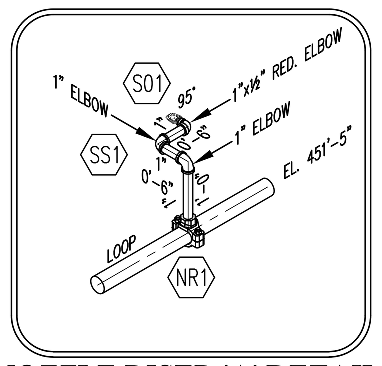
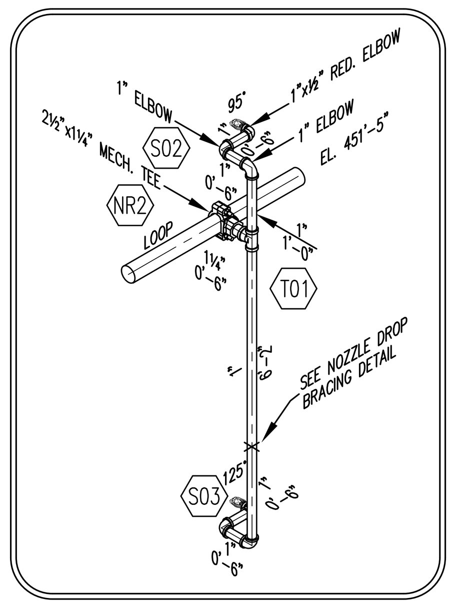
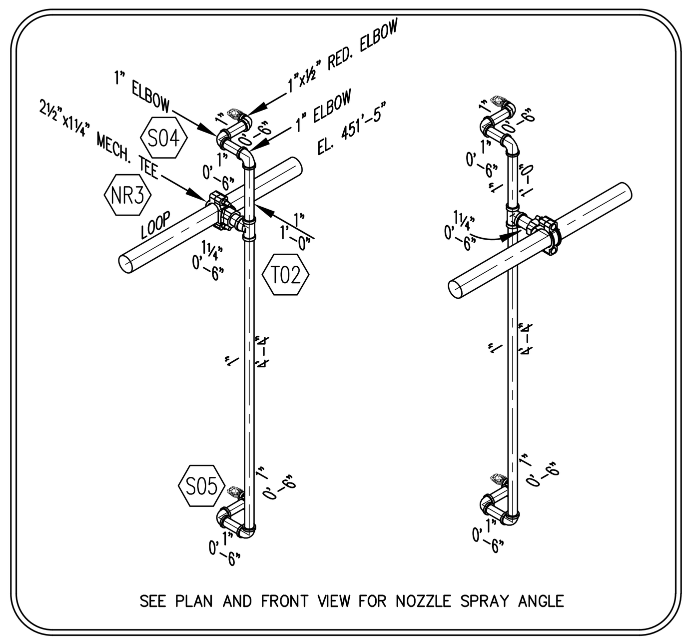


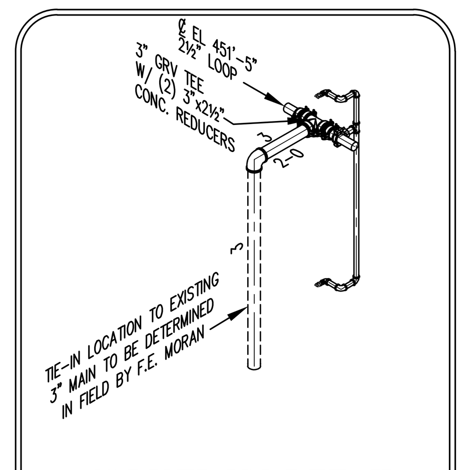
NOZZLE RISER 'A' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



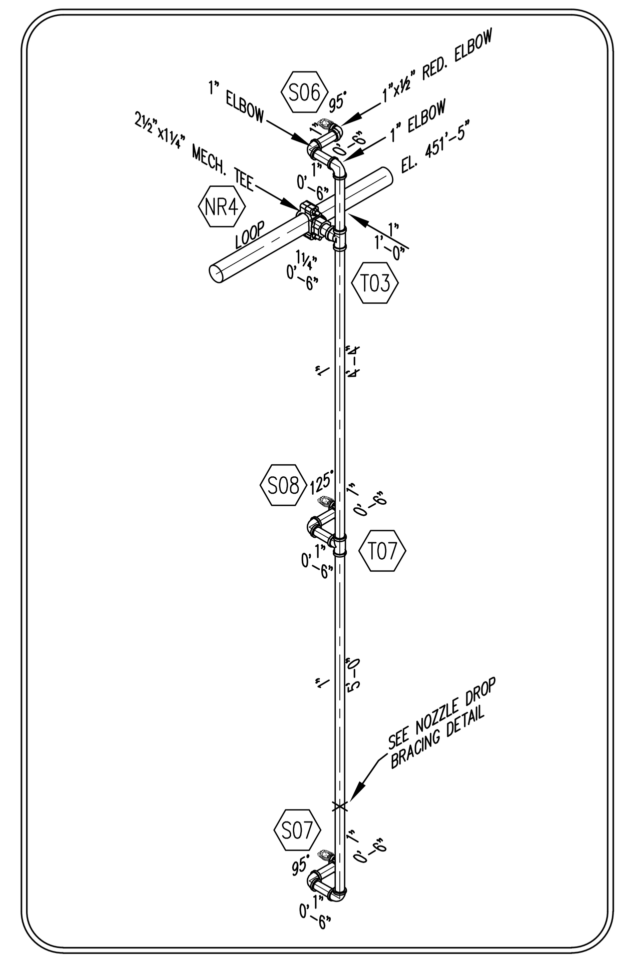
NOZZLE RISER 'B' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



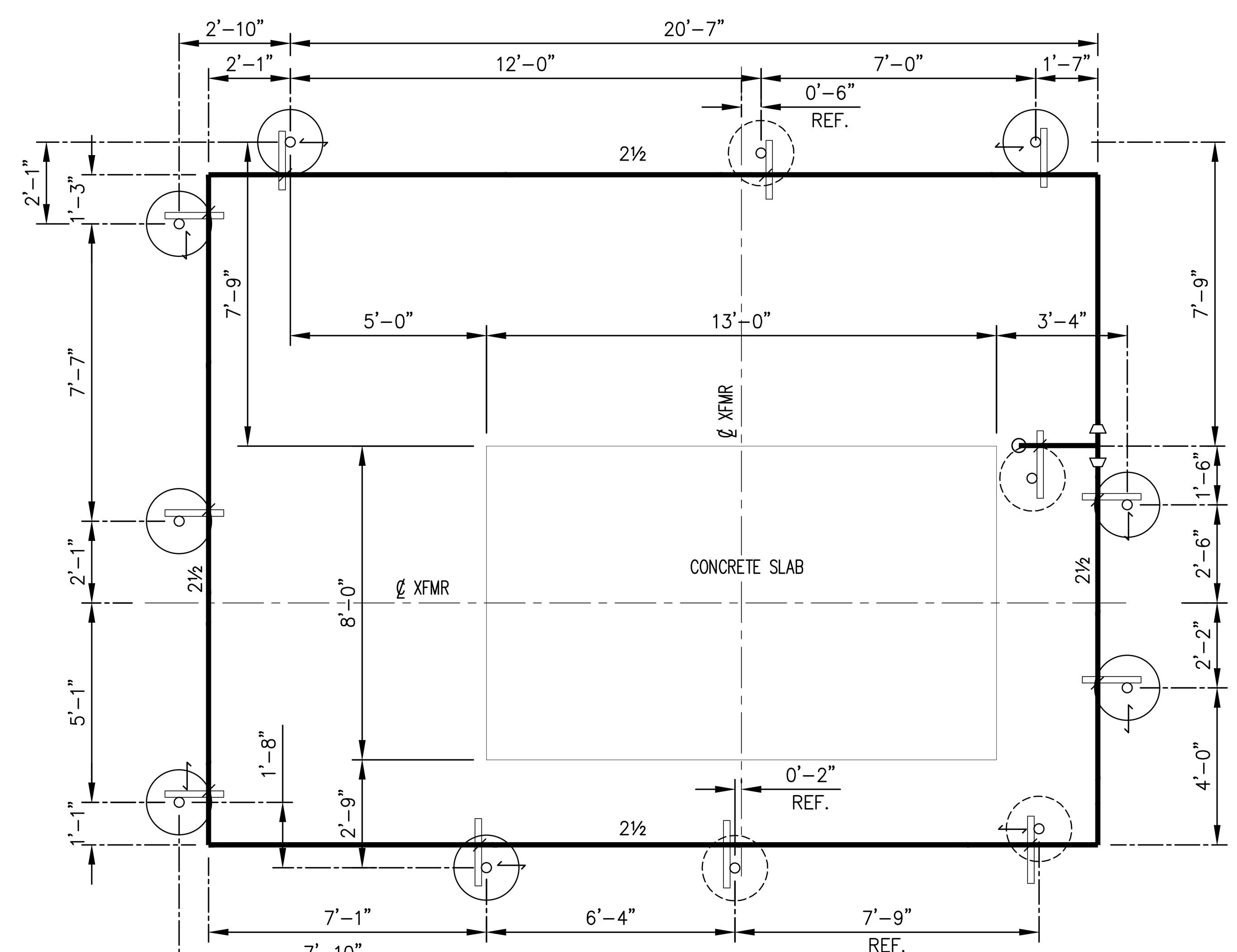
NOZZLE RISER 'C' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



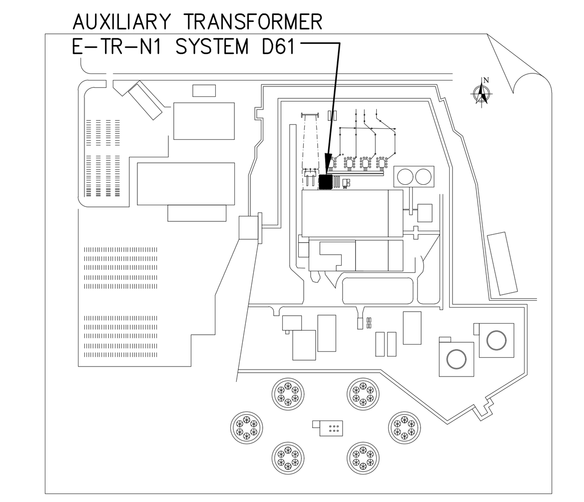
3" RISER ISO DETAIL
N.T.S.



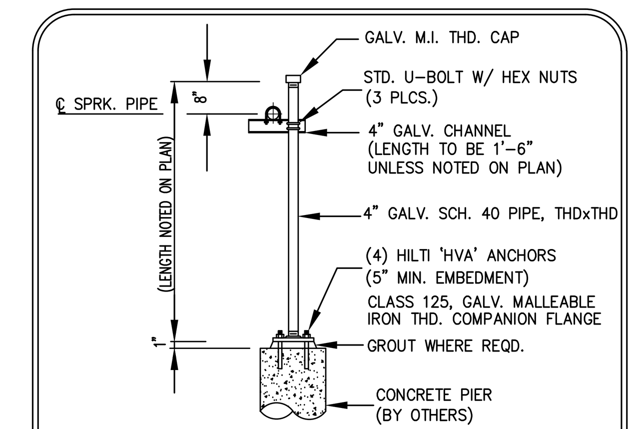
NOZZLE RISER 'D' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



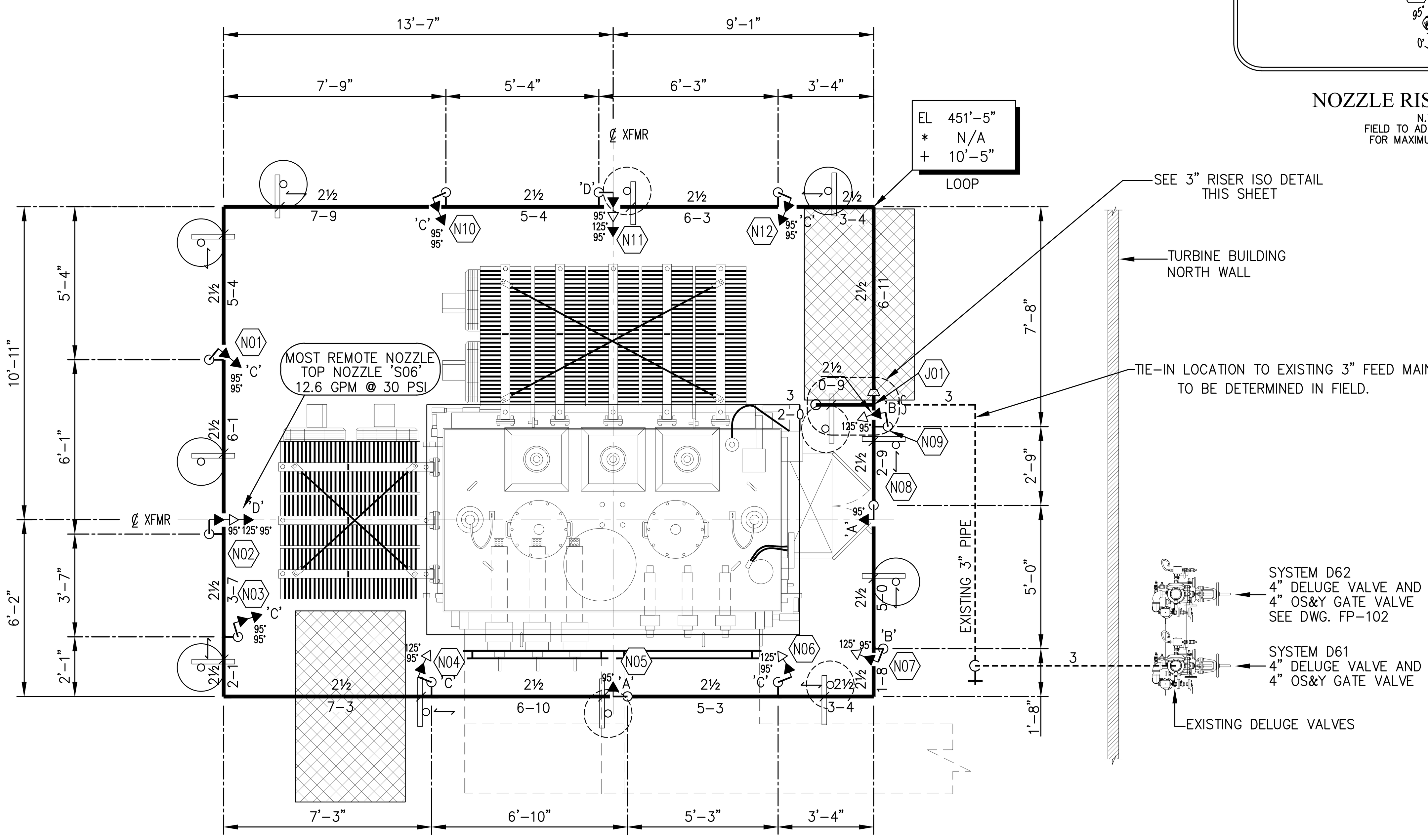
PIPESTAND LOCATION



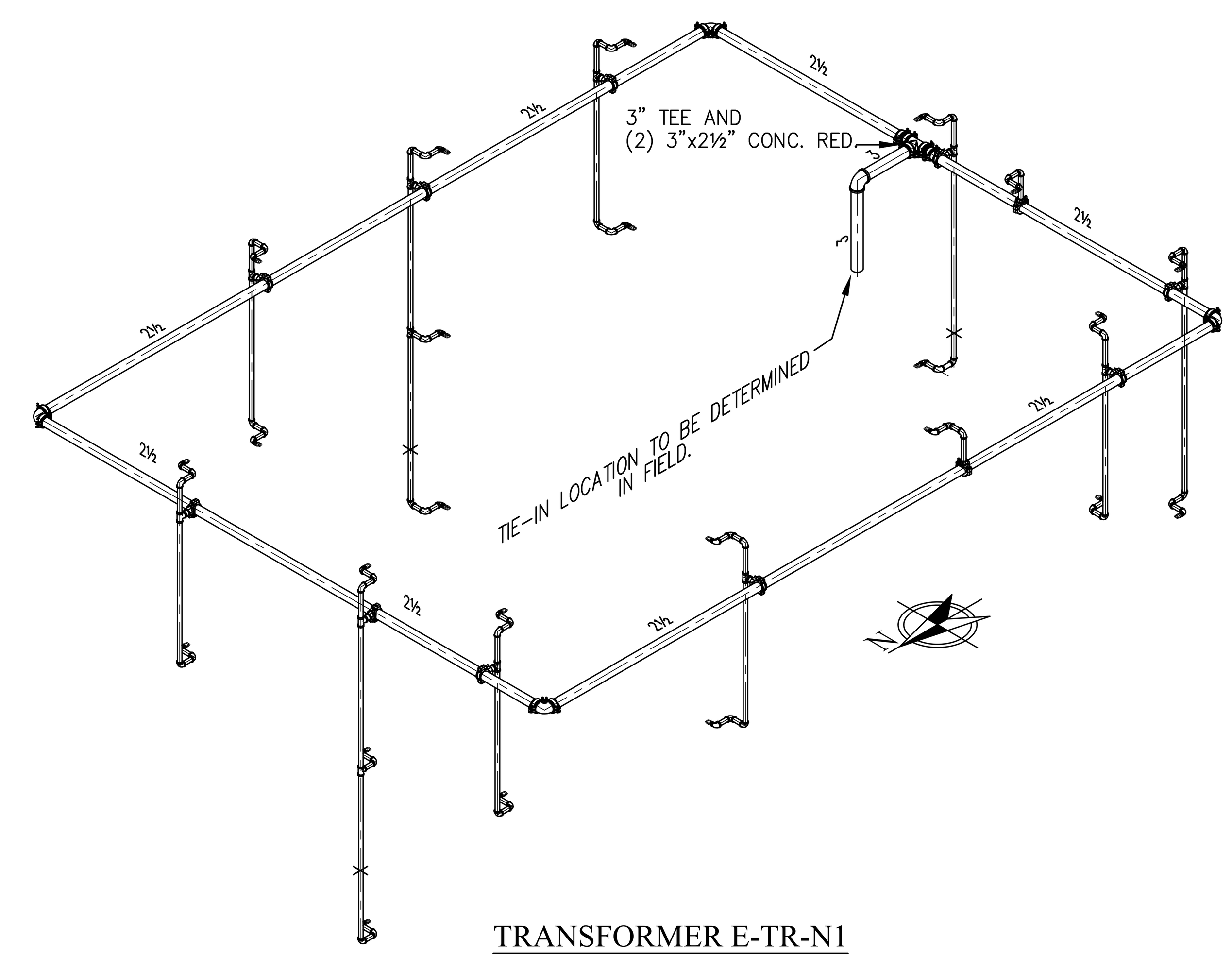
KEY PLAN
N.T.S.



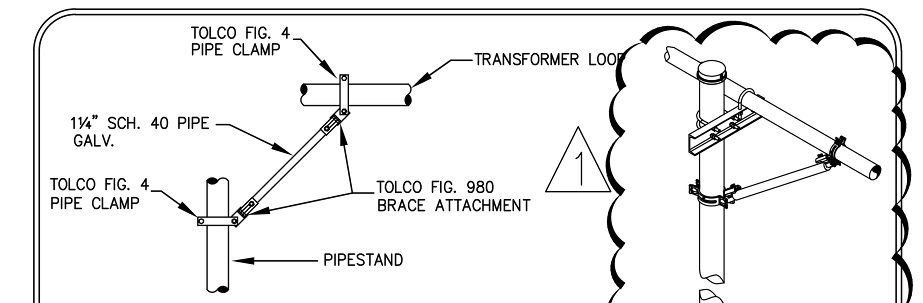
PIPE STAND DETAIL
DENOTED BY: N.T.S.



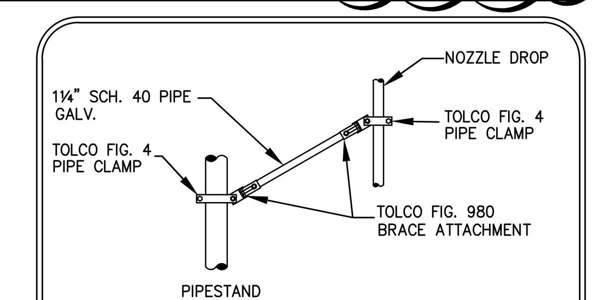
TRANSFORMER E-TR-N1
PLAN VIEW



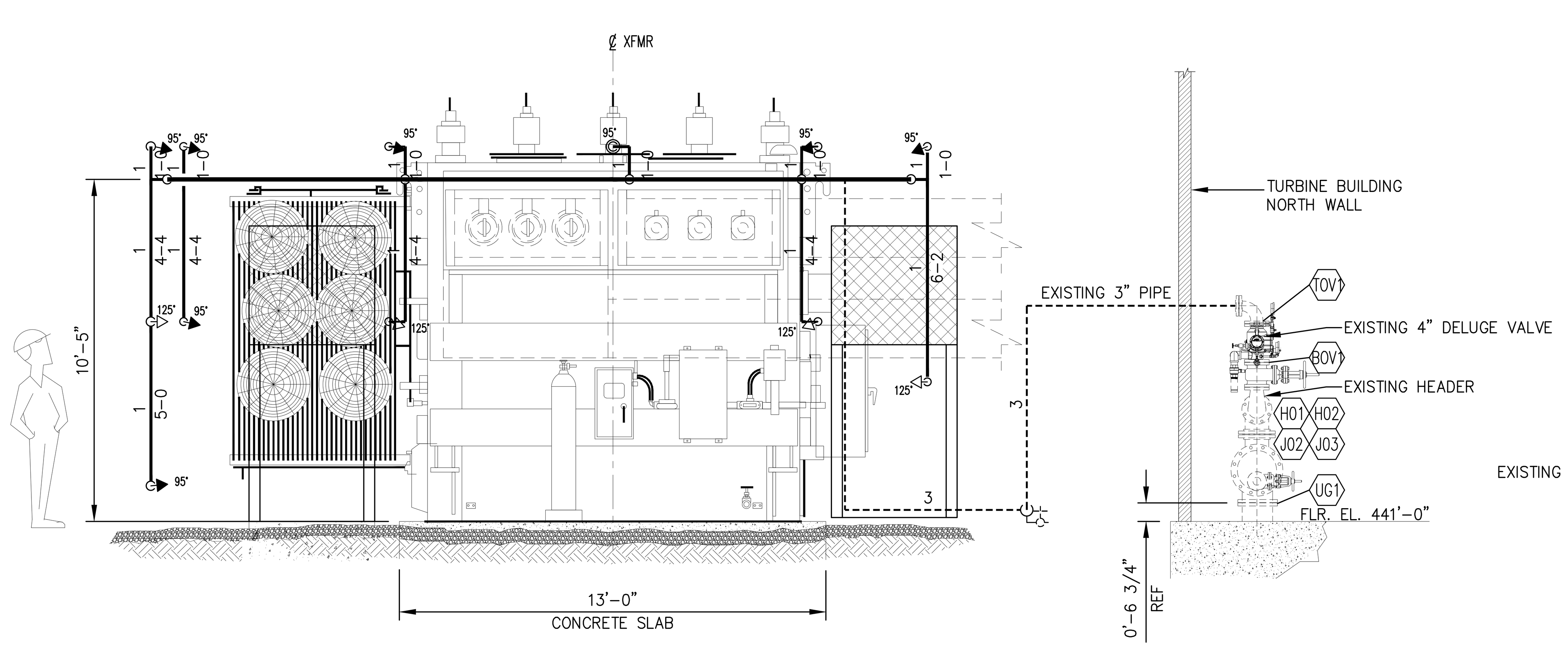
TRANSFORMER E-TR-N1
ISO VIEW
N.T.S.



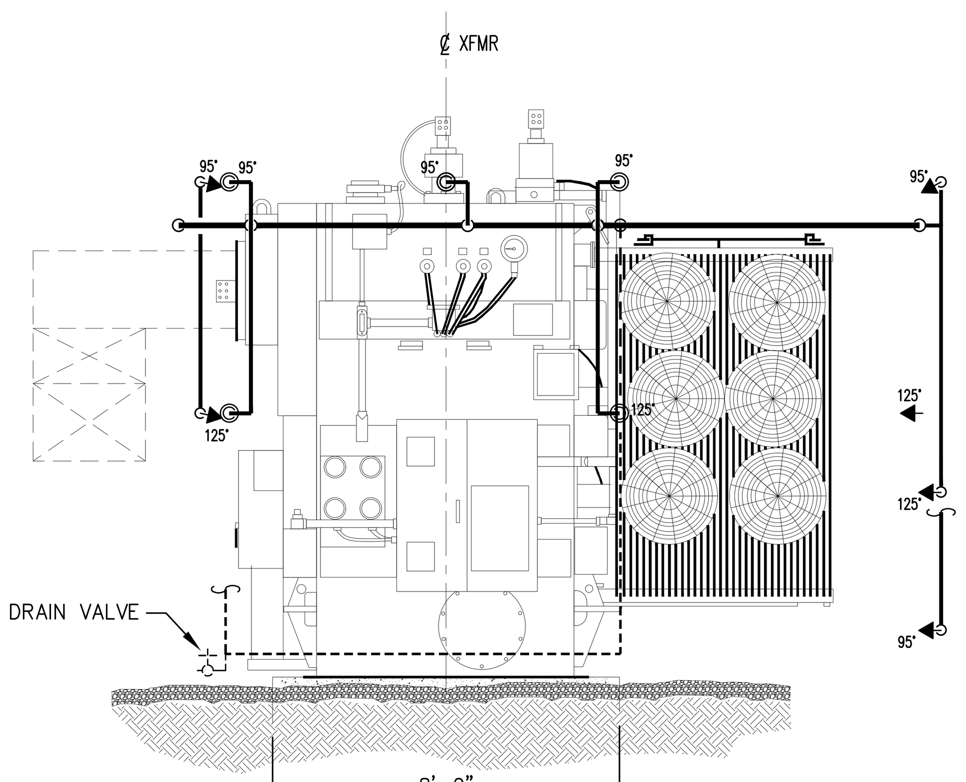
PIPE BRACING DETAIL
DENOTED BY: N.T.S.



NOZZLE DROP PIPE BRACING DETAIL
DENOTED BY: N.T.S.
ON NOZZLE RISER DETAILS



TRANSFORMER E-TR-N1
FRONT VIEW



TRANSFORMER E-TR-N1
SIDE VIEW

SCALE: 3/8" = 1'-0"

NOTE:

TOP LOOP ASSUMED ELEV. 451'-5" TYPICAL. ELEVATION TO BE ADJUSTED IN FIELD TO PROVIDE ½" TO 10'-0" SLOPE TO DRAIN.

HYDRAULIC – SYSTEM

This Building is Protected by a Hydraulically Designed Automatic Sprinkler System.

Dwg: 2178FP-101 Dated: 10/06/25
Location: AUXILIARY XFMR N1
Contract No. 402178000
No. of Heads 24

Basis of Design

1. Density .25 GPM/SQ.FT.
2. Designed Area of Discharge 1193 SQ.FT.

System Demand

1. GPM Discharge 1057.9 GPM
2. Residual Pressure at the Base of the Riser Per NFPA 13 (BOV1) 45.6 PSI
3. Hose Stream allowance of 750 gpm Is Included Above
4. Occupancy Classification: N/A
5. Commodity Classification: N/A
6. Maximum Storage Height: N/A

PRESSURE ON HYDRAULIC PLACARD REFLECTS PRESSURE AT THE BASE OF RISER NOT TOTAL OR DEMAND PRESSURE

PIPE LEGEND

EL	XXX'-X"	= ℄ ELEVATION OF PIPE
*	X'-X"	= ℄ OF PIPE TO T.O.S.
+	X'-X"	= ℄ OF PIPE A.F.F.

LEGEND

- DENOTES FIRE PROTECTION PIPING
- DENOTES EXISTING FIRE PROTECTION PIPING
- (XXX) DENOTES HYDRAULIC REFERENCE POINT
- DENOTES PIPESTAND LOCATION (W/NEW CONCRETE PIER)
- DENOTES PIPESTAND LOCATION (W/EXISTING CONCRETE PIER)
- XX° DENOTES NOZZLE LOCATION (W/SPRAY ANGLE)

GENERAL NOTES

1.– ALL PIPING SHALL BE GALVANIZED SEAMLESS ASTM A53 GRADE B, MINIMUM OF SCH. 40 FOR 2" AND LARGER PIPE AND SCH. 80 FOR PIPE LESS THAN 2".
PIPING 2" AND SMALLER SHALL BE THREADED GALVANIZED PAINTED SAFETY RED.
PIPING 2½ AND LARGER SHALL BE GROOVED GALVANIZED PAINTED SAFETY RED.
2.– FITTINGS 2" AND SMALLER SHALL BE THREADED 150 LB. GALVANIZED MALLEABLE IRON, ANSI B16.3 U.N.O. AND 2½" AND LARGER SHALL BE GROOVED WITH FIRELOCK COUPLINGS.
3.– ALL HANGERS AND SUPPORTS SHALL BE GALVANIZED AND IN ACCORDANCE WITH NFPA 13 AND 15.
4.– FLANGES / FLANGE FITTINGS SHALL BE GALVANIZED DUCTILE IRON CLASS 150 ASTM A536.
5.– ALL DIMENSIONS ARE SHOWN IN FEET AND INCHES.
6.– ALL PIPE LENGTHS ARE CENTER TO CENTER OF FITTINGS UNLESS NOTED OTHERWISE.
7.– ALL UNDERGROUND SHALL BE FLUSHED AND TESTED BY OTHERS IN ACCORDANCE WITH NFPA 24, PRIOR TO CONNECTION BY "FIRE PROTECTION CONTRACTOR".
8.– DESIGN BASED ON INFORMATION AVAILABLE AT TIME OF DESIGN.
9.– ALL DEVICES SHALL BE "UL" OR "FM" APPROVED.
10.– ALL NOZZLES AND VALVES SHALL BE "FM" APPROVED.
11.– ALL FIRE PROTECTIOIN PIPING SHALL BE DESIGNED TO BE PRIMED AND PAINTED SAFETY RED.

REFERENCE DRAWINGS			REFERENCE DRAWINGS		
DRAWING NO.	REV.	SYS.	DRAWING NO.	REV.	SYS.
A5952T904806	D				
D00292	3				

SPRINKLERS – NOZZLES												QTYS.
MANUFACTURER	MODEL	ORIF.	NPT	TEMP.	ANGLE	FINISH	K- FAC.	SYM.				QTYS.
TYCO D3 PROTECTOSPRAY NOZZLE	D3	No.21	1/2"	OPEN	95°	BRASS	2.3	▲				18
TYCO D3 PROTECTOSPRAY NOZZLE	D3	No.21	1/2"	OPEN	125°	BRASS	2.3	△				6
SPARE NOZZLES 3 EA.												
TOTAL THIS SHEET:												24

REVISIONS				
NO.	DATE	DESCRIPTION	BY:	CHK:
0	05–16 2025	ORIGINAL SUBMITTAL	DAR	MK
1	11–06 2025	ORIGINAL SUBMITTAL	DAR	MK

DENSITY/AREA: .25 GPM FT² / 1193 SQ FT	SYSTEM TYPE: DELUGE W/ ELEC. DET.
FLOW: 1057.9 GPM (750 GPM HOSE INCLUDED)	DESIGNED BY: D. RAMOS
PRESSURE: 48.2 PSI	CHECKED BY: M. KELLY/N. KORDECKI
WATER SUPPLY: 148.8 PSI @ 1156 GPM	COLOR CODE:
AIR CAPACITY: N/A	ACAD FILE: 2178FP-101.DWG

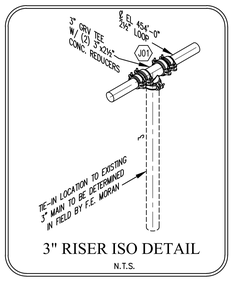
SCALE: 3/8"= 1'-0"UNO
CONTRACT NO.: 402178000

F.E. MORAN, INC. SPECIAL HAZARD SYSTEMS
F.E. Moran, Inc.
Special Hazard Systems
2265 CARLSON DR. NORTHBROOK, IL 60062-6797 847-498-4800

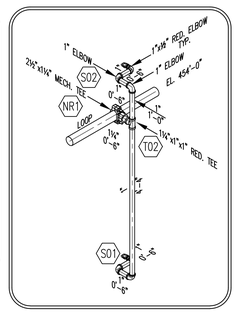
PROJECT:
ENERGY NORTHWEST
COLUMBIA GENERATING STATION
RICHLAND WA.
NEW REPLACEMENT TRANSFORMER FOR E-TR-N1 SYSTEM D61

DWG. NO.: 2178FP-101 REV: 1

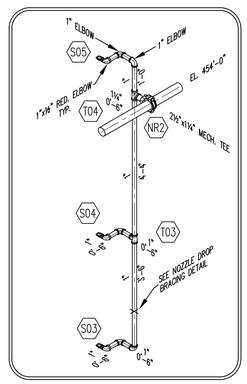
donr E:\0-ACADDWGS\2178 transformers Deluge\SUBMITTAL 11-06-2025\2178FP-101.dwg 2178FP-101 Nov 06, 2025 - 2:53pm
QSR-73-000 REV 08/28/17



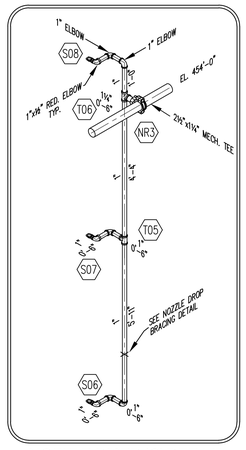
3" RISER ISO DETAIL
N.T.S.



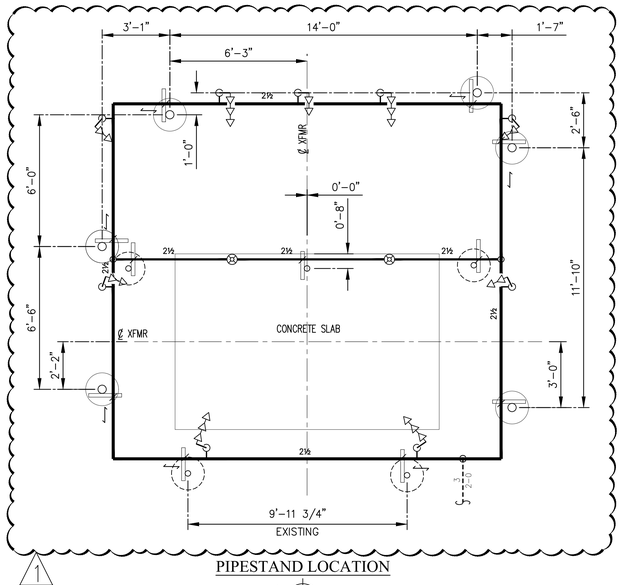
NOZZLE RISER 'A' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



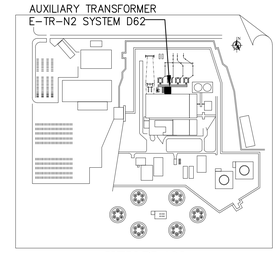
NOZZLE RISER 'B' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



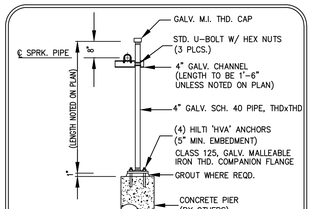
NOZZLE RISER 'C' DETAIL
N.T.S.
FIELD TO ADJUST NOZZLES FOR MAXIMUM COVERAGE



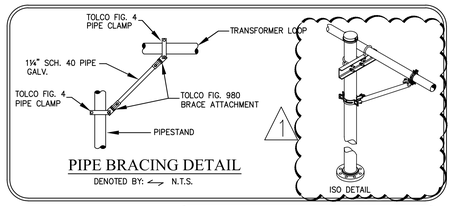
PIPESTAND LOCATION



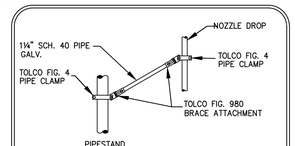
KEY PLAN
N.T.S.



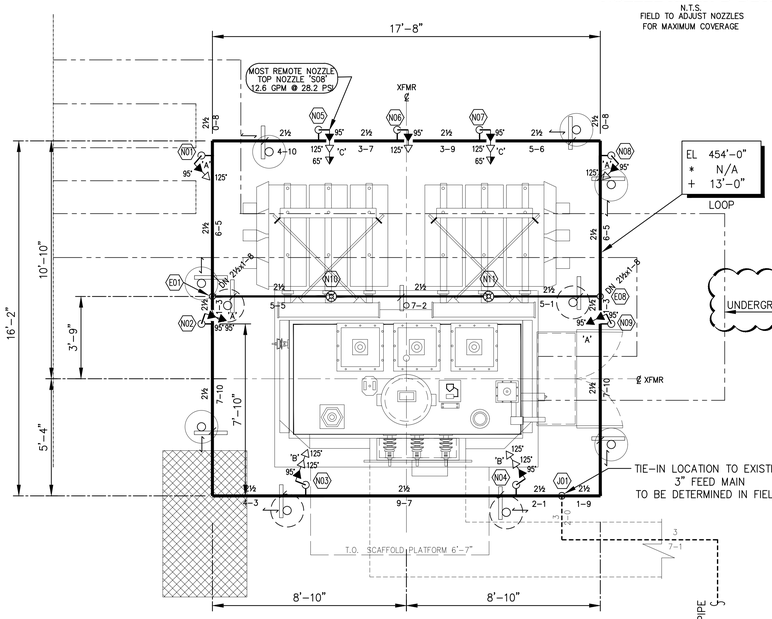
PIPE STAND DETAIL
DENOTED BY: ⊣ N.T.S.



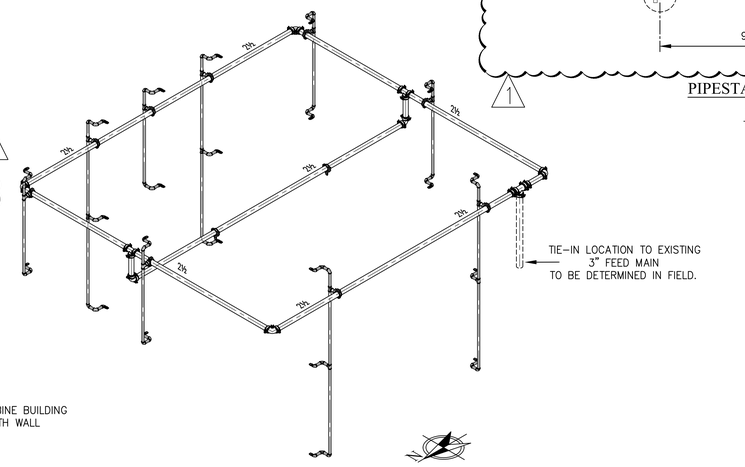
PIPE BRACING DETAIL
DENOTED BY: ⊣ N.T.S.



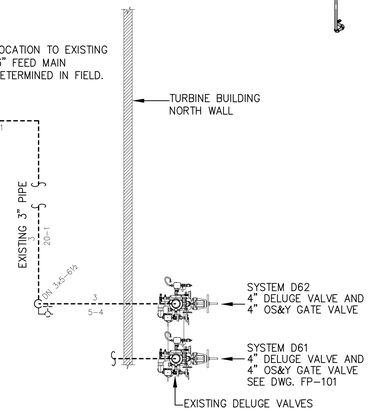
NOZZLE DROP PIPE BRACING DETAIL
DENOTED BY: ⊣ N.T.S. ON NOZZLE RISER DETAILS

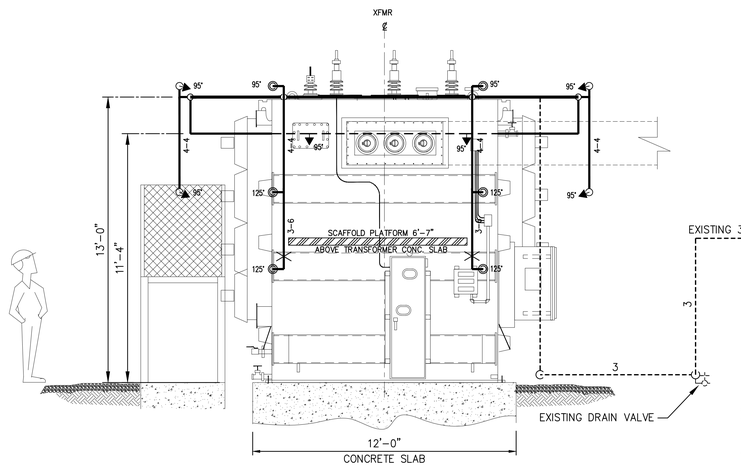


N TRANSFORMER E-TR-N2 PLAN VIEW

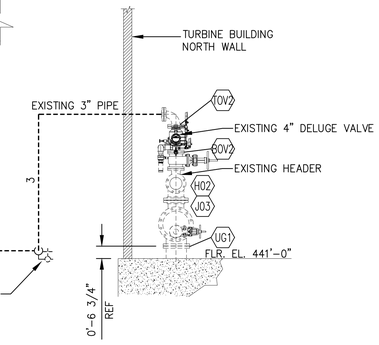


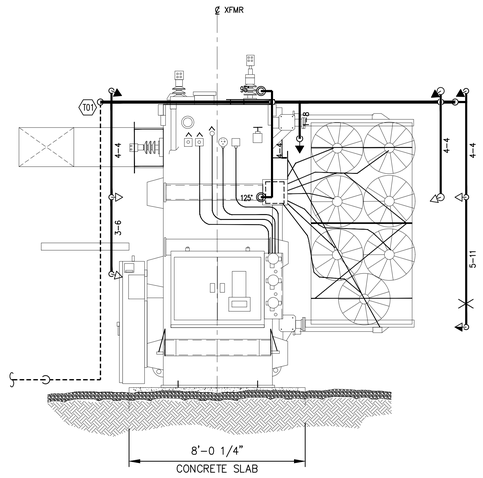
TRANSFORMER E-TR-N2 ISO VIEW N.T.S.





TRANSFORMER E-TR-N2 FRONT VIEW LOOKING EAST





TRANSFORMER E-TR-N2 SIDE VIEW LOOKING NORTH

SCALE: 3/8" = 1'-0"

NOTE:

TOP LOOP ASSUMED ELEV. 454'-0" TYPICAL. ELEVATION TO BE ADJUSTED IN FIELD TO PROVIDE ½" TO 10'-0" SLOPE TO DRAIN.

HYDRAULIC – SYSTEM

This Building is Protected by a Hydraulically Designed Automatic Sprinkler System.
Dwg: 2178FP-102 Dated: 10/30/25
Location: AUXILIARY XFMR N2
Contract No. 402178000
No. of Nozzles Calculated 24
Basis of Design
1. Density .25 GPM/SQ.FT.
2. Designed Area of Discharge 1200 SQ.FT.
System Demand
1. GPM Discharge 1059.5 GPM
2. Residual Pressure at the Base of the Riser (60V) 49.6 PSI
Per NFPA 13
3. Hose Stream allowance of 750 gpm Is Included Above
4. Occupancy Classification: N/A
5. Commodity Classification: N/A
6. Maximum Storage Height: N/A

PRESSURE ON HYDRAULIC PLACARD REFLECTS PRESSURE AT THE BASE OF RISER NOT TOTAL OR DEMAND PRESSURE

PIPE LEGEND

EL XXX'-X" = ℄ ELEVATION OF PIPE
\+ X'-X" = ℄ OF PIPE TO T.O.S.
\+ X'-X" = ℄ OF PIPE A.F.F.

LEGEND

- DENOTES FIRE PROTECTION PIPING
- DENOTES EXISTING FIRE PROTECTION PIPING
- (XXX) DENOTES HYDRAULIC REFERENCE POINT
- DENOTES PIPESTAND LOCATION (W/NEW CONCRETE PIER)
- DENOTES PIPESTAND LOCATION (W/EXISTING CONCRETE PIER)
- XX° DENOTES NOZZLE LOCATION (W/SPRAY ANGLE)
- DENOTES NOZZLE LOCATION VERTICAL POSITION (POINTING DOWN)

GENERAL NOTES

1. – ALL PIPING SHALL BE GALVANIZED SEAMLESS ASTM A53 GRADE B, MINIMUM OF SCH. 40 FOR 2" AND LARGER PIPE AND SCH. 80 FOR PIPE LESS THAN 2".
   PIPING 2" AND SMALLER SHALL BE THREADED GALVANIZED PAINTED SAFETY RED.
   PIPING 2½ AND LARGER SHALL BE GROOVED GALVANIZED PAINTED SAFETY RED.
2. – FITTINGS 2" AND SMALLER SHALL BE THREADED 150 LB. GALVANIZED MALLEABLE IRON, ANSI B16.3 U.N.O. AND 2½" AND LARGER SHALL BE GROOVED WITH FIRELOCK COUPLINGS.
3. – ALL HANGERS AND SUPPORTS SHALL BE GALVANIZED AND IN ACCORDANCE WITH NFPA 13 AND 15.
4. – FLANGES / FLANGE FITTINGS SHALL BE GALVANIZED DUCTILE IRON CLASS 150 ASTM A536.
5. – ALL DIMENSIONS ARE SHOWN IN FEET AND INCHES.
6. – ALL PIPE LENGTHS ARE CENTER TO CENTER OF FITTINGS UNLESS NOTED OTHERWISE.
7. – ALL UNDERGROUND SHALL BE FLUSHED AND TESTED BY OTHERS IN ACCORDANCE WITH NFPA 24, PRIOR TO CONNECTION BY "FIRE PROTECTION CONTRACTOR".
8. – DESIGN BASED ON INFORMATION AVAILABLE AT TIME OF DESIGN.
9. – ALL DEVICES SHALL BE "UL" OR "FM" APPROVED.
10. – ALL NOZZLES AND VALVES SHALL BE "FM" APPROVED.
11. – ALL FIRE PROTECTIOIN PIPING SHALL BE DESIGNED TO BE PRIMED AND PAINTED SAFETY RED.

REFERENCE DRAWINGS			REFERENCE DRAWINGS			SPRINKLERS – NOZZLES											
DRAWING NO.	REV.	SYS.	DRAWING NO.	REV.	SYS.	MANUFACTURER	MODEL	ORIF.	NPT	TEMP.	ANGLE	FINISH	K- FAC.	SYM.			QTYS.
A5952T904806	D					TYCO D3 PROTECTOSPRAY NOZZLE	D3	No.21	1/2"	OPEN	65°	BRASS	2.3	▲			2
D00292	3					TYCO D3 PROTECTOSPRAY NOZZLE	D3	No.21	1/2"	OPEN	95°	BRASS	2.3	▲			11
						TYCO D3 PROTECTOSPRAY NOZZLE	D3	No.21	1/2"	OPEN	125°	BRASS	2.3	△			9
						TYCO D3 PROTECTOSPRAY NOZZLE	D3	No.21	1/2"	OPEN	95°	BRASS	2.3	ⓧ			2
						SPARE NOZZLES 3 EA.											
						TOTAL THIS SHEET:											24

REVISIONS				
NO.	DATE	DESCRIPTION	BY:	CHK:
0	05–16 2025	ORIGINAL SUBMITTAL	DAR	MK
1	11–06 2025	ORIGINAL SUBMITTAL	DAR	MK

DENSITY/AREA: .25 GPM FT² / 1200 SQ FT	SYSTEM TYPE: DELUGE W/ ELEC. DET.	N	F.E. MORAN, INC. SPECIAL HAZARD SYSTEMS — F.E. Moran, Inc. Special Hazard Systems, 2265 CARLSON DR. NORTHBROOK, IL 60062-6797 847-498-4800
FLOW: 1059.5 GPM (750 GPM HOSE INCLUDED)	DESIGNED BY: D. RAMOS		PROJECT: ENERGY NORTHWEST, COLUMBIA GENERATING STATION, RICHLAND WA. — DWG. NO.: — REV:
PRESSURE: 52.29 PSI	CHECKED BY: M. KELLY/N. KORDECKI		NEW REPLACEMENT TRANSFORMER FOR E-TR-N2 SYSTEM D62 — 2178FP-102 — 1
WATER SUPPLY: 148.8 PSI @ 1156 GPM	COLOR CODE:	SCALE: 3/8"= 1'-0"UNO	
AIR CAPACITY: N/A	ACAD FILE: 2178FP-102.DWG	CONTRACT NO.: 402178000	

G:\R\2025\2025178\FP\102.dwg, 2178FP102 - Mar 06, 2026 - 2:39pm

GSR-75-000 REV 18(7/8/17)