



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

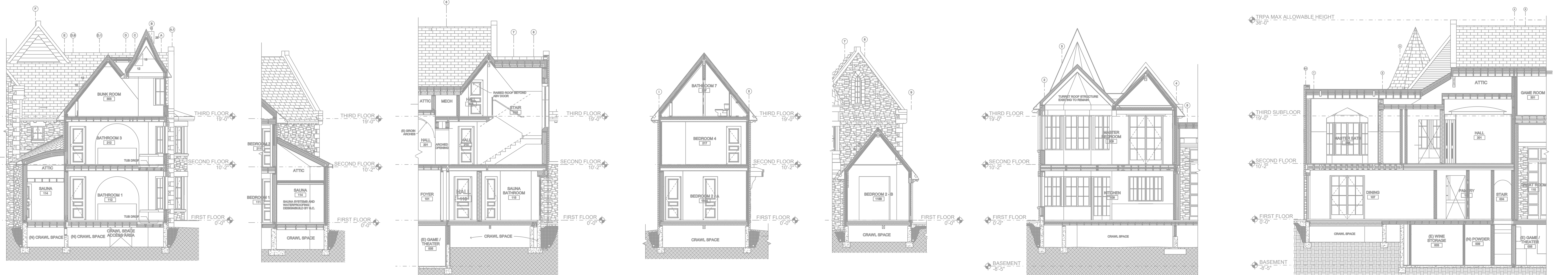
**B BUILDING SECTION**  
SCALE: 1/8" = 1'-0"

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

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

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

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



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

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

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

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

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

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

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

certify that this plan was prepared by me or under my direct supervision and that I am NICET Certified at Level IV in Water-Based Sprinkler System Layout.

*Darin T. Syverton*

Darin T. Syverton  
Reg. No. 125413 03/18/2021

NO.	DATE	REVISIONS	DRAWN	CHECKED
2	03/17/2021	ISSUED FOR RE-SUBMITTAL	JV	
1	12/15/2020	ISSUED FOR SUBMITTAL TO AHJ	JV	

GENERAL CONTRACTOR: AUTHORITY HAVING JURISDICTION:  
ADDRESS: NORTH LAKE TANDIE FIRE PROTECTION DISTRICT  
ADDRESS: 888 ORACLE WAY  
CITY: INCLINE VILLAGE, NV 89451  
PHONE: PHONE:  
CONTACT: CONTACT:  
ARCHITECT: FIELD INSPECTIONS:  
ADDRESS: 2.  
CITY: 3.  
PHONE: 4.

- FIRE SPRINKLER NOTES:**
- THE PROPOSED FIRE SPRINKLER SYSTEM IS A SINGLE ZONE WET SYSTEM PROTECTING THE MAIN HOUSE AND THREE ANTIFREEZE ZONES PROTECTING THE CRAWL SPACE, GARAGE AND ATTIC. ALL ZONES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13 (2019 EDITION) AND THE AUTHORITY HAVING JURISDICTION.
  - THIS SPRINKLER SYSTEM IS HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA 13
  - DESIGN CRITERIA
    - BATHROOMS UNDER 65 SQFT OMITTED PER SECTION 9.2.4.1.1.
    - DESIGN AREA REDUCTIONS PER SECTION 19.3.2.3.1 ARE APPLIED WHERE APPLICABLE.
    - ANTIFREEZE SYSTEMS VOLUMES:
      - CRAWLSPACE SYSTEM - 37 GAL
      - ATTIC SYSTEM - 33 GAL
  - ALL HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 REQUIREMENTS.
  - Holes through solid structural members shall be permitted to serve as hangers for the support of system piping.
  - ALL SYSTEM PIPING SHALL BE TESTED FOR LEAKAGE PER NFPA 25 REQUIREMENTS.
  - THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING A MINIMUM TEMPERATURE OF 40° FAHRENHEIT TO PROTECT FROM FREEZING.
  - ALL DIMENSIONS SHOWN ARE CENTER TO CENTER U.O.C.

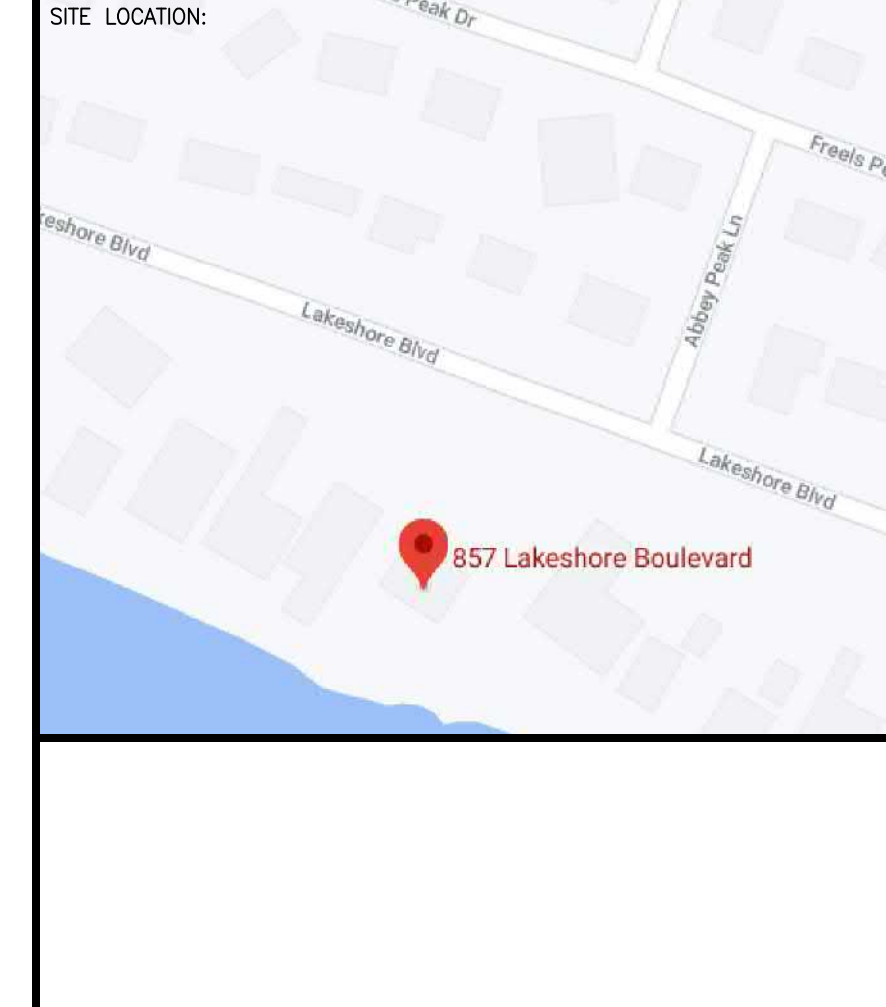
**SPRINKLER HEAD LEGEND**

SYM	QTY	TYPE	MP	MODEL #	HFT	K	TEMP	FINISH	SJ/L
⊙	20	PENDENT RELIABLE	FFR56	1/2"	5.6	250	WHITE	RA1414	
⊙	99	PENDENT RELIABLE	FFR56	1/2"	4.9	165	WHITE	RA0616	
⊙	1	PENDENT RELIABLE	FFR56	1/2"	5.6	250	WHITE	RA1414	
⊙	2	PENDENT RELIABLE	FFR56	1/2"	4.9	165	WHITE	RA0616	
⊙	1	UPRIGHT RELIABLE	FFR56	1/2"	5.6	150	BRASS	RA1370	
⊙	12	SIDE RELIABLE	F30R	1"	4.6	200	CHROME	RS734	
⊙	1	PENDENT RELIABLE	F1 RES	1/2"	4.90	175	WHITE	RA3516	
⊙	2	PENDENT RELIABLE	F1 RES	1/2"	4.90	150	WHITE	RA3516	

**188 TOTAL SPRINKLERS**

**FIRE SPRINKLER SYMBOLS**

- ⊕ AUTOMATIC SPRINKLER RISER
- ⊕ EARTHQUAKE BRACING
- ⊕ 2-WAY & 4-WAY
- ⊕ TYPE DESIGNATION
- ⊕ HYDRAULIC REF FIT
- ⊕ GRVD OR THRD CAP
- ⊕ GRVD COUPLING
- ⊕ TYPICAL POINT OF CONNECTION (POC)
- \*13" ELEV. BELOW DECK OR TOS
- \*12"-9" ELEV. ABOVE FINISHED FLOOR
- CHANGE ELEVATION UP
- ← CHANGE ELEVATION DN
- ⊕ INSPECTORS TEST
- ⊕ AUX DRAIN
- ⊕ REVISION NOTATION
- ⊕ LOCAL ALARM
- ⊕ RESTRAINT

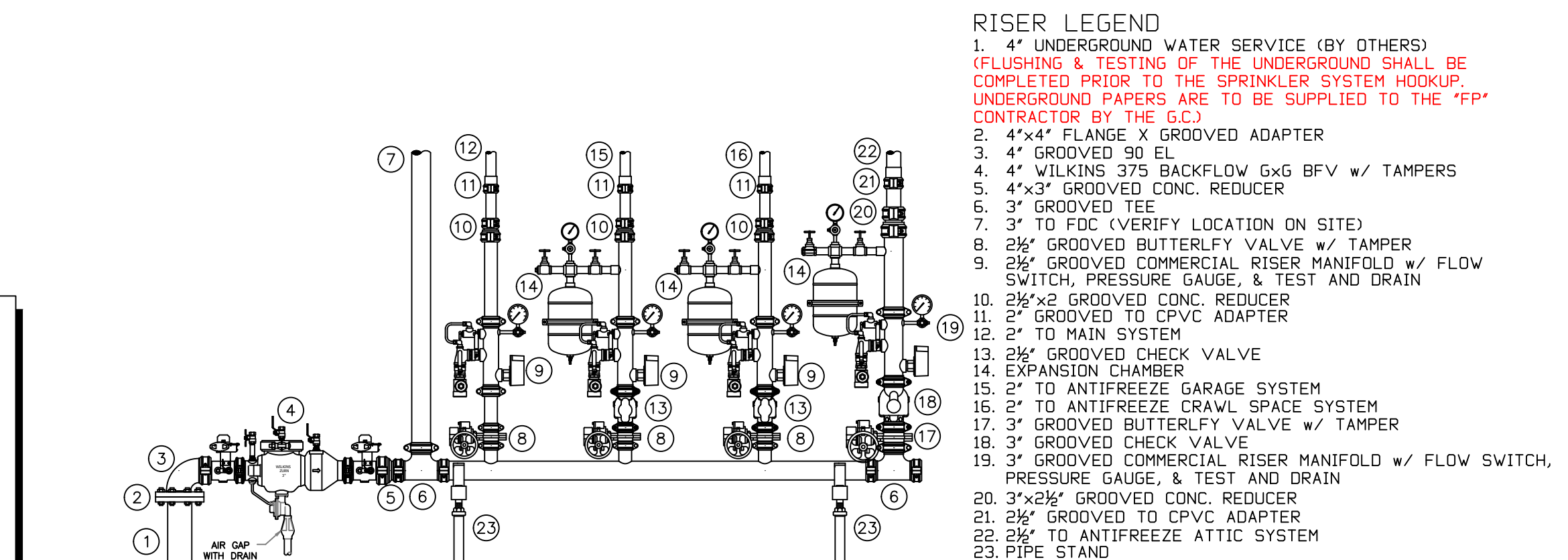


PROJECT NAME: FIRE SPRINKLER PLANS FOR 857 LAKESHORE

857 LAKESHORE BLVD  
INCLINE VILLAGE, NV 89451

DRAWING TITLE: FIRE SPRINKLER PLAN

SCALE: 1/8" = 1'-0" JOB NO.: 12/15/2020  
DRAWN BY: DWG NO.:  
BORN ON DATE: 12/15/2020 FILE: 12/15/2020  
SHEET 1 OF 3



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

**PROJECT SUMMARY:**

PROJECT NAME: 857 LAKESHORE BLVD  
PROJECT ADDRESS: 857 LAKESHORE BLVD INCLINE VILLAGE, NV 89451  
APN: 122-181-01  
PROJECT TYPE: NEW  
TYPE OF CONSTRUCTION: HOUSE  
OCCUPANCY GROUPS: RES  
OCCUPED LEVELS: 1, 2, 3  
TOTAL SPRINKLER AREA: 11,349 S.F.  
NFPA CODE REQUIREMENT: NFPA 13 (NFPA 13R) (NFPA 13D)  
NUMBER OF SYSTEMS: 1  
SYSTEM TYPES: WET  
TOTAL SPRINKLERS: 188  
SPECIAL NOTES: SEE FIRE SPRINKLER NOTES THIS SHEET

**SYSTEM NOTES**

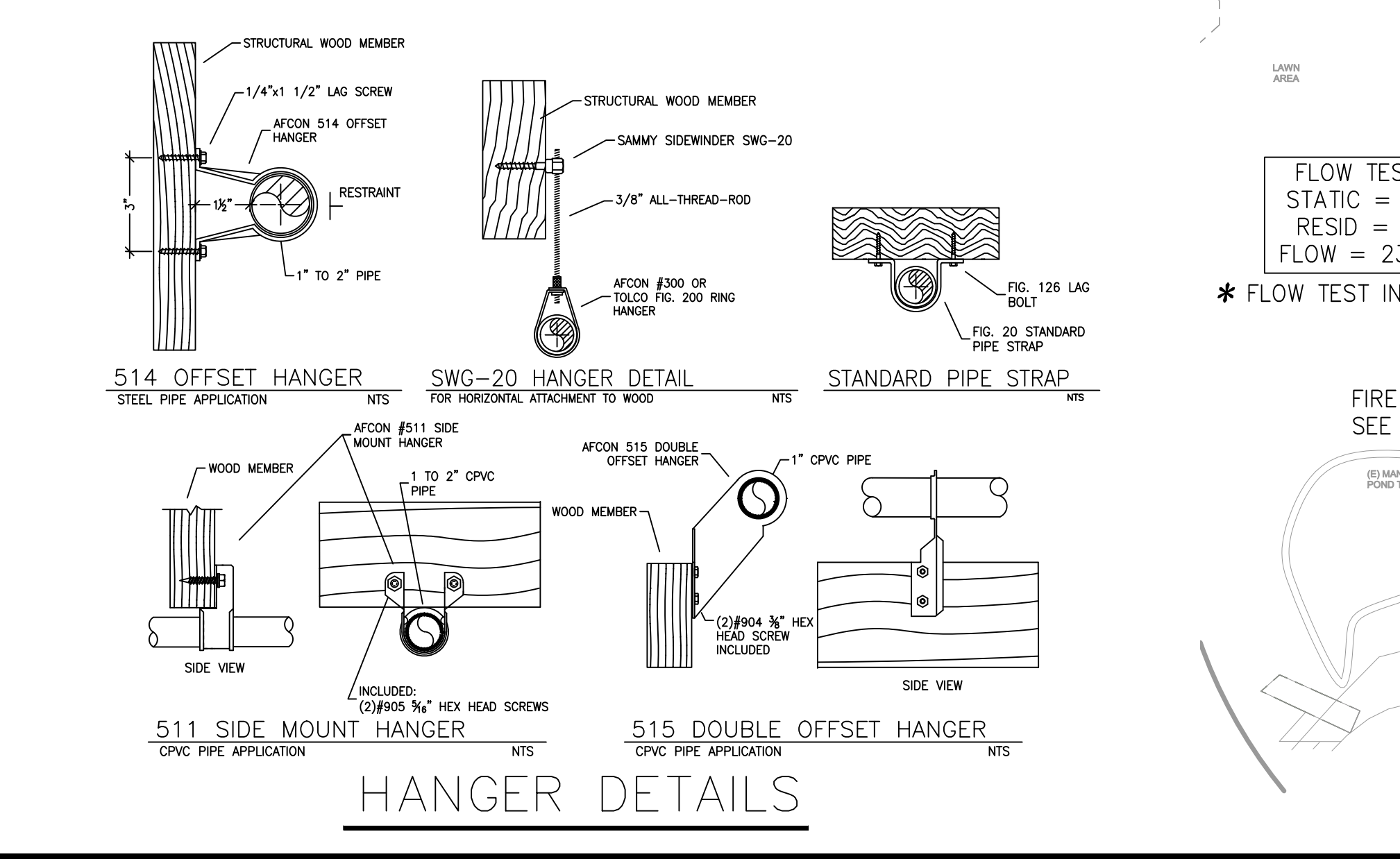
ZONE	AREA SERVED	VOLUME	SYSTEM TYPE
ZONE 1	MAIN HOUSE	87 GAL	WATER
ZONE 2	GARAGE	21 GAL	ANTI-FREEZE
ZONE 3	CRAWL SPACE	37 GAL	ANTI-FREEZE
ZONE 4	ATTIC	33 GAL	ANTI-FREEZE

**SPRINKLER HEAT ZONES:**

HEAT SOURCE	SPRINKLER TEMPERATURE	INTERMEDIATE TEMPERATURE
SIDE OF OPEN OR RECESSED FIRE PLACE	36"	15"
FRONT OF RECESSED FIRE PLACE	48"	18"
COIL OR WOOD BURNING STOVE	48"	18"
FRONT OF RECESSED FIRE PLACE	48"	18"
UNINSULATED HOT WATER PIPES & 200-PSI HOT LINES	12"	6"
SIDE OF CEILING OR WALL MOUNTED HOT AIR DIFFUSERS	24"	12"
FRONT OF WALL MOUNTED HOT AIR DIFFUSERS	24"	12"
HOT WATER HEATER, FURNACE, LIGHT FIXTURE	6"	3"
PO-200 WHT	6"	3"

**NFPA 13 - Table 9.2.2.1(a) Maximum Distance Between Hangers (ft-in.)**

Nominal Pipe Size (in.)	Nominal Pipe Size (in.)							
	1/2	3/4	1	1 1/2	2	2 1/2	3	4
Steel Pipe except threaded	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0
Threaded lightwall steel pipe	N/A	12-0	12-0	15-0	15-0	15-0	N/A	N/A
Copper tube	8-0	8-0	10-0	10-0	12-0	12-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	N/A	N/A



12/7/2020 U.S. Seismic Design Maps OSHPD

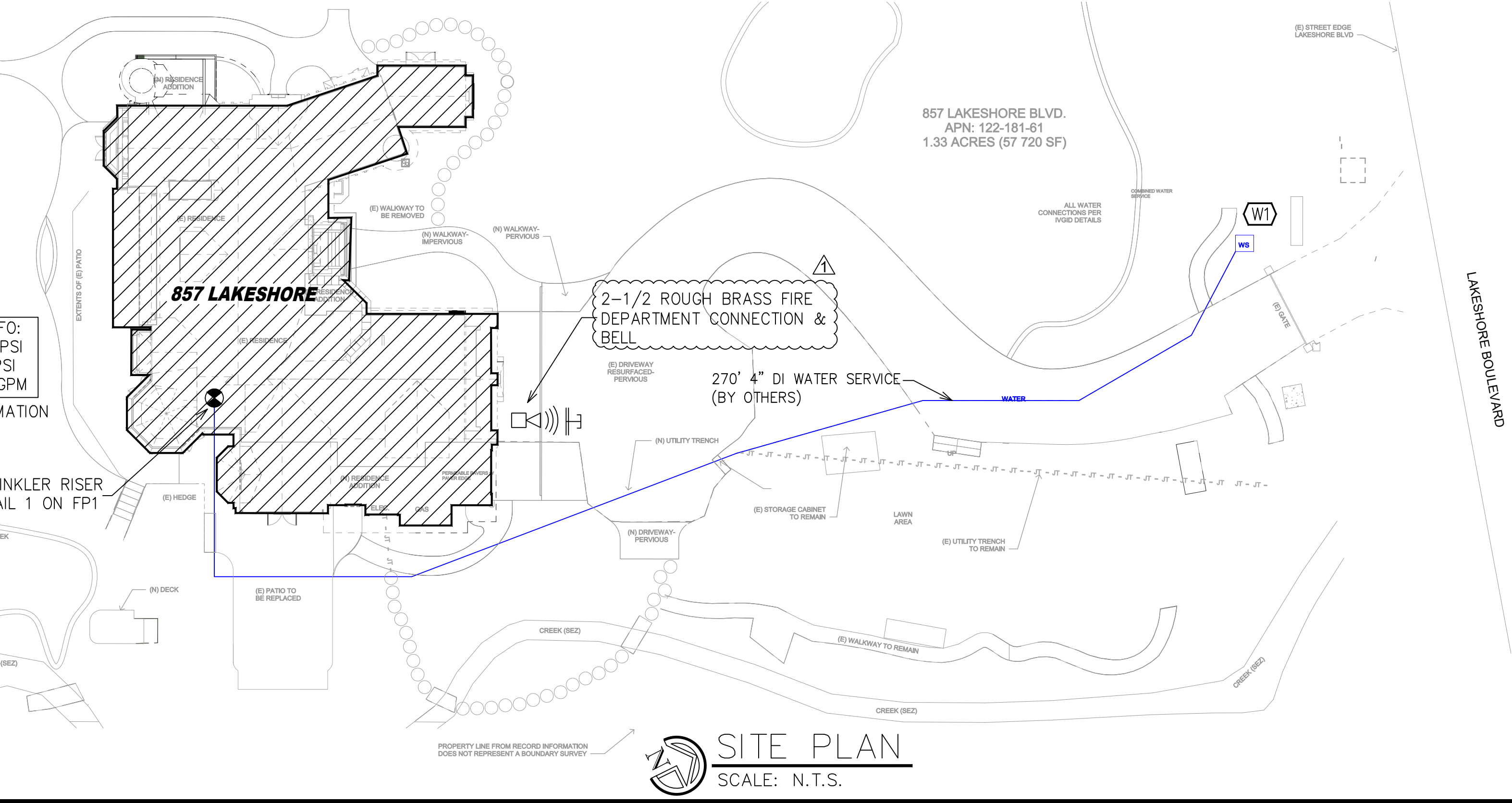
857 Lakeshore Blvd, Incline Village, NV 89451, USA  
Latitude, Longitude: 39.2428632, -119.9586506

**OSHPD**

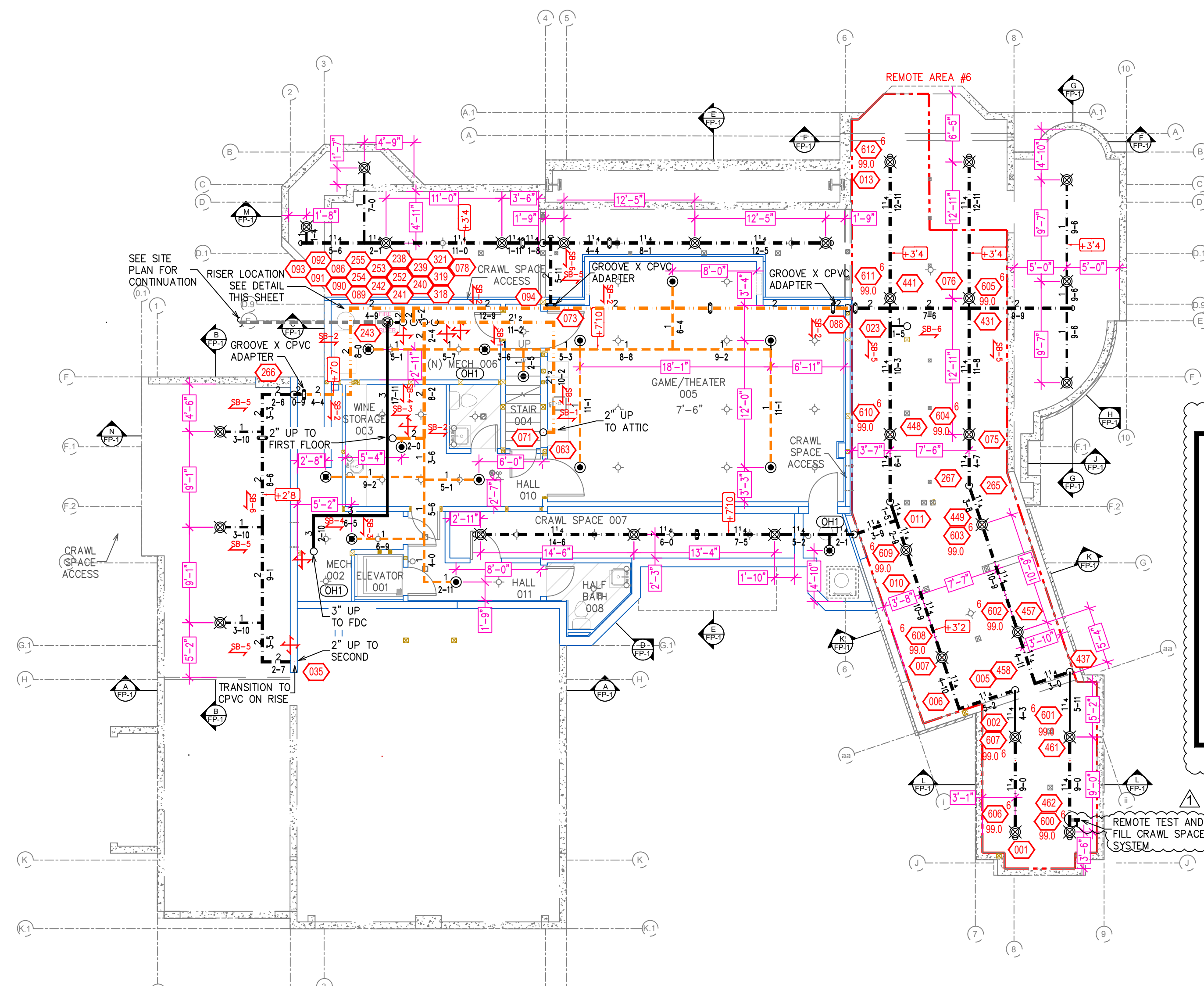
12/7/2020, 12:02:59 PM  
Design Code Reference Document: IBC-2015  
Risk Category: II  
Site Class: D - SHIF Soil

Type	Value	Description
S <sub>0</sub>	1.738	MCE <sub>0</sub> ground motion, (for 0.2 second period)
S <sub>1</sub>	0.592	MCE <sub>1</sub> ground motion, (for 1.0s period)
S <sub>max</sub>	1.738	Site-modified spectral acceleration value
S <sub>avg</sub>	0.887	Site-modified spectral acceleration value
S <sub>0.2s</sub>	1.159	Numeric seismic design value at 0.2 second SA
S <sub>1.0s</sub>	0.592	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F <sub>a</sub>	1	Site amplification factor at 0.2 second
F <sub>v</sub>	1.5	Site amplification factor at 1.0 second
PGA	0.646	MCE <sub>0</sub> peak ground acceleration
PGA <sub>0.2</sub>	1	Site amplification factor at PGA
PGA <sub>1.0</sub>	0.646	Site modified peak ground acceleration
T <sub>l</sub>	6	Long-period transition period in seconds
SaRT	1.738	Probabilistic risk-targeted ground motion, (0.2 second)
SaUH	1.844	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SaD	2.678	Factored deterministic acceleration value, (0.2 second)
SaIRT	0.592	Probabilistic risk-targeted ground motion, (1.0 second)
SaIHD	0.643	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SaD	0.918	Factored deterministic acceleration value, (1.0 second)
PGA <sub>d</sub>	0.59	Factored deterministic acceleration value, (Peak Ground Acceleration)
C <sub>0.2</sub>	0.943	Mapped value of the risk coefficient at short periods
C <sub>1.0</sub>	0.92	Mapped value of the risk coefficient at a period of 1 s



**SITE PLAN**  
SCALE: N.T.S.



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

**PIPE LEGEND**

- BLACK STEEL PIPING
- - - BLACK STEEL ANTI-FREEZE SYSTEM PIPING
- · - · - CPVC ANTI-FREEZE SYSTEM PIPING
- · - · - CPVC WET SYSTEM PIPING

**REMOTE AREA 6**  
Hydraulically Calculated System

This system as shown on Fire Protection Plan company print no. [FP1] dated 12/15/2020 for 857 LAKESHORE BLVD.

at CRAWL SPACE contract no. [ ] is designed to discharge at a rate of 0.15 gpm (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of 1,000 sq ft (m<sup>2</sup>) when supplied with water at the rate of 185.5 gpm (L/min) at 88.2 psi (bars) at the base of the riser.

Hose stream allowance of 250 gpm (L/min) is included in the above.

Occupancy classification 13 - CH1  
Commodity classification NA  
Maximum storage height NA  
Safety factor 42.7

**SYSTEM NOTES**

ZONE	AREA SERVED	SYSTEM VOLUME	SYSTEM TYPE
ZONE 1	MAIN HOUSE	87 GAL.	WATER
ZONE 2	GARAGE	21 GAL.	ANTI-FREEZE
ZONE 3	CRAWL SPACE	37 GAL.	ANTI-FREEZE
ZONE 4	ATTIC	33 GAL.	ANTI-FREEZE

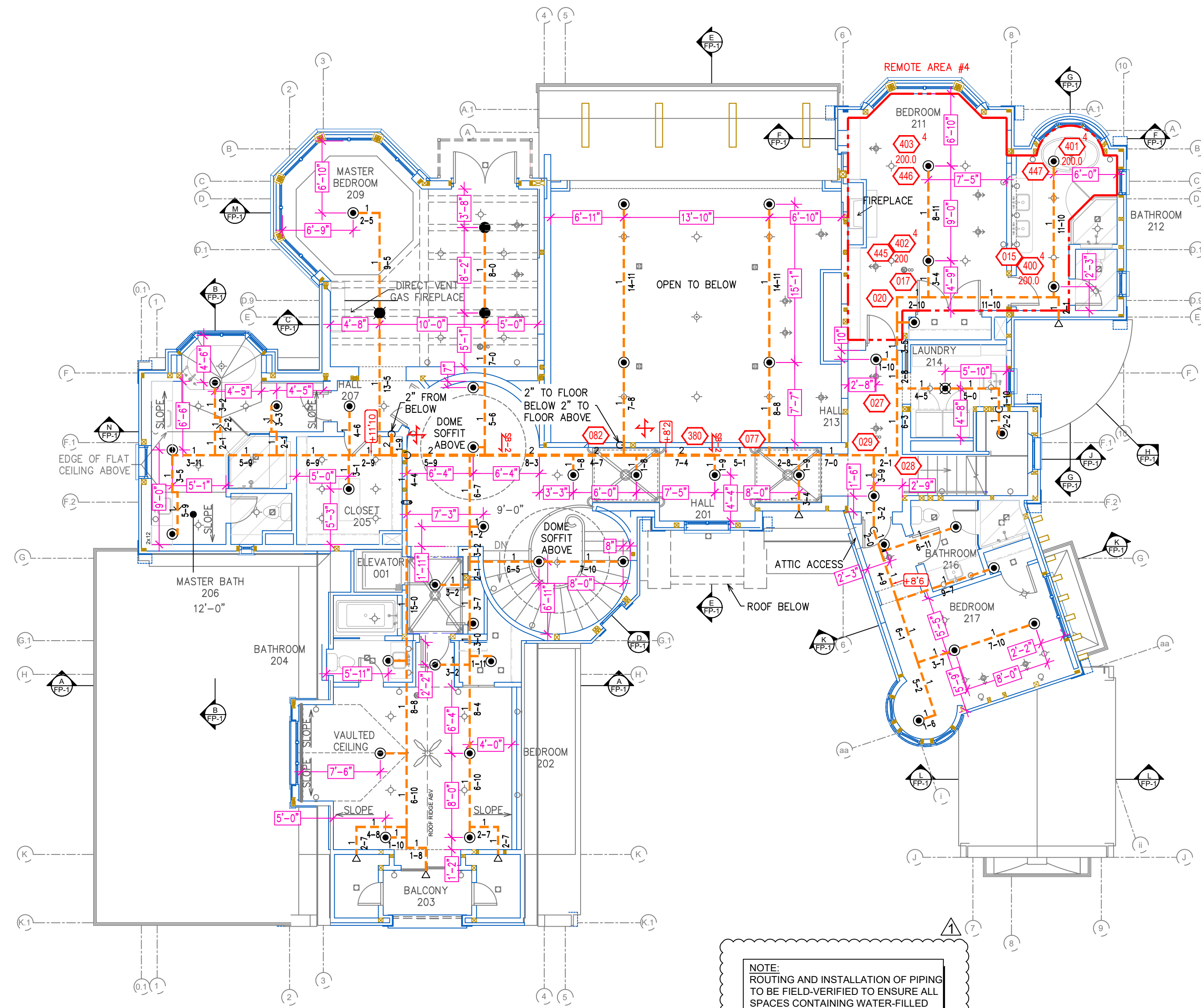
**REMOTE AREA 4**  
Hydraulically Calculated System

This system as shown on Fire Protection Plan company print no. [FP1] dated 12/15/2020 for 857 LAKESHORE BLVD.

at BEDROOM 211 contract no. [ ] is designed to discharge at a rate of 0.10 gpm (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of 13.4 SPRINKLER HEADS sq ft (m<sup>2</sup>) when supplied with water at the rate of 185.5 gpm (L/min) at 88.2 psi (bars) at the base of the riser.

Hose stream allowance of 100 gpm (L/min) is included in the above.

Occupancy classification 13 - LIGHT RESID  
Commodity classification NA  
Maximum storage height NA  
Safety factor 23.4



**SECOND FLOOR FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

**REMOTE AREA 1**  
Hydraulically Calculated System

This system as shown on Fire Protection Plan company print no. [FP1] dated 12/15/2020 for 857 LAKESHORE BLVD.

at BUNKROOM contract no. [ ] is designed to discharge at a rate of 0.10 gpm (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of 13.4 SPRINKLER HEADS sq ft (m<sup>2</sup>) when supplied with water at the rate of 185.5 gpm (L/min) at 88.2 psi (bars) at the base of the riser.

Hose stream allowance of 100 gpm (L/min) is included in the above.

Occupancy classification 13 - LIGHT RESID  
Commodity classification NA  
Maximum storage height NA  
Safety factor 31.9

**REMOTE AREA 2**  
Hydraulically Calculated System

This system as shown on Fire Protection Plan company print no. [FP1] dated 12/15/2020 for 857 LAKESHORE BLVD.

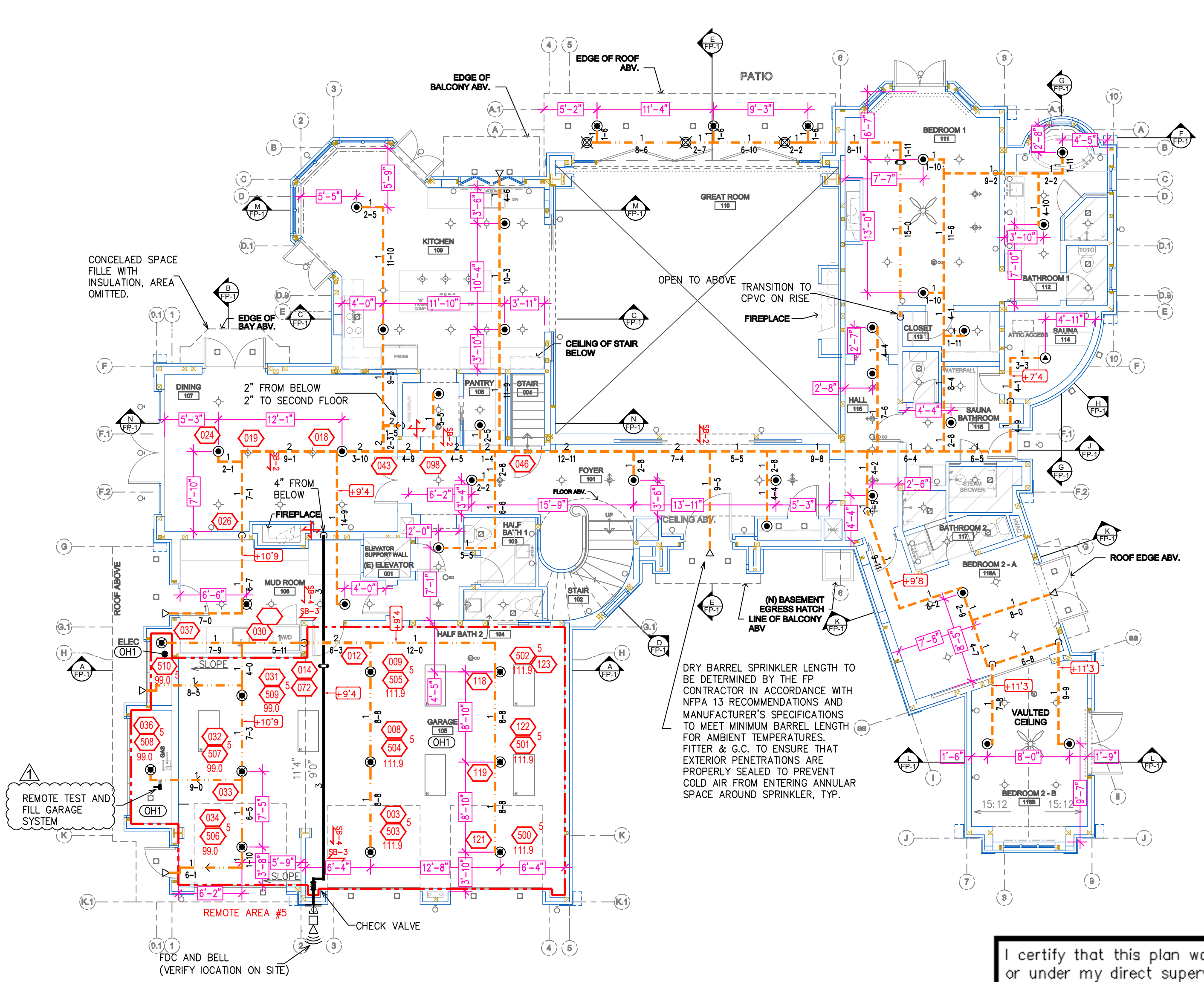
at 1ST FLOOR ATTIC contract no. [ ] is designed to discharge at a rate of 0.10 gpm (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of 1,330 sq ft (m<sup>2</sup>) when supplied with water at the rate of 440.3 gpm (L/min) at 87.2 psi (bars) at the base of the riser.

Hose stream allowance of 100 gpm (L/min) is included in the above.

Occupancy classification 13 - LIGHT RESID  
Commodity classification NA  
Maximum storage height NA  
Safety factor 15.4

NOTE: ENTIRE ATTIC SYSTEM CALCULATED

NOTE: ROUTING AND INSTALLATION OF PIPING TO BE FIELD-VERIFIED TO ENSURE ALL SPACES CONTAINING WATER-FILLED PIPE ARE INSTALLED AND HAVE SUFFICIENT HEAT TO MAINTAIN AT 40°FDF OR HIGHER AT ALL TIMES.



**FIRST FLOOR FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

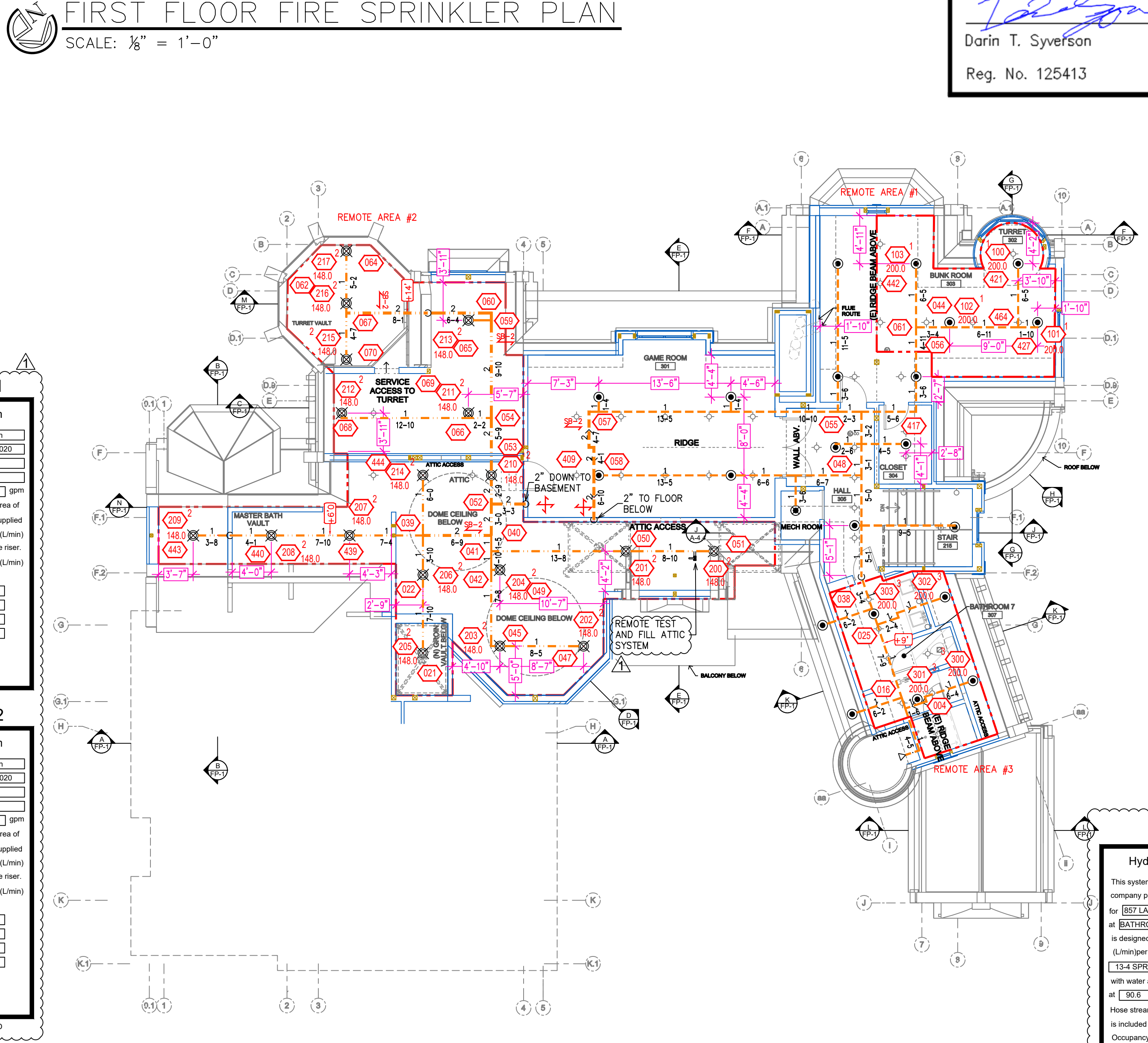
**REMOTE AREA 5**  
Hydraulically Calculated System

This system as shown on Fire Protection Plan company print no. [FP1] dated 12/15/2020 for 857 LAKESHORE BLVD.

at GARAGE contract no. [ ] is designed to discharge at a rate of 0.15 gpm (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of 1,000 sq ft (m<sup>2</sup>) when supplied with water at the rate of 185.5 gpm (L/min) at 88.2 psi (bars) at the base of the riser.

Hose stream allowance of 250 gpm (L/min) is included in the above.

Occupancy classification 13 - CH1  
Commodity classification NA  
Maximum storage height NA  
Safety factor 23.7



**THIRD FLOOR FIRE SPRINKLER PLAN**  
SCALE: 1/8" = 1'-0"

**REMOTE AREA 3**  
Hydraulically Calculated System

This system as shown on Fire Protection Plan company print no. [FP1] dated 12/15/2020 for 857 LAKESHORE BLVD.

at BATHROOM 7 contract no. [ ] is designed to discharge at a rate of 0.10 gpm (L/min) per sq ft (m<sup>2</sup>) of floor area over a maximum area of 13.4 SPRINKLER HEADS sq ft (m<sup>2</sup>) when supplied with water at the rate of 185.5 gpm (L/min) at 88.2 psi (bars) at the base of the riser.

Hose stream allowance of 100 gpm (L/min) is included in the above.

Occupancy classification 13 - LIGHT RESID  
Commodity classification NA  
Maximum storage height NA  
Safety factor 22.9

certify that this plan was prepared by me or under my direct supervision and that I am NICET Certified at Level IV in Water-Based Sprinkler System Layout.

*Darin T. Syverson*  
Darin T. Syverson  
Reg. No. 125413 03/18/2021

NO.	DATE	REVISIONS	DRAWN	CHECKED

GENERAL CONTRACTOR: AUTHORITY HAVING JURISDICTION: NORTH LAKE TOWN FIRE PROTECTION DISTRICT  
ADDRESS: 888 ORCHIE WAY  
CITY: INCLINE VILLAGE, NV 89451  
PHONE: [ ]  
CONTACT: [ ]

ARCHITECT: FIELD INSPECTIONS:  
ADDRESS: [ ]  
CITY: [ ]  
PHONE: [ ]

- FIRE SPRINKLER NOTES:**
- THE PROPOSED FIRE SPRINKLER SYSTEM IS A SINGLE ZONE WET SYSTEM PROTECTING THE MAIN HOUSE AND TWO ANTI-FREEZE ZONES PROTECTING THE CRAWL SPACE AND ATTIC. ALL ZONES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13 (2019 EDITION) AND THE AUTHORITY HAVING JURISDICTION.
  - THIS SPRINKLER SYSTEM IS HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA 13
  - DESIGN CRITERIA
    - BATHROOMS UNDER 55 SQFT OMITTED PER SECTION 9.2.4.1.1.
    - DESIGN AREA REDUCTIONS PER SECTION 19.3.2.2.1 ARE APPLIED WHERE APPLICABLE.
    - ANTI-FREEZE SYSTEMS VOLUMES:
      - CRAWLSPACE SYSTEM - 37 GAL.
      - ATTIC SYSTEM - 33 GAL.
  - ALL HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 REQUIREMENTS.
  - HOLES THROUGH SOLID STRUCTURAL MEMBERS SHALL BE PERMITTED TO SERVE AS HANGERS FOR THE SUPPORT OF SYSTEM PIPING.
  - ALL SYSTEM PIPING SHALL BE TESTED FOR LEAKAGE PER NFPA 25 REQUIREMENTS.
  - THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING A MINIMUM TEMPERATURE OF 40°F FAHRENHEIT TO PROTECT FROM FREEZING.
  - ALL DIMENSIONS SHOWN ARE CENTER TO CENTER U.O.N.

**SPRINKLER HEAD LEGEND**

SYM	QTY	TYPE	MP	MODEL #	HFT	K	TEMP	FINISH	SJ/L
⊙	20	PENDENT	RELIABLE	FFR56	1/2"	5.6	250°	WHITE	RA1414
⊙	99	PENDENT	RELIABLE	FFR	1/2"	4.9	165°	WHITE	RA0616
⊙	1	PENDENT	RELIABLE	FFR56	1/2"	5.6	250°	WHITE	RA1414
⊙	2	PENDENT	RELIABLE	FFR	1/2"	4.9	252°	WHITE	RA0616
⊙	51	UPRIGHT	RELIABLE	FFR56	1/2"	5.6	150°	BRASS	RA1370
⊙	12	SIDE	RELIABLE	F30R	1"	5.6	200°	CHROME	RS174
⊙	1	PENDENT	RELIABLE	F1 RES	1/2"	4.90	175°	WHITE	RA3516
⊙	2	PENDENT	RELIABLE	F1 RES	1/2"	4.90	155°	WHITE	RA3516

- 188 TOTAL SPRINKLERS ON THIS SHEET**
- FIRE SPRINKLER SYMBOLS**
- ⊕ AUTOMATIC SPRINKLER RISER
  - ⊕ EARTHQUAKE BRACING
  - ⊕ PIPE HANGER & 4-WAY
  - ⊕ TYPE DESIGNATION
  - ⊕ HYDRAULIC REF PT
  - ⊕ GRVD OR THRD CAP
  - ⊕ GRVD COUPLING
  - ⊕ TYPICAL POINT OF CONNECTION (POC)
  - ⊕ 13" ELEV. BELOW DECK OR TOS
  - ⊕ 12" - 9" ELEV. ABOVE FINISHED FLOOR
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**PROJECT NAME:**  
FIRE SPRINKLER PLANS FOR  
**857 LAKESHORE**  
857 LAKESHORE BLVD  
INCLINE VILLAGE, NV 89451

**DRAWING TITLE:**  
**FIRE SPRINKLER PLAN**

SCALE: 1/8" = 1'-0"	JOB NO.: 12/15/2020
DRAWN BY: [ ]	DWG NO.: [ ]
BORN ON DATE: 12/15/2020	FP-2
FILE: 12/15/2020	SHEET 2 OF 3

