

**1. GENERAL SPECIFICATIONS**

- THE CONTRACTOR SHALL EXAMINE THE SITE AND THE EXISTING CONDITIONS AFFECTING THE PROJECT. REVIEW THE COMPLETE SET OF CONTRACT DOCUMENTS TO ENSURE THE WORK CAN BE CARRIED OUT WITHOUT SIGNIFICANT CHANGES TO THE INTENT OF THE DOCUMENTS. NO FUTURE ALLOWANCE WILL BE MADE FOR CHANGES UNLESS THE CONTRACT ADMINISTRATOR HAS BEEN NOTIFIED IN ACCORDANCE WITH B6 OF ANY DISCREPANCIES OR INTERFERENCES, PRIOR TO THE CLOSE OF BID OPPORTUNITY. NO ALLOWANCE WILL BE MADE FOR ITEMS THAT SHOULD HAVE BEEN NOTED DURING THE SITE INVESTIGATION.
- THE LOCATION, ROUTING AND ELEVATIONS OF ALL NEW AND EXISTING SERVICES AND UTILITIES AS SHOWN ON THE DRAWINGS ARE TO BE CONSIDERED AS APPROXIMATIONS ONLY. VERIFY THE EXACT LOCATIONS, ROUTINGS AND ELEVATIONS OF ALL SERVICES PRIOR TO COMMENCING WORK, AND ASSUME RESPONSIBILITY FOR LAYING OUT ALL WORK. THE CONTRACTOR SHALL RETAIN RESPONSIBILITY FOR ANY DAMAGE TO EXISTING SERVICES AND UTILITIES.
- ALL ASPECTS OF THE INSTALLATION MUST COMPLY WITH THE MOST STRINGENT OF THE APPLICABLE BUILDING CODES, LOCAL REGULATIONS, AND BY-LAWS. BEFORE PROCEEDING WITH THE WORK, OBTAIN APPROVED DRAWINGS AND SPECIFICATIONS FROM THE AUTHORITIES HAVING JURISDICTION.
- PROVIDE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS, PAY ALL FEES REQUIRED BY LAW, AND ARRANGE FOR ALL INSPECTIONS RELATED TO THE PERFORMANCE OF THE SPECIFIED WORK.
- PROVIDE A COMPLETE AND FUNCTIONING SYSTEM UTILIZING ALL MATERIALS, LABOUR AND EQUIPMENT REQUIRED TO COMPLETE THE WORK AS SHOWN AND AS SPECIFIED.
  - ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND C.S.A. APPROVED, UNLESS SPECIFICALLY NOTED OTHERWISE.
  - ALL SIMILAR EQUIPMENT AND OR MATERIALS SHALL BE BY THE SAME MANUFACTURER.
- REQUEST FOR APPROVAL OF SUBSTITUTE MATERIAL AND/OR EQUIPMENT FOR THAT SPECIFIED, SHALL BE SUBMITTED IN ACCORDANCE WITH B6. REQUESTS SHALL INCLUDE ALL PERFORMANCE SPECIFICATIONS, PHYSICAL DATA AND OTHER PERTINENT INFORMATION REQUIRED FOR THE CONTRACT ADMINISTRATOR TO MAKE A COMPLETE COMPARISON.
- PROVIDE A MINIMUM OF SEVEN COPIES OF SHOP DRAWINGS FOR REVIEW BY THE CONTRACT ADMINISTRATOR. THE SHOP DRAWINGS MUST BE ASSEMBLED INTO COMPLETE BROCHURES, WITH NO LOOSE SHEETS. UNASSEMBLED SUBMISSIONS WILL BE RETURNED AS INCOMPLETE.
  - THE REVIEW OF THE SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THE REVIEW SHALL NOT MEAN APPROVAL OF THE DETAILED DESIGN INHERENT IN THE EQUIPMENT, THE RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR. THE REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR CONFIRMING AND CORRELATING THE DIMENSIONS ON THE JOBSITE, AND FOR INFORMATION THAT PERTAINS TO THE FABRICATION PROCESS, CONSTRUCTION TECHNIQUES, AND INSTALLATION DETAILS, AND FOR COORDINATING ALL WORK OF THE RELATED SUB-TRADES.
- ALL CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EXISTING EXPOSED SURFACES SHALL BE RETURNED TO AN "AS-FOUND" CONDITION ACCEPTABLE TO THE CONTRACT ADMINISTRATOR.
- EACH CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS IN ORDER TO AVOID CONFLICTS.
- NEATLY STORE ALL MATERIALS, AND CLEAN UP REFUSE ON A REGULAR BASIS. PROTECT AND MAINTAIN ALL WORK UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE CONTRACT ADMINISTRATOR.
- THE INSTALLATION SHALL BE COMPLETELY TESTED, DEMONSTRATING THE EQUIPMENT AND SYSTEMS INSTALLED ARE PERFORMING IN THE MANNER INTENDED.
- AT THE COMPLETION OF THE INSTALLATION, PROVIDE TWO MARKED-UP COPIES OF THE BID OPPORTUNITY AND AS-BUILT DRAWINGS FOR RECORD PURPOSES. PROVIDE THREE SETS OF OPERATION AND MAINTENANCE MANUALS. PAY ALL COSTS ASSOCIATED WITH THE PRODUCTION OF THE "RECORD" DRAWINGS AND THE MANUALS. SUBMIT THE DOCUMENTS TO THE CONTRACT ADMINISTRATOR FOR REVIEW, AND MAKE ANY REQUESTED CHANGES BEFORE DELIVERING THEM TO THE CITY.
- REVIEW THE OPERATION AND MAINTENANCE OF THE SYSTEMS WITH THE CITY'S MAINTENANCE PERSONNEL AND PROVIDE WRITTEN AND/OR VERBAL INSTRUCTIONS AS REQUIRED.
- PROVIDE CERTIFICATES CONFIRMING THE WORK HAS BEEN INSTALLED TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.
  - NO CERTIFICATE ISSUED, PAYMENT MADE, OR PARTIAL OR ENTIRE USE OF THE SYSTEMS BY THE CITY, SHALL BE CONSTRUED AS ACCEPTANCE OF DEFECTIVE WORK OR MATERIALS.
- THE CONTRACTOR SHALL PROVIDE A ONE YEAR LABOR AND MATERIAL WARRANTY ON ALL NEW EQUIPMENT AND COMPONENTS, COMMENCING UPON THE DATE OF ACCEPTANCE BY THE CONTRACT ADMINISTRATOR.
  - REPLACE AT NO-CHARGE, ALL ITEMS WHICH FAIL OR PROVE DEFECTIVE WITHIN A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY THE CITY, PROVIDED THE FAILURE IS NOT DUE TO IMPROPER USAGE. MAKE GOOD ALL DAMAGES INCURRED AS A RESULT OF THE FAILURE AND OF THE REPAIRS.
- PROVIDE TEMPORARY HEATING AS REQUIRED. DO NOT USE NEW EQUIPMENT FOR THIS PURPOSE WITHOUT THE EXPRESS CONSENT OF THE CONTRACT ADMINISTRATOR.
- SCHEDULING OF ALL WORK SHALL BE ARRANGED WITH THE CITY. COORDINATE THE SHUT-DOWN OF EXISTING UTILITIES AND SERVICES AS REQUIRED FOR CONNECTIONS OF NEW WORK. WORK WITHIN THE BUILDING MAY HAVE TO BE PERFORMED DURING NON-REGULAR HOURS, AND MUST CONFORM TO THE WORK RULES OF THE BUILDING, AS DIRECTED BY THE CITY.
- THE DRAWINGS FOR THE MECHANICAL WORK ARE PERFORMANCE DRAWINGS, DIAGRAMATIC AND APPROXIMATELY TO SCALE. INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE LOCATIONS OF APPARATUS, FIXTURES AND PIPE/DUCT RUNS. THESE DRAWINGS DO NOT INTEND TO SHOW ARCHITECTURAL AND STRUCTURAL DETAILS.
- EVEN THOUGH SOME PIPING AND/OR DUCTWORK IS NOT COMPLETELY SHOWN SCHEMATICALLY, AND ALL DETAILS ARE NOT SHOWN OR SPECIFIED, IT IS EXPECTED THAT THE CONTRACTORS BE FAMILIAR ENOUGH WITH THEIR FIELDS OF WORK TO COMPLETE THE PROJECT TO THE STANDARDS GENERALLY ADHERED TO BY THE LOCAL INDUSTRY, INCLUDING GOOD WORKMANSHIP AND COMMON SENSE. THE CONTRACT ADMINISTRATOR RESERVES THE RIGHT TO FURNISH ANY ADDITIONAL DETAIL DRAWINGS, WHICH IN THE JUDGEMENT OF THE CONTRACT ADMINISTRATOR, MAY BE NECESSARY TO CLARIFY THE WORK, AND SUCH DRAWINGS SHALL FORM PART OF THIS CONTRACT. THE WORK FOR SUCH CLARIFICATIONS SHALL BE AT NO COST TO THE CITY.

**2. MECHANICAL SPECIFICATIONS**

- SCOPE:**
  - PROVIDE A FULLY FUNCTIONAL HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM FOR THE SPACES NOTED.
  - MODIFY THE BUILDING TO PERMIT THE HVAC SYSTEM RENOVATION.
- REFERENCE CODES AND STANDARDS:**
  - PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS, INCLUDING THE FOLLOWING:
    - SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, LATEST EDITION.
    - SMACNA HVAC DUCT LEAKAGE TEST MANUAL, LATEST EDITION.
    - ANSI/NFPA 90B-1989, INSTALLATION OF WARM AIR HEATING AND AIR COND. SYSTEMS.
    - ANSI/ASHRAE STANDARD 62.1 - 2004, "VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY".
- SHOP DRAWINGS:**
  - SUBMIT SHOP DRAWINGS FOR ALL COMPONENTS PROVIDED, INCLUDING AIR HANDLING UNITS, CONTROLS, BUILDING PRODUCTS, ELECTRICAL COMPONENTS, ANY COMPONENTS SIGNIFICANT TO PROJECT SUCCESS.
  - FOR EACH SUBMISSION, SUBMIT FIVE SETS OF LETTER OR 11"x17" SHOP DRAWINGS. IF SHOP DRAWINGS ARE LARGER THAN 11"x17" SUBMIT ONE REPRODUCIBLE AND ONE PRINT.
- DUCT WORK:**
  - SEAL CLASSIFICATION: USE SMACNA SEAL CLASS C. TRANSVERSE JOINT AND CONNECTIONS MADE AIR TIGHT WITH GASKETS SEALANT TAPE OR COMBINATION THEREOF. LONGITUDINAL SEAMS UNSEALED.
  - SEALANT: OIL RESISTANT, POLYMER TYPE FLAME RESISTANT DUCT SEALANT. TEMPERATURE RANGE OF MINUS 30C TO PLUS 93C
  - TAPE: POLYVINYL TREATED, OPEN WEAVE FIBERGLASS TAPE 2" WIDE.
  - DUCT LEAKAGE: IN ACCORDANCE WITH SMACNA HVAC DUCT LEAKAGE TEST MANUAL.
  - FITTINGS:
    - FABRICATION: TO SMACNA.
    - RADIUSES ELBOWS
      - RECTANGULAR: STANDARD RADIUS AND OR SHORT RADIUS WITH SINGLE TURNING VANES CENTRELINE RADIUS: 1.5 TIMES WIDTH OF DUCT.
      - ROUND: SMOOTH RADIUS 5 PIECE. CENTRELINE RADIUS: 1.5 TIMES DIAMETER.
    - MITERED ELBOWS, RECTANGULAR
      - TO 16" WITH SINGLE DOUBLE THICKNESS TURNING VANES
      - OVER 16" WITH DOUBLE THICKNESS TURNING VANES.
  - BRANCHES:
    - RECTANGULAR MAIN AND BRANCH: WITH RADIUS ON BRANCH 1.5 TIMES WIDTH OF DUCT 45° ENTRY ON BRANCH
    - PROVIDE VOLUME CONTROL DAMPER IN BRANCH DUCT NEAR CONNECTION TO MAIN DUCT.
    - MAIN DUCT BRANCHES: WITH SPLITTER DAMPER
  - TRANSITIONS:
    - DIVERGING: 20° MAXIMUM INCLUDED ANGLE.
    - CONVERGING 30° MAXIMUM INCLUDED ANGLE.
  - GALVANIZED DUCTWORK:
    - LOCK FORMING QUALITY: TO ASTM A525M, Z90 ZINC COATING
    - THICKNESS, FABRICATION AND REINFORCEMENT: TO ASHRAE AND SMACNA
    - JOINTS: TO ASHRAE AND SMACNA AND OR PROPRIETARY MANUFACTURED DUCT JOINT. PROPRIETARY MANUFACTURED FLANGED DUCT JOINT SHALL BE CONSIDERED TO BE A CLASS "A" SEAL.
- DUCT HANGERS AND SUPPORTS:
  - STRAP HANGERS: OF SAME MATERIAL AS DUCT BUT NEXT SHEET METAL THICKNESS HEAVIER THAN DUCT. MAXIMUM SIZE DUCT SUPPORTED BY STRAP HANGER 18".
  - HANGER CONFIGURATION: TO ASHRAE AND SMACNA STD.
- EXECUTION:
  - DO WORK IN ACCORDANCE WITH ANSI/NFPA 90A ANSI/NFPA 90B ASHRAE CSA B228.1 AND SMACNA.
  - DO NOT BREAK CONTINUITY OF INSULATION VAPOUR BARRIER WITH HANGERS OR RODS. INSULATE STRAP HANGERS 100mm BEYOND INSULATED DUCT.
  - SUPPORT RISERS IN ACCORDANCE WITH ASHRAE AND SMACNA.
  - INSTALL BREAKAWAY JOINTS IN DUCTWORK ON EACH SIDE OF FIRE SEPARATION.
  - INSTALL PROPRIETARY MANUFACTURED FLANGED DUCT JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
  - MANUFACTURE DUCT IN LENGTHS TO ACCOMMODATE INSTALLATION OF ACOUSTIC DUCT LINING.
  - APPLY SEALANT TO OUTSIDE OF JOINT TO MANUFACTURER'S RECOMMENDATIONS.
  - BED TAPE IN SEALANT AND RECOAT WITH MINIMUM OF 1 COAT OF SEALANT TO MANUFACTURERS RECOMMENDATIONS.
  - SUPPLY AIR DUCTS SHALL BE INSULATED WITH MINIMUM 1-1/2" FIBERGLASS ALUMINUM FOIL JACKETS OR AS NOTED ON DRAWINGS.
- DUCT ACCESSORIES:**
  - GENERAL MANUFACTURE IN ACCORDANCE WITH CSA B228.1
- FLEXIBLE CONNECTIONS:
  - FRAME: GALVANIZED SHEET METAL FRAME WITH FABRIC CLENCHED BY MEANS OF DOUBLE LOCKED SEAMS.
  - MATERIAL: FIRE RESISTANT, SELF-EXTINGUISHING, NEOPRENE COATED FABRIC, TEMPERATURE RATED AT MINUS 40°F TO PLUS 190°F DENSITY OF 0.08 LB/FT
- EXECUTION:
  - INSTALL FLEXIBLE CONNECTIONS IN FOLLOWING LOCATIONS 1. INLETS AND OUTLETS TO SUPPLY AIR UNITS AND FANS.
  - INLETS AND OUTLETS TO EXHAUST AND RETURN AIR FANS.
  - AS INDICATED.
  - LENGTH OF CONNECTION: 4"
  - MINIMUM DISTANCE BETWEEN METAL PARTS WHEN SYSTEM IN OPERATION: 3"
  - INSTALL IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA.
  - WHEN FAN IS RUNNING: DUCTING ON EACH SIDE OF FLEXIBLE CONNECTION TO BE IN ALIGNMENT AND ENSURE SLACK MATERIAL IN FLEXIBLE CONNECTION.
  - INSTRUMENT TEST PORTS: INSTALL IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
  - TURNING VANES: INSTALL IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA AND AS INDICATED.

**3. SECTION 15180 - INSULATION**

- PROVIDE 1/2" (12mm) THICK, FOIL-FACED RIGID PRE-FORMED FIBREGLASS EXTERNAL THERMAL PIPE INSULATION ON ALL NEW DOMESTIC COLD WATER PIPES.
- PROVIDE 1/2" (12mm) THICK, RIGID, PRE-FORMED FIBREGLASS EXTERNAL THERMAL PIPE INSULATION ON ALL NEW DOMESTIC HOT WATER PIPES.
- PROVIDE 1/2" (12mm) THICK, FOIL-FACED RIGID PRE-FORMED FIBREGLASS EXTERNAL THERMAL PIPE INSULATION ON ALL NEW PLUMBING VENTS FOR 10' (3000mm) ON WARM SIDE OF A PENETRATION THROUGH A WALL OR CEILING/ROOF TO A COLD SPACE, AND FOR FULL LENGTH IN COLD ATTIC SPACES.
- PROVIDE 1" (25mm) THICK, FOIL-FACED RIGID (FIBREGLASS OR FIBREBOARD) OR FLEXIBLE FIBREGLASS EXTERNAL THERMAL INSULATION ON ALL NEW EXHAUST OR RELIEF DUCTWORK FOR 10'-0" (3.0M) ON THE WARM SIDE OF A PENETRATION THROUGH A WALL/FLOOR/CEILING/ROOF TO A COLD SPACE, WHERE A BACKDRAFT DAMPER IS PROVIDED AT THE PENETRATION TO THE COLD SPACE. WHERE THE BACKDRAFT DAMPER IS PROVIDED IN THE DUCTWORK, INSULATION SHALL EXTEND FROM THE PENETRATION TO 10'-0" (3.0M) UPSTREAM OF THE BACK DRAFT DAMPER
- WHERE 1" ACOUSTIC INSULATION IS PROVIDED, 1" OF THERMAL INSULATION MAY BE DELETED.
- ALL JOINTS AND ELBOWS SHALL BE COMPLETELY INSULATED EXCEPT JOINTS AND ELBOWS MAY BE LEFT UNCOVERED ON HOT PIPING IN CONCEALED SPACES.
- ALL VALVES AND UNIONS SHALL BE COMPLETELY INSULATED, EXCEPT VALVES AND UNIONS MAY BE LEFT UNCOVERED ON HOT PIPING IN CONCEALED SPACES.
- SEAMS OF FOIL-FACED THERMAL INSULATION SHALL BE SEALED WITH ALUMINUM DUCT TAPE.
- PROVIDE ADDITIONAL LAYER OF CANVAS, FIELD APPLIED, ADHERED, LAP SEALED AND FINISHED WITH A BRUSH COAT OF SIZING.
- PROVIDE PVC FITTING COVERS WHERE CANVAS JACKET IS APPLIED.
- COVER BUTT JOINTS WITH A STRIP OF THE SAME MATERIAL AS THE JACKET.
- FLEXIBLE INSULATION SHALL BE INSTALLED IN A MANNER THAT DOES NOT REDUCE ITS THICKNESS.

**4. TESTING, ADJUSTING AND BALANCING (TAB):**


- SCOPE
  - TAB MEANS TO TEST, ADJUST AND BALANCE. TO PERFORM IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS AND TO DO ALL OTHER WORK AS SPECIFIED IN THIS SECTION.
  - TEST TO VERIFY PROPER AND SAFE OPERATION, DETERMINE ACTUAL POINT OF PERFORMANCE, EVALUATE QUALITATIVE AND QUANTITATIVE PERFORMANCE OF EQUIPMENT, SYSTEMS AND CONTROLS AT DESIGN, AVERAGE AND LOW LOADS USING ACTUAL OR SIMULATED LOADS.
  - ADJUST AND REGULATE EQUIPMENT AND SYSTEMS SO AS TO MEET SPECIFIC PERFORMANCE REQUIREMENTS AND TO ACHIEVE SPECIFIC INTERACTION WITH ALL OTHER RELATED SYSTEMS UNDER ALL NORMAL AND EMERGENCY LOADS AND OPERATING CONDITIONS.
  - BALANCE SYSTEMS AND EQUIPMENT AND REGULATE FLOW RATES TO MATCH LOAD REQUIREMENTS OVER FULL OPERATING RANGE.
- EQUIPMENT STARTUP
  - FOLLOW STARTUP PROCEDURES AS RECOMMENDED BY EQUIPMENT MANUFACTURER UNLESS SPECIFIC OTHERWISE.
- START OF TAB
  - START TAB ONLY WHEN CONSTRUCTION IS ESSENTIALLY COMPLETE
  - STARTUP VERIFICATION FOR PROPER, NORMAL AND SAFE OPERATION OF ALL MECHANICAL AND ASSOCIATED ELECTRICAL CONTROL SYSTEMS AFFECTING TAB INCLUDING BUT NOT LIMITED TO
    - PROPER THERMAL OVERLOAD PROTECTION IN PLACE FOR ELECTRICAL EQUIPMENT
    - AIR SYSTEMS
      - FILTERS IN PLACE, CLEAN
      - DUCT SYSTEM CLEAN
      - DUCTS, AIR SHAFTS. CEILING PLENUMS ARE AIRTIGHT TO WITHIN SPECIFIC TOLERANCES.
      - CORRECT FAN ROTATION
      - FIRE, SMOKE, VOLUME CONTROL DAMPERS INSTALLED AND OPEN
      - COIL FINS COMBED, CLEAN
      - ACCESS DOORS, INSTALLED, CLOSED
      - ALL OUTLETS INSTALLED, VOLUME CONTROL DAMPERS OPEN
  - DO TAB TO PLUS 5%, MINUS 5% OF DESIGN VALUES
  - ACCURACY TOLERANCES: MEASURED VALUES TO BE ACCURATE TO WITHIN PLUS OR MINUS 2% OF ACTUAL VALUES.
- INSTRUMENTS: CALIBRATE IN ACCORDANCE WITH REQUIREMENTS OF MOST STRINGENT OF REFERENCED STANDARDS FOR HVAC SYSTEM
- TAB REPORT:
  - FORMAT TO BE IN ACCORDANCE WITH REFERENCED STANDARD
  - TAB REPORT TO SHOW ALL RESULTS IN IMPERIAL UNITS AND TO INCLUDE: 1. PROJECT RECORD DRAWINGS 2. SYSTEM SCHEMATICS
  - SUBMIT 6 COPIES OF TAB REPORT TO CONTRACT ADMINISTRATOR FOR VERIFICATION AND APPROVAL. APPROVAL, IN ENGLISH, COMPLETE WITH INDEX TABS.
- VERIFICATION:
  - ALL REPORTED RESULTS SUBJECT TO VERIFICATION BY CONTRACT ADMINISTRATOR.
  - PROVIDE MANPOWER AND INSTRUMENTATION TO VERIFY UP TO 30% OF ALL REPORTED RESULTS.
  - NUMBER AND LOCATION OF VERIFIED RESULTS TO BE AT DISCRETION OF CONTRACT ADMINISTRATOR.
  - BEAR COSTS TO REPEAT TAB AS REQUIRED TO SATISFACTION OF CONTRACT ADMINISTRATOR.
- SETTINGS:
  - AFTER TAB IS COMPLETED TO SATISFACTION OF CONTRACT ADMINISTRATOR, REPLACE DRIVE GUARDS, CLOSE ALL ACCESS DOORS, LOCK ALL DEVICES IN SET POSITIONS, ENSURE SENSORS ARE AT REQUIRED SETTINGS.
  - PERMANENTLY MARK ALL SETTINGS TO ALLOW RESTORATION AT ANY TIME DURING LIFE OF FACILITY. MARKINGS NOT TO BE ERADICATED OR COVERED IN ANY WAY.
- AIR SYSTEMS:
  - STANDARD: TAB TO BE TO MOST STRINGENT OF THIS SECTION OR TAB STANDARDS OF AABC NEBB SMACNA ASHRAE.
  - DO TAB OF ALL SYSTEMS, EQUIPMENT, COMPONENTS, CONTROLS SPECIFIED IN THE MECHANICAL DRAWINGS.
  - QUALIFICATIONS: PERSONNEL PERFORMING TAB TO BE CURRENT MEMBER IN GOOD STANDING OF AABC OR NEBB QUALIFIED TO STANDARDS OF AABC OR NEBB.
  - QUALITY ASSURANCE: PERFORM TAB UNDER DIRECTION OF SUPERVISOR QUALIFIED BY TO STANDARDS OF AABC OR NEBB.
  - MEASUREMENTS: TO INCLUDE, BUT NOT LIMITED TO, FOLLOWING AS APPROPRIATE FOR SYSTEMS, EQUIPMENT, COMPONENTS, CONTROLS: AIR VELOCITY, STATIC PRESSURE, FLOW RATE, PRESSURE DROP (OR LOSS), TEMPERATURES (DRY BULB, WET BULB, DEWPOINT), DUCT CROSS SECTIONAL AREA, RPM, ELECTRICAL POWER, VOLTAGE, NOISE, VIBRATION.
  - LOCATIONS OF EQUIPMENT MEASUREMENTS: TO INCLUDE, BUT NOT BE LIMITED TO, FOLLOWING AS APPROPRIATE:
    - INLET AND OUTLET OF EACH DAMPER, FILTER, COIL, HUMIDIFIER, FAN, OTHER EQUIPMENT CAUSING CHANGES IN CONDITIONS.
    - AT EACH CONTROLLER, CONTROLLED DEVICE
  - LOCATIONS OF SYSTEMS MEASUREMENTS TO INCLUDE, BUT NOT LIMITED TO, FOLLOWING AS APPROPRIATE: EACH MAIN DUCT, MAIN BRANCH, SUB-BRANCH, RUN-OUT (OR GRILLE, REGISTER OR DIFFUSER)

NOTES :

ORIGINAL STAMPED BY: D.A PALEY, P.ENG  
DATE: 2010.09.21

NO.	REVISION/DESCRIPTION	BY	DATE
SEALS			

DRAWN BY	RCP	CHECKED BY	APPROVED
DATE	2010.09.21	USER	APPROVAL

 **CITY OF WINNIPEG  
PLANNING, PROPERTY AND  
DEVELOPMENT DEPARTMENT  
CIVIC ACCOMMODATIONS DIVISION  
300 - 65 GARRY ST. R3C 4K4**

**PROJECT**  
PUBLIC SAFETY BUILDING  
EXHIBIT PROCESSING AREA DEVELOPMENT

151 PRINCESS STREET

SHEET TITLE

PARTIAL BASEMENT FLOOR PLAN  
MECHANICAL  
SPECIFICATIONS

SCALE	PROJECT NO.	SHEET NO.
AS SHOWN	2008-067	M7

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