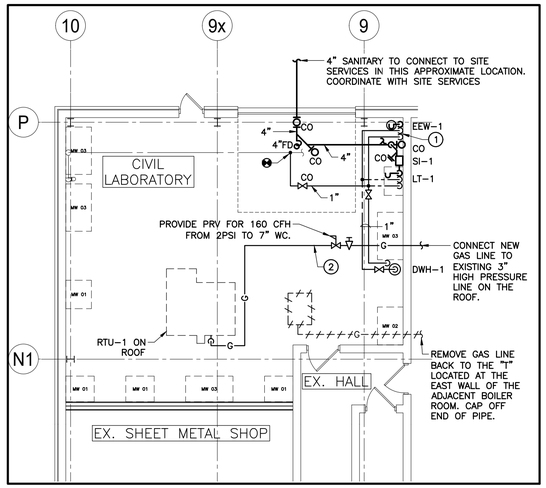
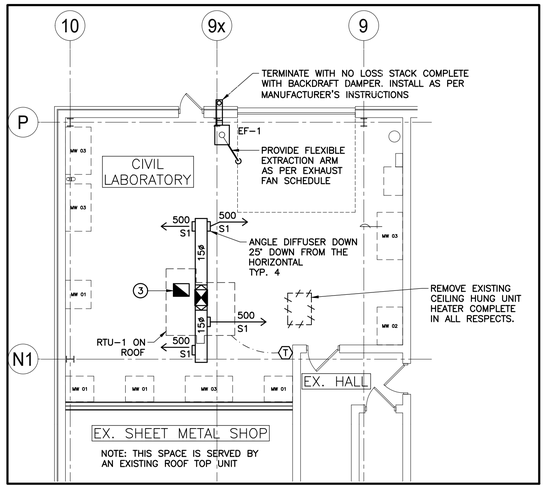
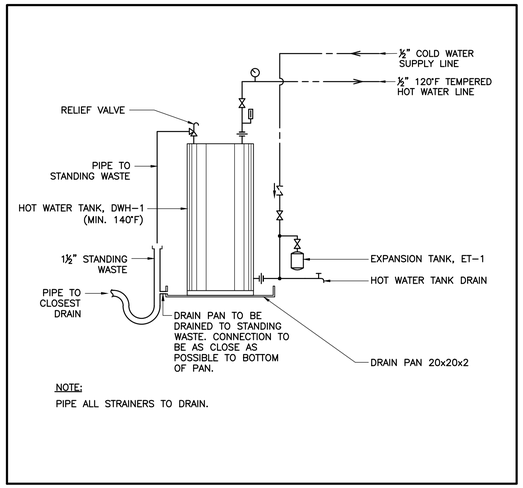


1 M2-1 PARTIAL GROUND FLOOR PLAN - PLUMBING LAYOUT
1/8"=1'-0"



2 M2-1 PARTIAL GROUND FLOOR PLAN - HVAC LAYOUT
1/8"=1'-0"



NOTE:
PIPE ALL STRAINERS TO DRAIN.

3 M2-1 ELECTRIC WATER HEATER DETAIL
NTS

GENERAL NOTES

1) PLUMBING VENTING SHALL BE PROVIDED IN ACCORDANCE WITH OBC.
2) MOUNT NEW THERMOSTAT AT 48 INCHES ABOVE FINISHED FLOOR.
3) PROVIDE PRIME LINES TO ALL FLOOR DRAINS, FUNNEL FLOOR DRAINS AND HUB DRAINS.
4) MECHANICAL CONTRACTOR TO OBTAIN AND PAY FOR A CONTROL CONTRACTOR TO COMPLETE THE CONTROL SCOPE OF WORK.

DRAWING NOTES

① ¾" HOT AND COLD WATER DOWN TO EEW-1. PROVIDE MIXING VALVE. COORDINATE EXACT LOCATION OF EEW-1 ONSITE AND VERIFY WITH THE OWNER
② PROVIDE GAS PIPING ON ROOF TO RUN TO RTU-1. PROVIDE ADEQUATE GAS PIPING SUPPORT
③ 20x16 OED COMPLETE WITH BIRD SCREEN UP TO RTU-1 ON ROOF

HVAC SEQUENCE

1. EXTRACTION MODE (EXTRACTION ARM SWITCH IS IN THE ON POSITION AND UNIT IS IN 'OCCUPIED' MODEL)
 1.1. EXTRACTION ARM SWITCH IS IN THE ON POSITION.
 1.2. RTU MINIMUM OUTSIDE AIR IS SET TO 440 CFM.
 1.3. HEATING, COOLING & DEHUMIDIFICATION SYSTEMS MODULATE TO MAINTAIN OCCUPIED SPACE TEMPERATURE AND HUMIDITY SET POINTS.
 1.4. ECONOMIZER IS PERMITTED TO INCREASE FROM MIN TO 100% OA AS DETERMINED BY THE COMPARATIVE ENTHALPY ECONOMIZER.
 1.5. POWER EXHAUST MODULATES TO MAINTAIN SPACE PRESSURE SET POINT.

2. NON-EXTRACTION MODE (EXTRACTION ARM SWITCH IS IN THE OFF POSITION & UNIT IS IN 'OCCUPIED' MODE)
 2.1. RTU MINIMUM OA IS SET TO 100 CFM. MINIMUM OA IS RESET BASED ON THE RETURN AIR CO2 LEVELS.
 2.2. HEATING, COOLING & DEHUMIDIFICATION SYSTEMS MODULATE TO MAINTAIN OCCUPIED SPACE TEMPERATURE AND HUMIDITY SET POINTS.
 2.3. ECONOMIZER IS PERMITTED TO INCREASE FROM MIN OA TO 100% OA AS DETERMINED BY THE COMPARATIVE ENTHALPY ECONOMIZER.
 2.4. POWER EXHAUST MODULATES TO MAINTAIN SPACE PRESSURE SET POINT.

3. UNOCCUPIED (EXTRACTION ARM SWITCH IS IN THE OFF POSITION & UNIT IS IN 'UNOCCUPIED' MODE)
 3.1. RTU IS OFF IF SPACE TEMPERATURE IS WITHIN THE UNOCCUPIED SET POINT RANGE.
 3.2. IF THE SPACE TEMPERATURE FALLS OUTSIDE THE UNOCCUPIED SET POINT RANGE, THE RTU IS COMMANDED ON.
  3.2.1. RTU MINIMUM OUTSIDE AIR IS SET TO 0 CFM.
  3.2.2. HEATING, COOLING SYSTEMS MODULATE TO MAINTAIN UNOCCUPIED SPACE TEMPERATURE SET POINT.
  3.2.3. ECONOMIZER IS PERMITTED TO INCREASE FROM 0-100% OA AS DETERMINED BY THE COMPARATIVE ENTHALPY ECONOMIZER.
  3.2.4. POWER EXHAUST MODULATES TO MAINTAIN SPACE PRESSURE SET POINT.

LEGEND

	EXISTING COLD WATER TO REMAIN
	COLD WATER
	HOT WATER
	SANITARY BELOW
G	GAS PIPING
	THERMOSTAT CONTROL WIRING
	EQUIPMENT/DUCTWORK
	EXISTING TO BE REMOVED
EEW	EMERGENCY EYEWASH
FD	FLOOR DRAIN
CO	CLEAN OUT
	SHUT-OFF VALVE
	GAS SHUT-OFF VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	CHECK VALVE
	UNION
	PRESSURE GAUGE
	TEMPERATURE GAUGE
HB	HOSE BIBB
G	PIPING DOWN
	PIPING UP
CO / CO	FLOOR CLEAN OUTS
CO	CEILING OR WALL CLEAN OUT
FD	FLOOR DRAIN
	FLOW ARROW
T	THERMOSTAT
	SUPPLY OR OUTDOOR AIR DUCTWORK
	RETURN OR EXHAUST AIR DUCTWORK
G	FLEXIBLE DUCTWORK
300	CUBIC FEET PER MINUTE
S1	GRILLE DESIGNATION
	SUPPLY AIR GRILLE OR DIFFUSER
	RETURN OR EXHAUST AIR GRILLE
	CONNECT TO EXISTING

ROOF TOP UNIT SCHEDULE

TAG #	MANUFACTURER AND MODEL	FAN				ELECTRICAL			DX COOLING COIL				GAS	OUTDOOR AIR	FILTER SECTION		SOUND PERFORMANCE DATA (db) AT A GIVEN FREQUENCY (Hz)									SIZE LxWxH (IN)	REMARKS
		FUNCTION	CFM	ESP (IN. W.C.)	FAN TYPE	FLA	MCA	VOLTAGE	EAT DB/WB (°F)	LAT DB/WB (°F)	CAPACITY (BTU/HR)		CAPACITY (BTU/HR)	CFM	TYPE	QUANTITY / SIZE (IN)		63	125	250	500	1000	2000	4000	8000		
											TOTAL	SENSIBLE															
RTU-1	DAIKIN, DPS005A	SUPPLY	2000	1	SWSI AF	27.9	30.9	208/3/60	79/65.5	55.7/55.6	60577	50815	128000	0-100% ECON WITH COMPARATIVE ENTHALPY CONTROL	COMBO 2"/4" RACK WITH 2" MERV 8	4/16x16x2	UNIT RADIATED	76	74	82	77	79	73	68	62	67x87x40.8 HIGH	GAS AND ELECTRIC HEATING AND COOLING MHGRH WITH SPACE HUMIDITY SENSOR, VARIABLE AIR, 0-100% ECONOMIZER COMPLETE WITH COMPARABLE ENTHALPY CONTROLS. 24" ROOF CURB
																	SUPPLY FAN	76	77	85	82	85	79	76	70		
																	UNIT RETURN	82	82	78	75	73	68	61	54		

ELECTRONIC WATER HEATER

TAG #	MANUFACTURER & MODEL	CAPACITY (USG)	INLET TEMPERATURE (°F)	OUTLET TEMPERATURE (°F)	VOLTAGE	REMARKS
DWH-1	A.O. SMITH, DEL-6	6	40°F	120°F	120V, 1 PHASE, 12.5A	

SUPPLY AIR DIFFUSER SCHEDULE

SYMBOL	SIZE (IN)	NECK SIZE (IN)	APPLICATION	MANUFACTURER AND MODEL
S1	14⅜x12½	12x10	DUCT	KRUEGER, DMD c/w EXTRACTOR/DAMPER, ALUMINUM

EMERGENCY EYE WASH SCHEDULE

TAG #	MANUFACTURER & MODEL	HEADS	VALVE	MOUNTING	REMARKS
EEW-1	GUARDIAN, G1750P	TWO FS-PLUS	PUSH TYPE	WALL BRACKET	STEAM CONTROL 1/2" SUPPLY COMPLETE WITH STOP 1 1/2" TAILPIECE AND TRAP. WALL MOUNT UNIT COMPLETE WITH EMERGENCY SIGN AND MIXING VALVE.

EXHAUST FAN SCHEDULE

TAG #	LOCATION	SYSTEM	AIR FLOW (CFM)	E.S.P. (IN. W.C.)	HP	BHP	VOLT/PH/Hz	RPM	DRIVE	MANUFACTURER & MODEL	REMARKS
EF-1	CIVIL LABORATORY	VENTILATION	392	-	1.5	-	208/3/60	-	DIRECT	LEV-CO, P-152-2	COMPLETE WITH LEV-CO, L-0456 EXTRACTION ARM. COMPLETE WITH WALL MOUNTING BRACKET AND BUILT-IN DAMPER WITH KNOB

SERVICE SINK SCHEDULE

TAG #	TYPE	SIZE (IN)	TRIM	RIM GUARD	TRAP	BRASS STOP	SUPPORT	STRAINER	ACCESSORIES	REMARKS
LT-1	ADVANCE TABCO, WWG11U343	24x27½x41	-	N/A	-	-	GALVANIZED LEGS WITH ADJUSTABLE, CORROSION-RESISTANT BULLET FEET	-	N/A	-

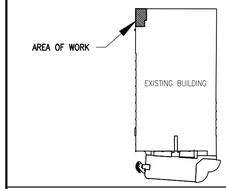
FIXTURE SCHEDULE

FIXTURE	DRAIN	VENT	COLD WATER	HOT WATER	TEMPERED WATER
SERVICE SINK	2"	1½"	½"	½"	-
EMERGENCY EYE WASH	1¼"	1¼"	-	-	1"
FLOOR DRAIN	AS NOTED	1½"	-	-	-

SEDIMENT INTERCEPTOR SCHEDULE

TAG #	LOCATION	FLOW RATE (GPM)	MANUFACTURER & MODEL
SI-1	CIVIL LABORATORY	30	ZURN, Z1181

DURHAM COLLEGE
SUCCESS MATTERS



true north project north

date	issued
2019.01.21	ISSUED FOR OWNER'S REVIEW
2019.02.22	ISSUED FOR OWNER'S REVIEW
2019.03.08	ISSUED FOR BID AND PERMIT

date	revision	no.

customer
DURHAM COLLEGE
1610 Champlain Ave., WHITBY, ONTARIO

project
DURHAM COLLEGE
CIVIL LAB RENOVATION
WHITBY ONTARIO

title
GROUND FLOOR PLAN - MECHANICAL LAYOUTS, LEGEND, SCHEMATICS AND SCHEDULES

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March 8, 2019
PROVINCE OF ONTARIO
2018-0647-10

The contractor shall check and verify all dimensions and report any errors or omissions to the consultant before commencing or proceeding with any work. Do not scale this drawing.

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date:	2019.03.08
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CAD file:	M2-1_2018-0647-10
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checked by:	

sheet no.: M2-1

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