# 08 - Fire Protection

## Index of Drawings

<table>
<thead>
<tr>
<th>Drawing Number</th>
<th>Drawing Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRP-001</td>
<td>Fire Protection List of Drawings</td>
</tr>
<tr>
<td>FRP-002</td>
<td>Fire Protection Legend</td>
</tr>
<tr>
<td>FRP-100</td>
<td>Fire Protection Schedule - Zone Plan</td>
</tr>
<tr>
<td>FRP-201</td>
<td>Fire Protection - Plan A</td>
</tr>
<tr>
<td>FRP-301</td>
<td>Fire Protection - Plan B</td>
</tr>
<tr>
<td>FRP-401</td>
<td>Fire Protection - Plan C</td>
</tr>
<tr>
<td>FRP-501</td>
<td>Fire Protection - Plan D</td>
</tr>
<tr>
<td>FRP-601</td>
<td>Fire Protection - Plan E</td>
</tr>
<tr>
<td>FRP-701</td>
<td>Fire Protection - Plan F</td>
</tr>
<tr>
<td>FRP-801</td>
<td>Fire Protection - Plan G</td>
</tr>
<tr>
<td>FRP-901</td>
<td>Fire Protection - Plan H</td>
</tr>
<tr>
<td>FRP-100</td>
<td>Fire Protection Sections</td>
</tr>
<tr>
<td>FRP-002</td>
<td>Fire Protection Details</td>
</tr>
<tr>
<td>FRP-100</td>
<td>Fire Protection - Part Plan A</td>
</tr>
<tr>
<td>FRP-200</td>
<td>Fire Protection - Part Plan B</td>
</tr>
<tr>
<td>FRP-300</td>
<td>Fire Protection - Part Plan C</td>
</tr>
<tr>
<td>FRP-400</td>
<td>Fire Protection - Part Plan D</td>
</tr>
<tr>
<td>FRP-500</td>
<td>Fire Protection - Part Plan E</td>
</tr>
<tr>
<td>FRP-600</td>
<td>Fire Protection - Part Plan F</td>
</tr>
<tr>
<td>FRP-700</td>
<td>Fire Protection - Part Plan G</td>
</tr>
<tr>
<td>FRP-800</td>
<td>Fire Protection - Part Plan H</td>
</tr>
<tr>
<td>FRP-900</td>
<td>Fire Protection - Part Plan I</td>
</tr>
</tbody>
</table>

The information, including estimated quantities of work, shown on these sheets is based on limited investigations by the State and is in no way warranted to indicate the conditions of actual quantities of work which will be required.
ON SIDE OR TOP OF MAIN DUCT INLETS SHOULD BE LOCATED.

CELLPHANE BAG WITH MAX POLYETHYLENE OR BACKFLOW INTO EQUIPMENT.

TEMPORARY CONNECTION REMOVE AND INSTALL PLUG. FOR TESTING (PLUS WATER WEIGHT)

ACCOMODATE DUCT TO PREVENT DRAINAGE

1" UNION OF WORK WHICH WILL BE REQUIRED.

IN NO WAY WARRANTED TO INDICATE INVESTIGATIONS BY THE STATE AND IS SHEETS IS BASED ON LIMITED QUANTITIES OF WORK, SHOWN ON THESE

THE INFORMATION, INCLUDING ESTIMATED 1"

DIAGRAM 1/8" = 1'-0"

WASTE AT FLOOR 4" DRAIN PIPE AT ALL DUCT LOW

1" GALVANIZED NIPPLE EQUIVALENT TO ONE RESISTANT OUTLET

EQUIVALENT TO ONE SPRINKLER.

SPRINKLER SUB-MAIN F701

SYMBOL RESPONSE ORIENTATION COVERAGE K-FACTOR FINISH TEMP RATING

* MATCH RESPONSE/TEMP RATING OF OTHER SPRINKLERS IN COMPARTMENT.

ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF ALL FIRE RATED SEPARATIONS AND FIRE RATED SEPERATIONS, CONTRACTOR SHALL COORDINATE WITH THE TAMPER/SUPERVISORY SWITCHES WIRED TO THE FIRE ALARM CONTROL PANEL.

PROVIDE A COMPLETE AND WORKABLE SYSTEM.

NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO ARCHITECTURAL, PLUMBING, HVAC AND ELECTRICAL.

SUBMITTED TO THE DESIGNER FOR APPROVAL.

STAMPED BY THE CONTRACTOR'S REGISTERED FIRE PROTECTION ENGINEER AND SHALL BE CALCULATED PER THE DESIGN CRITERIA SPECIFIED. ALL PLANS AND CALCULATIONS SHALL BE ACCORDANCE WITH FM GLOBAL DATA SHEETS. THE SYSTEM SHALL BE HYDRAULICALLY TESTED BY A SPRINKLER CONTRACTOR LICENSED BY THE STATE AND EXPERIENCED IN THE INSTALLATION OF SPRINKLER SYSTEMS.

IN ALL FIRE PROTECTION SYSTEMS, EQUIPMENT, PIPES AND VALVES SHALL BE INSTALLED AND TESTED BY A SPRINKLER CONTRACTOR LICENSED BY THE STATE AND EXPERIENCED IN THE INSTALLATION OF SPRINKLER SYSTEMS.

3. THE DRAWINGS SUGGEST ROUTING OF PIPING AND EXACT LOCATION OF EQUIPMENT SHALL BE DETERMINED IN THE FIELD.

4. REVIEW AND COORDINATE WITH OTHER TRADES INCLUDING CIVIL, STRUCTURAL, ARCHITECTURAL, PIPING, HVAC and ELECTRICAL.

5. SURFACE AND INSTALL ALL NECESSARY PIPING EQUIPMENT SUPPORTS AND ANY EQUIPMENT NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.

6. PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.

7. INSTALL ALL EMBLEMS UNDER THE RELATED TRADES.

8. FIT ALL PIPING TO DRAIN, PROVIDE AN AUXILIARY DRAIN AT ALL LOW POINTS.

9. PROVIDE WATER EIGHT GUBBINS ON ALL PIPES PASSING THROUGH EXTERIOR WALLS.

10. CONNECT WATER EIGHT GUBBINS TO EXISTING TANK/WATER RESERVOIRS OR WATER TANKER/SURPLUS/SPARES INSTALLED WITH الزلم� من فان العل

11. CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL PIPES PASSING THROUGH EXTERIOR WALLS AND FLOOR SLAB.

12. ALL FIRE PROTECTION SYSTEMS SHALL BE SEISMICALLY BRACED ACCORDING TO THE APPLICABLE SECTIONS OF THE STATE BUILDING CODE AND FM GLOBAL DATA SHEETS.

GENERAL NOTES

1. ALL FIRE PROTECTION SYSTEMS, EQUIPMENT, PIPES AND VALVES SHALL BE INSTALLED AND TESTED BY A SPRINKLER CONTRACTOR LICENSED BY THE STATE AND EXPERIENCED IN THE INSTALLATION OF SPRINKLER SYSTEMS.

2. PIPING AND EQUIPMENT IS SHOWN Diagramatically THE ACTUAL ROUTING OF PIPING AND EXACT LOCATION OF EQUIPMENT SHALL BE DETERMINED IN THE FIELD.

3. THE DRAWINGS SUGGEST ROUTING OF PIPING, PIPE SIZES AND APPROPRIATE LOCATION OF HEADS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF WORKING PLANS IN ACCORDANCE WITH FM GLOBAL DATA SHEETS. THE SYSTEM SHALL BE HYDRAULICALLY TESTED BY A SPRINKLER CONTRACTOR LICENSED BY THE STATE AND EXPERIENCED IN THE INSTALLATION OF SPRINKLER SYSTEMS.

4. REVIEW AND COORDINATE WITH OTHER TRADES INCLUDING CIVIL, STRUCTURAL, ARCHITECTURAL, PIPING, HVAC and ELECTRICAL.

5. SURFACE AND INSTALL ALL NECESSARY PIPING EQUIPMENT SUPPORTS AND ANY EQUIPMENT NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.

6. PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.

7. INSTALL ALL EMBLEMS UNDER THE RELATED TRADES.

8. FIT ALL PIPING TO DRAIN, PROVIDE AN AUXILIARY DRAIN AT ALL LOW POINTS.

9. PROVIDE WATER EIGHT GUBBINS ON ALL PIPES PASSING THROUGH EXTERIOR WALLS.

10. CONNECT WATER EIGHT GUBBINS TO EXISTING TANK/WATER RESERVOIRS OR WATER TANKER/SURPLUS/SPARES INSTALLED WITH الزلم� من فان العل

11. CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL PIPES PASSING THROUGH EXTERIOR WALLS AND FLOOR SLAB.

12. ALL FIRE PROTECTION SYSTEMS SHALL BE SEISMICALLY BRACED ACCORDING TO THE APPLICABLE SECTIONS OF THE STATE BUILDING CODE AND FM GLOBAL DATA SHEETS.
The information, including estimated quantities of work, shown on these sheets is based on limited investigations by the State and is in no way warranted to indicate the conditions of actual quantities of work which will be required.
PROVIDE SPRINKLER COVERAGE UNDER ALL DUCTWORK OVER 48" WIDE.
SEISMIC SEPARATION ASSEMBLY IN ACCORDANCE WITH NFPA 13.6.3.3.

ALL UPRIGHT SPRINKLERS INSTALLED ON 2" FIRE Piping SHALL BE INSTALLED ON SPRIGS IN ACCORDANCE WITH NFPA 13.6.5.2.1.6 (TYPICAL FOR ALL SPRINKLERS INSTALLED ON 2" OR LARGER PIPING).

PROVIDE SPRINKLER COVERAGE UNDER OVERHEAD DOOR.

PARTIAL PLAN LEGEND:
A - NORTH REPAIR BAYS
B - SOUTH REPAIR BAYS
C - LUBE AND WASH BAYS
D - STORES
E - OFFICE AREA
F - MACHINE SHOP
G - PAINT AREA

PROVIDE SPRINKLER COVERAGE UNDER OVERHEAD DOOR.
PROVIDE SPRINKLER COVERAGE UNDER OVERHEAD DOOR.

AREA:

DENSITY:

HAZARD:

HEADS FLOW ING:

SPRINKLER DEMAND:

HOSE ALLOWANCE:

TOTAL:

SAFETY FACTOR:

ADDITIONAL INFO:

HYDRAULIC DESIGN DATA:

FM DS 8-3 Table 4 (TIRE STORAGE)

0.6 GPM/SF

3,000 SF

1,783 GPM

500 GPM

2,283 GPM @ 47 PSI

45 PSI

WET PIPE / GRID

2

FRP-204

PROVIDE SPRINKLER COVERAGE UNDER OVERHEAD DOOR.

PART PLAN D

STORES

STOCK ROOM

SUPERVISOR

VEST

11

SERVICE

VESTIBULE

19

STORES

MATERIAL

MANAGEMENT

20

SERVICE

VEST

11
1" SPR RISE ON WALL

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

6" SPR MAIN

REPAIR BAYS

6" SPR MAIN

1" SPR RISE ON WALL

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

6" SPR MAIN

REPAIR BAYS

6" SPR MAIN

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

REPAIR BAYS

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

6" SPR MAIN

WELD SHOP

REPAIR BAYS

WELD SHOP AND REPAIR BAYS

Provided sprinkler coverage under all ductwork over 48" wide.

1" SPR (TYP)

6" SPR MAIN

REPAIR BAYS

6" SPR MAIN

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

6" SPR MAIN

WELD SHOP

REPAIR BAYS

1" SPR (TYP)

6" SPR MAIN

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

6" SPR MAIN

REPAIR BAYS

6" SPR MAIN

UPRIGHT SPRINKLER HEAD 1"-12" FROM ROOF DECK (TYP)

6" SPR MAIN

REPAIR BAYS
UPRIGHT SPRINKLER HEAD
1'-12" FROM ROOF DECK

REFER TO FLOOR PLAN FOR PIPE SIZES

UPS/SPR MAIN

6" SPR MAIN

2 1/2" SPR MAIN

WELD / FABRICATION SHOP

MACHINE SHOP

UPRIGHT SPRINKLER HEAD
1'-12" FROM ROOF DECK

6" SPR MAIN

2 1/2" SPR MAIN

MACHINE SHOP AND WELD/FABRICATION SHOP

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
REPAIR FACILITY

ROCKY HILL
FIRE PROTECTION SECTIONS
FRP-401
NO. Revision Description Date
118-0167
08.13
The conditions of actual quantities in no way warranted to indicate investigations by the state and is sheets is based on limited quantities of work, shown on these sheets.

The information, including estimated pressure test header sheet.)

- 12" fire service
- Fuel system for diesel engine driven fire pump diagram
- Fuel from engine
- Waterflow switch
- 1/2" brass sensing line
- 3/32" orifice in flapper
- Supervisory switch & air pressure valves, alarm pressure gages, drain & test water & air pressure standard trim including opening devices & dry-pipe valve w/ quick connect & plug

DIAGRAM OF AREA

- 1/8" = 1'-0"
- 6" open ended drain; valve set to 170 psi
- 6" reducing elbow
- 1/2" petcocket

- Fuel system for diesel engine driven fire pump
- Horizontal diesel fire pump with backflow preventer after the pump diagram
- 2" main drain to exterior

- Wet system riser (riser-check valve)
- Dry system riser

- 1/4-turn ball valve
- 12" relief valve discharge; 12"x10" reducer fitting discharge to funnel (to serve as funnel)
- 6"x10" concentric reducer

- 1/2" brass gage & drain valve trim
- Riser check valve w/ pipe support

- Oil-less air system air
- 8"x10" concentric reducer

- 8" fire pump
- 12"x10" reducer fitting

- 1" pressure relief valve w/ tamper switch
- 1/2" pressure & plug

- Fire protection details
- Repair facility
- Rocky Hill

- No Scale

- No. Revision Description Date
- RISER; TYP FOR 5 (SEE DETAIL THIS WET SYSTEM OF WORK WHICH WILL BE REQUIRED)

- State of Connecticut Department of Transportation
- Repair Facility
- Rocky Hill
11.7 11.9 6-WAY FIRE PUMP TEST HEADER
8"SPR (ZONE 3)
6"D (ZONE 2)
8"SPR (ZONE 1)
4"SPR (ZONE 4)
6"SPR (ZONE 5)
8"SPR (ZONE 6)
8"HEADER
JOCKEY PUMP CONTROLLER
FIRE PUMP CONTROLLER
115-GALLON DOUBLE WALL FUEL TANK W/ 12" CONCRETE CONTAINMENT CURB.
12" UNDERGROUND FIRE SERVICE TO 5'-0" BEYOND FOUNDATION
6" CHECK VALVE W/ BALL DRIP (TYP FOR 2)
8" BUTTERFLY VALVE W/ TS
78HP DIESEL FIRE PUMP
2HP JOCKEY PUMP
10" RPZ
NOTE: PART PLAN INTENDED FOR EQUIPMENT LOCATION. REFER TO DETAIL ON FRP-600 FOR MORE INFORMATION
(2) 5" STORZ FIRE DEPARTMENT CONNECTION; SEE DETAIL ON FRP-600
10" RELIEF VALVE DISCHARGE; TERMINATE W/ DOWNTURNED 90º ELBOW W/ BIRD SCREEN.
8" FDC
WSR (ZONE 3)
DSR (ZONE 7)
WSR (ZONE 1)
DSR (ZONE 2)
DIESEL FUEL TANK VENT & FILL LINES
AV1 AV2 AV3 AV5 AV6 PI PO
NOTE: PART PLAN INTENDED FOR EQUIPMENT LOCATION. REFER TO DETAIL ON FRP-600 FOR MORE INFORMATION
1/4" = 1'-0"
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.
Rocky Hill Repair Facility - Central