TO CARRYING OUT THE WORK IN ALL AREAS. WORK MAY HAVE TO BE CARRIED OUT AFTER HOURS IN SOME LOCATIONS.
- COORDINATE WITH BUILDING MANAGEMENT FOR ACCESS TO SENSITIVE LOCATIONS WITHIN THE FACILITY. ALLOW ONE 1 WEEK NOTICE PRIOR TO BEGINNING WORK IN THESE AREAS.
- SCHEDULING FOR SHUTDOWN OF FUEL SYSTEM AND ACCESS TO SECURE LOCATIONS IN BUILDING TO BE DETERMINED AT PROJECT STARTUP MEETING WITH ENGINEER, CONTRACTOR AND BUILDING MANAGEMENT.
- ALL LOCATIONS AR TO BE CONSIDERED APPROXIMATE ONLY. CONFIRM ALL LOCATIONS ON SITE AND ADJUST AS REQUIRED.
- DRAWINGS ADAPTED FROM SCANNED ORIGINALS OF BUILDING DESIGN AND LAYOUT. DO NOT SCALE FROM DRAWINGS.
- COORDINATE WITH ALL OTHER TRADES.
- ARRANGEMENTS TO BE MADE WITH O&M STAFF IN ADVANCE TO ISOLATE THE FIRE ALARM SYSTEM AS REQUIRED TO PREVENT FALSE ALARMS.
- ALL PENETRATIONS ARE TO BE PROPERLY FIRE STOPPED WITH A ULC LISTED MATERIAL.
- COMPLETION OF A DISMANTLING DECOMMISSIONING OR DESTRUCTION NOTICE" (WITH A COPY IN THE LOGBOOK ON SITE)
- FUEL MANIFEST REQUIRED FROM THE CONTRACTOR INDICATED THE QUANTITY AND WHERE THE FUEL WAS DISPOSED OFF. THE EXISTING TANK DECOMMISSIONING WILL BE REQUIRED FROM CONTRACTOR INDICATING THE QUANTITY AND WHERE THE FUEL WAS DISPOSED OF. THE EXISTING TANK DECOMMISSIONING WILL BE REQUIRED TO TAKE PLACE BY CONTRACTORS LICENSED FOR THIS ACTIVITY IN THE PROVINCE OF NL.
- NOTIFY MINISTRY WITHIN 60 DAYS IF IT'S A REGISTERED TANK. PLACE TAG ON FILL PIPE ANYTIME A TANK IS OUT OF SERVICE. FILL OUT PERMANENT WITHDRAWAL FROM SERVICE FORM.
- CONTRACTOR TO REVIEW ASBESTOS MANAGEMENT PLAN PRIOR TO ANY DEMO, DRILLING OR REINSTATEMENT OF WORK.



PARTIAL FIRST LEVEL FLOOR PLAN – DEMOLITION LAYOUT



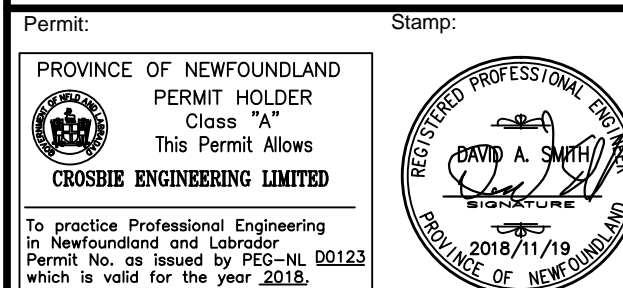
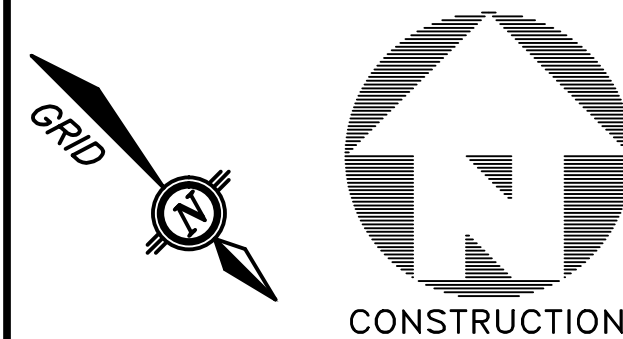
PARTIAL FIRST LEVEL FLOOR PLAN – DEMOLITON LAYOUT

MECHANICAL VENTILATION LEGEND:

- RECTANGULAR DUCTWORK (DIMENSION = mm/mm)
- THERMALLY INSULATED DUCTWORK (DIMENSION = mm/mm)
- ACOUSTIC INSULATED DUCTWORK (DIMENSION = mm/mm)
- SPIRAL DUCTWORK (DIMENSION = mmØ)
- SUPPLY/FRESH AIR DUCTS UP & DOWN
- RETURN/EXHAUST AIR DUCTS UP & DOWN
- TYPICAL 90° DUCT ELBOWS; (R/W = 1.0 & w TURNING VANES)
- TYPICAL FLOOR MTD. SUPPLY AIR GRILLES.
- TYPICAL FLOOR MTD. RETURN AIR GRILLES.
- PROGRAMMABLE THERMOSTAT BY MECHANICAL
- FIRE DAMPER
- BALANCING DAMPER
- DIFFUSER/GRILLE TAG
- 24V CONTROL WIRING BY MECHANICAL
- MANUAL STARTER

NOTES:

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project

NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA
NATIONAL PARK, NL

drawing

FLOOR PLAN –
VENTILATION LAYOUT

designed

D.S.

date

drawn

M.K.

date

approved

D.S.

Tender

PWGSC Project Manager

Administrateur de projets TPSGC

project number

17-2230

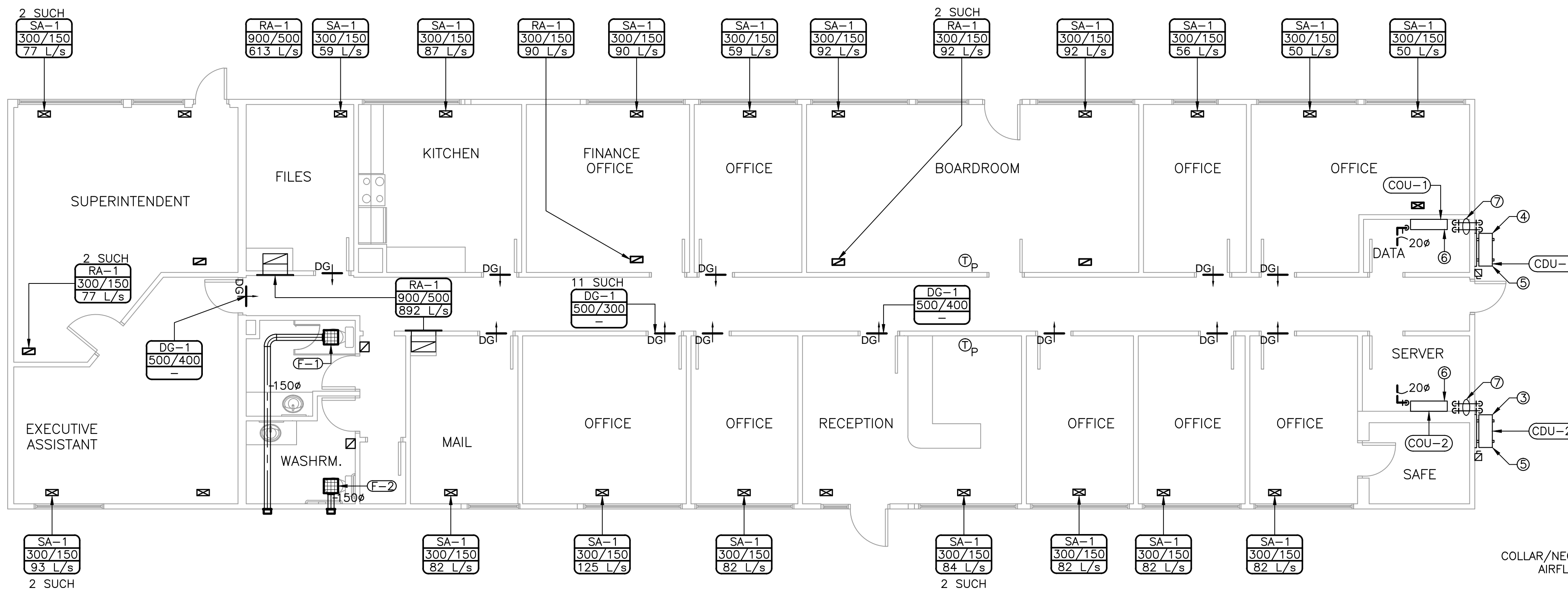
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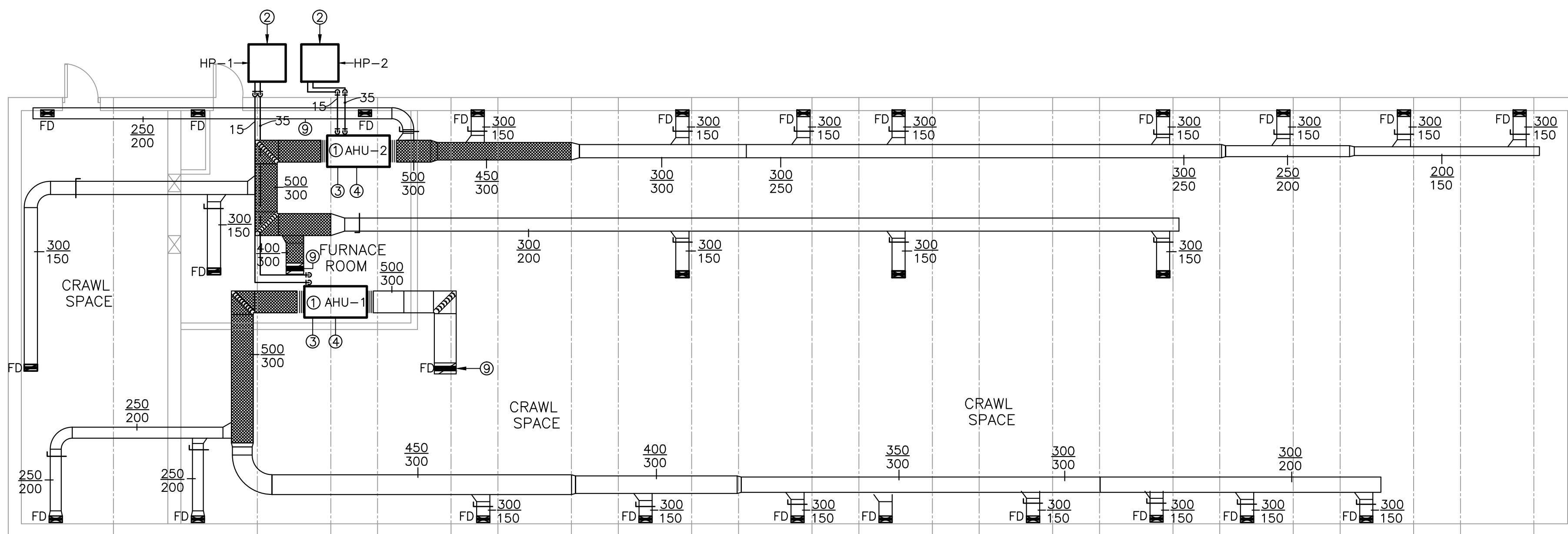
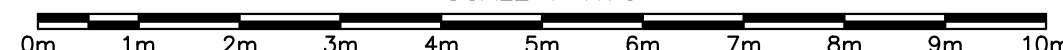
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MV-1



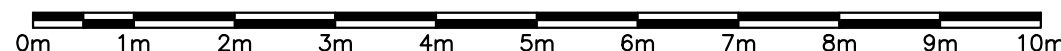
FLOOR PLAN – VENTILATION LAYOUT

SCALE : 1:75



CRAWLSPACE PLAN – VENTILATION LAYOUT

SCALE : 1:75



DRAWING NOTES:

- SPLIT SYSTEM HP-1&2, INDOOR AIR HANDLER. SEE SCHEDULE. PROVIDE 100mm CONCRETE PAD.
- SPLIT SYSTEM OUTDOOR CONDENSER, SEE SCHEDULE. UNITS TO BE MOUNTED ON 1000mm STAND. PROVIDE 150mm CONCRETE PAD.
- SEE MINI-SPLIT SYSTEM DETAILS 7, 8 AND 9 ON MV-3.
- TRAPPED CONDENSATE DRAIN CONNECT INDIRECTLY TO NEAREST DRAIN (THE FULL SIZE OF UNIT CONNECTION). PROVIDE CONDENSATE PUMP ON DRAIN LINE.
- CONDENSER SECTION OF NEW SPLIT AIR CONDITIONING SYSTEM TO BE LOCATED ON EXTERIOR WALL.
- WALL MOUNTED EVAPORATOR SECTION OF NEW SPLIT AIR CONDITIONING SYSTEM.
- PROVIDE PIPE SLEEVE FOR EXTERIOR PENETRATIONS. SEE SPEC. PROVIDE SEALANT & CAULKING.
- DUCT TO BE RAN TIGHT TO UNDERSIDE OF FLOOR JOYCE. OFFSET AROUND ELECTRICAL PANEL AS NECESSARY.
- 400/300 RETURN DUCT UP TO MAIN FLOOR. PROVIDE FIRE DAMPER AT FLOOR PENETRATION.

GENERAL NOTES:

- DUCTWORK SHOWN DIAGRAMMATICALLY ONLY. PROVIDE ALL ADDITIONAL OFFSETS AND FITTINGS AS REQUIRED.
 - ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES AND NON FIRE RATED FIRE SEPARATIONS TO BE SEALED.
 - COORDINATE ALL WORK WITH ALL OTHER TRADES.
 - FLEXIBLE CONNECTIONS SHALL BE SUPPLIED AND INSTALLED FOR ALL AIR HANDLING UNIT AND HRV DUCT CONNECTIONS.
 - ALL SUPPLY AIR DUCTWORK TO BE THERMALLY INSULATED.
- FIRE DAMPERS TO BE INSTALLED ON ALL FLOOR PENETRATIONS.

HEAT PUMP SYSTEM EQUIPMENT SCHEDULE																					
UNIT NO.	DWG TAG	MANUFACTURER	MODEL	COOLING (MBH)	SEER (EER)	FAN DATA					HEATING			ELECTRICAL DATA			FILTERS	EQUIP MOUNT.	REFRIG. PIPING		REMARKS
						CAPACITY	EXT. SP	MOTER	bhp	R.P.M.	NET	OAT°C	STAGES	MCA	MOCP	VOLT/Ph/Hz			LIQUID	GAS	
1	HP-1	YORK (OR APPR. EQUAL)	OUTDOOR CONDENSER:YCJF60S41S2	60	14.5	—	—	—	—	—	—	-32	—	32.7	50	230/1/60	SUPPLIED WITH UNIT	FLOOR MOUNTED	15mm	35mm	C/W DISCONNECT AND OUTSIDE TEMPERATURE SENSOR
1	AHU-1	YORK (OR APPR. EQUAL)	INDOOR AIR HANDLER:AHE60D3XH21	57.9	—	792 L/s	.3	.75	—	—	13KW	-32	1	85.5	90	230/1/60	SUPPLIED WITH UNIT	FLOOR MOUNTED	15mm	35mm	C/W DISCONNECTS, R410A REFRIGERANT, PROGRAMMABLE CONTROLLER, SPRING ISOLATORS, SUBBASE, HEATING COIL AND ENCLOSURE ASSEMBLY.
1	HP-2	YORK (OR APPR. EQUAL)	OUTDOOR CONDENSER:YCJF60S41S2	60	14.5	—	—	—	—	—	—	-32	—	32.7	50	230/1/60	SUPPLIED WITH UNIT	FLOOR MOUNTED	15mm	35mm	C/W DISCONNECT AND OUTSIDE TEMPERATURE SENSOR
1	AHU-2	YORK (OR APPR. EQUAL)	INDOOR AIR HANDLER:AHE60D3XH21	57.9	—	891 L/s	.3	.75	—	—	13KW	-32	1	85.5	90	230/1/60	SUPPLIED WITH UNIT	FLOOR MOUNTED	15mm	35mm	C/W DISCONNECTS, R410A REFRIGERANT, PROGRAMMABLE CONTROLLER, SPRING ISOLATORS, SUBBASE, HEATING COIL AND ENCLOSURE ASSEMBLY.
NOTES —																					
1.) SPLIT — TYPE HEAT PUMP SYSTEM, INDOOR AIR HANDLER AND OUTDOOR CONDENSER. AIR HANDLER TO BE C/W REFRIGERANT SOLENOID VALVE. UNITS TO BE C/W INDIVIDUAL POWER POINT CONNECTION BOXES & DISCONNECTS, C/W CONTROL WIRING.																					
2.) COORDINATE INSTALLATION ON-SITE. INSTALL ALL EQUIPMENT AND PIPING TO MANUFACTURER'S GUIDELINES.																					

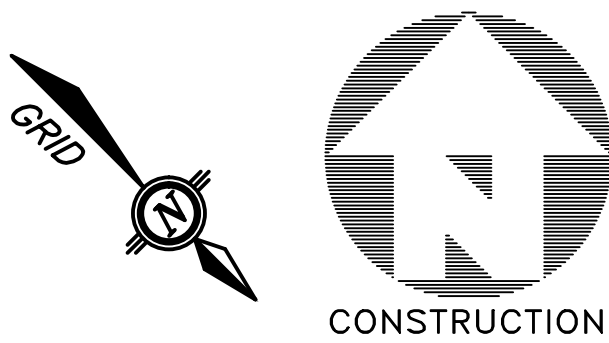
FAN SCHEDULE																
TAG NO.	LOCATION	APPLICATION	MANUFACTURER	MODEL	TYPE	CAPACITY	PRESSURE LOSS		DRIVE	CURB	R.P.M.	MOTOR		ELECTRICAL	SONES	REMARKS
						L/s	Pa	in. wg				H.P.	kw			
F-1&2	WASHROOM	EXHAUST	GREENHECK	SP-B150	CEILING CABINET FAN	73	63	0.25	—	—	1050	0.17		120/1/60	—	C/W ELECTRICAL DISCONNECT, WALL CAP & BIRDSCREEN

GRILLE/REGISTER AND DIFFUSER SCHEDULE								
TAG NO.	MANUF.	MODEL NO.	NOMINAL DUCT CONNECTION OR NECK SIZE	NOMINAL PANEL OR FACE SIZE (mm)	DISCHARGE PATTERN	MOUNTING TYPE	FINISH	REMARKS
SA-1	E. H. PRICE	540S	AS SHOWN	—	—	FLOOR MOUNTED	B12	
RA-1	E. H. PRICE	70FH	AS SHOWN	—	—	WALL MOUNTED	B12	
DG-1	E. H. PRICE	STG-BF-B15	AS SHOWN	—	—	DOOR MOUNTED	B12	


MINI SPLIT SYSTEM EQUIPMENT SCHEDULE																	
DWG TAG	MANUFACTURER	MODEL	COOLING BTU/h	SEER (EER)	FAN DATA				COMPRESSOR DATA		ELECTRICAL DATA		FILTERS	EQUIP MOUT.	REFRIG. PIPING		
					CAPACITY	EXT. SP	WATTS	FLA	R.P.M.	RLA	LRA	CCT. BRKR.			VOLT/Ph/Hz	LIQUID	GAS
COU#1	MITSUBISHI (OR APPR. EQUAL)	PKA-A12HA	12,000	—	150-200 L/s	N/A	—	—	—	—	—	MOCP = 15 MCA = 1	208-230/1/60	SUPPLIED WITH UNIT	WALL MOUNTED	6mm	16mm
CDU#1	MITSUBISHI (OR APPR. EQUAL)	PUY-A12NHA3	12,000	15.2 (10.1)	—	N/A	1190	—	—	—	—	MOCP = 15 MCA =13	208-230/1/60	SUPPLIED WITH UNIT	WALL MOUNTED	6mm	16mm
COU#2	MITSUBISHI (OR APPR. EQUAL)	PKA-A12HA	12,000	—	150-200 L/s	N/A	—	—	—	—	—	MOCP = 15 MCA = 1	208-230/1/60	SUPPLIED WITH UNIT	WALL MOUNTED	6mm	16mm
CDU#2	MITSUBISHI (OR APPR. EQUAL)	PUY-A12NHA3	12,000	15.2 (10.1)	—	N/A	1190	—	—	—	—	MOCP = 15 MCA =13	208-230/1/60	SUPPLIED WITH UNIT	WALL MOUNTED	6mm	16mm
NOTES: —																	
1.) SPLIT – TYPE A/C SYSTEM, FAN COIL UNITS (COU) AND CONDENSER (CDU). FAN COIL TO BE C/W REFRIGERANT SOLENOID VALVE. UNITS TO BE C/W INDIVIDUAL POWER POINT CONNECTION BOXES & ELECTRICAL DISCONNECT SWITCHES, CONTROL WIRING, EXTR. LOW TEMPERATURE KIT.																	
2.) COORDINATE INSTALLATION ON-SITE. INSTALL ALL EQUIPMENT AND PIPING TO MANUFACTURER'S GUIDELINES.																	
3.) TYPICAL ZONE DUCTLESS SPLIT-TYPE AIR CONDITIONING SYSTEM, WITH WALL MOUNTED TYPE FAN COIL UNIT. SYSTEM TO BE C/W R-410A REFRIGERANT (PRE-CHARGED), REFRIGERANT PIPING, SOLENOID VALVES. "INTELLIGENT" WALL MTD. CONTROLLER, ELECTRICAL DISCONNECTS, MOUNTING PLATES, VARIABLE COMPRESSOR SPEED, AUTO RESTART, SELF DIAGNOSTIC FEATURE SYSTEM. MAINTAIN ALL REQ'D CLEARANCES AND INSTALL TO MANUFACTURER'S GUIDELINES. SUPPLY AND INSTALL CONDENSATE PUMP (C/W RESERVOIR & FLOAT CONTROL) WITH CONNECTION WIRING TO FAN COIL UNIT (COU). GRAVITY DRAINAGE IS PREFERRED IF CONFIGURATION ALLOWS. ULTRA LOW AMBIENT TO BE INCLUDED (–40°C). OUTDOOR WIND GUARD TO BE INSTALLED ON OUTDOOR UNIT.																	
4.) UNIT TO BE COMPLETE WITH 5 YEAR WARRANTY ON PARTS AND LABOR.																	
5.)UNIT C/W CONDENSATE PUMP.																	

***PLEASE NOTE:

ALL MECHANICAL EQUIPMENT SUPPLIED MUST HAVE A 5 YEAR PARTS AND LABOR WARRANTY.



Permit:Stamp:

 PROVINCE OF NEWFOUNDLAND

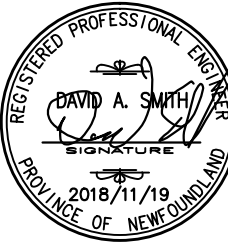
PERMIT HOLDER

Class "A"

This Permit Allows

CROSSBIE ENGINEERING LIMITED

To practice Professional Engineering in Newfoundland and Labrador Permit No. as issued by PEO-NL 00123 which is valid for the year 2018.

 REGISTERED PROFESSIONAL ENGINEER

DAVID A. SMITH

2018/11/19

PROVINCE OF NEWFOUNDLAND

0	ISSUED FOR TENDER	2018/11/19
A	ISSUED FOR TENDER REVIEW	2017/11/14
revisions		date

projectproject

NEW HVAC SYSTEM
ADMINISTRATION BLDG.

TERRA NOVA
NATIONAL PARK, NL

drawingdessin

VENTILATION SCHEDULES

designedconçu

dateD.S.

drawndessiné

dateM.K.

approvedapprouvé

dateD.S.

TenderSoumission

PWGSC Project ManagerAdministrateur de projetsTPSGC

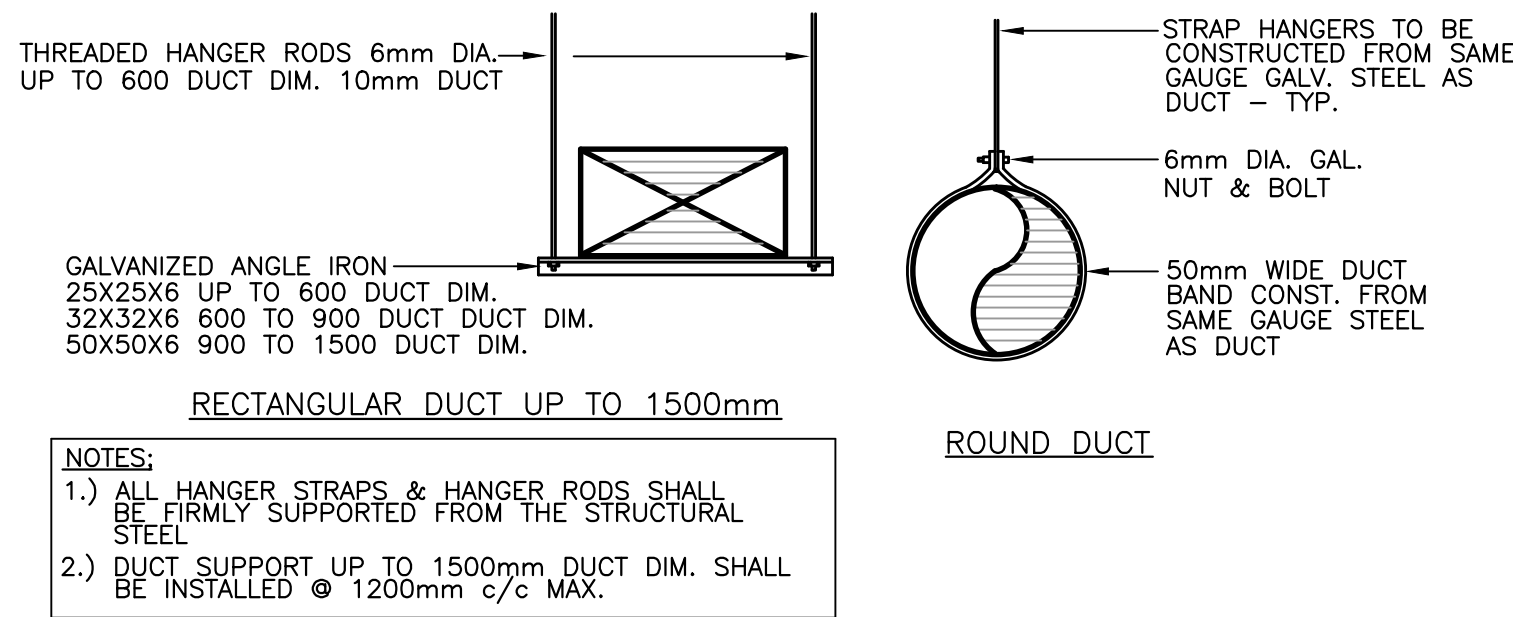
project numberno. du projet

17-2230

EDMR NUMBERSO. EDMR

drawing no.no. du dessin

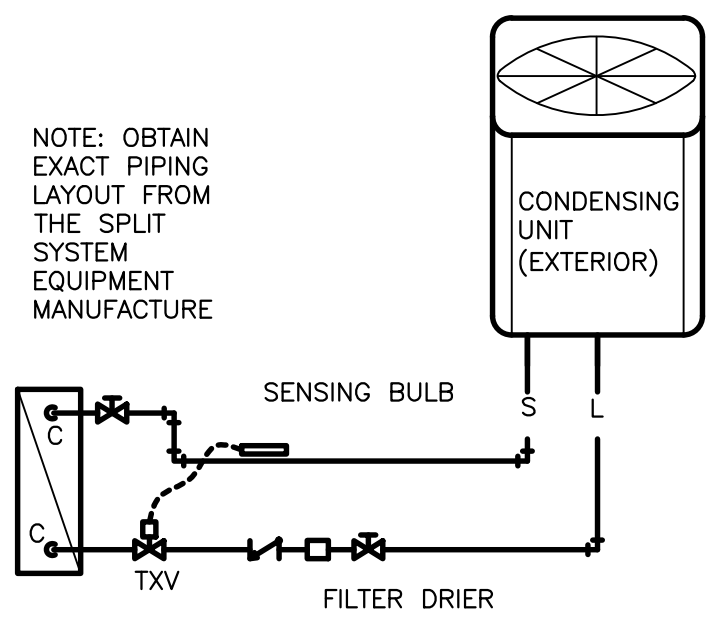
MV-2



TYPICAL DUCT SUPPORTS DETAIL

SCALE = N.T.S.

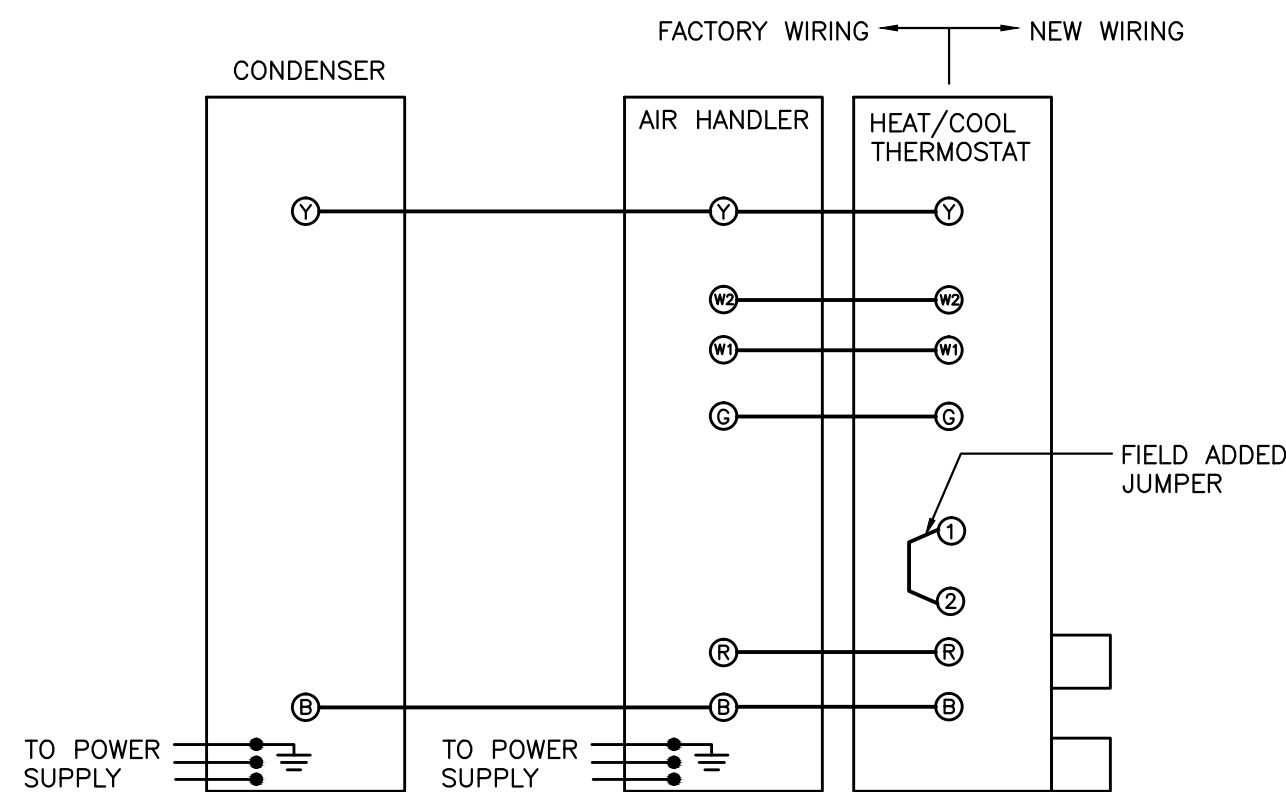
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MV-3



REFRIGERATION PIPING SCHEMATIC

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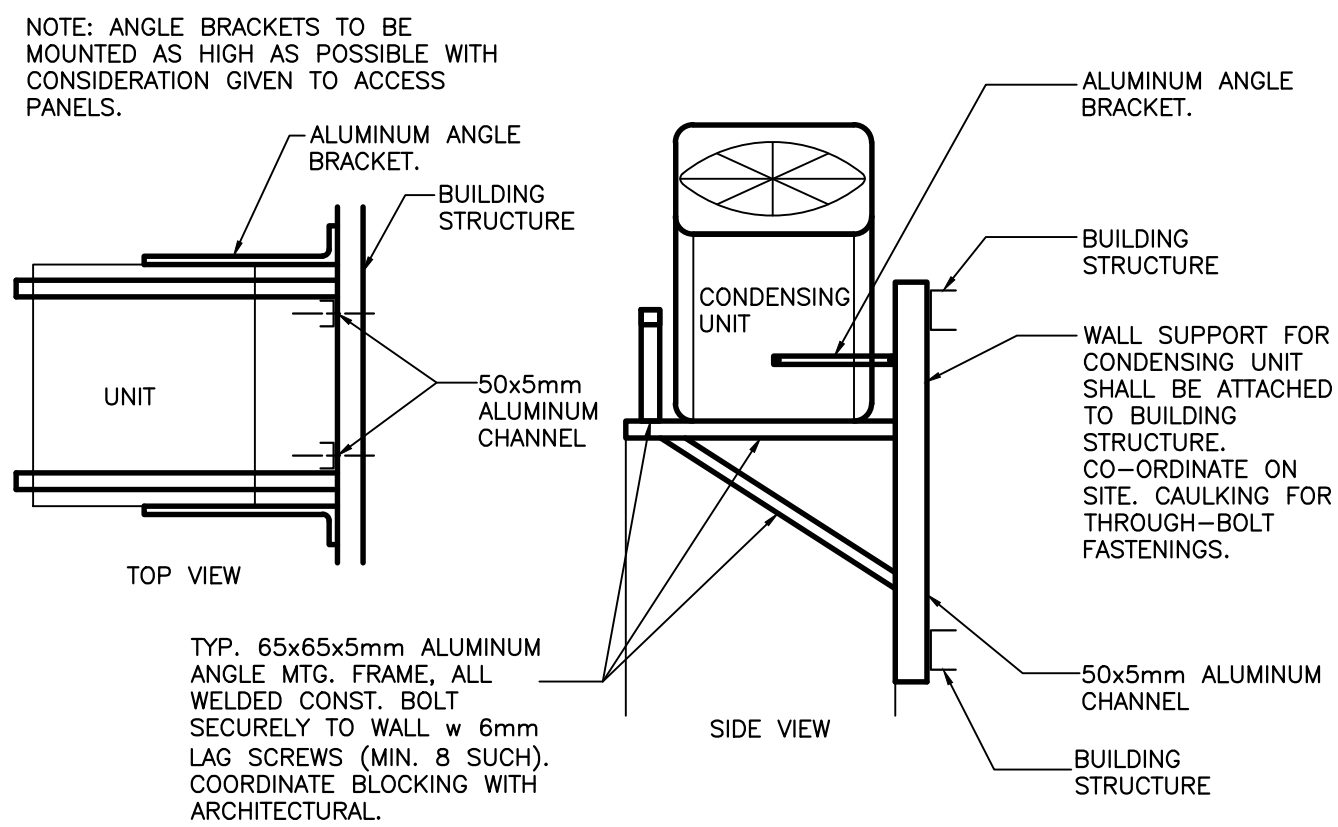
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MV-3



DETAIL - SPLIT SYSTEM HEAT/COOL THERMOSTAT WIRING SCHEMATIC

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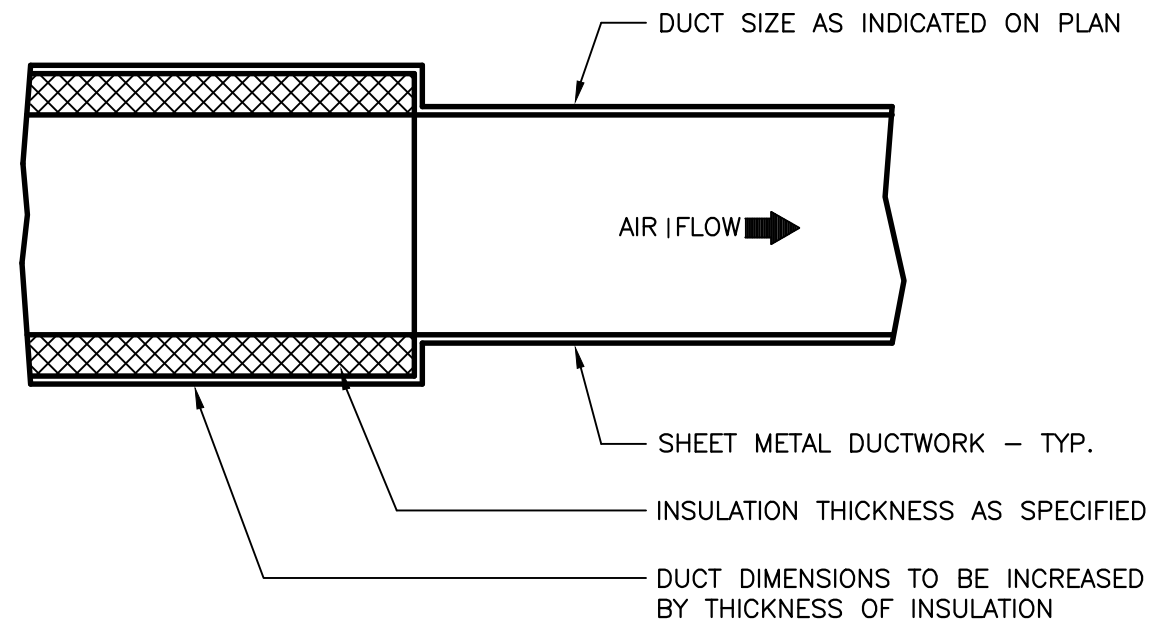
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MV-3



CONDENSING WALL BRACKET - GENERAL

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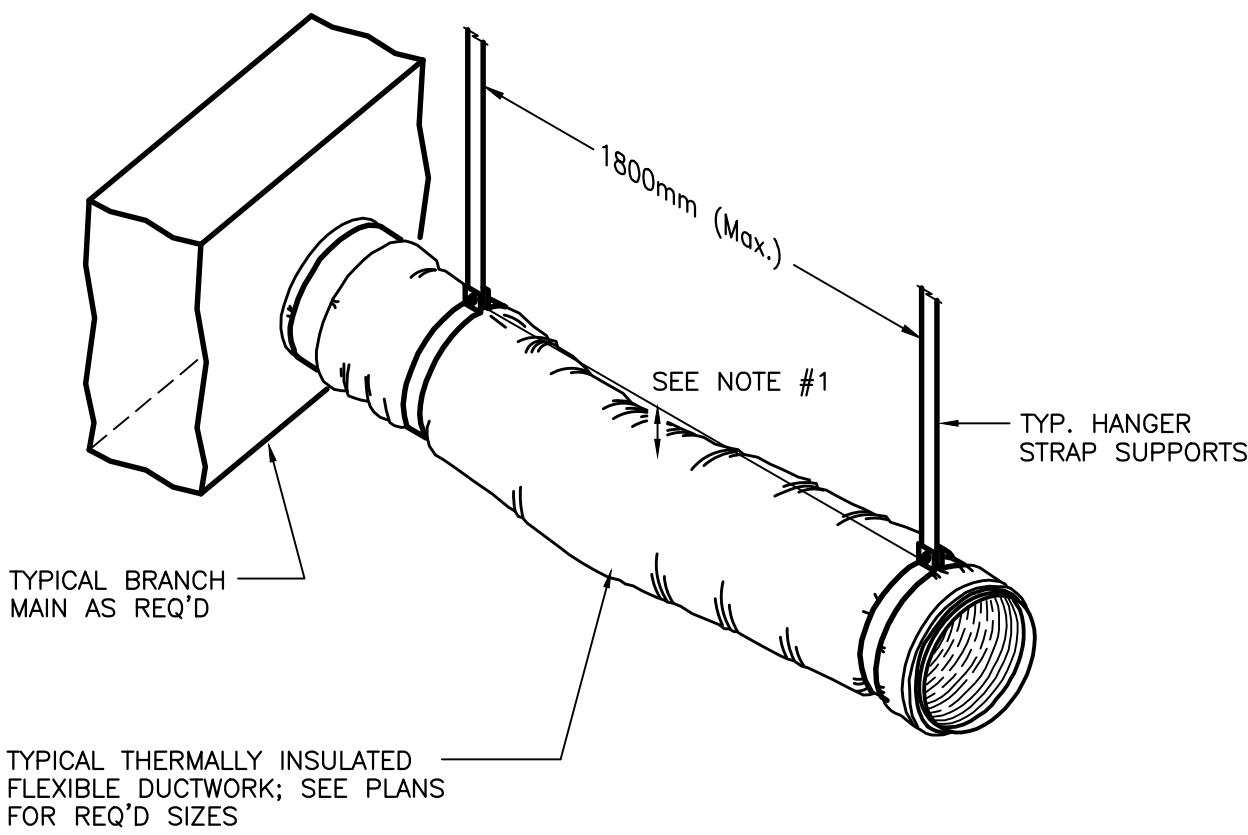
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MV-3



TYPICAL ACOUSTIC LINED DUCTWORK DETAIL

SCALE = N.T.S.

3
MV-3



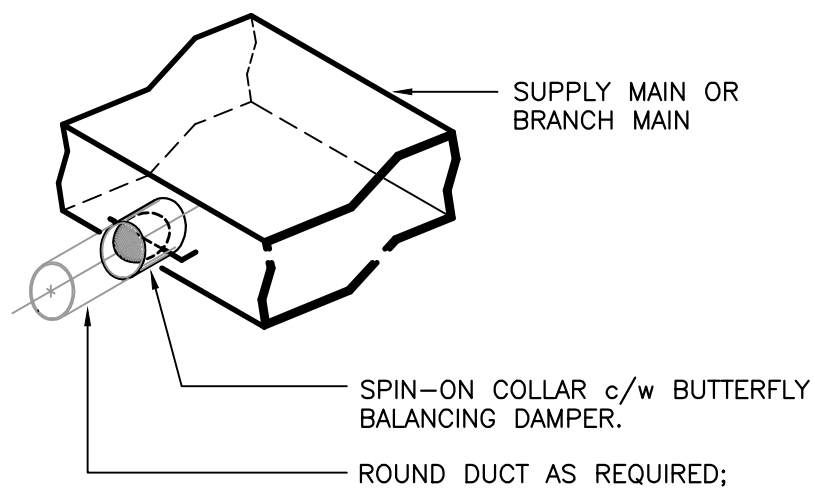
NOTES -

- 1.) MAXIMUM SAG OF FLEXIBLE DUCTWORK TO NOT EXCEED 12mm PER 300mm OF SUPPORT SPACING.
- 2.) INSTALL ALL THERMALLY INSULATED FLEXIBLE DUCTWORK AS PER MANUFACTURER'S RECOMMENDATIONS AND SMACNA STANDARDS.
- 3.) SINGLE UNINTERRUPTED LENGTH OF FLEXIBLE DUCTWORK SHALL GENERALLY NOT EXCEED 1800mm. COORDINATE ON-SITE.
- 4.) ALL BENDS, TURNS OR CHANGES OF DIRECTION w FLEXIBLE DUCTWORK SHALL BE GRADUAL. ABRUPT TURNS, ELBOWS, ETC. WHICH MAY REDUCE INSIDE DIAMETER AND RESTRICT AIRFLOW ARE NOT PERMITTED.

TYPICAL INSULATED FLEXIBLE DUCTWORK

SCALE = N.T.S.

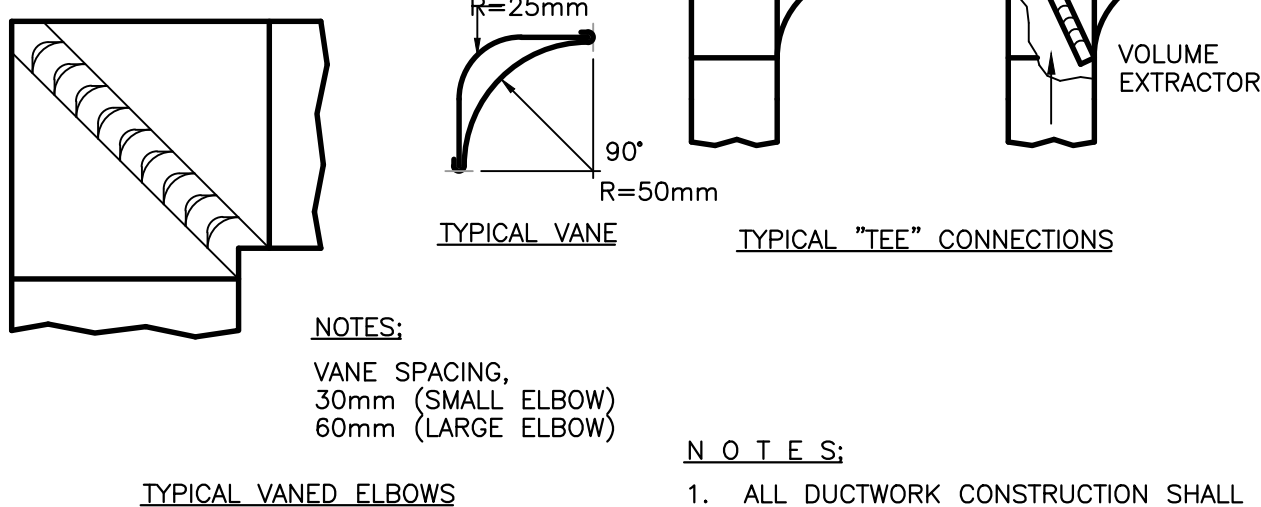
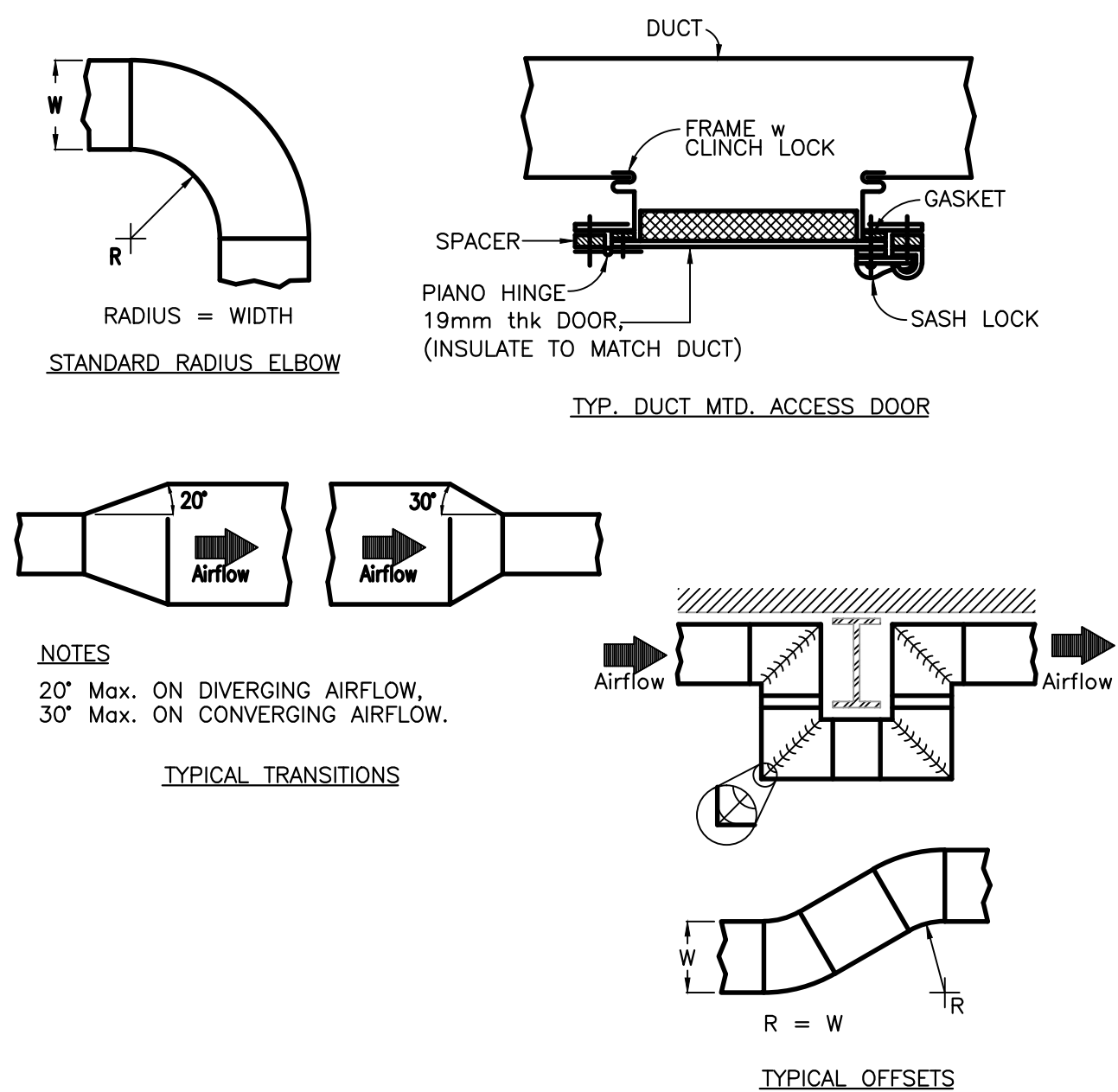
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MV-3



TYPICAL SPIN-ON COLLAR DETAIL

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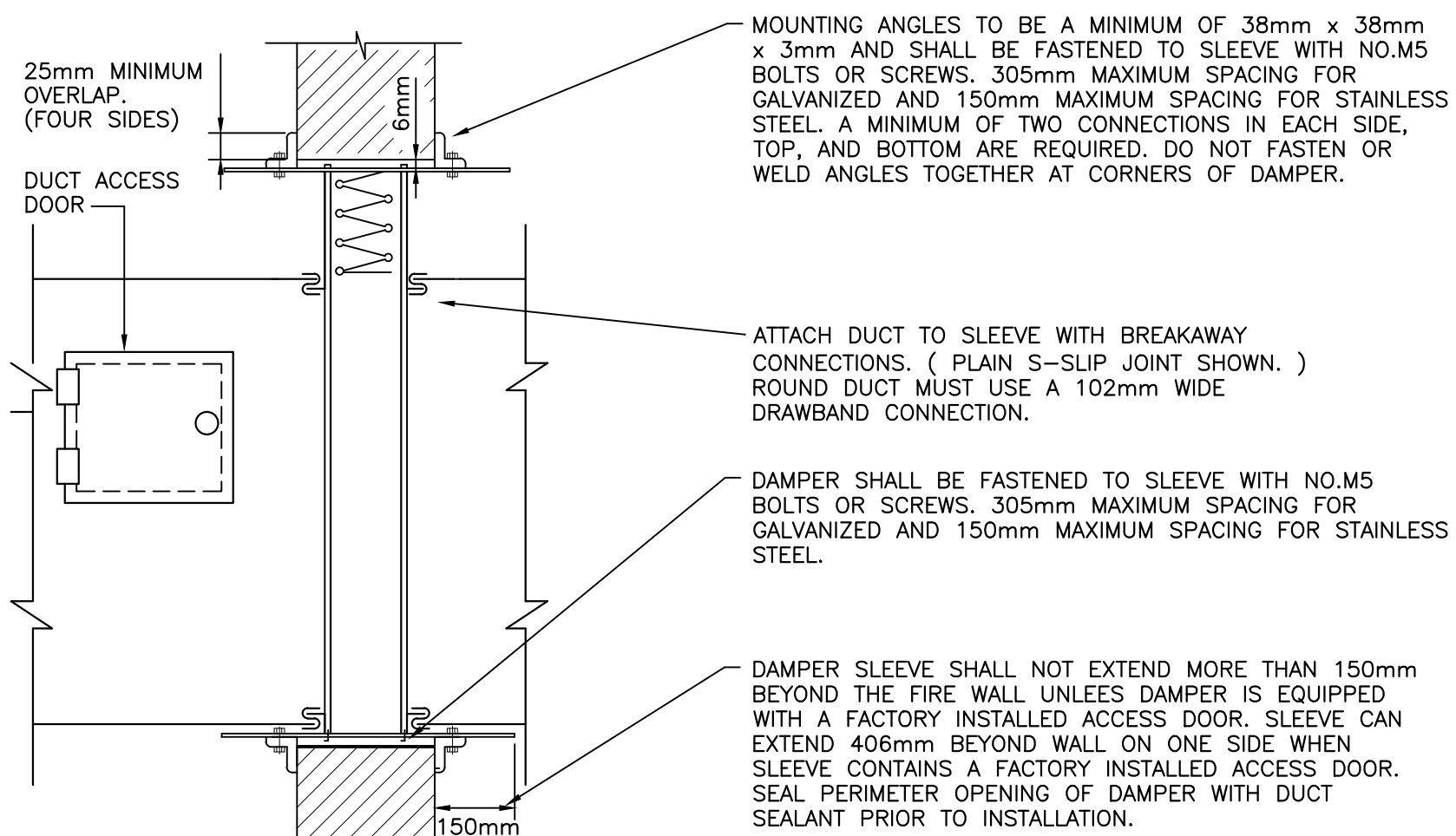
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MV-3



TYPICAL DUCT CONSTRUCTION DETAILS

SCALE = N.T.S.

1
MV-3



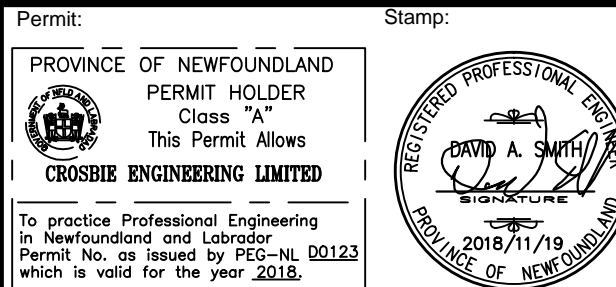
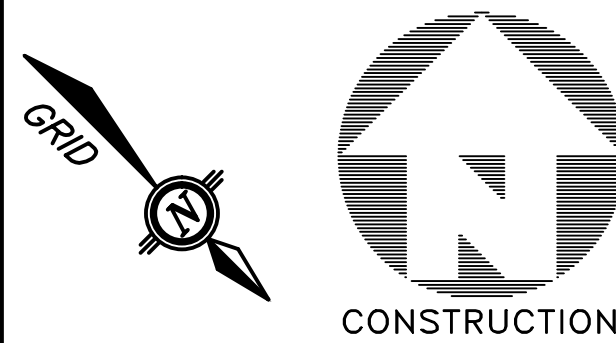
TYPICAL FIRE DAMPER(S) MOUNTING DETAIL

SCALE = N.T.S.

2
MV-3

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
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A	ISSUED FOR TENDER REVIEW	2017/11/14
revisions		date

project

NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA
NATIONAL PARK, NL

drawing

VENTILATION DETAILS

designed

D.S.

date

drawn

M.K.

date

approved

D.S.

date

Tender

PWGSC Project Manager

Administrateur de projets TPSGC

project number

no. du projet

17-2230

EDMR NUMBER

NO. EDMR

drawing no.

no. du dessin

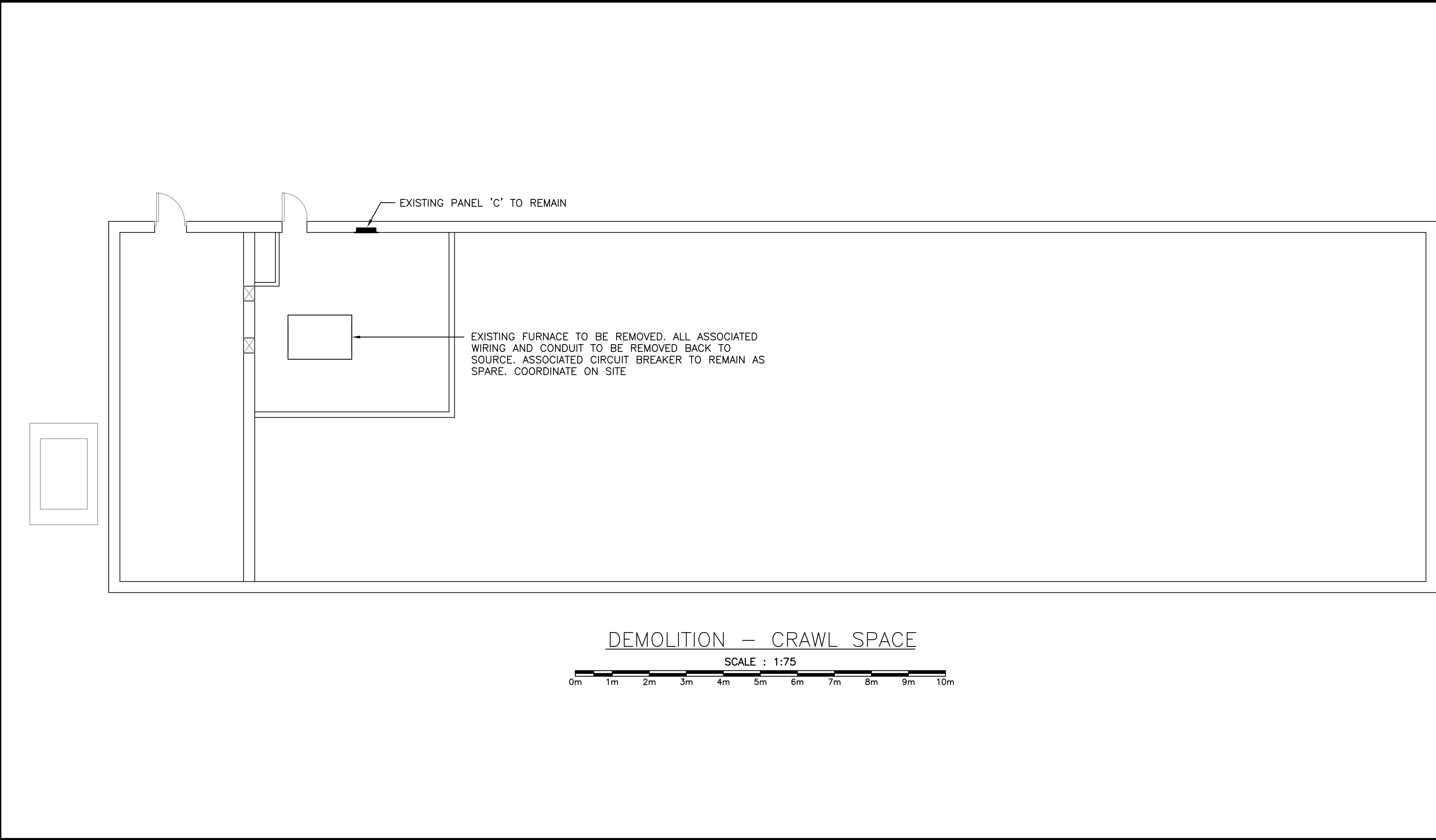
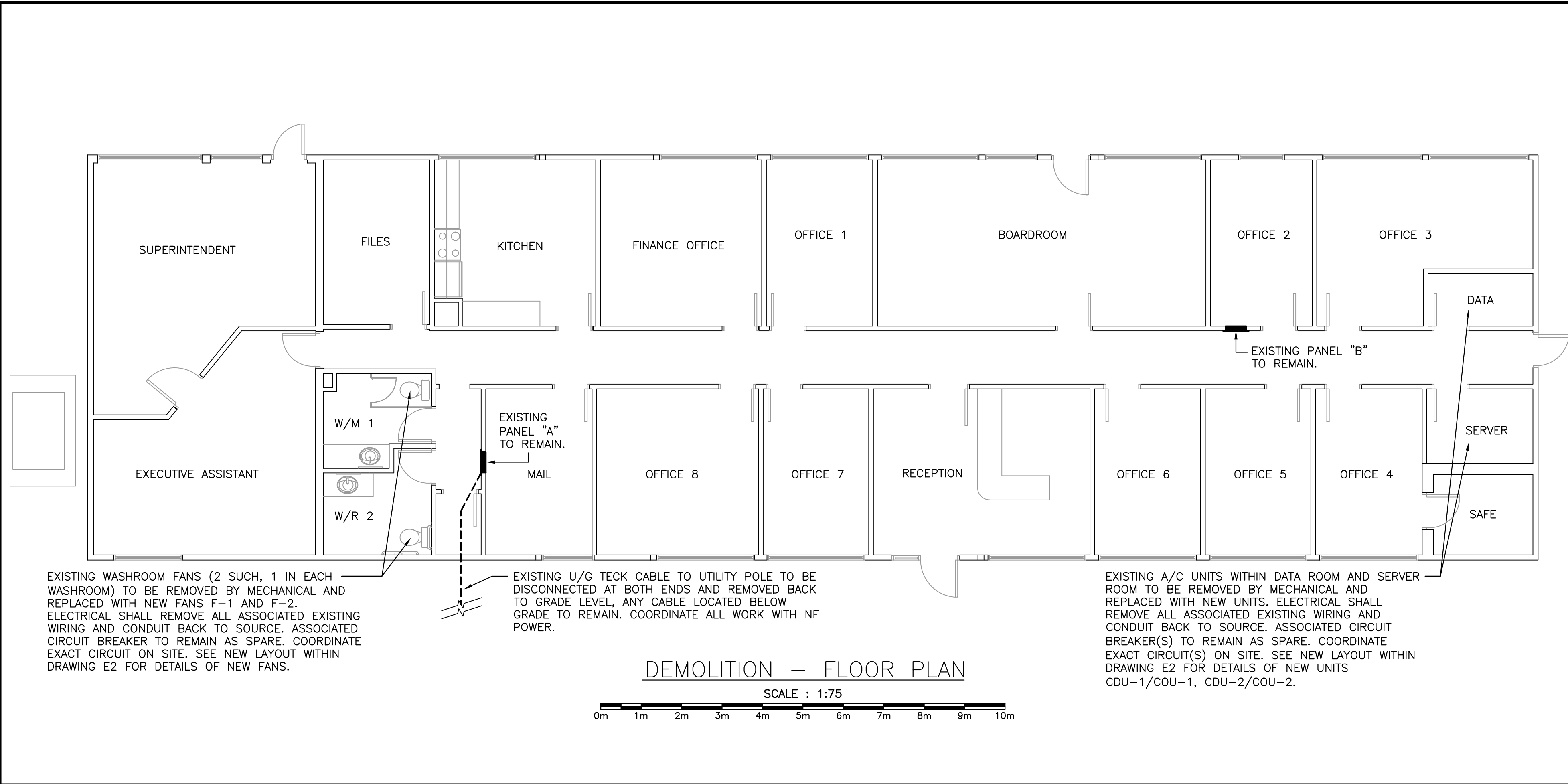
MV-3

**NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA NATIONAL PARK, NL
ISSUED FOR TENDER
NOVEMBER 19, 2018**

ELECTRICAL

DRAWING LIST:

- E1 — DEMOLITION — FLOOR PLAN AND CRAWL SPACE
- E2 — CRAWL SPACE AND FLOOR PLAN LAYOUTS
- E3 — ELECTRICAL SERVICE DETAIL AND PANEL SCHEDULE
- E4 — PANEL, ELECTRIC HEATER SCHEDULE, AND SINGLE
LINE DIAGRAM



- GENERAL NOTES:
1. CONTRACTOR TO PROVIDE ALL CUTTING, PATCHING AND PAINTING TO MATCH EXISTING. SEE SPECIFICATION FOR DETAILS. COORDINATE ON SITE.
 2. CONTRACTOR TO ASSESS WORK AREA IN ADVANCE WITH OWNER REPRESENTATIVE FOR COORDINATION OF RELATED DAILY WORK SCHEDULES, PARKING, BUILDING ACCESS, AND STORAGE OF EQUIPMENT.
 3. WORK SHALL BE SCHEDULED DURING NORMAL WORKING HOURS. CONTRACTOR MAY WORK AFTER NORMAL WORKING HOURS AS COORDINATED BY OWNER REPRESENTATIVE. BUILDING TO REMAIN OPERATIONAL DURING CONSTRUCTION.
 4. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP AND DISPOSALS OF WORK AREA ON A DAILY BASIS. AFTER EACH WORKING SHIFT BUILDING TO BE CLEANED AND FREE OF DEBRIS. BUILDING GARBAGE BINS ARE NOT TO BE USED.
 5. ANY ELECTRICAL SYSTEM SHUTDOWN TO BE SCHEDULED AFTER NORMAL BUSINESS HOURS AND SHALL BE COORDINATED WITH OWNER REPRESENTATIVE. SUFFICIENT NOTICE SHALL BE GIVEN. 5 WORKING DAYS NOTICE IS REQUIRED FOR ANY DISRUPTION.
 6. WORK TO BE CARRIED OUT IN CONSIDERATION OF CLIENT COMFORT AND OPERATIONS.
 7. ALL WIRING TO BE INSTALLED IN CONDUIT AS INDICATED.
 8. ACCESS TO FACILITY TO BE COORDINATED WITH OWNER REPRESENTATIVE.
 9. PROVIDE TYPED REVISED PANELBOARD DIRECTORIES FOR ALL PANELBOARDS WHERE BRANCH CIRCUITS WERE REMOVED, ADDED OR MODIFIED.
 10. LABEL ALL EQUIPMENT WITH LAMACOID TAGS ACCORDING TO PWGSC STANDARDS.
 11. ALL EXISTING ELECTRICAL EQUIPMENT REMOVED TO BE TURNED OVER TO OWNER. IF OWNER REFUSES THEN CONTRACTOR TO REMOVE FROM SITE AND DISPOSE OF.
 12. PROVIDE NEW SINGLE LINE POWER DISTRIBUTION DRAWING FOR COMPLETE ELECTRICAL DISTRIBUTION. (APPROXIMATE SIZE 24" x 36") SUITABLE FOR WALL MOUNT IN ELECTRICAL ROOM. SEE SPECIFICATION. CONFIRM EXACT LAYOUT ON SITE PRIOR TO PROVIDING COPY OF SINGLE LINE DIAGRAM.

LEGEND

- ELECTRIC HEATING
- | TYPE | CIRCUIT | |
|------|---------|--|
| | | ELECTRIC HEATER. SEE HEATER FIXTURE SCHEDULE AND/OR SPECIFICATION FOR DESCRIPTION. |
| | | ELECTRIC HORIZONTAL UNIT HEATER. SEE HEATER FIXTURE SCHEDULE AND/OR SPECIFICATION FOR DESCRIPTION. |
| | | LOW VOLTAGE ELECTRONIC THERMOSTAT. MOUNT 1200mm ABOVE FINISH FLOOR. SEE SPECIFICATION. |
| | | ELECTRIC MOTOR. SUPPLIED BY MECHANICAL DIVISION, WIRED BY ELECTRICAL DIVISION. |
| | | MANUAL STARTER SUPPLIED AND INSTALLED BY MECHANICAL DIVISION WIRED BY ELECTRICAL DIVISION. WALL MOUNT 1400mm ABOVE FINISHED FLOOR. |

Parcs Canada

NOTES:

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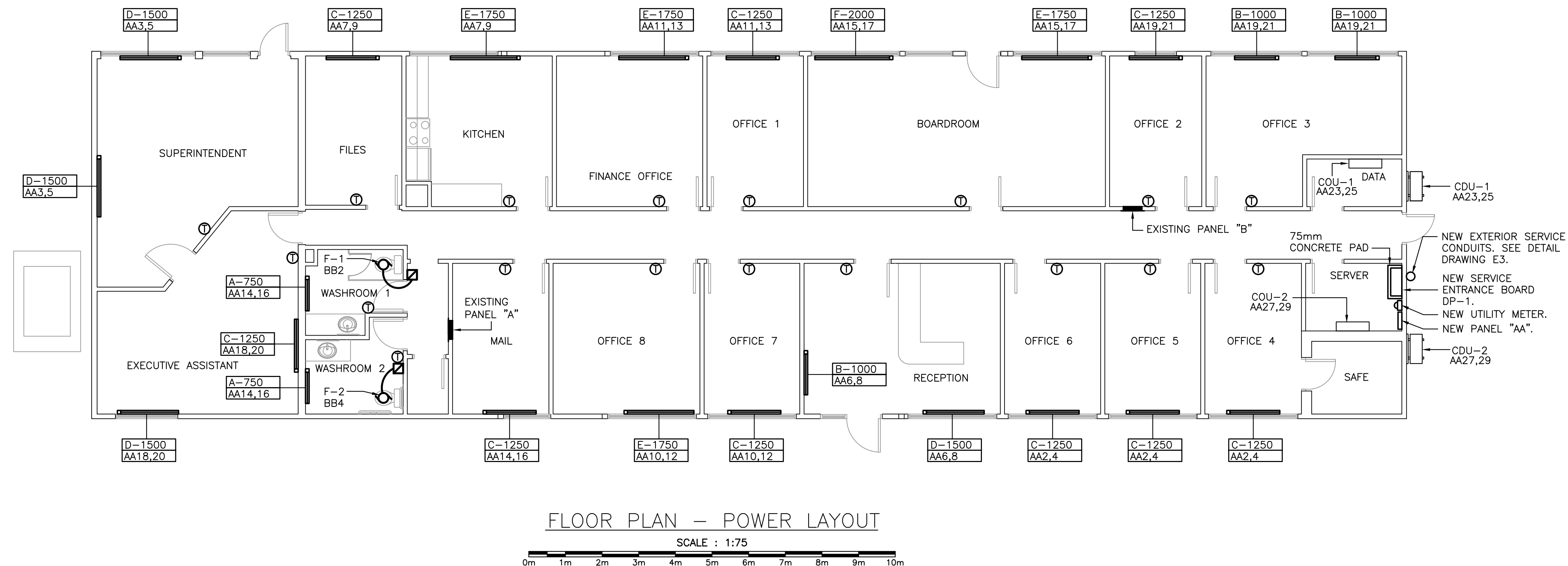
CONSTRUCTION

Permit:

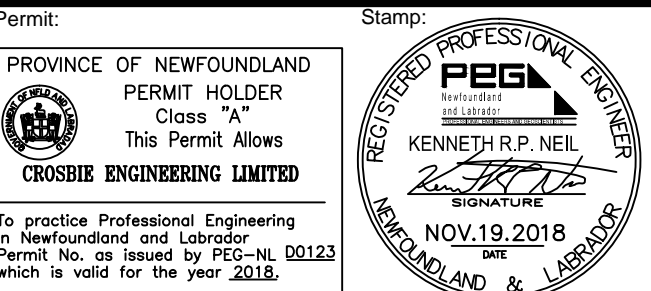
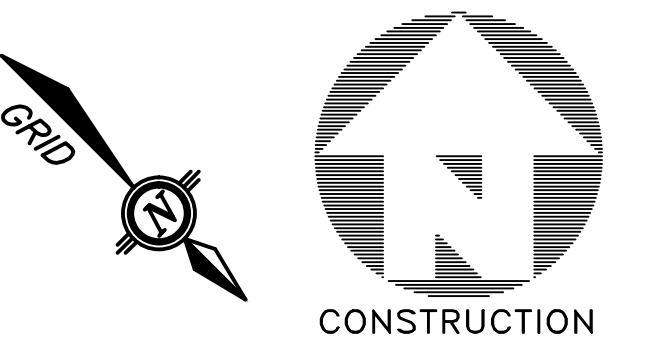
PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
Class "A"
This Permit Allows
CROSSIE ENGINEERING LIMITED
To practice Professional Engineering in Newfoundland and Labrador
Permit No. as issued by PEGC-NL 00123
which is valid for the year 2018.

Stamp:

0	ISSUED FOR TENDER	2018/11/19
A	ISSUED FOR TENDER REVIEW	2017/11/14
revisions		date
project	proj	
NEW HVAC SYSTEM ADMINISTRATION BLDG. TERRA NOVA NATIONAL PARK, NL		
drawing	dessin	
DEMOLITION – FLOOR PLAN AND CRAWL SPACE		
designed	K.N.	conçu
date		
drawn	M.N.	dessiné
date		
approved	K.N.	approuvé
date		
Tender	Soumission	
PWGSC Project Manager	Administrateur de projets TPSCG	
project number	17-2230	no. du projet
EDMR NUMBER		NO. EDMR
drawing no.	E1	no. du dessin



- NOTES:
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revisions		date

project projet

NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA
NATIONAL PARK, NL

drawing dessin

CRAWL SPACE AND FLOOR
PLAN LAYOUTS

designed conçu

date K.N.

drawn dessiné

date M.N.

approved approuvé

date K.N.

Tender Soumission

PWGSC Project Manager Administrateur de projets TPSGC

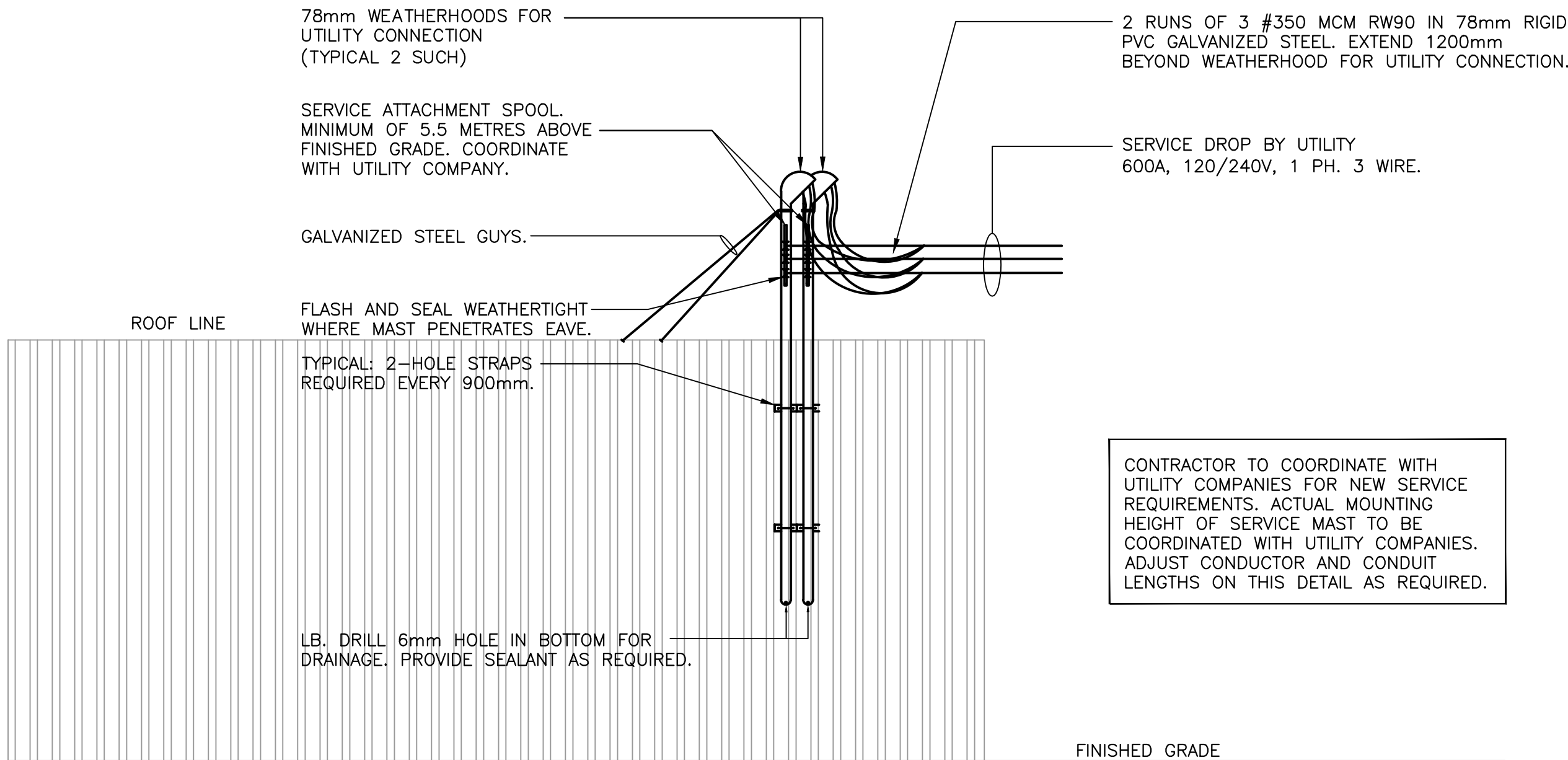
project number no. du projet

17-2230

EDMR NUMBER NO. EDMR

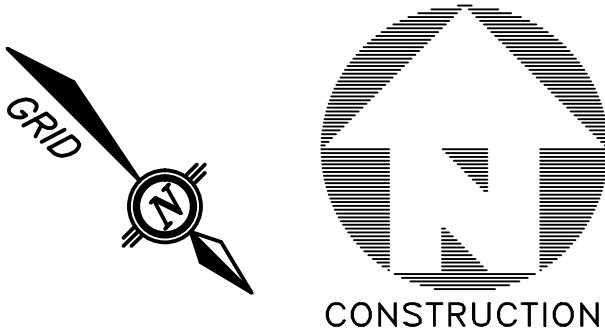
drawing no. no. du dessin

E2




SERVICE ENTRANCE DETAIL
N.T.S.

- NOTES:
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Permit:



PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
Class "A"
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Stamp:



REGISTERED PROFESSIONAL ENGINEER
KENNETH R.P. NEIL
NOV.19.2018
NEWFOUNDLAND & LABRADOR

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revisions		date

project projet

NEW HVAC SYSTEM
ADMINISTRATION BLDG.
TERRA NOVA
NATIONAL PARK, NL

drawing dessin

ELECTRICAL SERVICE DETAIL
AND PANEL SCHEDULE

designed conçu

date K.N.

drawn dessiné

date M.N.

approved approuvé

date K.N.

Tender Soumission

PWGSC Project Manager Administrateur de projets TPWGC

project number 17-2230 no. du projet

EDMR NUMBER NO. EDMR

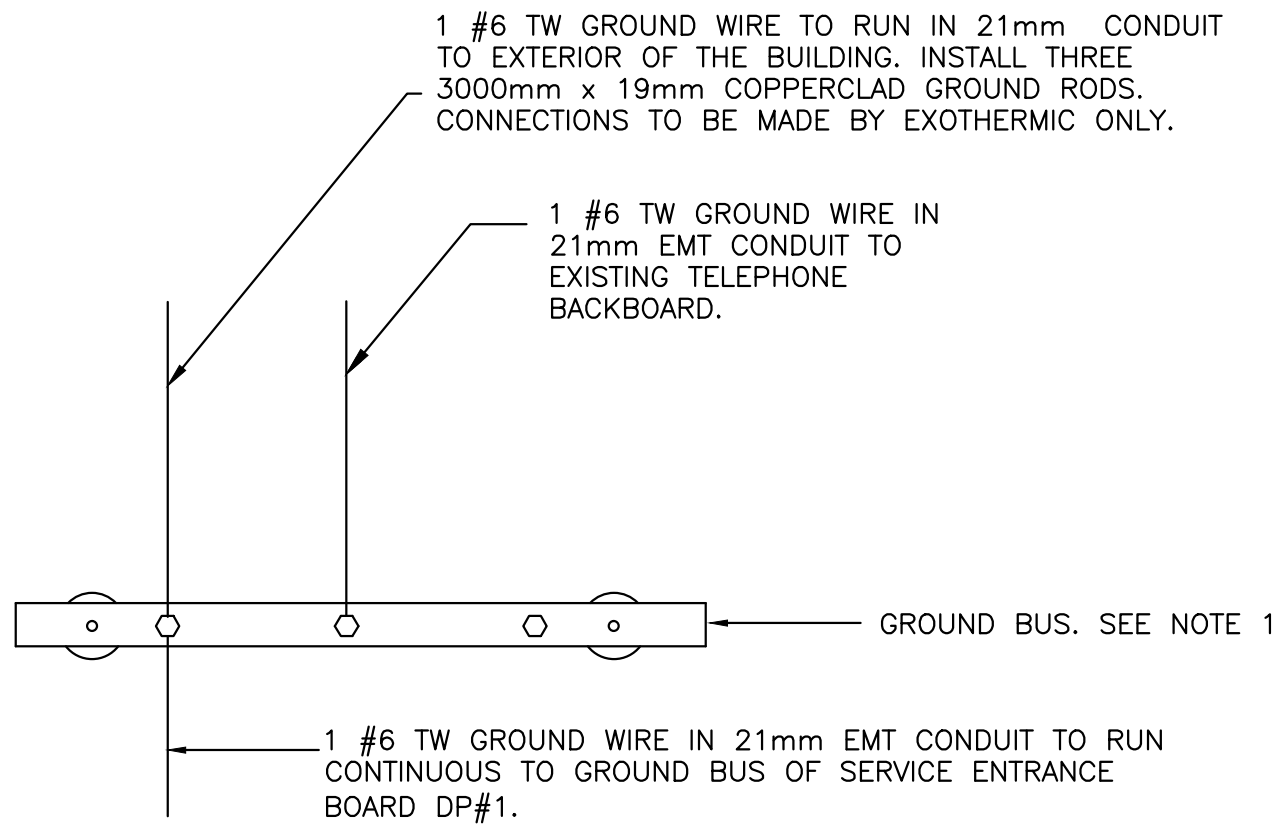
drawing no. E3 no. du dessin

NEW PANEL													
VOLTS	120/240			PANEL NAME	BB			MAINS RATED	125 AMPS				
PHASE	1			LOCATION	CRAWL SPACE			MOUNTING	SURFACE				
WIRE	3			FED FROM	DP1			ENTER AT				CIRCUITS	30
DESIGNATION	WATTAGE		WIRE	BKR	CCT	A	B	CCT	BKR	WIRE	WATTAGE		DESIGNATION
	ø A	ø B									ø A	ø B	
HEAT - CRAWL SPACE	1500	1500	12	20	1	•	•	2	15	12	160		F-1 (0.17 HP)
				2	3	•	•	4	15	12			F-2 (0.17 HP)
HEAT - CRAWL SPACE	1500	1500	12	20	5	•	•	6	15				SPARE
				2	7	•	•	8	15				SPARE
HEAT - CRAWL SPACE	2500	2500	10	30	9	•	•	10	15				SPARE
				2	11	•	•	12	15				SPARE
HEAT - CRAWL SPACE	2500	2500	10	30	13	•	•	14	15				SPARE
				2	15	•	•	16	15				SPARE
HEAT - CRAWL SPACE	2500	2500	10	30	17	•	•	18	15				SPARE
				2	19	•	•	20	15				SPARE
SPARE				15	21	•	•	22	15				SPARE
				2	23	•	•	24	15				SPARE
SPARE				30	25	•	•	26	15				SPARE
				2	27	•	•	28	15				SPARE
SPARE				15	29	•	•	30	15				SPARE
ø A TOTAL : 10660													
ø B TOTAL : 10660													
TOTAL LOAD 21.32 KW 89 AMP													
* - INDICATES LOCK-ON DEVICE													
** - INDICATES GROUND FAULT CIRCUIT BREAKER													

ELECTRIC HEATER SCHEDULE							
TYPE	DESCRIPTION	VOLTS	WATTS	MANUFACTURER	CAT. NO.	MOUNTING	REMARKS
A	BASEBOARD	240V, 1Ø	750	OUELLET	OFM0750	WALL SURFACE	NOTE 1, 2 & 3
B	BASEBOARD	240V, 1Ø	1000	OUELLET	OFM1000	WALL SURFACE	NOTE 1, 2 & 3
C	BASEBOARD	240V, 1Ø	1250	OUELLET	OFM1250	WALL SURFACE	NOTE 1, 2 & 3
D	BASEBOARD	240V, 1Ø	1500	OUELLET	OFM1500	WALL SURFACE	NOTE 1, 2 & 3
E	BASEBOARD	240V, 1Ø	1750	OUELLET	OFM1750	WALL SURFACE	NOTE 1, 2 & 3
F	BASEBOARD	240V, 1Ø	2000	OUELLET	OFM2000	WALL SURFACE	NOTE 1, 2 & 3
G	UNIT HEATER	240V, 1Ø	3000	OUELLET	OAS03000	SUSPENDED	NOTE 2 & 3
F	UNIT HEATER	240V, 1Ø	5000	OUELLET	OAS05000	SUSPENDED	NOTE 2 & 3

NOTES (ELECTRIC HEATER SCHEDULE):

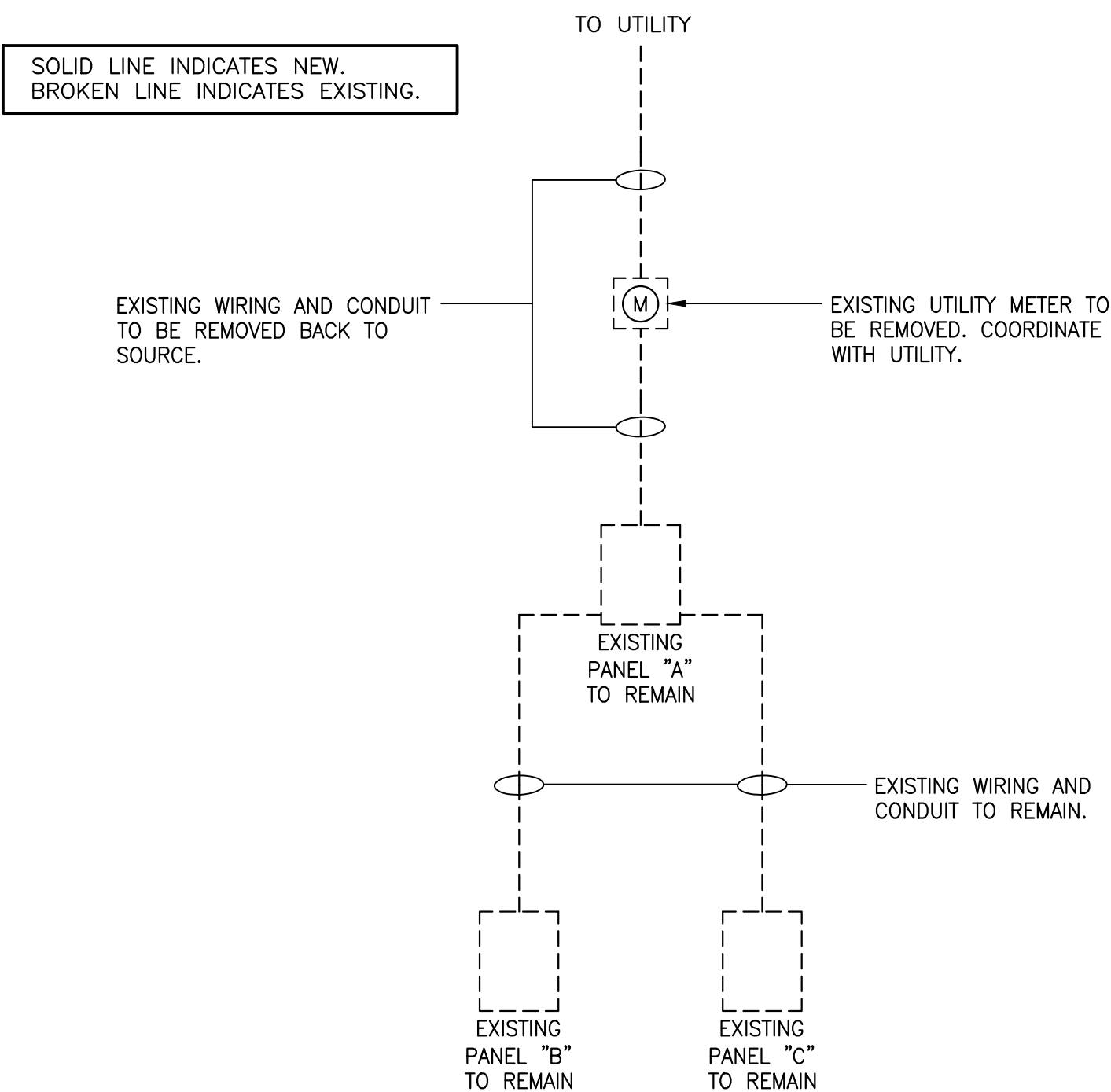
- BOTTOM OF ELECTRIC HEATER TO BE MOUNTED 25mm. ABOVE FINISHED FLOOR.
- ALL HEATERS TO BE WHITE IN COLOR.
- HEATERS C/W LOW VOLTAGE RELAY/TRANSFORMER KIT.



NOTES

- GROUND BUS TO BE 600mm x 50mm x 6mm COPPER. WALL MOUNT 450mm A.F.F. ON PORCELAIN STAND-OFF TYPE INSULATORS. MOUNT NEAR DP#1.
- RESISTANCE TO GROUND SHALL NOT EXCEED 10 OHMS. TEST AND PROVIDE ENGINEER WITH RESULTS.
- BOND ALL MECHANICAL EQUIPMENT SUCH AS DUCTWORK, PIPING, TANKS, ETC.

GROUND BUS DETAIL
N.T.S.



EXISTING SINGLE LINE DIAGRAM
N.T.S.

NEW PANEL

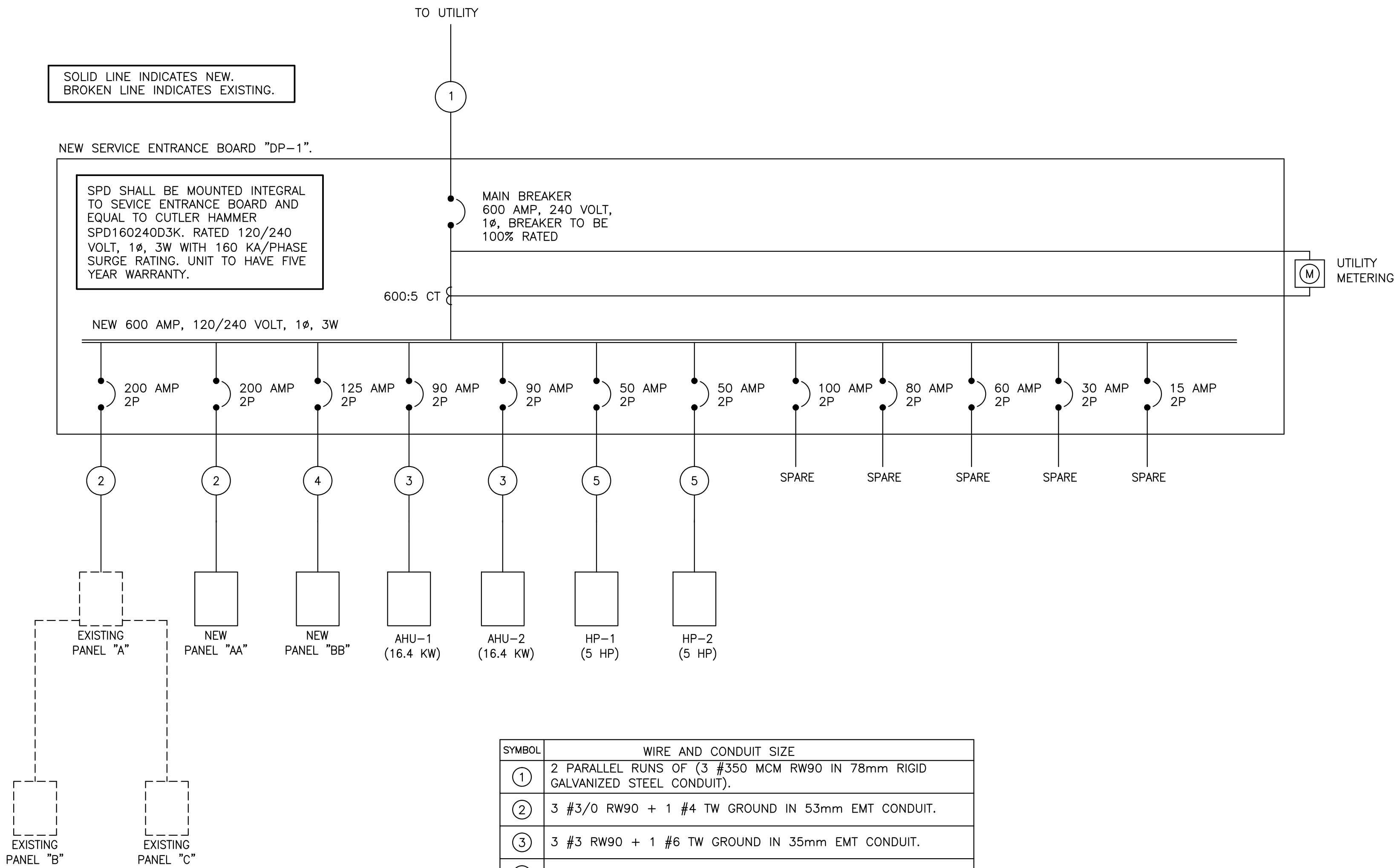
VOLTS	<u>120/240</u>	PANEL NAME	<u>AA</u>	MAINS RATED	<u>200</u> AMPS
PHASE	<u>1</u>	LOCATION	<u>FINANCE OFFICE</u>	MOUNTING	<u>SURFACE</u>
WIRE	<u>3</u>	FED FROM	<u>DP1</u>	ENTER AT	<u>CIRCUITS 42</u>

DESIGNATION	WATTAGE		WIRE	BKR	CCT	A	B	CCT	BKR	WIRE	WATTAGE		DESIGNATION
	ø A	ø B									ø A	ø B	
SPARE					15	1	●	2	20	12	1875		HEAT-OFFICE 4, 5, AND 6
HEAT-SUPERINTENDENT	1500		12	20	2	3	●	4	2				
	1500			2	5		●	6	15	12	1250		
HEAT-FILES, KITCHEN	1500		12	20	2	7	●	8	2			1250	HEAT-OFFICE 7 AND 8
				2	9		●	10	20	12	1500		
HEAT-FINANCE OFFICE, OFFICE 1	1500	1500	12	20	2	11	●	12	2			1500	HEAT-W/R 1, W/R 2, MAIL
				2	13		●	14	15	12	1250		
HEAT-BOARDROOM	1875	1875	12	20	2	15	●	16	2			1250	HEAT-EXECUTIVE ASSISTANT
				2	17		●	18	15	12	1375		
HEAT-OFFICE 2 AND 3	1625	1625	12	20	2	19	●	20	2			1375	SPARE
				2	21		●	22	15				
CDU-1, COU-1	1344	1344	12	15	2	23	●	24	15				SPARE
	1344			2	25		●	26	15				SPARE
CDU-2, COU-2	1344	1344	12	15	2	27	●	28	15				SPARE
				2	29		●	30	15				SPARE
SPARE				15	2	31	●	32	15				SPARE
				2	33		●	34	15				SPARE
SPARE				15	35		●	36	15				SPARE
SPARE				15	37		●	38	15				SPARE
SPARE				15	39		●	40	15				SPARE
SPARE				15	41		●	42	15				SPARE
ø A TOTAL : 17938													
ø B TOTAL : 17938													

* - INDICATES LOCK-ON DEVICE

** - INDICATES GROUND FAULT CIRCUIT BREAKER

TOTAL LOAD	<u>35.88</u> KW	<u>150</u> AMP
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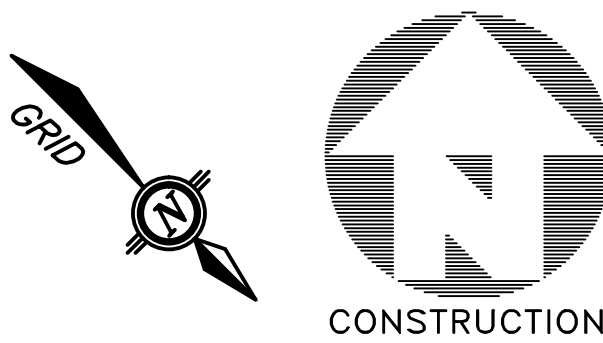


SYMBOL	WIRE AND CONDUIT SIZE
①	2 PARALLEL RUNS OF (3 #350 MCM RW90 IN 78mm RIGID GALVANIZED STEEL CONDUIT).
②	3 #3/0 RW90 + 1 #4 TW GROUND IN 53mm EMT CONDUIT.
③	3 #3 RW90 + 1 #6 TW GROUND IN 35mm EMT CONDUIT.
④	3 #1 RW90 + 1 #6 TW GROUND IN 41mm EMT CONDUIT.
⑤	3 #8 RW90 + 1 #10 TW GROUND IN 27mm EMT CONDUIT.

NEW SINGLE LINE DIAGRAM
N.T.S.

NOTES:

- DO NOT SCALE FROM THIS DRAWING.
- CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE BEFORE PROCEEDING WITH THIS WORK.
- ALL WORK TO BE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF: THE NATIONAL BUILDING CODE OF CANADA, LATEST EDITION; CANADIAN ELECTRICAL CODE, CURRENT EDITION; ANY OTHER AUTHORITIES HAVING JURISDICTION.



Permit: PROVINCE OF NEWFOUNDLAND PERMIT HOLDER Class "A" This Permit Allows CROSSIE ENGINEERING LIMITED

Stamp: REGISTERED PROFESSIONAL ENGINEER KENNEDY R.P. NEIL NOV.19.2018

To practice Professional Engineering in Newfoundland and Labrador Permit No. as issued by PEO-NL 00123 which is valid for the year 2018.

0	ISSUED FOR TENDER	2018/11/19
A	ISSUED FOR TENDER REVIEW	2017/11/14
revisions		date

project NEW HVAC SYSTEM ADMINISTRATION BLDG. TERRA NOVA NATIONAL PARK, NL

drawing PANEL, ELECTRIC HEATER SCHEDULE, AND SINGLE LINE DIAGRAM

designed K.N. conçu

date drawn M.N. dessiné

date approved K.N. approuvé

date Tender Soumission

PWGSC Project Manager Administrateur de projets TPSGC

project number 17-2230 no. du projet

EDMR NUMBER NO. EDMR

drawing no. E4 no. du dessin