SPRINKLER SYSTEM NOTES

1. FIRE PROTECTION CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND FULLY FAMILIARIZE HIMSELF WITH THE BUILDING CONDITIONS. ANY DEVIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE COR FOR CLARIFICATION. BID SHALL INCLUDE ALL COSTS DUE TO EXISTING CONDITIONS.

2. FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL OWNER SPECIFIC DESIGN AND INSTALLATION REQUIREMENTS, AND SHALL INCLUDE ALL COSTS DUE TO THOSE REQUIREMENTS IN THE BASE BID.

3. FIRE PROTECTION CONTRACTOR SHALL DESIGN AND INSTALL THE REQUIRED NEW SYSTEM OR MODIFICATIONS TO THE EXISTING HYDRAULICALLY CALCULATED WET PIPE SPRINKLER SYSTEM FOR THE ENTIRE DEMISED SPACE INDICATED HEREIN THESE DOCUMENTS. THE SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-13 FOR ORDINARY HAZARD (GROUP 2) OCCUPANCY, PROVIDING A SPRINKLER DENSITY OF .20 GPM SQFT OVER THE MOST REMOTE 1500 SQ.FT. SPRINKLER HEAD SPACING SHALL NOT EXCEED 130 SQ.FT. PER HEAD.

4. FIRE PROTECTION CONTRACTOR SHALL PREPARE AND FILE SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS WITH THE VA COR, THE OWNER'S INSURANCE RATING AGENCY, THE ARCHITECT, AND ALL STATE, LOCAL AND MUNICIPAL AUTHORITIES IN JURISDICTION, AND SHALL RECEIVE ALL NECESSARY APPROVALS PRIOR TO COMMENCEMENT OF ANY INSTALLATION WORK.

5. CONSTRUCTION DOCUMENTS FOR FIRE PROTECTION / SPRINKLER SYSTEMS ARE TO BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION BY SPRINKLER CONTRACTOR UNDER SEPARATE PERMIT APPLICATION. FIRE PROTECTION SYSTEMS ARE TO BE MAINTAINED IN ACCORDANCE WITH ORIGINAL INSTALLATION STANDARDS. REQUIRED FIRE PROTECTION SYSTEM SHALL BE MODIFIED AS NECESSARY TO MAINTAIN PROTECTION WHENEVER BUILDING IS ALTERED.

6. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FLOW TEST DATA AND PREPARING HYDRAULIC CALCULATIONS.

7. NEW SPRINKLER HEADS SHALL BE APPROVED FULLY CONCEALED TYPES, PENDENT AND UPRIGHT, AND DESIGNED FOR ORDINARY HAZARD COVERAGE. CHROME PLATED "TYCO", "GRINNELL", "VIKING", "STAR" OR EQUAL. SEE PLANS FOR SPRINKLER HEAD TYPES.

8. ALL SPRINKLER WORK SHALL COMPLY WITH ALL NFPA-13 RECOMMENDATIONS, AND SHALL BE PERFORMED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE V.A., OWNER, LOCAL FIRE RATING ORGANIZATION, FIRE AND/OR BUILDING DEPARTMENTS AND ALL AUTHORITIES IN JURISDICTION.

9. ALL SPRINKLER SYSTEM WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE OWNER'S INSURERS AND SHALL BE DESIGNED TO SECURE THE BEST POSSIBLE INSURANCE RATES ON THE BUILDING AND IT'S CONTENTS.

10. FIRE PROTECTION CONTRACTOR SHALL FILE FOR, OBTAIN, AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.

11. FIRE PROTECTION CONTRACTOR SHALL ARRANGE FOR ANY SHUTDOWNS OF THE EXISTING SYSTEM WITH THE OWNER AND LOCAL FIRE DEPARTMENT REPRESENTATIVE, AND SHALL SECURE IN WRITING PRIOR TO SHUTDOWN, APPROVALS FROM SAME. ADDITIONALLY, THE FIRE PROTECTION CONTRACTOR SHALL PAY FOR ANY LABOR, MATERIALS, AND FEES NECESSARY FOR SHUTDOWN.

12. IN THE EVENT OF THE FIRE PROTECTION SYSTEM BEING "OUT OF SERVICE", THE FIRE DEPARTMENT & LOCAL CODE OFFICIAL SHALL BE NOTIFIED IMMEDIATELY, AND IF REQUIRED BY CODE OFFICIAL, SAID BUILDING TO BE EVACUATED OR PROVIDED WITH AN APPROVED FIRE WATCH SYSTEM WILL BE PROVIDED FOR ALL UNPROTECTED OCCUPANTS UNTIL SYSTEM IS RETURNED TO SERVICE.

13. WHEN UTILIZED, FIRE WATCHES SHALL BE PROVIDED W/ MIN. OF ONE APPROVED MEANS OF NOTIFICATION OF THE FIRE DEPT. THE ONLY DUTY OF THE FIRE WATCH IS TO PERFORM CONSTANT PATROLS OF THE PREMISES AND KEEP WATCH FOR FIRES.

14. FIRE PROTECTION CONTRACTOR SHALL CAREFULLY EXAMINE ALL EXISTING SPRINKLER SYSTEM PIPING AND COMPONENTS, AND SHALL REPAIR OR REPLACE ANY LEAKING OF DEFECTIVE PIPING OR COMPONENTS.

15. SPRINKLER PIPE MATERIAL AND INSTALLATION SHALL MATCH EXISTING.

16. FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL REQUIRED TEST AND DRAIN CONNECTIONS, WHETHER OR NOT THEY ARE INDICATED HEREON THESE PLANS.

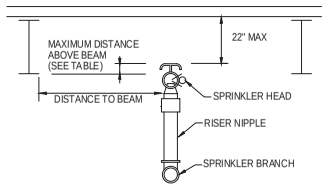
17. FIRE PROTECTION CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ALARM INITIATING DEVICES AND SUPERVISORY DEVICES, AND SHALL COORDINATE THE ELECTRICAL REQUIREMENTS FOR THEM WITH THE E.C. AND/OR FIRE ALARM CONTRACTOR FOR THEIR CONNECTION TO THE FIRE ALARM SYSTEM.

18. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES TO ANY PORTION OF THE EXISTING SPRINKLER SYSTEM ON ANY PORTION OF THE BUILDING INCURRED BY HIM DURING CONSTRUCTION.

19. UPON COMPLETION OF THE INSTALLATION, FIRE PROTECTION CONTRACTOR SHALL DEMONSTRATE TO THE SATISFACTION OF THE AUTHORITIES IN JURISDICTION AND THE LANDLORD'S INSURANCE UNDERWRITERS, THE OPERATION OF THE ENTIRE PROTECTION SYSTEM, INCLUDING ALL ALARM INITIATING DEVICES AND SYSTEM SUPERVISORY DEVICES.

20. FIRE PROTECTION SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH CURRENT CODES LISTED. WHEN REQUIRED THE TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE BUILDING OFFICIAL. TESTS SHALL BE CONDUCTED AT THE EXPENSE OF THE LANDLORD. IT WILL BE UNLAWFUL TO OCCUPY PORTIONS OF THE STRUCTURE UNTIL SYSTEMS ARE TESTED AND APPROVED.

21. PRIOR TO REQUESTING FINAL APPROVAL, THE SPRINKLER CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE CODE OFFICIAL INDICATING THAT THE FIRE PROTECTION SYSTEM HAS BEEN INSTALLED PER APPROVED PLANS, AND HAS BEEN TESTED AS REQUIRED, ANY EXCEPTIONS FROM THE D DESIGN STANDARDS SHALL BE NOTED AND COPIES OF APPROVALS ATTACHED TO THE FORE MENTIONED WRITTEN STATEMENT.



Distance from Sprinkler to Side of Beam	Maximum Allowable Distance Deflector above Bottom of Beam
Less than 1 ft	0 in.
1 ft to less than 1 ft 6 in	2½ in.
1 ft 6 in to less than 2 ft	3½ in.
2 ft to less than 2 ft 6 in	5½ in.
2 ft 6 in to less than 3 ft	7½ in.
3 ft to less than 3 ft 6 in	9½ in.
3 ft 6 in to less than 4 ft	12 in.
4 ft to less than 4 ft 6 in	14 in.
4 ft 6 in to less than 5 ft	16½ in.
5 ft to less than 5 ft 6 in	18 in.
6 ft 6 in to less than 6 ft	20 in.
6 ft to less than 6 ft 6 in	24 in.
6 ft 6 in to less than 7 ft	30 in.
7 ft to less than 7 ft 6 in	35 in.

SPRINKLER HEAD LEGEND

- ∘ FULLY CONCEALED SPRINKLER HEAD WITH WHITE CEILING PLATE (165°F TEMPERATURE RATING-U.O.N.)
- ○ UPRIGHT PENDENT SPRINKLER HEAD ON EXPOSED PIPE (165°F TEMPERATURE RATING U.O.N.)
- ⊠ CONCEALED DRY PENDENT (NON-FREEZE) SPRINKLER HEAD (135°F TEMPERATURE RATING)
- ◎ DRY SIDEWALL SPRINKLER HOA

SEISMIC BRACING NOTES:

A) ALL PIPING 2-1/2 IN. NOMINAL DIAMETER AND LARGER MUST BE BRACED.

B) TRANSVERSE AND VERTICAL BRACING SHALL OCCUR AT 40 FT. INTERVALS (MAX) AND LONGITUDINAL BRACING AT 80 FT. INTERVALS (MAX).

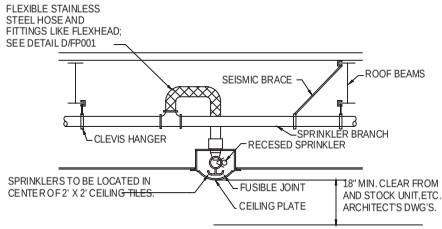
C) BRACING IS NOT REQUIRED FOR PIPING SUSPENDED BY HANGERS 12 IN. OR LESS IN LENGTH AS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT WHERE THE HANGER IS ATTACHED.

UPRIGHT SPRINKLER INSTALLATION

A / FP001

NO SCALE

(TYPICAL FOR ALL AREAS OF EXPOSED STRUCTURE CONSTRUCTION)

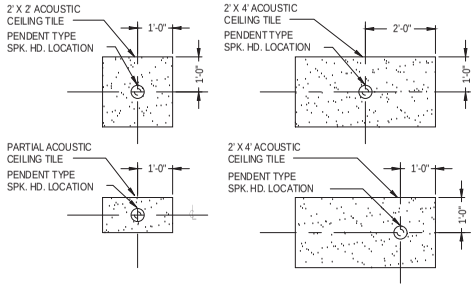


CONCEALED SPRINKLER HEAD INSTALLATION

B / FP001

NO SCALE

(TYPICAL FOR ALL AREAS OF FINISHED CEILING CONSTRUCTION)



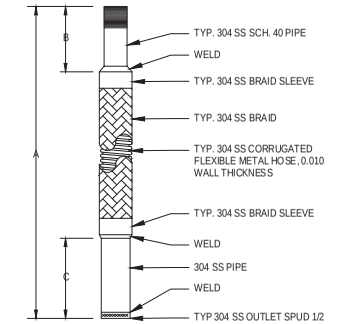
SPRINKLER HEAD LOCATION DETAIL

C / FP001

NO SCALE

FLEXIBLE SPRINKLER HOSE FITTINGS FOR FIRE PROTECTION SERVICE

A. Manufacturer: Flexhead Industries, Inc.
   1. Contact: 56 Lowland Street, Holliston, MA 01746; Telephone: (800) 829-6975; Fax: (508) 893-6020; Email: sales1@flexhead.com; website: www.flexhead.com.
B. Description: Flexible Sprinkler Hose Fittings for use in concrete walls and ceilings.
   1. Regulatory Requirements:
      a. In accordance with NFPA 13.
C. Product Performance Criteria:
   1. FM Approved for its intended use pursuant to FM 1637 Approval Standard for Flexible Sprinkler Hose with Threaded End Fittings.
   2. UL Listed for its intended use pursuant to UL 2443 Standard for Flexible Sprinkler Hose with Fittings for Fire Protection Service.
D. Materials: Flexhead Institutional Sprinkler Connections.
   1. Flexhead Flexible Hose Assemblies and End Fittings:
      a. Composition: 100% type 304 Stainless Steel.
      b. Hose Assembly Lengths: {2ft length, Model #2024I} {3ft length, Model #2036I} {4ft length, Model #2048I} {5ft length, Model #2060I} {3ft length, Model #2072I}.
         1. {1/2 inch} {3/4 inch} outlet.
         2. {175 psi} { 300 psi} maximum rated pressure.
         3. Fully welded non-mechanical fittings, braided, leak-tested with minimum 1 inch true-bore internal corrugated hose diameter.
   2. FlexHead Bracket:
      a. Composition: type G90 Galvanized Steel.
      b. Type: Retaining flange with set screw for attaching flexible hose.



MODEL #	A (in)	B (in)	C (in)
2024I	24	3	8.0
2036I	36	3	8.0
2048I	48	3	8.0
2060I	60	3	8.0
2072I	72	3	8.0

FLEXHEAD DETAIL

D / SPK

NO SCALE

Sheet List		
Sheet Number	Sheet Name	Sheet Order
FP001	FIRE PROTECTION DETAILS	
FP101	FIRE PROTECTION FLOOR PLANS	

Bid Document

Revisions:	Date

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062-040274 REGISTERED PROFESSIONAL ENGINEER

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317.464.9393
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FoxArchitects
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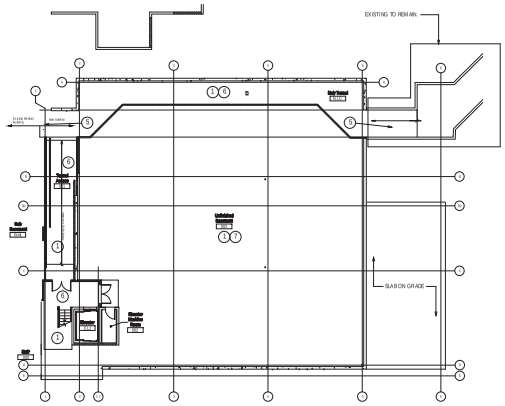
Saint Louis, MO 63102
Tel 314.621.4343
314.621.0261
Fax

Drawing Title	Project Title	Project Number
Fire Protection Details	Expand & Upgrade Building 42 for Laboratory	657-502
Approved: Associate Director / Approved: Chief Engineer	Location Marion, IL	Building Number 42-Addition
Approved: Chief of Staff / Approved: Safety Officer	Date 12-20-17 / Checked DH / Drawn BZ	Drawing Number FP-001
Approved: Infection Control / Approved: Chief, Police & Security		

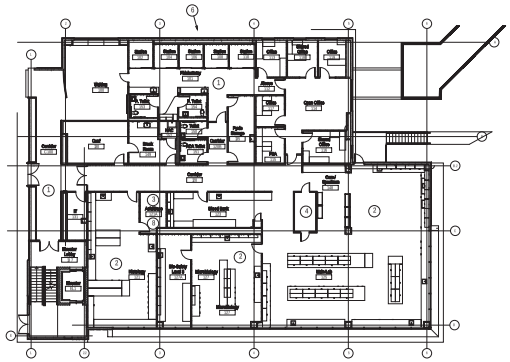
Office of Facilities Management

VA | U.S. Department of Veterans Affairs

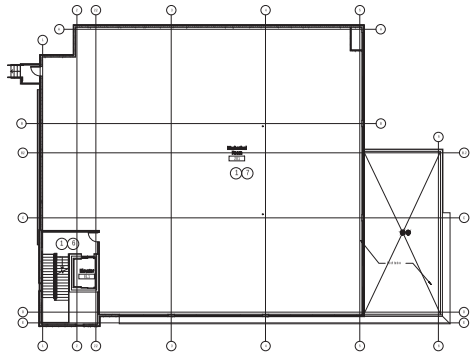
12/21/2017 12:28:39 AM



1 Lower Level Fire Protection Plan
1/16" = 1'-0"



2 Main Level Fire Protection Plan
1/16" = 1'-0"



3 Inerstitial Level Fire Protection
1/16" = 1'-0"

NOTE:

THIS SPRINKLER DRAWING IS INTENDED FOR PRICING PURPOSES ONLY. THE FIRE PROTECTION CONTRACTOR SHALL PREPARE A COMPLETE SET OF WORKING FIRE PROTECTION DRAWINGS IN ACCORDANCE WITH NFPA-13 VA STANDARDS, AND ALL STATE AND LOCAL REQUIREMENTS. PIPE SIZES SHALL BE DETERMINED BY HYDRAULIC CALCULATIONS USING THE CURRENT SITE SPECIFIC FLOW DATA.

DRAWINGS AND CALCULATIONS

1. THE SPRINKLER CONTRACTOR SHALL PREPARE SUBMITTAL DRAWINGS AND HYDRAULIC CALCULATIONS FOR THE SPACE IN ACCORDANCE WITH VA STANDARDS, AND LOCAL FIRE AUTHORITY REQUIREMENTS.
2. THE SPRINKLER SYSTEM SHALL BE DESIGNED FOR ORDINARY HAZARD OCCUPANCY, PROVIDING A DENSITY OF 0.2 GPM/SF OVER THE MOST REMOTE 1500 SQUARE FOOT AREA. SPRINKLER SPACING SHALL NOT EXCEED 130 SQUARE FOOT PER HEAD.
3. THE SPRINKLER CONTRACTOR SHALL SECURE FLOW TEST DATA FROM THE HYDRANT(S) NEAREST THE PROJECT SITE. IF RECENT FLOW TEST DATA IS NOTE AVAILABLE FROM LANDLORD OR CITY RECORDS, PERFORM THE NECESSARY FLOW TESTS AS REQUIRED BY NFPA STANDARDS TO DETERMINE THE CHARACTER OF THE AVAILABLE WATER SUPPLY, AND SUBMIT THAT DATA WITH THE CALCULATIONS.

PLAN NOTES:

1. LIGHT HAZARD CLASSIFICATION.
2. ORDINARY HAZARD GROUP 1 CLASSIFICATION.
3. ORDINARY HAZARD GROUP 2 CLASSIFICATION.
4. AREA TO BE PROTECTED BY DRY PIPE SYSTEM OR HEADS.
5. DISCONNECT AND CAP FIRE SPRINKLER PIPING IN EXISTING PORTION OF TUNNEL TO BE DEMO'D. CAP BOTH ENDS OF HE PIPING TO REMAIN AS REQUIRED.
6. FULLY CONCEALED HEADS IN THIS AREA.
7. UPRIGHT/PENDANT HEADS IN THIS AREA.
8. PROVIDE A SEPARATE FIRE ZONE, ZONE VALVE AND FLOW SWITCH FOR THIS ROOM.

SPRINKLER DESIGN CRITERIA :

ORDINARY HAZARD (GROUP 2) OCCUPANCY
MAXIMUM STORAGE HEIGHT: 8 FT.
0.2 GPM OVER THE MOST REMOTE 1500 SQ.FT.
MAXIMUM SPRINKLER SPACING - 1 HEAD PER 130 SQ.FT.

LAB DESIGN CRITERIA :

ORDINARY HAZARD (GROUP 1) OCCUPANCY
MAXIMUM STORAGE HEIGHT: 8 FT.
0.2 GPM OVER THE MOST REMOTE 1500 SQ.FT.
MAXIMUM SPRINKLER SPACING - 1 HEAD PER 130 SQ.FT.

Bid Document

Revisions:	Date

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Drawing Title
Second Floor Mezzanine-Fire Protection Floor Plan

Approved: Associate Director | Approved: Chief Engineer
Approved: Chief of Staff | Approved: Safety Officer
Approved: Infection Control | Approved: Chief, Police & Security

Project Title
Expand & Upgrade Building 42 for Laboratory

Location Marion, IL

Date 12-20-17 | Checked DH | Drawn BZ

Project Number 657-502
Building Number 42-Addition
Drawing Number FP-101

Office of Facilities Management
VA | U.S. Department of Veterans Affairs