ADDRESS: 25 POSEIDON BAY | PROJECT No: | SHEET TITLE: MECHANICAL SPECIFICATIONS | DATE: 2016.09.12 | FILE NAME: 2014148MV0.dwgM4

MECHANICAL SPECIFICATION

1. GENERAL
- 1.1. 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.
- 1.2. ALL WORK SHALL CONFORM TO MANITOBA BUILDING CODE AND LOCAL AUTHORITIES. APPLY FOR, OBTAIN AND PAY FOR ALL NECESSARY PERMITS.
- 1.3. 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.
- 1.4. SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO THE CONTRACT ADMINISTRATOR.
- 1.5. PROVIDE ONE YEAR GUARANTEE FOR ALL EQUIPMENT.
- 1.6. ALL CONNECTIONS TO EXISTING BUILDING MECHANICAL SERVICES SHALL BE COORDINATED WITH THE CONTRACT ADMINISTRATOR.
- 1.7. ALL NECESSARY CUTTING AND PATCHING SHALL BE PERFORMED BY CONTRACTOR. MECHANICAL SUB CONTRACTOR TO CO-ORDINATE ON SITE.
- 1.8. REFER TO INSTRUCTIONS TO BIDDERS FOR REQUIREMENTS REGARDING PROJECT PHASING, WORKING HOURS, SHUT-DOWN PROCEDURES, ACCESS, ETC.
- 1.9. PROVIDE MILCOR ACCESS DOORS IN DRYWALL CEILINGS AND WALLS FOR ACCESS TO MECHANICAL EQUIPMENT. MINIMUM SIZE 24" X 18".
- 1.10. 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.
- 1.11. PROVIDE A MARK-UP OF THE CONTRACT DRAWINGS FOR RECORD "AS-BUILT" DRAWINGS, REVISED AS REQUIRED TO SHOW ANY CHANGES FROM THAT ORIGINALLY SHOWN.
- 1.12. ALL DUCTWORK AND PIPING TO BE INSTALLED STRAIGHT, PARALLEL TO THE BUILDING WALLS.
- 1.13. PIPE HANGERS SHALL BE GRINNELL FIG. 65 FOR STEEL PIPE AND FIG. CT65 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.
- 1.14. ALL EXTRANEOUS MATERIAL IN CEILING SPACE UNRELATED TO NEW AND REVISED WORK SHOWN, INCLUDING PIPING, CONTROL TUBING, DUCTWORK, ETC. SHALL BE REMOVED.
- 1.15. PROVIDE FIRESTOPPING FOR ALL OPENINGS IN FIRE SEPARATIONS FOR PASSAGE OF PIPES, DUCTS, ETC. TO MAINTAIN INTEGRITY OF FIRE SEPARATIONS AS PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- 1.16. INSTALLATION OF WORK SHALL BE COORDINATED WITH THE PRIME CONTRACTOR AND SHALL BE SCHEDULED SO AS NOT TO ENDANGER OR DISTURB THE CITY OR USERS OF THE BUILDING. SHUTDOWN OF EXISTING BUILDING SYSTEMS SHALL BE COORDINATED WITH THE CONTRACT ADMINISTRATOR.
- 1.17. ALL WIRING FOR EQUIPMENT SPECIFIED HEREIN SHALL BE BY THE ELECTRICAL SUB CONTRACTOR, UNLESS OTHERWISE NOTED.
- 1.18. 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.
- 1.19. 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:
  - 1.19.1. 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 CONTRACT ADMINISTRATOR PRIOR TO REVIEWS BEING UNDERTAKEN.
  - 1.19.2. 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 CONTRACT ADMINISTRATOR WITHIN THAT TIME ADVISING OF SUCH. FAILURE TO COMPLETE WORK MAY RESULT IN WORK BEING DONE BY THE CITY AND THE COSTS DEDUCTED FROM FINAL PAYMENT.
- 1.20. 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.
- 1.21. SILICONE ALL FIXTURES TO ADJACENT WALLS, FLOORS OR COUNTERTOPS ETC.

2. INSULATION
- 2.1. INSULATE ALL DOMESTIC WATER PIPING WITH 1/2" FIBERGLAS 7 LB. DENSITY, PIPE INSULATION WITH ASJ AS PER MFG. RECOMMENDATIONS. SEAL ALL BREAKS, JOINTS WITH ASJ TAPE.
- 2.2. ALL COLD PIPING INSULATION SHALL BE C/W WITH VAPOUR BARRIER.
- 2.3. 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.
- 2.4. INSULATION ON PIPING IN FINISHED AREAS TO BE RECANVASSED OR COVERED WITH WHITE P.V.C. INSULATION COVER.
- 2.5. INSULATE CONDITIONED AIR DUCTWORK WITH 1" FIBERGLAS RFFRK FLEXIBLE OR RIGID DUCT INSULATION INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 2.6. EXHAUST DUCT SHALL BE INSULATED 10' BACK FROM THE ROOF PENETRATION.

3. PLUMBING
- 3.1. PROVIDE LABOUR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY FOR AND INCIDENTAL TO SUPPLY AND INSTALLATION OF SYSTEMS SHOWN ON DRAWINGS. GENERALLY THIS SHALL INCLUDE:
  - 3.1.1. DRAINAGE SYSTEM
  - 3.1.2. WATER SUPPLY SYSTEM
  - 3.1.3. VENT SYSTEM
- 3.2. DRAINAGE SYSTEMS
  - 3.2.1. PROVIDE COMPLETE SYSTEMS OF DRAINAGE AND VENTING TO SERVE ALL FIXTURES, EQUIPMENT, ETC. AS NOTED ON DRAWINGS AND IN ACCORDANCE WITH LOCAL CODES.
  - 3.2.2. ALL DRAINAGE PIPING TO W.C.'S SHALL BE 4" DIAM. MIN.
  - 3.2.3. CLEANOUTS:
    - 3.2.3.1. INSTALL CLEANOUTS AT ALL CHANGES OF DIRECTION, AT INTERVALS OF NOT OVER FIFTY FEET (50) IN HORIZONTAL RUNS, AT ALL POINTS WHERE OBSTRUCTIONS MIGHT BE FORMED AND AT ALL POINTS REQUIRED BY PLUMBING REGULATIONS OR SHOWN ON DRAWINGS.
- 3.3. WATER SUPPLY
  - 3.3.1. PROVIDE COMPLETE SYSTEM OF WATER SUPPLY PIPING AS NOTED ON DRAWINGS.
  - 3.3.2. GRADE HORIZONTAL RUNS OF PIPING TO DRAIN THROUGH RISERS.
  - 3.3.3. INSTALL DRAIN VALVES IN MAINS FOR COMPLETE DRAINAGE.
  - 3.3.4. INSTALL DIELECTRIC INSULATING COUPLINGS BETWEEN ALL PIPES CONSTRUCTED OF DISSIMILAR METALS.
  - 3.3.5. PROVIDE SHOCK ABSORBER UPSTREAM OF EVERY SOLENOID VALVE OR QUICK CLOSING VALVE. THIS APPLIES ALSO TO NIC EQUIPMENT HAVING SOLENOID VALVES SUPPLIED BY OTHER DIVISIONS, SUCH AS WASHING MACHINES, DISHWASHERS, ETC. REVIEW PROPOSED LOCATION AND TYPE OF SHOCK ABSORBERS WITH CONSULTANT PRIOR TO INSTALLATION.
  - 3.3.6. INSTALL BACKFLOW PREVENTION DEVICES IN ACCORDANCE WITH CITY OF WINNIPEG BACKFLOW PREVENTION BY-LAW. INCLUDE COSTS OF ALL TESTING.
- 3.4. DRAIN AND VENT PIPING
  - 3.4.1. PIPE AND FITTINGS SHALL CONFORM TO STANDARDS LISTED IN APPLICABLE BUILDING CODE (LATEST REVISION).
  - 3.4.2. ALL CAST IRON SOIL PIPE SHALL BE CLASS 4000.
  - 3.4.3. NO PLASTIC, ASBESTOS OR ALUMINUM PIPE WILL BE ACCEPTED UNLESS SPECIFICALLY CALLED FOR.
- 3.5. WATER PIPING
  - 3.5.1. PIPE - TYPE 'L' THIRD PARTY CERTIFIED HARD COPPER TUBE.
  - 3.5.2. FITTINGS - WROT OR CAST SOLDER JOINT.
- 3.6. BALL VALVES
  - 3.6.1. TOYO FIG. 5049A.
- 3.7. CLEANOUTS
  - 3.7.1. CLEANOUTS IN CAST IRON SOIL PIPE SHALL CONSIST OF CAST IRON FERRULE WITH BRASS PLUG HAVING RAISED HEAD.
  - 3.7.2. CLEANOUTS IN COPPER DRAINAGE TUBE SHALL BE BRASS SCREWED PLUGS WITH RAISED HEAD.
- 3.8. CLEANOUT ACCESS COVER
  - 3.8.1. ZURN ZANB-1460-13-7" DIAM. POLISHED NICKEL BRONZE FRAME AND COVER. CLEANOUT ACCESS COVERS IN AREAS HAVING FLOOR FINISH SUCH AS V.A. TILE, TERRAZZO, OR CARPET, SHALL BE SELECTED TO SUIT FINISH. COOPERATE WITH APPROPRIATE TRADES TO APPLY FINISH TO CLEANOUT COVERS SO THAT THEY WILL BE FLUSH WITH FLOOR, INCONSPICUOUS, AND ACCESSIBLE.
  - 3.8.2. CLEANOUTS IN WALLS SHALL BE LOCATED ADJACENT TO AN ACCESS DOOR, OR SHALL HAVE SUITABLY FINISHED ACCESS COVER FLUSH WITH WALL SO AS TO PRESENT NEAT FINISHED APPEARANCE AND LEAVE CLEANOUT EASILY ACCESSIBLE.
- 3.9. JOINTING
  - 3.9.1. MAKE ALL JOINTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - 3.9.2. BRACE FITTINGS NECESSARY TO PREVENT JOINTS FROM COMING APART UNDER PRESSURE.
  - 3.9.3. MAKE JOINTS IN DOMESTIC WATER AND DRAINAGE SYSTEMS WITH SOLDER CONTAINING NO LEAD. SOLDER MATERIAL SHALL BE SILVERBRITE 100 OR EQUAL CONSISTING OF COMBINATION OF TIN, COPPER AND SILVER.
- 3.10. CLEANING AND FLUSHING
  - 3.10.1. ON COMPLETION, FLUSH OUT PIPING SYSTEM TO REMOVE ANY FOREIGN MATERIAL IN PIPING.
- 3.11. TESTING
  - 3.11.1. PRESSURE TEST ALL PIPING SYSTEMS AS FOLLOWS:
    - 3.11.1.1. PLUMBING SYSTEM - IN ACCORDANCE WITH LOCAL REGULATIONS.
    - 3.11.1.2. WATER SUPPLY PIPING - TEST WITH WATER TO 100 PSIG AT HIGHEST POINT OF SYSTEM. MAINTAIN PRESSURE WITHOUT LOSS FOR 4 HOURS.
    - 3.11.1.3. CONTRACT ADMINISTRATOR SHALL WITNESS TESTS. GIVE 48 HOURS NOTICE IN ADVANCE OF TESTS.
    - 3.11.1.4. NATURAL GAS SYSTEM - IN ACCORDANCE WITH LOCAL REGULATIONS.
- 3.12. HANGERS
  - 3.12.1. WATER - GRINNELL CT65 PLATED CLEVIS.
  - 3.12.2. DRAINAGE - GRINNELL 260 CLEVIS.
  - 3.12.3. INSTALL HANGERS 6 FT. ON CENTRE FOR PIPES UP TO 1", 8 FT. ON CENTRE FOR PIPES 1 1/4" AND LARGER.
- 3.13. FIXTURES
  - 3.13.1. WC-1 WATER CLOSET
    - 3.13.1.1. THE ELONGATED BOWL SHALL BE MADE OF VITREOUS CHINA. BOWL SHALL BE 28-1/4" IN LENGTH, 14-7/8" IN WIDTH, AND 17-1/8" IN HEIGHT. THE BOWL SHALL BE FLOOR-MOUNT WITH A 1-1/2" TOP SPUD. BOWL SHALL HAVE SIPHON JET. BOWL SHALL FEATURE 1.28 GPF. BOWL SHALL HAVE 10-1/2" X 9" WATER AREA. BOWL SHALL BE KOHLER MODEL K-4405. ADA COMPLIANT. COLOR: WHITE.
    - 3.13.1.2. THE TOILET SEAT SHALL BE MADE OF SOLID POLYPROPYLENE PLASTIC. PRODUCT SHALL BE WITH COVER. PRODUCT SHALL FEATURE AN ERGONOMIC COUTURE WHICH ADDS ADDITIONAL COMFORT. PRODUCT SHALL BE AVAILABLE WITH AN ELONGATED OPEN-FRONT. PRODUCT SHALL HAVE STAINLESS STEEL MOUNTING BOLTS. PRODUCT SHALL BE AVAILABLE WITH AN ANTI-MICROBIAL AGENT WHICH INHIBITS GROWTH OF ODOR-CAUSING BACTERIA, MOLD, AND MILDEW. TOILET SEAT SHALL BE KOHLER MODEL K-4650-A. COLOR: WHITE.
    - 3.13.1.3. EXPOSED FLUSHOMETER SHALL BE MADE OF BRASS CONSTRUCTION. FLUSHOMETER SHALL FEATURE ELECTRONIC INFRARED SENSOR WITH TRIPOINT TECHNOLOGY FOR ACCURATE ACTIVATION. FLUSHOMETER SHALL BE OF A FIXTURE-MOUNT DESIGN. FLUSHOMETER IS INTENDED FOR TOILET INSTALLATIONS WITH 1-1/2" SPUD COUPLING CONNECTION. FLUSHOMETER SHALL INCLUDE A 30-YEAR HYBRID ENERGY CELL. FLUSHOMETER SHALL HAVE SLOW-CLOSING PISTON TECHNOLOGY. EXPOSED FLUSHOMETER SHALL BE KOHLER MODEL K-7351-CP, 1.28GPF FLOW RATE. ADA COMPLIANT.
  - 3.13.2. LAV-1 BATHROOM SINK
    - 3.13.2.1. THE WALL-MOUNT BATHROOM SINK SHALL BE MADE OF VITREOUS CHINA. SINK SHALL BE DRILLED FOR A CONCEALED ARM CARRIER. SINK SHALL BE 21-15/16" IN LENGTH, AND 19-3/4" IN WIDTH. SINK SHALL BE AVAILABLE WITH 8" CENTERS, 4" CENTERS, OR SINGLE HOLE. SINK SHALL FEATURE OVERFLOW AND HANGER. BATHROOM SINK SHALL BE KOHLER MODEL K-1999. COLOR: WHITE. ADA COMPLIANT.
    - 3.13.2.2. THE ELECTRONIC FAUCET SHALL BE MADE OF BRASS CONSTRUCTION. FAUCET SHALL HAVE 0.5 GPM FLOW RATE AND FEATURE VANDAL-RESISTANT AERATOR. FAUCET SHALL FEATURE A 5-3/4" SPOUT REACH, AND 24" FLEXIBLE SUPPLY HOSES FOR EASY INSTALLATION. FAUCET SHALL FEATURE AN ABOVE COUNTER VALVE FOR EASY INSTALLATION AND MAINTENANCE. FAUCET SHALL INCLUDE A 30-YEAR HYBRID ENERGY CELL. FAUCET SHALL BE FOR SINGLE-HOLE MOUNTING. FAUCET SHALL BE AVAILABLE WITH OR WITHOUT MIXER. FAUCET SHALL BE LESS DRAIN. ELECTRONIC FAUCET SHALL BE KOHLER MODEL K-7514-CP.
    - 3.13.2.3. THERMOSTATIC TEMPERING VALVE SHALL BE MADE OF BRASS CONSTRUCTION. THE VALVE SHALL FEATURE TEMPER RESISTANT LOCKING NUT TO PREVENT ACCIDENTAL MISADJUSTMENT. BUILT -IN CHECK VALVES TO PREVENT MIGRATION OF HOT WATER TO COLD WATER AND COLD WATER TO HOT WATER. PROVIDED WITH CAP FOR THREE PORT APPLICATION. INTEGRAL STRAINER WITH 40 MESH STAINLESS STEEL SCREENS TO FILTER.
  - 3.13.3. MS-1 MOP SINK
    - 3.13.3.1. BASIN: FIAT MSB2424, MOLDED STONE SERVICE BASIN, INTEGRAL DRAIN, AND COMBINATION DOME STRAINER AND LINT BASKET.
    - 3.13.3.2. FAUCET: FIAT 830AA, WALL MOUNTED SERVICE FAUCET, CHROME PLATED WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND ¾" HOSE THREAD ON SPOUT. BODY INLET 8" CENTER TO CENTER, FOUR ARM HANDLES, CENTRE OF SPOUT OUTLET FROM BACK OF WALL FLANGE 9 3/8".CSA APPROVED.
    - 3.13.3.3. ACCESSORIES:
      HOSE AND HOSE BRACKET: FIAT 832-AA FLEXIBLE HEAVY DUTY RUBBER HOSE WITH BRASS HOSE COUPLING, AND STAINLESS STEEL HOSE BRACKET WITH RUBBER GRIPPER.
      WALL GUARDS: FIAT MSG 2424 STAINLESS STEEL.
      BUMPER GUARDS: FIAT E-77-AA, VINYL, 24" LENGTH.
      MOP HANGER: FIAT 889CC.
    - 3.13.3.4. FIXTURE SHALL BE INSTALLED ON A BED OF FINE GROUT
    - 3.13.3.5. FINISHES:
      BASIN: WHITE
      FAUCET: CHROME
      ACCESSORIES: CHROME
  - 3.13.4. FD-1 FLOOR DRAIN
    - 3.13.4.1. WATTS FD-100 SERIES
    - 3.13.4.2. EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE MEMBRANE CLAMP WITH WEEP HOLES, ¼" THICK, 6" ROUND ADJUSTABLE NICKEL BRONZE STRAINER AND NO HUB OUTLET. SIZE DRAIN BODY TO MATCH REQUIRED PIPE SIZING ON DRAWINGS.
    - 3.13.4.3. OPTIONS: VANDAL PROOF

4. VENTILATION
- 4.1. DUCTWORK
  - 4.1.1. 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

  - 4.1.2. WHERE DUCT WIDTH EXCEEDS 18" IN LARGEST DIMENSION, STIFFEN BY BREAKING SHEETS DIAGONALLY.
  - 4.1.3. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS. IF DUCTS ARE ACOUSTICALLY LINED, OUTSIDE DUCT SIZE TO BE INCREASED TO SUIT.
  - 4.1.4. DUCTWORK SHALL BE CONSTRUCTED AS RECOMMENDED IN ASHRAE GUIDE.
  - 4.1.5. 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.
  - 4.1.6. SIZE ROUND DUCTS, INSTALLED IN PLACE OF RECTANGULAR DUCTS, FROM ASHRAE TABLE OF EQUIVALENT RECTANGULAR AND ROUND DUCTS.
  - 4.1.7. PRIOR TO FABRICATION OF DUCTWORK, CHECK ALL CEILING SPACES AND HEIGHTS FOR CONFLICTION WITH OTHER TRADES.
  - 4.1.8. DUCT AND EQUIPMENT SUPPORTS, HANGERS AND INSERTS
    - 4.1.8.1. 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.
    - 4.1.8.2. FOR INSERTS IN EXISTING CONCRETE, USE HILTI H.K.D. STEEL ANCHORS.
  - 4.1.9. 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.
  - 4.1.10. 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.
  - 4.1.11. PROVIDE INSULATED ACCESS DOORS AT ALL FIRE DAMPERS, COILS, AIR VALVES AND WHERE NOTED.
  - 4.1.12. DIFFUSERS, GRILLES AND REGISTERS
    - 4.1.12.1. REFER TO SCHEDULE.
  - 4.1.13. 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.
  - 4.1.14. 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.

5. TESTING AND BALANCING
- 5.1. 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 CONTRACT ADMINISTRATOR. SUBMIT TWO COPIES FOR REVIEW UPON COMPLETION. PROVIDE DAMPER STICKER UPON FINAL BALANCING COMPLETION..

6. FIRE PROTECTION
- 6.1. PROVIDE LABOUR, MATERIAL, PLANT, TOOLS, EQUIPMENT AND SERVICES NECESSARY TO COMPLETION OF SPRINKLER SYSTEM AS SHOWN ON DRAWINGS.
- 6.2. COMPLY WITH ALL REQUIREMENTS OF THE CITY'S FIRE INSURANCE UNDERWRITER AND AUTHORITIES HAVING JURISDICTION. DESIGN AND INSTALLATION SHALL COMPLY WITH THE MOST RECENT EDITION OF NFPA #13 AND ALL APPLICABLE PROVINCIAL AND LOCAL LAWS AND ORDINANCES.
- 6.3. SUBMIT SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR AND AUTHORITY HAVING JURISDICTION AND OBTAIN APPROVAL PRIOR TO INSTALLATION. SHOP DRAWINGS SHALL SHOW NEW PIPING AND SPRINKLER HEADS, CEILING CONSTRUCTION, HEIGHTS, LIGHTS, MECHANICAL DIFFUSERS, AND CEILING DROPS.
- 6.4. MATERIAL
  - 6.4.1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF NFPA #13 - SPRINKLER SYSTEMS.
  - 6.4.2. NO PLASTIC PIPING, SNAPLET, F.I.T. HOOKER, OR SIMILAR TYPE FITTINGS WILL BE PERMITTED.
- 6.5. INSTALLATION
  - 6.5.1. RUN ALL SPRINKLER PIPING AS HIGH AS POSSIBLE ABOVE SUSPENDED CEILING SYSTEM. MAINTAIN MINIMUM OF 6" CLEARANCE BETWEEN SUSPENDED CEILING SYSTEM AND MAIN AND/OR BRANCH PIPING RUNS.
  - 6.5.2. WHERE REQUIRED MAKE ARRANGEMENTS WITH VENTILATION CONTRACTOR TO PROVIDE EASEMENTS IN DUCTWORK TO FACILITATE INSTALLATION OF SPRINKLER PIPING. COORDINATE INSTALLATION WITH VENTILATION SUB CONTRACTOR, AND PAY COSTS.
  - 6.5.3. ADJUST, RELOCATE AND ADD SPRINKLER HEADS AND PIPING TO SUIT PARTITION LAYOUT IN ACCORDANCE WITH NFPA 13, AND CITY OF WINNIPEG REQUIREMENTS.
  - 6.5.4. THE SPRINKLER SUB CONTRACTOR SHALL VISIT SITE TO CONFIRM SPRINKLER HEAD AND REQUIREMENTS PRIOR TO PRICE SUBMITTAL. NO EXTRA COST SHALL BE PAID FOR WORK DONE THAT HAS TO BE RECTIFIED AS A RESULT OF THE CONTRACTOR'S FAILURE TO EITHER COORDINATE THE WORK OR IDENTIFY ANY POTENTIAL PROBLEMS PRIOR TO INSTALLATION.
  - 6.5.5. NEW SPRINKLER HEADS SHALL SHALL BE ULC APPROVED.
  - 6.5.6. NOTIFY CONTRACT ADMINISTRATOR PRIOR TO DRAINING AND/OR REFILLING SPRINKLER SYSTEM. DISCONNECT EXISTING SYSTEM FROM MAIN SYSTEM, PERFORM THE WORK, TEST, AND RECONNECT TO THE MAIN SYSTEM.

NOTES:

No.	REVISION/DESCRIPTION	BY	DATE
0	ISSUED FOR CONSTRUCTION	JAW	NOV 28 2016

SEAL

DRAWN	CHECKED	DESIGNED	APPROVED
JAW			
DATE 2016.09.12	USER APPROVAL		

Winnipeg

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

PROJECT

AQUATIC HALL OF FAME MUSEUM
ROYAL GALLERY SPACE RESTORATION

25 POSEIDON BAY

SHEET TITLE

MECHANICAL SPECIFICATIONS

BID OPP # 936-2016

SCALE	PROJECT No:	SHEET No:
AS SHOWN	2014-148	M4

DRAWING SHEET SIZE: A1 (841mm x 594mm) PLOT 1:1