	FURNACE SCHEDULE														
TAG	LOCATION	MANUF. AND MODEL/SERIES	AIR FLOW RANGE (L/S)	OUTDOOR AIR (L/S)	TOTAL STATIC PRESSURE (Pa)	HEAT INPUT (KW)	HEAT OUTPUT (KW)	TEMPERATURE RISE RANGE (C°)	V/Hz/P	SUPPLY FAN POWER (KW)	SUPPLY FAN NOM POWER (KW)	МОСР	DIMENSIONS LxWxH (mm)	SHIPPING WEIGHT (KG)	NOTES
F-1	MECH ROOM	LENNOX-ML193UH070XP36B	554	55	146.82	19	18	9.4	120/1/60	0.13	0.25	15	730×445×838	58	HIGH EFFICIENCY (93%) UP FLOW FURNACE, C/W DX COOLING CC-1 SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE 7000- 7 DAY PROGRAMMABLE THERMOSTAT
F-2	MECH ROOM	LENNOX-ML193UH135XP60D	932	96	146.82	39	36	14	120/1/60	0.38	0.75	15	730×624×838	81	HIGH EFFICIENCY (93%) UP FLOW FURNACE, C/W DX COOLING CC-2 SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE 7000- 7 DAY PROGRAMMABLE THERMOSTAT
F-3	MECH ROOM	LENNOX-ML193UH070XP36B	554	55	146.82	19	18	9.4	120/1/60	0.13	0.25	15	730×445×838	58	HIGH EFFICIENCY (93%) UP FLOW FURNACE, C/W DX COOLING CC-3 SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE 7000- 7 DAY PROGRAMMABLE THERMOSTAT
F-4	MECH ROOM	LENNOX-ML193UH135XP60D	1015	95	174.2	39	36	12	120/1/60	0.38	0.75	15	730x624x838	81	HIGH EFFICIENCY (93%) UP FLOW FURNACE, C/W DX COOLING CC-4 SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE 7000- 7 DAY PROGRAMMABLE THERMOSTAT

HUMIDIFIER SCHEDULE	

NOTES

WALL MOUNT, C/W CONDENSATE PUMP AND WALL MOUNT REMOTE MICROPROCESSOR CONTROLLER

REFRIGERANT R-410A CHARGE, C/W ULTRA-LOW AMBIENT KITS FOR OPERATION BELOW -40°C

THE GENERAL REQUIREMENTS, INSTRUCTIONS TO BIDDERS, THIS SPECIFICATION AND ANY ADDENDA HERETO FORM PART OF THE CONTRACT DOCUMENTS AND SHALL BE READ IN CONJUNCTION WITH THEM. WORK SHALL INCLUDE THE

ALL MATERIALS SHALL BE NEW UNLESS SPECIFICALLY NOTED ON DRAWINGS AND BE OF THE QUALITY SPECIFIED AND SHALL CONFORM TO THE STANDARDS OF THE CANADIAN STANDARDS ASSOCIATION. WHERE EQUIPMENT OR MATERIALS

FURNISHING OF ALL LABOR AND MATERIALS UNLESS SPECIFICALLY NOTED OTHERWISE TO COMPLETE AND PUT INTO OPERATING CONDITION ALL ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.

5.1. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, EACH TO THE OTHER, AND WHAT IS CALLED FOR BY ONE, SHALL BE BINDING AS IF CALLED FOR BY BOTH. WHERE INFORMATION IS CONFLICTING THE SPECIFICATIONS TRUMP THE

6.1. THE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE AND THE REGULATIONS OF THE RURAL MUNICIPALITY OF WOOD BUFFALO ELECTRICAL INSPECTION

6.2. THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED AT THEIR EXPENSE AND DISPLAY THEM IN THE ELECTRICAL ROOM, AND COORDINATE INSPECTIONS AS REQUIRED AND OBTAIN A FINAL INSPECTION CERTIFICATE.

THE ELECTRICAL CONTRACTOR AND THEIR SUB-TRADES SHALL AT ALL TIMES DURING CONSTRUCTION, KEEP THE SITE FREE OF ALL DEBRIS, BOXES, PACKING, ETC., RESULTING FROM WORK OF THIS TRADE.

SHOULD ANY DISCREPANCY APPEAR BETWEEN THE DRAWINGS AND SPECIFICATIONS WHICH LEAVES THE ELECTRICAL CONTRACTOR IN DOUBT AS TO THE TRUE INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS, A RULING SHALL

PRIOR TO SUBMITTING THEIR TENDER, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND ASCERTAIN ALL CONDITIONS, WHICH SHALL AFFECT HIS TRADE. NO EXTRAS WILL BE ALLOWED FOR WORK RESULTING FROM

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ALL WORK COMPLETED CONTRARY TO THE INTENT OF THE DRAWINGS AND SPECIFICATIONS AND SHALL BEAR ALL COSTS FOR SAME. WHERE THE INTENT OF THE

THE ELECTRICAL CONTRACTOR SHALL GIVE THE WORK THEIR PERSONAL SUPERVISION, LAY OUT HIS OWN WORK, DO ALL NECESSARY LEVELLING AND MEASURING OR EMPLOY A COMPETENT ENGINEER TO DO SO. FIGURES, FULL SIZE AND

10.1. ENGINEER RESERVES THE RIGHT TO CHANGE LOCATION OF OUTLETS TO WITHIN 3.0 METRES OF POINTS INDICATED ON PLANS WITHOUT EXTRA CHARGE PROVIDING ELECTRICAL CONTRACTOR IS ADVISED PRIOR TO INSTALLATION.

11.1. THE GENERAL TRADE WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR THE ELECTRICAL INSTALLATION. STRUCTURAL MEMBERS SHALL NOT BE CUT WITHOUT THE CONSENT OF THE STRUCTURAL ENGINEER.

11.2. WHERE WORK BY THE ELECTRICAL CONTRACTOR DAMAGES WORK OF OTHER TRADES, THE ELECTRICAL CONTRACTOR SHALL REPAIR AND MAKE GOOD SUCH DAMAGE TO THE SATISFACTION OF THE TRADE CONCERNED AND THE ENGINEER.

WHERE THE FLOOR SLAB IS DRILLED FOR CONDUIT INSTALLATION TO WALL JUNCTION BOXES OR TO FLOOR FITTINGS THE FLOOR SHALL BE DRY CORE DRILLED. AFTER CONDUIT INSTALLATION, THE OPENING SHALL BE FIRE STOPPED. (SEE

WHERE IT IS ABSOLUTELY IMPOSSIBLE TO SERVICE CERTAIN EQUIPMENT THROUGH REMOVABLE TYPE CEILINGS OR RECESSED LUMINAIRES AND WHERE SPECIAL PERMISSION HAS BEEN OBTAINED FROM THE ENGINEER, ELECTRICAL

12.4. ACCESS DOORS TO BE HELD CLOSED WITH CAPTIVE TYPE STUDS. ACCESS PANELS TO BE OF NOT LESS THAN 14 GAUGE STEEL, PRIME COATED AND PAINTED ON THE JOB TO MATCH THE WALL OR CEILING FINISH AS REQUESTED BY THE

13.1. ALL ELECTRICAL FITTINGS, SUPPORTS, HANGER RODS, PULLBOXES, CHANNEL FRAMES, CONDUIT RACKS, OUTLET BOXES, BRACKETS, CLAMPS, ETC., SHALL HAVE GALVANIZED FINISH OR PAINT FINISH OVER CORROSION-RESISTANT PRIMER.

13.2. ALL PANELS OR SIMILAR FACTORY FINISHED UNITS THAT ARE SCRATCHED OR MARKED DURING INSTALLATIONS SHALL BE TOUCHED UP WITH MATCHING SPRAY OR DRY LACQUER AND IF REQUIRED TO PROVIDE SATISFACTORY JOB SHALL BE

SHOP DRAWING SHALL BE SPECIFIC TO THIS PROJECT ONLY. GENERIC DRAWINGS WILL NOT BE ACCEPTED. INDICATING ARROWS SHALL HIGHLIGHT THE PRODUCT FOR REVIEW. GENERIC DRAWINGS, DRAWINGS WITHOUT INDICATING

BY DAY, ALL OUTLETS, CONDUIT, LUMINAIRES EQUIPMENT BREAKER CHANGES IN PANELS, ETC. AS ACTUALLY INSTALLED ON THE JOB. ANY CHANGES TO THE CONTRACT WORK SHALL BE SIMILARLY RECORDED.

16.3. FINAL PAYMENT TO THE CONTRACTOR WILL NOT BE RELEASED UNTIL AS-BUILT DRAWINGS ARE RECEIVED BY THE ENGINEER. AS-BUILT DRAWINGS ARE TO BE TURNED OVER TO THE ENGINEER AT TIME OF FINAL INSPECTION.

17.3. EQUIPMENT TAG NUMBER SHALL CONTAIN A MINIMUM OF; THE EQUIPMENT NAME, VOLTAGE, PHASE, WIRE (3 OR 4), AMPERAGE, SOURCE: XXXX, LOAD: XXXX. SUBMIT PROPOSED TAGGING FOR ENGINEER'S APPROVAL PRIOR TO FABRICATION.

16.2. AS-BUILT DRAWINGS SHALL BE CLEARLY MARKED IN RED INCLUDING ALL CHANGES TO THE ORIGINAL TENDER DRAWINGS COVERED BY ADDENDA, CHANGE ORDERS, FIELD CHANGES, JOB CONDITIONS, ETC.

WHERE ANY EQUIPMENT SUPPLIED BY THE ELECTRICAL CONTRACTOR MUST BE BUILT IN WITH THE WORK OF OTHER CONTRACTORS, THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLYING OF THE EQUIPMENT TO BE BUILT IN OR

NOTES

C/W BACK DRAFT DAMPER

3.3. WORKMANSHIP SHALL BE OF THE HIGHEST STANDARDS THROUGHOUT AND SHALL BE MINIMUM OF THE CURRENT TRADE PRACTICES FOR ELECTRICAL INSTALLATIONS IN THIS BUILDING.

4.1. UNLESS OTHERWISE SPECIFICALLY CALLED FOR IN THE SPECIFICATIONS, UNIFORMITY OF MANUFACTURE SHALL BE MAINTAINED FOR ANY PARTICULAR ITEM THROUGHOUT THE BUILDING.

ARE SPECIFIED BY TECHNICAL DESCRIPTION ONLY, THEY SHALL BE OF THE BEST COMMERCIAL QUALITY OBTAINABLE FOR THE PURPOSE.

4.2.1. SPECIFICATIONS, UNIFORMITY OF MANUFACTURE SHALL BE MAINTAINED FOR ANY PARTICULAR ITEM THROUGHOUT THE BUILDING.

BE OBTAINED FROM THE ENGINEER. IF THIS IS NOT DONE, IT WILL BE ASSUMED THAT THE MOST EXPENSIVE ALTERNATE HAS BEEN ALLOWED FOR.

8.2. AT THE COMPLETION OF THE WORK, THE ELECTRICAL INSTALLATION SHALL BE LEFT IN A CLEAN FINISHED CONDITION TO THE SATISFACTION OF THE ENGINEER

DRAWINGS AND SPECIFICATIONS IS NOT CLEAR, HE SHALL OBTAIN THE CLARIFICATION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

SECTION "FIRE STOPPING") ELECTRICAL CONTRACTOR TO PAY FOR ALL ASSOCIATED X-RAY COSTS, STRUCTURAL ENGINEER REVIEW, ETC.

12.1. NUMBER OF ACCESS DOORS TO BE KEPT TO AN ABSOLUTE MINIMUM. DOOR LOCATIONS WILL BE COORDINATED WITH THE ENGINEER PRIOR TO INSTALLATION.

9.4. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE OWNER OR ANY OF THE OTHER TRADES BY IMPROPER LOCATION OR CARRYING OUT OF HIS WORK.

12.2. WHERE ACCESS IS REQUIRED TO PULLBOXES AND JUNCTION BOXES, THESE BOXES ARE TO BE LOCATED IN REMOVABLE TYPE CEILING AREAS WHERE POSSIBLE OR ADJACENT TO RECESSED LUMINAIRES.

4.2. SPECIFICATIONS, UNIFORMITY OF MANUFACTURE SHALL BE MAINTAINED FOR ANY PARTICULAR ITEM THROUGHOUT THE BUILDING.

CONDITIONS THAT WOULD HAVE BEEN EVIDENT UPON A THOROUGH EXAMINATION OF THE SITE.

8.5. RECYCLE PACKING MATERIAL AND OTHER SUCH ITEMS THAT CAN BE DIVERTED FROM LANDFILL.

DETAIL DRAWINGS SHALL TAKE PRECEDENCE OVER SCALE MEASUREMENTS.

8.3. ALL LUMINAIRES AND ELECTRICAL DEVICES SHALL BE WASHED, CLEANED OF GREASE, DIRT AND LINT AS REQUIRE

CONTRACTOR TO SUPPLY AND INSTALL ACCESS DOORS REQUIRED FOR SERVICING OF SUCH WORK.

BATTERY PACKS, FIRE ALARM EQUIPMENT AND TELECOMMUNICATIONS EQUIPMENT AND CABLING.

15.3. ENGINEER SHALL BE ALLOWED MINIMUM 5 BUSINESS DAYS TO RETURN REVIEWED SHOP DRAWINGS

NOTED IN A COVERING LETTER ACCOMPANYING SUCH DRAWINGS.

15.7. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS.

12.5. WHERE ACCESS PANELS WILL BE USED, PROPER SHOP DRAWINGS ARE TO BE SUBMITTED FOR APPROVAL, PRIOR TO INSTALLATION.

15.1. THE ELECTRICAL CONTRACTOR MUST REVIEW AND STAMP ACCEPTABLE ALL SHOP DRAWINGS PRIOR TO SUBMITTING TO THE ENGINEER.

ARROWS AND DRAWINGS WITHOUT CONTRACTOR REVIEWED STAMP WILL BE RETURNED REJECTED FOR RESUBMISSION.

15.8. ANY WORK PERFORMED PRIOR TO THE RETURN OF REVIEWED SHOP DRAWINGS IS DONE AT THE RISK OF THE CONTRACTOR.

15.4. SCANNED SHOP DRAWINGS MUST BE LEGIBLE. SHOP DRAWINGS WHICH ARE UNCLEAR WILL BE REJECTED AND RETURNED FOR RESUBMISSION.

17.1. CLEARLY IDENTIFY ALL ELECTRICAL EQUIPMENT USING PRINTED PTOUCH LABELS OR LAMACOIDS. HAND-WRITTEN LABELS ARE UNACCEPTABLE.

17.2. ALL ELECTRICAL DISTRIBUTION EQUIPMENT SHALL HAVE A LAMACOID NAMEPLATE FASTENED TO THE OUTSIDE FRONT OF THE EQUIPMENT.

8.4. ALL HANDLING OF LUMINAIRES AND LAMPS SHALL BE DONE WITH CLEAN GLOVES. TO ENSURE CLEANLINESS AND LAMP LIFE.

TAG	LOCATION	MANUF. AND MODEL/SERIES	CAPACITY (L/S)	ORDER NO.	BY PASS DUCT (MM)	V/HZ	АМР	DIMENSIONS HxWxD (mm)	PAD DIMENSIONS HxWxD (mm)	SHIPPING WEIGHT (KG)	NOTES
HD-1,2,3,4	MECH ROOM	LENNOX-HCWB3-17AK	0.004	Y3684	150	24-60	0.5	403x387x267	330x254x43	4	DUCT MOUNT, C/W WATER SUPPLY TUBING, ORFICE, DISTRIBUTION TRAY, CLEANABLE /REPLACEABLE INTERNAL STRAINER AND 24 VOLT BRASS WATER SOLENOID VALVE WITH STAINLESS STEEL SEAT. DRAIN, DISTRIBUTION TRAY, EVAPORATOR MEDIA PAD AND SADDLE VALVE.

SPLIT AC UNIT SCHEDULE

MOCP(AMPS)

MAX INPUT

WATTS

V/Hz/P

208/1/60

208/1/60

FAN SCHEDULE

1.1

DIMENSIONS

LxWxH (mm)

295x898x249

600x800x323

DIMENSIONS

LxWxH (mm)

337x270x229

ELECTRICAL SPECIFICATIONS:

UNIFORMITY OF EQUIPMENT

DEPARTMENT.

ACCESS DOORS

PAINTING AND FINISHES

SHOP DRAWINGS

16. RECORDS PLANS

COMPLETELY REFINISHED

DRAWINGS AND SPECIFICATIONS

CODES. PERMITS AND INSPECTION

SHIPPING WEIGHT

SHIPPING WEIGHT

THE SCOPE OF WORK IS AS DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS

	DRAWING LIST
DRAWING NO.	DRAWING NAME
M00-00	MECHANICAL SPECIFICATIONS & DRAWING LIST AND SCHEDULES
M50-00-01	CRAWL SPACE MECHANICAL DEMOLITION & NEW LAYOUT
M50-01-01	MAIN FLOOR MECHANICAL DEMOLITION & NEW LAYOUT

GRILLE & DIFFUSER SCHEDULE

TAG	MANUFACTURER	MODEL	MOUNTING	TYPE	NOTES
S 6	PRICE	520	SIDEWALL, DRYWALL, WALL MOUNTED	B12	DOUBLE DEFLECTION STEEL CONSTRUCTION GRILLE
R1	PRICE	530	SIDEWALL, DRYWALL, WALL MOUNTED	B12	1/2"x1/2"x1/2" ALUMINUM GRID CORE
L1	PRICE	DE439	SIDEWALL, DRYWALL, WALL MOUNTED	-	ALUMINUM CONSTRUCTION LOUVER C/W BIRD SCREEN

TEDMINIAL LINITS SCHEDULE

	TERMINAL UNITS SCHEDULE											
TAG	MANUFACTURER	MODEL	UNIT SIZE	AIR FLOW (L/S)	SIZE (LxWxH)	NOTES						
ВР	PRICE	LGB	6	135	705x432x254							

EVAPORATOR COIL SCHEDULE MANUF. AND COOLING CAPACITY DIMENSIONS INDOOR COIL TAG | LOCATION NOTES MODEL/SERIES (TONS) LxWxH (mm) WEIGHT (KG) # ROWS CC-1 MECH ROOM RHEEM-RCF3617STAMCA 445X505X508 CONNECTED TO FU-1 CC-2 MECH ROOM LENNOX-CX35-60D-F 622x533x749 CONNECTED TO FU-2 CC-3 MECH ROOM RHEEM-RCF3617STAMCA 445X505X508 CONNECTED TO FU-3 622x533x749 **CONNECTED TO FU-4** CC-4 MECH ROOM LENNOX-CX35-60D-F

FAN (L/S)

150-174-200

E.S.P.

(Pa)

1.2. PRIOR TO SUBMITTING TENDERS, EACH TRADE SHALL EXAMINE THE SITE TO DETERMINE THE CONDITIONS WHICH MAY AFFECT THE PROPOSED WORK. NO CLAIM FOR EXTRA PAYMENT WILL BE CONSIDERED BECAUSE OF FAILURE TO FULFILL THIS CONDITION. START

1.5. ARRANGE, COORDINATE AND PAY ALL REQUIRED FEES AND PERMITS. SUBMIT DRAWINGS AND SPECIFICATIONS TO ALL AUTHORITIES AND OBTAIN APPROVAL BEFORE COMMENCING ANY WORK. PAY FOR FEES AND CHARGES LEVIED BY THE MUNICIPALITY, UTILITIES AND

1.7. ALL WORK TO BE CONDUCTED DURING HOURS SPECIFIED BY THE DEPARTMENT REPRESENTATIVE, NO DISRUPTION TO BUILDING OPERATIONS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE DEPARTMENT REPRESENTATIVE, ALL CHANGES AND CONNECTIONS TO

1.10. THE CONTRACTOR SHALL AT ALL TIMES KEEP PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIAL TO THE SATISFACTION OF THE DEPARTMENT REPRESENTATIVE. THE CLEANING OF THE AFFECTED AREA SHALL BE CONTINUOUS. PLACE DUST PROTECTION

1.12. SUPPLY TOOLS, EQUIPMENT AND PERSONNEL TO DEMONSTRATE AND INSTRUCT OPERATING AND MAINTENANCE PERSONNEL IN OPERATING, CONTROLLING, ADJUSTING, TROUBLESHOOTING AND SERVICING OF ALL SYSTEMS AND EQUIPMENT DURING REGULAR WORK

1.15. SUBMIT ONE (1) COPY OF SHOP DRAWINGS AND PRODUCT DATA IN ELECTRONIC PDF FORMAT OF ALL SPECIFIED EQUIPMENT & SYSTEMS. HARD COPY SHOP DRAWINGS WILL NOT BE ACCEPTED. CERTIFY THAT SHOP DRAWINGS HAVE BEEN REVIEWED BY GENERAL

1.18. PROVIDE CUTTING, PATCHING AND CORING OF ALL WALLS, CEILING AND OTHER SURFACES AS REQUIRED FOR MECHANICAL WORK. OBTAIN WRITTEN VERIFICATION OF LOCATIONS FROM THE ENGINEER PRIOR TO CUTTING. ALL ROOFING WORK FOR MECHANICAL

AND TRANSFER ALL INFORMATION ONTO THE CAD DRAWINGS. HAND OVER 2 SETS OF WHITE PRINTS AND CD WITH CADD FILES SHOWING THE "AS BUILT" CONDITION TO THE CONSULTANT FOR FINAL REVIEW PRIOR TO FINAL INSPECTIONS.

1.20. PIPING LAYOUT ILLUSTRATED ON DRAWINGS INDICATES GENERAL ROUTING OF PIPE WORK AND DOES NOT SHOW ALL FITTINGS AND OFFSETS REQUIRED FOR COMPLETE INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING FITTINGS & OFFSETS

1.21. CONTRACTOR SHALL BE RESPONSIBLE FOR DEACTIVATION, DRAINING, REFILLING AND REACTIVATION OF OPERATIONAL SYSTEMS. COORDINATE WITH THE DEPARTMENT REPRESENTATIVE AND ENSURE THAT NO UNDUE DISRUPTION OF BUILDING OPERATIONS OCCUR.

3.2. PROVIDE ISOLATING VALVES ON MAIN AND/OR BRANCH LINES AND AT ALL EQUIPMENT OR FIXTURES OR WHERE SHOWN. ALL VALVES SHALL BE SUITABLE FOR THE OPERATING PRESSURE OF THE SYSTEM IN WHICH THEY ARE INSTALLED. MAKE AND MODEL SHALL BE AS

3.6. HANGERS AND SUPPORTS SHALL BE OF MANUFACTURED TYPE AND ASSEMBLED AS PER MANUFACTURER'S INSTRUCTIONS. DESIGN HANGERS AND SUPPORTS TO OPERATE UNDER ALL OPERATING CONDITIONS. ALLOW FOR FREE EXPANSION AND CONTRACTION AND

OF STRUCTURAL MEMBERS. WHERE STRUCTURAL BEARING DOES NOT EXIST OR INSERTS ARE NOT IN SUITABLE LOCATIONS, PROVIDE SUPPLEMENTARY STRUCTURAL STEEL MEMBERS. PROVIDE ADDITIONAL SUPPORTS AT CHANGES IN PIPE DIRECTION AND FOR

4.1. GALVANIZED STEEL DUCT LOCK FORMING QUALITY: TO ASTM A 525M, Z90 ZINC COATING. THICKNESS, FABRICATION, JOINTS AND REINFORCEMENT: TO ASHRAE AND SMACNA. ALL TRANSVERSE JOINTS AND CONNECTIONS SHALL BE SEALED WITH WATER BASED

.2. REPORT: PROVIDE REPORT INDICATING AIR VOLUMES AND LOCATION OF TESTING ON A COPY OF CONSTRUCTION DRAWINGS, SUBMIT 3 BOUND COPIES OF TAB REPORTS, COMPLETE WITH INDEX TABS FOR VERIFICATION AND APPROVAL OF ENGINEER.

PREVENT THE TRANSMISSION OF EXCESSIVE STRESSES INTO PIPE WORK OR CONNECTED EQUIPMENT. PROVIDE FOR VERTICAL ADJUSTMENT AFTER INSTALLATION. DESIGN SHALL BE IN ACCORDANCE WITH ANSI B31.1 AND MSS-SP58. SUPPORT FROM TOP OR BOTTOM

1.22. MAINTAIN A SET OF WHITE PRINTS MARKED UP TO "AS BUILT" CONDITION ON SITE, UPDATED ON AN ONGOING BASIS THROUGHOUT THE COURSE OF THE PROJECT. PURCHASE, FROM THE CONSULTANT, SET OF CADD FILES OF THE MECHANICAL CONTRACT DRAWINGS

OTHER GOVERNING AUTHORITY FOR PERMITS, INSPECTIONS AND CERTIFICATES, AND WORK PERFORMED BY THE MUNICIPALITY OR UTILITIES IN CONNECTION WITH THE MECHANICAL WORK. ARRANGE AND COORDINATE SUCH WORK AND OBTAIN PERMITS. KEEP A

1.3. THE DRAWINGS SHALL BE CONSIDERED TO SHOW THE GENERAL CHARACTER AND SCOPE OF THE WORK AND NOT THE EXACT DETAILS OF THE INSTALLATION. THE INSTALLATION SHALL BE COMPLETE WITH ALL ACCESSORIES AND SUPPORTS REQUIRED FOR A

1.4. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE WORK WITH ALL OTHER TRADES AND THE DEPARTMENT REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR COMMUNICATING SAFETY REQUIREMENTS TO ITS EMPLOYEES AND COMPLY WITH

1.9. CAREFULLY REMOVE EQUIPMENT TO BE REUSED OR HANDED OVER TO THE DEPARTMENT REPRESENTATIVE. STORE EQUIPMENT FOR RE-INSTALLATION. RELOCATE ANY PIPING, DUCTWORK, OR EQUIPMENT INTERFERING WITH NEW CONSTRUCTION.

1.13. MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR HOISTING OF MECHANICAL EQUIPMENT. COORDINATE HOISTING SCHEDULE WITH THE DEPARTMENT REPRESENTATIVE. ARRANGE AND PAY FOR ANY REQUIRED PERMITS.

2.1. ALL COMPONENTS OF INSULATION SYSTEM TO BE SUITABLE FOR PLENUM INSTALLATION, HAVING MAXIMUM FLAME SPREAD RATING OF 25 AND MAXIMUM SMOKE DEVELOPED RATING OF 50 IN ACCORDANCE WITH CAN4-S102

.5. BALL VALVES NPS 2 AND UNDER, SCREWED, CLASS 150, BRONZE BODY, STAINLESS STEEL BALL, PTFE TEFLON ADJUSTABLE PACKING, BRASS GLAND AND PTFE TEFLON SEAT, STEEL LEVER HANDLE, CRANE OR APPROVED EQUAL

CONCENTRATION OF LOADS DUE TO WEIGHT OF VALVES, STRAINERS, ETC. HANGER SPACING: COPPER PIPING UP TO NPS 1/2 EVERY 5 FT, STEEL PIPING EVERY 10'. HANGERS SHALL BE WITHIN 12" OF EACH ELBOW.

3.7. PROVIDE PIPE IDENTIFICATION TO MATCH EXISTING BASE BUILDING STANDARD; IDENTIFY PIPE ON EITHER SIDE OF WALL / SLAB / ROOF PENETRATIONS, AND AT NOT LESS THAN 30' INTERVALS THROUGH LARGE ROOMS

FAN (W)

FLA 0.33AMPS

FLA 0.35AMPS

1400

115/60/1

	CONDENSING UNIT SCHEDULE											
TAG	LOCATION	MANUF. AND MODEL/SERIES	COOLING CAPACITY (TONS)	OUT DOOR FAN (L/S)	OUT DOOR FAN (RPM)	OUT DOOR FAN (W)	V/Hz/P	MCA (AMPS)	MOCP (AMPS)	DIMENSIONS LxWxH (mm)	SHIPPING WEIGHT (KG)	NOTES
CU-2	OUTDOOR	LENNOX-14ACX-059-230	5	2075	825	310	208/1/60	34.100	50	819x819x946	121	REFRIGERANT R-410A CHARGE
CU-4	OUTDOOR	LENNOX-14ACX-059-230	5	2075	825	310	208/1/60	34.100	50	819x819x946	121	REFRIGERANT R-410A CHARGE

- 17.4. PROVIDE TYPEWRITTEN CIRCUIT INDEXES FOR ALL PANELS.
- 17.5. JUNCTION BOXES SHALL ALL BE LABELED INDICATING THE SYSTEM AND OR CIRCUITS CONTAINED WITHIN.

17.8. ALL LUMINAIRES CONNECTED TO EMERGENCY CIRCUITS TO BE LABELLED WITH P-TOUCH LABEL INDICATING PANEL AND CIRCUIT DESIGNATION. LABEL TO BE VISIBLE FROM BELOW AFTER INSTALLATION.

- 17.6. ALL RECEPTACLES SHALL BE LABELED WITH THE CIRCUIT NUMBERS AND PANEL IDENTIFICATION. UTILIZE P-TOUCH ADHESIVE LABELS COMPLETE WITH A MINIMUM OF 5 LETTERING. I.E. "PNL-CCT." 17.7. ALL COMMUNICATIONS AND OTHER SYSTEMS CABLES AND DEVICES ARE TO BE IDENTIFIED AS PER THE EIA/TIA 606 STANDARDS, CONFIRM PROTOCOL WITH OWNER OR ENGINEER PRIOR TO COMMENCEMENT OF LABELS.
- 18.1. ALL PORTIONS OF THE ELECTRICAL WORK SHALL BE TESTED AND CHECKED FOR SATISFACTORY OPERATION.
- 18.2. BEFORE ENERGIZING ANY PORTION OF THE ELECTRICAL SYSTEM, PERFORM MEGGER TESTS ON ALL FEEDERS. RESULTS OF SUCH TESTS SHALL CONFORM TO THE REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE AND SHALL BE TO THE SATISFACTION OF THE AUTHORIZED INSPECTION AGENCY AND THE ENGINEER.
- 18.3. SUBMIT ALL TEST RESULTS TO THE ENGINEER FOR APPROVAL 18.4. ANY TEST RESULTS THAT DO NOT MEET THE MINIMUM REQUIREMENTS OF THE MANUFACTURER, CANADIAN ELECTRICAL CODE, AUTHORIZED INSPECTION AGENCY AND THE ENGINEER SHALL BE REPAIRED IN A METHOD APPROVED BY THE
- ENGINEER AND RETESTED AT THE EXPENSE OF THE CONTRACTOR. UPON COMPLETION OF THE WORK AND IMMEDIATELY PRIOR TO FINAL INSPECTION AND TAKEOVER, CHECK THE LOAD BALANCE OF ALL FEEDERS AND AT DISTRIBUTION CENTER, PANELS, ETC. THE TESTS SHALL BE CARRIED OUT BY TURNING ON ALL POSSIBLE LOADS IN THE TENANT AND CHECKING LOAD CURRENT BALANCE. IF LOAD UNBALANCE EXCEEDS 15 PERCENT, RECONNECT CIRCUITS TO BALANCE THE LOAD.
- 19. GUARANTEE/WARRANTY
- 19.1. THAT ALL WORK EXECUTED UNDER THIS CONTRACT WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE FROM ENGINEER (C2 SCHEDULE) FOR THIS 19.2. THE ABOVE PARTIES FURTHER AGREE TO, AT THEIR OWN EXPENSE, REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK AND OTHER WORK DAMAGED THEREBY WHICH FAILS OR BECOMES DEFECTIVE DURING THE TERM OF THE WARRANTY
- PROVIDED THAT SUCH FAILURE IS NOT DUE TO IMPROPER USAGE.
- 19.3. THE PERIOD OF THE GUARANTEE SPECIFIED SHALL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD BUT SHALL BE BINDING ON WORK NOT OTHERWISE COVERED. 19.4. ELECTRICAL CONTRACTOR TO ISSUE LETTER STIPULATING WARRANTY PERIOD DATES FOR ALL EQUIPMENT.
- 20.1. ALL WIRING SHALL BE COPPER WITH RW90 X-LINK INSULATION IN ELECTRICAL METALLIC TUBING UNLESS INDICATED OTHERWISE ON DRAWINGS
- 20.2. NO WIRE SMALLER THAN NO. 12 AWG GAUGE SHALL BE USED FOR BRANCH CIRCUIT WIRING.
- 20.3. BX CABLE MAY BE USED ONLY AS FOLLOWS 20.3.1. WITHIN NEW DRYWALL PARTITIONS WITHIN ONE ROOM TO INTERCONNECT ELECTRICAL DEVICES, EXCEPT THAT THE CONNECTION FROM THE JUNCTION BOX ABOVE THE SUSPENDED CEILING DOWN TO THE FIRST ELECTRICAL DEVICE
- IN THE DRYWALL SHALL BE WIRED IN THE EMT CONDUIT. 20.3.2. INDIVIDUAL DROPS FROM JUNCTION BOXES IN CEILING SPACES TO LUMINAIRES TO A MAXIMUM OF THREE (3) METRES. ("DAISY-CHAINING" OF LUMINAIRES IS NOT PERMITTED).
- 20.3.3. WITH THE ABOVE EXCEPTIONS, ALL 120-VOLT BRANCH CIRCUIT WIRING MUST BE INSTALLED IN EMT CONDUIT. 20.3.4. WIRING SHALL BE COLOUR CODED TO MATCH EXISTING INSTALLATION.
- 20.4. CONDUIT TO BE SIZED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE 20.5. WIRING SHALL BE COLOUR CODED AS FOLLOWS:
 - 120/208V 277/480V 347/600V A PHASE RED ORANGE ORANGE
 - B PHASE BLACK BROWN BROWN C PHASE BLUE YELLOW YELLOW NEUTRAL WHITE WHITE WHITE
- GROUND GREEN GREEN GREEN
- 20.6. ALL LINE VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT
- 20.7. ALUMINUM CONDUCTORS MAY ONLY BE USED WHERE INDICATED ON DRAWINGS. APPLY ZINC JOINT COMPOUND ON ALL ALUMINUM CONDUCTORS PRIOR TO INSTALLATION OF CONNECTORS OR TERMINATING CONDUCTORS. 20.8. COMPUTER RECEPTACLES SHALL BE COMPLETE WITH A DEDICATED NEUTRAL CONDUCTOR PER PHASE.
- 20.9. VOLTAGE DROP FOR WIRING SHALL MEET REQUIREMETNS AS LAID OUT IN THE CANADIAN ELECTRICAL CODE. GENERALLY MAXIMUM BRANCH CIRCUIT CONDUCTOR DISTANCES (120VAC) TO MAINTAIN MAX. 3% VOLTAGE DROP ARE AS 3.2. ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER BY QUALIFIED TRADESMEN. ELECTRICAL CONTRACTOR SHALL KEEP A COMPETENT FOREMAN AND NECESSARY ASSISTANTS, ALL SATISFACTORY TO THE ENGINEER,
 - 20.9.2. 15A-1P BREAKER #10AWG WIRING 125 FEET (39 METRES)
 - 20.9.3. 20A-1P BREAKER #12AWG WIRING 60 FEET (18 METRES) 20.9.4. 20A-1P BREAKER - #10AWG WIRING - 95 FEET (29 METRES)

20.9.1. 15A-1P BREAKER - #12AWG WIRING - 80 FEET (24 METRES)

- DEMOLITION
- 21.1.1. ALL UNUSED AND ABBANDONNED CONDUIT, WIRE, HANGERS, ETC. SHALL BE REMOVED FROM THE CEILING SPACE. 21.1.2. ABANDONED BREAKERS IN PANEL BOARDS SHALL BE MARKED AS SPARE IF THEY NO LONGER SERVICE ANY LOAD.
- 21.1.3. AS NOTED ON DRAWINGS THE CONTRACTOR SHALL TURN OVER EQUIPMENT BEING REMOVED TO BUILDING MANAGEMENT. EQUIPMENT NOT REQUIRED BY BUILDING MANAGEMENT SHALL BE REMOVED FROM SITE BY THE
- 21.1.4. THE CONTRACTOR SHALL SEAL ALL UNUSED OPENINGS DUE TO ELECTRICAL DEMOLITION TO ENSURE THAT FIRE-RESISTANCE RATING IS MAINTAINED. REFER TO "FIRE STOPPING" SECTION OF THIS SPEC. 21.1.5. IF INDICATED ON DRAWINGS, PROVIDE BLANK COVER PLATE MATCHING WALL FINISH FOR BOXES TO REMAIN.
- 21.2. LIGHTING 21.2.1. ALL UNUSED AND ABANDONED CONDUIT, WIRE, HANGERS, ETC. SHALL BE REMOVED FROM THE CEILING SPACE
- 21.2.2. EXISTING BUILDING LUMINAIRES SHALL BE REMOVED AS NOTED ON DRAWINGS AND RESPONSIBLY DISPOSED OF. 21.3. POWER
- 21.3.1. ALL CIRCUITS ORIGINATING FROM PANELBOARDS LOCATED IN ELECTRICAL ROOM WHICH ARE NOT BEING RE-USED SHALL BE PULLED BACK TO THE PANEL
- 21.3.2. THE ELECTRICAL CONTRACTOR SHALL INFORM THE ENGINEER OF ANY DEFICIENCIES THAT ARE ENCOUNTERED DURING THE DEMOLITION 21.3.3. ALL ELECTRICAL DEVICES ON EXISTING WALLS BEING DEMOLISHED ARE TO BE REMOVED
- 21.3.4. ENSURE THAT ALL EXISTING RECEPTACLES LEFT ISOLATED BY THE REMOVAL OF OUTLETS IN THE SAME RUN SHALL BE RE-FED TO BECOME FULLY FUNCTIONAL TO THE SATISFACTION OF THE ENGINEER. 21.4. COMMUNICATIONS

- 21.5.1. SECURITY DEVICES AND ASSOCIATED WIRING NOT BEING REUSED SHALL BE REMOVED AND RETURNED TO OWNER
- BOXES, EXCEPT WHERE OTHERWISE NOTED, SHALL BE PRESSED SHEET STEEL GALVANIZED TO CSA STANDARDS.
- 22.2. ALL OUTLETS FOR FLUSH WALL-MOUNTING SWITCHES, RECEPTACLES, TELEPHONE AND LV OUTLETS SHALL BE NO.52151 BOX WITH APPROPRIATE PLASTER COVER FOR SINGLE OR 2-GANG OUTLETS OR 4-GANG OUTLETS. 22.3. FLUSH MOUNTING VOICE/DATA WALL OUTLETS SHALL BE NO. 52151 SERIES (4-INCH SQUARE, 1.5 INCHES DEEP WITH APPROPRIATE PLASTER OR EXTENSION RING
- 22.4. USE A SINGLE COVER PLATE FOR RECEPTACLE OUTLET BOXED WHERE SHOWN GANGED 22.5. GANG BOXES AND WIRING DEVICES ARE GROUPED. ELECTRO-GALVANIZED STEEL MULTI GANG BOXED SHALL BE USED WHERE MORE THAN 2 DEVICES ARE GANGED TOGETHER
- 22.6. SECTIONAL TYPE BOXES OR HANDY BOXES SHALL NOT BE USED.
- RECEPTACLES SHALL BE WHITE DECORA TO MATCH EXISTING. COMPUTER RECEPTACLES SHALL BE GREY DECORA. 22.8. SPECIAL RECEPTACLES WILL BE AS SHOWN ON THE DRAWINGS.
- 22.9. RECEPTACLES TO BE OF SPECIFICATION GRADE AND OF ONE MANUFACTURER. ACCEPTABLE MANUFACTURES ARE LEVITON, THOMAS AND BETTS, COOPER WIRING DEVICES. 22.10. PLATES FOR ALL FLUSH MOUNTING DEVICES SHALL BE WHITE DECORA. EXISTING DAMAGED FACEPLATES ARE TO BE REPLACED WITH NEW.
- 22.11. P-TOUCH ADHESIVE LABEL COMPLETE WITH A MINIMUM 5MM LETTERS TO BE PROVIDED ON ALL EXISTING AND NEW RECEPTACLES INDICATING CIRCUIT AND PANEL DESIGNATION
- 22.12. TRACE CIRCUITS FOR EXISTING RECEPTACLES AND ENSURE EXISTING RECEPTACLES ARE LABELLED

- 23.1.1. SINGLE RUNS TO BE GALVANIZED CONDUIT STRAPS OR RING BOLT RANGE 1 TYPE HANGERS 23.1.2. MULTIPLE RUNS (THREE OR MORE) - CONDUIT RACK
- 23.1.3. VERTICAL RUNS CHANNEL SUPPORT WITH CONDUIT FITTINGS.
- INSTALL TO MAINTAIN HEADROOM, NEAT MECHANICAL APPEARANCE AND TO SUPPORT EQUIPMENT LOADS REQUIRED. 23.3. WHERE INSERTS ARE REQUIRED IN CONCRETE, EXPANSION INSERTS, LEAD INSERTS OR PLASTIC INSERTS MAY BE USED IN DRILLED HOLES. WOOD OR FIBRE PLUGS NOT PERMITTED.
- 23.4. ALL ELECTRICAL DISTRIBUTION INCLUDING CABLE TRAY AND CONDUIT, WHICH IS MOUNTED ABOVE THE SUSPENDED CEILING, SHALL BE SUPPORTED DIRECTLY AND INDEPENDENTLY FROM THE CONCRETE SLAB.
- 23.5. THE USE OF ANY PART OF THE CEILING SUSPENSION SYSTEM AS A SUPPORT OR FOUNDATION FOR THE SUSPENSION OF CABLE TRAY, CONDUIT OR FLEXIBLE CONDUIT IS FORBIDDEN. THE USE OF ANY DRYWALL OR WALL PARTITION AS A SUPPORT OR FOUNDATION FOR CABLE TRAY OR CONDUIT ROUTED HORIZONTALLY THROUGH THE CEILING SPACE IS FORBIDDEN.
- 15.2. ELECTRICAL CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW, ONE (1) SET OF ELECTRONIC SHOP DRAWINGS IN PDF FORMAT INCLUDING BUT NOT LIMITED TO DISTRIBUTION, LUMINAIRES, EXIT SIGNS, OCCUPANCY SENSORS, SUPPORT HANGERS AND OTHER TRADES TO SUPPORT NON-ELECTRICAL SERVICES OR DEVICES SHALL NOT USE TRAYS INSTALLED BY THE ELECTRICAL CONTRACTOR.
 - 23.8. ALL EQUIPMENT THAT MAY TRANSMIT VIBRATION TO THE BUILDING STRUCTURES IS TO BE INSTALLED USING SUITABLE METHODS TO PREVENT THE TRANSMISSION OF THE VIBRATIONS TO THE BUILDING STRUCTURE.
 - 24.1. SUPPLY AND INSTALL COMPLETE GROUNDING SYSTEM AS INDICATED AND AS REQUIRED BY CANADIAN ELECTRICAL CODE AND ELECTRICAL INSPECTION DEPARTMENT.
 - TELEPHONE, LOW VOLTAGE, FIRE ALARM, CABLE TRAY, SOUND, ETC., ARE SECURELY AND ADEQUATELY GROUNDED.
- ALL COMPONENTS SHALL BE SECURELY AND ADEQUATELY GROUNDED AND WHERE REQUIRED TO ACCOMPLISH THE GROUNDING STUDS AND BUSHINGS SHALL BE USED. ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC., FOR 15.6. THE ENGINEER'S REVIEW OF SHOP DRAWINGS SHALL BE FOR GENERAL DESIGN ONLY AND SHALL NOT RELIEVE THE ELECTRICAL CONTRACTOR OR SUPPLIER FROM THEIR RESPONSIBILITY FOR ERRORS, PROPER FITTING, AND CONSTRUCTION OF THE WORK AND FURNISHING OF MATERIALS. THE REVIEW SHALL NOT BE CONSTRUED AS APPROVING DEPARTURES FROM THE CONTRACT DOCUMENT REQUIREMENTS IF SUCH DEPARTURES ARE NOT SPECIFICALLY 24.3. PROVIDE 1#6 INSULATED GROUND TO EACH DATA RACK AND TELEPHONE SWITCH. MECHANICAL EQUIPMENT WIRING
- 25.1. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECT, ETC., REQUIRED FOR MECHANICAL EQUIPMENT. ALL LOW VOLTAGE CONTROLS AND CONTROL WIRING WILL BE THE RESPONSIBILITY OF THE MECHANICAL TRADE AND/OR HIS CONTROL SUB-TRADE. 120V CONNECTION FOR CONTROLS CONTRACTOR SHALL BE PROVIDED BY ELECTRICAL 16.1. THE ENGINEER WILL FURNISH TO THE ELECTRICAL CONTRACTOR ONE SET OF WHITE PRINTS TO BE USED FOR RECORD WORK AS ACTUALLY INSTALLED. ELECTRICAL CONTRACTOR SHALL ACCURATELY RECORD ON THIS SET OF PLANS, DAY CONTRACTOR. COORDINATE WITH CONTROLS CONTRACTOR FOR LOCATION. 25.3. ELECTRICAL CONTRACTOR SHALL CONFIRM WITH THE MECHANICAL TRADE, THE SIZE, CHARACTERISTICS, AND LOCATIONS OF ALL MECHANICAL EQUIPMENT BEFORE INSTALLATION OF CONDUITS, OUTLETS, HEATERS ETC
 - 26.1. AT MINIMUM, AN INSPECTION WILL BE CARRIED OUT BY THE ENGINEER AT ROUGH-IN STAGE AND AT COMPLETION.
 - 26.2. THE ELECTRICAL CONTRACTOR SHALL ADVISE THE ENGINEER WHEN ALL WORK HAS BEEN COMPLETED ABOVE THE SUSPENDED CEILING, EITHER DRYWALL OR T-BAR.

26.3. FAILURE TO NOTIFY THE ENGINEER IN TIME WILL NECESSITATE THE REMOVAL OF ALL CEILING FOR INSPECTION PURPOSES 26.4. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL ALLOW AT LEAST 3 WORKING DAYS NOTICE OF THE INSTALLATION OF CEILING

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Project Component Phase # - Description

DATE

2017-11-24

2017-12-08

2017-12-22

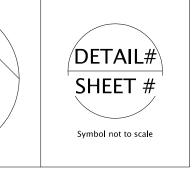
ISSUED FOR

50% REVIEW

99% REVIEW

TENDER

North Arrow Detail Symbol



Consultants Landscape: Architectura Structural Mechanical: NORR ARCHITECTS ENGINEERS PLANNERS

NORR ARCHITECTS ENGINEERS PLANNERS

Electrical:

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Suite 2300,

| Project Manager Drawn N.ALY A.TODEILA Checked Project Leader L.YANG L.YANG

GOVERNMENT OF CANADA

GOVERNMENT OF CANADA

FURNACE REPLACEMENT

MECHANICAL & ELECTRICAL SPECIFICATIONS.

DRAWINGS LIST & SCHEDULES Check Scale (may be photo reduced)

4.2. HANGERS: ALL DUCTWORK AND HANGERS SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST ASHRAE AND SMACNA RECOMMENDATIONS AND STANDARDS. 4.3. IDENTIFICATION DUCTWORK SYSTEMS STENCILLED LETTERS 50 MM (2") HIGH. DIRECTIONAL ARROWS 150 MM (6") LONG X 50 MM (2") HIGH. COLORS: BLACK, OR CO-ORDINATED WITH BASE COLOR TO ENSURE STRONG CONTRAST 5.1. TEST, ADJUST AND BALANCE NEW DUCTWORK.

3.9. PLUMBING FIXTURES TO BE AS DWG M00-02.

6.1. PROVIDE ALL CONTROLS AND WIRING INCLUDING APPURTENANCES NECESSARY FOR COMPLETE AND OPERATING SYSTEM. 7 LIST OF APPROVED MANUFACTURERS

3.8. SHUT-OFF VALVE: BALL TYPE FOR NPS 2 ID AND SMALLER. BUTTERFLY TYPE FOR 65 MM (2-1/2") AND LARGER.

- 7.2. ACCESS DOORS: MAXAM, MILCOR, MIFAB, ACUDOR OR APPROVED EQUIVALENT.
- 7.5. DRAINS-FLOOR, CLEANOUTS, PRIMERS: ZURN, ANCON, PPP, J.R-SMITH OR APPROVED EQUIVALENT.
- 7.7. FIRE EXTINGUISHERS: FLAG, NFE, WILSON & COUSINS OR APPROVED EQUIVALENT 7.8. ELECTRIC HEATERS: OULLET, CHROMALOX, STELPRO, QMARK OR APPROVED EQUIVALENT.
- 7.6. FANS: BROAN, GREENHECK, ACME, NUTONE, COOK OR APPROVED EQUIVALENT.
- 7.1. AIR TERMINALS GRILLES, REGISTERS, DIFFUSERS: E.H PRICE, TITUS, NAILOR OR APPROVED EQUIVALENT

MANUF. AND

MODEL/SERIES

MITSUBISHI PKA-A12HA6

MITSUBISHI PUY-A12NHA6

MANUF. AND

MODEL/SERIES

GREENHECK/CSP-A190

1.1. ALL WORK SHOWN OR IMPLIED ON THESE DRAWINGS SHALL BE CARRIED OUT IN ACCORDANCE WITH

OF WORK WILL BE DEEMED EVIDENCE OF ACCEPTANCE OF, AND SATISFACTION WITH, EXISTING CONDITIONS.

COPY OF ALL SUCH PERMITS AND CERTIFICATES ON THE JOB SITE DURING THE PROJECT DURATION.

IN THE FORM OF COVER SHEETS OVER EQUIPMENT AND FURNITURE TO ENSURE NO DUST INFILTRATION.

1.14. INSPECT ALL EQUIPMENT UPON DELIVERY AND NOTIFY PROJECT ENGINEER OF ANY DAMAGE OR DEFICIENCIES.

EQUIPMENT TO BE UNDERTAKEN BY QUALIFIED ROOFING CONTRACTORS UNDER THIS SECTION. 1.19. INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS WITH ADEQUATE ACCESS.

1.23. SUBMIT THREE (3) COPIES OF OPERATION AND MAINTENANCE MANUALS FOR ENGINEER'S APPROVAL.

2.3. ALL THE INDOOR SUPPLY DUCT WORK TO BE INSULATED WITH 25mmTHICK FIBERGLASS INSULATION

2.4. OUTDOOR & COMBUSTION AIR DUCT WORKS ARE TO BE INSULATED WITH 50mm OF INSULATION.

2.5. INSULATE EXHAUST DUCTS WITH 25mm INSULATION FOR 3000mm FROM OUTSIDE WALL.

3.1. PROVIDE DIELECTRIC COUPLINGS/UNION UNIONS WHERE DISSIMILAR METALS ARE IOINEI

3.3. INSTALL ALL ABOVE GRADE PIPING TO ALLOW COMPLETE DRAINAGE.

PER BASE BUILDING STANDARDS AND SPECIFICATIONS UNLESS NOTED OTHERWISE.

1.16. ALL EQUIPMENT. PIPING. DUCTWORK AND WIRING SHALL BE RUN AT RIGHT ANGLES TO AND BE SUSPENDED FROM THE BUILDING STRUCTURE.

1.24. WARRANTY PERIOD SHALL BE FOR TWELVE (12) MONTHS AFTER THE DATE OF SUBSTANTIAL COMPLETION AS DETERMINED BY THE CONSULTANT.

REQUIRED FOR COORDINATED INSTALLATION WITH OTHER SYSTEMS (DUCTWORK, PIPING, CONDUITS, LIGHTS, ETC.).

WORKMANSHIP AND MATERIALS SHALL MATCH OR EXCEED THAT OF THE EXISTING.

TAG | LOCATION

AC-5

CU-5

MECHANICAL SPECIFICATIONS

1.1.6. ULC STANDARDS

1.1.1. ALBERTA BUILDING CODE (ABC) 2014

1.1.3. CAN/CSA-B125-05 PLUMBING FITTINGS

1.1.4. LOCAL AUTHORITY HAVING JURISDICTION

1.1.5. NFPA 10-2002 PORTABLE FIRE EXTINGUISHERS.

1.1.2. PLUMBING CODE OF CANADA 2010

ELECTRICAL ROOM

OUTDOOR

LOCATION

GYM / LOCKER ROOM

COOLING CAPACITY

(TONS)

AIR FLOW

(L/S)

COMPLETE AND OPERATIVE INSTALLATION. THESE MECHANICAL DRAWINGS MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.

EXISTING SERVICES, REQUIRING THE SHUTDOWN OF THAT SERVICE SHALL BE DONE AT A TIME DESIGNATED BY THE DEPARTMENT REPRESENTATIVE. ALLOW FOR PREMIUM TIME NEEDED.

1.11. MANUFACTURER'S INSTRUCTIONS REGARDING THE HANDLING, INSTALLATION AND TESTING OF EQUIPMENT SPECIFIED HEREIN SHALL BE CONSIDERED PART OF THIS SPECIFICATION.

2.2. INSULATE DOMESTIC COLD WATER PIPING WITH 1" FIBER GLASS INSULATION WITH FACTORY APPLIED VAPOUR BARRIER JACKED, MOLDED TO CONFORM TO PIPING K VALUE AT 24 C.

3.4. DOMESTIC COLD WATER PIPING: COPPER TUBE, HARD DRAWN, TYPE "L" WITH WROUGHT COPPER FITTINGS USING LEAD FREE SOLDER AND PRESSURE TESTED TO PLUMBING CODE.

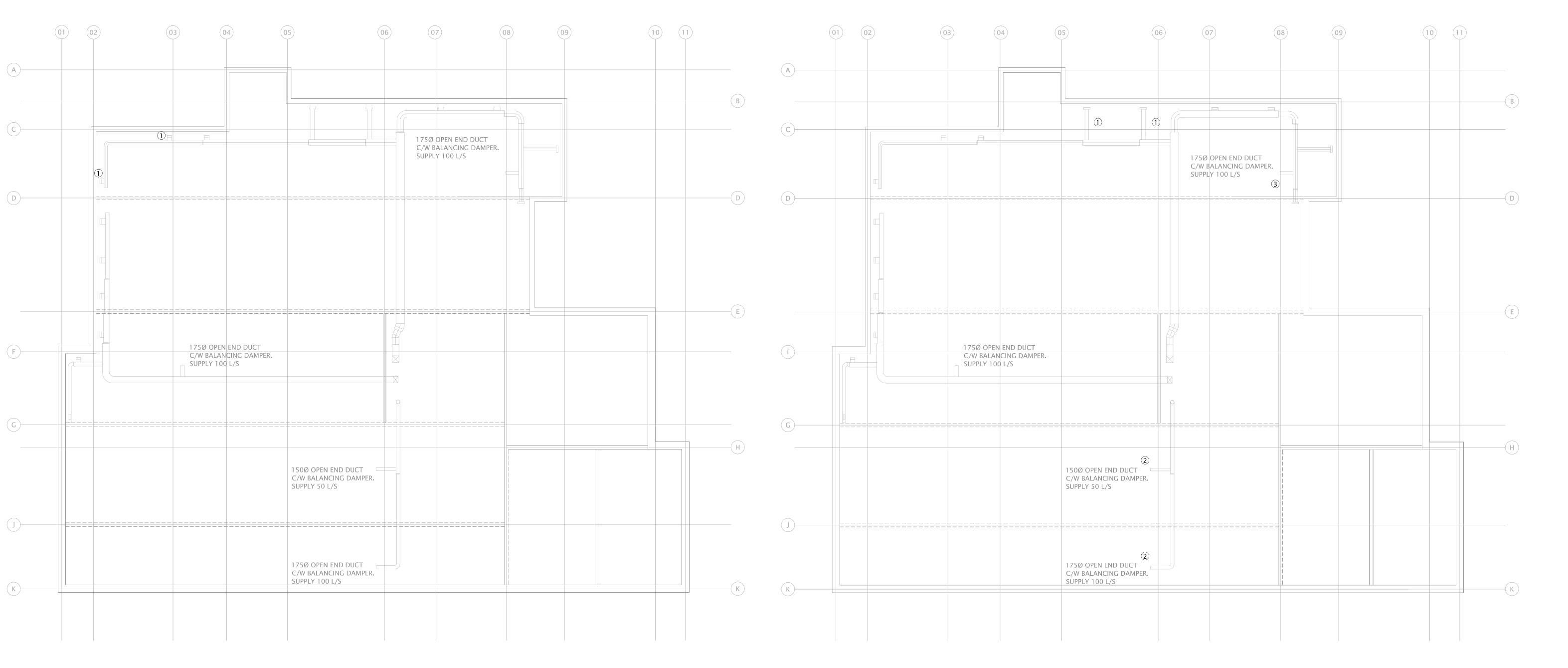
1.8. CARRY OUT DEMOLITION IN A MANNER TO CAUSE AS LITTLE INCONVENIENCE TO THE OCCUPIED BUILDING AREA AS POSSIBLE. CO-ORDINATE THIS ACTIVITY WITH THE DEPARTMENT REPRESENTATIVE

CONTRACTOR PRIOR TO SUBMITTING TO CONSULTANT FOR REVIEW. REVIEWED ELECTRONIC SHOP DRAWINGS WILL BE RE-DISTRIBUTED AS PER THE DEPARTMENT REPRESENTATIVE'S INSTRUCTIONS.

2. PROVIDE ISOLATING VALVES ON MAIN AND/OR BRANCH LINES AND AT ALL EQUIPMENT OR FIXTURES OR WHERE SHOWN. ALL VALVES SHALL BE SUITABLE FOR THE OPERATING PRESSURE OF THE SYSTEM.

1.17. PROVIDE BLACK WITH WHITE WRITING LAMACOID PLATE ON ALL NEW EQUIPMENT. LABEL UNIT AS SHOWN ON DRAWINGS. LETTERING SIZE TO BE MINIMUM 25MM HIGH. MOUNT NEAR CONTROL SECTION OF THE UNIT

- 7.4. BALANCING AGENTS: KD ENGINEERING, MDT SYSTEMS, WESTERN MECHANICAL SYSTEMS OR APPROVED EQUIVALENT.
- 7.3. AIR VENTS: HOFFMAN, MAID-O-MIST, TACO OR APPROVED EQUIVALENT.
- 7.9. GAS FIRED HEATER: MODINE, REZNOR OR APPROVED EQUIVALENT.



MECHANICAL GENERAL NOTES:

A. CONTRACTOR TO VERIFY THE EXISTING CONDITION BEFORE COMMENCEMENT OF

DEMOLITION.

B. DISCONNECT AND REMOVE FURNACES AND DX COOLING COIL. ALL EXISTING DUCTWORK, GAS LINES, FLUES, ARE TO BE REMAINED AND CAPPED

FOR FUTURE RE-CONNECTION.

C. SUPPLY AND INSTALL ALL FIRE STOPPING MATERIAL AND ENSURE THAT ALL FIRE PENETRATIONS ARE PROTECTED AS REQUIRED BY THE ALBERTA BUILDING CODE AND THE LOCAL AUTHORITIES.

D. MECHANICAL SYSTEMS AND THEIR SUPPORTS,

TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY CRITERIA' ON THE STRUCTURAL DRAWINGS.

E. DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL SYSTEMS SHOWN ON THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY THE CONSULTANT.

AND THE LIKE, MUST BE DESIGNED AND DETAILED

F. MECHANICAL CONTRACTOR SHALL SUBMIT
SLEEVING DRAWINGS INDICATING LAYOUT AND
SIZES OF ALL INTENDED PENETRATIONS
THROUGH ANY STRUCTURAL ELEMENTS,
INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW
BY CONSULTANT WELL IN ADVANCE OF
COMPLETING THE WORK.

G. PROVIDE COLLAR CONNECTION; LENGTH TO SUIT

SITE CONDITION.

MECHANICAL LEGEND:

EXISTING TO BE REMOVE
EXISTING TO REMAIN

MECHANICAL KEY NOTES:

(1) CAP OFF SUPPLY AIR DUCT.

----- NEW

MECHANICAL GENERAL NOTES:

A. CONTRACTOR TO VERIFY THE EXISTING
 CONDITION BEFORE COMMENCEMENT OF
 DEMOLITION.

 B. DISCONNECT AND REMOVE FURNACES AND DX

COOLING COIL. ALL EXISTING DUCTWORK, GAS LINES, FLUES, ARE TO BE REMAINED AND CAPPED FOR FUTURE RE-CONNECTION.

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D. MECHANICAL SYSTEMS AND THEIR SUPPORTS,
AND THE LIKE, MUST BE DESIGNED AND DETAILED
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CRITERIA' ON THE STRUCTURAL DRAWINGS.

E. DESIGN AND DETAIL ALL NECESSARY SEISMIC
RESTRAINTS FOR MECHANICAL SYSTEMS SHOWN
ON THE CONTRACT DOCUMENTS. SUBMIT SHOP
DRAWINGS PREPARED BY A PROFESSIONAL
ENGINEER LICENSED TO PRACTICE IN THE
PROVINCE OF ALBERTA, FOR REVIEW BY THE
CONSULTANT.

E. MECHANICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING LAYOUT AND SIZES OF ALL INTENDED PENETRATIONS THROUGH ANY STRUCTURAL ELEMENTS, INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW BY CONSULTANT WELL IN ADVANCE OF COMPLETING THE WORK.

COMPLETING THE WORK.

G. PROVIDE COLLAR CONNECTION; LENGTH TO SUIT SITE CONDITION.

MECHANICAL LEGEND:

EXISTING TO BE REMOVE

EXISTING TO REMAIN

NEW

MECHANICAL KEY NOTES:

RE-BALANCE SUPPLY AIR TO 120L/S.

RE-BALANCE SUPPLY AIR TO 50L/S.RE-BALANCE SUPPLY AIR TO 80L/S.

1 CRAWL SPACE MECHANICAL DEMOLITION LAYOUT
M50-00-01 1:100



 DATE
 ISSUED FOR
 REV

 2017-11-24
 50% REVIEW
 1

 2017-12-08
 99% REVIEW
 2

 2017-12-22
 TENDER
 3

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Project Component
Phase # - Description
Keyplan

North Arrow

Detail Symbol

DETAIL#

SHEET #

Symbol not to scale

Consultants
Civil:
Landscape:
Architectural:
Structural:
Mechanical:
Electrical:
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Seal(s)

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Adrian Todelia, P.Eng., APEGA
Chris Pal, P.Eng., APEGA

Project Manager

A.TODEILA N.ALY

Project Leader Checked
L.YANG L.YANG

Client

Drawn

GOVERNMENT OF CANADA

GOVERNMENT OF CANADA

FURNACE REPLACEMENT

CRAWL SPACE MECHANICAL & ELECTRICAL DEMOLITION & NEW LAYOUT

Check Scale (may be photo reduced)
0 1 inch 0 10mm

Project No. NCCA-17-0167-00

Drawing No.

M50-00-01

MECHANICAL GENERAL NOTES:

- A. CONTRACTOR TO VERIFY THE EXISTING CONDITION BEFORE COMMENCEMENT OF
- B. DISCONNECT AND REMOVE FURNACES AND DX COOLING COIL. ALL EXISTING DUCTWORK, GAS LINES, FLUES, ARE TO BE REMAINED AND CAPPED FOR FUTURE RE-CONNECTION. SUPPLY AND INSTALL ALL FIRE STOPPING

PENETRATIONS ARE PROTECTED AS REQUIRED BY

- THE ALBERTA BUILDING CODE AND THE LOCAL AUTHORITIES. MECHANICAL SYSTEMS AND THEIR SUPPORTS, AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY
- CRITERIA' ON THE STRUCTURAL DRAWINGS. DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL SYSTEMS SHOWN ON THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY THE

MATERIAL AND ENSURE THAT ALL FIRE

- CONSULTANT. MECHANICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING LAYOUT AND SIZES OF ALL INTENDED PENETRATIONS THROUGH ANY STRUCTURAL ELEMENTS, INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW BY CONSULTANT WELL IN ADVANCE OF COMPLETING THE WORK.
- G. PROVIDE COLLAR CONNECTION; LENGTH TO SUIT SITE CONDITION.

MECHANICAL LEGEND:

EXISTING TO BE REMOVE EXISTING TO REMAIN

MECHANICAL KEY NOTES:

- REPLACE EXISTING OUTDOOR CONDENSING UNIT WITH NEW CU-2 AS PER SCHEDULE. REPLACE EXISTING FURNACE WITH NEW F-1, F-2, F-3,F-4 AS PER SCHEDULE.
- REPLACE EXISTING COOLING COIL WITH NEW CC-1, CC-2, CC-3 AS PER SCHEDULE. DEMOLISH EXISTING GALVANIZED FLUE PIPE
- (5) DEMOLISH EXISTING THERMOSTAT/HUMIDSTAT. (6) RELOCATE THERMOSTAT/HUMIDSTAT TO NEW

CONNECTED TO F-4.

- LOCATION ROOM# 106. (7) CAP OFF DUCTWORK DEMOLISH FLOOR SUPPLY
- (8) DEMOLISH SUPPLY AIR DUCTWORK AT THE HIGHLIGHTED LOCATION.
- (9) DEMOLISH EXHAUST FAN (EF-3) AND THE CONNECTED EXHAUST AIR DUCTWORK AND EXHAUST VENT LOUVER.

ELECTRICAL GENERAL NOTES:

- . ELECTRICAL CONTRACTOR TO VERIFY ALL
- WIRING AND CONNECTIONS IN THE EXISTING ELECTRICAL PANEL.
- CONTRACTOR TO VERIFY THE EXISTING CIRCUIT BREAKERS AND CABLES FEEDING THE FURNACES AND CONDENSING UNIT.
- ALL NEW ELECTRICAL WORKS AND ALL NEW ELECTRICAL EQUIPMENT RATINGS (INCLUDING ALL CABLES AND CIRCUIT BREAKERS) TO MEET THE CEC REQUIREMENTS.
 - ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL SCHEDULES AND EQUIPMENT LAYOUT FOR ALL MECHANICAL EQUIPMENT RATING AND ELECTRICAL REQUIREMENTS.
- ELECTRICAL KEY NOTES:
 - REMOVE EXISTING CONNECTION TO CU-2. REMOVE ALL CABLING AND CONDUIT BACK TO SOURCE. MARK BREAKER IN PANEL AS SPARE.

MECHANICAL GENERAL NOTES:

- A. CONTRACTOR TO VERIFY THE EXISTING CONDITION BEFORE COMMENCEMENT OF DEMOLITION.
- B. DISCONNECT AND REMOVE FURNACES AND DX COOLING COIL. ALL EXISTING DUCTWORK, GAS LINES, FLUES, ARE TO BE REMAINED AND CAPPED FOR FUTURE RE-CONNECTION.
- SUPPLY AND INSTALL ALL FIRE STOPPING MATERIAL AND ENSURE THAT ALL FIRE PENETRATIONS ARE PROTECTED AS REQUIRED BY THE ALBERTA BUILDING CODE AND THE LOCAL AUTHORITIES.

MECHANICAL SYSTEMS AND THEIR SUPPORTS,

AND THE LIKE, MUST BE DESIGNED AND DETAILED

- TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY CRITERIA' ON THE STRUCTURAL DRAWINGS. DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL SYSTEMS SHOWN
- ON THE CONTRACT DOCUMENTS. SUBMIT SHOP ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY THE CONSULTANT. MECHANICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING LAYOUT AND

SIZES OF ALL INTENDED PENETRATIONS

THROUGH ANY STRUCTURAL ELEMENTS,

BY CONSULTANT WELL IN ADVANCE OF

INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW

COMPLETING THE WORK. PROVIDE COLLAR CONNECTION; LENGTH TO SUIT SITE CONDITION.

MECHANICAL LEGEND:

- EXISTING TO BE REMOVE EXISTING TO REMAIN

MECHANICAL KEY NOTES: PROVIDE AND INSTALL NEW CONDENSING UNIT

- CU-2,CU-4, CU-5 AS PER SCHEDULE. PROVIDE AND INSTALL NEW REFRIGERANT PIPING FOR CONDENSING UNIT CU-4 & CU-5.
- PROVIDE AND INSTALL NEW FURNACES F-1, F-2, F-3, F-4 AS PER SCHEDULE AND AS PER

MANUFACTURER'S RECOMMENDATIONS.

- PROVIDE AND INSTALL NEW COOLING COIL CC-4 AS PER SCHEDULE.
- PROVIDE TRANSITION BETWEEN FURNACE SUPPLY AIR OPENING AND COOLING COIL CASE.

PROVIDE 50MM PVC COMBUSTION & VENT PIPE

PIPE IN ACCORDANCE WITH MANUFACTURER'S

- 6 BYPASS TERMINAL UNIT. BALANCE SUPPLY AIR L/S AS INDICATED.
- IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE 75MM PVC COMBUSTION AIR & VENT
- RECOMMENDATIONS (10) RELOCATE THERMOSTAT/HUMIDSTAT TO NEW LOCATION, WIRE TO FURNACE (F-2).

WIRE NEW THERMOSTAT/HUMIDSTAT TO

- (12) INSTALL AND CONNECT 250Ø NEW SUPPLY AIR
- DUCTWORK TO THE EXISTING SUPPLY AIR DUCT. PROVIDE AND INSTALL NEW SUPPLY AIR DUCT

WORK AT THE CEILING SPACE C/W SUPPLY AIR

- 350×250MM TRANSFER DUCT C/W ACOUSTIC INSULATION AND RETURN AIR GRILLE.
 - 15) PROVIDE AND INSTALL NEW THERMOSTAT, CONNECT TO BYPASS TERMINAL BP. (16) PROVIDE AND INSTALL SUPPLY AIR DUCT WORK
 - TO GYM/ LOCKER ROOM, CONNECT TAKE OFF DUCT TO FURNACE (F-2). C/W FIRE DAMPER AT MECHANICAL ROOM WALL PENETRATION. PROVIDE AND INSTALL RETURN AIR DUCTWORK
 - TO TRANSFER AIR FROM GYM/LOCKER ROOM TO CORRIDOR, C/W RETURN AIR GRILLE AND FIRE DAMPERS AT FIRE RATED WALLS PENETRATION.
 - PROVIDE AND INSTALL EXHAUST FAN (EF-7), C/W EXHAUST AIR DUCT WORK AND 250x200 EXHAUST LOUVER AT EXTERIOR WALL.

JANITOR'S ROOM.

PUMPED CONDENSATE DRAIN TO MOP SINK IN

ELECTRICAL GENERAL NOTES:

- A. ELECTRICAL CONTRACTOR TO VERIFY ALL
- WIRING AND CONNECTIONS IN THE EXISTING ELECTRICAL PANEL.
- CIRCUIT BREAKERS AND CABLES FEEDING THE FURNACES AND CONDENSING UNIT.

B. CONTRACTOR TO VERIFY THE EXISTING

ALL NEW ELECTRICAL WORKS AND ALL NEW ELECTRICAL EQUIPMENT RATINGS (INCLUDING ALL CABLES AND CIRCUIT BREAKERS) TO MEET

THE CEC REQUIREMENTS.

ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL SCHEDULES AND EQUIPMENT LAYOUT FOR ALL MECHANICAL EQUIPMENT RATING AND ELECTRICAL REQUIREMENTS.

ELECTRICAL KEY NOTES:

- RE CONNECT NEW EQUIPMENT IN EXISTING LOCATION WITH EXISTING WIRING. SUPPLY AND INSTALL NEW SERVICE DISCONNECT AT EACH
- SUPPLY AND INSTALL CONNECTION TO NEW CONDENSING UNIT, CONNECTION TO COME COMPLETE WITH SERVICE DISCONNECT. IN NEAREST AVAILABLE 208 PANEL SUPPLY AND INSTALL A NEW 40A 2POLE BREAKER TO SERVICE

FURNACE AS PART OF THIS WORK.

SUPPLY AND INSTALL CONNECTION TO NEW TERMINAL UNIT. SUPPLY AND INSTALL NEW 15A 1 POLE BREAKER IN NEAREST AVAILABLE POWER PANEL FOR CONNECTION.

MAIN FLOOR MECHANICAL DEMOLITION LAYOUT M50-01-01 1:100



MAIN FLOOR MECHANICAL NEW LAYOUT

DATE ISSUED FOR 50% REVIEW 2017-11-24 2017-12-08 99% REVIEW 2017-12-22 TENDER

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Project Component Phase # - Description Keyplan

North Arrow Detail Symbol DETAIL# SHEET #

Symbol not to scale Consultants Landscape: Architectural:

Mechanical: NORR ARCHITECTS ENGINEERS PLANNERS Electrical: NORR ARCHITECTS ENGINEERS PLANNERS

Seal(s)

Structural:

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GOVERNMENT OF CANADA

GOVERNMENT OF CANADA

FURNACE REPLACEMENT

Drawing Title

MAIN FLOOR MECHANICAL & ELECTRICAL **DEMOLITION & NEW LAYOUT**

Check Scale (may be photo reduced)
0 1 inch 0 10mm

Project No. NCCA-17-0167-00

M50-01-01