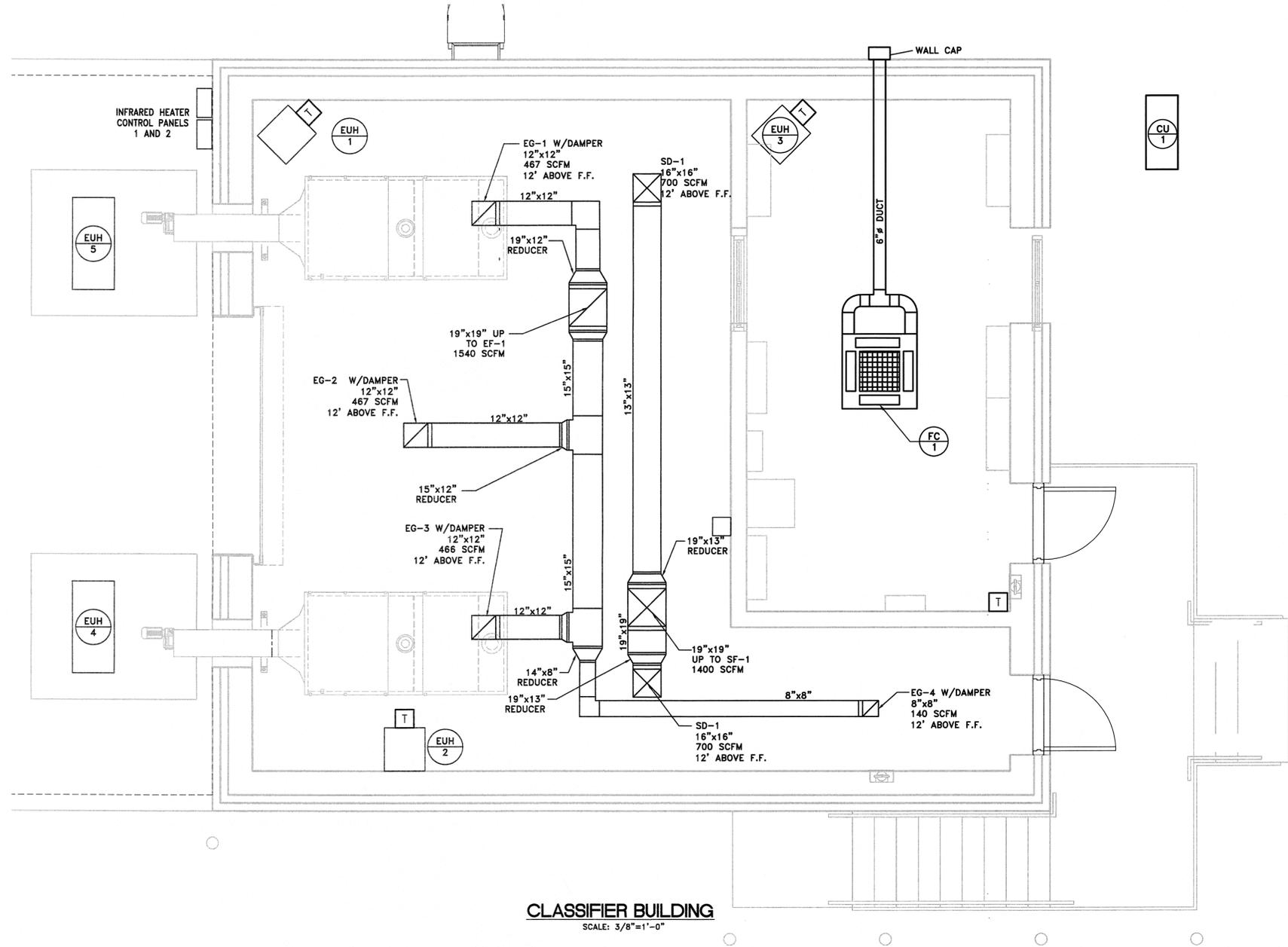


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GENERAL HVAC NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT APPLICABLE EDITION OF THE INTERNATIONAL BUILDING CODE AS ADOPTED AND IMPLEMENTED BY THE STATE OF NEW JERSEY UNIFORM CONSTRUCTION CODE. ALSO ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST CURRENT EDITION OF THE INTERNATIONAL MECHANICAL CODE AS ADOPTED AND IMPLEMENTED BY THE STATE OF NEW JERSEY UNIFORM CONSTRUCTION CODE.
2. OBTAIN ALL REQUIRED APPROVALS BEFORE STARTING INSTALLATION.
3. ALL PENETRATIONS IN SLABS AND WALLS SHALL BE SEALED AND MADE WATERTIGHT.
4. REFER TO STRUCTURAL AND/OR ARCHITECTURAL DRAWINGS FOR DETAILS ON OPENINGS IN WALLS AND ROOF.
5. PROVIDE ALL NECESSARY CONTROL COMPONENTS, RELAYS, TRANSFORMERS AND WIRING TO MEET SEQUENCE OF OPERATIONS INDICATED ON DRAWING.
6. CONTRACTOR TO PROVIDE ALL PIPING AND EQUIPMENT SUPPORTS.

NOTES:

1. PROVIDE SPECIFIED MANUFACTURER OR EQUIVALENT.
2. PROVIDE AND INSTALL ROOF CURB IN ACCORDANCE WITH STRUCTURAL/ARCHITECTURAL DETAILS.
3. PROVIDE AND INSTALL MOUNTING BRACKET AS REQUIRED TO INSTALL FRAMING.
4. PROVIDE BIRD SCREEN IN REMOVABLE FRAME.
5. CONTRACTOR TO INSTALL DUCT, SCREENS, ROOF CURB AND REQUIRED FITTINGS FOR EF-1 AND SF-1.
6. PROVIDE AND INSTALL WALL MOUNTED THERMOSTAT, WHERE INDICATED IN THE PLANS.
7. CONTRACTOR TO PROVIDE WALL MOUNTING BRACKETS AND MISCELLANEOUS STRUCTURE STEEL AS REQUIRED TO SUPPORT UNIT HEATERS. PROVIDE CLEARANCES AS RECOMMENDED BY THE MANUFACTURER.
8. ALL SUPPLY DIFFUSERS SHALL HAVE INTEGRAL ADJUSTABLE DAMPER.
9. ALL EXHAUST GRILL/REGISTER SHALL HAVE INTEGRAL ADJUSTABLE DAMPER.
10. ALL HVAC DUCT, DAMPERS, GRILLS DIFFUSERS, AND REGISTERS SHALL BE ALUMINUM CONSTRUCTION.
11. ALL SUPPLY AIR DIFFUSERS SHALL BE ALUMINUM CONSTRUCTION WITH INTEGRAL DAMPER, 3-WAY PATTERN. DIFFUSERS SHALL BE MODEL 250-AA OR EQUAL.
12. ALL RETURN GRILLS SHALL BE ALUMINUM CONSTRUCTION WITH INTEGRAL DAMPER. RETURN GRILLES SHALL BE TITUS 350 SERIES.
13. CONTRACTOR SHALL DESIGN, PROVIDE AND INSTALL ALL PIPE/DUCT SUPPORTS TO SUPPORT THE PIPES/DUCT AND EQUIPMENT SHOWN. THE DESIGN OF ALL PIPE SUPPORTS SHALL BE BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. WHERE A PIPE/DUCT SUPPORT IS SHOWN ON THE PLAN, THE CONTRACTOR SHALL DESIGN, PROVIDE AND INSTALL A PIPE/DUCT SUPPORT AT THE LOCATION SHOWN AND IN THE ORIENTATION SHOWN. SEE PLANS AND SPECIFICATION FOR DESIGN AND OTHER PIPE/DUCT SUPPORT REQUIREMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW, PIPE SUPPORTS CALCULATIONS AND SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. MATERIALS SHALL NOT BE FABRICATED UNTIL THE ENGINEER'S APPROVAL HAS BEEN OBTAINED.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING ANY EQUIPMENT. NO ALLOWANCES WILL BE MADE BY THE OWNER FOR ERRORS RELATED TO THE CONTRACTOR NOT VERIFYING AND CHECKING THE DIMENSIONS AND ELEVATIONS IN THE FIELD.
15. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE TOWNSHIP AND THE ENGINEER AND ALL OTHER CONTRACTORS TO MINIMIZE INTERRUPTIONS TO NORMAL TOWNSHIP OPERATION.
11. THE CONTRACTOR SHALL SUBMIT DETAILED WORK PLAN INCLUDING SEQUENCE OF OPERATIONS INCLUDING BY-PASS FLOW ARRANGEMENTS PRIOR TO COMMENCING WORK AND SHALL BE SUBJECT TO APPROVAL OF THE TOWNSHIP. SEE SPECIFICATIONS.
12. ALL DIMENSIONS TO BE FIELD VERIFIED, UNLESS STATED OTHERWISE.
13. ALL HARDWARE SHALL BE STAINLESS STEEL.
14. PROVIDE FLEXIBLE CONNECTIONS AS PER EQUIPMENT MANUFACTURER'S STANDARDS.
15. ALL PIPING IS NOT SHOWN ON PLAN AND SECTION VIEWS.
16. THE GRIT CLASSIFIER ROOM AND THE EXISTING PUMP STATION BUILDING IS CLASSIFIED AS A CLASS I DIVISION 1, GROUP D, EXPLOSION HAZARD AREA AND ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.

SEQUENCE OF OPERATIONS:

1. OPERATION OF SUPPLY FANS (SF-1) AND EXHAUST FANS (EF-1) SHALL BE USER SELECTABLE BETWEEN HAND/OFF/AUTO SELECTOR SWITCH AND START, STOP PUSH BUTTONS. SWITCHES, PUSHBUTTONS, RUN LIGHTS SHALL BE INSTALLED ON WALL MOUNTED, NEMA 4, LOCAL CONTROL PANEL.
2. OPERATION OF UNIT HEATERS (EUH-1), (EUH-2), (EUH-3) SHALL EACH BE USER SELECTABLE BETWEEN HAND/OFF/AUTO. IN AUTO, THE HEATERS (EUH-1), (EUH-2), AND (EUH-3) SHALL BE SET TO MAINTAIN USER ADJUSTABLE TEMPERATURE OF 50°F. EACH UNIT HEATER SHALL INCLUDE INTEGRAL THERMOSTAT.
3. SUPPLY FAN (SF-1) AND EXHAUST FAN (EF-1) SHALL OPERATE CONTINUOUSLY.
4. OPERATION OF INFRARED HEATERS EUH-4 AND EUH-5 SHALL BE USER SELECTABLE HAND/OFF SELECTOR SWITCH WITH GREEN "ON" LIGHT INDICATION FOR EACH HEATER.
5. LOCAL VISUAL AND AUDIBLE ALARMS SHALL BE PROVIDED UPON EF-1 OR SF-1 FAILURE. ALARM STATUS CONDITION SHALL ABE SENT TO SCADA.
6. THERMOSTAT SHALL BE SIZED FOR 120VAC AND BE CONNECTED TO THE STARTER CONTROL CIRCUITS FOR AUTO-MANUAL.
7. CONTRACTOR TO PROVIDE AND INSTALL ALL CONTROLS AND WIRING AS REQUIRED FOR OPERATION OF HVAC/VENTILATION SYSTEM.

ELECTRIC UNIT HEATER SCHEDULE EUH #									
EQUIPMENT TAG	(KW)	SERVICE LOCATION	V/ø/HZ	AMPS	ELEMENTS	REFLECTOR ANGLE	MODEL	MOUNTING	NOTES
EUH-4	6	OUTDOOR CANOPY	480/3/60		3 ELEMENT STAINLESS STEEL ENCLOSURE W/(3) 2000 WATT QUARTZ TUBES	30°	QMARK FRS343S INFRARED HEATER W/F40T20480 ELEMENTS W/SS WIRE GUARD, ADJUSTABLE TILT MOUNTING BRACKET	15'7" A.F.F. TO BOTTOM OF HEATER CEILING MOUNTED	1
EUH-5	6	OUTDOOR CANOPY	480/3/60		3 ELEMENT STAINLESS STEEL ENCLOSURE W/(3) 2000 WATT QUARTZ TUBES	30°	QMARK FRS343S INFRARED HEATER W/F40T20480 ELEMENTS W/SS WIRE GUARD, ADJUSTABLE TILT MOUNTING BRACKET	15'7" A.F.F. TO BOTTOM OF HEATER CEILING MOUNTED	1

ELECTRIC UNIT HEATER SCHEDULE EUH #								
EQUIPMENT TAG	INPUT BTUH (KW)	SERVICE LOCATION	AIR VOLUME CFM	V/ø/HZ	AMPS	MODEL MANUFACTURER	MOUNTING	NOTES
EUH-1	34,121 (10)	CLASSIFIER ROOM		480/3/60	13	233-GS-0106U INDEECO, XP, CLASS 1, DIV.1 W/ INTEGRAL THERMOSTAT	14' A.F.F. TO BOTTOM OF HEATER	1,7
EUH-2	51,180 (15)	CLASSIFIER ROOM		480/3/60	19	233-FB-0156 INDEECO, XP, CLASS 1, DIV. 1, W/ INTEGRAL THERMOSTAT	14' A.F.F. TO BOTTOM OF HEATER	1,7
EUH-3	34,121 (10)	ELECTRICAL CONTROL ROOM		480/3/60	12.8	IUH-1048 QMARK, W/ INTEGRAL THERMOSTAT	9' A.F.F. TO BOTTOM OF HEATER	1,7

SPLIT, DUCT FREE HEAT PUMP SYSTEM CU # FC #										
TAG #	LOCATION	COOLING BTUH	COOLING SENSIBLE BTUH	HEATING BTUH	CFM	UNIT WEIGHT LBS	MODEL	TYPE	ELECTRICAL	MANUFACT.
CU-1	OUTDOOR	24,000	18,900	27,000	-	150	RZQ24PVJU9	CONDENSING UNIT	208-230-1-60	DAIKIN AC
FC-1	ELECTR. RM	24,000	18,900	27,000	780/620/470	49	FCQ24PAVJU	4-WAY-CEILING	208/230-1-60	OR EQUIVALENT

1. PROVIDE AND INSTALL ALL SYSTEM ACCESSORIES AS REQUIRED FOR SYSTEM INSTALLATION, OPERATION AND MANUFACTURER RECOMMENDATIONS.
2. SYSTEM TO BE CONTROLLED BY PROGRAMMABLE ROOM THERMOSTAT.
3. PROVIDE AND INSTALL CONDENSATE PUMPS AND PIPING AS REQUIRED TO DISCHARGE CONDENSATE WATER TO OUTDOOR.
4. PROVIDE LOW AMBIENT KIT WITH START CONTROL.
5. PROVIDE AND INSTALL FRESH AIR INTAKE KIT (CHAMBER TYPE), DUCTWORK, INTAKE WALL CAP WITH DAMPER AND ALL ACCESSORIES AS REQUIRED FOR INSTALLATION AND OPERATION. FRESH AIR INTAKE KIT TO BE MODEL KDDP55B160K BY DAIKIN OR EQUIVALENT.
6. INDOOR UNIT TO BE INSTALL 13 FEET ABOVE FINISHED FLOOR TO BOTTOM OF THE UNIT. CONTRACTOR TO INSTALL ADDITIONAL STRUCTURAL MEMBER AND ALL HARDWARE AS REQUIRED FOR UNIT INSTALLATION.
7. CONTRACTOR TO SUBMIT DETAIL MANUFACTURER DESIGN DRAWING, SCHEDULES AND INSTALLATION PROCEDURES AND RECOMMENDATIONS.
8. THE SYSTEM SHALL BE VARIABLE CAPACITY, HEAT PUMP AIR CONDITIONING INVERTER DRIVEN SPLIT SYSTEM.

CU-1, FC-1

- THE SPLIT, DUCT FREE HEAT PUMP SYSTEM TO BE CONTROLLED BY WALL WIRED THERMOSTATS LOCATED IN ELECTRICAL ROOM. THE THERMOSTATS SHALL BE 7-DAY FULLY PROGRAMMABLE TYPE, MODEL BRC2A71 BY DAIKIN AC OR EQUIVALENT.

APPROVED: Richard A. Alaimo PROFESSIONAL ENGINEER NEW JERSEY LICENSE NO. 13195	REVISIONS 1. GENERAL	DATE 4/13/17	BY DJS	 RICHARD A. ALAIMO ENGINEERING COMPANY Consulting Engineers NJDCA 24GA27988800 200 HIGH STREET MOUNT HOLLY, N.J. 2 MARKET STREET PATERSON, N.J.	GRIT CHAMBER UPGRADE GRIT CLASSIFIER BUILDING FLOOR PLAN	CLIENT: WOODBRIDGE TOWNSHIP PROJECT LOCATION: WOODBRIDGE TOWNSHIP MIDDLESEX COUNTY NEW JERSEY	PROJECT NO.: B-0726-0023-000 CONTRACT NO.: 1230	DATE: APRIL 2017 DESIGNED BY: LMG DRAWN BY: HC CHECKED BY: DEPT. HEAD:	SHEET H1 FILE NO.:
	SCALE: AS NOTED		PROJECT NO.: B-0726-0023-000 CONTRACT NO.: 1230		DEPT. HEAD:				