TMU - CED MULTI-MEDIA LAB

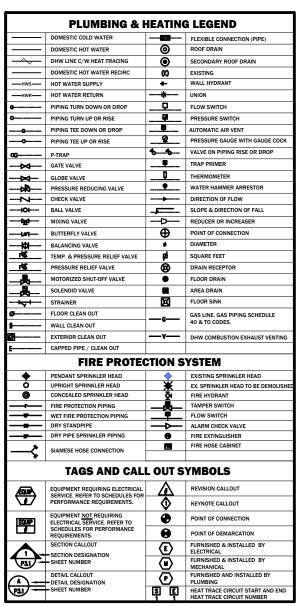
297 VICTORIA STREET

TORONTO, ON M5B 1W1

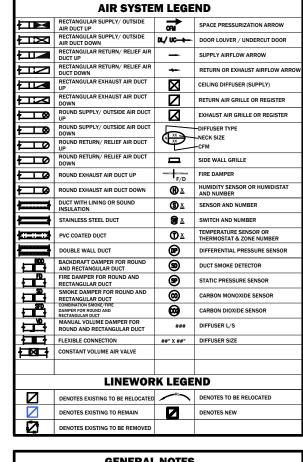


	MECHANICAL DRAWING LIST		
PG	DWG #	TITLE/ DESCRIPTION	
1	M-000	COVER	
2	M-001	NOTES, LEGEND AND SITE	
3	M-002	SPECIFICATIONS	
4	M-003	SCHEDULES	
5	M-100	EXISTING/DEMOLITION - HVAC PLAN	
6	M-101	NEW WORK - HVAC PLAN	

GCS Project # 24035



ABBREVIATIONS			
ABS	ACRYLONITRILE BUTADIENE STYRENE		
CI	CAST IRON		
C/W	COMPLETE WITH		
PVC	POLYVINYL CHLORIDE		
RWL	RAIN WATER LEADER		
TYP	TYPICAL		



GENERAL NOTES

- ALL DRAWINGS ARE DIAGRAMMATIC ONLY. THE ARRANGEMENTS OF EQUIPMENT SHOWN ARE APPROXIMATIONS ONLY AND MAY BE ALTERED BY THE ENGINEERS TO MEET THE REQUIREMENTS OF THE PROJECT. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECT'S, INTERIOR DESIGNER, AND MECHANICAL DRAWINGS FOR LOCATION OF ALL LUMINAIRES, SWITCHES, DEVICES, OUTLETS, FURNITURE FEEDING POINTS, DIMENSIONS, MOUNTING HEIGHTS, AND CONSTRUCTION
- IN EVERY INSTANCE WHERE IT IS REQUIRED IN THE SPECIFICATION OR ON DRA IN EVERY INSTANCE WHERE IT IS REQUIRED IN THE SPECIFICATION OF KIN DIK OF DRAWING THAT I EQUIPMENT AND MATERIALS BE REMOVED FROM EXISTING LOCATIONS AND RE-INSTALLED, EITHER IN WHOLE OR IN PART IN NEW LOCATIONS, ALL SUCH EQUIPMENT AND MATERIALS SHALL BE THOROUGHLY CLEANED AND WHERE NECESSARY PUT INTO GOOD OPERATING CONDITION BEFORE BEING RE-INSTALLED IN THE NEW LOCATION. TEST ALL PARTS OF THE RE-USED OR RELOCATED ELECTRICAL EQUIPMENT AND CORRECT ALL FAULTS AND GROUNDS.
- ALL SLAB OPENINGS WILL BE X-RAYED AND REVIEWED WITH LANDLORD AND BASE BUILDING STRUCTURAL CONSULTANT. CONTRACTOR SHALL X-RAY THE FLOOR AND SUBMITTO BASE BUILDING STRUCTURAL ENGINEER FOR WRITTEN APPROVAL AT LEAST 72 HOURS PRIOR TO ANY CORE DRILLING ON THE BUILDING. THE CONTRACTOR SHALL INCLIDE THE COST OF STRUCTURAL HOSINEER. COORDINATE ALL CORE DRILLING WITH LANDLORD'S SITE REPRESENTATIVE AND TENANT. ALL NOISY WORK SHALL BE PERFORMED AFTER HOURS.
- ALL OPENINGS IN BUILDING RISER, IF APPLICABLE, SHALL BE SEALED WITH APPROVED FIRE STOP MATERIAL ANY PIREPROOFING MATERIAL REMOVED WILL BE REPLACED WITH A SUITABLE AND APPROVED FIREPROOFING MATERIAL AND STALL BE INSTALLED AS PER BUILDING AND FIRE CODE
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REFINISHING OF DAMAGED BUILDING AREAS AND
- FINISHES AFFECTED BY THE WORK AS OUTLINED UNDER SCOPE OF WORK OF THIS PROJECT.
- ALL INSTALLATIONS WITHIN EXISTING AREAS SHALL BE COORDINATED WITH OWNER AND BASE BUILDING MANAGEMENT. INSTALLATION MUST BE PERFORMED IN A MANNER TO ELIMINATE ANY INTERFERENCES TO STAFF AND NORMAL OPERATION OF THE FACILITY.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND DISTRIBUTION OF TEMPORARY POWER WITHIN THE PREMISES DURING THE CONSTRUCTION PERIOD. EXPOSED ELECTRICAL CORDS OUTSIDE THE LEASED PREMISES SHALL NOT BE PERMITTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL THE WORK WITH ALL OTHER TRADES, CONSULTANTS, AND THE OWNER, ALL WORK SHALL BE SCHEDULED AND CARRIED OUT BY THE CONTRACTOR IN A MANNER TO BESURE CONTINUED AND NON-INTERRUPTED OPERATION OF

297 VICTORIA STREET TORONTO, ON M5B 1W1



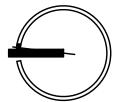
DEMOLITION NOTES

- CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFOR COMMENCING WORK. USE ONLY THE LATEST APPROVED DRAWING FOR CONSTRUCTION; PRINTS AR NOT TO BE SCALED.
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL PLANS.
- ALL WORKS SHOWN ON DRAWINGS ARE NEW AND TO BE CARRIED OUT BY THE MECHANICAL CONTRACTOR (PLUMBER INCLUDED), UNLESS OTHERWISE NOTED.
- MECHANICAL CONTRACTOR WILL DO ALL CUTTING AND PATCHING WHERE REQUIRED FOR H.V.A.C. AND
- MECHANICAL CONTRACTOR SHALL VISIT SITE DURING THE TENDER PERIOD TO VERIFY EXISTING CONDITIONS NOT LIMITED TO THAT WHICH IS SHOWN ON THE PLANS OR WRITTEN TO THE SPECIFICATIONS AND INCLUDE FOR TO MAKE GOOD ALL REQUIREMENTS AS PER THE INTENT OF THESE CONTRACT DOCUMENTS FOR A FULLY OPERATIONAL TURN KEY INSTALLATION. IF ACCESS IS NOT PROVIDED FOR WHATEVER REASON, IT IS TO BE STATED IN THE TENDER QUOTATION IN CLEAR PRINT
- MECHANICAL CONTRACTOR TO MAKE ALL NECESSARY TEMPORARY PROVISIONS TO MAINTAIN H.V.A.C PLUMBING AND DRAINAGE SYSTEMS FOR OCCUPIED AREAS DURING DEMOLITION AND CONSTRUCTION ALL OF WHICH TO BE INCLUDED IN HIS CONTRACT. ALL ASSOCIATED NON MECHANICAL WORK, SUCH AS ELECTRICAL. TO BE CARRIED OUT BY THE GENERAL CONTRACTOR.
- MECHANICAL CONTRACTOR SHALL SUPPLY AND INSTALL NEW PLUMBING VENTS IN WALL AND CEILING SPACE WHERE EXISTING VENTS ARE REVEALED DURING DEMOLITION OF EXISTING PARTITIONS AND WALLS. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY & INSTALL NEW PLUMBING VENTS TO ACCOMMODATE NEW BUILDING DESIGN AND PARTITION LAYOUTS. ALL ASSOCIATED FLOOR CUTTING, IF REQUIRED, SHALL BE BY THE MECHANICAL CONTRACTOR
- SUPPLY AND INSTALL NEW CLEANOUTS WHERE REQUIRED AS A RESULT OF FLOOR DEMOLITION AND
- DRAIN EXISTING COLD WATER SYSTEM AFTER-HOURS FOR COLD WATER PIPING REMEDIAL WORK OR
- MECHANICAL CONTRACTOR SHALL REBALANCE ALL EXISTING SYSTEMS AND UNITS BEING REUSED THAT HAVE BEEN ALTRED IN ANY WAY. REPLACE DRIVE KITS AND MOTORS WHERE REQUIRED. THE MECHANICAL CONTRACTOR WILL CLOSELY COORDINATE WITH THE ROOFING CONTRACTOR TO PREVEN ANY DAMAGE TO ROOF TOP EQUIPMENT.
- ALL CONTROL WIRING AND CONTROLS ARE TO BE REMOVED OR REPLACED BY THE MECHANICAL CONTRACTOR WHERE REQUIRED.
- MECHANICAL CONTRACTOR TO INCLUDE FOR RELOCATION OF ALL STARTERS AND THERMOSTATS NOT SHOWN ON DRAWINGS. VISIT SITE PRIOR TO TENDER CLOSING TO CONFIRM EXTRET THE HEAD OF A COORDINATE WITH THE GENERAL CONTRACTOR AND DIVISION 16, TO ENSURE THAT ALL ASSOCIATED WORKS ARE INCLUDED IN THE CONTRACT.
- COMPLETELY REMOVE AND DISCARD ALL CROSSED H.V.A.C. UNITS, SYSTEMS INCLUDING DUCTWORK









04	ISSUED FOR TENDER	17 OCT 20
03	ISSUED FOR PERMIT	05 SEPT 20
02	ISSUED FOR COORDINATION	30 JUL 202
01	ISSUED FOR COORDINATION	27 IUN 20

TORONTO METROPOLITAN UNIVERSITY

297 VICTORIA STREET TORONTO, ON M5B IWI

OCTOBER 2024 PROJECT NAME:

CED MULTI-MEDIA LAB DRAWN BY: CHECKED BY:

IS

GG

DRAWING NAME: NOTES, LEGENDS & SITE PLAN

SCALE:

1:50

DRAWING #:

24035

SPECIFICATIONS

MECHANICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL AND

DIVISION 1 GENERAL CONDITIONS OF THE CONTRACT AND AMENDMENTS THERETO, GENERAL INSTRUCTIONS AND INSTRUCTION TO TENDERERS, FORM AN INTEGRAL PART OF THIS SPECIFICATION. PROVIDE ALL MARTENIALS, EQUIPMENT, LABOR, TOOLS, SCAFFOLION, EMPORARY SERVICES AND OTHER TIEMS REQUIRED TO COMPLETE ALL THE WORK INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. PROVIDE WELL QUALIFIED TRADES PERSONS TO CARRY OUT EACH PHASE OF WORK.

ALTERNATIVES. ALTERNATIVES WILL NOT BE CONSIDERED UNLESS SUBMITTED ON A SEPARATE FORM DURING THE TENDER PERIOD TO ACCOMPANY THE BID FORM. ALTERNATIVES PROVIDED SHOULD INDICATE SAVINGS TO THE OWNER AND SHOULD BE SUBMITTED WITH PRODUCT SPECIFICATIONS. ANY ALTERNATIVES SUGGESTED SHOULD MEET OR EXCEED THE SPECIFICATIONS INDICATED IN THE TENDER DOCUMENTS.

PERMIT: APPLY FOR, OBTAIN, AND PAY FOR INCLUDING ALL SALES TAXES AND GST, HST, CERTIFICATES OF APPROVAL, PERMITS, AND INSPECTIONS REQUIRED BY AUTHORITIES HAVIN JURISDICTION. SUBMIT ALL PLANS, ETC., REQUIRED AND OBTAIN PERMITS IMMEDIATELY AFTER NOTHER OF AWARD OF CONTRACT. DO NOT START WORK PRIOR TO OBTAINING APPROVAL AND PERMIT. GIVE A NOTICES REQUIRED FOR TEST AND INSPECTIONS. MAKE ALL CORRECTIONS AND CHANGES AUTHORITY HAVING JURISDICTION WITHOUT ADDITIONAL CHARGE OR EXPENSE TO THE OW

GUARANTEE: WARRANT ALL LABOR AND MATERIALS INSTALLED UNDER THIS DIVISION FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. PROVIDE ALL ADDITIONAL WARRANTIES PROVIDED AS STANDARD BY COLUMENT MANUFACTURED.

<u>LIABILITY:</u> ASSUME FULL RESPONSIBILITY FOR COORDINATING AND LAYOUT OF ALL WORK AND FOR ANY DAMAGE CAUSED TO THE PROPERTY OR THE WORK OF OTHER DIVISIONS BY IMPROPER LOCATION OR CARRYING OUT OF THIS WORK.

PROTECTION OF PROPERTY: ASSUME FULL RESPONSIBILITY FOR PROTECTING THE PROPERTY WHILE CARRYING OUT THE WORK OF THIS CONTRACT. REPAIRS SHALL BE CARRIED OUT AT OWN EXPENSE OF ANY DAMAGE CAUSED BY THIS CONTRACTOR OR YHIS SUB-CONTRACTORS. REPAIR WORK SHALL BE CARRIED OUT FOR THIS CONTRACTOR BY TRADE WHOSE WORK IS AFFECTED.

SITE CONDITIONS: EXAMINE SITE CONDITIONS BEFORE SUBMITTING TENDER TO BE SURE THAT WORK CAN BE SATISFACTORILY CARRIED OUT AS INDICATED. IF SITE EXAMINATION REVEALS ANY AMBIGUITIES, DIFFICULTIE DISCREPANCIES, DEPARTURES FROM RELEVANT CODES HAVING JURISDICTION, AND/OR FROM GOOD PRACTICE, OBTAIN CLARIFICATION PRIOR TO SUBMITTING TENDER. FAILURE TO DO SO SHALL RESULT IN ALL ADDITIONAL COSTS BEING THE RESPONSIBILITY OF THE CONTRACTOR.

SITE VISIT: THE CONTRACTOR SHALL ATTEND THE MANDATORY SITE VISIT AT THE TIME GIVEN IN THE TENDER DOCUMENTS PRIOR TO SUBMITTING TENDER.

CONTINUATION OF EXISTING SERVICES: CONTINUE EXISTING SERVICES USING SAME TYPE MATERIAL AS USED FOR EXISTING SERVICE, EXCEPT WHERE INDICATED OTHERWISE ON THE DRAWING OR IN THE SPECIFICATION.

MECHANICAL SERVICES: ARRANGE WITH UTILITIES DIVISION AND MAKE CONNECTION TO / DISCONNECT FROM EXISTING SERVICES WHERE INDICATED ON DRAWINGS. COORDINATE WITH THE OWNERS REPRESENTATIVE TEN (1.0) WORKING DAYS BEFORE ANY ESSENTIAL SERVICE IS INTERRUPTED. COMPLY WITH INSTRUCTION FOR TIME AND DURATION OF INTERRUPTIONS. PRIOR TO CUTTING PIPES AND CAPPING, CONTRACTOR SHOULD ENSURE THAT THE PIPES ARE NOT LUTE. PROVIDE STANDEY MANDPOWER AND ENSURE THAT REQUIRED

DRAWINGS: THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE, INTENDED TO CONVEY THE SCOPE OF THE WORK. ANY INFORMATION INVOLVING ACCURATE MEASUREMENT OF THE BUILDING AND EQUIPMENT SHALL BE TAKEN FROM THE BUILDING ISSELF, FIGURED DIMENSIONS ON ARCHITECTURAL DRAWINGS AND CERTIFIED MANUFACTURER'S SHOP DRAWINGS OF EQUIPMENT. BE RESPONSIBLE FOR A THOROUGH KNOWLEDGE OF SAME BEFORE PROCEEDING WITH THE WORK. IF AN ITEM IS NOICATED ON A PLAN. SECTION OR DETAIL, IT SHALL BE CONSIDERED AS APPEARING ON ALL VEWS. IF THE ITEM IS CALLED FOR IN THE SPECIFICATION, IT SHALL BE CONSIDERED AS APPEARING ON THE

DRAWINGS.
WHERE AN ITEM IS SPECIFIED IN A NOTE ON A DRAWING, IT SHALL BE CONSIDERED AS APPEARING IN THIS SPECIFICATION. DIMENSIONAL DATA SHOWN ON MECHANICAL DRAWINGS SHALL BE CONSTRUED AS TRUE FIGURES WHEN CONFLICTING DATA APPEAR ON BOTH MECHANICAL AND ARCHITECTURAL/STRUCTURAL

CLEAN-UP: UPON COMPLETION OF WORK, AND PORTION OF THE WORK, REMOVE FROM THE PREMISES ALL TOOLS, DEBRIS, SUPPLIES AND WASTE MATERIALS RESULTING FROM OPERATIONS UNDER THIS DIVISION.THE WORKING AREAS SHALL BE LEFT IN A CLEAN AND SATISFACTORY CONDITION, CLEAN ALL BOUIFMENT AND

PAINTING: TOUCH UP ALL SCRATCHES AND OTHER DAMAGE TO PAINTED FINISH ON ALL FACTORY PAINTED EQUIPMENT. ALL OTHER PAINTING WORK SHALL BE DONE UNDER THE PAINTING DIVISION, INCLUDING ALL NEW AND EXESTING GRILLES & DIFFLUES, ALL NEW & ESSITING EXPOSED PIPING, ALL NEW & EXISTING EXPOSED DUCTWORK, AND ALL EXISTING PERIMETER INDUCTION UNITS.

ELECTRICAL WORK: ALL ELECTRICAL WIRING, INSTRUMENTS, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE ELECTRICAL SPECIFICATION DIVISION 16. ALL ELECTRICAL POWER WIRING SHALL BE BY DIVISION 16. FACTORY INSTALLED WIRING OM MECHANICAL EQUIREMENT AND CONTROL WIRING AS INDICATED ON DRAWINGS AND IN SPECIFICATION SHALL BE THE RESPONSIBILITY OF DIVISION 15.

ELECTRICAL EQUIPMENT: ALL ELECTRICAL EQUIPMENT, INCLUDING MOTORS SHALL BE CSA OR ONTARIO SAFETY AUTHORITY INSPECTIONS APPROVED AND SHALL BEAR EVIDENCE OF SAME.

SCHEDULING AND HOURS OF WORK: REFER TO DIVISION 1 SPECIFICATIONS FOR MORE INFO ON SCHEDULING AND HOURS OF WORK. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION SCHEDULE AND ALL SPECIFIED INTERIM SCHEDULES. CONTRACTORS MUST COMPLY WITH THE GENERAL CONTRACTOR'S CONSTRUCTION SCHEDULE. 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.

COORDINATION: COORDINATE WORK WITH OTHER DIVISIONS TO AVOID INTERFERENCE WITH OTHER SERVICES

DEMONSTRATE: UPON COMPLETION OF THE WORK, SET ALL EQUIPMENT INTO OPERATION, DEMONSTRATE THE SUCCESSFUL OPERATION AND FAMILLARIZE THE OWNER'S OPERATING PERSONNEL WITH THE NEW SYSTEM, EQUIPMENT AND CHANGES TO THE EXISTING SYSTEM UNDER THIS DISISION. FRIGH TO DEMONSTRATION, THE CONTRACTOR SHALL HAVE SUBMITTED THE MAINTENANCE MANUALS AND SUCCESSFULLY OPERATED THE SYSTEM AND EQUIPMENT.

MAINTENANCE MANUALS:
PROVIDE "OPERATION AND MAINTENANCE MANUALS" IN ACCORDANCE TO DIVISION 1 SPECIFICATIONS.
"OPERATION AND MAINTENANCE MANUALS" SHALL CONTAIN INSTALLATION INSTRUCTIONS,
MAINTENANCE INSTRUCTIONS AND REVIEWED SHOP DRAWINGS OF ALL ITEMS OF EQUIPMENT
SUPPLIED UNDER THIS DIVISION, Lall BALLINCE REPORTS, AND ALL WARRANTIES.

SHOP DRAWINGS: BEFORE EQUIPMENT IS MANUFACTURED OR SHIPPED TO THE SITE, SUBMIT TO THE CONSULTANT THE SHOP DRAWINGS IN POF FORMAT THROUGH ELECTRONIC MAILS TO THE ENGINEER FOR REVIEW. ALL SHOP DRAWINGS SHALL BE FILLY CHECKED AND SIGNED BY THE CONTRACTOR FOR ACCURACY TO ENSURE SATISFACTORY INSTALLATION.
SUBSEQUENT REVIEW BY THE CONSULTANT IS FOR GENERAL ARRANGEMENT ONLY AND DOES NOT RELIEVE THE
CONTRACTOR OF ANY RESPONSIBILITY FOR THE CORRECTNESS OF THE WORK.

THE FOLLOWING INFORMATION SHALL BE GIVEN ON EACH DRAWING: a. PERFORMANCE FIGURES AND DATA TO CONFIRM THOSE GIVEN IN THE

- SPECIFICATION.
 DIMENSIONS AND WEIGHTS WHERE APPLICABLE.
 DATE OF ISSUE OF SHOP DRAWING AND NAME AND PROJECT NUMBER OF CONTRACT. REFERENCE LETTERS AND NUMBERS OF PIECE OF EQUIPMENT
 THE CONTRACTOR SHALL SUPPLY SHOP DRAWINGS FOR EQUIPMENT INDICATED ON TRADES

ORDERING OF EQUIPMENT: PLACE ORDERS FOR EQUIPMENT IMMEDIATELY UPON RECEIPT OF AWARD OF CONTRACT, SO THAT THE MANUFACTURERS CAN COMMENCE PREPARATION OF SHOP DRAWINGS, SUBMI

DEBOLITON, PRIOR TO ANY DEMOLITION WORK TO BE DONE IN THE REQUISITION AFEA, INCLUDING CEREAR TRADES MORE, ALL EXISTING, AND MOVING SYSTEMS INCLUDING SUPPLY, RETURN, TRANSFER, EXHAUSE FAILD FRESH AND FRESH ARIENTAKE. WHETHER ATTACHED OR NOT TO THE MINI BUILDING SYSTEMS SHALL BE ISOLATED AND CAPPED AIR FINITY TO AVOID CONTAMINATION AND WASTE OF ENERGY, THE CONTRACTOR SHALL LIAISE WHICH THE MAINTENANCE DIVISION THROUGH THE OWNER'S REPRESENTATIVE TO ISOLATE THE SYSTEMS WHICH MIGHT NOVICE SHUTTING OWNER AND PUTTING

PLASTIC SHEET COVERINGS TO SEAL OFF AIR INLETS AND OUTLETS, PROVIDING TEMPORARY BYPASS DUCTWORK BETWEEN SUPPLY AND RETURN SYSTEMS AND PROVIDING AIR FILTERS AND FRAMES AT TH RETURN AIR SYSTEMS.

THE CONTRACTOR SHALL PROVIDE ALL LABOUR AND MATERIALS TO CARRY OUT THE ISOLATION WORK AND THE SUBSCQUENT WORK REQUIRED TO RESIME THE OPERATION OF THE SYSTEMS A FETER THE CONSTRUCTOR CAREFULLY REMOVE EXISTING PIPING, FIXTURES, EQUIPMENT, DUCTWORK, ETC., AS INDICATED ON THE DRAWINGS AND, OR AS REQUIRED BY THE WORK. THE OWNER'S REPRESENTATIVE SHALL DECIDE WHICH MATERIALS OR ITEMS ARE TO BE DISPOSED OFF SITE BY THE CONTRACTOR, OR WHICH ARE TO BE DISPOSED OFF SITE BY THE CONTRACTOR, OR WHICH ARE TO BE HANDED OWER TO THE OWNER. SEAL ENDS OF EXISTING SERVICES THAT ARE OR REMAIN TO SHABLE SERVICES TO BE

LIFTING & SCAFFOLDING: PROVIDE ALL, HOISTS, ETC., REQUIRED FOR LIFTING AND PLACING EQUIPMENT, DUCTING AND PIPING IN POSITION, ON WALLS AND IN CEILING AS REQUIRED.
PROVIDE ALL SCAFFOLDING REQUIRED, INCLUDING ITS DISMANTLE AND REMOVAL FROM THE SITE ON COMPILETION.

20MPLETION. 200RDINATE WITH OTHER DIVISIONS TO ENABLE THEM TO ALSO USE THE SCAFFOLDING. THE SPACE REQUIRED AND LOCATIONS OF LIFTING EQUIPMENT AND SCAFFOLDING SHALL BE AGREED WITH THE DWNER'S REPRESENTATIVE. PROVIDE SUFFICIENT CAUTION SIGNAGE AROUND LIFTING EQUIPMENT AND SCAFFOLDING WORKING AREAS.

HAZARDOUS MATERIALS REMOVAL AND DRILLING OF HOLES IN WALLS AND CEILING THAT CONTAIN ASBESTOS: HAZARDOUS MATERIALS, IF FOUND, THEY SHALL BE REMOVED BY HAZARDOUS MATERIAL ABATEMENT CONTRACTOR ACCORDING TO THE TYPE OF PROCEDURES STIPULATED BY THE REQULATIONS AND IN DIVISION & 13 SPECIFICATIONS FOR THIS CONTRACT. FOR DRILLING OF HOLES IN WALLS AND CEILINGS THAT CONTAIN ASBESTOS REFER TO DIVISION 0 & 13 SPECIFICATIONS FOR THIS CONTRACT.

ENTRY & WORK IN RESTRICTED SPACES; ENTRY AND WORK IN RESTRICTED SPACES MUST BE PERFORMED IN ACCORDANCE WITH DIVISION 1 SPECIFICATIONS FOR THIS CONTRACT.

RECORD DRAWINGS: RECORD ALL CHANGES MADE TO DESIGN ON SET OF PRINTS KEPT ON SITE FOR THIS PLIPPOSE

<u>AS-BUILT DRAWINGS;</u> PROVIDE "AS-BUILT DRAWINGS" IN ACCORDANCE WITH GENERAL CONDITIONS OF CONTRACT. AS-BUILT DRAWINGS SHALL RECORD ALL CHANGES TO DESIGN.

DEFINITION: THE WORD "PROVIDE" SHALL MEAN SUPPLY, INSTALL AND TEST

GENERAL: APPLY INSULATION AFTER ALL TESTS HAVE BEEN SUCCESSFULLY COMPLETED. INSTALL INSULATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL INSULATION MATERIAL AND ADHESIVE SHALL BE FIRE RESISTANT AND COMPLY WITH 0BC. WORK SHALL ONLY BE PERFORMED BY PERSONNEL EXPREINECED IN

<u>DUCTWORK INSULATION:</u> INSULATE ALL NEW SUPPLY AIR DUCTWORK ACCORDING TO THE THERMAL INSULATION SCHEDULE WITH VAPOUR-SEAL RIGID GLASS FIBRE INSULATION (THERMAL PERFORMANCE - 0.23 BTU/HR/IN/SO FT/F @ 75F, DENSITY - 3.0 LB/CU FT, JOHNS MANVILLE - MANVILLE 814 SPIN-GLAS OR EQUAL). EXCEPT AT DUCT TAKEOFFS, TRANSITIONS AND FOR ROUND DUCTS WHERE FACED FLEXIBLE GLASS FIBRE XXCEPI AI DUCT I ARK-OPFS, IMANSITIONS AND FUR MOUD DUCTS WHERE PACED FLEXIBLE GLASS FI NSULATION (THERMAL PERFORMACE - 0.27 BTU/HP/IN/SOFT/F @ 75F TESTED WITH MATERIAL TH COMPRESSED 25%, DENSITY - 0.75 LB/CU FT, JOHNS MANVILLE - MICROLITE EQ TYPE 75 OR EQUAL) SI USED. TAPE ALL JOINTS. RECOVER INSULATION WHERE EXPOSED, WITH 60Z. CANVAS JACKET AND FIR TETARDANT ADHESIVE COATING.

DEMOLITION
PROVIDE FOR THE REMOVAL OF EQUIPMENT AND DEVICES AS NOTED ON THE DRAWINGS.
UNLESS OTHERWISE NOTED, EQUIPMENT SHALL BE THE PROPERTY OF THE OWNER.
ANY EQUIPMENT NOT REUSED SHALL BE TURNED OVER TO THE OWNER. EQUIPMENT NOT WANTED BY THE
OWNER SHALL BE REMOVED AND DISPOSED OF AWAY FROM THE STILE.

OWNER SHALL BE REMOVED AND DISPOSED OF AWAY FROM THE STILE.

OWNER SHALL BE REMOVED AND DISPOSED OF AWAY FROM THE STILE.

OWNER SHALL BE REMOVED AND DISPOSED OF AWAY FROM THE STILE.

REMOVAL OF DEBRIS AND RUBBISH FROM THE JOB SITE TO BE EXECUTED ON A DAILY

BASIS IN ONDER 10 MAINIAIN A CLEAN AND SAFE WOME NOWINFORMEN).

PRIOR TO DEMOLITION, MAKE NOTE OF ANY DAMAGE TO THE EXISTING SYSTEM. IDENTIFY THESE ITEMS AND INFORM THE CONSULTING ENGINEER IMMEDIATELY. FAILURE TO REPORT ANY DEFICIENCIES, PRIOR TO DEMOLITION, IMPLIES THAT THE CONTRACTOR HAS ACCEPTED THE SITE. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAKE GOOD ALL EXISTING EQUIPMENT NOTIED TO

REMAIN FOLLOWING THE DEMOLITION WORK

AP ALL PIPING, WHICH ARE NOT TO BE REUSED, BACK TO RISER OF ORIGIN,

CAP ALL DUCT TAKE-OFFS, WHICH ARE NOT TO BE REUSED, BACK TO MAIN SHAFT.

RESURET THE CONTINUED OPERATION OF THE EXISTING HAVE, PLUMBING AND FIRE

PROTECTION SYSTEMS WHICH SUPPLY THE ADJOINING TEMANT SPACES.

PROTECTION SYSTEMS WHICH SUPPLY THE ADJOINING TEMANT SPACES.

PROJECT. BYPASS ONLY THE ZORES INCESSARY AND AS REQUIRED TO COMPLETE THE WORK REQUIRED. GIVE

PROJECT, SYMASS ONLY THE ZONCS NECESSARY AROA STEME QUINED IT COMPILE IT HE WORK REQUIRED. 24 HOURS NOTICE TO THE BUILDING OWNERF FOR STEME SYMASS AND NOTIFY IMMEDIATELY UPON FIRE-SAFETY SYSTEM TO THE ENTINE FACILITY. IN NO CASE SHALL THE FIRE SAFETY SYSTEM, OR ANY PART OF. REMAIN ON SYMASS DURING THE NOTIFICATION OF STEME SYSTEM STEME S

RDINATE IN ADVANCE WITH THE BUILDING OWNER, WORK WHICH IS TO BE CARRIED OUT "AFTER NORMAL KING HOURS." THIS MAY INCLUDE, BUT IS NOT LIMITED TO; THE LIFE-SAFETY SYSTEM, HVAC SYSTEM, BIBNG SYSTEM, FIRE PROTECTION SYSTEM AND ANY WORK WHICH MUST BE CONDUCTED IN THE

HANGERS

MAXIMUM MECHANICAL LOADING PER SQUARE METER. SUPPORT DUCT ASSEMBLES FROM BUILDING STRUCTURE WITH 25mm (1 ") X 3mm (10 GA) GALVANIZED STEEL 'Z' BAND HANGERS SECURED UNDER DUCTS. HANGERS SHALL BE SPACED AT NOT OVER 1800mm (6 FEET) DO NOT HANG FROM STEEL OR TECTUM DECKING. PROVIDE STRUCTURAL FRAMING WHERE NECESSARY TO

DO NOT HANG FROM STEEL OR TECTIVIA DECKING, PROVIDE STRUCTURAL FRAMING WHERE NECESSARY TO
SUPPORT WORK IN THESE AREA, PROVIDE HANGER AT EACH FITTING.
SUPPORT UNDURIED HORIZONTAL CAST IRON PIPING AT EACH HUB LENGTH, (MAX. 1500mm) WITH
GRINNELL #260 OR MYATT #24.2 CLEVIS HANGERS, NURBER GROUPS OF FITTINGS OCCUR, NOT MORE
THAN 900mm SHALL BE BETWEEN HANGERS, SUPPORT OTHER HORIZONTAL PIPING WITH GRINNELL #260
OR MYATT # 1.24 CLEVIS HANGERS AS O'LLOWS:

- UP TO \$37mm (1.4") SIZE: \$100mm (6 FEET) MAXIMUM SPACING;
- \$38mm (1.4") TO 80mm (3") SIZE: \$300mm (10") ETET) MAXIMUM SPACING;

- 38mm (1 ½") TO 80mm (3") SIZE: 3000mm (10 FEET) MAXIMUM SPACING.
SUPPORT PLUMBING PIPING IN ACCORDANCE WITH MORE STRINGENT REQUIREMENTS OF PLUMBING CODE OR

OTHERWISE SPECIFIED.

STEAM TO THE SPECIFIED.

STREAM TO THE SPECIFIED.

STREAM TO THE SPECIFIED TO THE SPEC

L'EVEL UN MAAMINUM. PROVIDE BARRIER TO PREVENT COPPER PIPE BEING IN CONTACT WITH FERROUS OR CINDER MATERIALS. SUPPORT PIPING ON WALLS WITH MYAIT #157 OFFSET WALL HOOKS FASTENED TO WALL WITH TOGGLE BOLTS OR PHILLIPS "FED HEAD" CONCRETE ANCHORS. WHERE STRUCTURAL BEARINGS DO NOT EXIST, PROVIDE ANGLE OR CHANNEL IRON OF SUFFICIENT SIZE FROM

OTHER STRUCTURAL BEARINGS TO SUPPORT HANGERS OR EQUIPMENT.
PROVIDE VIBRATION HANGERS (4 REQUIRED) FOR NEW EXHAUST FAN (E-1.), HANGER VIBRATION
ELIMINATORS SHALL BE RUBBER-IN-SHARE TYPE. BY PENDRARRY OR APPROVED EQUAL.

PROVIDE SUPPORTS, STANDS AND PLATFORMS NECESSARY FOR PROPER INSTALLATION OF EQUIPMENT AND COMPONENTS, OF CONCRETE, STELL OR WOOD AS MAY BE REQUIRED AND AS APPROVED OR ELSEWHERE SHOWN OR SPECIFIED, PROVIDE NECESSARY ANCHOR BOLTS AND OTHER FASTENINGS. SECURE WORK TO CONCRETE WITH PHILLIPS "RED HEAD" CONCRETE ANCHORS.

HVAC - DUCTWORK & EQUIPMENT

DUCTWORK - LOW PRESSURE: CONSTRUCT DUCTWORK USING GALVANIZED SHEET STEEL IN ACCORDANCE WITH THE LATEST EDITION OF A SHRAE GUIDE AND SMACNA STANDARDS FOR LOW PRESSURE (+/_1" W.G.) RECTANDULAR AND FOUND DUCTWORK, INCLUDING REINFORDING, JOINTING AND SUSPENDING AND METAL THICKNESS RECOMMENDATIONS EXCEPT OTHERWISE INDICATED ON DRAWINGS. SEAL ALL JOINTS WITH RUBBERIZED CAULKING TO MEET SMACNA SEAL CLASS C EXCEPT OTHERWISE INDICATED ON DRAWINGS. PROVIDE SLEEVES THROUGH WALLS AND FLOORS, PACK BETWEEN DUCT AND SLEEVE WITH FIRE-RATED

BEYOND FRAME, DRIVE SHAFT AND AXLES 13MM DIAMETER, COMPLETE WITH HAND LOCKING QUA POSITION INDICATOR AND STAND OF BRACKET TO ALLOW QUADRANT TO BE USED ON EXTERNALLY

BRACKET TO ALLOW QUADRANT TO BE USED ON EXTERNALLY INSULATED DUCTS.

PROVIDE VOLUME/BALANCING DAMPER ON ALL BRANCH DUCTS WHETHER OR NOT IT IS SHOWN ON

ACCESS DOORS IN DUCTWORK: INSTALL ACCESS DOORS IN DUCTWORK TO ALLOW SERVICING, MAIN AND INSPECTION OF CONTROL ELEMENTS. FIRE DAMPERS AND AS INDICATED ON DRAWINGS.

VOI INSPECTION OF CONTROL ELEMENTS, FIRE DAMPERS AND AS INDICATED ON DRAWINGS.

CESS DOMOS SHALL BE OF THE SAME MATERIAL AND THICKNESS AS THE DUCT.

CESS PANELS SHALL HAVE A GREASETIGHT, GASKET, RATED FOR 1500 F (\$45°C). FASTENERS, SUCH AS

DITS, WELD STUDIO, LATCHES, ON WING NUTS USED TO SECURE THE ACCESS PANELS SHALL BE CARBON

TEEL OR STAINLESS STEL AND SHALL NOT PENETRATE THE DUCTS. ACCESS DOMOS TO BE INSTALLED ON THE

DE OF THE DUCTS. THE EDGE OF THE ACCESS DOMOS SHALL BE A MINIMUM OF

"A" (40mm) FROM ALL OUTSIDE EDGES OF THE DUCT OR WILDED SEAMS.

ONDINIATE WITH GENERAL TRADES FOR LOCATION AND SUZES OF ACCESS PANELS ON CEILING, PARTITION WALLS AND BULKHEADS TO MAKE THE ACCESS DOORS IN DUCTWORK ACCESSIBLE.

GRILLES DIFFUSERS, VAV BOXES TERMINAL UNITS & REGISTERS; ALL GRILLES, DIFFUSERS, VAV BOXES
TERMINAL UNITS AND REGISTERS SHALL BE MANUFACTURED BY PRICE, NAILOR OR TITUS, AND SHALL BE AS

FLEXIBLE DUCTWORK, FLEXMASTER TYPE 6M. ACOUSTICAL INSULATED, LINER SHALL BE SPUNBOND NYLON TO ALLOW BROADBAND SOUND ENERGY TO PENETRATE THE DUCT WALL HELK SHALL BE CORROSION RESISTANT GALVANZED STEEL, FORMED AND MECHANICALLY LOCKED TO FABRIC. INSULATION SHALL BE THICK FIBERGLASS INSULATION BLANKET, FACTORY WRAPPED, WITH THERMAL CONDUCTANCE R-8.0. VAPOR BARRIER SHALL BE FIRE RETARDANT REINFORCED ALMINIMUM, FLEXIBLE DUCTS SHALL CONFORM TO THE STANDARDS OF NFPA 90A AND SHALL BE TESTED AND LISTED BY UL 181 CLASS 1 AIR DUCT. MAXIMUM LENGTH LIMX-2-2 AON. SUBMIT SHOP DEMANNIGS.

PROVIDE BALANCING OF THE ALL NEW AIR SUPPLY, RETURN, FRESH AND EXHAUST AIR SYSTEMS SERVING TENOVATION AREA. ENSURE THAT THE FINAL AIR QUANTITIES SPECIFIED ON DRAWINGS ARE AVAILABLE AT UNITLES, WITHIN A TOLERANCE OF 1-5%. MEASURE AIR QUANTITIES, STATIC PRESSURES AND TEMPERATURES

1) PERFORM PRE-CONSTRUCTION TAB FOR THE AH SYSTEM SERVING ROOM 405. REFER TO DRAWING #M-101

2) ONCE DEMOLITION IS COMPLETE AND THE DUCT CAPPED-OFF, REBALANCE THE SYSTEM TO ENSURE THE OTHER AREA SARE NOT AFFECTED BY THE DELETION OF THE SUPPLY. AIR SERVING ROOM 405. ADJACENT ENSITIAGE AND 4E RETURN AIR TO COMPRESSATE FAN FOR THE REMAINDER OF ROOM

TESTING, ADJUSTING AND BALANCING (TAB) OF MECHANICAL SYSTEMS SHALL BE AS PER U OF T TAB

TESTING, AUJUSTING AND DALANGING (NAC) OF THE STANDARDS SECTION OF U of T.
SUBMIT CONSOLIDATED BALANCE REPORT IN TRIPLICATE TO THE PROJECT MANAGER. THE BALANCING REPORT SHALL INCLUDE, BUT NOT

AIR OUT ET /INI ET DATA SHEET:

- EL /INLELI DAIA SHEELI:
 OUTLET/INLET NUMBER, MAKE, MODEL
 AREA FACTOR, REQUIRED VELOCITY & L/S (CFM), ACTUAL VELOCITY & L/S (CFM)
 STATIC PRESSURE IN MAIN SUPPLY AIR DUTCH.
 AIR TEMPERATURE SUPPLIED TO TENANT SPACE AT LAST SUPPLY AIR DUTCH.

SCHEMATIC DRAWING: SINGLE LINE DRAWING WITH OUTLETS AND INLETS NUMBERED CORRESPONDING TO AIR OUTLET AND INLET

TAB CONTRACTOR QUALIFICATION SHALL BE: Indeepindent testing. Adjusting. and Balancing Agency Shall meet. The qualifications specified

DELOW:
NEBB - NATIONAL ENVIRONMENTAL BALANCING BUREAU;
AABC - ASSOCIATED AIR BALANCE COUNCIL;
"NO EXCEPTIONS TO ABOVE MENTIONED CERTIFICATIONS ARE ALLOWED"

ENVIRO BALANCE (416) 556-4201 AIR & WATER PRECISION BALANCING (647) 896-5353 FLOWSET BALANCING LTD. (416) 410-979

ALL DUCTWORK AND HANGERS SHALL BE FABRICATED TO SMACNA LATEST EDITION. SUPPLY DUCTWORK SHALL BE CLASS 2 IN WG, SEAL CLASS B. RETURN DUCTWORK SHALL BE CLASS 1 IN WG, SEAL CLASS C. RETURN/EXHAUST DUCTWORK SHALL BE CLASS 1 IN WG, SEAL CLASS 6.

INSTALL DISCTWORK IN ACCORDANCE WITH SMACNA STANDARDS

FLEXIBLE DUCT SHALL BE CLASS I ALUMINUM HELICAL WOUND SUITABLE FOR HIGH PRESSURE APPLICATION. MAXIMUM LENGTH OF FLEX SHALL NOT EXCEED 5 FEET. FLEXBLE DUCTS SHALL BE SECURED TO RIGID DUCTS BY STAINLESS STEEL CLAMPS. TAPE ALONE IS ON TACCEPTRABLE. NO JOINTS WILL BE ALLOWED ON FLEX DUCTS.

PROVIDE DURO DYNE "DUROLON" FLEXIBLE CONNECTIONS BETWEEN FAN AND ADJACENT DUCTWORK

ALL EXISTING GRILLES, DIFFUSERS AND ALL VISIBLE MECHANICAL EQUIPMENT SHALL BE CLEANED AFTER DRYWALL INSTALLATION IS COMPLETE.

PROVIDE AIR BALANCE FOR ALL QUANTITIES SHOWN ON THE DRAWINGS. AIR BALANCE SHALL BE DONE BY AN INDEPENDENT AIR BALANCE CONTRACTOR CERTIFIED BY AADE, PAID FOR BY THIS CONTRACTOR. SUBMIT 3 COPIES OF THE REPORTS FOR REVIEW, AT THE REQUEST OF ENGINEER, PERFORM RANDOM CHECK UP TO 1.0% OF ALL OUTLETS OR MEASURING POINTS. THE AIR BALANCE CONTRACTOR SHALL DHECK ALL CONTROL DEVICES

PLUMBING

DOMESTIC WATER PIPING SHALL BE TYPE L WITH CAST BRASS OR WROUGHT COPPER FITTINGS. GATE VALVES SHALL BE CRANE #428 OR #438C.

SANITARY PIPING SERVING THE LAB:

1) LABORATORY WASTE LINE SHALL BE GLASS MATERIAL, GLASS FITTINGS AND COUPLING JOINTS

2) MANUFACTURED BY SCHOTT OR EQUIVALENT. LABORATORY WASTE LINE SHALL BE GLASS MATERIAL, GLASS FITTINGS AND COUPLING JOINTS
(HIMAX CLASS DAIN AND VENT SYSTEMS AS MANAUFACTURED BY SCHOTT OR EQUIVALENT.
SYSTEM SHALL BE MADE OF KIMAX U.L. CLASSIFED BOROSICLATE GLASS AND CONFORMING TO
ASTM SPECIFICATION C 1053-90, AS MANUFACTURED BY SCHOTT.
GLASS-TO-GLASS CONNECTIONS SHALL BE MADE WITH KIMAX COMPRESSION TYPE BEAD-TO- BEAD
AND BEAD-TO-HAIN FOLD COUPLINGS - ARTICLE HUMBERS 6850 AND 6661 RESPECTIVELY
COUPLING'S OUTER SHELL, BOLT AND NUT TO BE MADE FROM 300 SERIES STAINLESS STEEL.

BEAD-TO-PLAIN END COUPLING OUTER SHELL MUST ENCAPSULATE COMPRESSION LINER TO PREVENT COLD FLOW AND ENSURE LEAK-FREE JOINT. INNER SEAL RING IS MADE OF TETRA-FLUOROETHYLENE. SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE GOVERNING PLUMBING CODE

ALTERNATE PRICING FOR SANITARY DRAIN AND VENT SHALL BE CAST IRON WITH MJ JOINTS OR DWV COPPER. PROVIDE COST SAVING AMOUNT AS PART OF TENDER DOCUMENTS.

ALL PLUMBING WORK AND PIPE SIZING SHALL CONFORM TO THE PLUMBING CODE

COVER ALL GLYCOL PIPING, DOMESTIC COLD AND HOT WATER PIPES, FITTING AND VALVES WITH 25 MM (1") PRE-MOLDED GLASS FIBRE INSULATION WITH VAPOUR BARRIER, SEAL VAPOUR BARRIER WITH LAP CEMENT.

INSULATE CONDENSATE DRAIN PIPING SAME AS COLD WATER

COVER ALL NEW SUPPLY AIR DUCTS WITH 1" FOIL-FACED BLANKET INSULATION

RECOVER ALL INSULATION IN EXPOSED AREA WITH 6 OZ CANVAS.

MODIFYING AND TESTING THE SPRINKLER SYSTEM SHALL BE RESPONSIBILITY OF SPRINKLER CONTRACTOR. THE CONTRACTOR SUBMITTING QUOTATIONS FOR THIS WORK SHALL PROVIDE A COMPLETE, OPERATING IKLER SYSTEM FOR THE RENOVATED ARE OF THINNER OF STEEM FOR THE RENOVATED AREA.

THE SYSTEM SHALL BE VERIFIED AND DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS, NFPA AND THE

NUTHORITIES HAVING JURISDICTION.
PROVIDE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS AND SUBMIT FOR APPROVAL OF BASE BUILDING
NSURANCE REQUIREMENT. SHOP DRAWINGS AND CALCULATIONS SHALL BE SEALED AND SIGNED BY A

IOFESSIONAL ENGINEER.

THE CONTRACTOR SHALL VISIT THE SITE PRIVEN IG SUBMIT INIS ANY PROPUSAL. THE WORK SHALL INCLUDE RELOCATION OR RENEWAL OF THE SPRINKLER PIPING, HEADS, AND EQUIPMENT NECESSARY TO PROVIDE A COMPLETE SYSTEM. THIS SHALL INCLUDE ANY UPGRADING OF THE EXISTING SYSTEM WHICH MAY BE REQUIRED. DO WORK IN ACCORDANCE WITH THE FOLLOWING. UNLESS OTHERWISE SPECIFIED: .1 NFPA 10, LATEST

DO WORK IN ACCUMENCE WITH THE FOLLOWING, UNLESS OTHERY EDITION, FOR PORTABLE FIRE EXTINGUISHERS 2. NFPA 13, LATEST EDITION, FOR SPRINKLER SYSTEMS 3. NFPA 14, LATEST EDITION, FOR STANDPIPE AND HOSE SYSTEMS 4. NFPA 20, LATEST EDITION FOR CENTRIFUGAL FIRE PUMPS 5.5 ONTARIO BUILDING CODE LATEST EDITION 6. AUTHORITIES HAVING JURISDICTION

6 AUTHORITIES HAVING JURISDICTION
SUBMIT WORKING SHOP PLANS DRAWING AND DESIGN AND PRODUCT REQUIREMENTS. DATA IN ACCORDANCE
WITH MFRA, WORKING PLANS AND DESIGN REQUIREMENTS.
SYSTEMS ISOLATION: THE IGOLATION WORK ON EXISTING SPRINKLER SYSTEM SHALL BE SCHEDULED WITH
BASE BUILDING; OWNER BUILDING PERSONNEL. THE SPRINKLER SYSTEM WILL BE DRAINED, REFILLED, AND
RE-ACTIVATED BY OWNERS PERSONNEL ONLY.

ENGINEERING DESIGN CRITERIA: DESIGN SYSTEM TO NEPA, USING THE FOLLOWING PARAMETERS:

ORDINARY HAZARD:
THE SPRINKLE SYSTEM (AND STANDPIPE SYSTEM IF APPLICABLE) MODIFICATIONS SHALL BE INSTALLED TO THE STANDARDS OF N.F.P.A. #33 AND 14, 08C, UIC., FIRE CODE OF TORONTO FIRE DEPARTMENT.
PIPE SIZE AND LAYOUT:
PIPE SIZE SHALL BE DETERMINED USING HYDRAULIC DESIGN, HYDRAULIC DESIGN SHALL BE BASED ON PROVIDING SPRINKLER COVERAGE FOR ENTIRE FACILITY, HYDRAULIC CALCULATIONS FOR MAIN TO BE BASED ON MOST REMOTE AREA.

ON MOST REMOTE AREA.

THE DESIGN IN STRUCT CONFORMANCE TO MECHANICAL EXPONENCE PROVIDE DRAWING AUTO HERA 13.

PIPE LOCATIONS TO SUIT SPECIFIED INSTALLATION AND RELOCATION REQUIREMENTS OF RELATED WORK.
PROVIDE CERTIFICATE INDICATING THAT THE SPRINKLER INSTALLATION CONFORMS TO NFPA REQUIREMENT
AND SPECIFIED SPRINKLE REQUIREMENT. PIPING, ETTINGS AND VALVES.
ALL SPRINKLES SYSTEM PIPING SHALL BE C.S.A. BG3 SCHEDULE 40, BLACK STEEL WITH MALLEABLE IRON OR CAST SCREWED, FLANGED, WELDED, IN ACCORDANCE WITH N.F.P.A. # 13 REQUIREMENTS. FITTINGS SHALL BE RATED FOR 1.38 ABM RM. WORKING PRESSURE.

SPRINKIER HEADS:
CONCEALED SPRINKIER HEADS WITH COVERS SHALL NOT BE INSTALLED AND WILL NOT BE ACCEPTED, UNLESS
OTHERWISE NOTED. RECESSED PENDENT SFRINKIER HEADS WITH REMOVABLE ESCUTCHEONS SHALL BE
INSTALLED IN ALL AREAS HAVING CELING THES AND DRYWALL CELING ALL AREAS HAVING CELING THES AND DRYWALL CELING.

INSTALL SPRINKLER HEADS IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATION, AS WELL AS WITH THE APPLICABLE STANDARDS OF THE N.F.P.A, IN ADDITION TO THE STANDARDS OF ANY OTHER AUTHORITIES

COORDINATED ROUTING OF SPRINKLER PIPES WITH OTHER TRADES PRIOR TO INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING HEIGHTS. THE INSTALLED SPRINKLER HEADS SHALL BE CENTER AND COORDINATED WITH NEW CEILING PATTERN, LIGHTING AND OTHER FACTORS WHICH MIGHT AFFECT UNIFORM LAYOUT.

ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT AL PARTS OF EACH SYSTEM MAY BE THOROUGHLY DRAINED, PREFERABLY AT THE MAIN DRAIN VALVE. ALL TRAPPED HEADS IN EXCESS OF FIVE (5) HEADS SHALL BE PROVIDED WITH DRAIN VALVES AND CAST IRON PLUG. LOW POINTS WHERE MORE THAN TWENTY HEADS ARE TRAPPED SHALL BE PROVIDED WITH AN AUXILIARY DRAIN VALVE.

MAINTENANCE OF SERVICES:
UNDER NO CHROMENTANCES SHALL THE EXISTING SPRINKLER AND STANDPIPE SYSTEM BE DISRUPTED FOR ANY PERIOD LONGER THAN NECESSARY TO MAKE ANY CONNECTIONS OR EXTENSIONS TO IT.
MAINTAIN WATER PRESSURE IN THE STANDPIPE AND SPRINKLER SYSTEMS AT ALL TIMES. NOTIFY THE
OWNER'S OFFICE ANY TIME THE SERVICE IS SCHEDULED FOR DISRUPTION AND INDICATE THE TIME OF SUCH

TORONTO METROPOLITAN UNIVERSITY

PIPMO IDENTIFICATION
AFFER COMPLETION OF INSULATION AND (OR PAINTING, ALL PIPMG AND DUCTWORK SHALL BE MARKED TO
SHOW THE SERVICE AND DIRECTION OF I.OW. DIRECTION ARROWS SHALL BE SOUD BLACK OR WHITE TO SUIT
COLOUR OF BACKGROUND SUFFACE. USE DOUBLE ARROWS SHEED ELOW IS REVERSIBLE. ARROWS SHEED ELE OWN SIE VERSIBLE. ARROWS SHEED ELE

PROVIDE PIPE MARKING ON INSULATED PIPES IN ACCORDANCE WITH BUILDING STANDARDS AS BELOW TABLE SYSTEM DESCRIPTION VALVE TAG LEGEND Background Text Colour

	PIPE MARKER LEGEND	Colour	
Condenser Water Supply	COOLING TOWER SUPPLY	Green	White
Condenser Water Return	COOLING WATER RETURN	Green	White
Chilled Water Supply	CHILLED WTR.SUP.	Green	White
Chilled Water Return	CHILLED WTR.RET	Green	White
Domestic Cold Water	DOM COLD WATER	Green	White
Non potable water	NON-POTABLE WTR	Green	White
Domestic Hot Water	DOM HOT WATER	Yellow	Black
Domestic Hot Water Recirc.	DOM HOT WATER RECIRC	Yellow	Black
Heating Water Supply	HEATING WTR SUP.	Yellow	Black
Heating Water Return	HEATING WTR RET.	Yellow	Black
Glycol HTG Supply	Glycol HTG. Sup.	Yellow	Black
Glycol HTG Return	Glycol HTG. RET	Yellow	Black
Heat Pump Recovery Supply	HEAT PUMP RECOVERY .SUP	Yellow	Black
Heat Pump Recovery Return	HEAT PUMP RECOVERY. RET	Yellow	Black
Storm Sewer	STORM.S.	Green	White
Sanitary Drain	SANITARY DRAIN	Green	White
Steam	STEAM. # kPa (PSI)	Yellow	Black
Natural Gas	NATURAL Gas. # kPa (PSI)	Yellow	Black
Fire Protection Water	FIRE PROTECTION WATER	Red	White
Sprinkler	SPRINKLER	Red	White
Plumbing Vent	PLUMBING VENT	Green	White
Condensate Return	CONDENSATE RETURN	Yellow	Black
Condensate drain	CONDENSATE DRAIN	Yellow	Black
Refrigerant Suction	REFRIGERANT SUCTION	Green	White
Refrigerant Liquid	REFRIGERANT LIQUID	Green	White
Refrigerant Hot Gas	REFRIGERANT HOT GAS	Green	White
Compressed Air	COMPRESSED AIR	Yellow	Black
Fuel Oil supply	FUEL OIL SUPPLY	Yellow	Black
Fuel oil return	FUEL OIL RETURN	Yellow	Black
Fuel oil vent	FUEL OIL VENT	Yellow	Black
Supply Air	SUPPLY AIR	White	Black
Return Air	RETURN AIR	White	Black
Exhaust Air	EXHAUST AIR	White	Black
Outdoor air	OUTSIDE AIR	White	Black

VALVE IDENTIFICATION 1. ALL VALVES SHALL BE PROVIDED WITH TAGS, OTHER THAN LOCAL ISOLATIONS VALVES ON CONVECTORS, OR OTHER SPACE HEATING UNITS AND VALVES ON PLUMBING FIXTURES. 2. VALVE TAG ABBREVIATIONS SHALL BE IN ACCORDANCE WITH PIPE MARKER LEGEND SCHEDULE IN THE

- PREVIOUS SECTION.

 PROVIDE A CHART OR CHARTS, INDICATING LOCATION, SERVICE, AND ZONE OF EACH VALVE. CHARTS SHALL BE SET IN FINISHED WOOD OR METAL PICTURE FRAMES WITH CLEAR GLASS OR LUCITE FRONT AND
- FASTENED SECURELY WHERE DIRECTED BY THE CONSULTANT.
 THIS WORK SHALL BE COORDINATED OTHER TRADES AND BASE BUILDING VALVE IDENTIFICATION TO
 PREVENT OVERLAPPING OF NUMBERING SYSTEMS.
- .5 FOR EXTENSION AND/OR ALTERATION TO THE EXISTING SYSTEM, PREPARE A NEW CHART CONFORMING IN
- APPEARANCE WITH EXISTING CHARTS.

 6. ALL MECHANICAL EQUIPMENT IDENTIFICATION SHALL MEET OWNER'S SITE REQUIREMENTS PRIOR TO FABRICATION, PROVIDE SUBMITTAL WITH PROPOSED IDENTIFICATION AND CONFIRM THE IDENTIFICATION.

MECHANICAL EQUIPMENT IDENTIFICATION

1. EACH PIECE OF NEARAIDCE, EQUIPMENT SHALL BE COMPLETE WITH A LAMACOID NAMEPLATE SECURELY.
FASTENED IN A CONSPICUOUS PLACE ON THE EQUIPMENT, LETTERS FOR LABELS SHALL BE NOT SMALLER.
THAN 20MM (3/4*) IN HEIGHT.

THAN 20MM (3/4") IN HEIGHT.

TAG AUTOMATIC CONTROLS, INSTRUMENTS AND RELAYS AND MATCH CONTROL SHOP DRAWING IDENTIFICATION NUMBERS. TAG ALL EQUIPMENT EXCLUDING PIPE AND DUCT. IDENTIFY ELECTRIC STARTING SWITCHES, THEMBOSTATS CONTROLLING MOTORS, REMOTE PUSH BUTTON STATIONS, AND CONTROLS EQUIPMENT WITH LAMACOUD PLATES IN ACCORDANCE WITH NAMEPLATE REQUIREMENTS, IDENTIFICATION TO STATE EQUIPMENTS.

LABELLING STANDARD LABELING OF ALL PIPES, DUCTS, AND EQUIPMENT

PIPES
ALL PIPES SHOULD HAVE A LABEL AND DIRECTION INDICATED AFTER EVERY ELBOW.

2. THERMOSTATS
ALL THERMOSTATS SHOULD HAVE A LABEL SHOWING THE VAV # AND AHU# OR FCU# AND ROOMS
COVERING



3. SUPPLY GRILLS
ALL SUPPLY GRILLS SHOULD HAVE A LABEL SHOWING THE VAV#, AHU# OR FCU# AND DESIGN AIR FLOW



RETURN GRILLS
 ALL RETURN GRILLS SHOULD HAVE A LABEL SHOWING THE RF# AND DESIGN FLOW.

EXHAUST GRILLS ALL EXHAUST GRILLS SHOULD HAVE A LABEL SHOWING THE EF# AND DESIGN FLOW.

VALVES IN FALSE CEILING
THE LOCATION OF ALL VALVES IN THE FALSE CEILING SHOULD BE CLEARLY LABELED, INCLUDING THE SYSTEM
THEY BELONG TO (E.G., HEATING, COOLING, DOMESTIC WATER, ETC.)

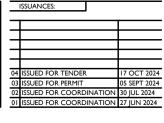
DRAWING NAME:



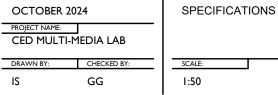












M-002 24035

ſ	GRILLE SCHEDULE					
1	ΓAG	SERVICE	SELECTION		NOTES	REMARKS
	Α	CED MULTIMEDIA LAB	5010 3 SLOT	ACOUSTICALLY LINED SUPPLY SLOT DIFFUSER	NOTE 1, 2	C/W ALUMINUM O.B.D

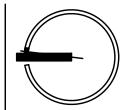
NOTES:

- 1. FOR NECK SIZE AND AIR FLOW SEE DWGS
- 2. PROVIDE CONTINUOUS SLOT AND ACOUSTICALLY LINED PLENUM C/W CABLE ADJUSTED BALANCING DAMPER IDCO
- 3. ACOUSTIC CONSULTANT TO REVIEW SELECTION OF DIFFUSER AND ADVISE IF nc LEVELS ARE SUITABLE 4. MANUFACTURER NAILOR INDUSTRIES









04	ISSUED FOR TENDER	17 OCT 2024
03	ISSUED FOR PERMIT	05 SEPT 2024
02	ISSUED FOR COORDINATION	30 JUL 2024
01	ISSUED FOR COORDINATION	27 IUN 2024

CLIENT:	
TORONTO M UNIVERSITY	IETROPOLITAN

LOC	ATION	
29	7 VICTOR	RIA STREET
TC	RONTO	ON M5B IWI

DATE:		DRAWING NAME:
OCTOBER 20	SCHEDULES	
PROJECT NAME: CED MULTI-M		
DRAWN BY:	CHECKED BY:	SCALE:
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 PROJECT No:
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