

FIELD NOTES:

HANGER SPACING
 SCH 10 STEEL PIPE
 1" TO 3" IN SIZE TO BE 12'-0"
 4" TO 8" IN SIZE TO BE 15'-0"
 NFPA 13, 2019: 9.2.4.7: A SINGLE SECTION OF PIPE SHALL NOT REQUIRE A HANGER WHEN THE CUMULATIVE DISTANCE BETWEEN HANGERS ON THE MAIN DOES NOT EXCEED THE SPACING REQUIRED BY TABLE 9.2.2.1(a) AND TABLE 9.2.2.1(b)

PER NFPA 13, 2019: TABLE 17.3.1(a) SECTION MODULUS REQUIRED FOR TRAPEZE MEMBERS SUPPORTED PIPE SHALL BE 6-INCH SCHEDULE 10
 SPAN OF Z-PURLINS ARE 4'-0"
 SELECTED MODULUS: 0.48

PER NFPA 13, 2019: TABLE 17.3.1(b)
 SCHEDULE 40 2" PIPE SUPPORTS A MODULUS UP TO 0.56

SPRINKLER PIPING:
 1) ALL GROOVED END MAINS AND BRANCH LINES TO BE SCH 10 BLACK FINISH

SPRINKLER PLACEMENT:
 1) UPRIGHTS ALONG BRANCH LINE SPACED 8'-3" ON CENTER
 2) MAXIMUM DISTANCE BETWEEN BRANCH LINES 12'-0" ON CENTER
 3) SPRINKLER DEFLECTOR - 6" MINIMUM AND 8" MAXIMUM BELOW DECK / CEILING FOR CMDA SPRINKLER HEADS (PER NFPA 13, 2019 - 13.2.7.7.1)

SPRINKLER SPACING:
 1) RACK STORAGE - 100 SQ. FT. WITH USE OF CMDA SPRINKLERS
 2) MAXIMUM SPACING OF CMDA SPRINKLERS IS 12 FT FOR RACK STORAGE UNOBSTRUCTED

EQ BRACING:
 LATERAL BRACES PLACEMENT
 1) MAXIMUM SPAN PER SEISMIC CALCULATION, NOT TO EXCEED 25'
 2) 5" MAXIMUM FROM END OF THE PIPE
 3) 12" MAXIMUM FROM STARTER OF THE PIPE
 4) LATERAL BRACES SHALL BE ALLOWED TO ACT AS LONGITUDINAL BRACES IF THEY ARE WITHIN 24" OF THE CENTERLINE OF THE PIPING BRACED LONGITUDINALLY.

LONGITUDINAL BRACES PLACEMENT
 1) MAXIMUM SPAN PER SEISMIC CALCULATION, NOT TO EXCEED 50'
 2) MUST MAINTAINED HALF OF THE CALCULATED MAX. SPAN FROM BOTH END AND STARTER OF THE PIPE.
 1) LONGITUDINAL BRACES SHALL BE ALLOWED TO ACT AS LATERAL BRACES IF THEY ARE WITHIN 24" OF THE CENTERLINE OF THE PIPING BRACED LATERALLY.

BRANCH LINE RESTRAINT:
 1) ALL BRANCH LONGER THAN 12'-0" MUST BE BRANCH LINE RESTRAINT, EXCLUDE HANGER ROD IS LESS THAN 6" MEASURING FROM THE ATTACHMENT POINT TO THE TOP OF THE PIPE.

FLEXIBLE COUPLING LOCATION:
 1) VERTICAL PIPE IN LENGTH 3' TO 7' - (1) FLEXIBLE COUPLING AT TOP (NOT APPLICABLE)
 2) VERTICAL PIPE IN LENGTH 7' LONGER - (1) FLEXIBLE COUPLING AT TOP AND (1) FLEXIBLE COUPLING AT BOTTOM
 3) STRUCTURAL WALL PENETRATION W/O SEISMIC CLEARANCE - (1) FLEXIBLE COUPLING AT BOTH SIDE WITHIN 12" (NOT APPLICABLE)
 4) FLOOR PENETRATION - (1) FLEXIBLE COUPLING AT TOP WITHIN 12" AND (1) FLEXIBLE COUPLING AT BOTTOM WITHIN 24" (NOT APPLICABLE)

WET SYSTEM TRAPPED WATER:
 1) 50 GAL AND MORE - MINIMUM 1" VALVE AND PIPE TO AN ACCESSIBLE LOCATION (VALVE MAX AT 7' FF)

SCOPE OF WORK:
 1) INSTALL A NEW WET AUTOMATIC SPRINKLER SYSTEM WITH THE USE OF CMDA STORAGE SPRINKLER HEADS

GENERAL NOTES:
 1) MATERIALS INSTALLATION AND DESIGN PER NFPA 13 STANDARDS
 2) ALL AREAS PROTECTED BY A WET PIPE SYSTEM MUST BE MAINTAINED AT 40 DEGREE F TO PREVENT WATER IN PIPES FROM FREEZING BY OTHERS
 3) STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER PIPING BY OTHERS.
 4) ALL FIRE ALARMS, WIRING, MONITORING ARE BY OTHERS.

EXCLUSIONS:
 1) FIRE WATCH OR TEMPORARY SPRINKLER PROTECTION DURING CONSTRUCTION.
 2) FIRESTOP CAULKING
 3) HEAT TRACE OR INSULATION OF SPRINKLER PIPE
 4) CLEANING, PAINTING AND LABELING SPRINKLER PIPE
 5) STRUCTURAL ANALYSIS, SEISMIC INVESTIGATION
 6) PIPE AND PE REVIEW
 7) UNDERGROUND WORK

DESIGN CRITERIA:
 PER NFPA 13 - 2019 AND THE CITY OF PUYALLUP
 1) RACK STORAGE LIMITED TO 16 FT HIGH - 24 / 2000 SQ. FT.

TABLE 21.4.1.2 - SINGLE OR DOUBLE ROW RACKS - STORAGE HEIGHT OVER 12 FT UP TO AND INCLUDING 25 FT
 STORAGE COMMODITY CLASS III
 NON-ENCAPSULATED STORAGE
 8 FOOT WIDE AISLES
 FIGURE 21.4.1.2(c) WAS USED TO DETERMINE DESIGN DENSITY

FIGURE 21.4.1.2(c) - CURVE A (FOR HIGH TEMPERATURE CMDA HEADS)
 .37 DENSITY / 2000 SQUARE FEET

PER NFPA 13, 2019 - 21.4.1.4.1: FOR STORAGE HEIGHT OVER 12 FT UP TO AND INCLUDING 25 FT PROTECTED WITH CEILING SPRINKLERS ONLY, DENSITIES OBTAINED FROM DESIGN CURVES SHALL BE ADJUSTED IN ACCORDANCE WITH FIGURE 21.4.1.4.1

REDUCTION TAKEN PER NFPA 13, 2019 - FIGURE 21.4.1.4.1
 ALLOWABLE REDUCTION OF 65% FOR STORAGE 16 FEET TALL
 65 x .37 = .2405 DENSITY

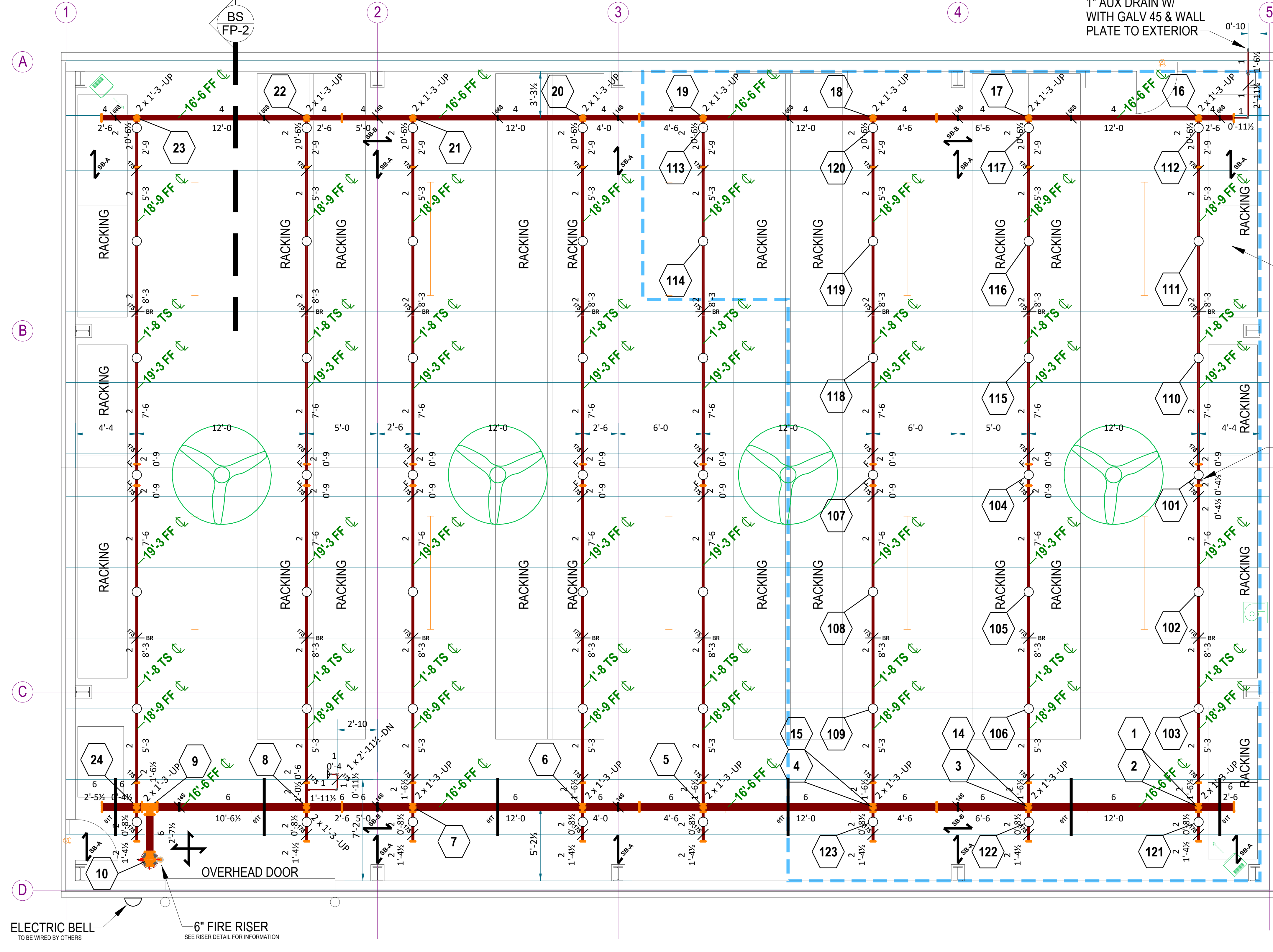
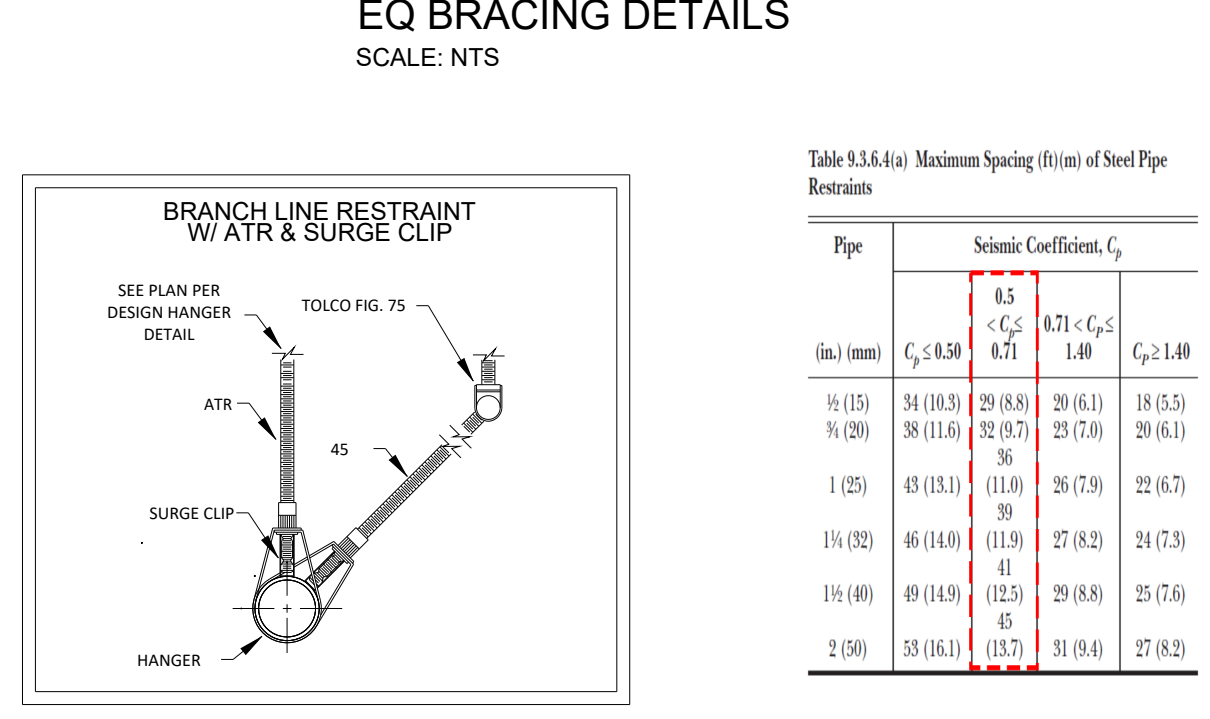
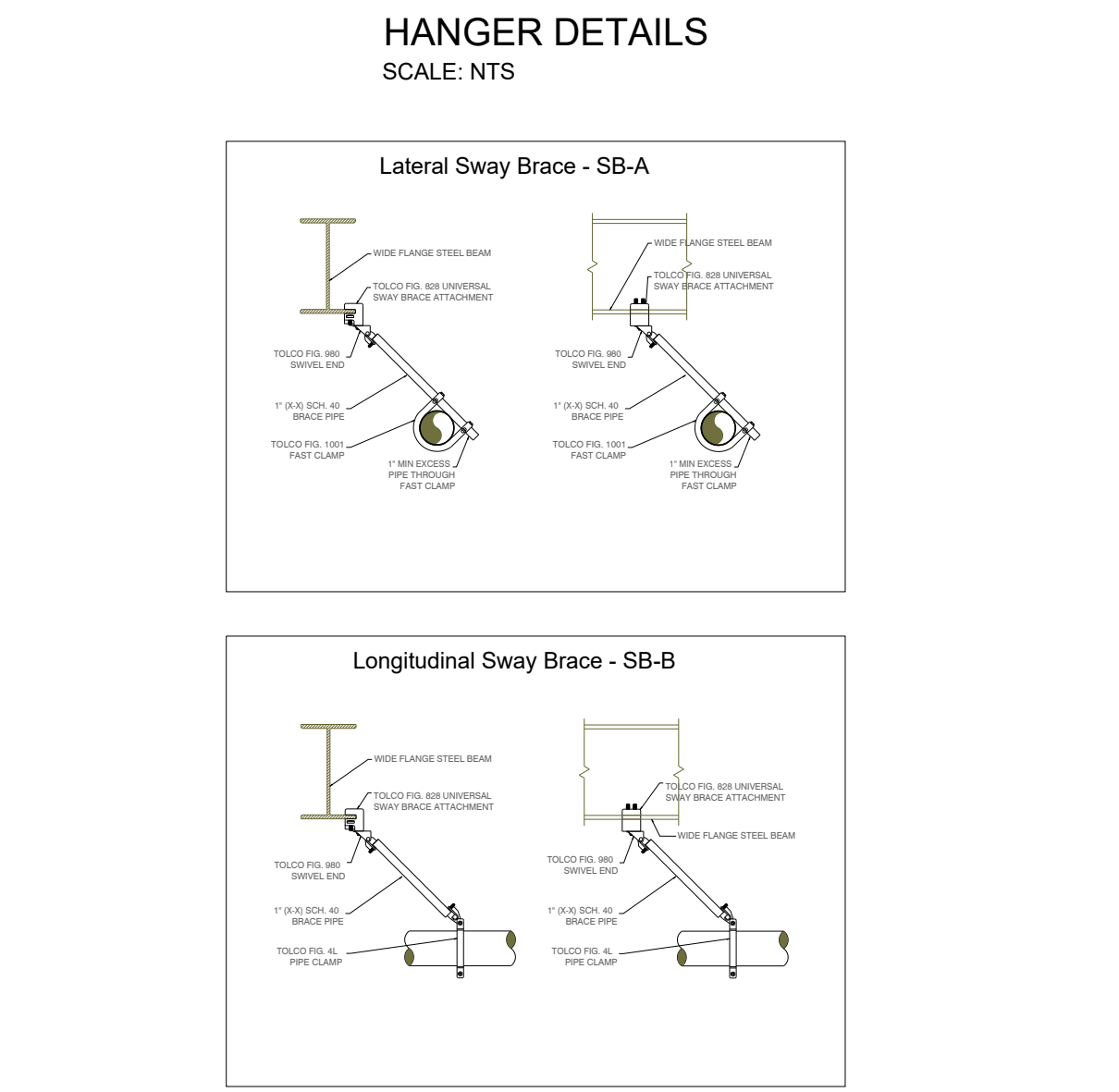
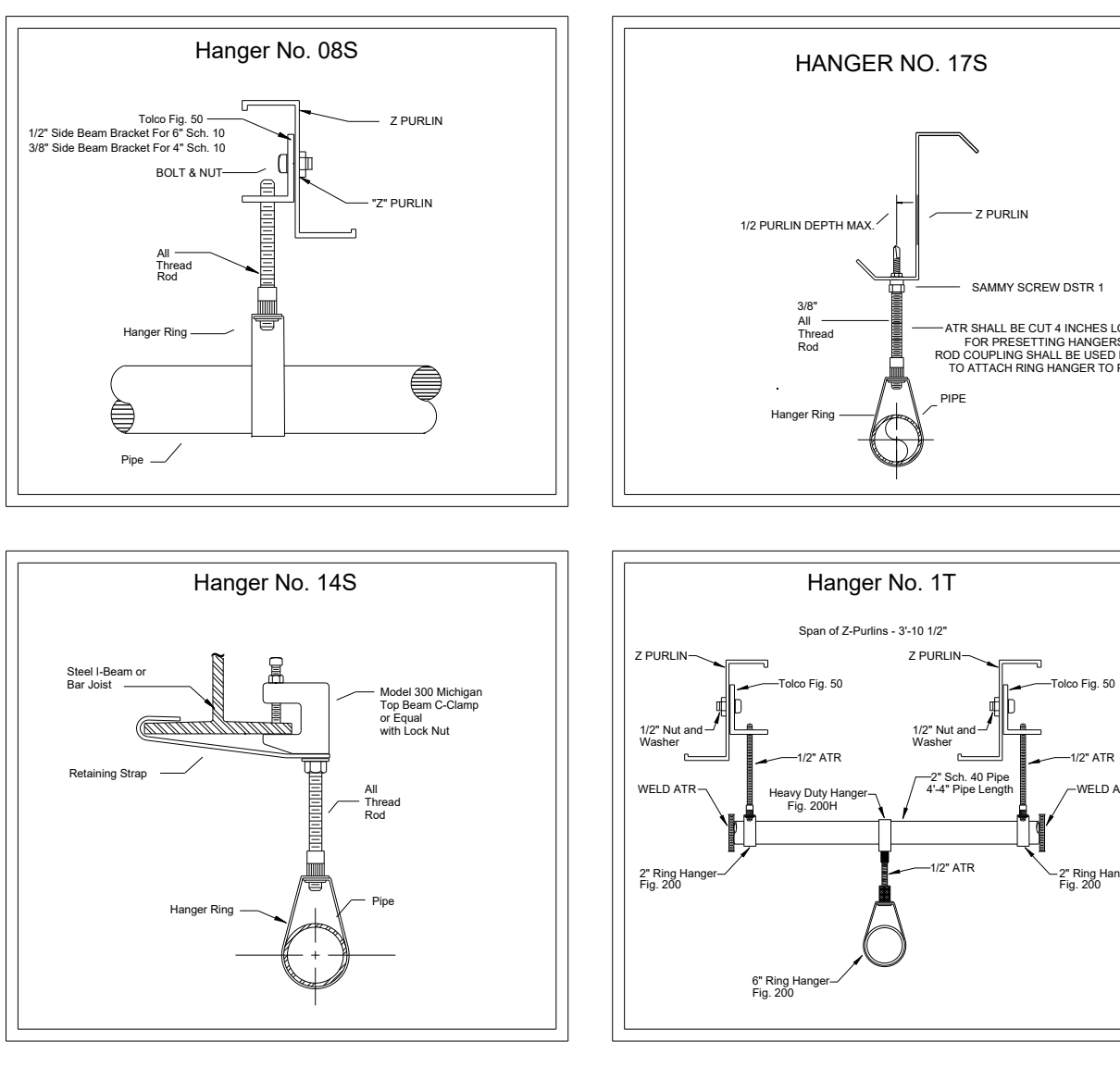
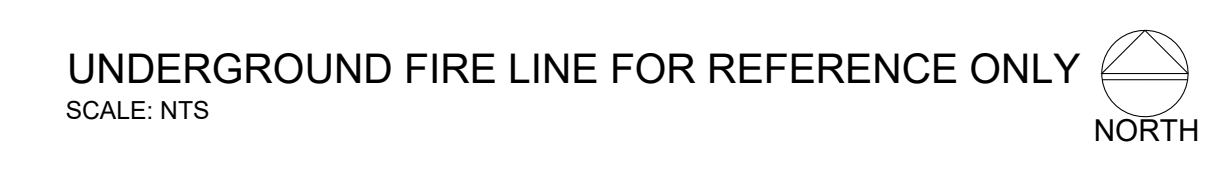
NEW DENSITY REQUIREMENT AFTER REDUCTION
 .24 / 2000 SQUARE

CONSTRUCTION TYPE:
 STEEL, UNOBSTRUCTED UNO ON PLAN
 BUTLER BUILDING CONSTRUCTED WITH Z-PURLINS AND I-BEAMS

PROJECT DATA:
 PER PLANS AND SPECS.
 OCCUPANCY TYPE SI
 TYPE OF CONSTRUCTION - IIB
 BLDG. AREA 4,973 SQ. FT. 1 STORY

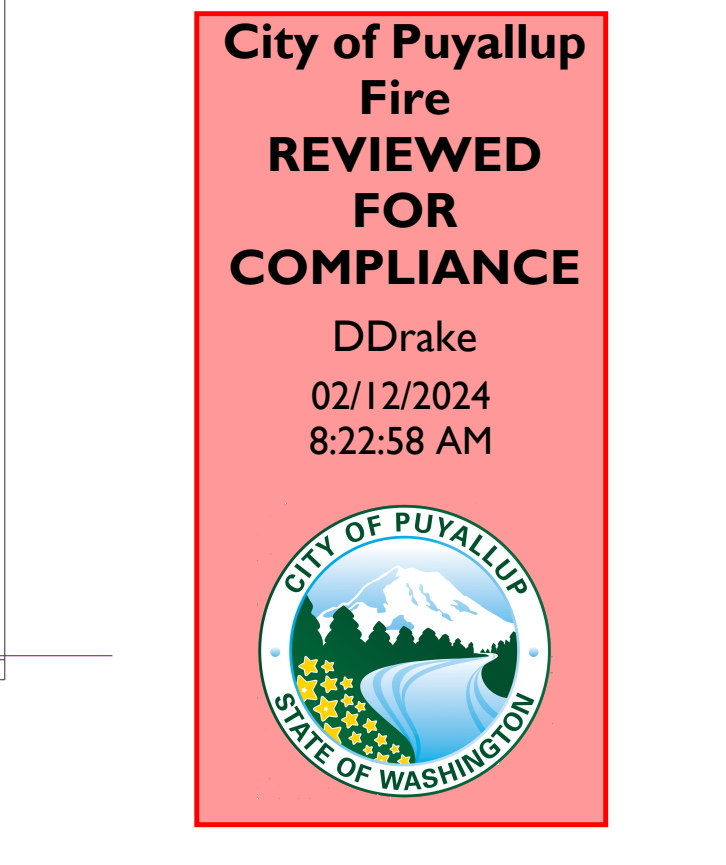
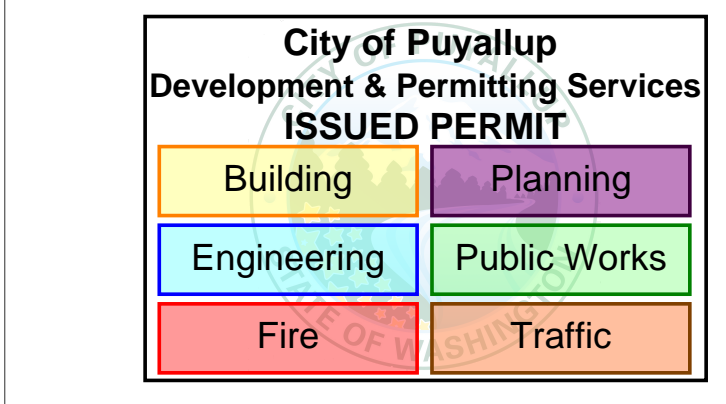
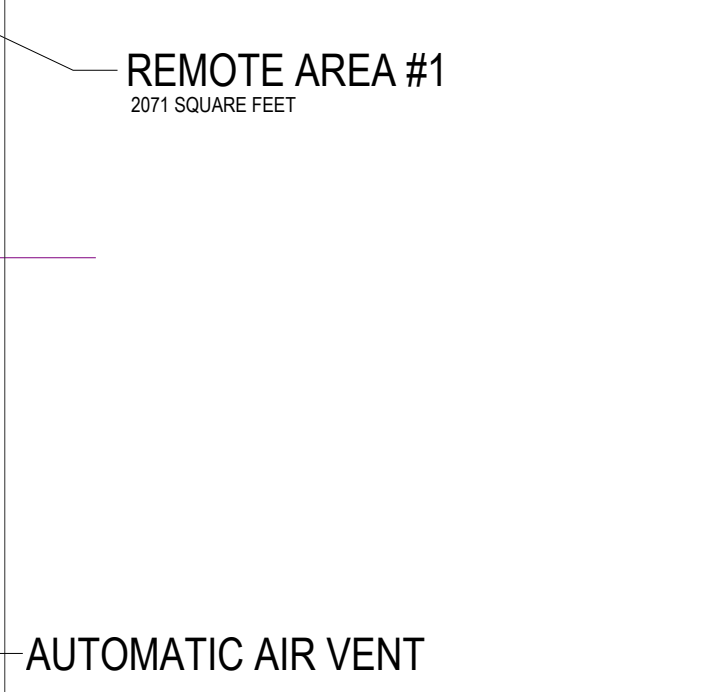
THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

Approval of submitted plans is not an approval of omissions or oversight by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable building codes and regulations of the local government.



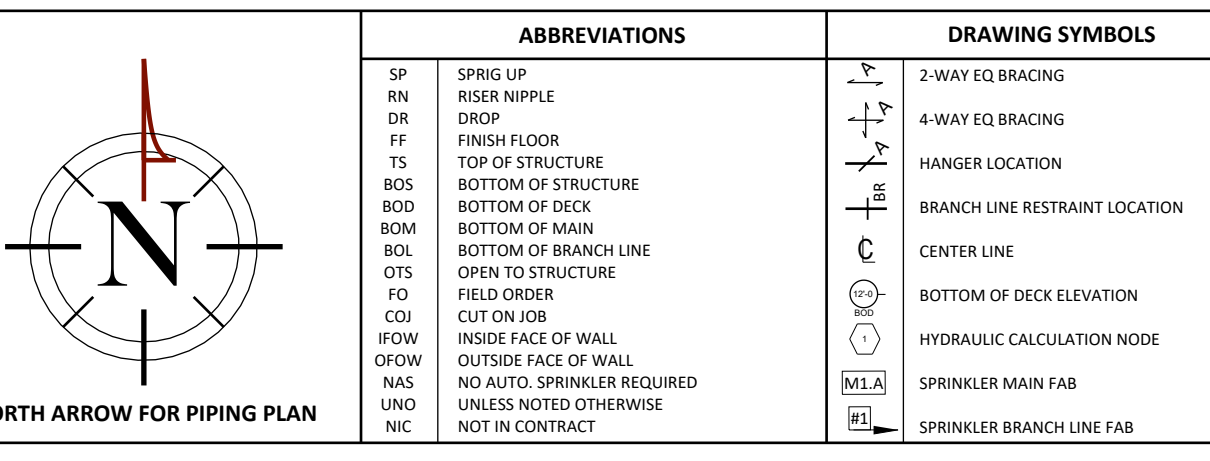
Hydraulic Information

Remote Area 1	
OCCUPANCY CLASSIFICATION	Spec. Warehouse
DENSITY (gpm/ft ²)	0.24 (for 2071R) (Actual 2071R)
TOTAL HOSE STREAMS	500.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	23
K-FACTOR	11.2
TOTAL WATER REQUIRED	1216.14
TOTAL PRESSURE REQUIRED	32.397
SAFETY MARGIN (psi)	+6.633 (15.7%)



Sprinkler Legend

Symbol	Manufacturer	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note	
⊙	Reliable	CKLO	56	11.2	Upright	1/2"	Standard	Brass	206°F	Upright On-Line (100 Sq. Ft. Max)	
⊙	Reliable	F1FR80 QREC HSW	1	8	Sidewall	1/2"	Quick	Brass	175°F	18' x 18' Spacing Max	
			Total = 57								



ABBREVIATIONS

ABBREVIATIONS	DRAWING SYMBOLS	NOT USED	NOT USED	DRAWING SYMBOLS	FLEX DROP LEGEND (NOT APPLICABLE)	WALL LEGEND	CERTIFICATION OF COMPETENCY
SP	SPRING UP			NEW MECHANICAL TEE (1/2-80X7)	4" 4'-0" FLEX DROP	NEW FULL HEIGHT WALL	
DR	ROOF DRAIN			NEW MECHANICAL TEE (1/2-80X7)	6" 6'-0" FLEX DROP	NEW FULL HEIGHT SOFFIT HEADERS	
PI	PIPE HANGING			RELOCATE EXISTING SPRINKLER	6" 6'-0" FLEX DROP, ELBOW STYLE	EXISTING SYSTEM COMPONENT	
TS	TOP OF STRUCTURE			EXISTING SYSTEM COMPONENT	8" 8'-0" FLEX DROP, ELBOW STYLE	NEW LOW WALLS (AT LEAST 1"	
BOB	BOTTOM OF DECK			BRANCH LINE RESTRAINT LOCATION	4" 4'-0" FLEX DROP BRACKET	NEW FINISH CEILING	
BOB1	BOTTOM OF DECK			CENTER LINE			
BOB2	BOTTOM OF DECK			BOTTOM OF DECK ELEVATION			
OTB	OPEN TO STRUCTURE			HYDRAULIC CALCULATION NODE			
FO	FIELD ORDER			SPRINKLER MAIN FAB			
IFW	INSIDE FACE OF WALL			SPRINKLER BRANCH LINE FAB			
OWF	OUTSIDE FACE OF WALL						
NAS	NO AUTO SPRINKLER REQUIRED						
WNS	WALLS NOTED OTHERWISE						
NAC	NOT IN CONTRACT						

REVISIONS

NO.	DATE	REVISIONS
1		

CUSTOMER INFORMATION

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