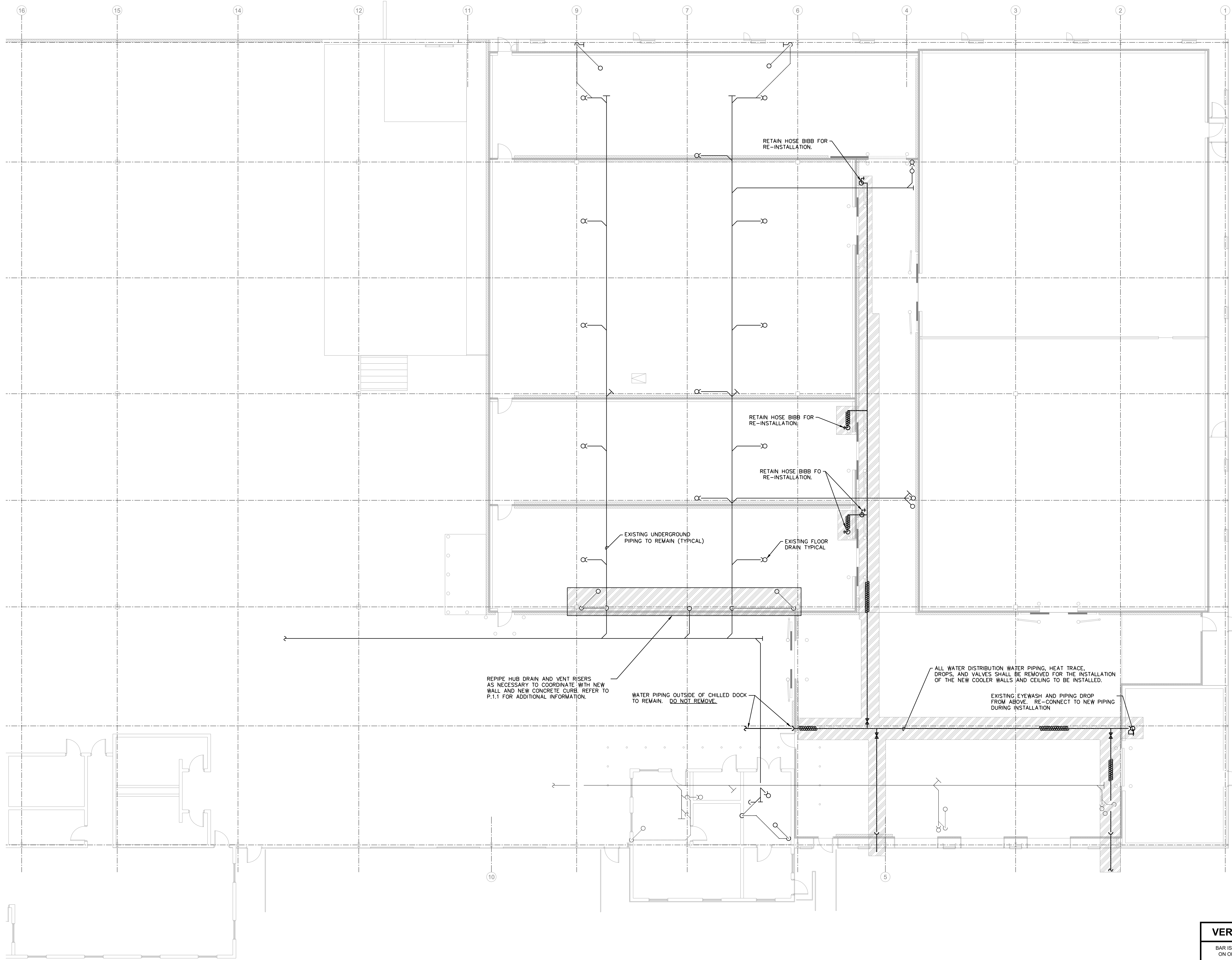


KEY PLAN  
NOT TO SCALE



FLOOR PLAN - AREA 'B' PLUMBING DEMO  
SCALE: 1/8" = 1'-0"

### FINAL DESIGN

NO.	DESCRIPTION	DATE

Professional's Signature \_\_\_\_\_ Date \_\_\_\_\_

COMMONWEALTH OF PENNSYLVANIA  
DEPT. OF MILITARY & VETERAN'S AFFAIRS  
ANNVILLE, PENNSYLVANIA 17003

DESIGN PROFESSIONALS:  
OFFICE OF FACILITIES AND ENGINEERING  
BUREAU OF DESIGN AND PROJECT MANAGEMENT  
BLDG. 0-10, FORT INDIANTOWN GAP  
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA

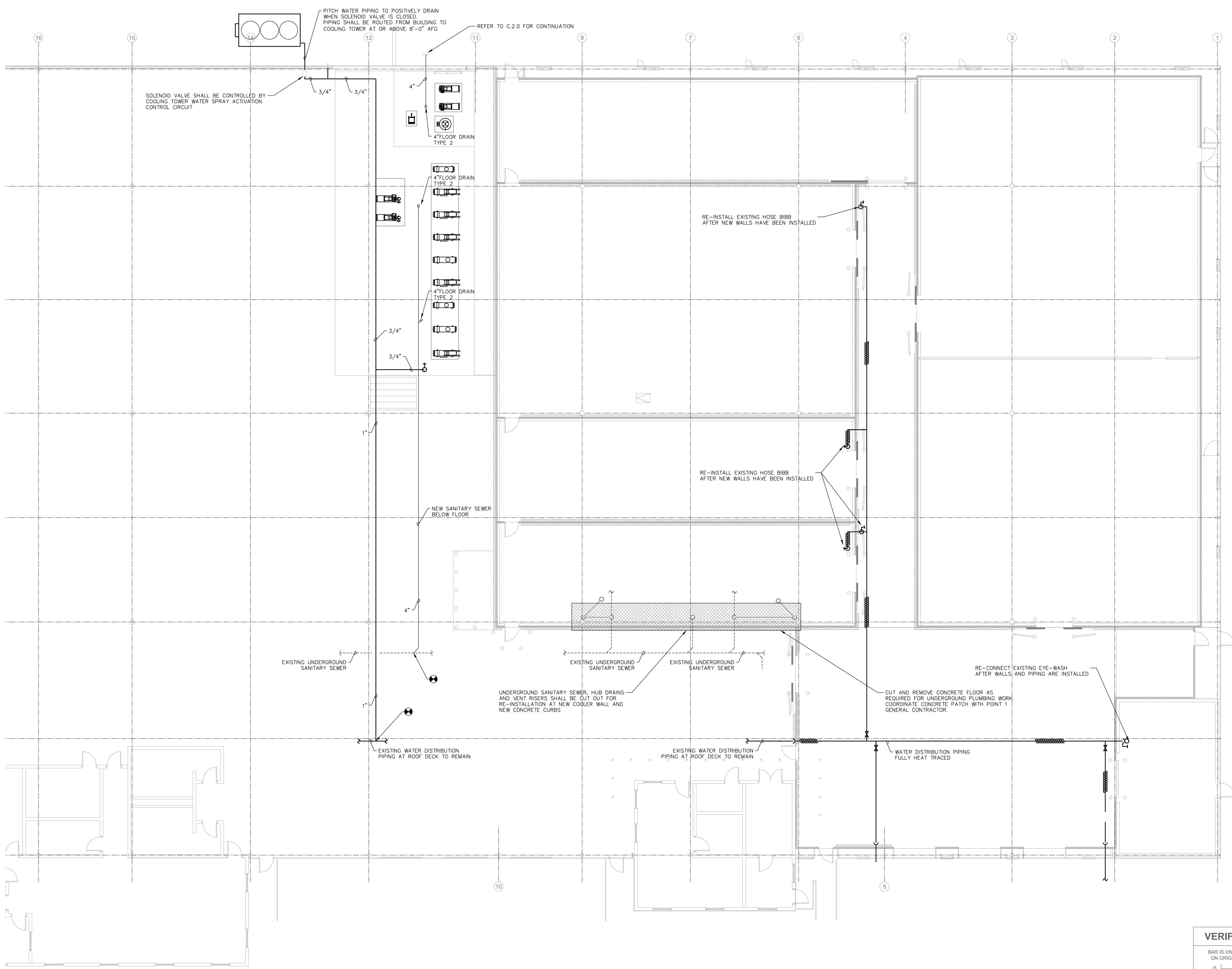
PROJECT NO.: 420591(88821)

**BLDG. 11-89 TISA  
ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

### DEMO PLAN - PLUMBING

**VERIFY SCALE**  
BAR IS ONE (1) INCH LONG  
ON ORIGINAL DRAWING:  
0 1  
IF BAR IS NOT ONE (1) INCH LONG,  
ADJUST SCALE ACCORDINGLY.  
CONTRACTOR SHALL FIELD VERIFY  
ALL DIMENSIONS.  
VARIANCE FROM CONTRACT  
DOCUMENTS NOT PERMITTED  
WITHOUT BUREAU OF ENGINEERING  
AND ARCHITECTURE APPROVAL.

DRAWN BY B. TOEVS	DATE 29 APR 2024	DRAWING NO. P.1.0
CHECKED BY -	SCALE AS NOTED	



FLOOR PLAN - AREA 'B' NEW PLUMBING  
SCALE: 1/8" = 1'-0"

FINAL DESIGN

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BLDG. 0-10, FORT INDIANTOWN GAP  
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA

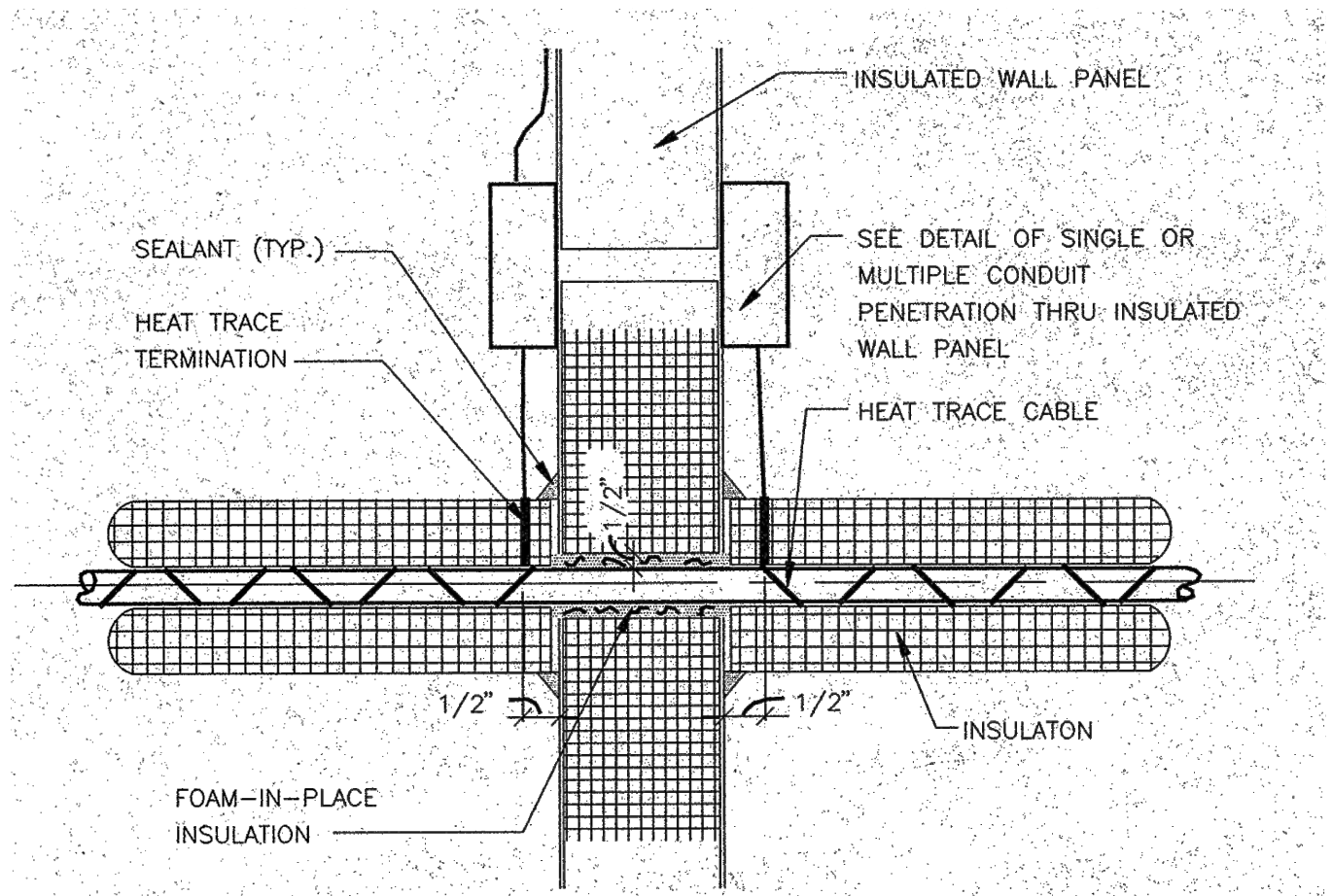
PROJECT NO.: 420591(88821)

**BLDG. 11-89 TISA  
ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

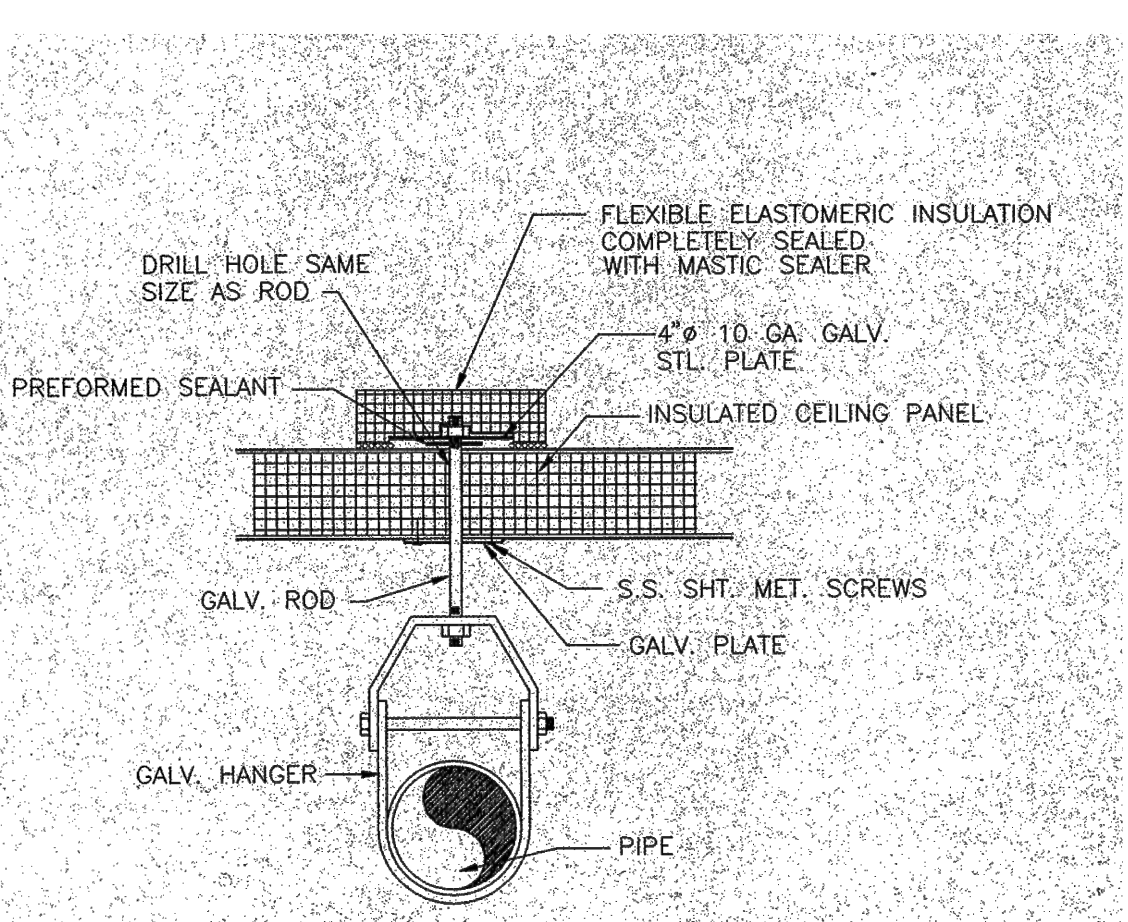
OVERALL PLAN - PLUMBING

**VERIFY SCALE**  
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING.  
0 1  
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DRAWN BY B. TOEVS	DATE 29 APR 2024	DRAWING NO. P.1.1
CHECKED BY -	SCALE AS NOTED	

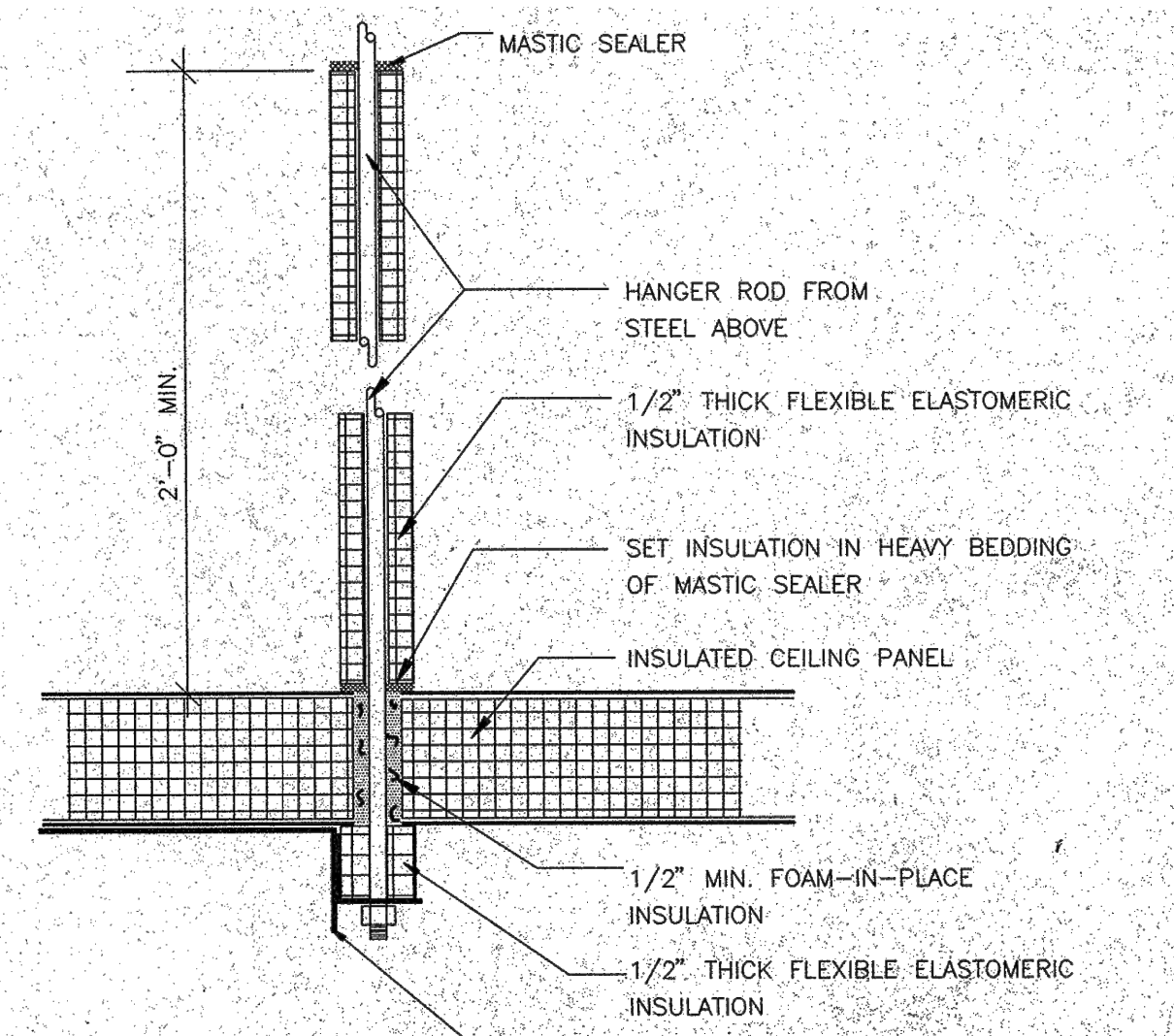


**1 INSULATED PIPE THRU INSULATED WALL PANEL W/ HEAT TRACE BOTH SIDES**  
P.2.1

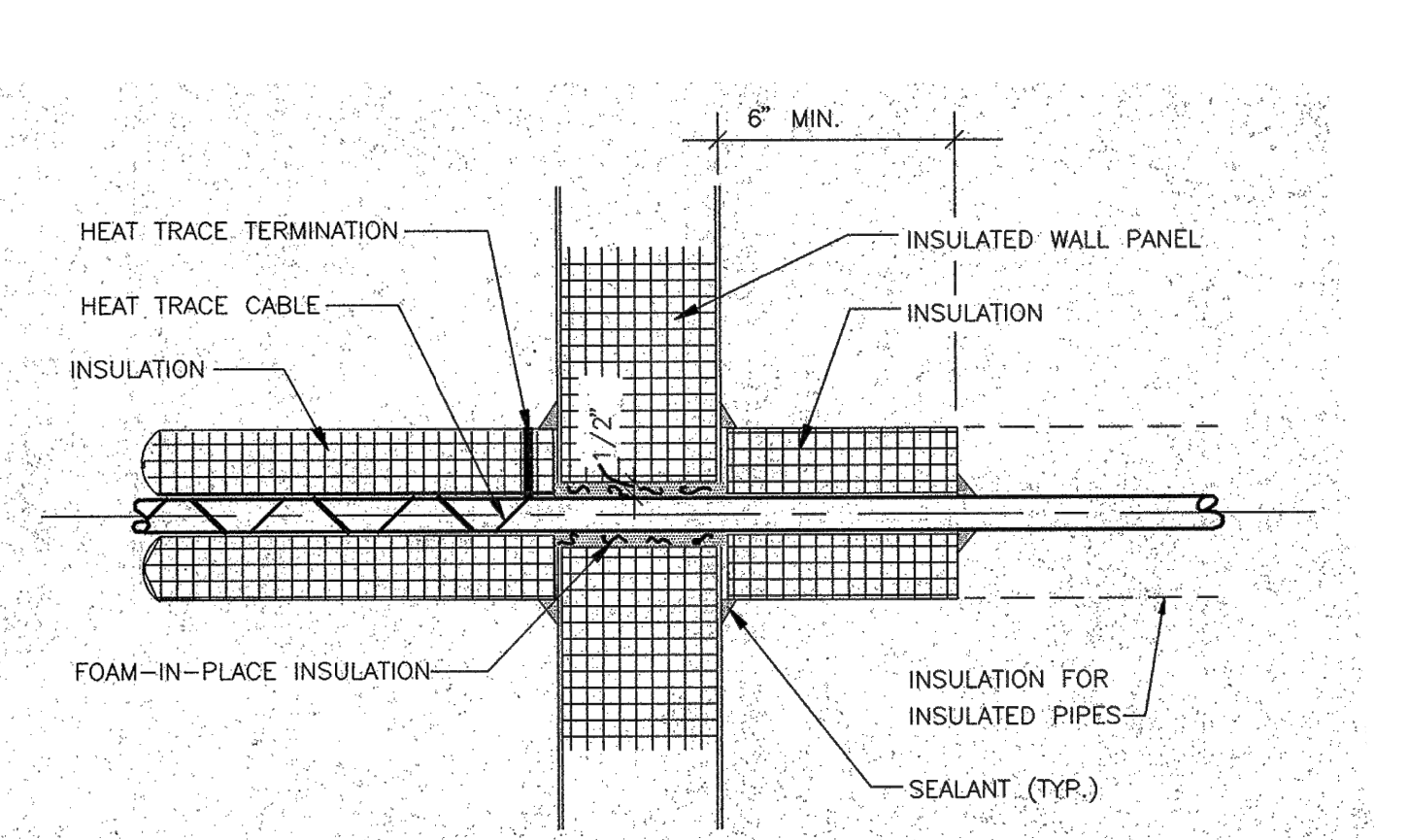


**2 PIPE HANGING DETAIL**  
NO SCALE  
P.2.1

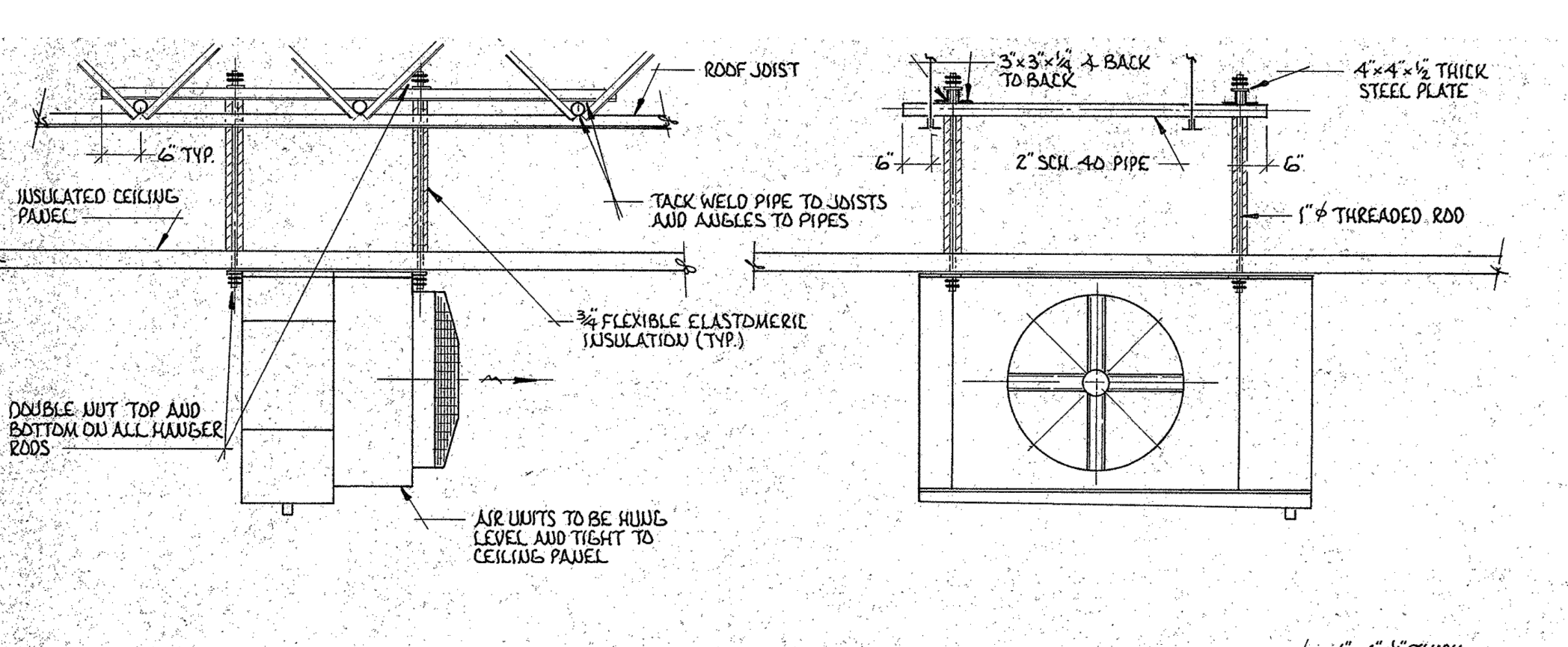
**DETAIL**  
SCALE: 3"=1'-0"



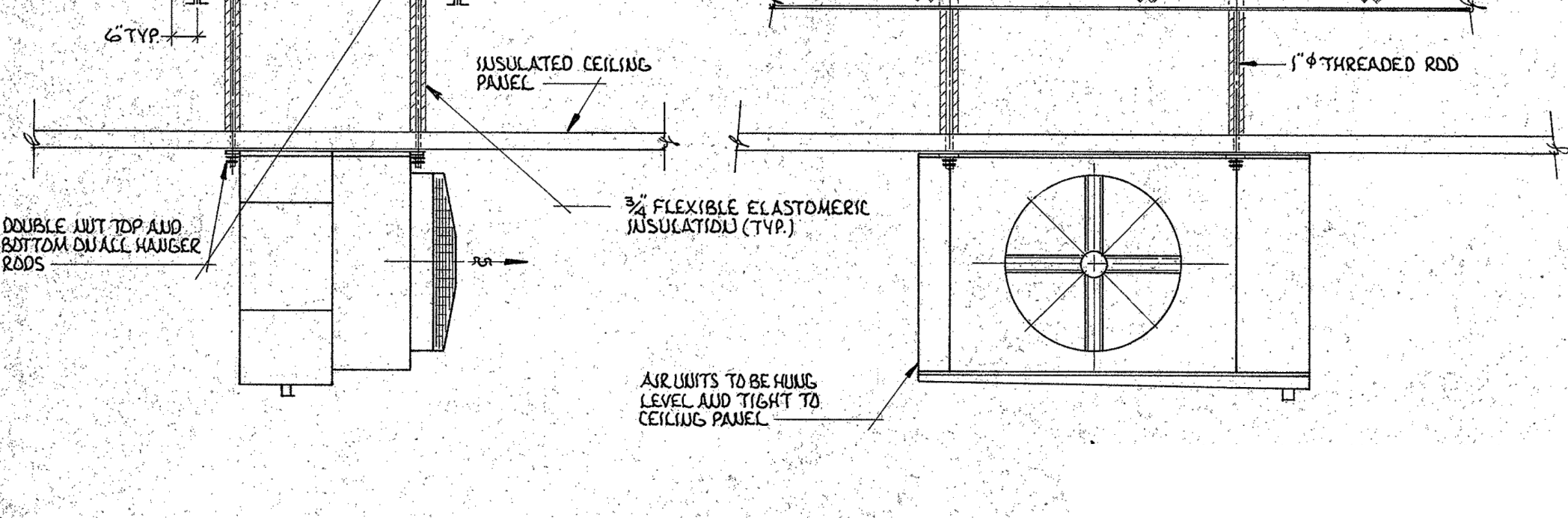
**3 AIR UNIT HANGING DETAIL**  
P.2.1



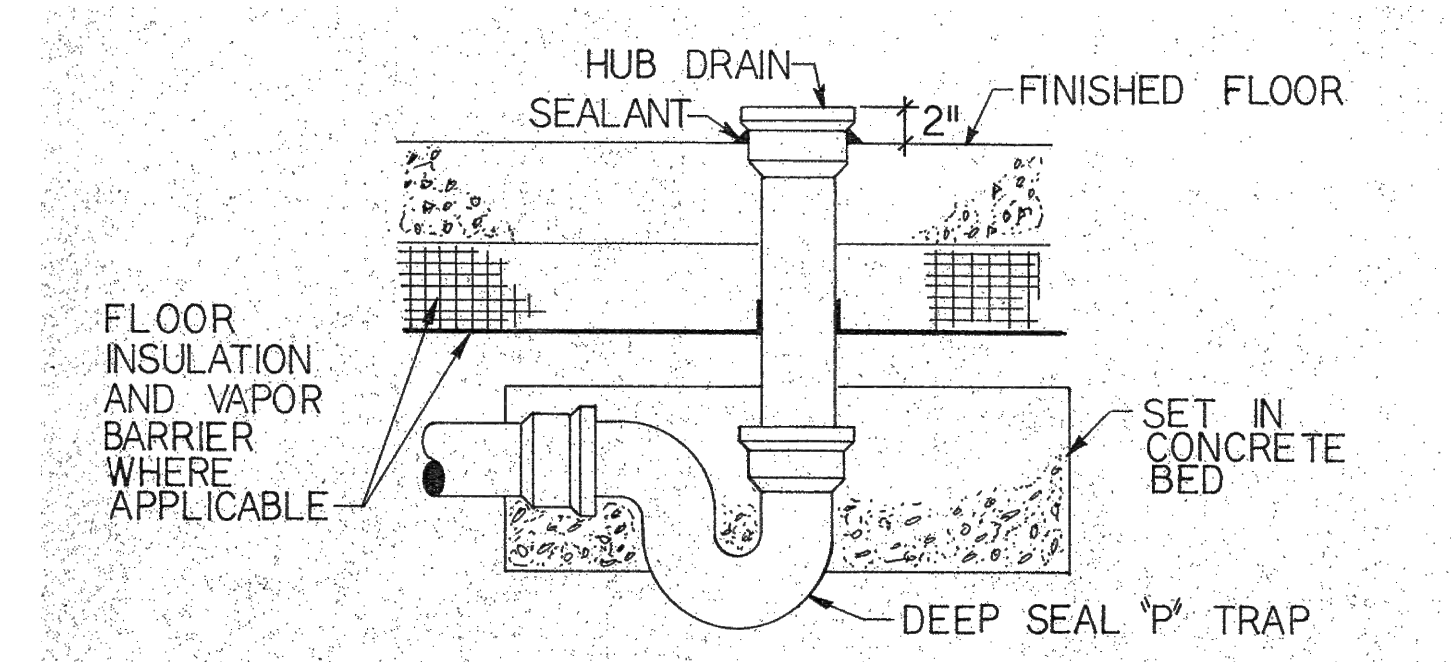
**5 INSULATED PIPE OR NON-INSULATED PIPE THRU INSULATED WALL PANEL W/ HEAT TRACE ONE SIDE**  
P.2.1



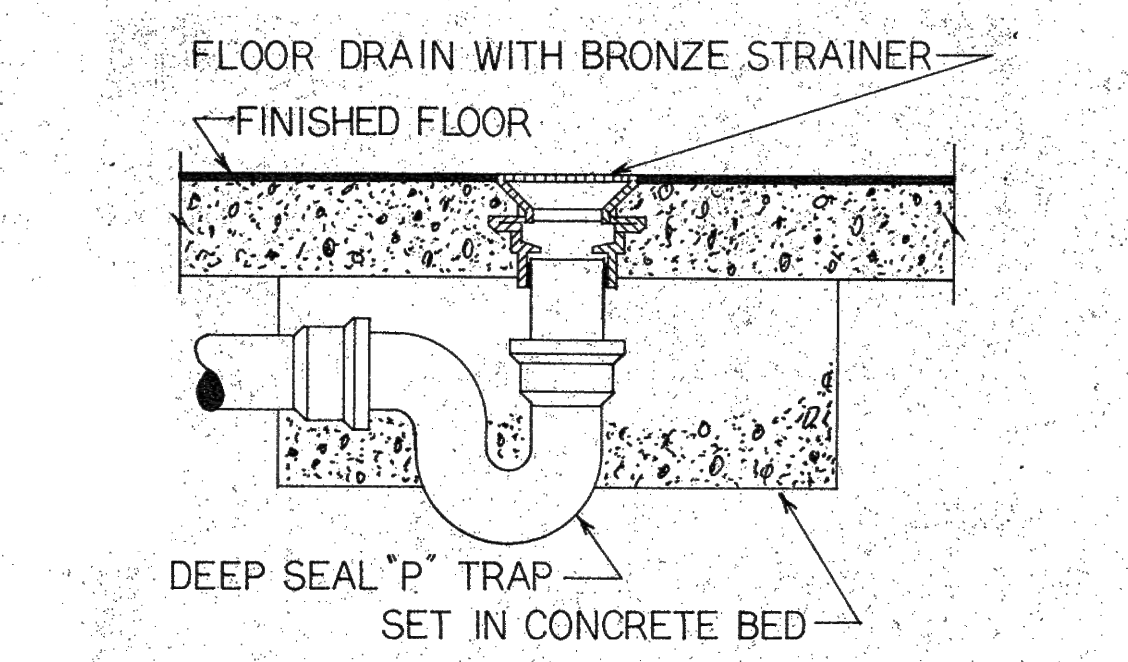
**AIR UNIT HANGING DETAIL**  
NOT TO SCALE



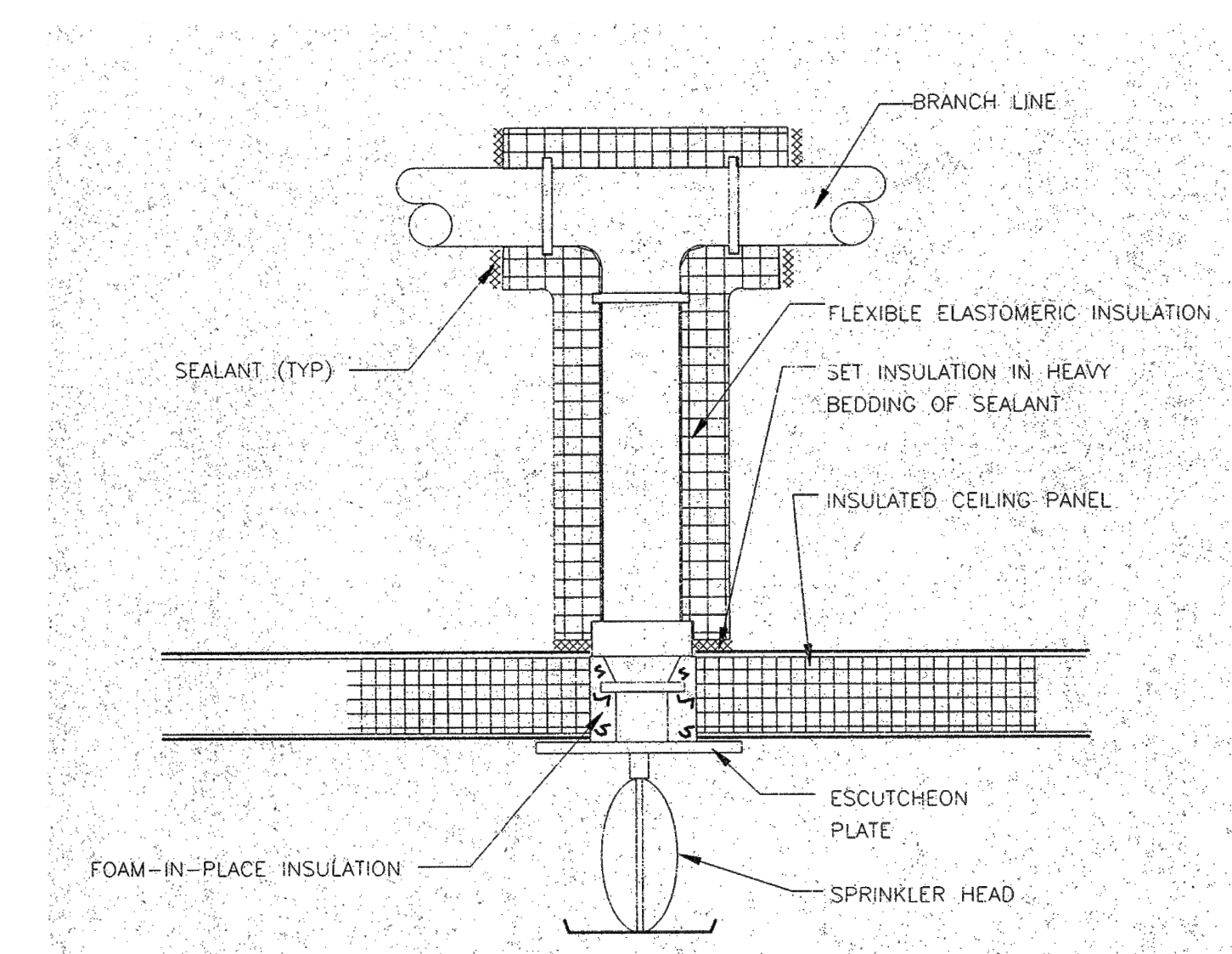
**4 AIR UNIT HANGING DETAIL**  
NOT TO SCALE  
P.2.1



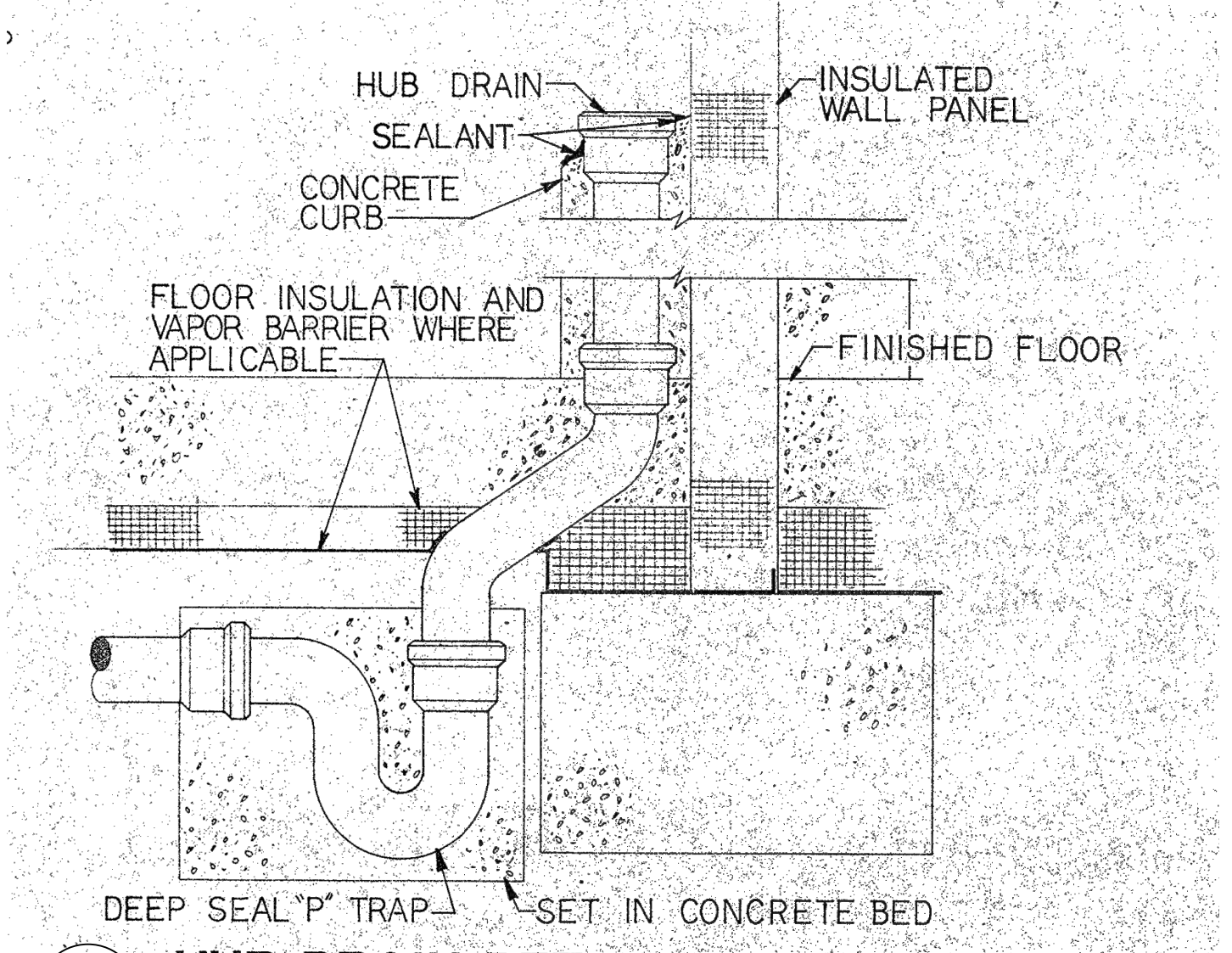
**8 HUB DRAIN DETAIL TYPE-1**  
NO SCALE  
P.2.1



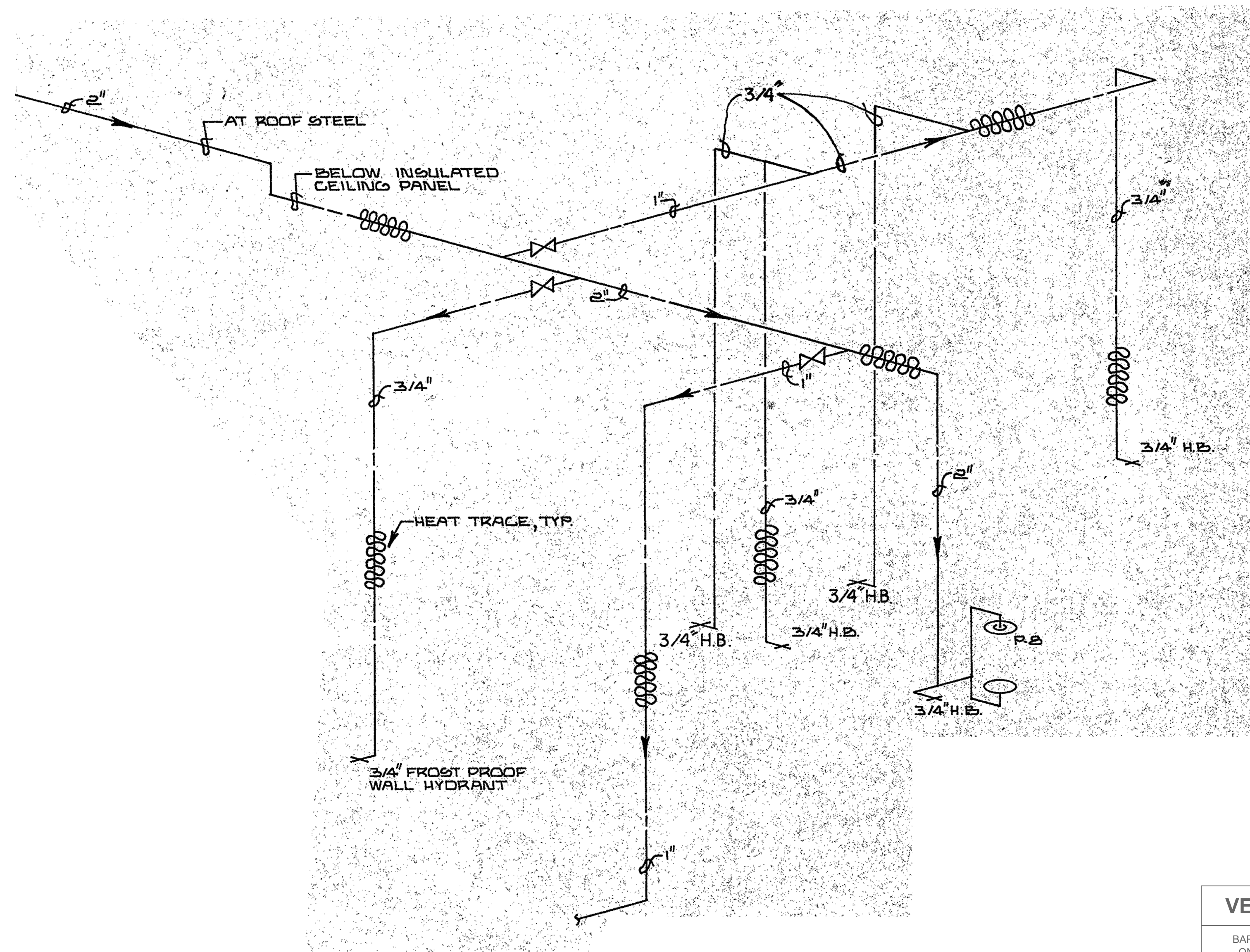
**9 FLOOR DRAIN DETAIL TYPE-2**  
NO SCALE  
P.2.1



**6 TYPICAL SPRINKLER HEAD PENETRATION**  
P.2.1



**7 HUB DRAIN DETAIL TYPE - 2**  
NO SCALE  
P.2.1



**4 EXISTING COOLER WATER PIPING RISER**  
SCALE: NTS  
P.2.1

THIS RISER INDICATES THE EXISTING PIPING ARRANGEMENT FOR THE WATER DISTRIBUTION INSIDE THE COOLERS AND FREEZERS. THE PIPING SHALL BE REMOVED FOR THE DEMOLITION OF THE COOLER CEILINGS AND WALLS. AFTER THE NEW WALLS AND CEILINGS ARE INSTALLED, THE WATER PIPING SHALL BE RE-INSTALLED AS SHOWN IN THIS RISER DIAGRAM.

**FINAL DESIGN**

NO.	DESCRIPTION	DATE

Professional's Signature \_\_\_\_\_ Date \_\_\_\_\_

COMMONWEALTH OF PENNSYLVANIA  
DEPT. OF MILITARY & VETERAN'S AFFAIRS  
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DESIGN PROFESSIONALS:  
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BUREAU OF DESIGN AND PROJECT MANAGEMENT  
BLDG. G-10, FORT INDIANTOWN GAP  
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA

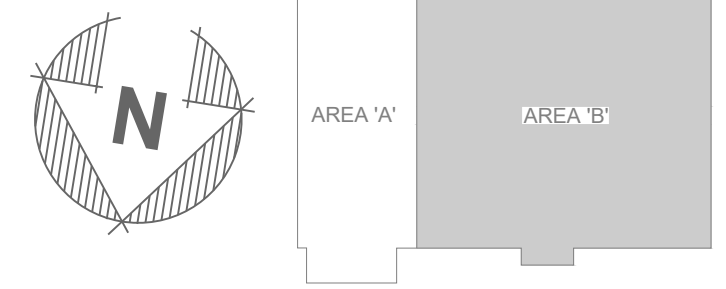
PROJECT NO.: 420591(88821)

**BLDG. 11-89 TISA ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

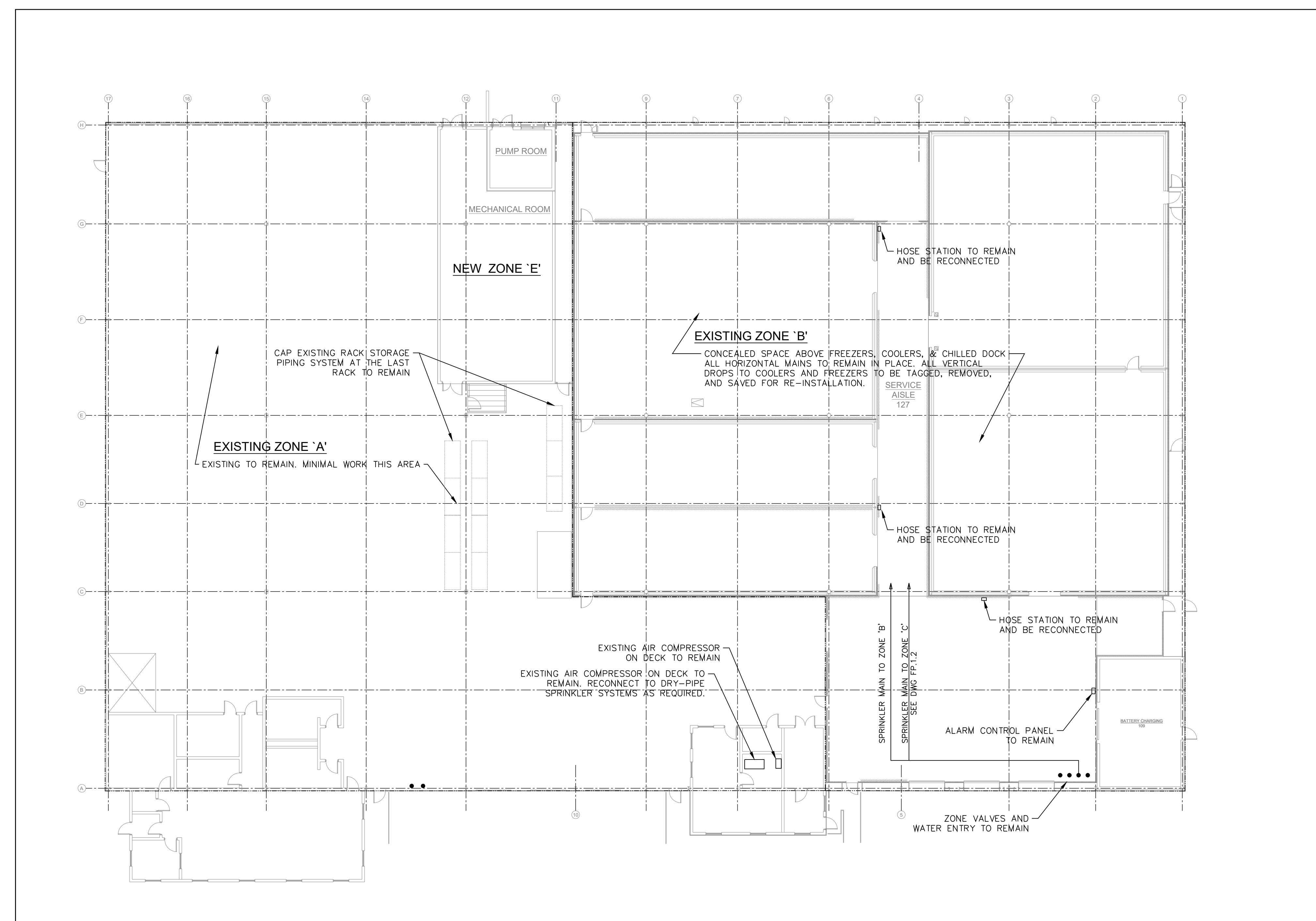
**PLUMBING DETAILS**

**VERIFY SCALE**  
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING.  
0 1  
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.  
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CHECKED BY -	SCALE AS NOTED	



KEY PLAN  
NOT TO SCALE



**DESIGN CRITERIA - ROOF SYSTEM:**

**EXISTING ZONE 'A' -**  
 DRY STORAGE 101 DRY DOCK 102;  
 WET-PIPE SYSTEM, CLASS III COMMODITY  
 285FT. 2" OR 1 1/2" ORIFICE SPRINKLER HEADS  
 MINIMUM DENSITY = 0.40 GPM/SQFT  
 MAXIMUM COVERAGE = 100 SQFT/HEAD  
 DESIGN AREA OF OPERATION = 2000 SQFT  
 HOSE STREAM ALLOWANCE = 500 GPM

**EXISTING ZONE 'B' -**  
 CONCEALED SPACE ABOVE FREEZERS, COOLERS, CHILLED DOCK  
 DRY-PIPE SYSTEM, LIGHT HAZARD OCCUPANCY  
 212FT. 2" OR 1 1/2" ORIFICE SPRINKLER HEADS  
 MINIMUM DENSITY = 0.10 GPM/SQFT  
 MAXIMUM COVERAGE = 225 SQFT/HEAD  
 DESIGN AREA OF OPERATION = 3000 SQFT  
 HOSE STREAM ALLOWANCE = 500 GPM

**EXISTING ZONE 'B' -**  
 BATTERY CHARGING 109, ELECTRICAL ROOM 128  
 DRY-PIPE SYSTEM, ORDINARY HAZARD OCCUPANCY  
 165FT. 2" OR 1 1/2" ORIFICE SPRINKLER HEADS  
 MINIMUM DENSITY = 0.20 GPM/SQFT  
 MAXIMUM COVERAGE = 130 SQFT/HEAD  
 DESIGN AREA OF OPERATION = 3900 SQFT  
 HOSE STREAM ALLOWANCE = 500 GPM

**NEW ZONE 'E'**  
 NEW MECHANICAL ROOM, PUMP ROOM  
 WET-PIPE SYSTEM, ORDINARY HAZARD GROUP II  
 165FT. 2" OR 1 1/2" ORIFICE SPRINKLER HEADS  
 MINIMUM DENSITY = 0.20 GPM/SQFT  
 MAXIMUM COVERAGE = 130 SQFT/HEAD  
 DESIGN AREA OF OPERATION = 3900 SQFT  
 HOSE STREAM ALLOWANCE = 500 GPM

**DESIGN CRITERIA - IN RACK SYSTEM:**  
 ZONE 'A' - DRY STORAGE 101;  
 SEE DRAWING FP.1.3

FIRE PROTECTION OVERALL FLOOR PLAN - ROOF SYSTEM  
SCALE: 1/8" = 1'-0"

### FINAL DESIGN

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REVISIONS		

Professional's Signature \_\_\_\_\_ Date \_\_\_\_\_

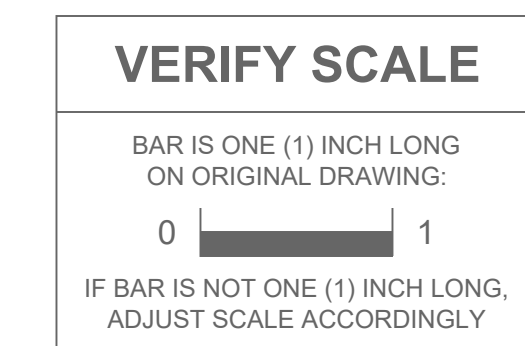
COMMONWEALTH OF PENNSYLVANIA  
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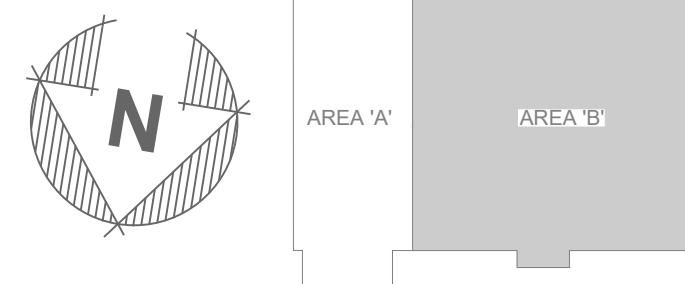
PROJECT NO.: 420591(88821)

**BLDG. 11-89 TISA  
ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

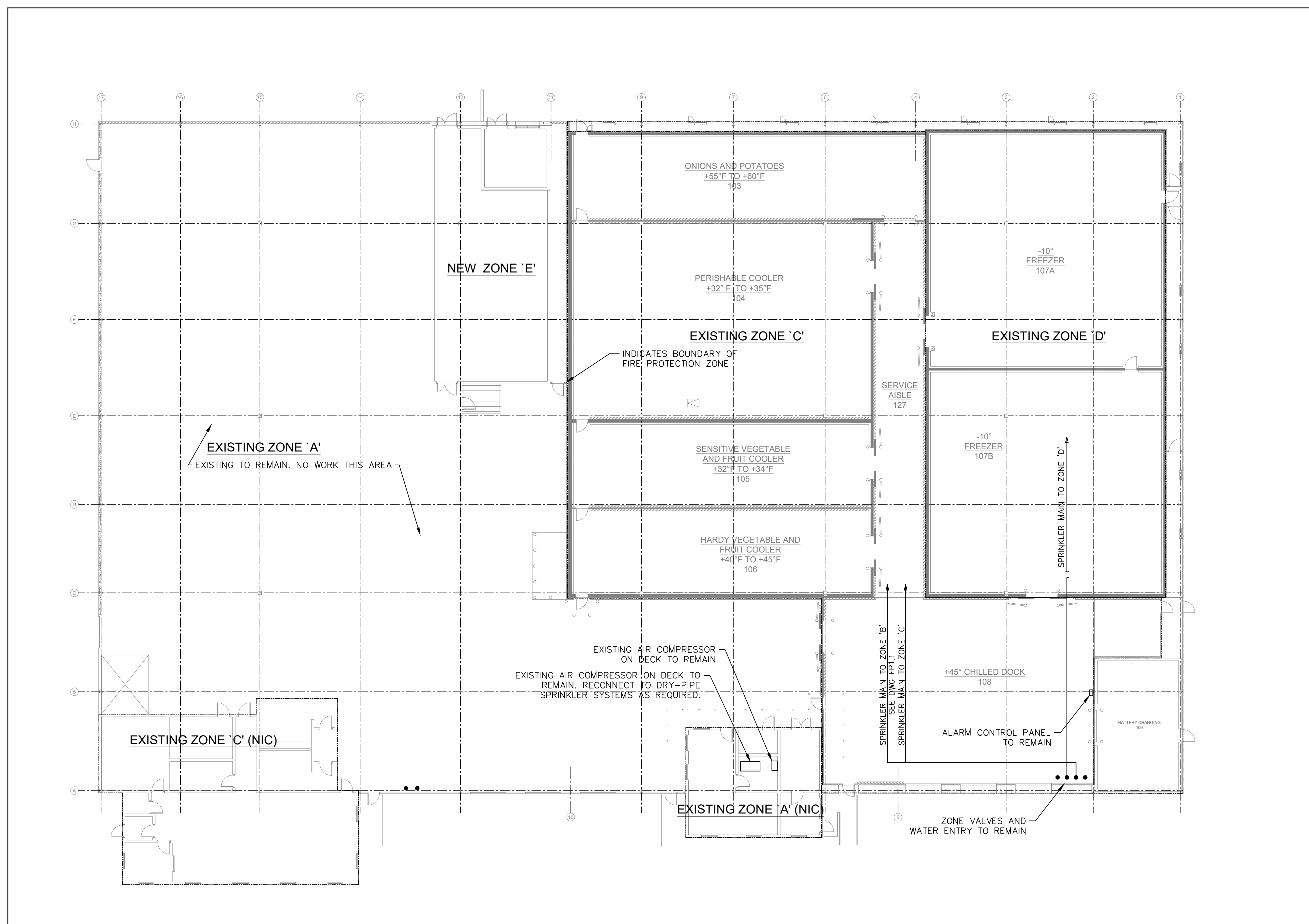
### FP - CEILING SYSTEM



CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT BUREAU OF ENGINEERING AND ARCHITECTURE APPROVAL.	DRAWN BY B. TOEVS	DATE 29 APR 2024	DRAWING NO. FP.1.1
	CHECKED BY -	SCALE AS NOTED	



KEY PLAN  
NOT TO SCALE



**ORIGINAL DESIGN CRITERIA**

**DESIGN CRITERIA - CEILING SYSTEM:**

**EXISTING ZONE 'C' -**  
COOLERS 103, 104, 105, & 106, DOCK 108, SERVICE AISLE 125:  
DRY-PIPE SYSTEM, CLASS II COMMODITY  
286°F, 1" OR 1 1/2" ORIFICE SPRINKLER HEADS  
MINIMUM DENSITY = 0.40 GPM/SQFT  
MAXIMUM COVERAGE = 100 SQFT/HEAD  
DESIGN AREA OF OPERATION = 2600 SQFT  
HOSE STREAM ALLOWANCE = 500 GPM  
PIPING TO EXTEND FROM ROOF SYSTEM ZONE 'B'

**EXISTING ZONE 'D' -**  
-10°F FREEZER 107  
COMBINATION DRY PIPE AND PREACTION SYSTEM, CLASS II COMMODITY  
286°F, 1" OR 1 1/2" ORIFICE SPRINKLER HEADS  
MINIMUM DENSITY = 0.40 GPM/SQFT  
MAXIMUM COVERAGE = 100 SQFT/HEAD  
DESIGN AREA OF OPERATION = 2600 SQFT  
HOSE STREAM ALLOWANCE = 500 GPM

**EXISTING ZONE 'A' -**  
ADMINISTRATIVE AND WAREHOUSE OFFICE AREAS  
WET PIPE SYSTEM, ORDINARY HAZARD OCCUPANCY  
212°F, 1/2" OR 3/4" ORIFICE SPRINKLER HEADS  
MINIMUM DENSITY = 0.20 GPM/SQFT  
MAXIMUM COVERAGE = 100 SQFT/HEAD  
DESIGN AREA OF OPERATION = 3000 SQFT  
HOSE STREAM ALLOWANCE = 500 GPM  
PIPING TO EXTEND FROM ROOF SYSTEM ZONE 'A'

**DESIGN CRITERIA - IN RACK SYSTEM:**  
ZONE 'C' - COOLERS AND ZONE 'D' FREEZERS:  
SEE DWG FP-1.4

FIRE PROTECTION PLAN - CEILING SYSTEM  
SCALE: 1/8" = 1'-0"

FINAL DESIGN

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REVISIONS		

Professional's Signature \_\_\_\_\_ Date \_\_\_\_\_

COMMONWEALTH OF PENNSYLVANIA  
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BLDG. 0-10, FORT INDIANTOWN GAP  
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA

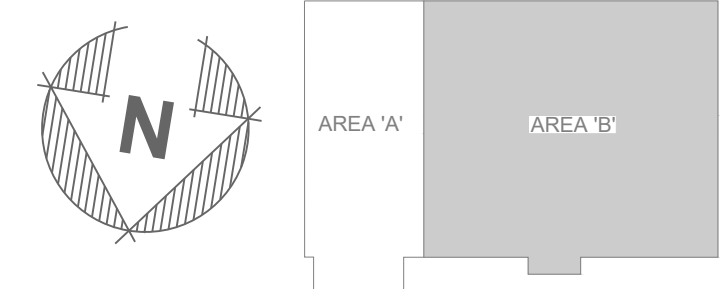
PROJECT NO.: 420591(88821)

**BLDG. 11-89 TISA  
ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

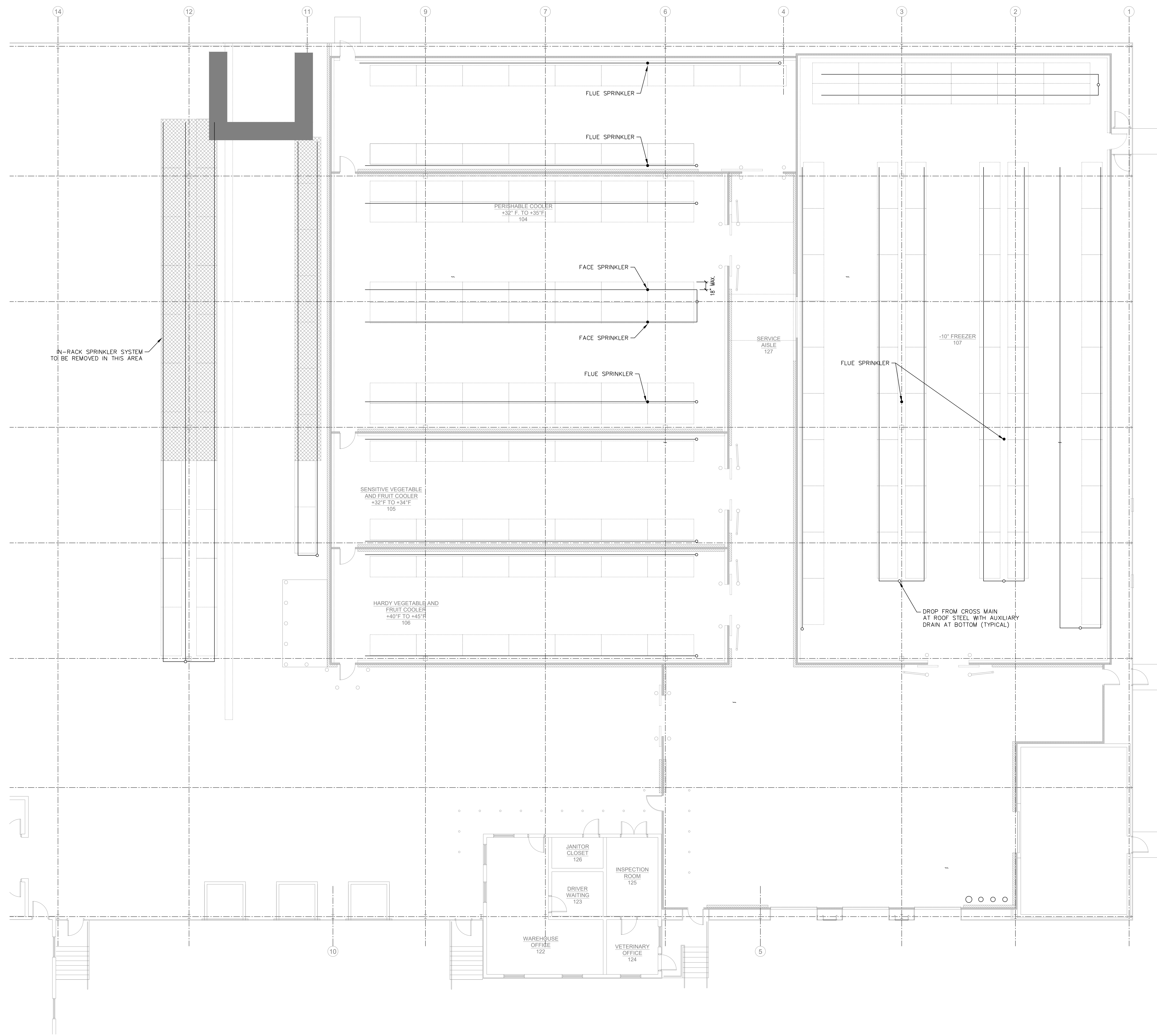
FP - CEILING SYSTEM

**VERIFY SCALE**  
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING.  
0 1  
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	CHECKED BY -	SCALE AS NOTED	



KEY PLAN  
NOT TO SCALE



DESIGN CRITERIA - IN RACK SYSTEM:

ZONE 'C' - COOLERS AND ZONE 'C' FREEZERS  
CLASS II COMMODITY NON-ENCAPSULATED  
TOP OF PRODUCT 25'-0" +/- AFF

RACK TYPE: SINGLE-ROW, BACK TO BACK (DOUBLE-ROW)  
ONE LEVEL OF FACE AND FLUE SPRINKLERS REQUIRED AT  
APPROX. 20'-0" +/- AFF  
REFERENCE: NFPA 230 CHAPTER 7

RACK TYPE: MULTI-ROW  
ONE (1) LEVEL OF FACE AND FLUE SPRINKLERS REQUIRED AT  
APPROX. 15'-0" +/- AFF  
REFERENCE: NFPA 230 CHAPTER 7

165°F 1.2" ORIFICE SPRINKLER HEADS  
MINIMUM END HEAD PRESSURE = 30 PSI  
MINIMUM HEADS OPERATING = 6 HEADS  
MAXIMUM COVERAGE = 10'-0" CENTERS

FIRE PROTECTION PLAN NOTES:

1. IN ALL COOLERS, FREEZERS, AND CHILLED DOCK AREA, ALL PIPING, VALVES, FITTINGS, AND SPRINKLER HEADS SHALL BE REMOVED, RETAINED, AND TAGGED FOR RE-INSTALLATION IN THE SAME LOCATION DURING THE INSTALL PROCESS.
2. THE SPRINKLER PIPING SYSTEM LOCATED IN THE ROOF SPACE ABOVE THE COOLERS AND FREEZERS SHALL REMAIN IN TACT AND ONLY THE DROPS THAT PENETRATE THE COOLERS, FREEZERS, AND CHILLED DOCK CEILINGS SHALL BE REMOVED AND REINSTALLED.
3. COORDINATE THE PIPING REMOVAL PROCESS WITH THE POINT ONE GENERAL CONTRACTOR TO REMOVE THE SPRINKLER SYSTEM DURING THE RACK REMOVAL PROCESS.
4. COORDINATE THE PIPING REMOVAL PROCESS WITH THE POINT ONE GENERAL CONTRACTOR TO REMOVE THE SYSTEM EFFECTED BY THE CEILING REMOVAL PROCESS.

FLOOR PLAN - AREA 'B' FIRE PROTECTION DEMO  
SCALE: 1/8" = 1'-0"

FINAL DESIGN

NO.	DESCRIPTION	DATE
REVISIONS		

Professional's Signature \_\_\_\_\_ Date \_\_\_\_\_

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BLDG. 0-10, FORT INDIANTOWN GAP  
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA  
PROJECT NO.: 420591(88821)

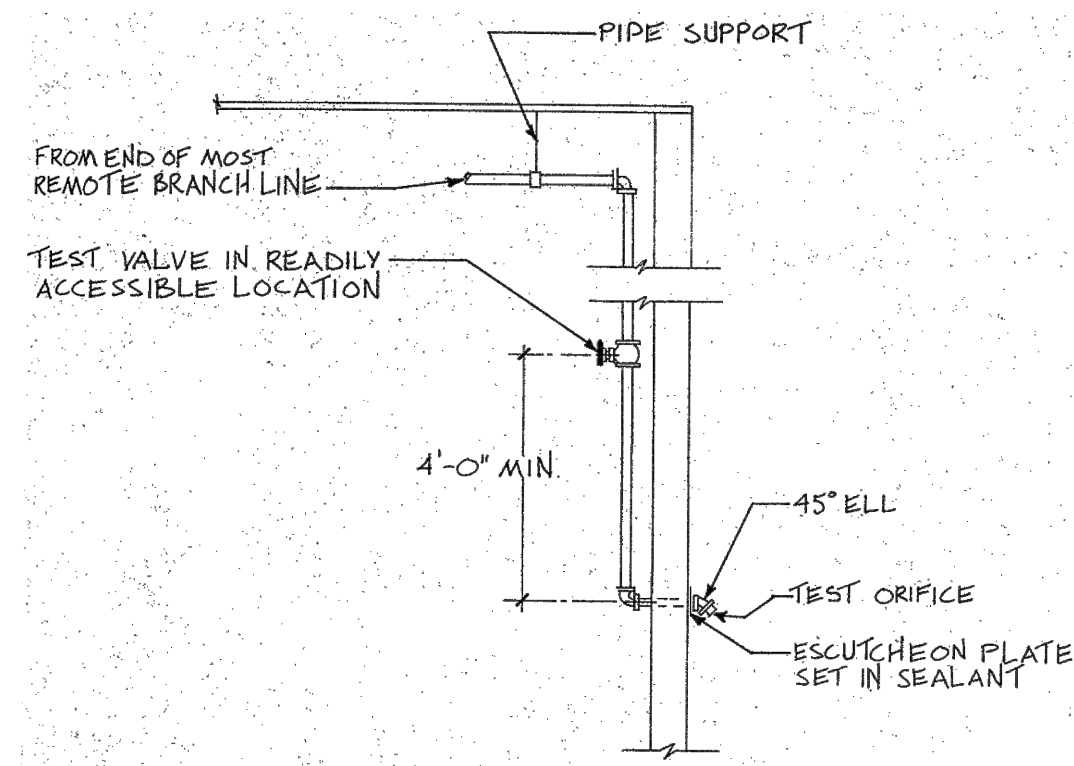
**BLDG. 11-89 TISA  
ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

**FP - IN-RACK SYSTEM**

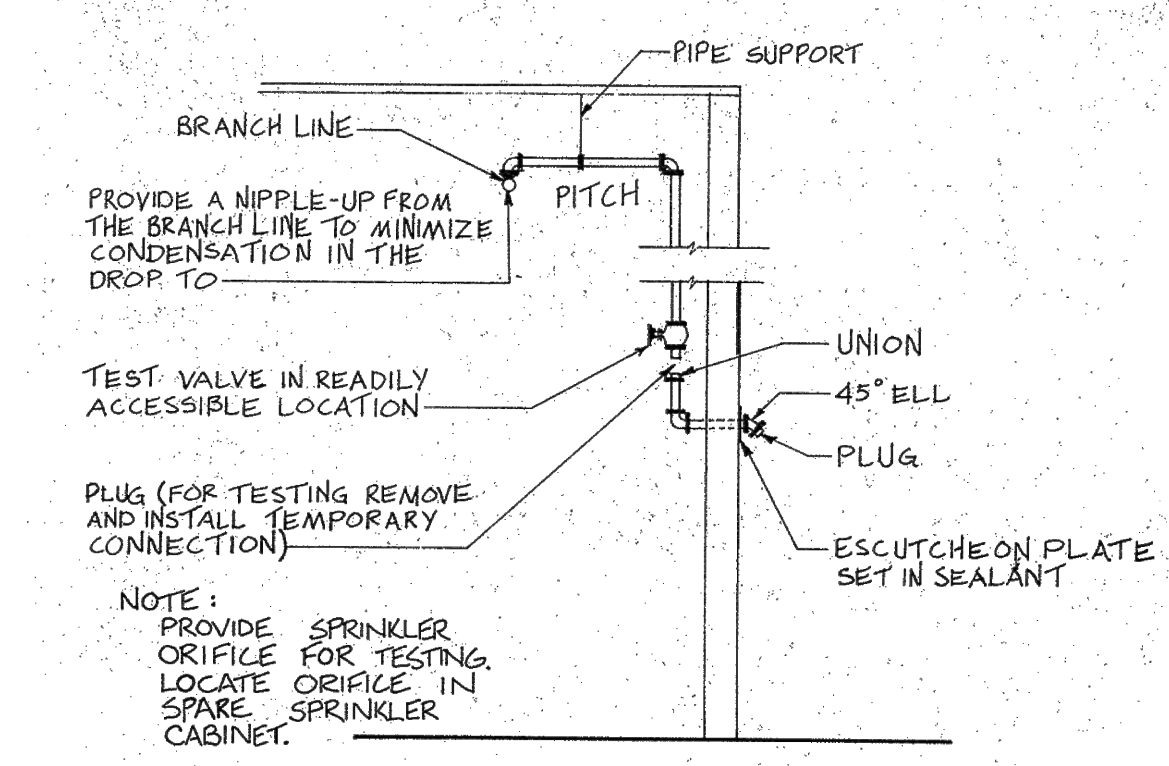
**VERIFY SCALE**  
BAR IS ONE (1) INCH LONG  
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0 1  
IF BAR IS NOT ONE (1) INCH LONG,  
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CONTRACTOR SHALL FIELD VERIFY  
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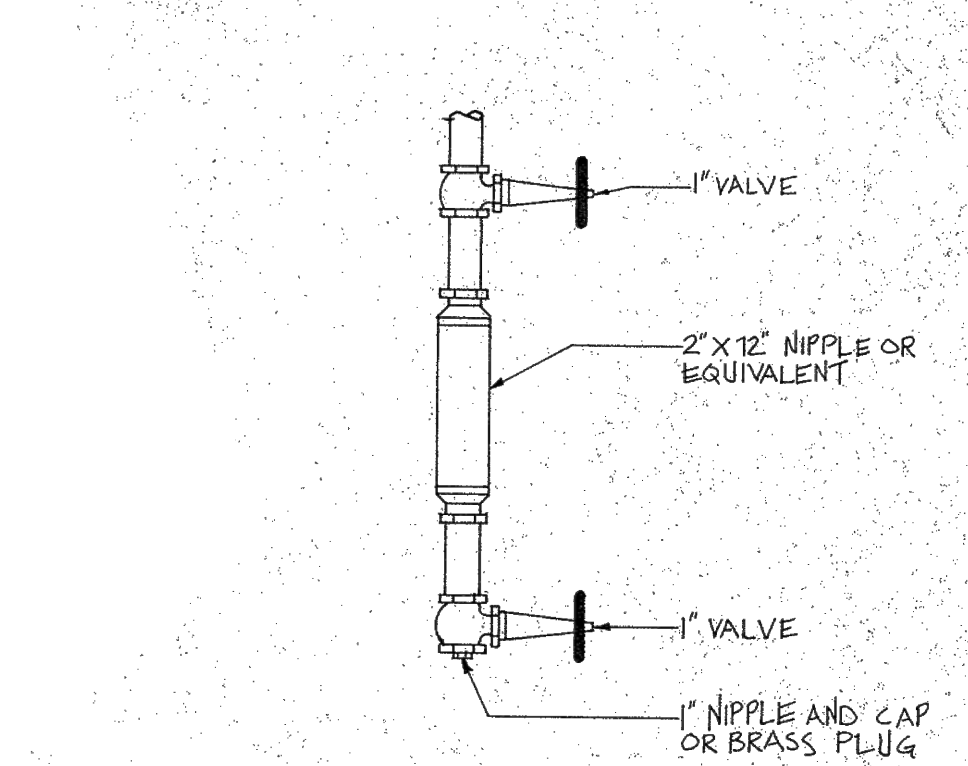
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CHECKED BY -	SCALE AS NOTED	



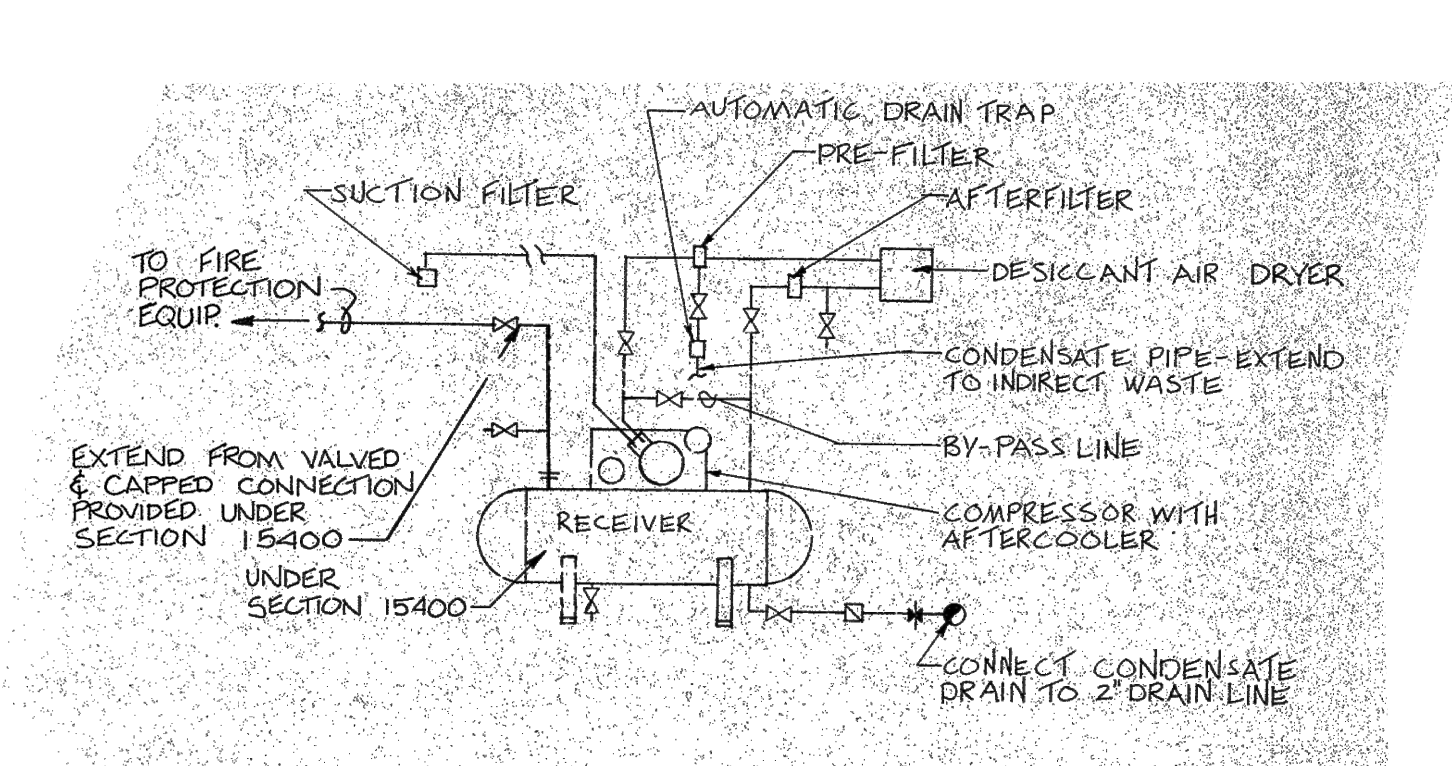
1 **WET - PIPE SYSTEM TEST DETAIL**  
FP.1.4 NO SCALE



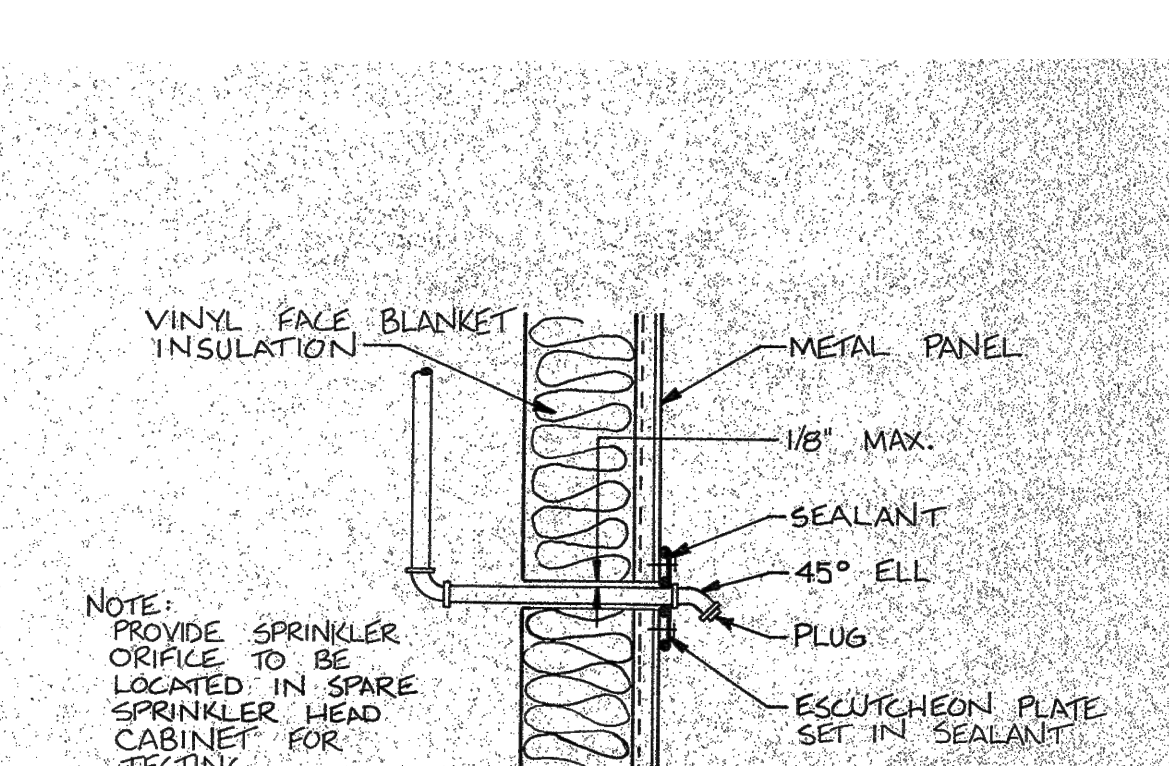
2 **DRY - PIPE SYSTEM TEST DETAIL**  
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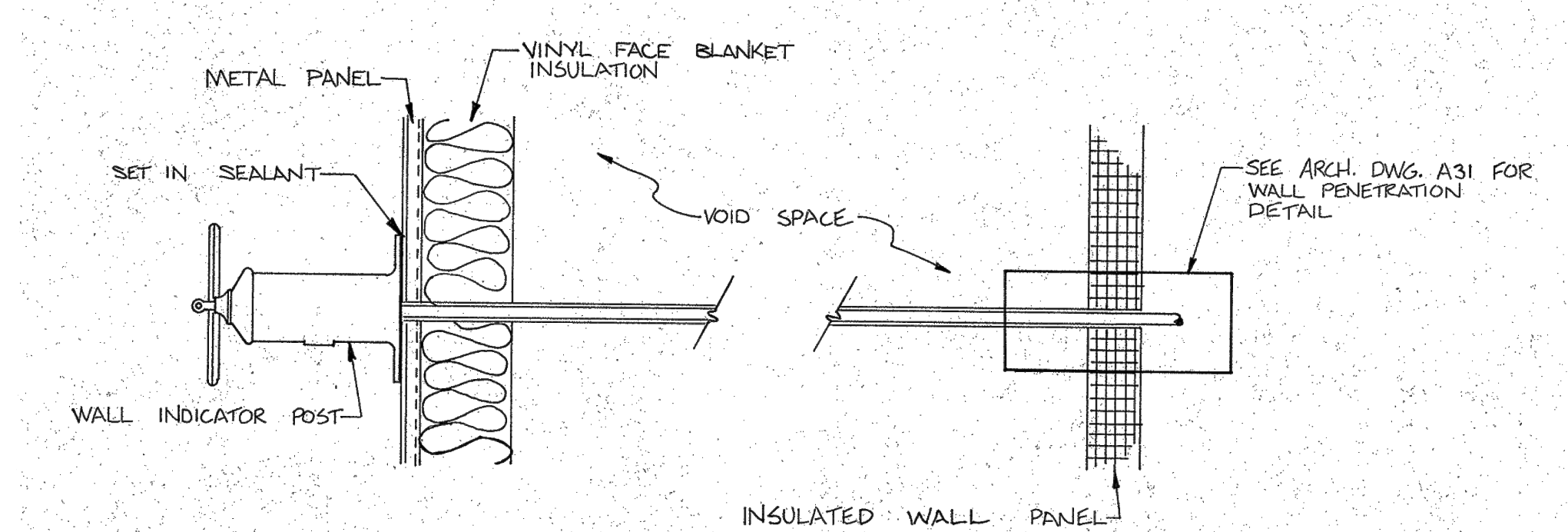
3 **TYPICAL AUXILIARY DRAIN DETAIL**  
FP.1.4 NO SCALE



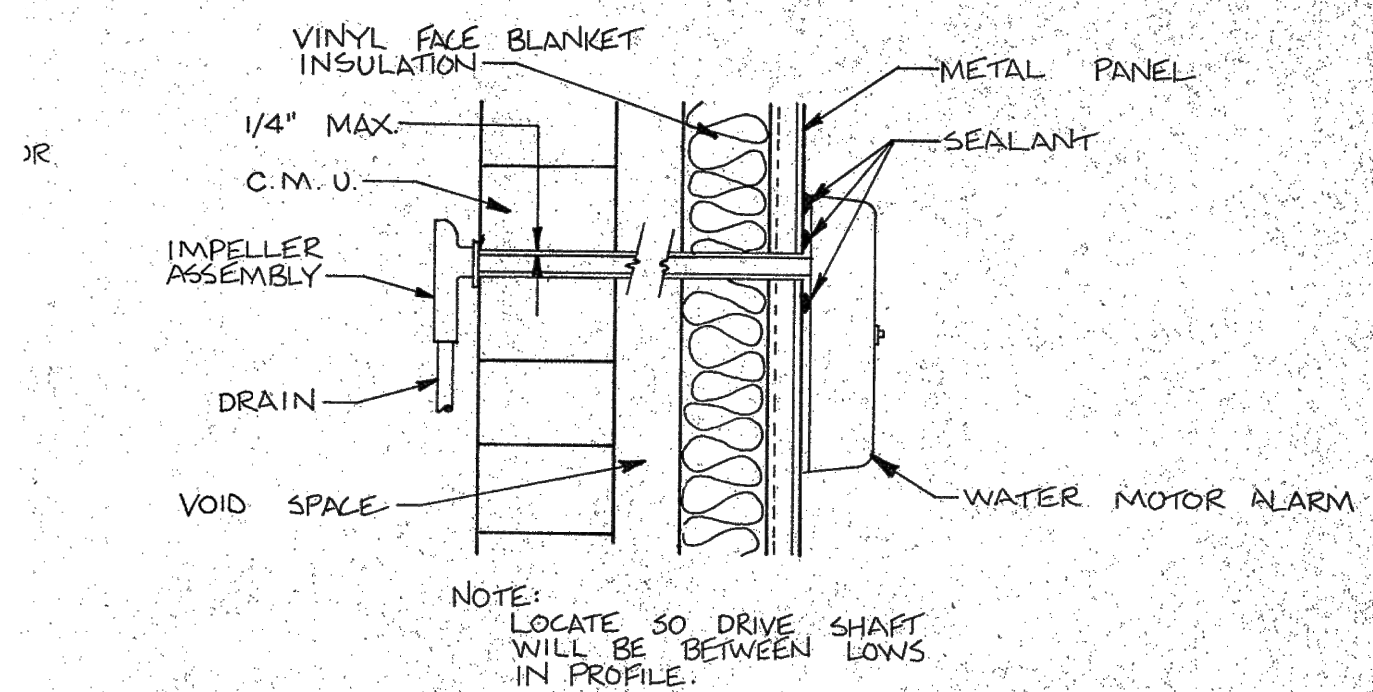
4 **TYPICAL AIR COMPRESSOR / DRYER PIPING SCHEMATIC**  
FP.1.4 NO SCALE



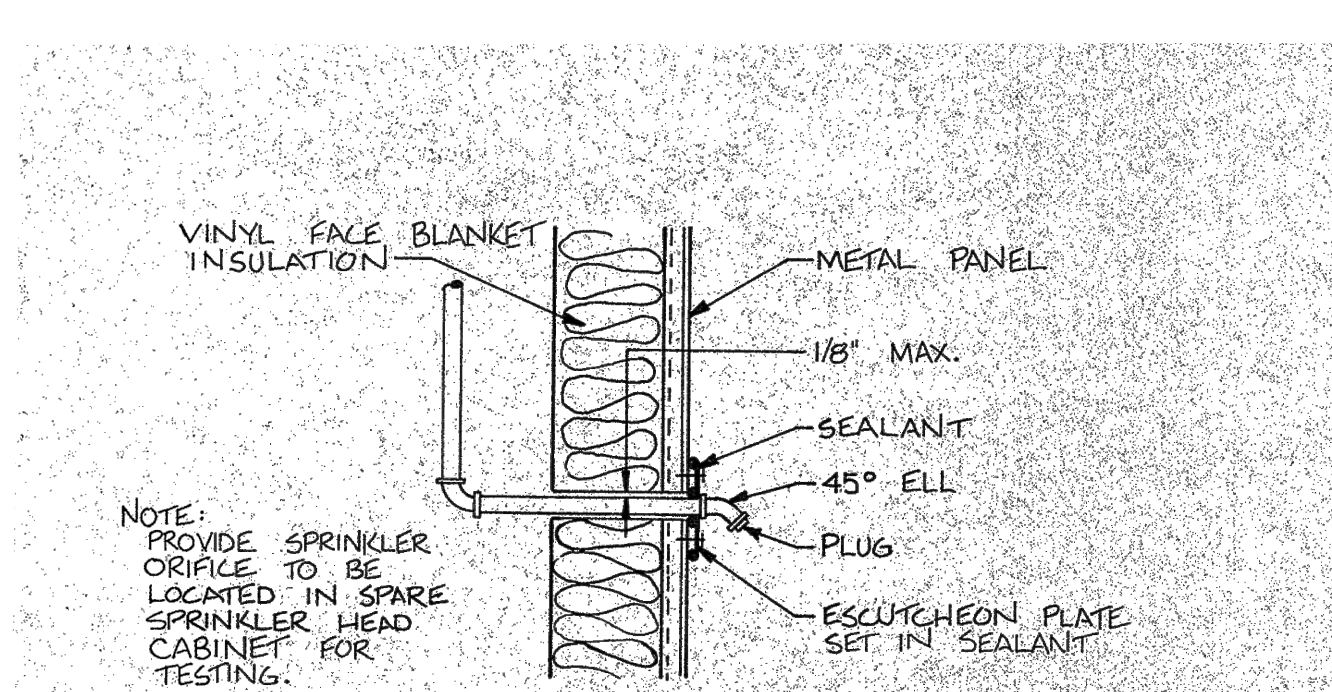
5 **INSPECTOR'S TEST PENETRATION THRU METAL PANEL**  
FP.1.4 NO SCALE



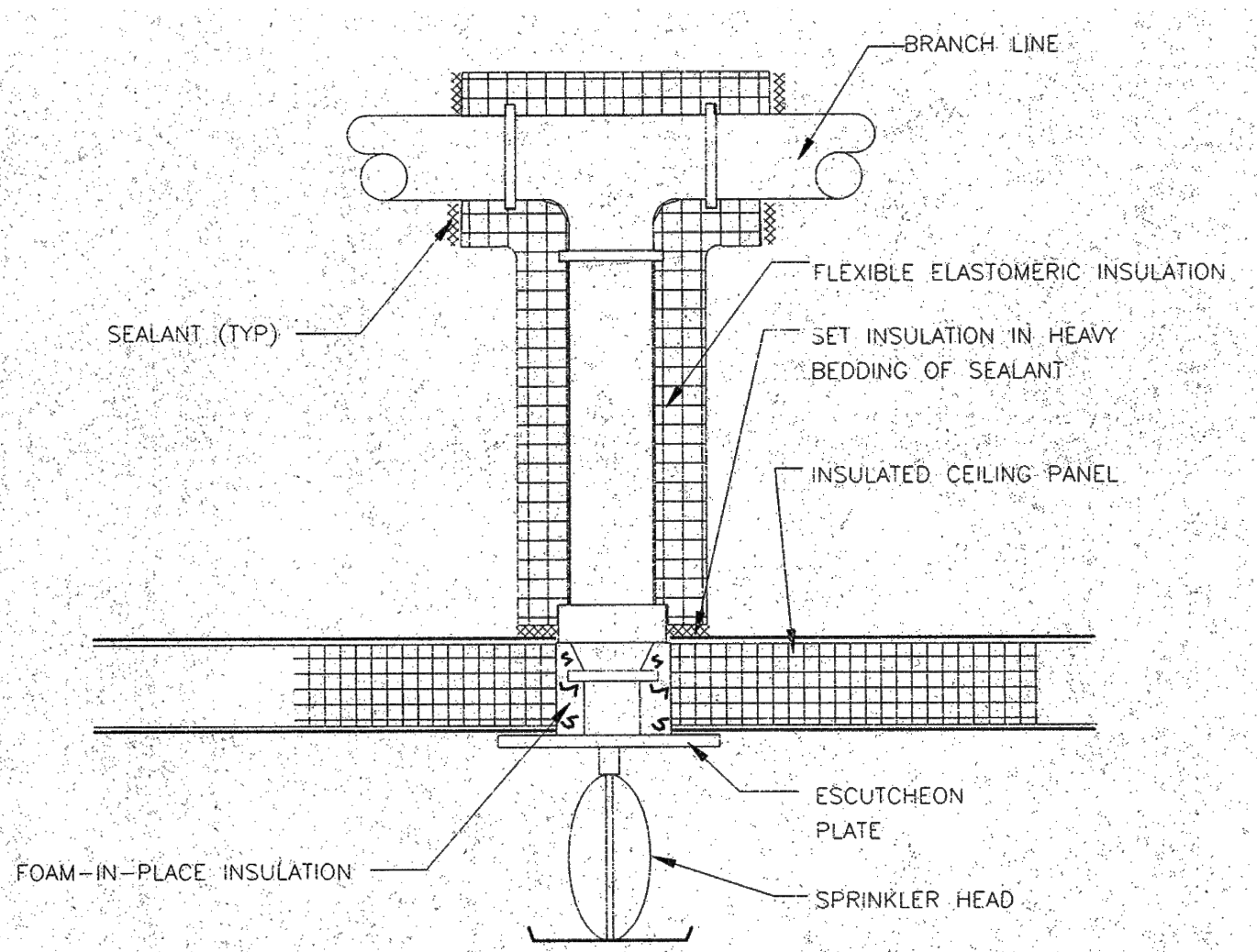
6 **WALL INDICATOR POST INSTALLATION DETAIL**  
FP.1.4 NO SCALE



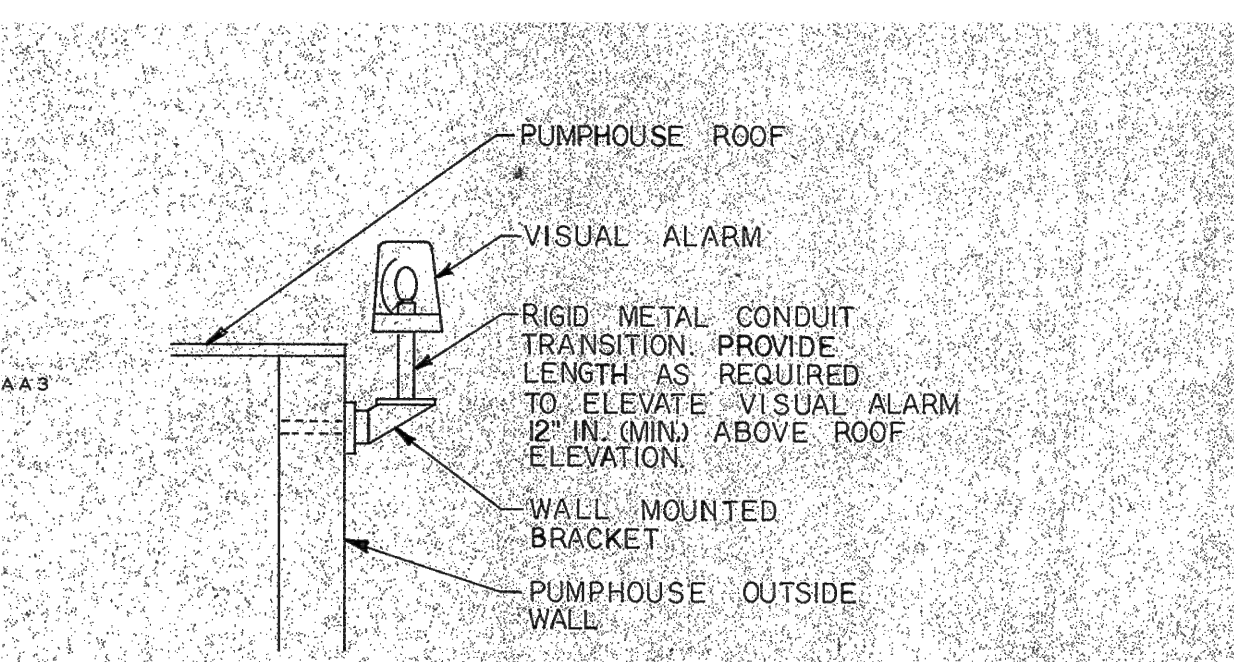
7 **WATER MOTOR ALARM INSTALLATION DETAIL**  
FP.1.4 NO SCALE



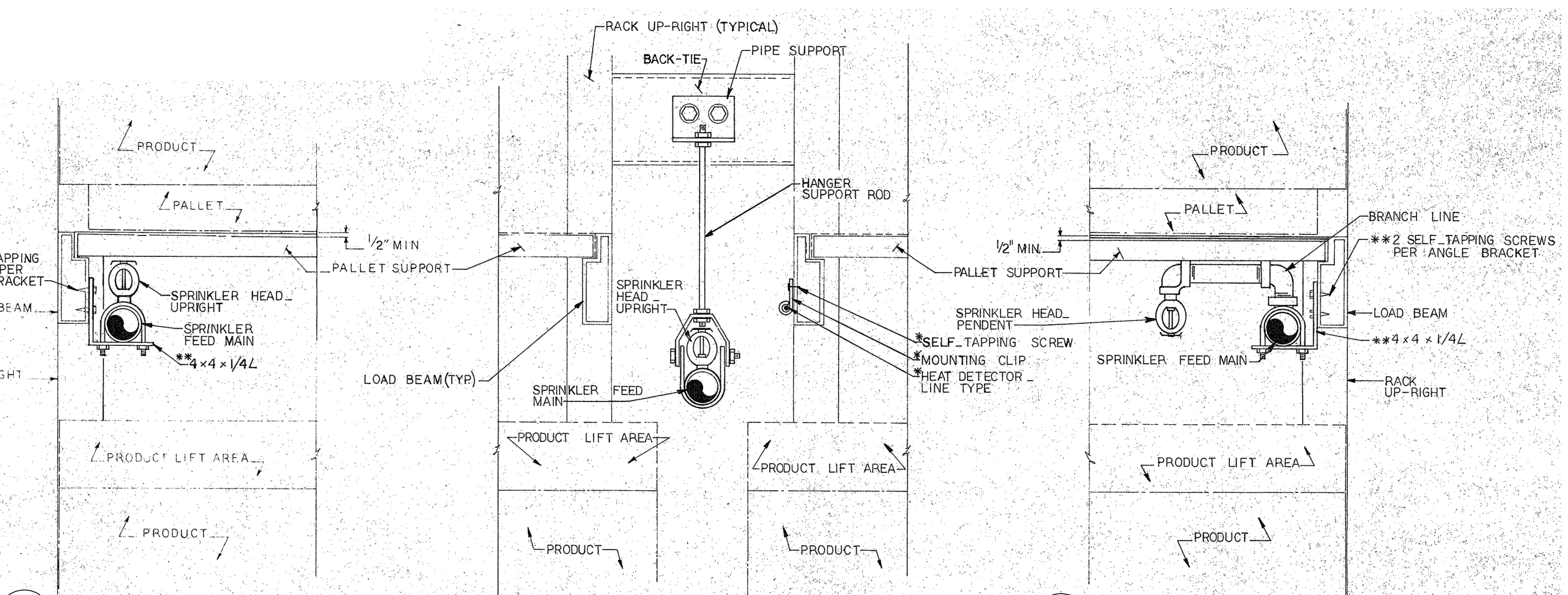
8 **INSPECTOR'S TEST PENETRATION THRU METAL PANEL**  
FP.1.4 NO SCALE



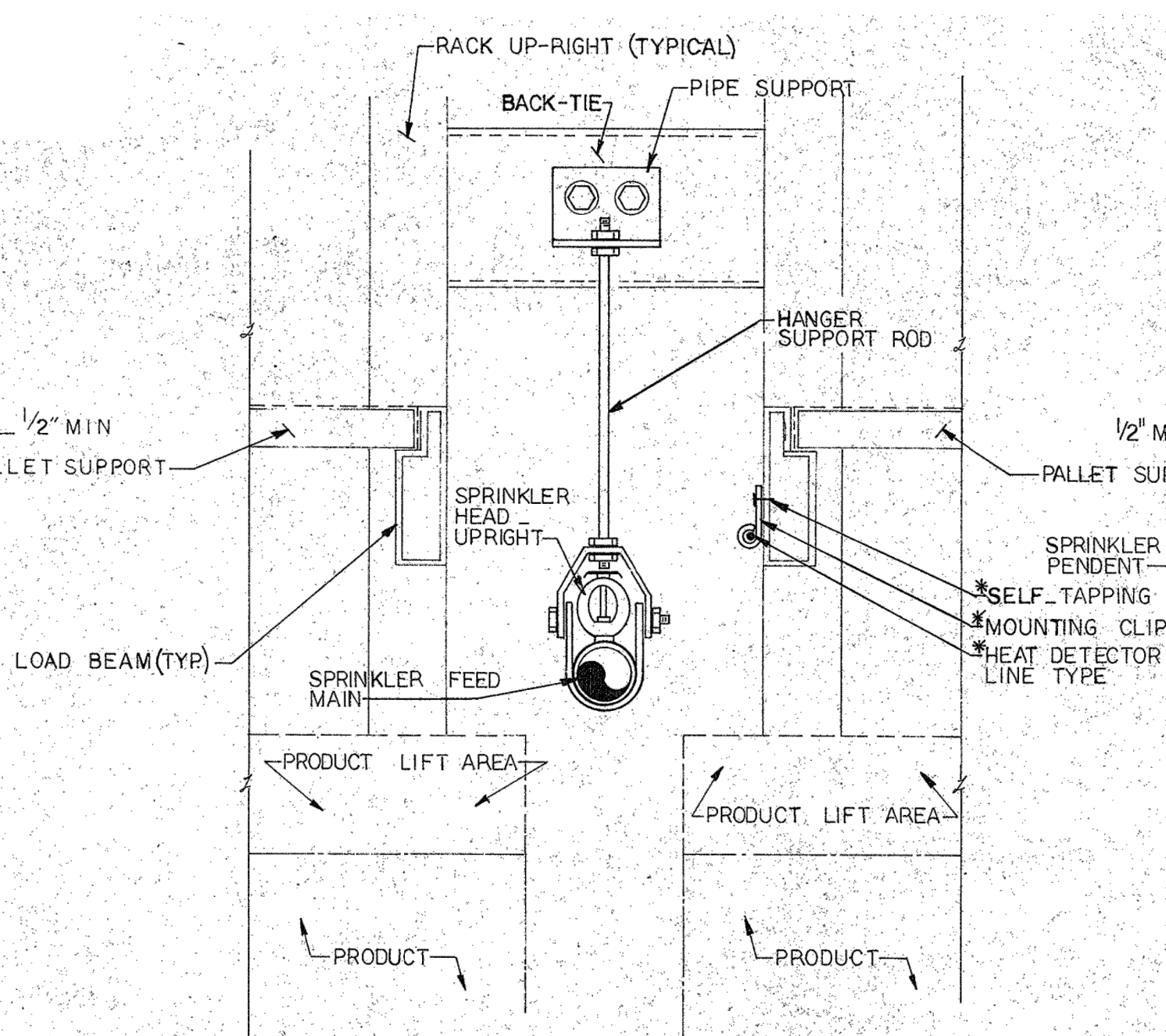
9 **TYPICAL SPRINKLER HEAD PENETRATION**  
FP.1.4 NO SCALE



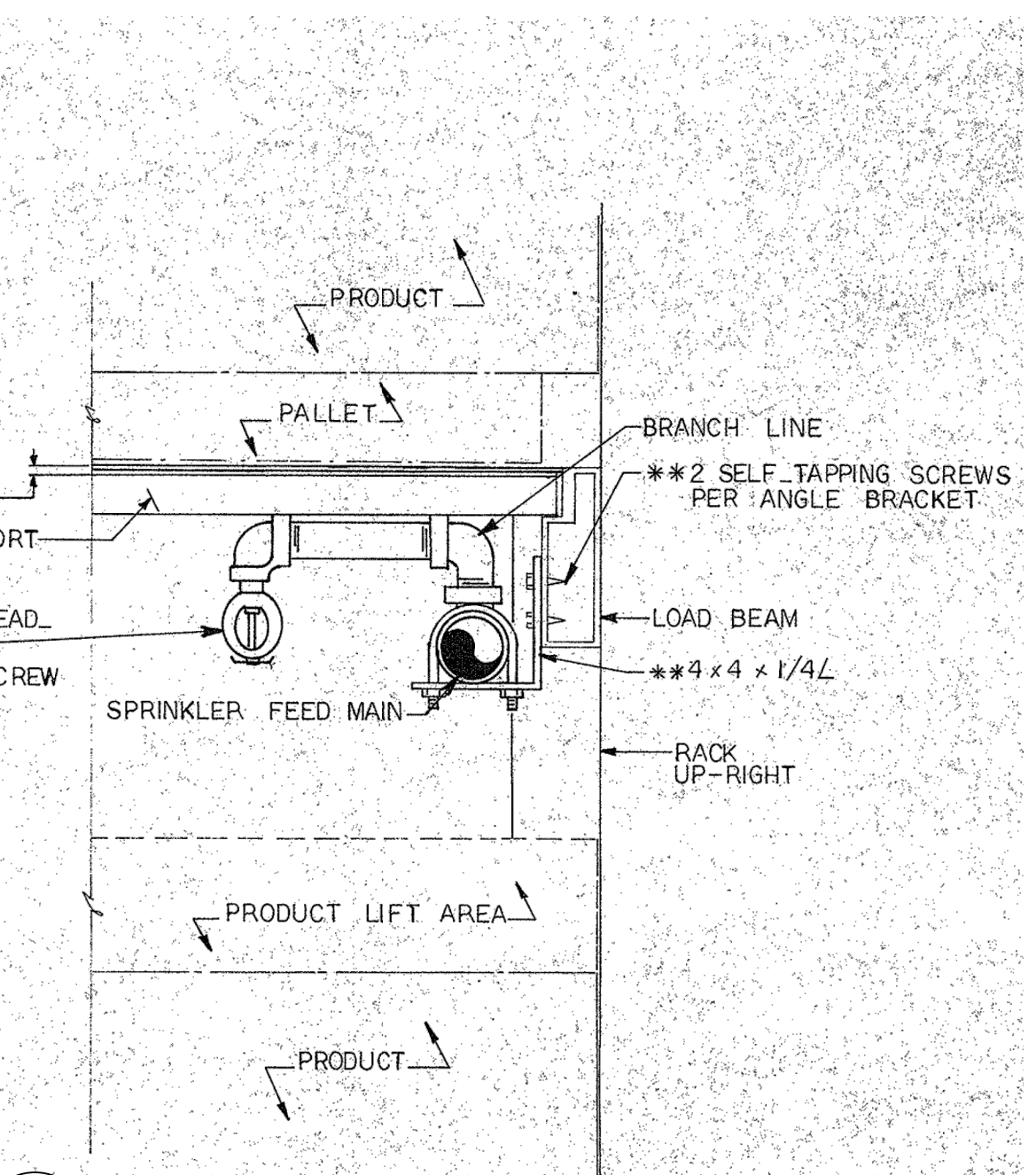
10 **VISUAL ALARM MOUNTING DETAIL**  
FP.1.4 NO SCALE



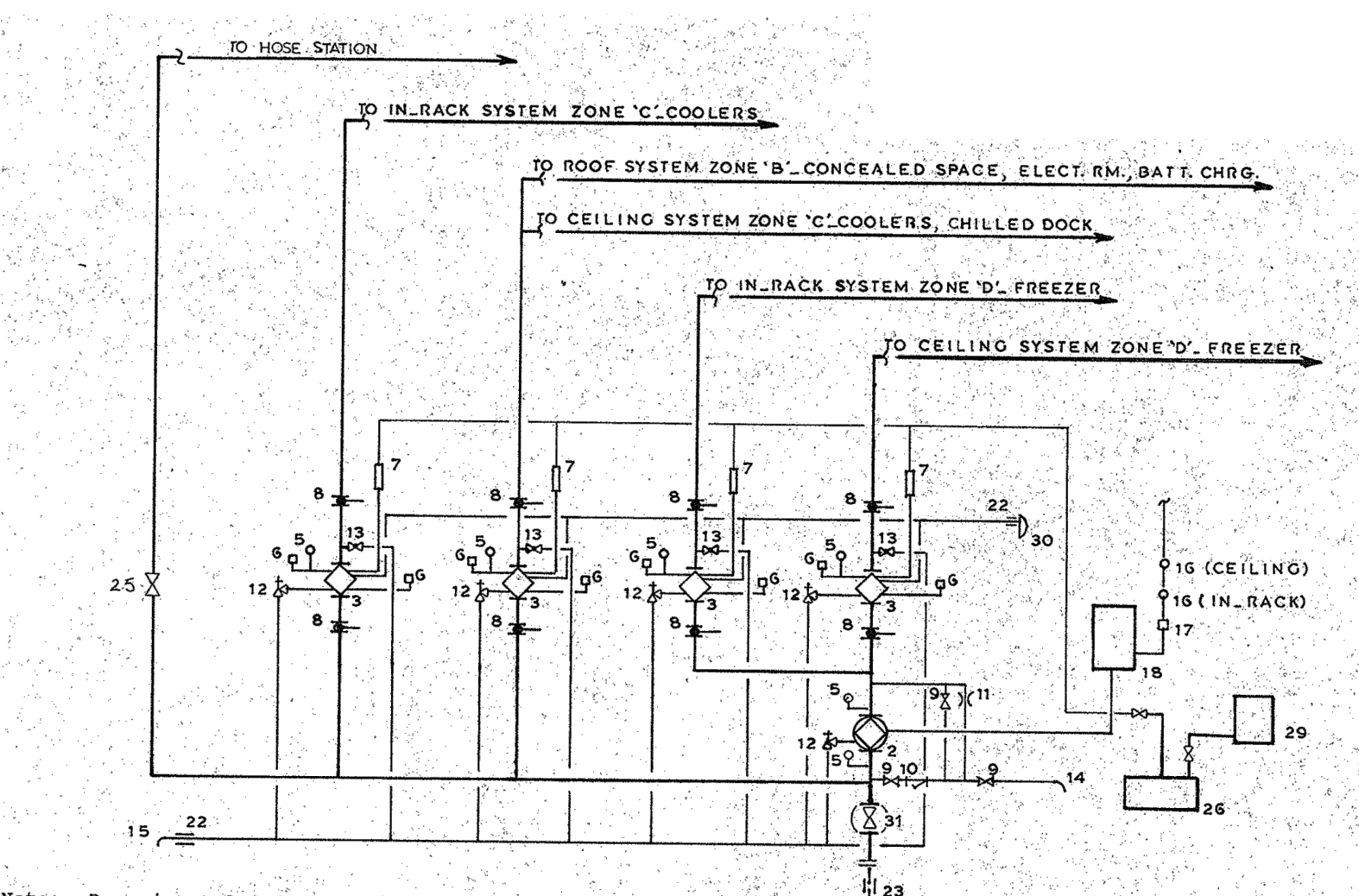
11 **FACE SPRINKLER - COOLER/FREEZER**  
FP.1.4



12 **SPRINKLER HEAD INSTALLATION SECTION**  
FP.1.4 NO SCALE



13 **FACE SPRINKLER - DRY STORAGE**  
FP.1.4



14 **ZONES 'B', 'C', 'D' - COOLERS, FREEZER VALVE RISER SCHEMATIC**  
FP.1.4 NO SCALE

1. Alarm check valve
2. Deluge valve
3. Dry valve
4. Flow switch (connect to alarm)
5. Pressure gauge
6. Pressure switch (connect to alarm)
7. Automatic air pressure maintenance device
8. Butterfly valve w/trigger switch
9. 1/2" gate valve
10. 1/2" strainer
11. 1/8" orifice plate
12. Angle valve for drain
13. Ball valve
14. 1/2" sill cock w/vacuum breaker
15. 2" drain, spill on grade
16. Heat detector, LINE TYPE (CONNECT TO ALARM)
17. Manual station (connect to alarm), as required by NFPA
18. Release control panel
19. Check valve
20. 3/4" automatic ball drip
21. Fire department connection
22. Wall penetration
23. Floor penetration
24. Wafer check valve
25. O.S. & V. gate valve
26. Air compressor
27. Condensate trap
28. Union
29. Air dryer
30. WATER MOTOR ALARM
31. WALL POST INDICATOR VALVE

## FINAL DESIGN

NO.	DESCRIPTION	DATE
REVISIONS		

Professional's Signature \_\_\_\_\_ Date \_\_\_\_\_

COMMONWEALTH OF PENNSYLVANIA  
DEPT. OF MILITARY & VETERAN'S AFFAIRS  
ANNVILLE, PENNSYLVANIA 17003

DESIGN PROFESSIONALS:  
OFFICE OF FACILITIES AND ENGINEERING  
BUREAU OF DESIGN AND PROJECT MANAGEMENT  
BLDG. 6-10, FORT INDIANTOWN GAP  
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA  
PROJECT NO.: 420591(88821)

**BLDG. 11-89 TISA ENERGY UPGRADES**  
AREA 11, FT INDIANTOWN GAP, EAST HANOVER TWP  
LEBANON COUNTY, PENNSYLVANIA

## FP - DETAILS

### VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING.  
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.  
VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT BUREAU OF ENGINEERING AND ARCHITECTURE APPROVAL.

DRAWN BY B. TOEVS	DATE 29 APR 2024	DRAWING NO. FP.1.4
CHECKED BY -	SCALE AS NOTED	