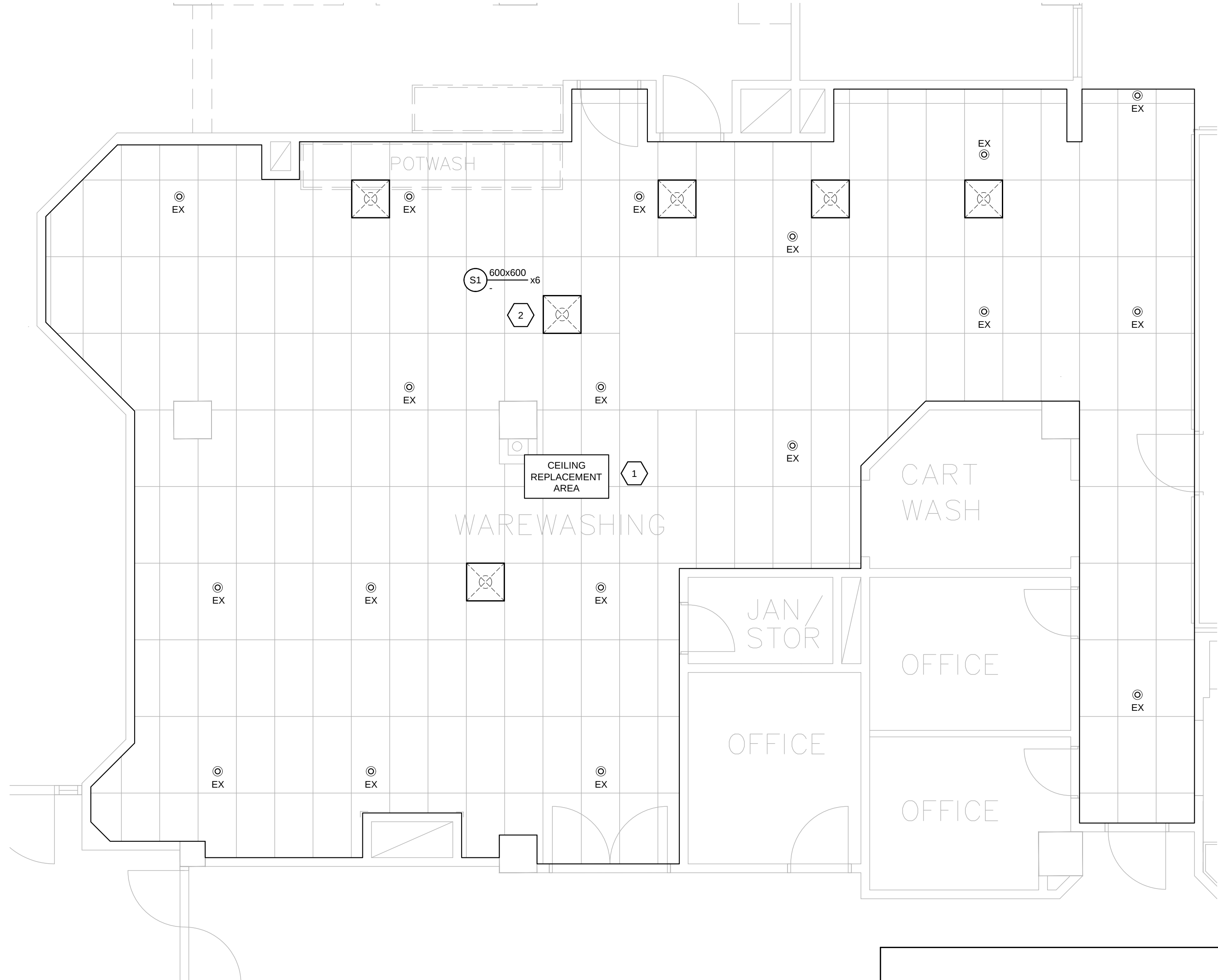


FOOD SERVICE EQUIPMENT SCHEDULE																
DWG REF	MODEL	QTY.	DESCRIPTION	PLUMBING										MECHANICAL		REMARKS
				PCW SIZE (MM)	PHW SIZE (MM)	DIR. WASTE SIZE (MM)	INDIR. WASTE SIZE (MM)	FILTERED WATER		STEAM		CONDENSATE		HVAC EXHAUST		
								SUPPLY SIZE (MM)	FLOW (L/S)	MACHINE SIZE (MM) 160 KG/H AT 15-50 PSI	BLOWER SIZE (MM) 20.5 KG/H AT 15-30 PSI	MACHINE SIZE (MM)	BLOWER SIZE (MM)	VOLUME (L/S)	STATIC PRESSURE (KPA)	
DW-1	EUCCW6 PRO	1	DISHWASHER	13	19	50	19	13	0.061	50	19	25	13	140 (LOAD)	0.06	SUPPLIED BY OTHERS
														376 (UNLOAD)	0.06	

GENERAL NOTES:

- CONDENSATE LINES & P-TRAPS BY THIS CONTRACTOR.
- PROVIDE ALL FINAL CONNECTIONS BETWEEN ROUGH-IN POINTS, EQUIPMENT, AND ANY INTERCONNECTING BETWEEN EQUIPMENT AND/OR COMPONENTS.
- PROVIDE ALL PRESSURE REGULATING VALVES, BACKFLOW PREVENTERS, CHECK VALVES, SIGHT GAUGES AND SHUTOFF VALVES AS REQUIRED.
- PROVIDE PRVS ON DCW & DHW IF WATER SUPPLY PRESSURE EXCEEDS 40 PSI.



PARTIAL LEVEL 0 FLOOR PLAN - FIRE PROTECTION

SCALE: 1:50

DRAWING NOTES (INDICATED WITH HEXAGONS):

- REMOVE AND REPLACE ALL EXISTING ESCUTCHEON PLATES IN CEILING REPLACEMENT AREA (TYP. 18. VERIFY COUNT ON SITE).
- REMOVE EXISTING DIFFUSERS. PROVIDE S1 TYPE DIFFUSERS (TYP. 6. VERIFY COUNT ON SITE).

GENERAL NOTES: (APPLICABLE TO ALL DRAWINGS)

- THESE DRAWINGS ARE AN INTEGRAL PART OF THE SPECIFICATIONS WHICH ACCOMPANY THEM.
- ALL MATERIALS AND WORKMANSHIP SHALL BE NEW UNLESS NOTED OTHERWISE, FREE OF DEFECTS, AND COMPLY WITH ALL APPLICABLE STANDARDS.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE
- INSTALL DUCTWORK / PIPING TIGHT TO UNDERSIDE OF STRUCTURE UNLESS NOTED OTHERWISE.
- DO NOT SCALE DRAWINGS. OBTAIN ALL DIMENSIONS FROM EXISTING ARCHITECTURAL PLANS, SITE INSPECTIONS, AND MANUFACTURER'S SHOP DRAWINGS.
- ALL NECESSARY CUTTING / PATCHING FOR MECHANICAL WORK SHALL BE PROVIDED BY APPROPRIATE TRADE(S) AT CONTRACTOR'S EXPENSE UNLESS NOTED OTHERWISE.
- MAKE GOOD ALL BUILDING COMPONENTS DAMAGED BY WORK OF THIS TRADE TO THE CONSULTANT SATISFACTION.
- PROVIDE ALL SLEEVES, INSERTS AND HANGERS REQUIRED FOR THE WORK. TREAT ALL SLEEVES OR HOLES PIERCING ACOUSTICAL SEPARATIONS FOR INSTALLATIONS OF THIS DIVISION TO MAINTAIN ACOUSTICAL RATING. ALL GAPS SHALL BE PACKED WITH ACOUSTICAL INSULATION AND SEALED AT BOTH ENDS WITH ACOUSTICAL CAULKING. PATCH ALL OPENINGS AROUND INSTALLATIONS OF THIS DIVISION PIERCING FIRE OR SMOKE SEPARATIONS WITH AN APPROVED WATERTIGHT SMOKE AND FIRE STOP SEALANT.
- INSTALL ALL EQUIPMENT & ASSOCIATED DUCTWORK, PIPING, APPURTENANCES TO PROVIDE MAINTENANCE ACCESS.
- COORDINATE ALL WORK WITH OTHER TRADES AND SUPPLIERS/MANUFACTURERS TO AVOID INTERFERENCES AND CONFLICTS BETWEEN SERVICES. PLAN WORK WELL IN ADVANCE TO ELIMINATE INSTALLATION AND COORDINATE DIFFICULTIES. COOPERATE WITH OTHER TRADES ON SITE TO RESOLVE INTERFERENCES TO SATISFACTORILY COMPLETE THE PROJECT.
- BACKFLOW PREVENTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD 864
- DEBRIS WILL BE KEPT TO A MINIMUM. ON COMPLETION OF CONSTRUCTION AND PRIOR TO THE FINAL INSPECTION AND ACCEPTANCE BY THE OWNER, SITE SHALL BE CLEANED AND ALL SCRAP MATERIALS RESULTING FROM THE WORK SHALL BE REMOVED.
- PRIOR TO THE FINAL INSPECTION, ALL EQUIPMENT SHALL BE CLEANED. ALL CONSTRUCTION DUST AND DIRT SHALL BE REMOVED FROM INSTALLED EQUIPMENT AT THE END OF THE JOB.
- DIVISION 22 CONTRACTOR TO SUBMIT CITY OF KINGSTON PLUMBER VERIFICATION FORM PRIOR TO CONSTRUCTION START.
- EXISTING INSTALLATIONS SHOWN FOR GENERAL REFERENCE ONLY. ATTEND SITE TO ASSESS WORK PRIOR TO BID SUBMISSION. INCLUDE ALL COSTS TO MODIFY AND / OR EXTEND NEW WORK AS REQUIRED TO MEET DESIGN INTENT. VERIFY ALL EXISTING DUCT / PIPE SIZES & CLEARANCES ON SITE.
- ALL EXISTING MECHANICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE
- OPERATION OF EXISTING MECHANICAL EQUIPMENT TO REMAIN SHALL BE VERIFIED. DEFICIENCIES SHALL BE REPORTED TO CONSULTANT.
- SCHEDULE AND PHASE WORK TO REDUCE INTERFERENCE AND DOWNTIME OF EXISTING SYSTEMS. NOTIFY OWNER'S REPRESENTATIVE OF ALL DOWNTIME PRIOR TO PROCEEDING WITH WORK.
- WHERE REPLACEMENT EQUIPMENT EXPOSES PREVIOUSLY UNFINISHED SURFACES, FINISH TO MATCH ADJACENT ASSEMBLIES.
- ALLOW FOR SCOPING OF EXISTING CONCEALED DRAINAGE PIPING TO VERIFY LOCATION & ROUTING.

GENERAL DEMOLITION NOTES: (APPLICABLE TO ALL DRAWINGS)

- ALL EXISTING EQUIPMENT TO REMAIN UNLESS IDENTIFIED OTHERWISE ON THE DRAWINGS. GENERAL NOTES OR SPECIFICATIONS.
- EXTENTS OF DEMOLITION SHOWN ARE APPROXIMATE AND THIS TRADE IS RESPONSIBLE FOR ALL DEMOLITION REQUIRED TO MEET DESIGN INTENT.
- REMOVE ALL UNUSED, ABANDONED OR REDUNDANT PIPING, HANGERS, & ACCESSORIES BACK TO SOURCE & CAP.
- COORDINATE WITH FACILITY MAINTENANCE DEPARTMENT FOR DISPOSAL OF REMOVED DEVICES. DISPOSE OF ALL UNWANTED DEVICES AS REQUIRED AS PER FACILITY STANDARDS.

PIPING LEGEND	
ITEM	DESCRIPTION
—	NEW ITEM
---	EXISTING ITEM TO REMAIN
- - - -	EXISTING ITEM TO BE REMOVED
- - - - -	BELOW FLOOR PIPING
---	POTABLE (DOMESTIC) COLD WATER (DCW)
---	POTABLE (DOMESTIC) HOT WATER (DHW)
---	POTABLE (DOMESTIC) HOT WATER RETURN (DHW/R)
—SAN—	SANITARY DRAIN
—CO—	CONDENSATE DRAIN
—STM—	STEAM
—	STEAM CONDENSATE
⊙	SPRINKLER HEAD
⊕	GATE VALVE
⊖	BALL VALVE
⊗	BUTTERFLY VALVE
⊙	GLOBE VALVE
⊙	PUMP
⊙	ELBOW TURNED UP
⊙	ELBOW TURNED DOWN
⊙	PIPE CAP
⊙	PIPE SINGLE LINE CUTOFF
⊙	FLOOR CLEAN OUT
⊙	WALL CLEAN OUT
⊙	FLOOR DRAIN; FFD; FUNNEL FLOOR DRAIN; HD: HUB DRAIN
⊕	NEW CONNECTION TO EXISTING
THIS IS A STANDARD LEGEND. ALL SYMBOLS MAY NOT NECESSARILY BE USED ON DRAWINGS.	

DUCTWORK LEGEND	
SYMBOL	DESCRIPTION
—	NEW ITEM
---	EXISTING ITEM TO REMAIN
- - - -	EXISTING ITEM TO BE REMOVED
REL	EXISTING ITEM TO BE RELOCATED
ER	EXISTING ITEM IN RELOCATED POSITION
EX	EXISTING ITEM TO REMAIN
OED	OPEN ENDED DUCT
⌈ ⌋	DUCTWORK SHOWN DOUBLE LINE
Ⓡ	REVERSE ACTING THERMOSTAT
Ⓡ	THERMOSTAT/TEMPERATURE SENSOR
Ⓡ	NEW CONNECTION TO EXISTING
TC	TIMECLOCK
⌈ ⌋	FLEXIBLE DUCT CONNECTION
⊗	DUCT DOWN - POSITIVE / NEGATIVE PRESSURE
⊗	DUCT UP - POSITIVE / NEGATIVE PRESSURE
⊗	SUPPLY AIR GRILLE
⊗	RETURN AIR GRILLE
⊗	INTERNALLY INSULATED DUCT
⊗	EXTERNALLY INSULATED DUCT
?	DRAWING NOTE TAG
?	DIFFUSER TAG
?	DIFFUSER/GRILLE SIZE (AND NECK SIZE WHERE APPLICABLE)
?	AIR VOLUME (CFM OR L/S AS INDICATED)
?	DIFFUSER/GRILLE DESIGNATION (REFER TO SCHEDULE FOR TYPE)
?	EQUIPMENT TAG
?	EQUIPMENT TYPE
?	EQUIPMENT NUMBER (REFER TO SCHEDULES FOR INFO)
THIS IS A STANDARD LEGEND. ALL SYMBOLS MAY NOT NECESSARILY BE USED ON DRAWINGS.	

DIFFUSER SCHEDULE				
DWG REF	MANUF.	MODEL	FINISH	REMARKS
S1	PRICE	SPD	WHITE	SQUARE PLAQUE DIFFUSER, STEEL CONSTRUCTION.
GENERAL NOTE: MOUNTING FRAME TO SUIT CEILING TYPES. SEE ARCHITECTURAL REFLECTED CEILING PLAN DRAWINGS FOR CEILING TYPES. PROVIDE INTEGRAL FIRE STOP FLAPS WHERE FIRE DAMPERS ARE INDICATED ON DRAWINGS.				
ALTERNATE MANUFACTURERS: KREUGER, METALAIRE, NAILOR, TITUS, TUTTLE & BAILEY.				

PLUMBING FIXTURE SCHEDULE				
DWG REF	DESCRIPTION			
EWS-1	WALL MOUNTED EYE/FACE WASH, ABS PLASTIC 279mm (11") BOWL, MSR EYE/FACE WASH HEAD, PLASTIC POP-OFF DUST COVERS - DIRECTIONAL LAMINAR FLOW, INTEGRAL 3.7 GPM FLOW CONTROL, CHROME PLATED BRASS STAY-OPEN BALL VALVE, STAINLESS STEEL BALL / STEM, TAIL PIECE / TRAP, CHROME-PLATED BRASS IN LINE MESH WATER STRAINER, CAST-ALUMINUM CHROMATE PROTECTED WALL BRACKET, UNIVERSAL SIGN. HAWS AXION MSR 7260BT-7270BT C/W THERMOSTATIC EMERGENCY MIXING VALVE - AXION 9201EW.			COLD [in.] (mm) 1/2" (13) HOT [in.] (mm) 1/2" (13) DRAIN [in.] (mm) 1-1/4" (32)
FFD	FLOOR DRAIN	FLOOR DRAIN- EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY AND SECONDARY WEEPHOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, AND NO HUB (STANDARD) OUTLET. WATTS DRAINAGE : FD-100-NH-A. WHERE FFD IS INDICATED, PROVIDE C/W 5" NICKEL BRONZE FUNNEL.	---	---

EXHAUST FAN SCHEDULE																			
<u>ACCESSORIES:</u> 1. HANGER RODS 2. HANGING VIBRATION ISOLATORS 3. BASE ISOLATOR KIT 4. FLEXIBLE CONNECTIONS - INLET AND/OR OUTLET 5. MOTORIZED BACKDRAFT DAMPER COORDINATE OPERATING VOLTAGE W/ DIV.16 6. ROOF CURB TO BE PROVIDED BY GENERAL CONTRACTOR AS DETAILED ON ARCHITECTURAL DWGS.					7. 18" ROOF CURB BY FAN MANUFACTURER 8. DISCONNECT SWITCH 9. BELTS, DRIVES, AND PULLEYS 10. BIRDSCREEN 11. TRANSFORMER AND RELAY FOR 24V CONTROL 12. WEATHER HOOD 13. SPEED CONTROLLER 14. WALL MOUNT CONTROL 15. BELT DRIVE MOTOR COVERS					16. INSULATED HOUSING 17. DRAIN CONNECTION 18. LOUVERED WALL BOX C/W B.D.D. 19. REVERSE ACTING THERMOSTAT 20. ECM MOTOR C/W SPEED ADJUSTMENT 21. NFPA 96 COMPLIANT W VENTED CURB, HINGED ACCESS, GREASE CAPTURE					<u>CONTROL</u> LGT: ENERGIZE WITH ROOM LIGHTING TMR: TIME CLOCK MSW: MANUAL SWITCH BAS: BUILDING AUTOMATION SYSTEM RAT: REVERSE ACTING THERMOSTAT, 120V GDC: BY GAS DETECTION CONTROLLER INT-EQMT TAG: INTERLOCKED WITH REFERENCED EQMT OTH: OTHER. SEE REMARKS				
DWG REF.	MANUF.	SERVING	MODEL	TYPE	AIRFLOW [CFM] (L/s)	ESP [in. w.c.] (Pa)	FAN POWER [BHP]	MOTOR [HP]	RPM	SOUND [SONES]	ELECTRICAL [V / Ph / Hz]	CONTROL	ACCESSORIES	REMARKS					
EF-101	GREENHECK	DISHWASHER	USF-12-B6	UTILITY	1100 (519)	2 (497.6)	0.55	3/4	1963	21	208 / 3 / 60	MSW	4.13	TOP HORIZONTAL DISCHARGE. CW DUCT DAMPER AND PNEUMATIC OPERATOR. ALL GALVANIZED SCROLL, INLET AND OUTLET CONES, ALUMINUM WHEEL.					
ALTERNATE MANUFACTURERS: AEROVENT, COOK, DELHI, FANTECH, JENCO, PENN BARRY, TWIN CITY																			



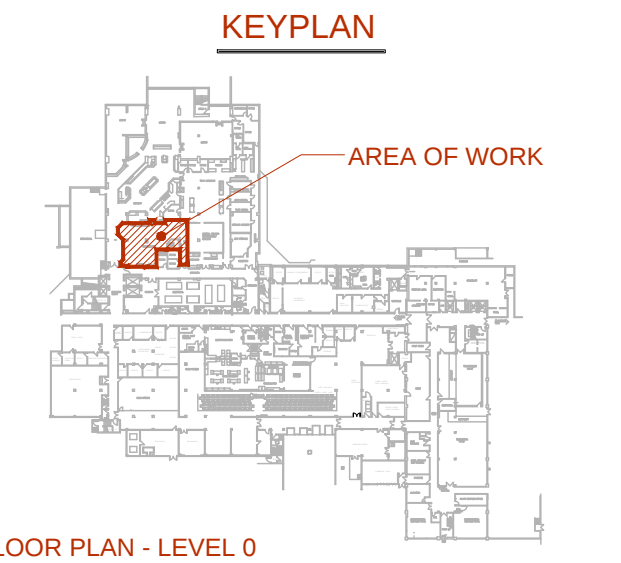
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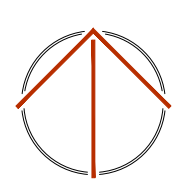


FLOOR PLAN - LEVEL 0



REVISIONS		
NO.	ISSUED FOR	DATE
00	66% CLIENT REVIEW	26.05.15
01	99% CLIENT REVIEW	26.06.11
02	TENDER	26.07.07

NORTH





DESIGN	GJM/JH	DRAWN	JH
CHECKED	GJM	REVIEWED	PBL

PROJECT

**KHSC KIDD-DAVIES
DISHWASHER ROOM RENO**

ADDRESS

**24 BARRIE ST.,
KINGSTON, ON K7L 2V7**

PROJECT NO.

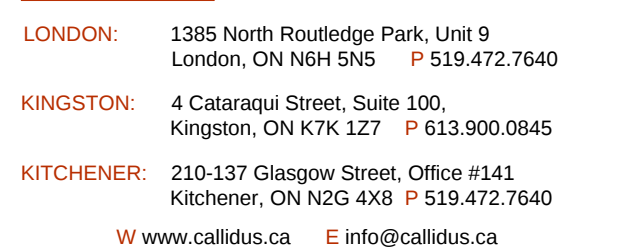
CE-6505

DRAWING TITLE

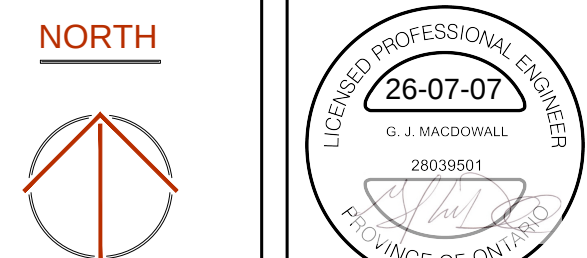
**GENERAL NOTES, LEGENDS,
SCHEDULES - MECHANICAL**

DRAWING NUMBER

M1 OF 4



REVISIONS		
NO.	ISSUED FOR	DATE
00	66% CLIENT REVIEW	26.05.1
01	99% CLIENT REVIEW	26.06.1
02	TENDER	26.07.0



DESIGN	GJM/JH	DRAWN	JH
CHECKED	GJM	REVIEWED	PBL

PROJECT

KHSC KIDD-DAVIES
DISHWASHER ROOM RENO

ADDRESS
24 BARRIE ST.,
KINGSTON, ON K7L 2V7

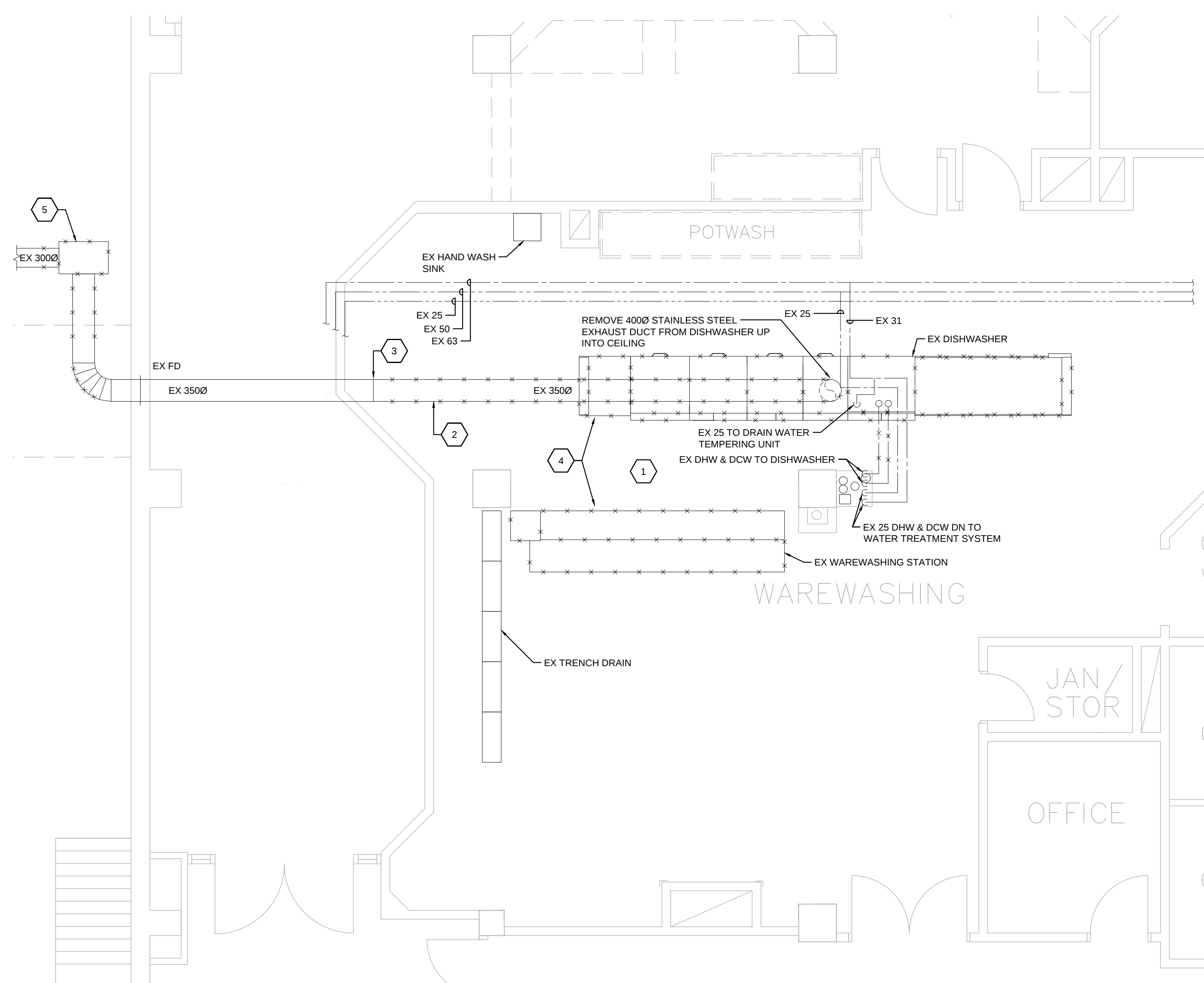
PROJECT NO.
CE-6505

DRAWING TITLE

PARTIAL LEVEL 0 REMOVAL
PLANS - PLUMBING, HVAC,
SANITARY, & STEAM

DRAWING NUMBER

M2 OF 4



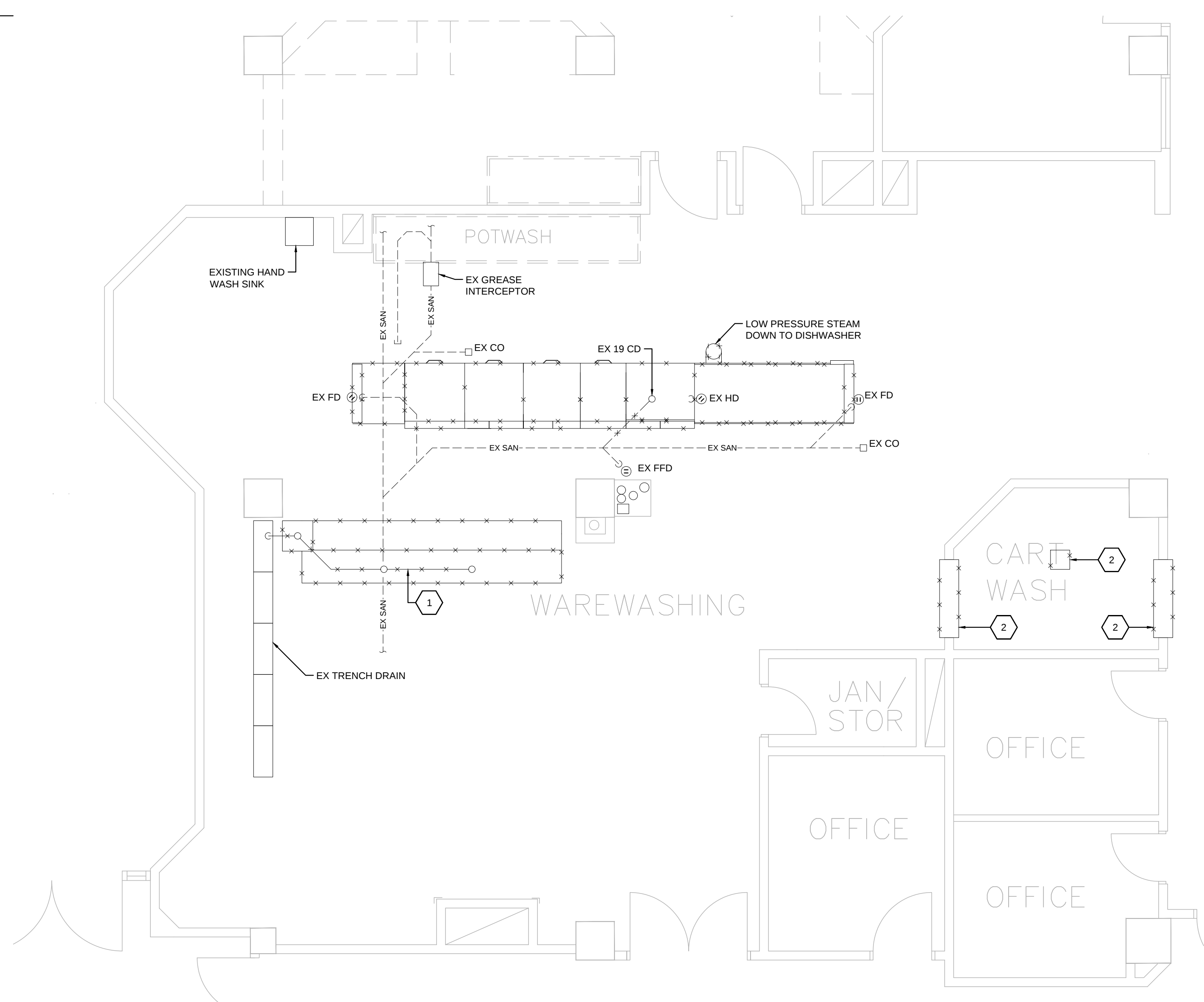
SCALE: 1:50

DRAWING NOTES (INDICATED WITH HEXAGONS)

1. DISCONNECT EX DISHWASHER AND WAREWASHING STATION AND MAKE READY FOR REMOVAL BY OTHERS
2. REMOVE AND CAP EX 400Ø EXHAUST DUCT.
3. REMOVE EX ELBOW.
4. DISHWASHER, WAREWASHING TRAY, ETC, TO BE DISCONNECTED BY GC AND EQUIPMENT REMOVED AND DISPOSED BY D/W SUPPLIER.
5. REMOVE EX EXHAUST FAN AND ASSOCIATED DUCTWORK.



SCALE: NTS



SCALE: 1:50

DRAWING NOTES (INDICATED WITH HEXAGONS)

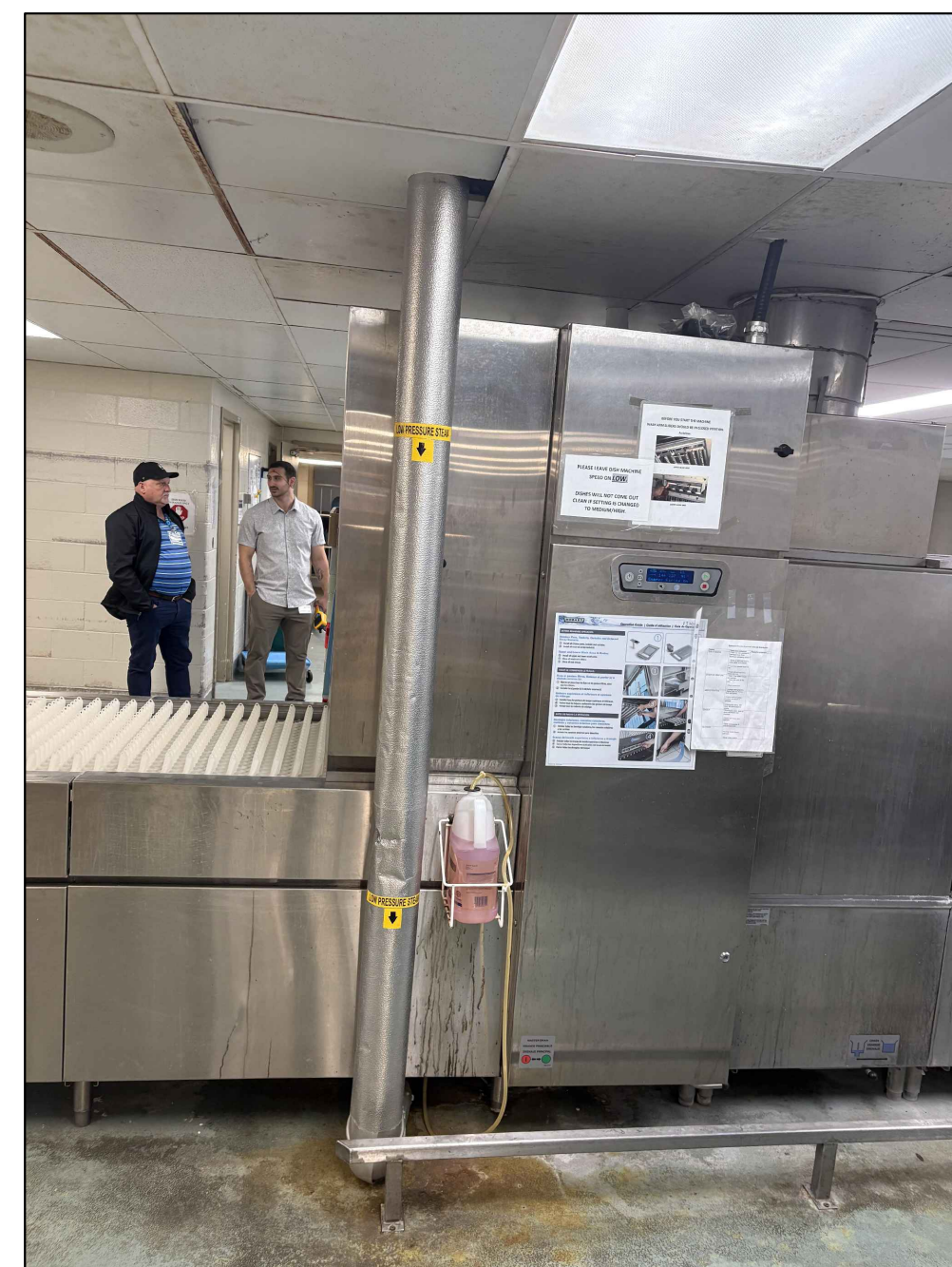
1. REMOVE ALL ABOVE GRADE SANITARY LINES ASSOCIATED WITH WAREWASHING STATION
2. REMOVE EX TRENCH DRAIN GRATES. DRAIN TO REMAIN FOR REPLACEMENT GRATES.



SCALE: NTS



SCALE: NTS



SCALE: NTS

AREA OF WORK

FLOOR PLAN - LEVEL 2

NO.	ISSUED FOR	DATE
00	66% CLIENT REVIEW	26.05.15
01	99% CLIENT REVIEW	26.06.11
02	TENDER	26.07.07



PROJECT

KHSC KIDD-DAVIES
DISHWASHER ROOM RENO

24 BARRIE ST.,
KINGSTON, ON K7L 2V7

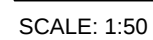
CE-6505

PARTIAL LEVEL 0 PLANS -
PLUMBING, HVAC, SANITARY, &
STEAM

M3 OF 4



1. 376 L/S 600x100 DUCT UP TRANSITION TO CONNECT TO 4000.
2. 140 L/S 600x100 DUCT UP TRANSITION TO CONNECT TO 4000.
3. DUCT SHALL RUN CONTINUOUS ELEVATION SLOPED TO DRAIN AT DW TO LOWER DICI ELEVATION TO CEILING.
4. DCW & DHW TO RUN ABOVE EQUIPMENT SPACE.
5. CONNECT 3000 TO EX WALL BOX. NEW DUCTWORK TO RUN ABOUT 7.6m.
6. PROVIDE A DRAIN SUMP IN THE BOTTOM OF THE DUCT FOR CONDENSATE COLLECTION AND ROUTE CD TO NEAREST F.F. CD LINE TO BE C/W RECTORSERIAL DRAIN TRAP.



1. CONNECT 19 STEAM RELIEF TO EX HD.
2. CONNECT 50 DRAIN TO EX FPD.
3. CONNECT PRE-RINSE SPRAY DRAIN, PULPER PUMP DISCHARGE, AND INDIRECT DRAIN TO EX TRENCH DRAIN.
4. CONNECT STEAM LINES TO EX BASE BUILDING STEAM PROVISIONS IN THE CEILING.
5. CONNECT EWS-1 TO EX SANITARY.
6. DISHWASHER TO CONNECT TO SANITARY AND NOT THE GREASE INTERCEPTOR.
7. DRAIN LINE TO CONNECT TO EX SANITARY.
8. REPLACE SINGLE TRENCH DRAIN GRATES WITH TWO EQUAL SIZED GRATES OR A SINGLE LIGHT WEIGHT GRATE.



1.	<u>MECHANICAL GENERAL REQUIREMENTS:</u>		ADDITIONAL REVISIONS, MAINTAIN AN ACCURATE RECORD OF DEVIATIONS AND CHANGES FROM CONTRACT DRAWINGS WITH RED LINE MARKINGS ON SITE AS CONSTRUCTION PROGRESSES. TRANSFER AS-BUILT MARK-UPS TO DIGITAL DRAWING FORMAT AT THE COMPLETION OF THE PROJECT. THIS PROCESS SHOULD BE COMPLETED BEFORE TESTING, BALANCING AND/OR COMMISSIONING. SUBMIT TO THE CONSULTANT WITH THE O&M MANUALS AT COMPLETION OF PROJECT.		REQUIREMENTS OF ANSI B31.1, EXCEPT AS HEREINAFTER MODIFIED. ALLOW FOR EXPANSION AND CONTRACTION BY OFFSETS, EXPANSION U-BENDS OR LOOPS. DO NOT USE EXPANSION JOINTS OF ANY TYPE UNLESS SPECIFICALLY INDICATED ON DRAWINGS.	
1.1.	<u>GENERAL:</u>		1.2.3.2.4. THE AS-BUILT DRAWINGS SHALL HAVE A VALUE OF \$5,000 UNLESS THE MECHANICAL CONTRACT VALUE IS LESS THAN \$100,000 WHICH SHALL HAVE A \$3,000 VALUE. ONCE AS-BUILT DRAWINGS HAVE BEEN COMPLETED, SUBMITTED AND REVIEWED, PAYMENT WILL BE RELEASED. THIS VALUE IS NOT INCLUDED IN THE AMOUNT REQUIRED BY THE CONSTRUCTION LINE ACT.		5.3.2.1.2.2. <u>FITTINGS:</u> SOLDER JOINT FITTINGS TO ASME B16.18 (CAST) OR B16.22 (WROUGHT) OR COLD PRESS FITTINGS WITH EPDM SEALING ELEMENT TO ASME B16.18 OR ASME B16.22. INSTALLED USING PROPER TOOL, ACTUATOR, JAWS, AND RINGS AS INSTRUCTED BY THE PRESS FITTING MANUFACTURER.	
1.1.1.	MAKE SITE VISIT(S) AS NECESSARY BEFORE BID CLOSING 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 BID PRICE. EXTRAS WILL NOT BE ALLOWED FOR FAILURE TO PROPERLY EVALUATE EXISTING CONDITIONS.		1.2.4. <u>EQUIPMENT NAMEPLATES:</u> PROVIDE LAMINATED WHITE PHENOLIC PLASTIC NAMEPLATES WITH 10 MM HIGH BLACK LETTERS FOR EQUIPMENT INSTALLED UNDER THIS DIVISION. INCLUDE EQUIPMENT NUMBER AND EQUIPMENT NAME GENERALLY AS LISTED ON DRAWING SCHEDULES. SUBMIT LIST OF NAMEPLATES TO CONSULTANT FOR REVIEW PRIOR TO FABRICATION. IF THE OWNER HAS SPECIFIC STANDARDS, FOLLOW THESE STANDARDS.		5.3.2.1.3.1. CROSSLINKED POLYETHYLENE PIPING TO CAN/CSA B137.5. PRESSURE AND TEMPERATURE RATINGS: 93°C (200°F) AT 80 PSI (551 KPA), 82°C (180°F) AT 100 PSI (689 KPA). 50 MM (2") AND SMALLER: CANULC-S102.2 LISTED TO A MAXIMUM OF 25 FLAME SPREAD / 50 SMOKE DEVELOPED WITH NO LIMITATIONS ON SPACING.	
1.1.2.	THE DRAWINGS 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. PROVIDE INSTALLATION DRAWINGS AS REQUIRED.		1.2.5. <u>MATERIALS AND EQUIPMENT - DESIGN BASIS, ALTERNATES, & SUBSTITUTIONS:</u>		5.3.2.1.3.2. SEAL PENETRATIONS AT FIRE SEPARATIONS PER CANULC-S115.	
1.1.3.	DO NOT SCALE MECHANICAL DRAWINGS. TAKE FIELD DIMENSIONS PRIOR TO ANY INSTALLATION.		1.25.1. USE MATERIALS AND EQUIPMENT AS SCHEDULED / SPECIFIED HEREIN OR SCHEDULED / SPECIFIED ALTERNATE.		5.3.2.1.3.3. PIPING WITHIN A FIRE SEPARATION PER CANULC-S101.	
1.2.	<u>DESCRIPTION:</u> PROVIDE WORK IN ACCORDANCE WITH FULL INTENT AND MEANING OF DRAWINGS AND SPECIFICATIONS. THE WORD "PROVIDE" WHERE USED IN THE CONTRACT DOCUMENTS, IS TO BE INTERPRETED AS "SUPPLY AND INSTALL" ALONG WITH ALL ASSOCIATED HARDWARE AND CONNECTIONS.		1.25.2. DESIGN BASIS MANUFACTURERS ARE THOSE NAMED IN SPECIFICATIONS OR LISTED IN DRAWING SCHEDULE MANUFACTURER (MANUF.) COLUMN.		5.3.2.1.3.4. ALL FITTINGS BY TUBING MANUFACTURER.	
1.3.	<u>WORKMANSHIP:</u> PROVIDE ALL NEW MATERIALS AND EQUIPMENT WITH THE APPROPRIATE LISTING (I.E. CSA, U.L.C, CETL, ETC.) ALL WORKMANSHIP BY THIS TRADE SHALL BE FIRST CLASS, CONFORMING TO INDUSTRY STANDARD PRACTICES FOR SAFETY, ACCESSIBILITY, DURABILITY AND NEATNESS FOR ACCEPTANCE BY THE OWNERS REPRESENTATIVES.		1.25.3. ALTERNATES: SOME ITEMS OF EQUIPMENT MAY LIST ALTERNATE MANUFACTURERS. THE DESIGN, LAYOUT, SPACE ALLOCATION, ELECTRICAL POWER, CONNECTION DETAILS, ETC., ARE BASED ON THE DESIGN BASIS MANUFACTURER. LISTING OF ALTERNATE MANUFACTURERS IS TO ESTABLISH THE QUALITY OF MANUFACTURE ONLY AND IS SUBJECT TO FINAL REVIEW OF SHOP DRAWINGS BY CONSULTANT.		5.3.2.1.3.5. 25 YEAR CSA SYSTEM WARRANTY (INCLUDING CONSEQUENTIAL) FROM INSTALLATION DATE.	
1.4.	<u>SLEEVES, HANGERS, INSERTS:</u> PROVIDE ALL SLEEVES, INSERTS AND HANGERS REQUIRED FOR THE MECHANICAL WORK. PROVIDE ALL SLEEVES OR HOLES PIERCING ACOUSTICAL SEPARATIONS FOR INSTALLATIONS OF THE DIVISION TO MAINTAIN ACOUSTICAL RATING. ALL GAPS SHALL BE PACKED WITH ACOUSTICAL INSULATION AND SEALED AT BOTH ENDS WITH ACOUSTICAL CAULKING. PATCH ALL OPENINGS AROUND INSTALLATIONS OF THIS DIVISION PIERCING FIRE OR SMOKE SEPARATIONS WITH AN APPROVED WATERTIGHT SMOKE AND FIRE STOP SEALANT.		1.25.4. SUBSTITUTIONS: ITEMS OF EQUIPMENT BY MANUFACTURERS, NOT NAMED IN THE SPECIFICATIONS OR SCHEDULES, MAY BE OFFERED AS A SUBSTITUTION. SUPPLIERS WISHING TO SUBMIT OTHER ITEMS OF EQUIPMENT FOR APPROVAL AS AN EQUAL TO THOSE SPECIFIED MUST APPLY TO THE CONSULTANT AT LEAST 10 CALENDAR DAYS BEFORE BID CLOSING DATE. REQUESTS MUST BE ACCOMPANIED BY COMPLETE DESCRIPTION AND TECHNICAL DATA ON THE ITEMS PROPOSED. DEVIATIONS FROM THE SPECIFICATIONS MUST BE STATED IN WRITING AT TIME OF APPLICATION FOR APPROVAL.		5.3.2.1.4. PVC, TO CSA B137.3 OR CSA B137.2. MINIMUM PRESSURE RATING 1,100 KPA (160 PSIG).	
1.5.	<u>INTERPRETATION:</u> DIVISION OF THE WORK AMONG SUPPLIERS OR VENDORS AND SUBCONTRACTORS IS SOLELY THE CONTRACTOR'S RESPONSIBILITY. NEITHER THE OWNER NOR CONSULTANT ASSUMES ANY RESPONSIBILITY TO ACT AS AN ARBITER TO ESTABLISH SUBCONTRACT TERMS BETWEEN SECTORS OR DISCIPLINES OF WORK.		1.25.4.1. PROPOSALS MUST BE ACCOMPANIED BY FULL DESCRIPTIVE AND TECHNICAL DATA, TOGETHER WITH THE STATEMENT OF AMOUNT OF ADDITION OR DEDUCTION FROM THE BASE BID.		5.3.2.2. <u>APPLICATION:</u>	
1.6.	<u>COORDINATION BETWEEN TRADES:</u> CO-ORDINATE THE WORK OF THIS TRADE WITH ALL OTHER TRADES ON THE JOB SO THAT THE WORK MAY PROGRESS WITHOUT ANY DELAY. SCHEDULE AND PHASE DEMOLITION AND NEW WORK, TO REDUCE INTERFERENCE AND DOWNTIME OF EXISTING SYSTEMS. NOTIFY OWNER'S REPRESENTATIVE OF ALL DOWNTIME PRIOR TO PROCEEDING WITH WORK.		1.25.4.2. AFTER EXECUTION OF THE CONTRACT, SUBSTITUTION OF EQUIPMENT WILL NOT BE CONSIDERED.		5.3.2.2.1. <u>BURIED PIPING 75 MM (3") AND SMALLER:</u>	
1.7.	<u>DISCREPANCY:</u> IF A DISCREPANCY IS FOUND IN THE SPECIFICATION OR ON THE DRAWINGS, REQUEST CLARIFICATION PRIOR TO THE END OF THE QUESTION PERIOD SO THAT CLARIFICATION CAN BE PROVIDED IN WRITING.		1.25.5. IF THE CONTRACTOR PROPOSES EQUIPMENT THAT DEVIATES FROM THE DESIGN BASIS, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LAYOUT MODIFICATIONS, STRUCTURAL ADJUSTMENTS, SPACE ALLOCATION CHANGES, AND ELECTRICAL DESIGN REVISIONS NECESSARY TO ACCOMMODATE DIFFERENCES IN WEIGHT, DIMENSIONS, ELECTRICAL REQUIREMENTS, OR ANY OTHER VARIANCES.		5.3.2.2.1.1. TYPE "K" SOFT ANNEALED COPPER TUBING WITH NO JOINTS PERMITTED BELOW GRADE. BEND TUBING USING APPROVED TUBE BENDER.	
1.8.	<u>REGULATORY REQUIREMENTS:</u> CONFORM TO GOVERNING MUNICIPAL AND PROVINCIAL CODES, RULES AND REGULATIONS AND/OR AUTHORITIES HAVING JURISDICTION.		1.3.2. <u>MECHANICAL PROJECT COMPLIANCE:</u>		5.3.2.2.1.2. TYPE "K" SOFT ANNEALED COPPER TUBING FOR TRAP SEAL PRIMER PIPING TO TRAPS INSTALLED IN CONCRETE FLOORS.	
1.9.	<u>CODES AND STANDARDS:</u>		1.3.2.1. THE FOLLOWING DOCUMENTS AND/OR CONFIRMATION IS REQUIRED TO ALLOW THE CONSULTANT TO ISSUE OUR LETTER OF GENERAL REVIEWS:		5.3.2.2.1.3. PVC WITH NO JOINTS BELOW GRADE. COLD WATER ONLY.	
1.9.1.	ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, THE ONTARIO FIRE CODE AND ANY OTHER LOCAL REGULATIONS HAVING JURISDICTION OVER THE WORK OF THIS TRADE.		MECHANICAL: - APPROVED O&Ms INCLUDING AS-BUILT DRAWINGS, START-UP, REPORTS, EQUIPMENT AND CONTRACTOR WARRANTIES		5.3.2.2.2. <u>ABOVE GROUND PIPING 75 MM (3") AND SMALLER:</u>	
1.9.2.	WHERE A CODE OR STANDARD IS REFERENCED, THE LATEST VERSION OF THE CODE OR STANDARD REFERENCED IN THE APPLICABLE BUILDING CODE IS TO BE APPLIED.		PLUMBING: - BUILDING DEPARTMENT FINAL PLUMBING INSPECTION REPORT(S) - POTABLE WATER DISINFECTION REPORT		5.3.2.2.2.1. TYPE "L" HARD DRAWN COPPER TUBING. PROVIDE SOLDER TO THREADED ADAPTERS AT SCREWED VALVES OR EQUIPMENT.	
1.10.	<u>SAFETY:</u> COMPLY WITH ALL PROVINCIAL/FEDERAL AND/OR LOCAL SAFETY REGULATIONS, INCLUDING THE OCCUPATIONAL HEALTH AND SAFETY ACT. IN ADDITION, COMPLY WITH ALL OF THE OWNER'S HEALTH AND SAFETY REQUIREMENTS.		2. <u>TESTING AND BALANCING:</u>		5.3.2.2.2.2. PEX-A FOR 38 MM (1-1/2") AND SMALLER (ON COMPLETION OF INSTALLATION THE SYSTEM SHALL BE CHARGED WITH POTABLE WATER TO A PRESSURE WHICH MEETS LOCAL PLUMBING CODES. THE SYSTEM SHALL REMAIN AT THIS PRESSURE FOR A MINIMUM OF 24 HOURS TO ENSURE SYSTEM INTEGRITY). PROVIDE COPPER STUB-OUT ELBOWS AT EACH FUTURE CONNECTION. STUB-OUT TO BE MANUFACTURED FROM SEAMLESS COPPER TUBING WITH A MACHINED ASTM F-1807 REX BARB CONNECTION AND SPIN SEALED OUTLET. FOLLOW MANUFACTURERS INSTRUCTIONS FOR INSTALLATION.	
1.11.	<u>PERMITS AND FEES:</u> OBTAIN ALL PERMITS REQUIRED FOR INSTALLATION OF MECHANICAL TRADES WORK, ARRANGE FOR INSPECTIONS TESTS THEREWITH AND PAY ALL COSTS FOR PERMITS, INSPECTIONS, AND ASSOCIATED FEES. THIS INCLUDES ANY TSSA INSPECTION AND/OR CERTIFICATION. OBTAIN PERMITS IMMEDIATELY AFTER NOTIFICATION OF AWARD OF CONTRACT.		2.1. <u>PRESSURE TESTS:</u>		5.3.2.2.2.3. JOINTS: THREADED OR AWS D1.1/D1.1M, WELDED, OR 316 STAINLESS STEEL PRESS FITTINGS WITH EPDM GASKET CERTIFIED TO TSSA ASME B31.	
1.12.	<u>TAXES:</u> ENSURE THAT PROVINCIAL AND/OR FEDERAL TAXES ARE INCLUDED WHERE REQUIRED.		2.1.1. PROVIDE PRESSURE TESTS ON ALL PIPING INCLUDED IN THIS CONTRACT. FURNISH ALL PUMPS, COMPRESSORS, GAUGES AND CONNECTORS NECESSARY FOR TESTS.		5.3.2.3. <u>STEAM, LOW PRESSURE (30 PSIG MAXIMUM):</u>	
1.13.	<u>WARRANTY:</u> PROVIDE A WRITTEN WARRANTY FOR ALL MATERIALS, EQUIPMENT AND LABOUR FOR A ONE-YEAR PERIOD TO BEGIN AT THE TIME OF SUBSTANTIAL COMPLETION. COMPLETE ALL WARRANTY REGISTRATION DOCUMENTATION ON BEHALF OF THE BUILDING OWNER. INCLUDE COPIES OF COMPLETED DOCUMENTATION IN OPERATIONS AND MAINTENANCE MANUALS.		2.1.2. CONDUCT HYDROSTATIC TESTS FOR A MINIMUM PERIOD OF 2 HOURS. DURING THIS TIME THE PRESSURE SHALL REMAIN CONSTANT.		5.3.3.1. <u>REFERENCE STANDARDS:</u>	
1.14.	<u>CERTIFICATION:</u> PROVIDE MANUFACTURER'S WRITTEN CERTIFICATION OF THE INSTALLATION AND OPERATION OF ALL SYSTEMS AND MAJOR EQUIPMENT.		2.1.3. FORWARD COPIES OF ALL FINAL TESTS ON ALL PRESSURE AND DRAINAGE PIPING TO CONSULTANT.		5.3.3.1.1. <u>STEEL:</u>	
1.15.	<u>EXISTING SERVICE:</u>		3. <u>MECHANICAL INSULATION:</u>		5.3.3.1.1.1. <u>PIPE, BLACK SCHEDULE 40:</u> TO ASTM A52/A53M.	
1.15.1.	DO NOT SHUT DOWN OR MAKE CONNECTIONS TO ANY EXISTING SERVICE WITHOUT WRITTEN PERMISSION OF THE OWNER.		3.1. ALL PRODUCTS TO HAVE FLAME SPREAD RATING LESS THAN 25 AND SMOKE DEVELOPED CLASSIFICATION LESS THAN 50 IN COMPLIANCE WITH CANULC-S102.		5.3.3.1.1.2. <u>FITTINGS:</u> TO ASME B16.3. MALLEABLE IRON - CLASS 125 OR ASTM A234/234M FORGED STEEL - CLASS 125.	
1.15.2.	BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF MECHANICAL EQUIPMENT AND SERVICES DESIGNATED FOR REMOVAL ON DRAWINGS.		3.2. PROVIDE A CONTINUOUS VAPOUR BARRIER ON ALL COLD SYSTEMS.		5.3.3.1.1.3. JOINTS: THREADED OR AWS D1.1/D1.1M, WELDED, OR 316 STAINLESS STEEL PRESS FITTINGS WITH EPDM GASKET CERTIFIED TO TSSA ASME B31.	
1.16.	<u>SITE PROTECTION AND CLEANLINESS:</u> PROTECT ALL WORK AND MATERIALS, BEFORE AND AFTER ERECTION, FROM WEATHER AND OTHER HAZARDS, AND KEEP IN A CLEAN AND ORDERLY MANNER. AVOID ACCUMULATION OF DEBRIS AS THE WORK PROGRESSES. ON COMPLETION OF THE CONSTRUCTION AND PRIOR TO THE FINAL INSPECTION AND ACCEPTANCE BY THE OWNER, CLEAN UP AND REMOVE FROM THE SITE ALL SCRAP MATERIALS RESULTING FROM THE WORK OF THIS TRADE.		3.3. <u>INSULATION TYPES:</u>		5.3.3.1.2. <u>PIPE, HARDDRAWN TYPE L:</u> TO ASTM B88 / B88M.	
1.17.	<u>ADJUSTMENT AND OPERATION OF SYSTEMS:</u> WHEN WORK IS COMPLETE, ADJUST ALL EQUIPMENT ITEMS, OF VARIOUS SYSTEMS, FOR PROPER OPERATION WITHIN FRAMEWORK OF DESIGN INTENT, AND OPERATING CHARACTERISTICS AS PUBLISHED BY EQUIPMENT MANUFACTURER.		3.3.1. PFC - PREFORMED GLASS FIBRE, FIBROUS GLASS SPILT SECTIONAL PIPE INSULATION CONFORMING TO CANULC-S102, WITH FACTORY APPLIED VAPOUR BARRIER JACKET TO CGSB 51-GP-52M AND SELF-SEAL LAP JOINT. THERMAL CONDUCTIVITY TO ASTM C335.		5.3.3.1.2.2. <u>FITTINGS:</u> TO ASME B16.18. CAST BRASS, OR ASME B16.22 WROUGHT COPPER.	
1.18.	<u>MISCELLANEOUS STEEL:</u> SUPPLY AND INSTALL MISCELLANEOUS STRUCTURAL SUPPORTS, PLATFORMS, AND BRACES, AS REQUIRED TO HANG OR SUPPORT ALL EQUIPMENT, PIPING, DUCTWORK AND SIMILAR ITEMS.		3.3.2. PMW - PREFORMED MINERAL WOOL, RIGID MINERAL WOOL, SPILT SECTIONAL PIPE INSULATION CONFORMING TO CAN/CGSB-51.9, WITH FACTORY APPLIED VAPOUR BARRIER JACKET TO CGSB 51-GP-52M AND SELF-SEAL LAP JOINT. THERMAL CONDUCTIVITY TO ASTM C335.		5.3.3.1.2.3. JOINTS: SOLDER, LEAD FREE, ASTM B32, 95-5 TIN-ANTIMONY OR TIN AND SILVER, MELTING RANGE 220-290 °C (430-535 °F) OR BRAZED, AWS A5.8/A5.8M, BCUP SILVERPHOSPHORUS/COPPER ALLOY, MELTING RANGE 640-805 °C (1,190-1,480 °F).	
1.19.	<u>EQUIPMENT INSTALLATION:</u> INSTALL AND START UP ALL ITEMS OF EQUIPMENT, DEVICES AND SYSTEMS IN ACCORDANCE WITH MOST RECENT RECOMMENDATIONS AND RECOMMENDATIONS. CONTRACTOR IS RESPONSIBLE FOR ASCERTAINING MANUFACTURERS INSTALLATION GUIDELINES AND RECOMMENDATIONS. TOUCH-UP ALL SHOP PAINTED EQUIPMENT DAMAGED IN TRANSIT OR DURING INSTALLATION TO MATCH ORIGINAL SHOP FINISH.		3.3.3. CF - CELLULAR FOAM, FLEXIBLE, CELLULAR ELASTOMERIC, TUBE/SHEET/ROLL WITH ANTIMICROBIAL COATING CONFORMING TO CANULC-S102. THERMAL CONDUCTIVITY CONFORMING TO ASTM C177/C818. EXPOSED INSULATION TO HAVE WHITE FINISH.		5.3.4. <u>STEAM CONDENSATE, LOW PRESSURE (30 PSIG MAXIMUM):</u>	
1.20.	<u>CUTTING AND PATCHING:</u> PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS TRADE. ALL CUTTING AND PATCHING SHALL BE PERFORMED BY TRADE SPECIALIZING IN THE MATERIAL TO BE PATCHED. INCLUDE RELATIONSHIP AND PATCHING RELATED TO THE WORK OF THIS TRADE IN THE BID PRICE. WHERE PIPES AND DUCTS ARE SHOWN PASSING THROUGH EXISTING WALLS, FLOORS, AND ROOF, CUT AND PATCH THE NECESSARY OPENINGS. SHOULD CUTTING, REPAIRING, AND PATCHING OF PREVIOUSLY FINISHED WORK, OF OTHER TRADES, BE REQUIRED TO ALLOW INSTALLATION OF MECHANICAL WORK, PAY ALL COSTS FOR TRADE SECTION CONCERNED TO PERFORM WORK.		3.3.4. <u>PIPEING:</u>		5.3.4.1. <u>REFERENCE STANDARDS:</u>	
1.21.	<u>CHANGES IN THE WORK:</u> CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		3.4.1. DO NOT INSULATE FLANGES OR UNIONS AT CONNECTION TO EQUIPMENT.		5.3.4.1.1. <u>STEEL:</u>	
1.22.	- ITEMIZED MATERIAL LIST WITH QUANTITIES AND UNIT COSTS		3.4.2. VALVE OPERATORS AND BALANCING VALVE TEST PORTS TO BE ACCESSIBLE WITHOUT REMOVAL OF INSULATION.		5.3.4.1.1.1. <u>PIPE, BLACK SCHEDULE 80:</u> TO ASTM A53/A53M.	
	- ITEMIZED LABOUR COST BREAKDOWN		3.4.3. PIPE INSULATION INSERTS AND SHIELDS, PROVIDE RIGID INSERTS AND SHIELDS AT ALL HANGER SUPPORTS WHERE PIPING IS INSULATED. INSERT THICKNESS TO MATCH INSULATION THICKNESS. INSERT TO BE HYDROCALCIUM SILICATE RIGID PIPE INSULATION. INSERT AND SHIELD TO PROTECT BOTTOM HALF OF PIPE. SHIELD TO BE FABRICATED FROM GALVANIZED STEEL. SHIELD COLOUR TO MATCH COLOUR OF INSULATION FINISH. SHIELD AND INSERT LENGTH TO BE AS FOLLOWS:		5.3.4.1.1.2. <u>FITTINGS:</u> TO ASME B16.3. MALLEABLE IRON - CLASS 125 OR ASTM A234/234M FORGED STEEL - CLASS 125.	
1.23.	- COPY OF QUOTATIONS FROM ALL SUPPLIERS FOR ALL EQUIPMENT		3.4.4. PIPE INSULATION INSERTS AND SHIELDS, PROVIDE RIGID INSERTS AND SHIELDS AT ALL HANGER SUPPORTS WHERE PIPING IS INSULATED. INSERT THICKNESS TO MATCH INSULATION THICKNESS. INSERT TO BE HYDROCALCIUM SILICATE RIGID PIPE INSULATION. INSERT AND SHIELD TO PROTECT BOTTOM HALF OF PIPE. SHIELD TO BE FABRICATED FROM GALVANIZED STEEL. SHIELD COLOUR TO MATCH COLOUR OF INSULATION FINISH. SHIELD AND INSERT LENGTH TO BE AS FOLLOWS:		5.3.4.1.1.3. JOINTS: THREADED OR AWS D1.1/D1.1M, WELDED, OR 316 STAINLESS STEEL PRESS FITTINGS WITH EPDM GASKET CERTIFIED TO TSSA ASME B31.	
	- COPY OF QUOTATIONS FROM ALL SUBCONTRACTORS INCLUDING ALL OF THE REQUIREMENTS OF THIS SECTION		3.4.5. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2. <u>COPPER:</u>	
1.23.1.	- TOTAL MATERIAL COST		3.4.6. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2.1. <u>PIPE, HARDDRAWN TYPE L:</u> TO ASTM B88 / B88M.	
	- TOTAL HOURS		3.4.7. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2.2. <u>FITTINGS:</u> TO ASME B16.18. CAST BRASS, OR ASME B16.22 WROUGHT COPPER.	
1.23.1.1.	- HOURLY RATE (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT)		3.4.8. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2.3. JOINTS: SOLDER, LEAD FREE, ASTM B32, 95-5 TIN-ANTIMONY OR TIN AND SILVER, MELTING RANGE 220-290 °C (430-535 °F) OR BRAZED, AWS A5.8/A5.8M, BCUP SILVERPHOSPHORUS/COPPER ALLOY, MELTING RANGE 640-805 °C (1,190-1,480 °F).	
	- TOTAL OVERHEAD AND PROFIT (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT)		3.4.9. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2.3.1. <u>PIPE, BLACK SCHEDULE 80:</u> TO ASTM A53/A53M.	
1.23.1.2.	- COPY OF QUOTATIONS FROM ALL SUBCONTRACTORS INCLUDING ALL OF THE REQUIREMENTS OF THIS SECTION		3.4.10. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2.3.2. <u>FITTINGS:</u> TO ASME B16.18. CAST BRASS, OR ASME B16.22 WROUGHT COPPER.	
	- TOTAL MATERIAL COST		3.4.11. CHANGES IN THE WORK, CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:		5.3.4.1.2.3.3. JOINTS:	