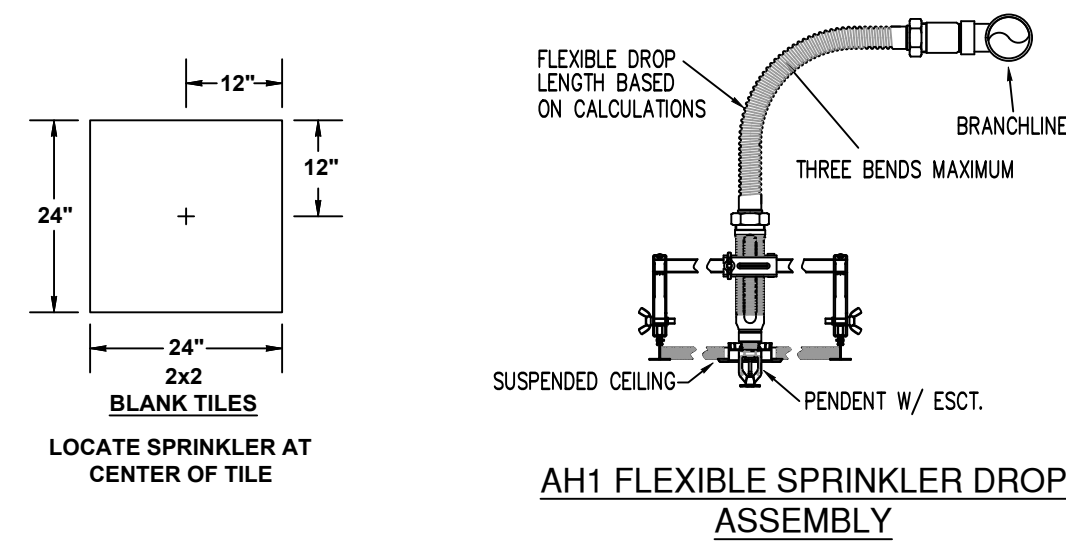
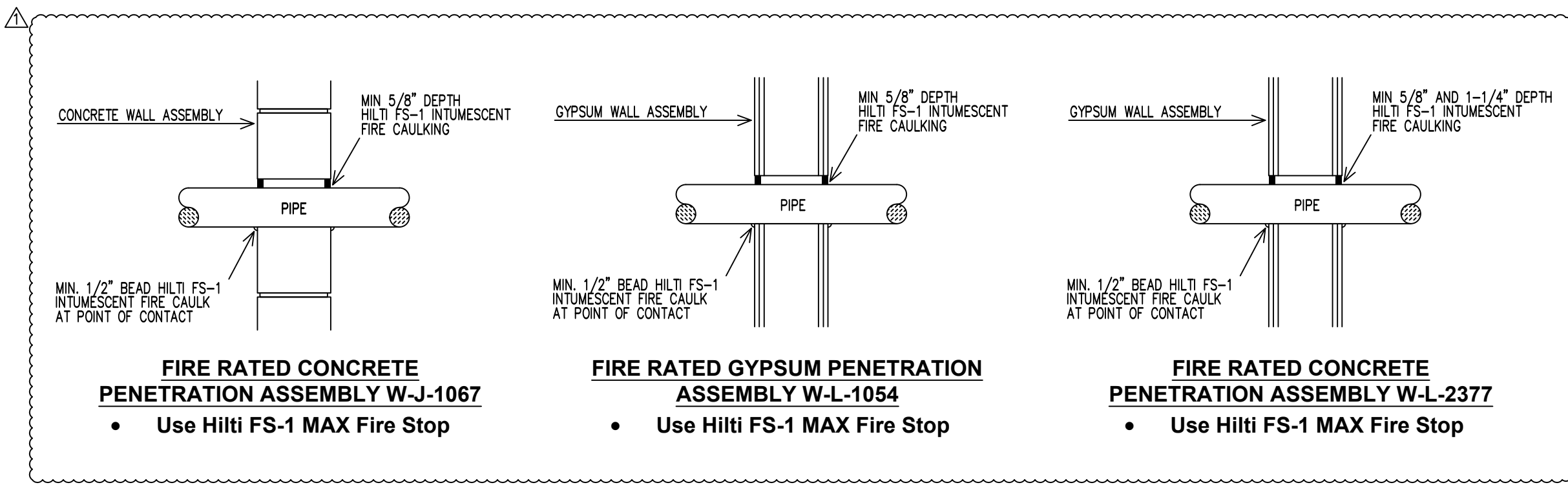


SECTION A-1
SCALE= 1/8" : 1'-0"



INSTALLATION DETAILS



FIRESTOP DETAILS

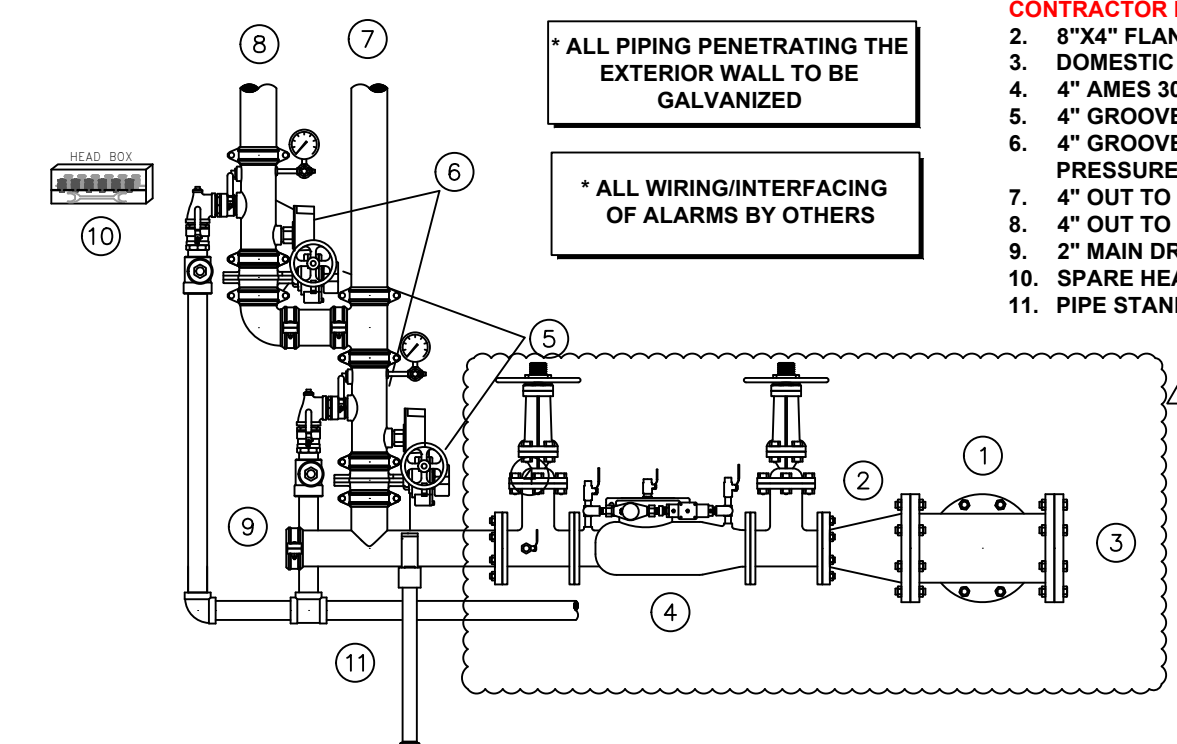
ZONE LEGEND	COVERAGE AREA (FT ²)	ELEVATION FROM GRADE	SHEET #
LOWER LEVEL (ZONE #1)	39,944 (FT ²)	-11'0"	2 & 3
FIRST FLOOR (ZONE #2)	46,873 (FT ²)	0'0"	4 & 5
SECOND FLOOR PHASE I (ZONE #3)	23,075 (FT ²)	12'0"	6
SECOND FLOOR PHASE II (ZONE #4)	20,060 (FT ²)	12'0"	7
THIRD FLOOR CLEVERESTORY (ZONE #4)	1,774 (FT ²)	12'0"	7
THIRD FLOOR PHASE I (ZONE #5)	19,065 (FT ²)	24'0"	8
THIRD FLOOR PHASE II (ZONE #6)	20,834 (FT ²)	24'0"	9

MANUAL WET STANDPIPE
LOCATION: STAIR 304 AND 204.
REQUIRED FLOW: 1000 GPM
OUTLET PSI: 100
REQUIRED INLET PSI: 149.7

SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESCUTCHEON	HEAD BOX (2 min)
○	62	UPR	BRASS	200	5.60	1/2"	TY313	TYCO	TY-FRB	N/A	2
⊗	132	UPR	BRASS	200	11.20	3/4"	TY313	TYCO	EC-11	N/A	2
⊗	53	SPRG	BRASS	200	11.20	3/4"	TY313	TYCO	EC-11	N/A	2
○	< 9	SIDE	WHITE	200	5.60	1/2"	TY331	TYCO	TY-FRB	SEMI RECESS	2
○	24	PEND	WHITE	200	5.60	1/2"	TY323	TYCO	TY-FRB	SEMI RECESS	2
○	11	PEND	WHITE	200	11.20	3/4"	TY323	TYCO	EC-11	SEMI RECESS	2
○	2	PEND	CHROME	200	5.60	1"	TY325	TYCO	DS-1	SEMI RECESS	2
○	474	PEND	WHITE	155	4.90	1/2"	TY2234	TYCO	LFI	SEMI RECESS	2
○	353	PEND	WHITE	155	5.60	1/2"	TY351	TYCO	RFI	CONCEALED	2
○	122	PEND	WHITE	155	11.20	3/4"	WK36	TKING	MIRAGE	CONCEALED	2
○	135	SIDE	WHITE	155	4.40	1/2"	TY2334	TYCO	LFI	SEMI RECESS	2
○	4	SIDE	WHITE	160	8.00	3/4"	TY4522	TYCO	RFII	CONCEALED	2
○	62	PEND	WHITE	155	5.60	1/2"	TY323	TYCO	TY-FRB	SEMI RECESS	2
○	8	SIDE	BRASS	200	5.60	1/2"	TY331	TYCO	TY-FRB	SEMI RECESS	2
○	3	UPR	BRASS	200	11.20	3/4"	TY313	TYCO	EC-11	N/A	2
○	1	SPRG	BRASS	200	11.20	3/4"	TY313	TYCO	EC-11	N/A	2
TOTAL HEADS: 1457											

SPRINKLER HEAD LEGEND

PIPE LEGEND	
—	BLACK STEEL SPRINKLER PIPING
—	CPVC BLAZEMASTER SPRINKLER PIPING



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

RISER LEGEND
1. 8" COMBINED UNDERGROUND WATER SERVICE (BY OTHERS) (FLUSHING & TESTING OF THE UNDERGROUND SHALL BE COMPLETED PRIOR TO THE SPRINKLER SYSTEM HOOKUP. UNDERGROUND PAPERS ARE TO BE SUPPLIED TO THE "P" CONTRACTOR BY THE O.C.)
2. 8"x4" FLANGED REDUCER
3. DOMESTIC WATER OUT
4. 4" AMES 3000S BACKFLOW w/ TAMPERS
5. 4" GROOVED BUTTERFLY VALVES w/ TAMPERS
6. 4" GROOVED COMMERCIAL RISER MANIFOLDS w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN
7. 4" OUT TO COMBINED STANDPIPE AND FDC
8. 4" OUT TO GARAGE (ZONE 1)
9. 2" MAIN DRAIN PIPED TO FLOOR DRAIN.
10. SPARE HEAD BOX
11. PIPE STAND

NOTE:
PIPE SCHEDULE ~
1" = SCH. 40
1 1/4" & LARGER = SCH. 10
3/4" 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 OBTURED BY FIRE PROTECTION SYSTEM)

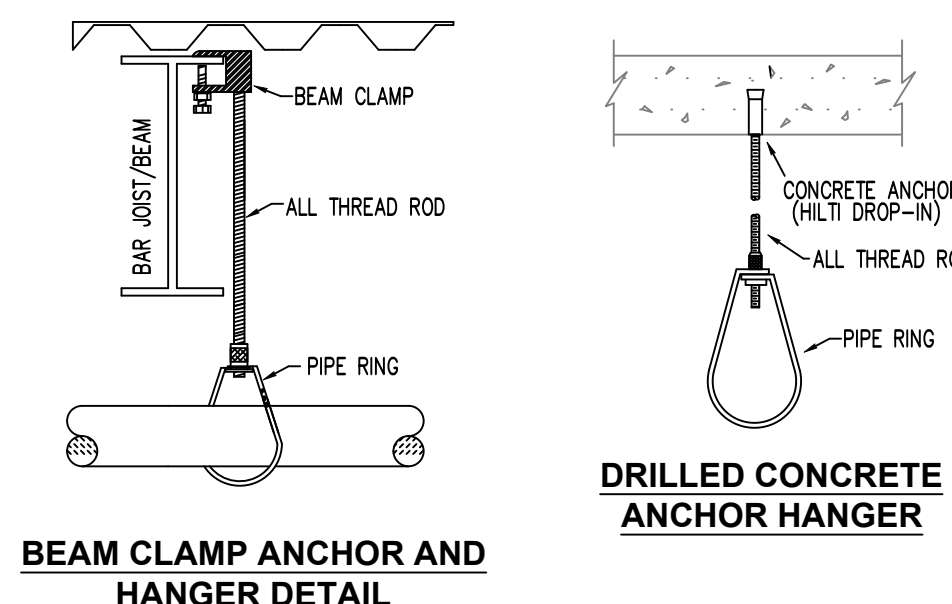
ELEC. EQUIP ~
PROVIDE SHIELDS OR Baffles WHERE WATER DAMAGE MAY RESULT FROM HEADS TO CLOSE TO ELEC. PANELS

SYMBOLS USED ON DRAWING
+9'6" PIPE ELEVATION A.F.F
-1'2" PIPE ELEVATION BELOW B.O.D
OHT ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
F HYDRAULIC CALCULATION JUNCTION POINT
9'-0" CEILING HEIGHT

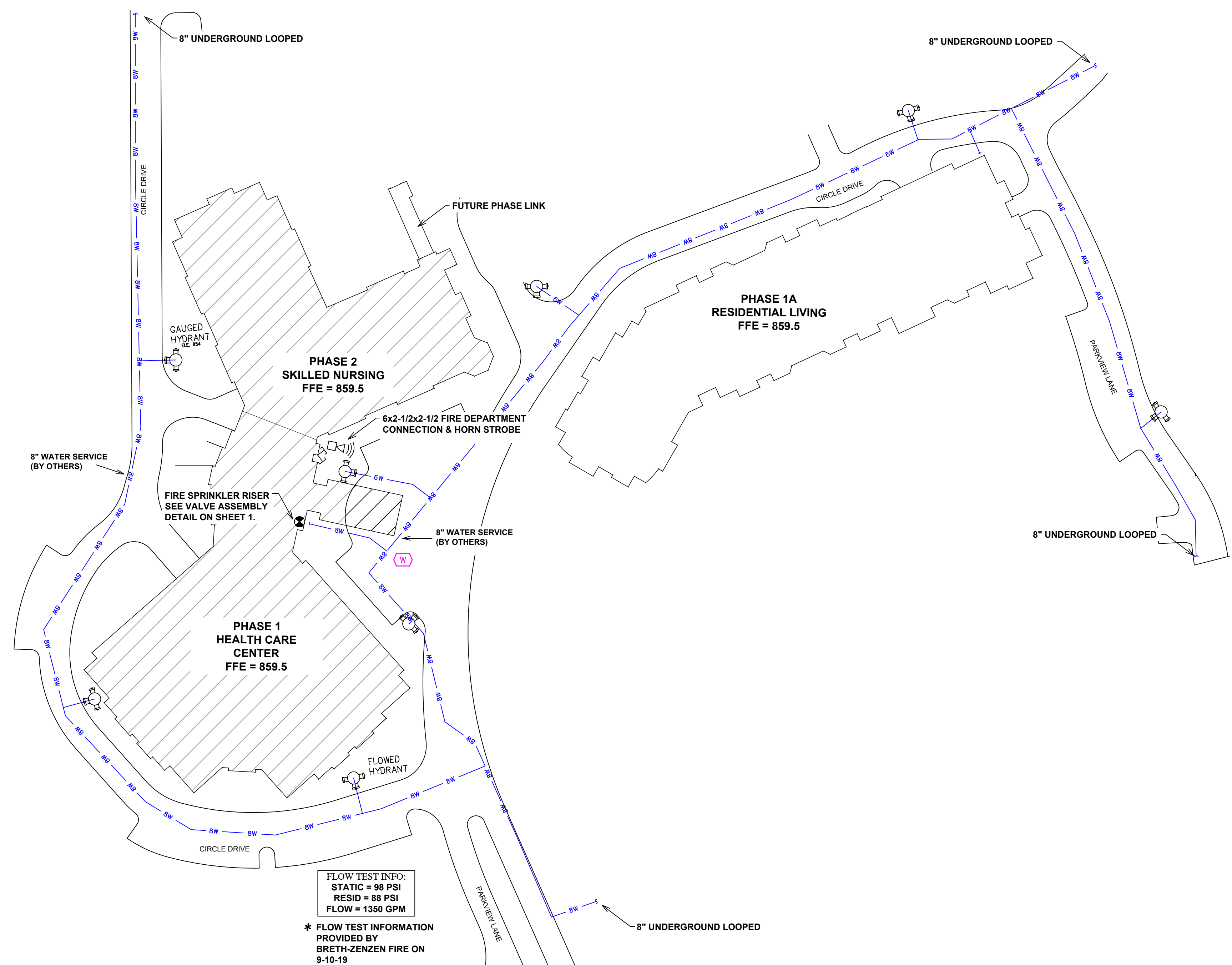
SCOPE OF WORK:
TO INSTALL NEW WET SPRINKLER SYSTEM IN THE NEW HEALTH CARE CENTER AND THE NEW SKILLED NURSING BUILDING AS SHOWN ON SHOP DRAWINGS. ALL PIPING IN PARKING GARAGE TO BE STEEL AND ALL PIPING IN OCCUPIED SPACES TO BE CONCEALED BLAZEMASTER CPVC PIPING WITH SEMI-RECESSED WHITE SPRINKLER HEADS IN UNITS AND COMMON AREAS TO HAVE CONCEALED SPRINKLERS. FDC WILL BE LOCATED ON THE EAST WALL ADJACENT TO THE MAIN SPRINKLER ENTRANCE.

NFPA 13 PIPE HANGER SPACING

NOMINAL SIZE INCHES	STEEL PIPE (EXCEPT LIGHTWALL THROUGHS)	BLAZEMASTER CPVC
	MAX SPACING FEET	
1"	12'-0"	6'-0"
1-1/4"	12'-0"	6'-6"
1-1/2"	15'-0"	7'-0"
2"	15'-0"	8'-0"
2-1/2"	15'-0"	9'-0"
3"	15'-0"	10'-0"
4" & LARGER	15'-0"	NA



HANGER DETAILS

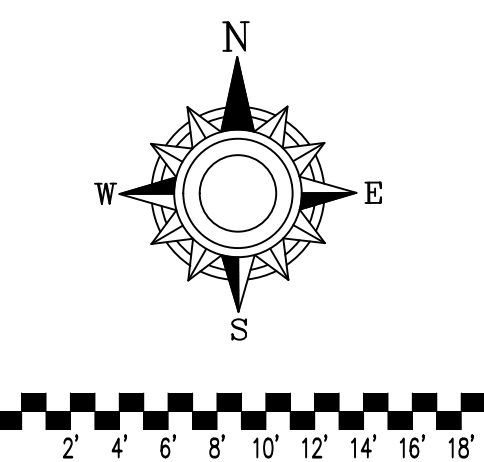


SITE PLAN
1" = 50'

REVISIONS

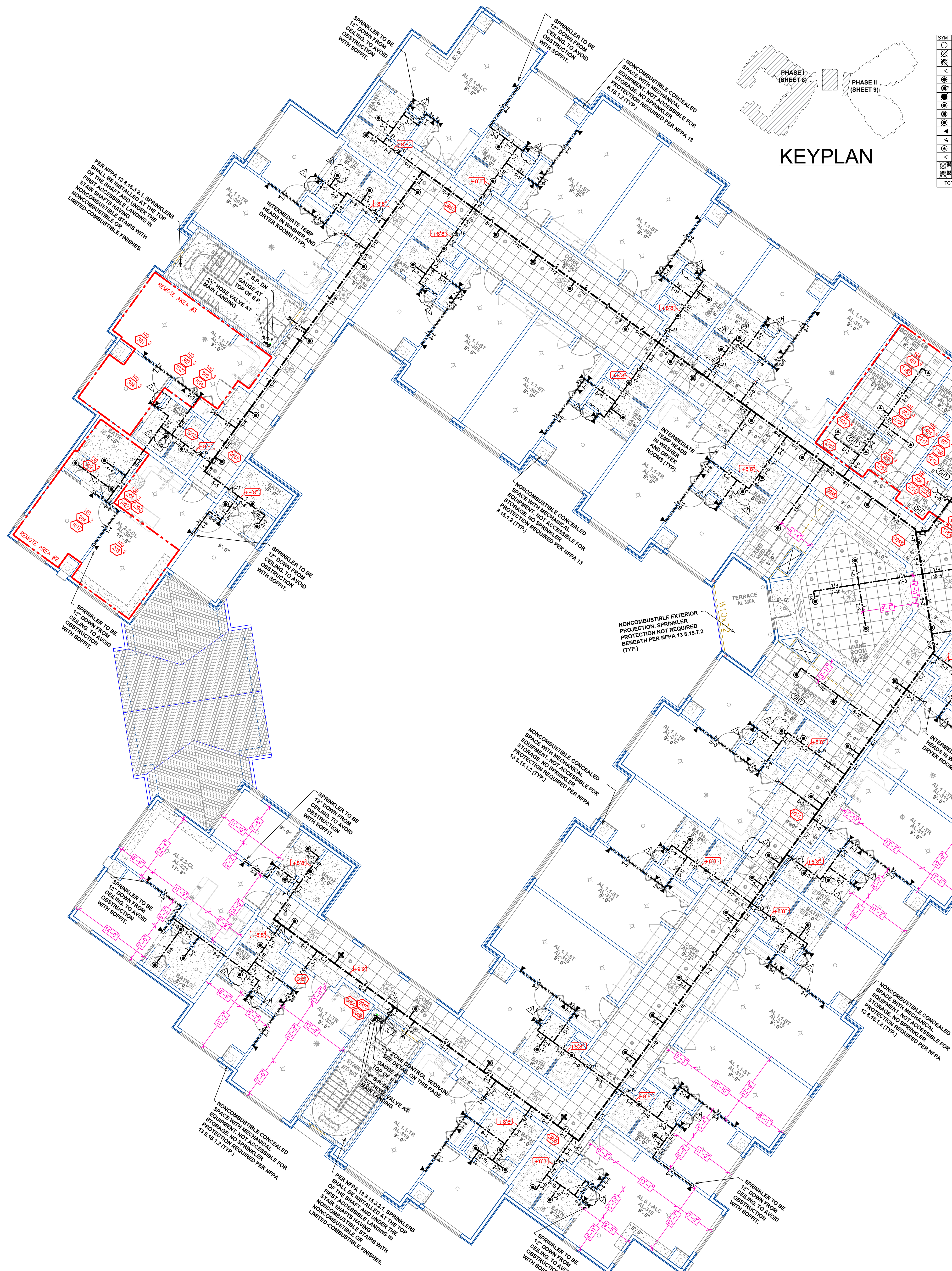
#	DATE	DESCRIPTION
0	1/09/20	ORIGINAL SUBMITTAL
1	4/10/20	ARCHITECT REVIEW
2	4/24/20	FIRE INSPECTOR REV
3	10/15/20	HOSE VALVE RELOC.

General Notes
1. System shall be installed in accordance with the State Fire Marshal.
2. All equipment for this system shall be listed.
3. Minimum pipe size shall be 1" nominal pipe.
4. All welding per NFPA-13 shall be completed prior to fabrication.
5. No installation or fabrication to begin without approved shop drawings.
6. All dimensions shown are center to center.
7. All dimensions shown are center to center.
8. Provide one spare head cabinet w/ 6 hds. & one hd wrench.
9. Hangers are to be U.L. Listed and F.M. Approved.
10. Provide adequate hangers to prevent system piping from freezing.
11. Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.



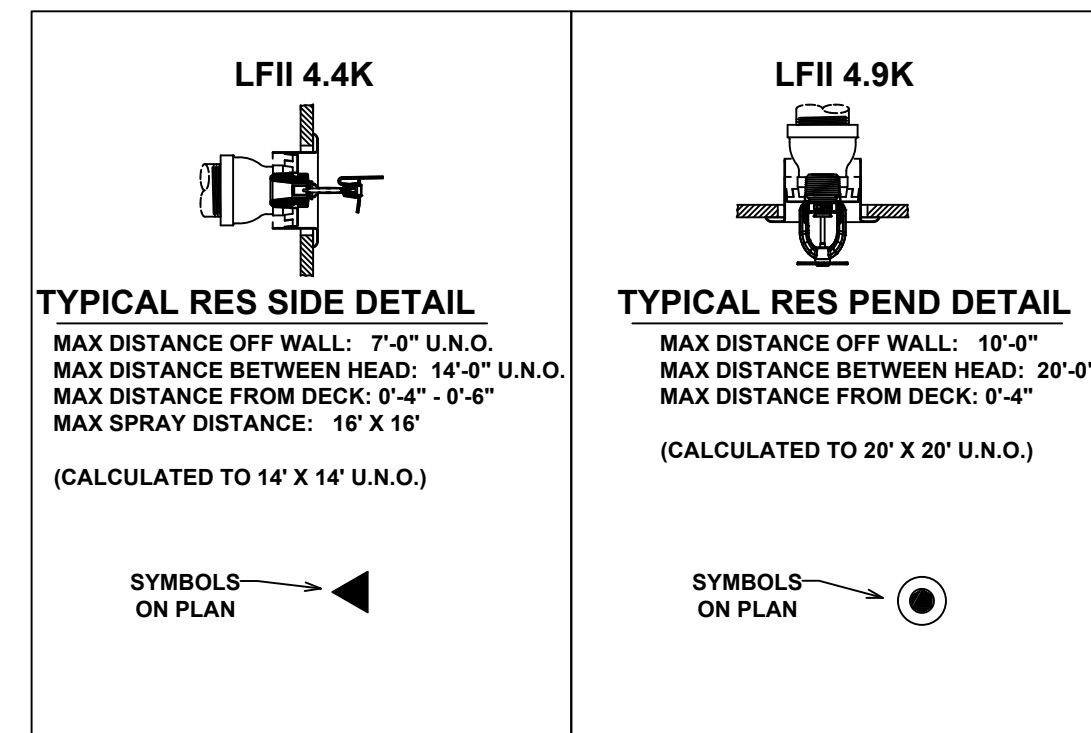
FIRE PROTECTION PLAN
FRIENDSHIP VILLAGE
PHASE I AND PHASE II
8100 HIGHWOOD DR.
BLOOMINGTON, MN 55438

Contract No. **C19-110**
Drawing Date: 01/09/2020
Scale: 1/8" = 1'-0"
Drawn By:
Approval By: STATE FIRE MARSHAL DIV.
SHEET NO. **1 of 9**

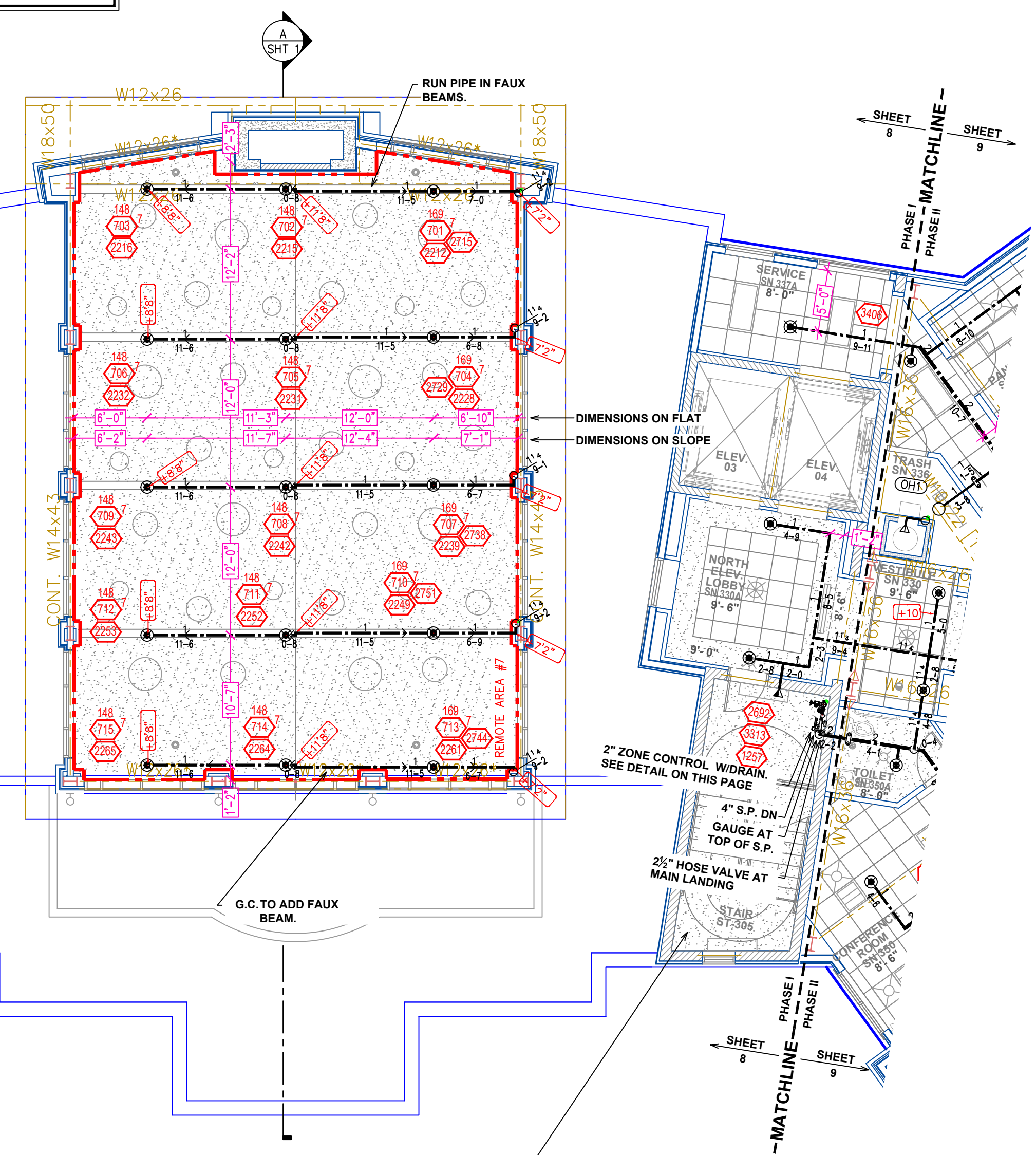


SYM	QTY	POSITION	FINISH	TEMP	K	INPT	SIN	MFG	MODEL#	ESCUTCHEON	HEAD BOX (2 min)
○	62	UPR	BRASS	200	5.60	1/2"	TY313	TYCO	TY-FRB	N/A	2
○	132	UPR	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
○	53	SPRIG	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
○	9	SIDE	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI RECESS	2
○	24	PEND	WHITE	200	5.60	1/2"	TY3231	TYCO	TY-FRB	SEMI RECESS	2
○	11	PEND	WHITE	200	11.20	3/4"	TY5237	TYCO	EC-11	SEMI RECESS	2
○	2	PEND	CHROME	200	5.60	1"	TY3255	TYCO	DS-1	SEMI RECESS	2
○	474	PEND	WHITE	155	4.90	1/2"	TY2234	TYCO	LFII	SEMI RECESS	2
○	153	PEND	WHITE	155	5.60	1/2"	TY3331	TYCO	RFII	CONCEALED	2
○	122	PEND	WHITE	155	11.20	3/4"	WK636	WIKING	MIRAGE	CONCEALED	2
○	135	SIDE	WHITE	155	4.40	1/2"	TY2334	TYCO	LFII	SEMI RECESS	2
○	6	SIDE	WHITE	160	8.00	3/4"	TY4522	TYCO	RFII	CONCEALED	2
○	62	PEND	WHITE	155	5.60	1/2"	TY3231	TYCO	TY-FRB	SEMI RECESS	2
○	6	SIDE	BRASS	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI RECESS	2
○	3	UPR	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
○	1	SPRIG	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
TOTAL HEADS: 1457											

SPRINKLER SPACING DETAILS



SPRINKLER HEAD LEGEND



THIRD FLOOR - PHASE I (ZONE 5 & PARTIAL ZONE 4)
SCALE = 1/8" = 1'-0"

HAZARD: LIGHT

Design Area # 2
Zone: 5 System Type: WET
Location: AL-301

Flowing Outlets: 4
Density: 0.10 Remote Area: 4 SPK
Flow 163.9 gpm @ 75.7 psi
Calculation Safety: 22.1 psi
Includes 100 gpm Hose allowance

Design Area # 3
Zone: 5 System Type: WET
Location: AL-302

Flowing Outlets: 4
Density: 0.10 Remote Area: 4 SPK
Flow 166.2 gpm @ 75 psi
Calculation Safety: 22.8 psi
Includes 100 gpm Hose allowance

Design Area # 4
Zone: 5 System Type: WET
Location: AL-336

Flowing Outlets: 14
Density: 0.10 Remote Area: 945
Flow 314.6 gpm @ 90 psi
Calculation Safety: 7.4 psi
Includes 100 gpm Hose allowance

NOTE: 4 SPRINKLERS CALCULATED PER NFPA 13 SEC. 11.3.1.1 DWELLING UNIT CALC.

NOTE: 4 SPRINKLERS CALCULATED PER NFPA 13 SEC. 11.3.1.1 DWELLING UNIT CALC.

NOTE: 1500 S.F. REDUCED BY 40% TO 900 S.F. PER NFPA 13 FIGURE 11.2.2.3.1 DUE TO THE USE OF QUICK RESPONSE SPRINKLERS AND A 8'-0" CEILING HEIGHT.

CALC PLACARD

HAZARD: LIGHT

Design Area # 7
Zone: 4 System Type: WET
Location: CLERESTORY

Flowing Outlets: 17
Density: 0.10 Remote Area: 1950
Flow 417.2 gpm @ 90 psi
Calculation Safety: 6.9 psi
Includes 100 gpm Hose allowance

NOTE: 1500 S.F. INCREASED BY 30% TO 1950 S.F. PER NFPA 13 FIGURE 11.2.2.3.1 DUE TO SLOPE BEING GREATER THAN 2:12.

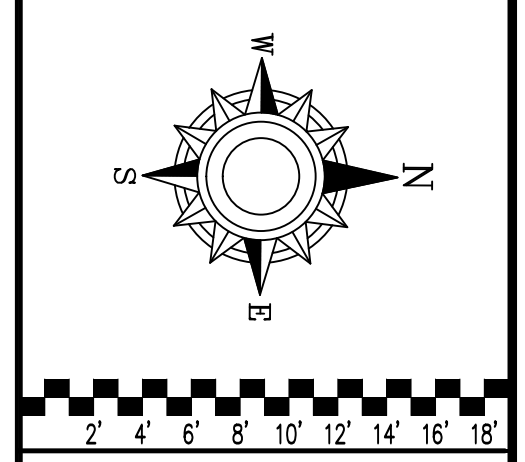
ZONE CONTROL DETAIL

REVISIONS

#	DATE	DESCRIPTION
0	1/09/20	ORIGINAL SUBMITTAL
1	4/10/20	ARCHITECT REVIEW
2	4/24/20	FIRE INSPECTOR REV
3	10/15/20	HOSE VALVE RELOC.

General Notes

- All equipment for this system shall be UL listed.
- Minimum pipe size shall be 1" nominal pipe.
- All piping shall be installed in accordance with NFPA 13.
- No installation or fabrication to begin without approved shop drawings.
- Installation shall be completed prior to fabrication.
- All dimensions shown are center to center.
- Provide one spare head cabinet w/ 6 bids & one bid wrench.
- Planners are to be U.L. Listed and P.M. Approved.
- Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.



FIRE PROTECTION PLAN

FRIENDSHIP VILLAGE
PHASE I AND PHASE II
8100 HIGHWOOD DR.
BLOOMINGTON, MN 55438

Contract No: **C19-110**

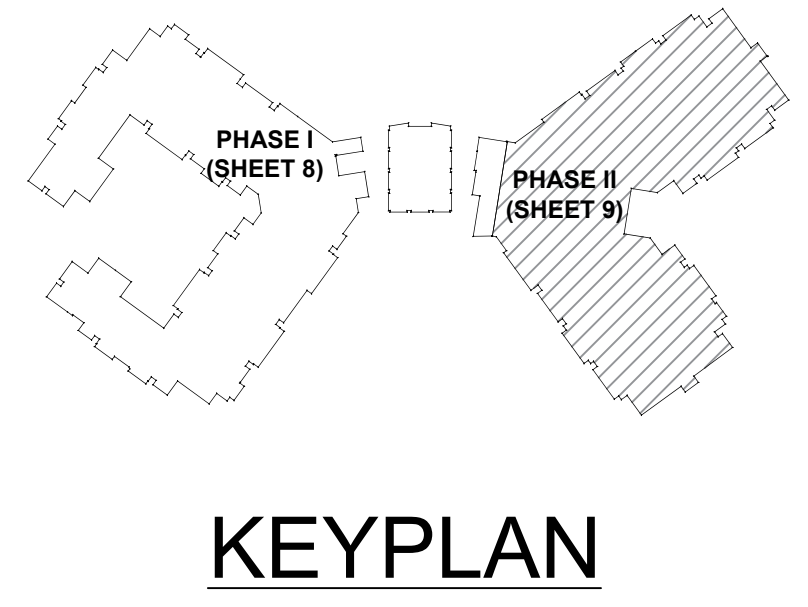
Drawing Date: 01/09/2020

Scale: 1/8" = 1'-0"

Drawn By:

Approval By: STATE FIRE MARSHAL DIV.

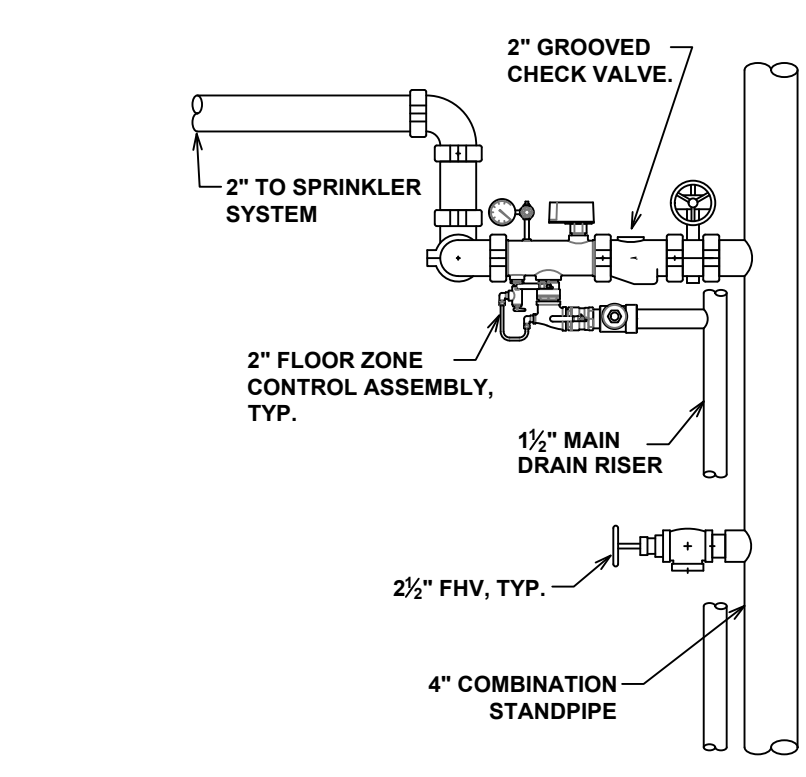
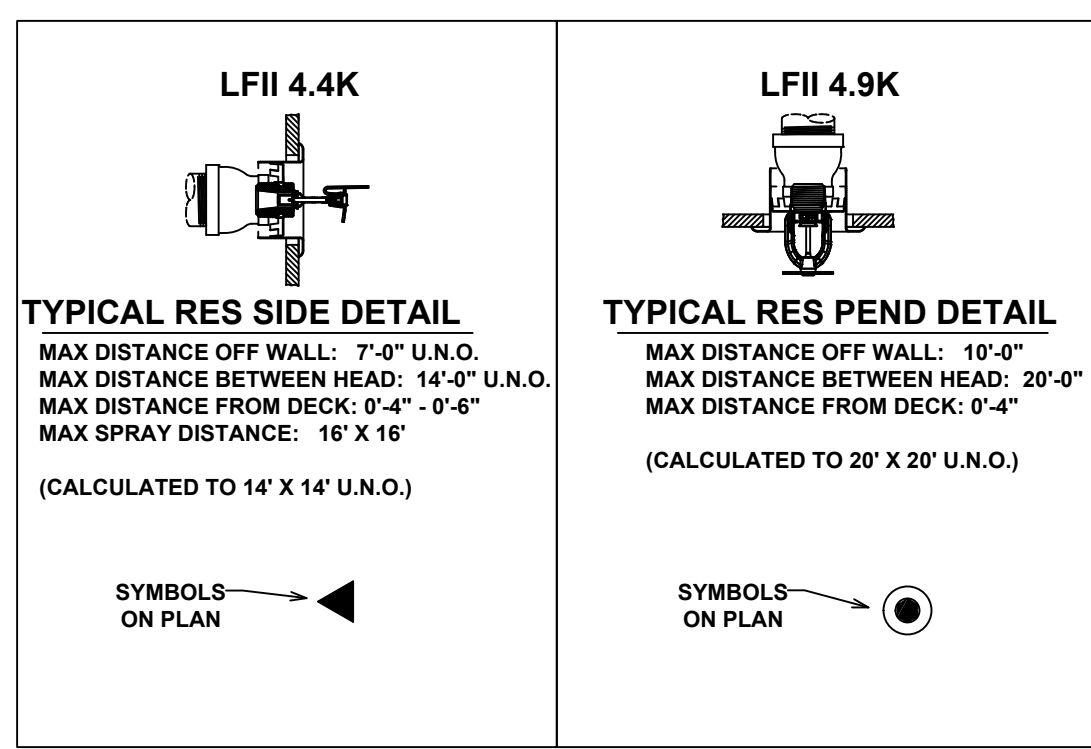
SHEET NO. **8 of 9**



Design Area #5 HAZARD/LIGHT	NOTE:
Zone: 6 System Type:WET	4 SPRINKLERS CALCULATED PER NFPA 13 SEC. 11.3.1.1 DWELLING UNIT CALC.
Location: SN-313	
Flowing Outlets:4	Remote Area: 4 SPK
Density: 0.10	Flow 178.2 gpm @ 68.3 psi
Calculation Safety: 29.5 psi	Includes 100 gpm Hose allowance

Design Area #6 HAZARD/LIGHT	NOTE:
Zone: 6 System Type:WET	1500 S.F. REDUCED BY 40% TO 890 S.F. PER NFPA 13 FIGURE 11.2.3.2.1.1 DUE TO THE USE OF QUICK RESPONSE SPRINKLERS AND A 9'-0" CEILING HEIGHT BUT WHEN USING EXTENDED COVERAGE SPRINKLERS A MINIMUM OF 8 SPRINKLERS TO BE CALCULATED.
Location: DINING ROOM SN-339	
Flowing Outlets:5	Remote Area: 1127
Density: 0.10	Flow 200.5 gpm @ 65.4 psi
Calculation Safety: 12 psi	Includes 100 gpm Hose allowance

SPRINKLER SPACING DETAILS



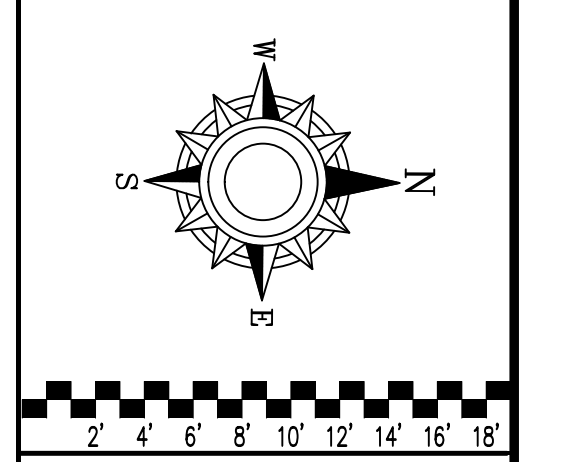
SYM	QTY	POSITION	FINISH	TEMP	K	NPT	SN	MFG.	MODEL#	ESCUTCHEON	HEAD BOX (2 min)
○	62	UPR	BRASS	200	5.60	1/2"	TY313	TYCO	TY-FRB	N/A	2
⊗	132	UPR	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
⊗	53	SPRG	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
◁	9	SIDE	WHITE	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI RECESS	2
⊙	24	PEND	WHITE	200	5.60	1/2"	TY323	TYCO	TY-FRB	SEMI RECESS	2
⊙	11	PEND	WHITE	200	11.20	3/4"	TY5237	TYCO	EC-11	SEMI RECESS	2
⊙	2	PEND	CHROME	200	5.60	1"	TY3255	TYCO	DS-1	SEMI RECESS	2
⊙	474	PEND	WHITE	155	4.90	1/2"	TY2234	TYCO	LFII	SEMI RECESS	2
⊙	353	PEND	WHITE	155	5.60	1/2"	TY3531	TYCO	RFI	CONCEALED	2
⊙	122	PEND	WHITE	155	11.20	3/4"	WK636	WKING	MIRAGE	CONCEALED	2
◁	135	SIDE	WHITE	155	4.40	1/2"	TY2334	TYCO	LFII	SEMI RECESS	2
◁	6	SIDE	WHITE	160	8.00	3/4"	TY4522	TYCO	RFII	CONCEALED	2
⊙	62	PEND	WHITE	155	5.60	1/2"	TY323	TYCO	TY-FRB	SEMI RECESS	2
◁	8	SIDE	BRASS	200	5.60	1/2"	TY3331	TYCO	TY-FRB	SEMI RECESS	2
⊙	3	UPR	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
⊙	1	SPRG	BRASS	200	11.20	3/4"	TY5137	TYCO	EC-11	N/A	2
TOTAL HEADS: 1457											

SPRINKLER HEAD LEGEND



THIRD FLOOR - PHASE II (ZONE 6)
SCALE= 1/8" = 1'-0"

REVISIONS	DATE	DESCRIPTION
0	1/09/20	ORIGINAL SUBMITTAL
1	4/10/20	ARCHITECT REVIEW
2	4/24/20	FIRE INSPECTOR REV
3	10/15/20	HOSE VALVE RELOC.



FIRE PROTECTION PLAN
FRIENDSHIP VILLAGE
PHASE I AND PHASE II
8100 HIGHWOOD DR.
BLOOMINGTON, MN 55438

Contract No. **C19-110**
Drawing Date: 01/09/2020
Scale: 1/8" = 1'-0"
Drawn By: STATE FIRE MARSHAL DIV.
Approval By: STATE FIRE MARSHAL DIV.
SHEET No. **9 of 9**