

2019032M10.dwg FILE NAME: DATE: 2020.11.23 MECHANICAL SPECIFICATIONS PROJECT No: 2019-032 SHEET TITLE: MECHANICAL SPECIFICATIONS ADDRESS: 1155 PACIFIC AVENUE

**MECHANICAL SPECIFICATIONS**

- 1.0 GENERAL**
- .1 VISIT JOBSITE DURING TENDER. DRAWINGS INDICATE APPROXIMATE LOCATION OF EXISTING MECHANICAL EQUIPMENT AND SERVICES. VERIFY EXACT LOCATIONS OF EXISTING MECHANICAL EQUIPMENT AND SERVICES AND ALLOW FOR NECESSARY RELOCATING OF NOTED SERVICES (OR RECONNECTION TO EXISTING SERVICES) TO SUIT NEW CONSTRUCTION.
  - .2 ALL WORK SHALL CONFORM TO MANITOBA BUILDING CODE AND LOCAL AUTHORITIES. APPLY FOR, OBTAIN AND PAY FOR ALL NECESSARY PERMITS.
  - .3 COORDINATE INSTALLATION WITH ALL RELATED TRADES, INTERIOR DESIGN PLANS AND REFLECTED CEILING PLANS. VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING EQUIPMENT AND SERVICES PRIOR TO PROCEEDING WITH WORK.
  - .4 SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO CONTRACT ADMINISTRATOR.
  - .5 PROVIDE ONE YEAR GUARANTEE FOR ALL EQUIPMENT.
  - .6 ALL CONNECTIONS TO EXISTING BUILDING MECHANICAL SERVICES SHALL BE COORDINATED WITH THE CONTRACT ADMINISTRATOR.
  - .7 ALL NECESSARY CUTTING AND PATCHING SHALL BE PERFORMED BY CONTRACTOR. MECHANICAL SUBCONTRACTOR TO CO-ORDINATE ON SITE.
  - .8 REFER TO INSTRUCTIONS TO BIDDERS FOR REQUIREMENTS REGARDING PROJECT PHASING, WORKING HOURS, SHUT-DOWN PROCEDURES, ACCESS, ETC.
  - .9 PRIOR TO DRILLING HOLES AND/OR OPENINGS IN EXISTING STRUCTURE, CONTRACTOR SHALL RETAIN SERVICES OF NATIONAL TESTING LABORATORIES LIMITED TO LOCATE AND MARK ALL STRUCTURAL REINFORCING STEEL LOCATED IN AREA WHERE CUTTING OR DRILLING IS PROPOSED. AT NO TIME SHALL REINFORCING STEEL BE CUT WITHOUT PRIOR WRITTEN APPROVAL FROM STRUCTURAL ENGINEER QUALIFIED AND LICENSED TO PRACTICE IN PROVINCE OF MANITOBA. NO HOLES OR OPENINGS WILL BE PERMITTED WITHIN AREA OF STRUCTURAL DROP PANELS LOCATED AT COLUMNS.
  - .10 BID QUOTATIONS SHALL BE BASED ON THE USE OF SPECIFIED EQUIPMENT, UNLESS ACCEPTANCE FOR THE USE OF EQUAL MANUFACTURERS IS OBTAINED FROM THE ENGINEER PRIOR TO SUBMISSION OF TENDERS. ALTERNATE MANUFACTURERS MAY BE QUOTED AS AN INCREASE OR DECREASE AMOUNT TO THE TENDER PRICE, WITHOUT PRIOR ACCEPTANCE OF THE ENGINEER.
  - .11 PROVIDE A MARK-UP OF THE CONTRACT DRAWINGS FOR RECORD "AS-BUILT" DRAWINGS, REVISED AS REQUIRED TO SHOW ANY CHANGES FROM THAT ORIGINALLY SHOWN.
  - .12 ALL DUCTWORK AND PIPING TO BE INSTALLED STRAIGHT, PARALLEL TO THE BUILDING WALLS.
  - .13 PIPE HANGERS SHALL BE GRINELL FIG. 65 FOR STEEL PIPE AND FIG. C765 FOR COPPER PIPE, ALL WITH FIG. 140 THREADED ROD ATTACHED TO FIG. 117 EXPANSION CASE SET IN HOLES DRILLED IN CONCRETE, OR ATTACHED TO FIG. 225 OR 227 CLAMP ATTACHED TO JOISTS OR BEAMS.
  - .14 ALL EXTRANEOUS MATERIAL IN CEILING SPACE UNRELATED TO NEW AND REVISED WORK SHOWN, INCLUDING PIPING, CONTROL TUBING, DUCTWORK ETC. SHALL BE REMOVED.
  - .15 PROVIDE FIRE STOPPING FOR ALL OPENINGS IN FIRE SEPARATIONS FOR PASSAGE OF PIPES, DUCTS, ETC. TO MAINTAIN INTEGRITY OF FIRE SEPARATIONS AS PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
  - .16 INSTALLATION OF WORK SHALL BE COORDINATED WITH THE CONTRACTOR AND SHALL BE SCHEDULED SO AS NOT TO ENDANGER OR DISTURB THE USERS OF THE BUILDING. SHUTDOWN OF EXISTING BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
  - .17 ALL WIRING FOR EQUIPMENT SPECIFIED HEREIN SHALL BE BY THE ELECTRICAL SUBCONTRACTOR, UNLESS OTHERWISE NOTED.
  - .18 CONTRACTOR SHALL REVIEW ALL EQUIPMENT REQUIRING ELECTRICAL HOOK-UP WITH ELECTRICAL SUB-CONTRACTOR AND ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT. ENSURE PROPER ELECTRICAL CHARACTERISTICS ARE DETERMINED FOR ALL AFFECTED AND RELATED WORK.
  - .19 PRIOR TO INSTALLATION OF THE CEILING, NOTIFY THE CONTRACT ADMINISTRATOR AND ARRANGE FOR A FINAL REVIEW OF THE WORK. FOR UNDERTAKING THIS REVIEW, THE FOLLOWING SHALL BE COMPLETED:
    - .1 ALL SYSTEMS TO BE FULLY OPERATIONAL, AS-BUILT DRAWINGS SUPPLIED AND OPERATING AND MAINTENANCE MANUALS SUBMITTED. TWO (2) DAYS NOTIFICATION (IN WRITING) IS REQUIRED TO BE GIVEN TO THE CONSULTANTS PRIOR TO REVIEWS BEING UNDERTAKEN.
    - .2 ALL DEFICIENCIES SHALL BE COMPLETED WITHIN TWO (2) WEEKS OF AN AGREED PERIOD OF TIME AFTER FINAL REVIEW AND A LETTER SHALL BE SUBMITTED TO THE CONSULTANT WITHIN THAT TIME ADVISING OF SUCH. FAILURE TO COMPLETE WORK MAY RESULT IN WORK BEING DONE BY THE OWNER AND THE COSTS DEDUCTED FROM FINAL PAYMENT.
  - .20 WHERE MECHANICAL SERVICES ARE CONCEALED WITHIN WALLS, FLOORS OR CEILINGS AND CANNOT BE VISUALLY IDENTIFIED, PROVIDE ELECTRONIC SCANNING DEVICES OR OTHER APPROVED MEANS TO LOCATE AND IDENTIFY CONCEALED SERVICES PRIOR TO WORK START. MAKE GOOD ANY DAMAGE TO EXISTING MECHANICAL SERVICES AT NO COST TO THE CONTRACT.
  - .21 SILICONE ALL FIXTURES TO ADJACENT WALLS, FLOORS OR COUNTERTOPS ETC.

- 2.0 INSULATION**
- .1 ACOUSTIC INSULATION ON SUPPLY DUCTWORK, WHERE SHOWN ON THE DRAWINGS, SHALL BE 1" THICK FIBREGLASS RIGID COATED DUCT LINER. THE DUCT SIZES SHOWN ON THE DRAWING REPRESENTS THE FINAL INTERNAL SIZE REQUIRED. IMPALE ON WELDED STUDS SPACED 16" O.C. PAINT BREAKS AND JOINTS WITH BF-60-30N FIRE RETARDANT MASTIC, COAT EXPOSED EDGES WITH ADHESIVE. PROJECTING FASTENERS AND ENDS CUT OFF VERTICALLY FLUSH.
  - .2 INSULATE CONDITIONED AIR DUCTWORK WITH 1" FIBERGLAS RFRFK FLEXIBLE OR RIGID DUCT INSULATION INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

**MECHANICAL SPEC'S CONTINUED:**

- 3.0 VENTILATION**
- .1 DUCTWORK
    - .1 GALVANIZED IRON SCHEDULE:
 

MAX. SIDE	GAUGES (USSG)	BRACING
UP TO 24"	24	NONE
25 TO 30"	24	1" X 1" X 1/8" ANGLE, 4' FROM JOINT.
31 TO 40"	22	1" X 1" X 1/8" ANGLE, 4' FROM JOINT.
ROUND DUCT UP TO 19"	26	NONE
    - .2 WHERE DUCT WIDTH EXCEEDS 18" IN LARGEST DIMENSION, STIFFEN BY BREAKING SHEETS DIAGONALLY.
    - .3 DUCT SIZES SHOWN ARE INSIDE DIMENSIONS. IF DUCTS ARE ACOUSTICALLY LINED, OUTSIDE DUCT SIZE TO BE INCREASED TO SUIT.
    - .4 DUCTWORK SHALL BE CONSTRUCTED AS RECOMMENDED IN ASHRAE GUIDE.
    - .5 SEAL ALL JOINTS (NEW AND EXISTING) AIRTIGHT WITH DURO-DYNE S-2 DUCT SEALER OR EQUAL. IN STRICT ACCORDANCE WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS. PRIOR TO APPLICATION, DUCTWORK TO BE DRY AND FREE OF GREASE, ETC. USE 1/4" BEAD OF MATERIAL ALONG JOINTS. MATERIAL, WHEN DRY, TO HAVE 1/8" DEPTH EXTENDING 1" ON EACH SIDE OF JOINT OR SEAM.
    - .6 SIZE ROUND DUCTS, INSTALLED IN PLACE OF RECTANGULAR DUCTS, FROM ASHRAE TABLE OF EQUIVALENT RECTANGULAR AND ROUND DUCTS.
    - .7 PRIOR TO FABRICATION OF DUCTWORK, CHECK ALL CEILING SPACES AND HEIGHTS FOR CONFLICTION WITH OTHER TRADES.
    - .8 DUCT AND EQUIPMENT SUPPORTS, HANGERS AND INSERTS
      - .1 SUPPORT HORIZONTAL DUCTS ON MAXIMUM 8'-0" CENTRES BY NON-PERFORATED GALV. STEEL, RIVETTED STRAP FOR DUCTWORK 36" (EITHER DIMENSION) OR LESS, AND MINIMUM 1" X 1" X 1/8" GALV. IRON PASSING UNDER DUCTS 37" OR OVER (EITHER DIMENSION) WITH 3/8" DIAM. THREADED RODS SUSPENDING ANGLES FROM STRUCTURE.
      - .2 FOR INSERTS IN EXISTING CONCRETE, USE HILTI H.K.D. STEEL ANCHORS.
    - .9 MANUAL VOLUME DAMPERS TO BE #16 GA. GALV. STEEL, STIFFENED. DAMPERS HARDWARE TO BE DURO-DYNE KS-145, KS-385 OR KS-12 AS RECOMMENDED BY MANUFACTURER.
    - .10 FIRE DAMPERS SHALL CONFORM TO MANITOBA FIRE CODE AND LOCAL AUTHORITIES. ALL FIRE DAMPERS TO BE TYPE 'B', I.E. BLADES OUT OF AIR STREAM.
    - .11 PROVIDE INSULATED ACCESS DOORS AT ALL FIRE DAMPERS, COILS, AIR VALVES AND WHERE NOTED.
    - .12 DIFFUSERS, GRILLES AND REGISTERS
      - .1 REFER TO SCHEDULE.
    - .13 PROVIDE FOR TEMPORARY FILTERS AT EXISTING MAIN RETURN AIR DUCTS DURING CONSTRUCTION ON EACH FLOOR BEING RENOVATED. REPLACE FILTERS REGULARLY DURING THE CONSTRUCTION PERIOD. REMOVE TEMPORARY FILTERS AT END OF CONSTRUCTION AND PRIOR TO AIR BALANCING.
    - .14 FLEXIBLE AIR DUCTS SHALL CONFORM TO UL-181, NFPA 90A AND SHALL HAVE A FIRE RATING TO SUIT WALL RATING. USE MAXIMUM OF 18" LENGTH STRAIGHT RUN TO EACH BOOT CONNECTION.
  - 4.0 TESTING AND BALANCING**
    - .1 AIR SYSTEMS SHALL BE BALANCED AND TESTED BY AN INDEPENDENT AIR BALANCE AGENCY (AABC) TO PROVIDE AIR QUANTITIES AS SHOWN. PROVIDE AIR BALANCE REPORT FOR REVIEW BY THE CONSULTANT. SUBMIT TWO COPIES FOR REVIEW UPON COMPLETION. PROVIDE DAMPER STICKER UPON FINAL BALANCING COMPLETION.

NOTES:

0	ISSUED FOR CONSTRUCTION	EAG	FEB 12 2021
No.	REVISION/DESCRIPTION	BY	DATE



DRAWN	EAG	CHECKED	DESIGNED	XTW	APPROVED
DATE	2020.11.23	USER	APPROVAL		

Winnipeg THE CITY OF WINNIPEG  
PLANNING, PROPERTY AND  
DEVELOPMENT DEPARTMENT  
MUNICIPAL ACCOMMODATIONS DIVISION  
3-65 GARRY STREET, R3C 4K4

PROJECT  
PUBLIC WORKS DEPARTMENT  
SECURITY AND ACCESSIBILITY UPGRADES

1155 PACIFIC AVENUE TENDER No: 139-2021

SHEET TITLE  
MECHANICAL  
SPECIFICATIONS

SCALE	PROJECT No:	SHEET No:
AS SHOWN	2019-032	M3