

NOTE:

PIPE SCHEDULE ~
 1" = MEGA-THREAD
 1 1/4" & LARGER = MEGA-FLOW
 1" THROUGH 3" = BLAZEMASTER CPVC

DESIGN CRITERIA ~
 LIGHT HAZARD AREAS -
 DESIGNED TO DELIVER 0.10 GPM/S.F. OVER THE MOST DEMANDING 1500 S.F.

ORDINARY HAZARD GROUP 1 AREAS -
 DESIGNED TO DELIVER 0.15 GPM/S.F. OVER THE MOST DEMANDING 1500 S.F.

REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 11.2.3.2.3

FIRE CAULKING ~
 ALL FIRE RATED WALLS TO BE CAULKED w/ HILTI FS-ONE FIRE CAULKING AS PER U.L. LISTING FOR WALL TYPE & RATING

AUX. DRAINS ~
 SHALL BE PROVIDED WHERE A CHANGE IN PIPING DIRECTION PREVENTS DRAINAGE OF SYSTEM PIPING THROUGH THE MAIN DRAIN VA.

OBSTRUCTIONS ~
 ALL SPRINKLER LOCATIONS TO BE SPACED IN ACCORDANCE w/ OBSTRUCTIONS TO MAINTAIN CLEARANCES ~ PER NFPA-13 (EXIT SIGNS & SECURITY EQUIPMENT SHALL NOT BE OBSCURED BY FIRE PROTECTION SYSTEM)

ELEC. EQUIP ~
 PROVIDE SHIELDS OR Baffles WHERE WATER DAMAGE MAY RESULT FROM HEADS TO CLOSE TO ELEC. PANELS

SYMBOLS USED ON DRAWING

—(55.6)— PIPE ELEVATION A.F.F.
 —(17)— PIPE ELEVATION BELOW B.O.D.

ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)

(H) HYDRAULIC CALCULATION JUNCTION POINT

11'-5" CEILING HEIGHT

**SECTION -A-
 SCALE= 1/8" : 1'-0"**

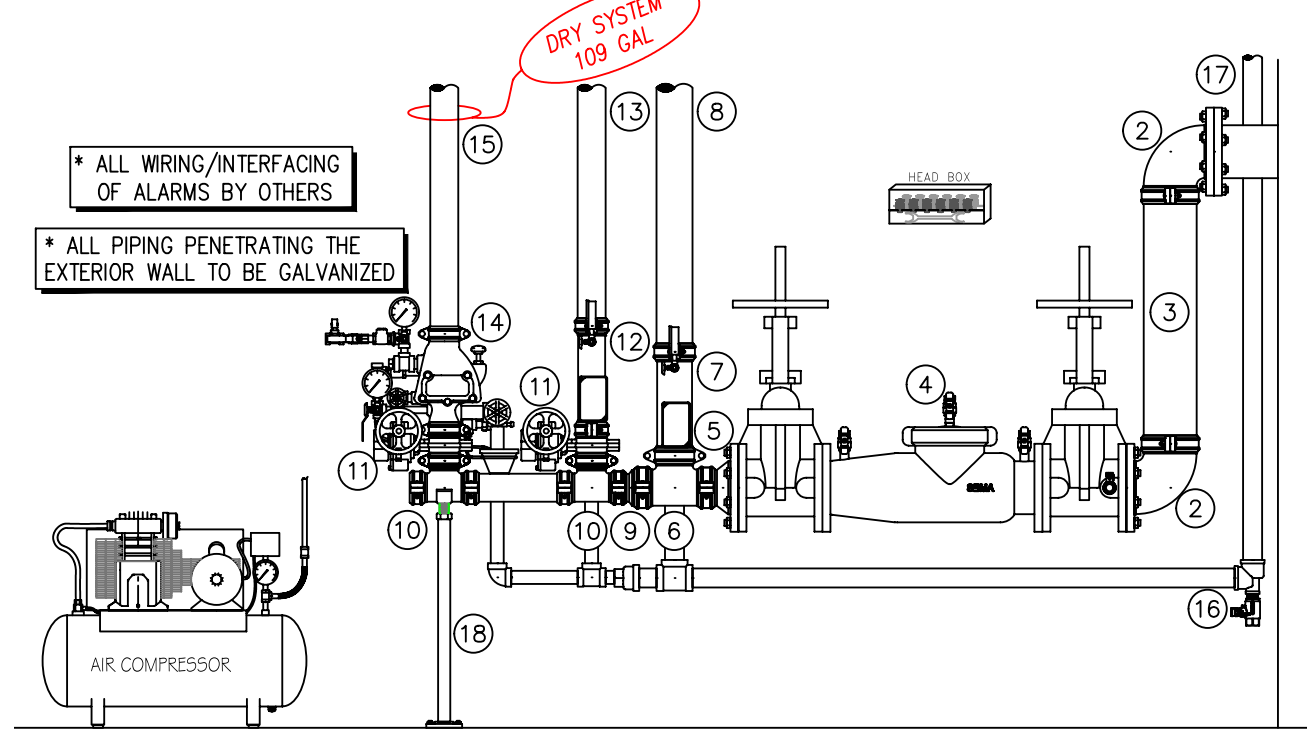
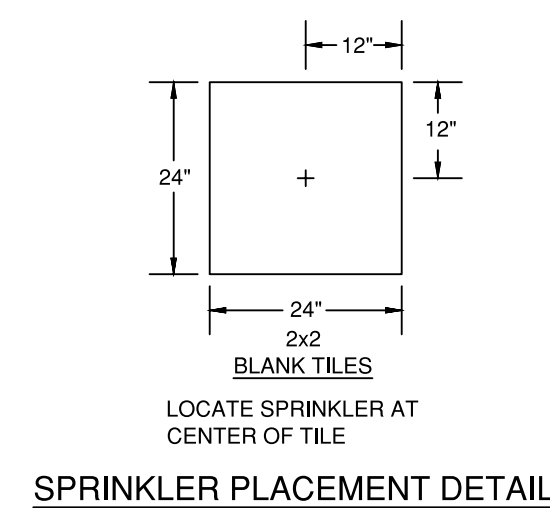
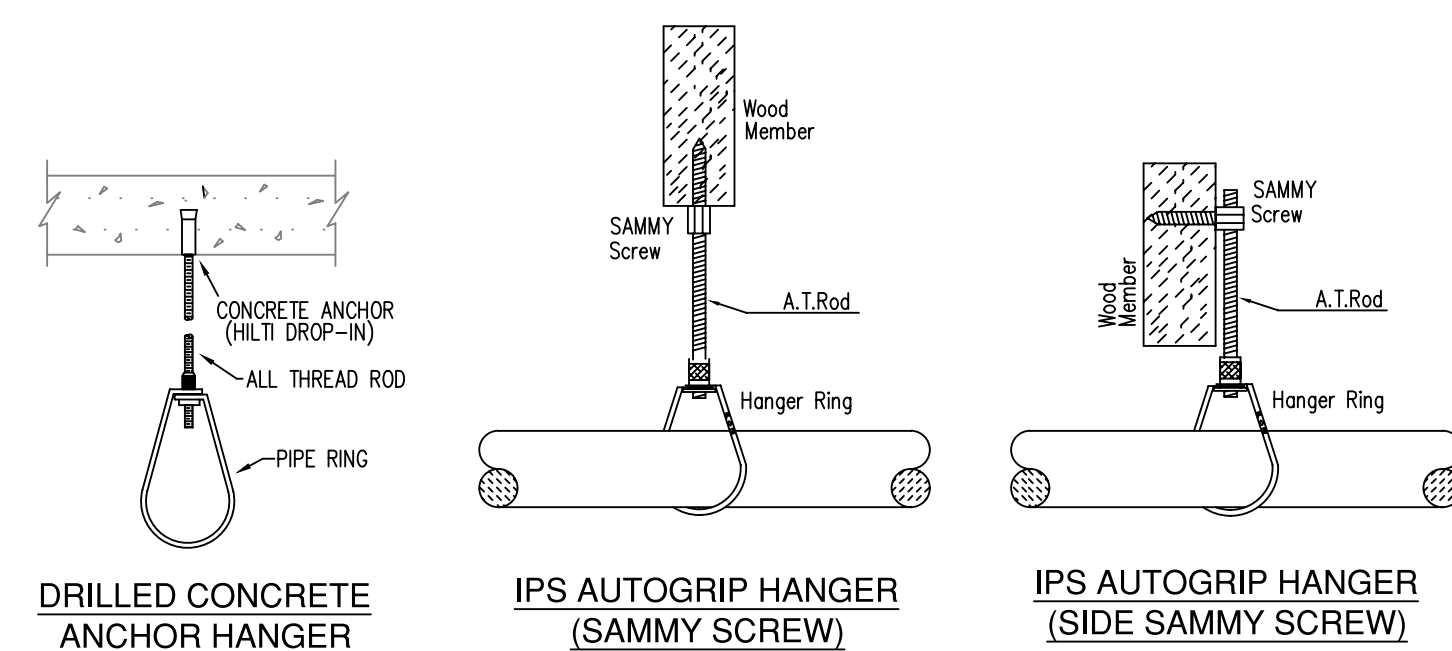
	NOMINAL PIPE SIZE (IN.)									
	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE EXCEPT THREADED LIGHTWALL	NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL STEEL PIPE	NA	12-0	12-0	12-0	12-0	NA	NA	NA	NA	NA
BLAZEMASTER CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	NA	NA	NA

NFPA 13 HANGER SPACING

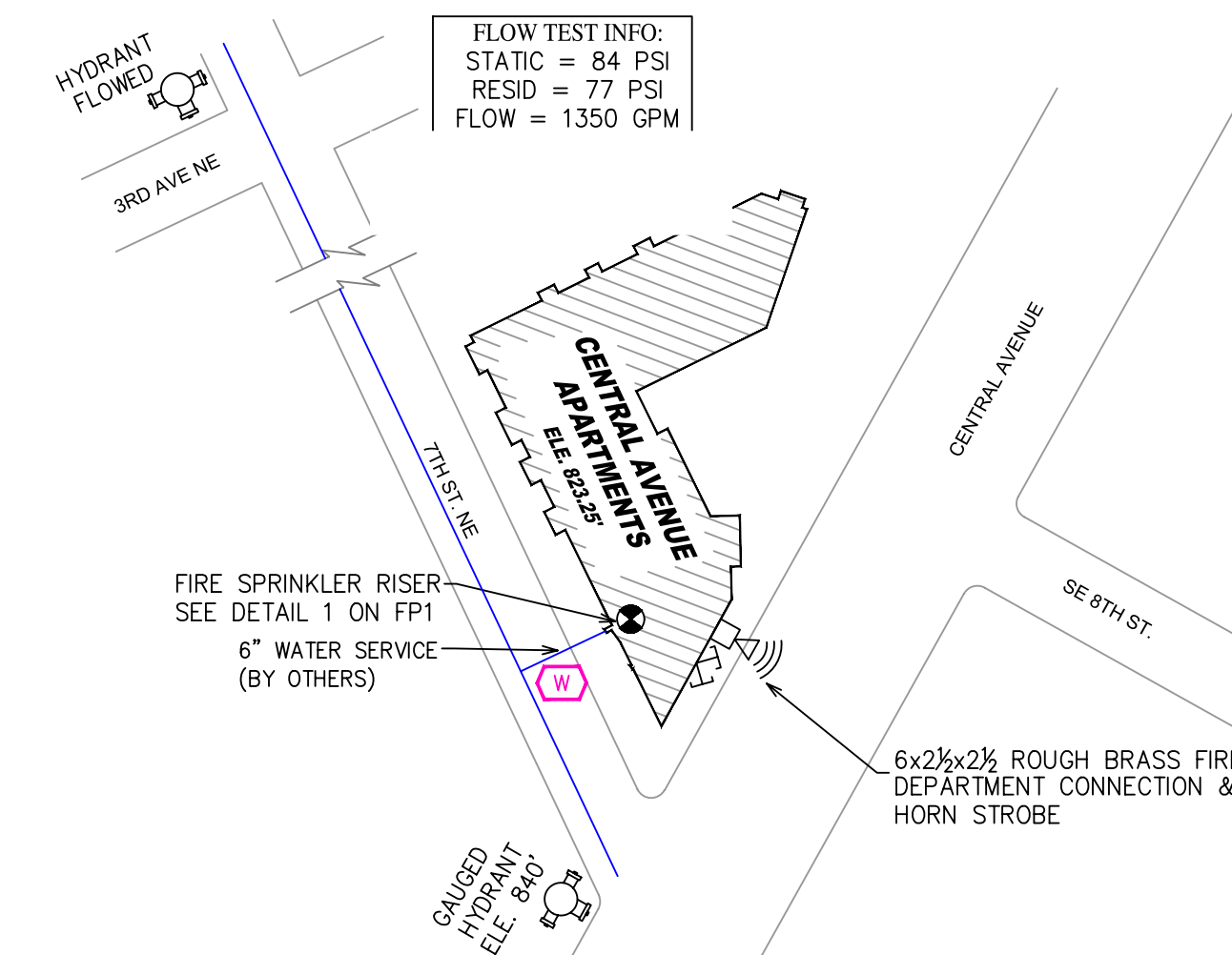
SYM	CONT	POSITION	FINISH	TEMP	K	NPT	SN	MFG.	MODEL #	ES/SC/TC/CHCN	HEAD BOX (2 min)
84	UPR	BRASS	200	14.00	3/4"	TY8137	TYco	EC-14	N/A		2
72	UPR	BRASS	200	5.60	1/2"	TY3151	TYco	TY-R	N/A		2
127	UPR	BRASS	155	4.90	1/2"	VK467	Viking	FREEDOM	N/A		2
34	UPR	BRASS	155	5.60	1/2"	TY313	TYco	TY-FRB	N/A		2
21	UPR	BRASS	200	5.60	1/2"	TY313	TYco	TY-FRB	N/A		2
2	SPRNG	BRASS	200	5.60	1/2"	TY3151	TYco	TY-B	N/A		N/A
52	SPRNG	BRASS	155	5.60	1/2"	TY313	TYco	TY-FRB	N/A		N/A
35	PEND	CHROME	155	5.60	1/2"	TY323	TYco	TY-FRB	SEMI-RECESS		2
105	PEND	CHROME	200	5.60	1/2"	TY323	TYco	TY-FRB	SEMI-RECESS		2
794	PEND	CHROME	155	4.90	1/2"	TY2234	TYco	LFII	SEMI-RECESS		2
16	PEND	WHITE	155	5.60	1/2"	TY3531	TYco	RFII	CONCEALED		2
56	PEND	WHITE	165	5.60	1/2"	RA5994	ReinRe	LT56C	CONCEALED		2
9	PEND	WHITE	160	4.90	1/2"	TY3596	TYco	LFII	CONCEALED		2
15	DRY PEND	WHITE	155	5.60	1"	TY3535	TYco	DS-C	CONCEALED		N/A
3	SIDE	WHITE	160	8.00	3/4"	TY4522	TYco	RFII	CONCEALED		2
14	SIDE	CHROME	155	8.00	3/4"	TY4332	TYco	TY-FRB	SEMI-RECESS		2
1	SIDE	BRASS	200	11.20	3/4"	TY3332	TYco	EL05W20	N/A		2
20	SIDE	CHROME	155	5.60	1/2"	TY3331	TYco	TY-FRB	SEMI-RECESS		2
26	SIDE	CHROME	200	5.60	1/2"	TY3331	TYco	TY-FRB	SEMI-RECESS		2
199	SIDE	CHROME	155	4.40	1/2"	TY2334	TYco	LFII	SEMI-RECESS		2
1692 TOTAL HEADS											

SPRINKLER LEGEND

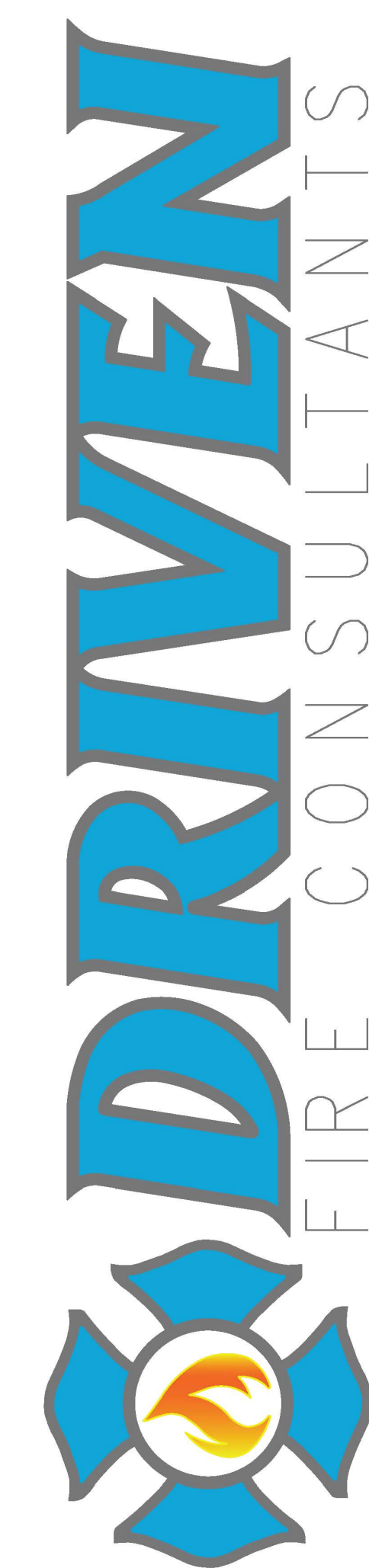
MANUAL WET STANDPIPE
 LOCATION: ROOF STAIR #162
 REQUIRED FLOW: 750GPM
 OUTLET PSI: 100
 REQUIRED INLET PSI: 150



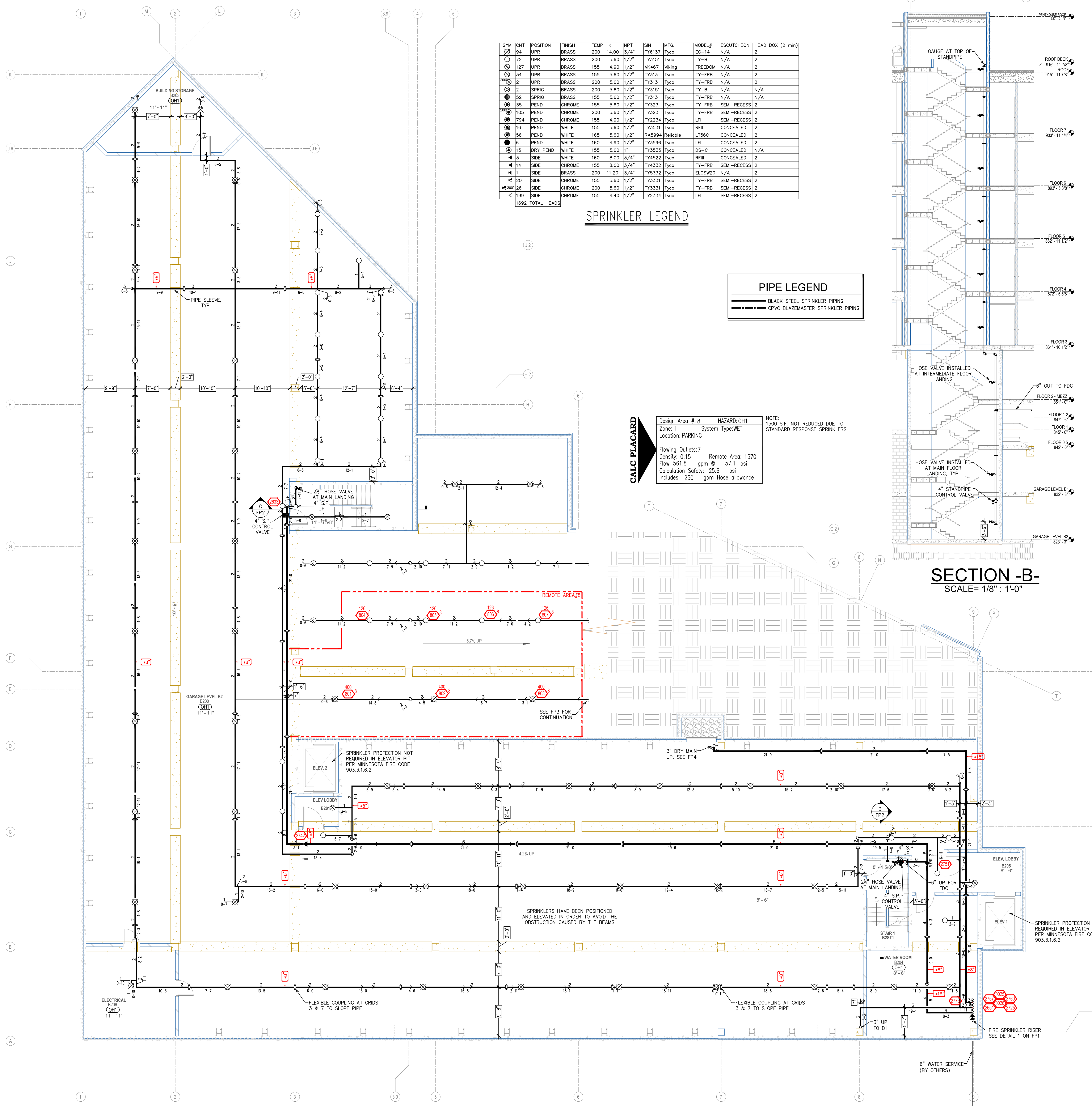
**VALVE ASSEMBLY DETAIL
 SCALE: 1/2" = 1'-0"**



**SITE PLAN
 1" = 100'**



910 N. SYCAMORE AVENUE, SIOUX FALLS, SD 57110 PHONE: (605)-444-9290



SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MFG	MODEL#	ESCUTCHION	HEAD BOX (2 min)
94	UPR	BRASS	200	14.00	3/4"	TY8137	Typo	EC-14	N/A	N/A	2
72	UPR	BRASS	200	5.60	1/2"	TY3151	Typo	TY-B	N/A	N/A	2
127	UPR	BRASS	155	4.90	1/2"	WK467	Viking	FREEDOM	N/A	N/A	2
34	UPR	BRASS	155	5.60	1/2"	TY313	Typo	TY-FRB	N/A	N/A	2
21	UPR	BRASS	200	5.60	1/2"	TY313	Typo	TY-FRB	N/A	N/A	2
2	SPRNG	BRASS	200	5.60	1/2"	TY3151	Typo	TY-B	N/A	N/A	N/A
52	SPRNG	BRASS	155	5.60	1/2"	TY313	Typo	TY-FRB	N/A	N/A	N/A
35	PEND	CHROME	155	5.60	1/2"	TY323	Typo	TY-FRB	SEMI-RECESS	2	2
105	PEND	CHROME	200	5.60	1/2"	TY323	Typo	TY-FRB	SEMI-RECESS	2	2
734	PEND	CHROME	155	4.90	1/2"	TY2334	Typo	LFI	SEMI-RECESS	2	2
16	PEND	WHITE	155	5.60	1/2"	TY3531	Typo	RFI	CONCEALED	2	2
56	PEND	WHITE	165	5.60	1/2"	RA5994	Reliable	LT56C	CONCEALED	2	2
6	PEND	WHITE	160	4.90	1/2"	TY3596	Typo	LFI	CONCEALED	2	2
15	DRY PEND	WHITE	155	5.60	1"	TY3535	Typo	DS-C	CONCEALED	N/A	N/A
3	SIDE	WHITE	160	8.00	3/4"	TY4522	Typo	RFI	CONCEALED	2	2
14	SIDE	CHROME	155	8.00	3/4"	TY4332	Typo	TY-FRB	SEMI-RECESS	2	2
1	SIDE	BRASS	200	11.20	3/4"	TY5332	Typo	ELOS20	N/A	2	2
20	SIDE	CHROME	155	5.60	1/2"	TY3331	Typo	TY-FRB	SEMI-RECESS	2	2
26	SIDE	CHROME	200	5.60	1/2"	TY3331	Typo	TY-FRB	SEMI-RECESS	2	2
199	SIDE	CHROME	155	4.40	1/2"	TY2334	Typo	LFI	SEMI-RECESS	2	2

SPRINKLER LEGEND

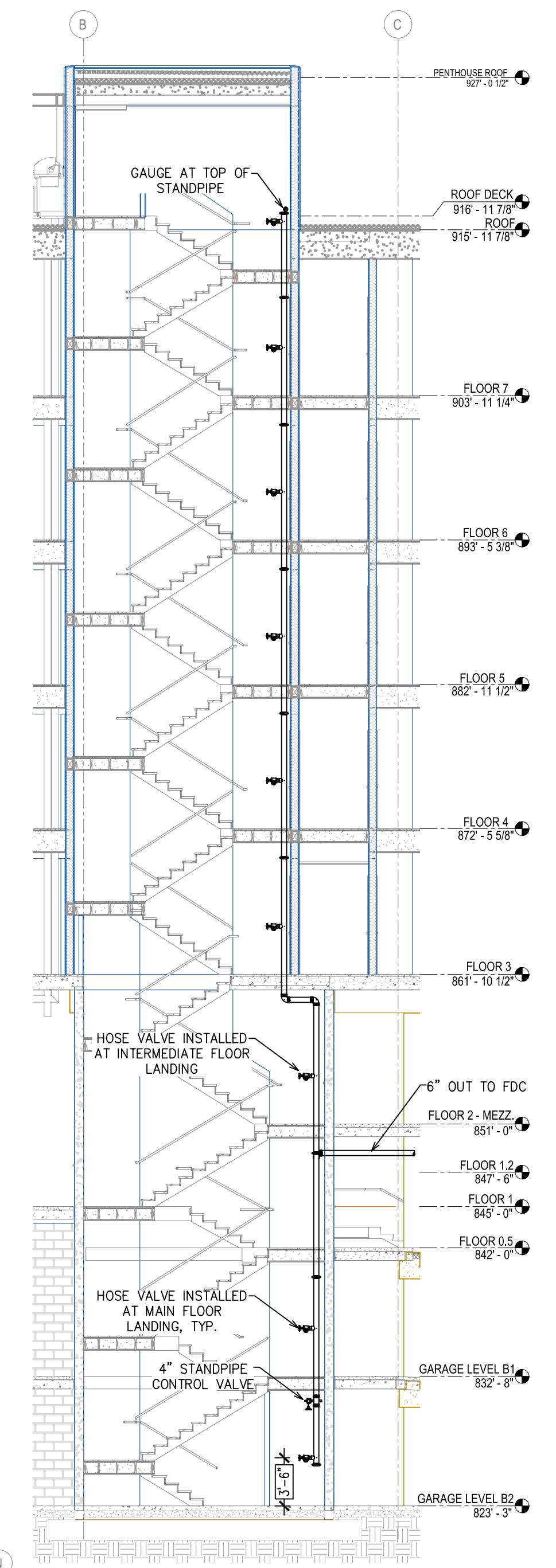
PIPE LEGEND	
	BLACK STEEL SPRINKLER PIPING
	CPVC BLAZEMASTER SPRINKLER PIPING

CALC PLACARD

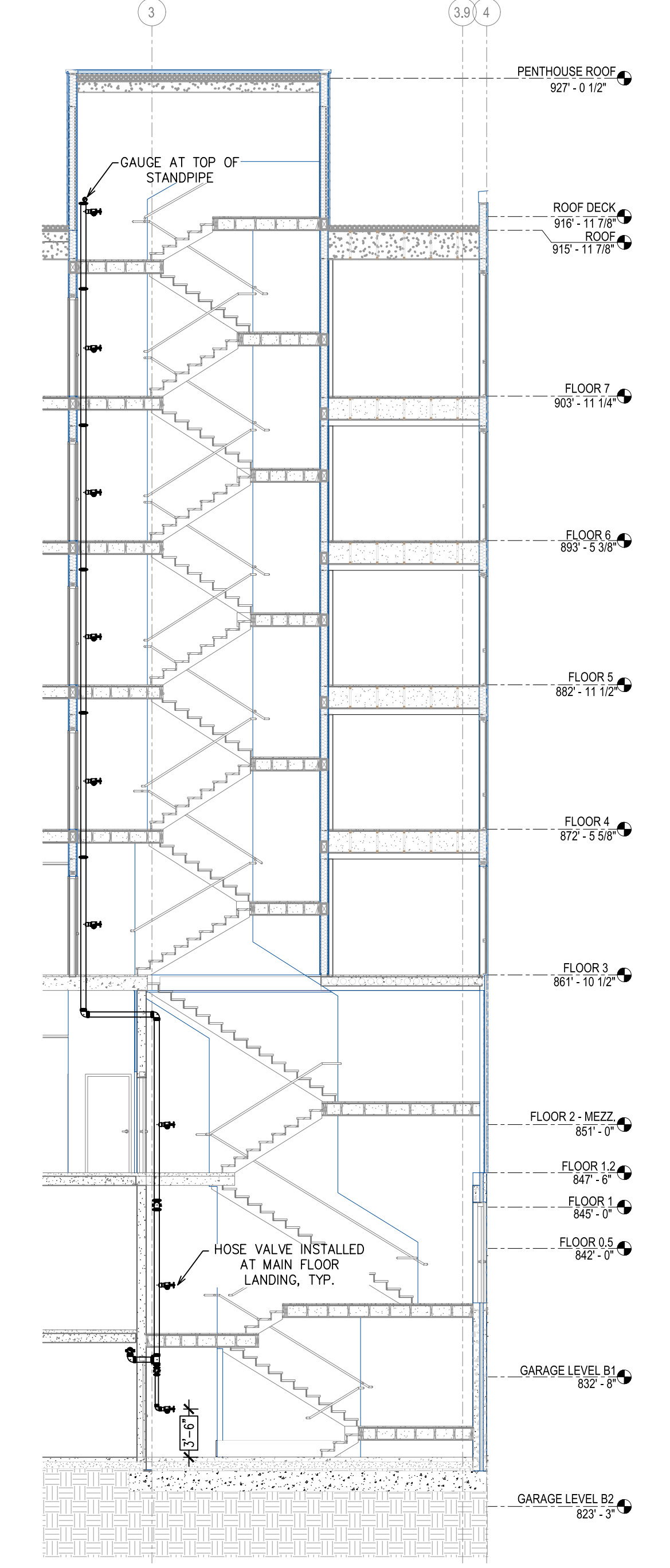
Design Area #: 8 HAZARD: OH1
 Zone: 1 System Type: WET
 Location: PARKING

Flowing Outlets: 7 Remote Area: 1570
 Density: 0.15 Flow 561.8 gpm @ 57.1 psi
 Calculation Safety: 25.6 psi
 Includes: 250 gpm Hose allowance

NOTE:
 1500 S.F. NOT REDUCED DUE TO STANDARD RESPONSE SPRINKLERS



**SECTION -B-
SCALE= 1/8" : 1'-0"**

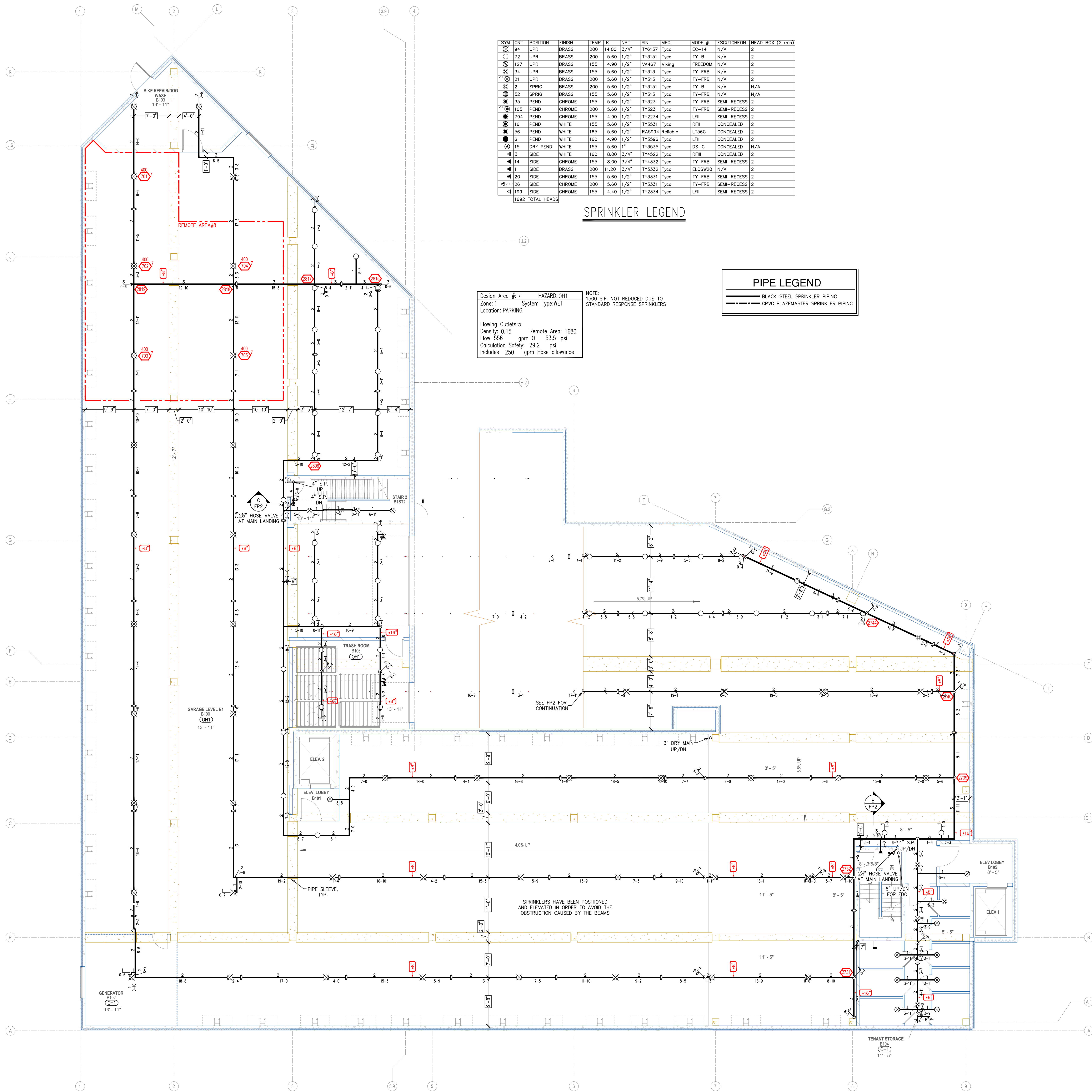


**SECTION -C-
SCALE= 1/8" : 1'-0"**

**LEVEL B2 FIRE SPRINKLER PLAN
SCALE= 1/8" : 1'-0"**



910 N. SYCAMORE AVENUE, SIOUX FALLS, SD 57110 PHONE: (605)-444-9290



SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MFG.	MODEL#	ESSTITCHEN	HEAD BOX (2 min)
94	UPR		BRASS	200	14.00	3/4"	TY6137	TYco	EC-14	N/A	2
72	UPR		BRASS	200	5.60	1/2"	TY3151	TYco	TY-B	N/A	2
127	UPR		BRASS	155	4.90	1/2"	VK467	Viking	FREEDOM	N/A	2
34	UPR		BRASS	155	5.60	1/2"	TY313	TYco	TY-FRB	N/A	2
21	UPR		BRASS	200	5.60	1/2"	TY3151	TYco	TY-FRB	N/A	2
2	SPRIG		BRASS	200	5.60	1/2"	TY3151	TYco	TY-B	N/A	N/A
52	SPRIG		BRASS	155	5.60	1/2"	TY313	TYco	TY-FRB	N/A	N/A
35	PEND		CHROME	155	5.60	1/2"	TY323	TYco	TY-FRB	SEMI-RECESS	2
105	PEND		CHROME	200	5.60	1/2"	TY323	TYco	TY-FRB	SEMI-RECESS	2
794	PEND		CHROME	155	4.90	1/2"	TY2334	TYco	LFII	SEMI-RECESS	2
16	PEND		WHITE	155	5.60	1/2"	TY3531	TYco	RFII	CONCEALED	2
56	PEND		WHITE	165	5.60	1/2"	RA5994	Reliable	LT56C	CONCEALED	2
6	PEND		WHITE	160	4.90	1/2"	TY3596	TYco	LFII	CONCEALED	2
15	DRY PEND		WHITE	155	5.60	1"	TY3535	TYco	DS-C	CONCEALED	N/A
3	SIDE		WHITE	160	8.00	3/4"	TY4522	TYco	RFIII	CONCEALED	2
14	SIDE		CHROME	155	8.00	3/4"	TY4332	TYco	TY-FRB	SEMI-RECESS	2
11	SIDE		BRASS	200	11.20	3/4"	TY5332	TYco	ELOW20	N/A	2
20	SIDE		CHROME	155	5.60	1/2"	TY3331	TYco	TY-FRB	SEMI-RECESS	2
26	SIDE		CHROME	200	5.60	1/2"	TY3331	TYco	TY-FRB	SEMI-RECESS	2
199	SIDE		CHROME	155	4.40	1/2"	TY2334	TYco	LFII	SEMI-RECESS	2

1692 TOTAL HEADS

SPRINKLER LEGEND

PIPE LEGEND	
	BLACK STEEL SPRINKLER PIPING
	CPVC BLAZEMASTER SPRINKLER PIPING

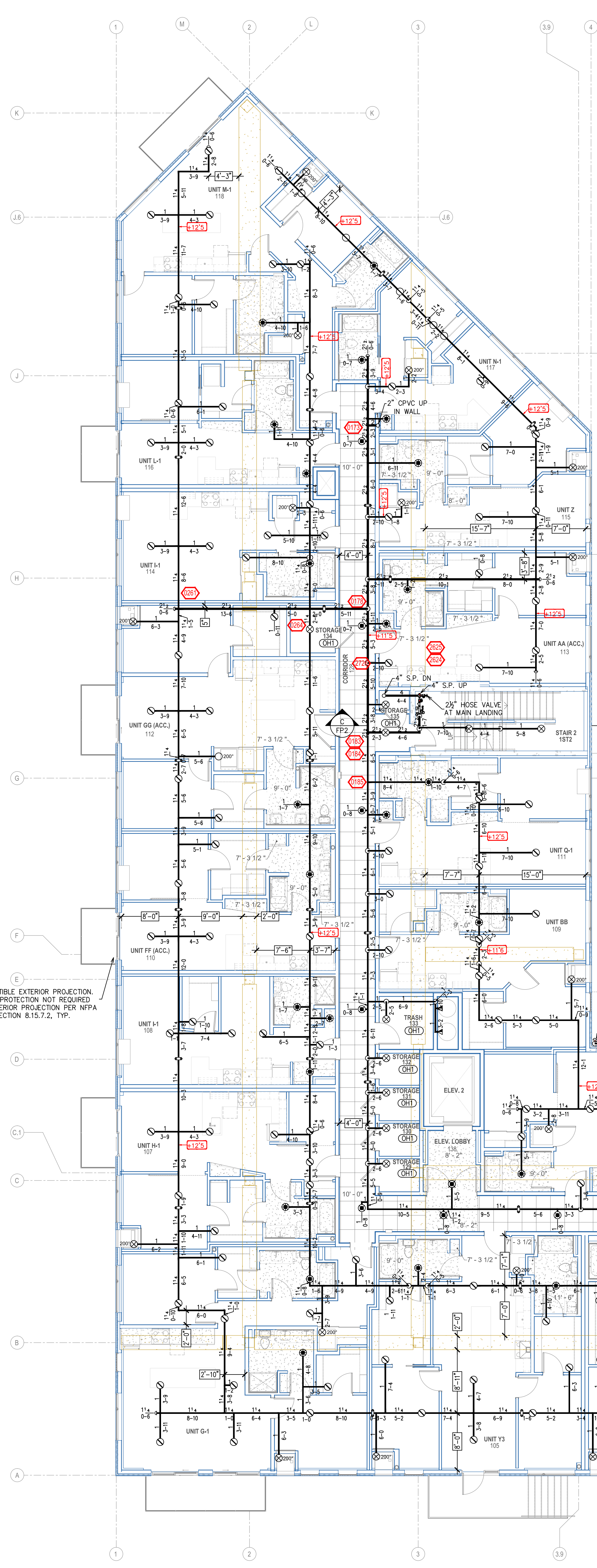
Design Area #7 HAZARD: OH1
 Zone: 1 System Type: WET
 Location: PARKING
 Flowing Outlets: 5
 Density: 0.15 Remote Area: 1680
 Flow 556 gpm @ 53.5 psi
 Calculation Safety: 29.2 psi
 Includes 250 gpm Hose allowance

NOTE:
 1500 S.F. NOT REDUCED DUE TO
 STANDARD RESPONSE SPRINKLERS

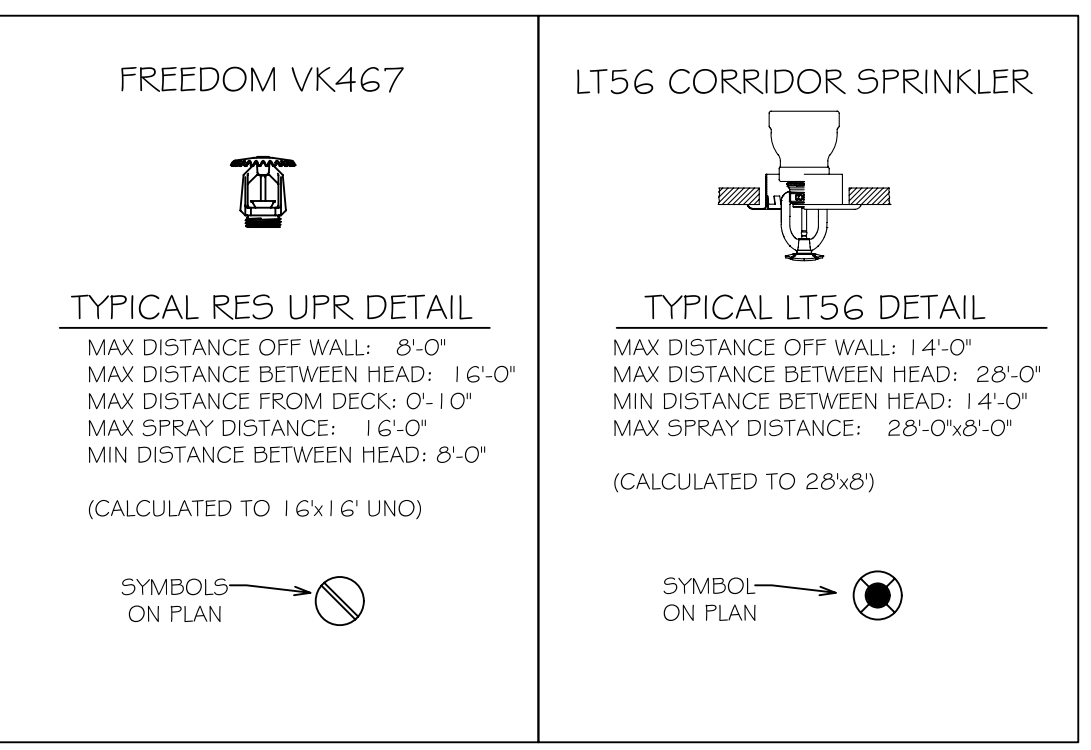
LEVEL B1 FIRE SPRINKLER PLAN
 SCALE = 1/8" = 1'-0"



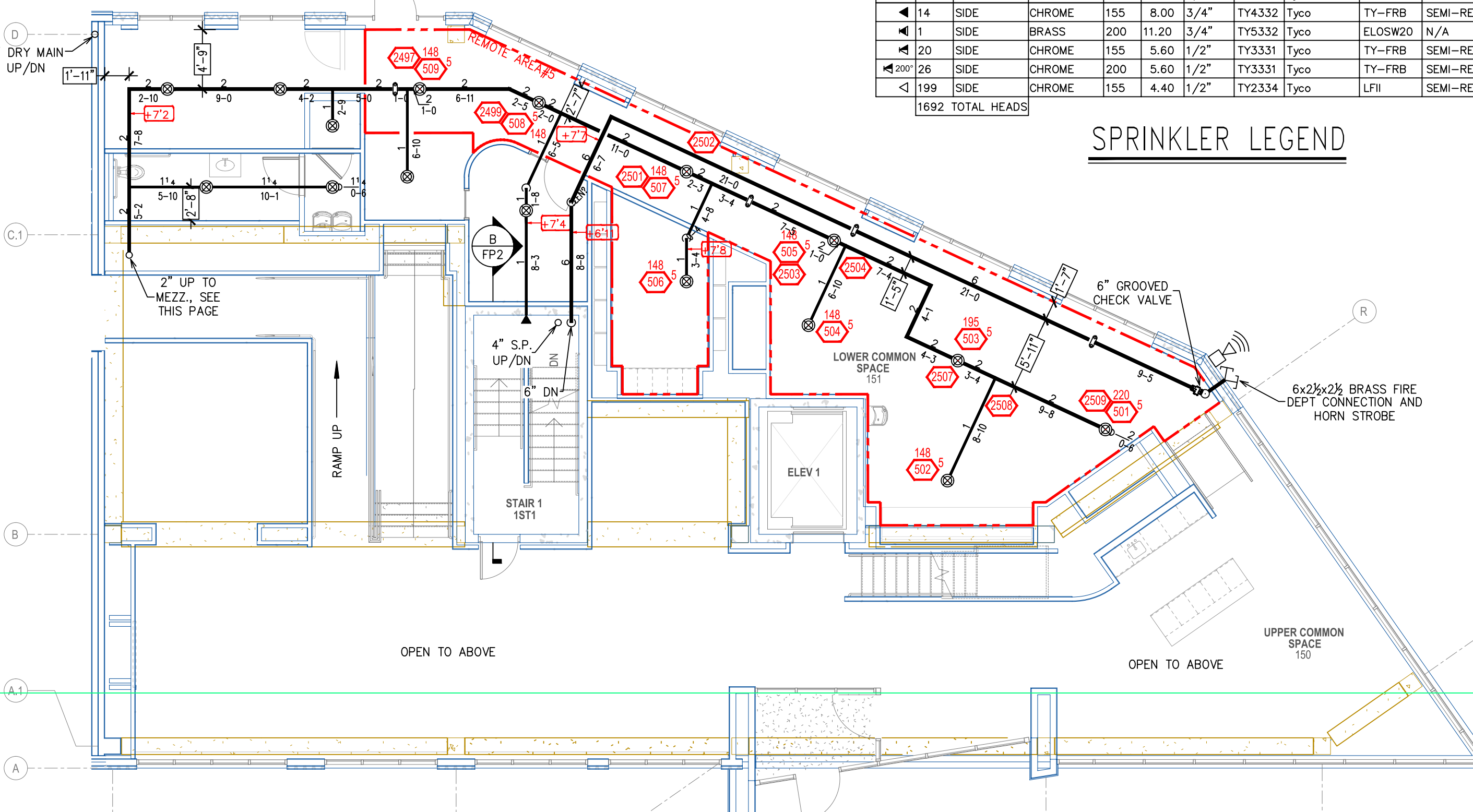
910 N. SYCAMORE AVENUE; STOUX FALLS, SD 57110 PHONE: (605)-444-9290



SPRINKLER SPACING DETAILS



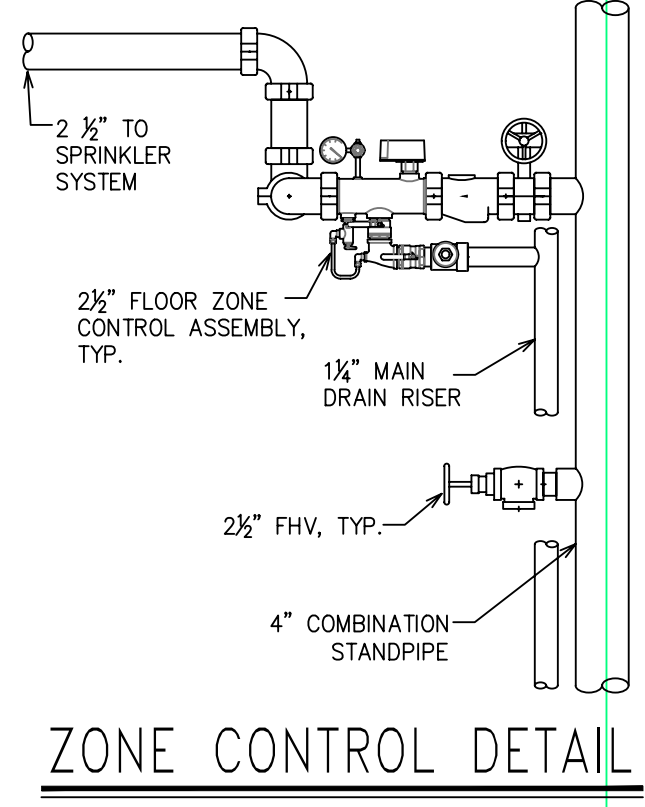
- RESIDENTIAL NOTES:**
- PER STATE FIRE CODE AMENDMENTS 903.3.1.6.4, SPRINKLERS ARE NOT REQUIRED IN LINEN CLOSETS AND PANTRIES WITHIN DWELLING UNITS THAT MEET ALL OF THE FOLLOWING:
 - THE AREA OF THE SPACE DOES NOT EXCEED 12 S.F.
 - THE LEAST DIMENSION DOES NOT EXCEED 3 FEET
 - THE WALLS AND MATERIALS ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIALS; AND
 - THE CLOSET OR PANTRY CONTAINS NO MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT, OR ELECTRICAL APPLIANCES
 - SPRINKLERS ARE NOT REQUIRED IN COMBUSTIBLE CONCEALED SPACES WHERE THERE IS LESS THAN 6" BETWEEN INSIDE EDGES OF STUDS PER NFPA 13, 8.15.1.2.3
 - SPRINKLERS NOT REQUIRED IN VERTICAL PIPE CHASES OF COMBUSTIBLE CONSTRUCTION LESS THAN 10 S.F. PER NFPA 13, SECTION 8.15.1.2.1.4
 - SPRINKLERS NOT REQUIRED IN WOOD TRUSS SPACE OR SOLID WOOD JOIST SPACE (FLOOR/CEILING SPACE) FILLED WITH NONCOMBUSTIBLE INSULATION PER NFPA 13, SECTION 8.15.1.2.7



2ND FLOOR/MEZZ. FIRE SPRINKLER PLAN
SCALE = 1/8" = 1'-0"

SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MFG	MODEL#	ESCOTCHION	HEAD BOX (2 mb)
94	UPR	BRASS	200	14.00	3/4"		TY6137	Typco	EC-14	N/A	2
72	UPR	BRASS	200	5.60	1/2"		TY3151	Typco	TY-B	N/A	2
127	UPR	BRASS	155	4.90	1/2"		WK467	Waring	FREEDOM	N/A	2
34	UPR	BRASS	155	5.60	1/2"		TY313	Typco	TY-FRB	N/A	2
21	UPR	BRASS	200	5.60	1/2"		TY313	Typco	TY-FRB	N/A	2
2	SPRIG	BRASS	200	5.60	1/2"		TY3151	Typco	TY-B	N/A	N/A
52	SPRIG	BRASS	155	5.60	1/2"		TY313	Typco	TY-FRB	N/A	N/A
135	PEND	CHROME	155	5.60	1/2"		TY323	Typco	TY-FRB	SEMI-RECESS	2
105	PEND	CHROME	200	5.60	1/2"		TY233	Typco	TY-FRB	SEMI-RECESS	2
794	PEND	CHROME	155	4.90	1/2"		TY2234	Typco	LFI	SEMI-RECESS	2
16	PEND	WHITE	155	5.60	1/2"		TY3531	Typco	RFII	CONCEALED	2
56	PEND	WHITE	165	5.60	1/2"		RA5994	Reliable	LT56C	CONCEALED	2
6	PEND	WHITE	160	4.90	1/2"		TY3596	Typco	LFI	CONCEALED	2
113	DRY PEND	WHITE	155	5.60	1"		TY3535	Typco	DS-C	CONCEALED	N/A
3	SIDE	WHITE	160	8.00	3/4"		TY4522	Typco	RFII	CONCEALED	2
14	SIDE	CHROME	155	8.00	3/4"		TY4332	Typco	TY-FRB	SEMI-RECESS	2
1	SIDE	BRASS	200	11.20	3/4"		TY4332	Typco	ELOSW20	N/A	2
20	SIDE	CHROME	155	5.60	1/2"		TY3331	Typco	TY-FRB	SEMI-RECESS	2
202	SIDE	CHROME	200	5.60	1/2"		TY3331	Typco	TY-FRB	SEMI-RECESS	2
199	SIDE	CHROME	155	4.40	1/2"		TY2334	Typco	LFI	SEMI-RECESS	2

SPRINKLER LEGEND



ZONE CONTROL DETAIL

HAZARD: LIGHT

Design Area #9
Zone: 2
System Type: DRY
Location: PARKING ENTRANCE

Flowing Outlets: 12
Density: 0.10
Flow: 399.5 gpm @ 65.2 psi
Calculation Safety: 18.1 psi
Includes 100 gpm Hose allowance

Remote Area: 1972

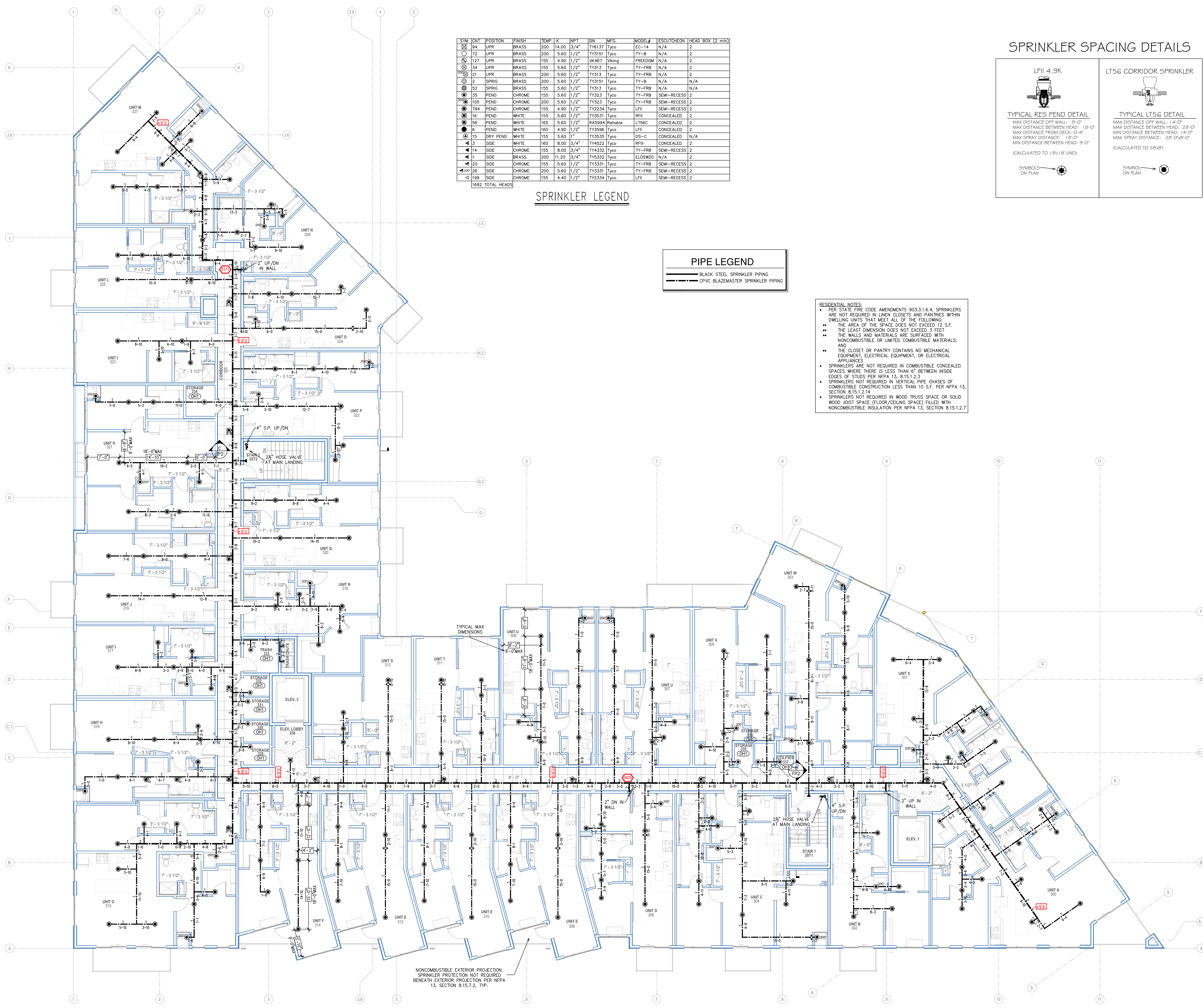
HAZARD: LIGHT

Design Area #6
Zone: 3
System Type: WET
Location: UPPER COMMON SPACE

Flowing Outlets: 9
Density: 0.10
Flow: 285.1 gpm @ 66.7 psi
Calculation Safety: 16.9 psi
Includes 100 gpm Hose allowance

Remote Area: 1115

1ST FLOOR FIRE SPRINKLER PLAN
SCALE = 1/8" = 1'-0"



SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MFG	MODEL#	ESCAUTION	HEAD BOX (2 min)
⊗	94	UPR	BRASS	200	14.00	3/4"	TY6137	Typo	EC-14	N/A	2
⊗	72	UPR	BRASS	200	5.60	1/2"	TY3151	Typo	TY-B	N/A	2
⊗	127	UPR	BRASS	155	4.90	1/2"	TK467	Viking	FREEDOM	N/A	2
⊗	144	UPR	BRASS	155	5.60	1/2"	TY3133	Typo	TY-FRB	N/A	2
⊗	21	UPR	BRASS	200	5.60	1/2"	TY3133	Typo	TY-FRB	N/A	2
⊗	2	SPRIG	BRASS	200	5.60	1/2"	TY3151	Typo	TY-B	N/A	N/A
⊗	52	SPRIG	BRASS	155	5.60	1/2"	TY3133	Typo	TY-FRB	N/A	N/A
⊗	35	PEND	CHROME	155	5.60	1/2"	TY3233	Typo	TY-FRB	SEMI-RECESS	2
⊗	105	PEND	CHROME	200	5.60	1/2"	TY3233	Typo	TY-FRB	SEMI-RECESS	2
⊗	794	PEND	CHROME	155	4.90	1/2"	TY2234	Typo	LFII	SEMI-RECESS	2
⊗	16	PEND	WHITE	155	5.60	1/2"	TY3531	Typo	RFII	CONCEALED	2
⊗	56	PEND	WHITE	165	5.60	1/2"	RA5994	Reliable	LT56C	CONCEALED	2
⊗	6	PEND	WHITE	160	4.90	1/2"	TY3596	Typo	LFII	CONCEALED	2
⊗	15	DRY PEND	WHITE	155	5.60	1"	TY3535	Typo	DS-C	CONCEALED	N/A
⊗	13	SIDE	WHITE	160	8.00	3/4"	TY4522	Typo	RFIII	CONCEALED	2
⊗	14	SIDE	CHROME	155	8.00	3/4"	TY4332	Typo	TY-FRB	SEMI-RECESS	2
⊗	11	SIDE	BRASS	200	11.20	3/4"	TY5332	Typo	ELOS20	N/A	2
⊗	20	SIDE	CHROME	155	5.60	1/2"	TY3331	Typo	TY-FRB	SEMI-RECESS	2
⊗	26	SIDE	CHROME	200	5.60	1/2"	TY3331	Typo	TY-FRB	SEMI-RECESS	2
⊗	199	SIDE	CHROME	155	4.40	1/2"	TY2334	Typo	LFII	SEMI-RECESS	2

1692 TOTAL HEADS

SPRINKLER LEGEND

PIPE LEGEND	
	BLACK STEEL SPRINKLER PIPING
	CPVC BLAZEMASTER SPRINKLER PIPING

SPRINKLER SPACING DETAILS

LFII 4.9K

TYPICAL RES PEND DETAIL

MAX DISTANCE OFF WALL: 9'-0"
 MAX DISTANCE BETWEEN HEAD: 18'-0"
 MAX DISTANCE FROM DECK: 0'-4"
 MAX SPRAY DISTANCE: 18'-0"
 MIN DISTANCE BETWEEN HEAD: 9'-0"
 (CALCULATED TO 18x18 UNO)

SYMBOL ON PLAN

LT56 CORRIDOR SPRINKLER

TYPICAL LT56 DETAIL

MAX DISTANCE OFF WALL: 14'-0"
 MAX DISTANCE BETWEEN HEAD: 28'-0"
 MIN DISTANCE BETWEEN HEAD: 14'-0"
 MAX SPRAY DISTANCE: 28'-0"
 (CALCULATED TO 28x28)

SYMBOL ON PLAN

- RESIDENTIAL NOTES:**
- PER STATE FIRE CODE AMENDMENTS 903.3.1.6.4, SPRINKLERS ARE NOT REQUIRED IN LINEN CLOSETS AND PANTRIES WITHIN DWELLING UNITS THAT MEET ALL OF THE FOLLOWING:
 - THE AREA OF THE SPACE DOES NOT EXCEED 12 S.F.
 - THE LEAST DIMENSION DOES NOT EXCEED 3 FEET
 - THE WALLS AND MATERIALS ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIALS; AND
 - THE CLOSET OR PANTRY CONTAINS NO MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT, OR ELECTRICAL APPLIANCES
 - SPRINKLERS ARE NOT REQUIRED IN COMBUSTIBLE CONCEALED SPACES WHERE THERE IS LESS THAN 6" BETWEEN INSIDE EDGES OF STUDS PER NFPA 13, 8.15.1.2.3
 - SPRINKLERS NOT REQUIRED IN VERTICAL PIPE CHASES OF COMBUSTIBLE CONSTRUCTION LESS THAN 10 S.F. PER NFPA 13, SECTION 8.15.1.2.14
 - SPRINKLERS NOT REQUIRED IN WOOD TRUSS SPACE OR SOLID WOOD JOIST SPACE (FLOOR/CEILING SPACE) FILLED WITH NONCOMBUSTIBLE INSULATION PER NFPA 13, SECTION 8.15.1.2.7

NONCOMBUSTIBLE EXTERIOR PROJECTION. SPRINKLER PROTECTION NOT REQUIRED BENEATH EXTERIOR PROJECTION PER NFPA 13, SECTION 8.15.7.2, TYP.

3RD FLOOR FIRE SPRINKLER PLAN
 SCALE = 1/8" = 1'-0"

