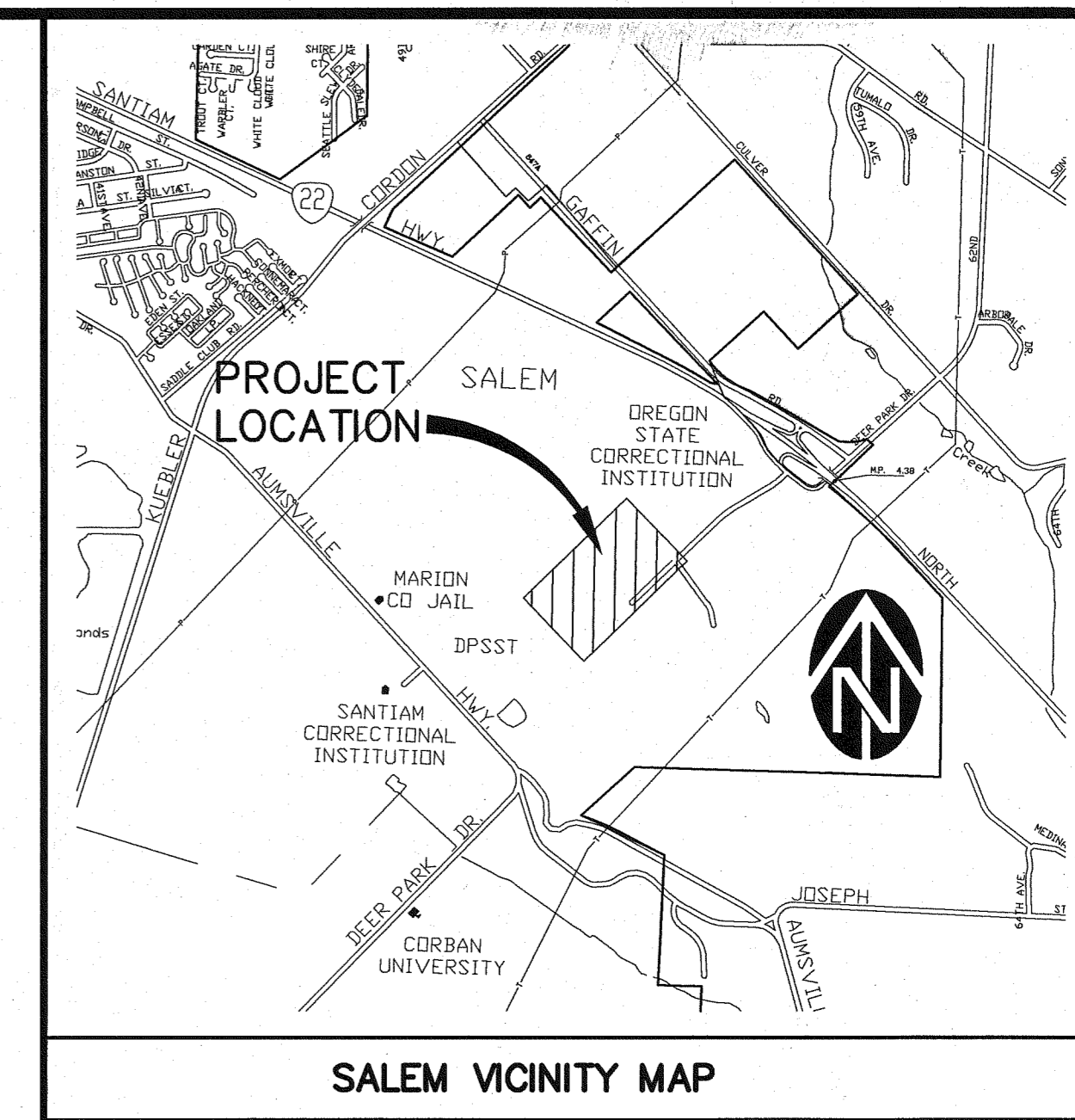


# DRAWINGS FOR: OREGON STATE CORRECTIONAL INSTITUTION FIRE SPRINKLER SYSTEM UPGRADE SALEM, OREGON

FOR:

Oregon Department  
of Corrections  
Attn: Paul Stanley  
3601 State Street  
Salem, OR 97301  
(503) 480-6281



**GENERAL NOTES:**

- Contractor shall procure and conform to all construction permits required by the City of Salem.
  - ATTENTION:** Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001 through OAR 952-001-0090. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is (503) 232-1987).
  - For City construction permits, contact Salem Public Works Engineering Construction Management at 588-6211. For City building permits, contact Salem Permit Application Center at 588-6256.
  - Elevations shown on the drawings are based from City of Salem benchmark 470260, Elevation 244.69 (NGVD 1929 datum), consisting of a aluminum cap located at the southwest corner of a bridge on Kuebler Blvd over Mill Creek, in the top of a concrete barrier, 4 feet west of the end of the barrier. Surveying for design was completed by Barker Surveying at (503) 588-8800.
- TRAFFIC CONTROL.**
- Contractor shall erect and maintain barricades, warning signs, traffic cones (and all other traffic control devices required) per City, County and ODOT requirements in accordance with the current MUTCD (including Oregon amendments). Access to driveways shall be maintained at all times. All traffic control measures shall be approved and in place prior to any construction activity.
- EXISTING UTILITIES & FACILITIES:**
- The location and descriptions of existing utilities shown on the drawings are compiled from available records and/or field surveys. The Engineer or utility companies do not guarantee the accuracy or the completeness of such records. Contractor shall field verify locations and sizes of all existing utilities prior to construction.
  - Utility locations are based on record information and should be field-verified. Call 1-800-332-2344 at least 48 hours prior to construction for on-site locating of utilities.
  - Contractor shall field verify location and depth of all existing utilities where new facilities cross. All utility crossings marked or shown on the drawings shall be potholed using hand tools or other non-invasive methods prior to excavating or boring. Contractor shall be responsible for exposing potential utility conflicts far enough ahead of construction to make necessary grade or alignment modifications without delaying the work. If grade or alignment modification is necessary, Contractor shall notify the Design Engineer, and the Design Engineer or the Owner's Representative shall obtain approval from the City prior to construction.

- All facilities shall be maintained in-place by the Contractor unless otherwise shown or directed. Contractor shall take all precautions necessary to support, maintain, or otherwise protect existing utilities and other facilities at all times during construction. Contractor to leave existing facilities in an equal or better-than-original condition and to the satisfaction of the City and Owner's Representative.
  - Utilities or interfering portions of utilities that are abandoned in place shall be removed by the Contractor to the extent necessary to accomplish the work. The Contractor shall plug the remaining exposed ends of abandoned utilities after appropriate verification procedures have taken place.
  - Contractor shall remove all existing signs, mailboxes, fences, landscaping, etc., as required to avoid damage during construction and replace them to existing or better condition.
  - The Contractor shall be responsible for managing construction activities to ensure that public streets and right-of-ways are kept clean of mud, dust or debris. Dust abatement shall be maintained by adequate watering of the site by the Contractor.
- PIPED UTILITIES:**
- All pipes shall be bedded with minimum 6-inches of 3/4"-0 crushed rock bedding and backfilled with compacted 3/4"-0 crushed rock in the pipe zone (crushed rock shall extend a minimum of 12-inches over the top of the pipe in all cases). Unless CDF or other backfill is shown or noted on the drawings, crushed rock trench backfill shall be used under all improved areas, including pavement, sidewalks, foundation slabs, buildings, etc.
  - Granular trench bedding and backfill shall conform to the requirements of OSSC (ODOT/APWA) 02630.10 (Dense Graded Base Aggregate), 3/4"-0.
  - No trenches in sidewalks, roads, or driveways shall be left in an open condition overnight. All such trenches shall be closed before the end of each workday and normal traffic and pedestrian flows restored.
- WATER SYSTEM:**
- City forces to operate all valves, including fire hydrants, on existing public mains.
  - All water mains shall be Class 52 ductile iron. All fittings 4-inches through 24-inches in diameter shall be ductile iron fittings in conformance with AWWA C-153 or AWWA C-110. The minimum working pressure for all MJ cast iron or ductile iron fittings 4-inches through 24-inches in diameter shall be 350 psi for MJ fittings and 250 psi for flanged fittings.

- All water mains to be installed with a minimum 36 inch cover to finish grade unless otherwise noted or directed. Water service lines shall be installed with a minimum 30-inch cover. Deeper depths may be required as shown on the drawings or to avoid obstructions.
- Thrust restraint shall be provided on all bends, tees and other direction changes per local jurisdiction requirements and as specified or shown on the drawings. Unless otherwise shown or approved by the Engineer, all valves shall be flange connected to adjacent tees or crosses.
- Provisions for thrust restraint shall be provided on any fire line at the point where it enters the building envelope. Unless fire line ends under the building with a vertical bend (with retainer glands & a vertical thrust block), a straddle block shall be installed 6 feet minimum from the building foundation wall (with no unrestrained joints between the straddle block & the pipe end inside the building wall).
- Water service pipe 2-inch and smaller on shall be Type K soft copper tubing conforming to ASTM B-88.
- Contractor shall provide all necessary equipment and materials (including plugs, blowoffs, valves, service taps, etc.) required to flush, test and disinfect waterlines per public agency requirements.
- The work shall be performed in a manner designated to maintain water service to buildings supplied from the existing waterlines. In no case shall service to any main line or building be interrupted for more than four (4) hours in any one-day. Contractor shall notify the City and all affected residents and businesses a minimum of 24 business hours (1 business day) before any interruption of service.
- Pressure Testing. All waterlines, services and appurtenances shall be pressure tested for leakage. All testing shall conform to requirements as outlined in the specifications, City standards and/or testing forms. The hydrostatic test shall be performed with all service line corporation stops open and meter stops closed, and with all hydrant line valves open. Prior to the start of each pressure test, the position of all mainline valves, hydrant line valves and service line corporation stops in the test segment shall verified.
- Cleaning & Flushing. After the pressure test and prior to disinfecting, the water lines shall be thoroughly flushed through hydrants, blow offs or by other approved means.

**SHEET INDEX**

SHT NO	Description	SHT NO	Description	SHT NO	Description	SHT NO	Description
	<b>General Project &amp; Site Drawings</b>		<b>Main Building Electrical Plans</b>		<b>Remote Building Sprinkler Plans</b>		
G1	Cover	5	Unit 19 Northeast	E501	Section Plans Electrical	E210	Boiler Plant Electrical Plan
G2	Overall Project Site System Schematic	6	Unit 9	E003	Main Building Fire Alarm System Input/Output Matrix	E220	Warehouse Electrical Plan
G3	Overall Site Plan (as-built reference drawing)	7	Unit 8 East	E004	Main Building Fire Alarm Riser Diagram	E221	Warehouse Enlarged Data Room Electrical Plan
G4	Building Connection Piping & Details	8	Unit 8 West	E102	Pre-Action System Controller Wiring Diagram	E230	Auto Shop Electrical Plan
G5	Details	9	Unit 10	E301	South Lower Level Electrical Plan	E240	Gatehouse Electrical Plan
G6	Details	10	Unit 7	E302	Central Lower Level Electrical Plan	E250	Partial Physical Plant Electrical Plan
G7	Details	11	Unit 1	E303	North Lower Level Electrical Plan	E260	Inspection Gate Office Electrical Plan
G8	Details	12	Unit 5	E304	North Sub-Lower Level Electrical Plan	E300	Southwest Lower Level Electrical Plan
	<b>General Electrical Plans</b>	13	Unit 2	E400	Southwest Unit 19 Electrical Demolition Plan	E301B	South Lower Level Electrical Plan B
E001	Electrical Abbreviations	14	Unit 6	E401	Northeast Unit 19 Electrical Plan	E301C	South Lower Level Electrical Plan C
E002	Indicator Symbols	15	Unit 3	E402	Unit 9 Electrical Plan	E601	Remote Buildings Fire Alarm & Power Conduit/Conductor Schedule
E100	Electrical Details	16	Unit 4 Upper Levels	E403	Unit 7, 8 & 10 Electrical Plans	E611	Remote Buildings Nameplate Schedule
E101	Typical Addressable Dual Monitoring Module Wiring Diagram	17	Unit 4 Lower Levels	E404	Unit 1 & 5 Upper Level Electrical Plans		
	<b>Main Building Fire Sprinkler Plans</b>	18	Unit 13	E404b	Unit 5 Enlarged Mechanical Room Electrical Plan		
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2	Unit 19 Southwest	20	Unit 11 Lower Levels	E406	Unit 2 & 6 Electrical Plans		
3	Unit 19 Southeast	21	Multipurpose Upper Level	E407	Unit 3 & 4 Electrical Plans		
4	Unit 19 Northwest	22	Multipurpose Mezzanine Level	E408	Unit 11 & 13 Electrical Plans		
				E500	Section Plans Electrical	E200	Site Electrical Plan
						E201	Southwest Site Electrical Plan
						E202	Southeast Site Electrical Plan
						E203	North Site Electrical Plan

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WESTTECH ENGINEERING, INC.  
CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr., S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3986  
E-mail: westtech@westtech-eng.com

Oregon Dept. of Corrections  
Salem, Oregon  
OSCI Fire Sprinkler System Upgrade

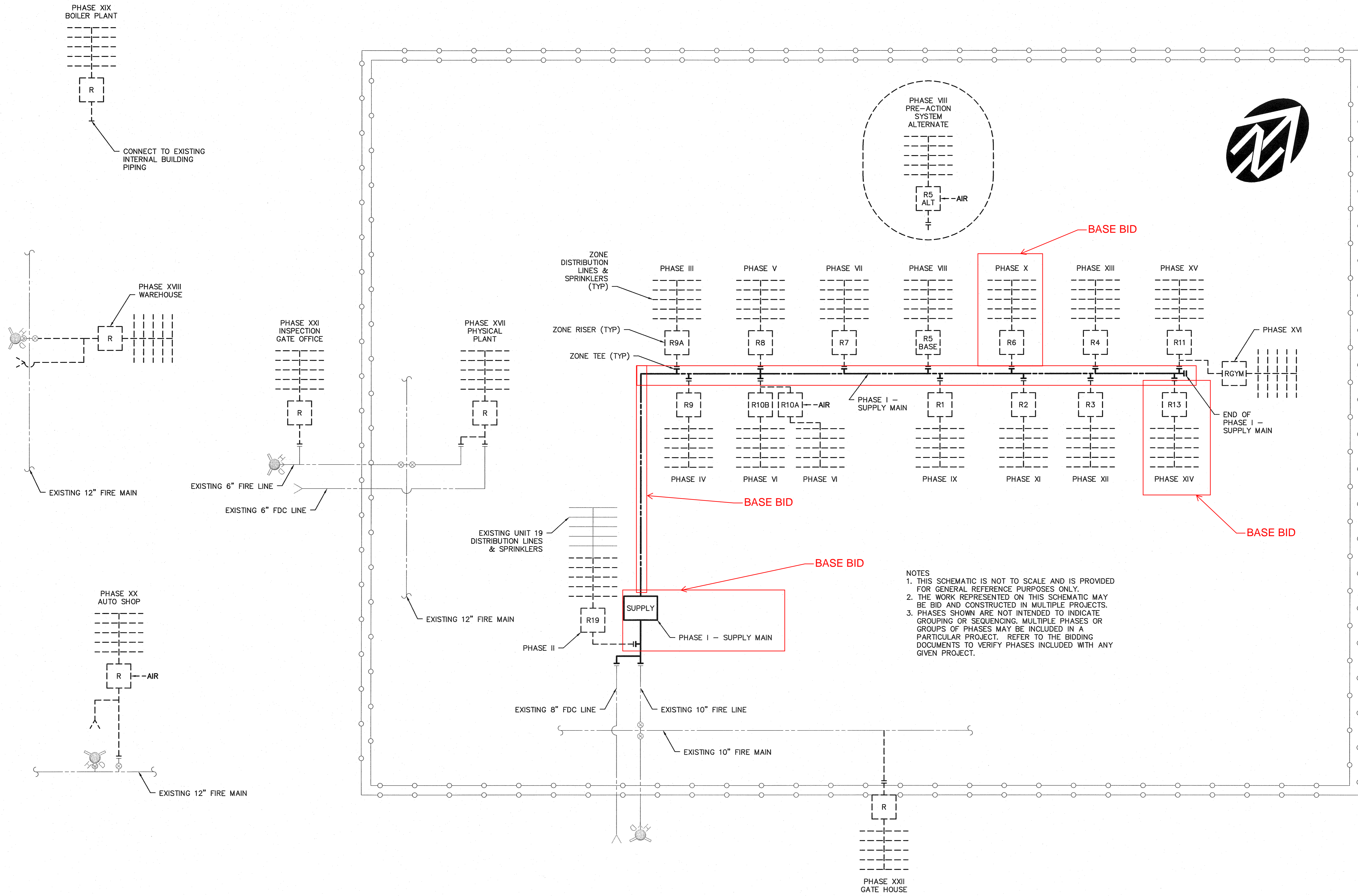
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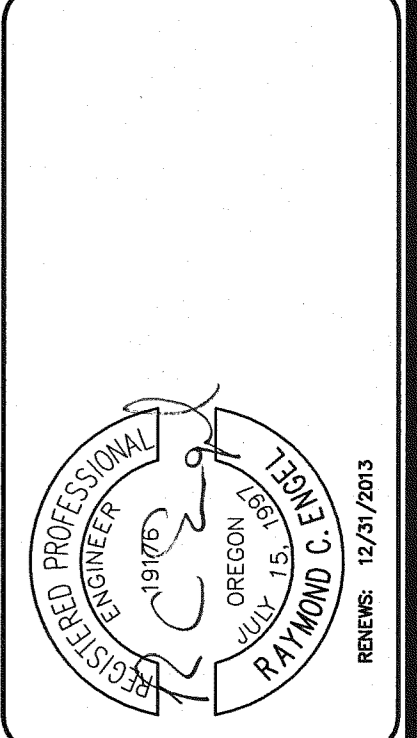
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**NOTES**  
 1. THIS SCHEMATIC IS NOT TO SCALE AND IS PROVIDED FOR GENERAL REFERENCE PURPOSES ONLY.  
 2. THE WORK REPRESENTED ON THIS SCHEMATIC MAY BE BID AND CONSTRUCTED IN MULTIPLE PROJECTS.  
 3. PHASES SHOWN ARE NOT INTENDED TO INDICATE GROUPING OR SEQUENCING. MULTIPLE PHASES OR GROUPS OF PHASES MAY BE INCLUDED IN A PARTICULAR PROJECT. REFER TO THE BIDDING DOCUMENTS TO VERIFY PHASES INCLUDED WITH ANY GIVEN PROJECT.

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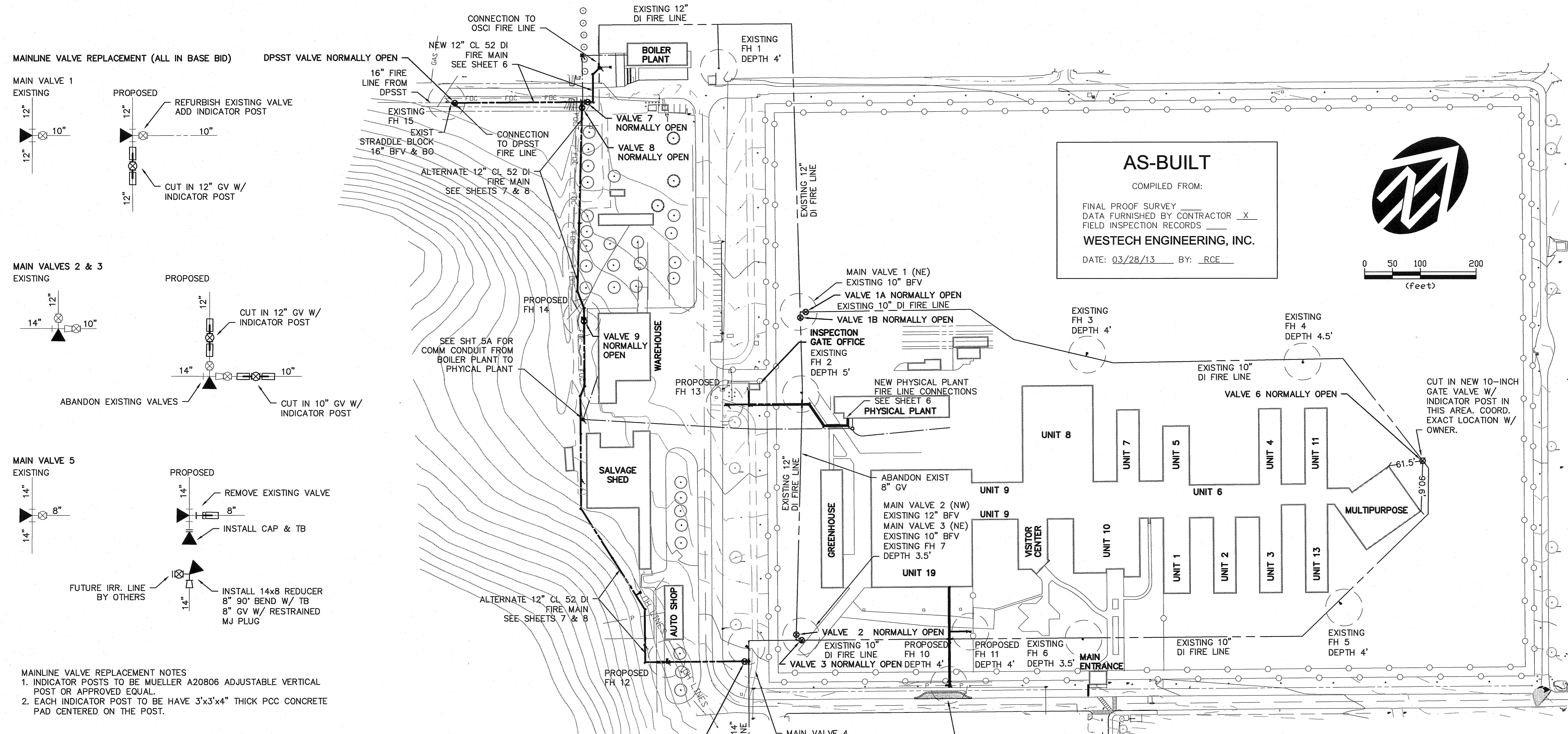
**WESTECH ENGINEERING, INC.**  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr., S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3986  
 E-mail: westech@westech-eng.com

Oregon Dept. of Corrections  
 Salem, Oregon  
 OSCI Fire Sprinkler System Upgrade  
**Overall Project Site Schematic Diagram**

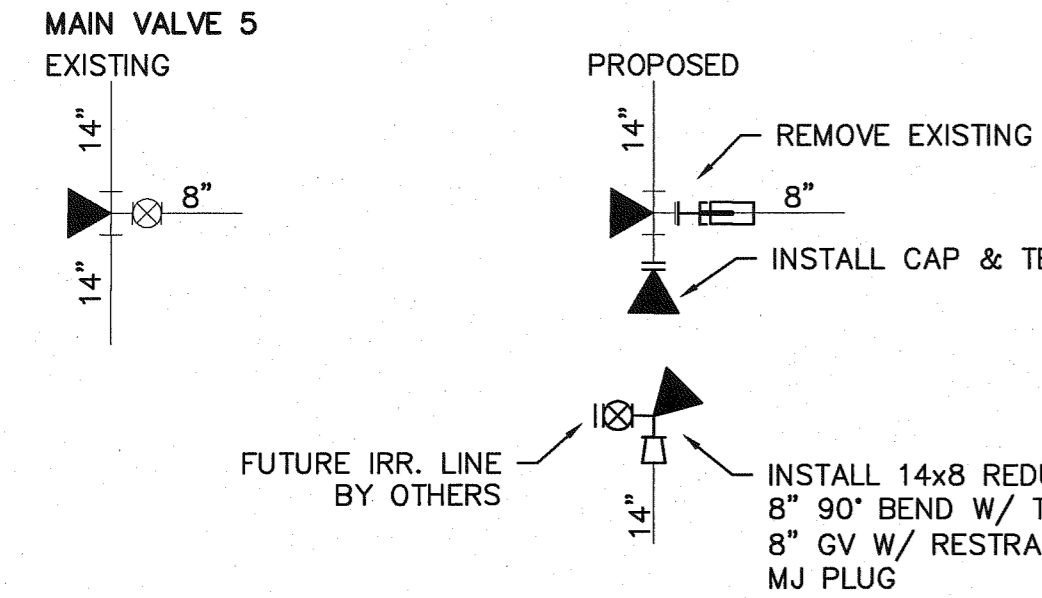
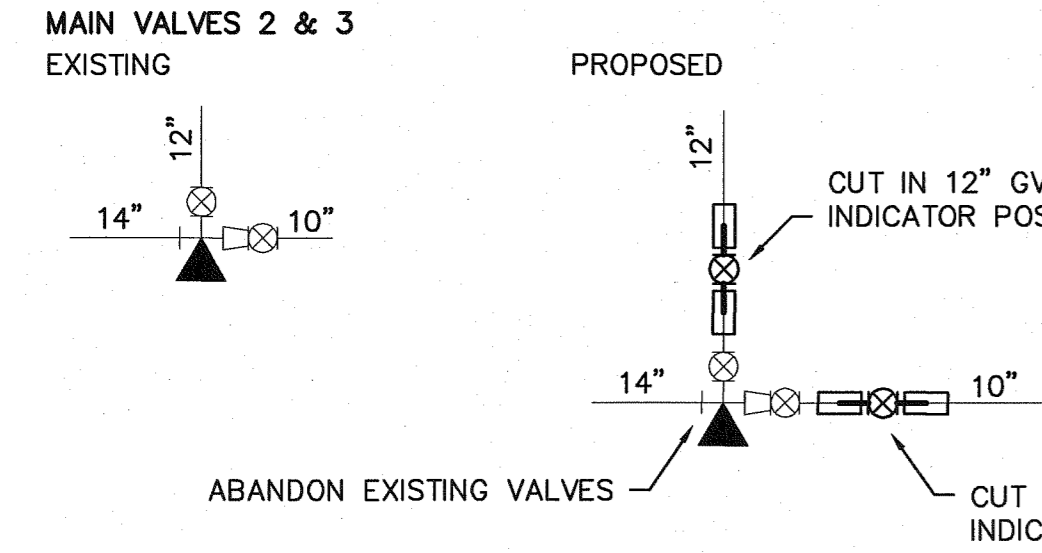
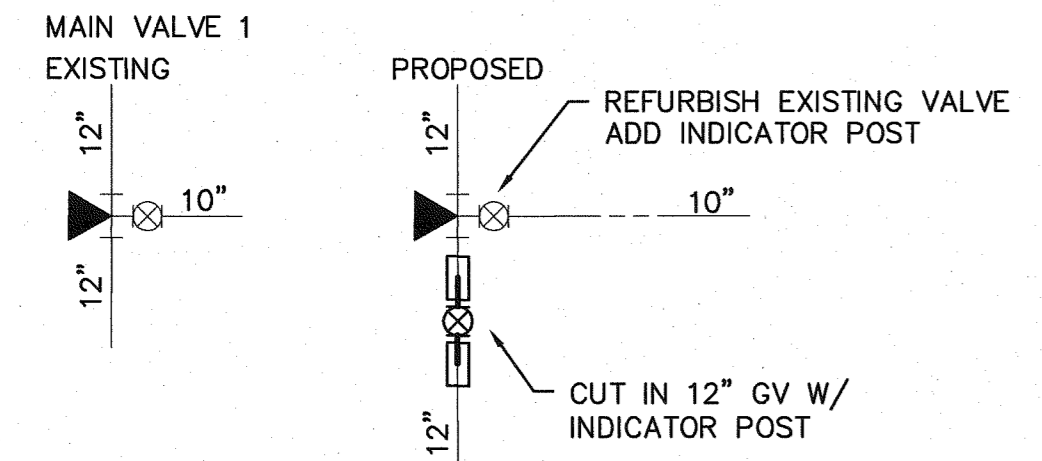
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**MAINLINE VALVE REPLACEMENT (ALL IN BASE BID)**



**MAINLINE VALVE REPLACEMENT NOTES**  
 1. INDICATOR POSTS TO BE MUELLER A20806 ADJUSTABLE VERTICAL POST OR APPROVED EQUAL.  
 2. EACH INDICATOR POST TO BE HAVE 3'x3'x4" THICK PCC CONCRETE PAD CENTERED ON THE POST.

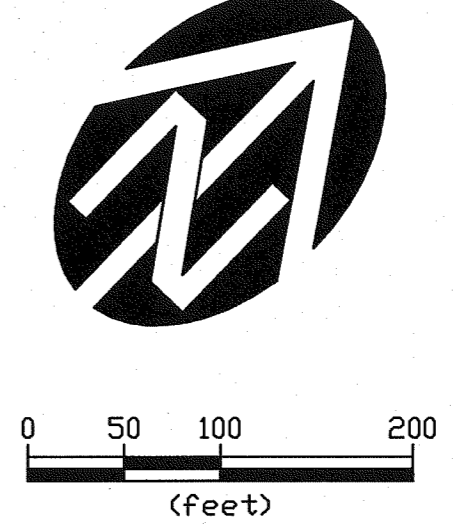
**EXISTING FIRE HYDRANT NOTES**  
 1. ALL EXISTING FIRE HYDRANT VALVES TO BE REPLACED WITH NEW GATE VALVES.  
 2. ALL EXISTING FIRE HYDRANTS TO BE INSPECTED TO DETERMINE IF REPAIR/REFURBISHMENT IS POSSIBLE.  
 3. AS PART OF THE SCOPE OF WORK FOR THIS PROJECT CONTRACTOR SHALL PROVIDE OWNER WITH A REPORT ON THE CONDITION OF EACH HYDRANT, THE WORK NECESSARY TO REPAIR OR REFURBISH THE HYDRANT TO LIKE NEW CONDITION, AND THE COST FOR REPAIR/REFURBISHMENT FOR EACH HYDRANT.  
 4. THE BASE BID SHALL INCLUDE REPLACING ALL NINE (09) EXISTING FIRE HYDRANTS W/ M&H MODEL 129 HYDRANTS OR APPROVED EQUAL AS PART OF THE BASE BID. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A UNIT COST FOR A SINGLE FIRE HYDRANT, INSTALLED.  
 5. ASSUME AN AVERAGE OF FIVE (05) FT OF COVER OVER THE FIRE LINE FOR HYDRANT BURY DEPTH. THE CONTRACTOR SHALL FIELD VERIFY ACTUAL DEPTH OF BURY FOR EACH HYDRANT PRIOR TO ORDERING HYDRANTS.  
 6. DURING CONSTRUCTION THE OWNER MAY ELECT TO REQUIRE THE CONTRACTOR TO REPAIR/REFURBISH ANY OR ALL FIRE HYDRANTS FOR THE INDIVIDUAL PRICE(S) DETERMINED IN ITEM 3 ABOVE, AND REDUCE THE NUMBER OF NEW HYDRANTS TO BE INSTALLED BY THE NUMBER OF REPAIRED/REFURBISHED HYDRANTS USED.  
 ALL EXISTING FIRE HYDRANTS REPLACED W/ NEW FIRE HYDRANTS.

**GENERAL CONSTRUCTION SEQUENCE**  
 THE FOLLOWING IS THE SUGGESTED SEQUENCE OF CONSTRUCTION. THE CONTRACTOR MAY, WITH OWNER APPROVAL, ADJUST THE SEQUENCE AS NECESSARY FOR CONSTRUCTION.

1. REPLACE OR REPAIR/REFURBISH AND REINSTALL ALL EXISTING FIRE HYDRANTS WITH NEW HYDRANT VALVES.
2. INSTALL NEW MAIN LINE VALVES AND ABANDON EXISTING VALVES WHERE INDICATED.
3. CONSTRUCT THE NEW FIRE LINE FROM THE DPSST CONNECTION TO BY THE BOILER PLANT.
4. CONSTRUCT THE IMPROVEMENTS ASSOCIATED WITH THE CONNECTION TO BUILDING 19, INCLUDING THE CUT IN CONNECTION, FIRE LINE, FDC LINE, FIRE HYDRANTS AND FDC.
5. CONNECT THE IMPROVEMENTS ASSOCIATED WITH THE CONNECTION TO THE PHYSICAL PLANT.
6. FLUSH, TEST THE NEW FIRE LINE AND COMPLETE THE CONNECTION TO THE EXISTING FIRE LINE BY THE BOILER PLANT.
7. CONDUCT PRESSURE TESTS ON THE EXISTING MAIN IN SECTIONS AS FOLLOWS:
  - A. FROM THE NEW VALVE ON THE TEE BY THE BOILER PLANT TO THE TEE WITH EXISTING MAIN VALVE 1.
  - B. FROM THE TEE WITH EXISTING MAIN VALVE 1 TO THE NEW VALVE BY THE GYM AT THE NE END OF THE MAIN BUILDING.
  - C. FROM THE NEW VALVE BY THE GYM TO THE TEE WITH EXISTING VALVES 2 AND 3.
  - D. FROM THE TEE WITH EXISTING VALVE 1 TO THE TEE WITH EXISTING VALVES 2 AND 3.
  - E. FROM THE TEE WITH EXISTING VALVES 2 AND 3 TO EXISTING FIRE HYDRANT 9.
8. CONSTRUCT THE ALTERNATE FIRE LINE, IF AWARDED.

**NOTE:**  
 THIS SHEET IS THE OVERALL SITE AS-BUILT FROM THE 2012 SITE FIRE LINE UPGRADE PROJECT. IT IS INCLUDED IN THIS SET FOR SITE REFERENCE PURPOSES ONLY. THE OTHER SITE FIRE LINE PROJECT SHEETS LISTED ON THIS SHEET ARE NOT INCLUDED AS PART OF THE SET FOR THIS SPRINKLER SYSTEM UPGRADE PROJECT.

**AS-BUILT**  
 COMPILED FROM:  
 FINAL PROOF SURVEY \_\_\_\_\_  
 DATA FURNISHED BY CONTRACTOR   
 FIELD INSPECTION RECORDS \_\_\_\_\_  
**WESTECH ENGINEERING, INC.**  
 DATE: 03/28/13 BY: RCE



**INVERTS:**

CB (#2843) RM=260.57' 36" CONC NE/SW 12" CONC (SE/NW/SW) 246.80'	SSMH (#2596) RM=287.56' IE NW 282.66' IE SE 282.76'
CB (#2608) RM=262.50' 24" CONC W (x2) 258.80'	SSMH (#2496) RM=298.51' IE NW 293.81' IE SE 293.71'
CB (#3264) RM=244.46' 12" CONC (SE/SW/NW) 241.51'	CB (#2430) RM=259.28' 3" DIP S 257.59' 12" DIP N 257.16'
CB (#2934) RM=244.68' 24" CONC N 240.33' 12" CONC S (x2) 240.38'	CB (#2435) RM=258.82' 12" DIP S 256.67' 3" PVC W 259.25' 12" CONC E 257.07'
CB (#2868) RM=248.71' 6" PVC N 245.91'	SDMH (#2920) RM=246.01' 10" PVC SE 239.01' 24" CONC N 237.51' 24" CONC W 237.66'
CB (#2468) RM=256.75' 12" COPP E 255.35' 24" CONC NW 252.55' 12" CONC N 253.25'	SSMH (#2582) RM=281.72' IE NW 274.67' IE SE 274.92'
CB (#2632) RM=259.49' 12" CONC S 256.99' 36" CONC E (BOX) 253.94' 36" CONC W (BOX) 253.89'	CB (#2048) RM=259.89' 4" PVC S 259.27'

Professional Engineer  
 AS-CONSTRUCTED  
 REGISTERED ENGINEER  
 19176  
 OREGON  
 RAYMOND C. BENTLEY  
 12/01/2013

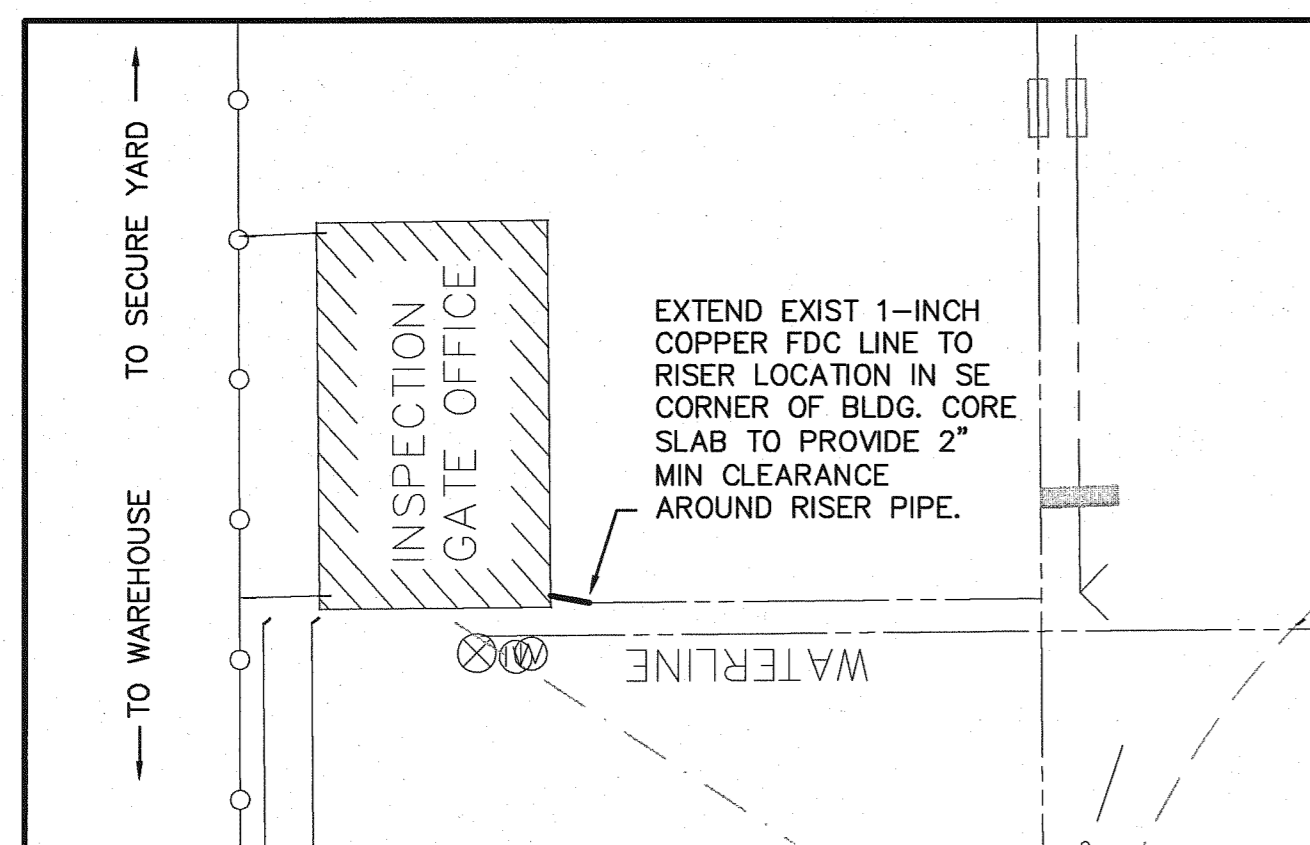
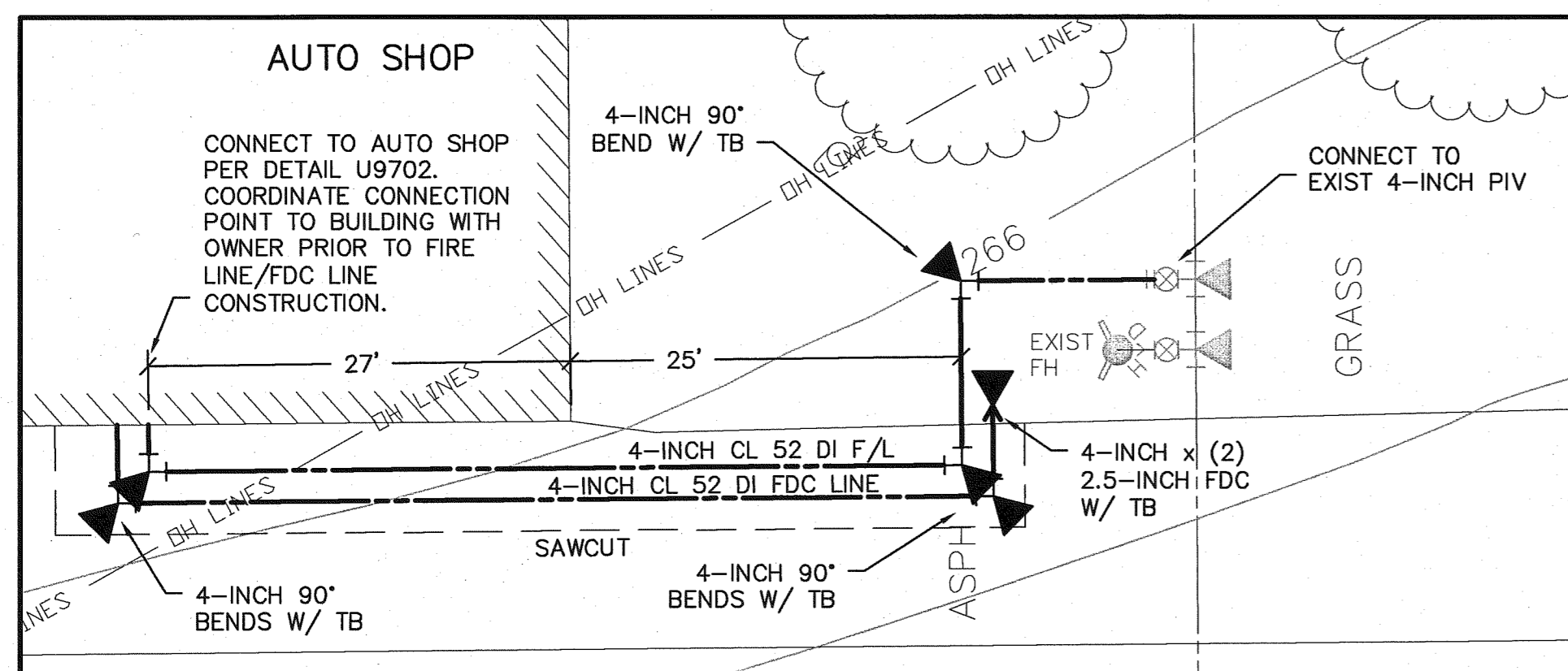
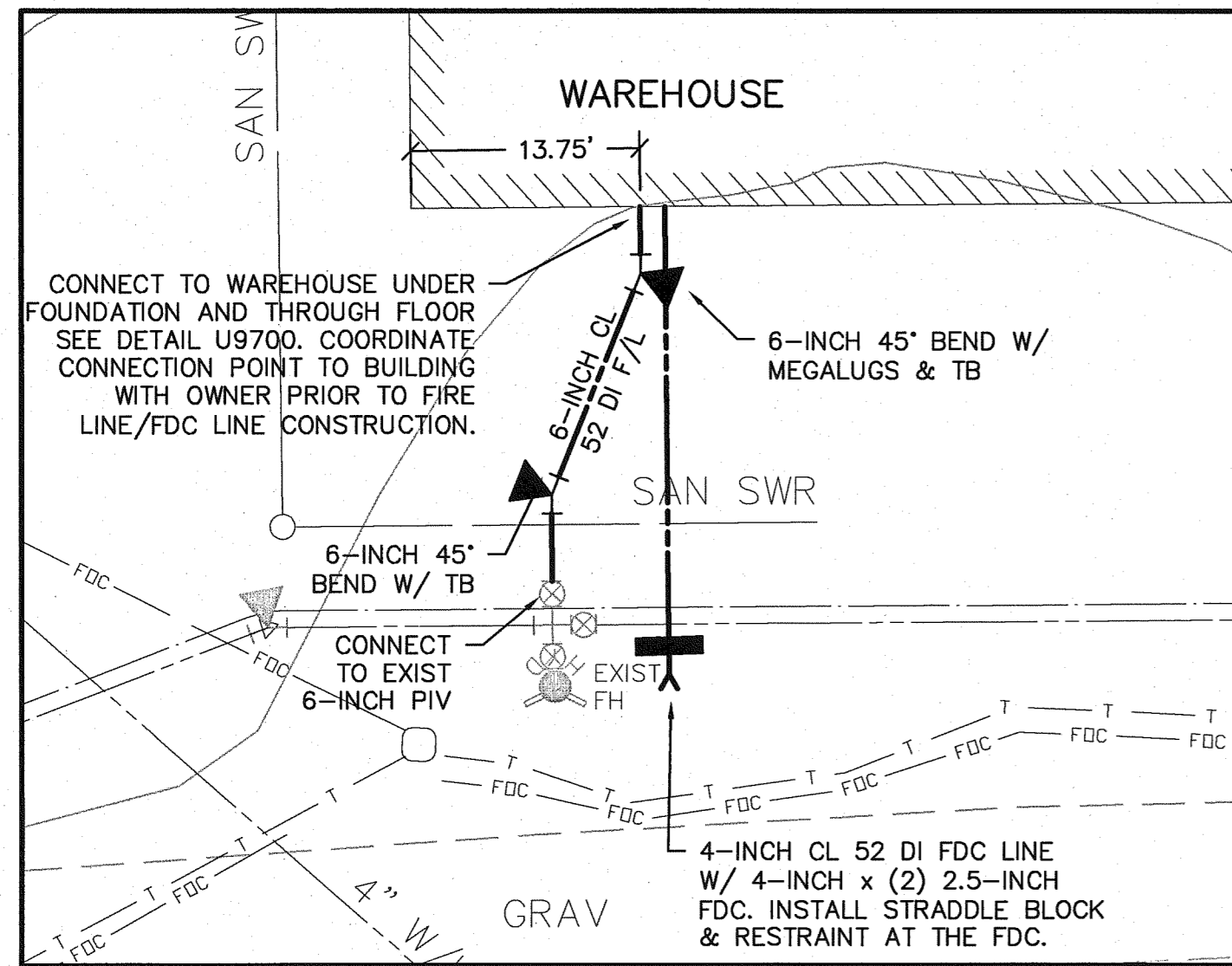
WESTECH ENGINEERING, INC.  
 CONSULTING ENGINEERS AND PLANNERS  
 3844 Fendley Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 885-2474 Fax: (503) 885-3868  
 E-mail: westech@westech-eng.com

Oregon Dept. of Corrections  
 Salem, Oregon  
 OSCI Fire Sprinkler System Upgrade  
**Overall Site Plan**  
 (Reference Drawing)

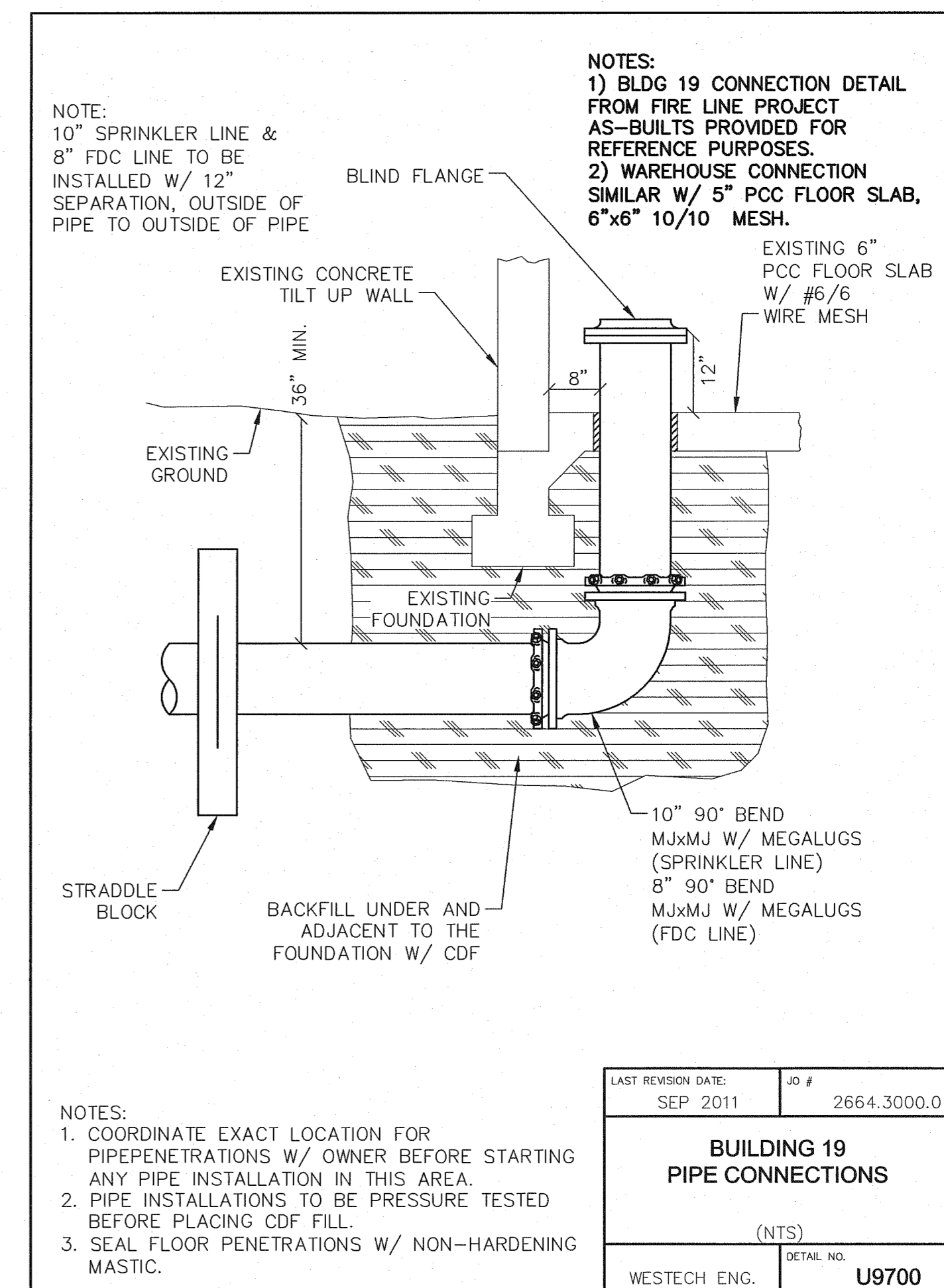
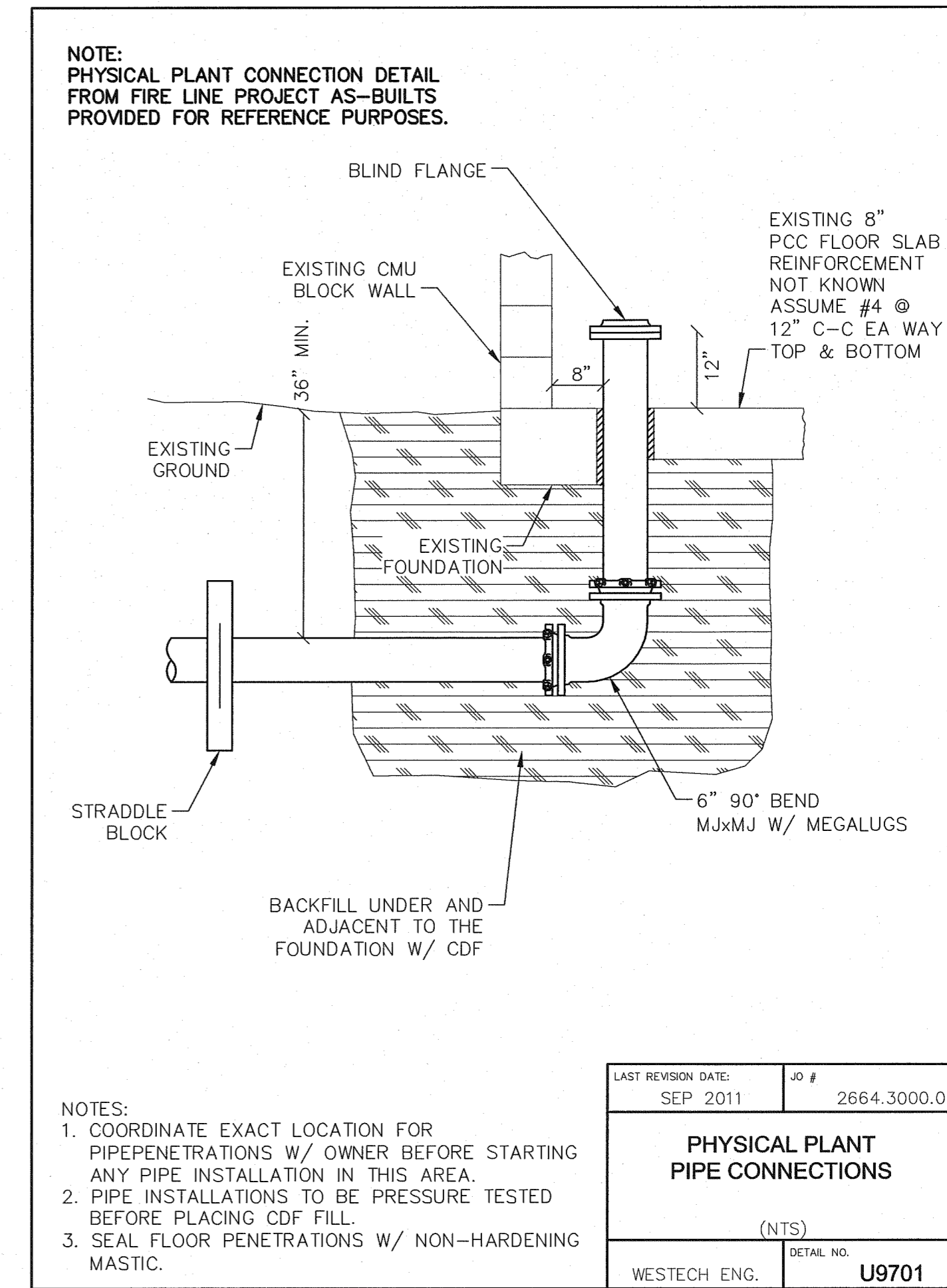
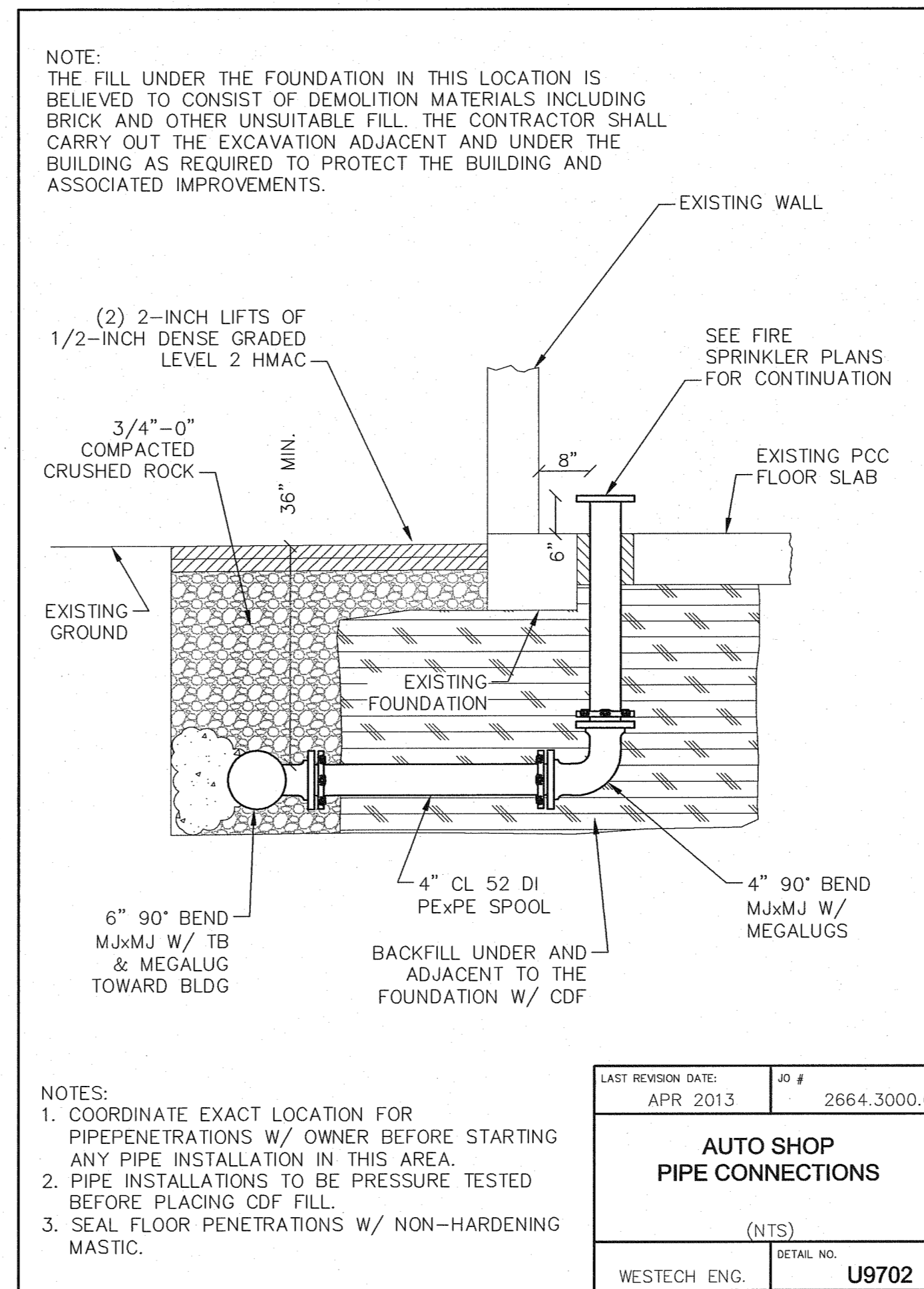
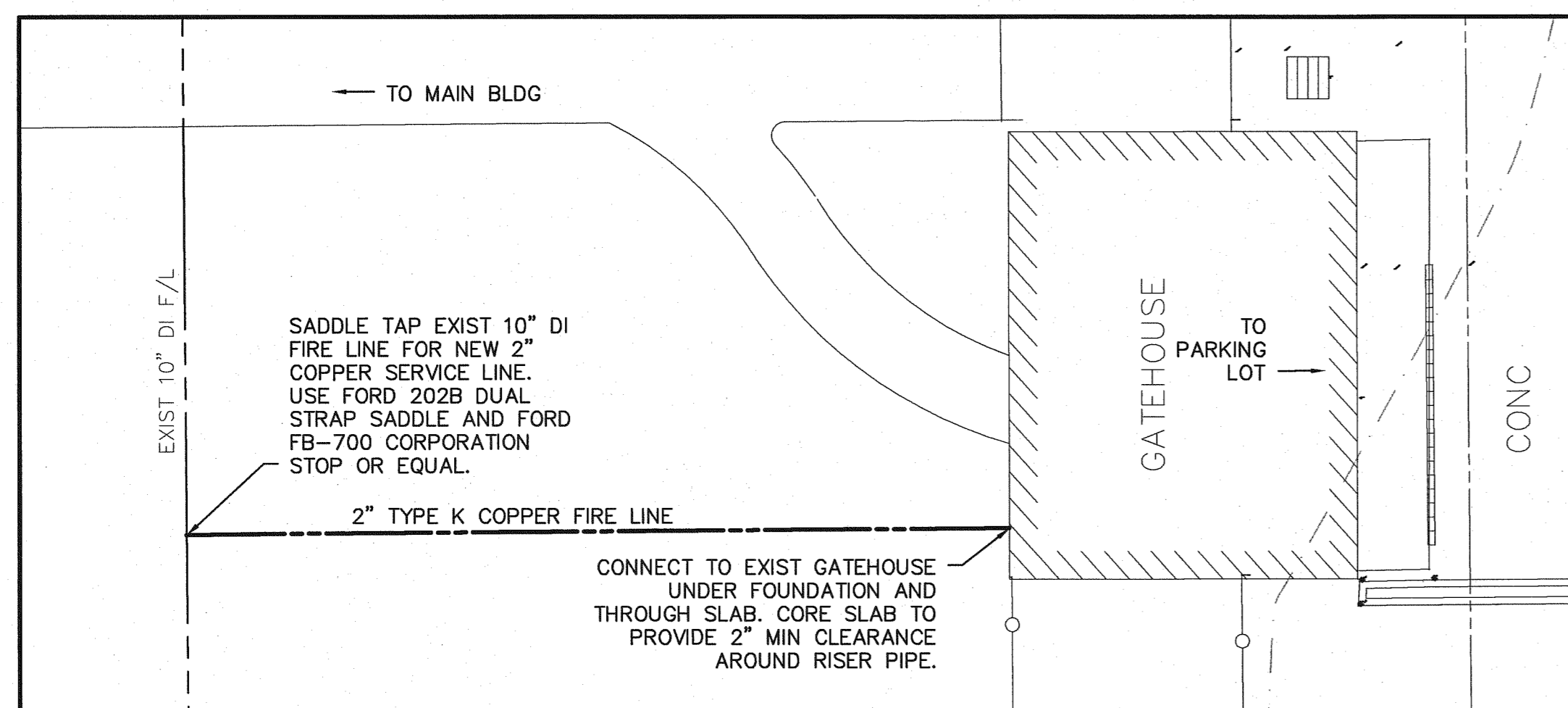
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- FDC RISER INSTALLATION:**
1. INSTALL 1/2-INCH BALL DRIP DRAIN VALVE ON FDC MAIN LINE BELOW FDC BASE BEND.
  2. PROVIDE 1 CU YD 1.5-INCH ROUND, OPEN GRADED DRAIN ROCK AT BALL DRIP DRAIN VALVE.
  3. WRAP DRAIN ROCK IN TENCATE MIRAFI 160N DRAINAGE GEOTECHNICAL FABRIC OR EQUAL.



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WESTECH ENGINEERING, INC. CONSULTING ENGINEERS AND PLANNERS
3541 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302 Phone: (503) 585-2424 Fax: (503) 585-3986 E-mail: westech@westech-eng.com

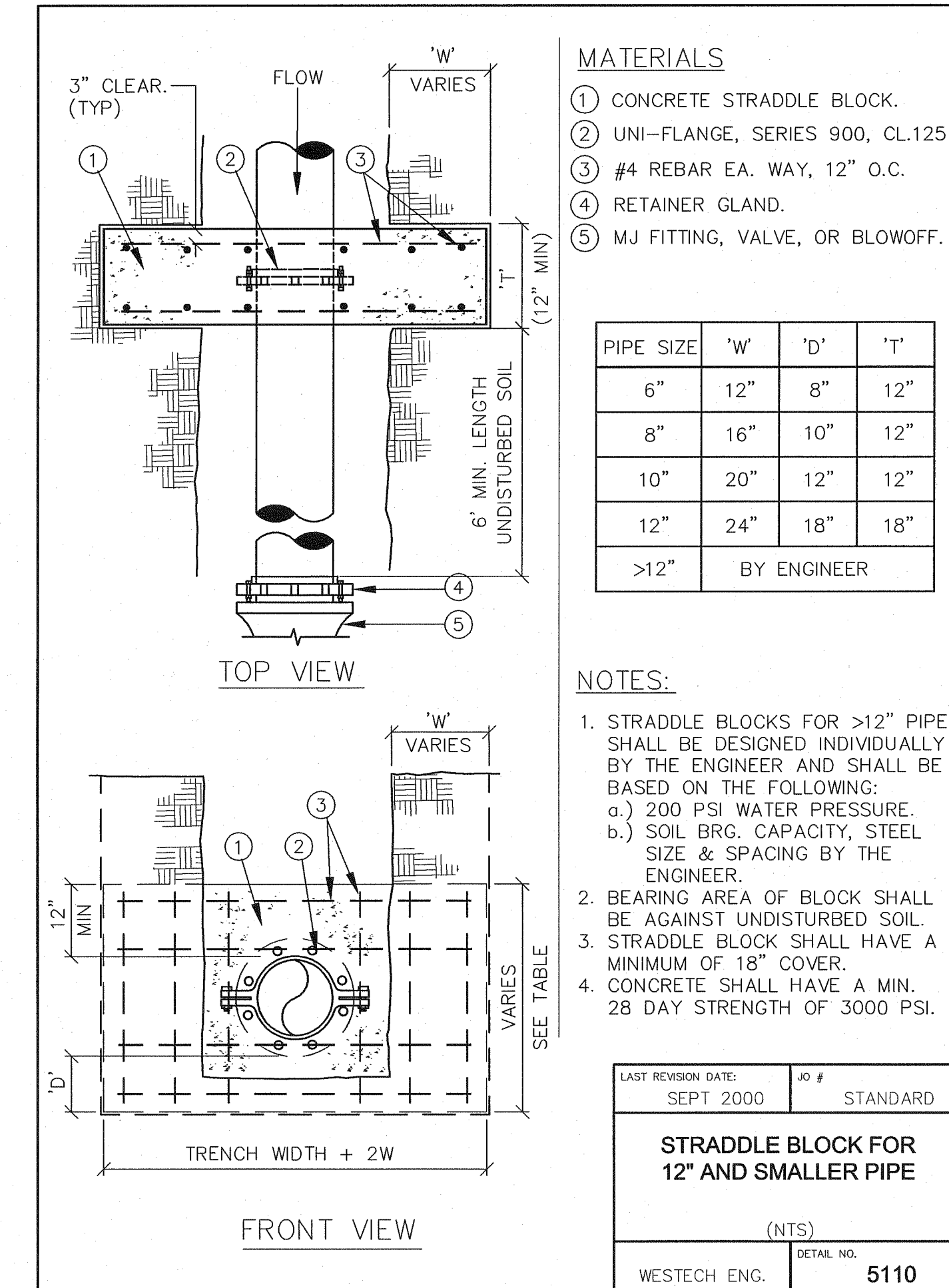
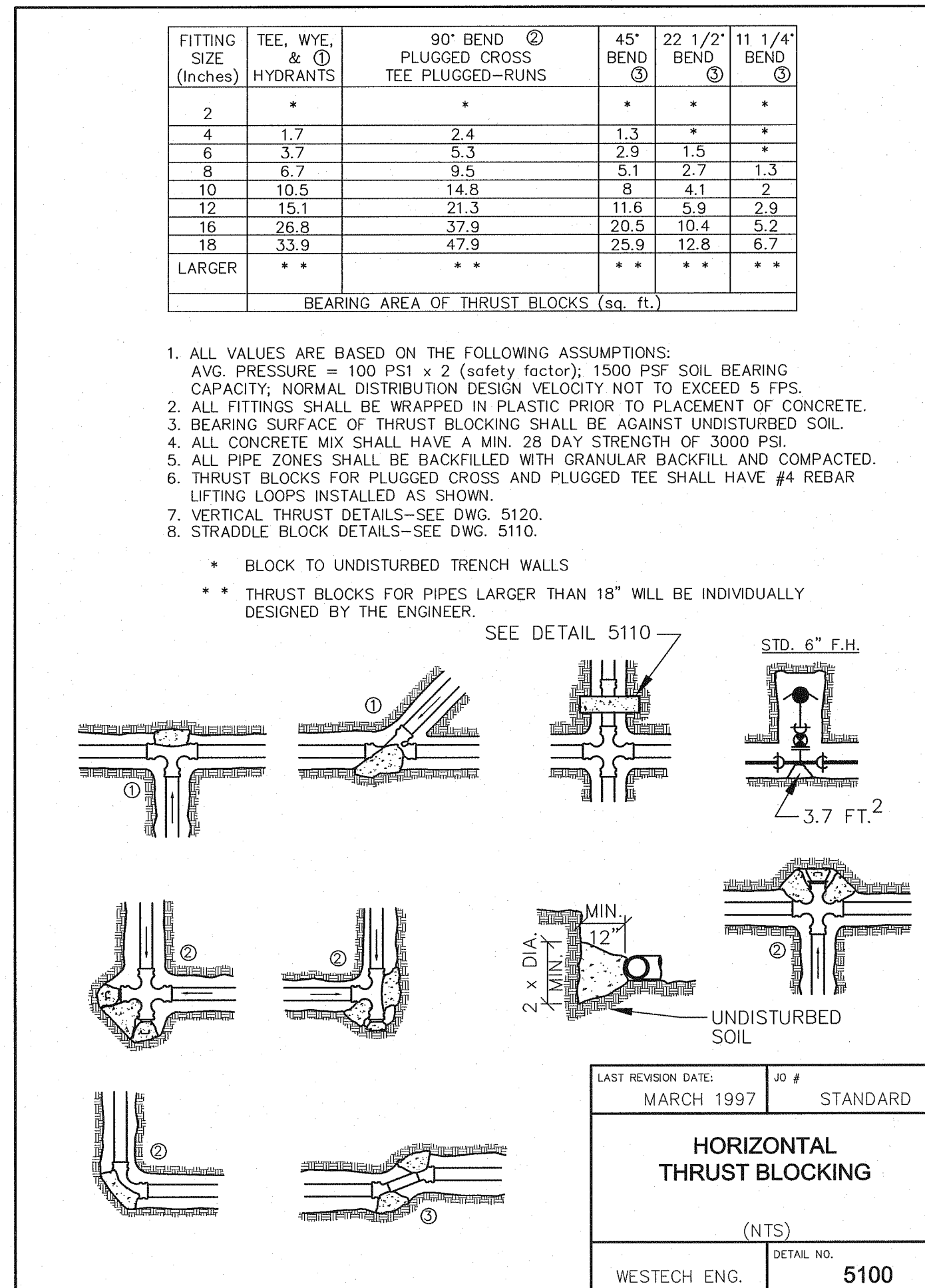
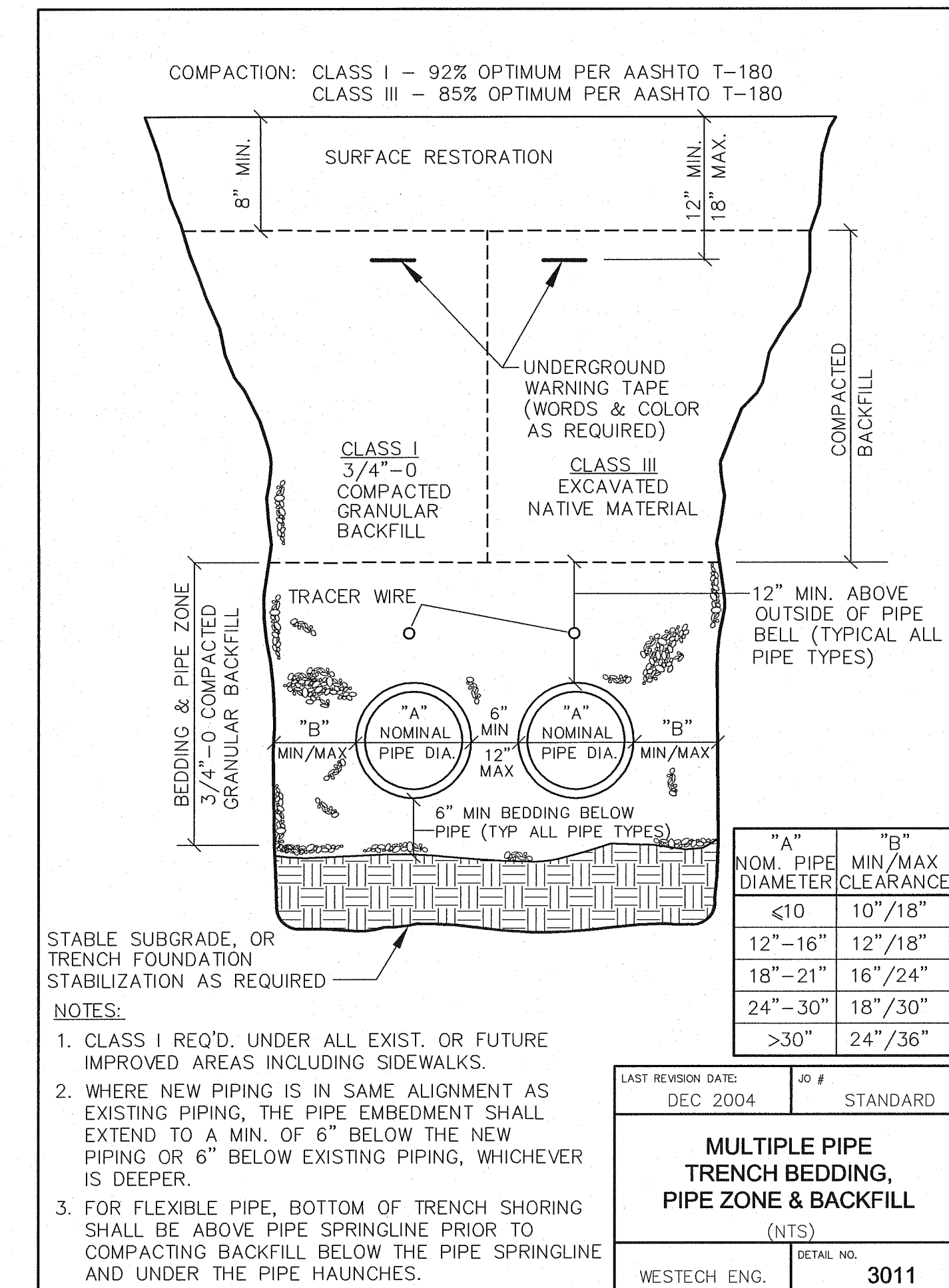
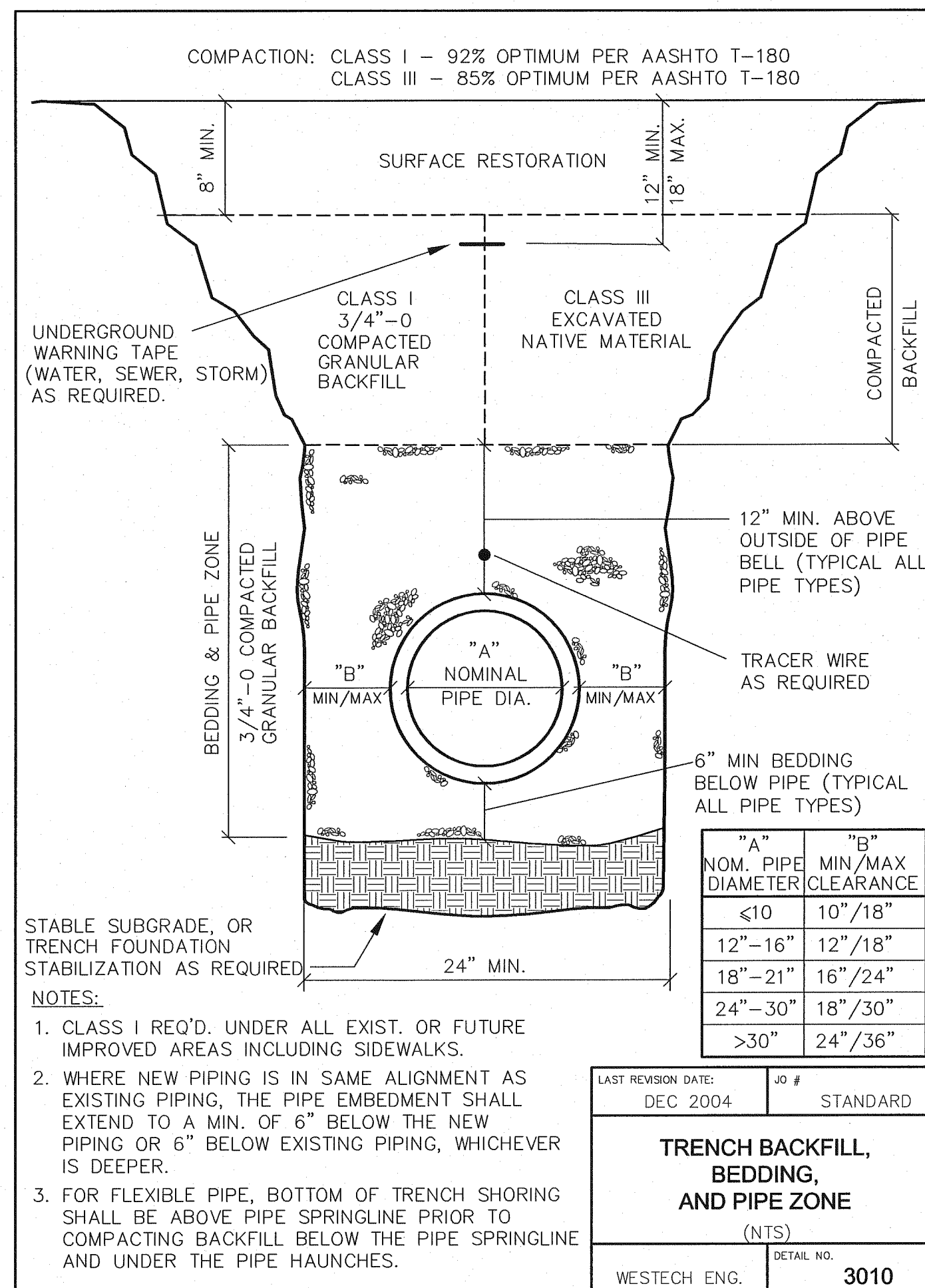
  

Oregon Dept. of Corrections	Salem, Oregon
OSCI Fire Sprinkler System Upgrade	
Building Connection Details	

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DATE: MAY 13

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DESCRIPTION REVISIONS

BY \_\_\_\_\_

PROFESSIONAL ENGINEER

1978

OREGON REGISTERED

RAYMOND C. WESTECH

REVISION: 12/01/2013

WESTECH ENGINEERING, INC.  
CONSULTING ENGINEERS AND PLANNERS

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Oregon Dept. of Corrections

Salem, Oregon

OSCI Fire Sprinkler System Upgrade

SHEET G5 OF 8

JOB NUMBER 2664.3001.0

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GENERAL NOTES

CODES AND STANDARDS:

- A. All materials and workmanship shall conform to the requirements of the 2010 Oregon Structural Specialty Code and 2009 Edition International Building Code including Reference Standards listed below:
  - American National Standards Institute/American Society of Civil Engineers – (ANSI/ASCE 7-05)
  - American Institute of Steel Construction (AISC 13th Edition)
  - American Welding Society Standards for Welding as modified by AISC Spec. (AWS D1.1 – 2004, AWS D1.3 – 1998)

GENERAL REQUIREMENTS:

- A. It is the responsibility of the Builder/Contractor to obtain appropriate approvals and necessary permits from city, county, state, or federal agencies, as required.
- B. Contractor shall be responsible for all construction methods, techniques, sequencing, and safety required to complete construction.
- C. Contractor shall verify all dimensions and details prior to proceeding with construction. All discrepancies shall be approved by the Engineer of record.
- D. Contractor shall verify all required penetrations on Mechanical and Electrical plans. All dimensions shall be field verified as early as possible.
- E. Contractor shall thoroughly review and redline all shop drawings prior to submittal to the engineer. Submit shop drawings in a timely fashion to allow 10 business days for review by design team. All modifications or comments made during review do not relieve contractor from compliance with the requirements of the plans or specifications.

STRUCTURAL INSPECTION AND TESTING:

- A. Contractor shall provide written statement of responsibility to the Building Official and owner prior to commencement of work as required by OSSC Section 1706.
- B. All construction shall be inspected in conformance with the 2010 Oregon Structural Specialty Code.
- C. All items noted as requiring special inspection per the 2010 Oregon Structural Specialty Code in accordance with Section 1704, shall be performed by a qualified person who can demonstrate competence for the particular type of construction being inspected. The special inspections shall be performed in addition to the inspections required by the Oregon Structural Specialty Code, the plans and specifications, the Architect of record, and the building officials.

DESCRIPTION OF WORK IBC SECTION 1704	INSPECTION FREQUENCY		COMMENTS
	CONTINUOUS <sup>3</sup>	PERIODIC <sup>3</sup>	
<b>SHOP WELDING (1704.3.1)</b>			
SINGLE PASS FILLET WELDS 1/8" TO 1/2"		X	REF. NOTE 4
PARTIAL / COMPLETE PENETRATION	X		REF. NOTE 5
<b>POST INSTALLED ANCHORS (1704.15)</b>			
EXPANSION ANCHOR PLACEMENT	X		

1. The items marked with an "X" shall be inspected in accordance with 2010 OSSC Section 1704 by a certified special inspector from an established testing agency. For material sampling and testing requirements, refer to the material sampling and testing section, the project specifications and the specific general notes sections. The testing agency shall send copies of all structural testing and inspection reports directly to the architect, engineer, contractor and building official. Any materials which fail to meet the project specifications shall immediately be brought to the attention of the architect. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority and to the building official. The special inspector shall submit a final signed report stating whether the work requiring special inspection was to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the code. Special inspection testing requirements apply equally to all bidder designed components.
2. Special inspection is not required for work performed by an approved fabricator per 2010 OSSC Section 1704.2.2.
3. Continuous special inspection means that the special inspector is on the site at all times observing the work requiring the special inspection (2010 OSSC Section 1702.1). Periodic special inspection means that the special inspector is on the site at time intervals necessary to confirm that all work requiring special inspection is in compliance.
4. All welds shall be visually inspected.
5. All complete penetration welds shall be tested ultrasonically or by using another approved method.

- D. Owner or owners representative to retain an approved Special Inspector to observe and approve all required special inspection items.
- E. Special inspection reports to be provided to the Building Official & Design Professionals in a timely manner and in accordance with OSSC Section 1704.1.2.

STRUCTURAL STEEL:

- A. All structural steel wide flange members shall conform to structural steel designation ASTM A992. All other structural steel plates, angles and misc. shapes shall conform to structural steel designation ASTM A36.
- B. All hollow structural sections (HSS) shall conform to ASTM A500, Grade B designation having a minimum yield strength of 46,000 psi for rectangular shapes and having a minimum yield strength of 42,000 psi for round shapes.
- C. All structural steel pipe shall conform to ASTM A53, Grade B.
- D. Fabrication and erection shall conform to the specifications set forth in AISC 360-05 "Specifications for Structural Steel Buildings", 2005, and AISC 303-05 "Code of Standard Practice for Steel Buildings and Bridges", 2005, and the "Standard Code for Arc and Gas Welding in Building Construction".
- E. All bolts not designated as high strength shall be ASTM A307, Grade A.
- F. Galvanize all exterior bolts in accordance with ASTM A53.
- G. Lock nuts shall be 1F1 100, Grade B prevailing torque type.
- H. Plain hardened washers shall be ASTM F436.
- I. Beveled washers shall be ANSI B18.23.1.
- J. Welding shall conform with AWS D1.1-04 "Structural Welding Code – Steel". Welding filler metal shall be AWS A5.1 or A5.5 E70XX electrodes or AWS A5.18 ER70S-X. All welding shall be performed by welders AWS certified within the past 2 years for the type of welding performed. Welder shall present evidence of qualification within the past two years. Weld electrode E70T-4 is prohibited. After fabrication, but before installation, remove rust scale, grease and oil by wire brushing and chemical treatment.
- L. Shop prime steel items with one heavy coat of rust inhibiting metal primer.
- M. Galvanizing coat all exposed metal per ASTM A446, G60.

ACCEPTABLE POST INSTALLED ANCHOR PRODUCTS:

- A. The following anchor products have been approved by the ICC for use in cracked concrete. This list is provided for the contractor to use as a resource for alternate manufacturers and anchor types. If an alternate is desired from this list, the contractor is to notify the E.O.R. so that proper size and embedment may be specified.
- B. Listed anchors may not be an equivalent to those specified in the plans.

- Wedge Anchors / Expansion Anchors:
- Hilti Kwik Bolt TZ Expansion Anchor
  - Hilti HSL-3 Heavy Duty Expansion Anchor
  - Simpson Strong-Bolt Wedge Anchor
  - Simpson Strong-Bolt 2 Wedge Anchor
  - Powers Power-Stud+ SD1 Expansion Anchor
  - Powers Power-Stud+ SD2 Anchor
  - ITW Red Head Trubolt+ Wedge Anchor

**BMGP** Consulting Structural Engineers  
 ENGINEERS, INC.  
 1045 13th ST. SE, SALEM, OREGON 97302  
 PH: (503) 399-1399 FAX: (503) 399-8259  
 EMAIL: admin@bmgpeengineers.com  
 WEBSITE: www.bmgpeengineers.com

Oregon Dept. of Corrections  
 Salem, Oregon  
 OSCI Fire Sprinkler System Upgrade  
 Fire Sprinkler Riser Area  
 Secure Enclosure Notes

SHEET  
**G6** OF **8**  
 JOB NUMBER  
**2664.3001.0**

SCALE  
 HORIZ: \_\_\_\_\_  
 VERT: \_\_\_\_\_

NO. 1 DATE \_\_\_\_\_  
 DESCRIPTION REVISIONS

DATE: MAY 13

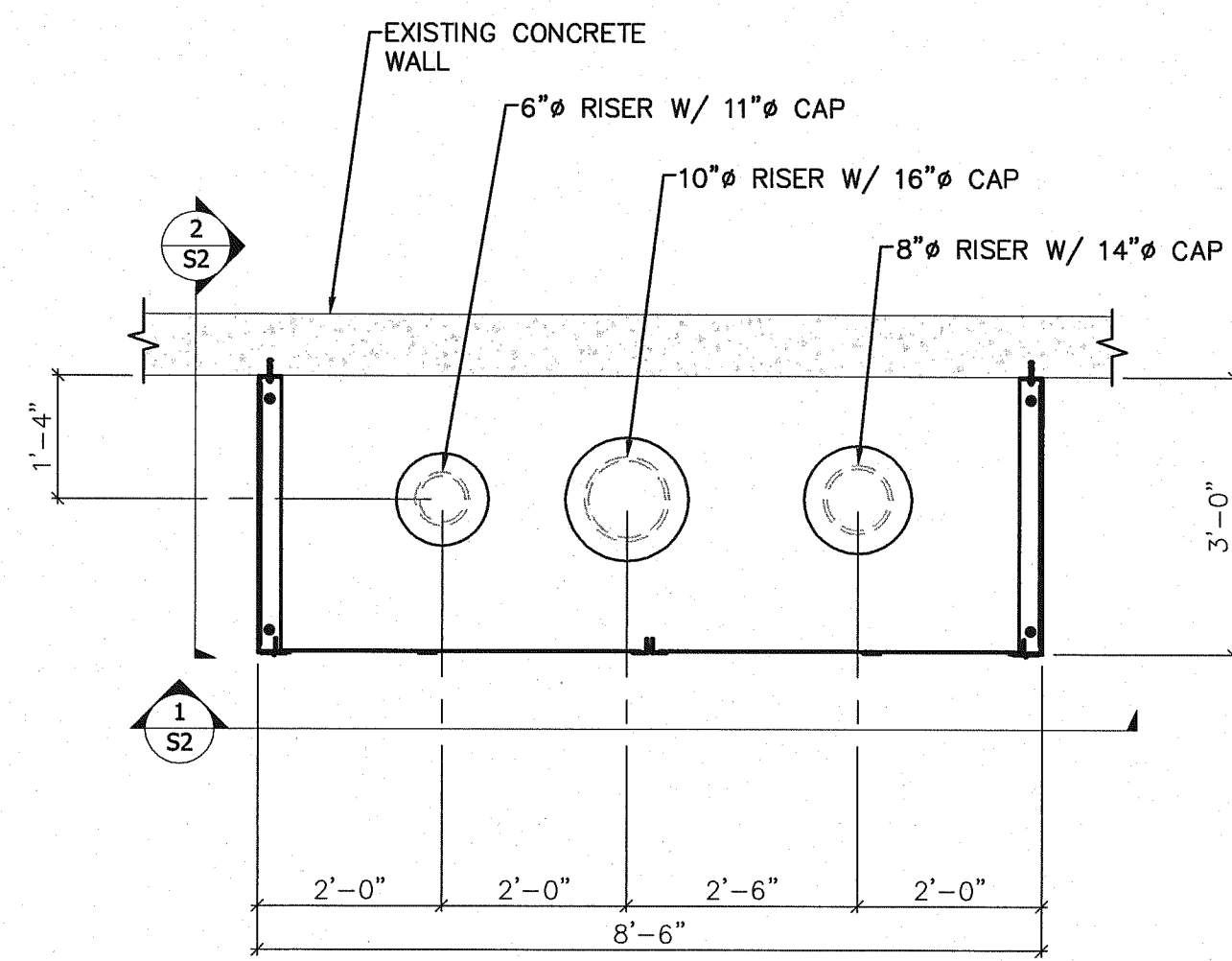
REGISTERED PROFESSIONAL ENGINEER  
 WILLIAM R. PEASE  
 OREGON  
 EXPIRES: DEC. 31, 2014

REGISTERED PROFESSIONAL ENGINEER  
 RAYMOND C. TROTT  
 OREGON  
 EXPIRES: 12/31/2013

WESTTECH ENGINEERING, INC.  
 CONSULTING ENGINEERS AND PLANNERS  
 3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
 Phone: (503) 585-2474 Fax: (503) 585-3986  
 E-mail: westtech@westtech-eng.com

5/27/2013 4:04:46 PM  
 R:\Data\OSCI Fire System\Design\Plot - Sprinklers\06-08 Enclosure Details.dwg (06 Notes tab)

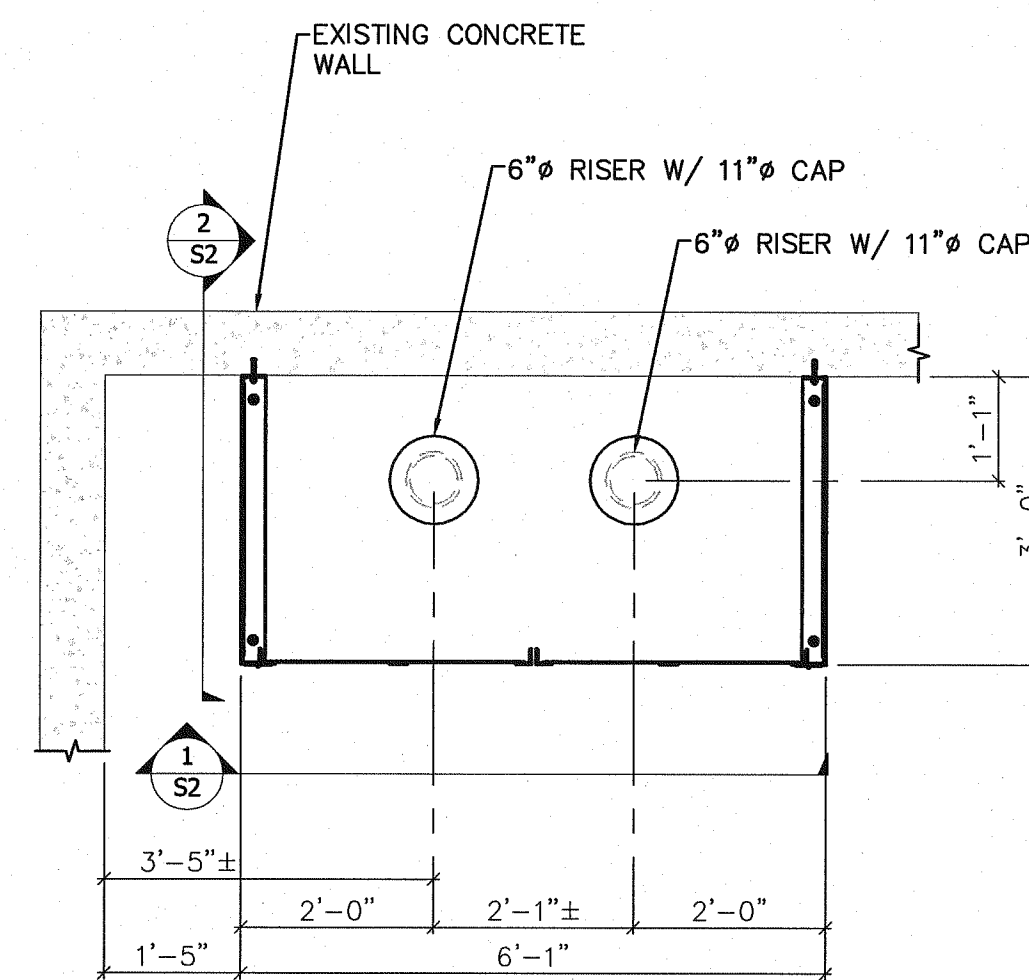




PRINT SHOP RISER CAGE

1/2" = 1'-0"

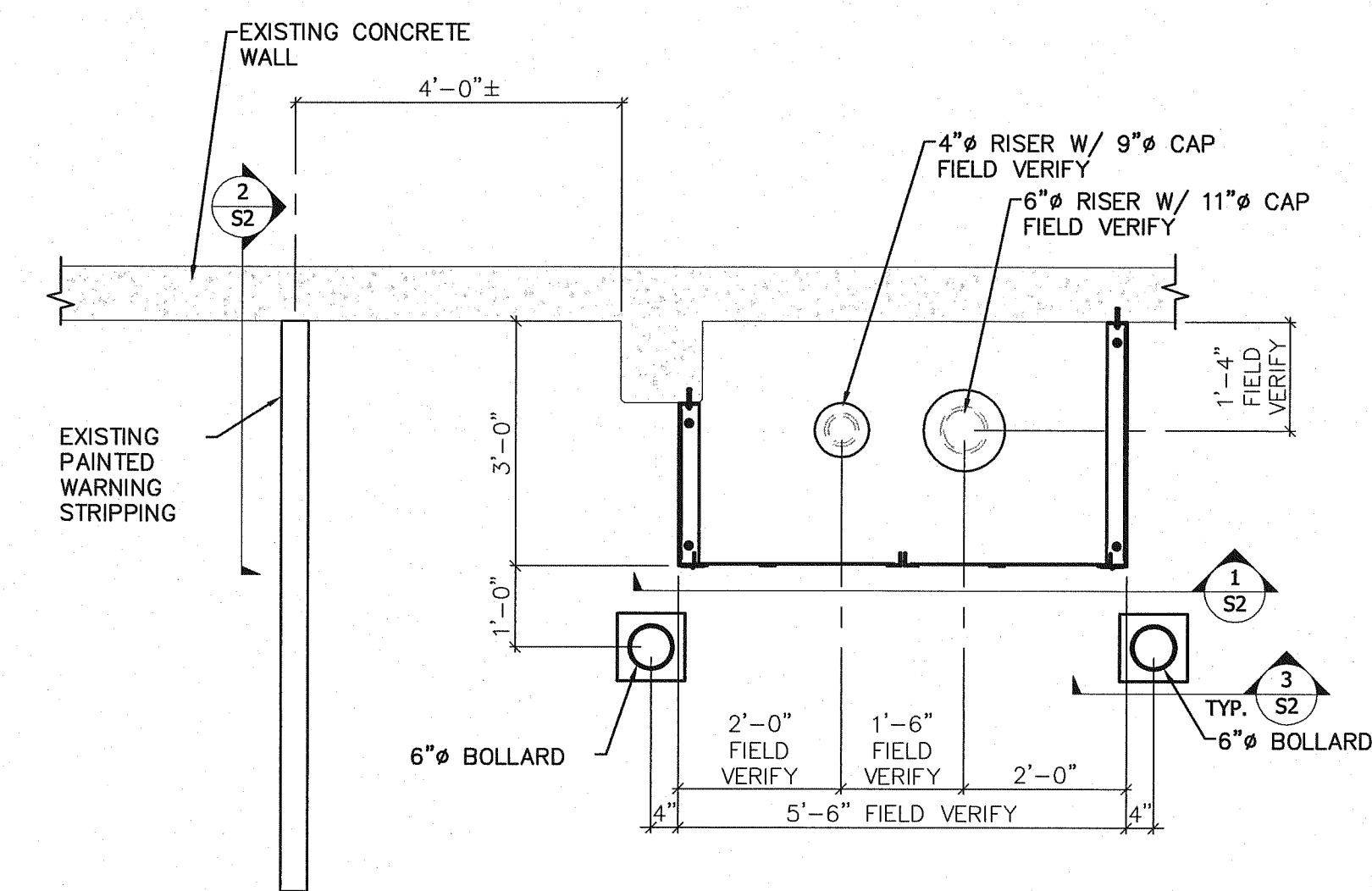
1 SI



WELD SHOP RISER CAGE

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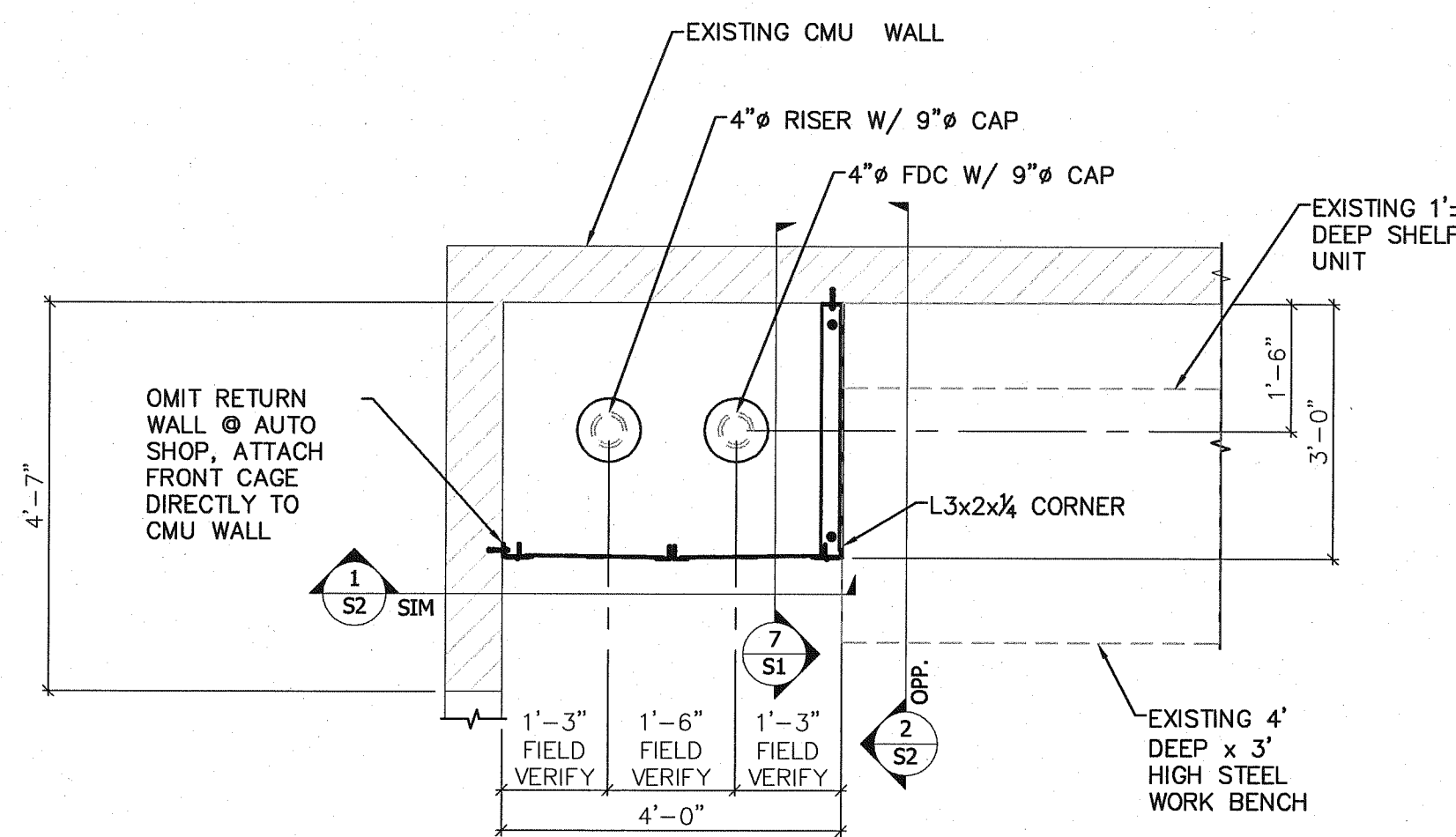
2 SI



WAREHOUSE SHOP RISER CAGE

1/2" = 1'-0"

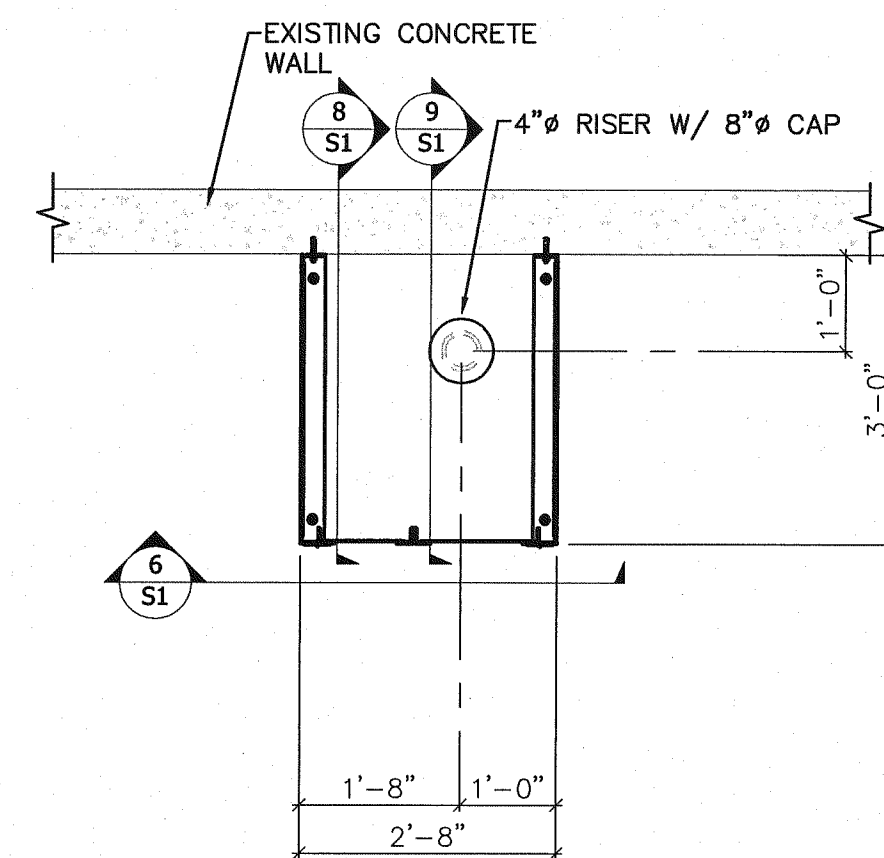
3 SI



AUTO SHOP RISER CAGE

1/2" = 1'-0"

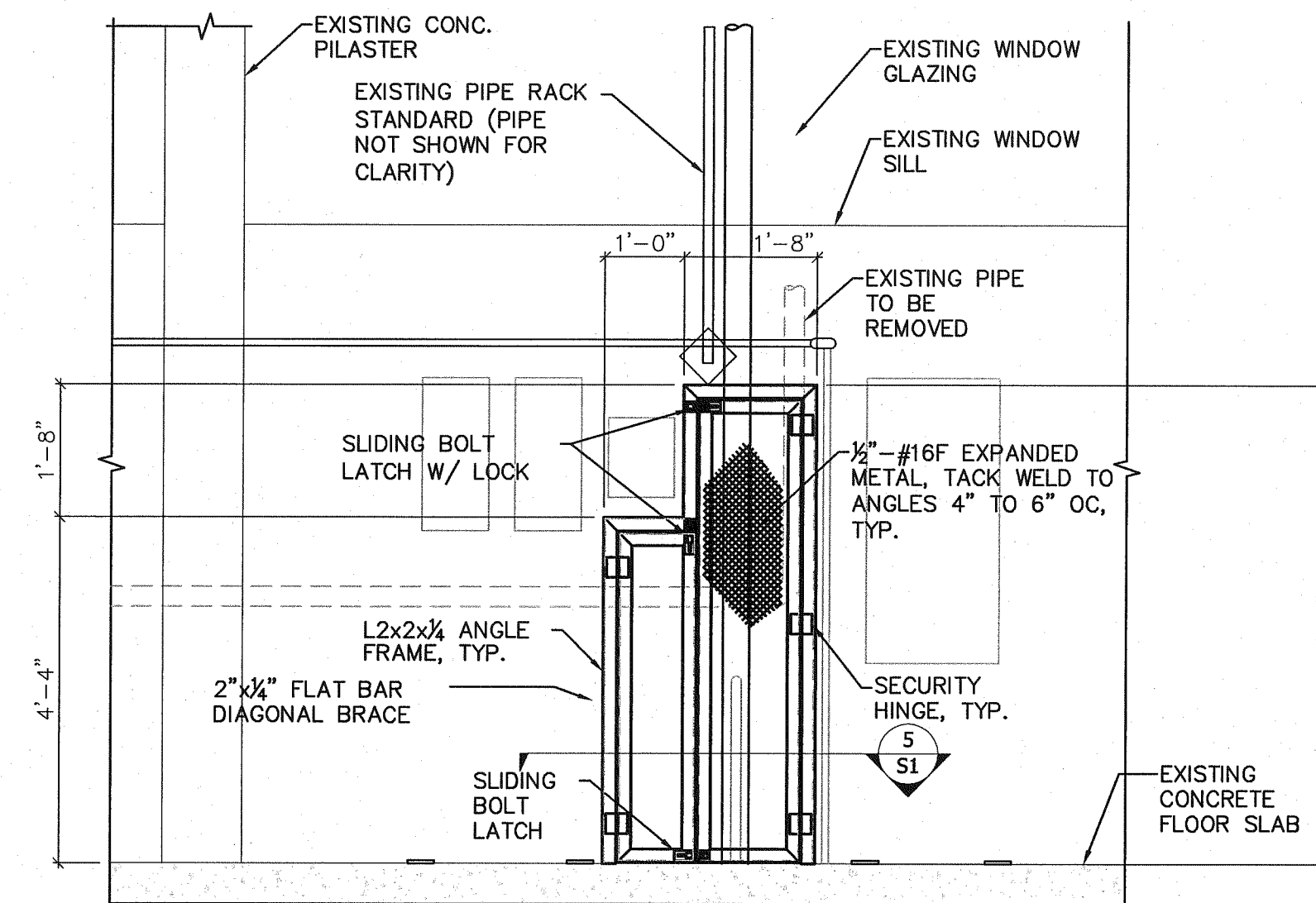
4 SI



BOILER PLANT RISER CAGE

1/2" = 1'-0"

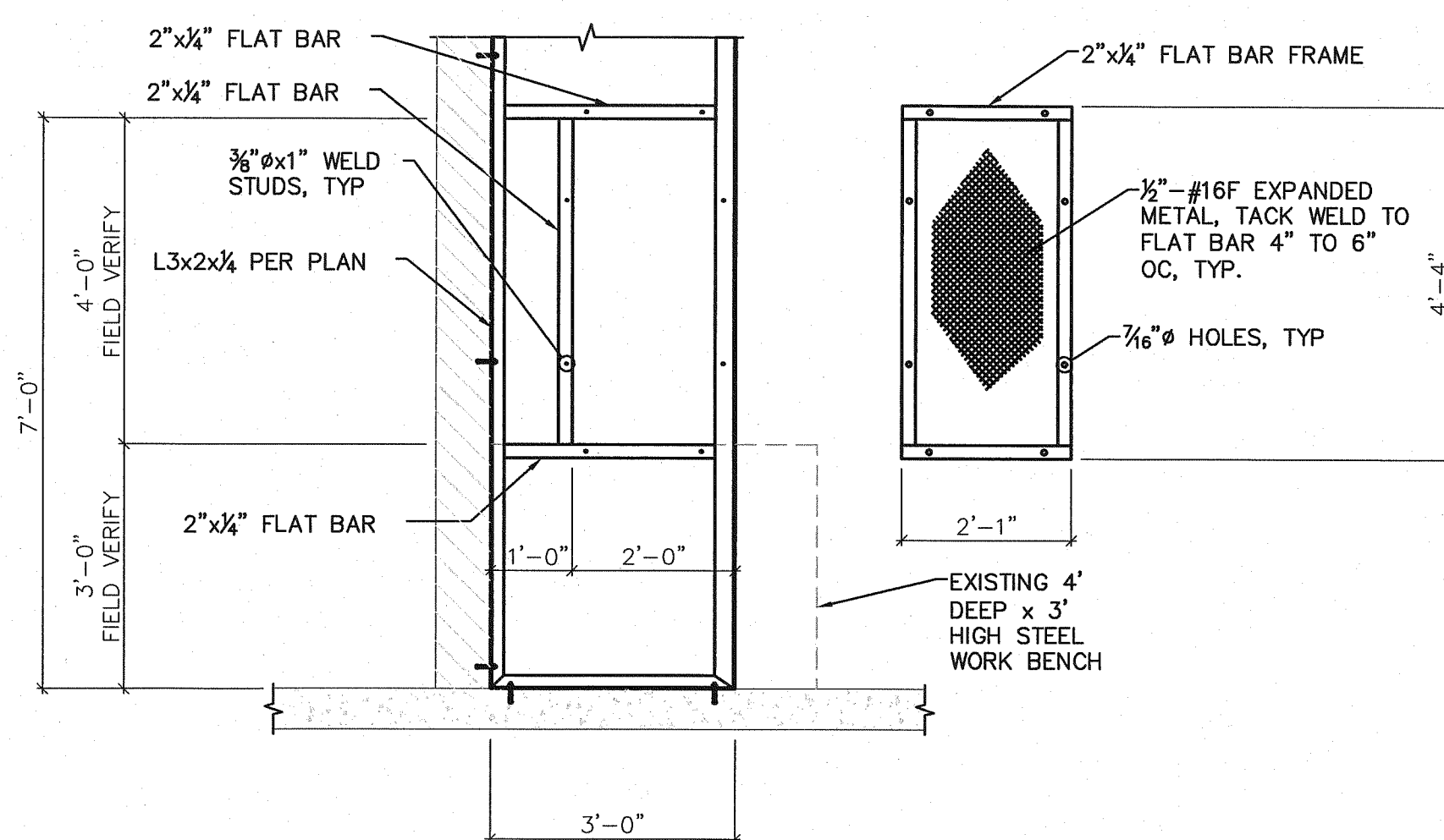
5 SI



BOILER PLANT RISER CAGE ELEVATION

1/2" = 1'-0"

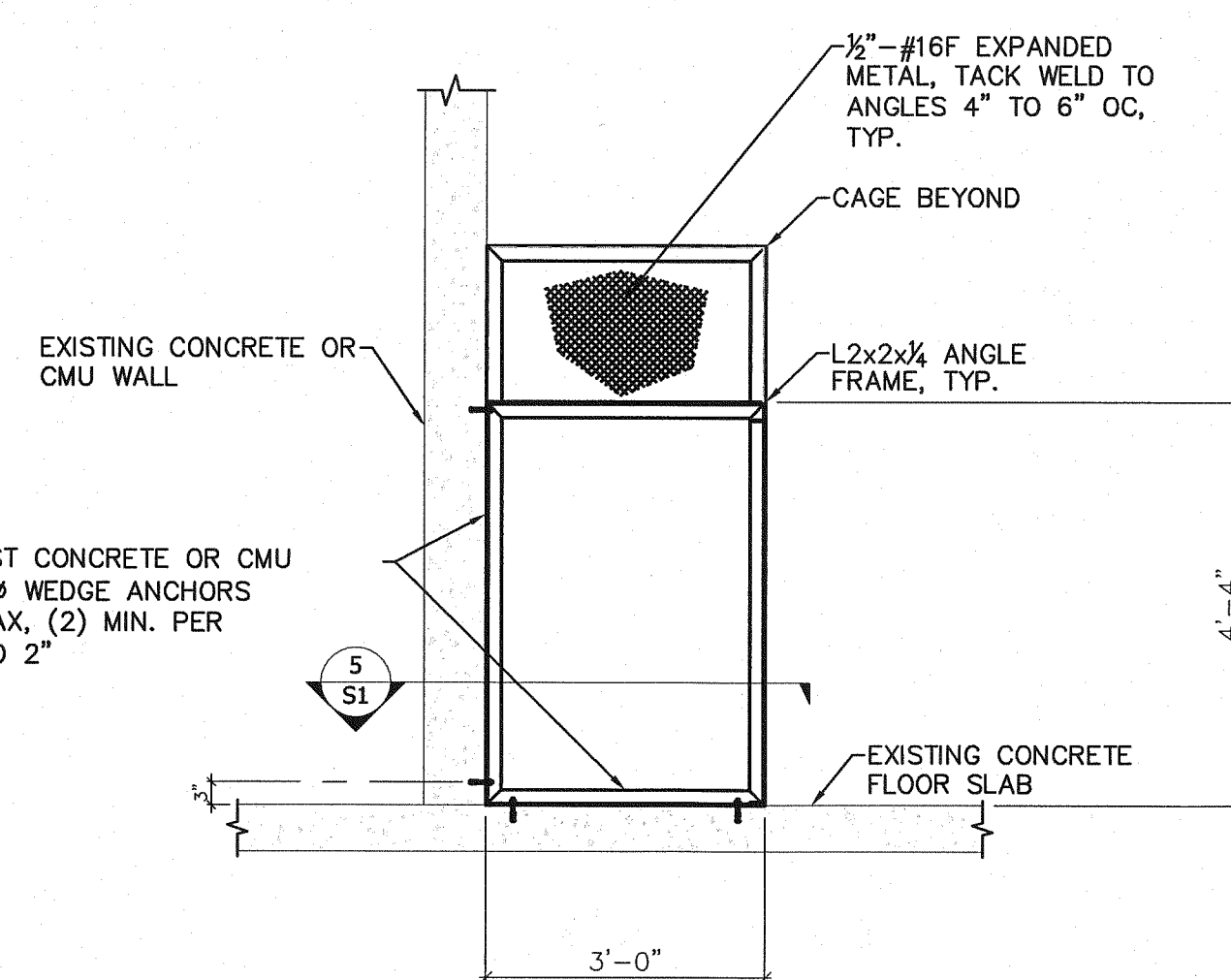
6 SI



AUTO SHOP RISER CAGE ACCESS PANEL

1/2" = 1'-0"

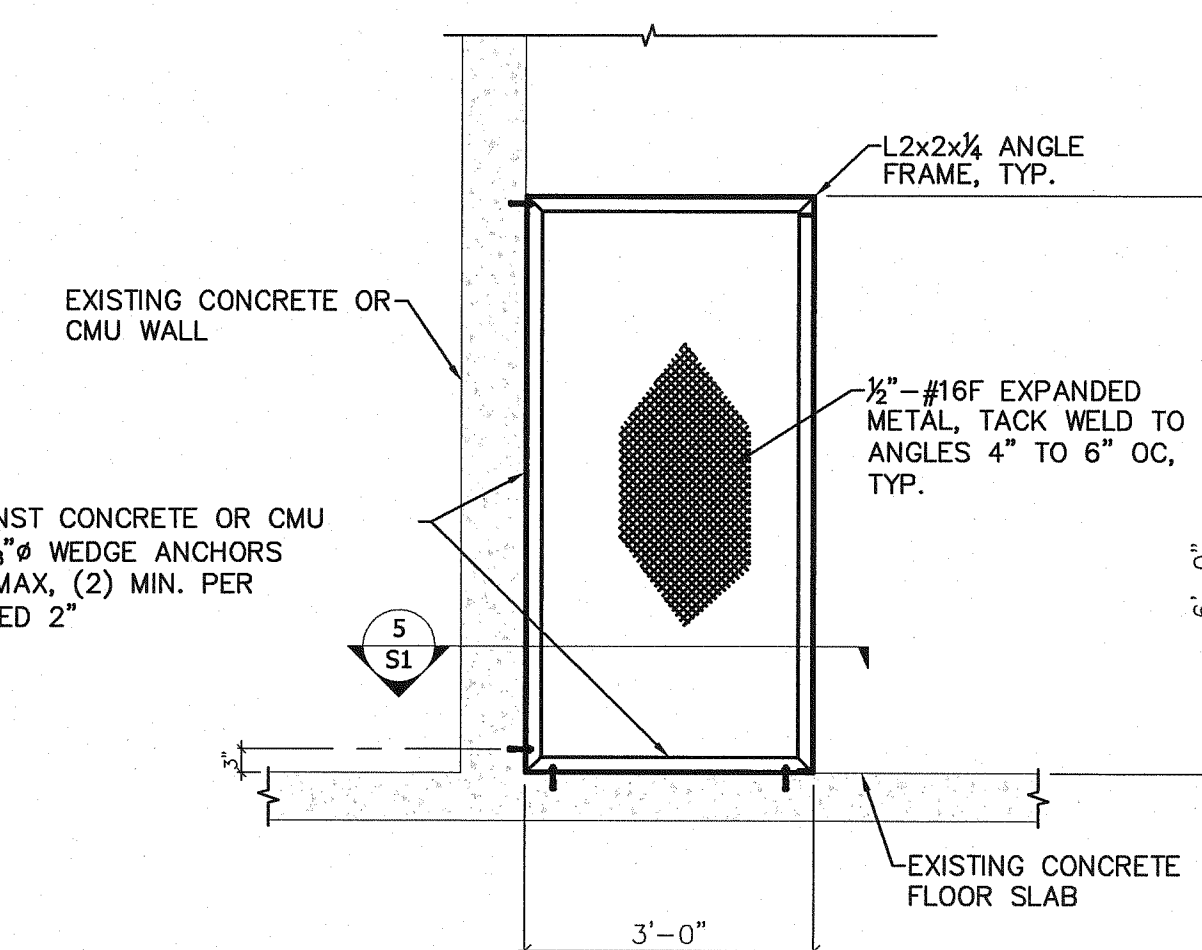
7 SI



BOILER PLANT RISER CAGE

1/2" = 1'-0"

8 SI



BOILER PLANT RISER CAGE

1/2" = 1'-0"

9 SI

SCALE	HORIZ.	VERT.	NO.	DATE	DESCRIPTION	BY
1/2" = 1'-0"			1			
<p>WESTTECH PROFESSIONAL ENGINEERS AND PLANNERS          3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302          Phone: (503) 585-2474 Fax: (503) 585-3986          E-mail: westtech@westtech-eng.com</p>						

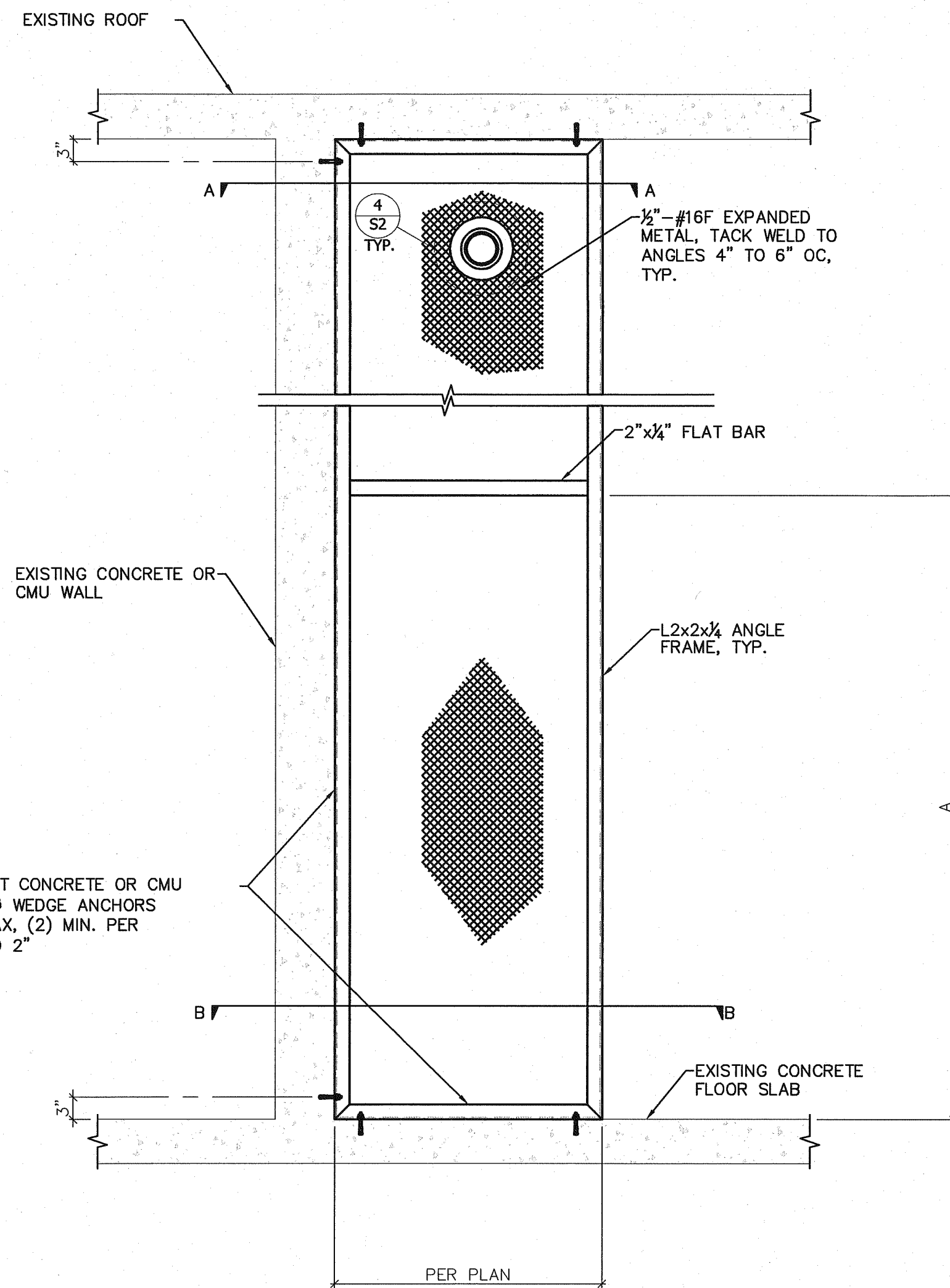
Oregon Dept. of Corrections  
 Salem, Oregon  
 OSCI Fire Sprinkler System Upgrade  
**Fire Sprinkler Riser Area**  
**Secure Enclosure Details**

**BMP** Consulting Structural Engineers, Inc.  
 1045 13th St. SE, Salem, Oregon 97302  
 PH: (503) 399-1399 FAX: (503) 399-8259  
 EMAIL: admin@bmgengineers.com  
 WEBSITE: www.bmgengineers.com

SHEET  
**G7** of **8**  
 JOB NUMBER  
**2664.3001.0**

5/12/2013 4:38:04 PM  
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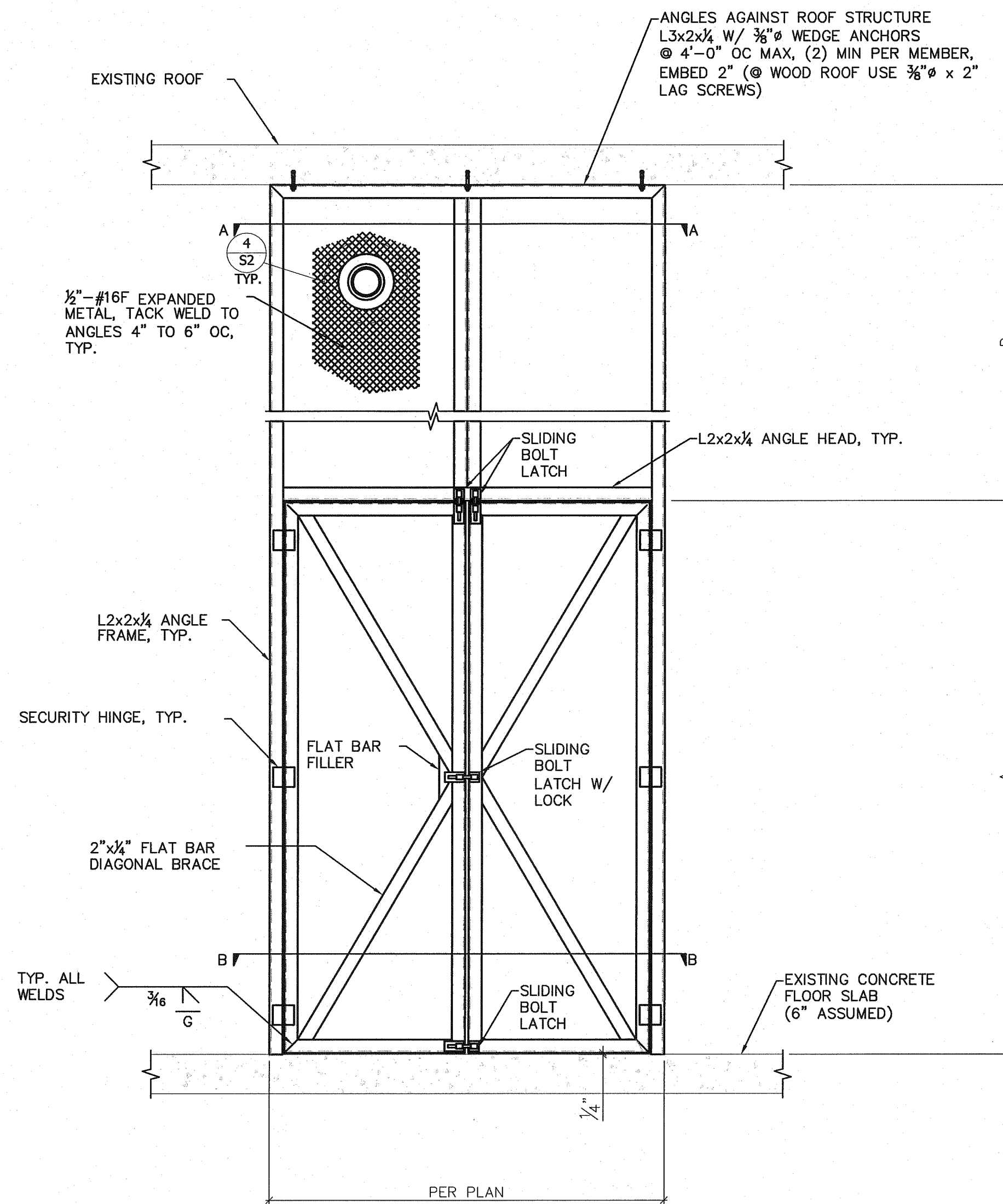
SIDE ELEVATION

3/4" = 1'-0"

2  
S2

DIMENSION TABLE *		
	A	B
PRINT SHOP	8'-0"	7'-0"±
WELDING SHOP	7'-0"	4'-0"±
WAREHOUSE	7'-0"	8'-0"±
AUTO SHOP	7'-0"	7'-0"±
BOILER PLANT	3'-6"	N/A

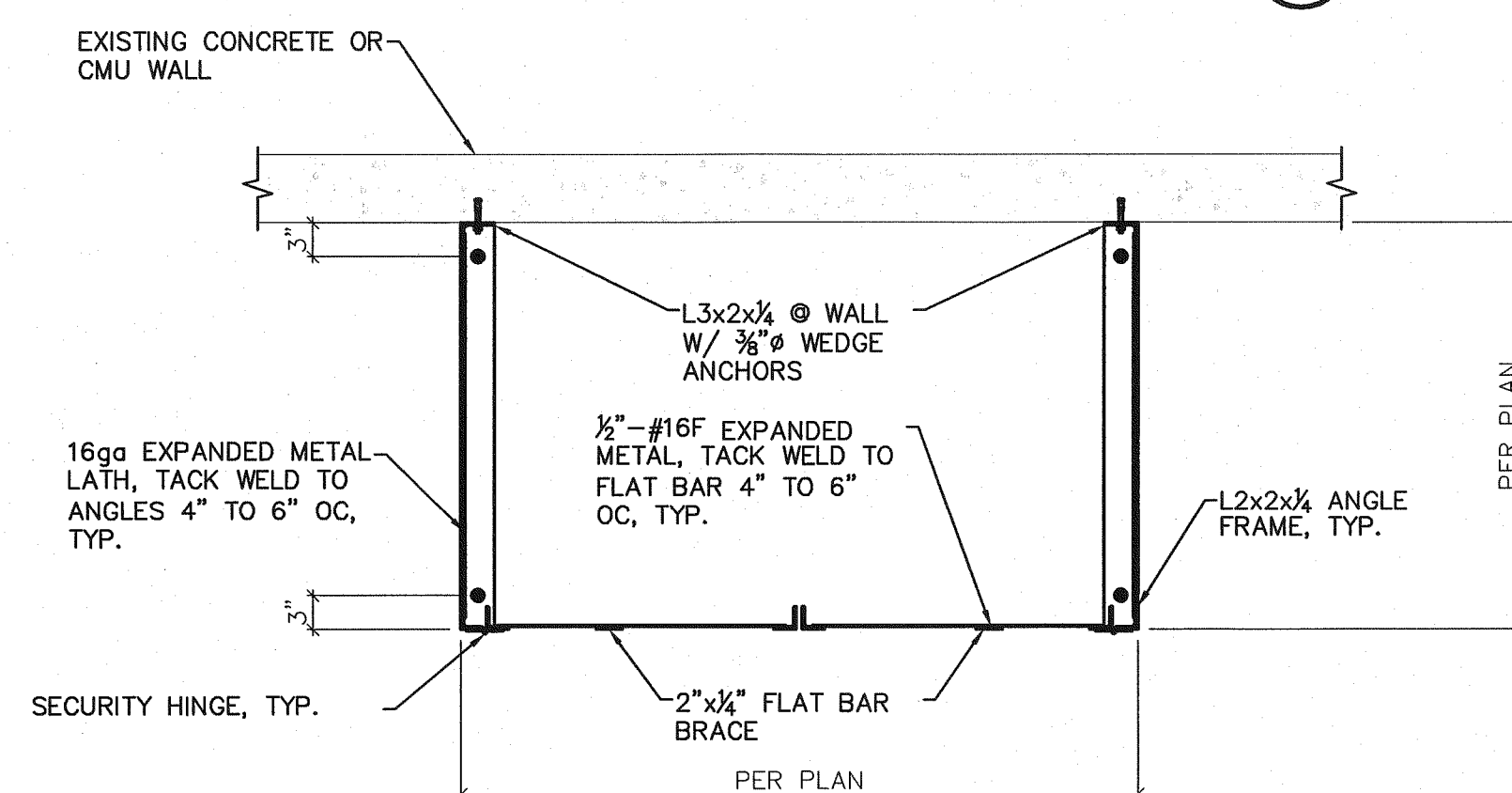
\*NOTE:  
DIMENSIONS SHOWN ARE APPROXIMATE.  
THE CONTRACTOR SHALL FIELD MEASURE &  
ADJUST ENCLOSURE SIZES & HEIGHTS AS  
REQUIRED TO ENSURE A MINIMUM OF 18" OF  
CLEARANCE FROM THE OUTERMOST EDGE OF ANY  
RISER COMPONENT AND THE INSIDE OF THE  
ENCLOSURE WALL / DOOR AS WELL AS TO  
ACCOUNT FOR EXISTING CEILING HEIGHTS AND  
VARIATIONS



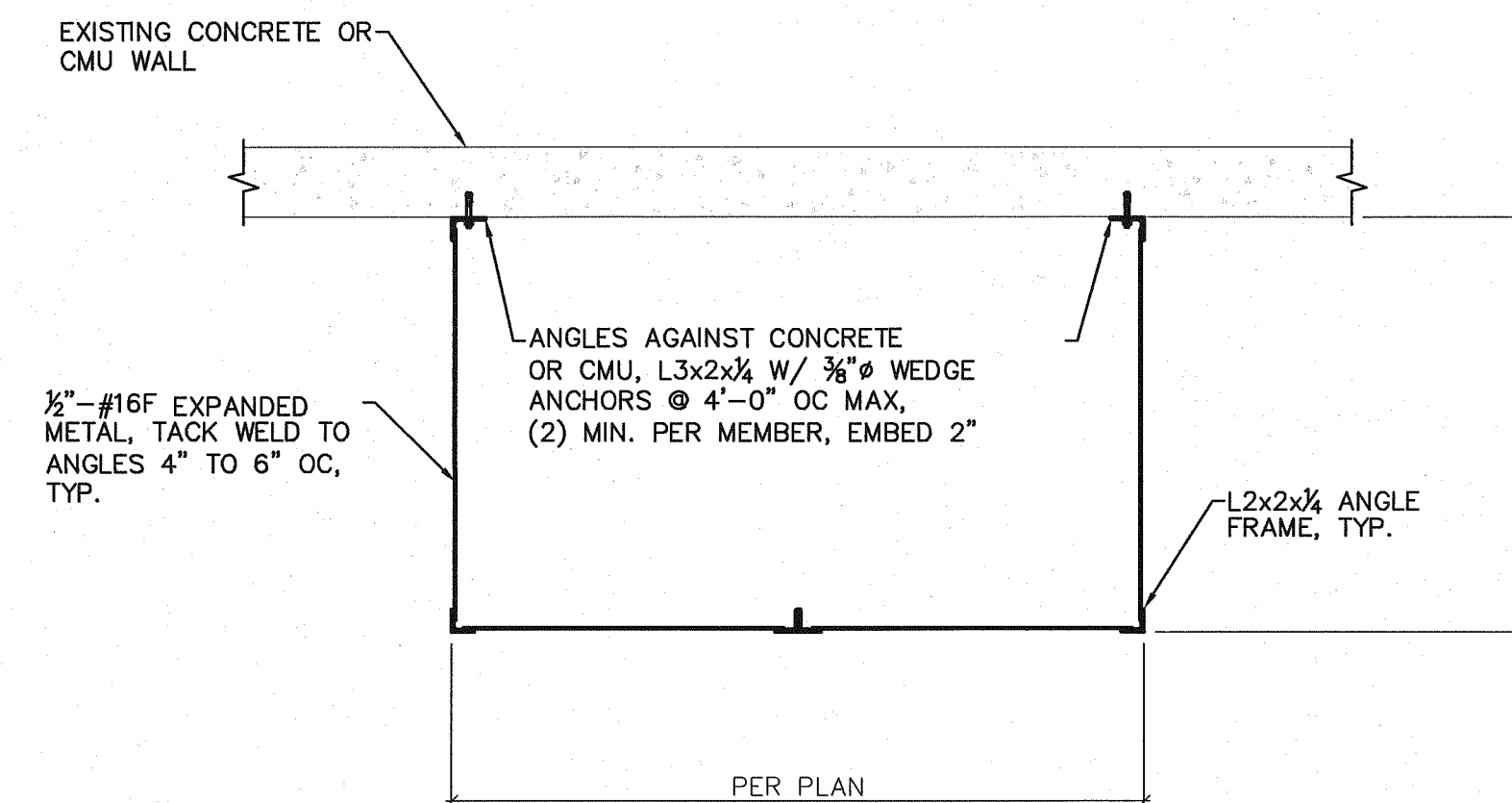
FRONT ELEVATION

3/4" = 1'-0"

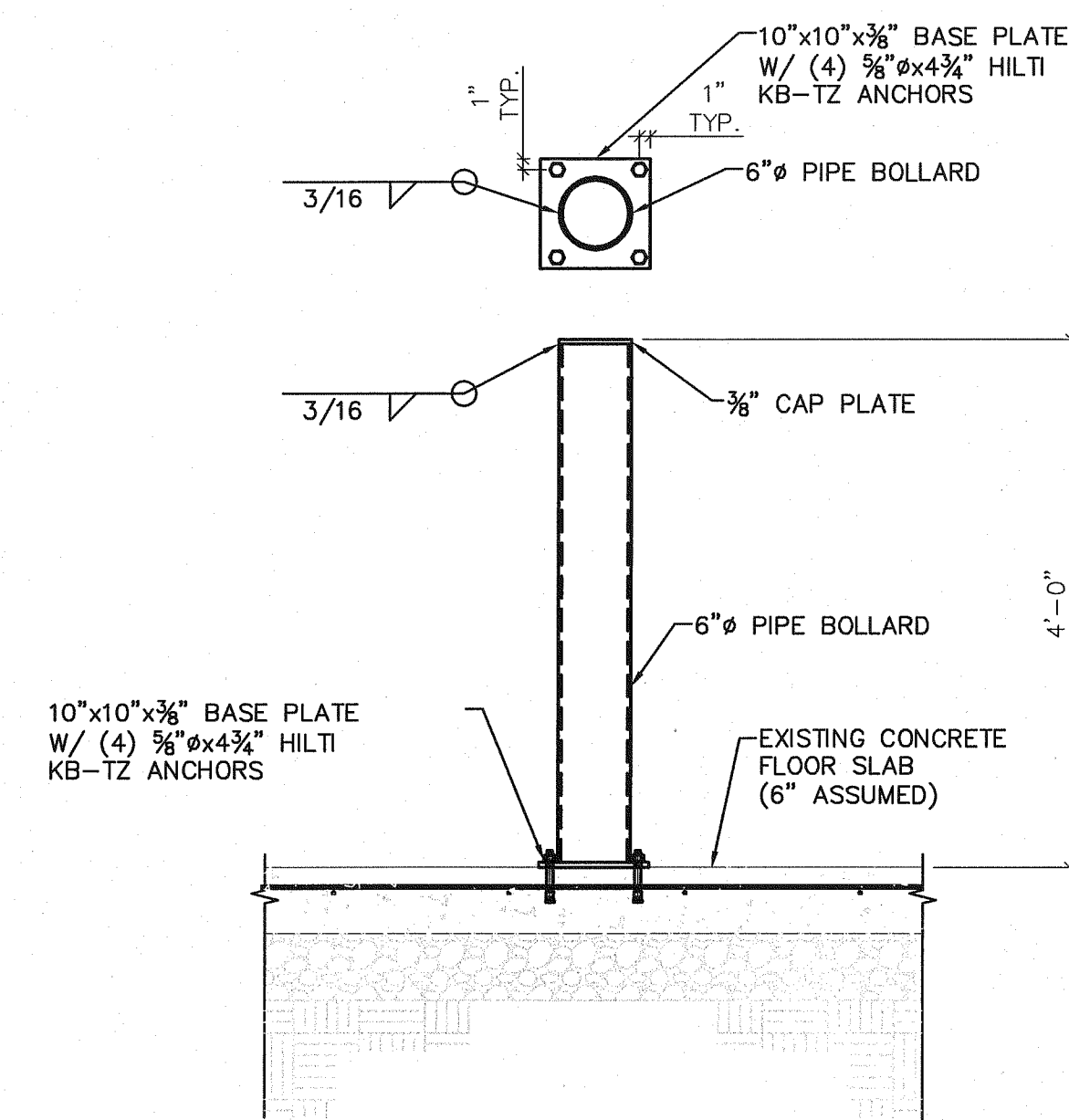
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S2



SECTION B-B



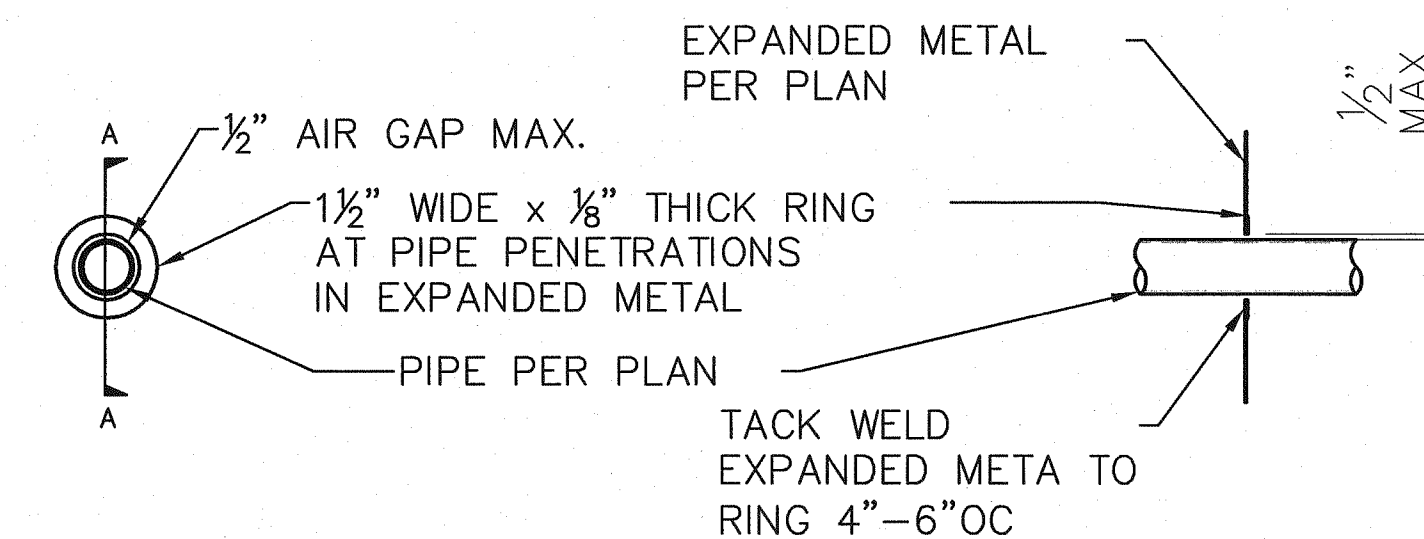
SECTION A-A



INTERIOR BOLLARD

3/4" = 1'-0"

3  
S2



TYPICAL PIPE PENETRATION

3/4" = 1'-0"

4  
S2

SECTION A-A

NO.	DATE	DESCRIPTION	BY
1			

SCALE  
HORIZ:  
VERT:  
DSN: RCE  
DRN: RCE  
CD: RCE  
DATE: MAY 13

REGISTERED PROFESSIONAL ENGINEER  
WILLIAM R. PEYERL  
RENEW: DEC. 31, 2014

REGISTERED PROFESSIONAL ENGINEER  
DRECON JULY 15, 1978  
RAYMOND C. RAYMOND  
RENEW: 12/31/2013

**WE**  
WESTTECH ENGINEERING, INC.  
CONSULTING ENGINEERS AND PLANNERS  
3841 Fairview Industrial Dr., S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474, Fax: (503) 585-3986  
E-mail: westtech@westtech-eng.com

Oregon Dept. of Corrections  
OSCI Fire Sprinkler System Upgrade  
Salem, Oregon  
**Fire Sprinkler Riser Area  
Secure Enclosure Details**  
SHEET  
G8 OF 8  
JOB NUMBER  
2664.3001.0

**BMGPE** Consulting Structural Engineers  
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PH: (503) 399-1399 FAX: (503) 399-8259  
EMAIL: admin@bmgpengengineers.com  
WEBSITE: www.bmgpengengineers.com

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# Fire Systems West

600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208

WA CONTR LIC: FIRE-SWI-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

### SPRINKLER SYMBOL DESCRIPTION

SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
⊖	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	22
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	126
●	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHR	15
▷	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	5
TOTAL SPRINKLERS SHOWN ON THIS SHEET							168

### HANGER LEGEND

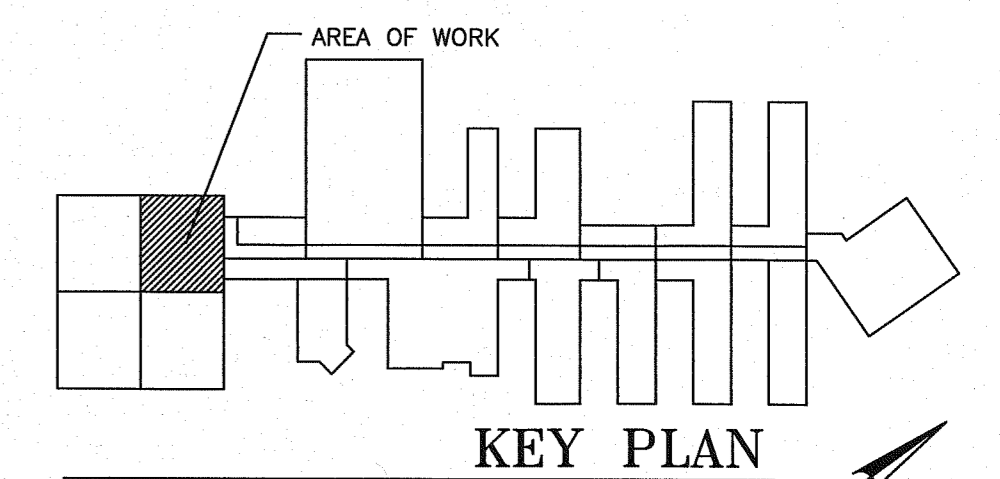
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"F" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

### GENERAL NOTES

1. ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
2. PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-8) WHICH ARE END TO END
3. EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
4. PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
5. PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
6. JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
7. OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
8. STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
9. ENDBEAM DEPTH ON CONCRETE ANCHORS PER NFPA 13

### DESIGN CRITERIA AND NOTES

1. THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OSCI STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
2. THE INSTALLING CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT INSPECTION AND TESTING AGENCY QUALIFIED TO PROVIDE INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR ALL PIPING AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. PRIOR TO THE START OF CONSTRUCTION THE INSTALLING CONTRACTOR SHALL SUBMIT QUALIFICATION INFORMATION ON THE PROPOSED INSPECTION AND TESTING FIRM FOR REVIEW AND APPROVAL BY OOC. NO INSTALLATION WORK WILL BE ALLOWED UNTIL OOC APPROVAL OF THE INSPECTION AND TESTING FIRM IS GIVEN.
3. THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TESTS REQUIRED AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK, OR REQUIRED BY APPLICABLE CODES. THE INSTALLING CONTRACTOR SHALL PROVIDE THE OOC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
4. ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

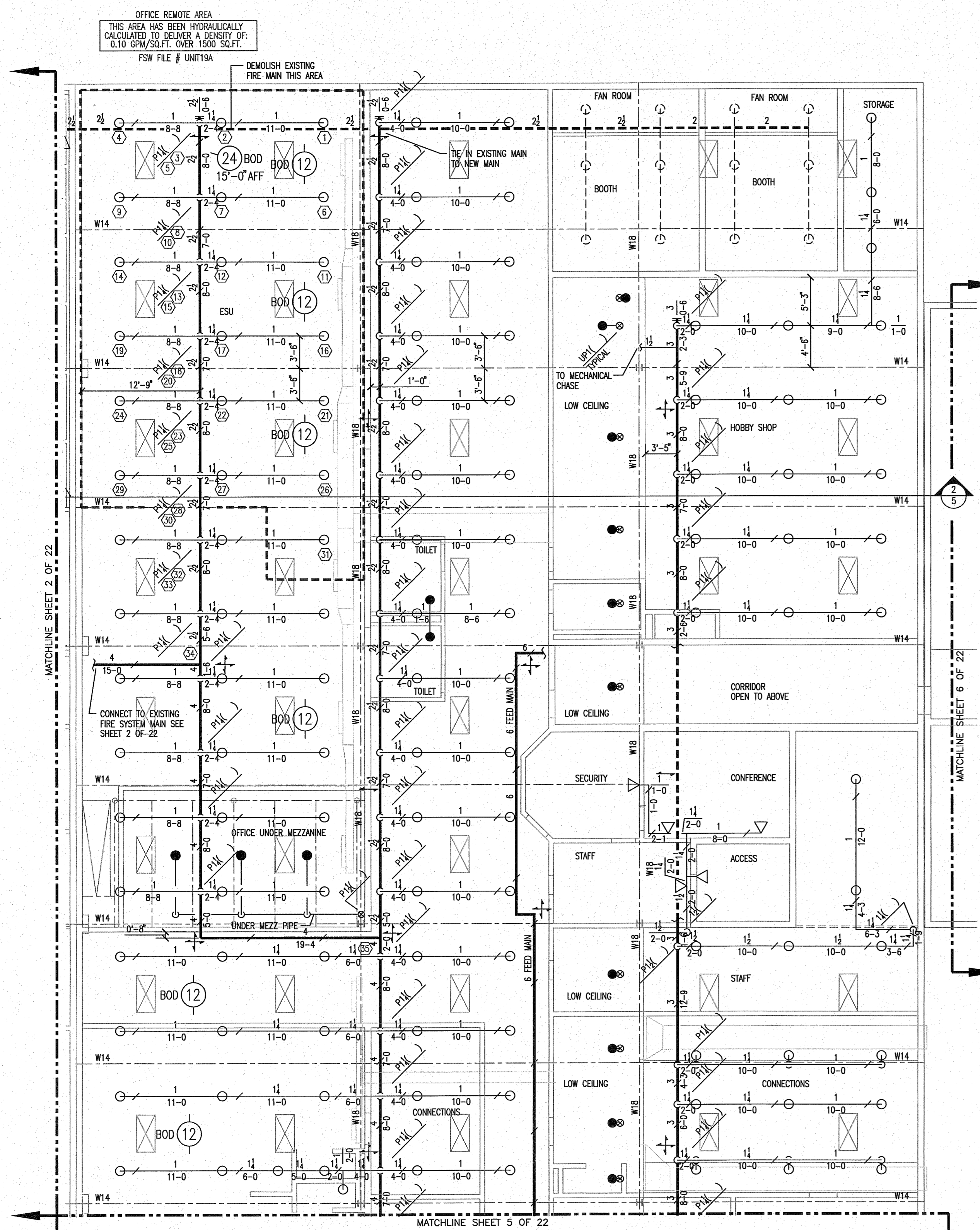
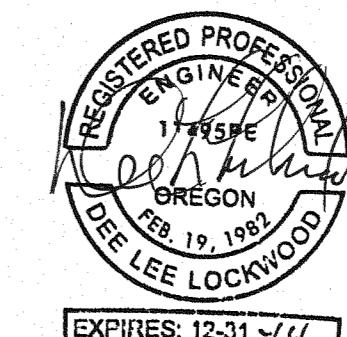
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

### CONTRACT WITH:

WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

### UNIT #19 - NORTHWEST

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	4 OF 22



## UNIT 19 NORTHWEST

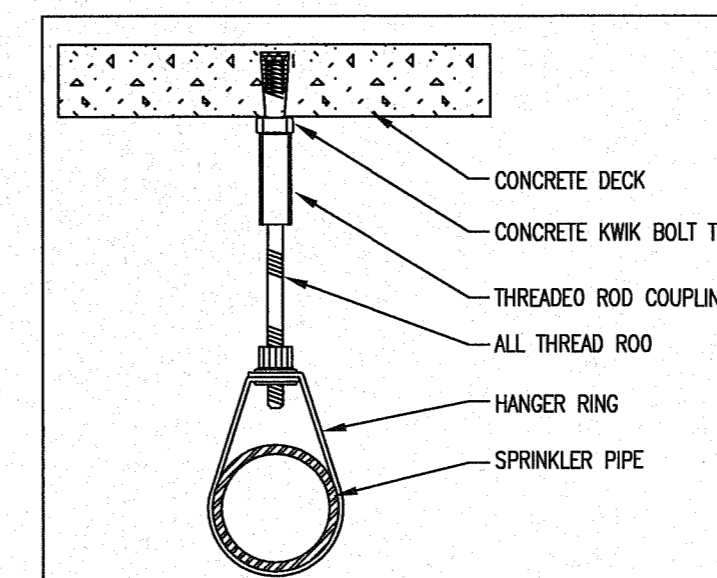
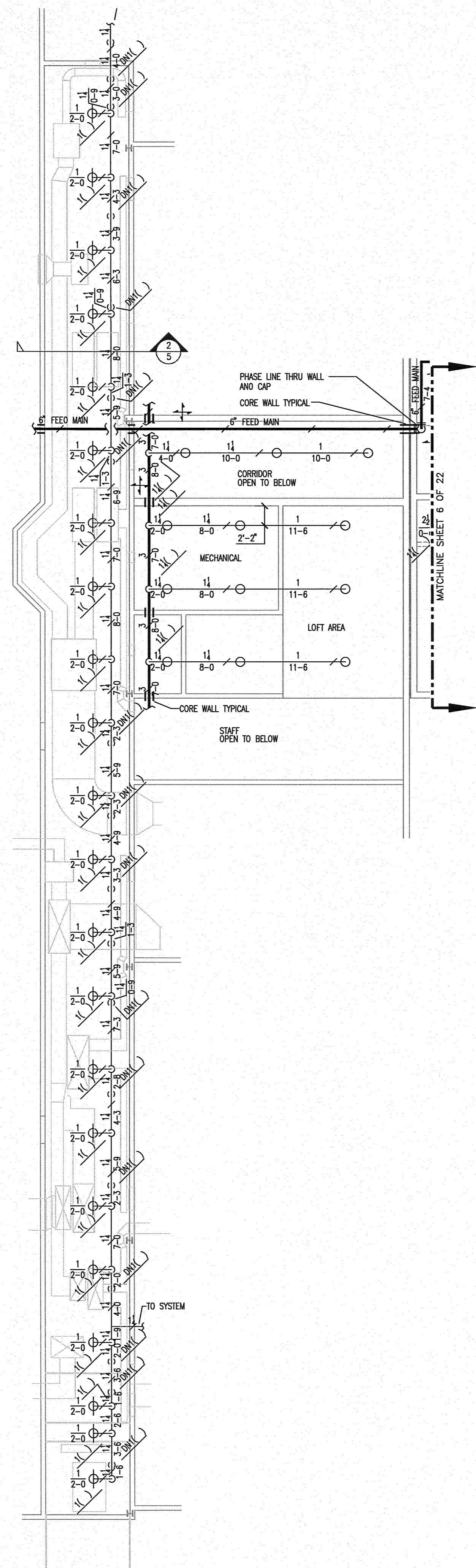
1/8"=1'-0"

### \*NOTES\*

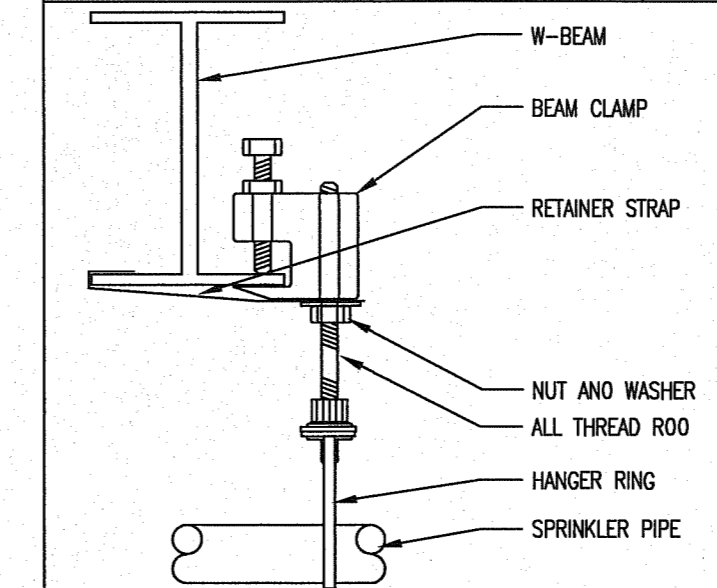
1. LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
2. ORDINARY HAZARD GROUP I AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.15 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
3. ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS

## MECHANICAL ROOM

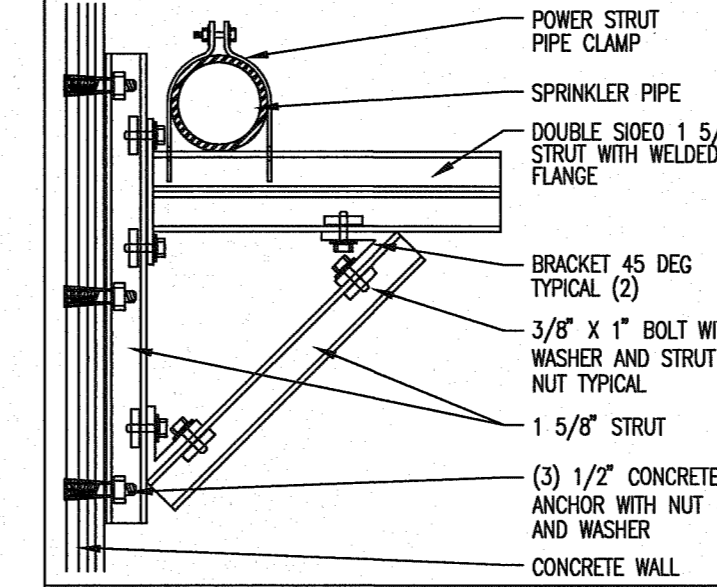
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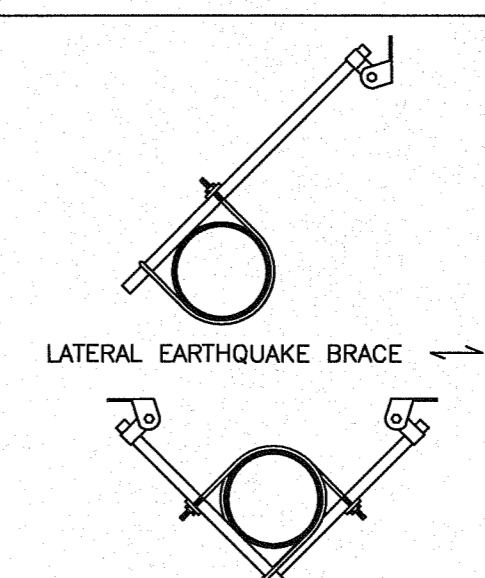
CONCRETE WEDGE ANCHOR HILTI KWIK BOLT - TZ HANGER E



BEAM CLAMP W-BEAM HANGER D



POWER STRUT WALL HANGER SUPPORT HANGER P



LATERAL EARTHQUAKE BRACE

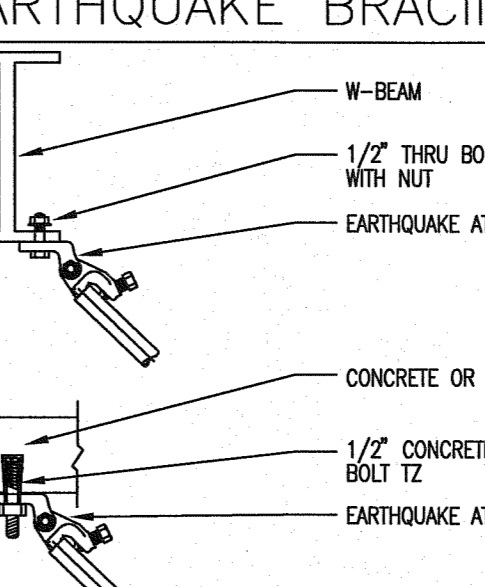


4-WAY RISER EQ. BRACE



4-WAY EARTHQUAKE BRACE

EARTHQUAKE BRACING

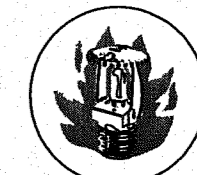


EARTHQUAKE BRACE ATTACHMENT

MATERIAL :  
 TOLCO FIG. 1000 FAST CLAMP  
 TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
 TOLCO FIG. 44 1/4\"/>

ATTACHMENT TO STRUCTURE :  
 1/2\"/>





# Fire Systems West

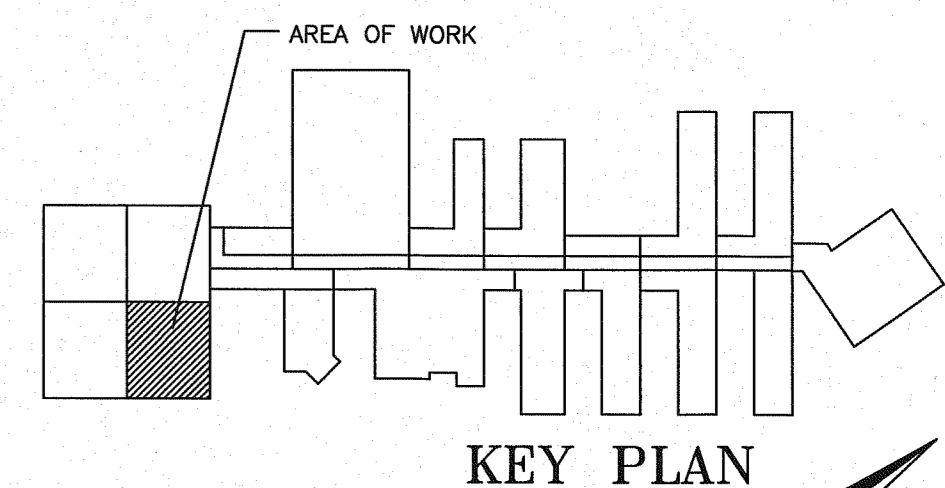
600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98661  
 (360) 693-9906 fax: (503) 289-2208  
 WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION						
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.8K	155	BRASS	102
●	SSP	TYCO MODEL TY-FRB	1/2" 5.8K	155	CHROME	7
TOTAL SPRINKLERS SHOWN ON THIS SHEET						109

HANGER LEGEND		
LETTER	DESCRIPTION	FINISH
A	ANGLE BRACKET	L
B	SAMMY SUPER SCREW	M
C		N
D	TOP BEAM CLAMP	P
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T
G	CEILING FLANGE	U
H	SIDE BEAM BRACKET	X
J	"J" BOLT	Y
K	SHORT CLIP	

- GENERAL NOTES**
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1'-0") WHICH ARE END TO END
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  - PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
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  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

- DESIGN CRITERIA AND NOTES**
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  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



**REVISIONS**

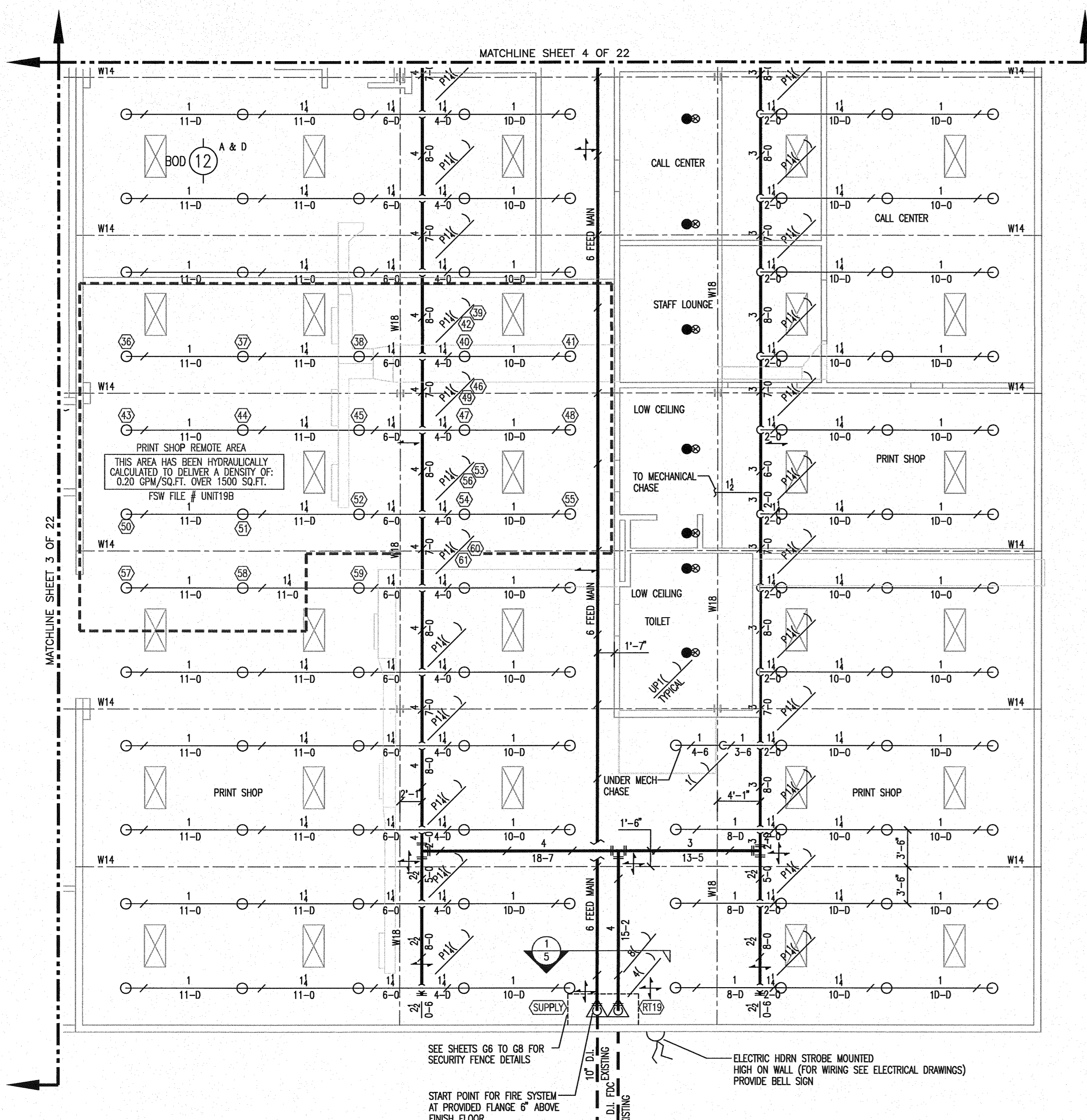
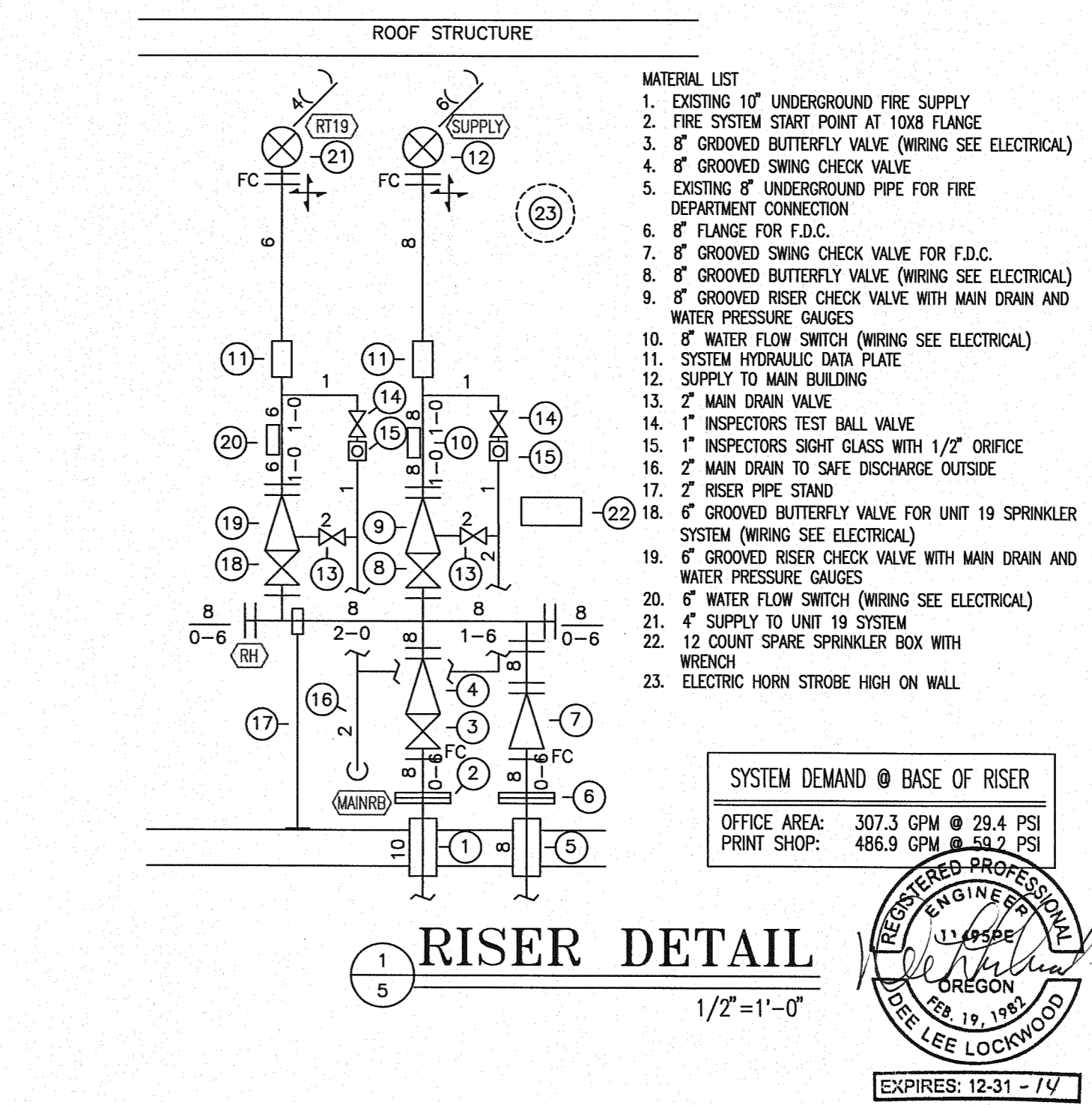
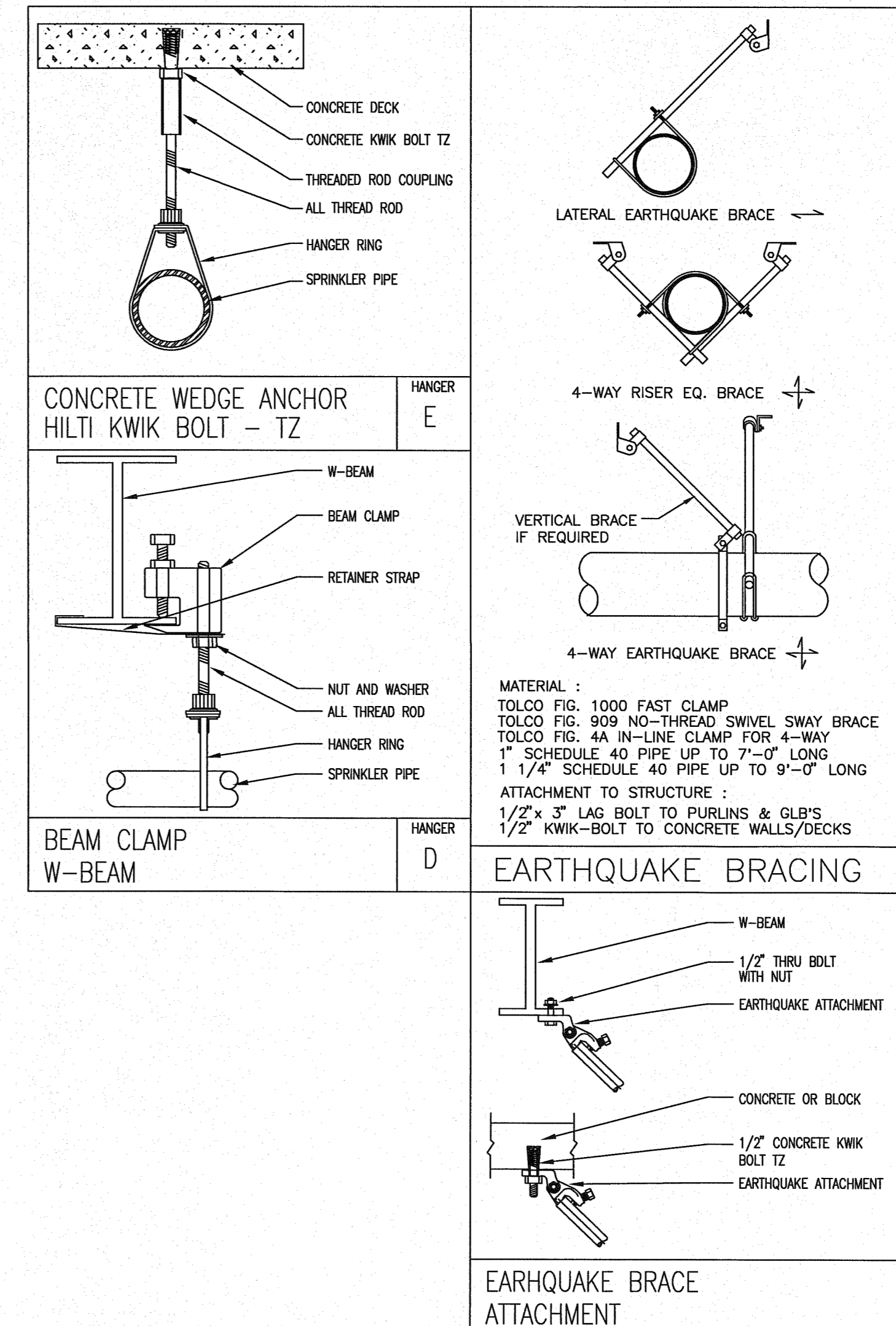
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

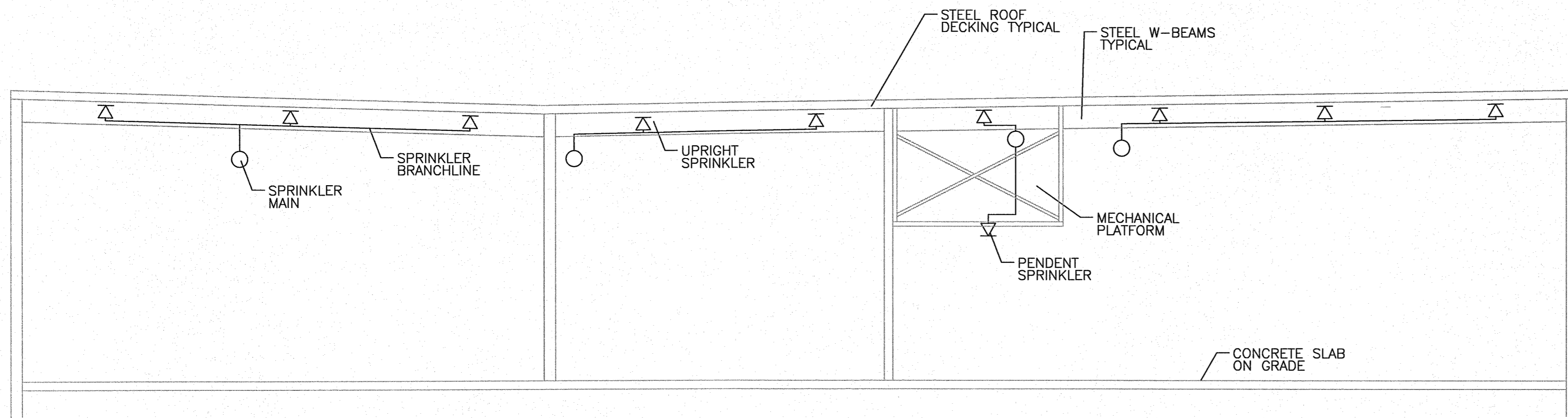
CONTRACT WITH:  
 WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

UNIT #19 - SOUTHEAST

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	5 OF 22



- \*NOTES\***
- LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER 50 SF OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  - ORDINARY HAZARD GROUP I AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.15 GPM PER 50 SF OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  - ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER 50 SF OVER 1500 SF USING STANDARD SPRAY SPRINKLERS



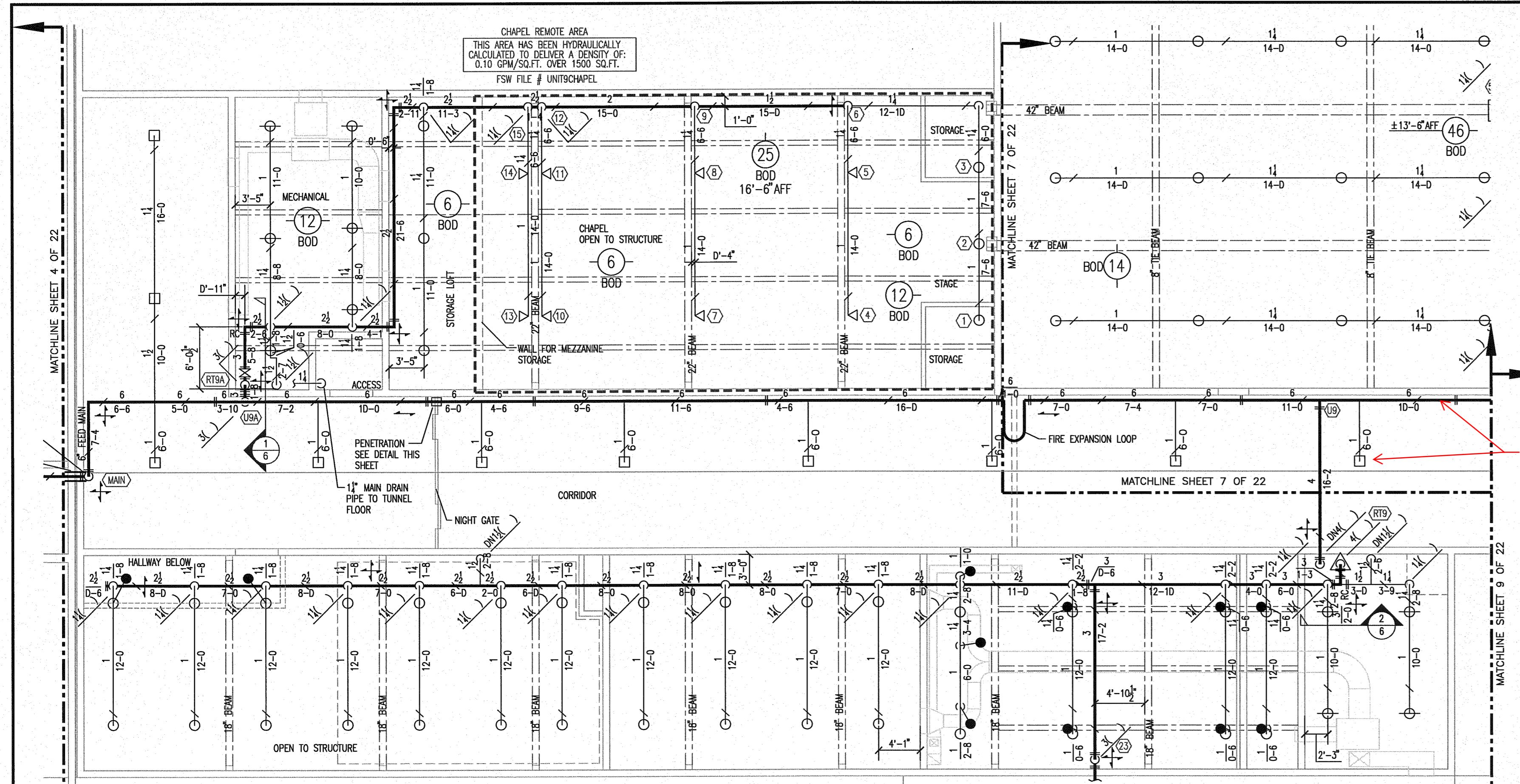
## UNIT 19 NORTHEAST

1/8" = 1'-0"

## SECTION 2/5

3/16" = 1'-0"

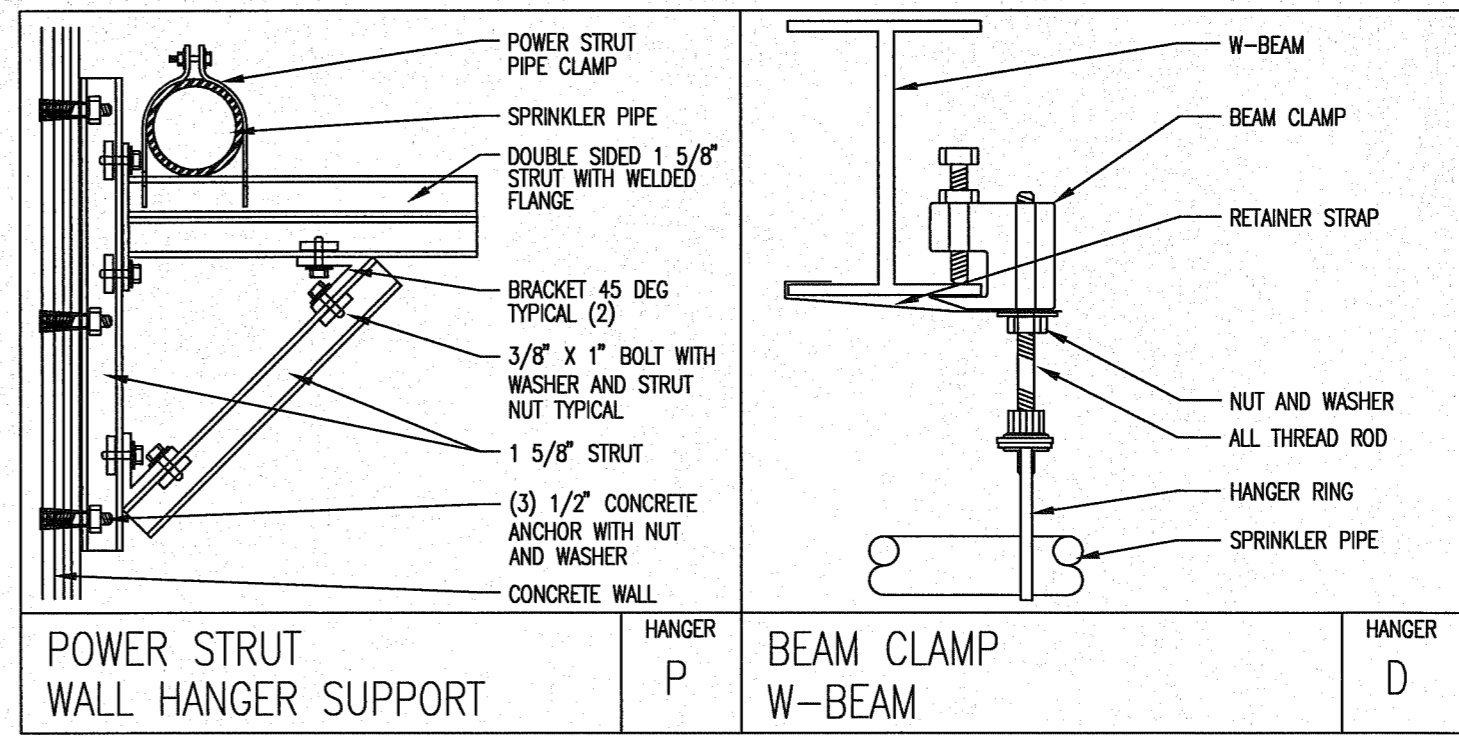




SUPPLY MAIN SUPPORTED FROM WALL BRACKETS

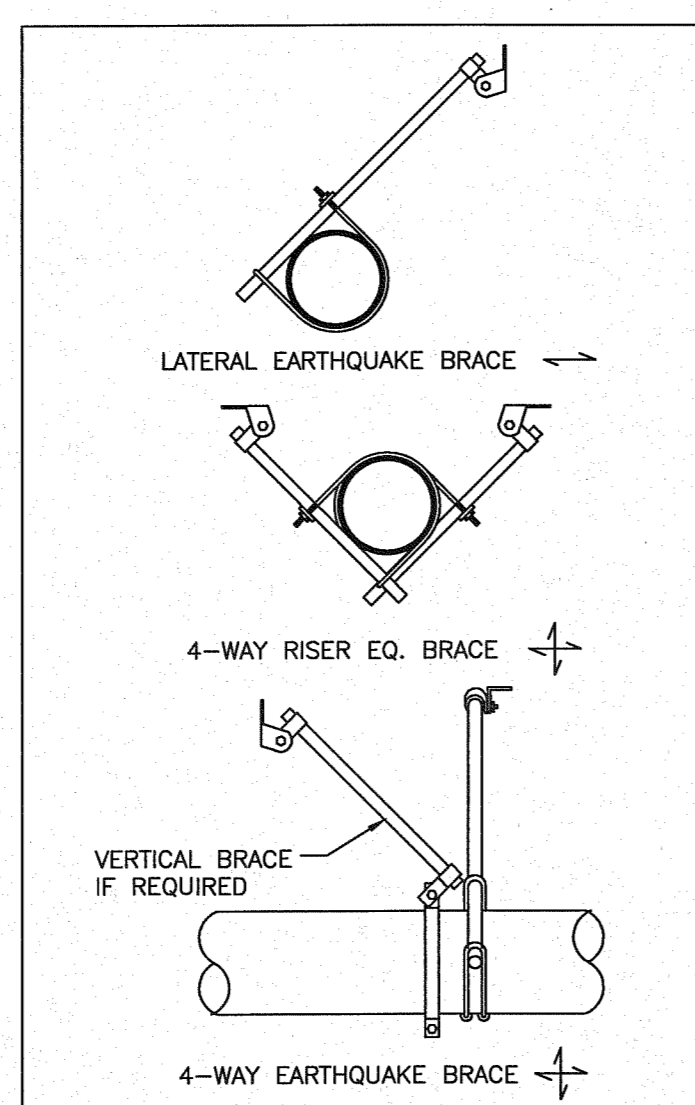
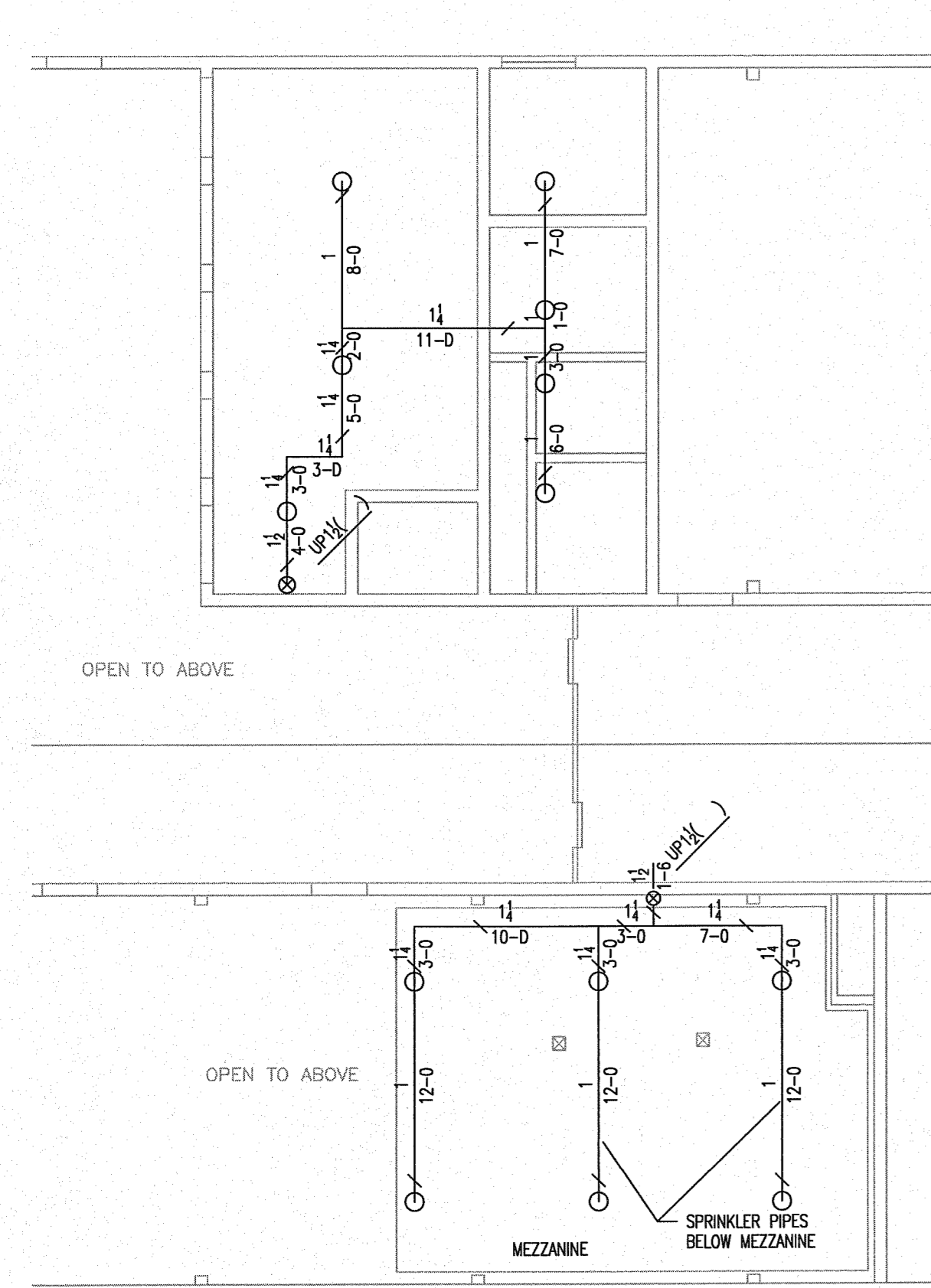
SERVE NON COMBUSTIBLE CORRIDOR WITH SIDE WALL HEADS

CEILING TILES CONTAIN ASBESTOS, NO WORK/DAMAGE TO CEILING TILES



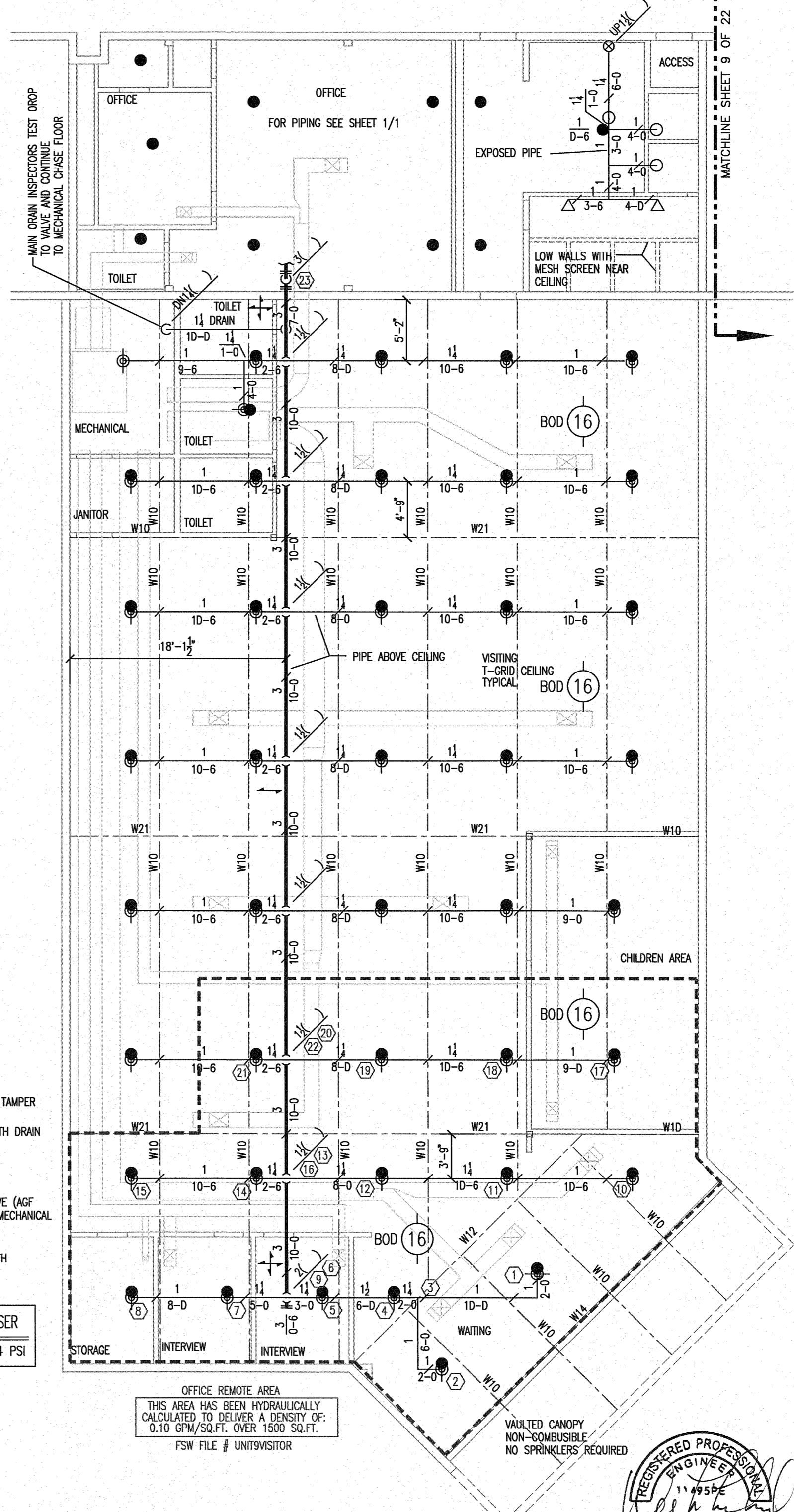
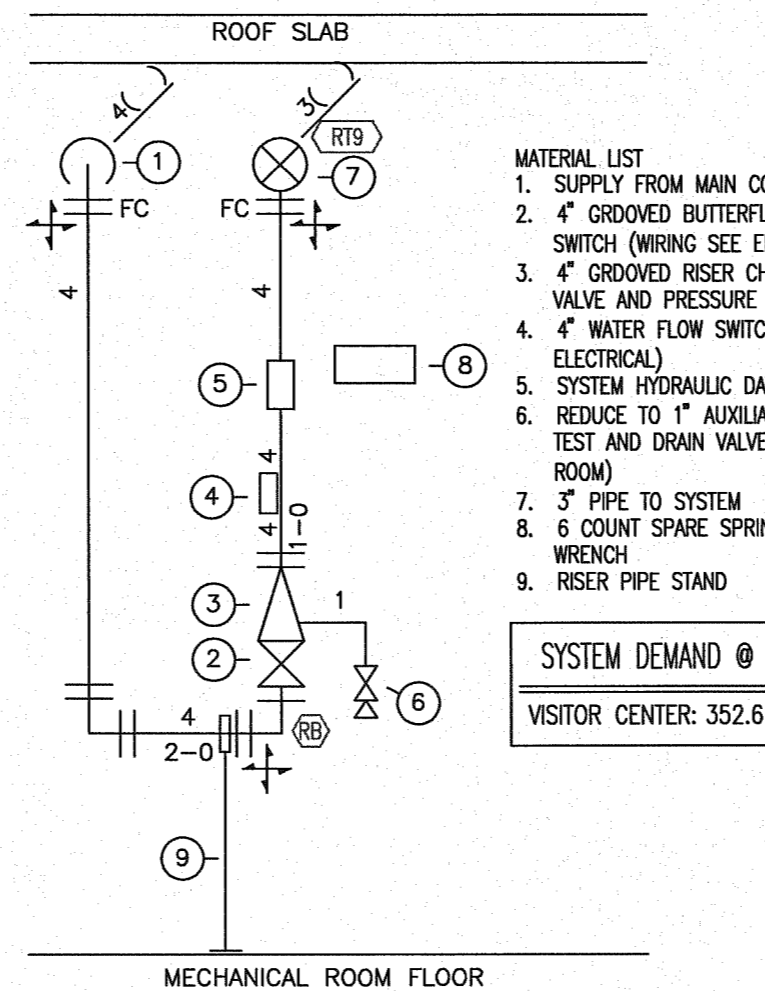
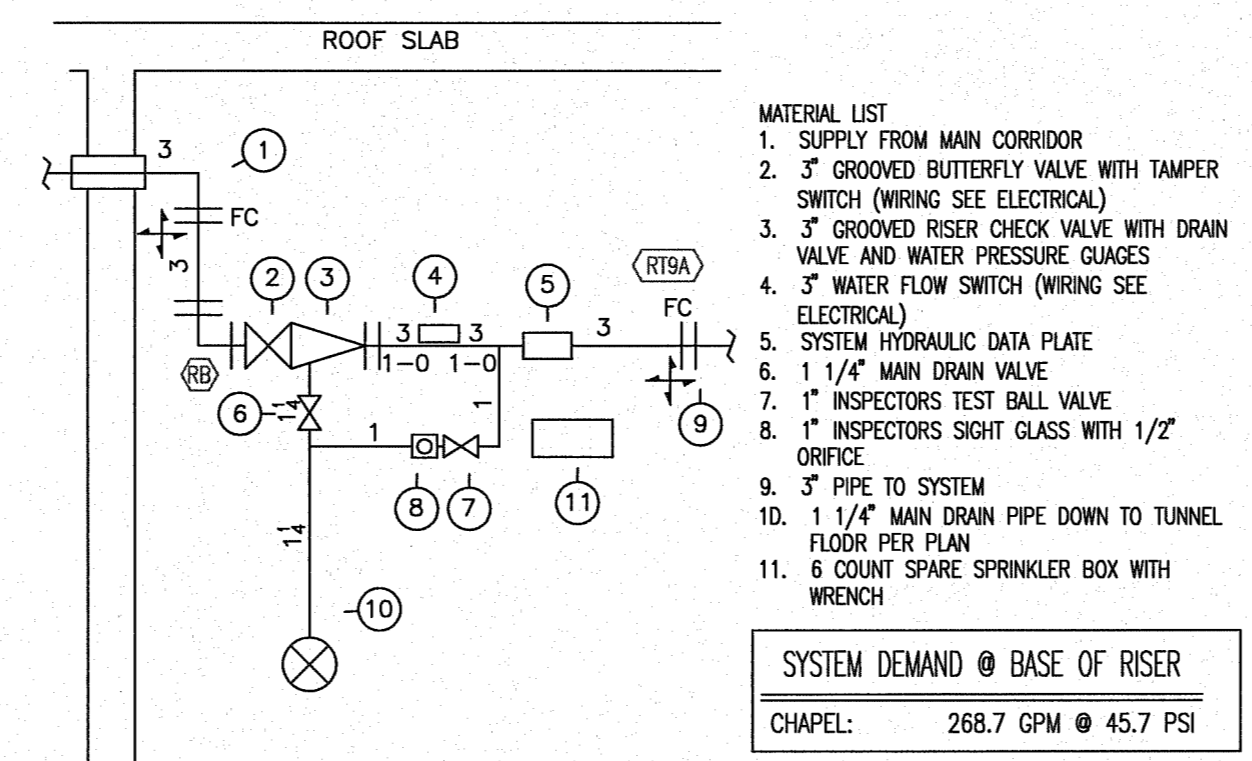
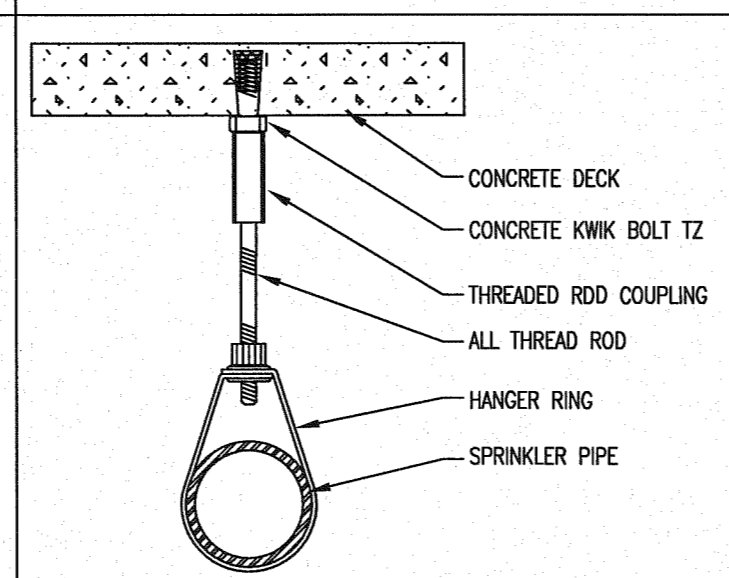
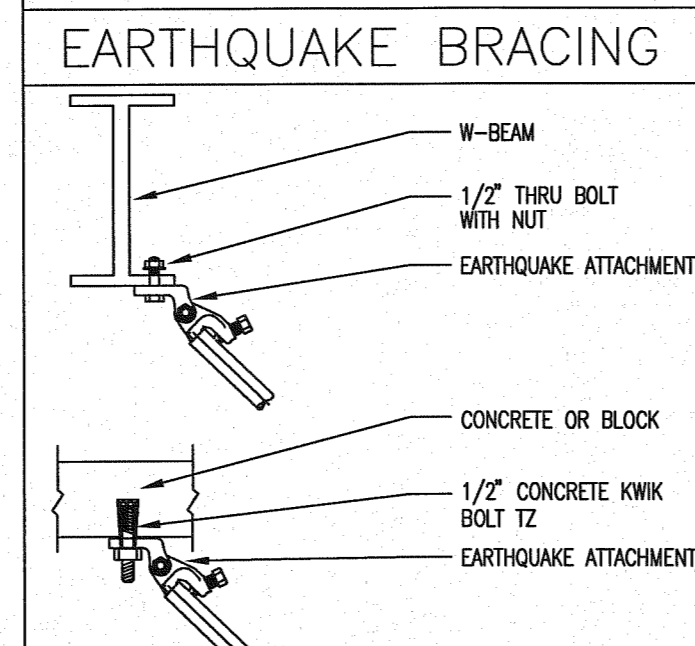
- \*NOTES\*
1. LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  2. ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS

**Fire Systems West**  
600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969



MATERIAL:  
TOLCO FIG. 1000 FAST CLAMP  
TOLCO FIG. 909 INO-THREAD SWIVEL SWAY BRACE  
TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG

ATTACHMENT TO STRUCTURE:  
1/2" x 3" LAG BOLT TO PURLINS & GLP'S  
1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

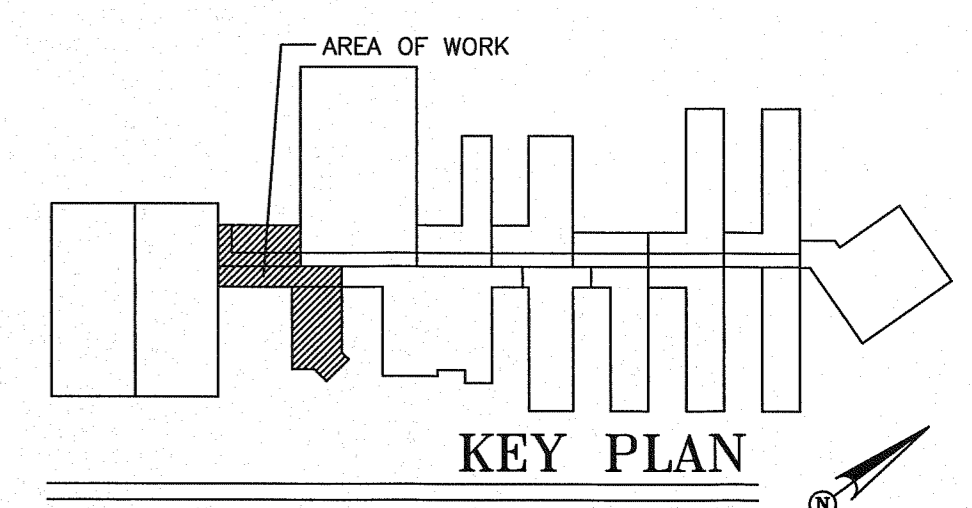


HANGER LEGEND

A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

- GENERAL NOTES
1. ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  2. PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
  3. EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  4. PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  5. PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  6. JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  7. OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
  8. STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
  9. EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

- DESIGN CRITERIA AND NOTES
1. THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OSGI STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
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  3. THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TESTS REQUIRED AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK, OR REQUIRED BY APPLICABLE CODES. PRIOR TO STARTING CONSTRUCTION THE INSTALLING CONTRACTOR SHALL PROVIDE THE DOC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS, INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
  4. ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



REVISIONS

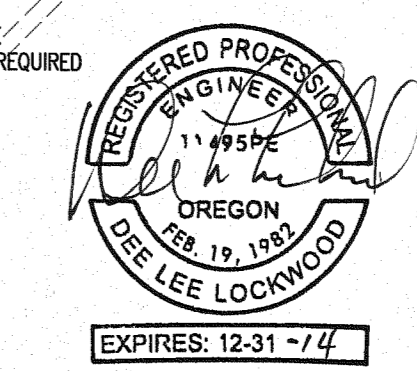
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

CONTRACT WITH:  
WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

UNIT #9  
VISITOR CENTER

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	6 OF 22







# Fire Systems West

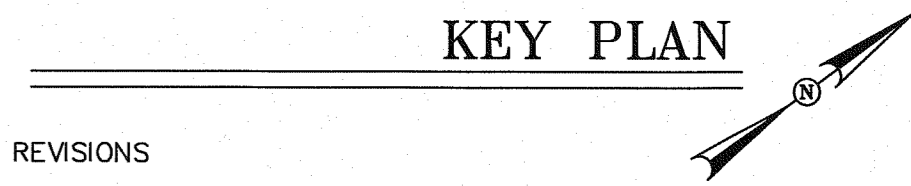
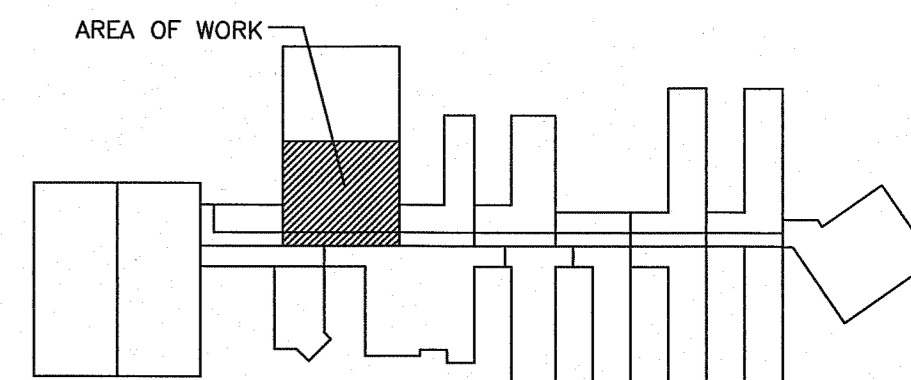
600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FRC-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION						
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	77
●	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	9
□	EDU	TYCO MODEL EC14	3/4 14.0K	155	BRASS	7
TOTAL SPRINKLERS SHOWN ON THIS SHEET						93

HANGER LEGEND		
LETTER	DESCRIPTION	SYMBOL
A	ANGLE BRACKET	L
B	SAMMY SUPER SCREW	M
C		N
D	TOP BEAM CLAMP	P
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T
G	CEILING FLANGE	U
H	SIDE BEAM BRACKET	W
J	"J" BOLT	X
K	SHORT CLIP	Y

- GENERAL NOTES**
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED.
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END.
  - EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
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  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13.

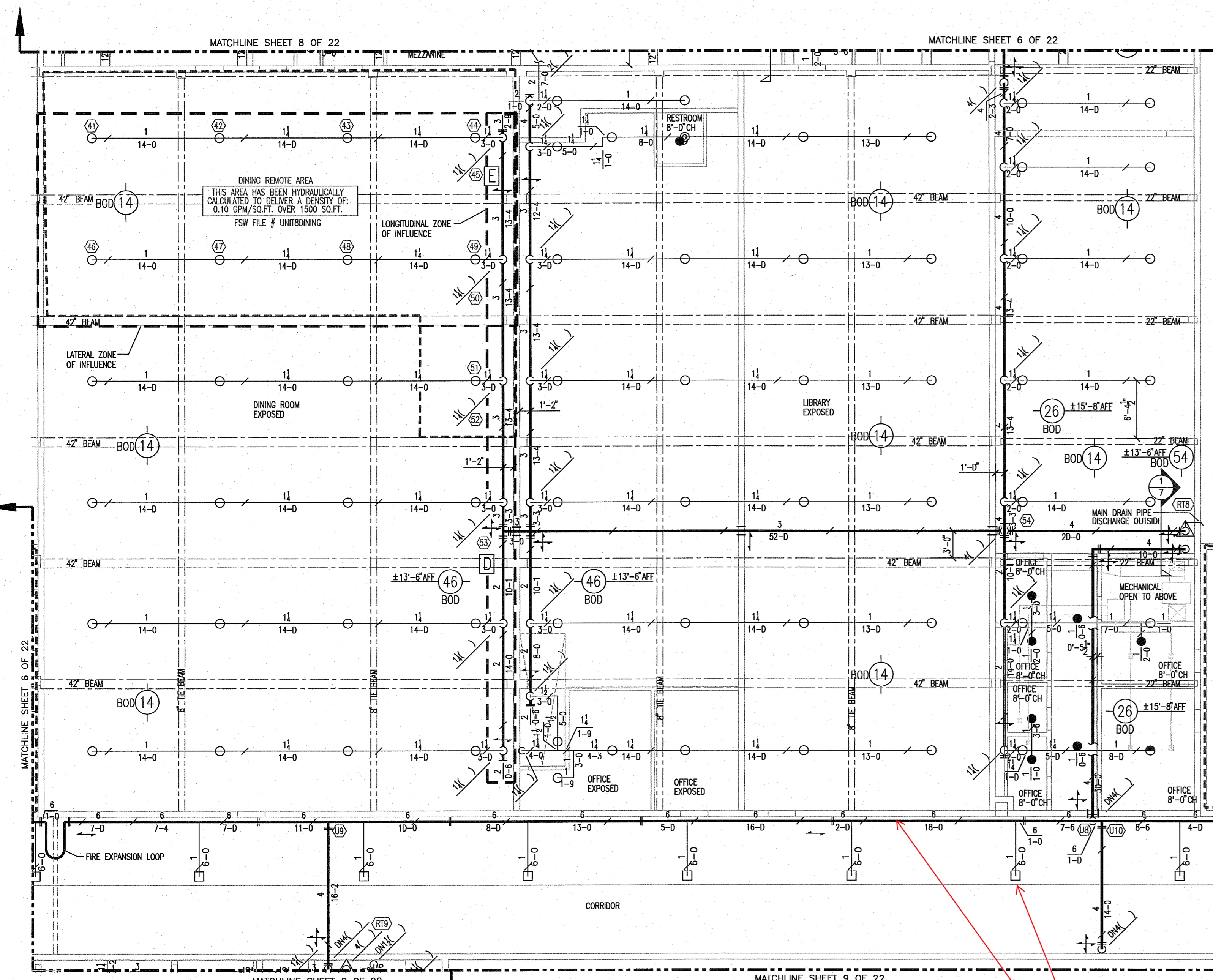
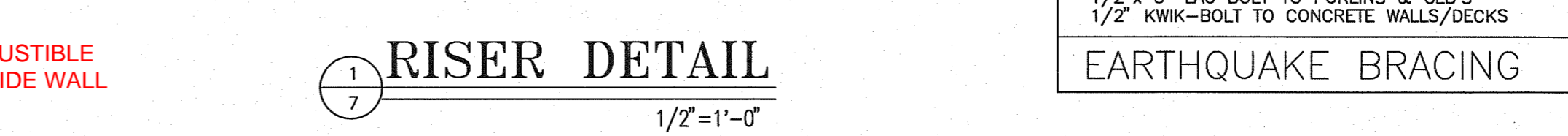
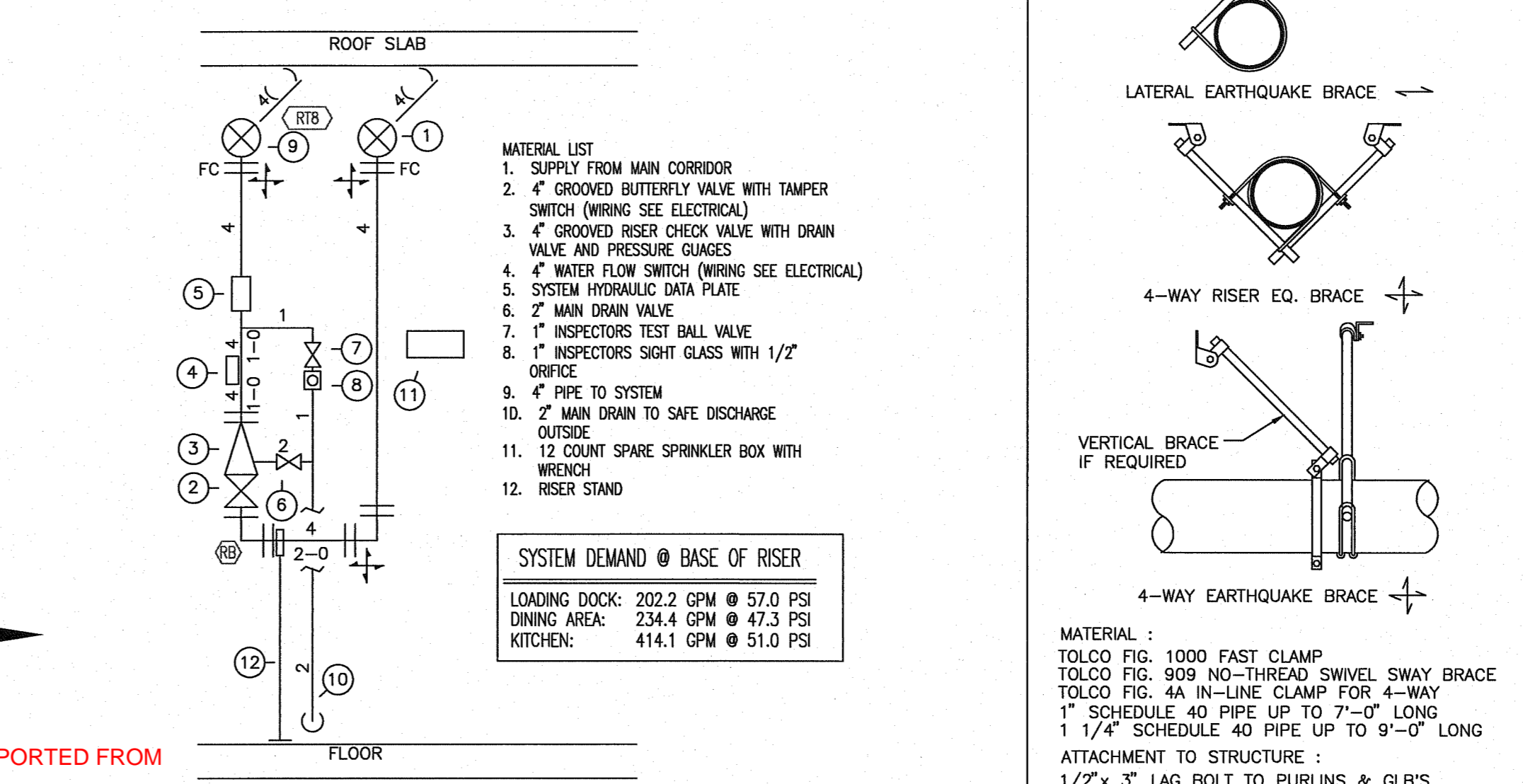
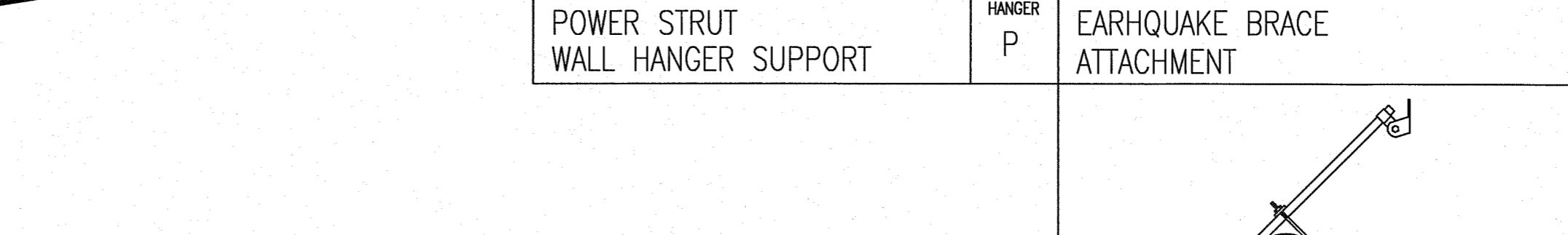
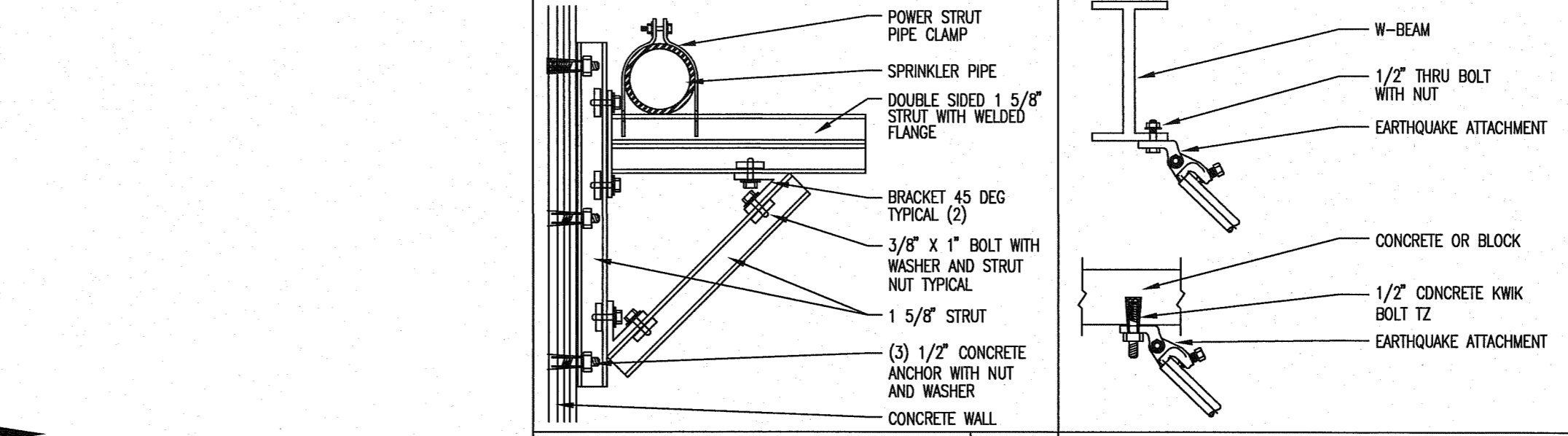
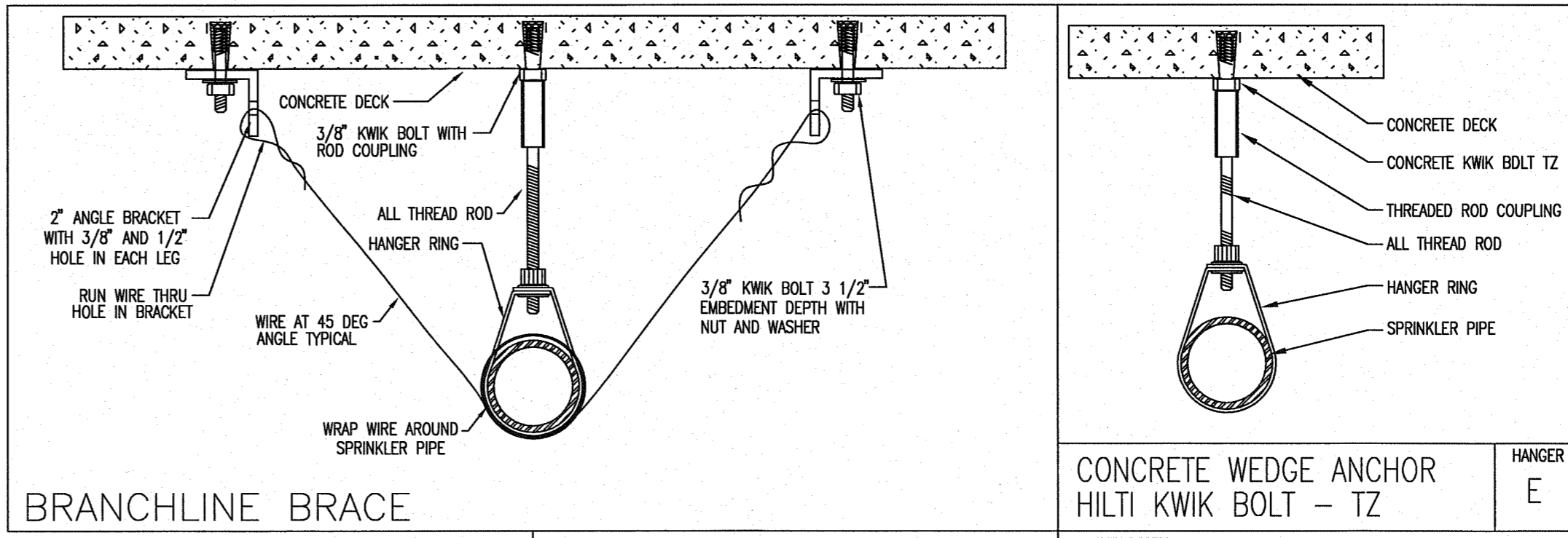
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CONTRACT NAME:  
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

CONTRACT WITH:  
WESTTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	7 OF 22



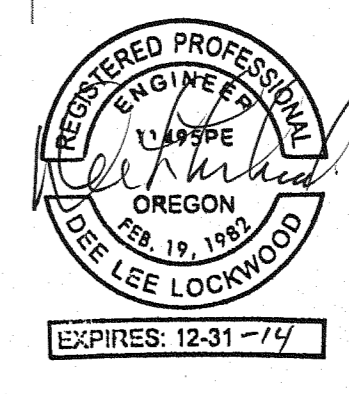
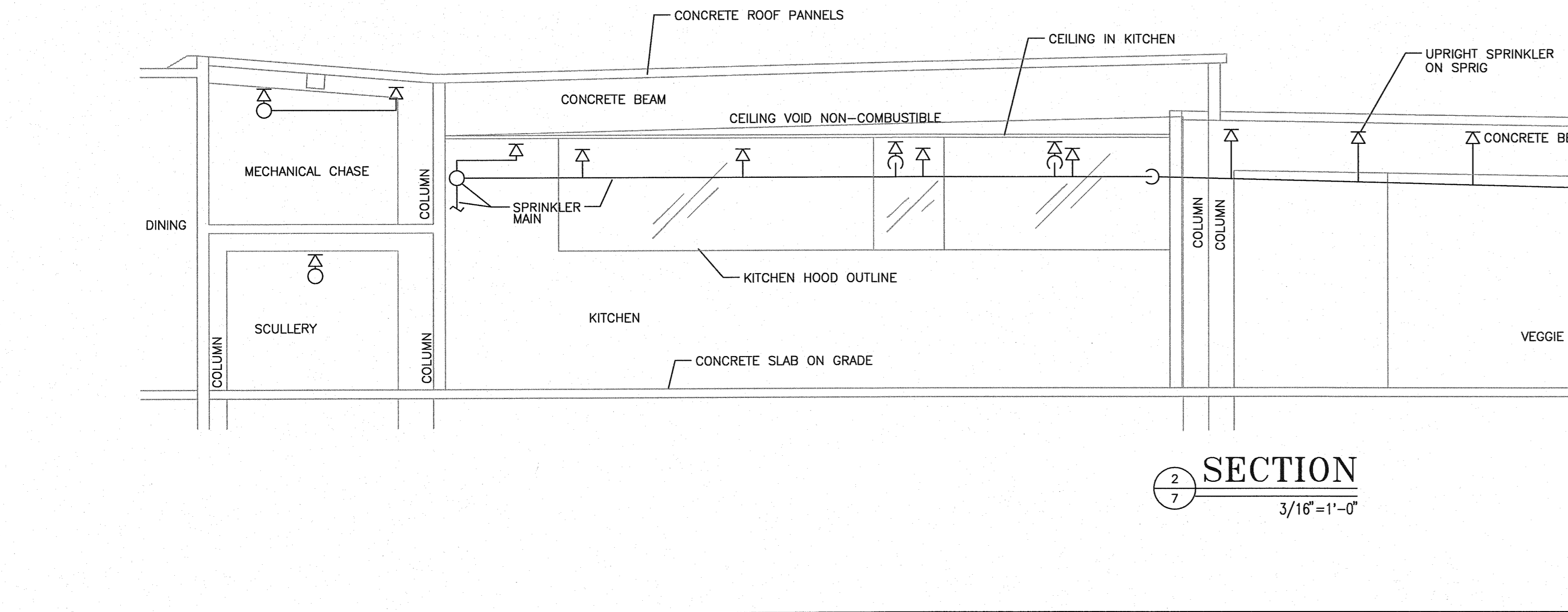
**NOTES**

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**SUPPLY MAIN SUPPORTED FROM WALL BRACKETS**

**SERVE NON COMBUSTIBLE CORRIDOR WITH SIDE WALL HEADS**

**CEILING TILES CONTAIN ASBESTOS, NO WORK/DAMAGE TO CEILING TILES**







# Fire Systems West

600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208

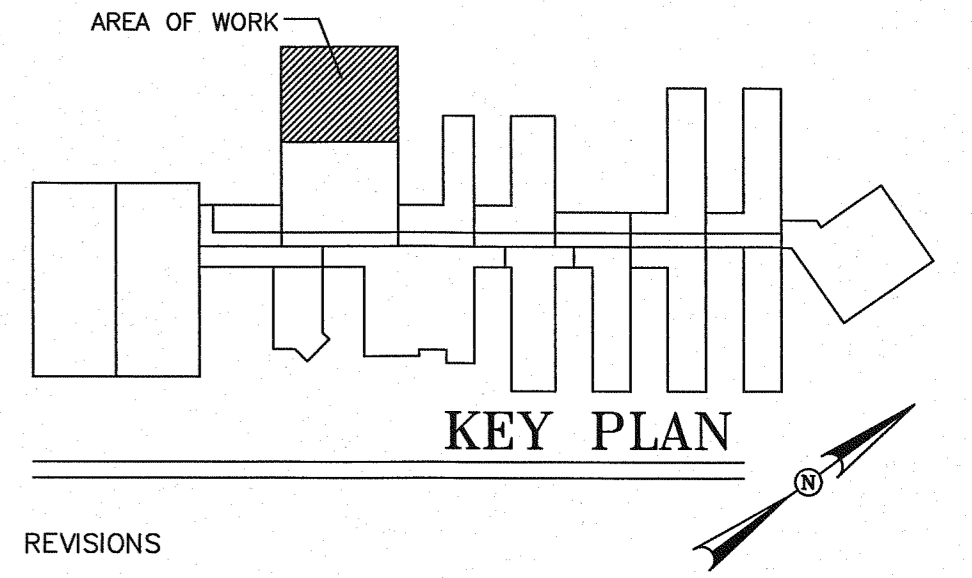
WA CONTR LIC: FIRE-SW-140-81 \* OR CONTR LIC: 49732 \* FED TAX ID: 91-1319669

SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	22
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	148
○	DRY HSW	TYCO MODEL DST	1/2" 5.6K	200	CHROME	FLSH CHR	7
○	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	FLSH CHR	28
○	DRY SSP	TYCO MODEL DST	1/2" 5.6K	286	CHROME	FLSH CHR	4
○	DRY SSP	TYCO MODEL DST	1/2" 5.6K	155	CHROME	FLSH CHR	22
○	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	286	CHROME	REC CHR	3
TOTAL SPRINKLERS SHOWN ON THIS SHEET							234

HANGER LEGEND		
A	ANGLE BRACKET	L "L" ROD
B	SAMMY SUPER SCREW	M MACHINE THREADED ROD
C		N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STUD
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T TRAPZEE
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	"J" BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

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REVISIONS

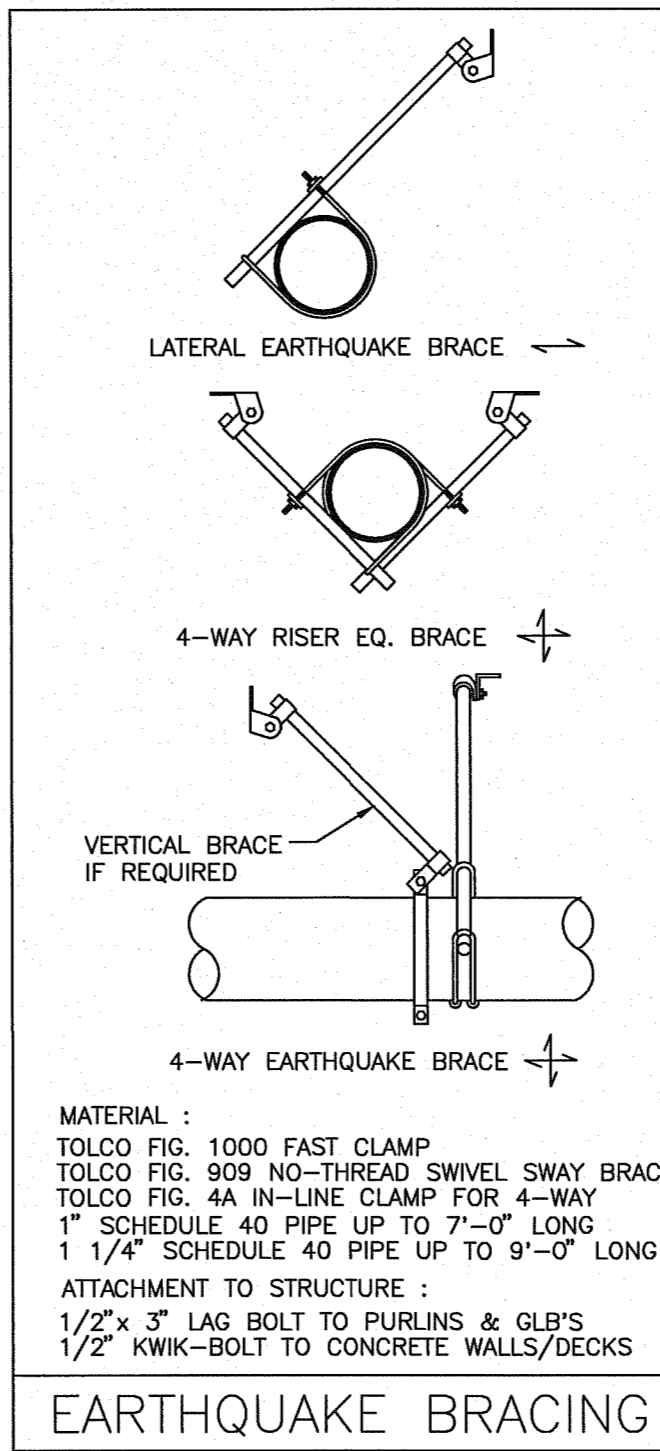
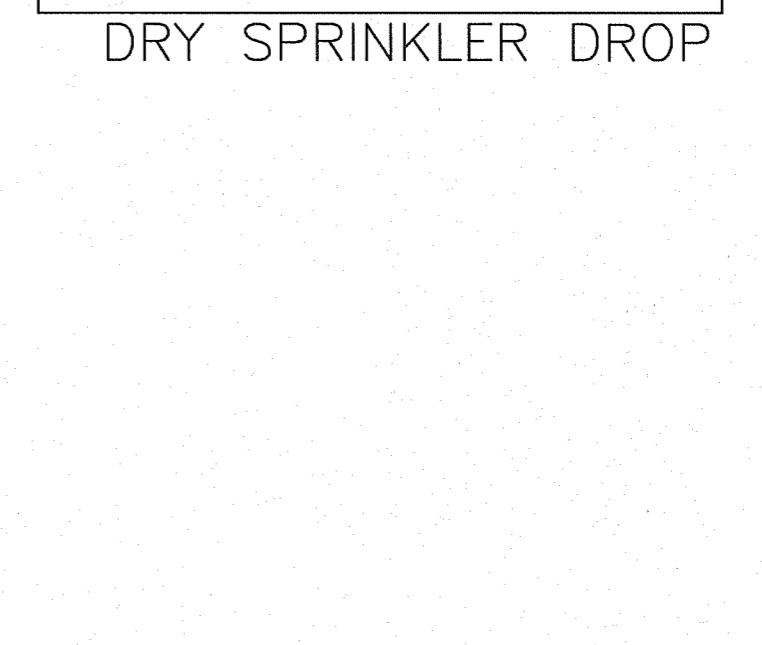
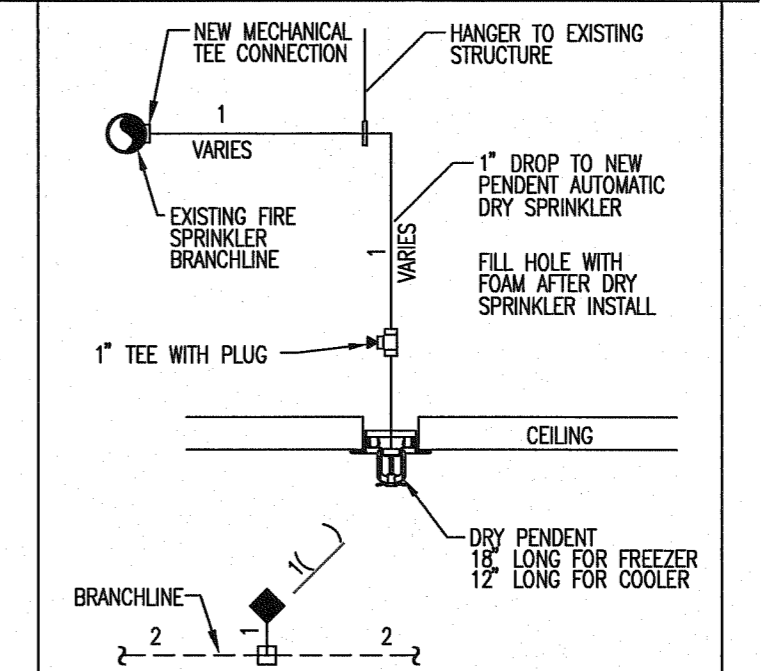
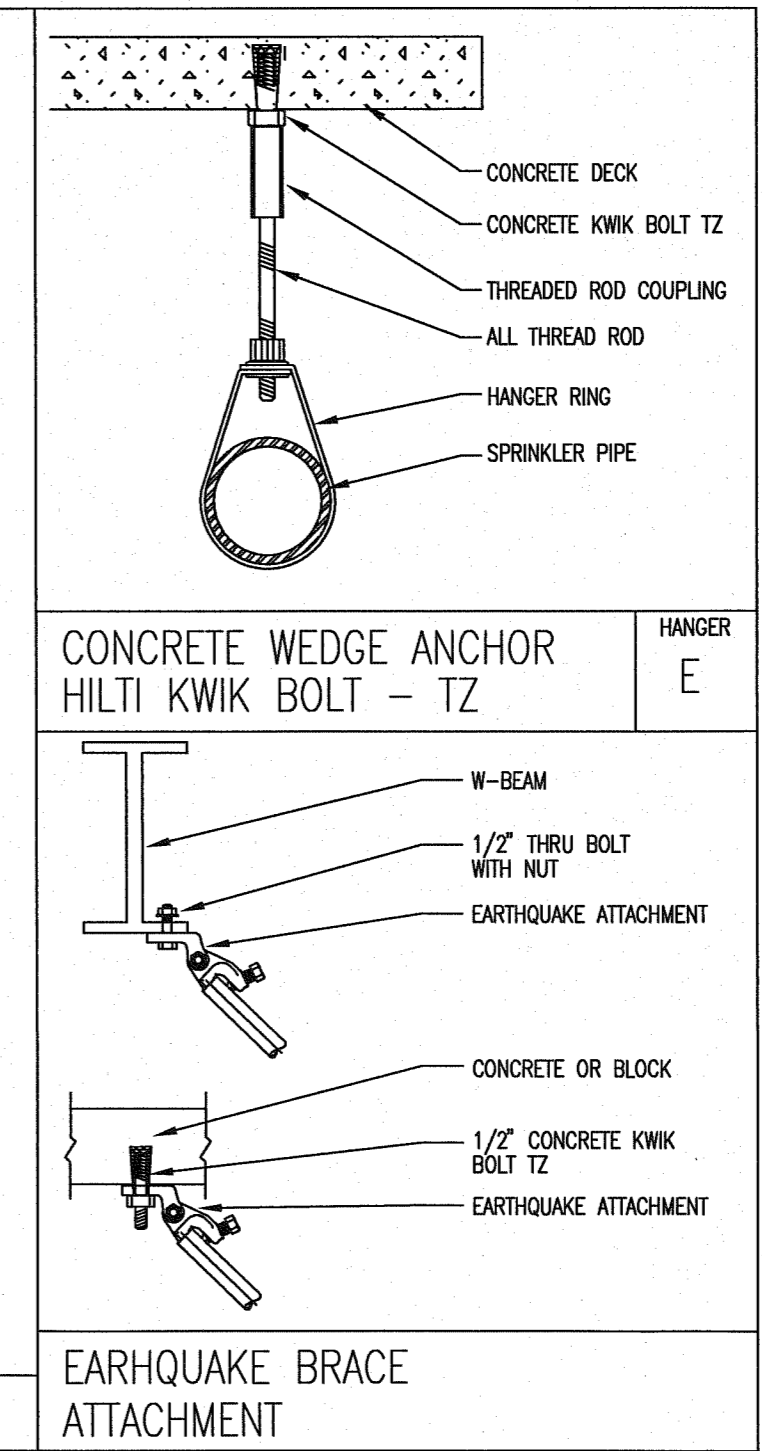
NO.	DESCRIPTION	DATE

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3405 DEER PARK SE  
SALEM, OREGON 97302

CONTRACT WITH:  
WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

UNIT #8 WEST

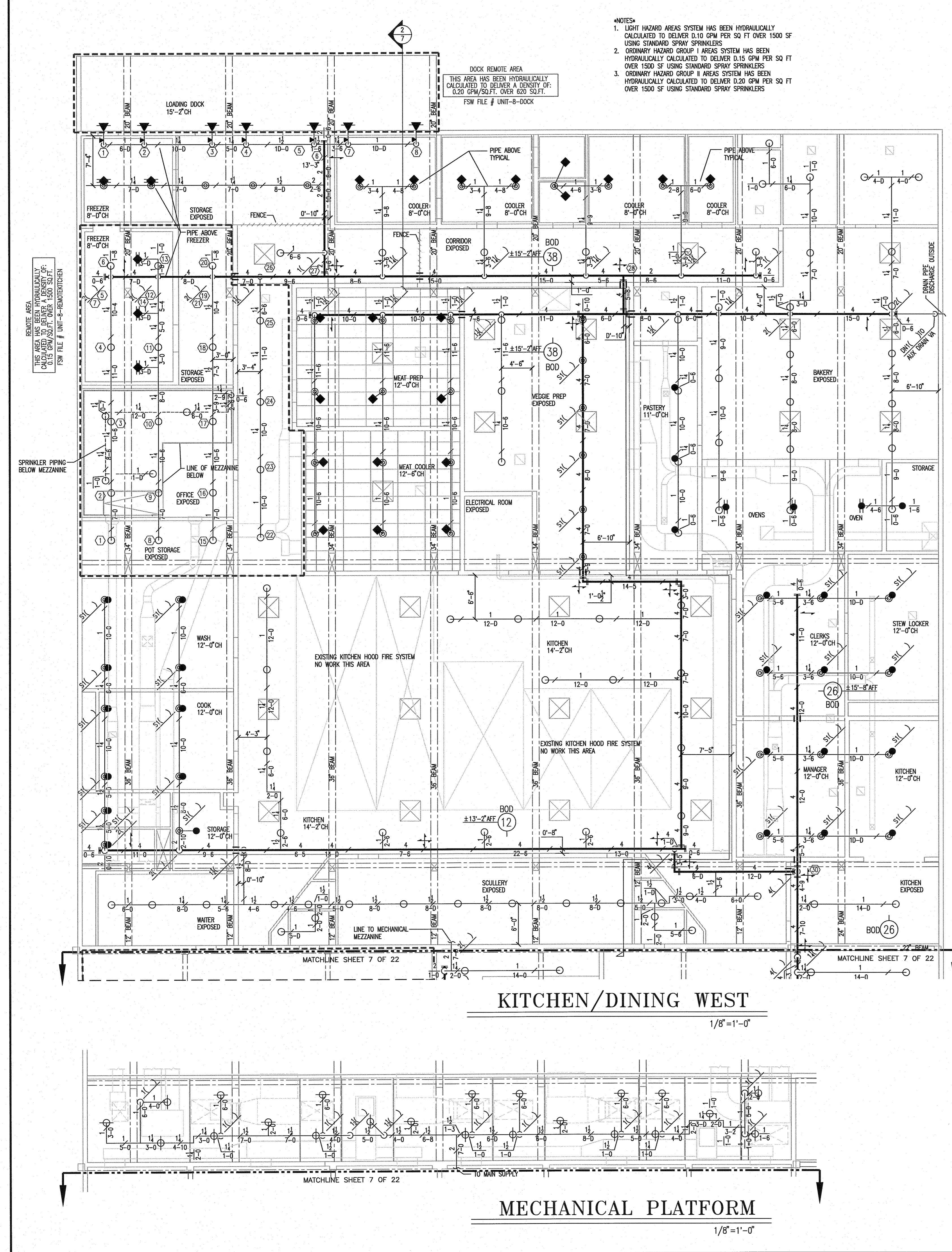
DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	8 OF 22



**EARTHQUAKE BRACING**

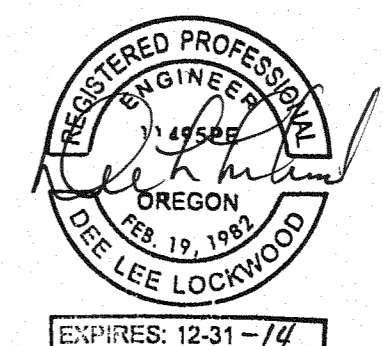
MATERIAL:  
TOLCO FIG. 1000 FAST CLAMP  
TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG  
ATTACHMENT TO STRUCTURE:  
1/2" x 3" LAG BOLT TO PURLINS & GL'S  
1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

- NOTES**
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  - ORDINARY HAZARD GROUP I AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.15 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  - ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS

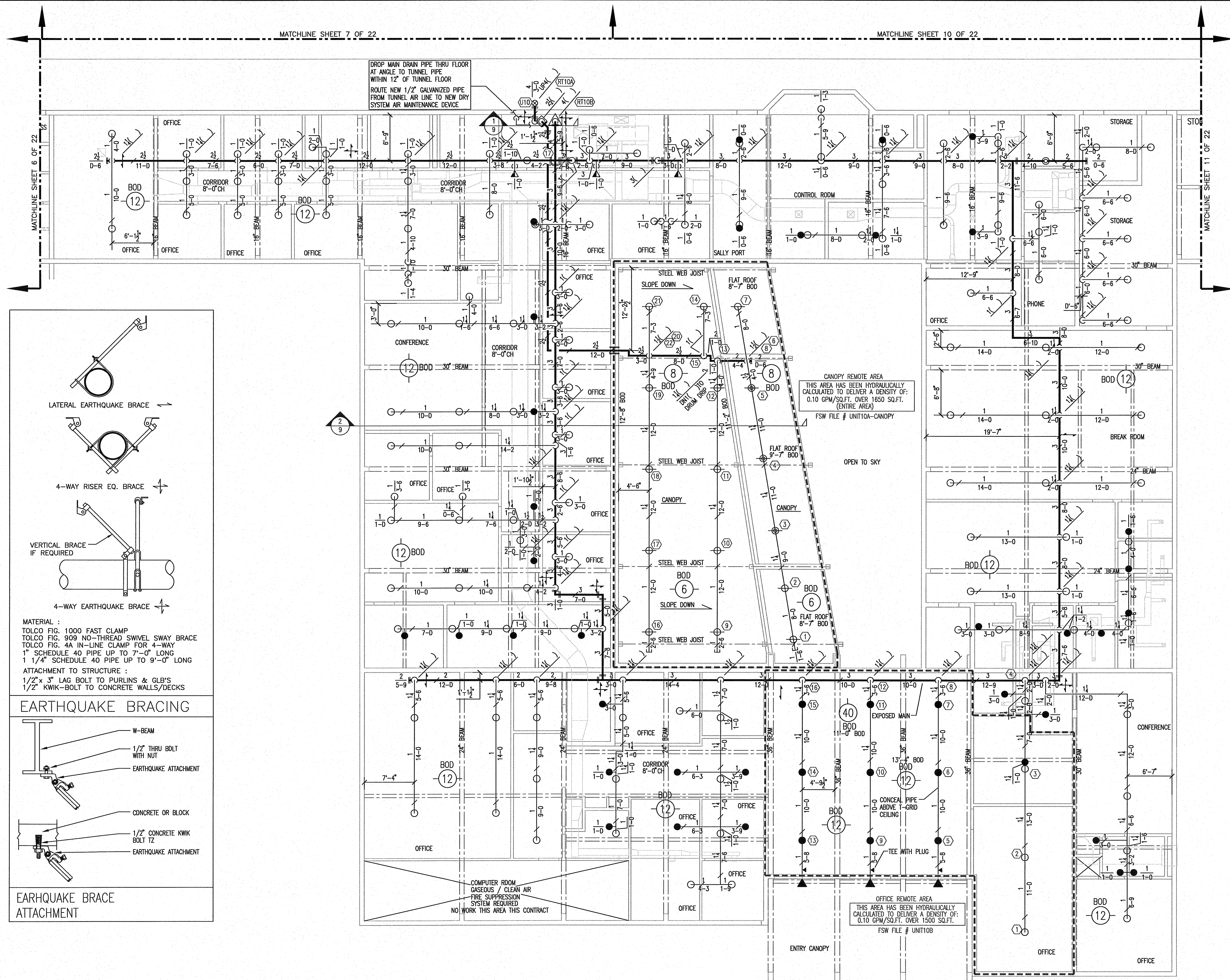


**KITCHEN/DINING WEST**  
1/8" = 1'-0"

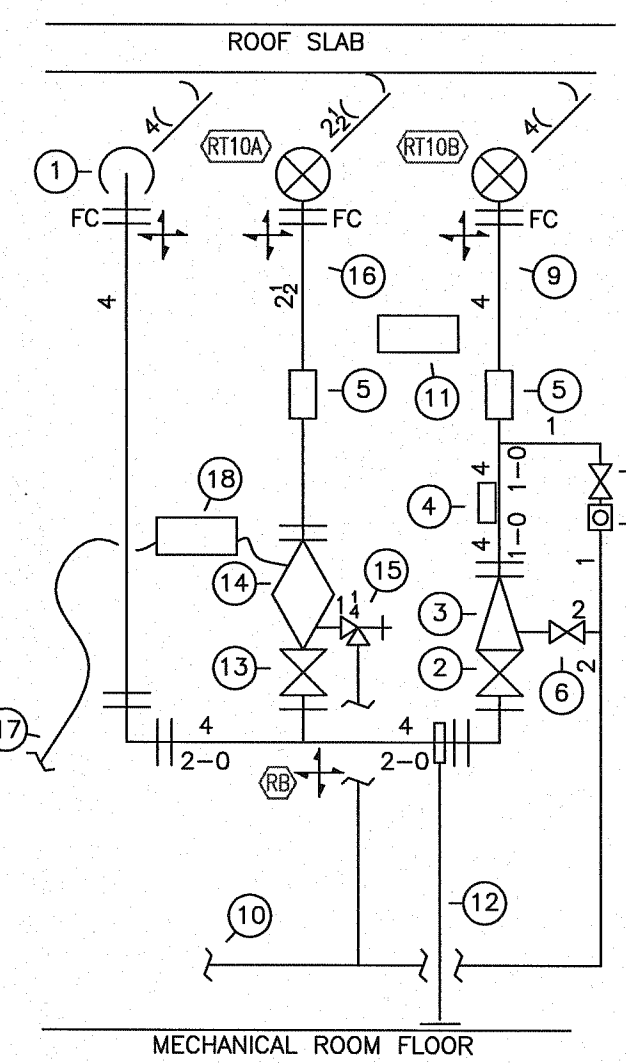
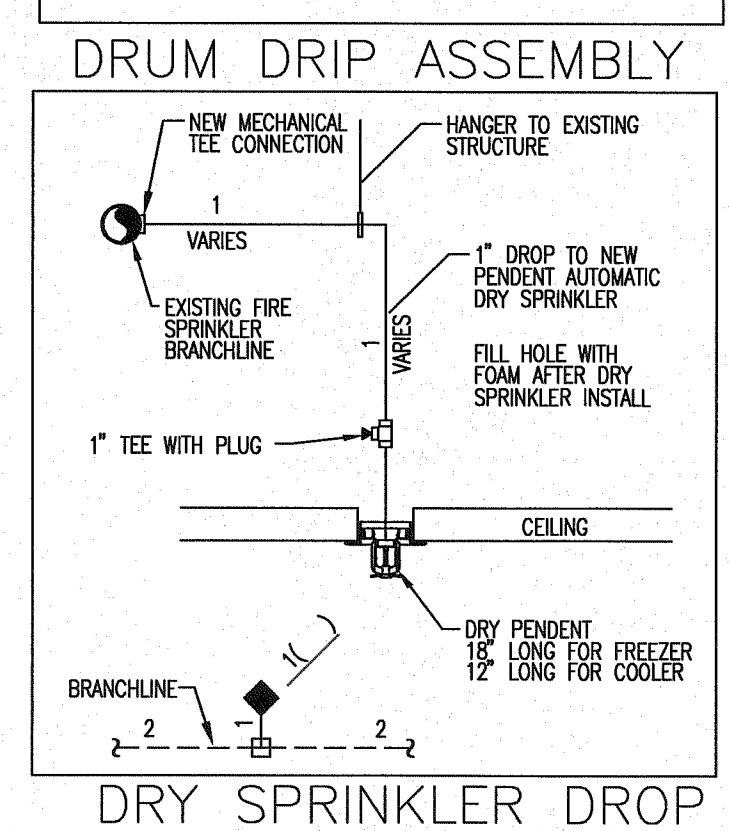
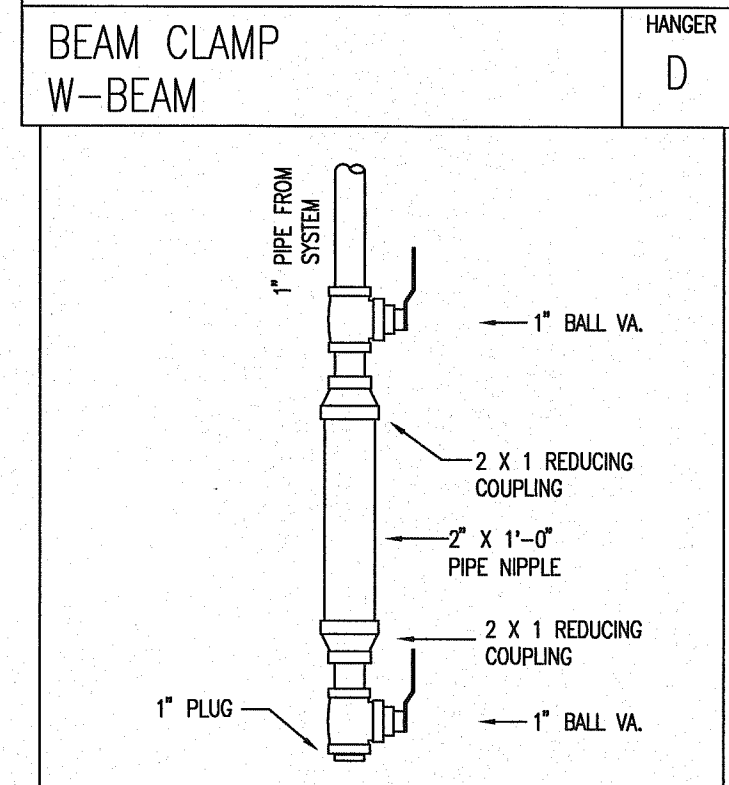
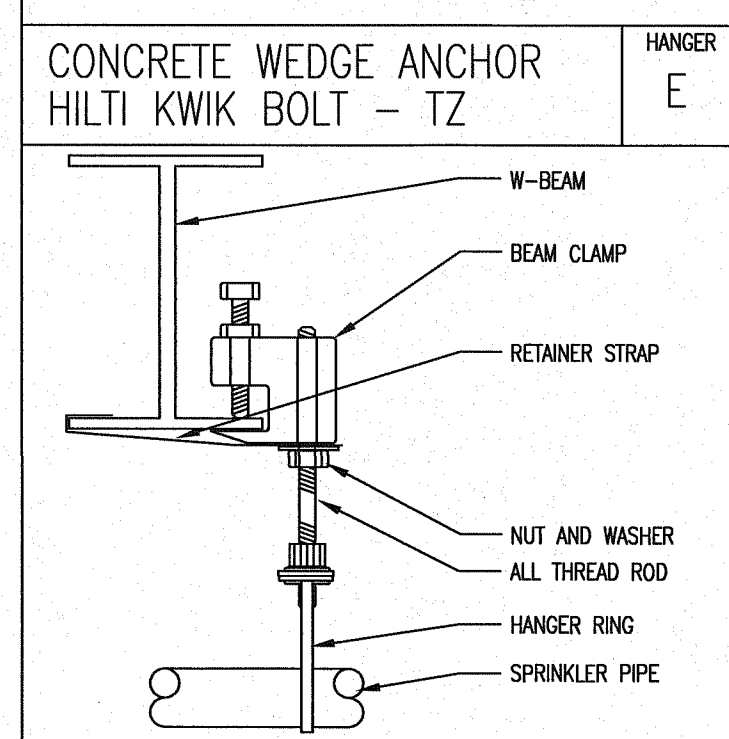
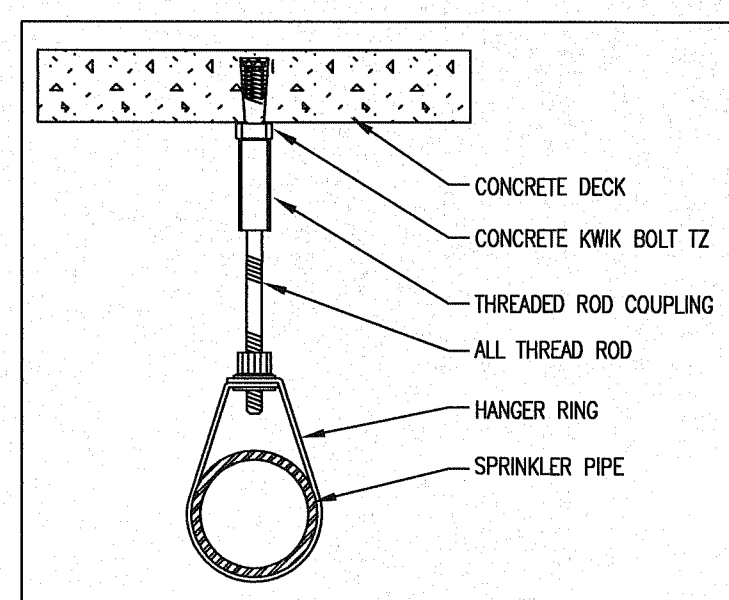
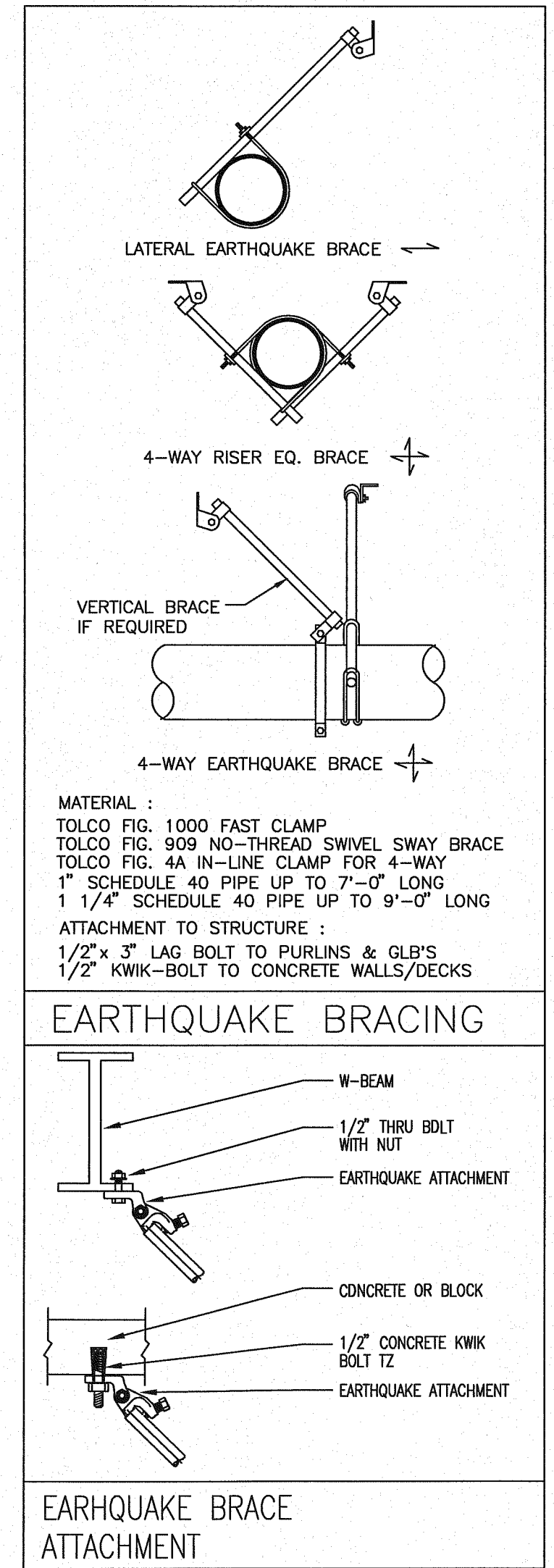
**MECHANICAL PLATFORM**  
1/8" = 1'-0"







**UNIT 10**  
1/8" = 1'-0"



- MATERIAL LIST**
- SUPPLY FROM MAIN CORRIDOR
  - 4" GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (WIRING SEE ELECTRICAL)
  - 4" GROOVED RESSE CHECK VALVE WITH DRAIN VALVE AND PRESSURE GAUGES
  - 4" WATER FLOW SWITCH (WIRING SEE ELECTRICAL)
  - SYSTEM HYDRAULIC DATA PLATE
  - 2" MAIN DRAIN VALVE
  - 1" INSPECTORS TEST BALL VALVE
  - 1" INSPECTORS SIGHT GLASS WITH 1/2" ORIFICE
  - 4" PIPE TO WET SYSTEM SYSTEM
  - 2" MAIN DRAIN TO TUNNEL DISCHARGE PER PLAN
  - 6 COUNT SPARE SPRINKLER BOX WITH WRENCH
  - PIPE STAND FOR RISER
  - 2 1/2" GROOVED BUTTERFLY VALVE
  - 2 1/2" DRY PIPE VALVE WITH PRESSURE SWITCHES (WIRING SEE ELECTRICAL)
  - 1 1/4" MAIN DRAIN VALVE
  - 2 1/2" DRY PIPE TO CANOPY
  - 1 1/2" GALVANIZED SCH 40 PIPE FROM TUNNEL AIR COMPRESSOR PUFFY PIPE L=10FT
  - TYCO AMD-1 AIR MAINTENANCE DEVICE
- SYSTEM DEMAND @ BASE OF RISER**
- OFFICE AREA: 295.7 GPM @ 54.2 PSI  
CANOPY: 305.6 GPM @ 56.0 PSI
- \*NOTE\***  
ALL DRY SYSTEM PIPING TO BE GALVANIZED SCH 10 AND SCH 40

**RISER DETAIL**  
1/2" = 1'-0"  
REGISTERED PROFESSIONAL ENGINEER  
DAVID LEE LOCKWOOD  
EXPIRES 12-31-27

**Fire Systems West**  
600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FIRE-SW-140-81 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

**SPRINKLER SYMBOL DESCRIPTION**

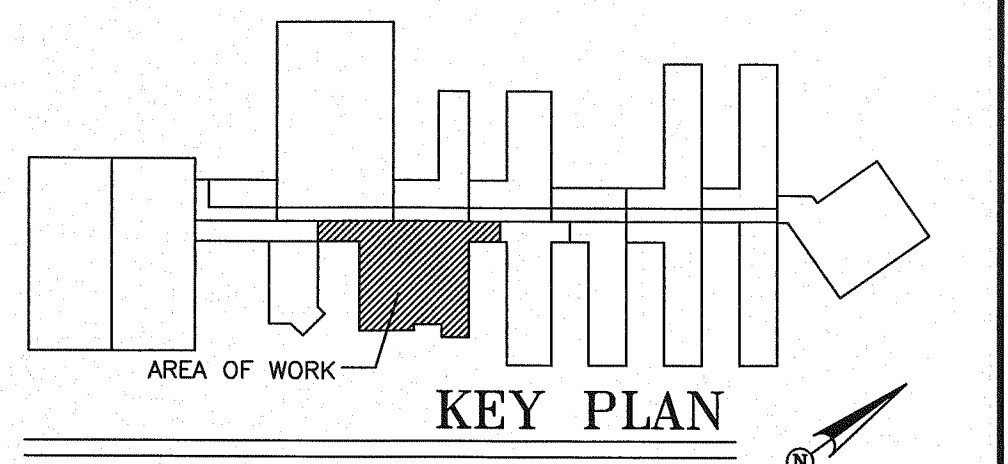
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	16
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	124
▼	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	200	CHROME	REC CHR	3
○	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	4
●	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHR	48
▼	DRY HSW	TYCO MODEL DS-1	1/2" 5.6K	155	CHROME	FLSH CHR	3
TOTAL SPRINKLERS SHOWN ON THIS SHEET							197

**HANGER LEGEND**

A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STUT

- GENERAL NOTES**
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
  - EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
  - STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

- DESIGN CRITERIA AND NOTES**
- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY GSC STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
  - THE INSTALLING CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT INSPECTION AND TESTING AGENCY QUALIFIED TO PROVIDE INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR ALL PIPING AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. PRIOR TO THE START OF CONSTRUCTION THE INSTALLING CONTRACTOR SHALL SUBMIT QUALIFICATION INFORMATION ON THE PROPOSED INSPECTION AND TESTING FIRM FOR REVIEW AND APPROVAL BY DOC. NO INSTALLATION WORK WILL BE ALLOWED UNTIL DOC APPROVAL OF THE INSPECTION AND TESTING FIRM IS GIVEN.
  - THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TESTS REQUIRED AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK, OR REQUIRED BY APPLICABLE CODES. PRIOR TO STARTING CONSTRUCTION THE INSTALLING CONTRACTOR SHALL PROVIDE THE DOC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS, INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



**REVISIONS**

NO.	DESCRIPTION	DATE

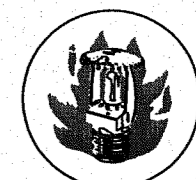
CONTRACT NAME:  
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

CONTRACT WITH:  
WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

**UNIT #10**

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	9 OF 22





# Fire Systems West

600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FIRE-SWI-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

### SPRINKLER SYMBOL DESCRIPTION

SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	6
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	28
●	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHRM	11
▶	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHRM	2
▶	EC HSW	TYCO MODEL TY-FRB	3/4" 8.0K	155	CHROME	REC CHRM	10
▶	EC HSW	TYCO MODEL TY-FRB	3/4" 8.0K	155	BRASS	N/A	8
TOTAL SPRINKLERS SHOWN ON THIS SHEET							65

### HANGER LEGEND

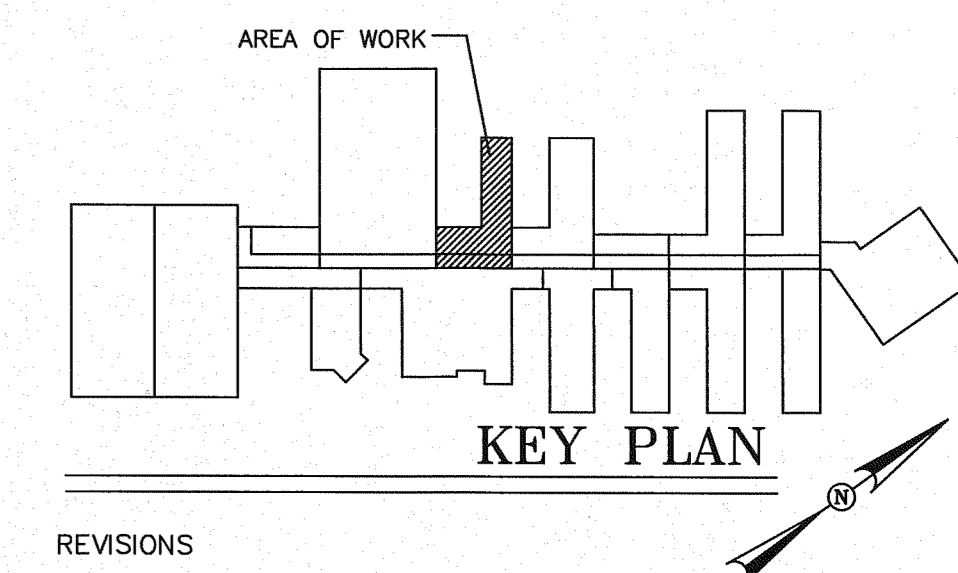
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

### GENERAL NOTES

- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
- PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
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- PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
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- STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
- EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

### DESIGN CRITERIA AND NOTES

- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIZES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OSCI STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
- THE INSTALLING CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT INSPECTION AND TESTING AGENCY QUALIFIED TO PROVIDE INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR ALL PIPING AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. PRIOR TO THE START OF CONSTRUCTION THE INSTALLING CONTRACTOR SHALL SUBMIT QUALIFICATION INFORMATION ON THE PROPOSED INSPECTION AND TESTING FIRM FOR REVIEW AND APPROVAL BY DOC. NO INSTALLATION WORK WILL BE ALLOWED UNTIL DOC APPROVAL OF THE INSPECTION AND TESTING FIRM IS OBTAINED.
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- ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

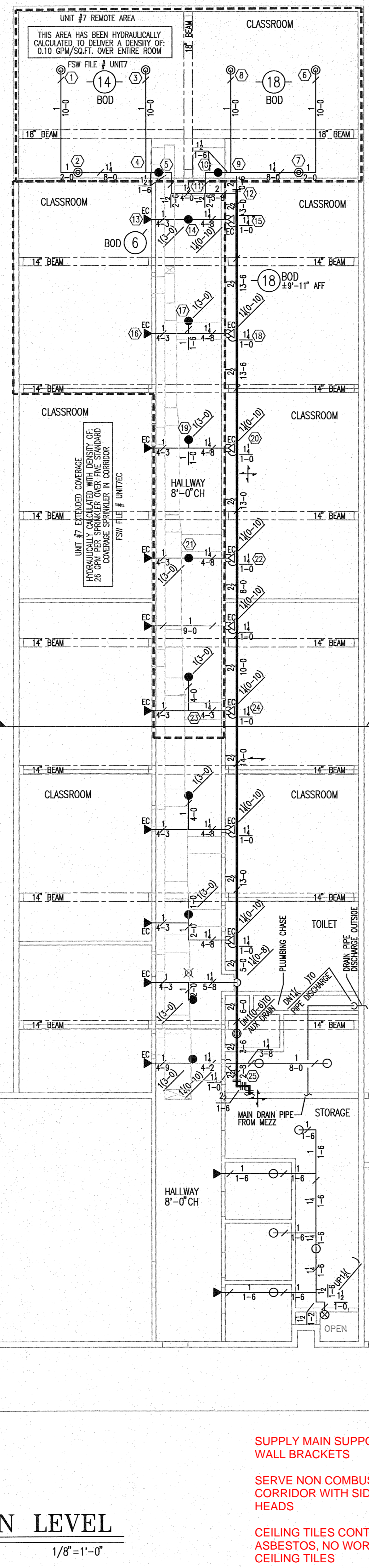
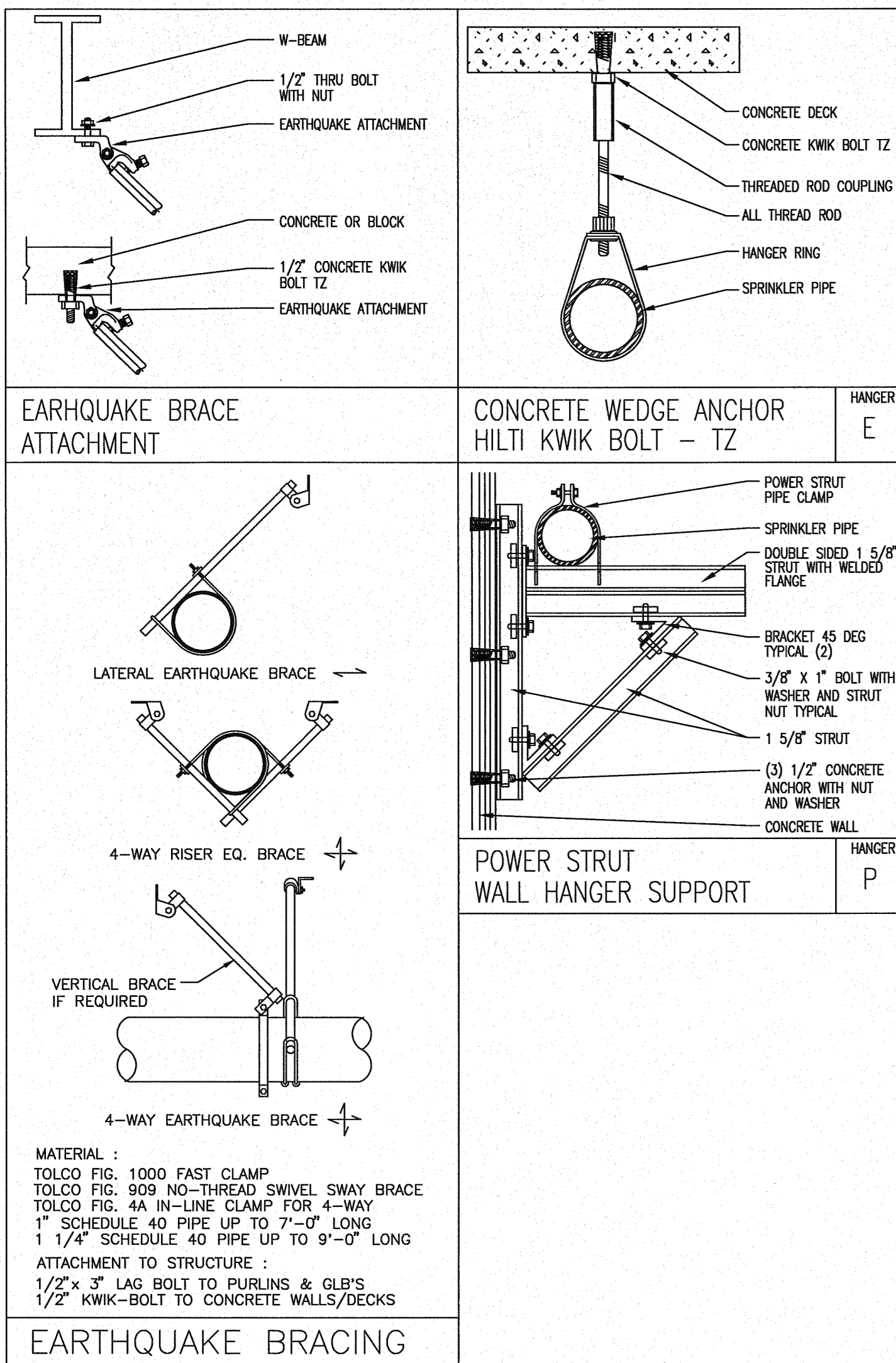
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

### CONTRACT WITH:

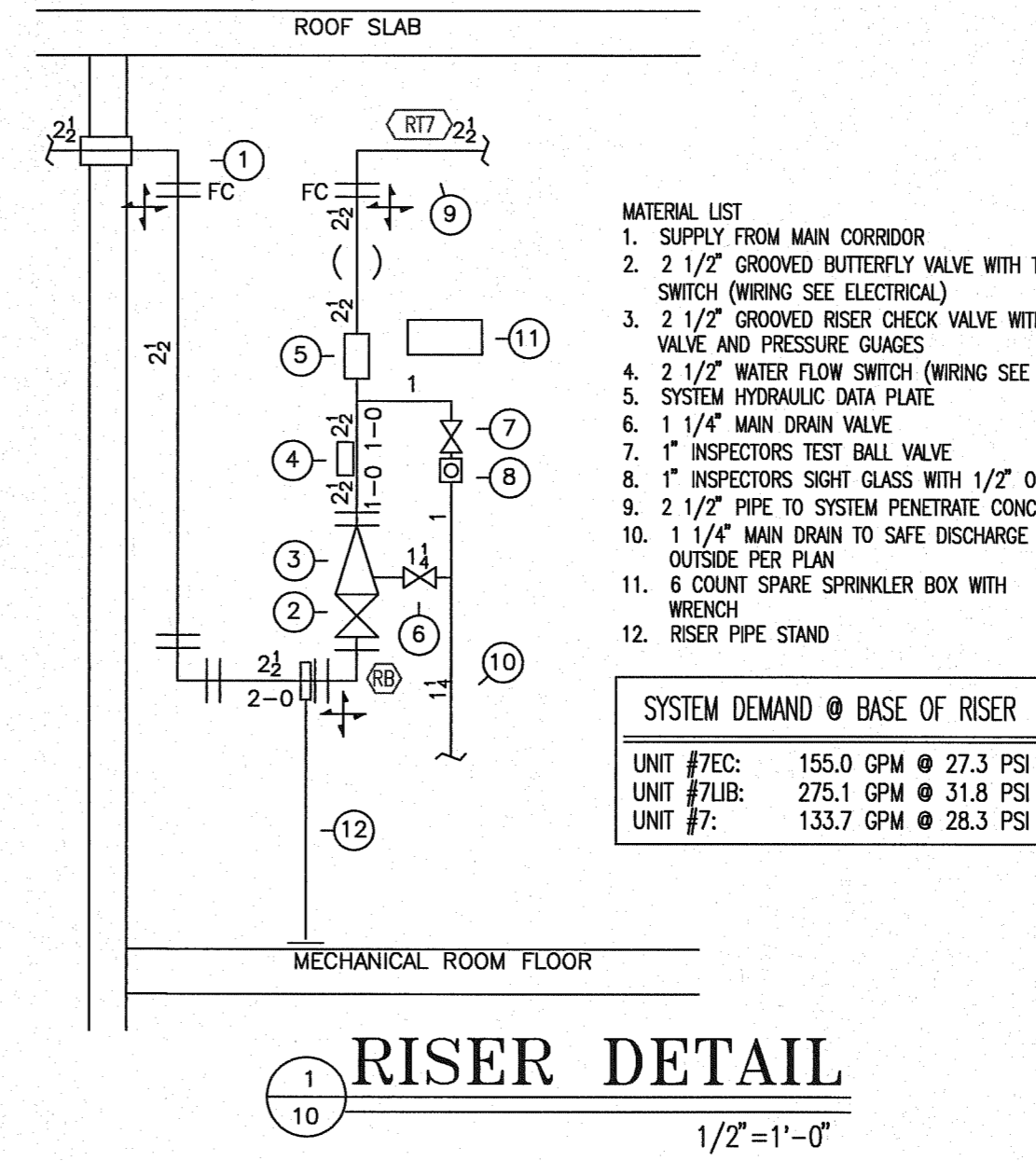
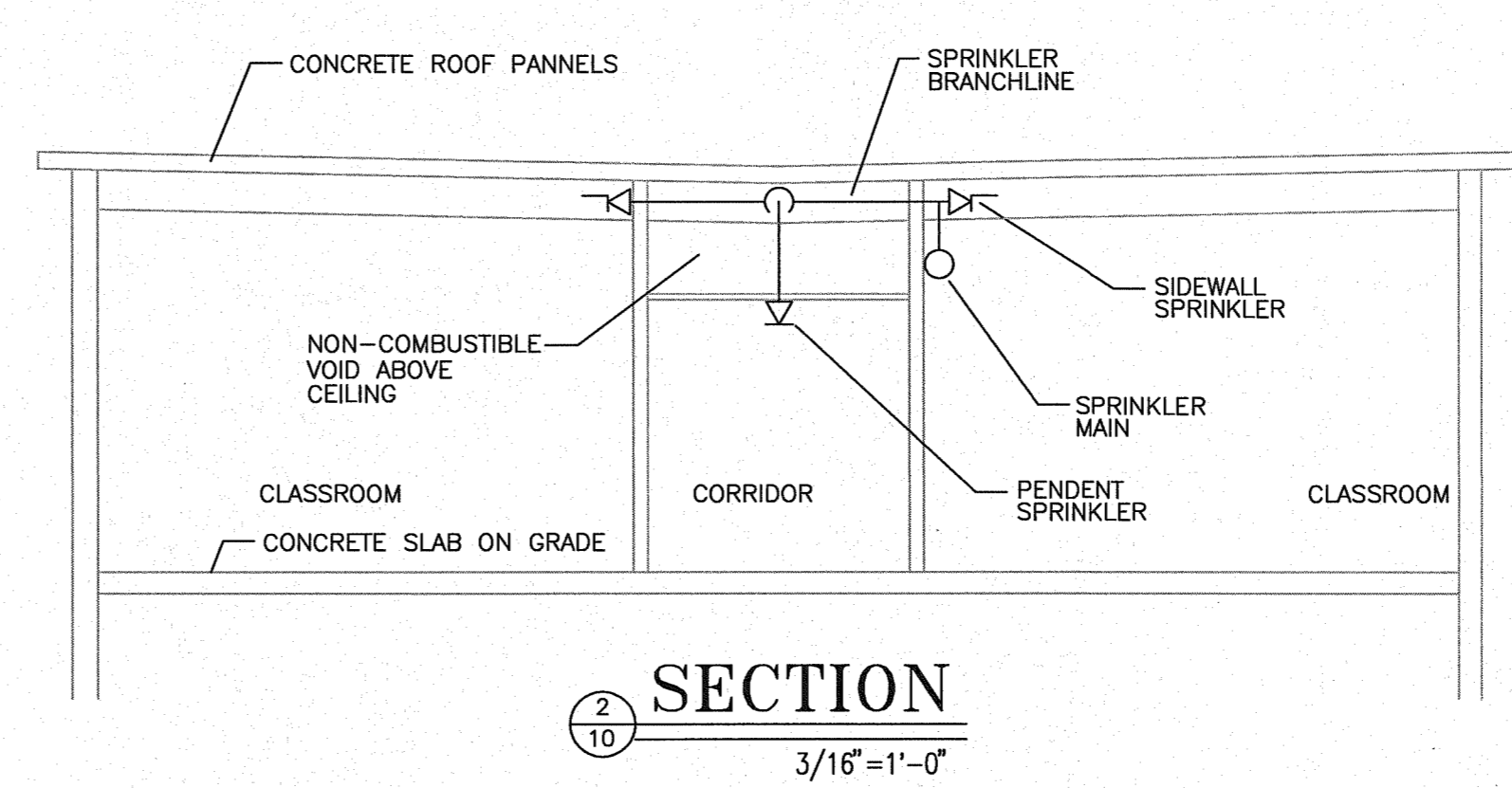
WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

### UNIT #7

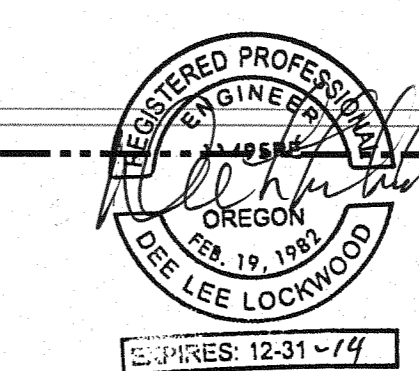
DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	10 of 22



- NOTES**
- SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 26 GPM PER SPRINKLER OVER TWO EXTENDED COVERAGE SIDEWALL SPRAY SPRINKLERS IN ROOM AND FIVE STANDARD SPRAY PENDENT SPRINKLERS IN CORRIDOR AT 0.10 GPM PER SQ FT.
  - EXTENDED COVERAGE SIDEWALL SPRINKLER MAX SPACING IS 16FT X 16FT
  - LIGHT HAZARD REMOTE AREA HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 820 SF (ENTIRE AREA) USING STANDARD SPRAY SPRINKLERS



- SUPPLY MAIN SUPPORTED FROM WALL BRACKETS
- SERVE NON COMBUSTIBLE CORRIDOR WITH SIDE WALL HEADS
- CEILING TILES CONTAIN ASBESTOS, NO WORK/DAMAGE TO CEILING TILES







# Fire Systems West

600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98611  
 (360) 693-9906 fax: (503) 289-1208  
 WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED # ID: 91-318969

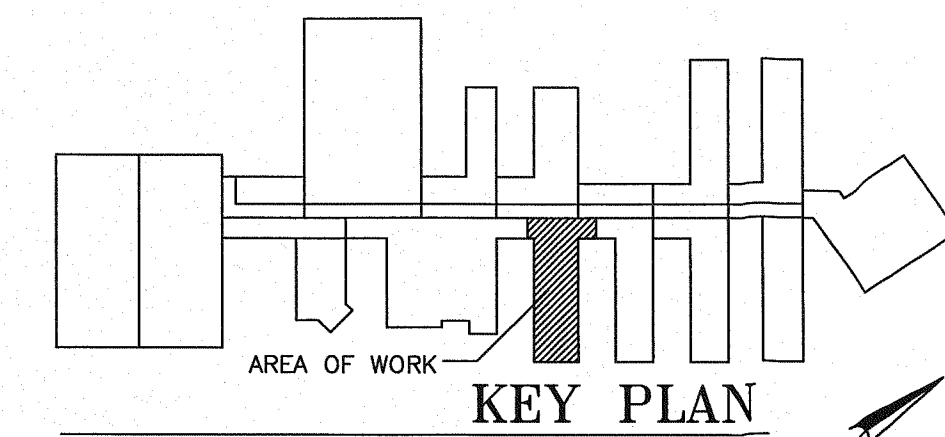
SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
⊕	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	21
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	26
▶	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CH#	1
▶	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	22
▶	HSW	RAVEN	1/2" 5.6K	155	CHROME	REC CH#	72
▶	HSW	TYCO MODEL DS-1	1/2" 5.6K	155	CHROME	REC CH#	1
TOTAL SPRINKLERS SHOWN ON THIS SHEET							143

HANGER LEGEND		
A	ANGLE BRACKET	L "L" ROD
B	SAMMY SUPER SCREW	M MACHINE THREADED ROD
C		N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STD
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T TRAPEZE
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	"J" BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

- GENERAL NOTES**
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN TRULY (1-6) WHICH ARE END TO END
  - EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
  - STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

### DESIGN CRITERIA AND NOTES

- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY GSC, STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
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### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

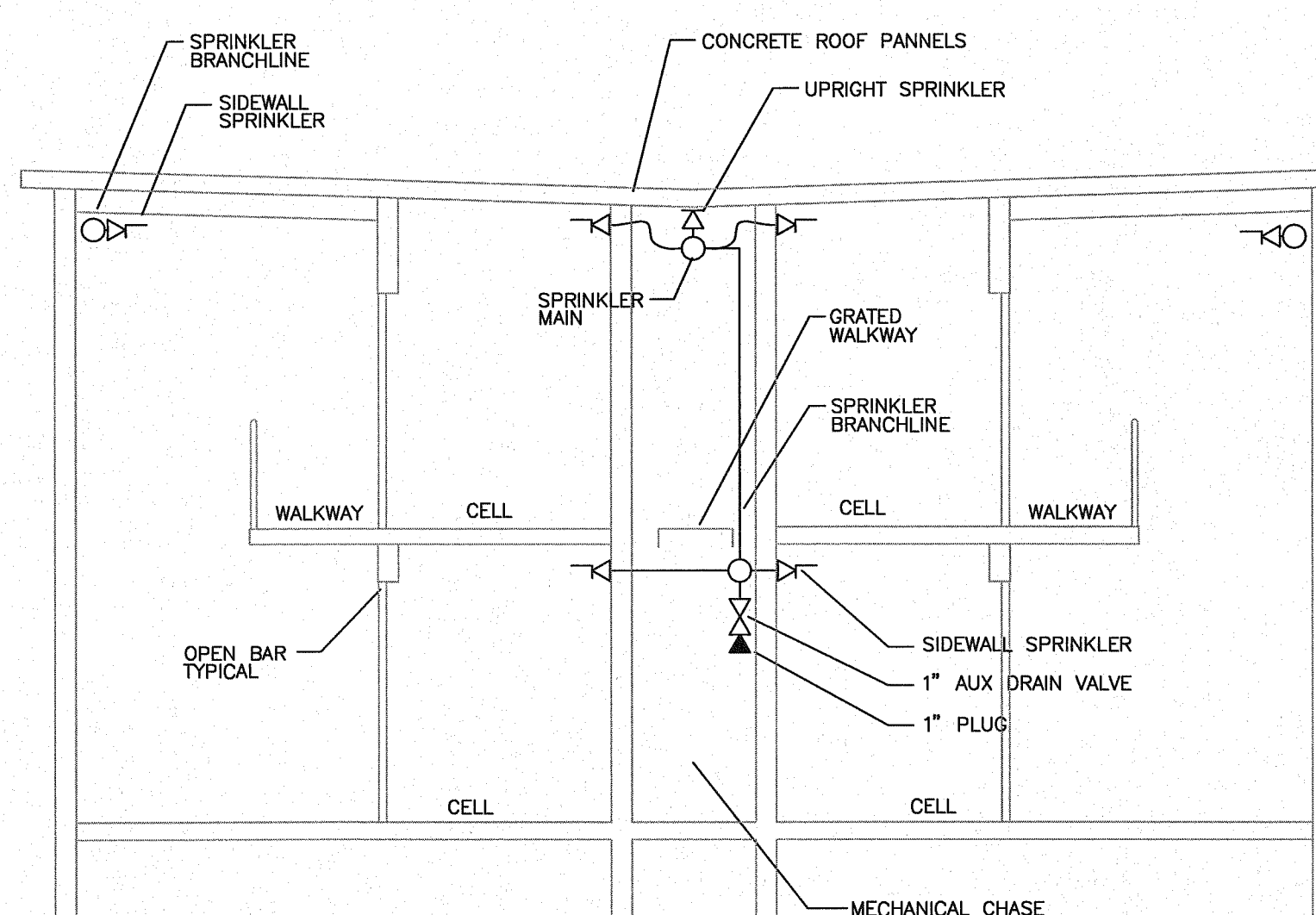
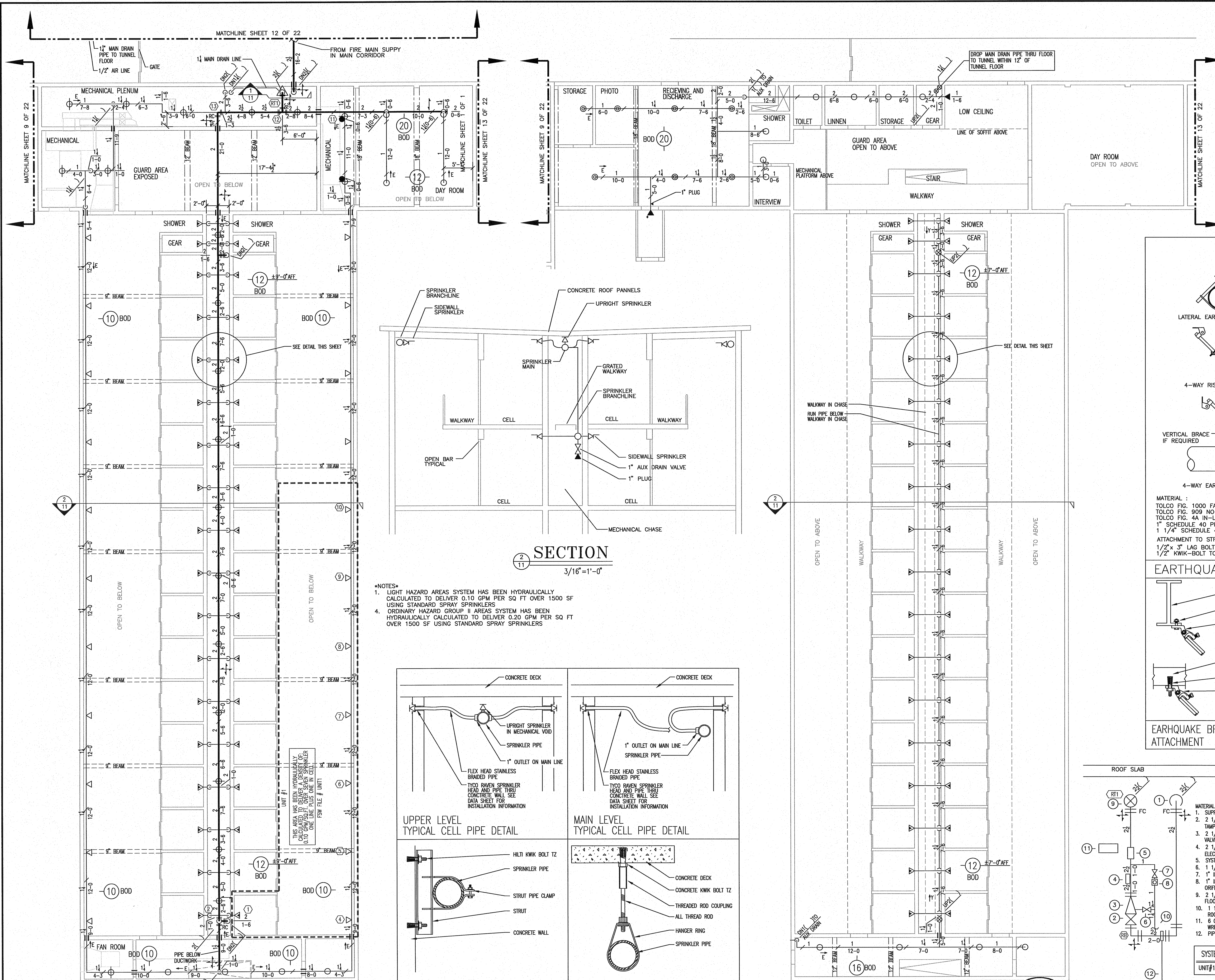
O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

### CONTRACT WITH:

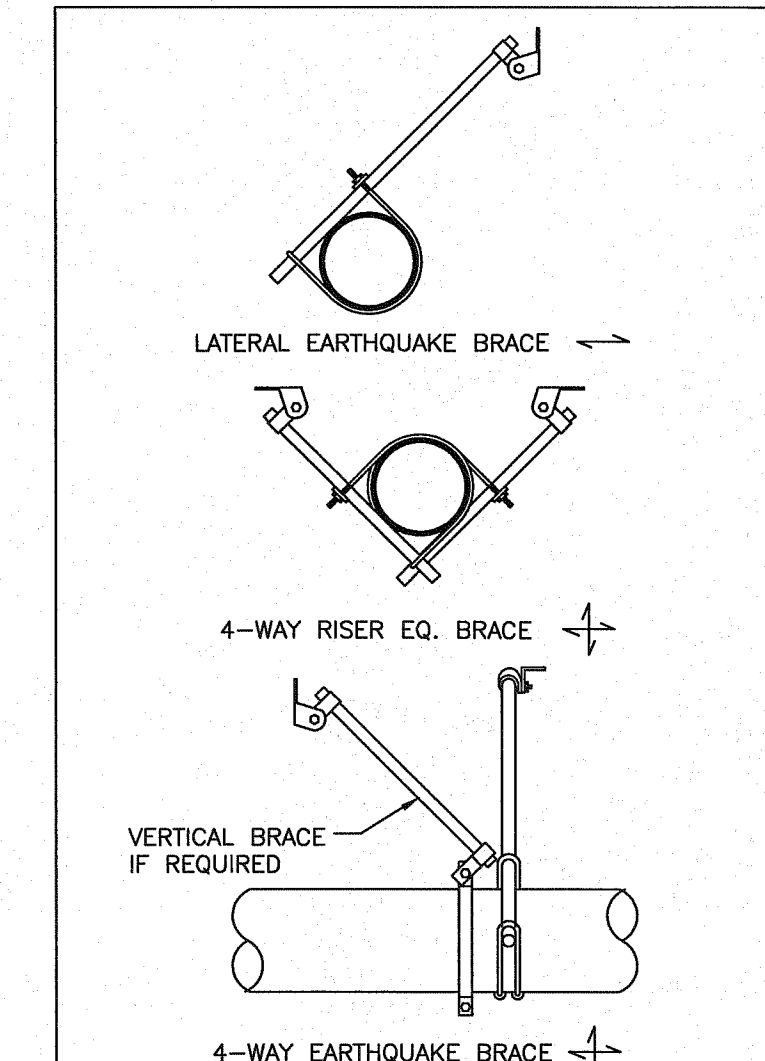
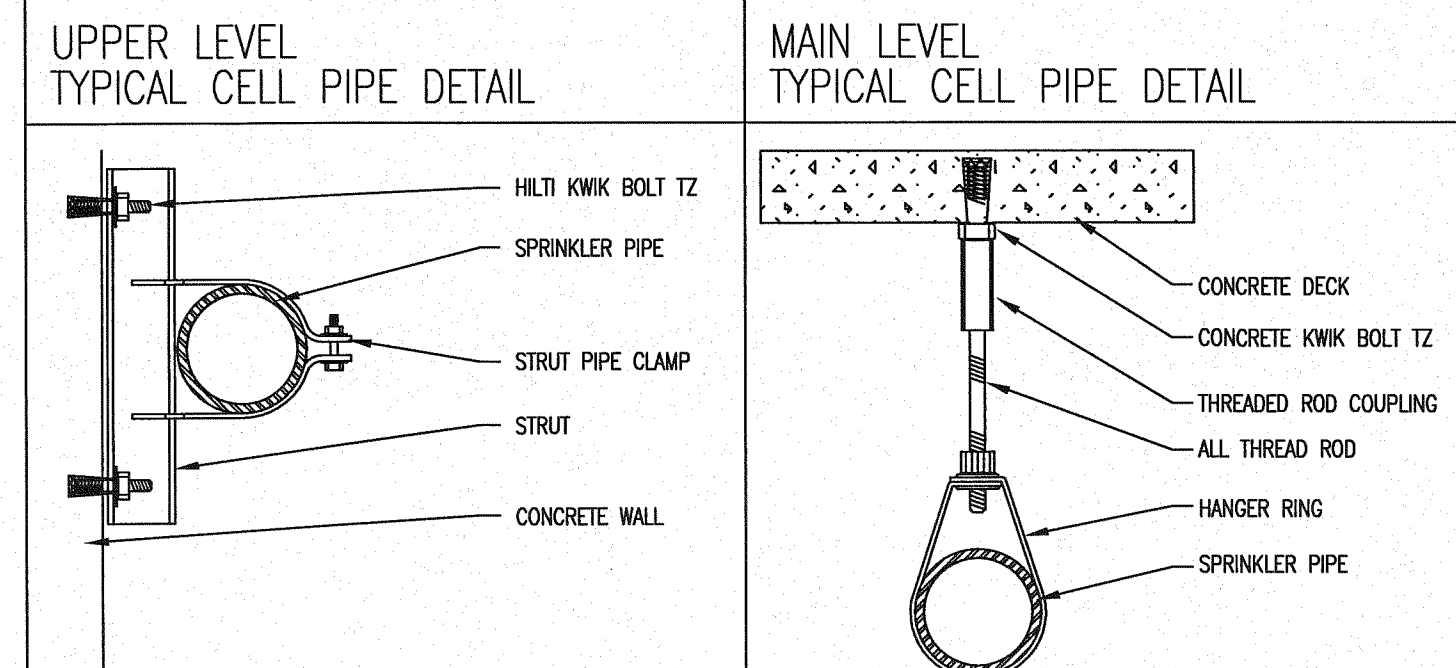
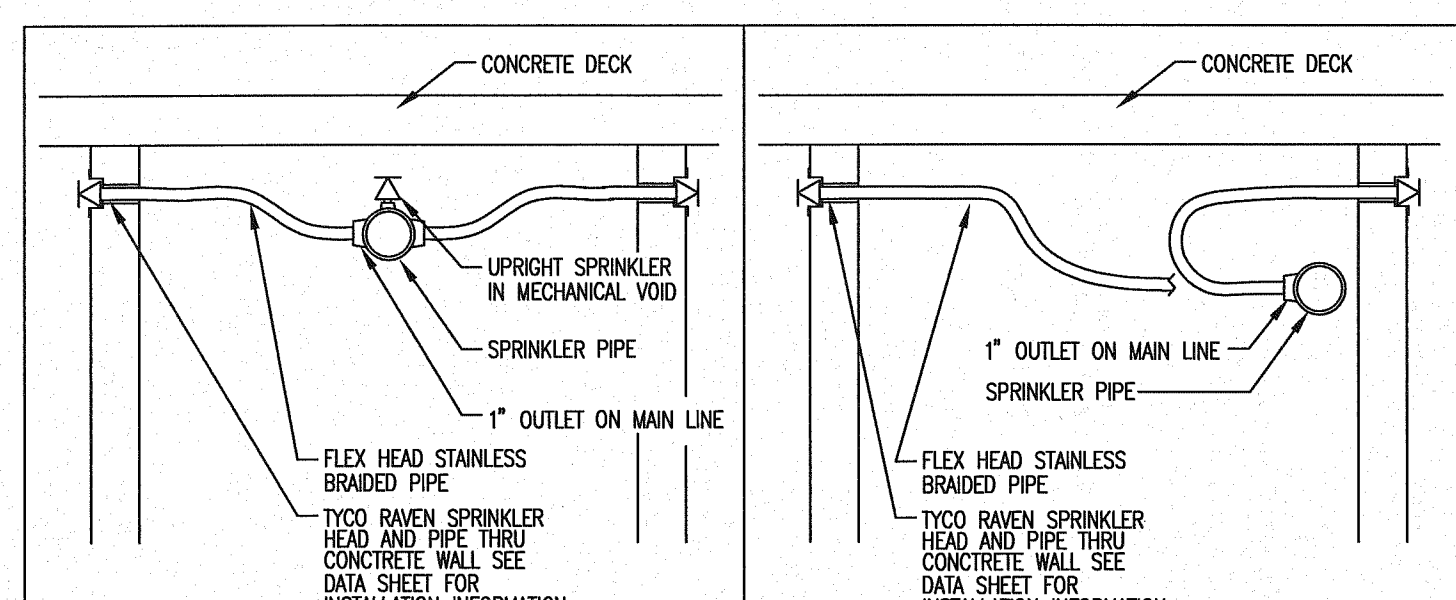
WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

### UNIT #1

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	11 OF 22

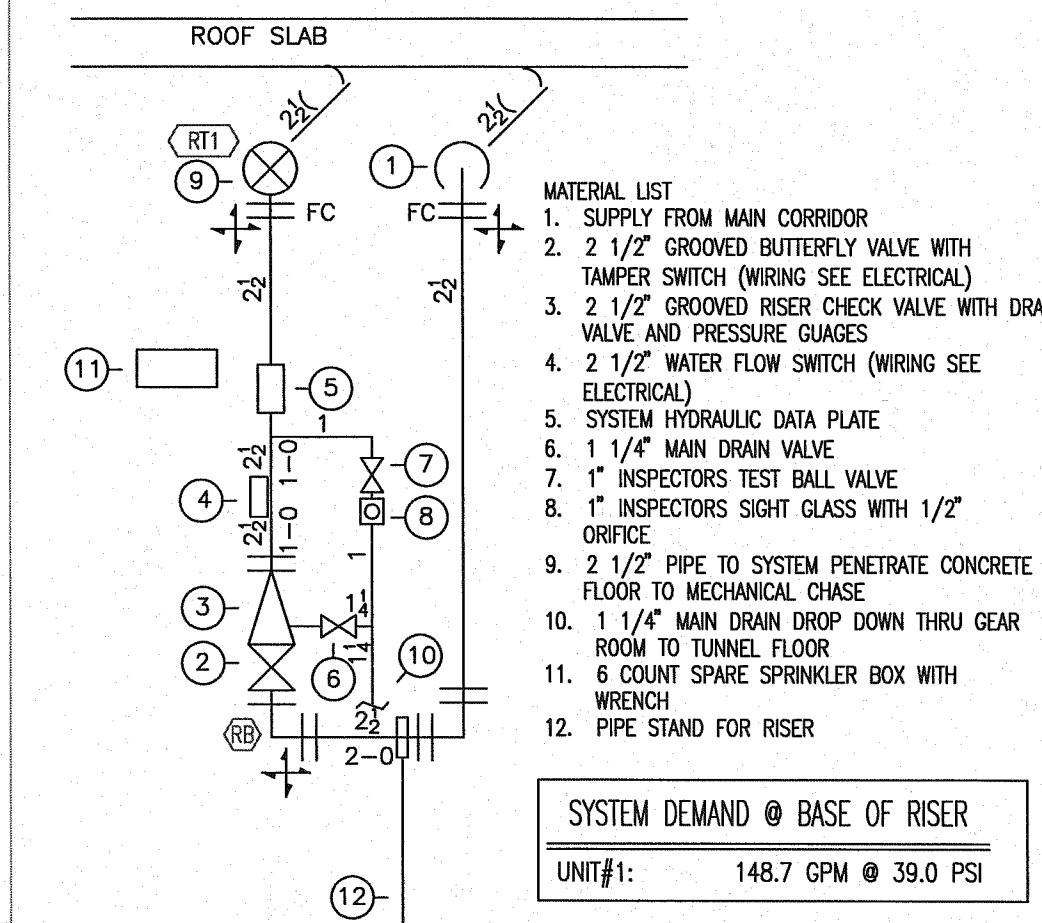
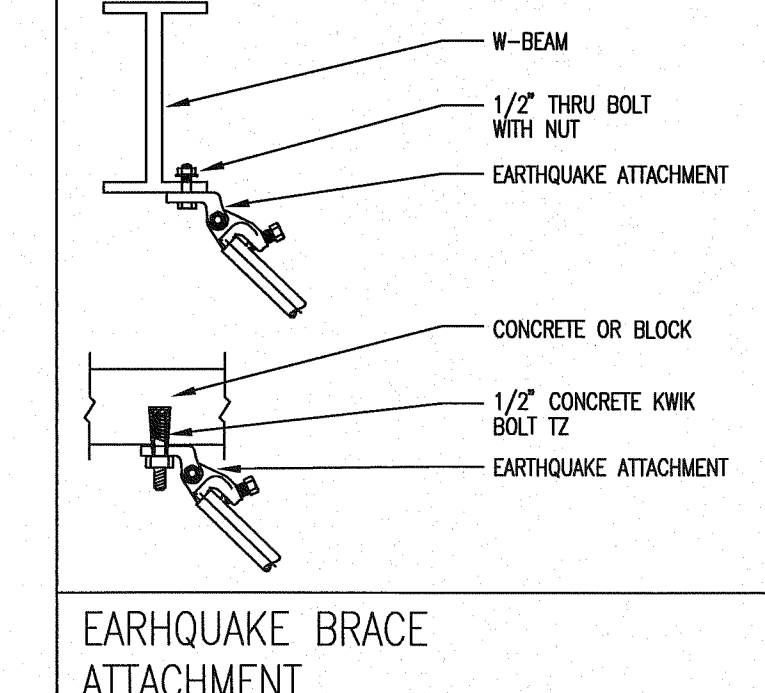


- NOTES**
- LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  - ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRINKLERS



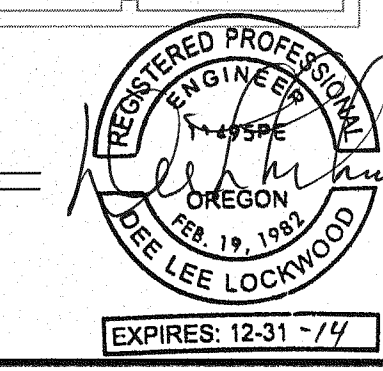
**MATERIAL:**  
 TOLCO FIG. 1000 FAST CLAMP  
 TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
 TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
 1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
 1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG  
 ATTACHMENT TO STRUCTURE:  
 1/2" x 3" LAG BOLT TO PURLINS & GLB'S  
 1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

### EARTHQUAKE BRACING



- MATERIAL LIST**
- SUPPLY FROM MAIN CORRIDOR
  - 2 1/2" GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (WIRING SEE ELECTRICAL)
  - 2 1/2" GROOVED RISER CHECK VALVE WITH DRAIN VALVE AND PRESSURE GAUGES
  - 2 1/2" WATER FLOW SWITCH (WIRING SEE ELECTRICAL)
  - SYSTEM HYDRAULIC DATA PLATE
  - 1 1/4" MAIN DRAIN VALVE
  - 1" INSPECTORS TEST BALL VALVE
  - 1" INSPECTORS SIGHT GLASS WITH 1/2" ORIFICE
  - 2 1/2" PIPE TO SYSTEM PENETRATE CONCRETE FLOOR TO MECHANICAL CHASE
  - 1 1/4" MAIN DRAIN DROP DOWN THRU GEAR ROOM TO TUNNEL FLOOR
  - 6 COUNT SPARE SPRINKLER BOX WITH WRENCH
  - PIPE STAND FOR RISER

SYSTEM DEMAND @ BASE OF RISER  
 UNIT #1: 148.7 GPM @ 39.0 PSI



### UPPER LEVEL

1/8" = 1'-0"

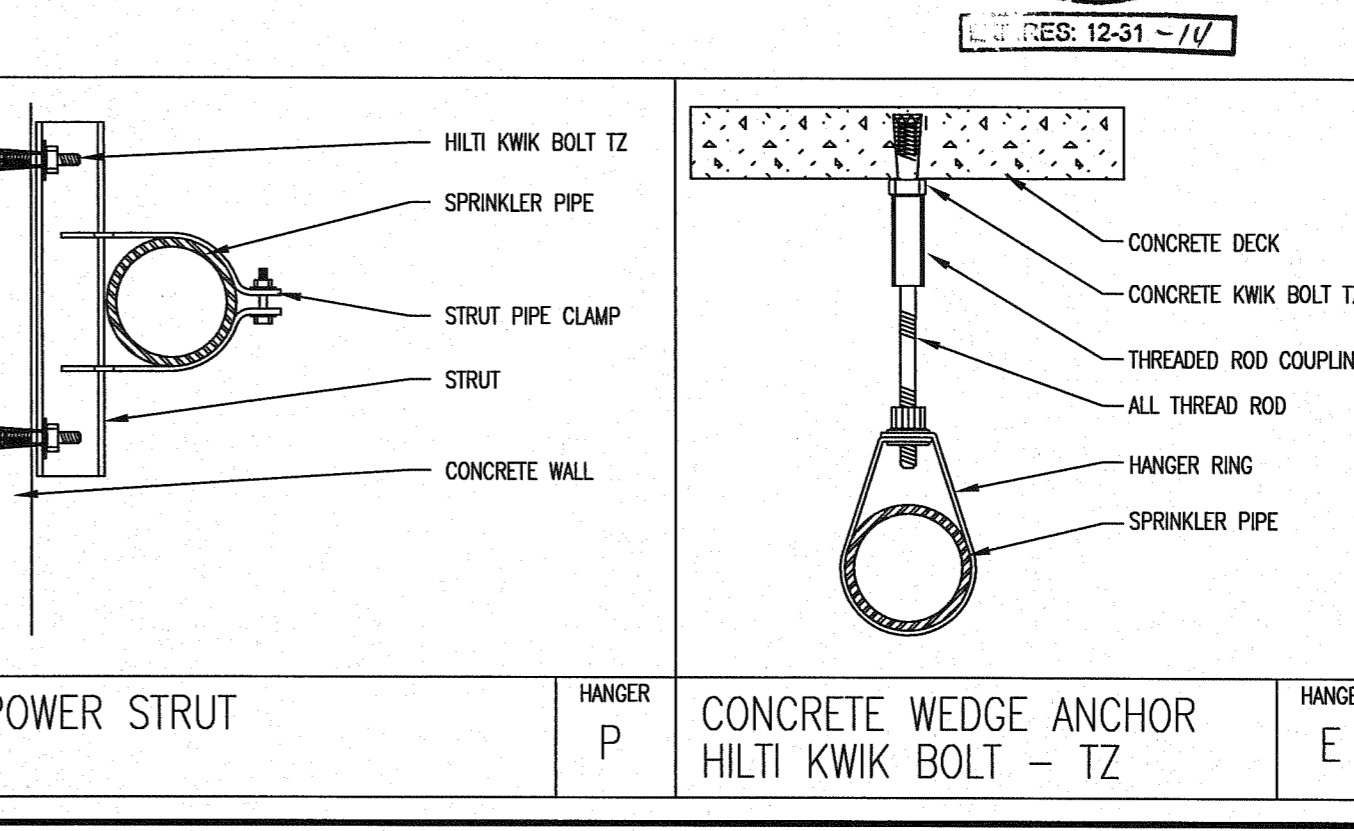
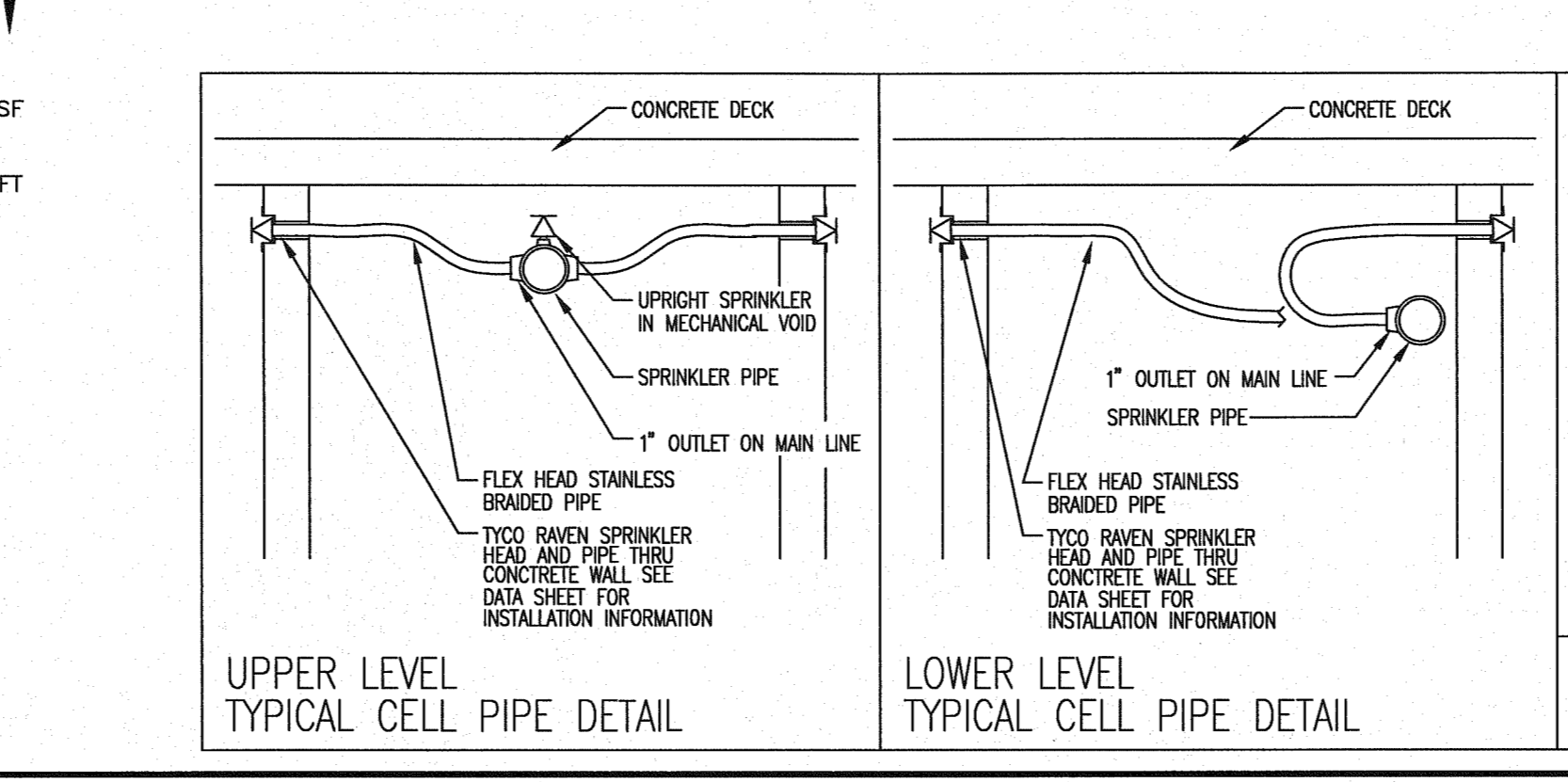
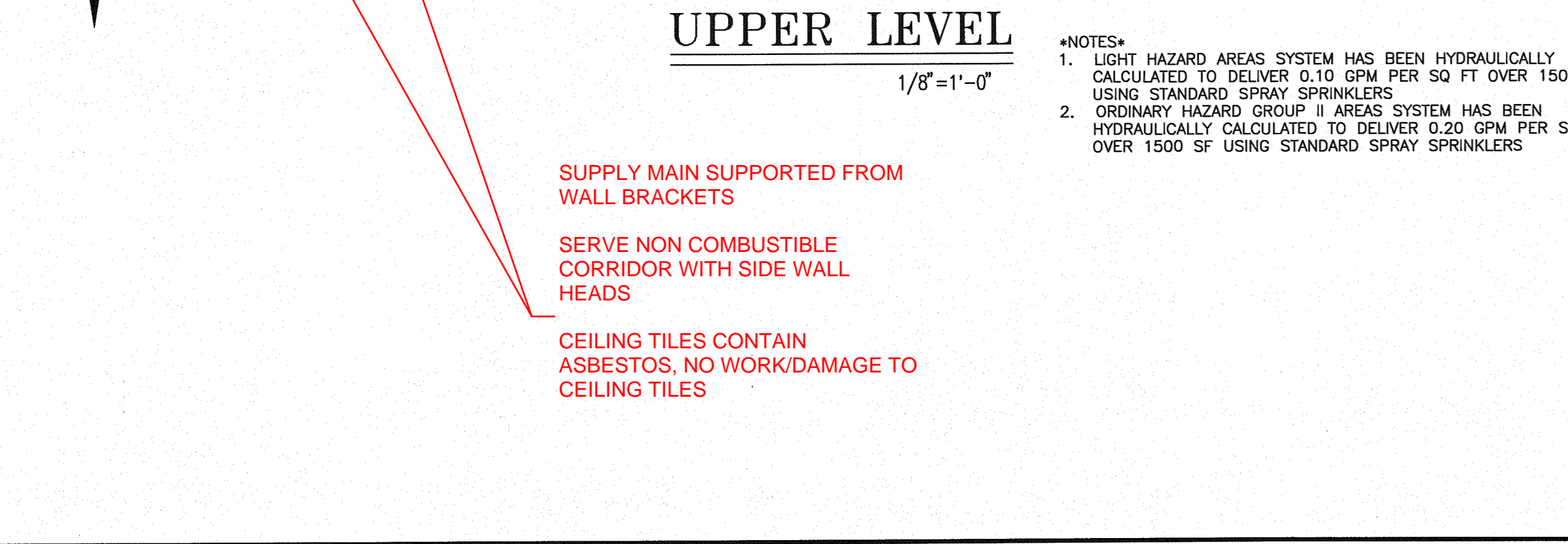
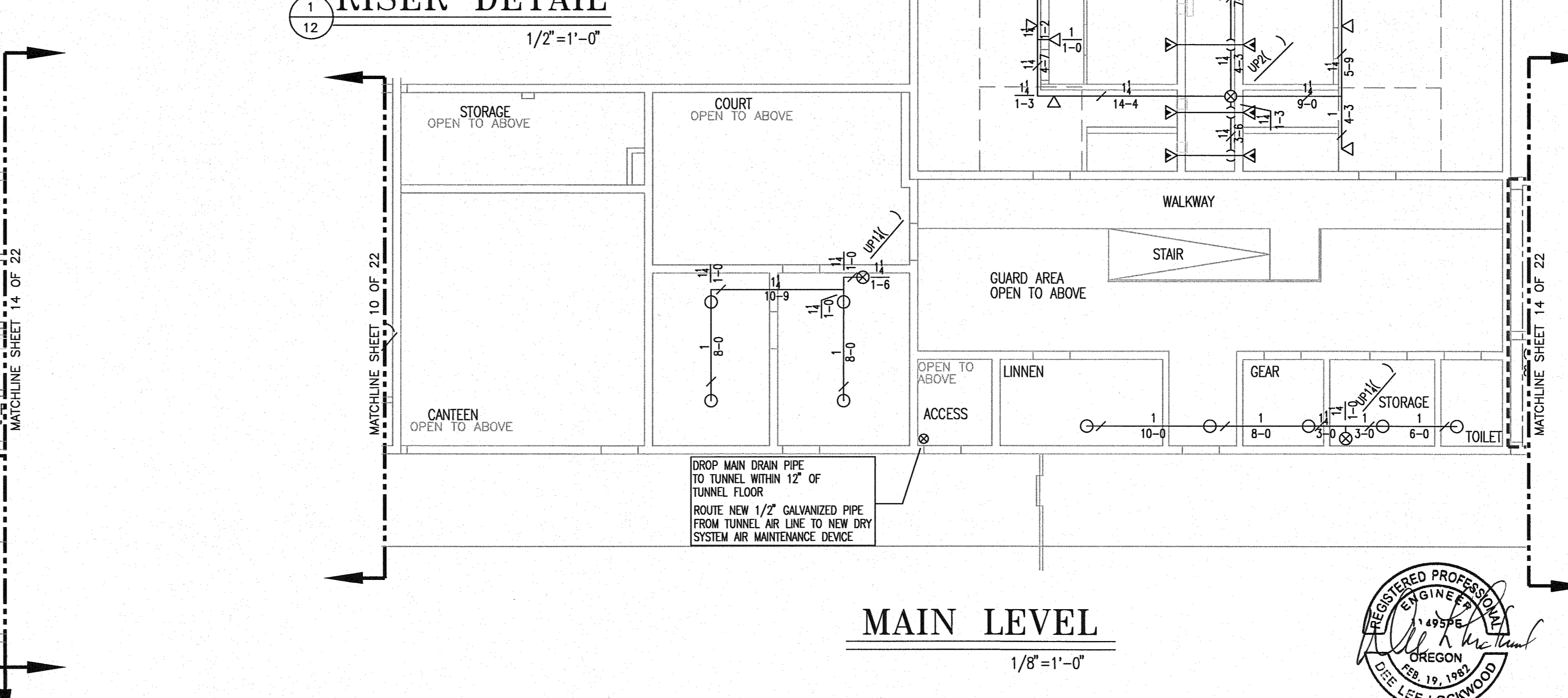
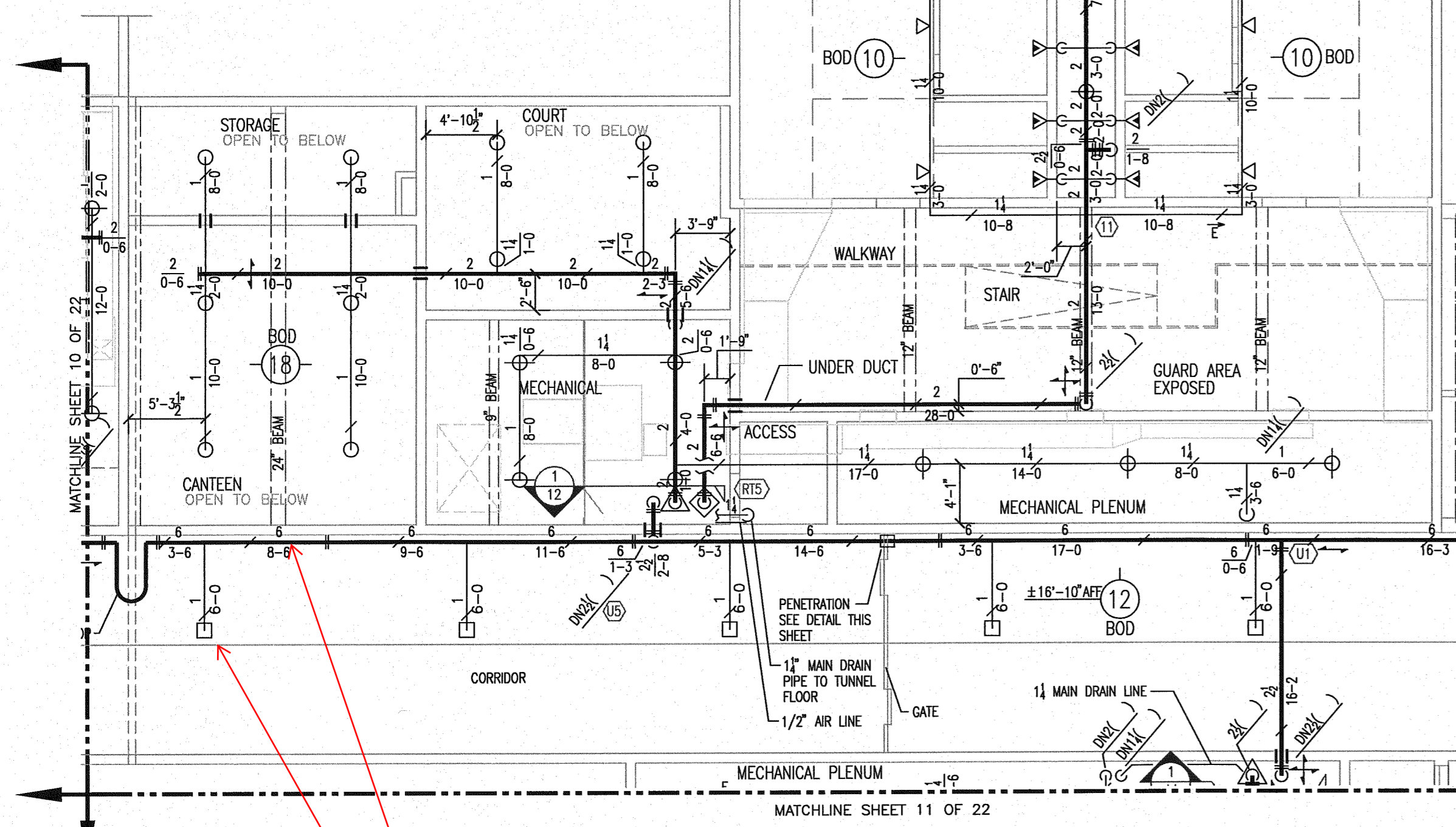
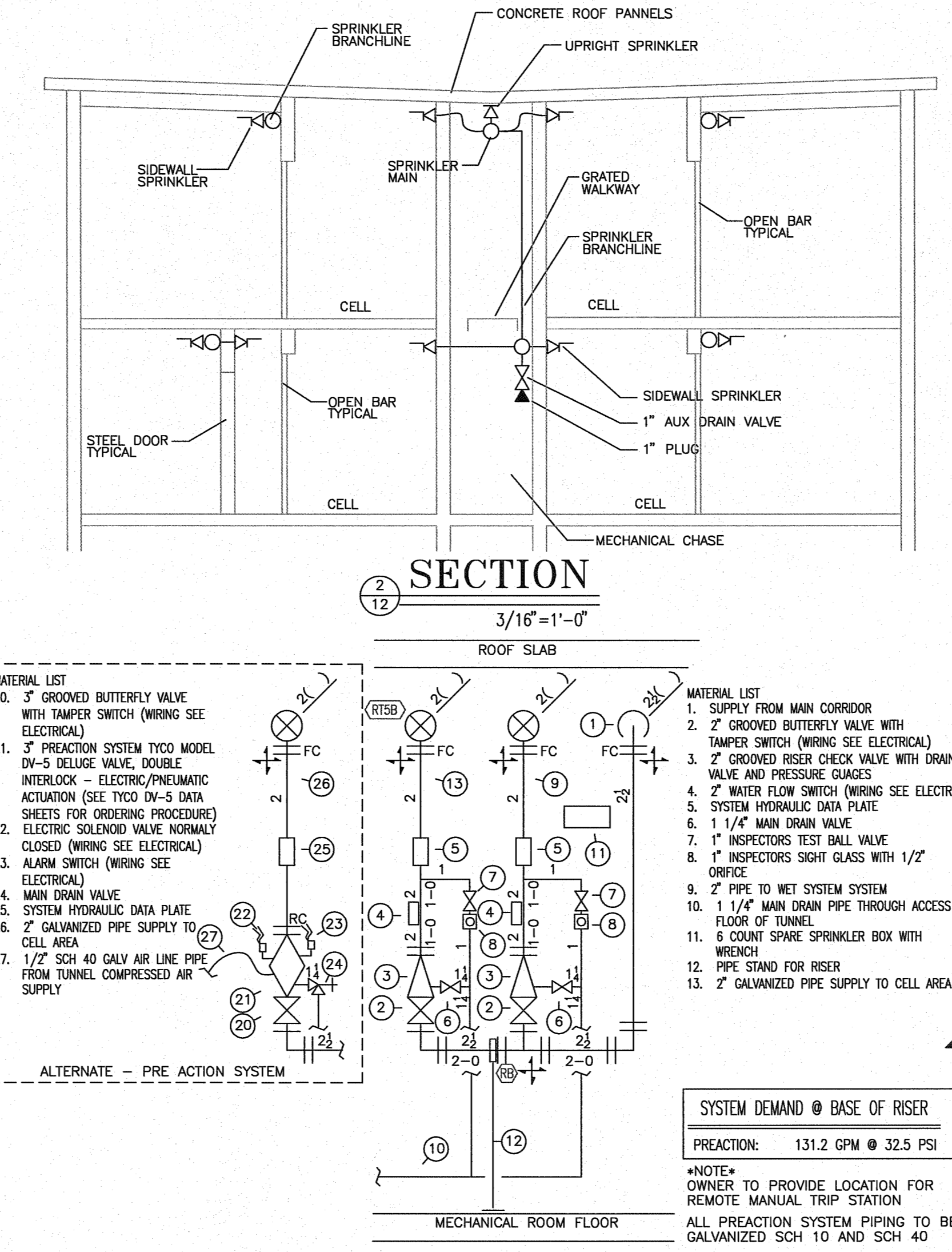
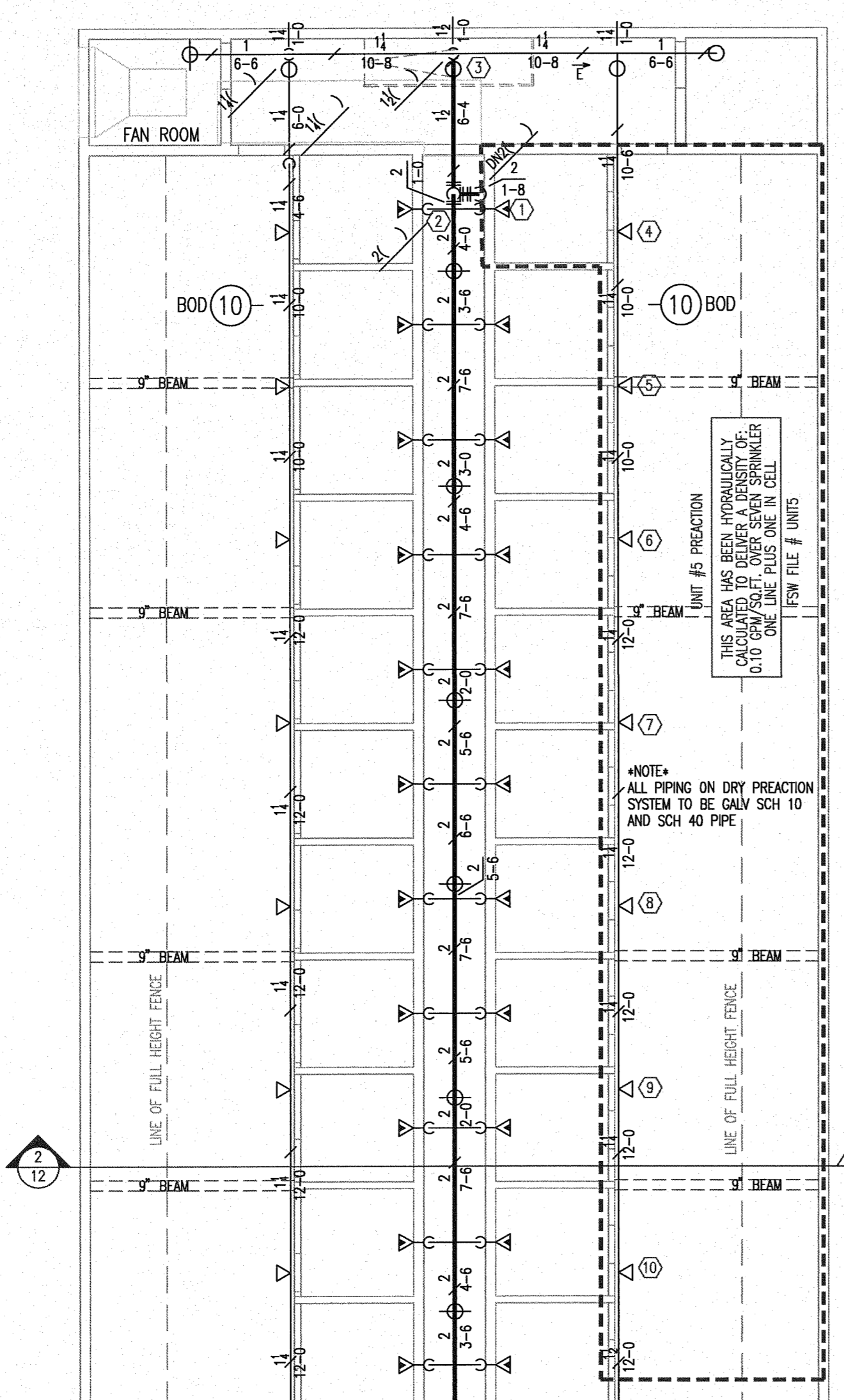
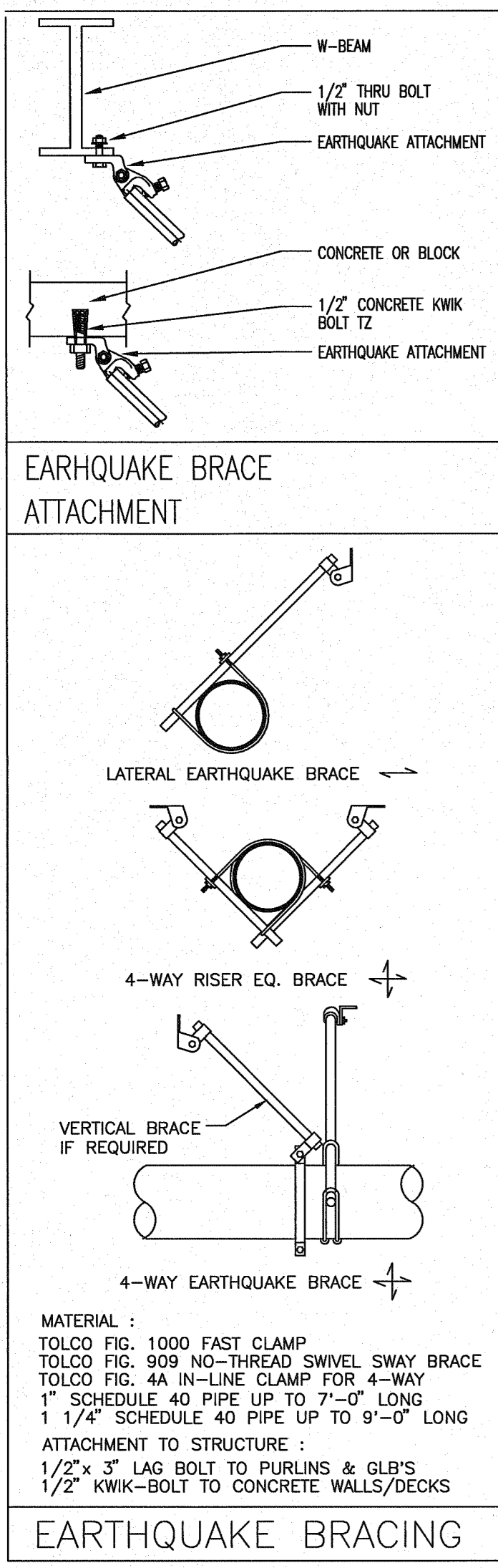
### MAIN LEVEL

1/8" = 1'-0"

### RISER DETAIL

1/2" = 1'-0"





**Fire Systems West**  
 600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98661  
 (360) 693-9906 fax: (503) 289-2208  
 WA CONTR LIC: FIRE-SWI-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

**SPRINKLER SYMBOL DESCRIPTION**

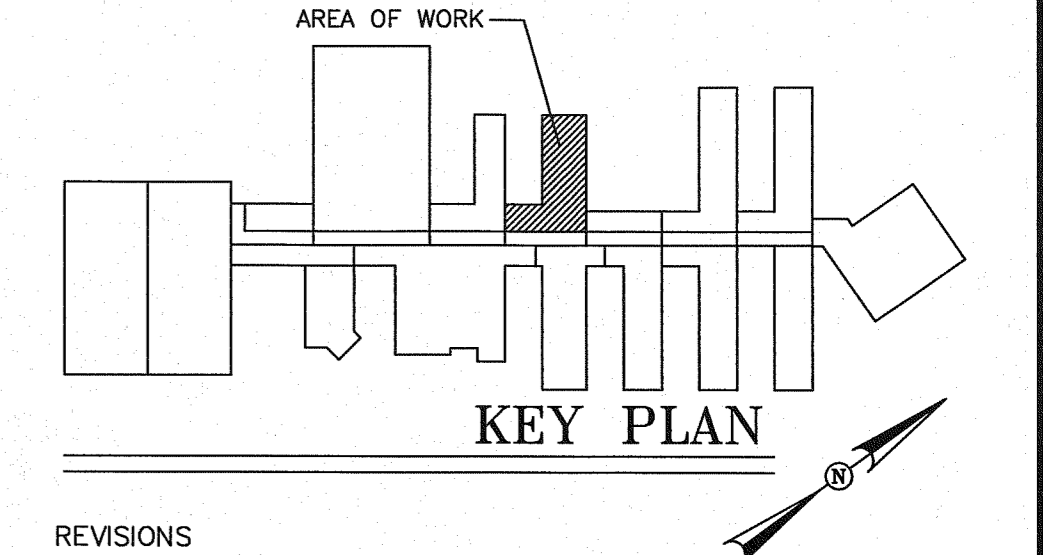
SYMBOL	TYPE	MF#/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
⊖	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	17
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	27
○	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	48
⊖	HSW	RAVEN	1/2" 5.6K	155	CHROME	REC CHRM	56
□	ECU	TYCO MODEL EC14	3/4 14.0K	155	BRASS	N/A	5
TOTAL SPRINKLERS SHOWN ON THIS SHEET							153

**HANGER LEGEND**

A	ANGLE BRACKET	L	1" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	1/2" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

- GENERAL NOTES**
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
  - EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
  - STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

- DESIGN CRITERIA AND NOTES**
- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OSCI STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
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  - THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TEST REQUIRED AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK, OR REQUIRED BY APPLICABLE CODES. PRIOR TO STARTING CONSTRUCTION THE INSTALLATION CONTRACTOR SHALL PROVIDE THE DOC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS, INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



**REVISIONS**

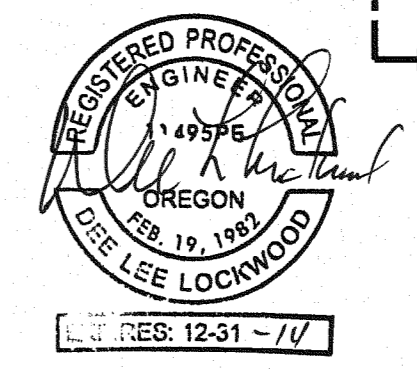
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

CONTRACT WITH:  
 WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

UNIT #5

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	12 OF 22







# Fire Systems West

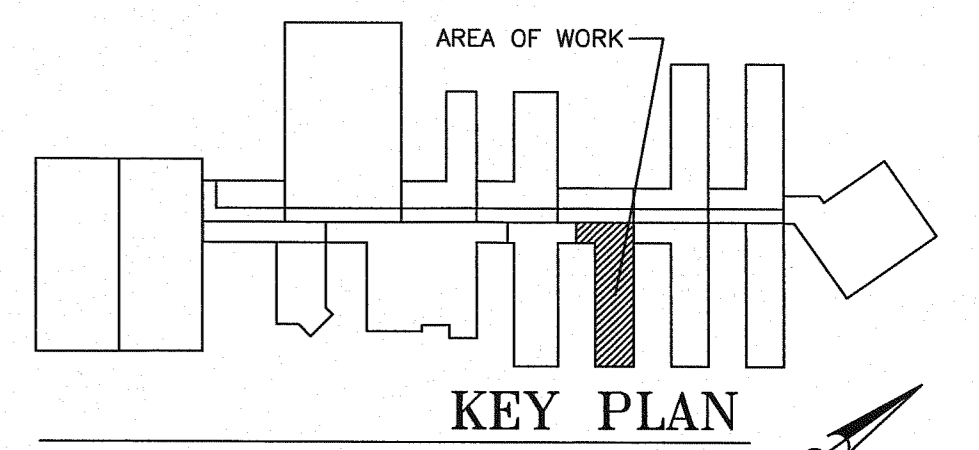
600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98661  
 (360) 693-9906 fax: (503) 289-2208  
 WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION								
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL	
○	SSU	TYCO MODEL TY-FRB	1/2"	5.6K	200	BRASS	N/A	19
○	SSU	TYCO MODEL TY-FRB	1/2"	5.6K	155	BRASS	N/A	19
△	HSW	TYCO MODEL TY-FRB	1/2"	5.6K	155	BRASS	N/A	22
△	HSW	RAVEN	1/2"	5.6K	155	CHROME	REC CHRM	71
TOTAL SPRINKLERS SHOWN ON THIS SHEET							131	

HANGER LEGEND		
A	ANGLE BRACKET	L "L" ROD
B	SAMMY SUPER SCREW	M MACHINE THREADED ROD
C	INVERTED BEAM CLAMP	N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STUD
E	SIDE WINDER	R CONCRETE ANCHOR
F	OFFSET EYE SOCKET	T TRAPEZE
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	*J BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

- GENERAL NOTES
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPE DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
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  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

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  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



REVISIONS

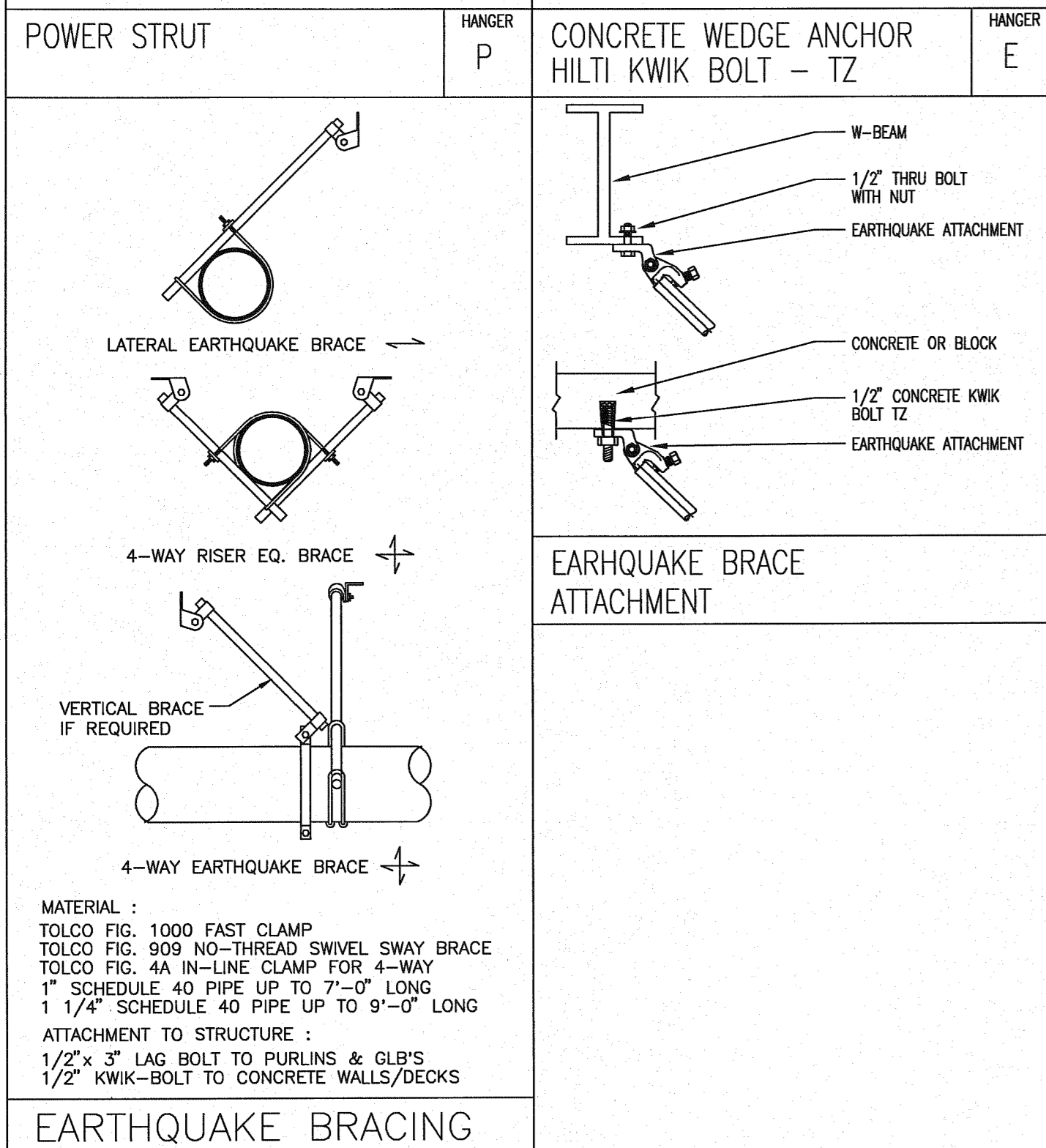
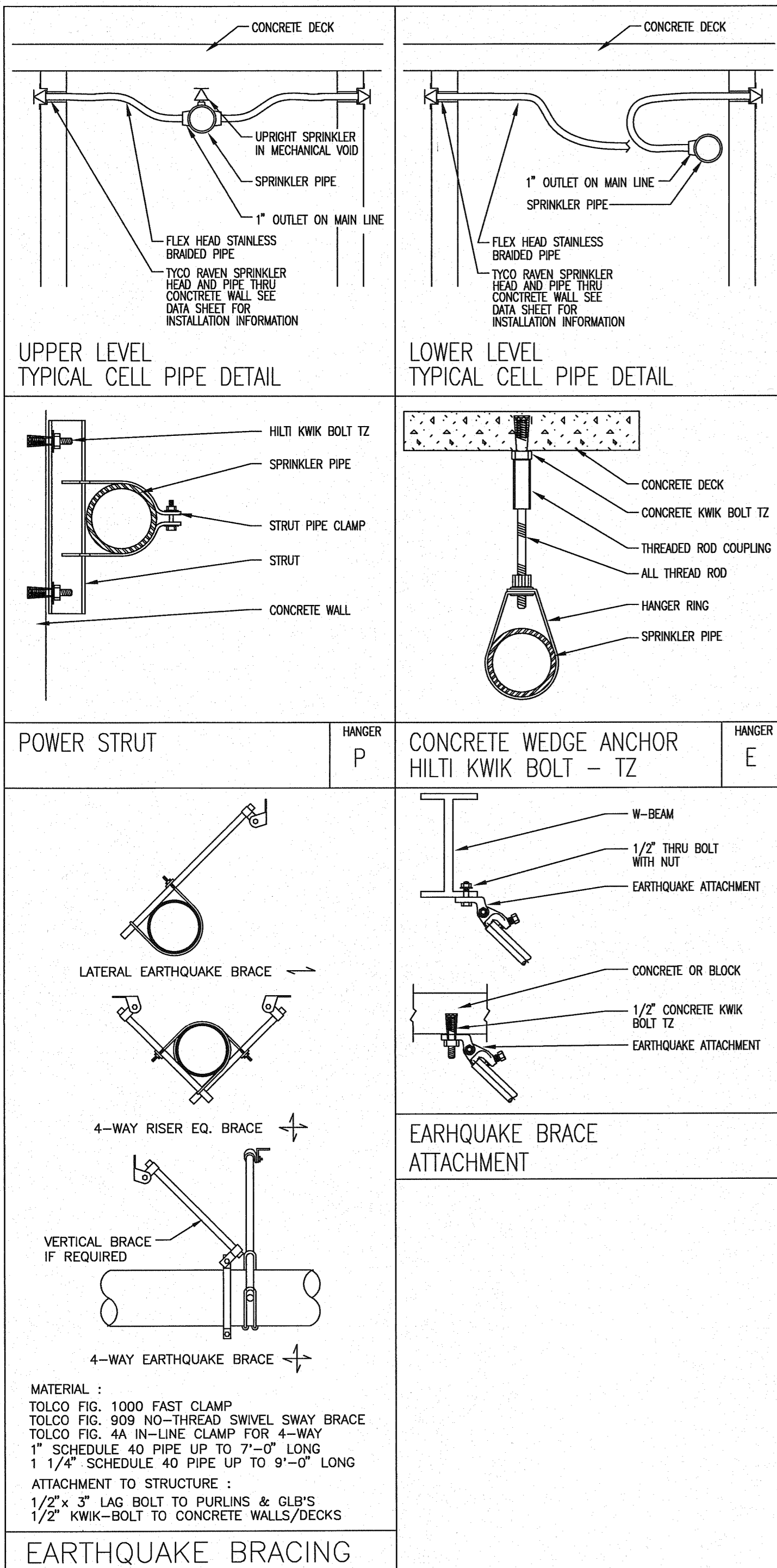
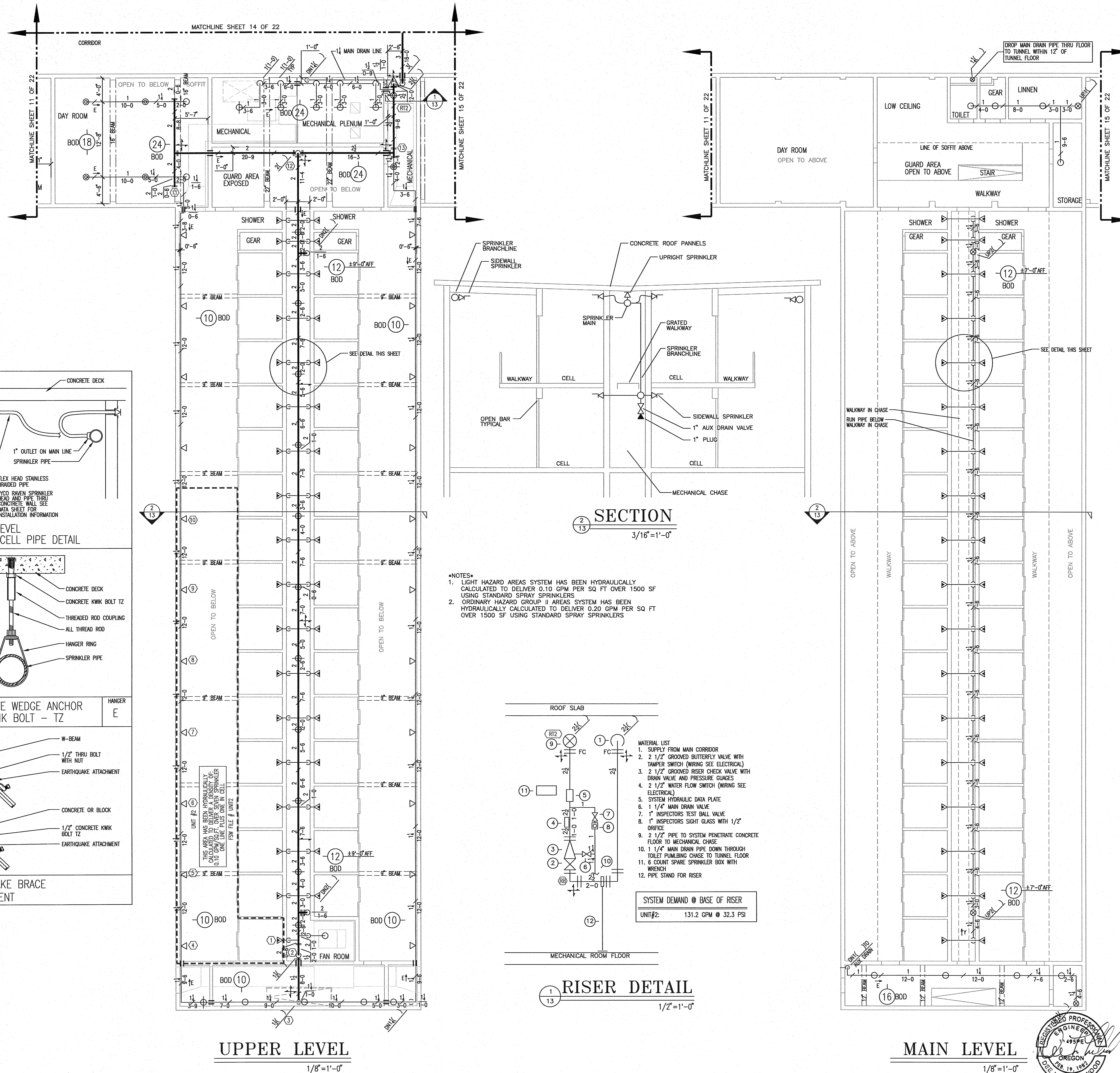
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

CONTRACT WITH:  
 WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

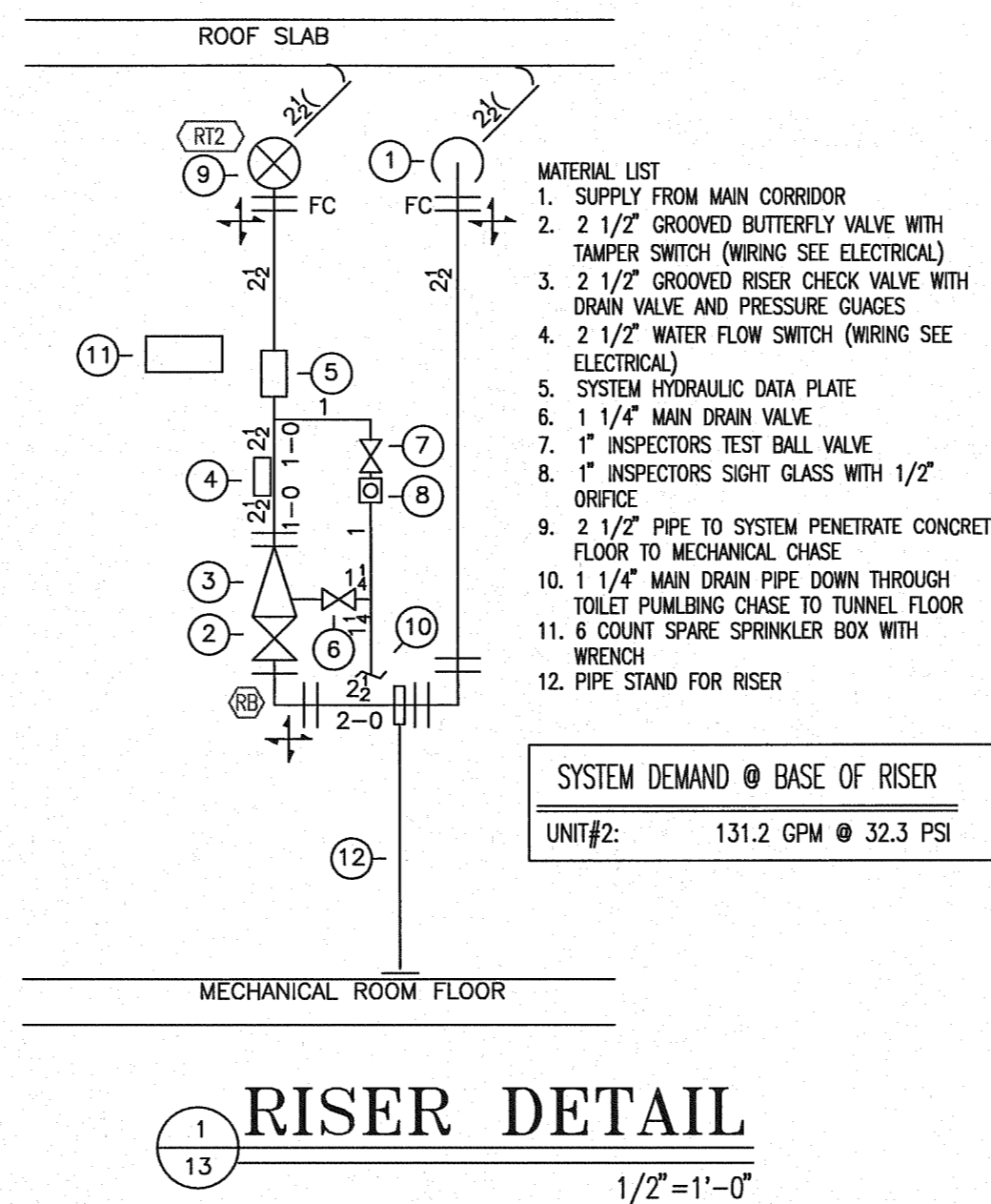
UNIT #2

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	13 OF 22



MATERIAL:  
 TOLCO FIG. 1000 FAST CLAMP  
 TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
 TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
 1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
 1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG  
 ATTACHMENT TO STRUCTURE:  
 1/2" x 3" LAG BOLT TO PURLINS & GLB'S  
 1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

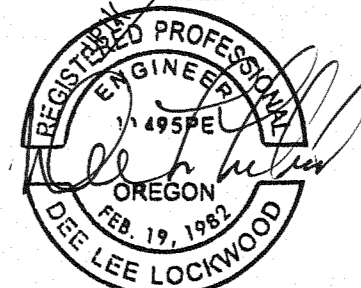
- NOTES:
- LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  - ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS



MATERIAL LIST

- SUPPLY FROM MAIN CORRIDOR
- 2 1/2" GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (WIRING SEE ELECTRICAL)
- 2 1/2" GROOVED RISER CHECK VALVE WITH DRAIN VALVE AND PRESSURE GAUGES
- 2 1/2" WATER FLOW SWITCH (WIRING SEE ELECTRICAL)
- SYSTEM HYDRAULIC DATA PLATE
- 1 1/4" MAIN DRAIN VALVE
- 1" INSPECTORS TEST BALL VALVE
- 1" INSPECTORS SIGHT GLASS WITH 1/2" ORIFICE
- 2 1/2" PIPE TO SYSTEM PENETRATE CONCRETE FLOOR TO MECHANICAL CHASE
- 1 1/4" MAIN DRAIN PIPE DOWN THROUGH TOILET PUMBLING CHASE TO TUNNEL FLOOR
- 6 COUNT SPARE SPRINKLER BOX WITH WRENCH
- PIPE STAND FOR RISER

SYSTEM DEMAND @ BASE OF RISER  
 UNIT#2: 131.2 GPM @ 32.3 PSI



EXPIRES: 12-31-14





# Fire Systems West

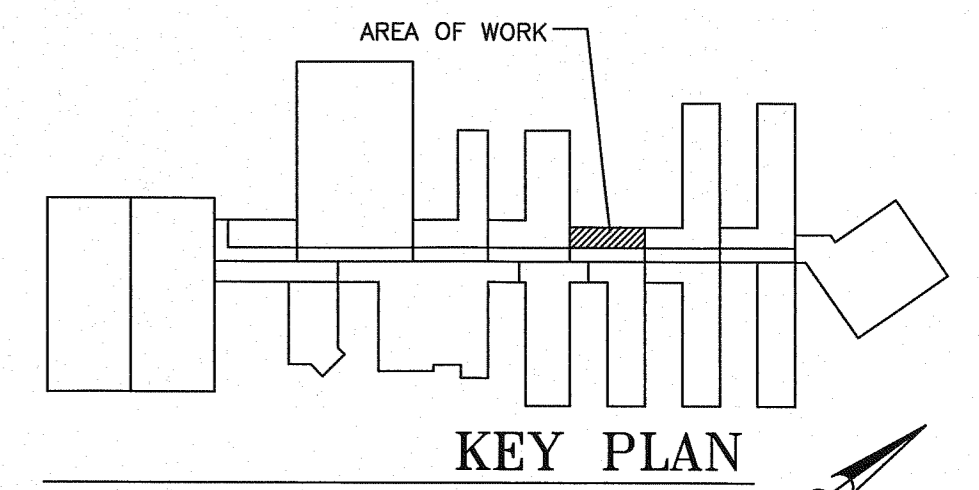
600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR. LIC: FIRE-SW-140-B1 • OR CONTR. LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	1
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	38
○	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	1
●	SSP	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHR	8
□	ECU	TYCO MODEL EC14	3/4 14.0K	155	BRASS	N/A	5
TOTAL SPRINKLERS SHOWN ON THIS SHEET							53

HANGER LEGEND		
A	ANGLE BRACKET	L 1" ROD
B	SMALL SUPER SCREW	M MACHINE THREADED ROD
C		N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STUD
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T TRAPEZE
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	*J BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

- GENERAL NOTES
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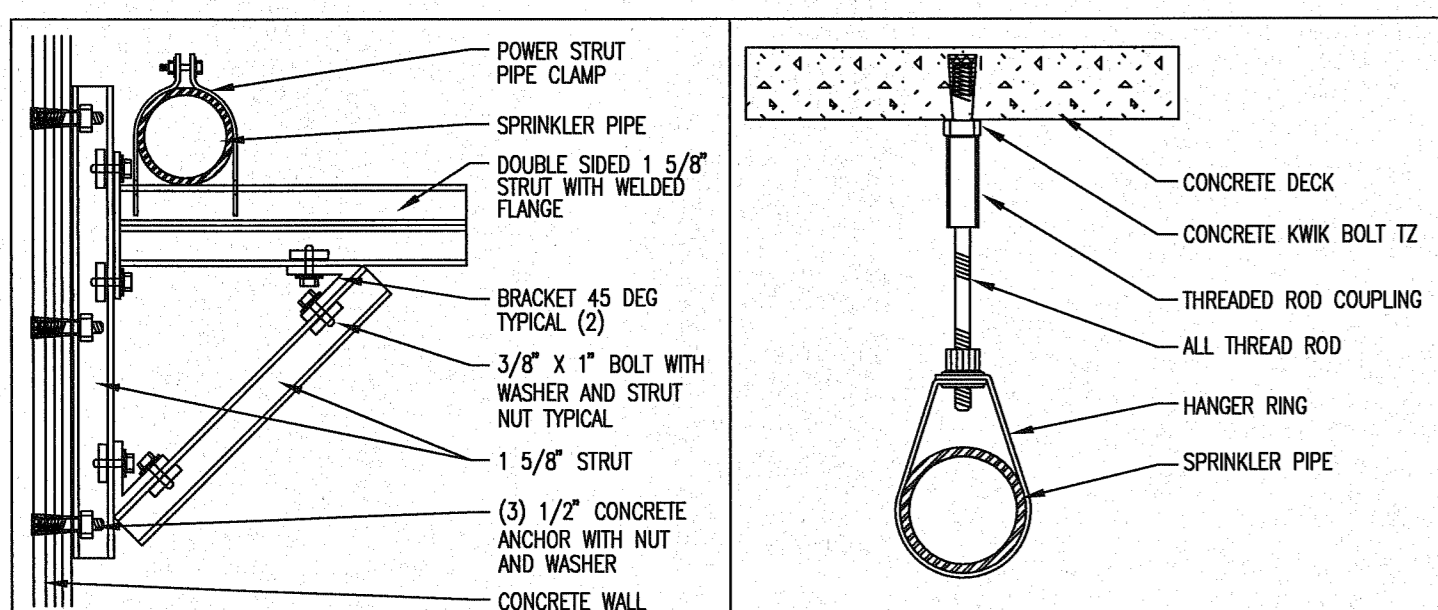


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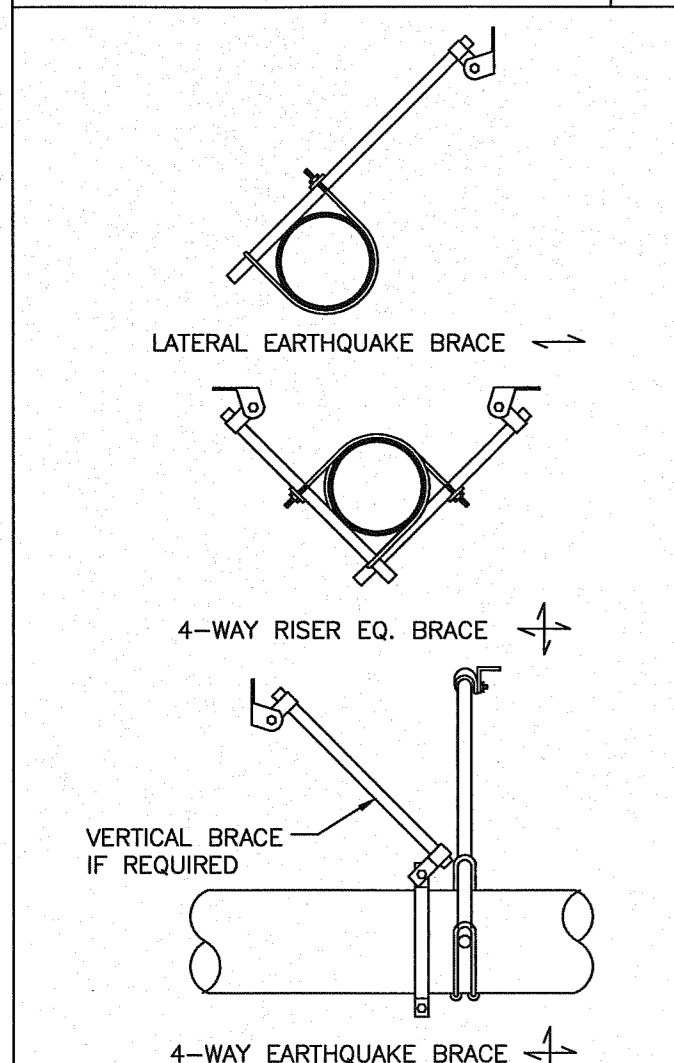
CONTRACT NAME:  
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

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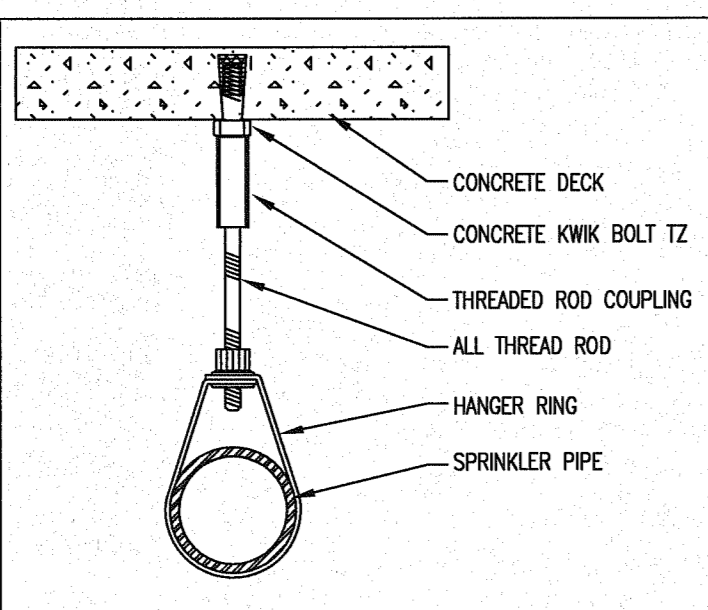
DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	14 OF 22



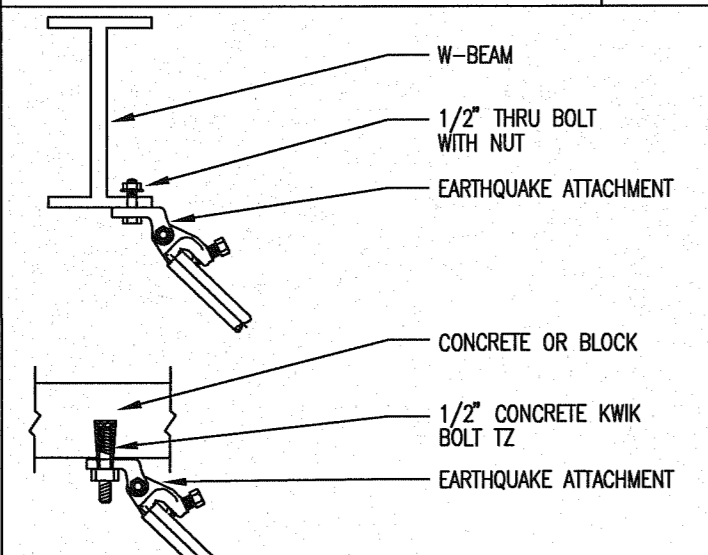
POWER STRUT WALL HANGER SUPPORT HANGER P



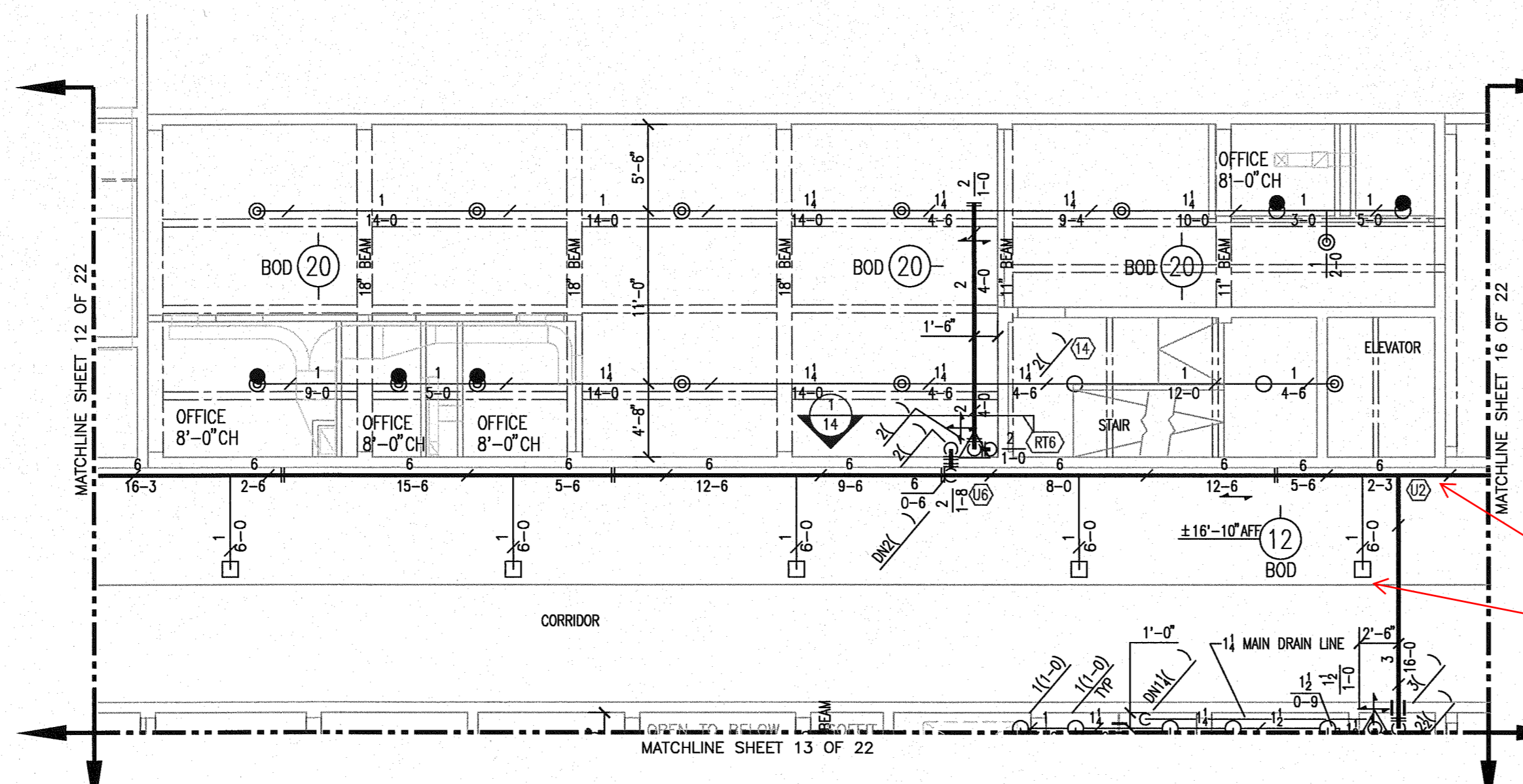
EARTHQUAKE BRACING



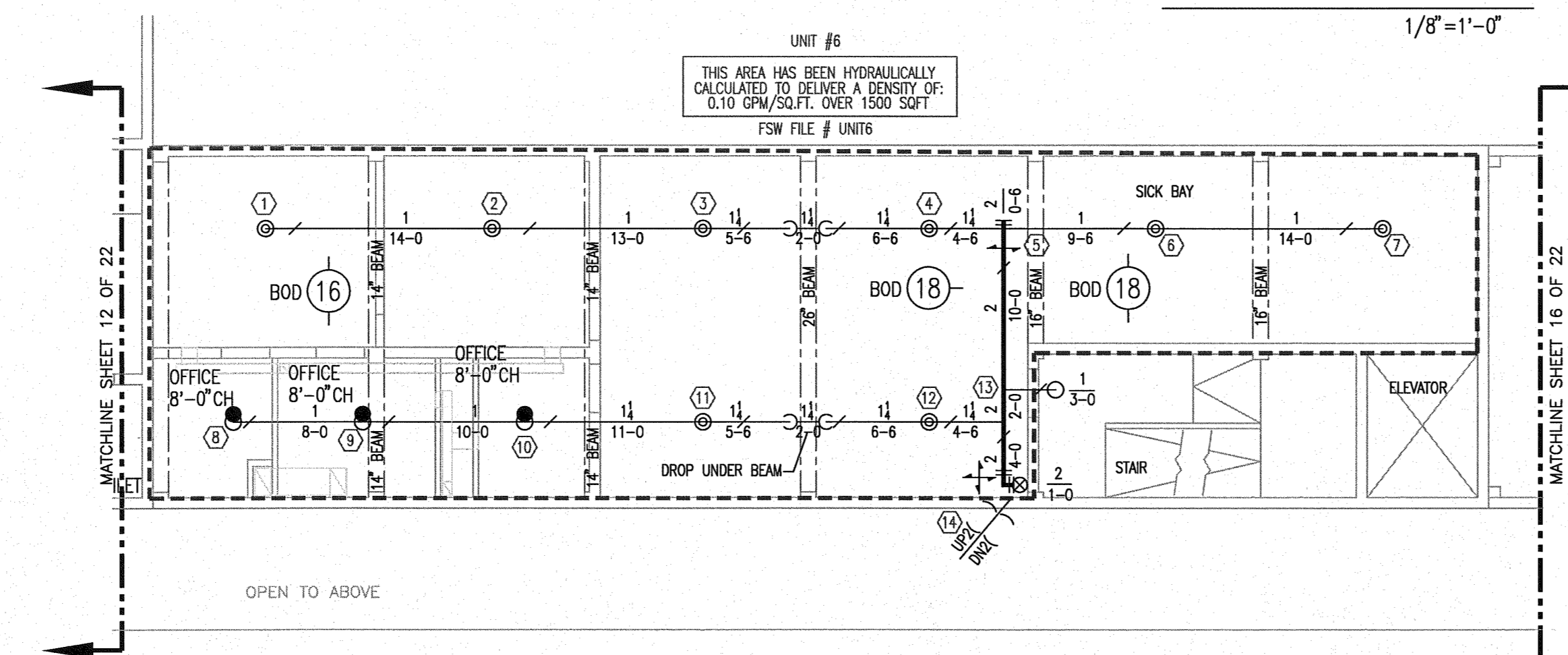
CONCRETE WEDGE ANCHOR HILTI KWIK BOLT - TZ HANGER E



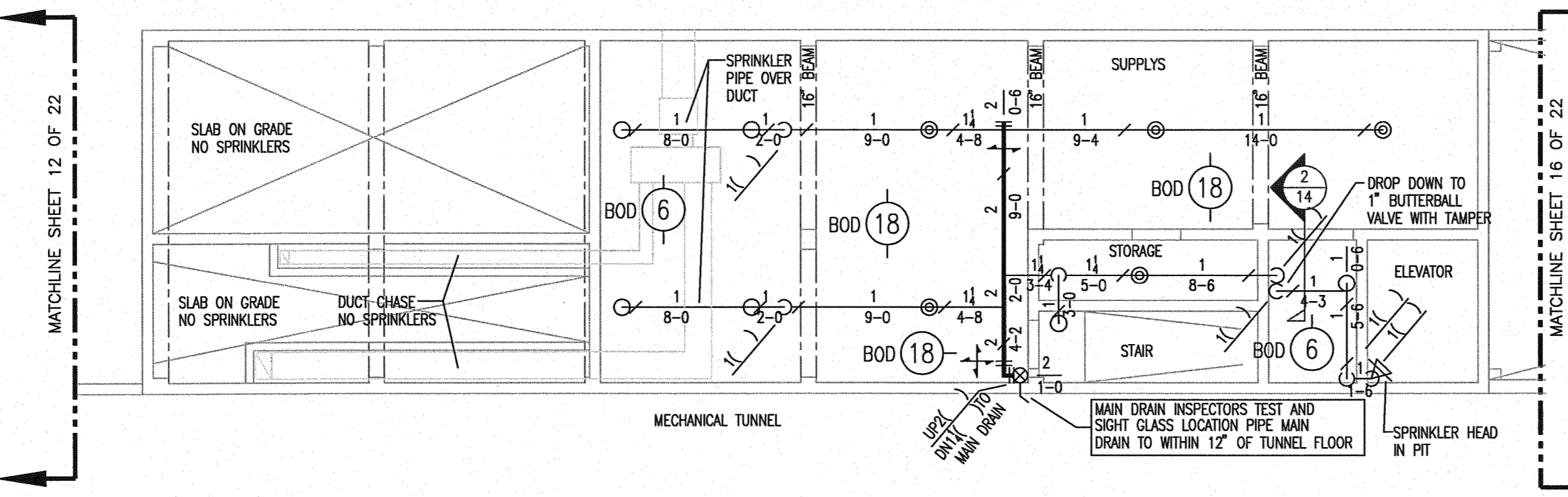
EARTHQUAKE BRACE ATTACHMENT



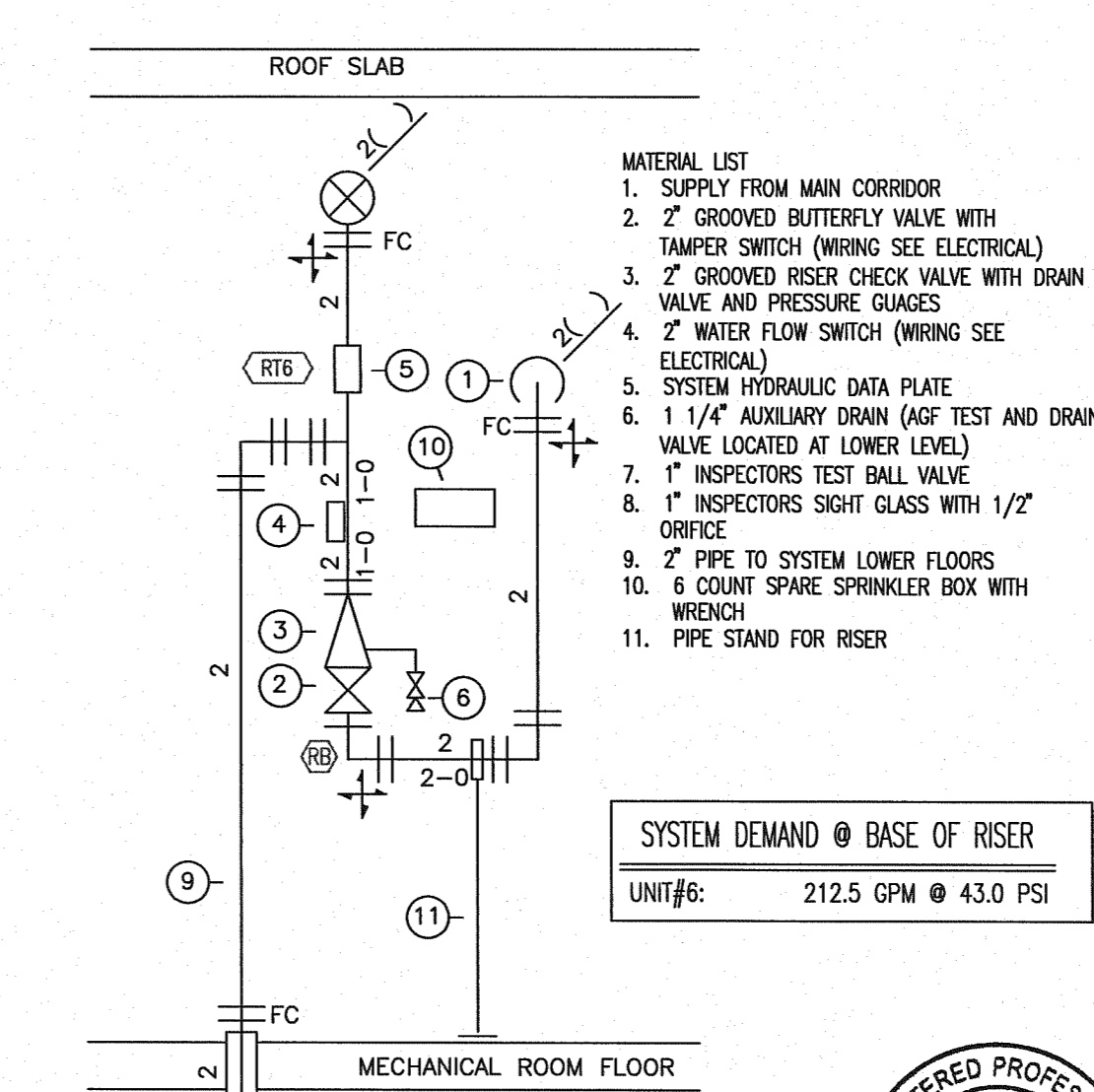
UPPER LEVEL 1/8" = 1'-0"



MAIN LEVEL 1/8" = 1'-0"



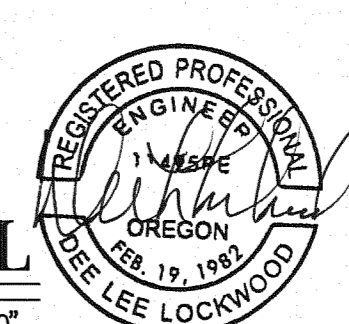
LOWER LEVEL 1/8" = 1'-0"



RISER DETAIL 1/2" = 1'-0" EXPIRES: 12-31-14

BASE BID UNIT 6 HEALTH

SYSTEM DEMAND @ BASE OF RISER  
UNIT#6: 212.5 GPM @ 43.0 PSI







# Fire Systems West

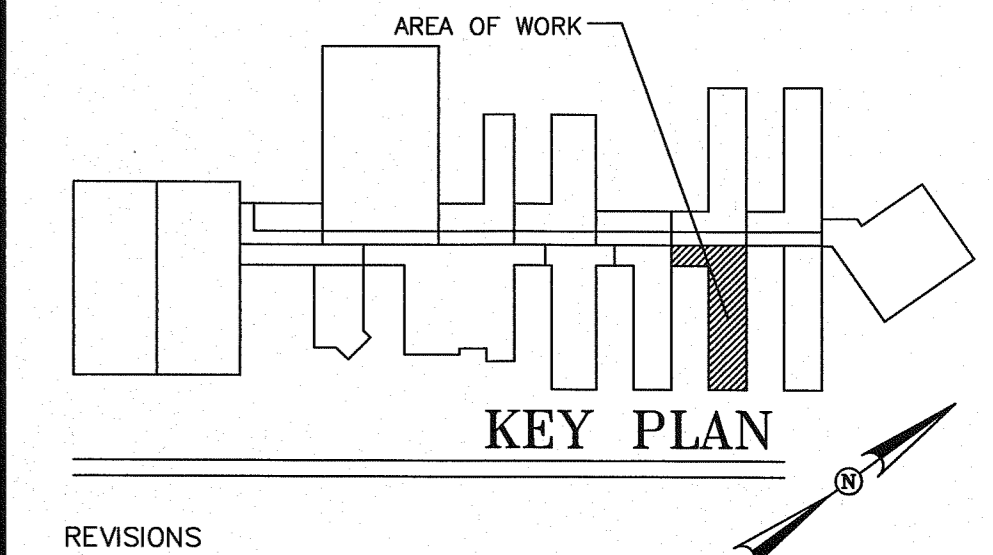
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SPRINKLER SYMBOL DESCRIPTION							
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○	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	1
○	HSW	RAVEN	1/2" 5.6K	155	CHROME	REC CHRM	72
○	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHRM	3
□	EDU	TYCO MODEL EC14	3/4" 14.0K	155	BRASS	N/A	9
TOTAL SPRINKLERS SHOWN ON THIS SHEET							107

HANGER LEGEND			
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
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  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

- DESIGN CRITERIA AND NOTES**
- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OSHA STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
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  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



**REVISIONS**

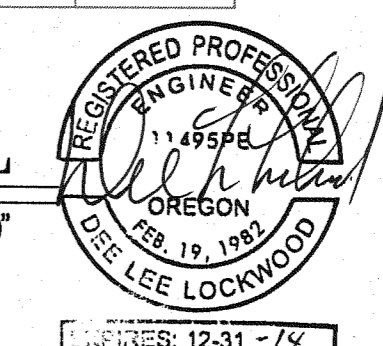
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

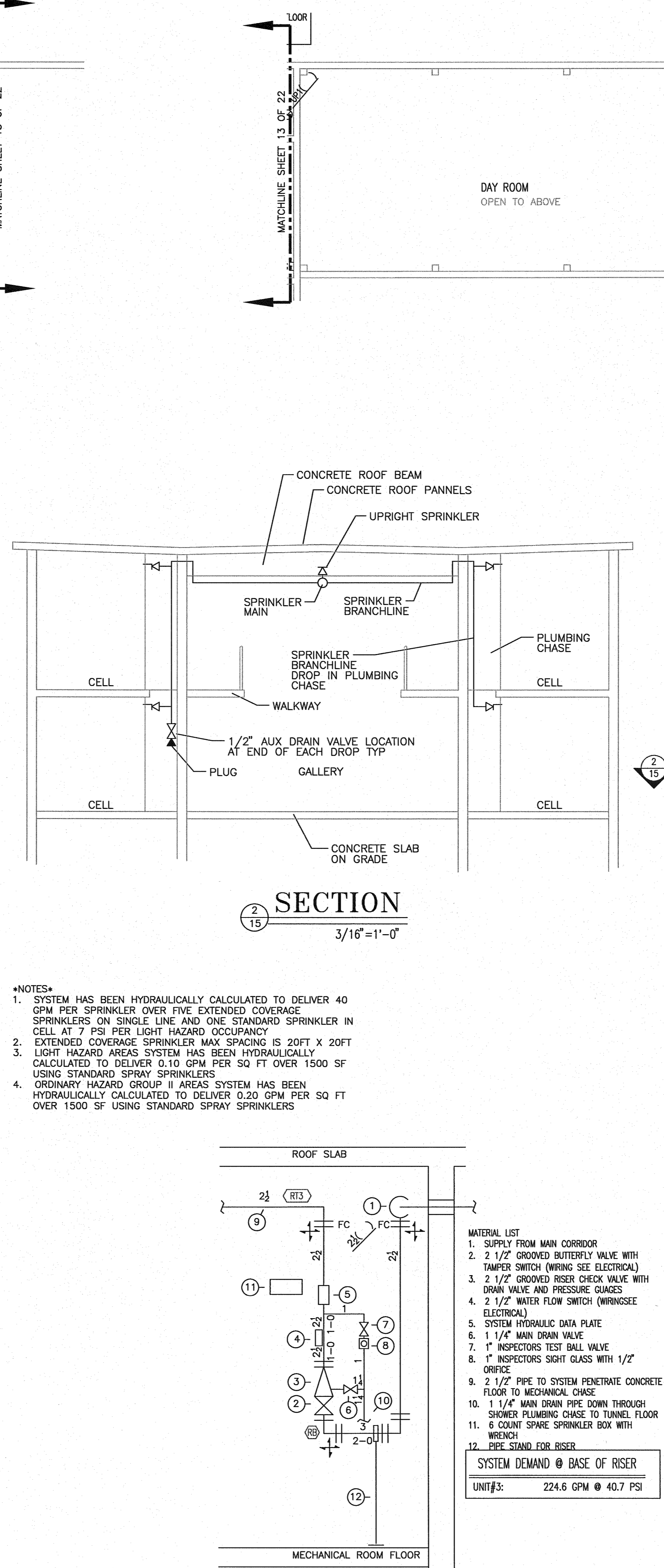
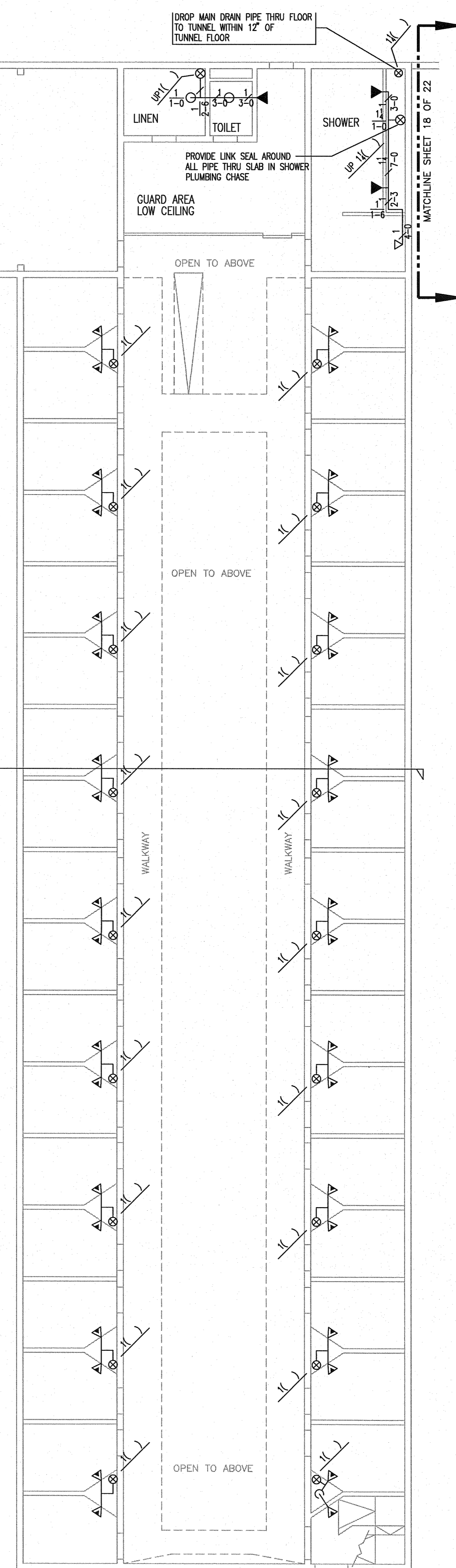
CONTRACT WITH:  
 WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

UNIT #3

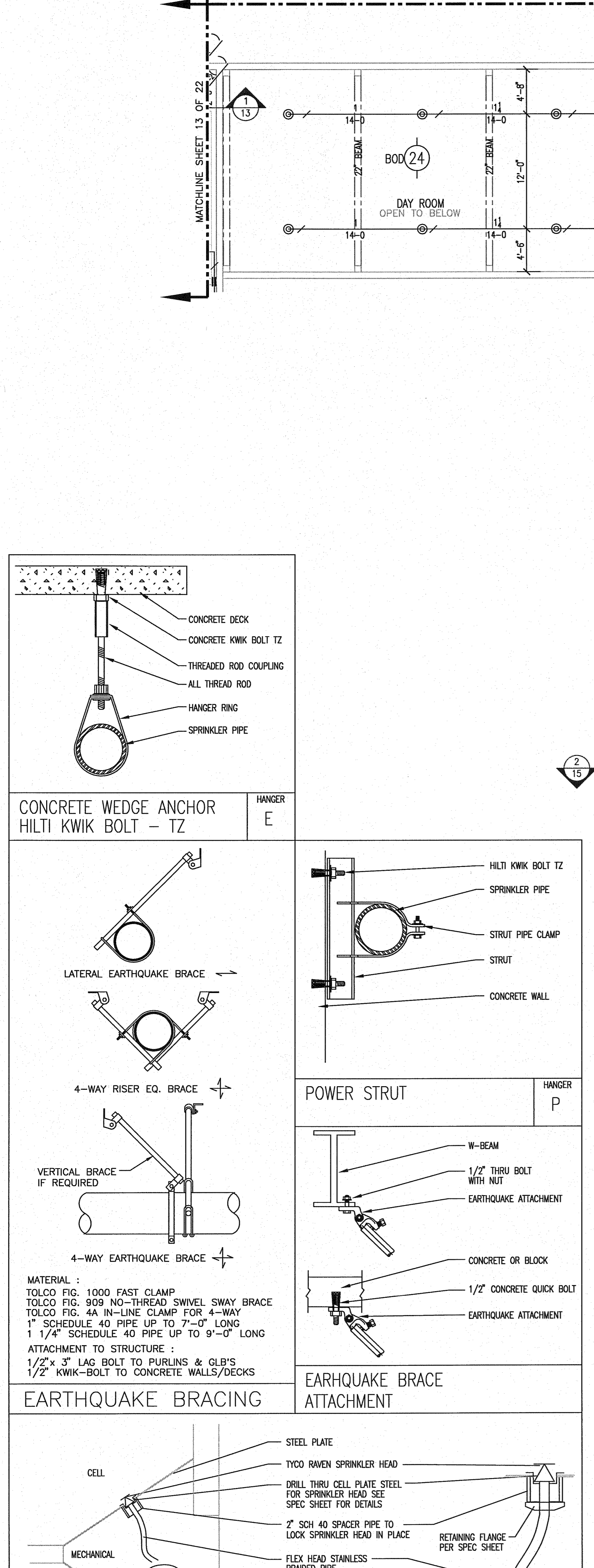
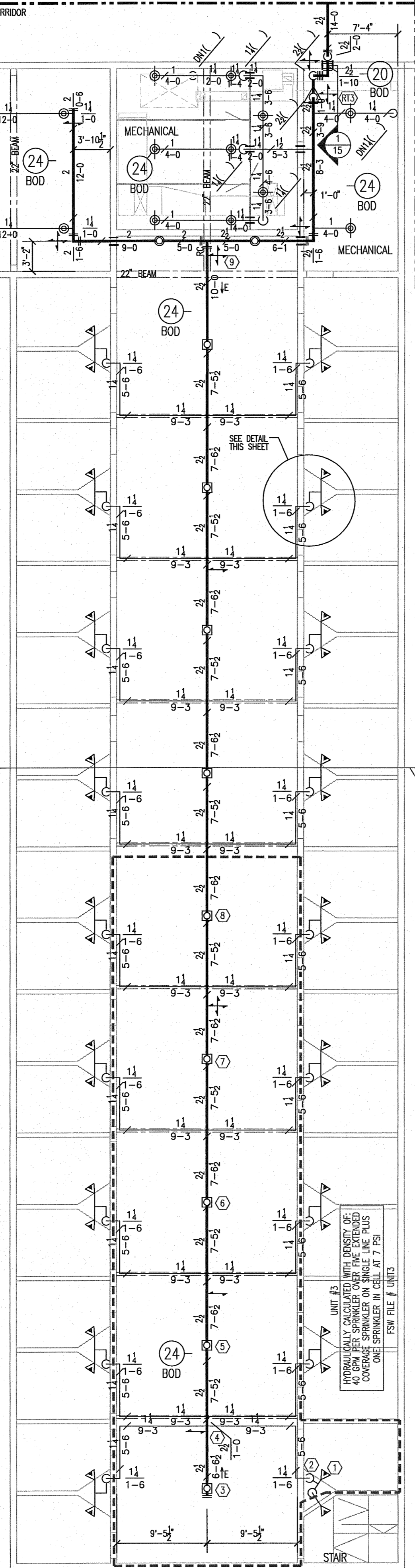
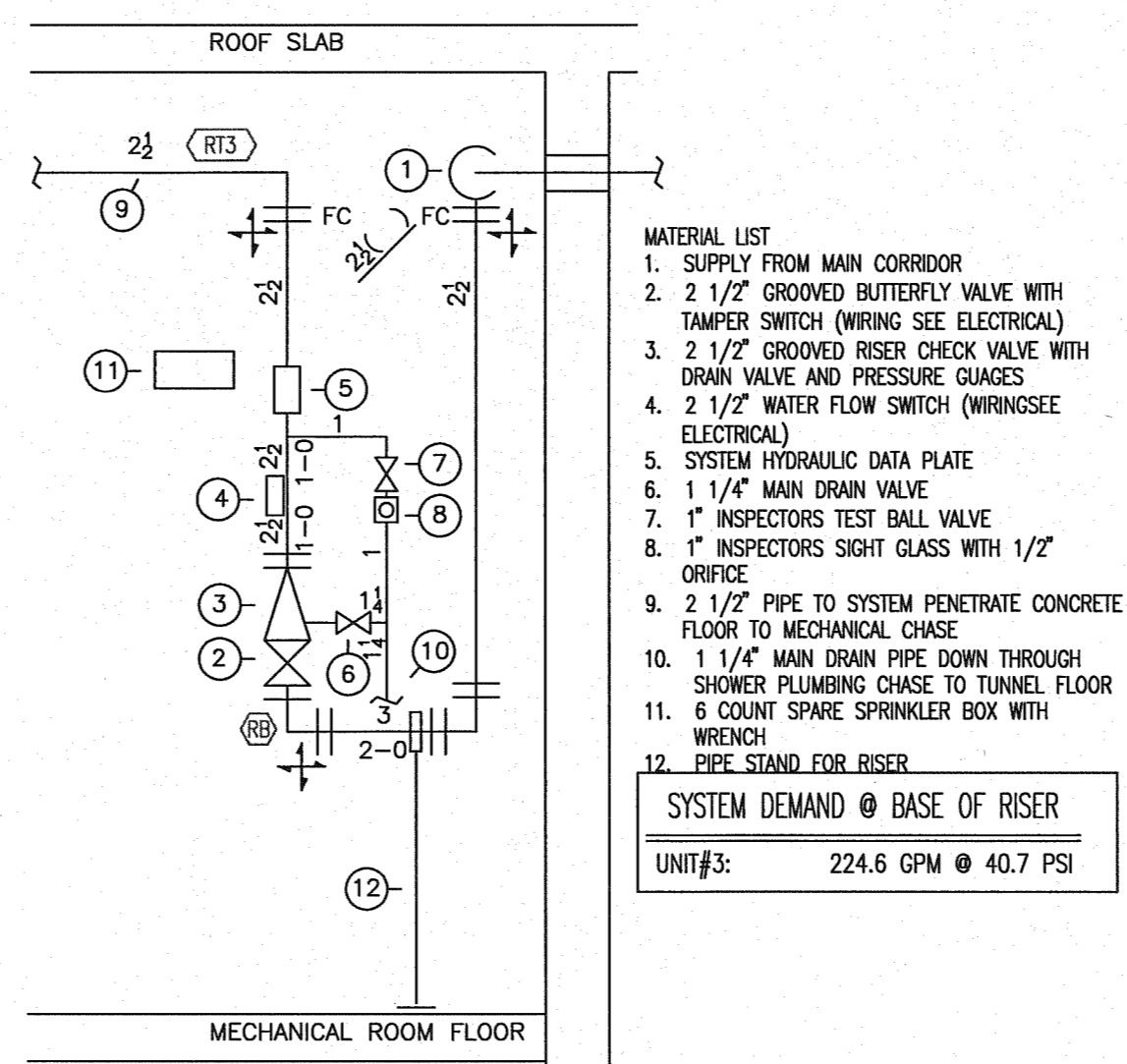
DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	15 OF 22



REVISED: 12-31-14



- \*NOTES\***
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**NOTE:**  
 COORDINATED PIPE LOCATIONS WITH EXISTING PIPING AND MECHANICAL





# Fire Systems West

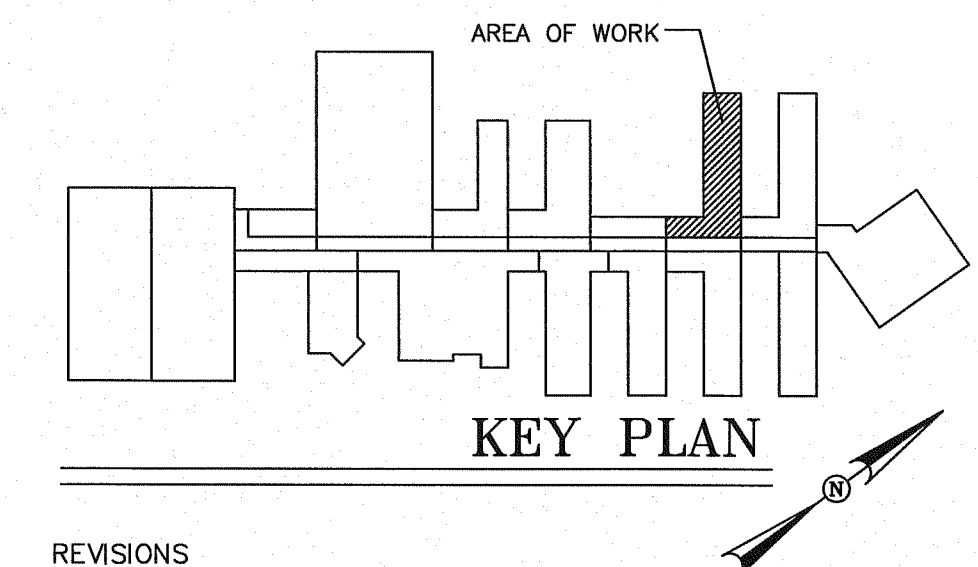
600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98661  
 (360) 693-9906 fax: (503) 289-2208  
 WA CONTR LIC: FIRE-SW-140-81 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	200	BRASS	N/A	6
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	12
△	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	1
△	HSW	RAVEN	1/2" 5.6K	155	CHROME	REC CHRM	72
▶	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHRM	3
TOTAL SPRINKLERS SHOWN ON THIS SHEET							94

HANGER LEGEND			
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C	INVERTED BEAM CLAMP	N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	SIDE WINDER	R	CONCRETE ANCHOR
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

- GENERAL NOTES**
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
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**REVISIONS**

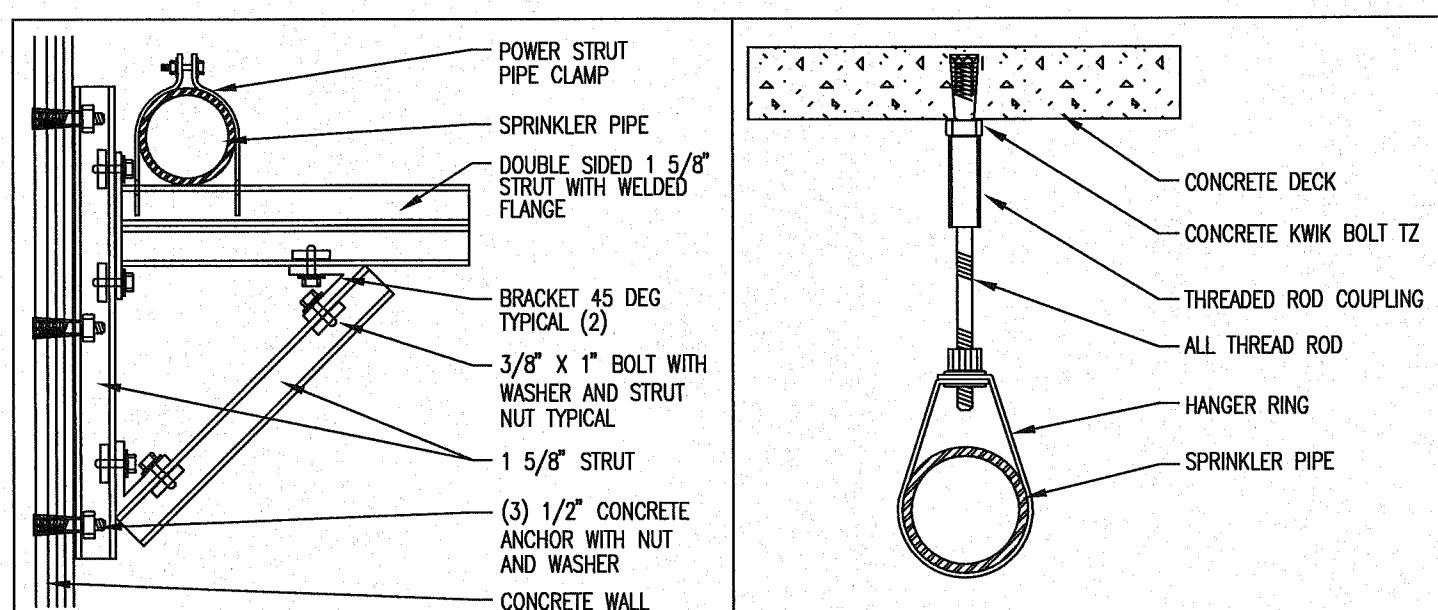
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

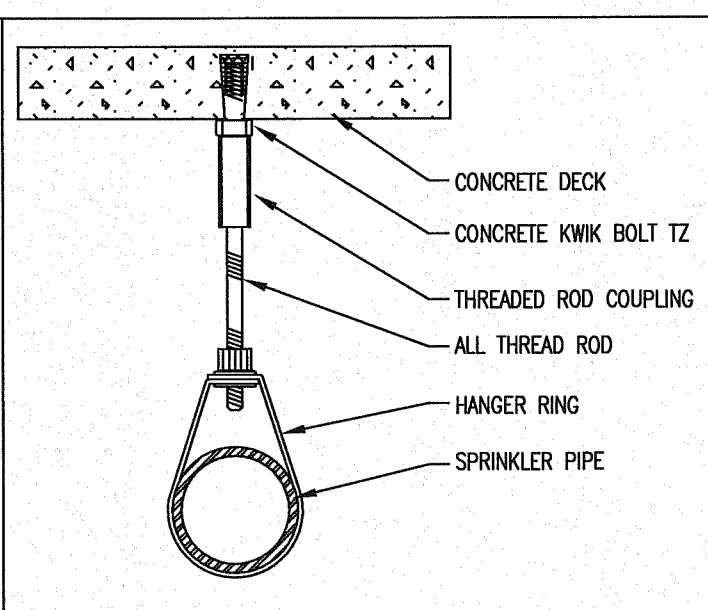
CONTRACT WITH:  
 WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

UNIT #4

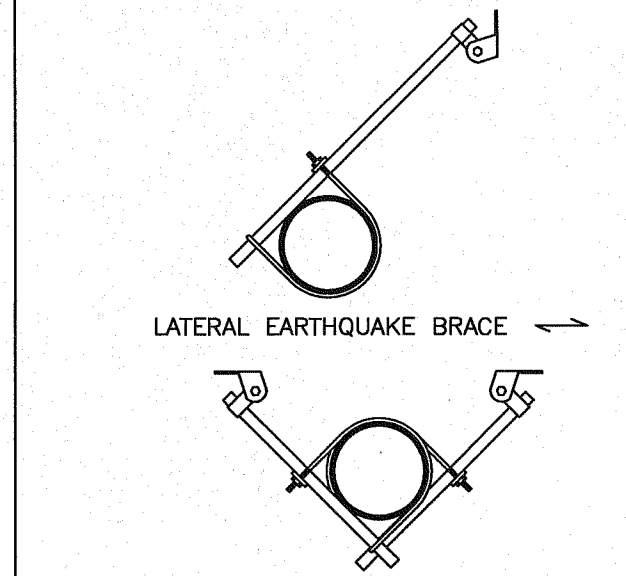
DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	16 OF 22



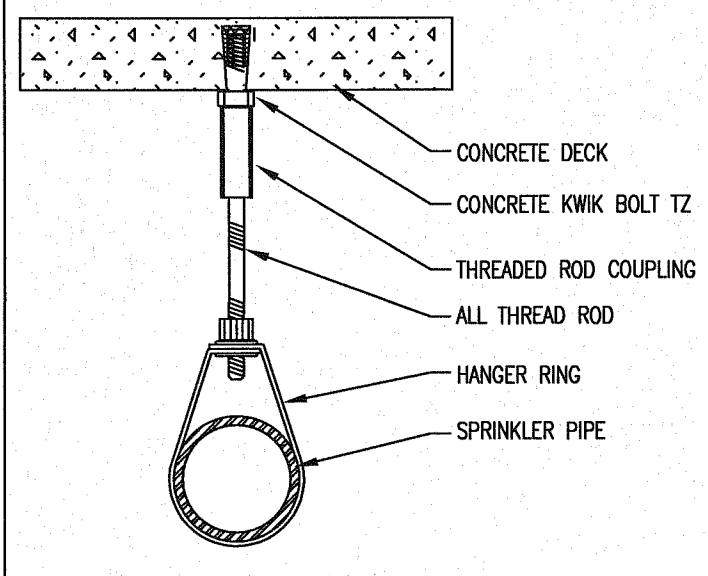
POWER STRUT WALL HANGER SUPPORT



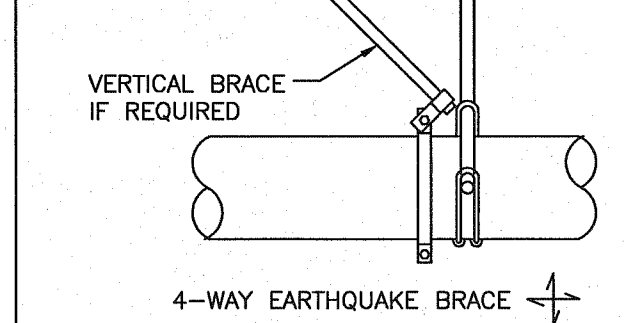
CONCRETE WEDGE ANCHOR HILTI KWIK BOLT - TZ



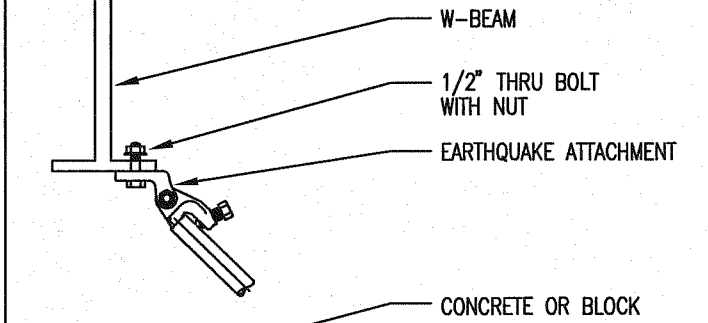
LATERAL EARTHQUAKE BRACE



CONCRETE WEDGE ANCHOR HILTI KWIK BOLT - TZ



4-WAY EARTHQUAKE BRACE

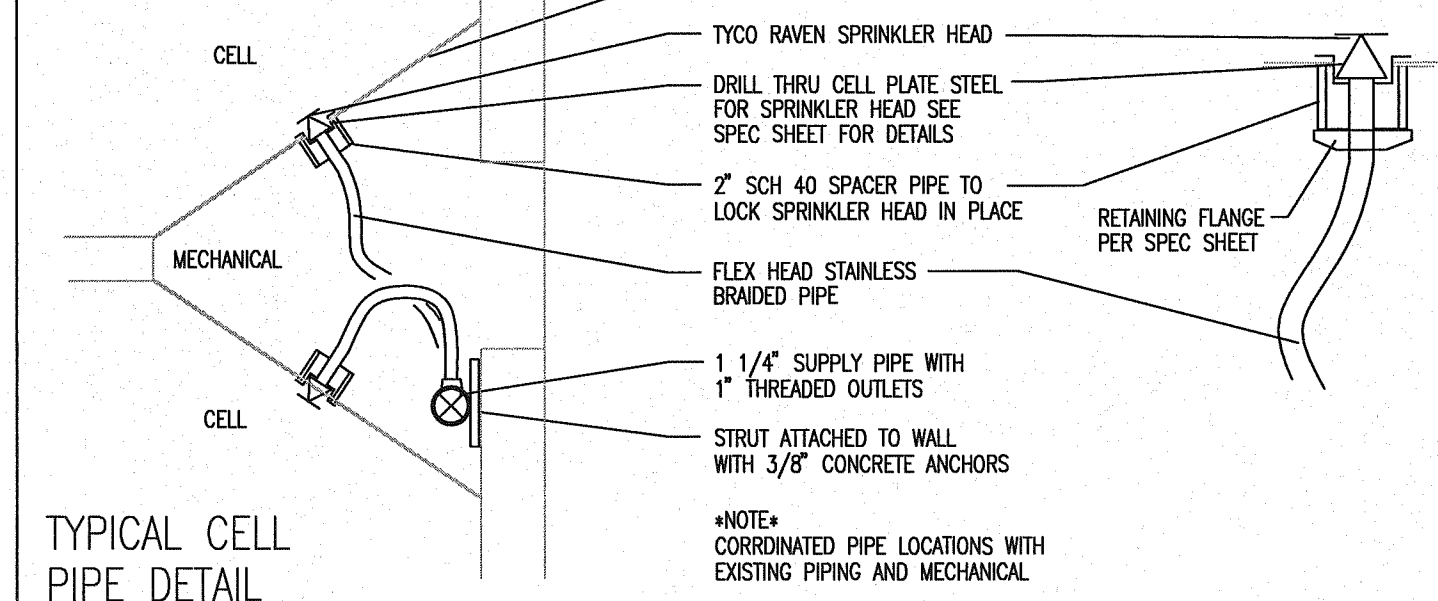


EARTHQUAKE BRACE ATTACHMENT

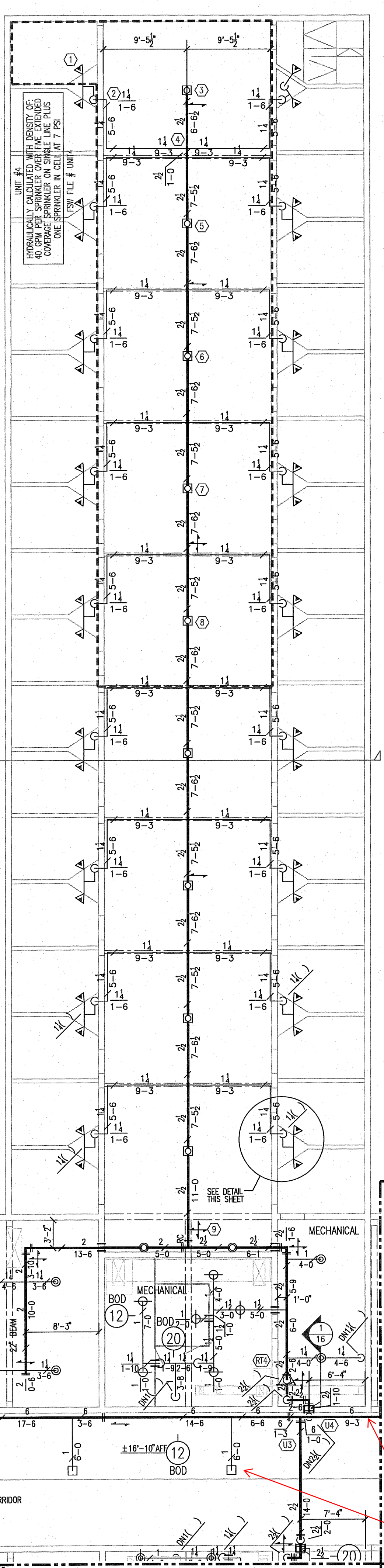
**MATERIAL :**  
 TOLCO FIG. 1000 FAST CLAMP  
 TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
 TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
 1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
 1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG

**ATTACHMENT TO STRUCTURE :**  
 1/2" x 3" LAG BOLT TO PURLINS & GLB'S  
 1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

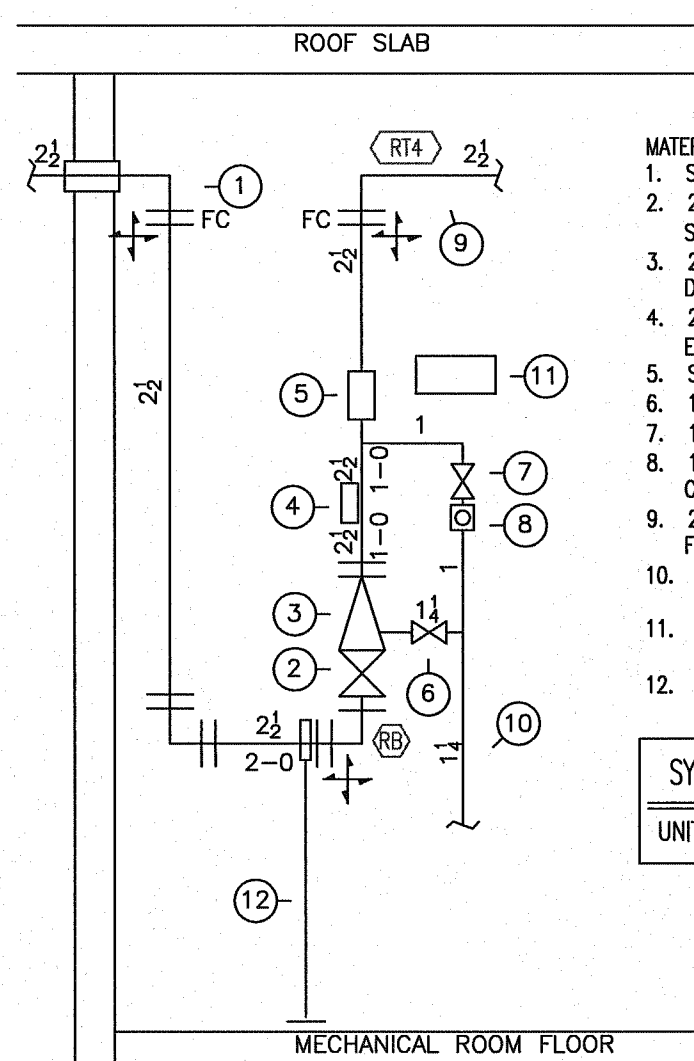
EARTHQUAKE BRACING



TYPICAL CELL PIPE DETAIL



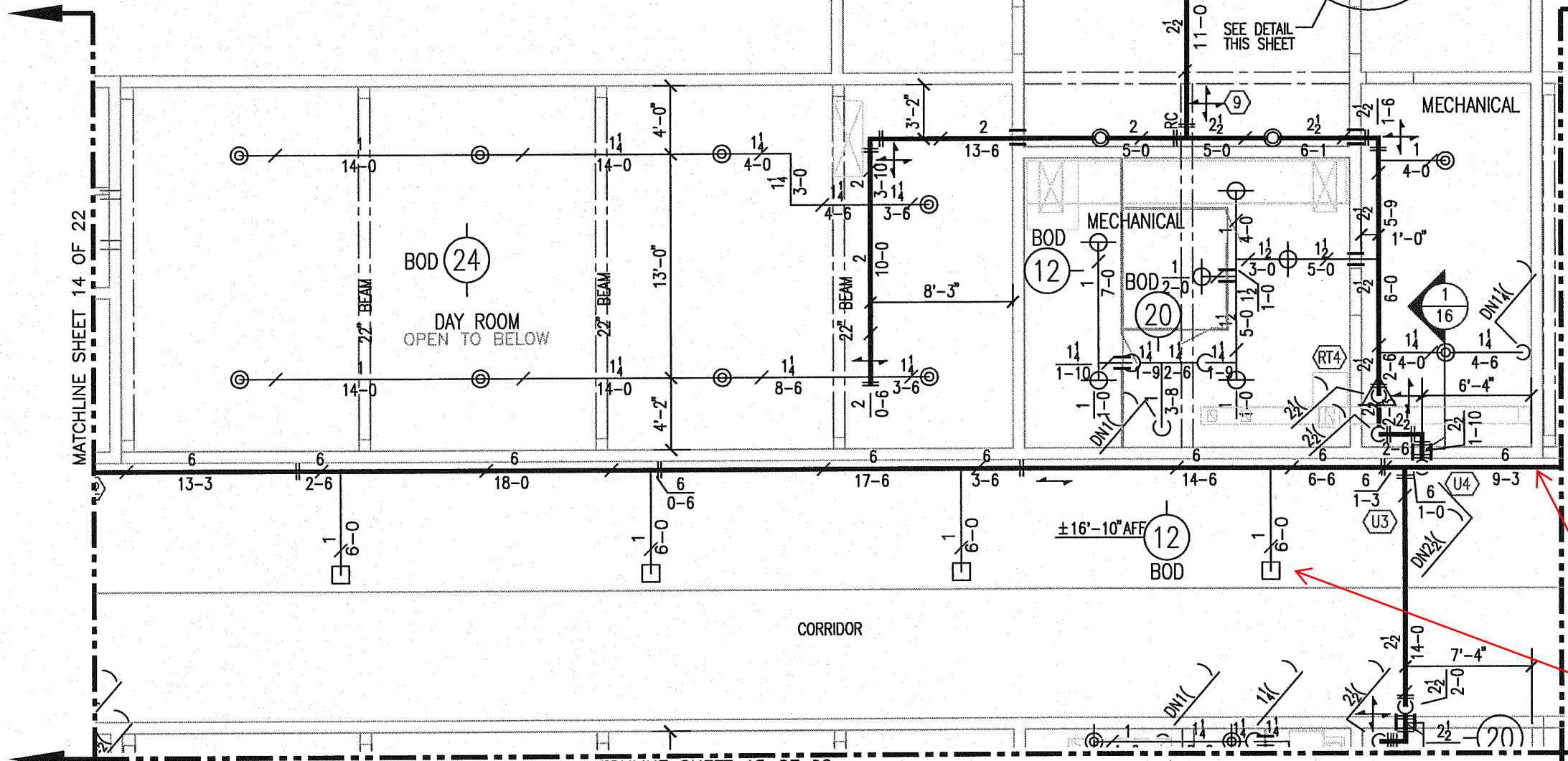
- \*NOTES\***
- SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 40 GPM PER SPRINKLER OVER FIVE EXTENDED COVERAGE SPRINKLERS ON SINGLE LINE AND ONE STANDARD SPRINKLER IN CELL AT 7 PSI PER LIGHT HAZARD OCCUPANCY
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RISER DETAIL

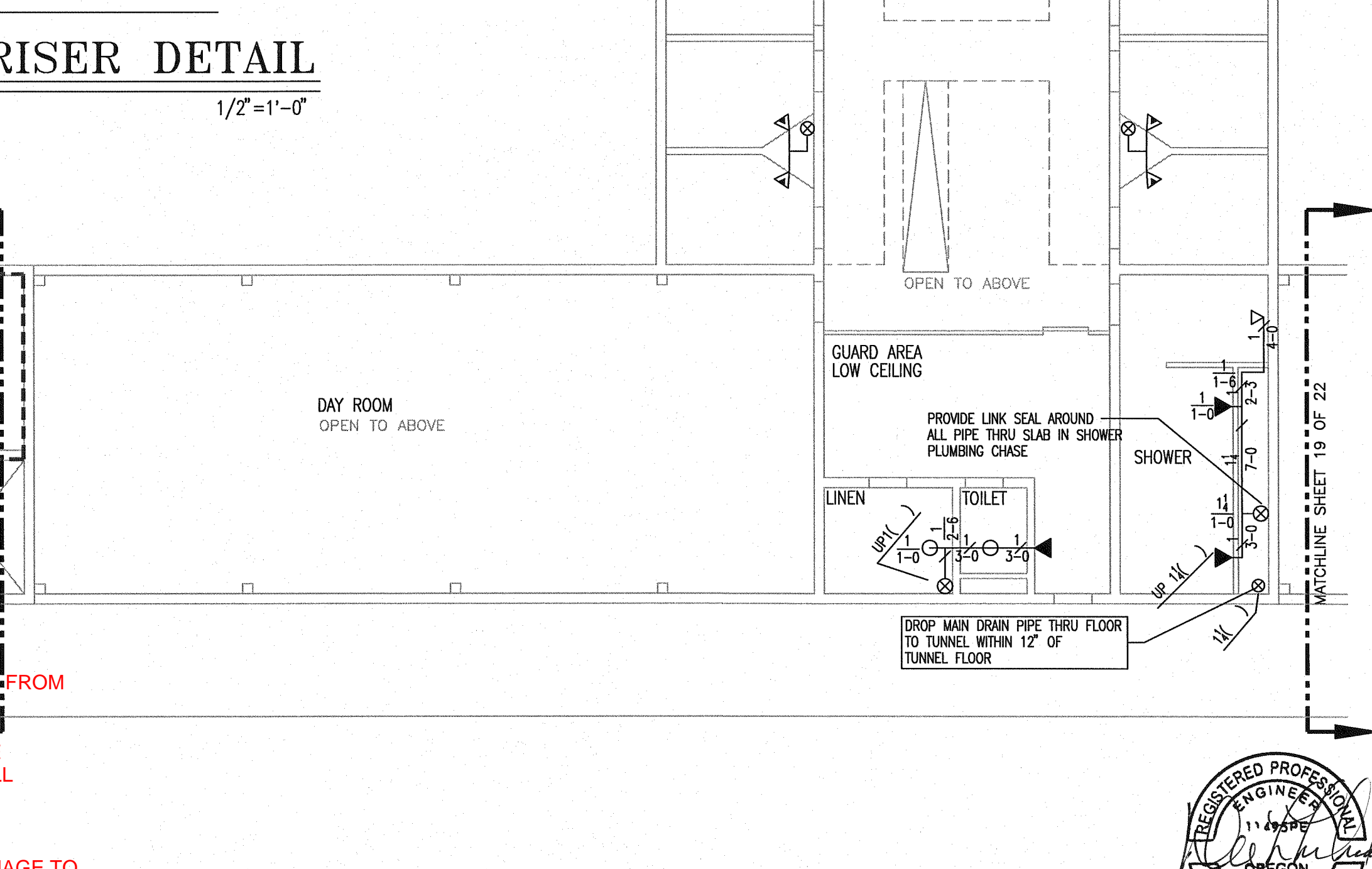
1/2" = 1'-0"

SUPPLY MAIN SUPPORTED FROM WALL BRACKETS  
 SERVE NON COMBUSTIBLE CORRIDOR WITH SIDE WALL HEADS  
 CEILING TILES CONTAIN ASBESTOS, NO WORK/DAMAGE TO CEILING TILES



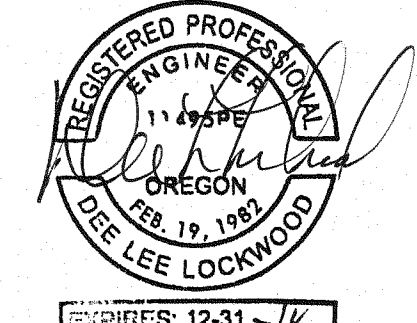
UPPER LEVEL

1/8" = 1'-0"



MAIN LEVEL

1/8" = 1'-0"







# Fire Systems West

600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98661  
 (360) 693-9906 fax: (503) 289-2208  
 WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

### SPRINKLER SYMBOL DESCRIPTION

SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	N/A	1
▷	HSW	RAVEN	1/2" 5.6K	155	CHROME	REC CHRM	35
TOTAL SPRINKLERS SHOWN ON THIS SHEET							36

### HANGER LEGEND

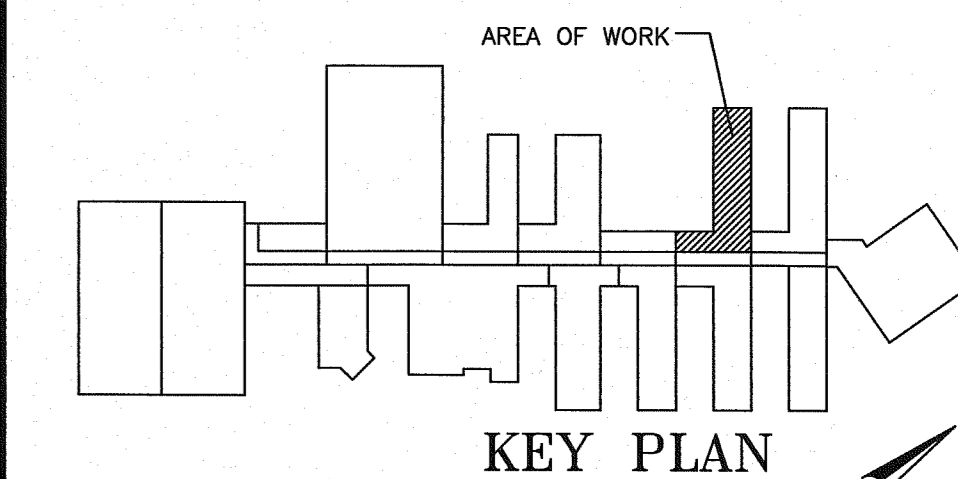
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
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B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

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### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

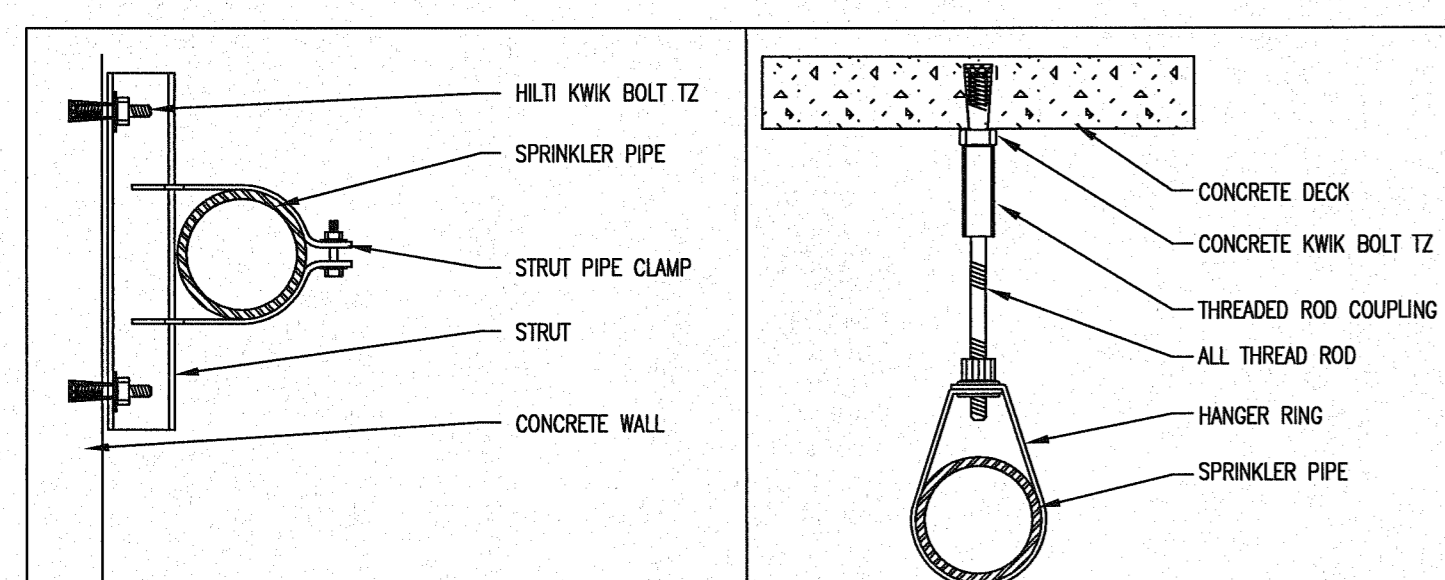
O.S.C.I.  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

### CONTRACT WITH:

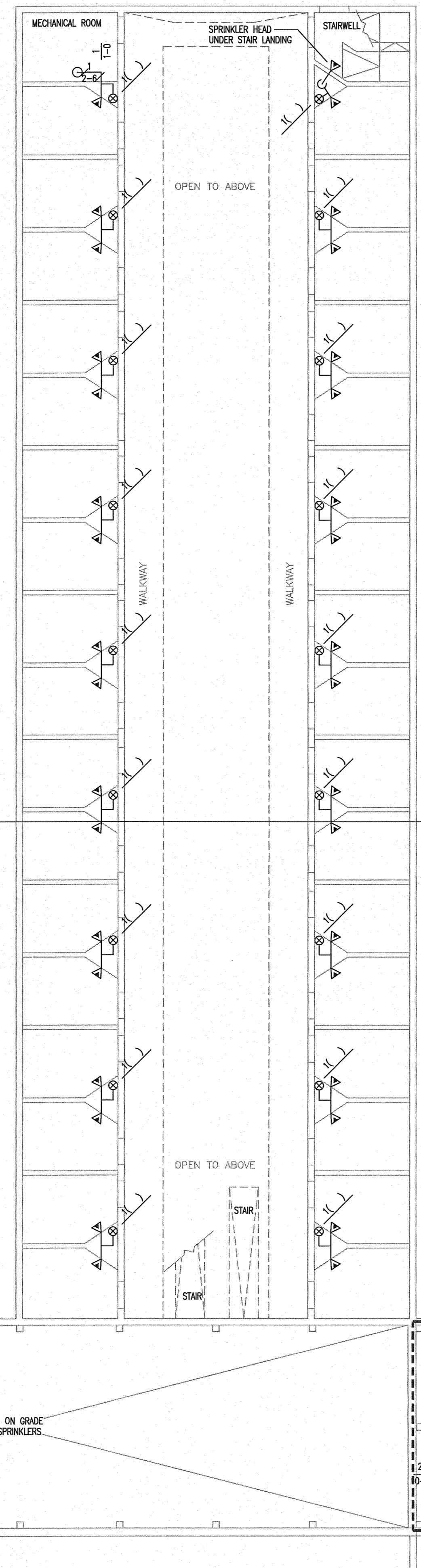
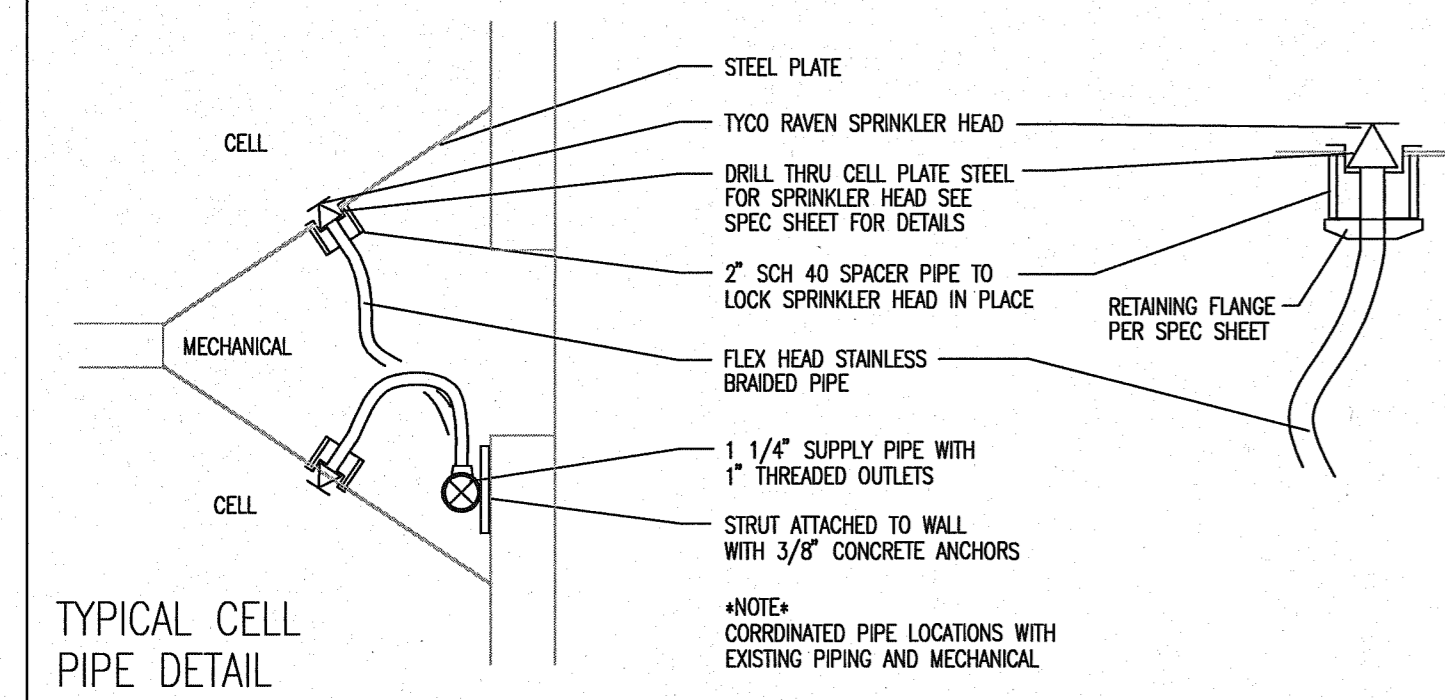
WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

### UNIT #4

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	17 OF 22



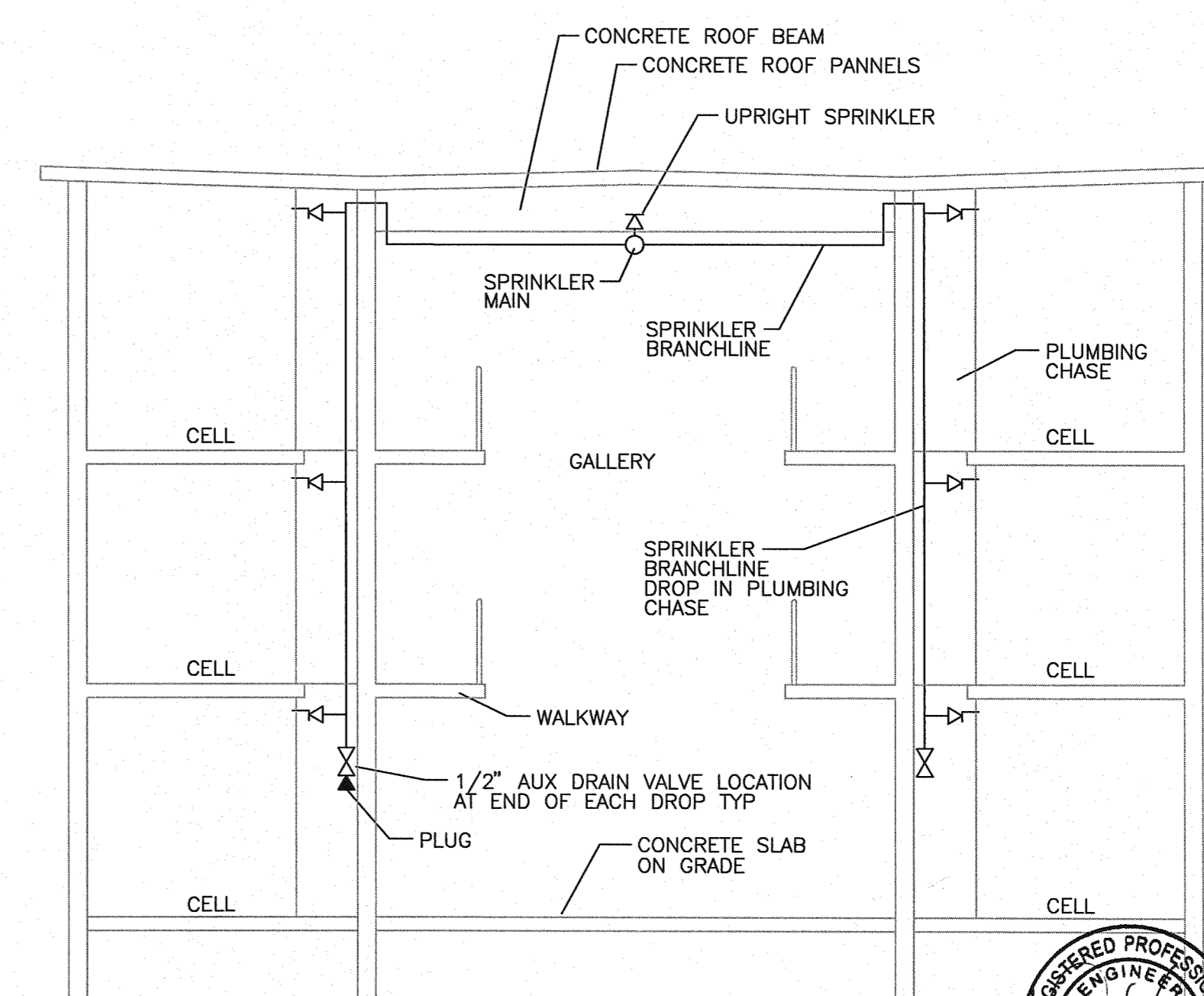
POWER STRUT HANGER P CONCRETE WEDGE ANCHOR HILTI KWIK BOLT - TZ HANGER E



## LOWER LEVEL

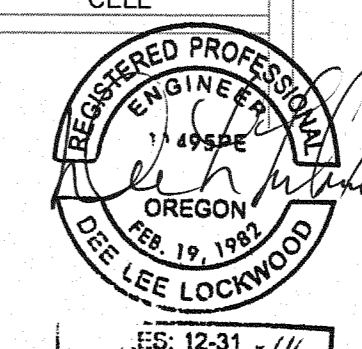
1/8" = 1'-0"

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## SECTION

3/16" = 1'-0"

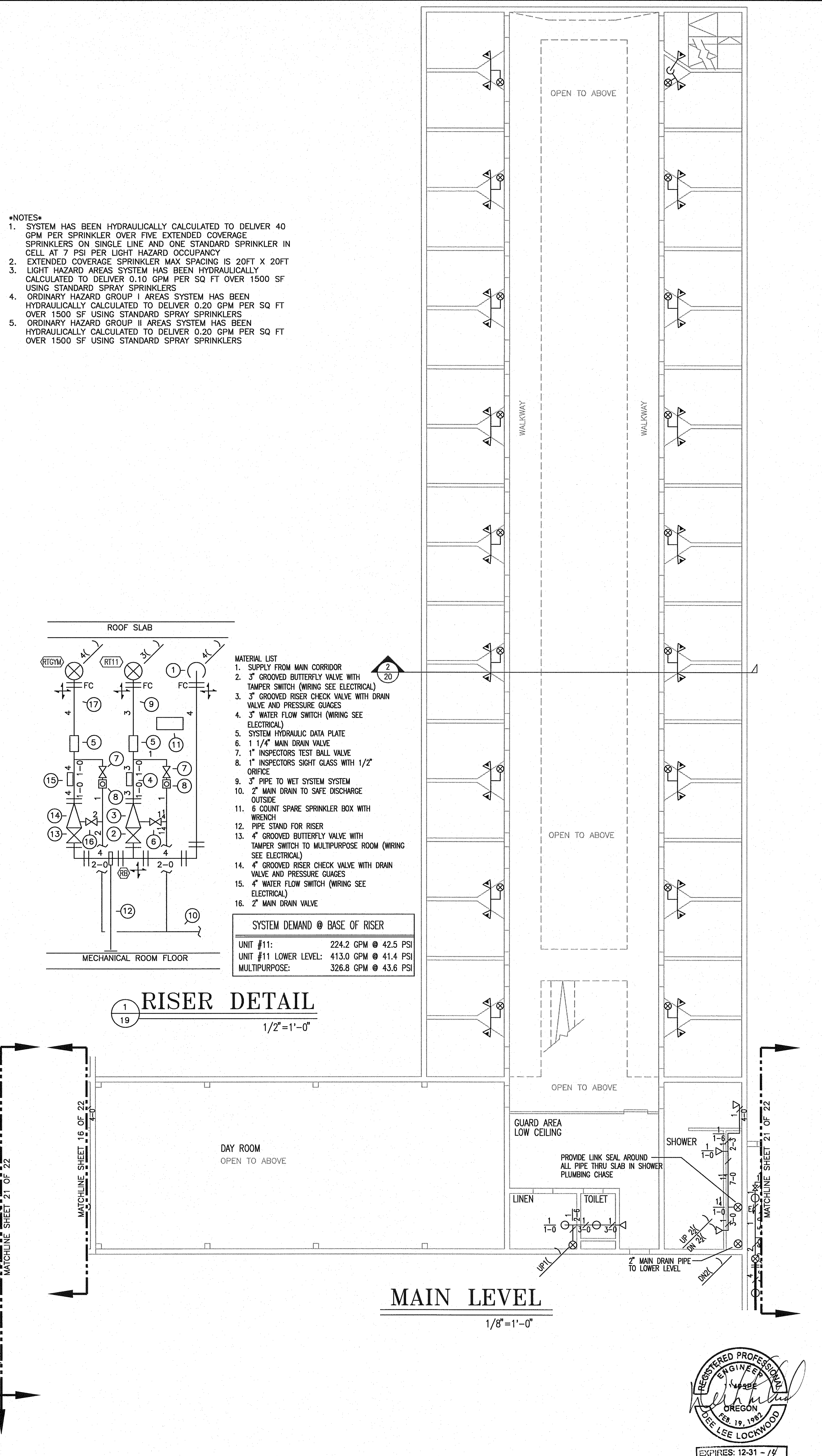
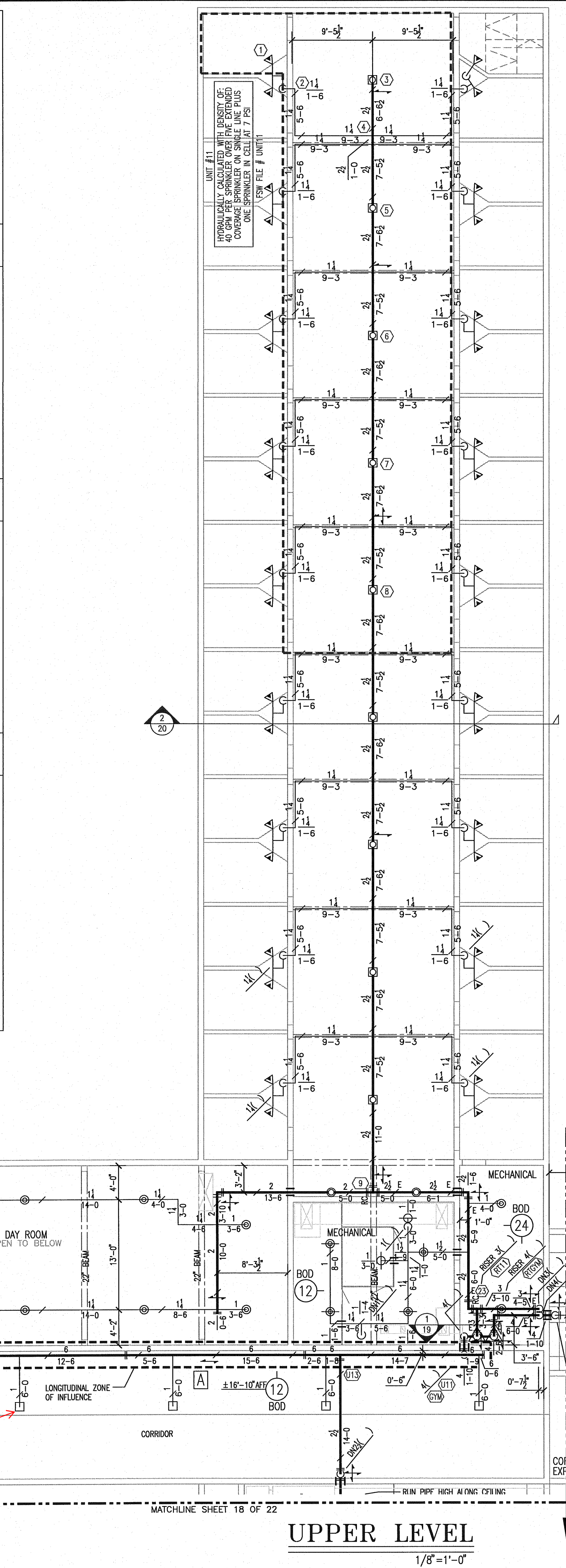
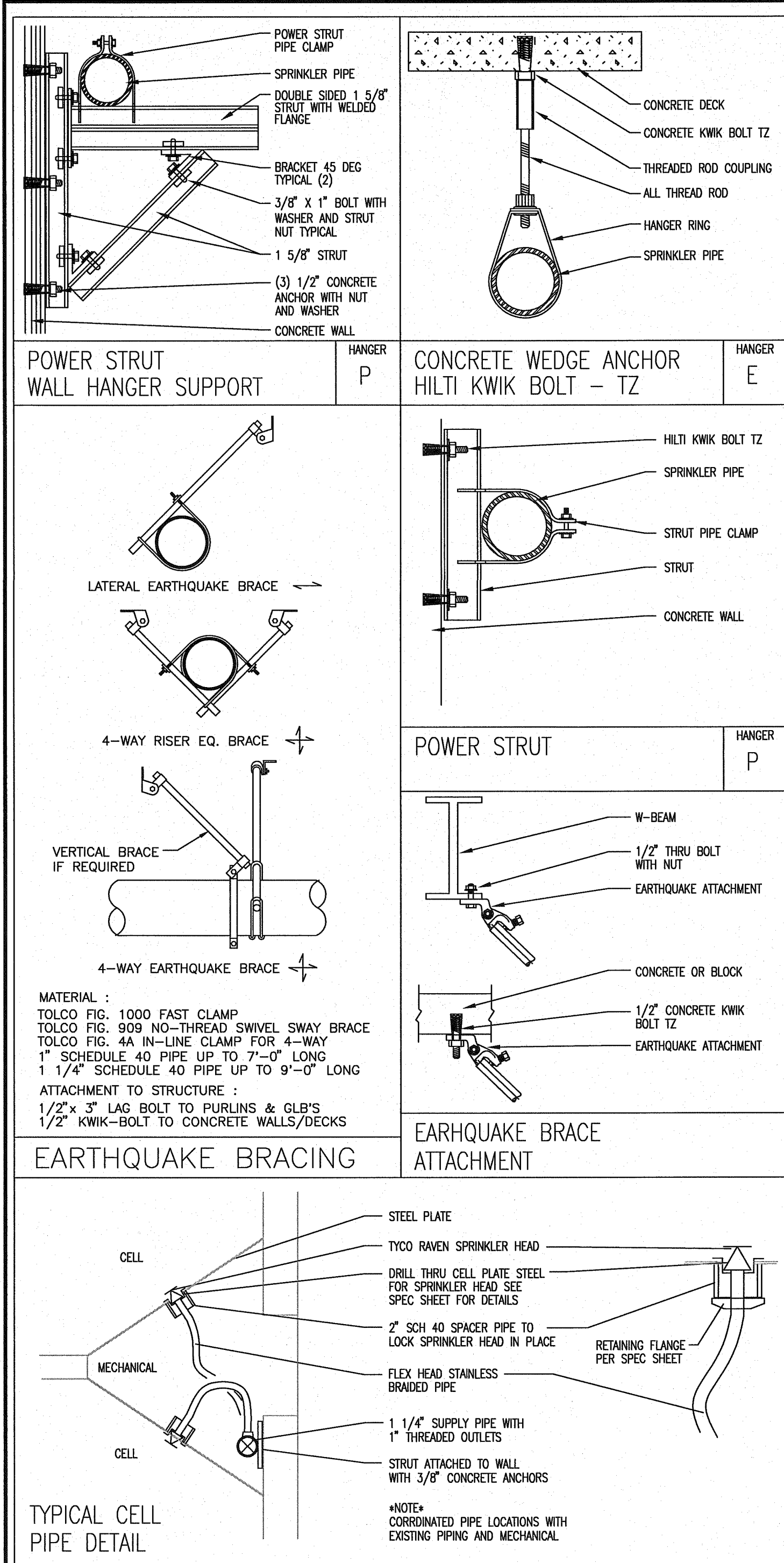


ES: 12-31 - 14









**Fire Systems West**

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WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

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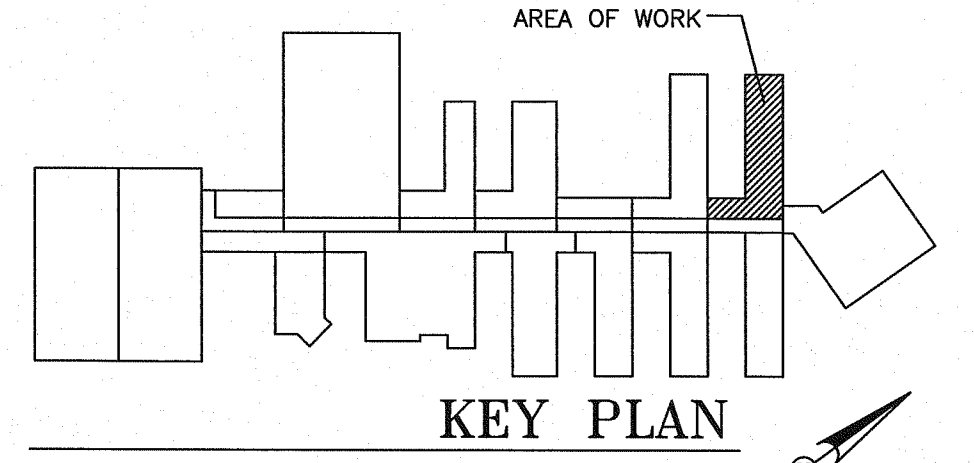
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▽	HSW	RAVEN	1/2" 5.6K	155	CHROME	REC CHRM	72
□	ECU	TYCO MODEL EC-14	1/2" 5.6K	155	BRASS	N/A	14
▶	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	CHROME	REC CHRM	3
TOTAL SPRINKLERS SHOWN ON THIS SHEET							110

**HANGER LEGEND**

LETTER	DESCRIPTION	LETTER	DESCRIPTION
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  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

- DESIGN CRITERIA AND NOTES**
- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OCSI STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
  - THE INSTALLING CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT INSPECTION AND TESTING AGENCY QUALIFIED TO PROVIDE INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR ALL PIPING AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. PRIOR TO THE START OF CONSTRUCTION THE INSTALLING CONTRACTOR SHALL SUBMIT QUALIFICATION INFORMATION ON THE PROPOSED INSPECTION AND TESTING FIRM FOR REVIEW AND APPROVAL BY DOC. NO INSTALLATION WORK WILL BE ALLOWED UNTIL DOC APPROVAL OF THE INSPECTION AND TESTING FIRM IS GIVEN.
  - THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TEST REQUIRED AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK, OR REQUIRED BY APPLICABLE CODES. PRIOR TO STARTING CONSTRUCTION THE INSTALLING CONTRACTOR SHALL PROVIDE THE DOC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS, INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



**REVISIONS**

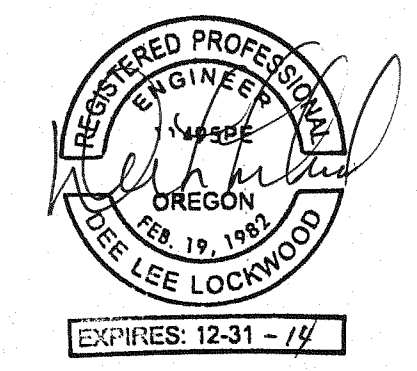
NO.	DESCRIPTION	DATE

**CONTRACT NAME:**  
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

**CONTRACT WITH:**  
WESTTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

**UNIT #11**

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	19 OF 22



**SUPPLY MAIN SUPPORTED FROM WALL BRACKETS**

**SERVE NON COMBUSTIBLE CORRIDOR WITH SIDE WALL HEADS**

**CEILING TILES CONTAIN ASBESTOS, NO WORK/DAMAGE TO CEILING TILES**





# Fire Systems West

600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208

WA CONTR LIC: FIRE-SWI-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
□	SSU	TYCO MODEL TY-FRB	3/4" 8.0K	155	BRASS	N/A	16
▶	HSW	RAVEN	1/2" 5.8K	155	CHROME	REC CHRM	36
TOTAL SPRINKLERS SHOWN ON THIS SHEET							52

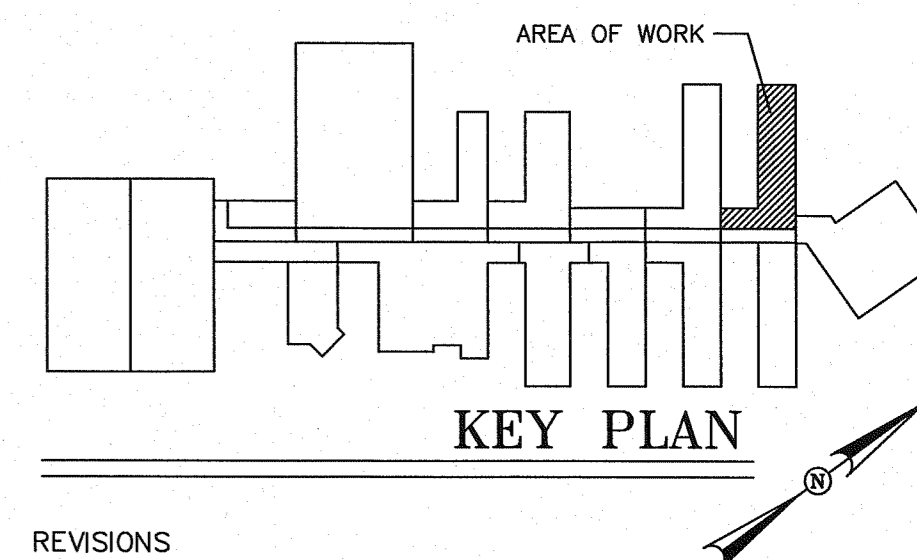
HANGER LEGEND		
A	ANGLE BRACKET	L "L" ROD
B	SAMMY SUPER SCREW	M MACHINE THREADED ROD
C		N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STUD
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T TRAPEZE
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	"J" BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

### GENERAL NOTES

1. ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
2. PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-8) WHICH ARE END TO END
3. EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
4. PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
5. PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
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7. OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
8. STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
9. EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

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### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

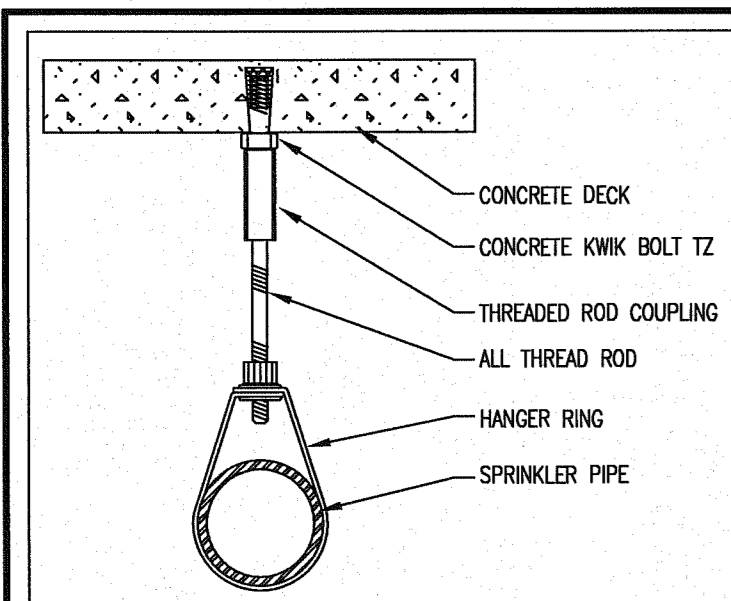
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

### CONTRACT WITH:

WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

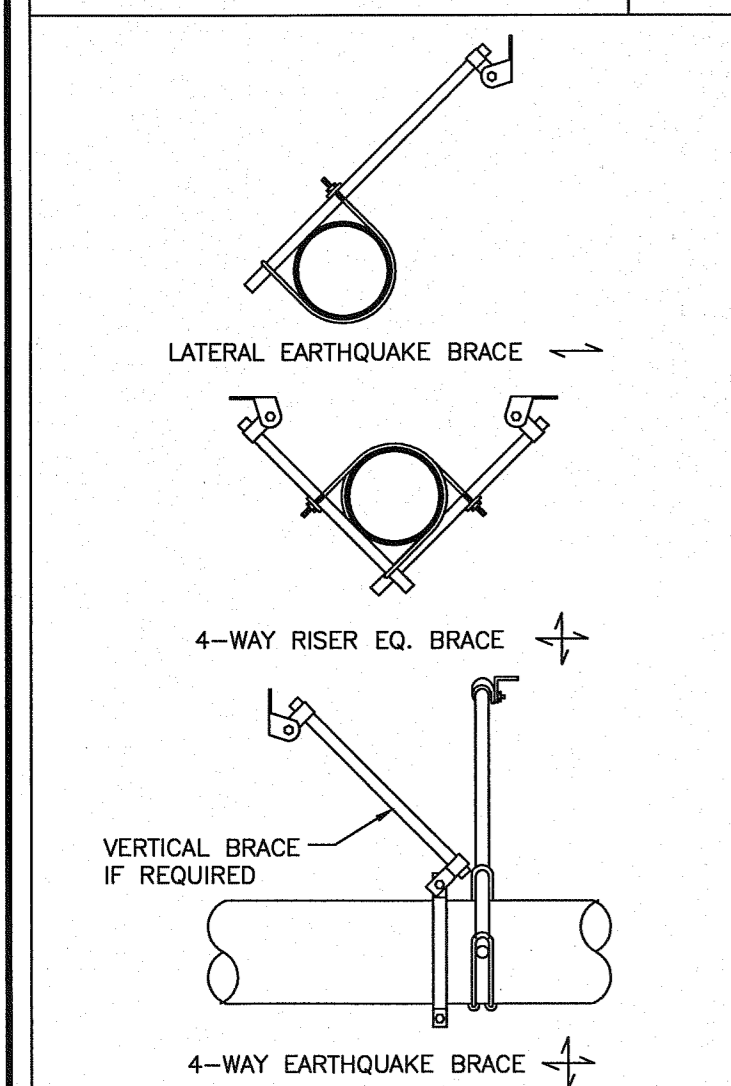
### UNIT #11

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	20 OF 22



CONCRETE WEDGE ANCHOR  
HILTI KWIK BOLT - TZ

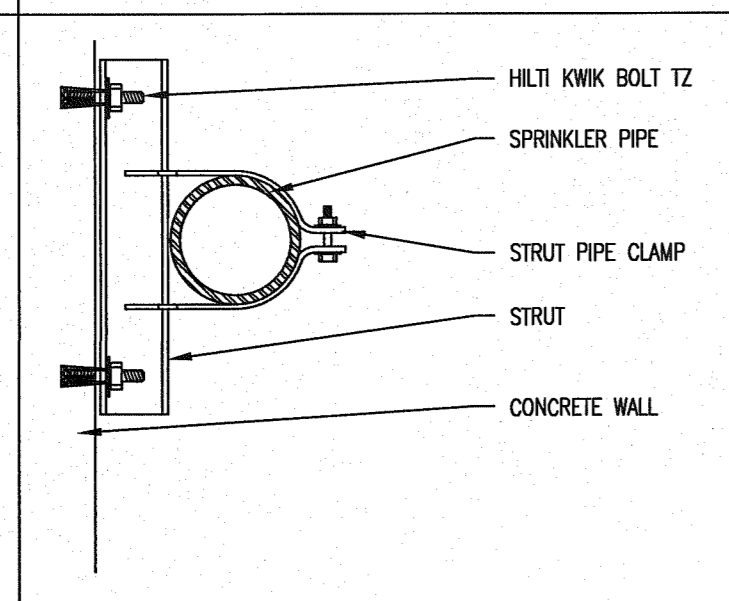
HANGER  
E



MATERIAL:  
TOLCO FIG. 1000 FAST CLAMP  
TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG

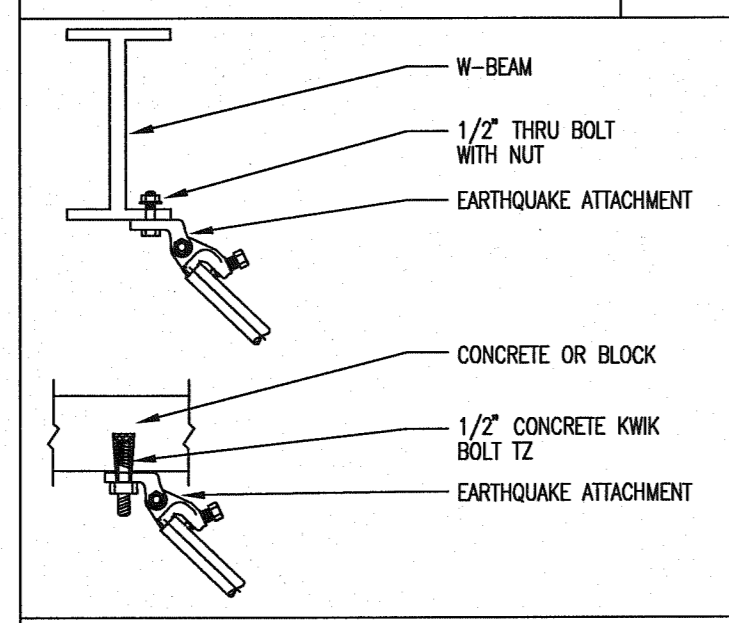
ATTACHMENT TO STRUCTURE:  
1/2" x 3" LAG BOLT TO PURLINS & GLB'S  
1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

### EARTHQUAKE BRACING

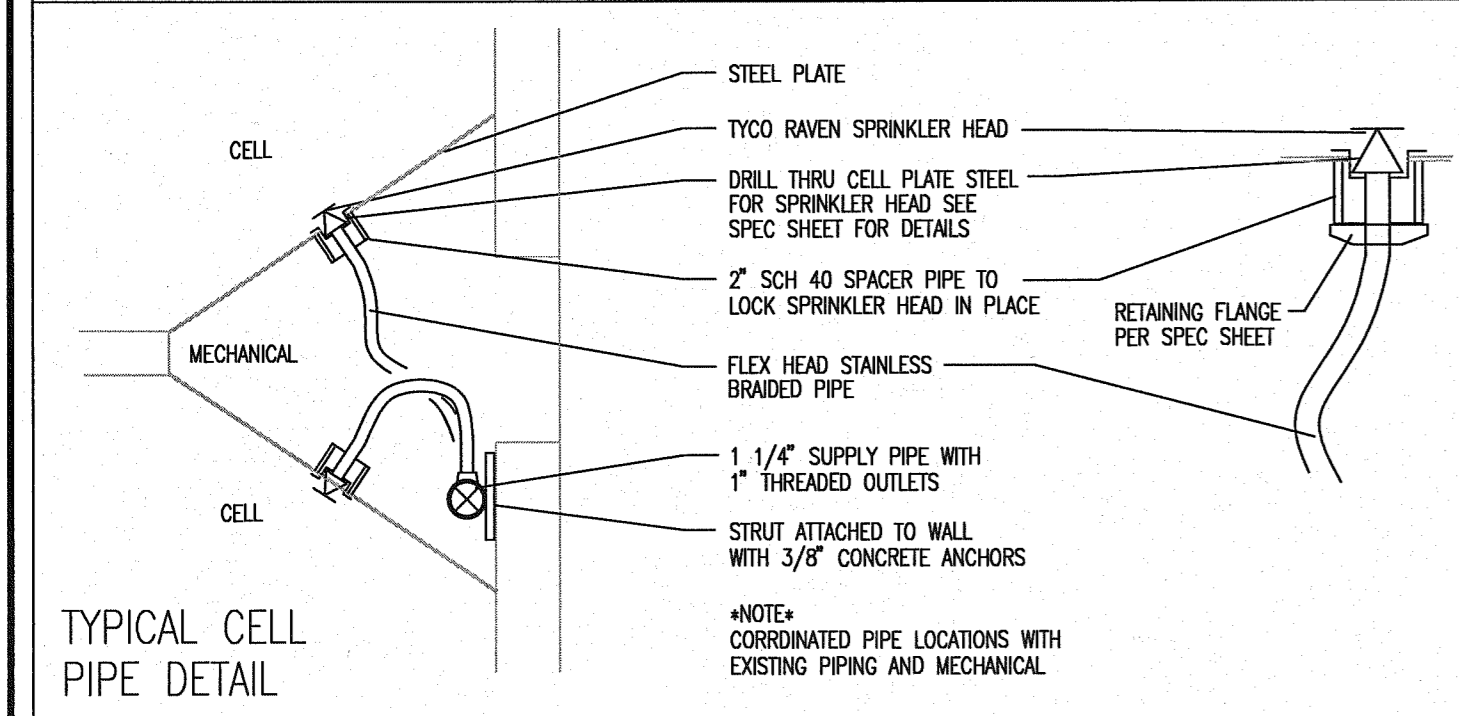


POWER STRUT

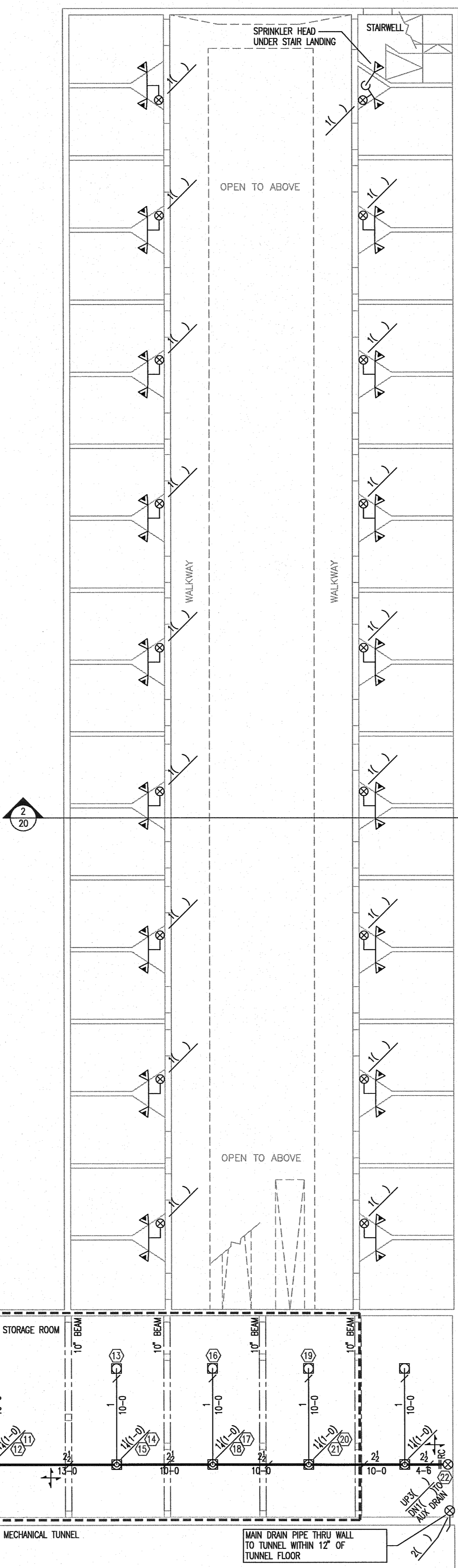
HANGER  
P



EARTHQUAKE BRACE ATTACHMENT

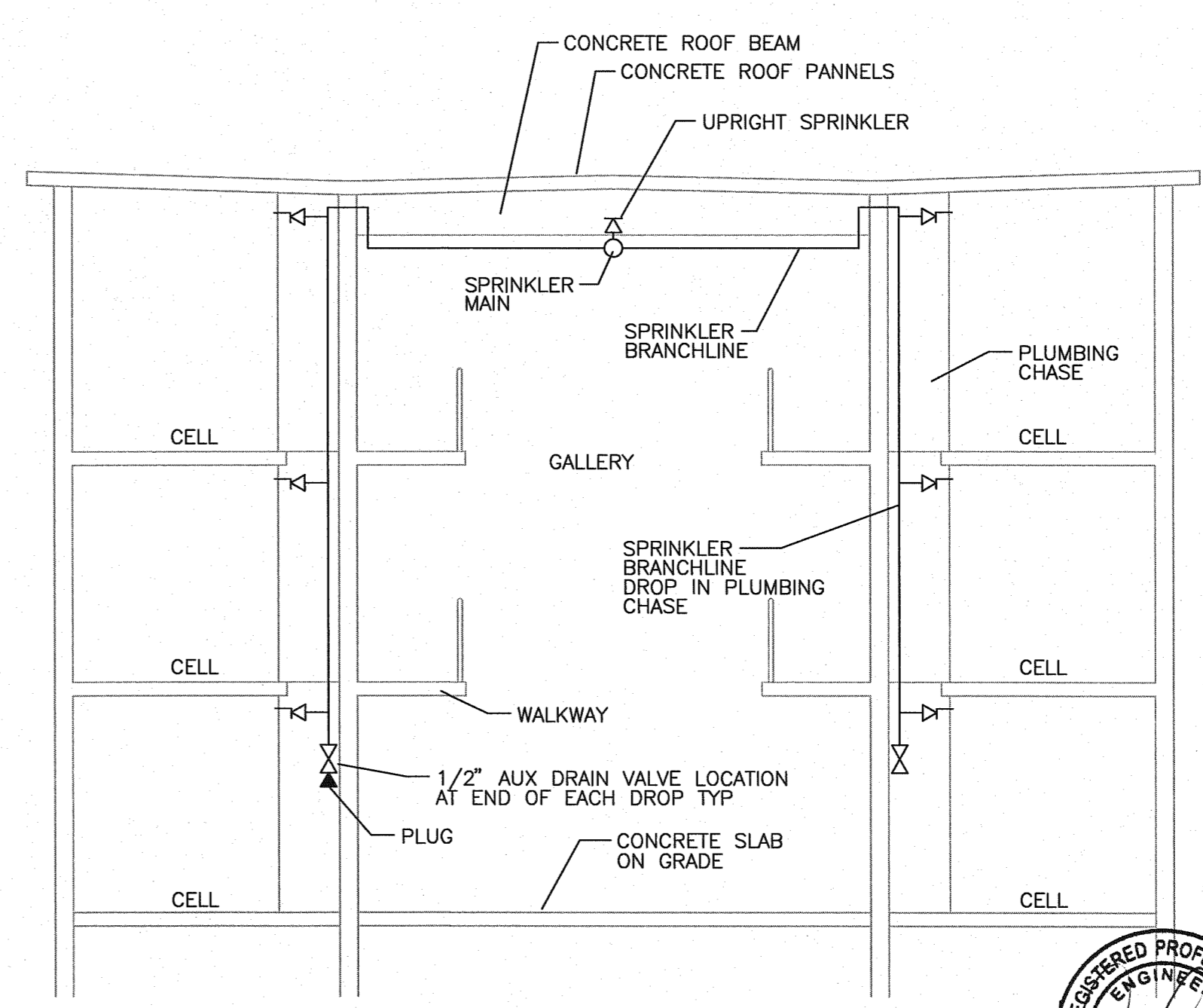


TYPICAL CELL PIPE DETAIL

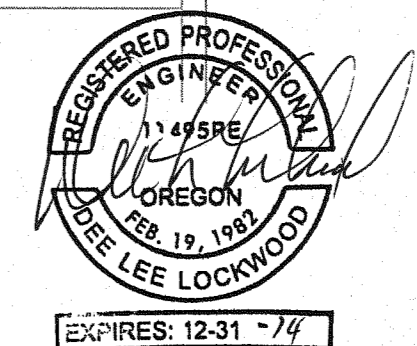


LOWER LEVEL  
1/8" = 1'-0"

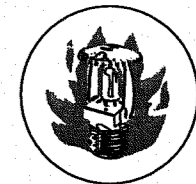
- \*NOTES\*
1. SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 40 GPM PER SPRINKLER OVER FIVE EXTENDED COVERAGE SPRINKLERS ON SINGLE LINE AND ONE STANDARD SPRINKLER IN CELL AT 7 PSI PER LIGHT HAZARD OCCUPANCY
  2. EXTENDED COVERAGE SPRINKLER MAX SPACING IS 20FT X 20FT
  3. LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS
  4. ORDINARY HAZARD GROUP II AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS



SECTION  
3/16" = 1'-0"







# Fire Systems West

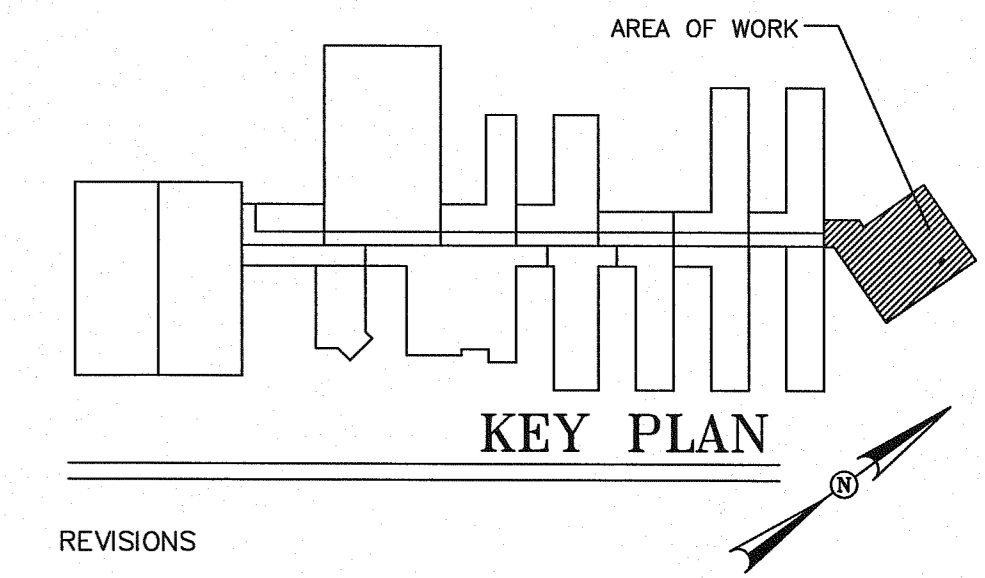
600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
⊕	SSU	TYCO MODEL TY-B	1/2" 5.6K	200	BRASS	N/A	104
○	SSU	TYCO MODEL TY-B	1/2" 5.6K	155	BRASS	N/A	6
●	HSW	TYCO MODEL TY-B	1/2" 5.6K	155	CHROME	REC CHRM	3
TOTAL SPRINKLERS SHOWN ON THIS SHEET							113

HANGER LEGEND			
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E		R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	BRANCHLINE BRACE
K	SHORT CLIP	Y	POWER-STRIUT

- GENERAL NOTES
1. ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED.
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  5. PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
  6. JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
  7. OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM.
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  9. EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13.

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REVISIONS

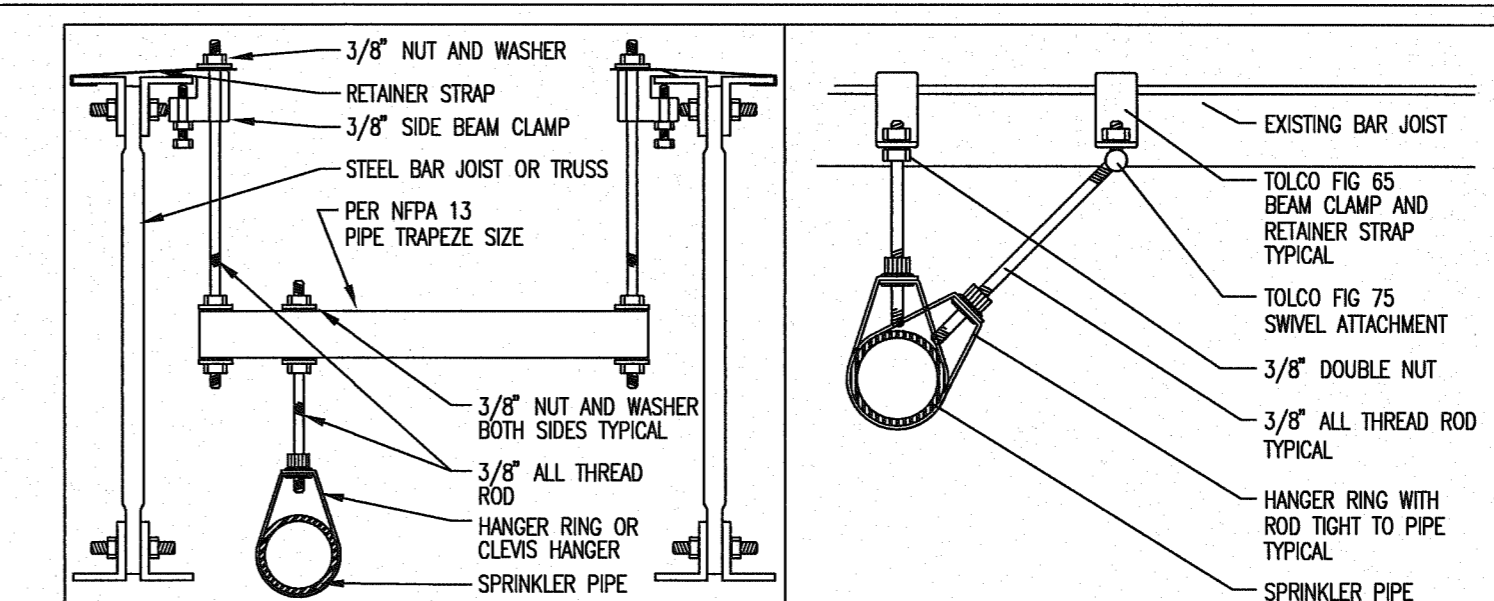
NO.	DESCRIPTION	DATE

CONTRACT NAME:  
O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

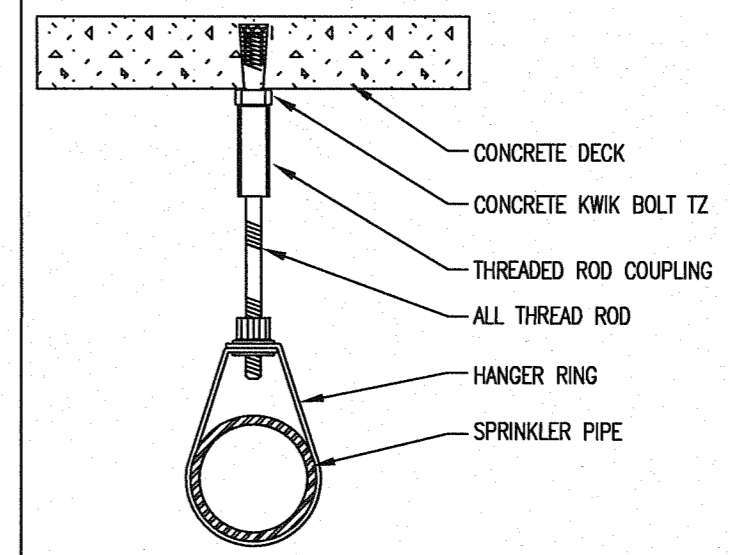
CONTRACT WITH:  
WESTTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

MULTI PURPOSE ROOM

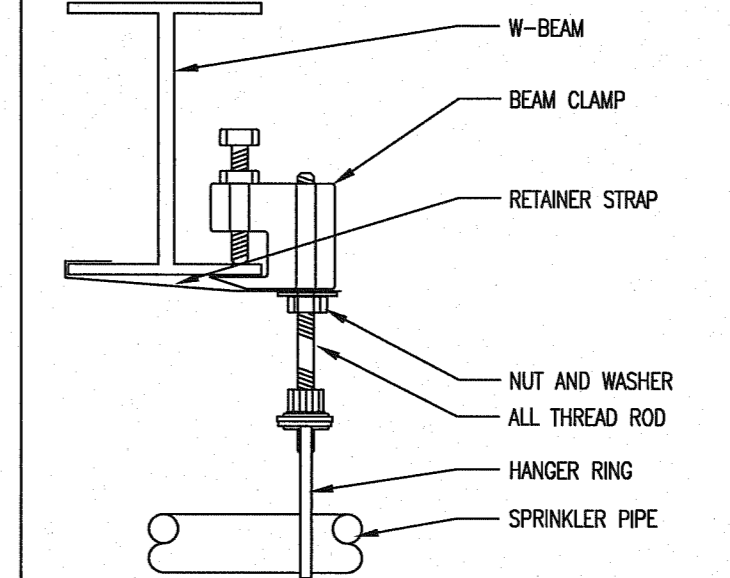
DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	21 OF 22



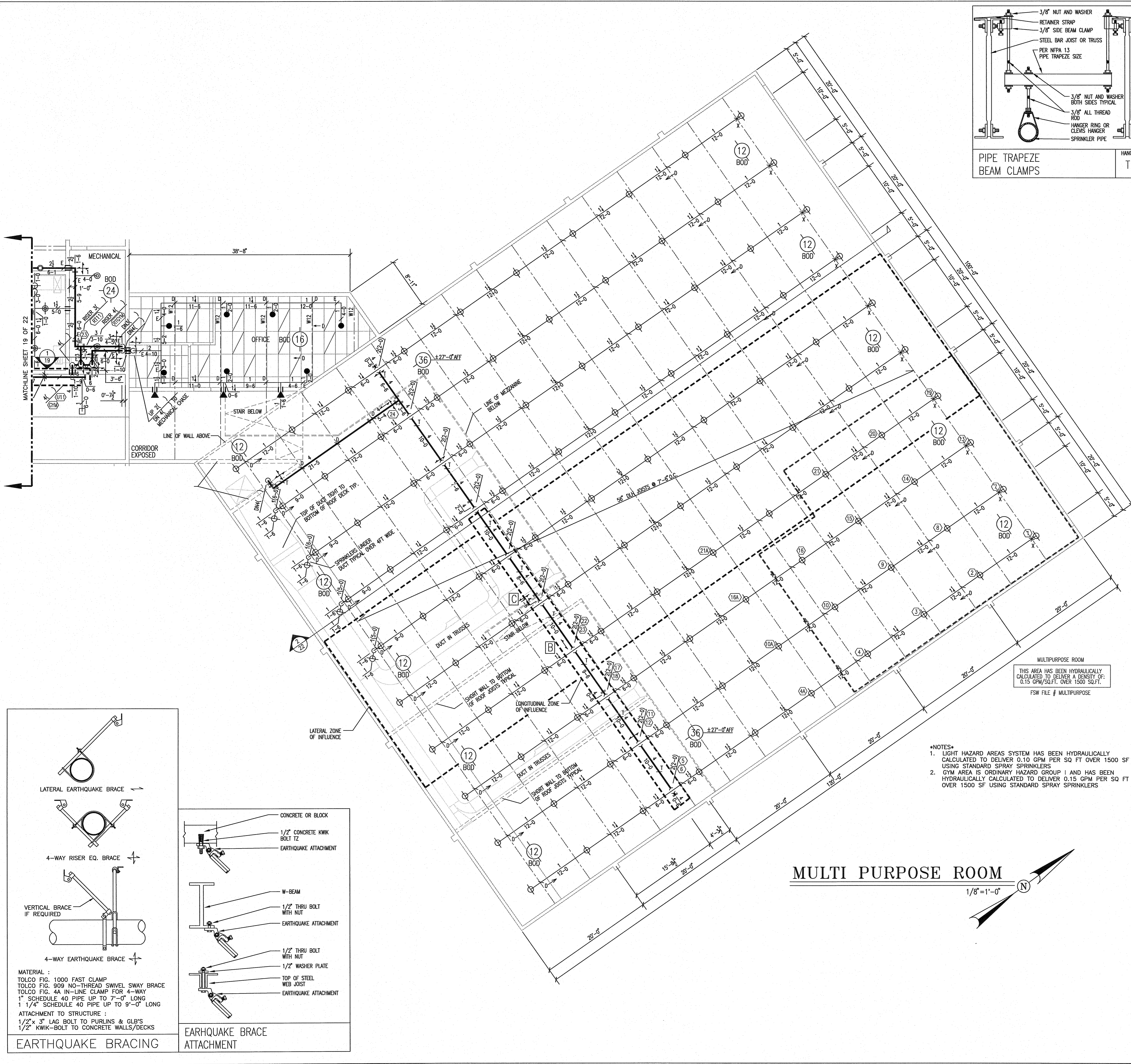
PIPE TRAPEZE BEAM CLAMPS	HANGER T
BRANCHLINE BRACING BEAM CLAMPS	HANGER X



CONCRETE WEDGE ANCHOR HILTI KWIK BOLT - TZ	HANGER E
--	----------



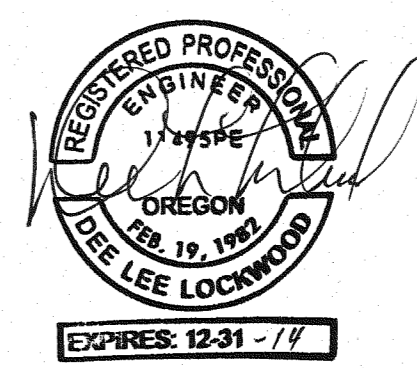
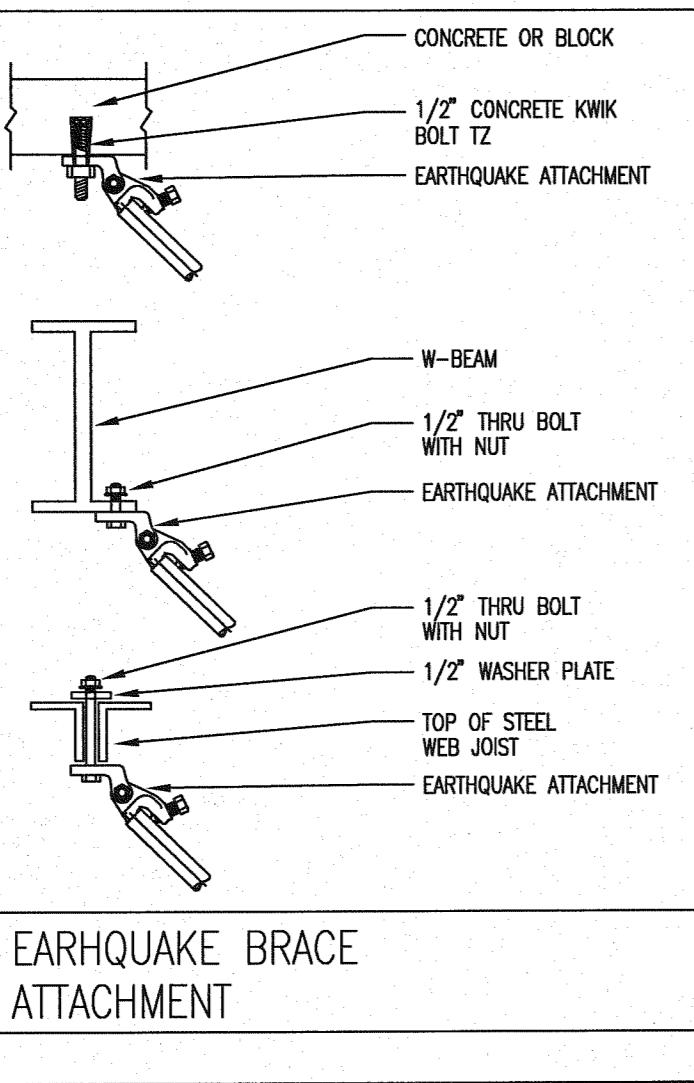
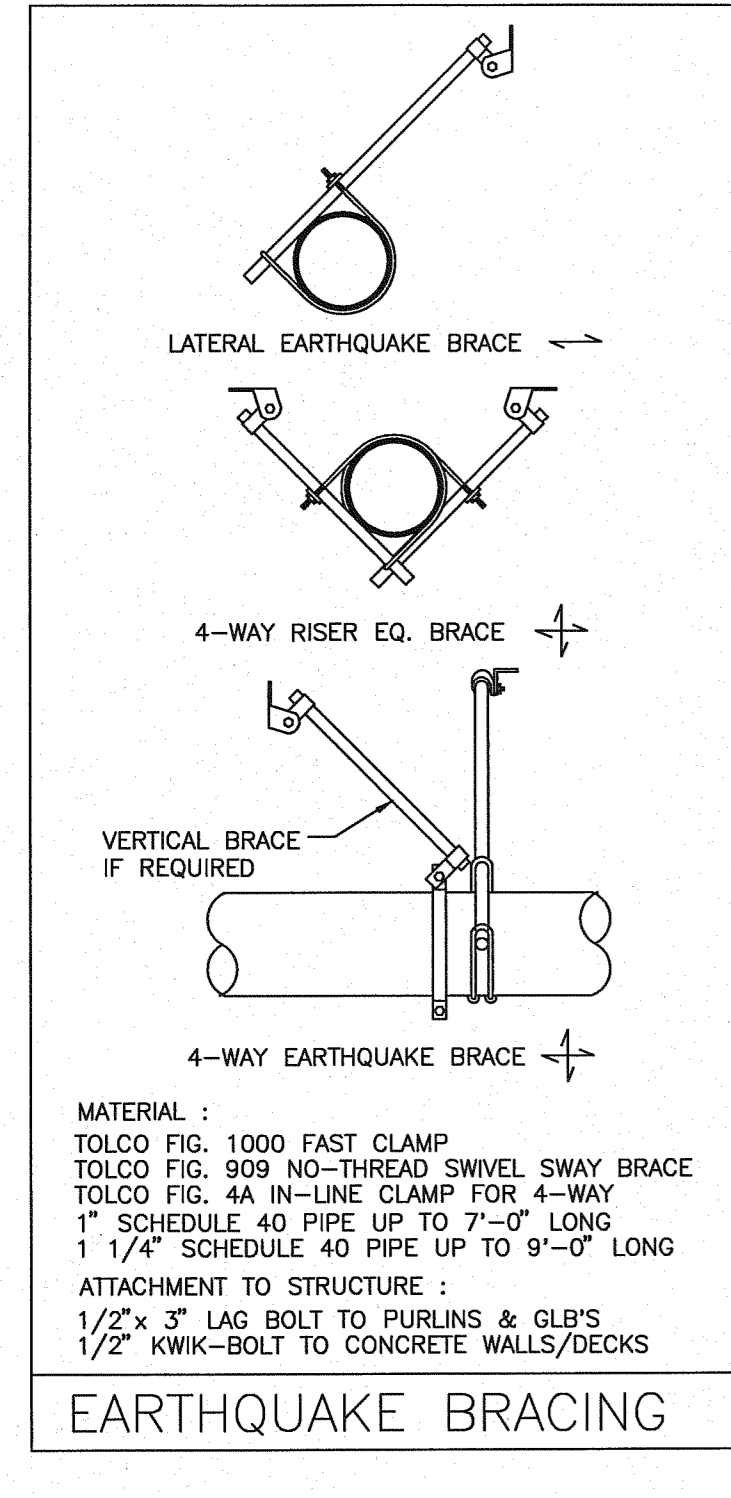
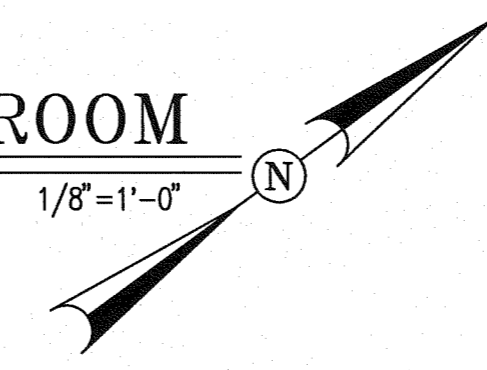
BEAM CLAMP W-BEAM	HANGER D
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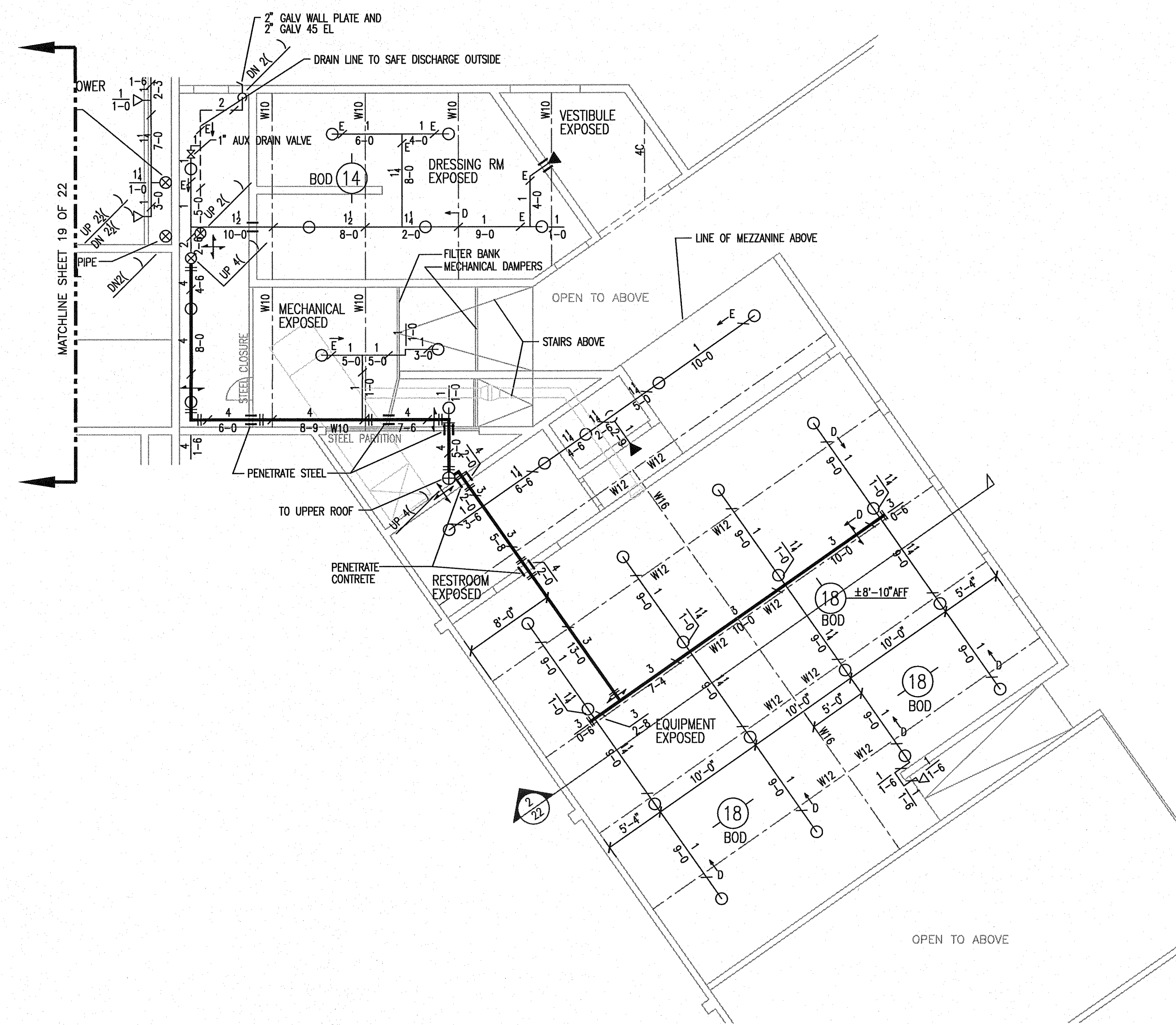
- \*NOTES\*
1. LIGHT HAZARD AREAS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.10 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS.
  2. GYM AREA IS ORDINARY HAZARD GROUP 1 AND HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.15 GPM PER SQ FT OVER 1500 SF USING STANDARD SPRAY SPRINKLERS.

## MULTI PURPOSE ROOM

1/8"=1'-0"

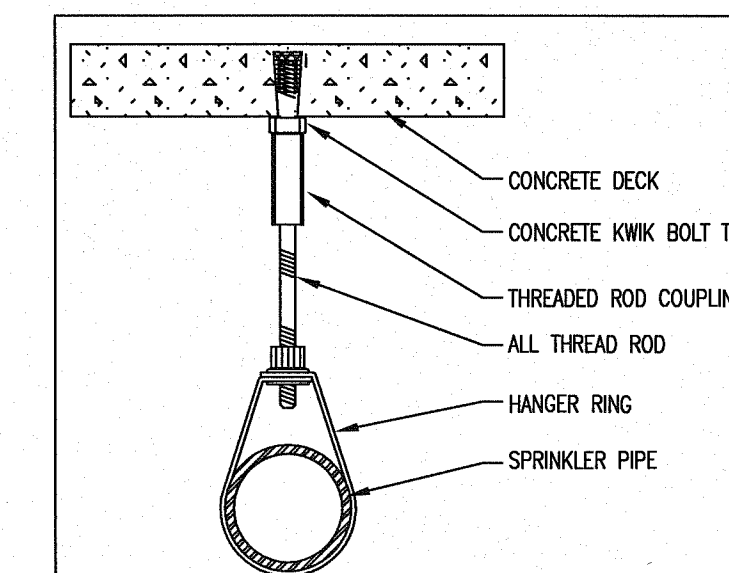




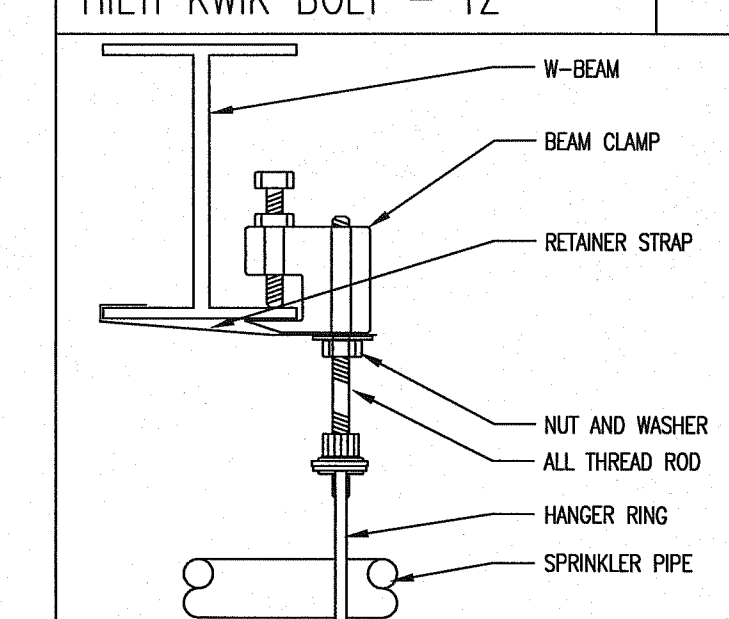


**MULTI PURPOSE ROOM  
MEZZANINE**

1/8" = 1'-0"



CONCRETE WEDGE ANCHOR  
HILTI KWIK BOLT - TZ



BEAM CLAMP  
W-BEAM



**Fire Systems West**

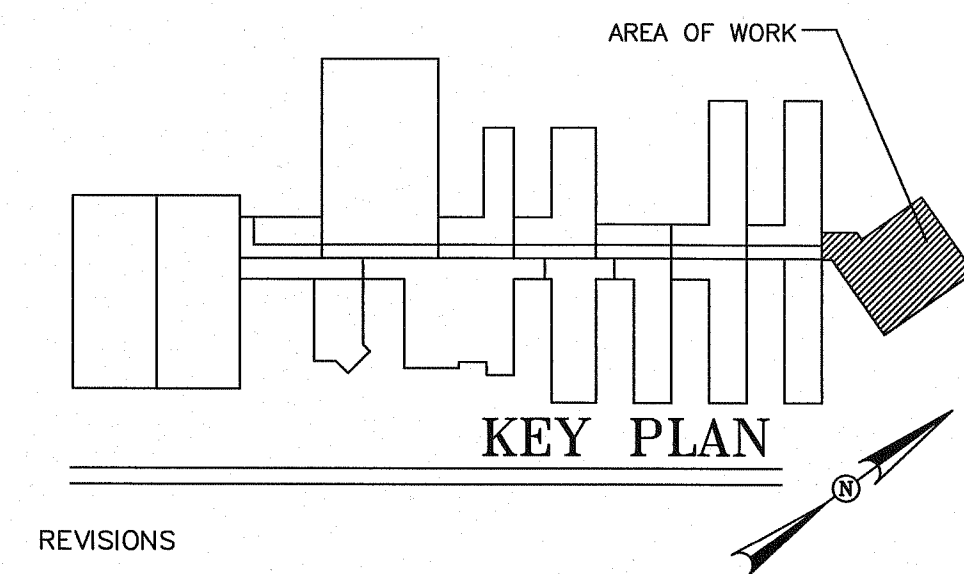
600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318989

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▶	HSW	TYCO MODEL TY-B	1/2" 5.6K	155	CHROME	REC CHR M	1
▷	HSW	TYCO MODEL TY-B	1/2" 5.6K	155	BRASS	N/A	1
TOTAL SPRINKLERS SHOWN ON THIS SHEET							34

HANGER LEGEND			
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C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
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J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRIUT

- GENERAL NOTES**
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REVISIONS

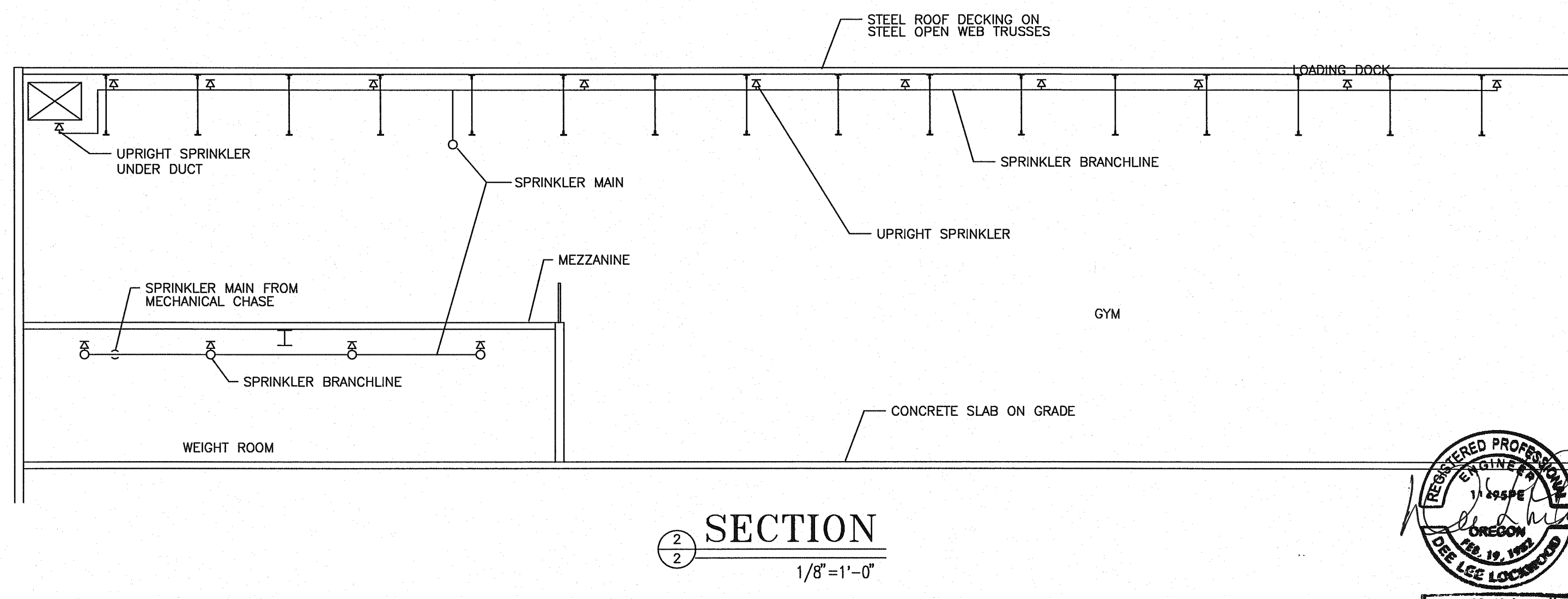
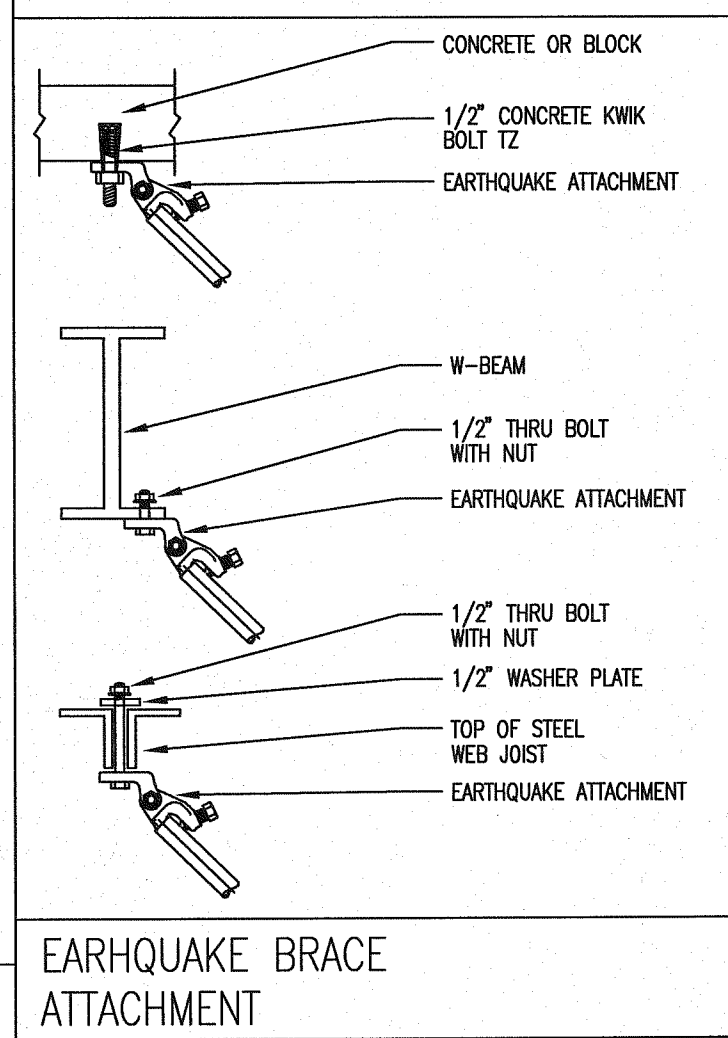
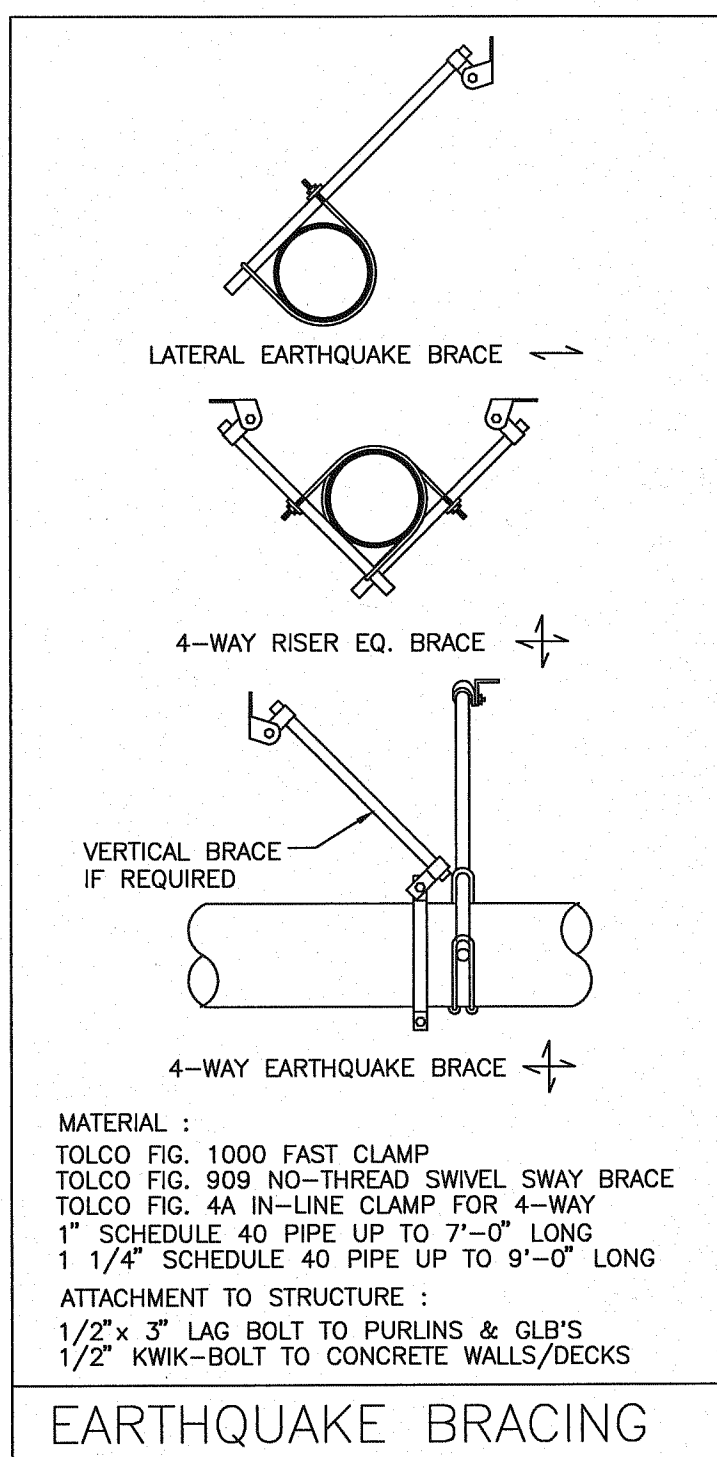
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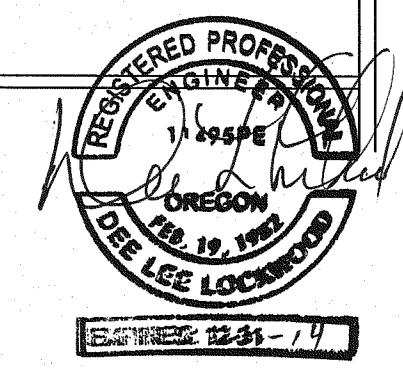
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PHONE: (503)-585-2472

MULTI PURPOSE ROOM

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	22 OF 22



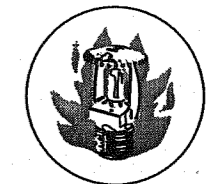
**SECTION**  
1/8" = 1'-0"





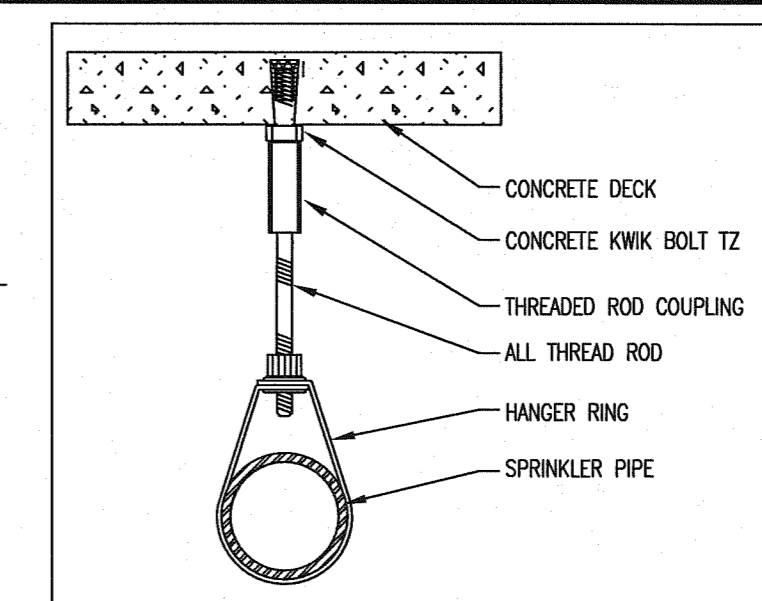




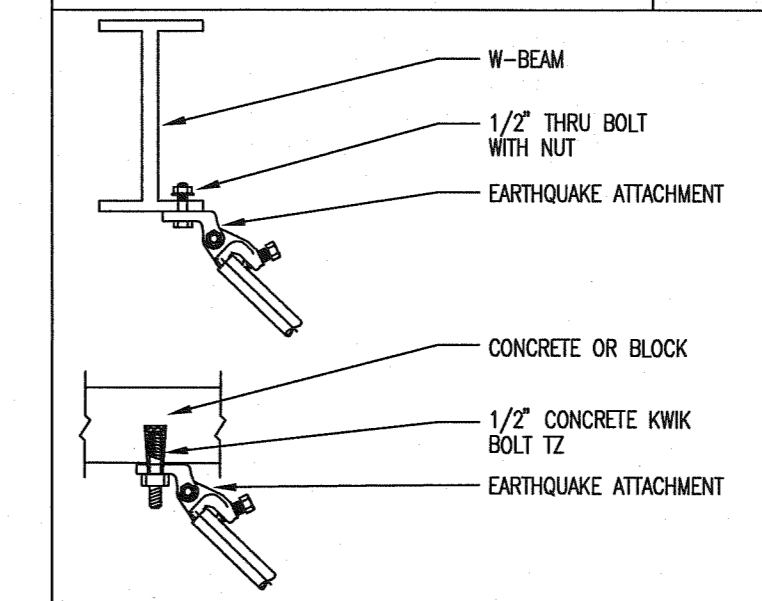


# Fire Systems West

600 SE Maritime Avenue, suite 300  
 Vancouver, WA 98661  
 (360) 693-9906 fax: (503) 289-2208  
 WA CONTR LIC: FIRE-SW-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969



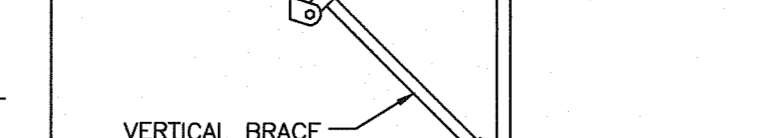
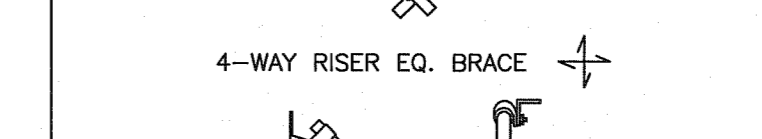
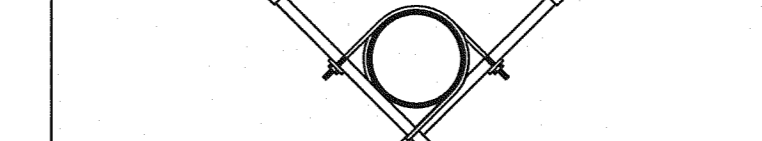
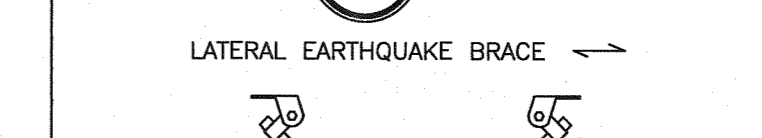
CONCRETE WEDGE ANCHOR  
 HILTI KWIK BOLT - TZ



EARTHQUAKE BRACE ATTACHMENT



EARTHQUAKE BRACE ATTACHMENT



EARTHQUAKE BRACING

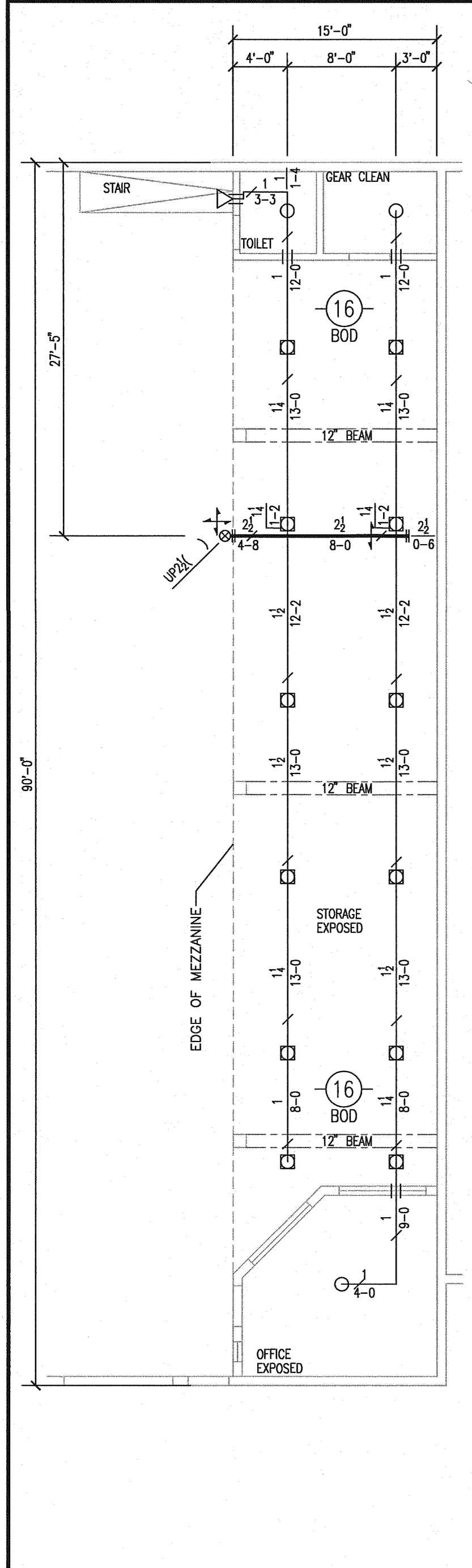
MATERIAL LIST:  
 TOLCO FIG. 1000 FAST CLAMP  
 TOLCO FIG. 909 NO-THREAD SWIVEL SWAY BRACE  
 TOLCO FIG. 4A IN-LINE CLAMP FOR 4-WAY  
 1" SCHEDULE 40 PIPE UP TO 7'-0" LONG  
 1 1/4" SCHEDULE 40 PIPE UP TO 9'-0" LONG  
 ATTACHMENT TO STRUCTURE:  
 1/2"x 3" LAG BOLT TO PURLINS & CLB'S  
 1/2" KWIK-BOLT TO CONCRETE WALLS/DECKS

SPRINKLER SYMBOL DESCRIPTION						
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	TOTAL
□	SSU	TYCO MODEL TY-FRB	3/4" 8.0K	155	BRASS	127
◀	DRY HSW	TYCO MODEL DS1	1/2" 5.6K	200	CHROME	10
▶	HSW	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	1
○	SSU	TYCO MODEL TY-FRB	1/2" 5.6K	155	BRASS	24
TOTAL SPRINKLERS SHOWN ON THIS SHEET						182

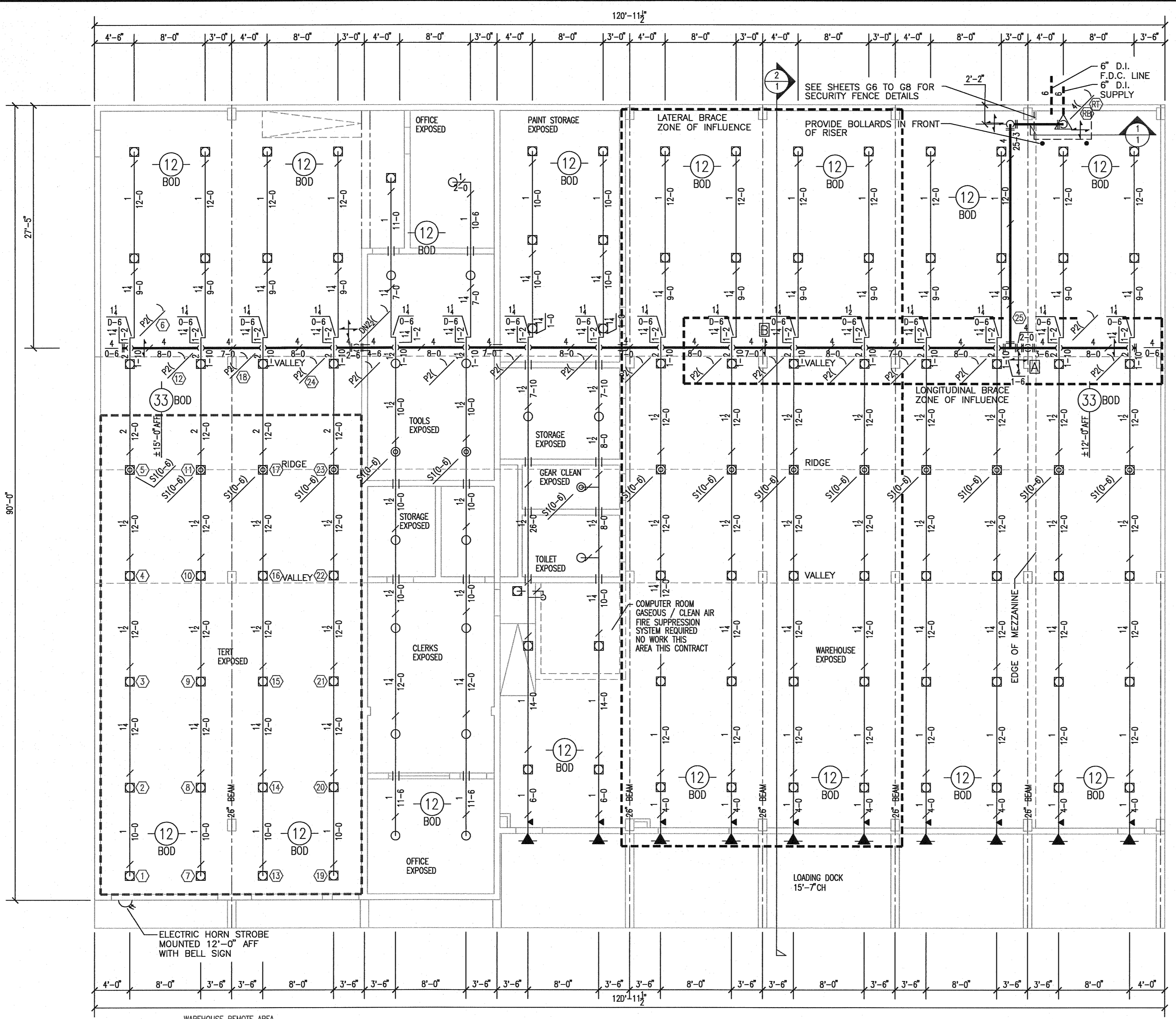
HANGER LEGEND			
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
J	"J" BOLT	X	X-PRESS SCREW
K	SHORT CLIP	Y	POWER-STRUT

- GENERAL NOTES
- ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  - PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1'-6") WHICH ARE END TO END
  - EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  - OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
  - STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
  - EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13

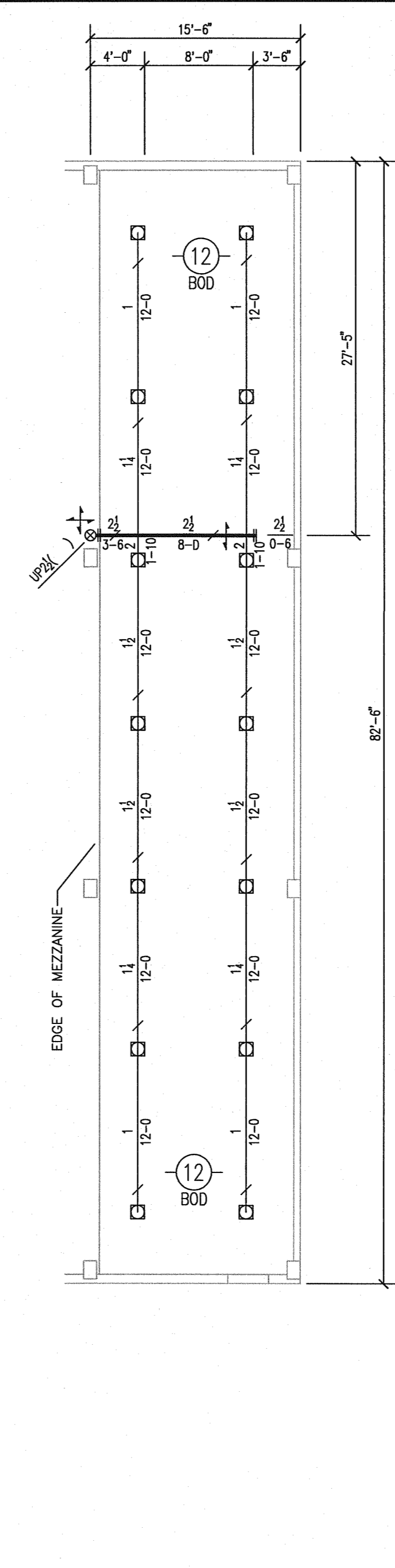
- DESIGN CRITERIA AND NOTES
- THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OSO STAFF AND DOC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
  - THE INSTALLING CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT INSPECTION AND TESTING AGENCY QUALIFIED TO PROVIDE INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR ALL PIPING AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. PRIOR TO THE START OF CONSTRUCTION THE INSTALLING CONTRACTOR SHALL SUBMIT QUALIFICATION INFORMATION ON THE PROPOSED INSPECTION AND TESTING FIRM FOR REVIEW AND APPROVAL BY DOC. NO INSTALLATION WORK WILL BE ALLOWED UNTIL DOC APPROVAL OF THE INSPECTION AND TESTING FIRM IS GIVEN.
  - THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TESTS AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK OR REQUIRED BY APPLICABLE CODES. PRIOR TO STARTING CONSTRUCTION THE INSTALLING CONTRACTOR SHALL PROVIDE THE DOC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS, INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
  - ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.



MEZZANINE  
 1/8" = 1'-0"



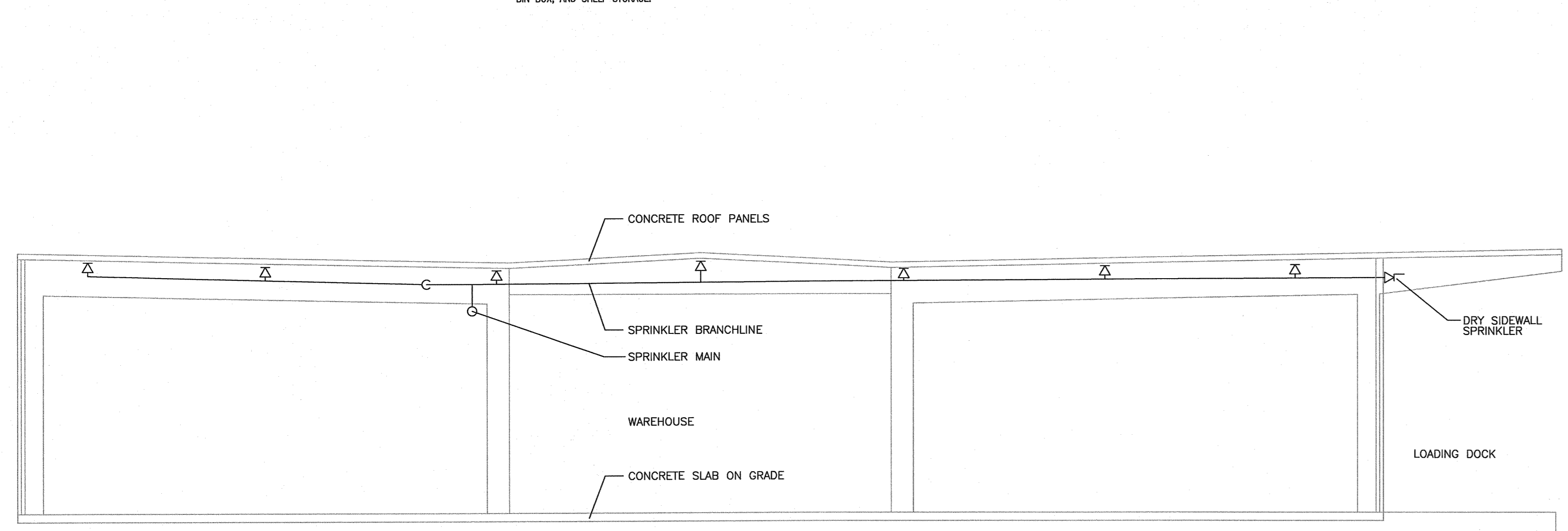
WAREHOUSE  
 1/8" = 1'-0"



MEZZANINE  
 1/8" = 1'-0"

WAREHOUSE REMOTE AREA  
 THIS AREA HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER A DENSITY OF: 0.20 GPM/SQ.FT. OVER 1500 SQ.FT.  
 FSW FILE # WAREHOUSE-1

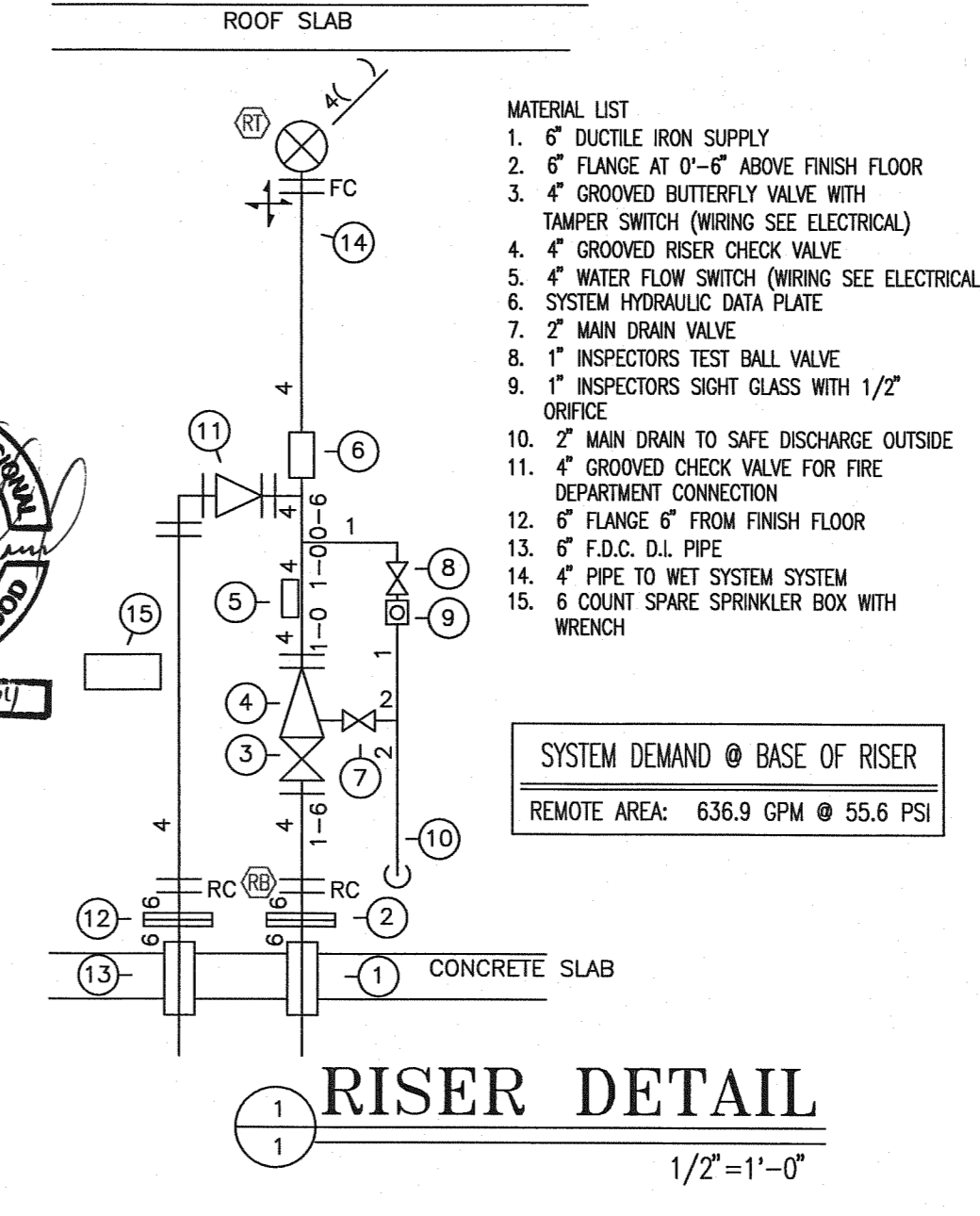
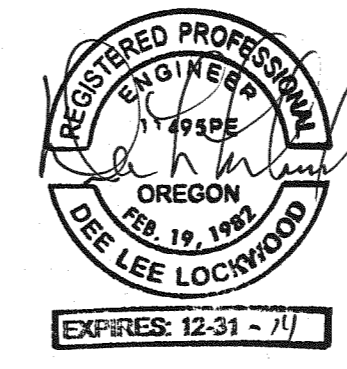
- \*NOTES\*
- SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO DELIVER 0.20 GPM PER SQ. FT. OVER 1500 SQ. FT. USING STANDARD SPRAY SPRINKLERS FOR ORDINARY HAZARD GROUP II DENSITY. MISCELLANEOUS STORAGE OF 12FT OR LESS IN HEIGHT INCLUDING PALLIATIZED, BIN BOX, AND SHELF STORAGE.



SECTION  
 2-1  
 1/8" = 1'-0"

DESIGN FLOW

STATIC:	74 PSI
RESIDUAL:	42 PSI
GPM FLOWING:	2500 GPM
LOCATION:	10" FIRE LOOP EAST OF BUILDING 19
INFO FROM:	WESTECH ENGINEERING COMPUTER MODEL RESULTS



RISER DETAIL  
 1/2" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I. - WAREHOUSE  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

CONTRACT WITH:  
 WESTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

WAREHOUSE

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	1 OF 1





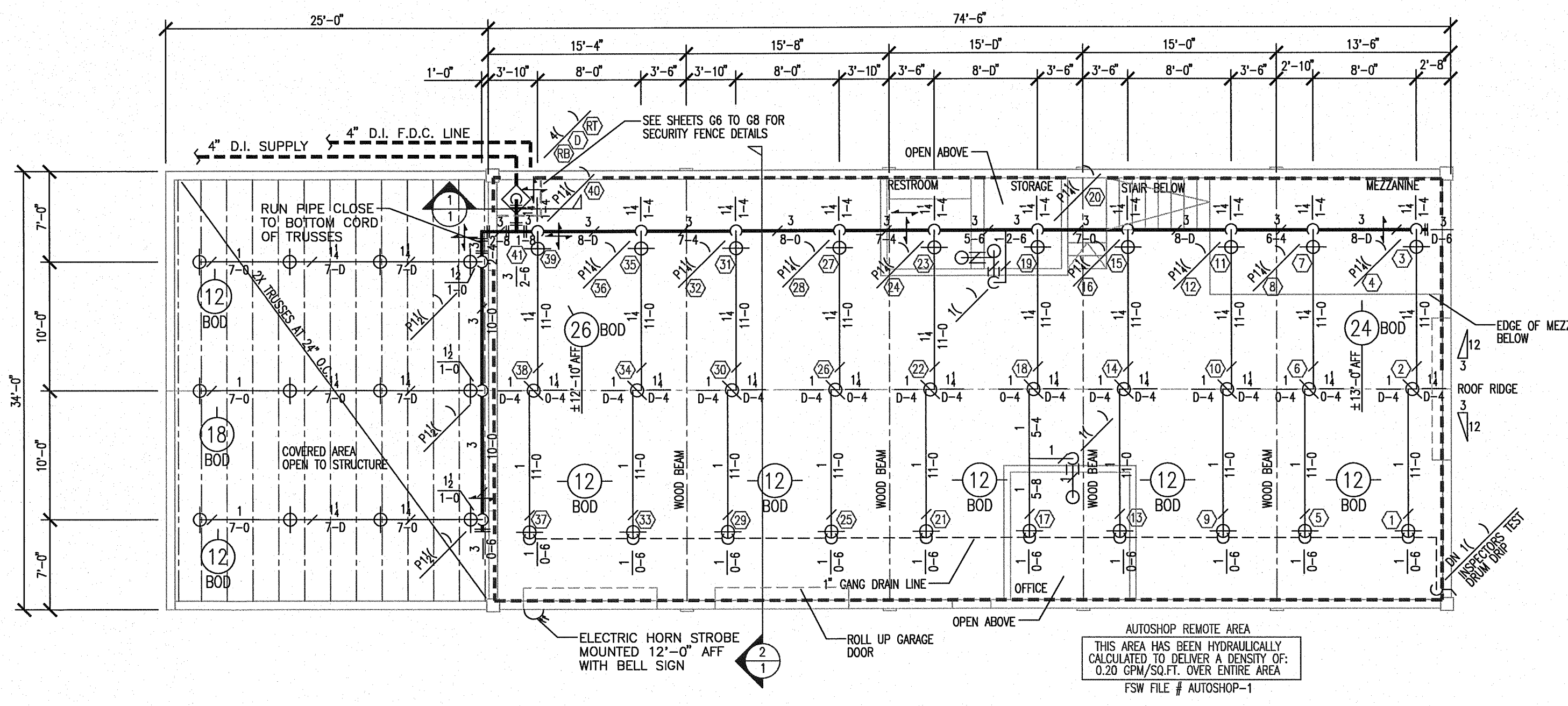
# Fire Systems West

600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208  
WA CONTR LIC: FIRE-SM-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318999

SPRINKLER SYMBOL DESCRIPTION						
SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	TOTAL
○	SSU	TYCO MODEL TY FRB	1/2" 5.6K	155	BRASS	8
⊖	SSU	TYCO MODEL TY FRB	1/2" 5.6K	200	BRASS	42
TOTAL SPRINKLERS SHOWN ON THIS SHEET						50

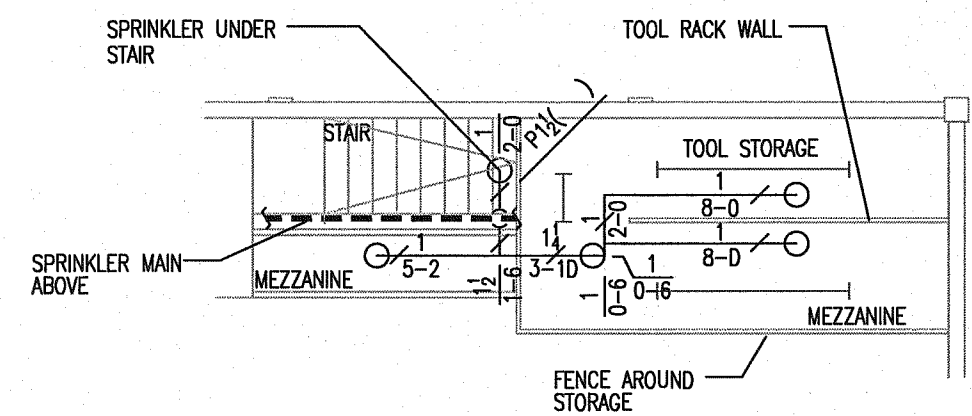
HANGER LEGEND		
A	ANGLE BRACKET	L *1" ROD
B	SAMMY SUPER SCREW	M MACHINE THREADED ROD
C		N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STUD
E	CONCRETE ANCHOR	R
F	OFFSET EYE SOCKET	T TRAPEZE
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	*1" BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

- GENERAL NOTES
1. ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED
  2. PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END
  3. EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  4. PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  5. PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  6. JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION
  7. OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM
  8. STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE
  9. EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13
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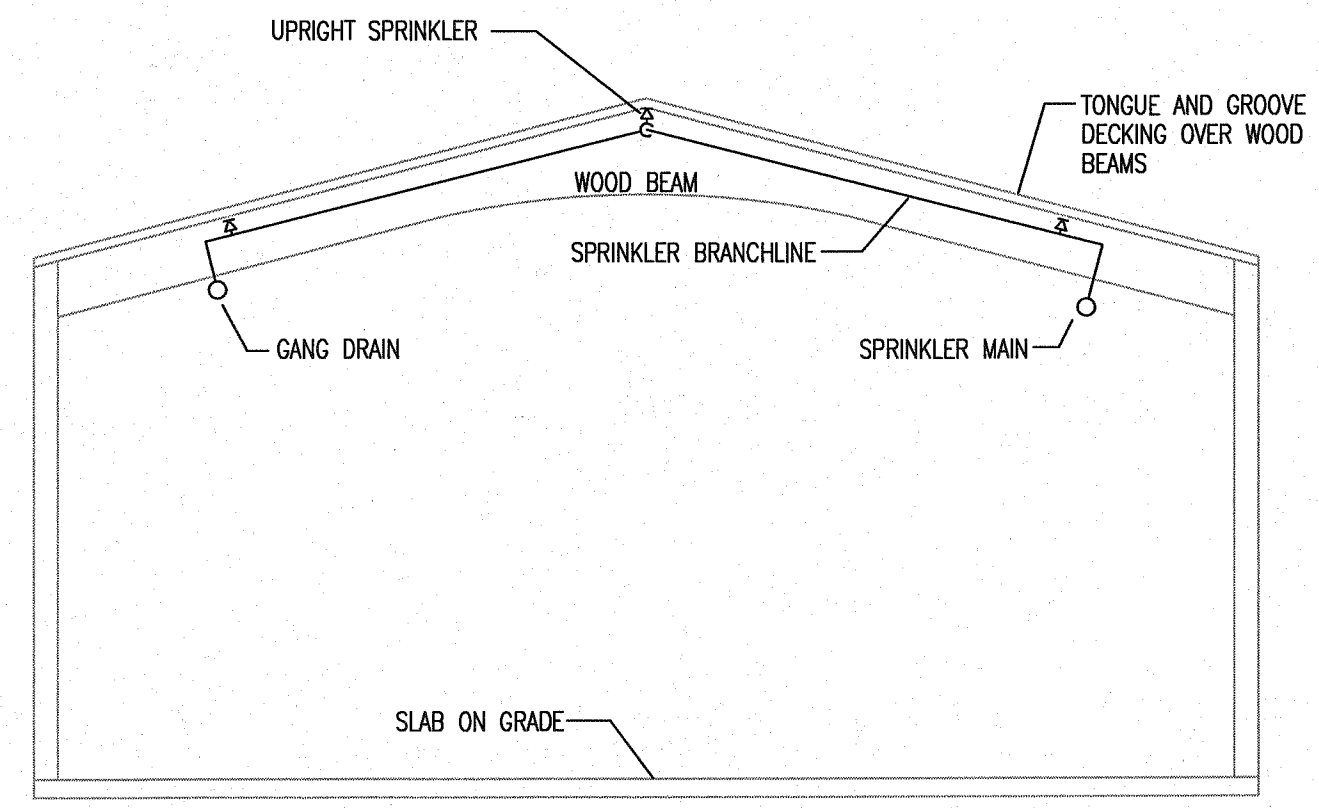
## SPRINKLER PLAN

1/8"=1'-0"



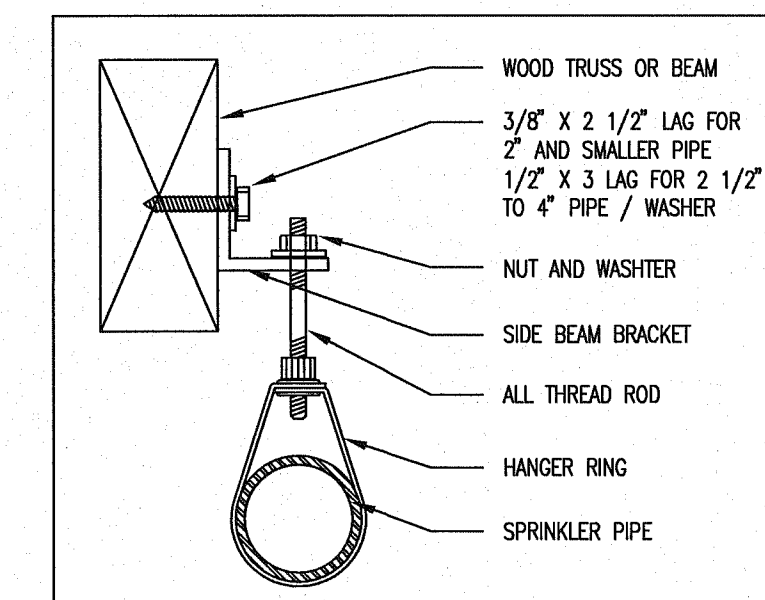
## MEZZANINE

1/8"=1'-0"

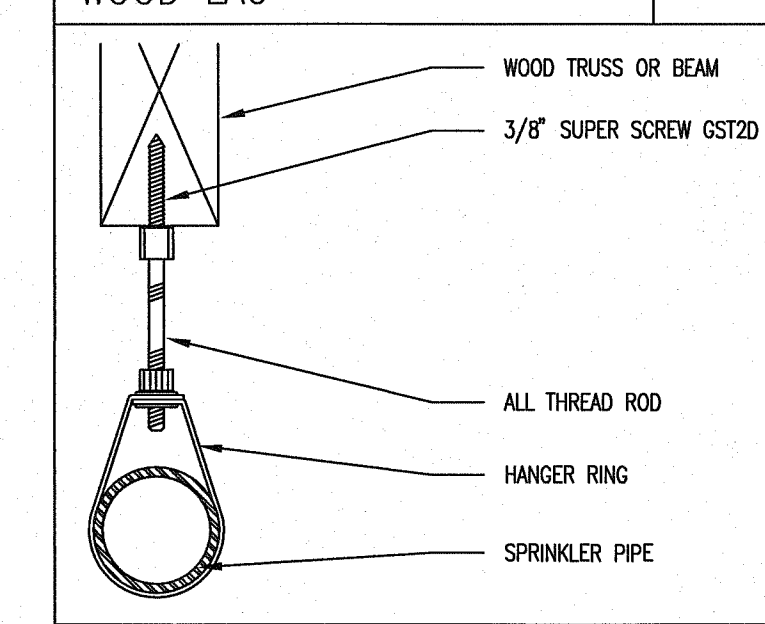


## SECTION

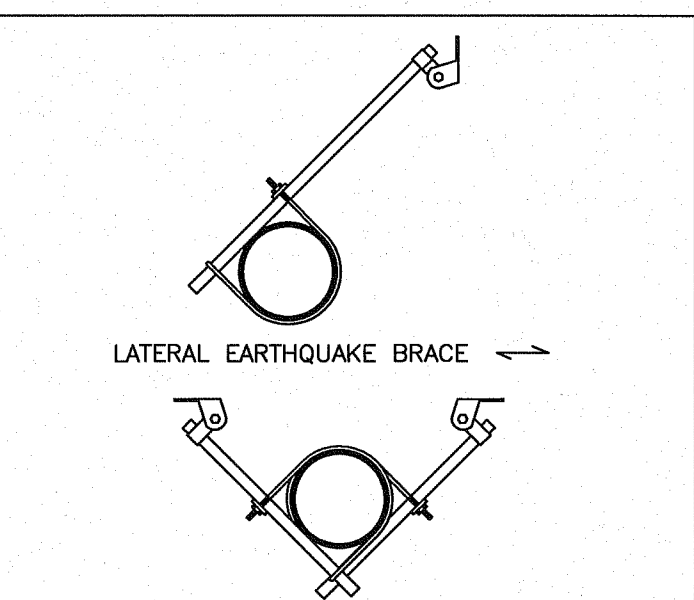
3/16"=1'-0"



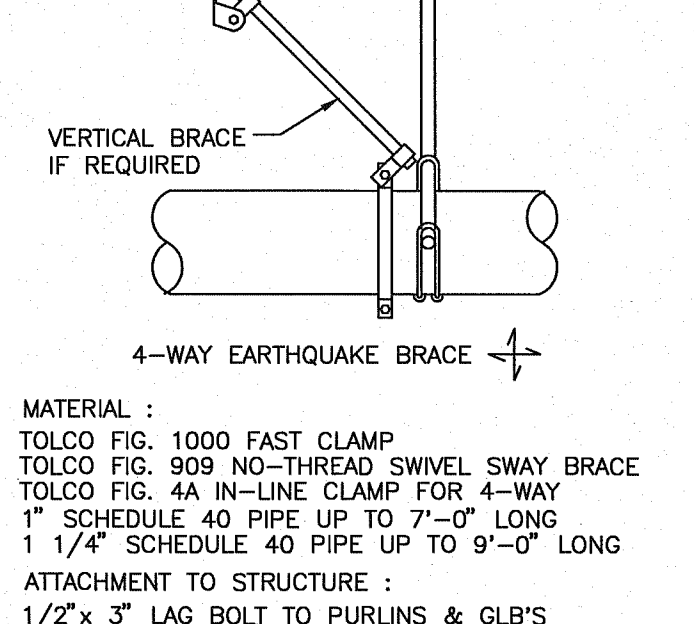
SIDE BEAM BRACKET WOOD LAG HANGER H



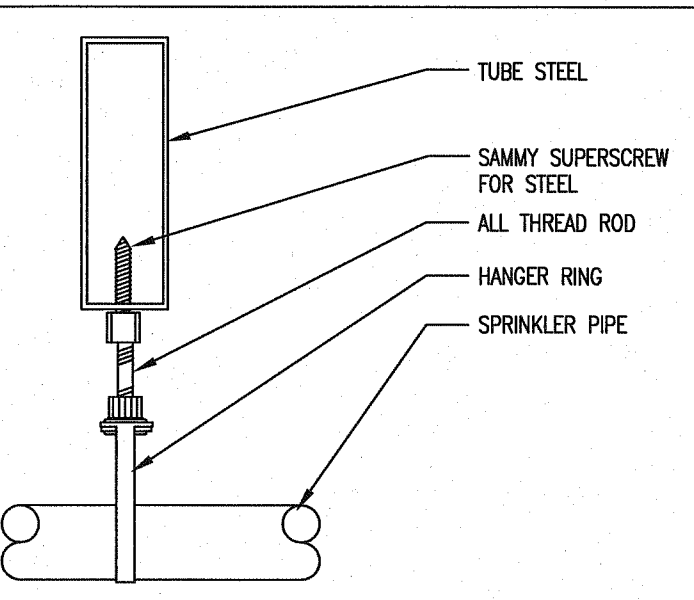
SUPER SCREW GST20 FOR WOOD HANGER B



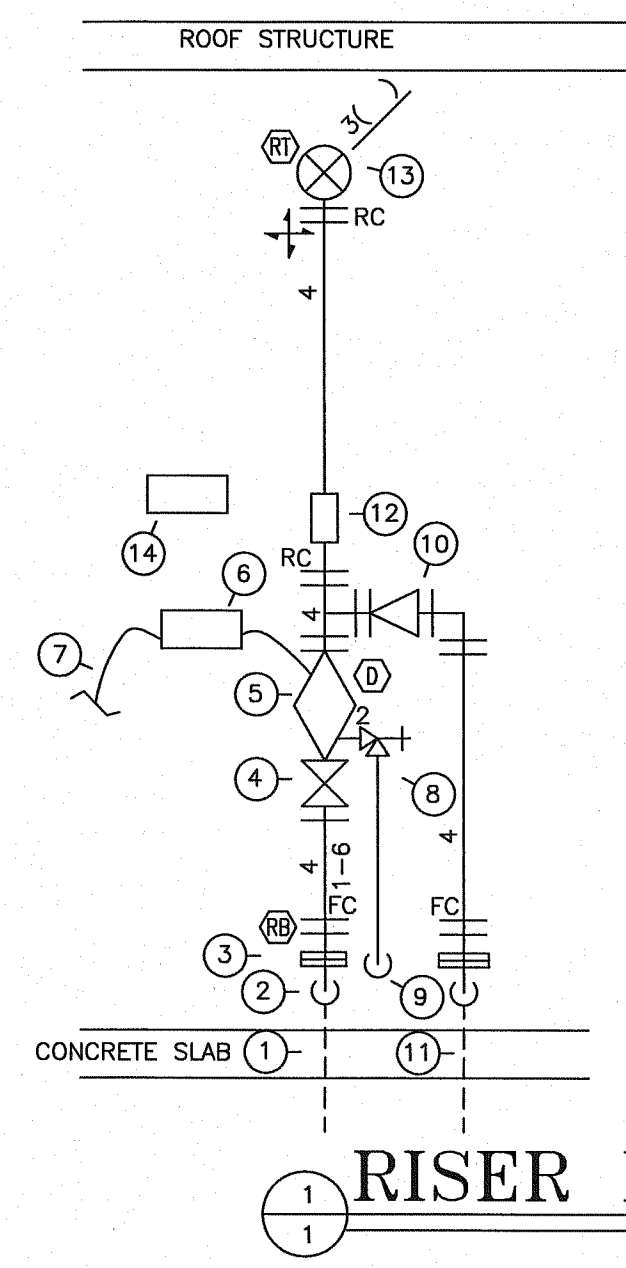
LATERAL EARTHQUAKE BRACE



EARTHQUAKE BRACING



SAMMY SUPERSCREW CHANNEL FOR STEEL HANGER B



## RISER DETAIL

1/2"=1'-0"

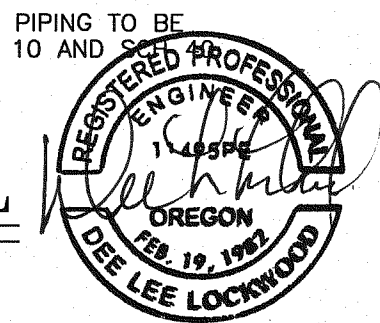
## DESIGN FLOW

STATIC: 74 PSI  
 RESIDUAL: 42 PSI  
 GPM FLOWING: 2500 GPM  
 LOCATION: 10' FIRE LOOP EAST OF BUILDING 19  
 INFO FROM: WESTTECH ENGINEERING COMPUTER MODEL RESULTS

- MATERIAL LIST
1. 4" D.I. SUPPLY THROUGH WALL SEE CIVIL
  2. EXISTING 4" FLANGE 90
  3. 4" FLANGE 12" ABOVE FINISH FLOOR
  4. GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (WIRING SEE ELECTRICAL)
  5. 4" DRY PIPE VALVE WITH PRESSURE SWITCHES (WIRING SEE ELECTRICAL)
  6. TYCO AMD-1 AIR MAINTENANCE DEVICE
  7. 1/2" GALVANIZED SCH 40 PIPE FROM SHOP AIR SUPPLY
  8. 2" MAIN DRAIN
  9. 2" MAIN DRAIN TO SAFE DISCHARGE OUTSIDE
  10. 4" GROOVED CHECK VALVE FOR FIRE DEPARTMENT CONNECTION
  11. 4" D.I. F.D.C. LINE THRU WALL SEE CIVIL
  12. SYSTEM HYDRAULIC DATA PLATE
  13. 3" PIPE TO SYSTEM
  14. 6 COUNT SPARE SPRINKLER BOX WITH WRENCH

SYSTEM DEMAND @ BASE OF RISER  
 REMOTE AREA: 650.0 GPM @ 47.3 PSI

\*NOTE\*  
 ALL DRY SYSTEM PIPING TO BE GALVANIZED SCH 10 AND



REVISIONS

NO.	DESCRIPTION	DATE

CONTRACT NAME:  
 O.S.C.I. - AUTOSHOP  
 3405 DEER PARK SE  
 SALEM, OREGON 97302

CONTRACT WITH:  
 WESTTECH ENGINEERING  
 3841 FAIRVIEW INDUSTRIAL DRIVE SE  
 SALEM, OREGON 97302  
 CONTACT: RAY  
 PHONE: (503)-585-2472

AUTOSHOP

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	1 OF 1





# Fire Systems West

600 SE Maritime Avenue, suite 300  
Vancouver, WA 98661  
(360) 693-9906 fax: (503) 289-2208

WA CONTR LIC: FIRE-SWI-140-B1 • OR CONTR LIC: 49732 • FED TAX ID: 91-1318969

### SPRINKLER SYMBOL DESCRIPTION

SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY FRB	1/2" 5.6K	200	BRASS	N/A	6
●	SSP	TYCO MODEL TY FRB	1/2" 5.6K	155	CHROME	REC CHERM	7
▷	HSW	TYCO MODEL TY FRB	1/2" 5.6K	155	BRASS	N/A	2
TOTAL SPRINKLERS SHOWN ON THIS SHEET							15

### HANGER LEGEND

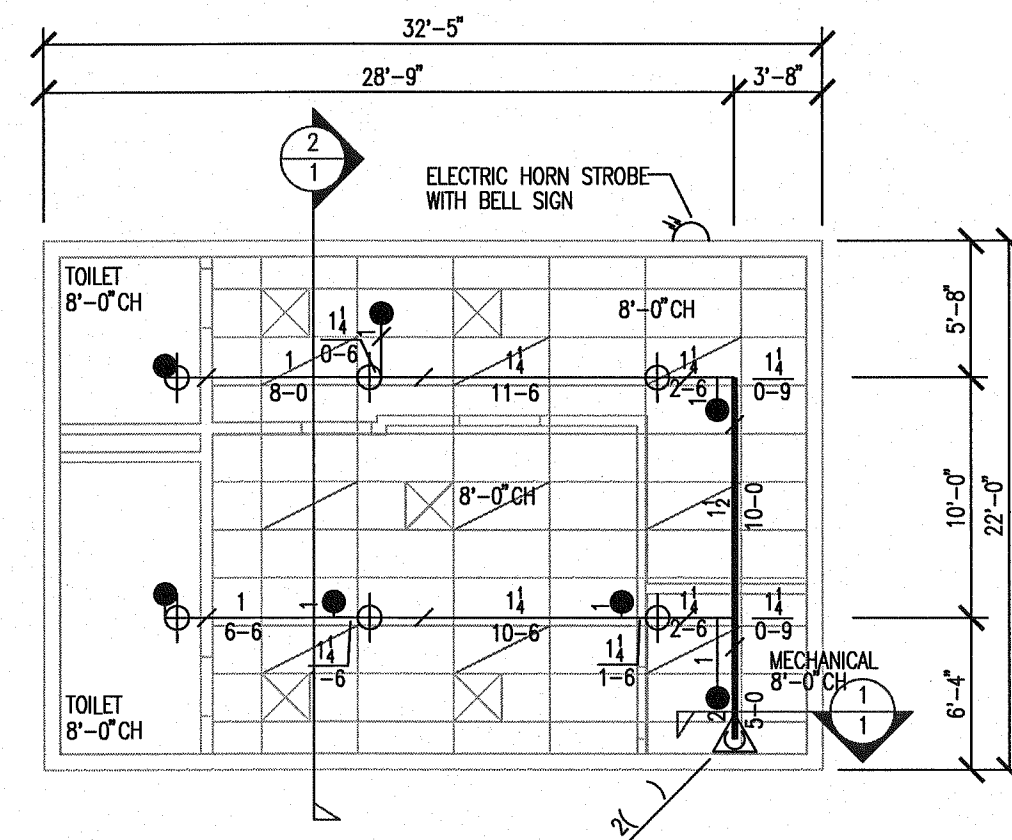
LETTER	DESCRIPTION	LETTER	DESCRIPTION
A	ANGLE BRACKET	L	"L" ROD
B	SAMMY SUPER SCREW	M	MACHINE THREADED ROD
C		N	TOGGLE NUT
D	TOP BEAM CLAMP	P	POWER DRIVEN STUD
E	CONCRETE ANCHOR	R	
F	OFFSET EYE SOCKET	T	TRAPEZE
G	CEILING FLANGE	U	CONDUIT CLAMP
H	SIDE BEAM BRACKET	W	WASHER PLATE
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K	SHORT CLIP	Y	POWER-STRUT

### GENERAL NOTES

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- EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13.

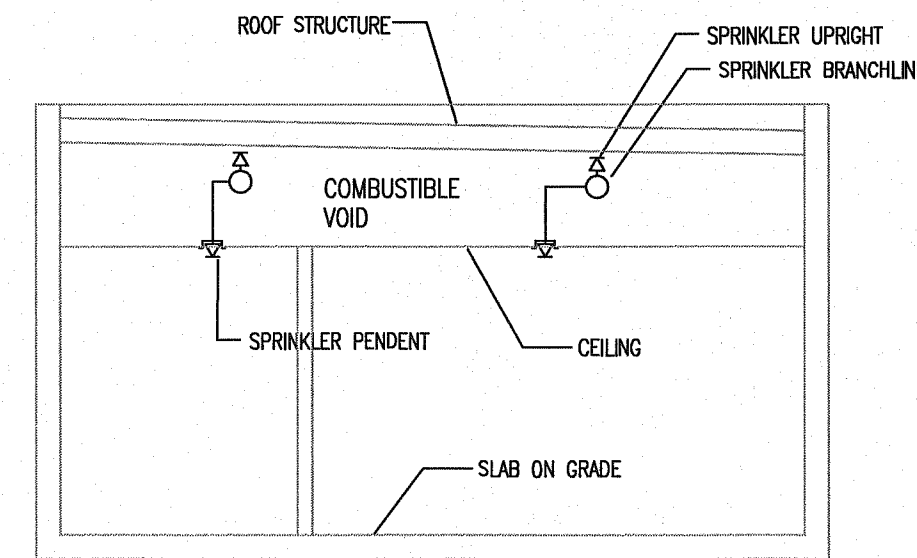
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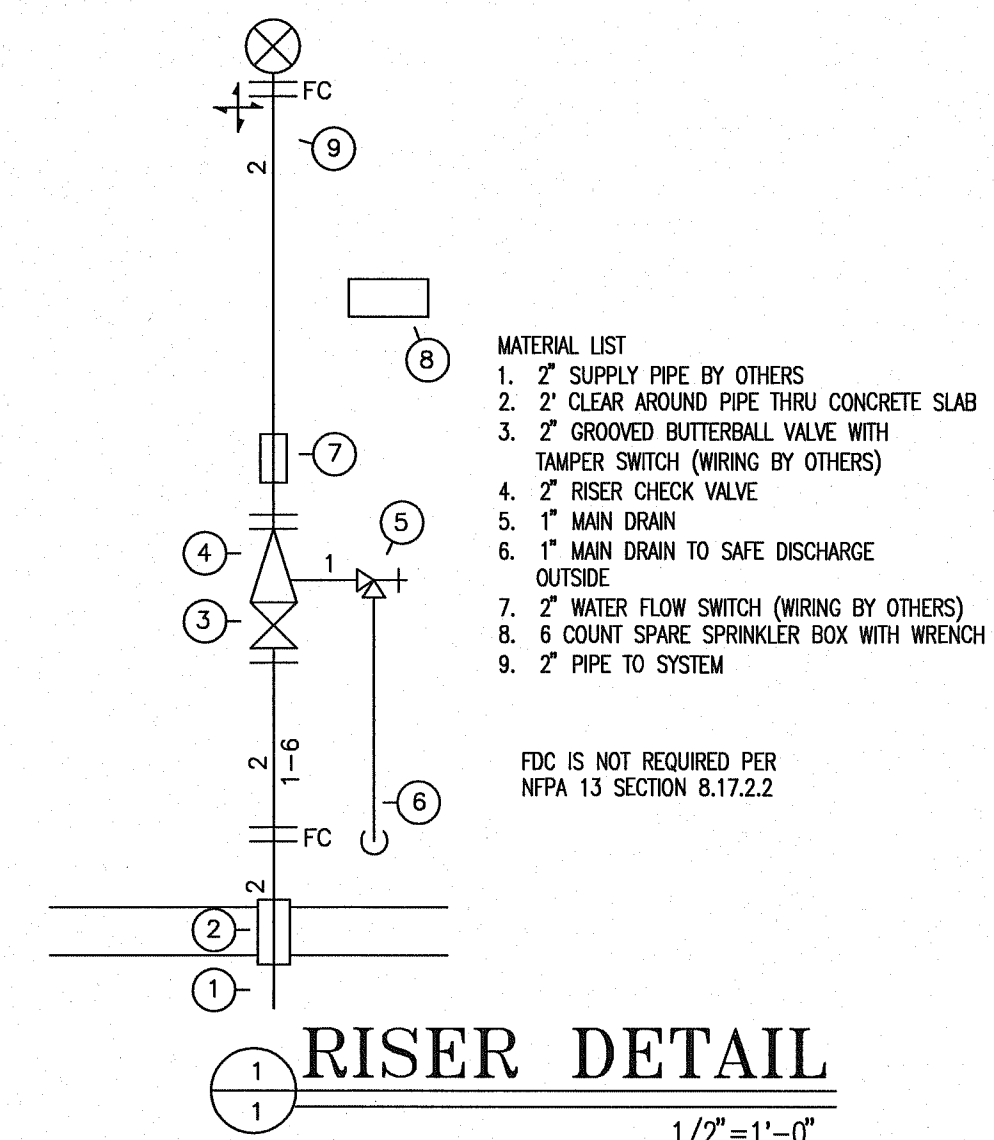
### MAIN ENTRANCE

1/8"=1'-0"



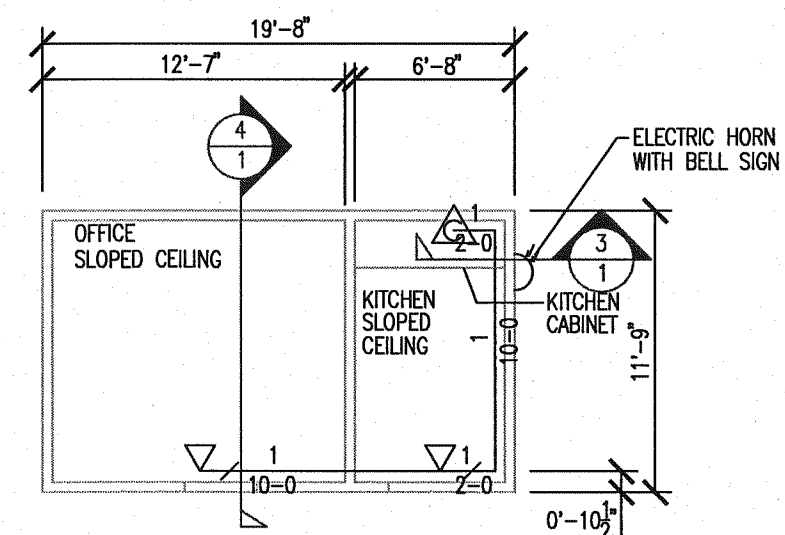
### SECTION 2-1

3/16"=1'-0"



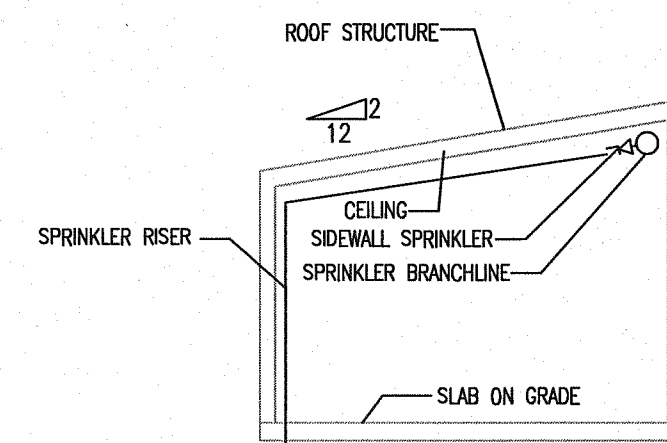
### RISER DETAIL 1-1

FDC IS NOT REQUIRED PER NFPA 13 SECTION 8.17.2.2



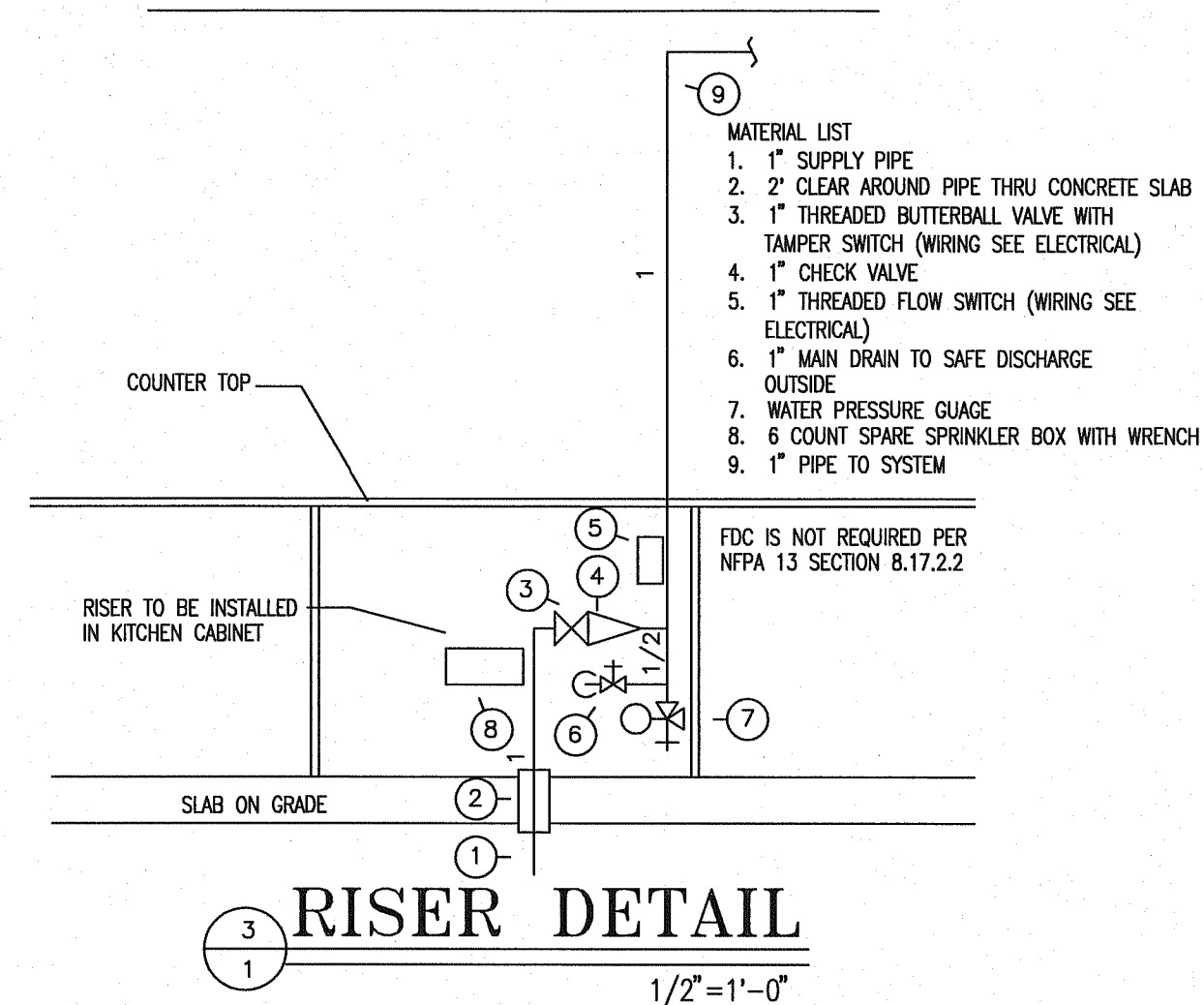
### INSPECTION GATE

1/8"=1'-0"



### SECTION 4-1

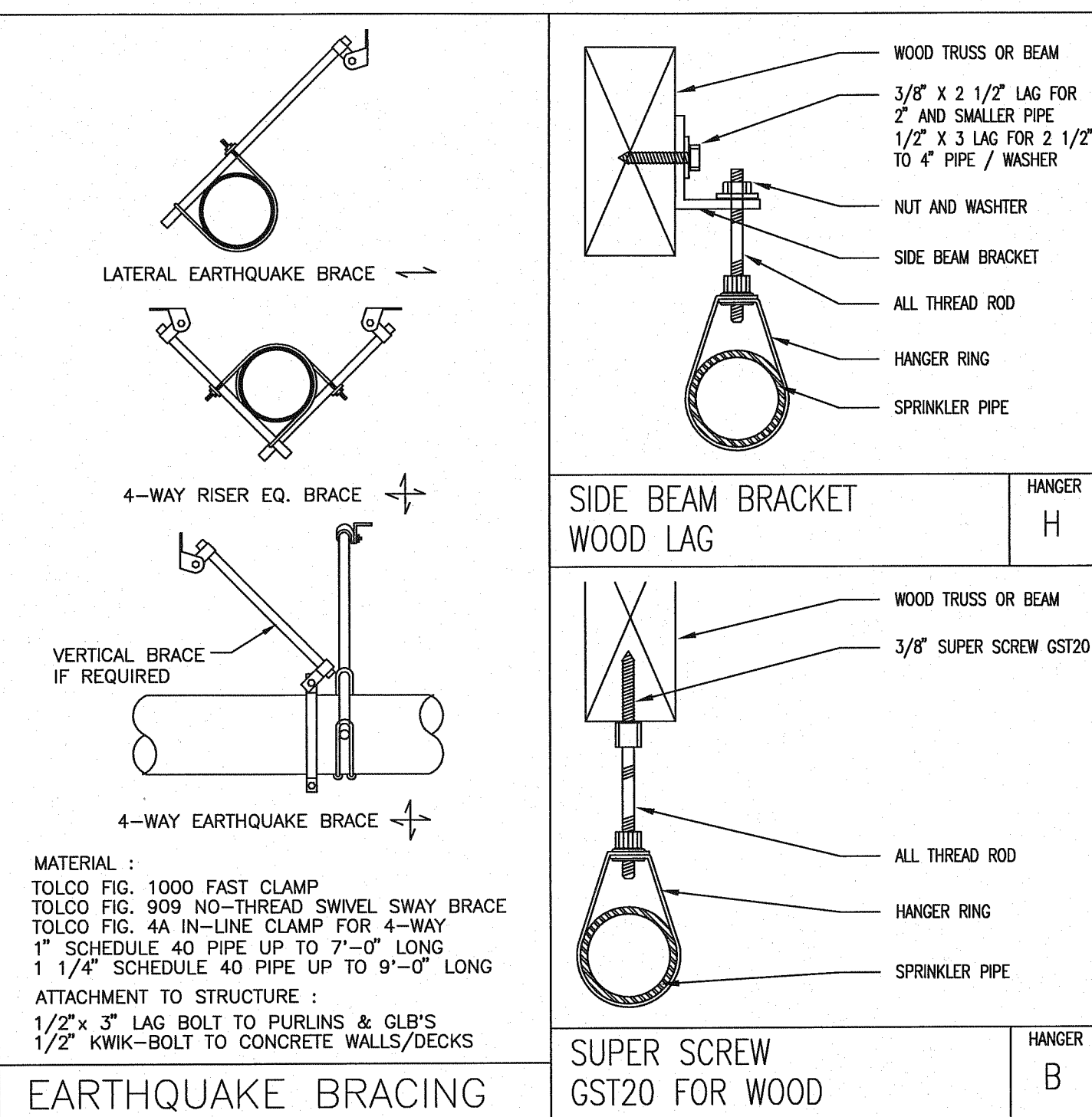
3/16"=1'-0"



### RISER DETAIL 3-1

1/2"=1'-0"

FDC IS NOT REQUIRED PER NFPA 13 SECTION 8.17.2.2



### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

O.S.C.I.  
3405 DEER PARK SE  
SALEM, OREGON 97302

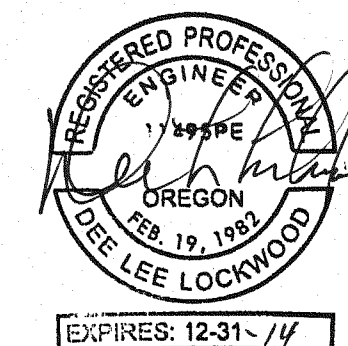
### CONTRACT WITH:

WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

### INSPECTION GATE

### GATE HOUSE

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	1 OF 1







# Fire Systems West

600 SE Maritime Avenue, suite 300  
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(360) 693-9906 fax: (503) 289-2208

WA CONTR LIC: FIRE-SWI-140-B1 OR CONTR LIC: 49732 + FED TAX ID: 91-1318969

### SPRINKLER SYMBOL DESCRIPTION

SYMBOL	TYPE	MFG/MODEL	SIZE	TEMP	FINISH	CANOPY	TOTAL
○	SSU	TYCO MODEL TY FRB	1/2" 5.6K	155	BRASS	N/A	48
○	SSU	TYCO MODEL TY FRB	1/2" 5.6K	200	BRASS	N/A	70
○	SSU	TYCO MODEL TY FRB	1/2" 5.6K	286	BRASS	N/A	13
○	SSP	TYCO MODEL TY FRB	1/2" 5.6K	155	BRASS	N/A	13
●	SSP	TYCO MODEL TY FRB	1/2" 5.6K	155	CHROME	REC CHR M	2

TOTAL SPRINKLERS SHOWN ON THIS SHEET 146

### HANGER LEGEND

LETTER	DESCRIPTION	SIZE
A	ANGLE BRACKET	L 1" ROD
B	SAMMY SUPER SCREW	M MACHINE THREADED ROD
C	CONCRETE ANCHOR	N TOGGLE NUT
D	TOP BEAM CLAMP	P POWER DRIVEN STUD
E	CONCRETE ANCHOR	R TRAPEZE
F	OFFSET EYE SOCKET	T
G	CEILING FLANGE	U CONDUIT CLAMP
H	SIDE BEAM BRACKET	W WASHER PLATE
J	"J" BOLT	X X-PRESS SCREW
K	SHORT CLIP	Y POWER-STRUT

### GENERAL NOTES

1. ALL MATERIAL AND EQUIPMENT TO BE NEW AND UNDERWRITERS APPROVED.
2. PIPING DIMENSIONS ARE CENTER TO CENTER EXCEPT RISERS AND DIMENSIONS SHOWN THUSLY (1-6) WHICH ARE END TO END.
3. EARTHQUAKE BRACING SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
4. PIPE HANGERS AND METHOD OF HANGING TO BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
5. PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
6. JOINING OF PIPE AND FITTINGS, THREADED AND WELDED SHALL BE IN ACCORDANCE WITH NFPA 13, 2010 EDITION.
7. OWNER TO PROVIDE ADEQUATE HEAT TO PREVENT WATER IN PIPES FROM FREEZING IN AREAS PROTECTED BY A WET PIPE SPRINKLER SYSTEM.
8. STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM PIPING AND EQUIPMENT IS THE RESPONSIBILITY OF THE OWNER AND/OR HIS STRUCTURAL REPRESENTATIVE.
9. EMBEDMENT DEPTH ON CONCRETE ANCHORS PER NFPA 13.

### DESIGN CRITERIA AND NOTES

1. THE INSTALLING CONTRACTOR SHALL COORDINATE ALL NEW PIPING AND EQUIPMENT WITH EXISTING CONDITIONS. VERIFY BOTH SIDES OF WALL PENETRATIONS FOR POTENTIAL CONFLICTS AND NOTIFY OCSI STAFF AND DDC PROJECT MANAGER IMMEDIATELY OF ANY APPARENT CONFLICTS OR CONCERNS.
2. THE INSTALLING CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT INSPECTION AND TESTING AGENCY QUALIFIED TO PROVIDE INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR ALL PIPING AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. PRIOR TO THE START OF CONSTRUCTION THE INSTALLING CONTRACTOR SHALL SUBMIT QUALIFICATION INFORMATION ON THE PROPOSED INSPECTION AND TESTING FIRM FOR REVIEW AND APPROVAL BY DDC. NO INSTALLATION WORK WILL BE ALLOWED UNTIL DDC APPROVAL OF THE INSPECTION AND TESTING FIRM IS GIVEN.
3. THE INDEPENDENT TESTING AND INSPECTION FIRM SHALL PERFORM ALL INSPECTIONS AND TESTS REQUIRED AS SHOWN ON THESE DRAWINGS, LISTED WITHIN THE SPECIFICATIONS FOR THIS PROJECT, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR THIS WORK, OR REQUIRED BY APPLICABLE CODES. PRIOR TO STARTING CONSTRUCTION THE INSTALLING CONTRACTOR SHALL PROVIDE THE DDC PROJECT MANAGER AND THE ENGINEER WITH A COMPLETE LISTING OF REQUIRED TESTS AND INSPECTIONS, INCLUDING METHOD AND FREQUENCY, DEVELOPED BY THE INDEPENDENT TESTING AND INSPECTION FIRM.
4. ALL COSTS FOR INSPECTION AND TESTING OF THE STRUCTURAL ATTACHMENTS FOR PIPING AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE PAID FOR BY THE INSTALLING CONTRACTOR AS PART OF THE BID PRICE FOR THE WORK.

### REVISIONS

NO.	DESCRIPTION	DATE

### CONTRACT NAME:

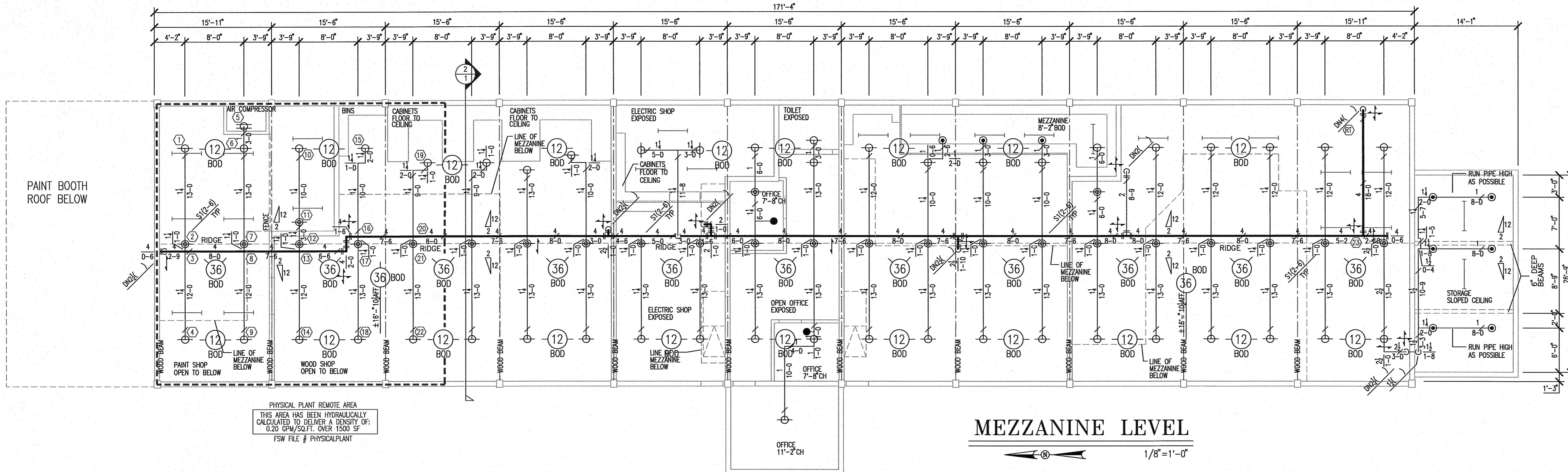
O.S.C.I. - PHYSICAL PLANT  
3405 DEER PARK SE  
SALEM, OREGON 97302

### CONTRACT WITH:

WESTECH ENGINEERING  
3841 FAIRVIEW INDUSTRIAL DRIVE SE  
SALEM, OREGON 97302  
CONTACT: RAY  
PHONE: (503)-585-2472

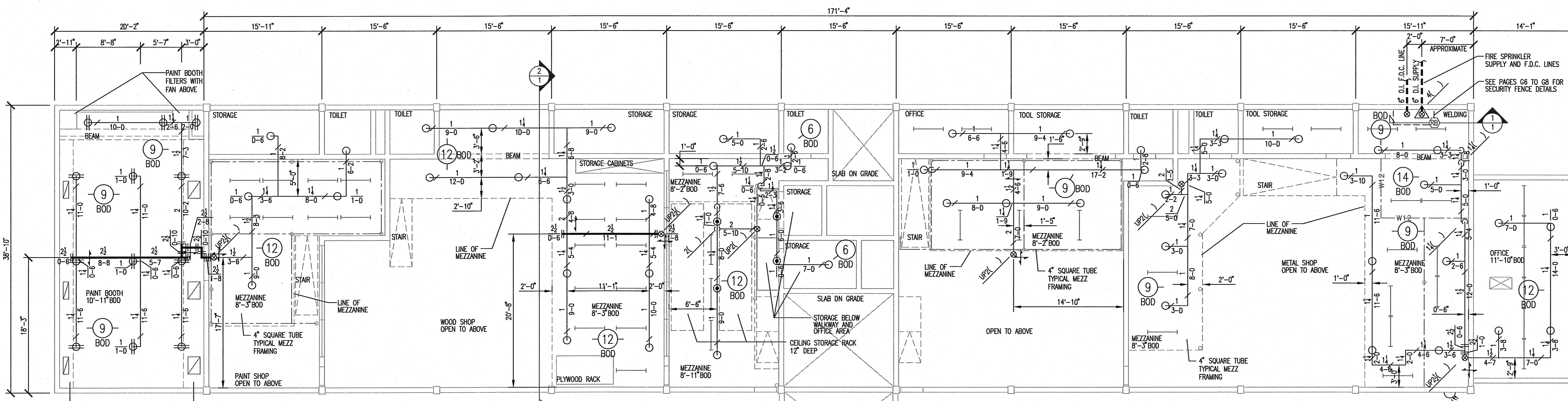
### PHYSICAL PLANT

DESIGNER	DATE	JOB NO.	SHEET
JASON SAMPSON	5-20-13	1-11-0186	1 OF 1



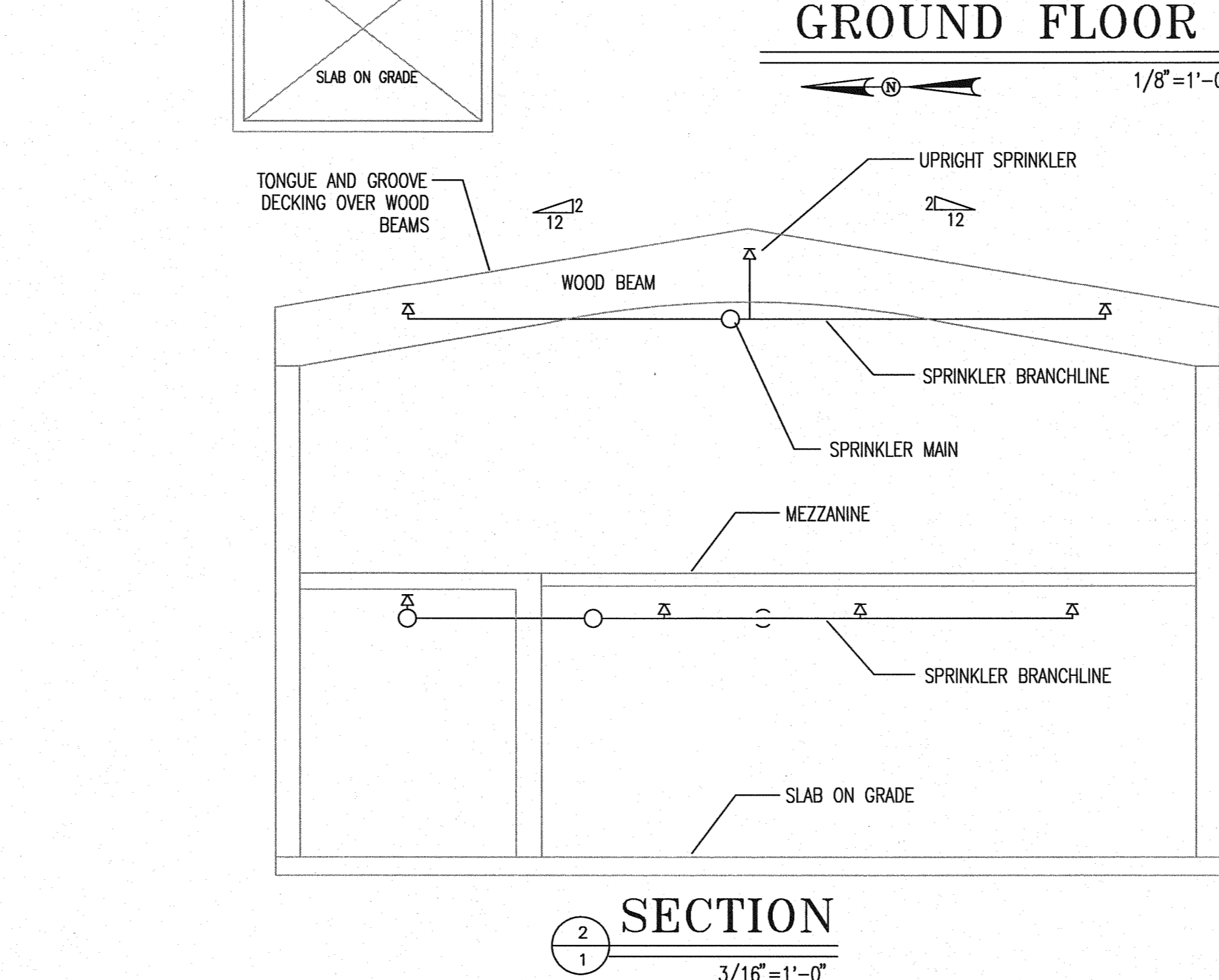
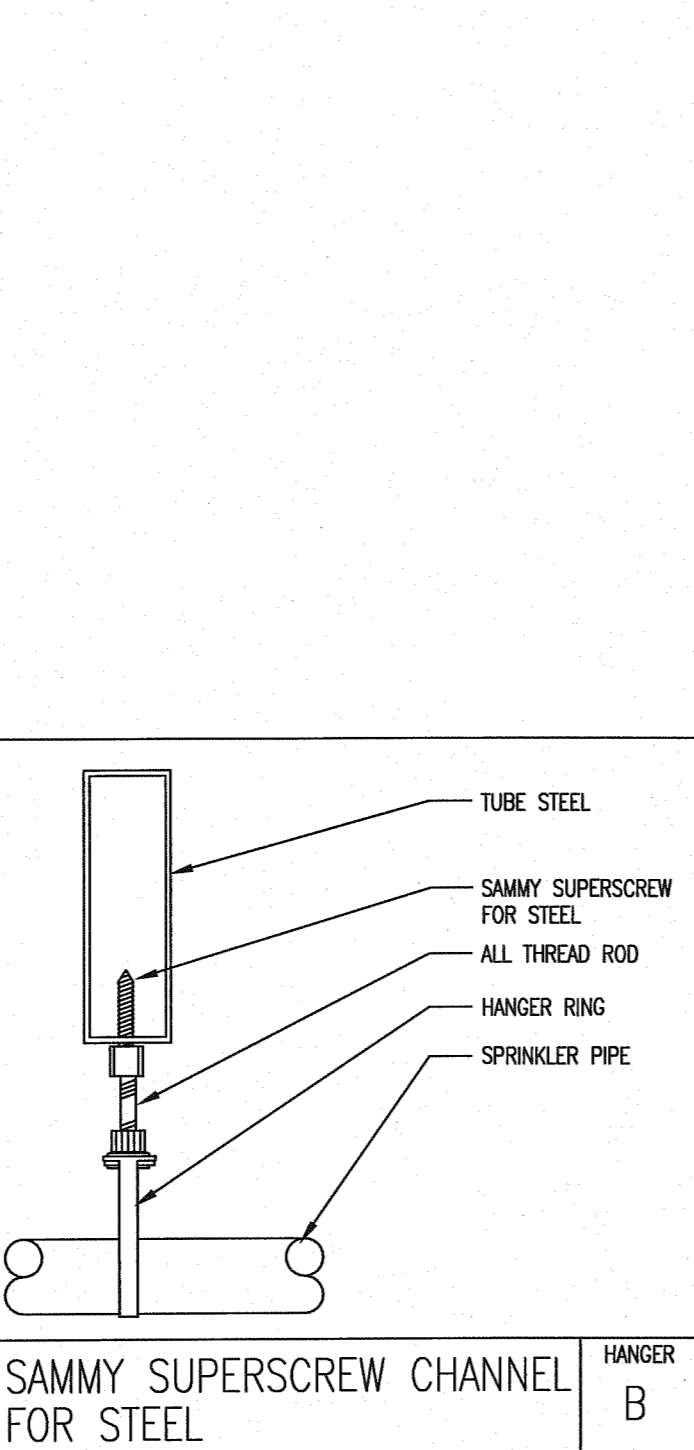
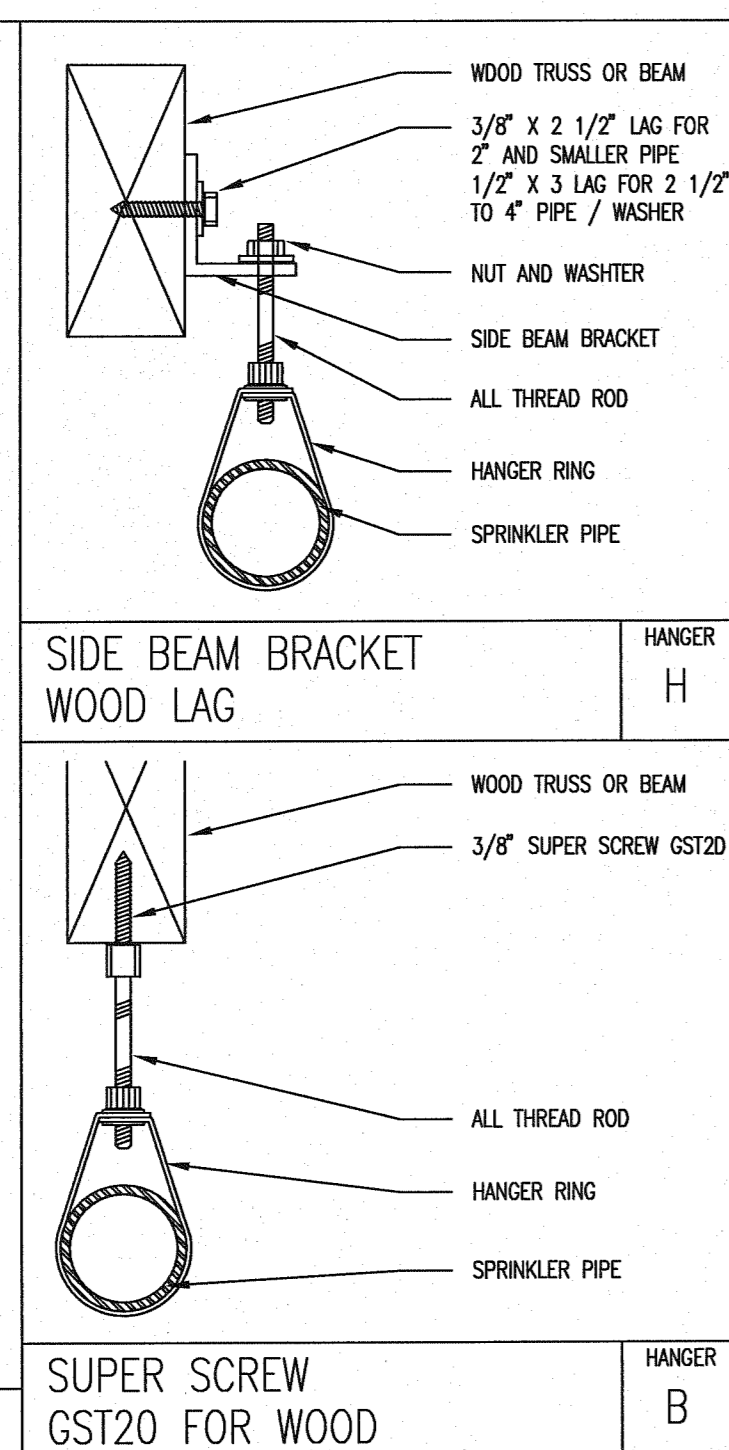
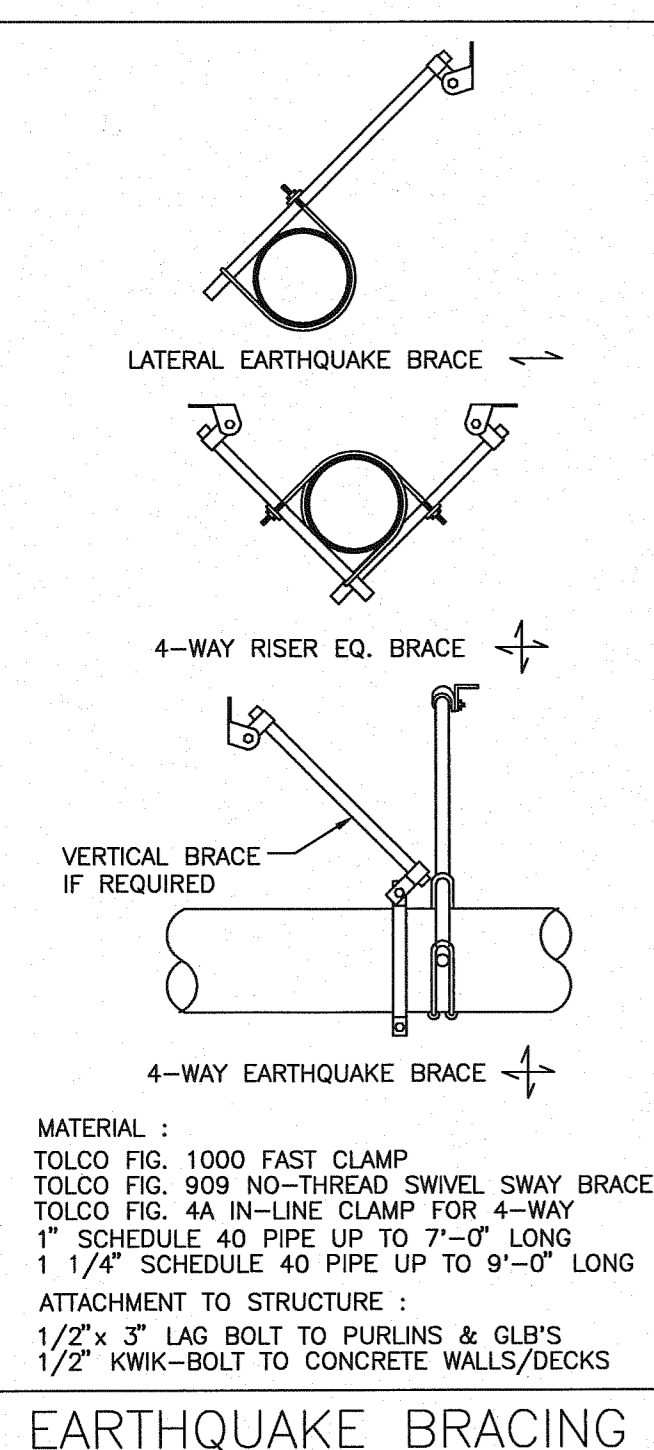
## MEZZANINE LEVEL

1/8" = 1'-0"



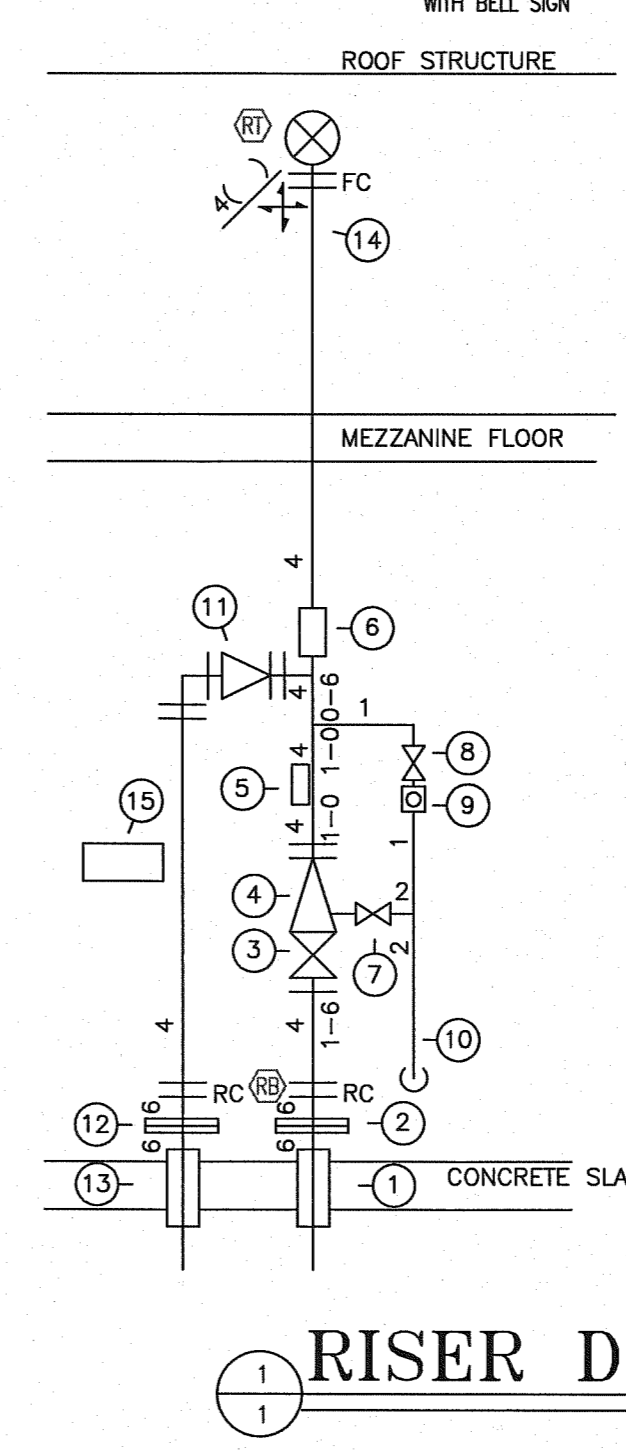
## GROUND FLOOR

1/8" = 1'-0"



## SECTION

3/16" = 1'-0"



## RISER DETAIL

1/2" = 1'-0"

### DESIGN FLOW

STATIC:	74 PSI
RESIDUAL:	42 PSI
GPM FLOWING:	2500 GPM
LOCATION:	10" FIRE LOOP EAST OF BUILDING 19
INFO FROM:	WESTECH ENGINEERING COMPUTER MODEL RESULTS

- ### MATERIAL LIST
1. 6" DUCTILE IRON SUPPLY
  2. 6" FLANGE AT D-6" ABOVE FINISH FLOOR
  3. 4" GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (WIRING SEE ELECTRICAL)
  4. GROOVED RISER CHECK VALVE
  5. 4" WATER FLOW SWITCH (WIRING SEE ELECTRICAL)
  6. SYSTEM HYDRAULIC DATA PLATE
  7. 2" MAIN DRAIN VALVE
  8. 1" INSPECTORS TEST BALL VALVE
  9. INSPECTORS SIGHT GLASS WITH 1/2" ORICE
  10. 2" MAIN DRAIN TO SAFE DISCHARGE OUTSIDE
  11. 4" GROOVED CHECK VALVE FOR FIRE DEPARTMENT CONNECTION
  12. 6" FLANGE 6" FROM FINISH FLOOR
  13. 6" F.D.C. D.I. PIPE
  14. 4" PIPE TO WET SYSTEM SYSTEM
  15. 6 COUNT SPARE SPRINKLER BOX WITH WRENCH

SYSTEM DEMAND @ BASE OF RISER  
REMOTE AREA: 442.2 GPM @ 41.9 PSI

