34TH & SAN PABLO

3431 SAN PABLO AVE, OAKLAND, CA 94608

LOCATION



EARTHQUAKE PROTECTION NOTES

1. EARTHQUAKE PROTECTION SHALL BE IN ACCORDANCE WITH NFPA 13, AND ALL APPLICABLE STATE AND LOCAL CODES.

2. ALL PIPING USED FOR BRACES SHALL BE SCH-40 BLACK PIPE.

3. LATERAL SWAY BRACING SHALL BE SPACED AT THE INTERVALS SPECIFIED BY THE SWAY BRACING CALCULATIONS UP TO A MAXIMUM OF 40 FT. ON ALL FEED AND CROSS MAINS REGARDLESS OF SIZE AND ALL BRANCH LINES AND OTHER PIPING 2 1/2" AND LARGER.

4. THE DISTANCE BETWEEN THE LAST BRACE AND THE END OF THE PIPE SHALL NOT EXCEED 6 FT.

5. A 4-WAY BRACE SHALL BE PROVIDED AT ALL RISERS EXCEEDING 3'-0.

6. THE LAST LENGTH OF PIPE AT THE END OF A FEED OR CROSS MAIN SHALL BE PROVIDED WITH A LATERAL BRACE.

7. LATERAL BRACES SHALL BE ALLOWED TO ACT AS LONGITUDINAL BRACES IF THE ARE WITHIN 24 IN. OF THE CENTER LINE OF THE PIPING BRACED LONGITUDINALLY FOR LINES 2 1/2" AND GREATER IN DIAMETER.

8. WHERE FLEXIBLE COUPLINGS ARE INSTALLED ON MAINS OTHER THAN AS REQUIRED IN 9.3.2, A LATERAL BRACE SHALL BE PROVIDED WITHIN 24 IN. OF EVERY OTHER COUPLING, BUT NOT MORE THAN 40 FT. ON CENTER.

9. LONGITUDINAL SWAY BRACING SHALL BE SPACED AT THE INTERVALS SPECIFIED BY THE SWAY BRACING CALCULATIONS UP TO A MAXIMUM OF 80 FT. ON CENTER SHALL BE PROVIDED FOR FEED AND CROSS MAINS.

10. LONGITUDINAL BRACES SHALL BE PERMITTED TO SERVE AS LATERAL BRACES WHERE THEY ARE INSTALLED WITHIN 24 IN. OF THE PIPING THAT IS TO BE BRACED LATERALLY.

11. WHERE BRANCHLINES ARE INDIVIDUALLY SUPPORTED BY RODS EXCEEDING 6" MEASURED BETWEEN THE TOP OF THE PIPE AND THE POINT OF ATTACHMENT TO THE BUILDING STRUCTURE, BRANCHLINES SHALL BE RESTRAINED AT INTERVALS AS SPECIFIED ON SHEET FP-D4. BRANCHLINE RESTRAINTS SHALL BE INSTALLED WITHIN 6" OF A VERTICAL HANGER.

12. CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING PER NFPA 13.

STANDPIPE NOTES

1. STANDPIPE SYSTEM TO COMPLY WITH NFPA 14, AND ALL APPLICABLE STATE AND LOCAL CODES.
2. ALL HOSE CONNECTIONS SHALL BE 2-1/2".
3. ALL HOSE VALVES SHALL BE LISTED AND EQUIPPED WITH CAPS TO PROTECT THE HOSE THREADS.
4. PRESSURE GAUGES SHALL BE INSTALLED ABOVE AND BELOW EACH ALARM CHECK VALVE, DRY PIPE VALVE, DELUGE VALVE, BACKFLOW PREVENTER, OR SYSTEM RISER CHECK VALVE WHERE SUCH DEVICES ARE PRESENT.
5. PRESSURE GAUGES SHALL BE INSTALLED ON THE UPSTREAM AND THE DOWNSTREAM SIDES OF EVERY PRESSURE-REGULATING DEVICE INSTALLED IN ACCORDANCE WITH 7.2.4(6).
6. EACH FIRE DEPARTMENT CONNECTION SHALL BE DESIGNATED BY A SIGN, WITH LETTERS AT LEAST 1 IN. IN HEIGHT, THAT READS "STANDPIPE." FOR MANUAL SYSTEMS, THE SIGN SHALL ALSO INDICATE THAT THE SYSTEM IS MANUAL AND THAT IT IS EITHER WET OR DRY.
7. IF AUTOMATIC SPRINKLERS ARE ALSO SUPPLIED BY THE FIRE DEPARTMENT CONNECTION, THE SIGN OR COMBINATION OF SIGNS SHALL INDICATE BOTH DESIGNATED SERVICES.

FIRE SPRINKLER NOTES

1. MAX. SPRINKLER SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS IS 15', 225 FT² FOR LIGHT HAZARD.

2. MAX. SPRINKLER SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS IS 15', 130 FT² FOR ORDINARY HAZARD.

3. MAX. SPRINKLER SPACING FOR RESIDENTIAL PENDENT SPRINKLERS IS 20' WITHIN RESIDENTIAL AREAS (UNO).

4. STANDARD SPRAY UPRIGHT & PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1" & 6" BELOW STRUCTURAL MEMBERS FOR OBSTRUCTED CONSTRUCTION.

5. STANDARD SPRAY UPRIGHT & PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1" & 12" BELOW FINISH CEILING FOR UNOBSTRUCTED CONSTRUCTION.

6. RESIDENTIAL PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1.25" & 4" BELOW FINISH CEILING FOR UNOBSTRUCTED CONSTRUCTION.

7. STANDARD SPRAY UPRIGHT, PENDENT, AND SIDEWALL SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE OBSTRUCTIONS RULES OF NFPA 13.

8. RESIDENTIAL PENDENT SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES, AND THE OBSTRUCTIONS RULES OF NFPA 13.

9. SPRINKLERS SHALL BE PERMITTED TO BE OMITTED FROM CEILING POCKETS WHERE THE REQUIREMENTS OF NFPA 13 ARE MET.

CODE

ALL CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE FOLLOWING CODES:				
2022	CALIFORNIA	ACCESSIBILITY CODE	CBC	CHAPTERS 10, 11B
	CALIFORNIA	ADMINISTRATIVE CODE	TITLE 19	
2022	CALIFORNIA	BUILDING CODE	CBC	
2022	CALIFORNIA	ELECTRICAL CODE	CEC	
2022	CALIFORNIA	ENERGY CODE	CENC	
2022	CALIFORNIA	FIRE CODE	CFC	
2022	CALIFORNIA	GREEN BUILDING STANDARDS CODE	GBSC	
2022	CALIFORNIA	MECHANICAL CODE	CMC	
2022	CALIFORNIA	PLUMBING CODE	CPC	
2022	NATIONAL	FIRE ALARM CODE	NFPA 72	
2022	NATIONAL	INSTALLATION OF FIRE SPRINKLERS	NFPA 13	
2010	UNITED STATES	AMERICANS WITH DISABILITIES ACT	ADA	STANDARDS FOR ACCESSIBLE DESIGN
1998	UNITED STATES	FAIR HOUSING ACT	FHA DM	DESIGN MANUAL WILL BE USED TO COMPLY WITH FEDERAL FAIR HOUSING ACT, PART VI - ACCESSIBILITY GUIDELINES

BUILDING RENDER



PROJECT INFORMATION

SITE INFORMATION

PROJECT ADDRESS: 3431 SAN PABLO AVE, OAKLAND, CA 94608
ACCESSOR'S PARCEL NO. (APN): 5-479-5-1
LOT SIZE: 15,125 SF
CURRENT BUILDING & LAND USE: VACANT LOT WITH VACANT COMMERCIAL BUILDING AND SHED

ZONING AREA/ DISTRICT(S): URBAN RESIDENTIAL - 5 (RU-5)

PLANNING PROJECT NO.: PLN22165
GENERAL PLAN: URBAN RESIDENTIAL

PROJECT DESCRIPTION

THE PROPOSED PROJECT IS A 100% AFFORDABLE 6-STORY NEW MULTIFAMILY BUILDING WITH 60 RESIDENTIAL RENTAL UNITS.

THE PROJECT PROPOSES THE DEMOLITION OF ALL EXISTING STRUCTURES.

THE GROUND FLOOR INCLUDES COMMON AREAS FOR RESIDENT USE, BUILDING MANAGEMENT OFFICES, SERVICE SPACES, AND RETAIL FACING SAN PABLO AVENUE. UPPER FLOORS ARE SOLELY RESIDENTIAL FEATURING A MIX OF STUDIOS, ONE-, AND TWO-BEDROOM RETNAL UNITS. THERE WILL BE ONE MANAGER'S UNIT.

COMMON OUTDOOR SPACES INCLUDE A GROUND LEVEL COURTYARD.

THE STRUCTURE IS TO CONSIST OF A REINFORCED CONCRETE MAT SLAB, TYPE 1 STRUCTURAL CONCRETE CONSTRUCTION INCLUDING POST-TESNSIONED SLABS SUPPORTED BY MILD STEEL REINFORCED CAST-IN-PLACE CONCRETE COLUMNS AND WALLS. THERE WILL BE METAL STUD FRAMING INFILL FOR BOTH INTERIOR AND EXTERIOR WALLS AT ALL LEVELS.

THE PROJECT WILL BE SEEKING PUBLIC FUNDING SOURCES INCLUDING TCAC STATE FUNDING. THE BUILDING SHALL COMPLY WITH CHAPTER 11B OF THE 2022 CBC.

OCCUPANCY

THE PRIMARY OCCUPANCY WILL BE "R-2". ACCESSORY OCCUPANCIES WILL BE B, S-2, A-3 AND A-2.
NUMBER OF UNITS: 60

USE

100% AFFORDABLE MULTIFAMILY RESIDENTIAL + GROUND FLOOR ASSEMBLY

BUILDING INFORMATION

NUMBER OF STORIES: 6
USE: RESIDENTIAL OVER MIXED USE GROUND FLOOR
OCCUPANCY TYPE: 5 STORIES OF R-2 OVER 1 STORY OF B, S-2, A-2 AND A-3
CONSTRUCTION TYPE: TYPE IB

BUILDING HEIGHT: 67'-0"
PLANNING CODE MAXIMUM HEIGHT: 75'-0", PER SB35
BUILDING CODE MAXIMUM HEIGHT: 180'-0"

FIRE PROTECTION:
1. ALL AREAS ARE TO BE PROTECTED BY AN AUTOMATIC FIRE SPRINKLER SYSTEM PER 2022 CBC 903.3 AND THE NFPA 13.
2. PROVIDE STANDPIPES PER 2022 CBC SECTION 905.
3. PROVIDE MANUAL FIRE ALARM SYSTEM PER 2022 CBC 907.2.9 AND NFPA 72.
4. FIRE WALLS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH 2022 CBC SECTION 706.

PLEASE REFER TO CODE ANALYSIS SHEETS FOR MORE DETAILED INFORMATION AND DRAWINGS.

PLANS NOTE

THESE PLANS CONFORM TO THE CONTRACT DOCUMENTS WHICH INCLUDE THE OWNER/CONTRACTOR AGREEMENT, THE DRAWINGS, AND ALL ADDENDA AND MODIFICATIONS ISSUED BY THE ARCHITECT.

SHEET LIST

Sheet Number	Sheet Name
FP0	COVER SHEET
FP1	SITE PLAN
FP2	DETAIL PLAN
FP3	FIRE PUMP PLAN
FP4	STANDPIPE PLAN
FP5	LEVEL 1 & 2 PIPING PLAN
FP6	LEVEL 3 & 4 PIPING PLAN
FP7	LEVEL 5 & 6 PIPING PLAN
FP8	ROOF PIPING & SECTION PLAN
FP9	SEISMIC CALCS
FP10	3D ISO PLAN
FP11	L01 FIRE VS MEP ISO
FP12	L02-L05 FIRE VS MEP ISO
FP13	L06 FIRE VS MEP ISO

SPRINKLERS-TOTAL

Sprinkler Schedule

	No. of Sprklrs	Manufacturer	SIN	K-Factor	Orifice Size	Response	FINISH	Temp
☀	25	Viking	VK462	5.6	1/2"	Quick	WHITE	200 °F
◀	192	Viking	VK490	5.8	1/2"	Quick	WHITE	205 °F
●	415	Viking	VK494	4.9	1/2"	Quick	WHITE	200 °F
○	98	Viking	VK3001	5.6	1/2"	Quick	BRASS	200 °F
Total No. of Sprinklers: 730								

NOTE: THIS PROJECT WAS BIM COORDINATED - MEP MAY OR MAY NOT BE SHOWN FOR CLARITY

GENERAL NOTES

FIRE PROTECTION SYSTEM TO COMPLY WITH NFPA 13 2022, AND ALL APPLICABLE STATE AND LOCAL CODES.

ALL WIRING AND MONITORING OF ALARMS AND CLEANING AND PAINTING OF PIPE IS BY OTHERS.

PROVIDE STOCK OF EXTRA SPRINKLERS IN ACCORDANCE WITH NFPA 13.

ALL WIRING SHALL BE ACCOMPLISHED UNDER THE ELECTRICAL CONTRACT. COORDINATE ALL ELECTRICAL ITEMS WITH THE ELECTRICAL CONTRACTOR AND INSURE PROPER COORDINATION.

ALL DRILLING AND BORING OF HOLES SHALL BE DONE IN STRICT ACCORDANCE WITH THE STRUCTURAL ENGINEERS REQUIREMENTS. DO NOT UNDER ANY CIRCUMSTANCES CUT, MODIFY OF OTHERWISE MODIFY PRE-MANUFACTURED TRUSSES.

PIPE ROUTING SHALL BE STRICTLY ADHERED TO AND ANY ADDITIONAL OFFSETS OR FITTINGS REQUIRED FOR PROPER INSTALLATION, COORDINATION WITH OTHER TRADES, AND/OR TO MAINTAIN PROPER CLEARANCES SHALL BE PROVIDED. VERIFY EXISTING STRUCTURAL, MECHANICAL, ELECTRICAL INSTALLATIONS AND AVOID ANY/ALL OBSTRUCTIONS OR INTERFERENCES WITH FIRE PROTECTION PIPE ROUTING.

FIRE STOP ALL PENETRATIONS OF SMOKE/FIRE WALLS, CEILINGS, FLOORS, ROOFS, ETC. FIRE STOPPING MATERIAL SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTION. ALL FIRE STOP MATERIALS SHALL LISTED AS COMPATIBLE WITH CPVC.

ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES ARE BY THE GENERAL CONTRACTOR.

SPRINKLER HEADS ARE TO BE COORDINATED WITH ALL EXISTING/NEW DIFFUSERS, SPEAKERS, LIGHTING FIXTURES AND CEILING SYSTEMS WHERE POSSIBLE WITHOUT ADDING ADDITIONAL SPRINKLERS.

VERIFY FINISH CEILING ELEVATION PRIOR TO INSTALLATION OF SPRINKLER HEADS.

VERIFY LOCATION AND SIZE OF ALL OBSTRUCTIONS, LIGHT FIXTURES, CABINETS, HEAT SOURCES, SOFFITS, ETC...

METHODS OF HANGING PIPES, HEADERS AND BRANCHLINES SHALL BE IN ACCORDANCE WITH NFPA 13 AND THE HANGER CHART.

AUTOMATIC SPRINKLER TEMPERATURE RATINGS OF FUSIBLE ELEMENTS TO BE IN ACCORDANCE WITH NFPA 13.

ALL MATERIALS AND DEVICES TO BE U.L. LISTED AND/OR FM APPROVED. ALL DEVICES SHALL BE NEW AND FREE OF DEFECTS.

ALL SYSTEMS SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS.

PROVIDE A PERMANENTLY ATTACHED PLACARD / SIGNAGE STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY DESIGNED SYSTEM.

SYSTEM PIPING TO BE OF STEEL PIPE AND IRON FITTINGS MEETING THE CRITERIA OF ASTM AND NFPA 13.
A: ALL THREADED PIPE TO BE SCH 40 OR APPROVED EQUAL.
B: ALL 4" AND SMALLER GROOVED PIPE TO BE SCH 10 OR APPROVED EQUAL.
C: ALL 6" AND LARGER GROOVED PIPE TO BE SCHEDULE 10.
D: CPVC PIPE AND FITTINGS MAY BE UTILIZED PURSUANT TO MANUFACTURERS LISTING.

UNDERGROUND FIRE SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24 AND THE LOCAL AUTHORITY HAVING JURISDICTION (BY OTHERS).

"NFPA 24-2010, 10.6.3.1.1: "ONLY DUCTILE IRON SHALL BE INSTALLED WITHIN 5 FEET OF A FOUNDATION OR WALL.". DUCTILE IRON PIPE TO BE INSTALLED WITHIN 5' OF BUILDING PER PLANS (DUCTILE IRON PIPE (DIP)IS NOTED)

HAZARDOUS MATERIAL SHALL BE PLACED IN A SECURE (LOCKED) AREA AT THE COMPLETION OF EACH WORK DAY.

ALL WORK SHALL BE INSTALLED IN A SAFE AND WORKMANLIKE MANNER. REPORT ANY UNSAFE ACTIVITY OR JOB-SITE HAZARD TO YOUR SUPERVISOR IMMEDIATELY.

REPORT ALL INJURIES REQUIRING MEDICAL ATTENTION THE SAME BUSINESS DAY IN WHICH THEY OCCUR.

SPRINKLER PIPE SIZING SHALL BE ESTABLISHED BY HYDRAULIC CALCULATIONS.

FIRE SYSTEM TO DRAIN TO SANITARY SEWER SYSTEM, SEE FIRE SPRINKLER PLANS FOR DETAILS

CONTRACTOR IS RESPONSIBLE FOR THE PROPER DESIGN AND INSTALLATION OF THE FIRE SPRINKLER SYSTEM, INCLUDING COORDINATION OF THE WORK OF OTHER TRADES.

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		

FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

DATE 4/17/2026 8:56:19 AM
SCALE
DRAWN Author
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE COVER SHEET
SHEET NUMBER FP0

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42

FIRE PROTECTION NOTES

1. THE UNDERGROUND PIPING, VALVES AND FITTINGS SHALL BE INSTALLED AND RESTRAINED PER OAKLAND FIRE DEPARTMENT REQUIREMENTS AND PER NFPA 24, 2022, "STANDARD FOR THIS INSTALLATION OF PRIVATE FIRE SERVICE AND THEIR APPURTENANCES".
2. THE UNDERGROUND PIPING SHALL HAVE A MINIMUM DEPTH OF BURY OF 36 INCHES FROM TOP OF PIPE TO FINISHED GRADE PER NFPA 24 2022.
3. BACKFILL MATERIAL SHALL BE WELL TAMPED IN LAYERS OR PUDDLE UNDER AND AROUND PIPES TO PREVENT SETTLEMENT OR LATERAL MOVEMENT. BACKFILL SHALL CONSIST OF CLEAN FILL SAND OR PEA GRAVEL TO A MINIMUM SIX INCHES (6) BELOW AND TO A MINIMUM OF TWELVE INCHES (12) ABOVE THE PIPE AND SHALL CONTAIN NO ASHES, CINDERS, REFUSE OR ORGANIC MATTER, OR OTHER CORROSIVE MATERIALS. OTHER BACKFILL MATERIALS AND METHODS ARE PERMITTED WHERE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND APPROVED BY THE ENFORCING AGENCY. REFER TO TRENCH DETAIL OF SHEET 2 OF THIS PLAN SET.
4. ALL METAL PIPING, VALVES, JOINTS AND FITTINGS SHALL BE BITUMASTIC COATED. ALL BOLTS SHALL BE T-304 STAINLESS STEEL MTH FIELD APPLIED BITUMASTIC. ALL FITTINGS TO BE POLYWRAPPED, 8-MIL (MINIMUM THICKNESS).

IN CASES WHERE THE NEW FIRE WATER MAIN MAINTAINS LESS THAN TEN FEET (10?) OF CLEARANCE FROM THE EXISTING DOMESTIC WATER DISTRIBUTION MAIN ALL METAL PIPING, VALVES, JOINTS AND FITTINGS SHALL BE INSTALLED, SUPPORTED, ANCHORED, CLEANED AND FUSION EPOXY COATED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS AS APPLICABLE AND APPROVED BY THE SANTA CLARA COUNTY FIRE DEPARTMENT. ALL BOLTS FOR USE AT OR BELOW GRADE SHALL BE STAINLESS STEEL, TYPE 316 OR BETTER . ALL METAL PLACED BELOW GROUND OR IN CONTACT WITH SOILS SHALL BE FUSION EPOXY COATED AND PROTECTED WITH LIQUID EPOXY COATING. ALL VALVES SHALL BE POLYWRAPPED, 8-MIL (MINIMUM THICKNESS).

5. PVC PIPE SHALL BE A MINIMUM CLASS 305, C900 PIPE, HAVING A DIMENSION RATIO (DR) OF 14 AND A DUCTILE IRON PIPE EQUIVALENT OUTSIDE DIAMETER.
6. REQUIRED INSPECTIONS: PLEASE PROVIDE TWO WORKING DAYS NOTICE FOR INSPECTION REQUESTS. INSPECTIONS MAY BE SCHEDULED BY CALLING THE SAN JOSE FIRE DEPARTMENT AT 408-535-3555. APPOINTMENTS CAN BE SCHEDULED ONLINE AT 222.SJPERMITS.ORG.

THE FOLLOWING INSPECTIONS SHALL BE OBTAINED FROM THE FIRE PREVENTION DIVISION:

7.

A. UNDERGROUND/HYDRO INSPECTION: A PRE-POUR INSPECTION IS REQUIRED PRIOR TO INSTALLATION OF THRUST BLOCKS. UNDERGROUND HYDROSTATIC TEST AND INSPECTION IS REQUIRED PRIOR TO COVERING THE SYSTEM (BACKFILL OF PIPING BETWEEN JOINTS IS PERMITTED PRIOR TO THE HYDROSTATIC TEST). THE HYDROSTATIC TEST SHALL BE CONDUCTED AT A MINIMUM PRESSURE OF 200 PSI FOR 2 HOURS.
B. FLUSHING OF THE UNDERGROUND SYSTEM IS REQUIRED PRIOR TO CONNECTION TO FIRE SPRINKLER PIPING. FLUSHING SHALL OCCUR PRIOR TO HYDROSTATIC TESTING.

THE FLUSH SHALL BE WITNESSED BY THE FIRE INSPECTOR.

FLUSHING OF 6 AND 8 NON FIRE PUMP LINES.

FLUSHING OF UNDERGROUND PIPELINE SHALL BE IN ACCORDANCE WTH NFPA 24 SEC 10.10.2.1

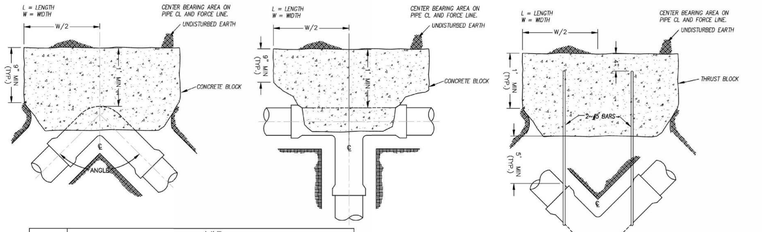
FLUSHING OPERATIONS MUST BE COMPLETED PRIOR TO HYDROSTATIC TESTING.

THE MINIMUM RATE OF FLOW (10 FPS) SHALL BE IN ACCORDANCE WITH NFPA 24 TABLE 10.10.2.1.3

PER TABLE 10.10.2.1.3 FLOW RATE OF 880 GPM IS REQUIRED FOR ALL 6 FW LINES AND 1,500 GPM FOR ALL 8 FW LINES.

CONTRACTOR MATERIAL AND TEST CERTIFICATE IS REQUIRED PER NFPA 24.

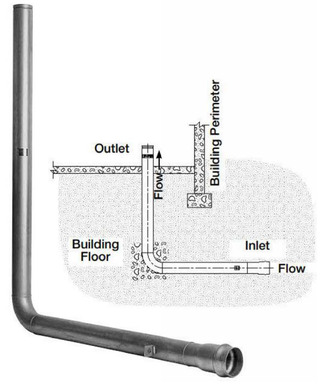
8. LOCATION OF ALL FIRE DEPARTMENT CONNECTIONS, POST INDICATOR VALVES, RISERS AND ASSOCIATED EQUIPMENT AND PROTECTION SHALL BE VERIFIED MTH THE SAN JOSE FIRE DEPARTMENT OFFICE FOR PROPER PLACEMENT PRIOR TO INSTALLATION.
9. THE COLOR OF THE POST INDICATOR VALVE AND FIRE DEPARTMENT CONNECTION SHALL BE AS REQUIRED AND APPROVED BY THE SAN JOSE FIRE DEPARTMENT. PRIVATE HYDRANTS SHALL BE PAINTED SAFETY YELLOW.
10. FIRE DEPARTMENT CONNECTIONS (FDCs) SHALL BE PROMDED WTH AN ALL-WEATHER SIGN INDICATING THE ADDRESS AND SYSTEM COMPONENTS SERVED.
11. SUBMIT PLANS FOR THE FIRE PROTECTION UNDERGROUND SYSTEM PRIOR TO THE EXCAVATON OR INSTALLATION OF THE SYSTEM. NO WORK IS PERMITTED MTHOUT APPROVED PLANS FROM THE SAN JOSE FIRE DEPARTMENT.
12. ALL UNDERGROUND WORK SHALL BE PERFORMED BY A LICENSED (C-16, C-34, OR A) CONTRACTOR. CONTRACTOR SHALL PROVIDE THE SAN JOSE FIRE DEPARTMENT MTH A COPY OF THEIR LICENSE UPON SUBMITTAL OF THE OF THE UNDERGROUND PLANS.
13. ALL MATERIALS SHALL BE LISTED AND/OR APPROVED FOR FIRE SERVCE APPLICATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF NFPA 24, 2019 EDITION.
14. ALL UTILITY CROSSINGS ARE BASED ON AVAILABLE DESIGN AND SURVEY DATA. CONTRACTOR TO FIELD VERIFY WHETHER FIRE WATER LINE IS TO BE INSTALLED OVER OR UNDER OTHER UTILITIES AND ENSURE THAT ALL PIPE COVER AND CLEARANCE REQUIREMENTS ARE MET DURING INSTALLATION.
15. ANY NEW OR EXISTING PIPE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED PRIOR TO ANY ASSOCIATED PIPING BEING PUT INTO SERVICE.
16. CONTRACTOR SHALL COORDINATE MTH CITY OF SAN JOSE WATER FACILITIES FOR VERIFICATION OF WATER SUPPLY INFORMATION.
17. CONTRACTOR SHALL PROVIDE COMPLETED CONTRACTOR- S MATERIAL AND TEST CERTIFICATE PER REQUIREMENTS OF NFPA 24 2019 FOR UNDERGROUND UPON THE SUCCESSFUL COMPLETION AND APPROVAL OF ALL REQUIRED TESTS AND INSPECTIONS FROM THE SAN JOSE FIRE DEPARTMENT.
18. ALL DIP FITTINGS MTH BE PROVIDED WTH APPROVED THRUST RESTRAINT.
19. THRUST BLOCKS WERE DESIGNED AND BASED ON THE EQUATIONS AND VALUES AS LISTED IN THE CODE. THE PROJECT SOL- S REPORT LISTS THE SOIL- S BEARING PRESSURE CAPACITY AT 875PSF (TAKEN AT DEPTH OF 3.5- COVER). UNDER SECTION A.10.8.2, (NFPA 24, 2019) THE FACTOR OF SAFETY IS CALLED OUT AS "USUALLY 1.5" THE CALCULATIONS FOR THIS PROVECT INCLUDES A FACTOR OF SAFETY OI 2.0.
20. ALL WORK SHALL BE PREFORMED IN ACCORDANCE WITH THE PROUECT GEOTECHNICAL EVALUATON AND GEOLOGIC HAZARDS ASSESSMENT REPORT FOR THE ALVARADO PARK & BELLARMINO PLACE SAN JOSE, CA PREPARED BY GEOCON CONSULTANTS, PROJECT NO. E8999-04-03 DATED AUGUST, 2020.
21. MEGALUG THRUST RESTRAINT FITTINGS MAY BE USED IN LIEU OF CONCRETE TRUST BLOCKS AT THE CONTRACTORS DISCRETION AS APPROVED BY THE FIRE DEPARTMENT FIELD INSPECTOR. FOR C900 PIPE MEGALUG SERIES 1100 SHALL BE UTILIZED FOR DIP PIPE MEGALUG SERIES 2200 SHALL BE UTILIZED.

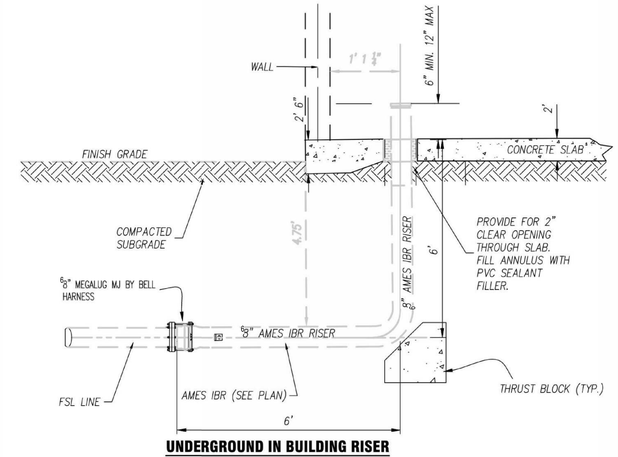


PIPE SIZE	L X W				
	TEE	11.25°	22.5°	45°	90°
6"	5'0" X 5'9"	2'0" X 3'0"	3'0" X 4'0"	4'0" X 5'0"	8'0" X 5'0"

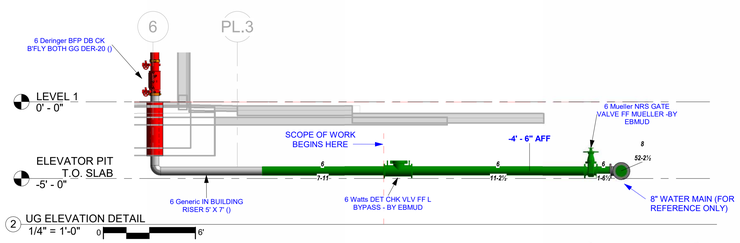
NOTES:
1. FLANGES, BOLTS, AND NUTS SHALL BE KEPT CLEAR OF CONCRETE.
2. CENTER OF W COINCIDES WITH CENTER OF PIPE.
3. REQUIRED SQUARE FOOTAGE IS CALCULATED BASED ON 200 PSI HYDROSTATIC TEST PRESSURE.
4. REQUIRED SQUARE FOOTAGE IS CALCULATED BASED 875 PSF ALLOWABLE BEARING PRESSURE WITH A FOS OF 2.0.
5. CONTRACTOR TO DETERMINE IN FIELD WHETHER TO USE CONCRETE THRUST BLOCKS PER TABLE ABOVE OR REPLACE USE OF THRUST BLOCK WITH MEGALUG RESTRAINT SYSTEM OR FLANGED FITTINGS. FOR MEGALUG APPLICATIONS USE MEGALUG SERIES 1100 FOR PVC PIPE AND SERIES 2200 FOR DIP PIPE.
6. REFER TO NOTE #19 ON SHEET 1 FOR THRUST BLOCK CALCULATION METHOD AND APPLICABLE FACTOR OF SAFETY.
7. THRUST BLOCKS ARE BASED UPON NFPA 13 TABLE A.6.6.1 AND FORMULA A.6.6.1e.

THRUST BLOCK DETAIL AT 8" BENDS
N.T.S.

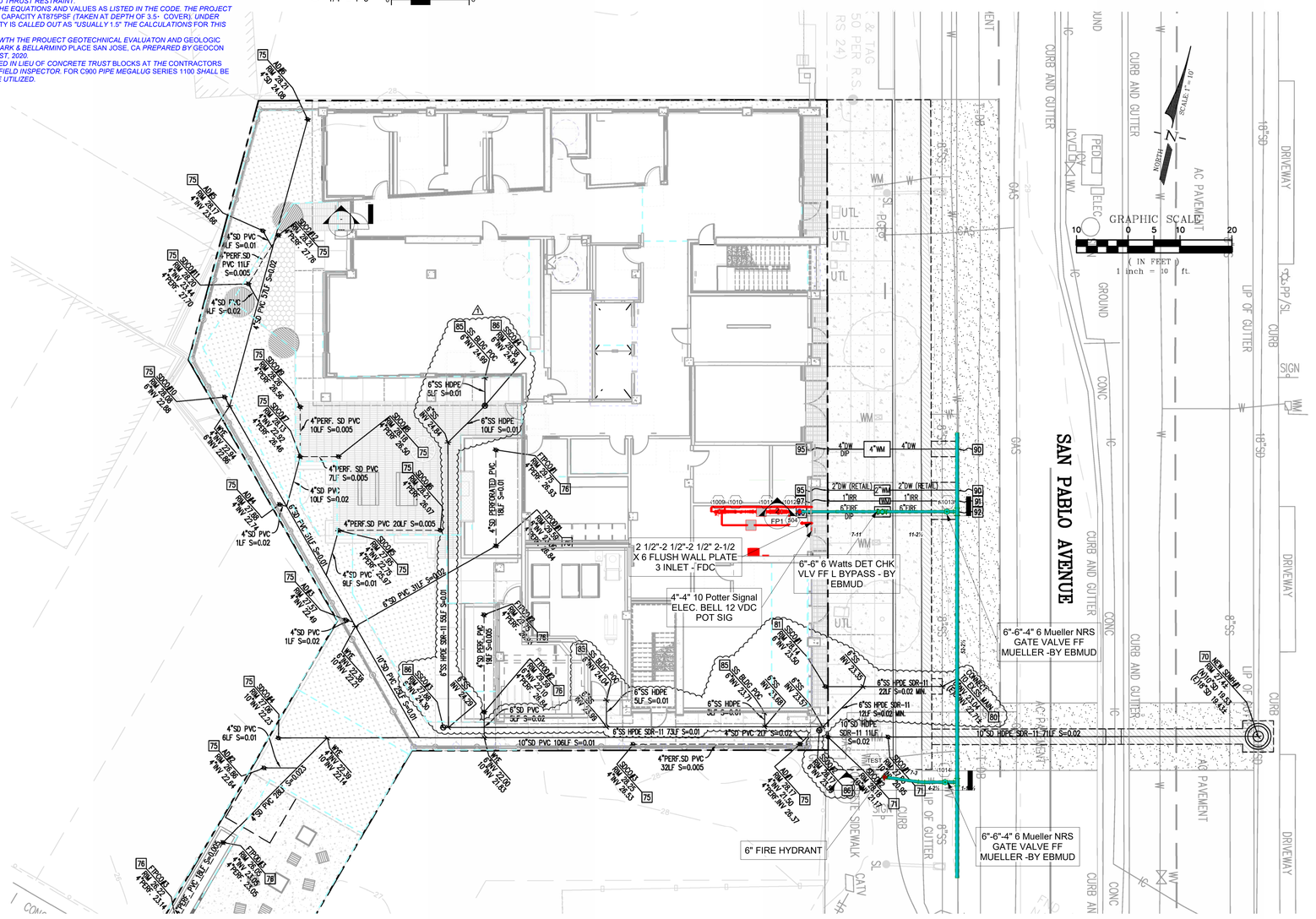




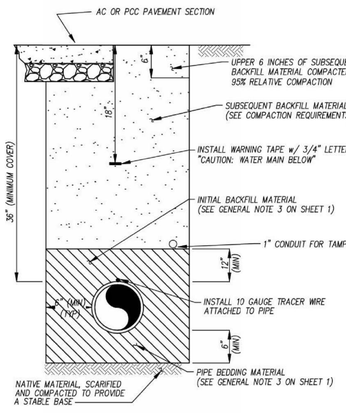
UNDERGROUND IN BUILDING RISER
N.T.S.



② UG ELEVATION DETAIL
1/4" = 1'-0"



① SITE PLAN
1" = 10'-0"



TRENCH BACKFILL DETAIL
NOT TO SCALE

FIRE SERVICE REQUEST (FSR) - AVAILABLE FLOW & PRESSURE INFORMATION

Request Number: 11013

Applicant Information:

TODD BONNER
TIREE ALARM FIRE PROTECTION

E-mail: PERMITS@3ALARMFP.COM
Alt. E-mail:
Phone No: 408-836-6257

Property Information:

3423 SAN PABLO AVENUE
OAKLAND, CA 94608

Assessor's Parcel Number:
Design Flow (gpm):

The following available flow and pressure information is based on a Maximum Day Demand Hydraulic Model Analysis of EBMUD's water distribution system. This information should be used as a guideline of the approximate available flow. It is recommended that a design allowance be made for possible reductions in pressure and/or flow that could occur under other possible scenarios. Applicant understands that the District cannot guarantee any specific values for pressure and flow. Flow, pressure, anc elevation information stated is at the street main connection. The availability for the fire service is limited to only one demand flowing at a time. The applicant is responsible for meeting any fire flow requirements beyond the fire service location. If you have any questions, please contact us at nbo@ebmud.com or call (510) 287-1008.

Available Flow and Pressure at Possible Street Main Connections:

CONNECTION #1

Located off of the 8-inch main (8C94) in San Pablo Avenue, on the west side of San Pablo Avenue, approximately 100 feet north of 34th Street.

Static Pressure (psi): 57

Flow (gpm)	750	1,500
Residual Pressure (psi)	56	53

Pressure Zone: G0A3 - CENTRAL (G0A3)
Elevation (feet): 34

Engineer's Comments:
Connection #1 is also representative of the flow and pressure at the existing public hydrant, Hydrant No. 304. The immediate pressure zone capacity for Connection #1 is greater than one million gallons.

Flow and pressure data is valid for one (1) year after the approval date. You will need to submit a new request and pay the applicable fee after the expiration date.

Date Approved: 2/10/2026

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		

FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

THREE ALARM FIRE PROTECTION

FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

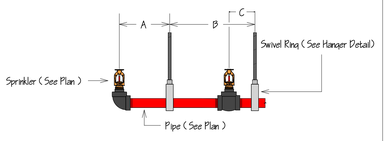
DATE	4/17/2026 8:56:23 AM
SCALE	As indicated
DRAWN	GWE
UNIT SQ FOOTAGE	N/A
SYSTEM	N/A
OCCUPANCY	34TH & SAN PABLO
SHEET TITLE	SITE PLAN
SHEET NUMBER	FP1

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42

HANGER LOCATION DETAIL

N.T.S.

Pipe Size	A	B	C
1"	3'-0" MAX	12'-0" MAX	3" MIN
1¼"	4'-0" MAX	12'-0" MAX	3" MIN
1½" - 8"	5'-0" MAX	15'-0" MAX	3" MIN



NOTE:Maximum Hanger Spacing For Threaded Lightwall Steel Pipe Is 12'-0 For All Pipe Sizes

MINIMUM PIPE CLEARANCE* PER NFPA 13

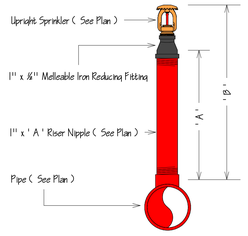
NOMINAL PIPE SIZE	MINIMUM HOLE SIZE
1"	3"
1 1/4"	3 1/4"
1 1/2"	3 1/2"
2"	4"
2 1/2"	4 1/2"
3"	5"
3 1/2"	5 1/2"
4"	8"
6"	10"
8"	12"

*MINIMUM CLEARANCE NOT REQUIRED WHEN PIPE PENETRATES THROUGH A NON FIRE RATED ASSEMBLY AND THE CONSTRUCTION IS OF FRANGIBLE MATERIAL.

GYPSUM BOARD (NFPA 13). OR IF FLEXIBLE COUPLINGS ARE PROVIDED WITHIN 1' OF EACH SIDE OF WALL, FLOOR , PLATFORM, OR FOUNDATION (NFPA 13) MINIMUM CLEARANCE WILL NOT BE REQUIRED. SEE DETAIL.

Typical Upright Sprinkler

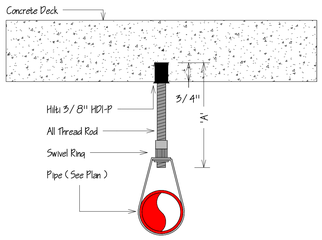
N.T.S.



Note on Plan - Pipe Cut Length = ' A ' | Sprig Length = ' B '

Typical Concrete Anchor - HILTI 3/8" HDI-P

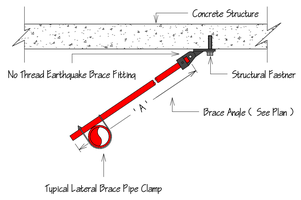
N.T.S.



Rod Length = ' A ' | Field Cut

Typical Lateral Earthquake Bracing

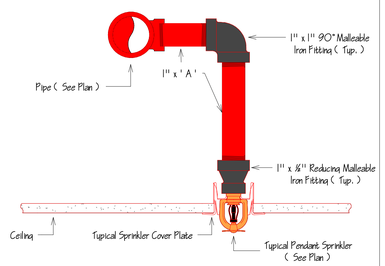
N.T.S.



Seismic Bracing Pipe Length = ' A ' | Field Cut

Typical Arm Over

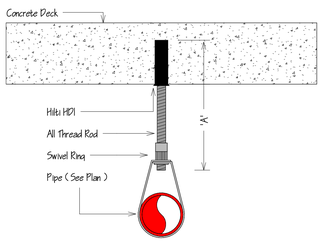
N.T.S.



Note on Plan - Pipe Length ('A')

Typical Concrete Anchor - HILTI HDI

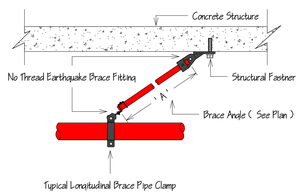
N.T.S.



Rod Length = ' A ' | Field Cut

Typical Longitudinal Earthquake Bracing

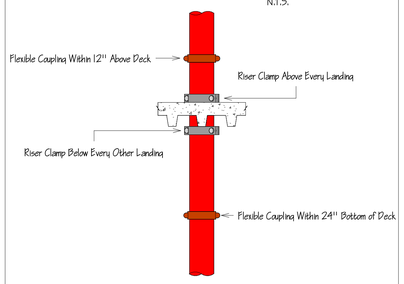
N.T.S.



Seismic Bracing Pipe Length = ' A ' | Field Cut

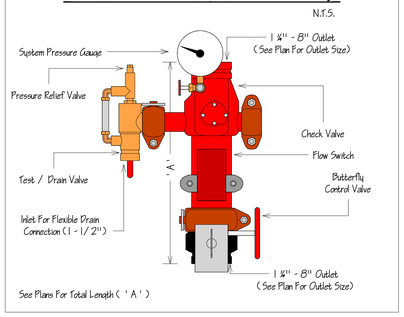
Typical Riser Detail w/ Flex Coup.

N.T.S.



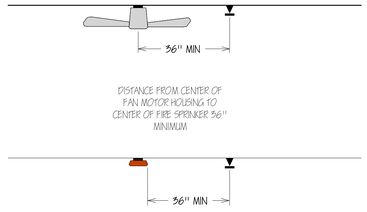
Victaulic Series UMC Universal Monifold Check - Floor Control Assembly

N.T.S.



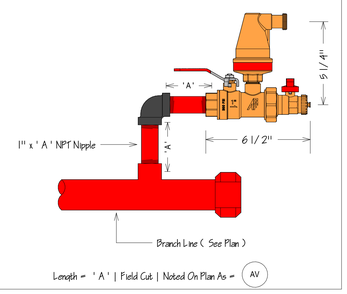
See Plans For Total Length (' A ')

OBSTRUCTIONS - RESIDENTIAL



Typical AGF #7900AAV Automatic Air Vent

N.T.S.



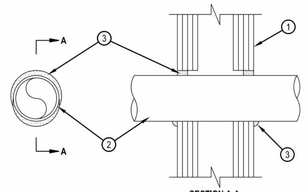
Length = ' A ' | Field Cut | Noted On Plan As = AV

System No. W-L-1252

WL 1252

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1, 2, 3 and 4 Hr (See Items 1 and 3)	F Ratings — 1, 2, 3 and 4 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 HR.
L Rating At Ambient — Less Than 1 CFM/Sq Ft	FH Ratings — 1, 2, 3 and 4 Hr (See Items 1 and 3)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Rating — 0 HR.
	L Rating At Ambient — Less Than 1 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

1. Wall Assembly — The 1, 2, 3 or 4 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of steel channel studs. Steel studs to be min 3-1/2 in. (89 mm) wide spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Min 5/8 in. (16 mm) thick with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall or Partition Design. Max diam of opening is 5-3/4 in. (146 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and periphery of opening shall be min 0 in. (point contact) to max 7/8 in. (22 mm). Pipe, conduit or tube to be rigidly supported on both sides of wall assembly.
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit.
   D. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic conduit.
   E. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   F. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 22, 2015

WL 1252

3. Fill, Void or Cavity Material — Sealant* — Fill material applied within annulus , flush with both surfaces of wall. Type and thickness of sealant is dependent on F and FH Ratings as indicated in Table below. An additional 1/2 in. (13 mm) diameter bead of sealant applied at penetrant/gypsum board interface at joint contact location on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP 606 Sealant

F, FH Ratings hr	Sealant Type	Sealant Thickness, In. (mm)
1, 2	FS-ONE, FS-ONE MAX or CP 606	5/8 (16)
3	FS-ONE, FS-ONE MAX or CP 606	1 (25)
4	FS-ONE, FS-ONE MAX	1 (25)

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

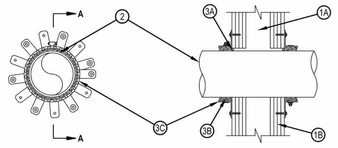
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System No. W-L-2447

WL 2447

Classified by Underwriters Laboratories, Inc. to UL 1479

F Ratings - 1, 2, 3 and 4 Hr (See Item 1)
T Ratings - 1, 2, 3 and 4 Hr (See Item 2)
L Rating At Ambient - 3 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1, 2, 3 or 4 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Min 1/2 in. (13 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Max diam of opening is 7 in. (178 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Annular space between pipe and periphery of opening to be min 0 in. (point contact) and max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:
   A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR13.5 CPVC for use in closed (process or supply) piping systems.
   C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   The hourly T Rating of the firestop system is 1 hr except that for nom 2 in. (51 mm) diam (or smaller) penetrants, the hourly T Rating is equal to the hourly fire rating of the wall assembly in which it is installed.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 22, 2015

WL 2447

3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Materials* - Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant
   B. Fill Void or Cavity Material* - Wrap Strip — Nom 3/16 in. (5 mm) thick by 1-3/4 in. (45 mm) wide intumescent wrap strip continuously wrapped around the pipe. Wrap strip butted tightly against both surfaces of wall. The number of layers of wrap strip required depends on penetrant size as specified in the Table below.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E-W45/1-3/4

Nom Pipe Diam, in.	No. of Layers of Wrap Strip Required
6 (or smaller)	3
4 (or smaller)	2
2 (or smaller)	1

   C. Steel Collar — Collar fabricated from coils of precut min 0.017 in. (0.43 mm) thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1-3/4 in. (45 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchors tabs on 2 in. (51 mm) centers for securement to wall assembly. The anchor tabs shall be bent 90 degree outward for securement to the wall assembly. The opposite side incorporates retainer tabs, 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min. 1 in. (25 mm) at seam. A nom 1/2 in. (13 mm) wide stainless steel band clamp shall be secured to the collar at its mid-height. Anchor tabs of collar secured to surface of wall by means of nom 3/16 in. diam by 2-1/2 in. long steel toggle bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers at every other anchor tab. As an alternate, in 1 and 2 hr rated walls, every anchor tab of collar may be secured to surface of wall by means of nom 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. A collar is used on both sides of wall.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 22, 2015

REVISIONS

NO.	DATE	DESCRIPTION
A		
A		
A		
A		
A		
A		
A		

FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

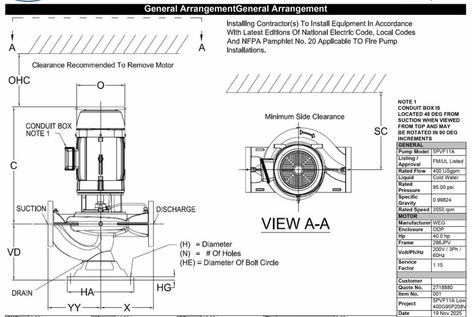
FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

DATE 4/17/2026 8:56:24 AM
SCALE 1/4" = 1'-0"
DRAWN GWE
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE DETAIL PLAN
SHEET NUMBER FP2

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42

Peerless Express 25.5.0

General ArrangementGeneral Arrangement



Installing Contractor(s) To Install Equipment In Accordance With Latest Editions Of National Electric Code, Local Codes And NFPA Pamphlet No. 20 Applicable TO Fire Pump Installations.

NOTE 1
CONDUIT BOX IS LOCATED 45 DEG FROM SUCTION WHEN VIEWED FROM TOP AND MAY BE ROTATED IN 90 DEG INCREMENTS

Pump No.	1
Pump Model	SPVF11A
Listing / Approval	FM/UL Listed
Rated Flow	400 USgpm
Liquid	Cold Water
Rated Pressure	95.00 psi
Specific Gravity	0.99824
Rated Speed	3550 rpm
MOTOR	
Manufacturer	WEG
Enclosure	ODP
Hp	40.0 Hp
Frame	405JM
Volt/Ph/Hz	208V / 3Ph / 60Hz
Service Factor	1.15
Customer	
Quote No.	2718880
Item No.	001
Project	SPVF11A Lyon 400GMSP208V
Date	19 Nov 2025

OHC	6.00 in	HA	11.00 in	SC	18.00 in	Discharge	5.00 in
O	15.75 in	HG	9.56 in	H	0.50 in	Suction	5.00 in
C	40.00 in	YY	11.63 in	N	4.00 in		
VD	9.81 in	X	11.62 in	HE	9.88 in		

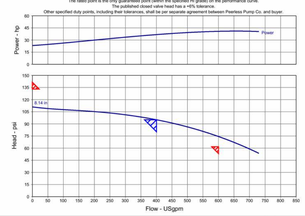
PEERLESS PUMP

WM A BARRON CO., INC · 6690 Amador Plaza Road, Suite 220 · Dublin, CA 94568
phone: (925) 556-1980

Peerless Express 25.5.0

Pump Performance Curve

Performance based on field acceptance - Hyd Inst 14.6 Unilateral (1U)
The rated point is the only guaranteed point (within the specified HI grade) on the performance curve.
The published closed valve head has a +0% tolerance.
Other specified duty points, including their tolerances, shall be per separate agreement between Peerless Pump Co. and buyer.



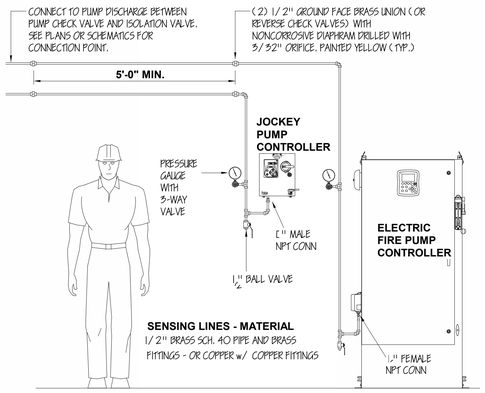
Customer	:	Peerless Model	: SPVF11A
Customer ref. / PO	:	Stages	: 1
Tag Number	: 001	Speed, rated	: 3550 rpm
Service		Based on curve number	: SPVF11A-3550 Rev NOV 2020
Quantity	: 1	Efficiency	: 80.35 %
Quote Number / ID	: 2718880	Rated power (based on duty point)	: 36.8 hp
Date last saved	: 19 Nov 2025 2:49 AM	Max power (non-overloading)	: 41.1 hp
Flow, rated	: 400 USgpm	NPSH required	: -
Differential head / pressure, rated	: 95.00 psi	Viscosity	: 1.00 cP
Fluid density, rated / max	: 1.000 / 1.000 SG	Cq/Cn/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00

Flow (USgpm)	Head (psi)	Efficiency (%)	Power (hp)	NPSHr (ft)	Thrust, total (lbf)
0	111.0	0.00	23.2	-	-
81	108.1	19.94	25.6	-	-
162	106.2	35.20	28.5	-	-
243	103.7	46.67	31.5	-	-
324	99.96	55.01	34.4	-	-
405	94.69	60.65	36.9	-	-
487	87.63	63.77	39.0	-	-
568	78.58	64.31	40.5	-	-
649	67.33	62.01	41.1	-	-
730	53.66	56.32	40.6	-	-

Use 117 PSI churn to allow for UL manufacturing tolerances

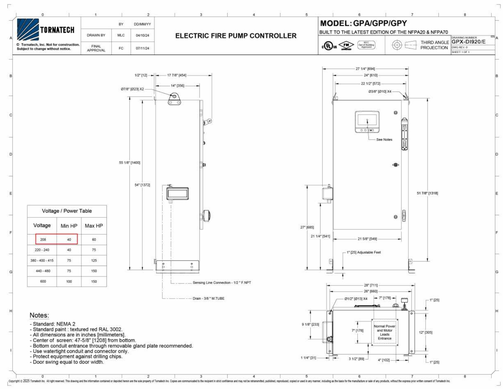
WM A BARRON CO., INC · 6690 Amador Plaza Road, Suite 220 · Dublin, CA 94568
phone: (925) 556-1980

Pump Rating (gpm)	Minimum Pipe Sizes (Nominal) (in.) Suction[a,b,c]	Discharge[a]	Relief Valve	Relief Valve Discharge	Meter Device	Number and Size of Hose Valves	Hose Header Supply
25	1	1	¾	1	1¼	1 — 1½	1
50	1½	1¼	1¼	1½	2	1 — 1½	1½
100	2	2	1½	2	2½	1 — 2½	2½
150	2½	2½	2	2½	3	1 — 2½	2½
200	3	3	2	2½	3	1 — 2½	2½
250	3½	3	2	2½	3½	1 — 2½	3
300	4	4	2½	3½	3½	1 — 2½	3
400	4	4	3	5	4	2 — 2½	4
450	5	5	3	5	4	2 — 2½	4
500	5	5	3	5	5	2 — 2½	4
750	6	6	4	6	5	3 — 2½	6
1000	8	6	4	8	6	4 — 2½	6
1250	8	8	6	8	6	6 — 2½	8
1500	8	8	6	8	8	6 — 2½	8
2000	10	10	6	10	8	6 — 2½	8
2500	10	10	6	10	8	8 — 2½	10
3000	12	12	8	12	8	12 — 2½	10
3500	12	12	8	12	10	12 — 2½	12
4000	14	12	8	14	10	16 — 2½	12
4500	16	14	8	14	10	16 — 2½	12
5000	16	14	8	14	10	20 — 2½	12



FIRE PUMP AND JOCKEY PUMP SENSING SCHEMATIC

NO SCALE



Technical Data MD081001EN
Standard Enclosure - Type NEMA 2
Effective June 2015

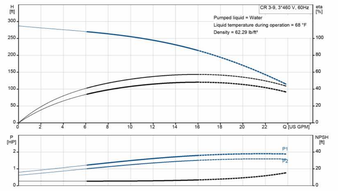
Dimensions
Jockey Pump Controllers

200-208V		220-240V		380-415V		440-480V		550-600V	
Motor Hp	Withstand Rating (kA)	Motor Hp	Withstand Rating (kA)	Motor Hp	Withstand Rating (kA)	Motor Hp	Withstand Rating (kA)	Motor Hp	Withstand Rating (kA)
0.33 - 0.75	50	0.33 - 0.75	50	0.33 - 1.5	50	0.33 - 2	50	0.33 - 7.5	10 *
1 - 2	65	1 - 3	65	2 - 5	65	3 - 5	65	10 - 30	10 *
3 - 10	42	5 - 7.5	42	7.5 - 10	42	7.5 - 30	42		
15 - 30	18	7.5 - 10	18	15 - 15	18	15 - 20	18		

120V 1ph		208V 1ph		240V 1ph		
Motor Hp	Withstand Rating (kA)	Motor Hp	Withstand Rating (kA)	Motor Hp	Withstand Rating (kA)	Approx. Weight Lbs (Kg)
0.33 - 0.5	65	0.33 - 1	65	0.33	50	18 (8)
0.75 - 1	42	1.5 - 2	42	0.5 - 1.5	65	
1.5 - 2	18	3 - 4	18	2	42	
				3 - 5	18	

NOTES:
1. * Upstream circuit breaker required to limit kA rating.
2. All enclosures finished in FinPump-red.
3. Cable Entrance either top or bottom.
4. Standard Enclosure type NEMA 2

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Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:
	TYPE OF SERVICE:	
REPRESENTATIVE:	SUBMITTED BY:	DATE:
ENGINEER:	APPROVED BY:	DATE:
CONTRACTOR:	ORDER NO.:	DATE:



Model Product picture may differ from actual product

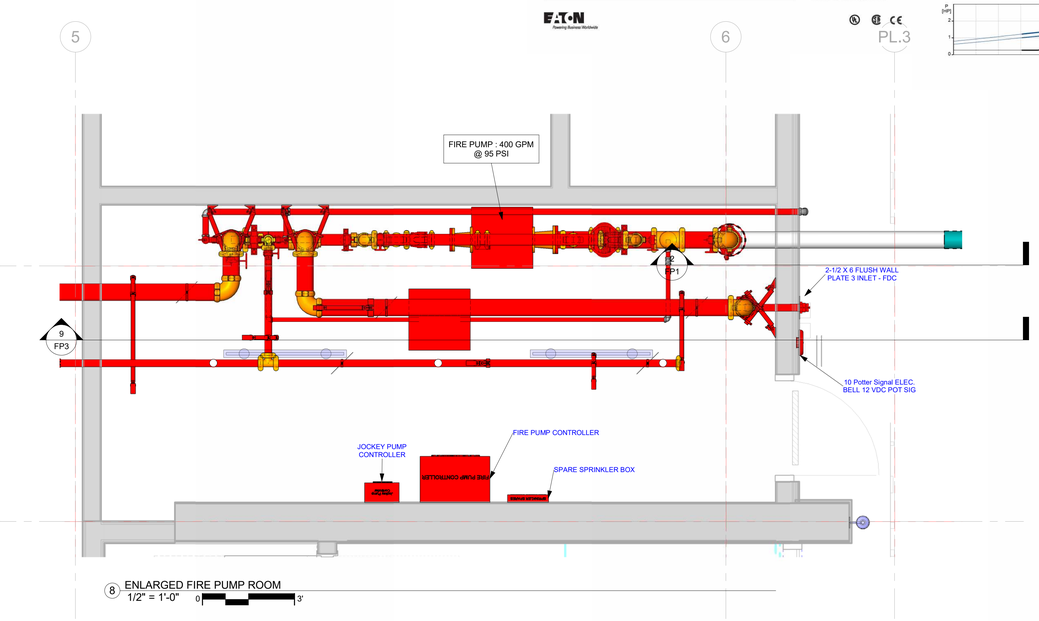
CR 3-9 A-B-A-E-HQQE

Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

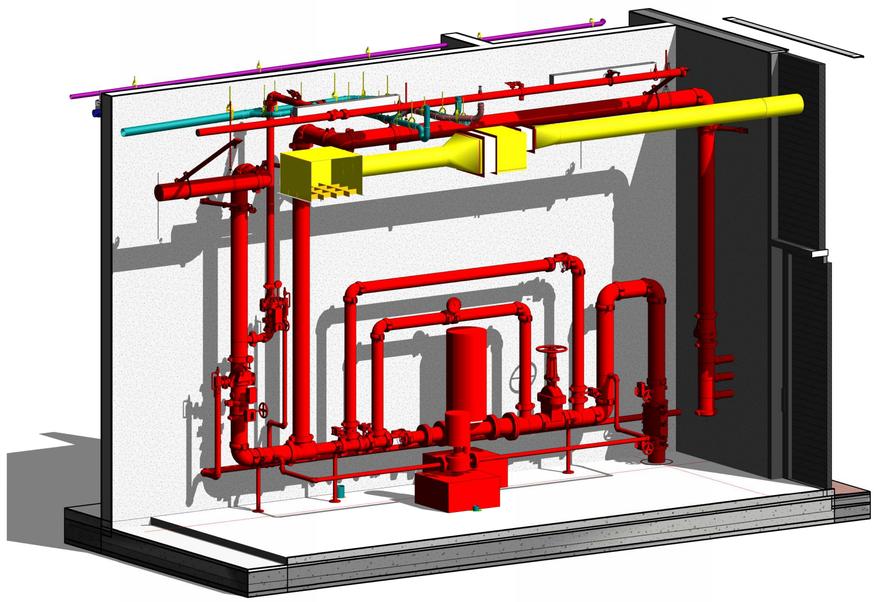
Conditions of Service	
Liquid:	Water
Temperature:	68 °F
Specific Gravity:	1.000

Pump Data	
Max pressure at stated temp:	232 psi / 250 °F
Liquid temperature range:	-4 ...248 °F
Maximum ambient temperature:	104 °F
Shaft seal:	HQQE
Product number:	99916318

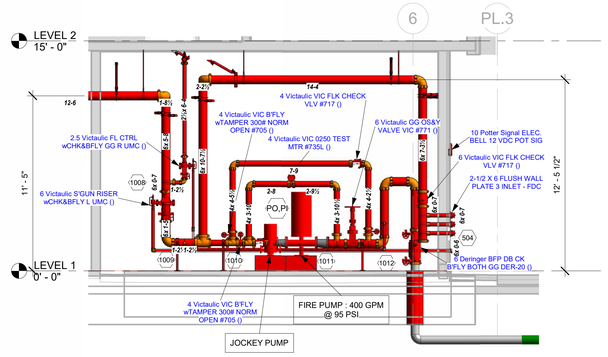
Motor Data	
Rated power - P2:	1.5 HP
Rated voltage:	230/460 V
Mains frequency:	60 Hz
Enclosure class:	IP55
Insulation class:	F
Motor protection:	NONE
Motor type:	WEG
Eta 1/1:	84 %



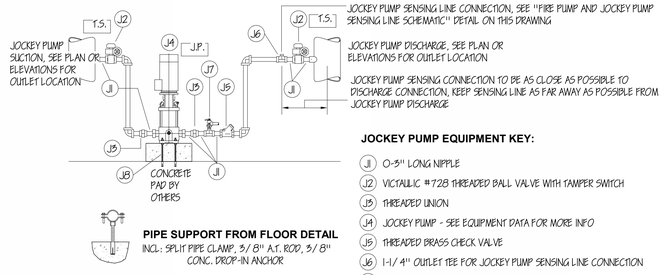
8 ENLARGED FIRE PUMP ROOM
1/2" = 1'-0"



10 3D FIRE PUMP



9 FIRE PUMP S1
1/4" = 1'-0"



JOCKEY PUMP EQUIPMENT KEY:

- (J1) 0-3" LONG NIPPLE
- (J2) VICTAULIC #728 THREADED BALL VALVE WITH TAMPER SWITCH
- (J3) THREADED UNION
- (J4) JOCKEY PUMP - SEE EQUIPMENT DATA FOR MORE INFO
- (J5) THREADED BRASS CHECK VALVE
- (J6) 1-1/ 4" OUTLET TEE FOR JOCKEY PUMP SENSING LINE CONNECTION
- (J7) 1-1/ 4" OUTLET TEE FOR PRESSURE RELIEF VALVE
  1-1/ 4" VIC (GLOBE) SER. "ARV" ADJUSTABLE RELIEF VALVE
  1-1/ 4" ROUTE TO FLOOR DRAIN

PIPE SUPPORT FROM FLOOR DETAIL
INCL.: SPLIT PIPE CLAMP, 3/ 8" A.T. ROD, 3/ 8" CONC. DROP-IN ANCHOR

JOCKEY PUMP DETAIL & SCHEMATIC

NTS

FIRE PUMP ROOM & SIGNAGE NOTES

(NFPA 20 – 2022)

1. GENERAL

Provide a complete fire pump installation in accordance with NFPA 20 (2022), applicable provisions of NFPA 13, NFPA 25, NFPA 70, and all local codes and AHJ requirements.

2. ROOM CONSTRUCTION / PROTECTION
Provide a dedicated fire pump room or enclosure.
Separate room from the remainder of the building with fire-rated construction as required by code (typically 1-hour minimum, 2-hour where required). All openings shall be protected with listed, self-closing fire-rated doors. Room shall be free of storage and non-essential equipment.

3. ACCESS REQUIREMENTS
Provide direct exterior access where practical. Where exterior access is not provided, access shall be through a fire-rated corridor or enclosure equal to the room rating. Room shall be readily accessible at all times and coordinated with fire department access requirements.

4. LOCATION & ENVIRONMENTAL CONDITIONS
Locate fire pump room to protect against:
Flooding
Freezing
Fire exposure
Structural collapse
Maintain minimum ambient temperature of 40°F (4°C).
Provide permanent heating equipment where required.
Provide adequate ventilation for equipment operation.

5. SPACE & CLEARANCES
Provide adequate space for installation, operation, and maintenance of all equipment. Maintain minimum working clearances around equipment (typically 36 inches or as required by code/manufacturer). Room shall accommodate pump, driver, controller, piping, valves, and accessories.

6. LIGHTING & POWER
Provide permanent lighting within the fire pump room. Connect lighting and equipment to a reliable power source. Provide emergency or standby power where required.

7. DRAINAGE
Provide floor drainage via floor drain or sump system. Floor shall be pitched to prevent water accumulation.
Drainage shall accommodate leakage, testing, and relief valve discharge.

8. SPRINKLER PROTECTION
Provide sprinkler protection in fire pump room where required. Diesel fire pump rooms shall be sprinkler protected. Coordinate requirements with building code and AHJ.

9. EQUIPMENT RESTRICTIONS
Only equipment essential to fire pump operation shall be installed within the room. No storage or unrelated building systems permitted.

10. VENTILATION
Provide ventilation to maintain acceptable operating temperatures. Diesel-driven pumps shall include:
Combustion air openings Engine exhaust discharge to exterior.

11. MISCELLANEOUS REQUIREMENTS
Provide housekeeping pad for fire pump. Provide independent pipe supports (not supported by pump casing). Protect all piping from freezing conditions. Coordinate test header discharge location. Coordinate fuel system and controller installation (if diesel).

SIGNAGE REQUIREMENTS

12. FIRE PUMP ROOM IDENTIFICATION

Provide a permanent sign at the entrance reading:
"FIRE PUMP ROOM"
Sign shall be visible, securely mounted, and of contrasting lettering. Coordinate size and placement with AHJ.

13. FIRE PUMP POWER DISCONNECT SIGNAGE

Provide permanent signage at all fire pump electrical disconnects reading:
"FIRE PUMP DISCONNECT – DO NOT OPEN"
Install directly on or adjacent to disconnecting means in accordance with NFPA 20 and NFPA 70.

14. FIRE PUMP CONTROLLER IDENTIFICATION

Provide manufacturer nameplates and permanent identification labels on all fire pump controllers. Ensure visibility and accessibility.

15. VALVE IDENTIFICATION SIGNAGE

Provide permanent identification signage for all valves controlling fire pump operation, including:

Suction control valves
Discharge control valves
Bypass/test line valves

Signs shall indicate valve function and include "DO NOT CLOSE" where applicable. Provide valve supervision or locking as required.

16. DIESEL FUEL SYSTEM SIGNAGE (IF APPLICABLE)

Provide signage identifying:

Fuel type ("DIESEL FUEL")
Fuel tank and fill connection

17. GENERAL SIGNAGE REQUIREMENTS
All signage shall be permanent, durable, and legible.
Provide adequate letter size and contrast for visibility.
Install signage prior to final inspection.
Maintain signage for the life of the system.
Coordinate all signage with NFPA 25 and AHJ requirements.

"All fire pump room construction, equipment, and signage shall be subject to approval by the Authority Having Jurisdiction (AHJ) prior to final acceptance."

REVISIONS

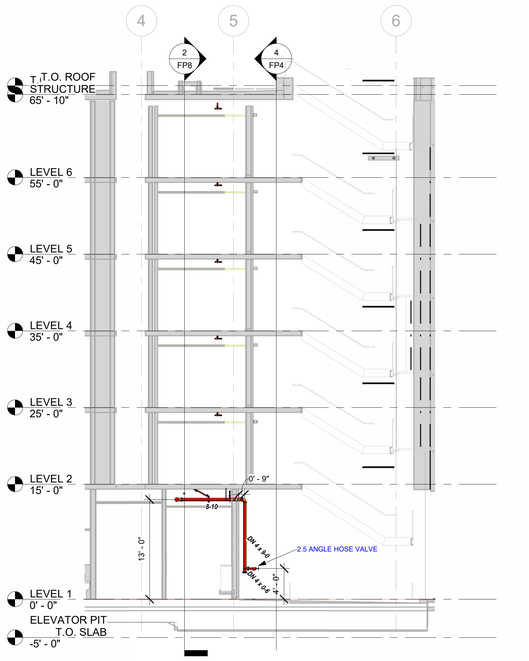
NO.	DATE	DESCRIPTION
1	4/17/26	PLAN CHECK COMMENTS

FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

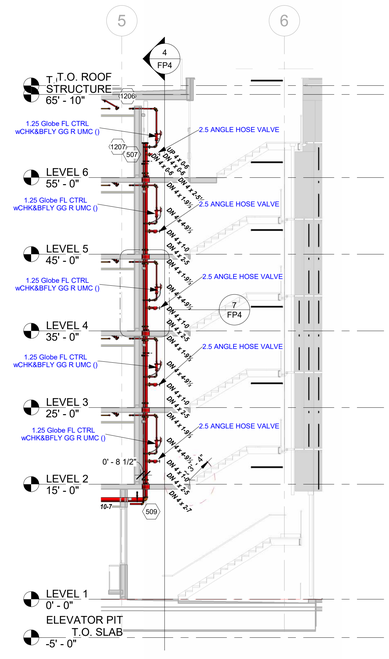
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34TH & SAN PABLO

DATE 4/17/2026 8:56:30 AM
SCALE As indicated
DRAWN GWE
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE FIRE PUMP PLAN
SHEET NUMBER FP3

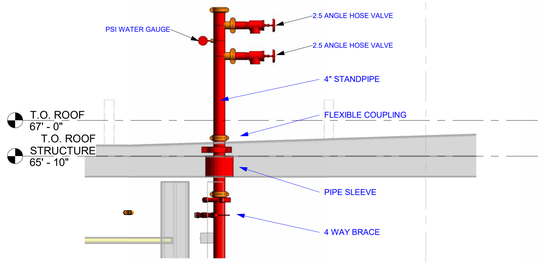
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Software: Revit / HCAD Sheet Size: 30x42



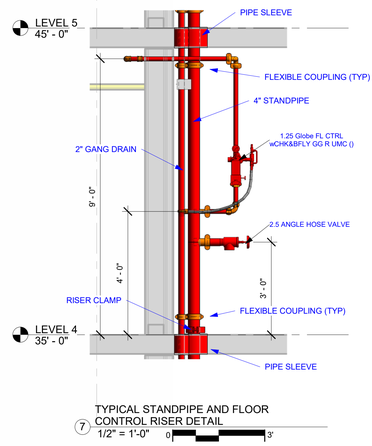
2 ST1.1
1/8" = 1'-0"



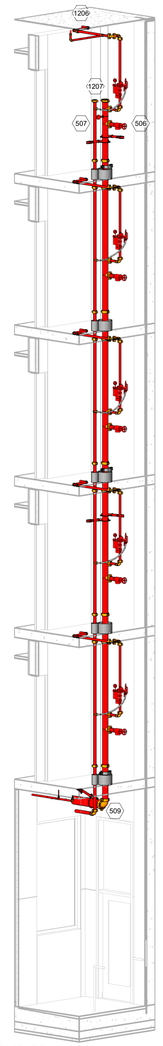
3 ST1.2
1/8" = 1'-0"



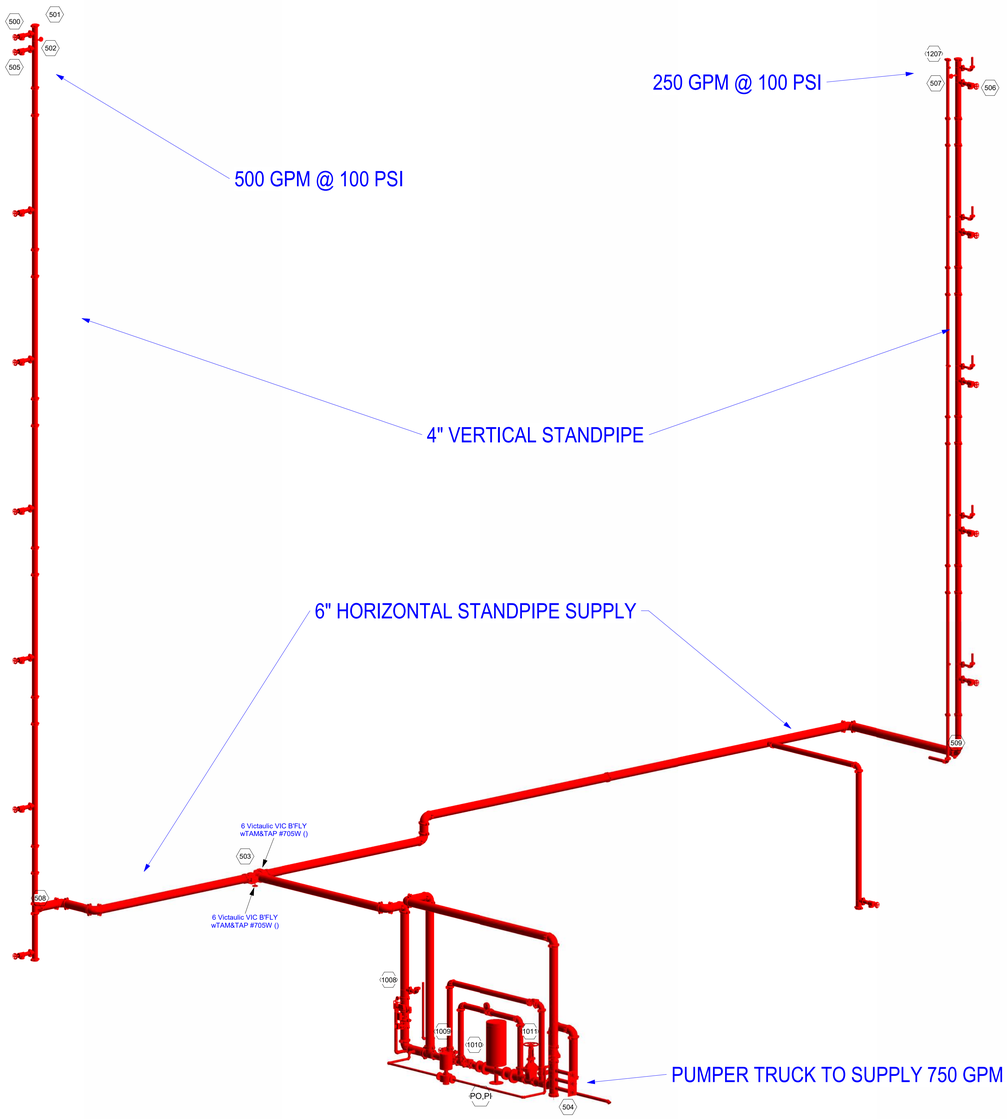
8 TYP ROOF STANDPIPE DETAIL
1/2" = 1'-0"



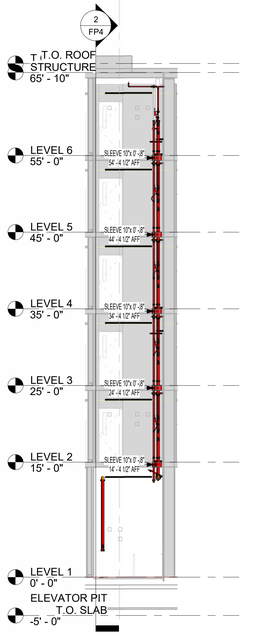
TYPICAL STANDPIPE AND FLOOR CONTROL RISER DETAIL
7 1/2" = 1'-0"



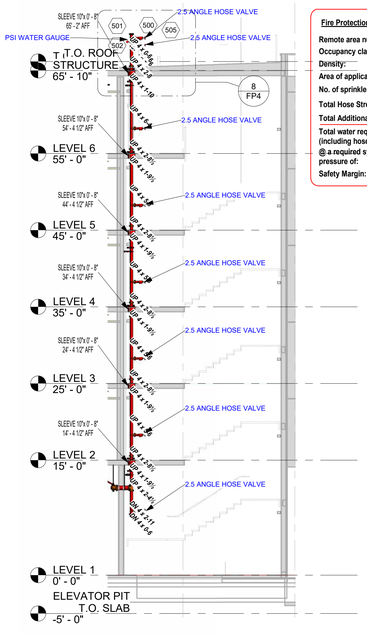
6 ST1 3D ISO



1 3D STANDPIPE ONLY DETAIL



4 ST1.3
1/8" = 1'-0"



5 ST2.1
1/8" = 1'-0"

Fire Protection System Demand:

Remote area number:	SP
Occupancy classification:	NA
Density:	0.01 Gpm/SqFt
Area of application:	NA SqFt
No. of sprinklers calculated:	0
Total Hose Streams:	0 GPM
Total Additional Flow:	750 GPM
Total water required (including hose streams): @ a required system pressure of:	750 GPM 141.427 Psi
Safety Margin:	8.57331 Psi (7.8%)

REVISIONS

NO.	DATE	DESCRIPTION
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FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

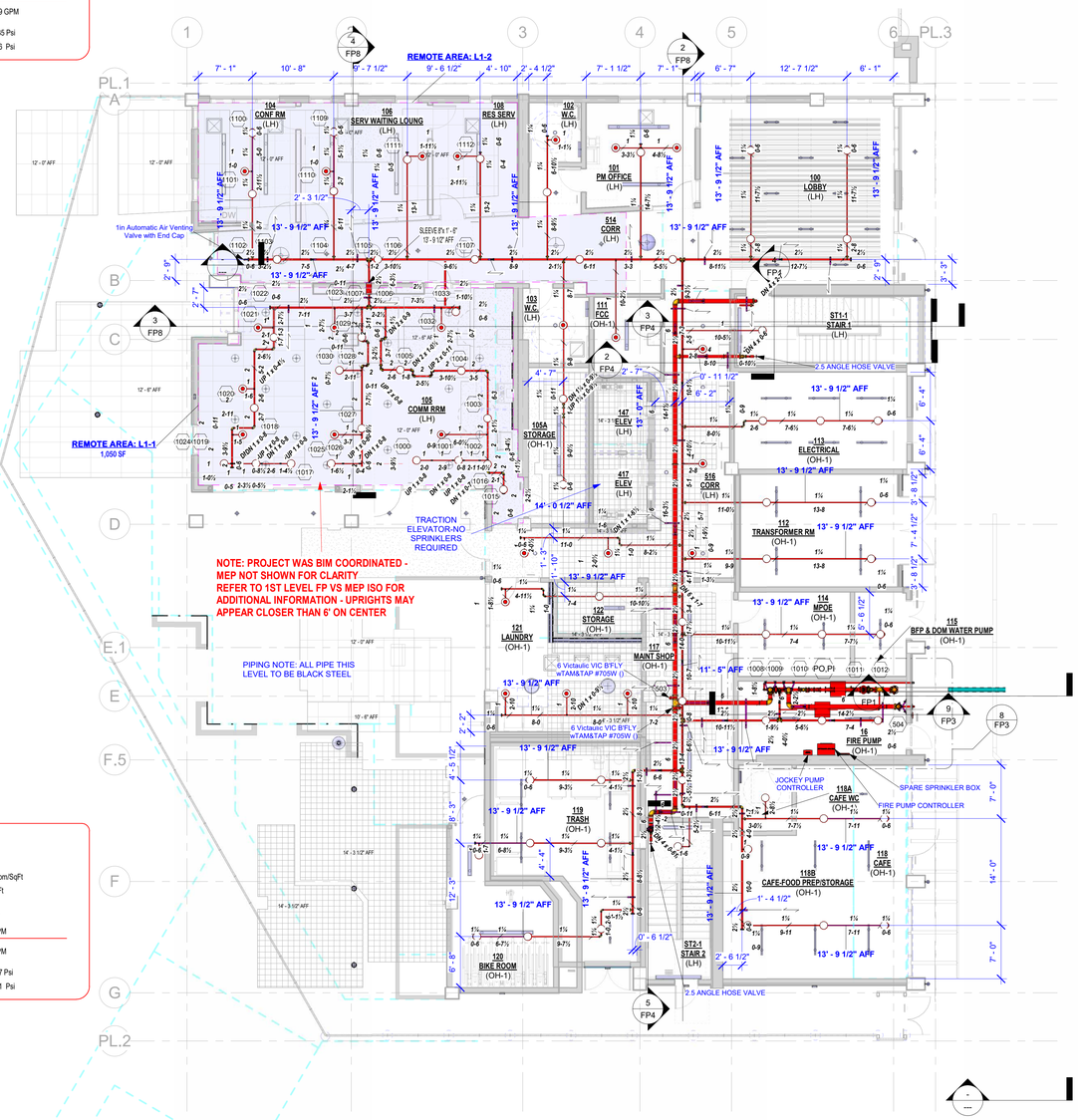
FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

DATE 4/17/2026 8:56:36 AM
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DRAWN GWE
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE STANDPIPE PLAN
SHEET NUMBER FP4

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42

Fire Protection System Demand:

Remote area number:	L1-2
Occupancy classification:	LH
Density:	0.1 Gpm/SqFt
Area of application:	, SqFt
No. of sprinklers calculated:	8
Total Hose Streams:	100 GPM
Total Additional Flow:	0 GPM
Total water required (including hose streams): @ a required system pressure of:	286.569 GPM -63.0835 Psi
Safety Margin:	119.896 Psi



Fire Protection System Demand:

Remote area number:	SP
Occupancy classification:	NA
Density:	0.01 Gpm/SqFt
Area of application:	NA SqFt
No. of sprinklers calculated:	0
Total Hose Streams:	0 GPM
Total Additional Flow:	750 GPM
Total water required (including hose streams): @ a required system pressure of:	750 GPM 141.427 Psi
Safety Margin:	8.57331 Psi

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



4 LEVEL 2
1/8" = 1'-0"

Sprinkler Schedule - PER LEVEL

	No. of Sprklrs	Manufacturer	SIN	K-Factor	Orifice Size	Temp	Response	FINISH	Workset
◉	25	Viking	VK462	5.6	1/2"	200 °F	Quick	WHITE	Workset1
◀	39	Viking	VK490	5.8	1/2"	205 °F	Quick	WHITE	Workset1
◉	83	Viking	VK494	4.9	1/2"	200 °F	Quick	WHITE	Workset1
○	75	Viking	VK3001	5.6	1/2"	200 °F	Quick	BRASS	Workset1
: 222									
Total No. of Sprinklers: 222									

REVISIONS

NO.	DATE	DESCRIPTION
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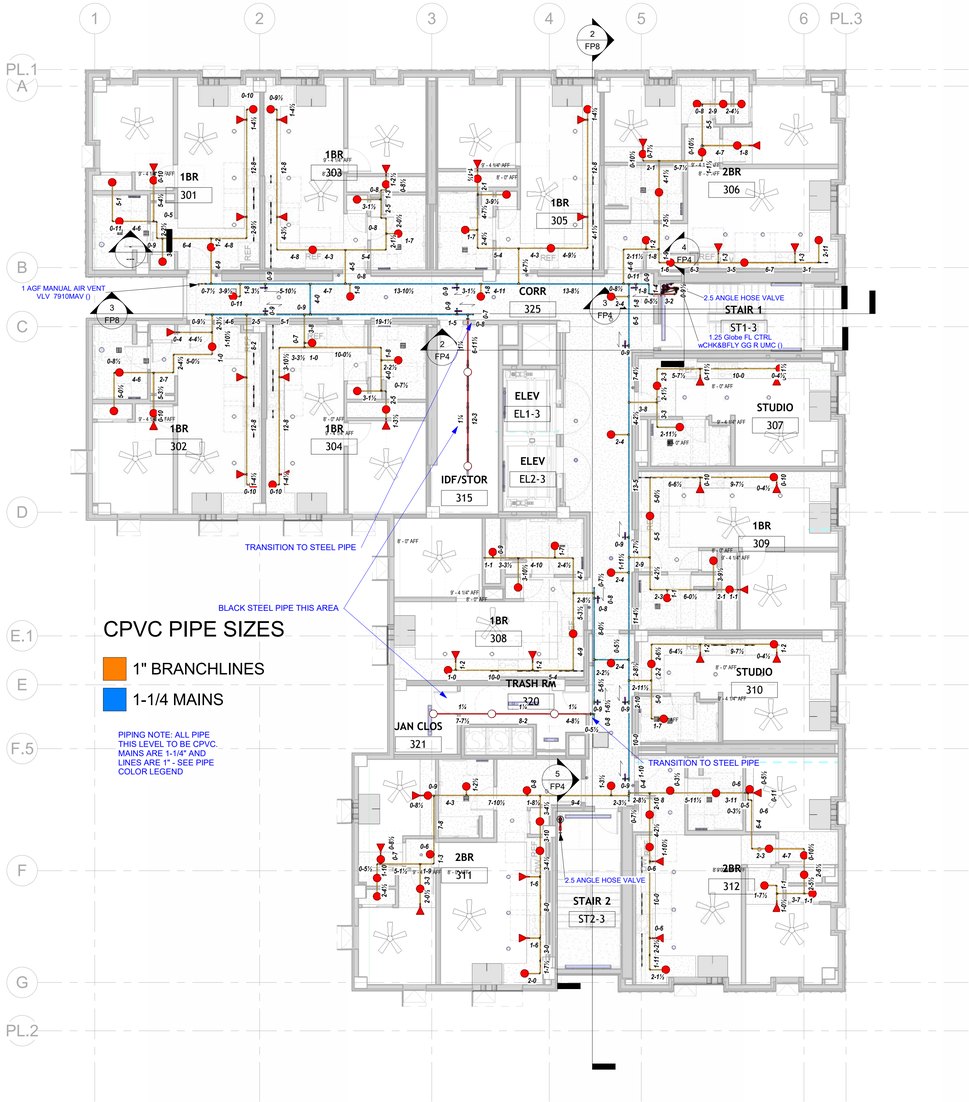
FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

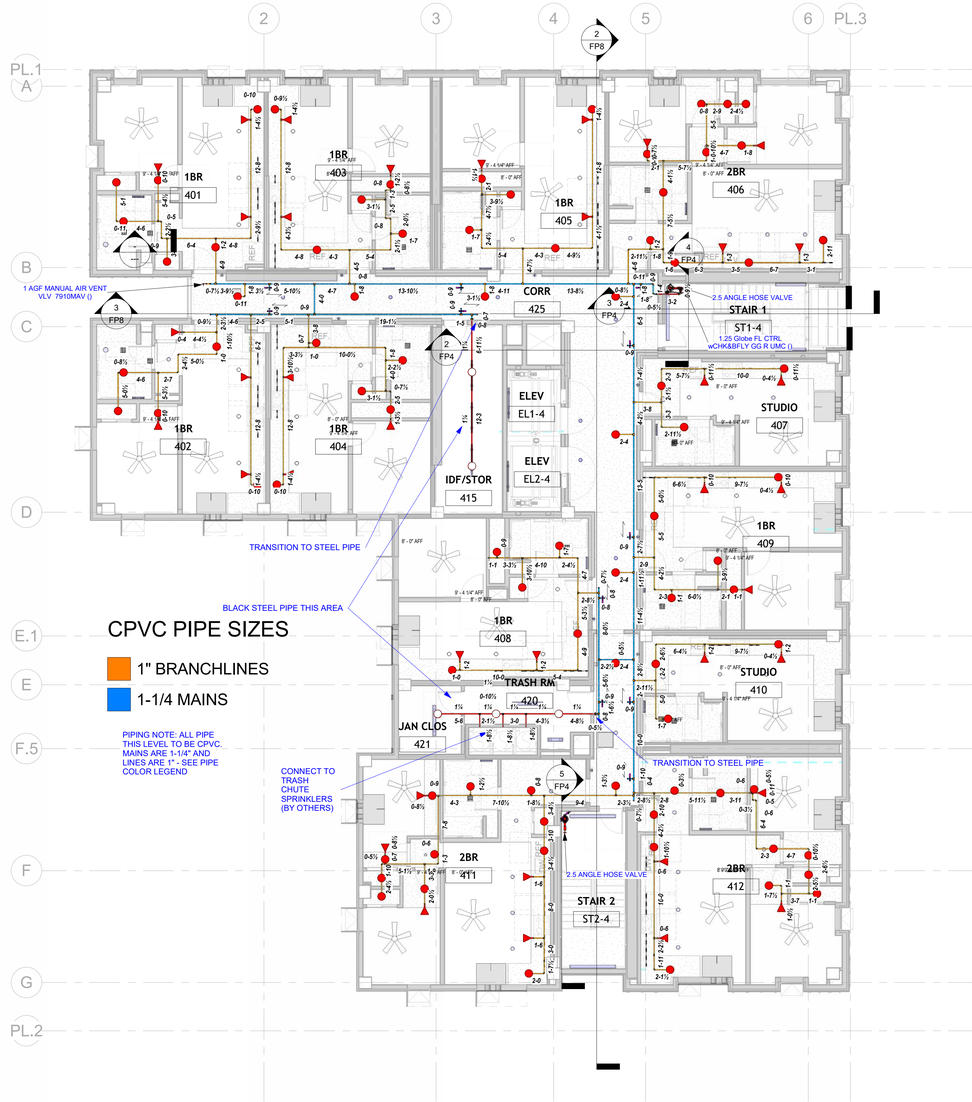
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SCALE	1/8" = 1'-0"
DRAWN	GWE
UNIT SQ FOOTAGE	N/A
SYSTEM	N/A
OCCUPANCY	34TH & SAN PABLO
SHEET TITLE	LEVEL 1 & 2 PIPING PLAN
SHEET NUMBER	FP5

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt

Software: Revit / HCAD Sheet Size: 30x42



3 LEVEL 3
1/8" = 1'-0"



4 LEVEL 4
1/8" = 1'-0"

Sprinkler Schedule - PER SHEET

	No. of Sprklrs	Manufacturer	SIN	K-Factor	Orifice Size	Temp	Response	FINISH	Workset
◀	76	Viking	VK490	5.8	1/2"	205 °F	Quick	WHITE	Workset1
●	166	Viking	VK494	4.9	1/2"	200 °F	Quick	WHITE	Workset1
○	10	Viking	VK3001	5.6	1/2"	200 °F	Quick	BRASS	Workset1
: 252									
Total No. of Sprinklers: 252									

REVISIONS

NO.	DATE	DESCRIPTION
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FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

DATE 4/17/2026 8:57:08 AM
SCALE 1/8" = 1'-0"
DRAWN GWE
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE LEVEL 3 & 4 PIPING PLAN
SHEET NUMBER FP6

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42



3 LEVEL 5
1/8" = 1'-0"



Fire Protection System Demand:

Remote area number:	L6-1
Occupancy classification:	RES
Density:	0.05 Gpm/SqFt
Area of application:	150 SqFt
No. of sprinklers calculated:	4
Total Hose Streams:	100 GPM
Total Additional Flow:	0 GPM
Total water required (including hose streams):	173.819 GPM
@ a required system pressure of:	32.9403 Psi
Safety Margin:	23.9855 Psi (42.1%)

4 LEVEL 6
1/8" = 1'-0"

Sprinkler Schedule - PER SHEET

	No. of Sprklrs	Manufacturer	SIN	K-Factor	Orifice Size	Temp	Response	FINISH	Workset
◀	77	Viking	VK490	5.8	1/2"	205 °F	Quick	WHITE	Workset1
●	166	Viking	VK494	4.9	1/2"	200 °F	Quick	WHITE	Workset1
○	13	Viking	VK3001	5.6	1/2"	200 °F	Quick	BRASS	Workset1
: 256									
Total No. of Sprinklers: 256									

REVISIONS

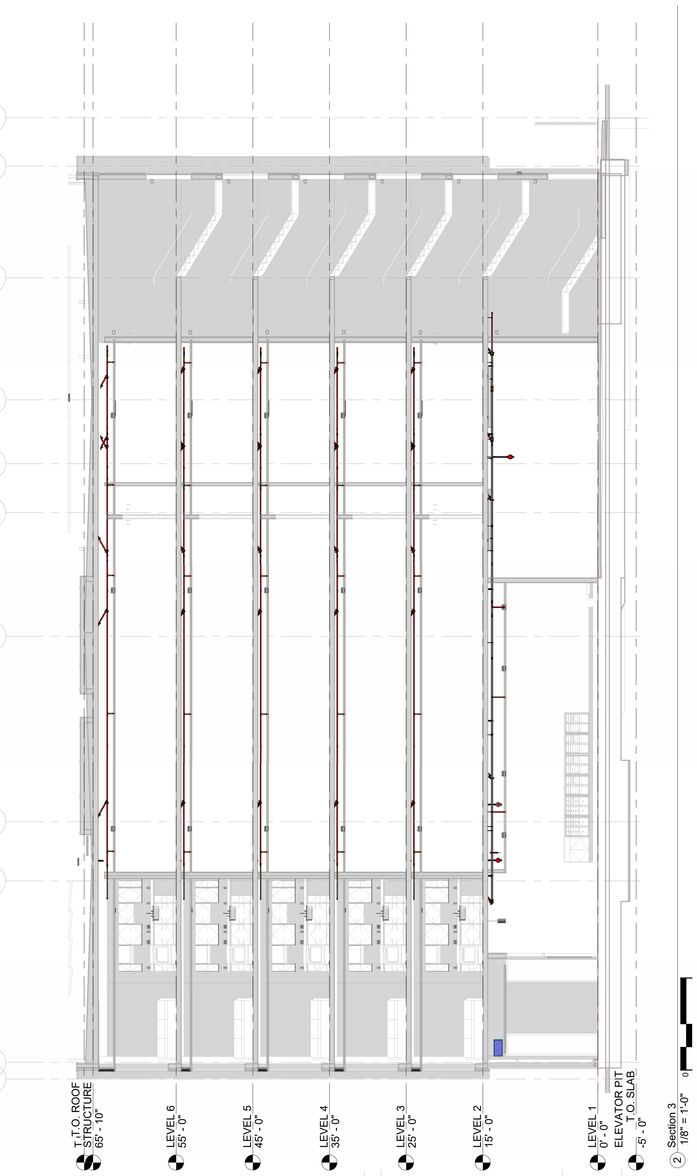
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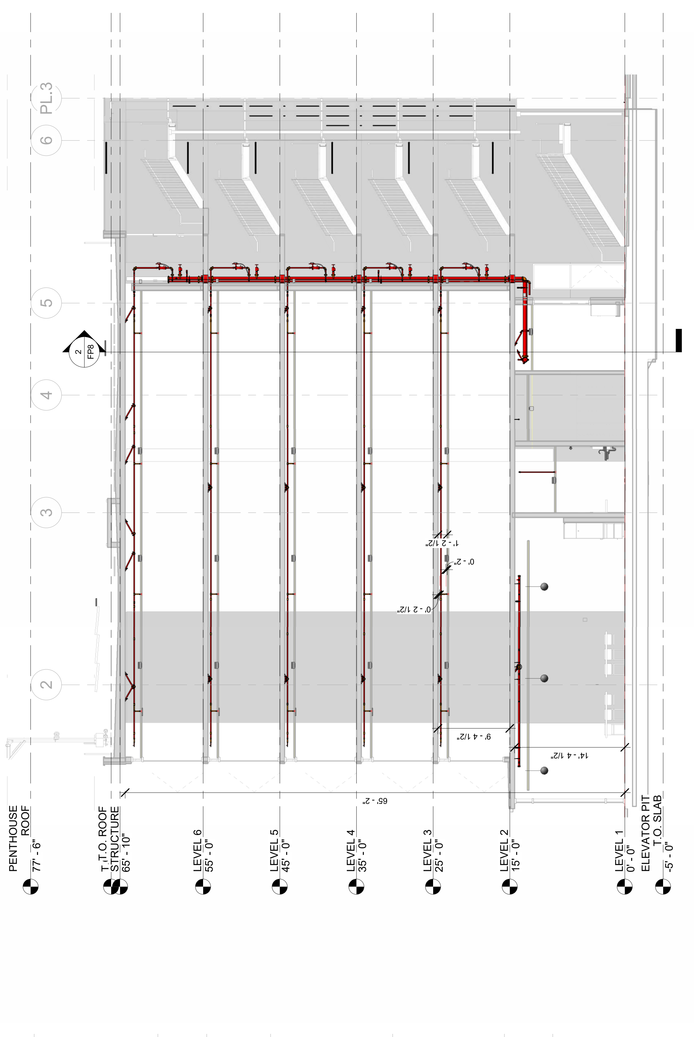
FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

DATE 4/17/2026 8:57:25 AM
SCALE 1/8" = 1'-0"
DRAWN GWE
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE LEVEL 5 & 6 PIPING PLAN
SHEET NUMBER FP7

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42





FIRE SPRINKLER PROJECT INFORMATION:

34TH & SAN PABLO

DATE	4/17/2026 8:57:33 AM
SCALE	1/8" = 1'-0"
DRAWN	GWE
UNIT SQ FOOTAGE	
SYSTEM	N/A
OCCUPANCY	
SHEET TITLE	ROOF PIPING & SECTION PLAN
SHEET NUMBER	FP8

THREE ALARM FIRE PROTECTION

FIRE SPRINKLER CONTRACTOR:

THREE ALARM FIRE PROTECTION, INC.

527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

THREE ALARM FIRE PROTECTION
C-16
LICENSED
STATE OF CALIFORNIA

REVISIONS

NO	DATE	DESCRIPTION
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Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42

3. Design lateral loads are based on the following criteria:

   1. Risk Category II

   2. Wind
      1. Basic Wind Speed 92 mph (3-second gust)
      2. Exposure Category B
      3. Importance Factor, Iw 1.00
      4. Internal Pressure Coef +/- 0.18 for main bldg
         +/- 0.55 for penthouse
      5. Cladding Pressure 33 psf, unless specifications require design-build calculations

   3. Seismic
      1. Importance Factor, Ie 1.00
      2. S-s 1.792g (0.2 sec site specific response)
      3. S-1 0.681g (1.0 sec site specific response)
      4. Site Soil Class D
      5. S-ds 1.195g (0.2 sec site specific response)
      6. S-d1 1.158g (1.0 sec site specific response)
      7. SDC D (Seismic Design Category)
      8. Basic Lateral System:
         1. Item B.4, Special Reinforced Concrete Shear Walls
      9. T-a 0.47 sec (Approximate Fundamental Period)
      10. C-s 0.199 g (Seismic Response Coefficient)
      11. R 6 (Response Modification Factor)
      12. Design Base Shear 1919 kips
      13. Analysis Procedure Modal Response Spectrum Analysis

SECTION 03 30 00: CAST-IN-PLACE CONCRETE

1. Concrete Mix Schedule:

Location	f'c (psi)	Age (days)	Aggr. Type	Aggr. Max. Size (inches)	Portland (lb/cy)	SCM* (%)
Mat Foundation	8,000	56	Normal	3/4-1.5	400	50-70
Shear Walls	10,000	56	Normal	3/4-1.5	550	50-70
Columns	10,000	56	Normal	3/4-1.5	550	50-70
Other CIP Walls	6,000	56	Normal	3/4-1.5	300	50-70
PT Slabs	3,000	7				
	6,000	28	Normal	1	400	20
Misc. Conc.	4,000	56	Normal	3/4-1.5	300	50-70

   * SCM = Supplementary Cementitious Material content, measured as percentage of total cementitious material by weight. See Specifications for further SCM requirements.

TOLBrace™ Seismic Bracing Calculations

V8.8.145

Project Address: 34SP, 3431 SAN PABLO AVE, OAKLAND CA 94608, Job #

Contractor: 3D Fire Design, LLC
Address: 20 Siesta Cir, Heath, Texas 75032
Phone: 9722133210
License: 105930

EATON Powering Business Worldwide

Calculations based on 20220 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

Fastener Information

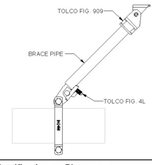
Orientation to Connecting Surface	NFPA Type C
Fastener Type	DeWalt Power-Stud+ SD2 1/2in. x all lengths > 3 3/4in. (6,000 PSI Normal Weight Cracked Concrete)
Diameter	1/2in.
Length	3 3/4in.
Maximum Load	847 lbs (384 kg)
Prying Factor	0.95

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 4L Clamp	2000 lbs (907 kg)	1732 lbs (786 kg)
Fig.909 - 1/2" No-Thread Swivel	1370 lbs (621 kg)	1186 lbs (538 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 6" LONG L1

Brace Type Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp)

Cp before reduction = 0.91 Reduction factor = 0.75 Cp = 0.9

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
6" (150 mm)	Sch. 10	20 ft (6.1 m)	20 ft (6.1 m)	23.03 lb/ft (34.27 kg/m)	461 lbs (209 kg)

Subtotal Weight	461 lbs (209 kg)
Wp (incl. 15%)	530 lbs (240 kg)
Total (Fpw)	477 lbs (216 kg)
Maximum Fpw per 18.5.5.2 (if applicable)	N/A

Main Size: 6" | Type/Sch.: Sch. 10 | Spacing (ft): 20

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TOLBrace™ Seismic Bracing Calculations

V8.8.145

Project Address: 34SP, 3431 SAN PABLO AVE, OAKLAND CA 94608, Job #

Contractor: 3D Fire Design, LLC
Address: 20 Siesta Cir, Heath, Texas 75032
Phone: 9722133210
License: 105930

EATON Powering Business Worldwide

Calculations based on 20220 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

Fastener Information

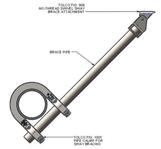
Orientation to Connecting Surface	NFPA Type C
Fastener Type	DeWalt Power-Stud+ SD2 1/2in. x all lengths > 3 3/4in. (6,000 PSI Normal Weight Cracked Concrete)
Diameter	1/2in.
Length	3 3/4in.
Maximum Load	847 lbs (384 kg)
Prying Factor	0.95

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2000 lbs (907 kg)	1732 lbs (786 kg)
Fig.909 - 1/2" No-Thread Swivel	1370 lbs (621 kg)	1186 lbs (538 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 6" LATERAL L1

Brace Type Lateral [X] Longitudinal [ ] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp)

Cp before reduction = 0.91 Reduction factor = 0.75 Cp = 0.9

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
6" (150 mm)	Sch. 10	20 ft (6.1 m)	20 ft (6.1 m)	23.03 lb/ft (34.27 kg/m)	461 lbs (209 kg)

Subtotal Weight	461 lbs (209 kg)
Wp (incl. 15%)	530 lbs (240 kg)
Total (Fpw)	477 lbs (216 kg)
Maximum Fpw per 18.5.5.2 (if applicable)	2448 lb (1110 kg)

Main Size: 6" | Type/Sch.: Sch. 10 | Spacing (ft): 20

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TOLBrace™ Seismic Bracing Calculations

V8.8.145

Project Address: 34SP, 3431 SAN PABLO AVE, OAKLAND CA 94608, Job #

Contractor: 3D Fire Design, LLC
Address: 20 Siesta Cir, Heath, Texas 75032
Phone: 9722133210
License: 105930

EATON Powering Business Worldwide

Calculations based on 20220 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

Fastener Information

Orientation to Connecting Surface	NFPA Type C
Fastener Type	DeWalt Wood-Knocker II + 3/8in. Green (6,000 PSI Normal Weight Cracked Concrete)
Diameter	3/8in.
Length	N/A
Maximum Load	179 lbs (81 kg)
Prying Factor	0.75

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 3000 Clamp	700 lbs (318 kg)	606 lbs (275 kg)
Fig.980 - 3/8" Universal Swivel	1600 lbs (726 kg)	1386 lbs (629 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 1.25" CPVC LAT/LONG

Brace Type Lateral [X] Longitudinal [ ] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp)

Cp before reduction = 0.9 Reduction factor = 1 Cp = 0.9

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
1.25" (32 mm)	CPVC	25 ft (7.6 m)	25 ft (7.6 m)	1.079031 lb/ft (1.61 kg/m)	27 lbs (12 kg)

Subtotal Weight	27 lbs (12 kg)
Wp (incl. 15%)	31 lbs (14 kg)
Total (Fpw)	28 lbs (13 kg)
Maximum Fpw per 18.5.5.2 (if applicable)	28 lb (12 kg)

Main Size: 1.25" | Type/Sch.: CPVC | Spacing (ft): 25

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TOLBrace™ Seismic Bracing Calculations

V8.8.145

Project Address: 34SP, 3431 SAN PABLO AVE, OAKLAND CA 94608, Job #

Contractor: 3D Fire Design, LLC
Address: 20 Siesta Cir, Heath, Texas 75032
Phone: 9722133210
License: 105930

EATON Powering Business Worldwide

Calculations based on 20220 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

Fastener Information

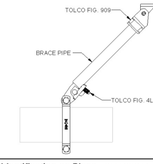
Orientation to Connecting Surface	NFPA Type C
Fastener Type	DeWalt Power-Stud+ SD2 1/2in. x all lengths > 3 3/4in. (6,000 PSI Normal Weight Cracked Concrete)
Diameter	1/2in.
Length	3 3/4in.
Maximum Load	847 lbs (384 kg)
Prying Factor	0.95

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 4L Clamp	2000 lbs (907 kg)	1732 lbs (786 kg)
Fig.909 - 1/2" No-Thread Swivel	1370 lbs (621 kg)	1186 lbs (538 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 2.5" LONG L1

Brace Type Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp)

Cp before reduction = 0.91 Reduction factor = 0.75 Cp = 0.9

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
2.5" (65 mm)	Sch. 10	80 ft (24.4 m)	80 ft (24.4 m)	5.89 lb/ft (8.77 kg/m)	471 lbs (214 kg)

Subtotal Weight	471 lbs (214 kg)
Wp (incl. 15%)	542 lbs (246 kg)
Total (Fpw)	487 lbs (221 kg)
Maximum Fpw per 18.5.5.2 (if applicable)	N/A

Main Size: 2.5" | Type/Sch.: Sch. 10 | Spacing (ft): 80

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TOLBrace™ Seismic Bracing Calculations

V8.8.145

Project Address: 34SP, 3431 SAN PABLO AVE, OAKLAND CA 94608, Job #

Contractor: 3D Fire Design, LLC
Address: 20 Siesta Cir, Heath, Texas 75032
Phone: 9722133210
License: 105930

EATON Powering Business Worldwide

Calculations based on 20220 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

Fastener Information

Orientation to Connecting Surface	NFPA Type C
Fastener Type	DeWalt Wood-Knocker II + 3/8in. Green (6,000 PSI Normal Weight Cracked Concrete)
Diameter	3/8in.
Length	N/A
Maximum Load	179 lbs (81 kg)
Prying Factor	0.75

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 3000 Clamp	700 lbs (318 kg)	606 lbs (275 kg)
Fig.980 - 3/8" Universal Swivel	1600 lbs (726 kg)	1386 lbs (629 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail

Brace Identification on Plans 1.25" CPVC LAT/LONG

Brace Type Lateral [X] Longitudinal [ ] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp)

Cp before reduction = 0.9 Reduction factor = 1 Cp = 0.9

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
1.25" (32 mm)	CPVC	25 ft (7.6 m)	25 ft (7.6 m)	1.079031 lb/ft (1.61 kg/m)	27 lbs (12 kg)

Subtotal Weight	27 lbs (12 kg)
Wp (incl. 15%)	31 lbs (14 kg)
Total (Fpw)	28 lbs (13 kg)
Maximum Fpw per 18.5.5.2 (if applicable)	28 lb (12 kg)

Main Size: 1.25" | Type/Sch.: CPVC | Spacing (ft): 25

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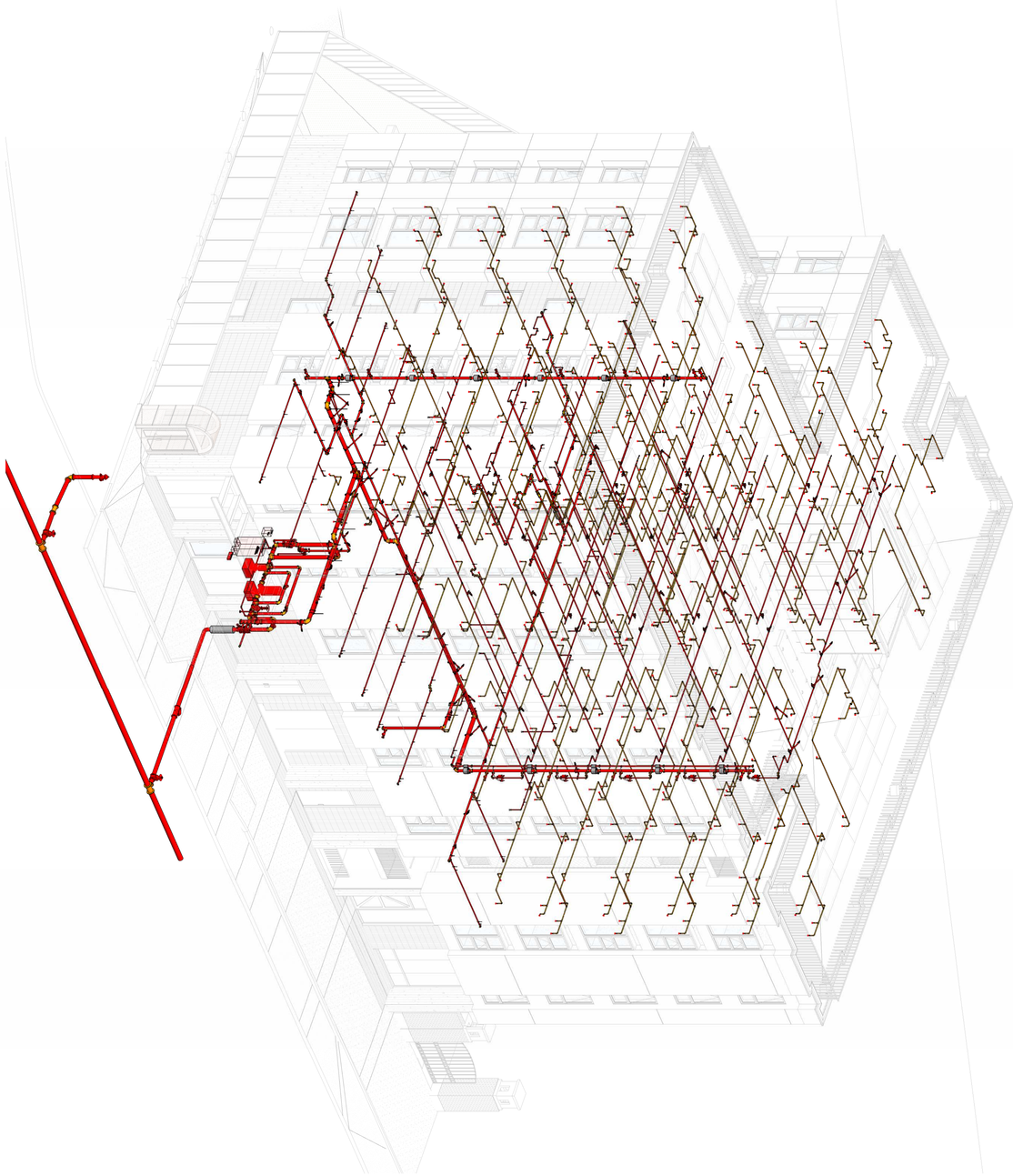
FIRE SPRINKLER CONTRACTOR:
THREE ALARM FIRE PROTECTION, INC.
527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

FIRE SPRINKLER PROJECT INFORMATION:
34TH & SAN PABLO

DATE 4/17/2026 8:57:34 AM
SCALE
DRAWN GWE
UNIT SQ FOOTAGE N/A
SYSTEM N/A
OCCUPANCY 34TH & SAN PABLO
SHEET TITLE SEISMIC CALCS
SHEET NUMBER FP9

Autodesk Docs://34th & SAN PABLO/34th and San Pablo FP R25.rvt
Software: Revit / HCAD Sheet Size: 30x42

1 3D Fire Protection



FP10

SHEET NUMBER

3D ISO PLAN

SHEET TITLE

34TH & SAN PABLO

"OCCUPANCY"

N/A

SYSTEM

N/A

"UNIT EQ FOOTAGE"

GWE

DRAWN

4/17/2026 8:57:44 AM

SCALE

DATE

FIRE SPRINKLER PROJECT INFORMATION:

34TH & SAN PABLO

FIRE SPRINKLER CONTRACTOR:

THREE ALARM FIRE PROTECTION, INC.

527 WAXLAX WAY
LIVERMORE, CA. 94550

OFFICE - (925) 449-3200
FAX - (925) 449-3201

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Software: Revit / HCAD Sheet Size: 30x42

Software: Revit / HCAD Sheet Size: 30x42

FP11

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SHEET TITLE	L01 FIRE V9 MEP ISO
PROJECT NAME	34TH & SAN PABLO
SYSTEM	N/A
UNIT SQ FOOTAGE	N/A
DRAWN	GWE
SCALE	
DATE	4/17/2026 8:57:47 AM

FIRE SPRINKLER PROJECT INFORMATION:

34TH & SAN PABLO

THREE ALARM FIRE PROTECTION

FIRE SPRINKLER CONTRACTOR:

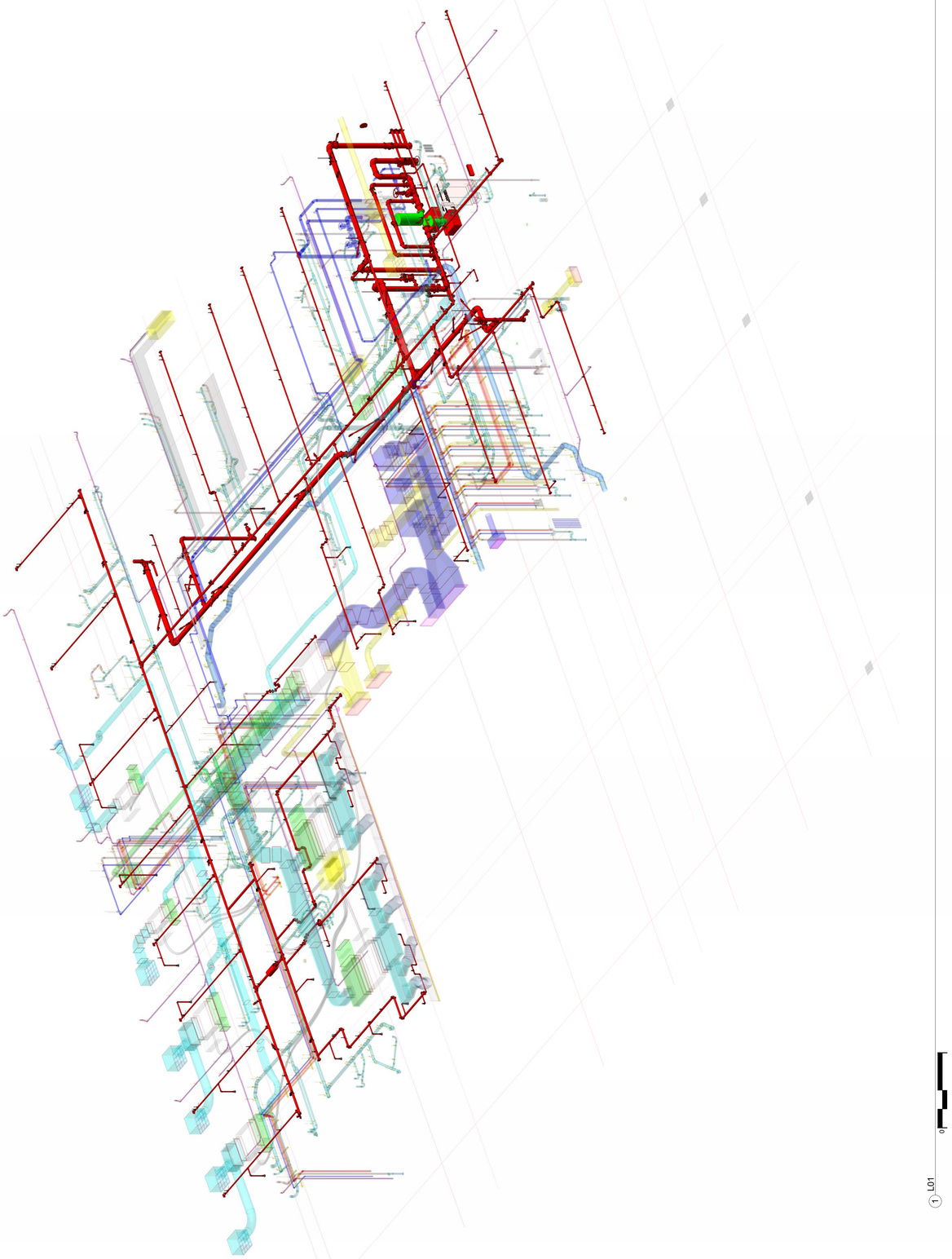
THREE ALARM FIRE PROTECTION, INC.

527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

FIRE PROTECTION LICENSE C-16 LIVERMORE, CALIFORNIA STATE OF CALIFORNIA

REVISIONS

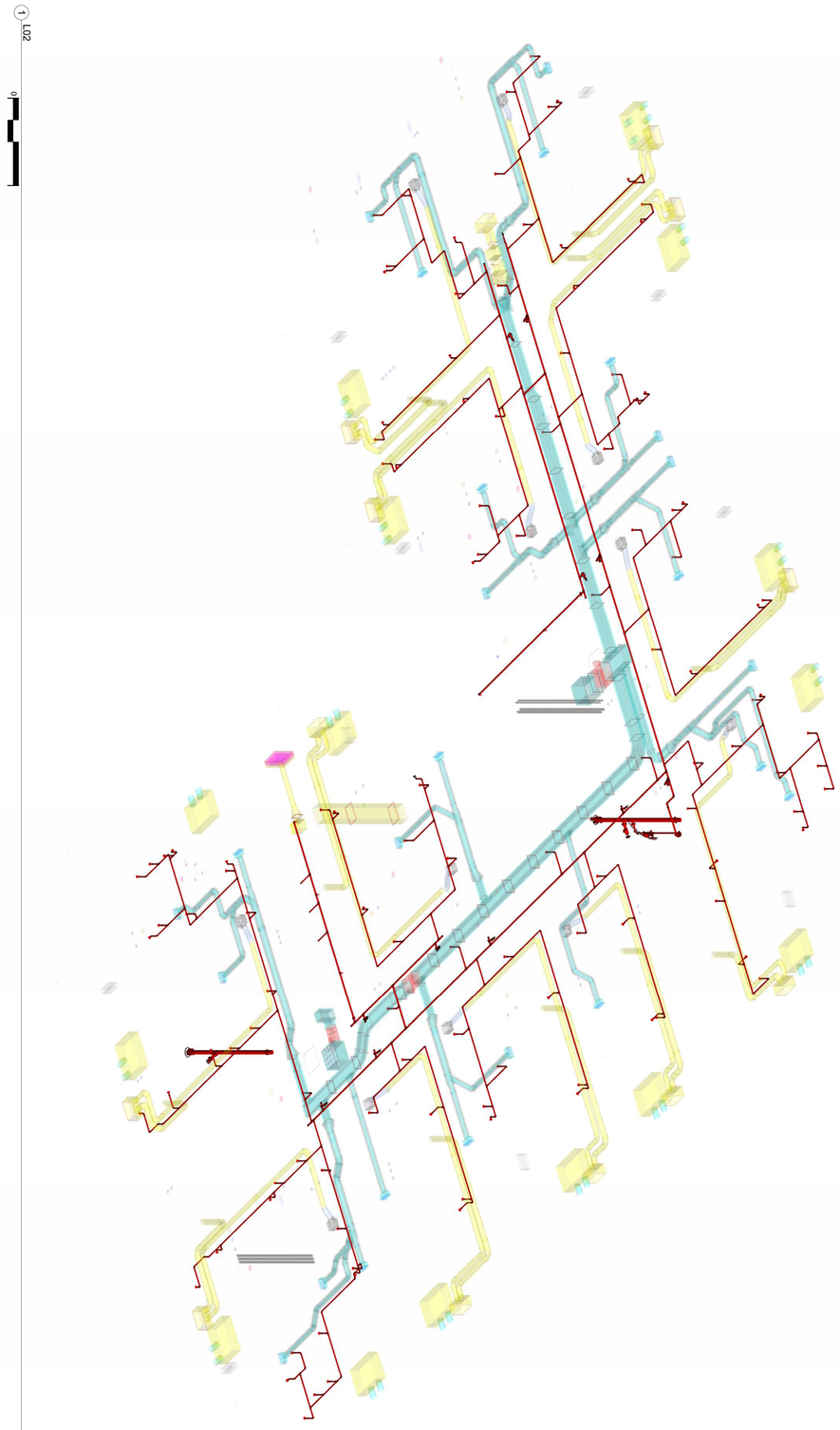
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SHEET TITLE	L02-L05 FIRE VS MEP ISO
PROJECT NAME	34TH & SAN PABLO
OCCUPANCY	N/A
SYSTEM	N/A
CONSTRUCTION TYPE	GWE
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SCALE	
DATE	4/17/2026 8:57:49 AM

FIRE SPRINKLER PROJECT INFORMATION:

34TH & SAN PABLO

FIRE SPRINKLER CONTRACTOR:

THREE ALARM FIRE PROTECTION, INC.

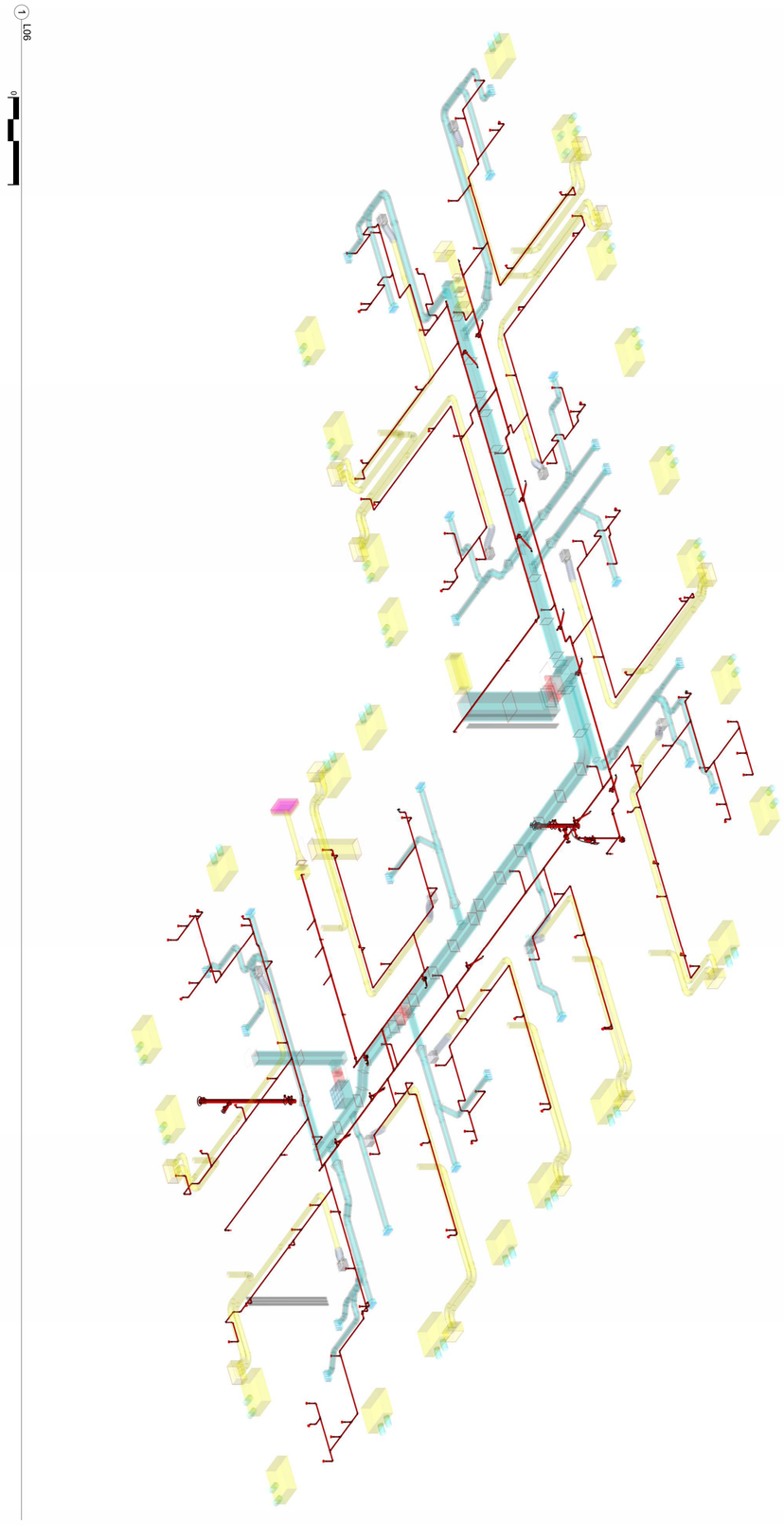
527 WAXLAX WAY
LIVERMORE, CA. 94550

OFFICE - (925) 449-3200
FAX - (925) 449-3201

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Software: Revit / HCAD Sheet Size: 30x42



SHEET NUMBER	FP13
SHEET TITLE	L06 FIRE VS MEP ISO
34TH & SAN PABLO	
OCCUPANCY	N/A
SYSTEM	N/A
LIGHT FIXTURE	
DRAWN	GIVE
SCALE	
DATE	4/17/2026 8:57:51 AM

FIRE SPRINKLER PROJECT INFORMATION:

34TH & SAN PABLO

FIRE SPRINKLER CONTRACTOR:

THREE ALARM FIRE PROTECTION, INC.

527 WAXLAX WAY
LIVERMORE, CA. 94550
OFFICE - (925) 449-3200
FAX - (925) 449-3201

REVISIONS

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Software: Revit / HCAD Sheet Size: 30x42