SUPPORT FOR UNIT COOLER

1/2" [15mm] HANGER ROD SECURED TO STRUCTURE ABOVE (TYP)

TURNBUCKLE (TYP)

BOSS FOR HANGER ROD WELDED TO CHANNEL. MAX. 4‘-0” [1200mm] CC SPACING (TYP)

3” [75mm] 5# U CHANNEL LOCATED TO SUIT UNIT COOLER (TYP)

3” [75mm] WASHER

UNIT COOLER

EXTENDED UNIT COOLER DRAIN TO DISCHARGE INTO FLOOR DRAIN—(WRAP DRAIN WITH ELECTRIC HEATER ELEMENT FOR FREEZER SERVICE)

5/8” [16 MM] DIAMETER NYLON THROUGH BOLT WITH NUT AND WASHER (TYP)

SPACER 3 1/2” MIN. [90mm]

PREFAB. CEILING PANEL AS SPECIFIED

NATIONAL TOBACCO SERVICES

DEPARTMENT OF VETERANS AFFAIRS

DETAIL TITLE / SUPPORT FOR UNIT COOLER

SCALE : NONE

DATE ISSUED : DECEMBER 2008  CADD DETAIL NO. : SD114121-01.DWG
NOTES FOR AIR COOLED REFRIGERATION SYSTEM

1. UNIT COOLER FAN(S) SHALL RUN CONTINUOUSLY, EXCEPT WHEN IT IS TURNED “OFF” BY A SWITCH MOUNTED ON THE UNIT COOLER. THIS SAME SWITCH SHALL ALSO DE-ENERGIZE THE LIQUID-LINE SOLENOID VALVE WHEN THE UNIT IS IN THE “OFF” POSITION.

2. ROOM THERMOSTAT FOR WALK-IN REFRIGERATOR OR FREEZER SHALL AUTOMATICALLY CONTROL THE LIQUID-LINE SOLENOID VALVE.

3. COMPRESSOR OPERATION SHALL BE CONTROLLED BY THE LOW PRESSURE SWITCH; HIGH PRESSURE CUTOUT SWITCH SHALL PREVENT THE COMPRESSOR FROM OPERATING UNDER EXCESSIVELY HIGH HEAD PRESSURE.

4. AIR COOLED CONDENSER SHALL BE INSTALLED WITH AN APPROVED METHOD OF MAINTAINING SUFFICIENT CONDENSING PRESSURE TO ASSURE SATISFACTORY OPERATION AT _____ DEGREES. F. [ _____ DEGREES. C] AMBIENT TEMPERATURE.

5. WHEN EQUIPMENT SCHEDULE INDICATES ELECTRIC DEFROST, THE FOLLOWING CONTROLS SHALL ALSO BE PROVIDED:
   A. DEFROST TYPE UNIT COOLER WITH HEATING ELEMENTS FOR EVAPORATOR COIL, DRAIN PAN AND DRAIN PIPING WITHIN THE LOW TEMPERATURE ROOM. DEFROST CYCLE SHALL BE AUTOMATICALLY CONTROLLED BY AN ELECTRIC CLOCK AND SHALL INCLUDE A SAFETY THERMOSTAT IN THE CONTROL CIRCUIT TO PREVENT OVERHEATING THE EVAPORATOR COIL.
   B. THE AUTOMATIC TIMER FOR ELECTRIC DEFROST SHALL ALSO DE-ENERGIZE THE SOLENOID VALVE IN THE LIQUID REFRIGERANT LINE SERVING THE UNIT COOLER AND SHALL STOP THE UNIT COOLER FAN(S) DURING THE DEFROST CYCLE.

6. PROVIDE ADDITIONAL TEMPERATURE TRANSMITTER THAT SENDS HIGH TEMPERATURE ALARM INDICATION TO ECC.
NOTES FOR WATER COOLED REFRIGERATION SYSTEM

1. UNIT COOLER FAN(S) SHALL RUN CONTINUOUSLY, EXCEPT WHEN IT IS TURNED "OFF" BY A SWITCH MOUNTED ON THE UNIT COOLER. THIS SAME SWITCH SHALL ALSO DE-ENERGIZE THE LIQUID-LINE SOLENOID VALVE WHEN THE UNIT IS IN THE "OFF" POSITION.

2. ROOM THERMOSTAT FOR WALK-IN REFRIGERATOR OR FREEZER SHALL AUTOMATICALLY CONTROL THE LIQUID-LINE SOLENOID VALVE.

3. COMPRESSOR OPERATION SHALL BE CONTROLLED BY THE LOW PRESSURE SWITCH; HIGH PRESSURE CUTOUT SWITCH SHALL PREVENT THE COMPRESSOR FROM OPERATING UNDER EXCESSIVELY HIGH HEAD PRESSURE.

4. FLOW OF WATER THROUGH CONDENSER SHALL BE CONTROLLED BY WATER REGULATING VALVE INSTALLED IN THE CONDENSER DISCHARGE LINE AND SHALL MODULATE IN RESPONSE TO REFRIGERANT CONDENSING PRESSURE.

5. WHEN EQUIPMENT SCHEDULE INDICATES ELECTRIC DEFROST, THE FOLLOWING CONTROLS SHALL ALSO BE PROVIDED:
   A. DEFROST TYPE UNIT COOLER WITH HEATING ELEMENTS FOR EVAPORATOR COIL, DRAIN PAN AND DRAIN PIPING WITHIN THE LOW TEMPERATURE ROOM. DEFROST CYCLE SHALL BE AUTOMATICALLY CONTROLLED BY AN ELECTRIC CLOCK AND SHALL INCLUDE A SAFETY THERMOSTAT IN THE CONTROL CIRCUIT TO PREVENT OVERHEATING THE EVAPORATOR COIL.
   B. THE AUTOMATIC TIMER FOR ELECTRIC DEFROST SHALL ALSO DE-ENERGIZE THE SOLENOID VALVE IN THE LIQUID REFRIGERANT LINE SERVING THE UNIT COOLER AND SHALL STOP THE UNIT COOLER FAN(S) DURING THE DEFROST CYCLE.

6. PROVIDE ADDITIONAL TEMPERATURE TRANSMITTER THAT SENDS HIGH TEMPERATURE ALARM INDICATION TO ECC.
NOZZLE TO ACCELERATE AIR VELOCITY TO 3,500 FPM

SPRAY HEADS SHALL ADEQUATELY WASH DOWN ALL FAN COMPONENTS LOCATED WITHIN EXHAUST DUCTWORK.

Installing heat trace tape on all water piping located above roof level if design conditions fall below freezing.

ACID RESISTANT/NON-SPARKING UPBLAST FAN

Spray heads—max spacing of 8' between heads. Place after every change in direction.

316 16 GA. STAINLESS STEEL DUCTWORK W/ WELDED JOINTS. DUCTWORK SHALL TAKE THE SHORTEST AND STRAIGHTEST PATH TO THE OUTSIDE OF THE BUILDING AS POSSIBLE AND SHALL NOT BE MANIFOLDED WITH OTHER EXHAUST SYSTEMS. HORIZONTAL RUNS SHALL BE AS SHORT AS POSSIBLE, WITH NO SHARP TURNS OR BEND. THE DUCTWORK SHALL PROVIDE A DRAINAGE SLOPE BACK INTO THE HOOD. NO FLEXIBLE DUCT SHALL BE UTILIZED.

NOTES:
1. SEPARATELY EXHAUST EACH PERCHLORIC HOOD.
2. PROVIDE AUTOMATIC AND MANUAL WASHDOWN CAPABILITY WITH A CONTROL PANEL ADJACENT TO EACH HOOD.

REDUCED PRESSURE BACKFLOW PREVENTER

SPRAY HEADS SHALL ADEQUATELY WASH DOWN ALL FAN COMPONENTS LOCATED WITHIN EXHAUST DUCTWORK.

NOTES:
1. SEPARATELY EXHAUST EACH PERCHLORIC HOOD.
2. PROVIDE AUTOMATIC AND MANUAL WASHDOWN CAPABILITY WITH A CONTROL PANEL ADJACENT TO EACH HOOD.

WATER SUPPLY

TO DRAIN

INSTALL HEAT TRACE TAPE ON ALL WATER PIPING LOCATED ABOVE ROOF LEVEL IF DESIGN CONDITIONS FALL BELOW FREEZING.

HTS

PERCHLORIC ACID HOOD EXHAUST SYSTEM

DETAIL TITLE / PERCHLORIC ACID HOOD EXHAUST SYSTEM

SCALE : NONE

DATE ISSUED: DECEMBER 2008 CAD DETAIL NO.: SD115313-01.DWG
NOTES:
1. HOOD EQUIPPED WITH INTEGRAL BYPASS, IE CONSTANT VOLUME
2. SEE STACK DETAIL

H-3 AND H-7 HOOD EXHAUST SYSTEM

DESIGNER'S NOTES:
1. SEE HVAC DESIGN MANUAL FOR ADDITIONAL REQUIREMENTS.
2. H-3 HOODS CAN BE GROUPED INTO A SINGLE EXHAUST FAN
3. H-7 HOODS CAN BE GROUPED INTO A SINGLE EXHAUST FAN
NTS

FLOOR

DUCT BELOW CEILING

SHALL BE STAINLESS
STEEL.

BIOLOGICAL
SAFETY
CABINET
(BSC)

A1 OR A2

1" [25MM]
(ALL SIDES)

CEILING

VD

TO

GENERAL
EXHAUST

THIMBLE

CONNECTION

FLOOR

BIOLOGICAL
SAFETY
CABINET
(BSC)

A1 OR A2

DESIGNER’S NOTES:

1. COORDINATE SIZE AND TYPE OF BIOLOGICAL SAFETY CABINET (BSC) WITH THE
ARCHITECTURAL EQUIPMENT DRAWINGS.

2. ESTABLISH EXHAUST REQUIREMENTS AND CHARACTERISTICS OF THE BSC BASED
ON PROJECT PROGRAM AND VA HVAC DESIGN MANUAL.

BIOLOGICAL SAFETY CABINET EXHAUST
SYSTEM (CLASS II TYPE A1 OR A2)

DETAIL TITLE / BIOLOGICAL SAFETY CABINET EXHAUST SYSTEM

SCALE : NONE

DATE ISSUED: DECEMBER 2008   CAD DETAIL NO.: SD115353-01.DWG
DESIGNER’S NOTES:

1. COORDINATE SIZE AND TYPE OF BIOLOGICAL SAFETY CABINET (BSC) WITH THE ARCHITECTURAL EQUIPMENT DRAWINGS.

2. ESTABLISH EXHAUST REQUIREMENTS AND CHARACTERISTICS OF THE BSC BASED ON PROJECT PROGRAM AND VA HVAC DESIGN MANUAL.