

17516.001

COUNCILLORS OFFICE

100 CHARLIE RODGERS PLACE BASEMENT OTTAWA, ONTARIO

MECHANICAL DRAWING LIST Drawing Number | Drawing Title MECHANICAL: GENERAL DRAWING LIST AND LEGENDS MECHANICAL DETAILS TM00.01 TM00.02 MECHANICAL SPECIFICATION MECHANICAL: FLOOR PLANS MECHANICAL EXISTING, DEMOLITON AND NEW PLANS

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
Ф F.D.	FLOOR DRAIN SIZE AS NOTED REFER TO SPECIFICATION FOR TYPES		DOMESTIC COLD WATER (DOM. COLD WATER)		SUPPLY DUCT UP OR FROM ABOVE
Ф F.F.D.	FUNNEL FLOOR DRAIN SIZE AS NOTED REFER TO SPECIFICATION FOR TYPES		DOMESTIC HOT WATER (DOM. HOT WATER)		SUPPLY DUCT DOWN OR FROM BELOW
—— c.o.	UPTURNED CLEANOUT		DOMESTIC HOT WATER RECIRCULATION (DOM. HOT WATER RECIRC.)		RETURN OR EXHAUST DUCT UP OR FF ABOVE
———II ^{C.O.}	HORIZONTAL CLEANOUT	т	TEMPERED DOMESTIC HOT WATER		RETURN OR EXHAUST DUCT DOWN OR FROM BELOW
 \$ [¢] ∂.	FLOOR DRAIN FROM ABOVE WITH TRAP	—— G——	NATURAL GAS		ROUND DUCT UP OR FROM ABOVE
— ♣ [¢] ¢ _{Ò.}	FUNNEL FLOOR DRAIN FROM ABOVE WITH TRAP	— — GV — —	NATURAL GAS VENT		ROUND DUCT DOWN OR FROM BELOW
€ € W−	WATER CLOSET AS NOTED REFER TO SPECIFICATION FOR TYPES		VENT		ACOUSTIC LINED DUCT
CS- CS-	SINGLE COMPARTMENT KITCHEN SINK	—— SAN ——	SANITARY ABOVE GRADE OR FLOOR		FLEXIBLE CONNECTION
MS- MS-	MOP SINK	— —SAN(B)— —	SANITARY BELOW GRADE OR FLOOR	<u></u>	SQUARE ELBOW DUCT WITH TURNING VANE
CS- CS-	DOUBLE COMPARTMENT SINK	── ₩──	GATE OR ISOLATION VALVE (REFER TO SPECIFICATION)		RADIUS ELBOW WITH TURNING VANES
€ € € DF−	DRINKING FOUNTAIN	─ ₩	GLOBE VALVE		AXIAL FAN/INLINE FAN MIXED FLOW OR CENTRIFUG
₿	URINAL	——ф——	BALL VALVE		CENTRIFUGAL FAN
	WALL HUNG LAVATORY	•	PENDANT SPRINKLER HEAD	DIFFUSER GRILLE OR REGISTER TY	PE SIZE (MM)
SP	WET SPRINKLER	● ^{DP}	DRY PENDANT SPRINKLER HEAD	IMPERIAL: CFM,[I METRIC: L/s,[mr	NS.] P4 300 AIR FLOW (1/6)
—— DSP——	DRY SPRINKLER	0	UPRIGHT SPRINKLER HEAD	(<u>O</u>)	ROUND SUPPLY DIFFUSER
F.H.Cx	FIRE HOSE CABINET AND TYPE	•	CONCEALED SPRINKLER HEAD		DUCTED RETURN OR EXHAUST REGISTE OR GRILLE
S.V.Cx	SPRINKLER SHUT-OFF VALVE CABINET AND TYPE	O ^{NF}	NON-FREEZE SPRINKLER HEAD		SQUARE OR RECTANGULAR DIFFUSER
F.E×	FIRE EXTINGUISHER AND TYPE	O ^{HT}	HIGH TEMPERATURE SPRINKLER HEAD	-₩-	NON DUCTED RETURN OR EXHAUST GRILLE
F.E.C. – × ^	FIRE EXTINGUISHER CABINET AND TYPE	0*	CHEMICAL SPRINKLER HEAD	-₩-	NON DUCTED ROUND RETURN OR EXHAUST GRILLE
F.R. [FIRE REEL	•	SIDEWALL SPRINKLER HEAD	<u>·</u> →	SQUARE PLAQUE DIFFUSER
WM	WATER METER	√w	WINDOW SPRINKLER HEAD		DIFFUSERS WITH BLANK-OFF PORTION (QTY SHOWN)
BFP	BACK FLOW PREVENTOR		L SYMBOLS APPLY, REFER NS AND DRAWINGS	NOTE: NOT A	LL SYMBOLS APPLY, REFER TO FLOOR

GENERAL SYMBOLS AND ABBREVIATIONS (MSD-012.13)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY DUCT UP OR FROM ABOVE	ИIИ	ACOUSTICALLY LINED TRANSFER AIR DUCT
	SUPPLY DUCT DOWN OR FROM BELOW		SILENCER
	RETURN OR EXHAUST DUCT UP OR FROM ABOVE	CTS	CROSSTALK SILENCER
	RETURN OR EXHAUST DUCT DOWN OR FROM BELOW		DUCT WITH MINIMUM CLEARANCE FIRE RATED ENCLOSURE
	ROUND DUCT UP OR FROM ABOVE	f F/D	DUCT WITH SLEEVE, INSULATION AND DAMPER
	ROUND DUCT DOWN OR FROM BELOW	CAP	CAPPED CONNECTION
	ACOUSTIC LINED DUCT	RISE UP-	RISE IN DUCT
##	FLEXIBLE CONNECTION	SLOPE DN	DROP IN DUCT
(CC	SQUARE ELBOW DUCT WITH TURNING VANE	■ S.B.	SOUND BAFFLE
	RADIUS ELBOW WITH TURNING VANES		PROPELLER FAN
	AXIAL FAN/INLINE FAN MIXED FLOW OR CENTRIFUG		
igcup	CENTRIFUGAL FAN		
DIFFUSER GRILLE OR REGISTER TYPE IMPERIAL: CFM,[INS.] METRIC: L/s,[mm] NECK OR FACE SIZE (MM) AIR FLOW (L/S)		LINEAR SLOT DIFFUSER — AIR FLOW (L/S) —	IMPERIAL: CFM,[INS.] S4 150ØX1200mm METRIC: L/s,[mm] 300 NECK SIZE AND LINEAR DIFFUSER LENGTH (MM)
(O) →	ROUND SUPPLY DIFFUSER		SUPPLY AIR DIFFUSER C/W FLEXIBLE DUCT
	DUCTED RETURN OR EXHAUST REGISTER OR GRILLE	0	LIGHT TROFFER DIFFUSER TOP INLET C/W FLEXIBLE DUCT
<u> </u>	SQUARE OR RECTANGULAR DIFFUSER		LIGHT TROFFER DIFFUSER SIDE INLET C/W FLEXIBLE DUCT
→	NON DUCTED RETURN OR EXHAUST GRILLE		DUCT MOUNTED SUPPLY OR RETURN GRILLE
→-	NON DUCTED ROUND RETURN OR EXHAUST GRILLE		LINEAR SUPPLY OR RETURN GRILLE
<u> </u>	SQUARE PLAQUE DIFFUSER		SPIN-IN CONNECTION C/W BALANCING DAMPER AND FLEX DUCT
	DIFFUSERS WITH BLANK-OFF PORTION (QTY SHOWN)		SPIN-IN CONNECTION C/W BALANCING DAMPER AND RIGID DUCT
NOTE: NOT AL	LL SYMBOLS APPLY, REFER TO FLOOR PI	ANS AND DRAWI	NGS

AIR HANDLING SYMBOLS (MSD-012.09)

Ī	DESCRIPTION	SYMBOL	DESCRIPTION
F/D	FIRE DAMPER	SM/D	SMOKE DAMPER
M.O.D.	MOTOR OPERATED DAMPER	P.S.D.	POSITIVE SEAL DAMPER
M.D.	MANUAL DAMPER	B.D.D.	GRAVITY OR BACKDRAFT DAMPER
B.D.	BALANCING DAMPER	SP/D	SPLITTER DAMPER
C.S.F/D	COMBINATION SMOKE AND FIRE DAMPER	51/511	
	VOLUME EXTRACTOR		
	ERED V.A.V. FE 120/1000 SECONDAI	MARY FLOW (L/s)	IMPERIAL: CFM,[INS.] METRIC: L/s,[mm]
	RHC- REHEAT V.A.V. BOX (VARIABLE AIR VOLUME)	COIL CAPACITY (FAN POWERED BOX C/W RETURN AIR SILENCER OR ACOUSTICALLY LINED
	V.A.V. BOX WITH ATTENTUATOR		RETURN AIR INDUCTION V.A.V. BOX
	V.A.V. BOX WITH REHEAT COIL		PNEUMATIC AIR VALVE (LAB)
	V.A.V. BOX WITH REHEAT COIL AND ATTENTUATOR		
	ELEMENT TAG DW — HEATING CAPACITY - ACTIVE ELEMENT LENGTH - ENCLOSURE TYPE		
	REHEAT COIL IN DUCT (RHC) WATER		REHEAT COIL IN DUCT (ERHC) ELECTRIC
U.H.−1	HORIZONTAL UNIT HEATER	R-X	RADIATION HEATING RISER NUMBERS (S=SUPPLY AND R=RETURN)
⊚ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪ ∪	DOWN BLAST UNIT HEATER		WALL FIN ELEMENT IN CONTINUOUS ENCLOSURE
	RADIANT HEATING PANEL		

AIR HANDLING SYMBOLS (MSD-012.08)

Corporate Real Estate Office / Bureau biens immobiliers Accommodation Branch / Direction Aménagement



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AS SHOWN

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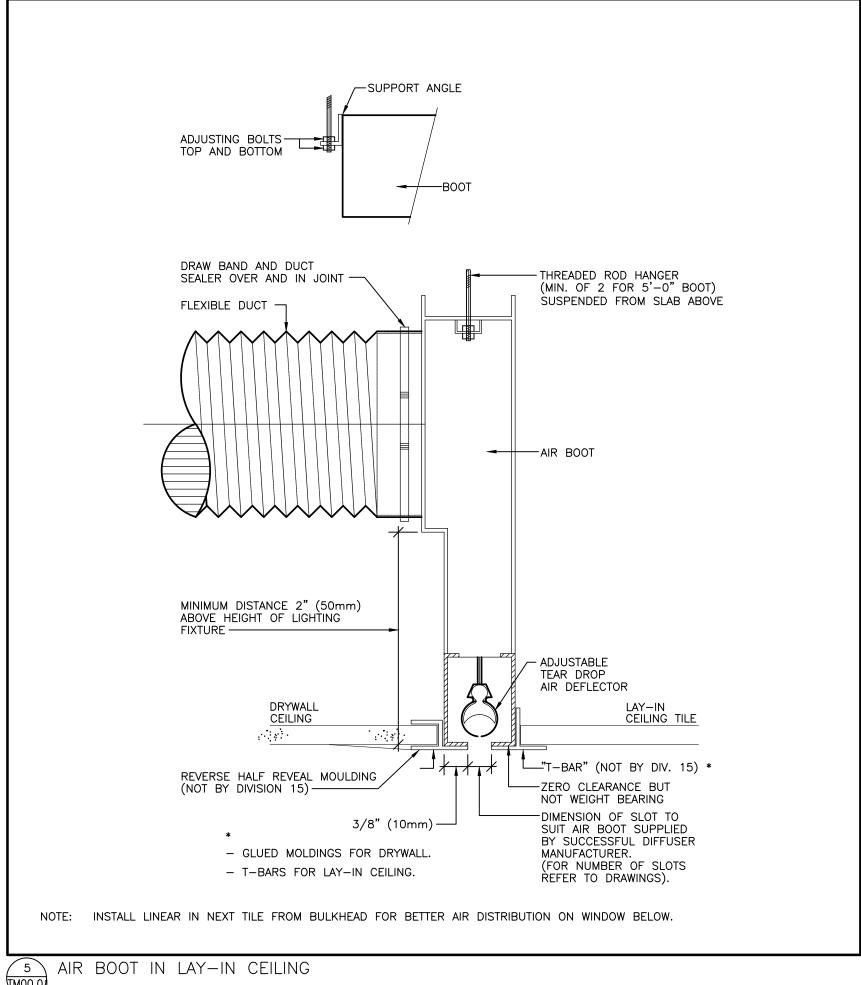
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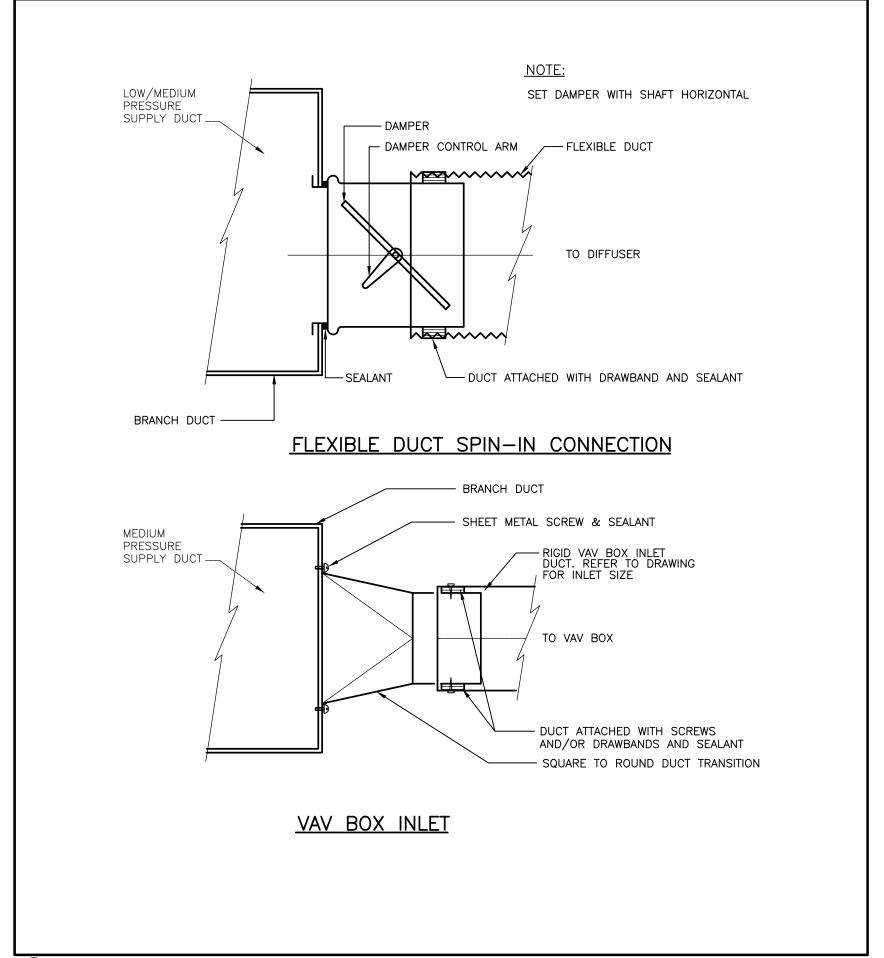
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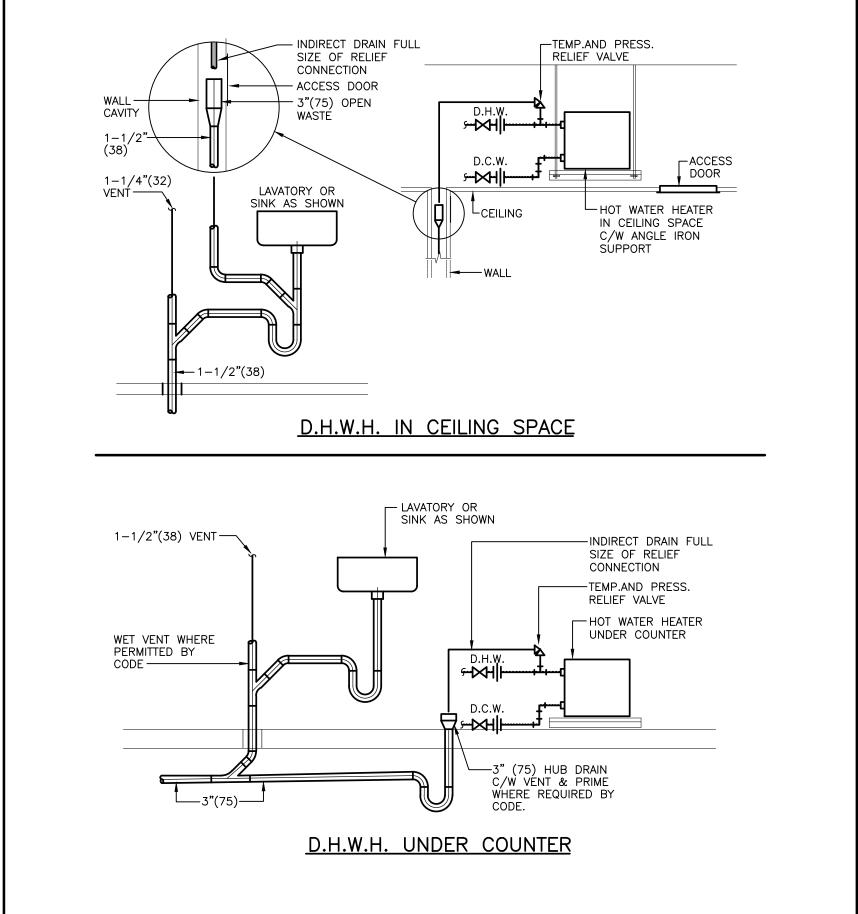
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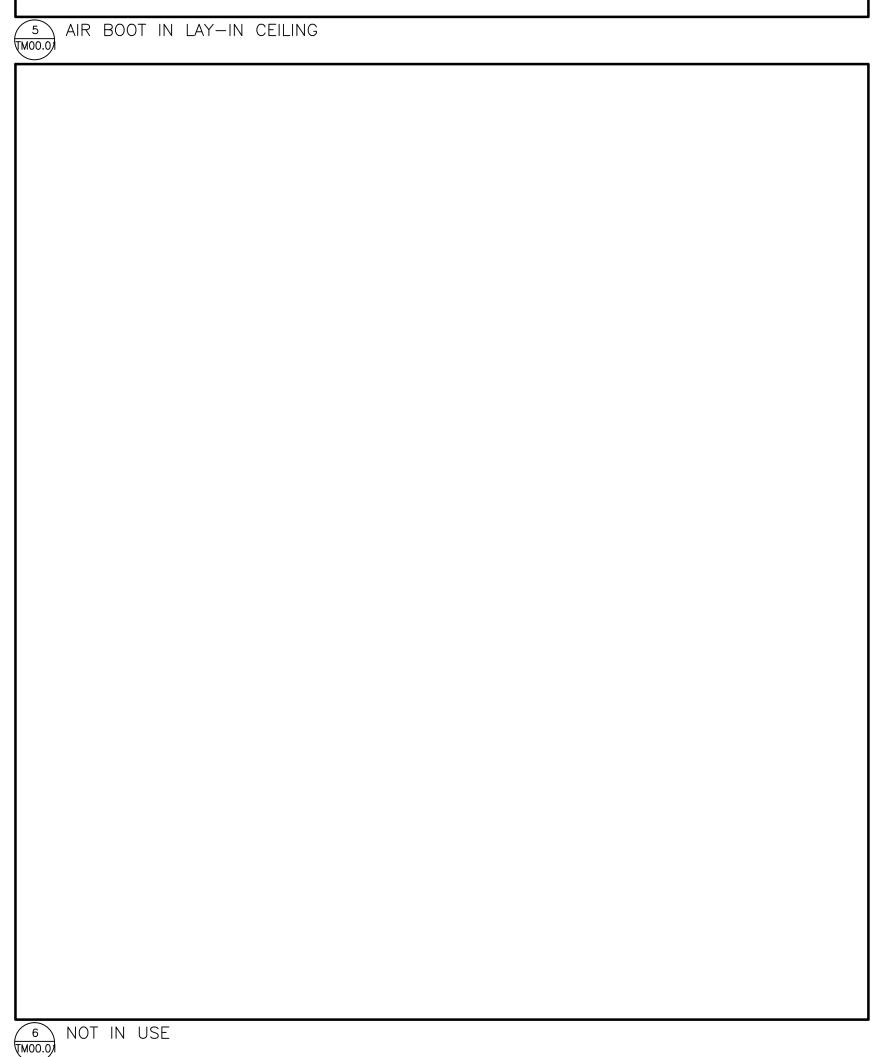
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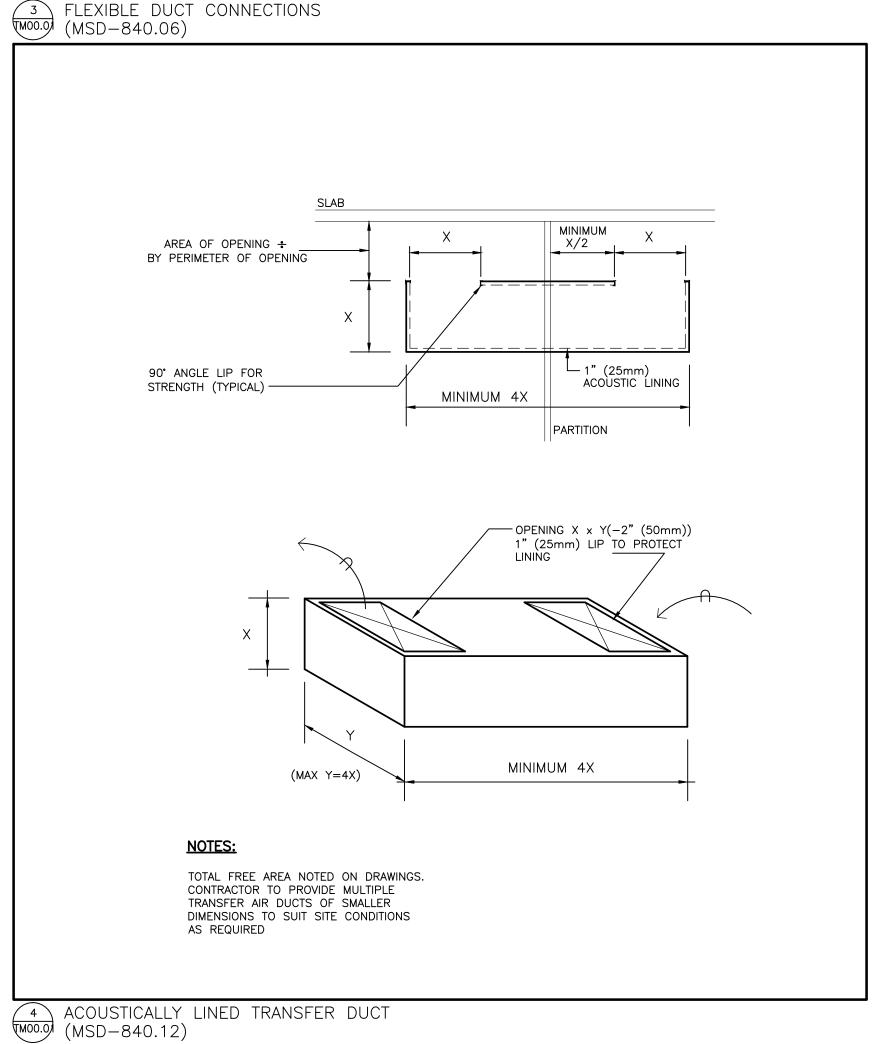
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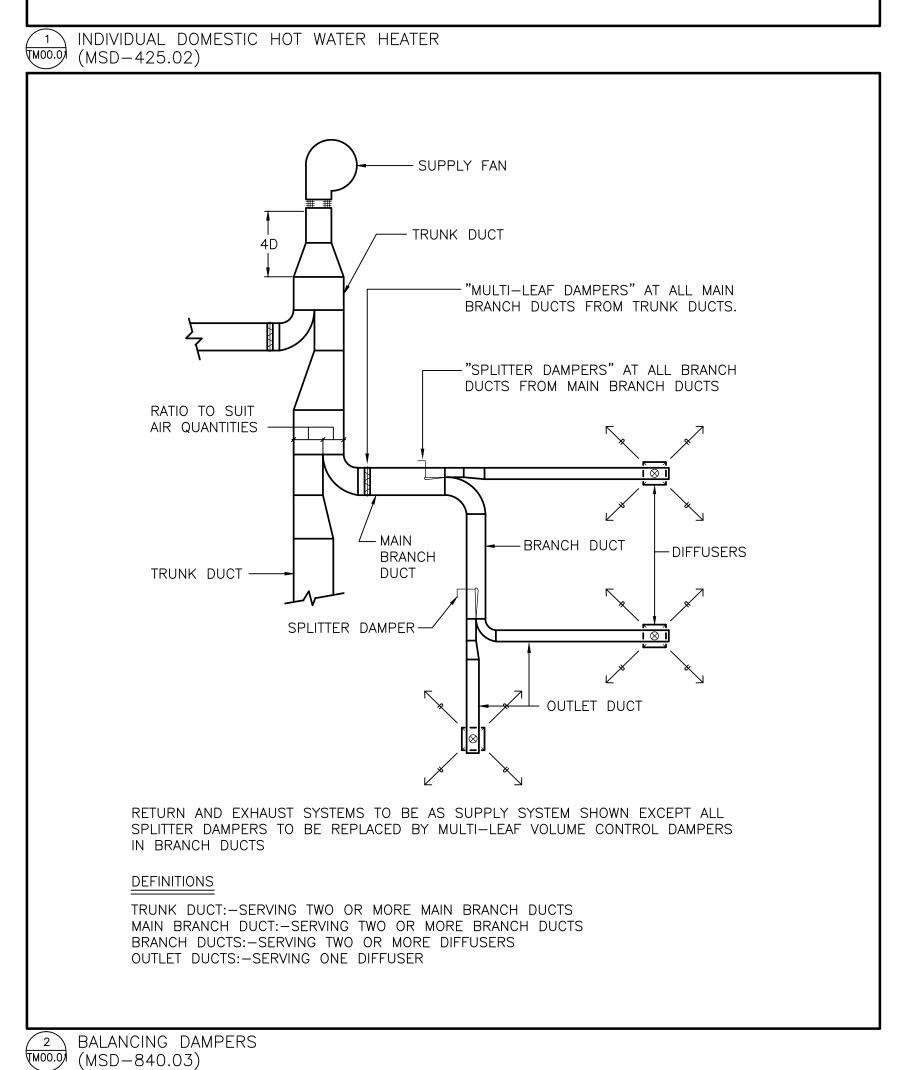


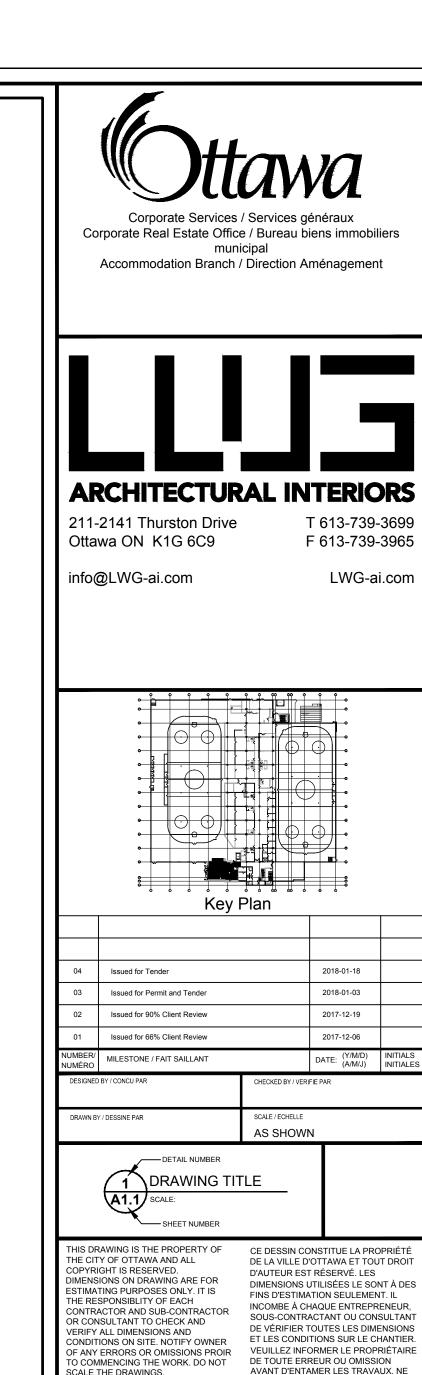












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100 Charlie Rodgers Place, Basement

MECHANICAL DETAILS

FACILITY NO. / NO. DE INSTALLTIONS SHEET NO. / FEUILLE No.

TM00.01

DRESSEZ PAS LES PLANS À L'ÉCHELLE

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CONSULTANT / EXPERT-CONSEIL CONSULTANT / EXPERT-CONSEIL

MECHANICAL SPECIFICATION

- 1. <u>GENERAL</u>
- 1.1. THE DRAWINGS AND SPECIFICATIONS SHALL BE READ IN CONJUNCTION WITH BASE BUILDING DRAWINGS AND SPECIFICATIONS. THE BASE BUILDING DESIGN DOCUMENTS ARE AVAILABLE FOR REVIEW AT THE BUILDING MANAGERS OFFICE. THE MOST STRINGENT REQUIREMENTS WILL APPLY
- 1.2. VISIT THE SITE PRIOR TO TENDER AND VERIFY ALL CONDITIONS, PRIOR TO SUBMITTING PRICE, THE MECHANICAL CONTRACTOR IS TO REVIEW ALL DISCREPANCIES WITH THE CONSULTANT AND VERIFY THE LOCATIONS OF ALL EXISTING SERVICES THAT ARE BEING EXTENDED AND THE ROUTING OF NEW SERVICES. ALSO REPORT ALL AMBIGUITIES, DISCREPANCIES, DEPARTURES FROM BUILDING BY-LAWS AND/OR FROM GOOD PRACTICE. FAILURE TO DO SO WILL RESULT IN ALL ADDITIONAL COSTS BEING THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. INCLUDE FOR ANY ALTERNATE ROUTING OF NEW OR REROUTING OF EXISTING SERVICES TO ACCOMMODATE ALL SITE CONDITIONS IN THE TENDER PRICE.
- 1.3. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING AUTHORITIES, CODES AND LOCAL BY-LAWS. COMPLY WITH LOCAL CODES AND BYLAWS, BUILDING ACT (BCA) AND ONTARIO BUILDING CODE (OBC) INCLUDING:
 - BCA: 1.1 (3) ROLE OF BUILDERS: IT IS THE ROLE OF A BUILDER . TO ENSURE THAT CONSTRUCTION DOES NOT PROCEED UNLESS ANY PERMIT REQUIRED UNDER THIS ACT HAS BEEN ISSUED BY THE CHIEF BUILDING OFFICIAL;
 - TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH THE PERMIT:
 - TO USE APPROPRIATE BUILDING TECHNIQUES TO ACHIEVE COMPLIANCE WITH THIS ACT AND THE BUILDING CODE; AND
- WHEN SITE CONDITIONS AFFECT COMPLIANCE WITH THE BUILDING CODE, TO NOTIFY THE DESIGNER AND AN INSPECTOR OR REGISTERED CODE AGENCY, AS
- BCA: 8 (13) PROHIBITION
- NO PERSON SHALL CONSTRUCT OR DEMOLISH A BUILDING OR CAUSE A BUILDING TO BE CONSTRUCTED OR DEMOLISHED EXCEPT IN ACCORDANCE WITH THE PLANS. SPECIFICATIONS. DOCUMENTS AND ANY OTHER INFORMATION ON THE BASIS OF WHICH A PERMIT WAS ISSUED OR ANY CHANGES TO THEM AUTHORIZED
- BY THE CHIEF BUILDING OFFICIAL. OBC PART C - 1.3.5.1(2) PRESCRIBED NOTICES
- · SUBSTANTIAL COMPLETION OF ROUGH-IN OF HEATING, VENTILATION, AIR-CONDITIONING AND AIR CONTAMINANT EXTRACTION EQUIPMENT,
- SUBSTANTIAL COMPLETION OF ALL FIRE PROTECTION SYSTEMS INCLUDING STANDPIPE AND SPRINKLERS
- READINESS FOR INSPECTION AND TESTING OF: BUILDING SEWERS AND BUILDING DRAINS
- WATER SERVICE PLANS
- DRAINAGE AND VENT SYSTEMS
- THE WATER DISTRIBUTION SYSTEM AND,
- PLUMBING FIXTURES AND APPLIANCES
- 1.1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION SCHEDULE AND ALL SPECIFIED INTERIM SCHEDULES. CONTRACTOR MUST COMPLY WITH THE GENERAL CONTRACTOR'S CONSTRUCTION SCHEDULE.
- 1.2. ALL WORK MUST COMPLY WITH THE LANDLORDS GUIDELINES WHERE APPLICABLE.
- 1.3. CLEAN UP, REMOVE FROM SITE, AND DISPOSE OF ALL DEBRIS CREATED BY THIS DIVISION IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND BY-LAWS.
- 1.4. APPLY FOR, OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION. INCLUDE ALL SALES TAXES AND THE 1.5 CO-ORDINATE THE MECHANICAL WORK WITH ALL TRADES INSTALLING FOLIPMENT WHICH MAY AFFECT THE MECHANICAL WORK. THE LOCATION OF ALL NEW
- EQUIPMENT AND THE ROUTING OF ALL NEW SERVICES SHALL BE CO-ORDINATED WITH AND AGREED UPON BY ALL TRADES THAT MAY BE AFFECTED. ANY ADDITIONAL COSTS RESULTING FROM THE LACK OF ON SITE CO-ORDINATION SHALL NOT BE THE RESPONSIBILITY OF THE CLIENT
- 1.6. PROVIDE WRITTEN WARRANTY FOR ALL LABOUR, MATERIALS, AND EQUIPMENT PROVIDED IN THIS CONTRACT, FOR A PERIOD OF ONE YEAR COMMENCING AT SUCH TIME
- 1.7. OBTAIN CAD DRAWING DOCUMENT FILES AND ONE SET OF WHITE PRINTS. MARK PRINTS TO ACCURATELY INDICATE INSTALLED WORK AND TRANSFER ALL INFORMATION AT THE COMPLETION OF CONSTRUCTION ONTO AS-BUILT CAD DOCUMENTS FILES, AFTER MARKED-UP PRINTS HAVE BEEN REVIEWED BY THE CONSULTANT. UPON COMPLETION OF THE WORK SUBMIT THE COMPLETED RECORD DRAWINGS AND CAD DISK TO THE CONSULTANT, WITH ONE SET OF AS-BUILT PRINTS FOR REVIEW.
- 1.8. ALL SHUTDOWN, DRAINING AND FILLING OF ANY PORTION OF THE EXISTING BASE BUILDING SYSTEMS SHALL BE PERFORMED BY THE LANDLORD'S BUILDING OPERATIONS STAFF AND SHALL BE CO-ORDINATED WITH THE LANDLORD FOR TIME AND DURATION OF INTERRUPTIONS. COMPLY WITH ALL OF THE LANDLORD'S INSTRUCTIONS, AND INCLUDE FOR ALL COSTS FOR THIS WORK IN THE TENDER PRICE.
- 1.9. INCLUDE THE COST OF PREMIUM TIME IN THE TENDER PRICE FOR WORK PROVIDED DURING NIGHTS, WEEKENDS OR OTHER TIMES OUTSIDE NORMAL WORKING HOURS, NECESSARY TO MAINTAIN ALL MECHANICAL SERVICES IN OPERATION AND TO MEET THE PROJECT SCHEDULE.
- 1.10. CHECK FOR ANY INTERFERENCES IN CEILING SPACE OF FLOOR BELOW AND/OR BELOW FLOOR SLAB IN ALL AREAS REQUIRING CORE DRILLING TO THE APPROVAL OF
- 1.11. ALTERNATE EQUIPMENT MAY BE PROPOSED DURING THE TENDER PERIOD, PROVIDED THAT THE SPACE REQUIREMENTS, QUALITY AND PERFORMANCE
- CHARACTERISTICS, POWER CHARACTERISTICS, AIR AND FLUID FLOW REQUIREMENTS AND WEIGHTS ARE EQUAL TO THE SPECIFIED PRODUCTS. ACCEPTANCE OF ALTERNATE EQUIPMENT SHALL BE AT THE DISCRETION OF THE CONSULTANT AND WILL ONLY BE AFTER REVIEW OF PROPERLY SUBMITTED SHOP DRAWINGS. ASSUME RESPONSIBILITY AND PAY FOR ALL ADDITIONAL INSTALLATION COSTS INCURRED BY ALL RELATED TRADES RESULTING FROM ALTERNATES AND/OR SUBSTITUTES. THIS SHALL INCLUDE CHANGES TO FLOW RATES AFFECTING PIPE SIZES, ELECTRICAL POWER REQUIREMENTS, STRUCTURAL REINFORCEMENT AND DUCTWORK REVISIONS. NO ADDITIONAL COSTS WILL BE ACCEPTED. MAKE REVISIONS TO RECORD DRAWINGS, INCORPORATING ALTERNATES AND/OR SUBSTITUTES AND ALL RELATED CHANGES. ALTERNATE EQUIPMENT WILL NOT BE CONSIDERED SUBSEQUENT TO TENDER CLOSING
- 1.12. PROVIDE SHOP DRAWINGS FOR ALL SPECIFIED EQUIPMENT AND SUBMIT FOR REVIEW BY THE CONSULTANTS. EQUIPMENT SHALL NOT BE ORDERED OR INSTALLED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED OR STAMPED "REVIEWED" BY SMITH + ANDERSEN. ALL SHOP DRAWINGS AND RFI'S TO BE SENT VIA EMAIL TO CONTRACTADMIN.OTTAWA@SMITHANDANDERSEN.COM FOR REVIEW.
- 1.13. REUSE EXISTING MATERIALS AND EQUIPMENT WHEREVER POSSIBLE. PROVIDE NEW MATERIALS AND EQUIPMENT AS REQUIRED TO ENSURE A COMPLETE INSTALLATION. ALL EXISTING EQUIPMENT, MATERIALS AND ASSOCIATED CONTROLS NOT USED IN THIS CONTRACT SHALL BE PACKAGED AND TURNED-OVER TO THE LANDLORD. INCLUDE IN THE TENDER FOR ALL SHIPPING AND PLACEMENT IN A DESIGNATED ON-SITE STORAGE LOCATION. REMOVE ANY EQUIPMENT OR MATERIAL NOT
- WANTED BY THE LANDLORD FROM THE SITE 1.14. ALL CUTTING AND PATCHING OF MASONRY/CONCRETE FLOORS AND WALLS, FOR MECHANICAL SERVICES SHALL BE BY THIS DIVISION. OBTAIN APPROVAL FROM THE LANDLORD BEFORE CUTTING ANY STRUCTURAL WALLS OR FLOORS. CUTTING AND DRILLING SHALL ONLY BE AT TIMES ALLOWED BY THE LANDLORD. CHECK AND VERIFY THE LOCATION OF EXISTING MECHANICAL AND ELECTRICAL SERVICES IN WALLS AND BELOW THE FLOOR SLAB IN ALL AREAS REQUIRING CORE DRILLING AND CUTTING. PROTECT ALL TENANT AREAS WHERE CORE DRILLING OCCURS. CAREFULLY CHIP TOP AND BOTTOM OF SLAB TO EXPOSE REBARS TO MINIMIZE CUTTING OF REBARS WHEN CORE DRILLING. PROVIDE X-RAY STUDY BEFORE DRILLING OR CUTTING WHERE REQUIRED BY THE LANDLORE
- 1.15. PROVIDE SLEEVES FOR ALL NEW PIPING PASSING THROUGH FLOOR SLABS, BEAMS, CONCRETE WALLS AND SLAB TO SLAB PARTITIONS, ETC. 1.16. SEAL TO BE AIR-TIGHT AROUND ALL DUCTWORK AND PIPING PENETRATIONS THROUGH PARTITIONS, BAFFLES ABOVE CEILINGS, AND THROUGH FLOORS THAT ARE NOT
- 1.17. ALL ANNULAR SPACES BETWEEN MECHANICAL SERVICES AND SLEEVES THROUGH FIRE RATED FLOOR AND WALL OPENINGS. SHALL BE PACKED WITH AN APPROVED
- FIRE STOPPING MATERIAL INSULATION AND SHALL BE SEALED WITH AN APPROVED FIRE STOP EQUAL TO "DOW CORNING" SILICON SEALANT
- 1.18. ALL SPRINKLER, STANDPIPE AND OTHER FIRE AND LIFE SAFETY PROTECTION SERVICES SHALL REMAIN IN OPERATION AT ALL TIMES. WHEN WORK IS PERFORMED ON THESE SYSTEMS NOTIFY THE FIRE DEPARTMENT AND LANDLORD, AND AT THE END OF EACH WORK PERIOD (PRIOR TO LEAVING THE SITE), CAP THE OPEN ENDS OF THE SYSTEM AND REACTIVATE AS NECESSARY. ALL WORK MUST BE ARRANGED THROUGH THE LANDLORD 1.19. PROVIDE ALL ACCESS DOORS WHERE REQUIRED TO SERVICE ALL NEW AND EXISTING EQUIPMENT. ACCESS DOORS SHALL BE EQUAL TO LEHAGE AND SHALL BE

COMPATIBLE WITH CEILING/WALL TYPE AND FINISH. DOORS LOCATED IN DRYWALL CEILINGS SHALL BE RECESSED TYPE WITH A DRYWALL INFILL PANEL, AND SHALL BE

- FLUSH WITH THE SURROUNDING FINISHES. MECHANICAL SERVICES ARE TO BE CO-ORDINATED TO MINIMIZE THE NUMBER OF ACCESS POINTS. CO-ORDINATE LOCATION AND SIZES WITH THE CONSULTANT. PROVIDE A DRAWING FOR REVIEW INDICATING THE SIZE AND LOCATION OF ALL DOORS BEFORE PROCEEDING WITH THE 1.20. PROVIDE ONE COPY ELECTRONICALLY OR HARD COPY OF OPERATING AND MAINTENANCE MANUALS CONTAINING DATA SHEETS, BROCHURES, OPERATING AND
- MAINTENANCE INFORMATION, RECOMMENDED SPARE PARTS LISTS, LUBRICATING INSTRUCTIONS AND AIR AND WATER BALANCING REPORT, AND START UP CERTIFICATES OF A/C UNITS. INCLUDE A SMITH AND ANDERSEN "REVIEWED" SET OF SHOP DRAWINGS AND BIND IN HARD COVERS (IF SENDING HARD COPIES) WITH "OPERATING AND MAINTENANCE MANUAL" TITLE ON COVER. SUBMIT A SAMPLE MANUAL TO THE CONSULTANT FOR REVIEW BEFORE SUBMITTING COPIES TO THE
- 1.21. IDENTIFY EACH PIPE AND DUCT RUN COMPLETE WITH DIRECTIONAL FLOW ARROWS. LOCATE IDENTIFICATION NO MORE THAN 40 FT. (12 M) APART. USE 2 IN. (50 MM) HIGH LETTERING. MATCH THE BASE BUILDING IDENTIFICATION SYSTEM WHERE APPLICABLE. ALSO PROVIDE VALVE TAG AND EQUIPMENT NAME PLATES TO MATCH BASE BUILDING FORMAT AND NUMBERING SYSTEM. IDENTIFY EACH FAN, PUMP, A/C UNIT, ETC., WITH AN ENGRAVED LAMACOID NAMEPLATE, WHITE LETTERS ON BLACK
- BACKGROUND, MECHANICALLY ATTACHED. PROVIDE CHARTS OF ALL VALVE TAGS. 1.22. VIBRATION ISOLATION SHALL BE PROVIDED FOR ALL PUMPS, FANS, A/C UNITS, ETC., AS REQUIRED TO COMPLY WITH BASE BUILDING STANDARDS. 123 REQUEST IN WRITING FOR A COMPLETED ROUGH-IN AND FINAL INSPECTION OF THE MECHANICAL SYSTEMS WHEN THE FINAL INSPECTION REQUEST IS MADE ALL
- DEFICIENCIES MUST BE COMPLETE, BALANCING REPORTS SUBMITTED, SYSTEMS READY FOR OPERATION, EQUIPMENT HAS BEEN COMMISSIONED, OPERATING AI MAINTENANCE MANUALS SUBMITTED ALL TAGS. CHARTS AND NAMEPLATES COMPLETED ALL FIXTURES AND FOLIPMENT CLEANED. SPARE PARTS PROVIDED. RECORD DRAWINGS COMPLETE CONTROL SYSTEMS OPERATIONAL AND THE LANDLORD'S STAFF INSTRUCTED IN ALL PHASES OF THE SYSTEM OPERATION. 1.24. ALL POWER WIRING AND EQUIPMENT STARTERS FOR MECHANICAL EQUIPMENT AND ASSOCIATED DEVICES INCLUDING CONNECTIONS SHALL BE PROVIDED UNDER THE
- ELECTRICAL CONTRACT, DIVISION 16, UNLESS NOTED OTHERWISE IN THE SPECIFICATION. CONFIRM THE POWER CHARACTERISTICS ON SITE PRIOR TO PROCESSING SHOP DRAWINGS AND ORDERING EQUIPMENT. ALL CONTROL WIRING, LINE OR LOW VOLTAGE, SHALL BE BY THIS CONTRACTOR. 1.25. PROVIDE TEMPORARY FILTERS, 1 IN. THICK DISPOSABLE MEDIA TYPE. OVER ALL RETURN AIR OPENINGS IN THE BASE BUILDING HIV A C. SYSTEMS THAT REMAIN IN
- OPERATION DURING CONSTRUCTION. MAINTAIN AND REPLACE THE TEMPORARY FILTER MEDIA AS REQUIRED TO PREVENT CONSTRUCTION DUST FROM FOULING THE BASE BUILDING EQUIPMENT. REMOVE SAME AT THE COMPLETION OF CONSTRUCTION. FILTERS IN ALL BASE BUILDING AIR HANDLING EQUIPMENT I.E., AIR HANDLING UNITS, INDUCTION UNITS, FAN COIL UNITS, ETC., SHALL BE REPLACED AFTER CONSTRUCTION IS COMPLETED
- 1.26. PRIOR TO OPERATING ANY EXISTING OR NEW EQUIPMENT DURING ANY STAGE OF CONSTRUCTION, APPROVAL FROM THE LANDLORD AND CONSULTANT MUST BE 1.27. PROVIDE ALL RIGGING AS MAY BE REQUIRED FOR ALL SYSTEM MATERIALS AND EQUIPMENT. PROVIDE ALL REQUIRED SUPPLEMENTARY STEEL SUPPORTS NECESSARY FOR MOUNTING OR HANGING EQUIPMENT. EQUIPMENT BEING SUSPENDED FROM THE FLOOR STRUCTURE, OR SUPPORTED FROM OR ON THE ROOF SHALL HAVE
- SUPPORTS REVIEWED BY A STRUCTURAL CONSULTANT. ALL REQUIRED STRUCTURAL SUPPORTS OR STRUCTURAL REINFORCING, AS RECOMMENDED BY THE CONSULTANT, SHALL BE INCLUDED IN THE TENDER.

1.28. ALL NEW AND RELOCATED EXISTING SERVICES AND EQUIPMENT MUST BE SUPPORTED FROM THE BUILDING STRUCTURE. ALL DRILLING, APPROVED TYPE INSERTS AND

- HANGERS SHALL BE INCLUDED. AUXILIARY STRUCTURAL MEMBERS SHALL BE INCLUDED AND INSTALLED WHERE REQUIRED TO ACCOMMODATE HANGERS
- ALL SUPPORTS SHALL BE CONNECTED TO THE TOP OF JOISTS AND BEAMS WHERE APPLICABLE.
- SUSPENSION FROM METAL DECK IS NOT ALLOWED
- SUSPENDING ONE HANGER FROM ANOTHER IS NOT PERMITTED.
- 1.1. INCLUDE DESIGN, SUPPLY AND INSTALLATION OF A COMPLETE SEISMIC RESTRAINT SYSTEM FOR ALL NEW MECHANICAL AND FIRE PROTECTION WORK. DESIGN TO BE BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO. ON COMPLETION OF THE INSTALLATION PROVIDE A PROFESSIONAL ENGINEERED SEALED
- AND SIGNED LETTER CONFIRMING REVIEW OF THE SEISMIC RESTRAINT SYSTEM INSTALLATION 1.2. PROVIDE A COMPLETE ITEMIZED COST BREAKDOWN OF ALL MATERIALS, EQUIPMENT AND LABOUR COSTS ASSOCIATED WITH EACH SUBMISSION FOR ADDITIONAL OR
- 2.1. SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO, THE FURNISHING OF LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE INSTALLATION AND THE TESTING OF ALL SYSTEMS SHOWN ON THE DRAWING AND SPECIFIED HEREIN INCLUDING:
- GENERAL REQUIREMENTS
- TESTING AND BALANCING PLUMBING AND DRAINAGE
- FIRE PROTECTION VENTILATION
- HEATING AND AIR CONDITIONING INSULATION
- AUTOMATIC CONTROLS
- 3. <u>TESTING AND BALANCING</u>
- 3.1. PRIOR TO COMMENCEMENT OF ANY WORK, CHECK AND VERIFY ON SITE, THE TOTAL SUPPLY AIR QUANTITY AND AVAILABLE STATIC PRESSURE PRESENTLY AVAILABLE FROM THE MAIN SUPPLY AIR DUCTS AND/OR THE FAN SERVING THE PROJECT AREA AND REPORT THE TEST RESULTS TO THE CONSULTANT
- TEST, BALANCE AND ADJUST ALL AIR SYSTEMS TO OBTAIN +\-5% OF THE DESIGN AIR QUANTITIES. VERIFY AIR QUANTITIES FOR ALL VAV BOXES, MINIMUM AND MAXIMUM, INCLUDING EXISTING BOXES INDICATED AS NOT HAVING SETPOINTS CHANGED. CONFIRM THE APPROPRIATE OPERATION AND CALIBRATION OF ALL THERMOSTATS EXISTING AND NEW AND REPORT ALL DEFICIENCIES. MARK THE FINAL BALANCE POSITION ON ALL NOTED BALANCING DAMPERS AFTER FINAL ADJUSTMENT OF AIR TURNING AND BALANCING DEVICES. PROVIDE A DEFICIENCY REPORT TO THE CONTRACTOR PRIOR TO FINALIZING THE TESTING AND BALANCING REPORT TO THE CONSULTANT, WITH ALL NOTED DEFICIENCIES RESOLVED. SUBMIT THREE (3) COPIES OF THE FINAL AIR SYSTEMS TEST AND BALANCE REPORT TO THE CONSULTANT. INDICATE ALL TEST RESULTS INCLUDING COIL ENTERING AND LEAVING AIR TEMPERATURE, CLOSEST AND FURTHEST OUTLET SUPPLY AIR TEMPERATURES, AND ROOM TEMPERATURES FOR ALL AIR SYSTEMS.

- 3.3. ADJUST ALL DEFLECTION BLADES ON NEW AND EXISTING SUPPLY AIR GRILLES AND DIFFUSERS, TO ENSURE THAT AIR PATTERN IS HORIZONTAL ACROSS THE CEILING.
- ADJUSTMENT MAY BE REQUIRED ANY TIME WITHIN THE FIRST SIX MONTHS OF OCCUPANCY
- 3.5. THIS WORK SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND BALANCING CONTRACTOR APPROVED BY THE LANDLORD
- 3.6. INCLUDE ALL COSTS IN THE TENDER PRICE.
- 4.1. COVER ALL DOMESTIC HOT AND COLD WATER PIPING, WITH 1/2 IN. (12MM) FINISHED THICKNESS, PRE-MOULDED LOW PRESSURE GLASS FIBRE INSULATION (5.5 LBS DENSITY). FOR DOMESTIC COLD WATER PIPING USE A VAPOUR BARRIER JACKET.

3.4. INCLUDE FOR ONE ADDITIONAL DAY (8 HOURS) OF FINE TUNING AS MAY BE REQUIRED TO ACCOMMODATE TENANT SPECIFIED REQUIREMENTS. THIS FINAL

- 4.2. PROVIDE PIPE SIZE HANGERS AND INSULATE OVER HANGERS ON COLD WATER LINES. 4.3. COVER ALL FITTINGS, VALVES, WATER METERS AND APPURTENANCES WITH 1 IN. (25 MM) BLANKET INSULATION OR ARMAFLEX. SEAL INSULATION FOR COLD WATER
- TINGS WITH A VAPOUR BARRIER ADHESIVE AND REINFORCE WITH GLASS OPEN WEAVE FIBRE TAPE AND FINISH SMOOTH WITH A COAT OF MASTIC 4.4. MAKE GOOD ALL EXISTING INSULATION, WHERE DAMAGED, WHEN CONNECTING TO EXISTING SERVICES. WHERE EXISTING INSULATION HAS BEEN PREVIOUSLY
- THERMALLY INSULATE SUPPLY AIR DUCTWORK UPSTREAM OF THE AIR TERMINAL BOX WITH 1 IN. (25 MM) FINISHED THICKNESS FIBREGLASS REINFORCED FOIL-FACED RIGID VAPOUR SEAL DUCT INSULATION. FLEXIBLE DUCT INSULATION WITH VAPOUR BARRIER MAY BE USED IN CONCEALED SPACES. WHERE DUCTWORK IS ACOUSTICALLY LINED, THERMAL INSULATION IS NOT REQUIRED UNLESS SPECIFICALLY NOTED. INSULATION SHALL BE INSTALLED USING BOTH PINS AND ADHESIVE. ADHESIVE TO BE APPLIED COMPLETELY OVER ALL SURFACES OF THE DUCTWORK. PINS SHALL BE ON MAXIMUM 18 IN. CENTRES. PINS SHALL BE TACK WELDED, AND CLIPPED AFTER SPEED WASHERS ARE INSTALLED
- INSULATE ALL EXHAUST AND OUTSIDE AIR INTAKE PLENUMS AT LOUVRES OR HOODS. INSULATE ALL DUCTWORK FOR A MINIMUM LENGTH OF 10 FEET ON THE BUILDING SIDE OF THE ASSOCIATED MOTORIZED EXHAUST DAMPERS AND THE ENTIRE LENGTH OF THE OUTSIDE AIR INTAKE DUCT. USE 1 IN. (25 MM) FINISHED THICKNESS RIGID
- INSULATION BOARD WITH VAPOUR BARRIER, AND WHERE EXPOSED TO VIEW COVER WITH CANVAS. 4.7. INSULATION AND VAPOUR BARRIER SHALL BE CONTINUOUS AT ALL FITTINGS, HANGERS AND THROUGH WALLS OR FLOORS.
- 4.8. TAPE ALL JOINTS AND SEAMS AND BAND AT 16 IN. (350MM) INTERVALS.
- 4.9. STAPLES SHALL NOT BE USED FOR SECURING INSULATION.
- 4.10. TEST ALL PIPING AND SEAL ALL DUCT JOINTS WITH DUCT SEALER BEFORE APPLYING INSULATION. (WHERE DUCTS ARE NOT 100% AIR TIGHT, INSULATION WILL PRESSURIZE, AND OPEN AT JOINTS AND SEPARATE FROM THE DUCT.)
- 4.11. ALL INSULATION MATERIALS TO BE SUPPLIED BY OWENS-CORNING, CERTAINTEED-MASON, KNAUF OR PARTEK.

REMOVED. OR IS IN A STATE OF DISREPAIR. BRING THIS ITEM TO THE CONSULTANT'S ATTENTION.

- 5.1. ALL DOMESTIC WATER PIPING SHALL BE TYPE "L" HARD DRAWN COPPER WITH CAST BRASS OR WROUGHT COPPER FITTINGS. 5.2. ALL SANITARY DRAINS AND VENTS 2-1/2 IN. (65 MM) AND LARGER SHALL BE CAST IRON WITH MJ JOINTS. SANITARY DRAINS AND VENTS 2 IN. (50 MM) AND SMALLER
- SHALL BE HARD TEMPER COPPER DRAINAGE TUBE (DWV). ABS OR PVC PIPING IS NOT PERMITTED 5.3. PROVIDE ISOLATING GATE VALVES ON MAIN AND/OR BRANCH LINES AND FOR ALL EQUIPMENT SERVED. ALL VALVES SHALL BE SUITABLE FOR THE OPERATING PRESSURE OF THE SYSTEM IN WHICH THEY ARE INSTALLED. ALL VALVES SHALL MATCH THE BASE BUILDING VALVES AND BE THE SAME MANUFACTURER, MODEL
- 5.4. DISCONNECT AND CAP ALL EXISTING DRAIN, VENT, HOT AND COLD WATER PIPES NOT BEING REUSED AS PART OF THIS CONTRACT. CAP SERVICES BEHIND THE
- 5.5. REUSE EXISTING PIPING WHEREVER POSSIBLE AND WHERE CONDITIONS PERMIT. PROVIDE NEW PIPING AS REQUIRED. 5.6. PROVIDE DIELECTRIC COUPLINGS/UNIONS WHERE COPPER PIPING CONNECTS TO FERROUS METAL EQUIPMENT OR FITTINGS.

FINISHED SURFACES OF FLOORS AND WALLS AND AT THE MAINS OR BASE BUILDING VALVE LOCATIONS IN THE CEILING SPACE

- ALL PIPING SHALL BE HUNG USING CLEVIS HANGERS AND THREADED ROD, WITH APPROVED INSERTS. USE COPPER HANGERS OR PLASTIC COATED HANGERS FOR ALL
- COPPER PIPING. HANGERS WITH A "DUCT TAPE" COVERING WILL NOT BE ACCEPTED. HANGER SPACING TO BE AS PER CODE. 5.8. PROVIDE CHROME PLATED BRASS ESCUTCHEONS WHERE PIPING PENETRATES WALLS IN FINISHED AREAS
- 5.9. BACK FLOW PREVENTERS SHALL BE PROVIDED WHEREVER DOMESTIC WATER IS CONNECTED TO A PIECE OF EQUIPMENT WHICH IS NOT A PLUMBING FIXTURE, OR WHERE BACK-FLOW OF CONTAMINATED WATER IS POSSIBLE. THE BACK FLOW PRESENTER SHALL BE A WATTS NO. 9 OR 909.
- 5.10. WATER METERS LOCATED IN SERVICE ROOMS OR CEILING SPACES SHALL BE NEPTUNE MODEL T-10 DISC TYPE COMPLETE WITH PULSER RM VISUAL REMOTE READ-OUT. READ-OUT TO BE LOCATED AS INDICATED ON DRAWING OR AS DIRECTED DURING CONSTRUCTION. METER SHALL BE SIZE 5/8 IN. (0.7 TO 7.0 USGPM) OR 3/4 IN. (7.0 TO 15.0 USGPM).
- 5.11. PROVIDE A COMPLETE PLUMBING VENTING SYSTEM FOR ALL PLUMBING FIXTURES AND TRAPS AS REQUIRED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE. VENTING SHOWN ON THE DRAWINGS IS FOR GENERAL INTENT ONLY. CONNECT TO BASE BUILDING VENTING SYSTEM AT AN APPROPRIATE POINT.
- 6.1. TANK 'WH-1' SHALL BE COMPLETE WITH A.S.M.E. TEMPERATURE PRESSURE RELIEF VALVE. RELIEF VALVE SHALL BE PIPED TO NEAREST FUNNEL FLOOR DRAIN,
- JANITORS SINK, OR 1-1/2 IN. DRAIN TAIL PIECE CONNECTED TO A SINK WASTE, THROUGH AN AIR GAP. TANKS SHALL BE COMPLETE WITH SIDE CONNECTIONS ONLY
- 6.2. 1.3 GALLON EEMAX MINI TANK WATER HEATER: POINT OF USE HEATING 12 AMPS, 1400 WATTS @110/120V/1/60HZM PLUG IN, GLASS LINED TANK (11 IN. W X 10 IN. D X 12.5
- 7. WATER DETECTOR SHUT OFF (FOR DOMESTIC HOT WATER TANK)
- 7.1. FLOOD DETECTOR SHALL BE WATTS FLOOD SAFE WATER DETECTOR SHUTOFF. MAXIMUM PRESSURE 150PSI, MAXIMUM TEMPERATURE 210F (99C), 70MA, 120V/1/60Hz., CURRENT DRAW 50MA. COMPLETE WITH CONTROL UNIT, WATER DETECTOR PAD, WATER DAM AND POWER CUTOUT MODULE. UNIT SERVING ELECTRIC WATER HEATER
- 7.2. BATTERY BACK UP DEVICE SHALL ALSO BE INSTALLED AND SHALL BE WATTS FLOODSAFE WATER DETECTOR SHUT OFF BATTERY BACKUP WDS-BB..
- PLUMBING FIXTURES
- 8.1. PROVIDE NEW PLUMBING FIXTURES WHERE INDICATED ON PLANS OF MAKE AND MODEL AS SPECIFIED. ALL FIXTURES MUST BE FIRST QUALITY, BEST GRADE OBTAINABLE, CLEANED AND IN PERFECT CONDITION. FIXTURES SHALL BE PIPED COMPLETE WITH ALL REQUIRED SUPPORT AND ACCESSORIES, DRAINAGE, VENT AND WATER CONNECTION. INSTALL ALL COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION FOR BEST PRACTICE.
- 8.2. FINAL LOCATION OF ALL NEW PLUMBING FIXTURES SHALL BE CO-ORDINATED, ON-SITE WITH ALL TRADES. REFER TO ARCHITECTURAL,/INTERIOR DESIGN DRAWINGS AND DETAILS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES.
- 8.4. FITTINGS AND TRIM SHALL BE AS MANUFACTURED BY AMERICAN STANDARD, CHICAGO FAUCETS EQUIVALENT TO THE TRIM SPECIFIED. ALL EXPOSED VALVES, FITTINGS, ESCUTCHEONS, TRIM, ETC., AT EACH FIXTURE SHALL BE POLISHED CHROME PLATED BRASS UNLESS SPECIFIED OTHERWISE
- 8.5. ONE COMPARTMENT S.S. SINK SHOWN AS TYPE 'CS-1' SHALL BE KINDRED 'ARISTALINE' #ALBS6806P-1 S.S. SINK, 1 HOLE, 20-1/2" X 20" X 6" (521MM X 508MM X 150MM) EP, COUNTER MOUNTED, BACK LEDGE, GRADE 18-8 TYPE 302 STAINLESS STEEL, SINGLE COMPARTMENT, SATIN FINISHED RIM. BOWL AND SELF_RIMMING WITH CRUMB CUP STRAINER AND SOUND DEADENING. CHICAGO FAUCET 430-ABCP, C.P. 9 1/2" (237MM) C.C., DECK MOUNTED, SOLID CAST BRASS LEAD-FREE BODY, WASHERLESS, CERAMIC DRIP-FREE DISC VALVE CARTRIDGE, CAST SWING SPOUT WITH 1.5 GPM (5.7L) FLOW AERATOR OUTLET, REMOVABLE ESCUTCHEON PLATE. SINGLE CONTROL METAL LEVER HANDLE, AND 3/8" (10MM) SUPPLY TUBES. SUPPLIES WITH ANGLE STOPS, ADAPTORS AND ESCUTCHEONS. CAST BRASS 'P' TRAP, 1-1/2" (38MM) WITH CLEANOUT, UNION AND ESCUTCHEON.
- PORTABLE FIRE EXTINGUISHERS

8.3. FIXTURES SHALL BE AS DEFINED BELOW.

- 9.1. PORTABLE FIRE EXTINGUISHERS SHALL BE RATED AND IDENTIFIED IN ACCORDANCE WITH CAN/ULC-S508 "RATING AND FIRE TESTING OF FIRE EXTINGUISHERS". ALL RATINGS IDENTIFIED BELOW SHALL BE CONSIDERED AS A MINIMUM
- 9.2. SPACING OF EXTINGUISHERS SHALL CONFORM TO THE AUTHORITY HAVING JURISDICTION. MAXIMUM SPACING FOR ORDINARY HAZARD SHALL BE 9 M (30 FT.) FOR 10 BC EXTINGUISHER AND 15 M (50 FT.) FOR 20 BC EXTINGUISHERS, BUT IN NO CASE SHALL THERE BE LESS THAN ONE EXTINGUISHER IN EACH ELECTRICAL ROOM, KITCHEN OR MECHANICAL ROOM. MAXIMUM SPACING FOR TYPE A EXTINGUISHERS IN GENERAL OFFICES SHALL BE 25 M (75 FT.).
- 10.1. ALL SPRINKLER WORK IN THIS CONTRACT SHALL BE PERFORMED BY A SPRINKLER CONTRACTOR APPROVED BY THE LANDLORD AND ALL COSTS ARE TO BE INCLUDED
- 10.2. HYDRAULICALLY DESIGN THE MODIFICATIONS TO THE EXISTING WET SPRINKLER SYSTEM, IN ACCORDANCE WITH THE EXISTING BASE BUILDING DESIGN CRITERIA, N.F.P.A. STANDARDS AND THE STANDARDS OF ANY OTHER GOVERNING BODY AS DIRECTED BY THE LANDLORD. EACH SYSTEM IS TO BE COMPLETE WITH TEST AND
- DRAIN CONNECTIONS AS REQUIRED. 10.3. SUBMIT HYDRAULIC CALCULATIONS AS APPLICABLE AND LAYOUT DRAWINGS INDICATING ALL PIPING VALVES AND SPRINKLER HEADS.
- 10.4. DRAWINGS TO HAVE CONTRACTOR'S COMPANY NAME AND P.ENG STAMP. SUBMIT TO ALL LOCAL GOVERNING AUTHORITIES FOR PERMIT AND THE CONSULTANTS FOR APPROVAL, AND RECEIVE APPROVALS PRIOR TO FABRICATION AND INSTALLATION. 10.5 ALL SPRINKLER WORK SHALL BE TO THE APPROVAL OF THE LANDLORD'S AND TENANT'S INSURANCE LINDERWRITER AND SHALL CONFORM TO THE BASE BUILDING SPECIFICATIONS AND ALL GOVERNING AUTHORITIES. THE FABRICATION AND INSTALLATION MUST COMPLY WITH THE REQUIREMENTS OF THE CURRENT PUBLICATION
- 10.6. CONFIRM EXISTING SYSTEM PRESSURE, WHERE WORK IS TO BE PERFORMED, AND DESIGN ALL COMPONENTS TO SUIT, ALLOWING A MINIMUM 10% SAFETY MARGIN.
- 10.7. ALL NEW SPRINKLER WORK MUST BE TESTED IN ACCORDANCE WITH THE LANDLORD'S REQUIREMENTS OR AT 200 PSI FOR A MINIMUM OF 2 HOURS. A COPY OF ALL TEST CERTIFICATES MUST BE SUBMITTED TO THE LANDLORD AND CONSULTANT
- 10.8. THE LANDLORD AND/OR THE CONSULTANT MUST BE INFORMED WHEN ALL TESTS ARE TO TAKE PLACE 10.9. THE MAIN SPRINKLER SHUT-OFF VALVE, FOR THE FLOOR WHERE SPRINKLER ALTERATIONS ARE BEING MADE, MUST ONLY BE "CLOSED" DURING NORMAL BUSINESS HOURS AND MUST BE RETURNED TO THE OPEN POSITION FOR NIGHTS. HOLIDAYS AND WEEKENDS, UNLESS SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH THE LANDLORD AND THE LOCAL FIRE DEPARTMENT.
- 10.10. IN AREAS WHERE EXISTING CEILINGS ARE BEING REPLACED, INCLUDE COST TO REMOVE AND REPLACE THE SPRINKLER HEADS OR ESCUTCHEON RINGS AS REQUIRED. IF CEILING LEVELS ARE BEING CHANGED, INCLUDE COST TO RELOCATE SPRINKLER HEADS TO NEW CEILING LEVEL. 10.11. CO-ORDINATE CHANGES OF EXISTING SPRINKLER SYSTEM WITH ALL TRADES. MODIFY EXISTING HYDRAULICALLY DESIGNED SPRINKLER PIPING AS REQUIRED TO SUIT NEW SPRINKLER LAYOUT AND TO AVOID INTERFERENCE WITH DUCTWORK AND EQUIPMENT. ALLOWANCES FOR ADDITIONAL WORK AND MATERIALS REQUIRED TO SUIT
- 10.12. NEW PENDANT, UPRIGHT, CONCEALED OR SEMI-RECESSED SPRINKLER HEADS IN LAY-IN T-BAR CEILINGS SHALL MATCH EXISTING SPRINKLER HEADS AND SHALL CONFORM TO THE BASE BUILDING STANDARDS AND SPECIFICATIONS.
- 10.13. CO-ORDINATE THE LOCATION OF ALL HEADS WITH THE CONSULTANT.
- 10.14. ALL EQUIPMENT AND MATERIAL SHALL BE U.L.C. APPROVED.
- 10.15. ALL NEW SPRINKLER HEADS MUST BE CONNECTED TO THE BASE BUILDING (EXISTING) SPRINKLER MAINS (LOOP ETC) NOT TO EXISTING BRANCH PIPING. DUCTWORK, FITTINGS AND EQUIPMENT

SITE CONDITIONS AND RE-ROUTING OF EXISTING AND/OR NEW SERVICES SHALL BE INCLUDED IN THE TENDER PRICE.

- 11.1. ALL DUCTWORK CONSTRUCTION, SUPPORT AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST A.S.H.R.A.E. AND S.M.A.C.N.A. RECOMMENDATIONS AND
- 11.2. FLEXIBLE DUCTS SHALL BE SPIRAL ALUMINUM FLEXMASTER TRIPLE LOCK MODEL #T/L (#T/L-A ACOUSTIC DUCT) INSTALLED AS ONE CONTINUOUS PIFCE. JOINING OF FLEXIBLE DUCTS IS NOT PERMITTED. MAXIMUM LENGTH SHALL NOT EXCEED 10 FT.-0 IN. (2500 MM). CONNECT TO DUCTWORK WITH DUCT SEALER IN THE JOINTS AND WITH SCREWS. DUCT TAPE IS NOT ACCEPTABLE. SIZE OF FLEXIBLE DUCTS SHALL BE EQUAL TO THE DIFFUSER NECK SIZE. DUCTING SHALL CONFORM TO NFPA 80A
- 11.3. PROVIDE DUCT SEALER ON ALL NEW DUCT JOINTS.
- 11.4. DUCT SEALER TO BE EQUAL TO PROSEAL AND FIBERSEAL, TO BE APPLIED WITH BRUSH OR FLOW GUN. DUCT SEALER SHALL BE NON-V.O.C., PERMANENTLY FLEXIBLE, LOW SHRINKAGE, AND ULC CLASSIFIED FOR SURFACE BURNING CHARACTERISTICS. APPLICATION TO BE MADE WHEN AIR SYSTEM(S) ARE OFF, TO ALLOW MATERIAL TO CURE 24-72 HOURS BEFORE PRESSURE TEST THE SYSTEM. WHERE DUCTS ARE EXPOSED, ALL JOINTS ARE TO BE WIPED CLEAN OF ANY EXCESS SEALER. WHERE DUCTS ARE EXTERNALLY INSULATED, SEALER MUST BE 100% AIR TIGHT, TO AVOID BLOWING OFF THE INSULATION. SINCE FIELD TEMPERATURE/HUMIDITY CONDITIONS MAY VARY, LONGER SET TIMES MAY REQUIRED FOR SPECIFIC INSTALLATIONS. APPLY AT A RATE OF 50 SQ.FT. PER GALLON (1/32" THICK).
- 11.5. FLEXIBLE DUCTS SHALL NOT BE USED UPSTREAM OF VARIABLE AIR VOLUME BOXES OR BY-PASS BOXES. 11.6. RIGID ROUND DUCTS SHALL BE OF SPIRAL CONSTRUCTION. DAMPERS WITH DURO-DYNE OR EQUAL 1/4 IN. DIAL REGULATOR SET AND BEARINGS ARE REQUIRED AT ALL
- JND DUCT BRANCH TAKE-OFFS. SEE STANDARD DETAIL FOR REQUIREMENTS. 11.7. PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL FANS AND ADJACENT DUCTWORK WITH A MINIMUM 6 IN. (150 MM) SEPARATION BETWEEN FAN AND DUCTWORK.
- EXIBLE CONNECTIONS SHALL CONSIST OF A PREASSEMBLED UNIT OF FIRE RESISTANT P.V.C. WEAVE EQUAL TO DURO DYNE CANFLEX 11.8. PROVIDE 1 IN. (25 MM) FLEXIBLE SCRIM FACED ACOUSTIC INSULATION EQUAL TO "KNAUF" DUCT LINER "M" FOR SUPPLY, RETURN OR EXHAUST DUCTWORK WHERE INDICATED. ALL DIMENSIONS ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. WHERE ACOUSTIC INSULATION IS INSTALLED, INCREASE DIMENSIONS ACCORDINGLY LINING TO BE ATTACHED WITH COMPLETE COVERAGE OF ADHESIVE AND PINS ON MAXIMUM 18 IN. CENTRES. ALL RAW EDGES OF LINING TO BE BUTTERED DOWN WITH DUCT SEALER OR METAL EDGES TO AVOID EROSION OF FIBRES. SPRAY ADHESIVE IS NOT ACCEPTABLE
- 11.9. PROVIDE BALANCING DAMPERS FOR ALL NEW DUCT BRANCHES. PROVIDE ALSO BALANCING DAMPERS AND SPLITTER DAMPERS IN ALL NEW DUCTWORK AS REQUESTED BY THE AIR BALANCING COMPANY
- 11.10. ALL EXISTING V.A.V. AND/OR FAN POWERED BOXES AND THEIR RESPECTIVE DIFFUSER BOOTS, DIFFUSERS, AND/OR LIGHT TROFFER DIFFUSERS SHALL BE REBALANCED AND SET TO NEW MAXIMUM AND MINIMUM CAPACITIES INDICATE
- 11.11. WHERE TRANSFER AIR OPENINGS IN DRYWALL WALLS ARE NOTED ON THE DRAWINGS, THE MECHANICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE THE LAYOUT. THIS CONTRACTOR SHALL CO-ORDINATE AND VERIFY THAT THE REQUIRED NUMBER AND SIZE OF OPENINGS HAVE BEEN PROVID

- 12. DIFFUSERS, GRILLES AND REGISTERS
- 12.1. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE MANUFACTURED BY PRICE, TITUS, NAILOR, KRUEGER OR CARNES EQUAL TO THE UNITS SPECIFIED
- 12.2. ALL DIFFUSERS AND REGISTERS TO BE COMPLETE WITH VOLUME DAMPERS. ALL VOLUME AND AIR PATTERN DEVICES SHALL BE FULLY ADJUSTABLE FROM THE FACE OF THE DIFFUSER, REGISTER OR GRILLE
- 12.3. NOISE GENERATED BY DIFFUSERS SHALL BE SUCH THAT ROOM SOUND PRESSURE LEVEL DOES NOT EXCEED NOISE CRITERIA 30 WITH AN 8 DB ROOM ATTENUATION,
- 12.4. LINEAR CEILING DIFFUSERS SHOWN AS TYPE "A" SHALL BE 1 SLOT DIFFUSER MODIFIED WITH SQUARE ENDS TO LIMIT SIDE SPREAD, AND OF 1200MM. LENGTHS, AS SHOWN. DIFFUSER SHALL BE INSTALLED WITH MANUFACTURER PLENUM TO MATCH THE LENGTH OF THE DIFFUSER SHOWN, WITH MOUNTING CLIPS TO SUIT CONTINUOUS T-BAR OR CEILING OPENINGS. PATTERN CONTROLLERS SHALL BE SPLIT MID LENGTH TO ALLOW EACH HALF OF DIFFUSER TO BE SET FOR DIFFERENT THROW PATTERNS. THROW PATTERNS SHALL BE FULLY ADJUSTABLE FROM VERTICAL TO HORIZONTAL AND VARIATIONS IN RETWEEN. PROVIDE '7' BAFFLE BLANK-OFF PANELS BETWEEN CEILING DIFFUSERS AND WITHIN INACTIVE SECTIONS OF CEILING SLOT OPENINGS (CO-ORDINATE WITH ARCHITECTURAL DRAWINGS). PATTERN CONTROLLERS AND BLANK-OFF PANELS SHALL BE FINISHED IN MATTE BLACK. PLENUM SHALL BE FABRICATED FROM COATED STEEL. REFER TO ARCHITECTURAL DETAILS FOR INSTALLATION OF CONTINUOUS SUPPLY AIR SLOT. EH-PRICE TBD3 SERIES, NAILOR 5800, KRUEGER PTBA, CARNES DASC
- 12.5. SQUARE DIFFUSERS SHOWN AS TYPE "B" SHALL BE SQUARE STEEL PLAQUE 600 MM X 600 MM (24 IN.) FACE SIZE AND SHALL BE SQUARE, CONED METAL. DIFFUSERS SHALL CONSIST OF A PRECISION FORMED BACK CONE OF ONE PIECE SEAMLESS CONSTRUCTION WHICH SHALL INCORPORATE A ROUND (OR SQUARE) INLET COLLAR OF SUFFICIENT LENGTH FOR CONNECTING RIGID OR FLEXIBLE DUCT AS SHOWN. AN INNER PLACUE ASSEMBLY SHALL BE INCORPORATED THAT DROPS. NO MORE THAN 1/4" BELOW THE CEILING PLANE TO ASSURE PROPER AIR DISTRIBUTION PERFORMANCE. THE INNER PLAQUE ASSEMBLY SHALL BE COMPLETELY REMOVABLE FROM THE DIFFUSER FACE TO ALLOW FULL ACCESS TO ANY DAMPERS OR OTHER DUCTWORK COMPONENTS LOCATED NEAR THE DIFFUSER NECK. E.H. PRICE SPD, NAILOR UNI, KRUEGER PLQ, CARNES SFPA.
- 12.6. RETURN REGISTERS SHOWN AS TYPE " " SHALL BE STANDARD RETURN GRILLES WITH HORIZONTAL FIXED BARS SET AT APPROXIMATELY 45 DEG. FOR WALL RETURNS AND SET STRAIGHT FOR CEILING RETURN. KEY OPERATED DAMPER SHALL BE MOUNTED BEHIND. E.H. PRICE 530, NAILOR 6100 SERIES, KRUEGER S80, CARNES MODEL
- 12.7. RETURN GRILLES SHOWN SHALL BE SIZED AS SHOWN ON DRAWING AND SHALL BE EGG CRATE TYPE WITH ALUMINUM CONSTRUCTION. EGG CRATE SHALL BE 12 MM (1/2 IN.) DEEP, FORMED OF 12 MM (1/2 IN.) WIDE ALUMINUM STRIPS ON 12 MM (1/2 IN.) CENTRES. STRIPS SHALL BE APPROXIMATELY 0.64 MM (0.025 IN.) THICK. GRILLES SHALL BE ENCLOSED IN A CHANNEL FRAME FOR T-BAR MOUNTING OR IN A FLANGED FRAME FOR PLASTER OR GYPSUM CEILING MOUNTING. GRILLES SHALL LAY ON INVERTED T-BAR CEILING SUSPENSION SYSTEM. COLOUR SHALL MATCH ADJACENT CEILING TILES. E.H. PRICE SERIES 80, NAILOR 5100 SERIES, KRUEGER EGC5
- 12.8. TRANSFER GRILLES FOR TRANSFER FANS SHALL BE STANDARD SINGLE DEFLECTION FIXED BLADE TYPE. FINISH SHALL MATCH WALL. E.H. PRICE MODEL 535/F/L/0M. NAILOR 6155H/V. KRUEGER S85
- 12.9 COLOUR OF DIFFUSERS SHALL MATCH COLOUR OF CEILING THE IN LAY-IN CEILINGS. DIFFUSERS TO SUIT CEILING GRID AS REQUIRED IMPERIAL OR METRIC 12.10. WHERE DIFFUSERS OR GRILLES ARE PROVIDED IN T-BAR CEILINGS, PROVIDE LAY-IN TYPE, AND WHERE LOCATED IN DRYWALL PROVIDE SURFACE MOUNTED. REVIEW
- CEILING TYPES WITH THE DESIGNER'S REFLECTED CEILING PLAN PRIOR TO ORDERING THESE ITEMS. 12.11. WHERE RIGID DUCT IS CONNECTED TO THE DIFFUSER, GRILLE OR REGISTER ALL DEVICES USED FOR FLOW PATTERN ADJUSTMENT AND FLOW BALANCING SHALL BE ACCESSIBLE FROM THE FACE OF THE DIFFUSER
- 12.12. REFER TO THE ARCHITECTURAL DRAWINGS FOR ACTUAL LOCATIONS OF DIFFUSERS, GRILLES AND REGISTERS AND INSTALL TO SUIT THESE DRAWINGS. THE MECHANICAL DRAWINGS SHOW INTENT AND NUMBER OF DIFFUSERS, GRILLES AND REGISTERS REQUIRED.
- 13.1. FANS SHALL BE AS MANUFACTURED BY PENN, REVERSOMATIC OR GREENHECK. FANS SHALL BE CENTRIFUGAL TYPE MOUNTED IN A GALVANIZED STEEL ACOUSTICALLY INSULATED HOUSING AND SHALL BE INTERNALLY ISOLATED. FANS SHALL BE A M.C.A. CERTIFIED AND U.L. LABELLED. CASING SHALL BE ARRANGED FOR IN-LINE INSTALLATION. ACCESS SHALL BE PROVIDED THROUGH THE CASING TO SERVICE BOTH FAN AND MOTOR. INLET AND DISCHARGE SHALL BE FLANGED FOR DUCT CONNECTIONS. DISCHARGE SHALL BE COMPLETE WITH BACKDRAFT DAMPER. MOTORS SHALL BE PRE-WIRED TO TERMINAL BOX LOCATED ON THE UNIT HOUSING. SPEED CONTROL SHALL BE WALL MOUNTED AND EQUAL TO PENN, LEK-TROL VARIABLE SPEED/OFF SOLID STATE CONTROLLER. ALL INTAKE AND DISCHARGE
- DUCTWORK SHALL HAVE 1 IN. (25 MM) THICK ACOUSTIC LINING. 13.2. SPEED CONTROL SWITCH TO BE SUPPLIED ONLY. ELECTRICAL CONTRACTOR (DIVISION 16) TO INCLUDE FOR WALL MOUNTING AND WIRING
- 13.3. FANS SHALL BE AS FOLLOWS:

ROOM EXHAUST FANS

- 13.4. INLINE FANS (COMPLETE WITH INLET AND OUTLET DUCT CONNECTIONS) PENN ZEPHYR.
- "TF- 1" MODEL Z8S-TDA, 75L/S @ 0.25 IN. ESP "TF- 2 "MODEL Z6S-TDA, 20L/S @ 0.25 IN. ESP
- 14. FORCE FLOW HEATER
- 14.1. HEATER SHOWN AS FFH-1 SHALL BE SUPPLIED AND INSTALLED BY ELECTRICAL DIVISION.
- 15. CONTROLS (DDC) 15.1. ALL CONTROLS SHALL BE SUPPLIED AND INSTALLED BY THE BASE BUILDING CONTROL MANUFACTURER AND APPROVED BY THE LANDLORD.
- 15.2. PROVIDE AND INSTALL A COMPLETELY FUNCTIONAL CONTROL SYSTEM THAT INCLUDES SHOP DRAWINGS, OPERATING AND MAINTENANCE MANUALS, MATERIAL AND
- **EQUIPMENT AND ELECTRICAL INSTALLATION** 15.3. PROVIDE ALL NECESSARY CONDUIT AND WIRE TO PROVIDE A COMPLETE OPERATIONAL SYSTEM.
- 15.4. ALL WIRING, EXCEPT IN THE CEILING PLENUMS, SHALL BE INSTALLED IN EMT CONDUIT. REFER TO THE DIVISION 16000 SPECIFICATION FOR THE CONDUIT
- TIE WRAPPED TO CONDUIT MOUNTED TO THE BUILDING STRUCTURE BUT MUST BE INSTALLED ON RIGHT ANGLES OR PARALLEL TO THE BUILDING WALLS. LOOSE WIRING SHALL ONLY BE ALLOWED OVER A DISTANCE OF 5 FEET BUT MUST NOT PASS OVER LIGHT FIXTURES. 15.6. NEW LOCATIONS OF TEMPERATURE SENSORS ARE INDICATED ON THE DRAWINGS, CONFIRM FINAL LOCATIONS WITH THE CONSULTANT BEFORE INSTALLATION.

15.5. LOW VOLTAGE WIRING WITH THE CEILING PLENUM MAY BE FT6 PLENUM RATED CABLE, WHERE ACCEPTED BY THE LOCAL AUTHORITIES. THE CABLE SHALL BE NEATLY

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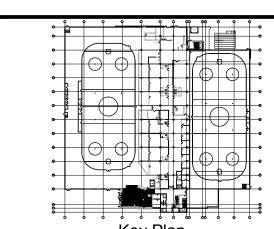
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Key Plan Issued for Tender 2018-01-18 Issued for Permit and Tender 2018-01-03 Issued for 90% Client Review 2017-12-19 2017-12-06 Issued for 66% Client Review DATE: (Y/M/D) MILESTONE / FAIT SAILLANT

RAWN BY / DESSINE PAR AS SHOWN 1 DRAWING TITLE

HIS DRAWING IS THE PROPERTY OF OPYRIGHT IS RESERVED. IMENSIONS ON DRAWING ARE FOR ESTIMATING PURPOSES ONLY, IT IS THE RESPONSIBLITY OF EACH CONTRACTOR AND SUB-CONTRACTOR OR CONSULTANT TO CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE, NOTIFY OWNER

CE DESSIN CONSTITUE LA PROPRIÉTÉ DE LA VILLE D'OTTAWA ET TOUT DRO D'AUTEUR EST RÉSERVÉ. LES DIMENSIONS UTILISÉES LE SONT À DE FINS D'ESTIMATION SEULEMENT. IL INCOMBE À CHAQUE ENTREPRENEUE SOUS-CONTRACTANT OU CONSULTAN DE VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIEF VELIILLEZ INFORMER LE PROPRIÉTAIR DE TOUTE ERREUR OU OMISSION O COMMENCING THE WORK. DO NOT AVANT D'ENTAMER LES TRAVAUX. NI

DRESSEZ PAS LES PLANS À L'ÉCHELLE



Smith + Andersen

1600 Carling Avenue, Suite 530 Ottawa Ontario K1Z 1G3 613 230 1186 f 613 230 2598 smithandandersen.com

ONSULTANT / EXPERT-CONSEIL CONSULTANT / EXPERT-CONSEI

PROJECT/LOCATION / PROJET/ENDROIT

Councillors Office

100 Charlie Rodgers Place, Basement

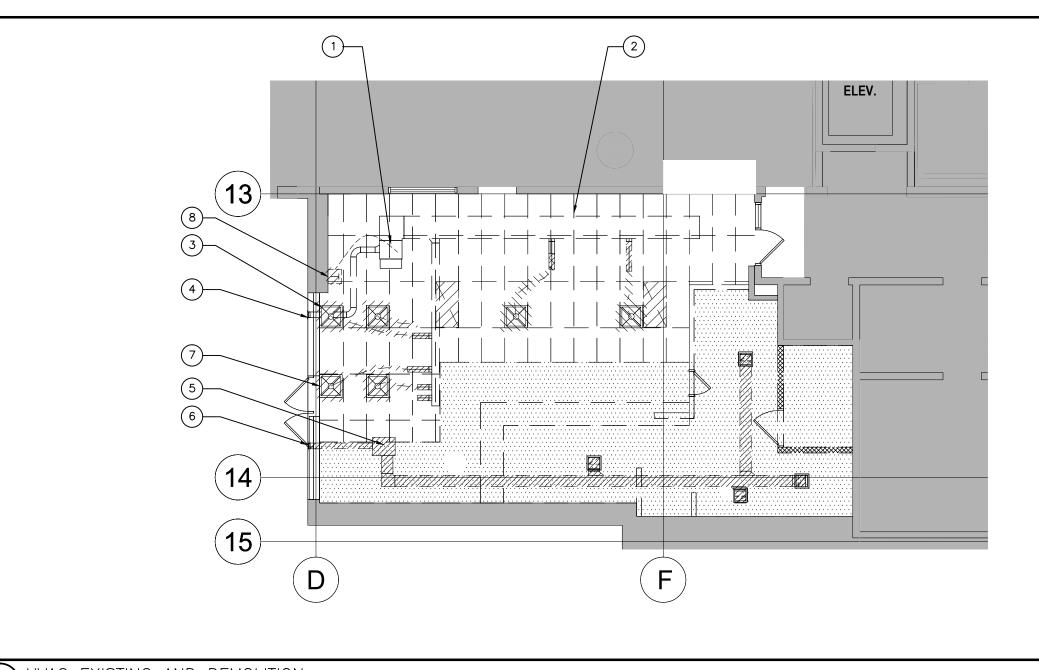
MECHANICAL **SPECIFICATION**

OTTAWA, ONTARIO

SHEET NO. / FEUILLE No. FACILITY NO. / NO. DE INSTALLTIONS

17516.001

XXXX



HVAC EXISTING AND DEMOLITION

(1) EXISTING TERMINAL UNIT TO REMAIN.

(2) SUPPLY DUCTWORK TO REMAIN.

(3) EXISTING OUTDOOR AIR DUCT TO REMAIN.

(4) EXISTING LOUVRE ON EXTERIOR OF BUILDING TO REMAIN.

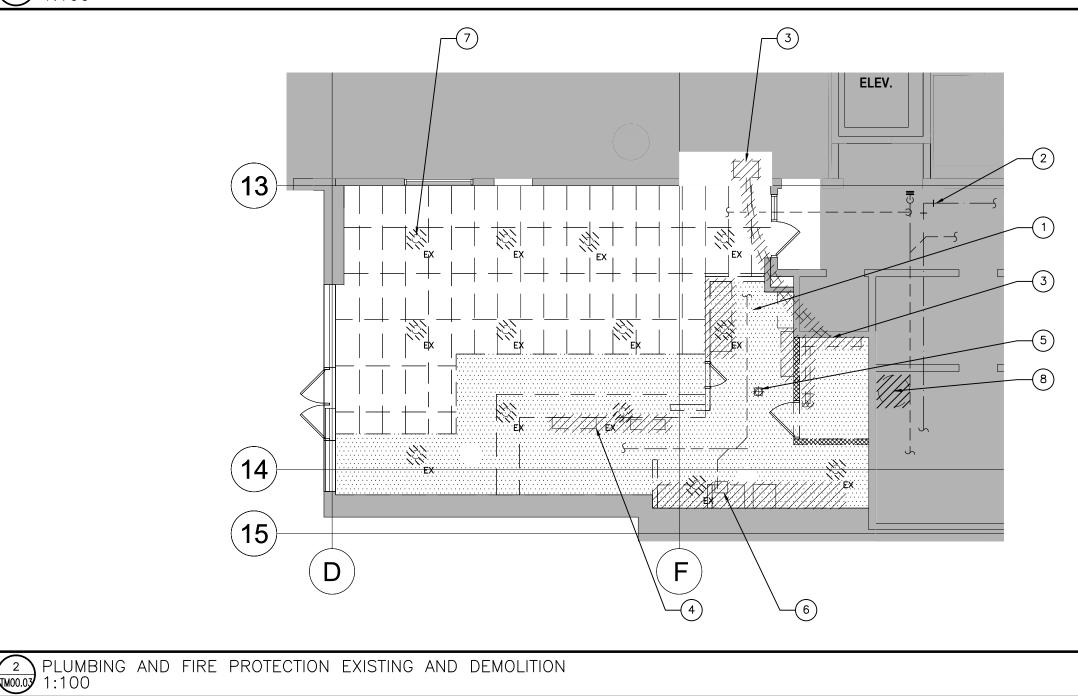
REMOVE EXISTING EXHAUST FAN, DUCTWORK, CEILING GRILLES. REMOVE ALL HANGERS ETC ASSOCIATED WITH THIS DUCTWORK.

(6) EXISTING LOUVRE ON EXTERIOR OF BUILDING FOR EXHAUST DUCT TO REMAIN. CAP, INSULATE AND SEAL DUCT AT INSIDE OF WALL IN CEILING. (7) REMOVE EXISTING DIFFUSER AND FLEX DUCT BACK TO EXISTING RIGID DUCT. RETAIN RIGID DUCT FOR REUSE.

(8) REMOVE EXISTING THERMOSTAT FOR RELOCATION. REFER TO DETAIL 3 THIS DRAWING FOR NEW LOCATION.

1 HVAC EXISTING AND DEMOLITION

3 HVAC, PLUMBING AND FIRE PROTECTION NEW



PLUMBING AND FIRE PROTECTION EXISTING AND DEMOLITION

(1) APPROXIMATE LOCATION OF EXISTING SANITARY UNDER SLAB PIPING TO REMAIN.

(2) APPROXIMATE LOCATION OF EXISTING DOMESTIC COLD WATER TO REMAIN.

3 REMOVE EXISTING COMPRESSOR, INTERIOR COOLING UNIT, PIPING ETC FOR WALK IN COOLER. TURN ALL EQUIPMENT OVER TO BUILDING OPERATIONS.

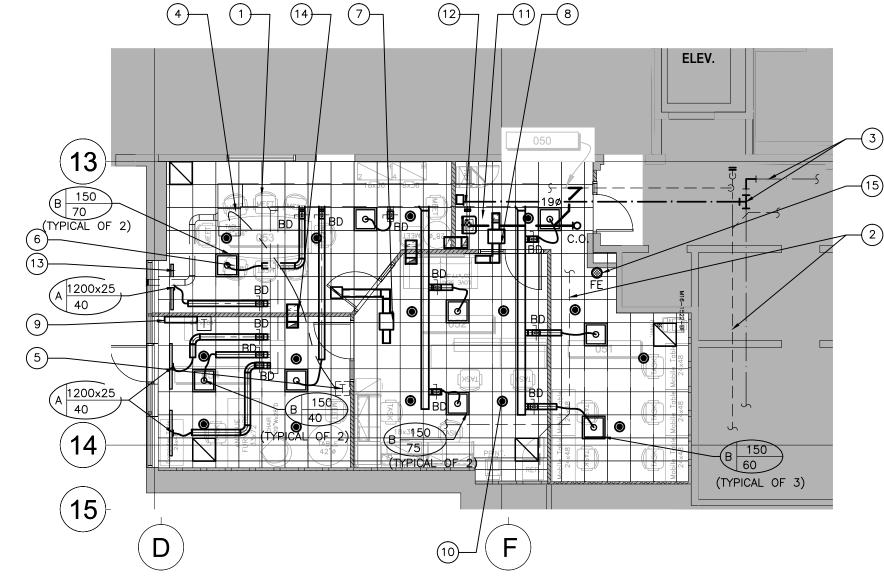
REMOVE EXISTING BAR AND KITCHEN EQUIPMENT THROUGHOUT SPACE, REMOVE ALL SUPPLY PIPING BACK TO SOURCE AND CAP. CAP SANITARY PIPING BELOW FLOOR SLAB. TURN ALL EQUIPMENT OVER TO BUILDING OPERATIONS.

(5) REMOVE FLOOR DRAIN, CAP FLUSH WITH EXISTING FLOOR.

6 REMOVE AND DISPOSE OF GREASE INTERCEPTOR. CAP PIPING BELOW FLOOR SLAB. REFER TO STRUCTURAL CONSULTANTS' DRAWINGS FOR INFILL INSTRUCTIONS.

(7) REMOVE ALL SPRINKLER HEADS.

(8) REMOVE EXISTING ELECTRIC HOT WATER TANK. REMOVE PIPING BACK TO SOURCE AND CAP.



NEW WORK HVAC, PLUMBING AND FIRE PROTECTION

(1) EXISTING DUCTWORK TO REMAIN.

(2) APPROXIMATE LOCATION OF EXISTING SANITARY UNDER SLAB PIPING TO REMAIN.

(3) APPROXIMATE LOCATION OF EXISTING DOMESTIC COLD WATER TO REMAIN. CONNECT NEW 190 TO EXISTING MAIN AT THIS APPROXIMATE LOCATION.

7 SUPPLY AND INSTALL NEW 75L/S TRANSFER FAN TF-1 SHALL BE PEN ZEPHYR Z8S (TDA) COMPLETE WITH SPEED SWITCH FOR MEETING ROOM. 150X150 LINED DUCTWORK AND 150X150 CEILING GRILL.

8 SUPPLY AND INSTALL NEW 20L/S TRANSFER FAN TF-2 SHALL BE PEN ZEPHYR Z6S (TDA) COMPLETE WITH SPEED SWITCH FOR KITCHENETTE. 150X150 LINED DUCTWORK AND 150X150 CEILING GRILL.

WATER PIPING TO NEW WATER HEATER.

SUPPLY AND INSTALL NEW LINEAR DIFFUSERS, DUCTWORK, BALANCING DAMPERS ETC. INSTALL LINEAR IN NEXT TILE AWAY FROM BULKHEAD AND ADJUST AIR DEFLECTOR FOR BETTER AIR DISTRIBUTION ON WINDOW BELOW.

(15) SUPPLY AND INSTALL NEW FIRE EXTINGUISHER WALL MOUNTED C/W BRACKET.

(4) EXISTING TERMINAL UNIT TO REMAIN.

5 NEW LOCATION OF EXISTING THERMOSTAT FOR TERMINAL UNIT.

6 SUPPLY AND INSTALL NEW SQUARE PLAQUE DIFFUSERS, DUCTWORK, BALANCING DAMPERS ETC.

9 NEW ELECTRIC FORCE FLOW HEATER WITH EXTERNAL THERMOSTAT SUPPLIED AND INSTALLED BY ELECTRICAL. INSTALL THERMOSTAT ON WALL ABOVE HEATER. REFER TO ELECTRICAL DRAWINGS FOR DETAILS. CONTRACTOR TO COORDINATE EXACT LOCATION OF THERMOSTAT ON SITE WITH DESIGNER.

SUPPLY AND INSTALL NEW FULLY RECESSED SPRINKLER HEADS. COLOUR OF CAP TO MATCH CEILING TILE. MODIFY/EXTEND EXISTING SPRINKLER PIPING TO ACCOMMODATE LOCATION AND NEW CEILING HEIGHT.

SUPPLY AND INSTALL NEW CS-1 SINK AND TRIM. CONNECT 38mm DRAIN TO EXISTING UNDER SLAB SANITARY AND 19mm DOMESTIC COLD WATER PIPING TO EXISTING DOMESTIC COLD WATER. CONNECT 12mm DOMESTIC HOT

SUPPLY AND INSTALL NEW WH-1 ELECTRICAL WATER HEATER, DRIP TRAY AND WATER LEAK PROTECTION UNIT UNDER COUNTER IN CABINET BESIDE SINK PROVIDE ALL PIPING REQUIRED. CONFIRM WITH ARCHITECTURAL FOR EXACT LOCATION. ENSURE EASY ACCESS FOR SERVICING AND REPLACEMENT IS MAINTAINED.

(14) SUPPLY AND INSTALL NEW 300X250 LINED TRANSFER DUCTS (TYPICAL OF 3).

SPRINKLER CONTRACTOR TO PROVIDE ENGINEER STAMPED SPRINKLER DRAWINGS AND HYDRAULIC

CALCULATIONS. SPRINKLER SYSTEM TO BE DESIGNED TO NFPA 13 STANDARD, LATEST EDITION. AT THE COMPLETION OF THE PROJECT, SPRINKLER

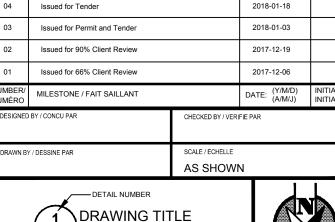
REPORT CONFIRMING INSTALLATION OF SEISMIC AT THE COMPLETION OF PROJECT SPRINKLER CONTRACTOR TO PROVIDE AN ENGINEERED SIGNED AND SEALED LETTER OF CONFIRMATION.

CONTRACTOR TO PROVIDE AN ENGINEER STAMPED

PLANS FACILITY NO. / NO. DE INSTALLTIONS SHEET NO. / FEUILLE No.

TM00.03





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CE DESSIN CONSTITUE LA PROPRIÉTÉ DE LA VILLE D'OTTAWA ET TOUT DROI

FINS D'ESTIMATION SEULEMENT. IL INCOMBE À CHAQUE ENTREPRENEUR SOUS-CONTRACTANT OU CONSULTANT

ET LES CONDITIONS SUR LE CHANTIER

VEUILLEZ INFORMER LE PROPRIÉTAIR DE TOUTE ERREUR OU OMISSION

AVANT D'ENTAMER LES TRAVAUX. NE DRESSEZ PAS LES PLANS À L'ÉCHELLE

CONSULTANT / EXPERT-CONSEIL

D'AUTEUR EST RÉSERVÉ. LES DIMENSIONS UTILISÉES LE SONT À DES

Corporate Real Estate Office / Bureau biens immobiliers

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Councillors Office

100 Charlie Rodgers Place, Basement OTTAWA, ONTARIO

MECHANICAL EXISTING,

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OR CONSULTANT TO CHECK AND