

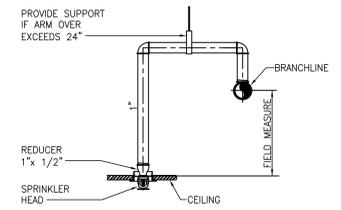
three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot

	NOMINAL PIPE SIZE (INCHES)										
	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED L-WALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A	N/A
COPPER TUBE	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0	15-0	15-0

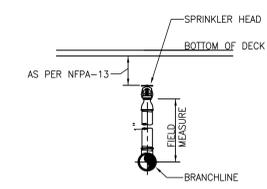
NFPA-13 TABLE 9.2.2.1
 NOTE: ALL HANGERS SHOWN ON THE DRAWING ARE DIAGRAMMATIC ONLY.
 HANGERS ARE TO BE INSTALLED AS PER THE SCHEDULE ABOVE.



3 HANGER DETAILS
 SCALE: NTS



2 TYPICAL DROP PENDENT DETAIL
 SCALE: NTS



1 TYPICAL UPRIGHT/SPRIG DETAIL
 SCALE: NTS

LEGEND

- EXISTING
- EXISTING TO BE REMOVED
- F FIRE PIPING
- SPR SPRINKLER PIPING
- DS DRY SPRINKLER PIPING
- D SPRINKLER DRAIN PIPING
- CV CHECK VALVE
- SV SHUT-OFF/CONTROL VALVE
- IT INSPECTOR'S TEST FITTING
- PG PRESSURE GAUGE
- GF GROUND FACE UNION OR FLANGES
- WS WATERFLOW SWITCH
- ZCA SPRINKLER ZONE CONTROL VALVE ASSY

- 1 HR FIRE RATED BARRIER
- 2 HR FIRE RATED BARRIER
- SMOKE BARRIER
- AREA OF WORK

NOTE:
 ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE INDICATED ON THE DRAWINGS.

- ABV CLG ABOVE THIS CEILING
- BLW FLR BELOW THIS FLOOR
- (E) EXISTING
- EC ELECTRICAL CONTRACTOR
- FC FIRE PROTECTION CONTRACTOR
- FDC FIRE DEPARTMENT CONNECTION
- FDV FIRE DEPARTMENT VALVE
- FDVC FIRE DEPARTMENT VALVE CABINET
- NTS NOT TO SCALE
- PC PLUMBING CONTRACTOR
- SPR SPRINKLER

GENERAL NOTES

- MODIFY EXISTING SPRINKLER SYSTEM WITHIN THE LIMIT OF CONSTRUCTION AS INDICATED ON THE CONTRACT DRAWINGS FOR THIS PROJECT. PROVIDE TEMPORARY UPRIGHT SPRINKLER HEADS TO PROTECT SPACES WHERE CEILINGS ARE REMOVED FOR CONSTRUCTION UNTIL THE NEW CEILING IS INSTALLED AND NEW DROPS TO NEW PENDENT SPRINKLER ARE INSTALLED. TEMPORARY SPRINKLERS ARE NOT REQUIRED IF NEW OR EXISTING CEILING IS IN PLACE AT END OF WORK SHIFT. EXTENT OF THIS TEMPORARY WORK IS A CONSTRUCTION MEANS AND METHODS ISSUE. UNLESS INDICATED OTHERWISE EXISTING FIRE PROTECTION SYSTEMS AND EQUIPMENT TO REMAIN. REFER TO ARCHITECTURAL PLANS FOR PHASING AND LIFE SAFETY PLANS FOR BARRIER WALL CONSTRUCTION AND ICRA PLANS FOR TEMPORARY CONSTRUCTION WALLS.
- PROTECTION SPRINKLER INSTALLATION SHALL MEET THE REQUIREMENTS OF THE FOLLOWING:
 - NFPA 13, 14 AND 101
 - LOCAL AND STATE REGULATIONS.
 - VA FIRE PROTECTION DESIGN MANUAL; SEVENTH ED.; REVISED DECEMBER 2015.
- SPRINKLER HEADS SHALL BE FM APPROVED QUICK RESPONSE IN ALL AREAS EXCEPT WHERE SPECIFICALLY PROHIBITED, IN COMPLIANCE WITH VA GUIDELINES AND NFPA REQUIREMENTS.
- SPRINKLERS THROUGHOUT THE BUILDING TO BE ORDINARY TEMPERATURE RATED EXCEPT FOR ELECTRICAL ROOMS/CLOSETS SHALL BE INTERMEDIATE TEMPERATURE RATED HEADS.
- SPRINKLER PIPE SIZES AND SPRINKLER HEAD LOCATIONS SHALL CONFORM TO NFPA REQUIREMENTS. SPRINKLER HEADS INDICATED ON DRAWINGS ARE FOR DESIGN COORDINATION AND BUDGETARY PRICING ONLY.
- PIPE HANGERS INCLUDING SEISMIC PROTECTION TO BE INSTALLED AS REQUIRED BY NFPA FOR SUPPORTING SPRINKLER PIPING. NO OTHER PIPING AND/OR DEVICES ARE TO BE ATTACHED TO THE SPRINKLER PIPE.
- PIPING SHALL NOT BE LOCATED IN ANY ELECTRICAL ROOMS/CLOSETS OR TELECOMMUNICATION ROOMS/CLOSETS UNLESS THOSE PIPES SERVE ONLY THAT SPACE.
- ALL SPRINKLER PIPE TO MAINTAIN A 6"-0" MIN VERTICAL CLEARANCE FROM TOP OF ELECTRICAL CONTROL PANELS & SWITCHGEAR/TRANSFORMERS. AVOID LOCATING SPRINKLER HEADS ABOVE ELECTRICAL DEVICES.
- SPRINKLER ZONE CONTROL VALVE ASSEMBLY TO CONSIST OF CONTROL VALVE, CHECK VALVE, FLOW SWITCH, SELF-CONTAINED TEST AND DRAIN ASSEMBLY AND PRESSURE GAGE, ON THE SPRINKLER MAIN BRANCH SERVING EACH SMOKE ZONE.
- INSTALL PIPING SO THAT VALVES ARE ACCESSIBLE AND STEMS EXTEND VERTICALLY UP. ALL CONTROL VALVES SHALL BE EQUIPPED WITH TAMPER SWITCHES.
- ALL WATER FLOW SWITCHES MUST BE ISOLATED BY MEANS OF A FITTING OR UNION ON BOTH SIDE TO FACILITATE REMOVAL AND SERVICE OF THE FLOW SWITCH.
- THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE THE QUANTITY OF SPRINKLER HEADS AS REQUIRED TO MAINTAIN THE MINIMUM COVERAGE REQUIRED BY NFPA 13 IN ALL AREAS THE BUILDING.
- COORDINATE THE EXACT LOCATION OF ALL SPRINKLER HEADS, PIPING, EQUIPMENT, AND DEVICES WITH ARCHITECTURAL DRAWINGS AND THE RESPECTIVE DRAWINGS OF PIPING, DUCTWORK, DIFFUSERS, BEAMS, LIGHTS, CEILING MOUNTED EQUIPMENT ETC. THIS CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF THESE COMPONENTS IN THE FIELD AND DOCUMENT ON THEIR SUBMITTALS.
- PROVIDE COMPLETE AND FUNCTIONAL FIRE PROTECTION SYSTEMS FOR THE PROJECT. THE SYSTEMS SHALL CONFORM TO THE SPECIFICATIONS AND AS SHOWN ON DRAWINGS. ITEMS OR WORK NOT SHOWN OR SPECIFIED, BUT REQUIRED FOR COMPLETE SYSTEMS, SHALL BE PROVIDED AND CONFORM TO ACCEPTED TRADE PRACTICES. THE DRAWINGS AND SPECIFICATIONS ARE PRESENTED TO DEFINE SPECIFIC SYSTEM REQUIREMENTS AND SERVE TO EXPAND ON THE PRIMARY CONTRACT REQUIREMENTS OF PROVIDING COMPLETE SYSTEMS. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT AND ROUTING OF THE SYSTEMS INCLUDED IN THIS CONTRACTORS WORK.
- THESE DRAWINGS WERE PREPARED FROM INFORMATION TAKEN FROM THE ORIGINAL BUILDING DRAWINGS AND FIELD SURVEY INFORMATION COMPILED BY THE ENGINEERING DESIGN TEAM FOR THE PURPOSE OF ENGINEERING DESIGN CONCEPT. EXISTING CONDITIONS ARE SHOWN AS ACCURATELY AS POSSIBLE. THERE IS THE POSSIBILITY THAT CONDITIONS SHOWN ARE NOT EXACTLY AS EXISTING. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, LOCATIONS, SIZES AND CONDITIONS AT THE SITE AND DOCUMENT THAT ON THEIR SUBMITTALS.
- SPRINKLER CONTRACTOR IS RESPONSIBLE FOR ALL WORK RELATED TO ISOLATING, SHUTTING DOWN, DRAINING, FILLING AND TESTING SYSTEMS TO ALLOW FOR THE COMPLETION OF WORK. INTERRUPTIONS TO EXISTING SERVICES AND SYSTEMS SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AND DURATION APPROVED WITH THE COR. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH THE INTERRUPTIONS. ALL SYSTEM INTERRUPTIONS SHALL BE SCHEDULED WITH THE COR AND COORDINATED WITH OTHER TRADES AT LEAST 48 HOURS IN ADVANCE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT ALL RULES AND REGULATIONS, INCLUDING THOSE WHICH MAY BE ISSUED BY THE OWNER, ARE BEING OBSERVED, PARTICULARLY WORKPLACE SAFETY AND THE CONDUCT OF ALL THOSE EMPLOYED DIRECTLY AND INDIRECTLY BY HIM ON THE PREMISES, AND THE OWNER'S EMPLOYEES WHO MAY BE IMPACTED OR AFFECTED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL INSTALL SIGNAGE, BARRIERS, AND OTHER MEANS TO PROVIDE WARNING AND PERSONNEL SAFETY. PLACEMENT OF THESE ITEMS WILL BE COORDINATED WITH THE OWNER AND HIS ONGOING OPERATIONS AND WILL PROMPTLY BE RESTORED WHEN WORK IN A PARTICULAR AREA HAS BEEN COMPLETED.
- CONTRACTOR SHALL MAKE ALL NECESSARY SUBMISSIONS AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS PRIOR TO STARTING FABRICATION AND CONSTRUCTION.
- REFER TO LIFE SAFETY PLANS FOR BARRIER WALL CONSTRUCTION AND ICRA PLANS FOR TEMPORARY CONSTRUCTION WALLS.

SPRINKLER HEAD LEGEND

- [Pattern] RECESSED PENDENT SPRINKLER HEADS LIGHT HAZARD
- [Pattern] RECESSED PENDENT SPRINKLER HEADS ORDINARY GROUP 2 HAZARD
- [Pattern] RECESSED PENDENT SPRINKLER HEADS ORDINARY GROUP 1 HAZARD

FIRE PROTECTION DESIGN CRITERIA

- SYSTEM TYPE; WET PIPE
- SPRINKLER HEAD SPACING AND PIPE SIZING SHALL BE:
 - PATIENT TREATMENT, TOILET ROOMS, AND OFFICE AREAS; LIGHT HAZARD (0.10 GPM/SQ.FT. OVER 1500 SQ.FT., 225 SQ.FT. PER SPRINKLER HEAD)
 - STORAGE ROOMS; ORDINARY GROUP II HAZARD (0.20 GPM/SQ.FT. OVER 1500 SQ.FT., 130 SQ.FT. PER SPRINKLER HEAD)
- PROVIDE FOR A WATER ALLOWANCE OF 250 GPM FOR INSIDE AND OUTSIDE HOSE STREAMS TO THE SPRINKLER HYDRAULIC REQUIREMENTS.
- THE CALCULATED DEMAND INCLUDING HOSE STREAM REQUIREMENTS SHALL FALL NO LESS THAN 10 PERCENT BELOW THE AVAILABLE WATER SUPPLY.
- SYSTEM SHALL BE DESIGNED ON A HYDRAULICALLY CALCULATED BASIS UTILIZING THE AREA DENSITY METHOD PER THE NFPA 13 BY THE SPRINKLER CONTRACTOR. CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VIRGINIA.
- SPRINKLER PIPE SIZES SHALL BE DETERMINED BY HYDRAULIC CALCULATIONS BASED ON EXISTING FIRE PUMP HYDRAULIC FLOW TEST DATA. (SEE VAMC-RICHMOND VA FOR CURRENT PUMP TEST DATA PRIOR TO START OF WORK).

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

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MILLER-REMICK LLC
 PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
FIRE PROTECTION GENERAL NOTES, LEGEND & DETAILS

Approved: Project Director

Phase
BID DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT NEW EP LAB

Location
 HUNTER HOLMES MCGUIRE VAMC
 RICHMOND, VA

Issue Date
 2019-12-17

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Drawn
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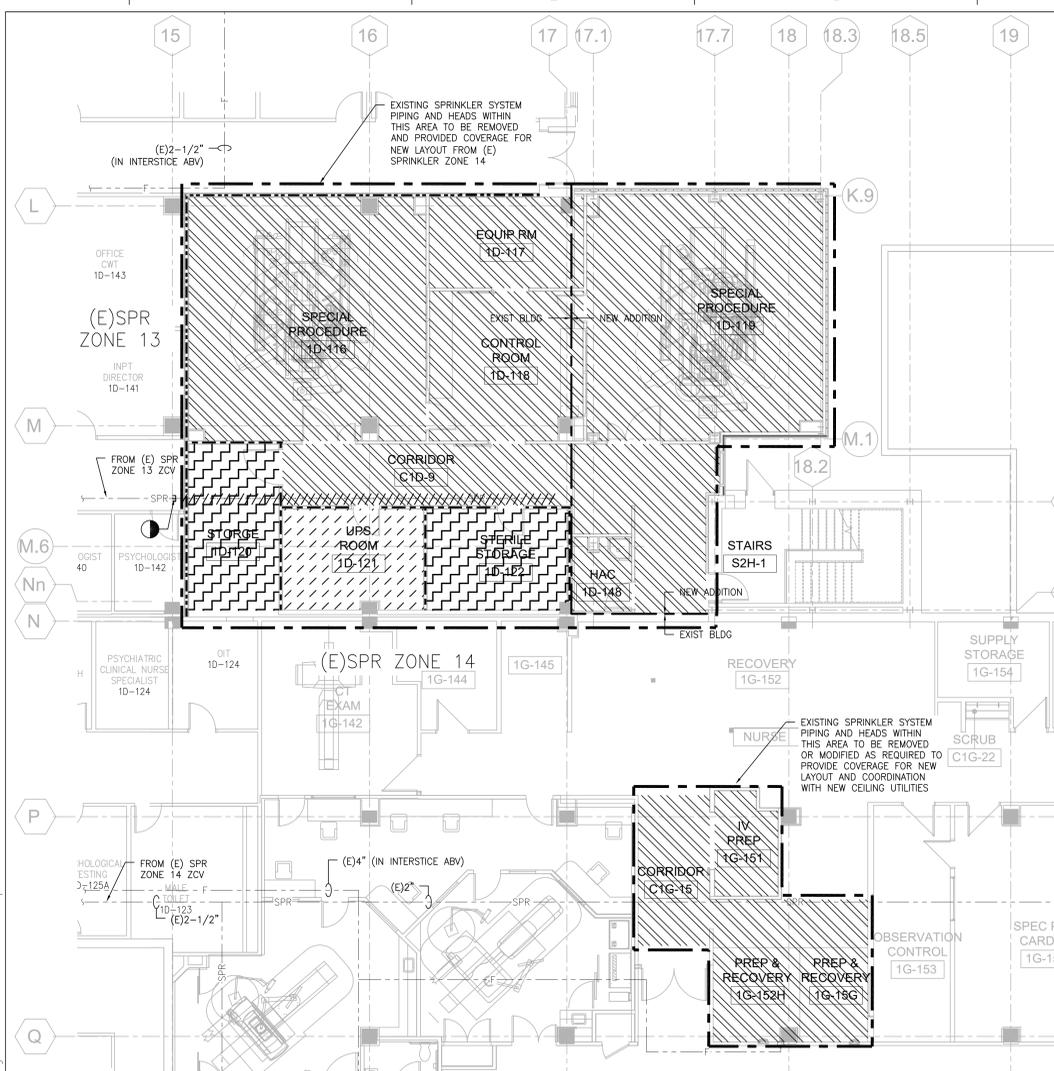
Project Number
652-CSI-203

Building Number
500

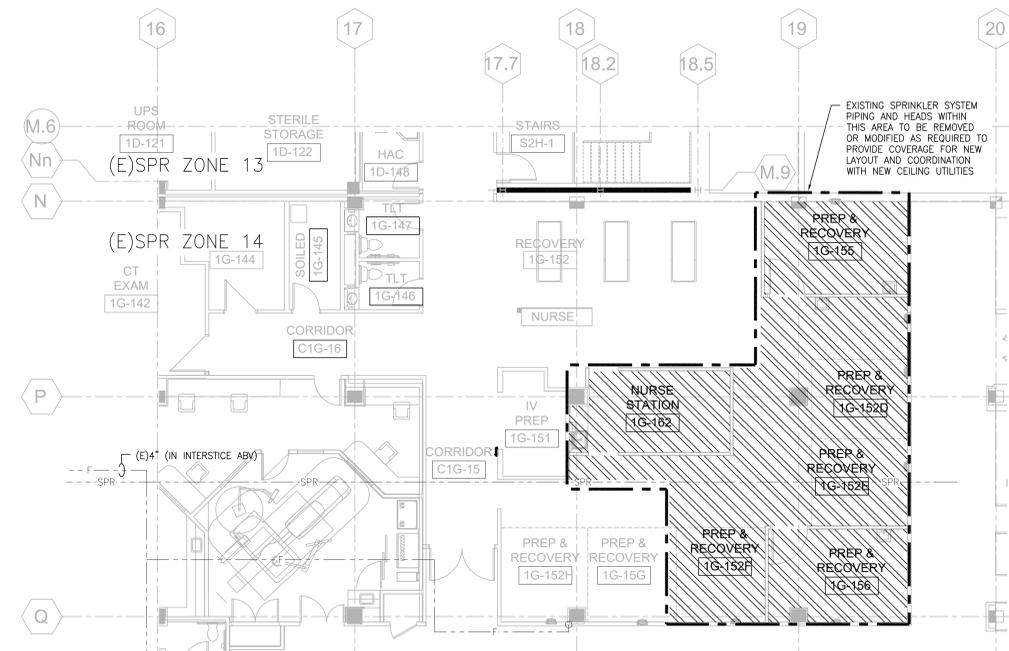
Drawing Number
FX001

GENERAL SHEET NOTES:

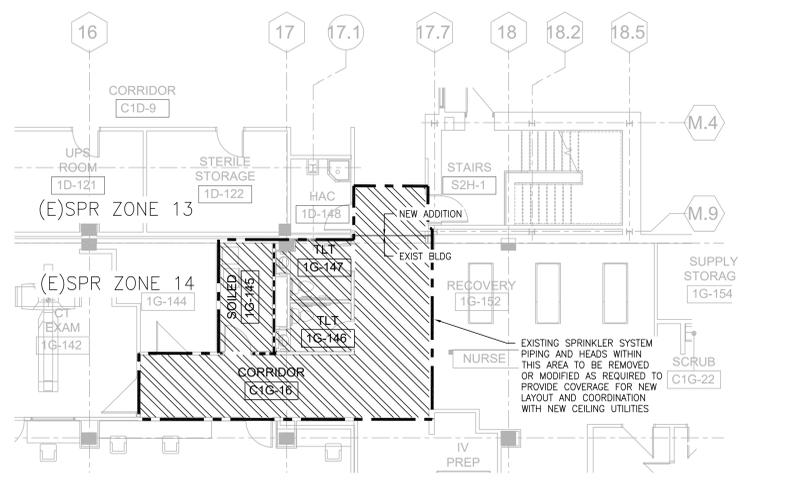
1. REFER TO DRAWING FX001 FOR FIRE PROTECTION GENERAL NOTES, LEGEND AND DETAILS.
2. REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLANS.
3. REFER TO ELECTRICAL FA DRAWINGS FOR FIRE ALARM WORK.



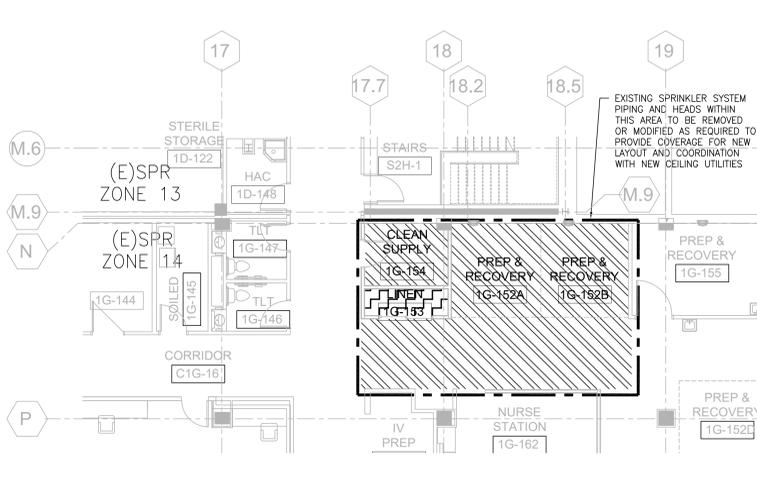
1 LEVEL 1 -- PLAN -- PHASE 1
SCALE: 1/8" = 1'-0"



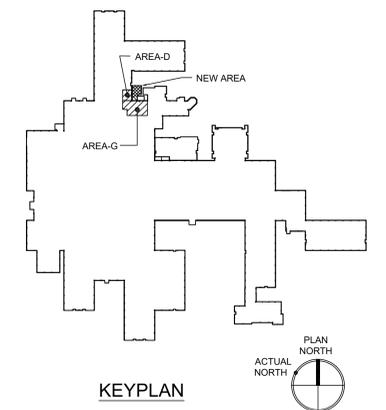
3 LEVEL 1 -- PLAN -- PHASE 3
SCALE: 1/8" = 1'-0"



2 LEVEL 1 -- PLAN -- PHASE 2
SCALE: 1/8" = 1'-0"



4 LEVEL 1 -- PLAN -- PHASE 4
SCALE: 1/8" = 1'-0"



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MILLER-REMICK LLC
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
FIRE PROTECTION PLANS LEVEL 1

Approved: Project Director

Phase
BID DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT NEW EP LAB

Project Number
652-CSI-203

Building Number
500

Drawing Number
FX111

Location
HUNTER HOLMES MCGUIRE VAMC
RICHMOND, VA

Issue Date
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