SERVICE ONTARIO - REDESIGN



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SERVICE ONTARIO - REDESIGN

47 SHEPPARD AVENUE EAST NORTH YORK, ONTARIO

10 Project No Site No Build
230567-274329 N12345 B2

BGIS

KEYPLAN, DRAWING LIST

N.T.S. 20240521 Substantial Performance Date

IO PROJECT No. 230567-274329

47 SHEPPARD AVENUE EAST NORTH YORK, ONTARIO

CONTENT	ISSUED FOR	DATE	FILE No.
MECHANICAL DRAWINGS	PERMIT/TENDER	AUGUST 15, 2024	AE-24077-DRAW-M001-M007-R00

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	DRAWING SCALE:	PLOTTING SCALE:
M001	KEYPLAN, DRAWING LIST	N.T.S.	1'-0"=1'-0"
M002	MECHANICAL SPECIFICATION AND LEGEND	N.T.S.	1'-0"=1'-0"
M003	MECHANICAL SPECIFICATION, SCHEDULE AND DETAIL	N.T.S.	1'-0"=1'-0"
M004	FIRE PROTECTION DEMOLITION PLAN	3/16"=1'-0"	1'-0"=1'-0"
M005	FIRE PROTECTION AND PLUMBING & DRAINAGE NEW PLAN	3/16"=1'-0"	1'-0"=1'-0"
M006	HVAC DEMOLITION PLAN	3/16"=1'-0"	1'-0"=1'-0"
M007	HVAC NEW LAYOUT	3/16"=1'-0"	1'-0"=1'-0"

MECHANICAL SPECIFICATIONS

- 1.1. COMPLETE THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE LATEST EDITIONS OF THE ONTARIO BUILDING CODE, ONTARIO FIRE
- 1.2. WHEREVER THE WORDS "PROVIDE" OR "SUPPLY AND INSTALL" ARE USED, IT SHALL BE UNDERSTOOD TO MEAN "PROVIDE AND INSTALL, INCLUSIVE OF ALL LABOUR, MATERIALS, INSTALLATION, TESTING, AND CONNECTIONS" FOR THE ITEM TO WHICH IT REFERENCES.
- 1.3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, C.S.A. CERTIFIED AND MANUFACTURED TO THE STANDARDS SPECIFIED.

CODE, C.S.A. STANDARDS, U.L.C., N.F.P.A., O.S.H.A. AND OTHER CODES AS REQUIRED.

- 1.4. MAKE SITE VISIT(S) AS NECESSARY BEFORE TENDER TO ESTABLISH AND VERIFY ALL EXISTING CONDITIONS. MAKE ALLOWANCE FOR ANY NEW OR EXISTING SERVICE AND EQUIPMENT RELOCATIONS NECESSARY TO COMPLETE THE WORK AND INCLUDE IN THE TENDER PRICE. NO CLAIM FOR EXTRA PAYMENT SHALL BE MADE FOR EXISTING WORK MADE NECESSARY BY CIRCUMSTANCES ENCOUNTERED DUE TO CONDITIONS WHICH WERE VISIBLE UPON, OR REASONABLY INFERABLE FROM AN EXAMINATION OF THE SITE PRIOR TO SUBMISSION OF THE BID.
- 1.5. THE DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC PERFORMANCE DRAWINGS ONLY, INTENDED TO SHOW THE GENERAL INTENT OF THE WORK, NOT THE DETAILS OF INSTALLATION. CO-ORDINATE THE ROUTING AND INSTALLATION OF ALL MECHANICAL SERVICES WITH ALL EXISTING CONDITIONS, STRUCTURE AND THE WORK OF ALL OTHER TRADES.
- 1.6. PROVIDE SLEEVING DRAWINGS SHOWING ALL OPENINGS IN THE STRUCTURE WITH ALL REQUIRED DIMENSIONS.
- 1.7. PROVIDE INSTALLATION DRAWINGS OF ALL WORK WITH DIMENSIONS, DRAWN TO SCALE AND CO-ORDINATED WITH ALL TRADES AND DIVISIONS. SHOW ALL REQUIREMENTS FOR EQUIPMENT INSTALLED, AREA ACCESS, CLEARANCES AND CONNECTIONS BY OTHER TRADES.
- 1.8. PROVIDE STRUCTURAL LOADS WITH ALL DETAILS NECESSARY FROM INSTALLATION OF INSERTS AND ALL CONCRETE CONSTRUCTION ITEMS INCLUDING PADS, CURBS, SILLS, BASINS, ANCHORS, INSERTS ETC.
- 1.9. DO NOT SCALE MECHANICAL DRAWNGS. REFER TO ARCHITECTURAL OR INTERIOR DESIGN DRAWNGS FOR THE EXACT LOCATION OF ANY DEVICES, FIXTURES, ETC. OBTAIN ALL SITE DIMENSIONS FROM SITE MEASUREMENTS.
- 1.10. MAKE APPLICATION, PROVIDE, OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND INSPECTIONS.
- 1.11. ENSURE THAT FEDERAL TAXES ARE INCLUDED WHERE REQUIRED, H.S.T. TO BE SHOWN AS EXTRA.
- 1.12. PROVIDE A COMPLETE ITEMIZED BREAKDOWN OF MATERIAL, LABOUR, OVERHEAD, PROFIT, ETC. WHEN SUBMITTING QUOTATIONS FOR CHANGE NOTICES ON THIS PROJECT. THE HOURLY LABOUR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOUR. FACTORS, HAND TOOLS, PAYROLL BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, ADDITIONAL BONDING, PARKING, CLEAN-UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT AND DELIVERY, BUT EXCLUSIVE OF OVERHEAD AND PROFIT.
- 1.13. PROVIDE A WRITTEN WARRANTY FOR ALL MATERIALS, EQUIPMENT AND LABOUR FOR A ONE-YEAR PERIOD TO BEGIN AT THE TIME WHEN THE WORK IS DESIGNATED ACCEPTABLE BY THE CONSULTANT.
- 1.14. PROVIDE SHOP DRAWINGS (4 COPIES) OF ALL PRODUCTS FOR REVIEW.

<u>GENERAL</u>

- 1.15. CO-ORDINATE ALL SHUTDOWNS OF EXISTING BASE BUILDING SYSTEMS WITH THE LANDLORD OR REPRESENTATIVE. ADVISE THE LANDLORD OR REPRESENTATIVE AT LEAST 48 HOURS PRIOR TO ANY SHUTDOWN AND PAY FOR ANY COSTS INCURRED INCLUDING PREMIUM TIME OUTSIDE OF NORMAL WORKING HOURS.
- 1.16. CO-ORDINATE THE MECHANICAL WORK WITH ALL OTHER TRADES.
- 1.17. PROVIDE IN THE TENDER PRICE ANY COSTS FOR PREMIUM TIME OUTSIDE OF NORMAL WORKING HOURS TO COMPLETE THE WORK ON SCHEDULE AND TO MAINTAIN ALL EXISTING MECHANICAL SYSTEMS IN OPERATION. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY INTERRUPTIONS OR DISRUPTIONS TO THE EXISTING SERVICES. ALL EXISTING BUILDING SERVICES MUST BE KEPT OPERATIONAL AT ALL TIMES. INTERRUPTIONS SHALL BE PERFORMED ONLY AFTER REGULAR OFFICE HOURS. ARRANGE WORK SUCH THAT INTERRUPTIONS IN SERVICES OCCUR ONLY AT SCHEDULED TIMES SUITABLE TO THE LANDLORD.
- 1.18. CHECK AND VERIFY EXISTING ELECTRICAL VOLTAGE AND ENSURE THAT ALL MECHANICAL EQUIPMENT SUPPLIED IS SUITABLE FOR THE
- 1.19. ALL POWER WIRING BY ELECTRICAL CONTRACTOR, CONTROL AND INTERLOCK WIRING BY MECHANICAL CONTRACTOR. VERIFY LOCATIONS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR BEFORE WORK COMMENCES.
- 1.20. PROVIDE STARTERS WITH REQUIRED OVERLOAD PROTECTION FOR ALL MECHANICAL EQUIPMENT. PROVIDE LINE VOLTAGE REVERSE ACTING THERMOSTATS WHERE SPECIFIED. STARTERS AND LINE VOLTAGE THERMOSTATS SHALL BE TURNED OVER TO DIVISION 16 FOR INSTALLATION. WHERE SWITCHES ARE USED ON FINISHED WALLS PROVIDE TO MATCH LIGHTING SWITCH AND TYPE.
- PROVIDE ALL DEMOLITION, CLEAN-UPS, STORAGE, LIFTING, FLASHING, DRILLING, CUTTING AND PATCHING AS REQUIRED. ALL CUTTING AND PATCHING REQUIRED TO THE EXISTING BUILDING STRUCTURE FOR THE WORK SHALL BE INCLUDED UNDER THIS CONTRACT. AND BE ACCEPTABLE TO THE LANDLORD. PROVIDE X-RAY OF SLAB PRIOR TO CORING AND CUTTING OF FLOOR, AND OBTAIN APPROVAL FROM BASE BUILDING STRUCTURAL ENGINEER PRIOR TO DRILLING. SUBMIT WRITTEN CONFIRMATION THAT X-RAY HAS BEEN PERFORMED, AND THAT RESULTS HAVE BEEN ACCEPTED BY BASE BUILDING STRUCTURAL ENGINEER. OBTAIN WRITTEN APPROVAL FROM THE LANDLORD BEFORE ANY
- 1.22. PROVIDE ALL EQUIPMENT PADS, CURBS, SILLS, BASINS, ANCHORS, INSERTS, SUPPORTS, SLEEVES, ETC. AS REQUIRED FOR MECHANICAL EQUIPMENT AND PIPING.
- 1.23. PROVIDE ACCESS AS REQUIRED IN WALLS AND CEILINGS. ENSURE THAT ACCESS IS PROVIDED FOR ALL EQUIPMENT. PROVIDE ACCESS DOORS COMPATIBLE WITH THE ADJACENT FINISHES AND WITH FIRE RATING EQUAL TO SURFACES IN WHICH INSTALLED. PROVIDE ACCESS PANELS IN PLASTER AND DRYWALL SURFACES WITH RECESSED DOOR WITH WELDED METAL LATH READY TO ACCEPT PLASTER/ DRYWALL INSERT AND WITH A PLASTER GROMMET FOR DOOR KEY ACCESS. MIFAB SERIES CAD-DW OR EQUIVALENT.
- 1.24. RE-USE AND RELOCATE EXISTING MATERIALS SUCH AS PIPING. FIXTURES, DUCTWORK, DIFFUSERS, EQUIPMENT ETC. WHERE SHOWN, CAP AND DISCONNECT ALL EXISTING PIPING AND DUCTWORK NOT REQUIRED AT CEILING. WALLS OR FLOOR, OR TO A LOCATION AS DIRECTED BY THE LANDLORD. MAINTAIN INTEGRITY OF ALL INSULATION INCLUDING VAPOUR BARRIERS WHEN CONNECTING TO EXISTING SERVICES. MAINTAIN THE INTEGRITY OF ALL EXISTING SYSTEMS ASSOCIATED WITH THE BUILDING SYSTEM IN PLACE. UNLESS NOTED OTHERWISE OBTAIN PERMISSION FROM THE LANDLORD AND REMOVE FROM THE SITE ALL MATERIALS WHICH ARE NOT TO REMAIN OR BE RE-USED.
- 1.25. ADJUST THE LOCATION OF DEVICES AND/OR EQUIPMENT (UP TO 10'-0" IN ANY DIRECTION) AS DIRECTED BY THE LANDLORD AND OR THE ARCHITECT AND OR INTERIOR DESIGNER WITHOUT ADJUSTMENT TO THE CONTRACT PRICE, PROVIDED THAT THE CHANGES ARE REQUESTED BEFORE INSTALLATION.
- 1.26. NO ALTERNATIVES FOR EQUIPMENT SHALL BE ACCEPTED WITHOUT WRITTEN APPROVAL OF THE CONSULTANT.
- 1.27. IDENTIFY ALL SYSTEMS AND LABEL ALL EQUIPMENT WITH LAMACOID LABELS. IDENTIFY REMOTE CONTROLS FOR ALL PERTINENT EQUIPMENT INCLUDING ALL ASSOCIATED DISCONNECTS.
- 1.28. PRODUCTS NOT SPECIFICALLY SPECIFIED SHALL BE OF A QUALITY CONSISTENT WITH THE REMAINDER OF THE SPECIFICATION.
- 1.29. PROVIDE OVERSIZED PIPE HANGERS AND INSULATION SHIELDS FOR INSULATED COLD PIPE. PROVIDE PLASTIC COATED PIPE HANGERS WHERE HANGER IS IN DIRECT CONTACT WITH COPPER PIPE.
- 1.30. PROVIDE ALL MISCELLANEOUS METALS REQUIRED FOR MECHANICAL WORK.
- 1.31. PROVIDE DI-ELECTRIC FITTINGS TO SEPARATE ALL DISSIMILAR METALS.
- 1.32. PROVIDE AND INSTALL PIPING WITH ALL NECESSARY EXPANSION LOOPS, OFFSETS, GUIDES, JOINTS, ANCHORS ETC. AS MAY BE REQUIRED SO THAT PIPING WILL NOT BE OVERSTRESSED DURING EXPANSION AND CONTRACTION.
- 1.33. PROVIDE FLASHING AND COUNTER FLASHING FOR ALL DUCTS, PIPES, ETC., PASSING THROUGH WATERPROOF FLOORS.
- 1.34. PATCH AND SEAL ALL OPENINGS IN FLOORS, WALLS AND PARTITIONS. SEAL ALL VERTICAL SLEEVES AND CORE DRILLED OPENINGS THROUGH ROOF, MECHANICAL ROOMS AND FLOORS ETC, WITH PERMANENTLY RESILIENT WATERPROOF SILICONE BASE SEALING COMPOUND.
- 1.35. PROVIDE ALL EXCAVATION AND BACKFILLING REQUIRED FOR MECHANICAL WORK.
- 1.36. PROVIDE ALL CONCRETE REQUIRED FOR MECHANICAL WORK.
- 1.37. IDENTIFY ALL PIPING WITH STENCILLED LETTERS OR COLOUR CODES AND DIRECTIONAL ARROWS.
- 1.38. PROVIDE MANUFACTURER'S START-UP OF ALL MAJOR EQUIPMENT. MANUFACTURER REPRESENTATIVE TO PROVIDE WRITTEN CONFIRMATION THAT EQUIPMENT IS PROPERLY INSTALLED AND TESTED IN ACCORDANCE WITH MANUFACTURER'S REPRESENTATIVES.
- COMPLETION OF CONTRACT
- 2.1. ALL EQUIPMENT MUST BE CLEANED AND TESTED BEFORE FINAL ACCEPTANCE BY CONSULTANT.

- 2.2. PRIOR TO CONTACTING THE CONSULTANT FOR FINAL INSPECTION, THE CONTRACTOR MUST CORRECT ALL DEFICIENCIES AS SPECIFIED ON THE
- 2.3. PROVIDE A WRITTEN WARRANTY FOR ONE YEAR CONVERING ALL EQUIPMENT, MATERIALS AND WORKMANSHIP FROM THE DATE OF ACCEPTANCE OF THE INSTALLATION BY THE OWNER. INCLUDE IN THE OPERATION AND MAINTENANCE MANUAL.
- 2.4. ANY DEFECTS OR DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING THE WARRANTY PERIOD MUST BE REPAIRED OR CORRECTED AT NO COST TO THE OWNER.
- AS-BUILT DRAWINGS
- 3.1. AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PROVIDE AS-BUILT DRAWINGS OF THE INSTALLATION IN AUTO CAD FORMAT DRAWING FILES CAN BE OBTAINED FROM THE CONSULTANT.
- 3.2. INCORPORATE ALL CHANGES AND DEVIATIONS FROM THE TENDER DRAWINGS, UTILIZING NORMAL RECOGNIZED DRAFTING PROCEDURES THAT MATCH THE ORIGINAL DRAFTING METHODOLOGY.
- 3.3. ALL CONCEALED PIPING RUNS, VALVE AND DAMPER LOCATIONS, SERVICE LOCATIONS, ETC. MUST BE REFLECTED ON THE DRAWINGS.
- 3.4. REMOVE THE MECHANICAL ENGINEER'S STAMP AND COMPANY NAME FROM ALL DRAWINGS.
- 3.5. CLEARLY INDICATE THE WORDS "AS-BUILT" IN THE TITLE BLOCK COLUMN OF THE DRAWINGS AS WELL AS THE MECHANICAL CONTRACTOR'S
- 3.6. SUBMIT A PRINT TO CONSULTANT TO REVIEW. WHEN FOUND ACCEPTABLE BY THE CONSULTANT, SUBMIT THREE (3) SETS OF PRINTS TOGETHER WITH AUTO CAD DISKS FOR PRESENTATION TO LANDLORD AND TENANT.
- 4. OPERATION AND MAINTENANCE MANUALS
- 4.1. PROVIDE THREE (3) SETS OF OPERATION AND MAINTENANCE MANUALS TO THE TENANT'S REPRESENTATIVE, ONE COPY IS TO BE PROVIDED TO THE LANDLORD INCLUDE THE FOLLOWING INFORMATION IN THE OPERATION AND MAINTENANCE MANUALS:
- TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTIONS OF ITEMS, AND PARTS LISTS. ADVERTISING OR SALES LITERATURE IS NOT ACCEPTABLE.
- THE CONSULTANTS REVIEWED SHOP DRAWINGS.
- CERTIFICATE(S) OF ACCEPTANCE FROM AUTHORITIES HAVING JURISDICTION.
- VERIFICATION REPORTS AND CERTIFICATE(S) FOR ANY NEW LIFE SAFETY COMPONENTS OR TIE-INS TO ANY BASE BUILDING SYSTEMS. AIR BALANCING REPORTS
- WRITTEN GUARANTEE. AS-BUILT DRAWINGS.
- 4.1. REVIEW INFORMATION PROVIDED IN THE MAINTENANCE INSTRUCTIONS AND MANUALS WITH THE TENANT'S OPERATING PERSONNEL AND THE LANDLORD'S OPERATING PERSONNEL WHERE BASE BUILDING SYSTEMS ARE REVISED, TO ENSURE A COMPLETE UNDERSTANDING OF THE MECHANICAL EQUIPMENT AND SYSTEMS AND THEIR OPERATION.
- 5.1. PROVIDE COMPLETE PLUMBING AND DRAINAGE SYSTEMS INCLUDING ALL NECESSARY LABOUR, SERVICES, PRODUCTS, MATERIALS AND EQUIPMENT.
- 5.2. PROVIDE ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO PLUMBING CODE AND ALL AUTHORITIES HAVING JURISDICTION INCLUDING ALL APPLICABLE BY-LAWS.
- 5.3. WHEN PIPING SYSTEM INSTALLATION IS COMPLETE, PRESSURE TEST ALL DOMESTIC WATER PIPING SYSTEMS AS REQUIRED BY THE ONTARIO BUILDING CODE. PROVIDE WATER PRESSURE TEST OR AIR PRESSURE TEST. WATER PRESSURE TESTING SHALL CONFIRM THAT PIPING SYSTEMS WITHSTAND A WATER PRESSURE OF MINIMUM 1000 KPA (145 PSI) FOR MINIMUM 1 HOUR WITH NO LOSS OF PRESSURE. AIR PRESSURE TESTING SHALL CONFIRM THAT PIPING SYSTEM WITHSTANDS AN AIR PRESSURE OF MINIMUM 700 KPA (102 PSI) FOR MINIMUM 2 HOUR WITH NO DROP IN AIR PRESSURE.
- 5.4. SANITARY DRAINAGE AND VENT PIPING 3" AND LARGER SHALL BE CSA CLASS 4000 CAST IRON SOIL PIPE AND FITTINGS MECHANICAL JOINTS AND STAINLESS STEEL COUPLINGS.
- 5.5. ABOVE GROUND SANITARY DRAINAGE AND VENT PIPING 2" AND SMALLER SHALL BE DWV COPPER PIPE WITH DRAINAGE FITTINGS AND 95/5 TIN/ANTIMONY SOLDER JOINTS.
- 5.6. PROVIDE REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTER ON CONNECTIONS TO ANY EQUIPMENT, PLUMBING FIXTURES, ETC. PIPE DISCHARGE FROM BACKFLOW PREVENTER TO NEAREST FLOOR DRAIN.
- 5.7. INSTALL CLEANOUTS IN SANITARY DRAINAGE PIPING AS REQUIRED BY PLUMBING CODES AND ALL AUTHORITIES HAVING JURISDICTION. INSTALL CLEANOUTS AT THE BASE OF ALL STACKS AND AT EACH MAJOR CHANGE OF DIRECTION ON HORIZONTAL PIPE RUNS. PROVIDE ACCESS PANELS IN DRYWALL ENCLOSURES TO ACCESS CLEANOUTS AT BASE OF ALL STACKS.
- 5.8. WHERE ROOMS ARE PROVIDED WITH NEW FLOOR FINISHES, PROVIDE SUITABLE EXTENSIONS TO RAISE ALL EXISTING CLEANOUT COVERS AND FLOOR DRAIN GRATES TO MATCH THE NEW FINISHED FLOOR ELEVATION. REFER TO ARCHITECTURAL DRAWINGS TO DETERMINE WHERE NEW FLOOR FINISHES ARE PROVIDED.
- 5.9. PROVIDE TRAPPED COPPER CONDENSATE DRAINS FOR ALL MECHANICAL EQUIPMENT AS REQUIRED.
- 5.10. PROVIDE TRAP SEAL PRIMERS FOR ALL FLOOR DRAINS INCLUDING ALL NECESSARY PIPING AND APPURTENENCES AND CONNECT TO NEAREST AVAILABLE DOMESTIC COLD WATER SUPPLY IN ACCORDANCE WITH LOCAL AUTHORITY STANDARDS.
- 5.11. PROVIDE AND COVER ALL HORIZONTAL DRAINAGE PIPING AND FITTINGS WITH RIGID PREFORMED 1" FIBRE GLASS INSULATION, COMPLETE WITH VAPOUR BARRIER. DO NOT USE STAPLES. MAINTAIN THE INTEGRITY OF ALL EXISTING THERMAL INSULATION WHEN CONNECTING NEW PIPING TO EXISTING PIPING. PROVIDE PVC JACKETTING FOR ALL EXPOSED PIPE INSULATION.
- 5.12. ABOVE GROUND DOMESTIC WATER PIPING SHALL BE TYPE "L" HARD COPPER WITH WROUGHT COPPER FITTINGS AND 95/5 TIN/ANTIMONY SOLDER JOINTS. TYPE 'K' PIPING SHALL BE USED BELOW GROUND.
- 5.13. PROVIDE AND COVER ALL DOMESTIC WATER PIPING, VALVES, FITTINGS, APPURTENANCES, ETC. WITH RIGID PREFORMED FIBRE GLASS INSULATION. PROVIDE VAPOUR BARRIER FOR COLD WATER PIPING. INSULATION SHALL BE 1" THICK FOR COLD WATER PIPING AND FOR HOT WATER AND HOT WATER RECIRCULATING PIPING. DO NOT USE STAPLES. ENSURE COMPLETE COVERAGE AND SEAL WITH AN APPROVED VAPOUR BARRIER CEMENT. MAINTAIN THE INTEGRITY OF ALL EXISTING THERMAL INSULATION WHEN CONNECTING NEW PIPING TO EXISTING PIPING. PROVIDE PVC JACKETTING FOR ALL EXPOSED PIPE INSULATION.
- 5.14. APPLY ONE-PIECE MOULDED TYPE PVC JACKET TO ALL INSULATED PIPING SERVICES IN EXPOSED AREAS. USE SOLVENT WELD ADHESIVE COMPATIBLE WITH INSULATION TO SEAL LAP AND JOINTS. JACKETTING TO BE PAINTED BY GENERAL TRADES.
- 5.15. PROVIDE BALL VALVES AT PIPING CONNECTIONS TO ALL EQUIPMENT TO ALLOW EQUIPMENT TO BE REMOVED FOR SERVICING, PROVIDE BALL VALVES ON ALL MAIN AND BRANCH DOMESTIC WATER PIPING LINES. PROVIDE GLOBE VALVES ON ALL HOT WATER RECIRCULATING PIPING LINES AND EQUIPMENT. PROVIDE CHECK VALVES ON SUPPLY SIDE OF EQUIPMENT.
- 5.16. PROVIDE REDUCED PRESSURE BACK FLOW PREVENTORS ON DOMESTIC WATER SUPPLY PIPING TO ALL EQUIPMENT. PROVIDE PRESSURE REDUCING VALVES AS REQUIRED.
- 5.17. PROVIDE ALL PLUMBING VENT PIPING IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE. COORDINATE LOCATION OF NEW PLUMBING VENTS WITH ARCHITECTURAL DRAWINGS, ALL VENT PIPING SHALL BE CONCEALED WITHIN WALLS OR ABOVE CEILINGS. TERMINATE PLUMBING VENTS MINIMUM 1.0 M ABOVE, AND MINIMUM 3.5 M FROM ALL OPENABLE WINDOWS OR DOORS, AND AIR INTAKES.
- 5.18. PROVIDE BACKFLOW PREVENTERS ON ALL EQUIPMENT CONNECTIONS TO DOMESTIC WATER. AS REQUIRED BY THE CSA B64.10.1 BACKFLOW PREVENTER CODE.
- 5.19. REDUCED PRESSURE BACK FLOW PREVENTERS: BRONZE BODY WITH BRONZE AND PLASTIC PARTS AND STAINLESS STEEL SPRINGS: TWO INDEPENDENT SPRING LOADED CHECK VALVES; DIAPHRAGM TYPE DIFFERENTIAL PRESSURE RELIEF VALVE; CHECK VALVE FOR DIAPHRAGM FAILURE; NON-THREADED VENT OUTLET; ASSEMBLED WITH TWO GATE VALVES, STRAINER, AND FOUR TEST COCKS.
- 5.20. DOUBLE CHECK VALVE ASSEMBLIES: BRONZE BODY WITH STAINLESS STEEL SPRINGS; TWO INDEPENDENT CHECK VALVES WITH INTERMEDIATE
- 5.21. SHOCK STOPS
- .1PROVIDE PRE-CHARGED HARD DRAWN COPPER SHOCK ABSORBER WITH BRASS PISTON, EPDM O-RING SEALS, AND MAKE IPS CONNECTION.
- .2 SUITABLE FOR PRESSURES UP TO 150 PSI, AND TEMPERATURES TO 180 F.

UNIT SIZING AS PER MANUFACTURERS INSTRUCTIONS. CONFIRM FOLLOWING SIZING TABLE WITH MANUFACTURER, USE MANUFACTURERS SIZING GUIDELINES WHERE DISCREPANCIES EXISTING BETWEEN THE FOLLOWING TABLE:

FIXTURE UNITS	ARRESTOR SIZING	
1–11	CONNECTION: 1/2", HEIGHT: 5"	
DIAMETER: 1-7/16"		
12-32	CONNECTION: 3/4", HEIGHT: 7"	
DIAMETER: 1-7/16"		

- FIRE PROTECTION
- PROVIDE FIRE PROTECTION, SPRINKLER WORK, EQUIPMENT AND DEVICES IN ACCORDANCE WITH THE REQUIREMENTS OF ALL CODES, GOVERNING UNDERWRITER, BASE BUILDING STANDARDS, LOCAL BYLAWS AND TO THE REQUIREMENTS OF ALL AUTHORITIES HAVING
- 6.2. ALL LIFE SAFETY, STANDPIPE, SPRINKLERS AND FIRE PROTECTION SERVICES MUST BE MAINTAINED IN OPERATION AT ALL TIMES.
- 6.3. PROVIDE AND INSTALL PORTABLE FIRE EXTINGUISHERS INCLUDING BRACKETS AND TAGS IN ACCORDANCE WITH NFPA 10CAN4-S508 AND THE ONTARIO FIRE CODE. IN FINISHED OCCUPIED AREAS (OFFICE AREAS, MEETING ROOMS, ETC), PROVIDE SEMI-RECESSED FIRE EXTINGUISHER CABINETS RECESSED INTO DRYWALL PARTITION WALLS. CABINETS SHALL BE SUITABLE FOR INSTALLATION IN 4" (100 MM) THICK WALLS, WITH 1" (25MM) CASING TURN BACK (NATIONAL FIRE EQUIPMENT MODEL 102RS OR EQUIVALENT). PROVIDE STORED PRESSURE RECHARGEABLE TYPE EXTINGUISHERS WITH SHUT OFF NOZZLE YLC LABELLED FOR A. B AND C CLASS PROTECTION. PROVIDE SIZE 2.25 KG OR A SIZE AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. THE LOCATIONS OF PORTABLE FIRE EXTINGUISHERS SHALL BE PROMINENTLY INDICATED BY SIGNS OR MARKINGS IN LARGE FLOOR AREAS AND IN LOCATIONS WHERE VISUAL OBSTRUCTIONS CANNOT BE AVOIDED.
- 6.4. PROVIDE SCHEDULE 40 BLACK STEEL FIRE LINE PIPING COMPLETE WITH FITTINGS, HANGERS AND ACCESSORIES AS REQUIRED. VICTAULIC TYPE FITTINGS ARE PERMITTED ONLY IN ACCESSIBLE LOCATIONS.
- 6.5. PROVIDE FLOW TEST TO THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION TO DETERMINE AVAILABLE FLOW AND WATER PRESSURE DATA FOR USE IN PREPARING HYDRAULIC CALCULATIONS.
- 6.6. PROVIDE, PRIOR TO INSTALLATION, COPIES OF THE WORKING DRAWINGS, HYDRAULIC DESIGN, AND CALCULATIONS TO THE INSURANCE UNDERWRITER AND AUTHORITIES HAVING JURISDICTION. ALL DRAWINGS AND CALCULATIONS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ASSUME ANY ADDITIONAL COSTS THAT MAY BE INCURRED TO MODIFY OR COMPLETE THE SYSTEM SHOULD THE AUTHORITIES HAVING JURISDICTION REQUIRE CHANGES. ANY AND ALL COSTS PERTAINING TO PREPARATION AND APPROVALS SHALL BE BORNE BY THE CONTRACTOR.
- 6.7. PROVIDE NEW SPRINKLER HEADS TO MATCH EXISTING COMPLETE WITH RELATED PIPING. RE-USE EXISTING SPRINKLER PIPING IN ACCORDANCE WITH NEW SPACE REQUIREMENTS.
- 6.8. PROVIDE THE REQUIRED NUMBER OF SPRINKLER HEADS AND ALL NECESSARY COMPONENTS AS REQUIRED BY NFPA13 AND ALL GOVERNING
- 6.9. CO-ORDINATE SPRINKLER SYSTEM CHANGES WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, PLUMBING AND DUCTWORK. PROVIDE ADDITIONAL SPRINKLER HEADS WHERE REQUIRED.
- 6.10. ADJUST NEW AND EXISTING SPRINKLER PIPING AND HEADS TO CONFORM TO NEW CEILING HEIGHTS AND CEILING TYPE INCLUDING ANY AREAS WHERE CEILINGS HAVE BEEN REMOVED.

6.11. PROVIDE ADDITIONAL SPRINKLER HEADS AS REQUIRED ABOVE AND BELOW DUCTWORK AND STRUCTURAL COMPONENTS ETC. IN AREAS

- 6.12. IN AREAS WITH FLOATING CEILINGS OR WITH CEILING PROJECTIONS, SPRINKLER PIPING SHALL BE CONCEALED BEHIND ADJACENT WALLS, CEILING SPACES, STRUCTURAL ELEMENTS, ETC. SO AS NOT TO BE VISIBLE. ALL PIPING DROPS FOR THESE AREAS SHALL BE CONCEALED IN SUCH A MANNER. HORIZONTAL PIPING SERVING SPRINKLER HEADS SHALL BE INSTALLED AT LOW LEVEL AS CLOSE TO THE TOP OF THE FLOATING CEILING OR CEILING PROJECTION AS POSSIBLE SO AS NOT TO BE VISIBLE.
- HEATING, VENTILATING, AIR CONDITIONING
- PROVIDE ALL DUCTWORK IN ACCORDANCE WITH THE STANDARDS OF GOOD WORKMANSHIP AND THE LATEST GUIDELINES OF ASHRAE AND SMACNA, SEAL DUCTWORK TO CLASS C WITH TRANSVERSE JOINTS AND CONNECTIONS TREATED WITH SEALING COMPOUND, SEAL EXPOSED DUCTWORK (LOCATED IN FINISHED SPACES) INTERNALLY AND WITH A MINIMUM AMOUNT OF SEALANT EXPOSED ON THE OUTSIDE.
- 7.2. PROVIDE BALANCING DAMPERS FOR ALL NEW DUCTWORK AT THE BRANCH CONNECTIONS. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY AIR DIFFUSERS. PROVIDE SPIN-ON FITTING WITH BALANCING DAMPER AT EACH FLEXIBLE DUCT CONNECTION AT SUPPLY DUCT TAKE-OFF.
- 7.3. PROVIDE DUCT ACCESS DOORS FOR ALL COILS, FIRE, CONTROL AND BALANCING DAMPERS, AS REQUIRED.
- 7.4. INSULATE ALL NEW RIGID SUPPLY AIR DUCTWORK (ON VARIABLE AIR VOLUME SYSTEMS PROVIDE INSULATION UPSTREAM OF VAV BOXES). PROVIDE 1" THICK FIBRE GLASS 1.5 LB/CU FT DENSITY REINFORCED, FOIL FACED FLEXIBLE DUCT INSULATION WITH VAPOUR SEAL. APPLY CANVAS JACKET FOR ALL DUCTWORK IN EXPOSED AREAS.
- 7.5. PROVIDE FLEXIBLE DUCTS EQUAL TO FLEXMASTER UNINSULATED TRIPLE LOCK ALUMINUM FASTENED WITH STAINLESS STEEL GEAR DRIVE CLAMPS. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 10 FT.
- 7.6. PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL DUCTWORK AND EQUIPMENT INCLUDING FANS, FAN COIL UNITS AND HEAT PUMP UNITS, AIR
- 7.7. PROVIDE VIBRATION ISOLATION FOR ALL SUSPENDED AND FLOOR MOUNTED EQUIPMENT.
- 7.8. PROVIDE RIGID OPEN END TRANSFER DUCTS COMPLETE WITH 1" THICK ACOUSTIC INSULATION WHERE SHOWN WITHIN THE CEILING SPACE. DIMENSIONS OF DUCTS ON THE DRAWINGS ARE INSIDE CLEAR SIZES. INCREASE DUCTWORK SIZES TO SUIT ACOUSTIC INSULATION.
- 7.9. PROVIDE 1" THICK ACOUSTIC DUCT LINING FOR NEW DUCTWORK MINIMUM 10' 0" DOWNSTREAM OF VAV BOXES AND FOR TRANSFER DUCTS WHERE INDICATED ON THE DRAWINGS. DIMENSIONS OF DUCTS ON THE DRAWINGS ARE INSIDE CLEAR SIZES. INCREASE DUCTWORK SIZES TO
- 7.10. PROVIDE DIFFUSERS, GRILLES AND REGISTERS AS REQUIRED, SELECTED FOR LOW NOISE LEVELS, COMPATIBLE WITH CEILING TYPES AND FINISHES. RELOCATE AND RE-USE EXISTING DIFFUSERS AND GRILLES AS REQUIRED. PROVIDE SUPPORT GRID FOR DIFFUSERS AND GRILLES
- 8.1. APPLY ONE-PIECE MOULDED TYPE PVC JACKET TO ALL INSULATED PIPING SERVICES IN EXPOSED AREAS. USE SOLVENT WELD ADHESIVE COMPATIBLE WITH INSULATION TO SEAL LAP AND JOINTS. JACKETTING TO BE PAINTED BY GENERAL TRADES.
- TESTING, BALANCING, ADJUSTING AND COMMISSIONING
- 9.1. PROVIDE TESTING, BALANCING AND COMMISSIONING OF ALL SYSTEMS. COMMISSIONING SHALL INCLUDE PUTTING INTO SERVICE, ADJUSTING, CALIBRATING AND VERIFYING ALL SYSTEMS, BOTH NEW AND EXISTING.
- 9.2. PROVIDE AN INDEPENDENT BALANCING COMPANY ACCEPTABLE TO THE CONSULTANT TO TEST, BALANCE AND ADJUST THE AIR AND WATER
- 9.3. AIR SYSTEMS:
- PROVIDE AN AIR BALANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND AABC STANDARDS. AIR BALANCING SHALL BE PERFORMED WITH CLEAN FILTERS INSTALLED. MECHANICAL CONTRACTOR SHALL CLEAN ALL AIR SYSTEM FILTERS (NEW AND EXISTING) PRIOR TO AIR BALANCING. SUBMIT THREE (3) COPIES OF THE AIR BALANCE REPORT TO THE CONSULTANT FOR REVIEW.
- PROVIDE BALANCING AND ADJUSTING OF ALL AIR SYSTEMS TO ACHIEVE SPECIFIED DESIGN VALUES (+5%).
- PROVIDE DATA IN THE BALANCING REPORT WHICH INDICATES AIR VOLUMES AT EACH OUTLET, STATIC PRESSURES, FAN DATA, MOTOR DATA AND COIL DATA.
- 4. PROVIDE DUCT TRAVERSE READINGS FOR EACH AIR HANDLING UNIT AND FAN (WITH DUCTED CONNECTIONS AND EXCEEDING 1000 CFM).
- ADJUST THE AIR PATTERN FOR ALL DIFFUSERS AS INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE CONSULTANT.
- 7. VERIFY THE OPERATION OF ALL CONTROL DEVICES, INCLUDING VARIABLE VOLUME BOXES.

IDENTIFY PRESSURE DROP ACROSS FILTERS FOR ALL AIR HANDLING UNITS.

LEGEND -	HVAC
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SYMBOL	DESCRIPTION		
-	SUPPLY AIR DUCT		
	SUPPLY AIR DUCT UP		
	SUPPLY AIR DUCT DOWN		
	RETURN/EXHAUST AIR DUCT UP		
	RETURN/EXHAUST AIR DUCT DOWN.		
+	ROUND DUCT UP		
+	ROUND DUCT DOWN		
******	ACCOUSTICALLY LINED DUCTWORK		
	SILENCER		
	FLEXIBLE DUCT CONNECTION		
	FLEXIBLE DUCT COMPLETE WITH SPIN-ON		
	RETURN AIR GRILLE		
	SQUARE CONE DIFFUSER		
<u> </u>	SIDEWALL GRILLE		
B.D. ★ ★	BALANCE DAMPER		
B/D	BACKDRAFT DAMPER		
M/D D	MOTORIZED DAMPER		
<u> </u>	FIRE DAMPER		
F.S/D	FIRE/SMOKE DAMPER		
T T	EXISTING / NEW TEMPERATURE SENSOR		
	EXISTING LIGHT TROFFER DIFFUSER		
	EXISTING CASSETTE TYPE AC UNIT		
II 77.	n l		

LEGEND	- FIRE PROTECTION	
SYMBOL	DESCRIPTION	
EX	EXISTING PENDANT SPRINKLER HEAD	
⊚ 'N'	NEW FULLY RECESSED SPRINKLER HEAD	
EX ©	EXISTING FULLY RECESSED SPRINKLER HEAD	
É	EXISTING FIRE HOSE CABINET	

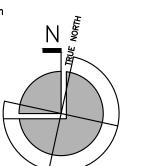
REMOVE

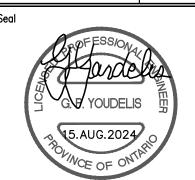
RELOCATE

— DIFFUSER OR GRILLE SIZE

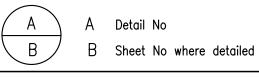
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R00	ISSUED FOR PERMIT/TENDER	2024-08-15
RP2	ISSUED FOR 99% CLIENT REVIEW	2024-07-26
RP1	ISSUED FOR 33% CLIENT REVIEW	2024-07-12
No	Revisions	Date
Orientation	Cool	





The Contractor shall check and verify all dimensions and report all errors and omissions to the IO—Owner's/MBS Designee (as applicable) for his/her written direction before proceeding with Ithe Work.





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SERVICE ONTARIO - REDESIGN

47 SHEPPARD AVENUE EAST NORTH YORK, ONTARIO 10 Project No 230567-274329 N12345 B20289

Ministry PSIF Number

MECHANICAL SPECIFICATION AND LEGEND

N.T.S. 20240521 Substantial Performance Date

CADD File NAME AE-24077-DRAW-M001-M007-R00



MECHANICAL SPECIFICATIONS

PRE-CONSTRUCTION AIR READINGS: PRIOR TO COMMENCEMENT OF HVAC DEMOLITION, CONDUCT PRE-CONSTRUCTION AIRFLOW READINGS TO CONFIRM EXISTING HVAC SUPPLY AIR CAPACITIES. PROVIDE AIRFLOW READINGS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND AABC STANDARDS. PROVIDE AIRFLOW READINGS FOR ALL EXISTING SUPPLY AIR DIFFUSERS, FOR VAV SYSTEMS, READINGS SHALL BE TAKEN WITH VAV BOX IN FULLY OPEN POSITION. RECORD ALL EXISTING AIR DIFFUSER LOCATIONS AND AIRFLOW READINGS AND SUBMIT REPORT TO CONSULTANT FOR REVIEW. MECHANICAL CONTRACTOR SHALL PERFORM A COMPLETE VISUAL INSPECTION OF THE EXISTING SUPPLY AIR DUCT SYSTEM AND REPORT ANY FINDING OF OPEN DUCT BRANCHES, MISSING CAPPED CONNECTIONS, OPENING IN MAIN AND BRANCH DUCTS, BLOCKAGE AND LOOSE CONNECTIONS TO ENGINEER PRIOR TO PRE-TESTING OF AIR SYSTEM. ALL OPENINGS, BLOCKAGES ETC. ARE TO BE RECTIFIED PRIOR TO PRE-BALANCING. PROVIDE FINAL AIR BALANCING AFTER COMPLETION OF MECHANICAL WORK, INCLUDING ADJUSTING OF DAMPERS AND GRILLES. AIR BALANCING SHALL BE PER FORMED WITH CLEAN FILTERS INSTALLED. SUBMIT THREE (3) COPIES OF THE AIR BALANCE REPORT TO THE CONSULTANT FOR REVIEW

10. <u>CONTROLS</u>

- 10.1. PROVIDE ALL CONTROLS, INCLUDING WIRING, APPROVED PLENUM CABLE, FITTINGS, THERMOSTATS, RELAYS, AUTOMATIC CONTROL VALVES, TRANSFORMERS, DAMPERS, FIRE STATS, FREEZE STATS, SWITCHES AND ACCESSORIES AS REQUIRED FOR COMPLETELY OPERATIONAL SYSTEMS. PROVIDE ALL NECESSARY CONNECTIONS, INTERLOCKS AND COMPONENTS TO ALL DEVICES AS REQUIRED.
- 10.2. ALL EXPOSED WIRING SHALL BE INSTALLED IN RIGID CONDUIT. WIRING INSTALLED ABOVE ACCESSIBLE CEILINGS SHALL BE SECURED TO STRUCTURAL MEMBERS. WIRING SHALL NOT BE SECURED TO MECHANICAL OR ELECTRICAL EQUIPMENT OR DEVICES, AND SHALL NOT BE REST ON CEILING TILES. ALL THERMOSTAT WIRING LOCATED WITHIN PARTITION WALLS SHALL BE INSTALLED IN
- 10.3. THERMOSTATS FOR INDIVIDUAL DEVICES MAY BE LOCATED IN THE CEILING SPACE AND MUST BE RELOCATED AND EXTENDED DOWN WALLS TO FINAL LOCATIONS UNDER THE TENANT CONTRACT.
- 10.4. PROVIDE ALL CONNECTIONS AND DEVICES NECESSARY TO INTERLOCK OR MAINTAIN THE INTENT OF ALL PERIMETER HVAC SYSTEMS AND ASSOCIATED ZONE CONTROL OF PERIMETER HEATING SYSTEM AS REQUIRED.
- 10.5. VERIFY OPERATION OF ALL THERMOSTATS AND CONTROLS AFTER RELOCATION OF THERMOSTATS AND DEVICES.
- 10.6. THERMOSTATS ARE NOT TO BE LOCATED ABOVE ELECTRICAL DIMMER SWITCHES OR ADJACENT TO HEAT PRODUCING DEVICES. ADJUST HEIGHT OF THERMOSTATS TO AVOID INTERFERENCE WITH SYSTEMS FURNITURE OR OTHER FURNISHINGS AS REQUIRED.
- 10.7. WHERE THERMOSTATS ARE TO BE INSTALLED ON CONCRETE COLUMNS, CONCRETE WALLS, ETC THAT ARE NOT FURRED OUT WITH DRYWALL FINISHES, PROVIDE WIRE MOULD OVER THERMOSTAT WRING / PNEUMATIC TUBING TO CONCEAL WIRING / TUBING FROM CEILING PENETRATION TO THERMOSTAT LOCATION. REFER TO ARCHITECTURAL OR INTERIOR DESIGN DRAWINGS FOR WALL
- 10.8. ALL CONTROL WORK SHALL BE PERFORMED BY THE BASE BUILDING DDC CONTROLS VENDOR;.
- 10.9. PROVIDE ALL PROGRAMMING AND REVISIONS/ ADDITIONS TO EXISTING GRAPHICS AT CENTRAL CONTROLS WORKSTATION.
- 10.10. TEMPERATURE SENSORS UTILIZED FOR WALL MOUNTING IN OCCUPIED SPACES AND CONNECTED TO BAS SHALL MATCH BASE BUILDING SENSORS AND SHALL INCORPORATE A MOMENTARY CONTACT SWITCH FOR OVERRIDE INITIATION, CONCEALED TEMPERATURE SETPOINT ADJUSTMENT, TEMPERATURE INDICATION THERMOMETER AND TELEPHONE STYLE JACK FOR CONNECTION OF A PORTABLE SERVICE TERMINAL. ACCURACY: + /- 0.5% AT 20℃.
- 10.11. PROVIDE DETAILS OF DDC OUTPUTS THAT WILL BE SHOWN ON THE FRONT END GRAPHICS.
- 10.12. PROVIDE POWER TO CONTROL PANELS FROM THE NEAREST ELECTRICAL PANEL. POWER FOR CONTROL SYSTEM SHALL NOT BE OBTAINED BY TAPPING INTO MISCELLANEOUS CIRCUITS THAT COULD BE INADVERTENTLY SWITCHED OFF. ONLY DEDICATED CIRCUIT(S) SHALL POWER THE CONTROL SYSTEM. PROVIDE ADDITIONAL BREAKERS OR ELECTRICAL PANELS AS REQUIRED.

PLUMBING FIXUTRE SCHEDULE

KS-1' COUNTER MOUNTED DOUBLE COMPARTMENT SINK

FRANKE COMMERCIAL LBD6408-1-1 SINK - COUNTER MOUNTED, DOUBLE COMPARTMENT SINK, CONSTRUCTED FROM 20 GAUGE TYPE 302 STAINLESS STEEL, SINGLE HOLE CENTERSET, WITH OVERALL DIMENSION 794 MM (31-1/4") LONG, 521 MM (20-1/2") WIDE, 203 MM (8") HIGH AMERICAN STANDARD 4931380.002 FAUCET - BEALE™ SELECTRONIC® HANDS-FREE SENSOR ALLOWS USERS TO OPERATE WITHOUT TOUCHING FAUCET AND SLIDING DOOR EASILY CHANGES TO MANUAL MODE WHEN DESIRED, SINGLE HANDLE, BATTERY POWERED WITH OPTIONAL AC ADAPTER AVAILABLE FOR SEPARATE PURCHASE, SINK FAUCET.

LAWLER 570-86820 MIXING VALVE - POINT OF USE AND MASTER CONTROLLED FIXTURES, THERMOSTATIC MASTER WATER MIXING CONTROL VALVE, 11 LPM (3 GPM) TEMPERED FLOWRATE @ 5 PSI PRESSURE DROP, 7 GPM FLOWRATE @ 45 PSI, 1.9 - 30 LPM (0.5 - 8 GPM) RANGE FOR FLOWRATE

MCGUIRE LFCK165LK SUPPLY - ICV DEFENDER, LEAD FREE, WITH CHROME-PLATED FINISH, INTEGRAL CHECK SUPPLY KIT, FAUCET PIPE TO COMPRESSION CONNECTION, 3/8" I.P.S X 3/8" O.D CONNECTION, SHALLOW WALL FLANGE, LOOSE KEY HANDLE.

MCGUIRE 8912CB P-TRAP - HEAVY CAST BRASS, ADJUSTABLE P-TRAP, 292 MM (11-1/2") LENGTH, WITH CLEANOUT PLUG

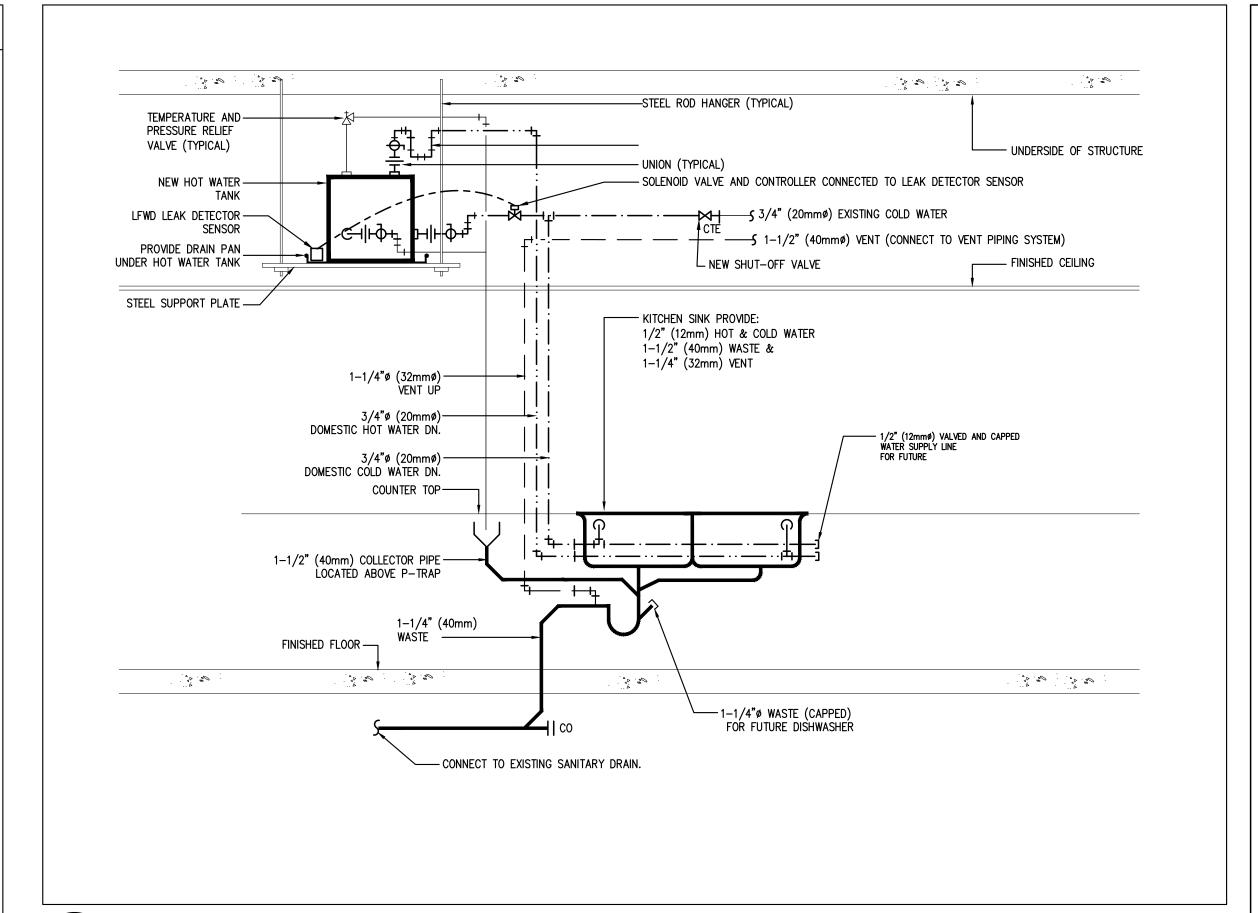
<u>'HWT-1' - ELECTRIC - STORAGE TYPE WATER HEATER</u>

A.O. SMITH DEL-6 1.5 120 1 WATER HEATER - DURA-POWERTM, 1.5 KW INPUT, 120 V, 1 PHASE, SINGLE ELEMENT, NON-SIMULTANEOUS OPERATION, 23 L (6 GAL.) STORAGE CAPACITY, 23 LPH (6 GPH) AT 55.5 C (100 F) TEMPERATURE RISE, 10.3 BAR (150 PSI) MAWP.

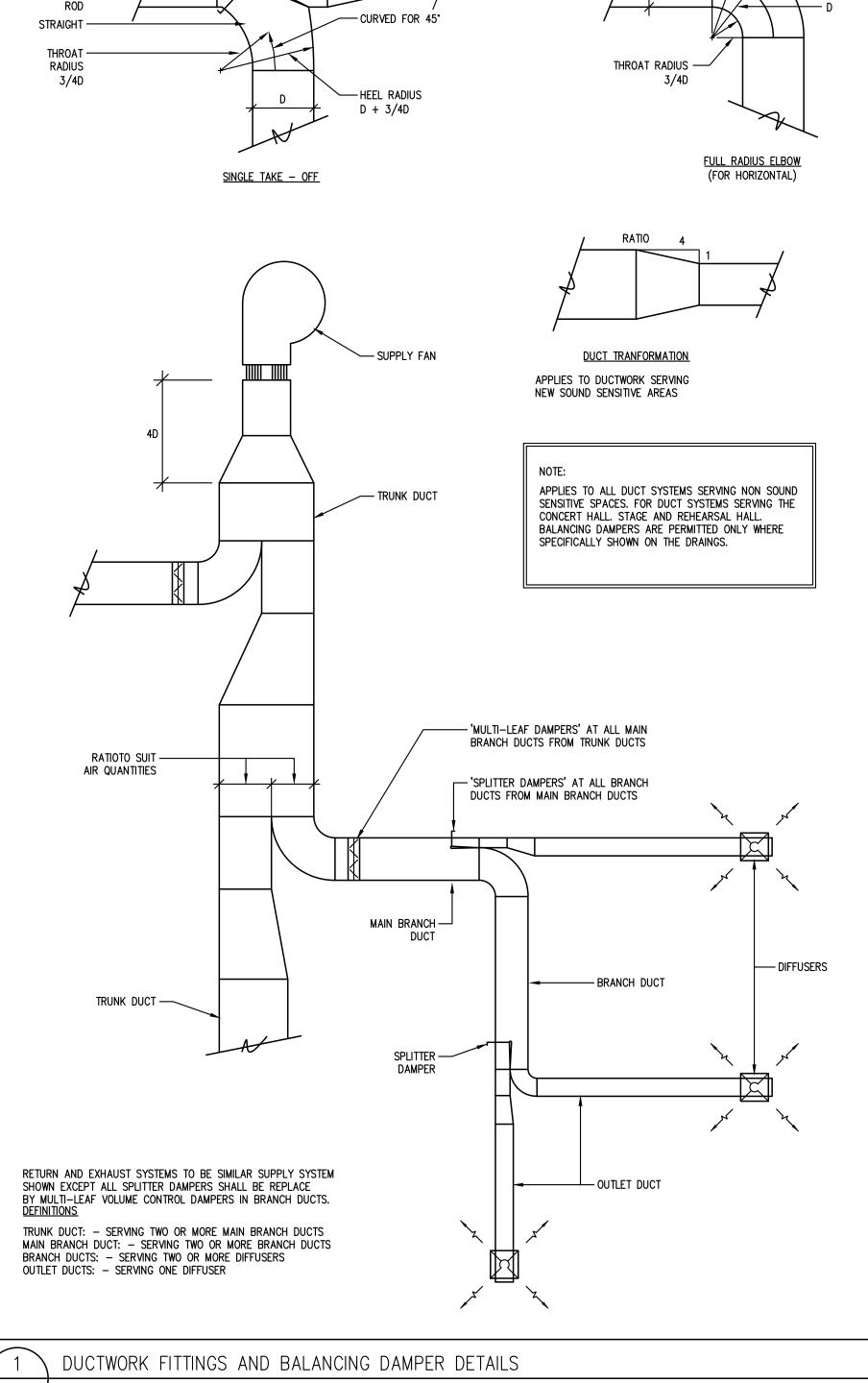
HOT WATER TANK SOLENOID VALVE AND LEAK DETECTOR SENSOR (AAA BATTERY TYPE)

SOLENOID VALVE AND SENSOR SHALL BE EQUAL TO TACO LEAKBEAKER KIT MODEL NO. LB-075-H-1LF INCLUDING, LEAK BREAKER SENSOR, ACTUATOR FOR LEAKBREAKER, AND ALL REQUIRED ACCESSORIES FOR A COMPLETED SYSTEM. (THE VALVES NORMALLY OPEN OR CLOSED CONTACTS CAN BE CONNECTED TO BAS IN ORDER TO PROVIDE VALVE CONDITION IF REQUIRED)

PLUMBING FIXT	'URE 1	PIPING	SCHE	DULE
	WATER SUPPLY			
FIXTURE TYPE	нот	COLD	DRAIN	VENT
S.S. KITCHEN SINK - 'KS-1'	1/2"ø	1/2"ø	1-1/2"ø	1-1/4 " ø
ALL FIXTURES SHALL BE VENTED PER O.B.C.				







M003 / N.T.S.

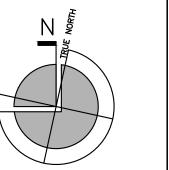
SPLITTER -

SPLITTER -

AIR FLOW

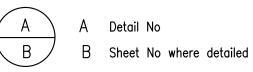
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2024-08-1 ISSUED FOR PERMIT/TENDER ISSUED FOR 99% CLIENT REVIEW 2024-07-26 2024-07-12 ISSUED FOR 33% CLIENT REVIEW Date





The Contractor shall check and verify all dimensions and report all errors and omissions to the IO-Owner's/MBS Designee (as applicable) for his/her written direction before proceeding with the Work.





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MECHANICAL SPECIFICATION, SCHEDULE, AND DETAIL

Project Start Date N.T.S. 20240521 Substantial Performance Date CADD File NAME AE-24077-DRAW-M001-M007-R00



