

| HEAT PUMP OUTDOOR UNIT SCHEDULE | | | | | | | | | | | | | | | |
|---------------------------------|-----------------|----------|---------|-------------|--------------|-----------------------|-----------------------|------------|------|-----|-----|------|-------------|-------|------|
| TAG | SERVICE | LOCATION | MAKE | MODEL | TYPE | COOLING CAPACITY (KW) | HEATING CAPACITY (KW) | ELECTRICAL | | | | | WEIGHT (KG) | NOTES | |
| | | | | | | | | V/PH/Hz | KW | MOP | MCA | SEER | | | HSFF |
| HPO-1 | HPI-15,16,17&18 | ROOF | FUJITSU | AOU48RLXFZ1 | SPLIT SYSTEM | 14 | 15.8 | 208/1/60 | 5.3 | 40 | 38 | 14.7 | 9.3 | 100 | 1 |
| HPO-2 | HPI-13,14&7 | ROOF | FUJITSU | AOU48RLXFZ1 | SPLIT SYSTEM | 14 | 15.8 | 208/1/60 | 5.52 | 40 | 38 | 14.7 | 9.3 | 100 | 1 |
| HPO-3 | HPI-8,11&12 | ROOF | FUJITSU | AOU48RLXFZ1 | SPLIT SYSTEM | 14 | 15.8 | 208/1/60 | 5.52 | 40 | 38 | 14.7 | 9.3 | 100 | 1 |
| HPO-4 | HPI-4,5&6 | ROOF | FUJITSU | AOU48RLXFZ1 | SPLIT SYSTEM | 14 | 15.8 | 208/1/60 | 5.52 | 40 | 38 | 14.7 | 9.3 | 100 | 1 |
| HPO-5 | HPI-19&20 | ROOF | FUJITSU | AOU24RLXFZ1 | SPLIT SYSTEM | 6.4 | 7 | 208/1/60 | | 20 | 18 | 15.5 | 9 | 60 | 1 |
| HPO-6 | HPI-21,22&23 | ROOF | FUJITSU | AOU48RLXFZ1 | SPLIT SYSTEM | 14 | 15.8 | 208/1/60 | 5.52 | 40 | 38 | 14.7 | 9.3 | 100 | 1 |
| HPO-7 | HPI-1,2,3,9&10 | ROOF | FUJITSU | AOU48RLXFZ1 | SPLIT SYSTEM | 14 | 15.8 | 208/1/60 | 5.52 | 40 | 38 | 14.7 | 9.3 | 100 | 1 |

NOTES:
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SINGLE POINT ELECTRICAL CONNECTION. AMBIENT CONTROL FOR OPERATION DOWN TO 0F (-18°C) WITH FREEZE STAT. PROVIDE CONTROL AND POWER WIRING FROM INDOOR UNITS TO OUTDOOR UNIT. PROVIDE EXTENDED 5 YEAR WARRANTY ON COMPRESSOR, REFRIGERANT 410A. 80% TO 130% CONNECTABLE CAPACITY. SUITABLE FOR MULTI-ZONE HEAT PUMPS UP TO 130% CONNECTED CAPACITY. FUSED DISCONNECT IN WEATHER PROTECTED ENCLOSURE.

| HEAT PUMP INDOOR UNIT SCHEDULE | | | | | | | | | | | | | | |
|--------------------------------|---------|--------------|---------|----------|------------------|--------------|----------|--------------|--------------|------------|----------|-------------|-----------------------|-------|
| TAG | SERVICE | LOCATION | MAKE | MODEL | TYPE | VOLUME (L/S) | DX COIL | | | ELECTRICAL | | WEIGHT (KG) | DIMENSIONS WxDxH (mm) | NOTES |
| | | | | | | | ESP (PA) | COOLING (KW) | HEATING (KW) | W | V/PH/Hz | | | |
| HPI-1 | HPO-7 | SEE DRAWINGS | FUJITSU | ARU9RLF | SLIM DUCT | 150 | 60 | 2.6 | 2.9.8 | 50 | 208/1/60 | 17 | 70x62x20 | 1 |
| HPI-2 | HPO-7 | SEE DRAWINGS | FUJITSU | AUJ18RLF | CEILING CASSETTE | 150 | 10 | 5.2 | 5.8 | 40 | 208/1/60 | 15 | 57x57x25 | 1 |
| HPI-3 | HPO-7 | SEE DRAWINGS | FUJITSU | ARU12RLF | SLIM DUCT | 165 | 55 | 3.5 | 3.9 | 60 | 208/1/60 | 20 | 70x62x20 | 1 |
| HPI-4 | HPO-4 | SEE DRAWINGS | FUJITSU | ARU12RLF | SLIM DUCT | 165 | 55 | 3.5 | 3.9 | 60 | 208/1/60 | 20 | 70x62x20 | 1 |
| HPI-5 | HPO-4 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-6 | HPO-4 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-7 | HPO-2 | SEE DRAWINGS | FUJITSU | AUJ12RLF | CEILING CASSETTE | 130 | 10 | 3.5 | 3.9 | 25 | 208/1/60 | 15 | 57x57x25 | 1 |
| HPI-8 | HPO-3 | SEE DRAWINGS | FUJITSU | AUJ9RLF | CEILING CASSETTE | 118 | 10 | 2.6 | 2.9 | 20 | 208/1/60 | 15 | 57x57x25 | 1 |
| HPI-9 | HPO-7 | SEE DRAWINGS | FUJITSU | ASU9RLF | WALL MOUNTED | 120 | 10 | 2.6 | 2.9 | 18 | 208/1/60 | 9 | 84x20x27 | 1 |
| HPI-10 | HPO-7 | SEE DRAWINGS | FUJITSU | ASU12RLF | WALL MOUNTED | 125 | 10 | 3.5 | 3.9 | 25 | 208/1/60 | 9 | 84x20x27 | 1 |
| HPI-11 | HPO-3 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-12 | HPO-3 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-13 | HPO-2 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-14 | HPO-2 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-15 | HPO-1 | SEE DRAWINGS | FUJITSU | ARU07RLF | SLIM DUCT | 135 | 60 | 2 | 2.3 | 33 | 208/1/60 | 17 | 70x62x20 | 1 |
| HPI-16 | HPO-1 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-17 | HPO-1 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |
| HPI-18 | HPO-1 | SEE DRAWINGS | FUJITSU | ASU07RLF | WALL MOUNTED | 120 | 10 | 2 | 2.3 | 15 | 208/1/60 | 10 | 84x20x27 | 1 |
| HPI-19 | HPO-5 | SEE DRAWINGS | FUJITSU | ARU12RLF | SLIM DUCT | 165 | 55 | 3.5 | 3.9 | 60 | 208/1/60 | 20 | 70x62x20 | 1 |
| HPI-20 | HPO-5 | SEE DRAWINGS | FUJITSU | ARU12RLF | SLIM DUCT | 165 | 55 | 3.5 | 3.9 | 60 | 208/1/60 | 20 | 70x62x20 | 1 |
| HPI-21 | HPO-6 | SEE DRAWINGS | FUJITSU | ARU18RLF | SLIM DUCT | 245 | 65 | 5.2 | 5.8 | 75 | 208/1/60 | 24 | 90x62x20 | 1 |
| HPI-22 | HPO-6 | SEE DRAWINGS | FUJITSU | ARU18RLF | SLIM DUCT | 245 | 65 | 5.2 | 5.8 | 75 | 208/1/60 | 24 | 90x6 2x20 | 1 |
| HPI-23 | HPO-6 | SEE DRAWINGS | FUJITSU | ARU24RLF | SLIM DUCT | 345 | 25 | 7 | 7.9 | 111 | 208/1/60 | 28 | 110x62x20 | 1 |

NOTES:
 1. PROVIDE 3-POLE SINGLE THROW SAFETY DISCONNECT SWITCH AND CONDENSATE DRAIN PUMP, PIPED TO DRAIN. C/W 1" MERV FILTER AND PROGRAMMABLE, HARD WIRED T-STAT.

| FAN SCHEDULE | | | | | | | | | | | | |
|--------------|--------------------|----------|-----------|------------|--------------|----------------|---------------|-----------|-----------------|------------|----------------------|-------|
| TAG | SERVICE | LOCATION | MAKE | MODEL | TYPE | AIR FLOW (L/S) | FAN S.P. (PA) | FAN (BHP) | FAN SPEED (RPM) | DRIVE TYPE | ELECTRICAL (V/PH/Hz) | NOTES |
| EF-101 | PRINT ROOM EXHAUST | ROOF | GREENHECK | CUE-095-VG | ROOF MOUNTED | 120 | 75 | 0.03 | 1045 | DIRECT | 208/1/60 | 1 |
| EF-102 | PRINT ROOM EXHAUST | ROOF | GREENHECK | CUE-095-VG | ROOF MOUNTED | 120 | 75 | 0.03 | 1045 | DIRECT | 208/1/60 | 1 |

NOTES:
 1. C/W DISCONNECT SWITCH, VIBRATION ISOLATION AND HIGH EFFICIENCY MOTOR.

| GRILLES, DIFFUSERS & LOUVERS SCHEDULE | | | | | | | |
|---------------------------------------|------------|-------|------------------------|--------------|-----------|--------|-------|
| TAG | MAKE | MODEL | TYPE | SIZE (MMxMM) | NECK (MM) | FINISH | NOTES |
| SD-1 | E.H. PRICE | SCD | SQUARE PLAQUE DIFFUSER | 600x600 | AS SHOWN | B12 | 1 |
| SD-2 | E.H. PRICE | SCD | SQUARE PLAQUE DIFFUSER | 600x600 | AS SHOWN | B12 | 2 |
| ER-1 | E.H. PRICE | 80 | EGGCRATE FACE RETURN | AS SHOWN | - | B12 | 1 |
| ER-2 | E.H. PRICE | 80 | EGGCRATE FACE RETURN | AS SHOWN | - | B12 | 3 |
| SR-1 | E.H. PRICE | 520 | LOUVERED FACE SUPPLY | AS SHOWN | - | B12 | 4 |

NOTES:
 1. LAY-IN, TB BORDER.
 2. DUCT MOUNTED, TB BORDER.
 3. DUCT MOUNTED.
 4. DOUBLE DEFLECTION OUTER BLADES PARALLEL TO LONG DIMENSION. DUCT MOUNTED C/W F-BORDER AND OPPOSED BLADE DAMPER.



1 SITE PLAN
 SCALE: NTS

| PIPING LEGEND GENERAL | |
|-----------------------|-----------------------------|
| SYMBOL | DESCRIPTION |
| | PRESSURE REDUCING VALVE |
| | ISOLATION/SHUT OFF VALVE |
| | GLOBE VALVE |
| | CIRCUIT BALANCING VALVE |
| | 3-WAY MIXING VALVE |
| | PRESSURE RELIEF VALVE |
| | STRAINER |
| | CHECK VALVE |
| | CAP OFF |
| | BALANCING VALVE |
| | UNION |
| | PIPE BREAK |
| | PIPE DOWN |
| | PIPE UP |
| | TIE INTO EXISTING PIPING |
| | PIPE SLEEVE |
| | FLEXIBLE JOINT |
| | PIPE SECTION |
| | PUMP |
| | AIR VENT/AUTOMATIC AIR VENT |
| | PRESSURE GAUGE |
| | TEMPERATURE GAUGE |
| | NEW PIPE |
| | EXISTING PIPE TO REMAIN |
| | EXISTING PIPE TO BE REMOVED |
| | SUPPLY |
| | RETURN |
| | SLOPE |

| CONTROLS LEGEND | |
|-----------------|-----------------------------|
| SYMBOL | DESCRIPTION |
| | TEMPERATURE- PROGRAMMABLE |
| | TEMPERATURE SENSOR |
| | SWITCH - AS NOTED |
| | DDC ROOM TEMPERATURE SENSOR |

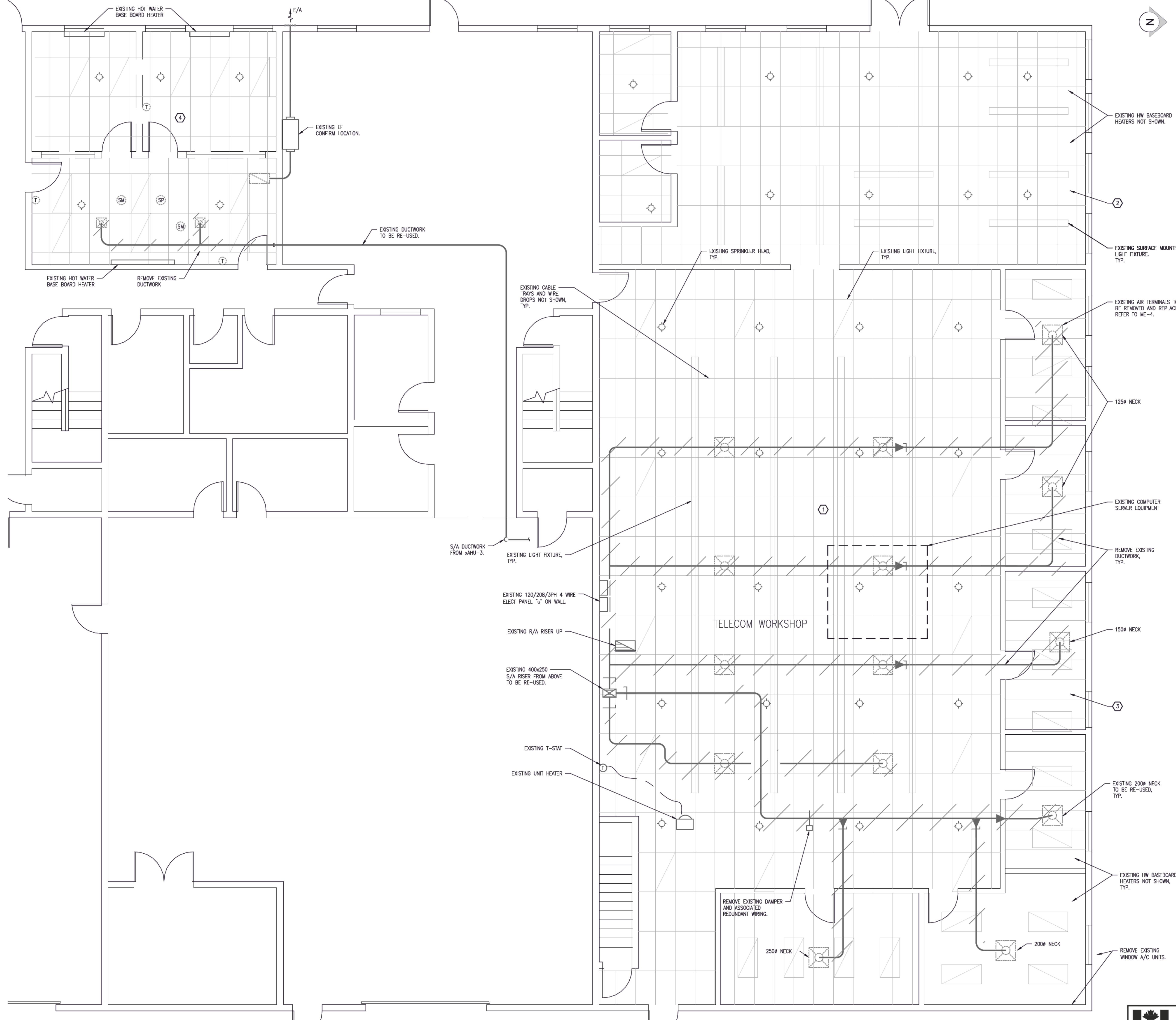
| PIPING LEGEND | |
|---------------|--------------------|
| SYMBOL | DESCRIPTION |
| | GLYCOL SUPPLY |
| | GLYCOL RETURN |
| | NATURAL GAS PIPING |
| | REFRIGERANT LIQUID |
| | REFRIGERANT VAPOR |

| DRAWING LIST | | |
|--------------|--|----------|
| DWG. NO. | DESCRIPTION | SCALE |
| ME-1 | LEGENDS, DRAWING LIST, SITE PLAN AND SCHEDULES | NTS |
| ME-2 | GROUND FLOOR PLAN-DEMO | 1:50 |
| ME-3 | MEZZANINE FLOOR PLAN-DEMO | 1:100 |
| ME-4 | GROUND FLOOR PLAN-NEW | 1:50 |
| ME-5 | MEZZANINE FLOOR PLAN-NEW | 1:50 |
| ME-6 | MEZZANINE FLOOR PLAN-NEW | 1:50 |
| ME-7 | ROOF PLAN AND DETAILS | AS SHOWN |

| SHEET METAL LEGEND | |
|--------------------|--------------------------------------|
| SYMBOL | DESCRIPTION |
| | DEMOLITION |
| | NEW DUCTWORK |
| | ACOUSTICALLY INSULATED DUCT |
| | EXISTING DUCTWORK TO REMAIN |
| | EXISTING DUCTWORK TO BE REMOVED |
| | SUPPLY AIR DUCT RISER - UP |
| | RETURN AIR DUCT RISER - UP |
| | SUPPLY AIR DUCT RISER - DOWN |
| | RETURN AIR DUCT RISER - DOWN |
| | SUPPLY AIR GRILLE - NEW |
| | RETURN/EXHAUST AIR GRILLE - NEW |
| | SUPPLY AIR GRILLE - EXISTING |
| | RETURN/EXHAUST AIR GRILLE - EXISTING |
| | DOOR UNDERCUT |
| | DOOR GRILLE |
| | TURNING WANES |
| | ACCESS HATCH |
| | ACCESS PANEL |
| | HEAT TRACE CABLE |
| | EXHAUST FAN - CEILING MTD. |
| | EXHAUST FAN - INLINE |
| | FIRE DAMPER - NEW |
| | FIRE DAMPER - EXISTING |
| | SMOKE DAMPER - NEW |
| | SMOKE DAMPER - EXISTING |
| | MOTORIZED DAMPER |
| | BALANCING DAMPER |
| | BACK DRAFT DAMPER |
| | AIR FLOW (CFM/%) |
| | DIFFUSER/GRILLE TAG |
| | AIR FLOW (CFM/%) |

| GENERAL LEGEND | |
|----------------|--------------------------|
| SYMBOL | DESCRIPTION |
| | EQUIPMENT TAG |
| | DRAWING NOTE |
| | ADJACENT |
| | AFF ABOVE FINISHED FLOOR |
| | CE CONNECT INTO EXISTING |
| | DN DOWN |
| | EX EXISTING |
| | FA FROM ABOVE |
| | FB FROM BELOW |
| | GC GENERAL CONTRACTOR |
| | RE REMOVE EXISTING |
| | RL RELOCATE EXISTING |
| | SS STAINLESS STEEL |
| | TR TO REMAIN |
| | TYP TYPICAL |
| | U/G UNDERGROUND |

| | | | | | | | | | |
|----------|--------------------|--|-------|---|-----|------------|----------------------------|--|------------------------|
| DWG. NO. | DRAWING REFERENCES | | NOTES | DESIGNED PW DRAWN PW CHECKED DS RECOMMENDED PW | 2 | 27/05/2019 | ISSUED FOR TENDER | CANADIAN COAST GUARD VICTORIA BASE WORKSHOPS BUILDING-HVAC UPGRADES SITE PLAN, LEGENDS AND SCHEDULES | SCALE NTS |
| | | | | | 1 | 14/03/2019 | ISSUED FOR TENDER REVIEW | | DATE MARCH 11, 2019 |
| | | | | | 0 | 07/02/2019 | ISSUED FOR PROGRESS REVIEW | | DRAWING NUMBER ME-1 |
| | | | | | NO. | DATE | REVISIONS | | 2 |



- DRAWING NOTES**
1. THE OFFICE AND WORKSHOP AREAS ARE TO BE KEPT IN OPERATION DURING DEMOLITION AND CONSTRUCTION. SHORT SERVICE OUTAGES (UP TO 30 MINUTES) SHALL BE ALLOWED DURING OFFICE HOURS IF AND WHEN COORDINATED WITH THE BASE OPERATIONS MANAGER. OUTAGES SHALL BE PRE-PLANNED AND AT LEAST 96 HOURS OF NOTICE PROVIDED BEFORE THE OUTAGE. ALLOW FOR AFTER HOUR CONSTRUCTION AND CLEAN UP BEFORE OFFICE HOURS RESUME IN EACH MORNING. CONSTRUCTION WORK ON WEEKENDS WILL BE ALLOWED, SUBJECT TO THE BASE OPERATIONS MANAGER'S APPROVAL.
 2. ANY SERVICE OUTAGES WHICH AFFECT THE OPERATIONS OF THE COMPUTER SERVICES MUST BE PRE-APPROVED AND THE DURATION OF THE OUTAGE MINIMIZED. MEASURES SHALL BE TAKEN TO PROTECT COMPUTER, ELECTRONICS AND PERSONAL EQUIPMENT IN THE FACILITY. CEILING TILES MAY BE REMOVED AT THE START OF DEMOLITION AND LEFT OPEN UNTIL THE CONSTRUCTION WORK IS COMPLETE.
 3. EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL SITE CONFIRM EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED.
 4. CONTRACTOR SHALL MODIFY/REMOVE EXISTING DUCTWORK, EQUIPMENT AND PIPING AS INDICATED. REFER TO ME-4 AND ME-5 FOR NEW WORK AND RE-USE OF EXISTING SERVICES. PROVIDE NEW/MODIFY EXISTING CEILING, LIGHT AND OTHER SMALL SERVICE HANGERS AS REQUIRED.



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

CANADIAN COAST GUARD
VICTORIA BASE WORKSHOPS
BUILDING—HVAC UPGRADES

GROUND FLOOR PARTIAL PLAN
DEMO

SCALE
1:50
DATE
MARCH 11, 2019
DRAWING NUMBER
ME-2

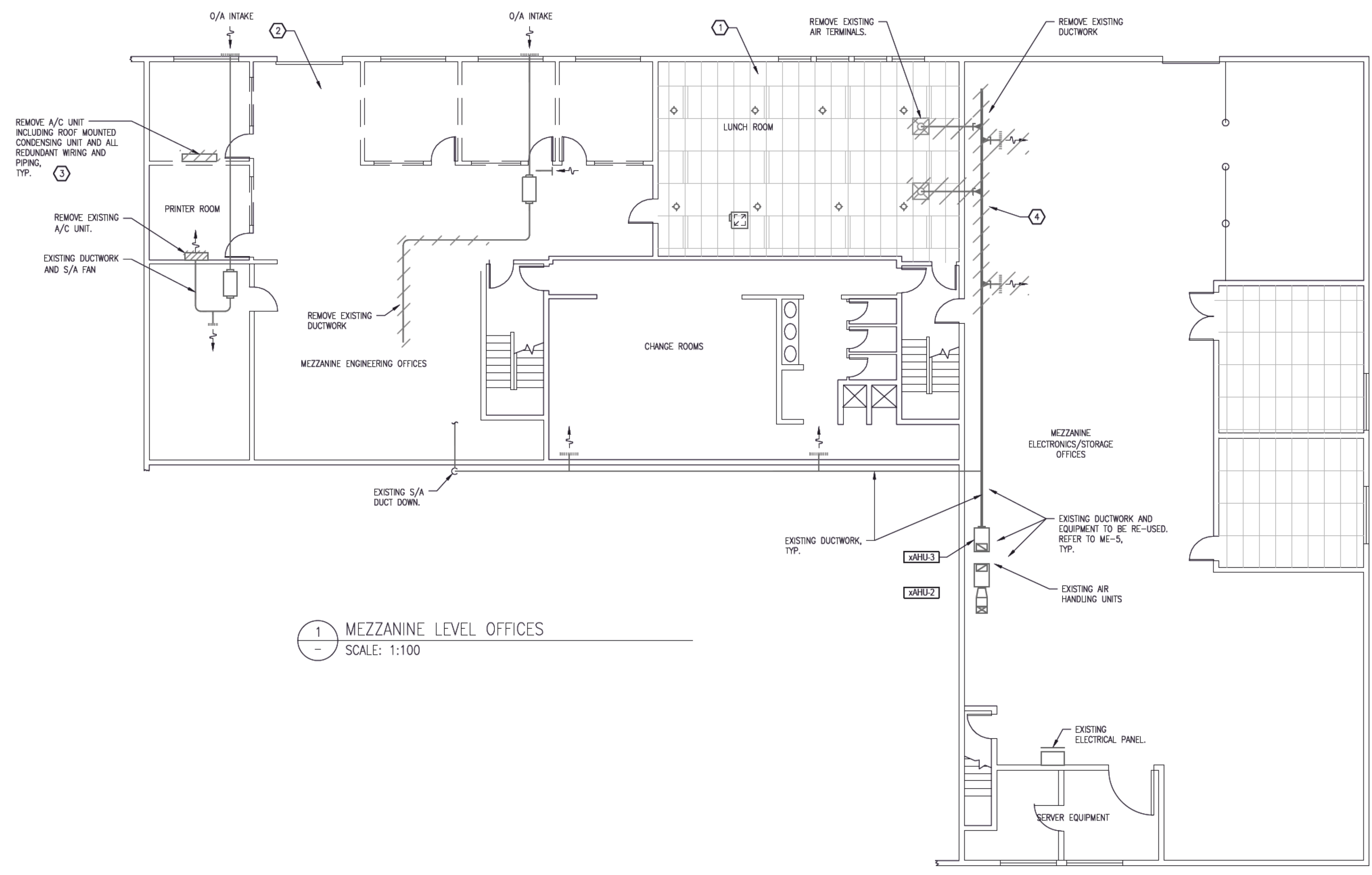
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|--|--------------------|-----|------------|----------------------------|-------------|
| Project No. 2018446 | DESIGNED PW | 2 | 27/05/2019 | ISSUED FOR TENDER | DRAWN PW |
| Prism ENGINEERING saving you energy | CHECKED DS | 1 | 14/03/2019 | ISSUED FOR TENDER REVIEW | PLAN |
| | RECOMMENDED PW | 0 | 07/02/2019 | ISSUED FOR PROGRESS REVIEW | DS |
| | APPROVED PW | | | | |
| DWG. NO. | DRAWING REFERENCES | NO. | DATE | REVISIONS | |

NOTES

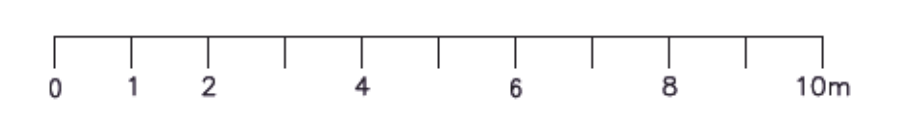


DRAWING NOTES

1. THE OFFICE AND WORKSHOP AREAS ARE TO BE KEPT IN OPERATION DURING DEMOLITION AND CONSTRUCTION. SHORT SERVICE OUTAGES (UP TO 30 MINUTES) SHALL BE ALLOWED DURING OFFICE HOURS IF AND WHEN COORDINATED WITH THE BASE OPERATIONS MANAGER. OUTAGES SHALL BE PRE-PLANNED AND AT LEAST 96 HOURS OF NOTICE PROVIDED BEFORE THE OUTAGE. ALLOW FOR AFTER HOUR CONSTRUCTION AND CLEAN UP BEFORE OFFICE HOURS RESUME IN EACH MORNING. CONSTRUCTION WORK ON WEEKENDS WILL BE ALLOWED, SUBJECT TO THE BASE OPERATIONS MANAGER'S APPROVAL.
2. ANY SERVICE OUTAGES WHICH AFFECT THE OPERATIONS OF THE COMPUTER SERVERS MUST BE PRE-APPROVED AND THE DURATION OF THE OUTAGE MINIMIZED. MEASURES SHALL BE TAKEN TO PROTECT COMPUTER, ELECTRONICS AND PERSONAL EQUIPMENT IN THE FACILITY. CEILING TILES MAY BE REMOVED AT THE START OF DEMOLITION AND LEFT OPEN UNTIL THE CONSTRUCTION WORK IS COMPLETE.
3. EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL SITE CONFIRM EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED.
4. CONTRACTOR SHALL MODIFY/REMOVE EXISTING DUCTWORK, EQUIPMENT AND PIPING AS INDICATED. REFER TO ME-4 AND ME-5 FOR NEW WORK AND RE-USE OF EXISTING SERVICES. PROVIDE NEW/MODIFY EXISTING CEILING, LIGHT AND OTHER SMALL SERVICE HANGERS AS REQUIRED.



1 MEZZANINE LEVEL OFFICES
SCALE: 1:100



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

CANADIAN COAST GUARD
VICTORIA BASE WORKSHOPS
BUILDING—HVAC UPGRADES

MEZZANINE LEVEL PLAN
DEMO

| | |
|----------------|----------------|
| SCALE | 1:100 |
| DATE | MARCH 11, 2019 |
| DRAWING NUMBER | ME-3 |
| | 2 |

| NO. | DATE | REVISIONS |
|-----|------------|----------------------------|
| 2 | 27/05/2019 | ISSUED FOR TENDER |
| 1 | 14/03/2019 | ISSUED FOR TENDER REVIEW |
| 0 | 07/02/2019 | ISSUED FOR PROGRESS REVIEW |

DESIGNED
PW
DRAWN
PW
CHECKED
DS
RECOMMENDED
PW
APPROVED
PW



Project No. 2018446

| DWG. NO. | DRAWING REFERENCES |
|----------|--------------------|
| | |

NOTES

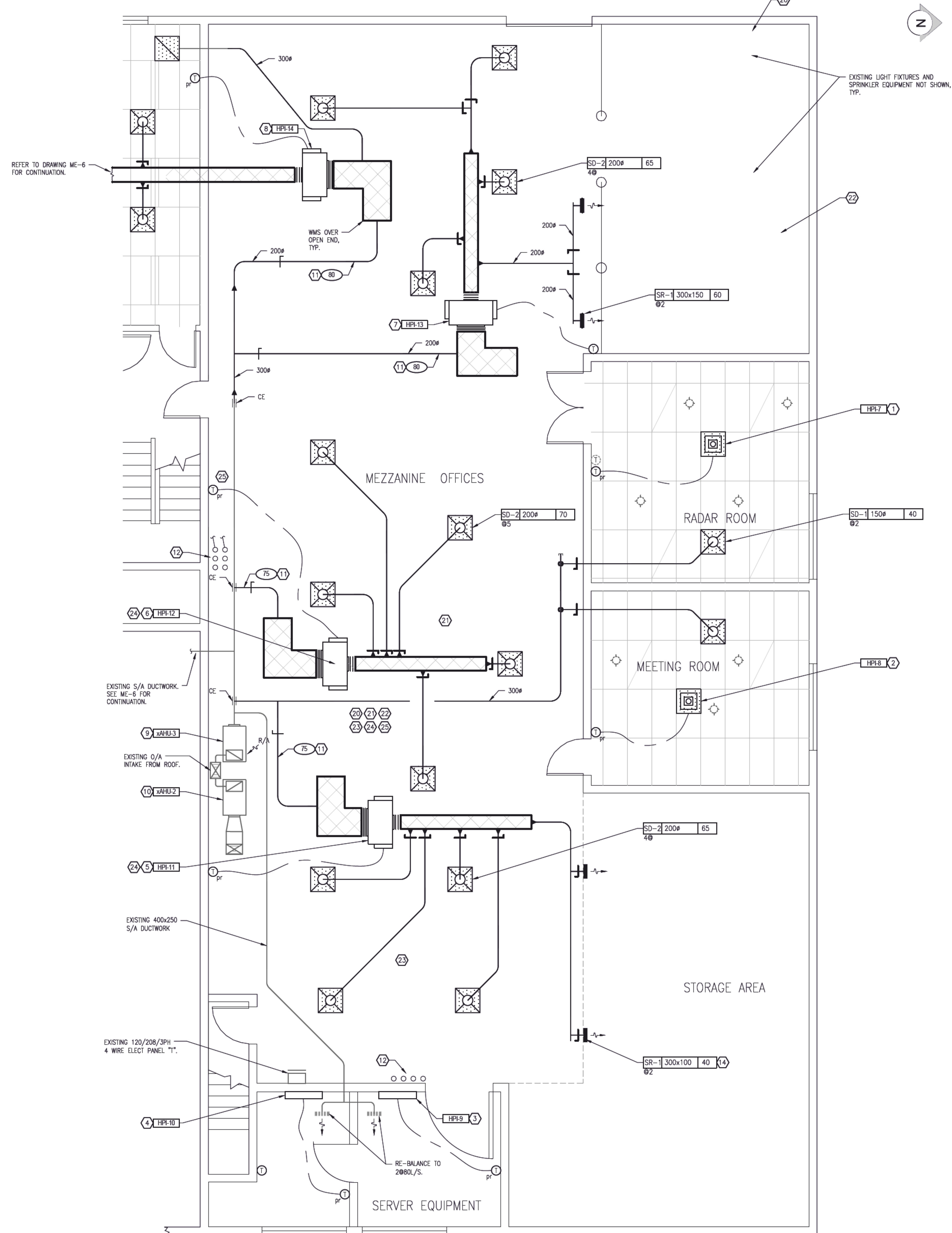
REFER TO DRAWING ME-6 FOR CONTINUATION.

EXISTING S/A DUCTWORK. SEE ME-6 FOR CONTINUATION.

EXISTING 400x250 S/A DUCTWORK

EXISTING 120/208/3PH 4 WIRE ELECT PANEL T.T.

EXISTING LIGHT FIXTURES AND SPRINKLER EQUIPMENT NOT SHOWN, TYP.



- DRAWING NOTES**
- PROVIDE NEW CASSETTE HEAT PUMP (HPI-7, "12") MOUNTED IN CEILING SPACE AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN. USE 20 MM DIAM DRAIN WHEN SERVING MORE THAN ONE COIL.
 - PROVIDE NEW CASSETTE HEAT PUMP (HPI-8, "09") MOUNTED IN CEILING SPACE AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN. USE 20 MM DIAM DRAIN WHEN SERVING MORE THAN ONE COIL TYP.
 - PROVIDE NEW WALL MOUNTED HEAT PUMP (HPI-9, "09") AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
 - PROVIDE NEW WALL MOUNTED HEAT PUMP (HPI-10, "12") AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
 - PROVIDE NEW HEAT PUMP FAN COIL (HPI-11, "24") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 600 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 200 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
 - PROVIDE NEW HEAT PUMP FAN COIL (HPI-12, "24") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 600 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 200 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
 - PROVIDE NEW HEAT PUMP FAN COIL (HPI-13, "24") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 600 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 200 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
 - PROVIDE NEW HEAT PUMP FAN COIL (HPI-14, "24") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 600 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 200 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM. FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
 - EXISTING AHU-3 TO BE RE-PURPOSED TO PROVIDE VENTILATION SUPPLY AIR. RE-BALANCE AND SERVICE AHU AND MODIFY EXISTING CONTROL SEQUENCES TO PROVIDE A MINIMUM OF 50 % OUTDOOR AIR. REFER TO CONTROL SEQUENCES.
 - EXISTING AHU-2 TO BE RE-PURPOSED TO PROVIDE VENTILATION SUPPLY AIR. RE-BALANCE AND SERVICE AHU AND MODIFY EXISTING CONTROL SEQUENCES TO PROVIDE A MINIMUM OF 50 % OUTDOOR AIR. REFER TO CONTROL SEQUENCES.
 - VENTILATION SUPPLY AIR FROM EXISTING AHU-3 TO HPI'S. DIRECTLY CONNECT THE 2000 LINO. VENTILATION AIR TO THE RETURN AIR PLENUM AND BALANCE TO AIR FLOW INDICATED. SEE ME-6 FOR CONTINUATION.
 - REFRIGERANT PIPING, CONDENSATE AND CONTROLS & POWER WIRING FROM THE OUTDOOR HEAT PUMPS TO INDOOR HEAT PUMPS. PIPE CONDENSATE TO THE ROOF OR TO EXISTING SANITARY DRAINS NEAR THE EXISTING AHU'S. SITE CONFIRM BEST LOCATION FOR FLOOR AND ROOF PENETRATIONS AND FIRE SEAL PENETRATIONS. EACH PAIR OF SUCTION AND LIQUID REFRIGERATION PIPING RISERS TO BE INSULATED AND COVERED WITH ALUMINUM JACKET.
 - THE OFFICE AND WORKSHOP AREAS ARE TO BE KEPT IN OPERATION DURING DEMOLITION AND CONSTRUCTION. SHORT SERVICE OUTAGES (1-30 MINUTES) SHALL BE ALLOWED DURING OFFICE HOURS IF AND WHEN COORDINATED WITH THE BASE OPERATIONS MANAGER. OUTAGES SHALL BE PRE-PLANNED AND AT LEAST 96 HOURS OF NOTICE PROVIDED BEFORE THE OUTAGE. ALLOW FOR AFTER HOUR CONSTRUCTION AND CLEAN UP BEFORE OFFICE HOURS RESUME IN EACH MORNING. CONSTRUCTION WORK ON WEEKENDS WILL BE ALLOWED, SUBJECT TO THE BASE OPERATIONS MANAGER'S APPROVAL.
 - ANY SERVICE OUTAGES WHICH AFFECT THE OPERATIONS OF THE COMPUTER SERVERS MUST BE PRE-APPROVED AND THE DURATION OF THE OUTAGE MINIMIZED. MEASURES SHALL BE TAKEN TO PROTECT COMPUTER, ELECTRONICS AND PERSONAL EQUIPMENT IN THE FACILITY. CEILING TILES MAY BE REMOVED AT THE START OF DEMOLITION AND LEFT OPEN UNTIL THE CONSTRUCTION WORK IS COMPLETE.
 - EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL CONFIRM BEST EXACT LOCATIONS TO INSTALL NEW EQUIPMENT TO BEST SUIT SITE CONDITIONS. THE CONTRACTOR IS TO NOTIFY THE ENGINEER OF RECORD BEFORE ANY MAJOR MOVEMENT OF EQUIPMENT.
 - CONTRACTOR SHALL MODIFY/RELOCATE/REPLACE EXISTING CEILING, LIGHT FIXTURE, DUCTWORK AND PIPING SUPPORTS, MSSC ELECTRICAL WIRING AND ELECT. CONDUIT 20 MM DIAM AND LESS AS REQUIRED TO INSTALL THE NEW EQUIPMENT. THE CONTRACTOR SHALL ALSO ALLOW FOR THE RELOCATION OF TWO LIGHTING FIXTURES ON THIS FLOOR PLAN TO ADJACENT LOCATIONS TO ALLOW FOR BETTER SERVICE ACCESS TO EQUIPMENT. LOCATE EQUIPMENT ACCESS PANELS TO PROVIDE THE BEST SERVICE ACCESS.
 - ALL FAN COIL HEAT PUMPS SHALL BE SEISMICALLY RESTRAINED, MOUNTED ON VIBRATION ISOLATORS WITH FLEX CONNECTIONS ON THE DUCT INLETS AND OUTLETS. ALL EQUIPMENT SUPPLIED MUST PROVIDE CLEARANCE FOR EXISTING EQUIPMENT SERVICE ACCESS INCLUDING ELECTRICAL JUNCTION BOXES. PROVIDE LAMCROID LABEL FOR EXISTING T-STATS SAYING: "HOT WATER BASEBOARD HEATER" AND PROVIDE LAMCROID LABELS FOR NEW THERMOSTATS SAYING: "HEAT PUMP HEATING/COOLING". VERIFY OPERATION OF EXISTING T-STAT AND ASSOCIATED CONTROL VALVES.



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

CANADIAN COAST GUARD
VICTORIA BASE WORKSHOPS
BUILDING-HVAC UPGRADES

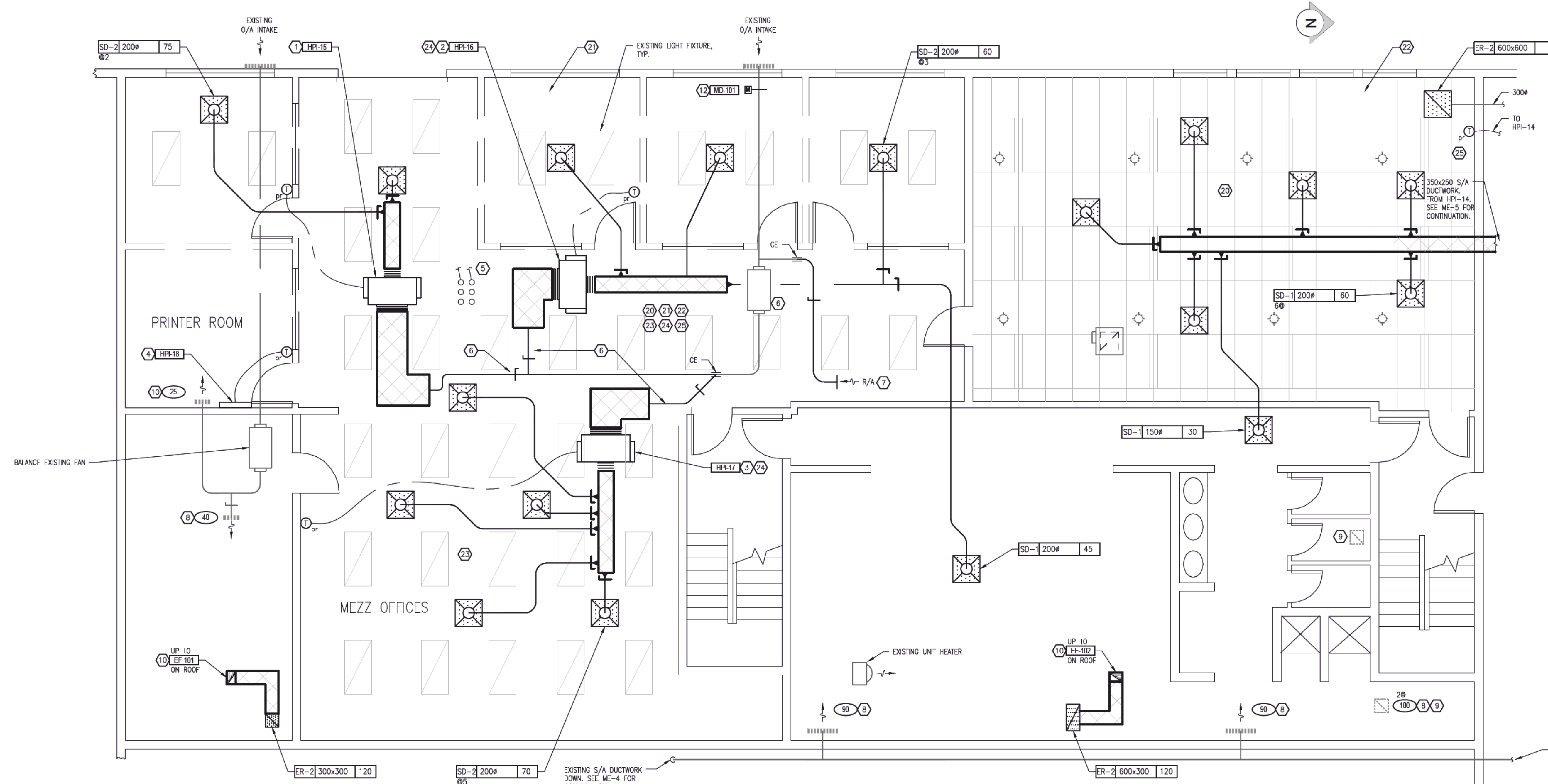
MEZZANINE LEVEL OFFICES HVAC
SERVICES RADAR AREA

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| | 1 14/03/2019 ISSUED FOR TENDER REVIEW |
| | 0 07/02/2019 ISSUED FOR PROGRESS REVIEW |

DRAWING NOTES

1. PROVIDE NEW HEAT PUMP FAN COIL (HPI-15, "10") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 300 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 150 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM, FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
2. PROVIDE NEW HEAT PUMP FAN COIL (HPI-16, "24") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 600 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 200 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM, FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
3. PROVIDE NEW HEAT PUMP FAN COIL (HPI-17, "24") MOUNTED IN CEILING SPACE AND CONNECTED TO DUCTWORK AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). TRANSITION TO 600 X 250 SA DUCT AND RETURN DUCT TO TRANSITION FROM RETURN CONNECTION SIZE TO 600 X 200 RETURN BOOT C/W 12 MM THICK ACOUSTIC INSULATION. PROVIDE PUMPED CONDENSATE, 12 MM DIAM, FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
4. PROVIDE NEW WALL MOUNTED HEAT PUMP (HPI-18, "07") AS INDICATED. PROVIDE REFRIGERATION PIPING, POWER SUPPLY & CONTROLS WIRING FROM THE OUTDOOR UNIT TO THE INDOOR FAN COIL (NOT SHOWN FOR CLARITY). PROVIDE PUMPED CONDENSATE, 12 MM DIAM, FROM COIL DRAIN PAN, UP THROUGH ROOF TO OUTDOORS OR TO NEARBY SANITARY DRAIN.
5. REFRIGERANT PIPING, CONDENSATE DRAIN AND CONTROLS/POWER WIRING FROM INTERNAL HPI'S TO OUTDOOR HEAT PUMP UNITS TO RISE UP THROUGH ROOF. EACH PAIR OF SUCTION AND LIQUID REFRIGERATION PIPING RISERS TO BE INSULATED AND COVERED WITH A SINGLE ALUMINUM JACKET. REFER TO ROOF PENETRATION DETAIL.
6. EXISTING OUTDOOR AIR SUPPLY FAN TO BE SERVICED, CLEANED AND REBALANCED. MODIFY DUCTWORK TO PROVIDE VENTILATION SUPPLY AIR TO EACH HPI AND BALANCE TO AIR FLOW INDICATED.
7. EXTEND EXISTING 250 MM DIAM. RA DUCT AS INDICATED AND BALANCE TO 25% RA.
8. CLEAN AND REBALANCE EXISTING AIR TERMINAL TO AIR FLOW INDICATED.
9. TRACE OUT EXISTING DUCTWORK ON SITE AND PROVIDE RECORD DRAWING INFORMATION ON AS-BUILT DRAWINGS INCLUDING DUCT AND WALL OPENING SIZES. REBALANCE EXISTING EXHAUST FAN.
10. EXISTING AIR TERMINAL TO BE CLEANED, SEISMICALLY RESTRAINED AND RE-BALANCED TO THE AIR FLOW INDICATED.
11. PROVIDE NEW MOTORIZED DAMPER IN EXISTING OUTDOOR INTAKE DUCTWORK. INSULATE DAMPER FRAME AND PROVIDE FLEX CONNECTION DOWNSTREAM OF DAMPER FOR THERMAL BREAK.
12. PROVIDE NEW 2 POSITION MOTORIZED DAMPER IN EXISTING DUCT DAMPER TO BE TAMCO, SERIES 8000, 400X300, THERMALLY INSULATED, PARALLEL BLADE DAMPER. SITE CONFIRM SIZE. INTERLOCK WITH FAN SO DAMPER OPENS WHEN FAN ON AND IS CLOSED WHEN FAN IS OFF.
20. THE OFFICE AND WORKSHOP AREAS ARE TO BE KEPT IN OPERATION DURING DEMOLITION AND CONSTRUCTION. SHORT SERVICE OUTAGES (1-30 MINUTES) SHALL BE ALLOWED DURING OFFICE HOURS IF AND WHEN COORDINATED WITH THE BASE OPERATIONS MANAGER. OUTAGES SHALL BE PRE-PLANNED AND AT LEAST 96 HOURS OF NOTICE PROVIDED BEFORE THE OUTAGE. ALLOW FOR AFTER HOUR CONSTRUCTION AND CLEAN UP BEFORE OFFICE HOURS RESUME IN EACH MORNING. CONSTRUCTION WORK ON WEEKENDS WILL BE ALLOWED, SUBJECT TO THE BASE OPERATIONS MANAGER'S APPROVAL.
21. ANY SERVICE OUTAGES WHICH AFFECT THE OPERATIONS OF THE COMPUTER SERVERS MUST BE PRE-APPROVED AND THE DURATION OF THE OUTAGE MINIMIZED. MEASURES SHALL BE TAKEN TO PROTECT COMPUTER, ELECTRONICS AND PERSONAL EQUIPMENT IN THE FACILITY. CEILING TILES MAY BE REMOVED AT THE START OF DEMOLITION AND LEFT OPEN UNTIL THE CONSTRUCTION WORK IS COMPLETE.
22. EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL CONFIRM BEST EXACT LOCATIONS TO INSTALL NEW EQUIPMENT TO BEST SUIT SITE CONDITIONS. THE CONTRACTOR IS TO NOTIFY THE ENGINEER OF RECORD BEFORE ANY MAJOR MOVEMENT OF EQUIPMENT.
23. CONTRACTOR SHALL MODIFY/RELOCATE/REPLACE EXISTING CEILING, LIGHT FIXTURE, DUCTWORK AND PIPING SUPPORTS, MISC ELECTRICAL WIRING AND ELEC. CONDUIT 20 MM DIAM AND LESS AS REQUIRED TO INSTALL THE NEW EQUIPMENT. THE CONTRACTOR SHALL ALSO ALLOW FOR THE RELOCATION OF TWO LIGHTING FIXTURES ON THIS FLOOR PLAN TO ADJACENT LOCATIONS TO ALLOW FOR BETTER SERVICE ACCESS TO EQUIPMENT. LOCATE EQUIPMENT ACCESS PANELS TO PROVIDE THE BEST SERVICE ACCESS.
24. ALL FAN COIL HEAT PUMPS SHALL BE SEISMICALLY RESTRAINED, MOUNTED ON VIBRATION ISOLATORS WITH FLEX CONNECTIONS ON THE DUCT INLETS AND OUTLETS. ALL EQUIPMENT SUPPLIED MUST PROVIDE CLEARANCE FOR EXISTING ELECTRICAL JUNCTION BOXES, ACCESS INCLUDING ELECTRICAL JUNCTION BOXES.
25. PROVIDE LAMACOID LABEL FOR EXISTING T-STATS SAYING: "HOT WATER BASEBOARD HEATER" AND PROVIDE LAMCROID LABELS FOR NEW THERMOSTATS SAYING: "HEAT PUMP HEATING/COOLING". VERIFY OPERATION OF EXISTING T-STAT AND ASSOCIATED CONTROL VALVES.



FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

CANADIAN COAST GUARD
VICTORIA BASE WORKSHOPS
BUILDING-HVAC UPGRADES

MEZZANINE LEVEL OFFICES HVAC SERVICES - NEW

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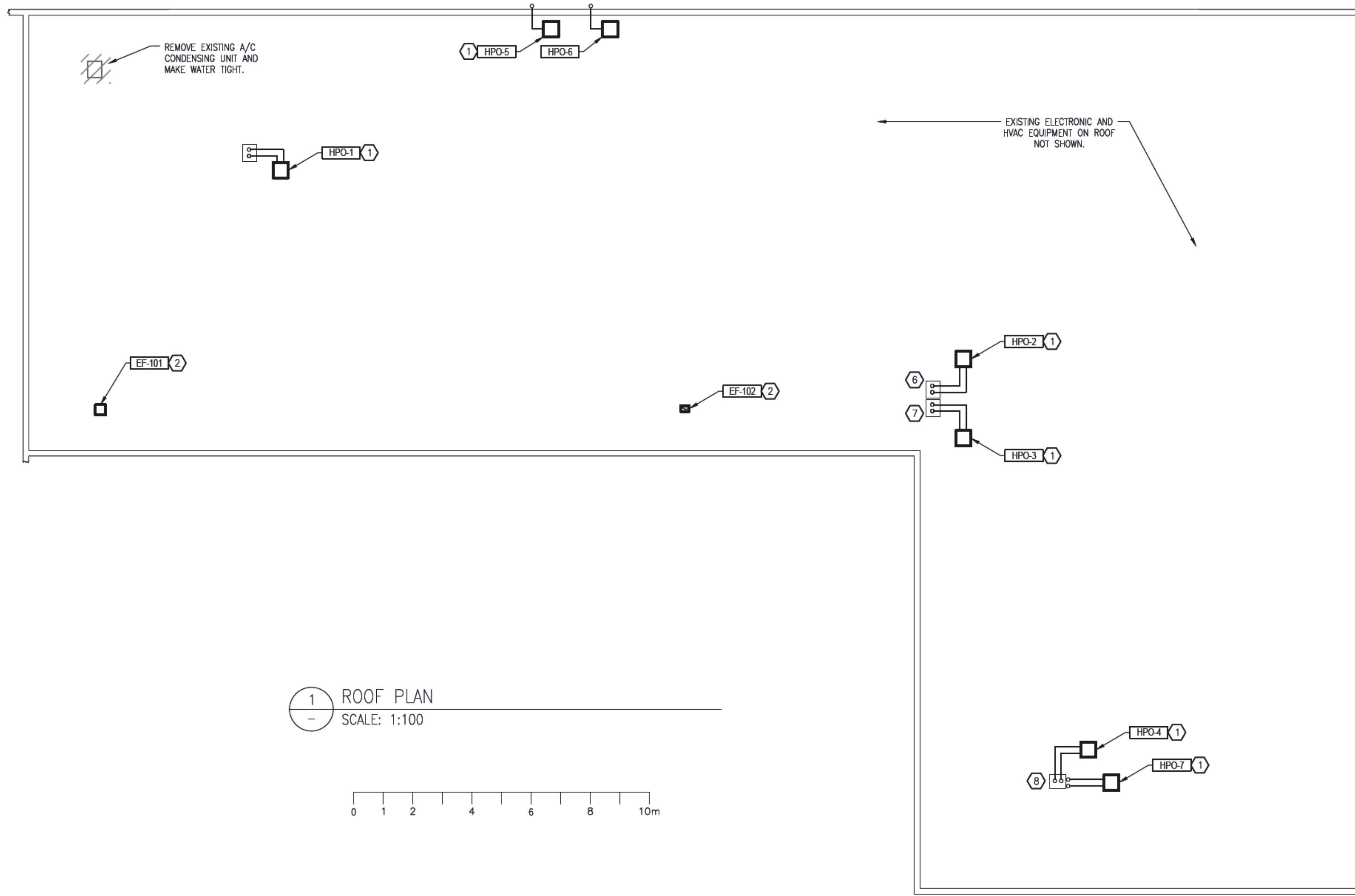
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Project No: 2018446

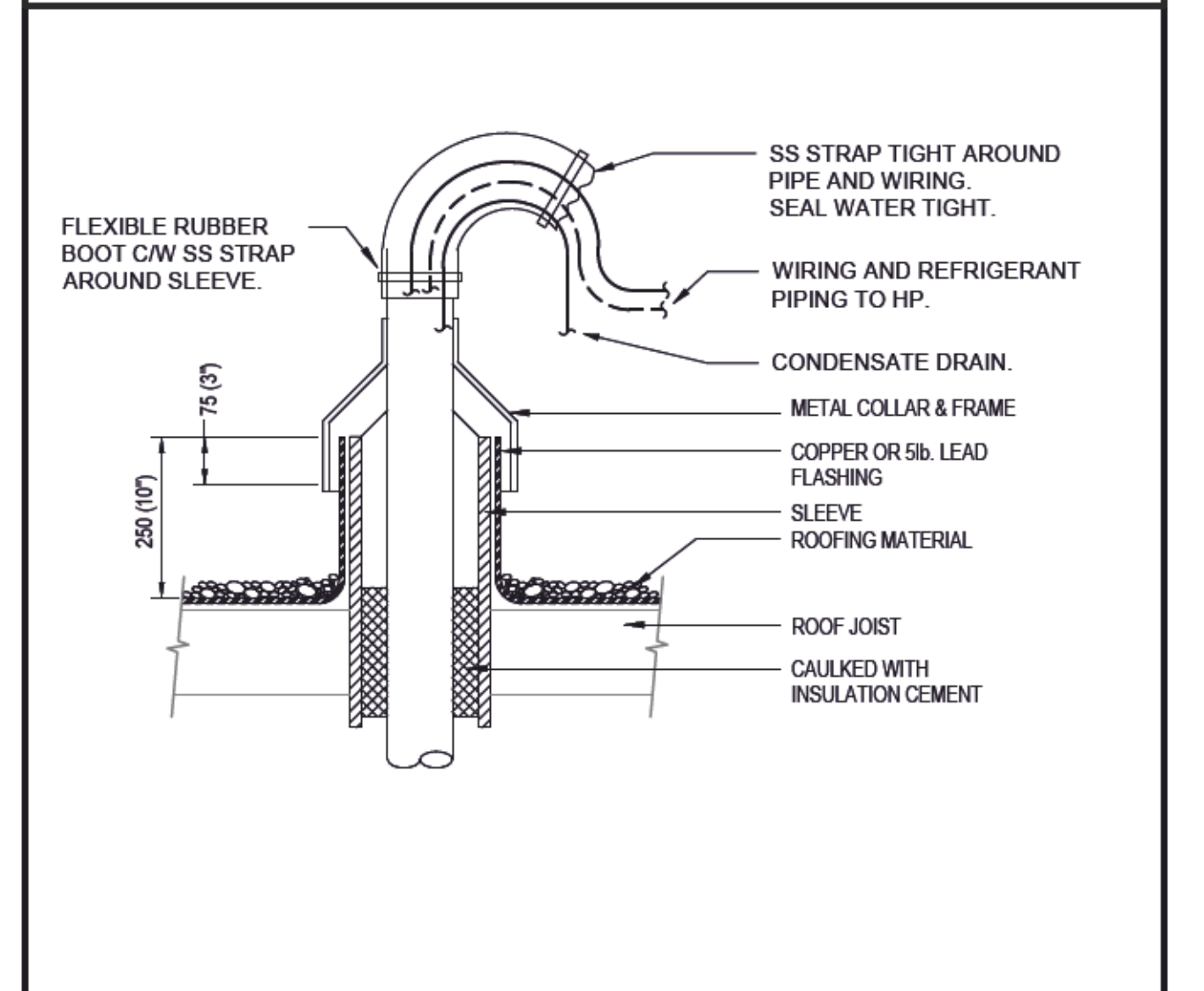
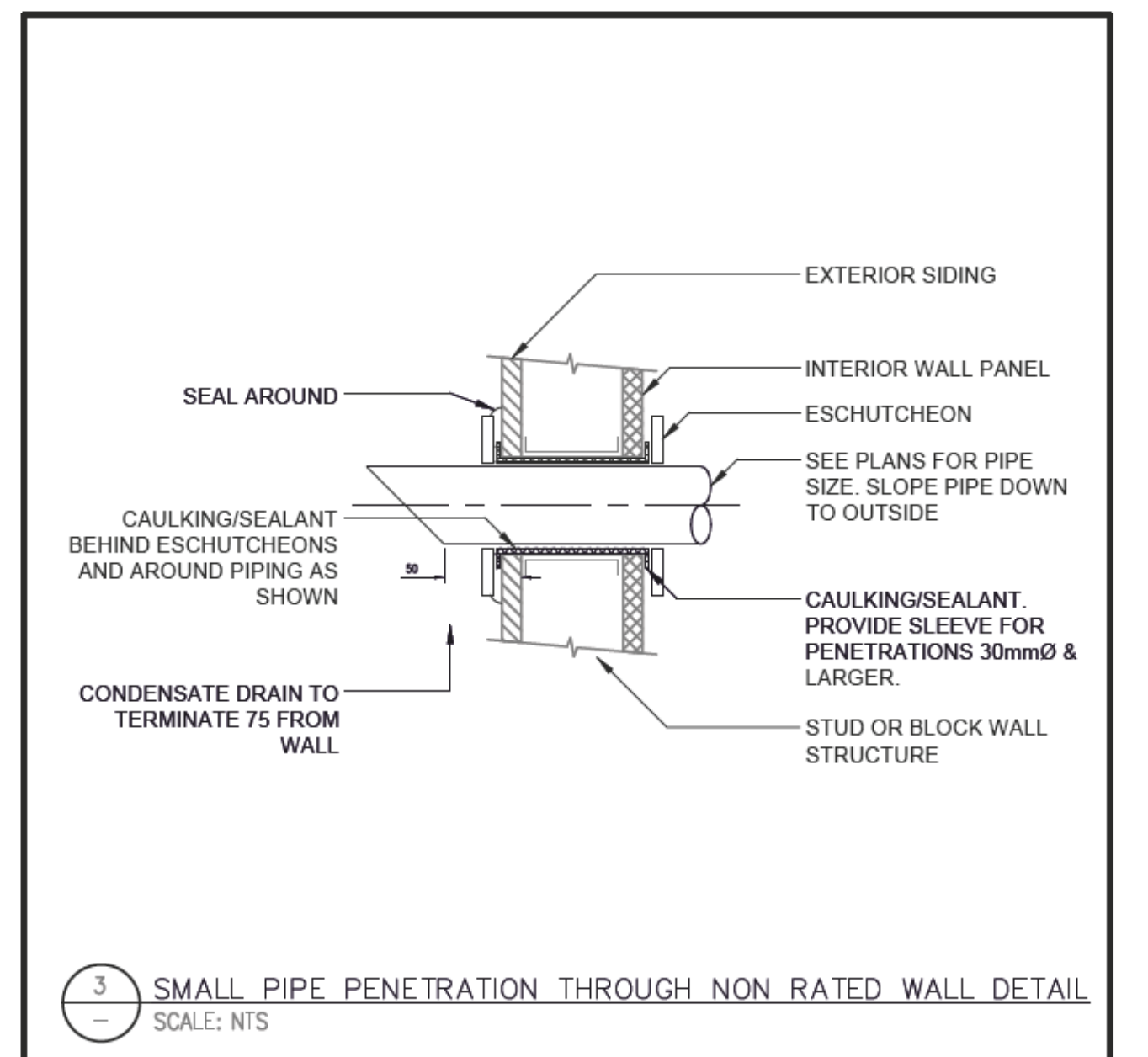
Prism ENGINEERING
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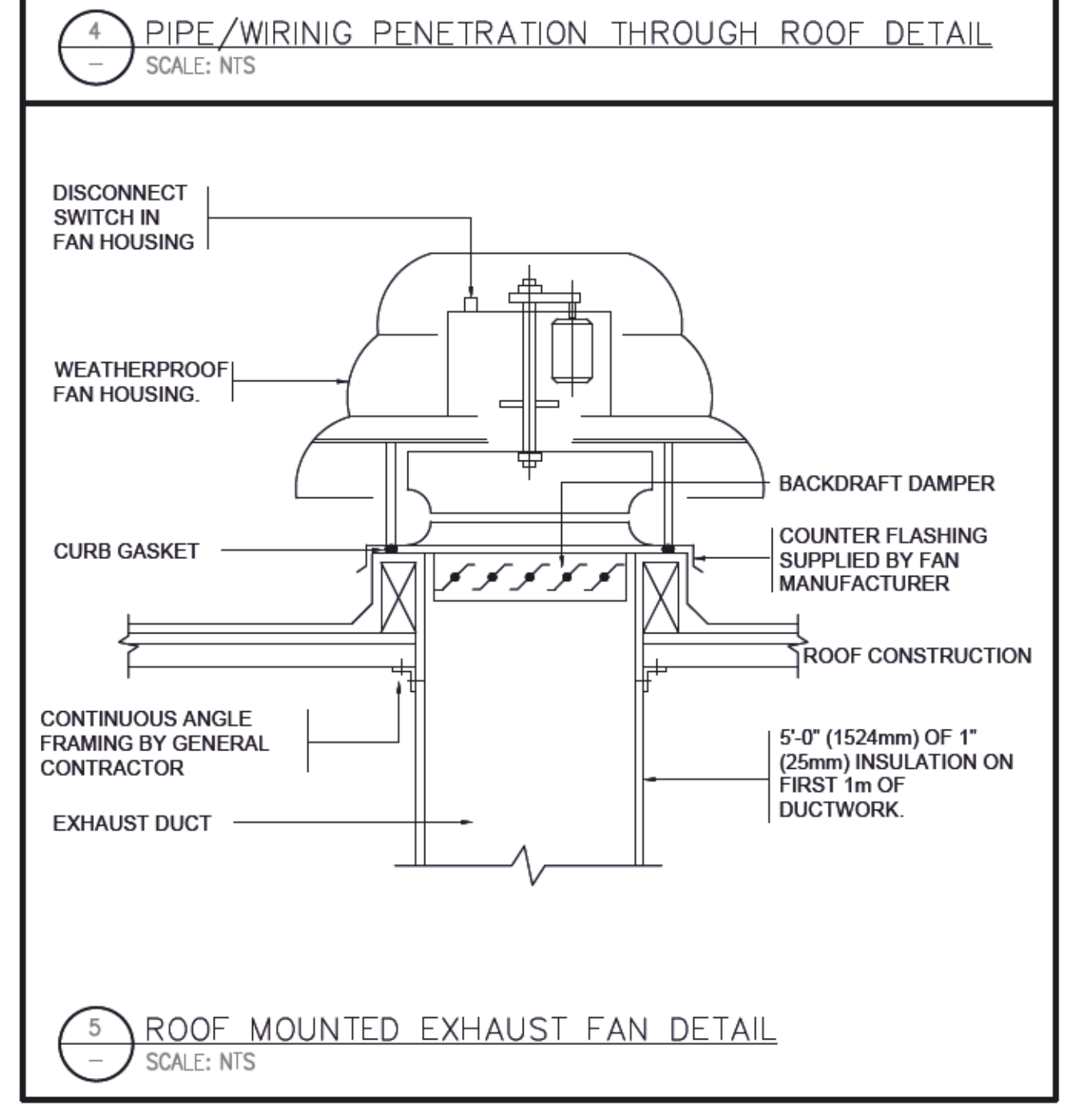
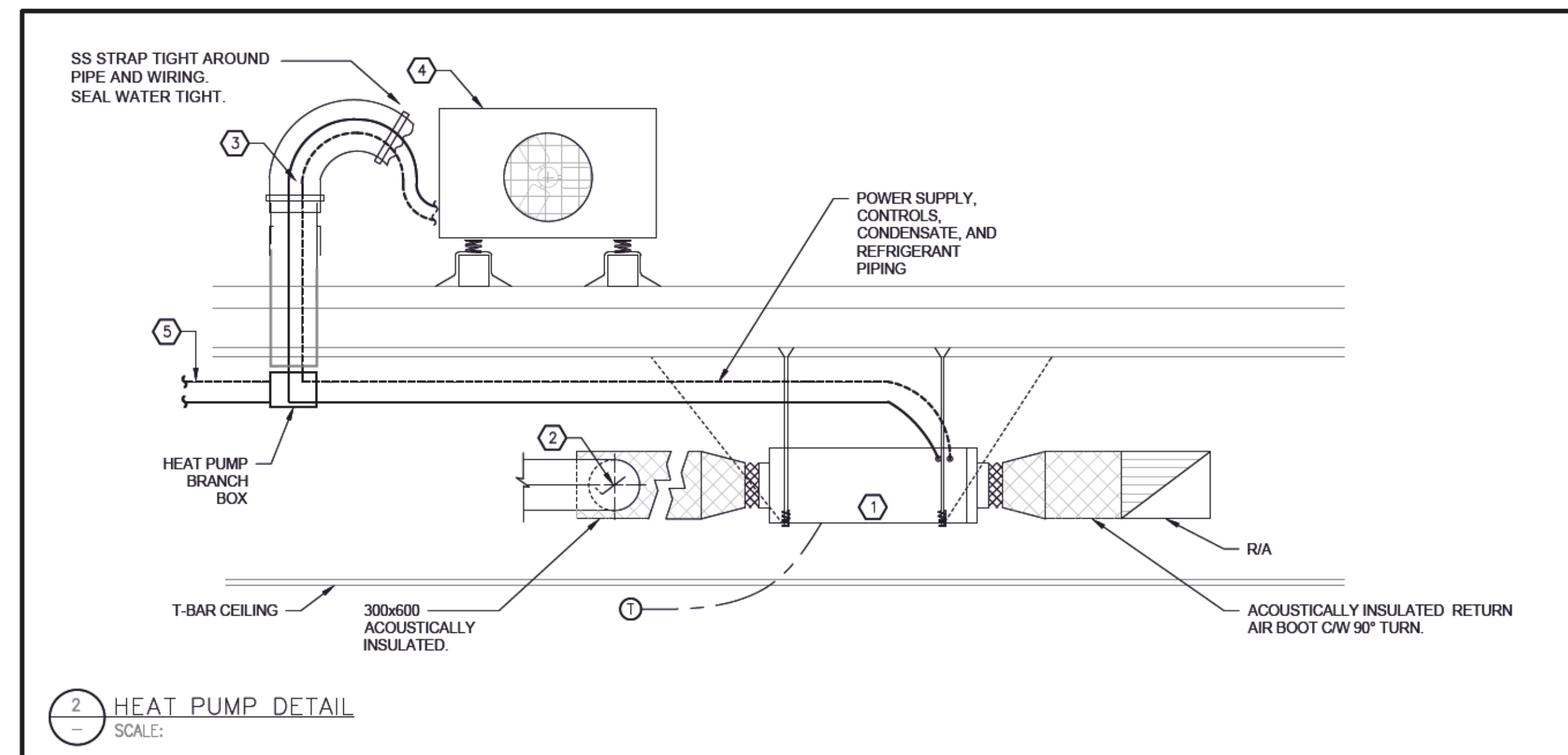
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- DRAWING NOTES**
1. OUTDOOR HEAT PUMP MOUNTED ON ROOF CURB. PROVIDE ROOF CURB AND PIPING/WIRING PENETRATION AS INDICATED. REFER TO DETAILS.
 2. PROVIDE NEW ROOF PENETRATION AND 2000mm HIGH ROOF CURB FOR NEW EXHAUST FAN. REFER TO DETAIL.

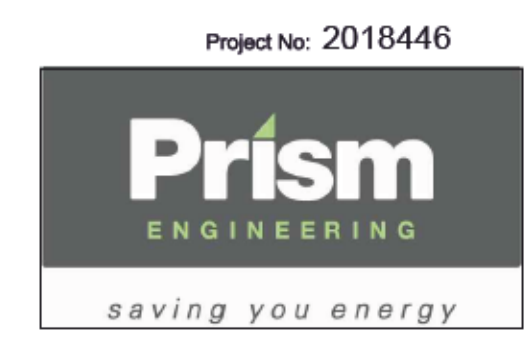


- DETAIL NOTES**
1. PROVIDE SPLIT SYSTEM HEAT PUMP(INSIDE) MOUNTED IN CEILING SPACE C/W VIBRATION ISOLATION, SEISMIC RESTRAINT, PROGRAMMABLE T-STAT AND DISCONNECT SWITCH. PROVIDE CONTROLS AS REQUIRED TO ACHIEVE SPECIFIED SEQUENCES OF CONTROL. PIPE CONDENSATE 20W TO DRAIN/OUTDOORS.
 2. TAKE OFFS TO INDIVIDUAL AIR TERMINALS TO BE SAME SIZE AS AIR TERMINAL CONNECTION AND C/W 25mm EXTERNAL DUCT INSULATION. AIR TERMINALS TO BE SEISMICALLY RESTRAINED.
 3. PROVIDE SHEET METAL SLEEVE C/W ROOF FLASHING AND SEALING TO ACCOMMODATE REFRIGERANT PIPING, CONDENSATE DRAIN, AND ELECTRICAL/CONTROLS WIRING. REFER TO DETAIL 1.
 4. PROVIDE HEAT PUMP MOUNTED ON ROOF CURB. NEW (30cm HIGH) ROOF CURBS TO BE FASTENED TO ROOF STRUCTURE AND C/W ROOF FLASHING AND SEALING. PROVIDE SEISMIC RESTRAINT AND VIBRATION ISOLATION FOR HEAT PUMP.
 5. POWER SUPPLY, CONTROLS & CONDENSATE TO INDOOR HEAT PUMPS.



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FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

CANADIAN COAST GUARD
VICTORIA BASE WORKSHOPS
BUILDING-HVAC UPGRADES

ROOF PLAN AND DETAILS

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