

GENERAL

1. PERFORM WORK GENERALLY IN ACCORDANCE WITH THE STANDARDS OF MATERIALS AND WORKMANSHIP ESTABLISHED IN THE BASE BUILDING CONTRACT DOCUMENTS AND AS FURTHER SPECIFIED.
2. EXAMINE THE SITE PRIOR TO SUBMITTING TENDER. REPORT ANY DEFICIENCIES IN THE DOCUMENTS OR CONFLICTS BETWEEN EXISTING STRUCTURE AND PROPOSED WORK, IN WRITING, TO THE CONSULTANT. NO ADDITIONAL COST ALLOWANCE WILL BE MADE FOR CONDITIONS WHICH EXISTED AT TIME OF TENDER.
3. ENSURE PIPING, DUCTWORK AND OTHER ITEMS CAN BE INSTALLED AS SHOWN PRIOR TO FABRICATION AND INSTALLATION. MAKE CHANGES AT NO COST TO THE OWNER, WHERE WORK IS FABRICATED OR INSTALLED PRIOR TO REACHING A SOLUTION WHERE WORK CONFLICTS WITH THE EXISTING BUILDING OR CONFLICT WITH OTHER TRADES OCCURS.
4. ENSURE REPORTED DEFICIENCIES ARE CORRECTED. REINSPECTION COSTS OF PREVIOUSLY REPORTED DEFICIENCIES WHICH REMAIN AFTER CERTIFICATION OF COMPLETION WILL BE WITHHELD FROM THE CONTRACTOR'S FINAL PAYMENT.
5. REUSE REMOVED EQUIPMENT (INCLUDING SPRINKLER HEADS) IN NEW WORK AFTER REPAIRING AND RECONDITIONING ANY DEFECTIVE ITEMS. TURN OVER UNUSED EQUIPMENT TO OWNER.
6. OBTAIN LANDLORD'S APPROVAL PRIOR TO X-RAYING AND CORE DRILLING FLOOR SLABS. ALL CORE HOLES ARE TO BE SEALED WITH FIRE STOPPING.

GUARANTEE

1. FURNISH OWNER WITH A WRITTEN GUARANTEE FOR A PERIOD NOT LESS THAN ONE YEAR FROM DATE OF COMPLETION OF THE WORK.
2. GUARANTEE TO REPLACE OR REPAIR AT NO COST TO THE OWNER ANY DEFECTIVE MATERIAL OR WORKMANSHIP EXCEPT WHERE, IN THE OPINION OF THE ENGINEERS, SUCH DEFECTS ARE DUE TO MISUSE OR NEGLECT BY THE OWNER.

PERMITS, CERTIFICATES, CODES AND FEES

1. GIVE NECESSARY NOTICES, OBTAIN NECESSARY PERMITS AND PAY REQUIRED FEES AND TAXES IN ORDER THAT THE WORK UNDER THIS CONTRACT MAY BE CARRIED OUT.

SHOP DRAWINGS

1. SUBMIT SHOP DRAWINGS OF ALL MECHANICAL EQUIPMENT FOR REVIEW PRIOR TO FABRICATION OR PURCHASE.

AS-BUILT DRAWINGS

1. PROVIDE ONE MARKED UP SET OF PRINTS OF WORK, INDICATING AS-BUILT CONDITIONS, WITHIN 10 WORKING DAYS AFTER FINAL INSPECTION OF WORK TO THE MECHANICAL CONSULTANT.

DUCTWORK

1. CONSTRUCT DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE, LATEST EDITION, TO MATCH BASE BUILDING CONSTRUCTION. INSTALL DAMPERS WHERE SHOWN ON DRAWINGS, AND WHERE REQUIRED, TO PROPERLY BALANCE THE SYSTEM.
2. MASTIC ALL DUCT JOINTS USING BAKOR DUCK-SEAL POLYMERIC HIGH VELOCITY DUCT SEALER. PATCH EXISTING DUCTWORK WHERE REQUIRED TO MAKE AIRTIGHT. DO NOT USE TAPE.
3. PROVIDE FLEXIBLE DUCT CONNECTIONS OF FLEXMASTER TL TRIPLELOCK NOT TO EXCEED 1.5M AT INLETS TO DIFFUSERS AND GRILLES.
4. DUCTWORK LESS THAN 28 GAGE IS NOT ACCEPTABLE.

DUCT INSULATION

1. DUCT DIMENSIONS GIVEN ARE INTERNAL OR FREE AREA DIMENSIONS. ENLARGE DUCTWORK TO ACCOMMODATE INTERNAL INSULATION, WHERE SPECIFIED.
2. INSULATE ALL RECTANGULAR SUPPLY AND RETURN DUCTWORK WITH 25 MM THICK RIGID FIBREGLOSS INTERIOR DUCT INSULATION.
3. INSULATE ALL ROUND SUPPLY DUCTWORK WITH 25 MM FLEXIBLE FOIL FACED FIBREGLOSS EXTERIOR DUCT INSULATION.
4. INSULATE THE FIRST 3 M OF EXHAUST SUPPLY DUCTWORK FROM ROOF OR WALL TERMINAL, LOCATED INDOORS, WITH 25 MM FLEXIBLE FOIL FACED FIBREGLOSS EXTERIOR DUCT INSULATION.
5. DO NOT APPLY EXTERNAL INSULATION TO INTERNALLY INSULATED DUCTWORK.

TESTING AND BALANCING

1. CONTRACT A QUALIFIED AIR BALANCER TO TEST AND BALANCE. CONTRACTOR TO SUBMIT THREE COPIES OF THE BALANCE REPORT TO THE CONSULTANT FOR REVIEW. BE RESPONSIBLE FOR THE COST SHOULD A SECOND AIR BALANCE BE REQUIRED DUE TO MECHANICAL DEFICIENCIES.

PIPING MATERIALS

1. PROVIDE NEW PIPING MATERIAL, FREE FROM RUST AND DIRT AND IN FIRST CLASS CONDITION.
2. USE DIELECTRIC COUPLINGS WHERE JOINING COPPER TO STEEL PIPE.
3. MAKE REDUCTIONS IN DRAINAGE AND VENT PIPING WITH ECCENTRIC REDUCING FITTINGS.
4. GRADE HORIZONTAL DRAINAGE AND VENT PIPING IN DIRECTION OF FLOW IN ACCORDANCE WITH PLUMBING CODE.
5. PROVIDE CLEANOUTS IN DRAINAGE PIPING IN ACCORDANCE WITH PLUMBING CODE AND IN ACCESSIBLE LOCATIONS.
6. CHROME PLATE EXPOSED PIPING OF ANY MATERIAL IN WASHROOMS.
7. CONFORM TO THE FOLLOWING SCHEDULE:
 - SANITARY DRAINAGE & VENT ABOVE & BELOW GRADE –
 - 65 MM AND SMALLER – DWV COPPER PIPE WITH WROUGHT COPPER OR CAST BRASS FITTINGS & 50/50 LEAD/TIN SOLDER JOINTS.
 - SANITARY DRAINAGE & VENT BELOW SLAB –
 - 75 MM AND LARGER – PVC-SDR 35 WITH PVC FITTINGS AND SOLVENT WELDED JOINTS.
 - DOMESTIC HOT & COLD WATER –
 - TYPE L HARD COPPER WITH WROUGHT COPPER FITTINGS WITH 95/5 TIN/ANTIMONY SOLDER JOINTS.
 - GAS PIPING –
 - STEEL SCHEDULE 40 BLACK WITH MALLEABLE FITTINGS RATED FOR 1035 KPA. PROVIDE WITH THREADED OR WELDED JOINTS AS REQUIRED BY CODE. ALL EXTERIOR PIPE IS TO BE PRIMED AND PAINTED YELLOW. ALL INTERIOR PIPE IS TO BE BANDED AS PER CODE.

CONNECTIONS

1. CONNECT TO EXISTING BUILDING SERVICES PIPING WHERE SHOWN ON THE DRAWINGS. COORDINATE WITH BUILDING OPERATIONS STAFF FOR SUITABLE ROUTING AND CONNECTION.
2. PROVIDE ANGLE STOPS IN EACH HOT AND COLD WATER CONNECTION TO PLUMBING FIXTURES.

PIPE INSULATION

1. INSULATE DOMESTIC HOT AND COLD WATER LINES WITH 25 MM THICK ONE PIECE OR SECTIONAL, HEAVY DENSITY GLASS FIBRE INSULATION WITH FACTORY APPLIED ALL SERVICE JACKET, FIBREGLAS 850 PIPE INSULATION. MAINTAIN VAPOUR BARRIER ON COLD WATER LINES.

CLEANOUTS

1. CAST BRONZE OR CAST IRON CLEANOUTS WITH RUST RESISTANT COATING AND REMOVABLE PARTS AND STAINLESS STEEL RETAINING SCREWS.

FLOOR DRAINS

1. PROVIDE LACQUERED OR EPOXY COATED CAST IRON BODIED FLOOR DRAINS COMPLETE WITH REVERSIBLE CLAMPING COLLAR AND 165 MM SQUARE, EXTRA HEAVY DUTY NICKEL BRONZE STRAINER IN FINISHED AREAS, ENPOCOE1000ESQ, ANCON FD-100-6 1/2SQC.

HYDROSTATIC TESTING

1. PRESSURE TEST DOMESTIC HOT AND COLD WATER LINES WITH WATER AT 150% OF MAXIMUM OPERATING PRESSURE, FOR SIX HOURS WITHOUT LOSS OF PRESSURE. MINIMUM TEST PRESSURE 690 KPA.
2. PRESSURE TEST NATURAL GAS PIPING AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.

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DRAWING TITLE MECHANICAL SPECIFICATION				Dwg. No. M-3