

Address 337 DES MEURONS Project No. 2003-200 Description ELECTRICAL & MECHANICAL SPECIFICATION Date 2004.12.13 File Name 20032010.dwg\WB

NOTES :

ELECTRICAL SPECIFICATIONS

PART 1 – ELECTRICAL GENERAL CONDITIONS

- 1.1 GENERAL
 - A. THE SPECIFICATION COVERING THE GENERAL CONDITIONS OF THE CONTRACT, GENERAL SPECIFICATIONS, INSTRUCTIONS TO BIDDERS AND ALL ASSOCIATED SECTIONS FORM AN INTEGRAL PART OF THIS SPECIFICATION AND SHALL BE READ IN CONJUNCTION HEREWITH.
- 1.2 SCOPE
 - A. PROVIDE ALL MATERIALS, LABOUR, PLANT AND EQUIPMENT REQUIRED FOR A COMPLETE AND WORKING INSTALLATION AS HEREIN SPECIFIED AND AS SHOWN ON THE DRAWINGS.
 - B. THE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE, AND ALL PROVINCIAL AND MUNICIPAL CODES AND REGULATIONS.
 - C. SUBMIT TO THE ELECTRICAL INSPECTION DEPARTMENT AND SUPPLY AUTHORITY NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR EXAMINATION AND APPROVAL PRIOR TO THE COMMENCEMENT OF WORK.
 - D. OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL RELATED FEES REQUIRED FOR THIS INSTALLATION.
 - E. ALL EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BE C.S.A. APPROVED.
- 1.3 COORDINATION WITH OTHER TRADES
 - A. REFER TO MECHANICAL, STRUCTURAL AND ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL ELECTRICAL WORK IN CONNECTION WITH OTHER DIVISIONS WHERE SUCH WORK IS INCLUDED IN OTHER SECTIONS OF THE SPECIFICATIONS. PROVIDE LABOUR, EQUIPMENT, CONDUIT, WIRING, ETC. AS REQUIRED FOR OPERATION OF THE SPECIFIED EQUIPMENT.
 - B. SCHEDULE EXECUTION OF ELECTRICAL WORK WITH ASSOCIATED WORK SPECIFIED IN OTHER DIVISIONS.
 - C. COORDINATE ELECTRICAL WORK WITH WORK OF OTHER TRADES TO AVOID CONFLICTS WITH PIPES, AIR DUCTS OR OTHER EQUIPMENT. PROVIDE ADDITIONAL SUPPORTS, WIRING, ETC. TO RELOCATE ELECTRICAL EQUIPMENT AS REQUIRED WHERE STRUCTURAL MEMBERS, AIR DUCTS, PIPING OR OTHER EQUIPMENT INTERFERES WITH ELECTRICAL INSTALLATION.
- 1.4 EXAMINATION OF SITE AND CONSTRUCTION DOCUMENTS
 - A. PRIOR TO SUBMITTING A TENDER, EXAMINE THE SITE AND LOCAL CONDITIONS WHICH WILL AFFECT THE WORK. REPORT ANY DISCREPANCIES TO THE CITY PRIOR TO COMMENCING ANY WORK. CLAIMS FOR EXTRA PAYMENTS RESULTING FROM CONDITIONS WHICH COULD REASONABLY BE FORESEEN FROM EXAMINATION OF THE DOCUMENTS AND/OR SITE WILL NOT BE RECOGNIZED.
- 1.5 SUPERVISION
 - A. SUPERVISE THE WORK AT ALL TIMES THROUGH A RESPONSIBLE AND COMPETENT SUPERVISOR
 - B. FULL COOPERATION SHALL BE SHOWN WITH OTHER TRADES TO FACILITATE INSTALLATIONS AND AVOID DELAYS IN CARRYING OUT THE WORK.
- 1.6 ACCURACY OF DATA
 - A. DRAWINGS ARE SCHEMATIC. EXACT LOCATIONS, DISTANCES, LEVELS AND OTHER DIMENSIONS SHALL BE GOVERNED BY THE BUILDING AS CONSTRUCTED.
 - B. OUTLETS OR EQUIPMENT SHALL BE MOVED TO ANY POINT WITHIN A 10' RADIUS WHEN RELOCATION IS REQUESTED BY THE CITY BEFORE THE WORK HAS BEEN SUBSTANTIALLY COMPLETED, WITHOUT ADDITIONAL COST.
- 1.7 N/A
- 1.8 SHOP DRAWINGS
 - A. SUBMIT SHOP DRAWINGS OF ELECTRICAL EQUIPMENT TO THE CITY FOR REVIEW. FABRICATION OF THE EQUIPMENT SHALL NOT COMMENCE UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE CONTRACT ADMINISTRATOR. TWO (2) SETS SHALL BE SUBMITTED WITH LOCAL INSPECTION DEPARTMENT FOR APPROVAL.
- 1.9 RECORD DRAWINGS
 - A. KEEP A RECORD SET OF DRAWINGS ON THE SITE AT ALL TIMES RECORDING ALL CHANGES THAT MAY OCCUR. SUBMIT THESE DRAWINGS TO THE CITY UPON COMPLETION OF THE WORK.
 - B. SUBMIT A CERTIFICATE OF INSPECTION FROM THE LOCAL INSPECTION AUTHORITY UPON COMPLETION OF THE WORK.
 - C. ELECTRICAL SUBCONTRACTOR TO PAY FOR AND BE RESPONSIBLE FOR THE REPRODUCTION OF RECORD DRAWINGS.
 - D. WHERE ORIGINAL DRAWINGS HAVE BEEN PRODUCED ON ACAD, RECORD DRAWINGS ARE TO BE ON CAD. THE CAD SYSTEM MUST BE COMPATIBLE WITH THAT USED TO PRODUCE ORIGINAL DRAWINGS. ELECTRICAL CONTRACTOR TO PROVIDE CITY WITH ELECTRONIC COPY OF COMPLETED RECORD DRAWINGS, OR PAY THE CITY TO PRODUCE CAD DRAWINGS.
- 1.10 TEST
 - THE ELECTRICAL INSTALLATION SHALL BE COMPLETELY TESTED DEMONSTRATING THAT THE EQUIPMENT AND SYSTEMS INSTALLED PERFORMED IN MANNER INTENDED.
- 1.11 NOT APPLICABLE
- A. N/A
- 1.12 GROUNDING
 - A. THE ENTIRE INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.
- 1.13 WORKMANSHIP
 - A. INSTALL EQUIPMENT, CONDUIT AND CABLES IN A MANNER TO PRESENT A NEAT APPEARANCE TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
 - B. INSTALL CONDUIT AND CABLE RUNS PARALLEL AND PERPENDICULAR IN CHASES BEHIND FURRING OR CEILINGS WHERE SUCH CONCEALMENT IS POSSIBLE. IN AREAS WHERE SYSTEMS ARE TO BE EXPOSED, INSTALL NEATLY AND GROUP TO PRESENT A TIDY APPEARANCE.
 - C. INSTALL EQUIPMENT REQUIRING MAINTENANCE, ADJUSTMENT OR EVENTUAL REPLACEMENT WITH ADEQUATE CLEARANCES AND ACCESSIBILITY FOR SAME. INCLUDE IN THE WORK ALL REQUIREMENTS SHOWN ON THE SHOP DRAWINGS OR MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - D. REPLACE WORK UNSATISFACTORY TO THE CITY WITHOUT EXTRA COST. REPLACEMENT WITH ADEQUATE CLEARANCES AND ACCESSIBILITY FOR SAME. INCLUDE IN THE WORK ALL REQUIREMENTS SHOWN ON THE SHOP DRAWINGS OR MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 1.14 WORK IN EXISTING BUILDING
 - A. THE BUILDING SHALL REMAIN OPEN AND IN NORMAL OPERATION DURING THE CONSTRUCTION PERIOD OF THIS CONTRACT. COMPLY WITH OWNER'S INSTRUCTIONS REGARDING ACCEPTABLE WORKING HOURS ON PROJECT AND HOURS DURING WHICH POWER SHUTDOWN IS PERMISSIBLE.
 - B. WHERE EXISTING SERVICES SUCH AS ELECTRICAL POWER, FIRE, ALARM SYSTEM, TELEPHONE SYSTEM, ETC. ARE REQUIRED TO BE DISRUPTED AND/OR SHUTDOWN CO-ORDINATE THE SHUTDOWNS WITH THE OWNER AND CARRY OUT THE WORK AT A TIME AND IN A MANNER ACCEPTABLE TO THEM. SCHEDULE ALL DISRUPTIONS AND/OR SHUTDOWNS AND ENSURE THAT THE DURATION OF SAME IS KEPT TO A MINIMUM. SUBMIT FOR APPROVAL A WRITTEN SCHEDULE OF EACH DISRUPTION AT LEAST 72 HOURS IN ADVANCE OF PREFORMING WORK AND OBTAIN OWNER'S WRITTEN CONSENT PRIOR TO IMPLEMENTING.
 - C. SHOULD ANY CONNECTIONS BE REQUIRED TO MAINTAIN SERVICES DURING WORK IN THE EXISTING BUILDING. SUPPLY AND INSTALL ALL NECESSARY MATERIAL AND EQUIPMENT AND PROVIDE ALL LABOUR AT NO EXTRA COST. SHOULD ANY EXISTING SYSTEM BE DAMAGED, MAKE FULL REPAIRS WITHOUT EXTRA COST, AND TO THE SATISFACTION OF THE OWNER.

- D. THE DRAWINGS INDICATE MAJOR ITEMS OF EQUIPMENT TO BE DELETED OR RELOCATED BUT MAY NOT INDICATE EVERY ITEM OF EQUIPMENT OR CONDUIT TO BE DELETED OR RELOCATED. BE RESPONSIBLE FOR DETERMINING WHICH EXISTING EQUIPMENT IS TO BE DELETED OR RELOCATED BY EXAMINING THE SITE AND CONSTRUCTION DOCUMENTS.
- 1.15 CUTTING AND PATCHING
 - A. PAY THE COSTS OF ALL CUTTING AND PATCHING FOR INSTALLATION OF ELECTRICAL WORK.
 - B. CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL WORK SHALL BE DONE BY THE PARTICULAR TRADE WHOSE WORK IS INVOLVED. NO CUTTING OR PATCHING SHALL BE CARRIED OUT BY THE TRADESMAN EMPLOYED ON THE ELECTRICAL WORK.
 - C. OBTAIN THE APPROVAL OF THE OWNER BEFORE ARRANGING FOR ANY CUTTING. PATCHING SHALL RESTORE THE AFFECTED AREA TO THE ORIGINAL CONDITION. MATERIALS AND METHODS USED FOR PATCHING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CORRESPONDING DIVISIONS.
- 1.16 ACCESS DOORS
 - A. PROVIDE ACCESS DOORS IN INACCESSIBLE CONSTRUCTION TO GIVE ACCESS TO ALL CONCEALED JUNCTION BOXES, PULL BOXES, CONDUCTOR JOINTS AND OTHER SIMILAR ELECTRICAL WORK WHICH MAY REQUIRE MAINTENANCE OR REPAIR. BE COMPLETE WITH FLUSH FRAME AND ANCHOR, CONCEALED HINGES, POSITIVE LOCKING SCREWDRIVER LOCK, AND MOUNTING AND FINISHING PROVISIONS TO SUIT THE FINISH MATERIAL FOR WHICH THEY ARE SUPPLIED. ACCESS DOORS TO BE INSTALLED BY THE DIVISION RESPONSIBLE FOR THE PARTICULAR TYPE OF CONSTRUCTION IN WHICH ACCESS DOORS ARE REQUIRED. SUPPLY THE ACCESS DOORS TO THE DIVISION INSTALLING SAME AT THE PROPER TIME TO AVOID CONSTRUCTION DELAYS.

PART 2 – MATERIALS AND INSTALLATION

- 2.1 OUTLET BOXES
 - A. OUTLET, JUNCTION AND SWITCH BOXES SHALL BE GALVANIZED PRESSED STEEL OF SIZE AND TYPE TO SUIT EACH INDIVIDUAL APPLICATION.
- 2.2 WIRING METHODS
 - A. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, ALL WIRE SHALL BE COPPER, MINIMUM #12 WITH 90 DEGREES CELSIUS X-LINK INSULATION.
 - B. ALL WIRING IN FINISHED AREAS SHALL BE CONCEALED. CONDUITS SHALL BE RUN AT RIGHT ANGLES TO THE BUILDING LINES.
 - C. CABLES SHALL BE GROUPED WHERE POSSIBLE AND CLIPPED IN A NEAT AND WORKMANSHIP MANNER.
- 2.3 CONDUIT
 - A. USE ELECTRICAL METALLIC TUBING (EMT) EXCEPT WHERE NOTED OTHERWISE. WIRING HOMERUNS TO PANELS AND MAIN BRANCH WIRING IN CEILING SPACES TO BE RUN IN CONDUIT.
 - B. USE FLEXIBLE METAL CONDUIT FOR CONNECTION TO MOTORS, TRANSFORMERS, AND EQUIPMENT SUBJECT TO MOVEMENT OR VIBRATION. PROVIDE A SEPARATE INSULATED GROUND CONDUCTOR WITHIN FLEXIBLE CONDUIT.
 - C. USE LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR CONNECTION TO EQUIPMENT DESCRIBED ABOVE WHERE EXPOSED TO WET OR CORROSIVE CONDITIONS.
- 2.4 FASTENING AND SUPPORTS
 - A. PROVIDE METAL BRACKETS, FRAMES, HANGERS, CLAMPS AND RELATED TYPE OF SUPPORT STRUCTURES WHERE INDICATED OR AS REQUIRED TO SUPPORT CONDUIT AND CABLE RUNS.
- 2.5 N/A

MECHANICAL SPECIFICATIONS

PART 1 – MECHANICAL GENERAL CONDITIONS


- 1. SCOPE
 - A. PROVIDE A FULLY FUNCTIONAL HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM FOR THE SPACES NOTED.
 - B. MODIFY THE BUILDING TO PERMIT THE HVAC SYSTEM INSTALLATION.
- 2. REFERENCE CODES AND STANDARDS
 - A. PERFORM ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
 - B. SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, 1985.
 - C. SMACNA HVAC DUCT LEAKAGE TEST MANUAL, 1985.
 - D. ANSI/NFPA 90B-1989, INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS.
- 3. SHOP DRAWINGS
 - A. SUBMIT SHOP DRAWINGS FOR ALL COMPONENTS PROVIDED, INCLUDING AIR HANDLING UNITS, CONTROLS, BUILDING PRODUCTS, ELECTRICAL COMPONENTS, ANY COMPONENTS SIGNIFICANT TO PROJECT SUCCESS.
 - B. FOR EACH SUBMISSION, SUBMIT TWO SETS OF LETTER OR 11"x17" SHOP DRAWINGS. IF SHOP DRAWINGS ARE LARGER THAN 11"x17" SUBMIT ONE REPRODUCIBLE AND ONE PRINT.
- 4. DUCT WORK
 - A. SEAL CLASSIFICATION: USE SMACNA SEAL CLASS C. TRANSVERSE JOINT AND CONNECTIONS MADE AIR TIGHT WITH GASKETS SEALANT TAPE OR COMBINATION THEREOF. LONGITUDINAL SEAMS UNSEALED.
 - B. SEALANT: OIL RESISTANT, POLYMER TYPE FLAME RESISTANT DUCT SEALANT. TEMPERATURE RANGE OF MINUS 30C TO PLUS 93C.
 - C. TAPE: POLYVINYL TREATED, OPEN WEAVE FIBERGLASS TAPE 2" WIDE.
 - D. DUCT LEAKAGE: IN ACCORDANCE WITH SMACNA HVAC DUCT LEAKAGE TEST MANUAL.
 - E. FITTINGS:
 - 1. FABRICATION: TO SMACNA.
 - 2. RADIIUSES ELBOWS
 - 1. RECTANGULAR: STANDARD RADIUS AND OR SHORT RADIUS WITH SINGLE TURNING VANES CENTRELINE RADIUS: 1.5 TIMES WIDTH OF DUCT.
 - 2. ROUND: SMOOTH RADIUS 5 PIECE. CENTRELINE RADIUS: 1.5 TIMES DIAMETER.
 - 3. MITERED ELBOWS, RECTANGULAR
 - 1. TO 16" WITH SINGLE DOUBLE THICKNESS TURNING VANES.
 - 2. OVER 16" WITH DOUBLE THICKNESS TURNING VANES.
 - 4. BRANCHES:
 - 1. RECTANGULAR MAIN AND BRANCH: WITH RADIUS ON BRANCH 1.5 TIMES WIDTH OF DUCT 45° ENTRY ON BRANCH
 - 2. PROVIDE VOLUME CONTROL DAMPER IN BRANCH DUCT NEAR CONNECTION TO MAIN DUCT.
 - 3. MAIN DUCT BRANCHES: WITH SPLITTER DAMPER
 - 5. TRANSITIONS:
 - 1. DIVERGING: 20° MAXIMUM INCLUDED ANGLE.
 - 2. CONVERGING: 30° MAXIMUM INCLUDED ANGLE.
 - 6. GALVANIZED DUCTWORK:
 - 1. LOCK FORMING QUALITY; TO ASTM A525M, 290 ZINC COATING
 - 2. THICKNESS, FABRICATION AND REINFORCEMENT: TO ASHRAE AND SMACNA
 - 3. 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.

- 7. DUCT HANGERS AND SUPPORTS:
 - 1. STRAP HANGERS: OF SAME MATERIAL AS DUCT BUT NEXT SHEET METAL THICKNESS HEAVIER THAN DUCT. MAXIMUM SIZE DUCT SUPPORTED BY STRAP HANGER 18".
 - 2. HANGER CONFIGURATION: TO ASHRAE AND SMACNA STD.
- 8. EXECUTION:
 - 1. DO WORK IN ACCORDANCE WITH ANSI/NFPA 90A ANSI/NFPA 90B ASHRAE CSA B228.1 AND SMACNA.
 - 2. DO NOT BREAK CONTINUITY OF INSULATION VAPOUR BARRIER WITH HANGERS OR RODS. INSULATE STRAP HANGERS 100mm BEYOND INSULATED DUCT.
 - 3. SUPPORT RISERS IN ACCORDANCE WITH ASHRAE AND SMACNA.
 - 4. INSTALL BREAKAWAY JOINTS IN DUCTWORK ON EACH SIDE OF FIRE SEPARATION.
 - 5. INSTALL PROPRIETARY MANUFACTURED FLANGED DUCT JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - 6. MANUFACTURE DUCT IN LENGTHS TO ACCOMMODATE INSTALLATION OF ACOUSTIC DUCT LINING.
 - 7. APPLY SEALANT TO OUTSIDE OF JOINT TO MANUFACTURER'S RECOMMENDATIONS.
 - 8. BED TAPE IN SEALANT AND RECOAT WITH MINIMUM OF 1 COAT OF SEALANT TO MANUFACTURER'S RECOMMENDATIONS.
- 5. N/A
- 6. N/A
- 7. N/A
- 8. TESTING, ADJUSTING AND BALANCING (TAB)
 - A. SCOPE
 - 1. TAB MEANS TO TEST AND BALANCE, TO PERFORM IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS AND TO DO ALL OTHER WORK AS SPECIFIED IN THIS SECTION.
 - 2. 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.
 - 3. 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.
 - 4. BALANCE SYSTEMS AND EQUIPMENT AND REGULATE FLOW RATES TO MATCH LOAD REQUIREMENTS OVER FULL OPERATING RANGE.
 - B. EQUIPMENT STARTUP
 - 1. FOLLOW STARTUP PROCEDURES AS RECOMMENDED BY EQUIPMENT MANUFACTURER UNLESS SPECIFIC OTHERWISE.
 - C. START OF TAB
 - 1. START TAB ONLY WHEN CONSTRUCTION IS ESSENTIALLY COMPLETE
 - 2. STARTUP VERIFICATION FOR PROPER, NORMAL AND SAFE OPERATION OF ALL MECHANICAL AND ASSOCIATED ELECTRICAL CONTROL SYSTEMS AFFECTING TAB INCLUDING BUT NOT LIMITED TO
 - 1. PROPER THERMAL OVERLOAD PROTECTION IN PLACE FOR ELECTRICAL EQUIPMENT
 - 2. AIR SYSTEMS
 - 1. FILTERS IN PLACE, CLEAN
 - 2. DUCT SYSTEM CLEAN
 - 3. DUCTS, AIR SHAFTS, CEILING PLENUMS ARE AIRTIGHT TO WITHIN SPECIFIC TOLERANCES.
 - 4. CORRECT FAN ROTATION
 - 5. FIRE, SMOKE, VOLUME CONTROL DAMPERS INSTALLED AND OPEN
 - 6. COIL FINS COMBED, CLEAN
 - 7. ACCESS DOORS, INSTALLED, CLOSED
 - 8. ALL OUTLETS INSTALLED, VOLUME CONTROL DAMPERS OPEN
 - 3. DO TAB TO PLUS 5%, MINUS 5% OF DESIGN VALUES
 - 4. ACCURACY TOLERANCES: MEASURED VALUES TO BE ACCURATE TO WITHIN PLUS OR MINUS 2% OF ACTUAL VALUES.
 - D. INSTRUMENTS:
 - CALIBRATE IN ACCORDANCE WITH REQUIREMENTS OF MOST STRINGENT OF REFERENCED STANDARDS FOR HVAC SYSTEM
 - E. TAB REPORT:
 - 1. FORMAT TO BE IN ACCORDANCE WITH REFERENCED STANDARD
 - 2. TAB REPORT TO SHOW ALL RESULTS IN IMPERIAL UNITS AND TO INCLUDE:
 - 1. PROJECT RECORD DRAWINGS
 - 2. SYSTEM SCHEMATICS
 - 3. SUBMIT 6 COPIES OF TAB REPORT TO CONTRACT ADMINISTRATOR FOR VERIFICATION AND APPROVAL APPROVAL, IN ENGLISH, COMPLETE WITH INDEX TABS.
 - F. VERIFICATION:
 - 1. ALL REPORTED RESULTS SUBJECT TO VERIFICATION BY CONTRACT ADMINISTRATOR.
 - 2. PROVIDE MANPOWER AND INSTRUMENTATION TO VERIFY UP TO 30% OF ALL REPORTED RESULTS.
 - 3. NUMBER AND LOCATION OF VERIFIED RESULTS TO BE AT DISCRETION OF CONTRACT ADMINISTRATOR.
 - 4. BEAR COSTS TO REPEAT TAB AS REQUIRED TO SATISFACTION OF CONTRACT ADMINISTRATOR.
 - G. SETTINGS:
 - 1. 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.
 - 2. PERMANENTLY MARK ALL SETTINGS TO ALLOW RESTORATION AT ANY TIME DURING LIFE OF FACILITY. MARKINGS NOT TO BE ERADICATED OR COVERED IN ANY WAY.
 - H. AIR SYSTEMS:
 - 1. STANDARD: TAB TO BE TO MOST STRINGENT OF THIS SECTION OR TAB STANDARDS OF AABC NEBB SMACNA ASHRAE.
 - 2. DO TAB OF ALL SYSTEMS, EQUIPMENT, COMPONENTS, CONTROLS SPECIFIED IN THE MECHANICAL DRAWINGS.
 - 3. QUALIFICATIONS: PERSONNEL PERFORMING TAB TO BE CURRENT MEMBER IN GOOD STANDING OF AABC OR NEBB QUALIFIED TO STANDARDS OF AABC OR NEBB.
 - 4. QUALITY ASSURANCE: PERFORM TAB UNDER DIRECTION OF SUPERVISOR QUALIFIED BY TO STANDARDS OF AABC OR NEBB.
 - 5. 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.
 - 6. LOCATIONS OF EQUIPMENT MEASUREMENTS: TO INCLUDE, BUT NOT BE LIMITED TO, FOLLOWING AS APPROPRIATE:
 - 1. INLET AND OUTLET OF EACH DAMPER, FILTER, COIL, HUMIDIFIER, FAN, OTHER EQUIPMENT CAUSING CHANGES IN CONDITIONS.
 - 2. AT EACH CONTROLLER, CONTROLLED DEVICE
 - 3. 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)

ORIGINAL STAMPED BY: PALEY, DOUG
DATE: 2004.12.20

NO.	REVISION/DESCRIPTION	BY	DATE
SEALS			

DRAWN BY DNJ CHECKED BY DTA APPROVED
DATE 2004.12.06 USER APPROVAL

 CITY OF WINNIPEG
PLANNING, PROPERTY & DEVELOPMENT DEPARTMENT
CIVIC ACCOMMODATIONS DIVISION
300 – 65 GARRY ST. R3C 4K4

PROJECT
BUILDING CODE UPGRADE
FIRE STATION #3
337 DES MEURONS

SHEET TITLE
ELECTRICAL &
MECHANICAL SPECIFICATIONS

SCALE PROJECT NO. SHEET NO.
AS NOTED 2003-200 M-3

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