

2-1/2" X 2-1/2" X 4" ROUGH-BRASS FDC WITH ALARM STROBE ABOVE. LOCATION TO BE APPROVED BY THE LOCAL AHJ.

FIRST FLOOR - AREA A
SCALE: 1/8" = 1'-0"

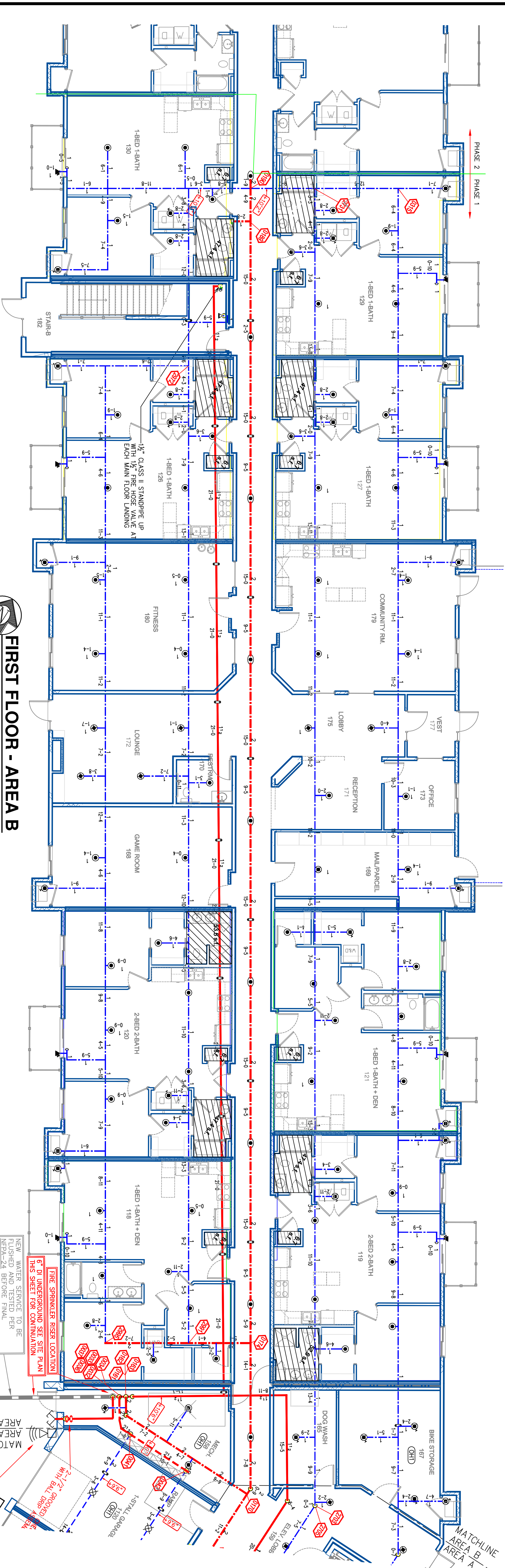
PIPE LEGEND

---	WET STEEL
---	WET CPVC

Design Area #1: HAZARD 1
Zone First Floor System Type: 1
Location: Garage
Flowing Outlet: Remote Area: 800
Density: 15 gpm @ 39.2 ps
Calculation Safety: 39.6 ps
Includes: 280 gpm flow distance

NOTES:

1. FIRE ALARMS - SET BY THE LOCAL AHJ - CONSULT WITH THE LOCAL AHJ FOR THE BEST TANKING AND SIZING OF THE ALARMS.
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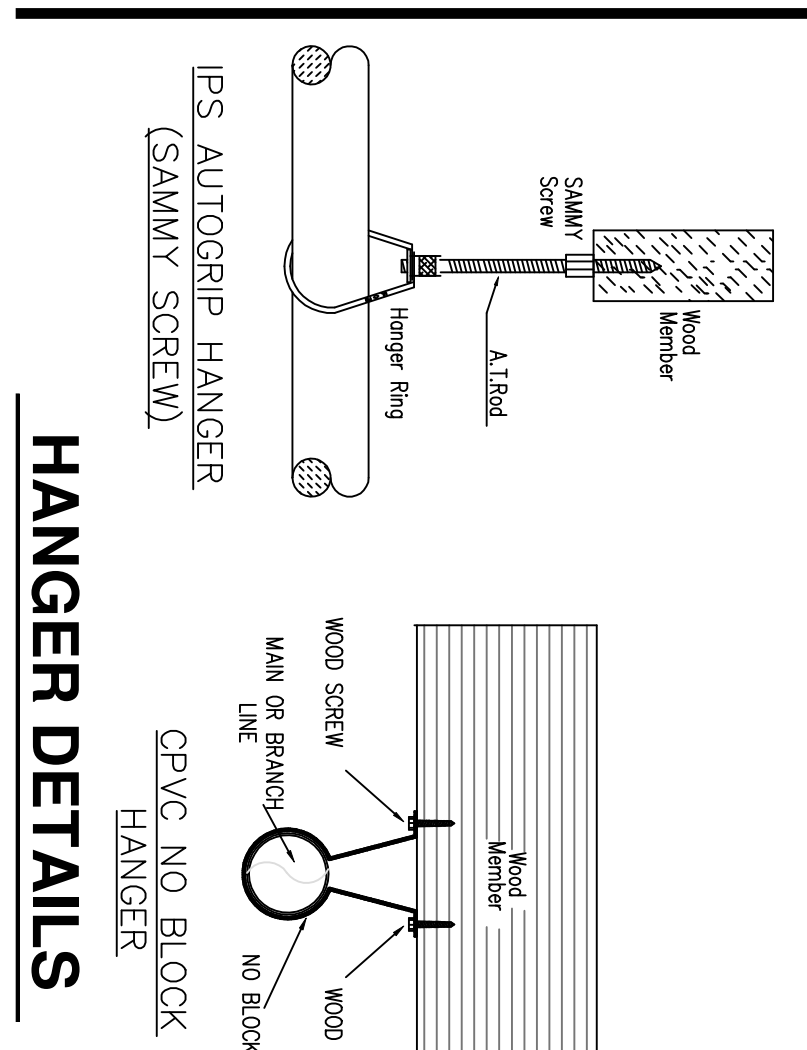


FIRST FLOOR - AREA B
SCALE: 1/8" = 1'-0"

MAXIMUM DISTANCE BETWEEN HANGERS (FT. - IN.)

PIPE SIZE (IN.)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
STEEL PIPE EXCEPT HEAVY-DUTY LIGHTWALL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STEEL PIPE	5-8	6-0	6-4	7-0	8-0	8-0	8-0	8-0	8-0	8-0
BRASS/STAINLESS STEEL PIPE	5-8	6-0	6-4	7-0	8-0	8-0	8-0	8-0	8-0	8-0

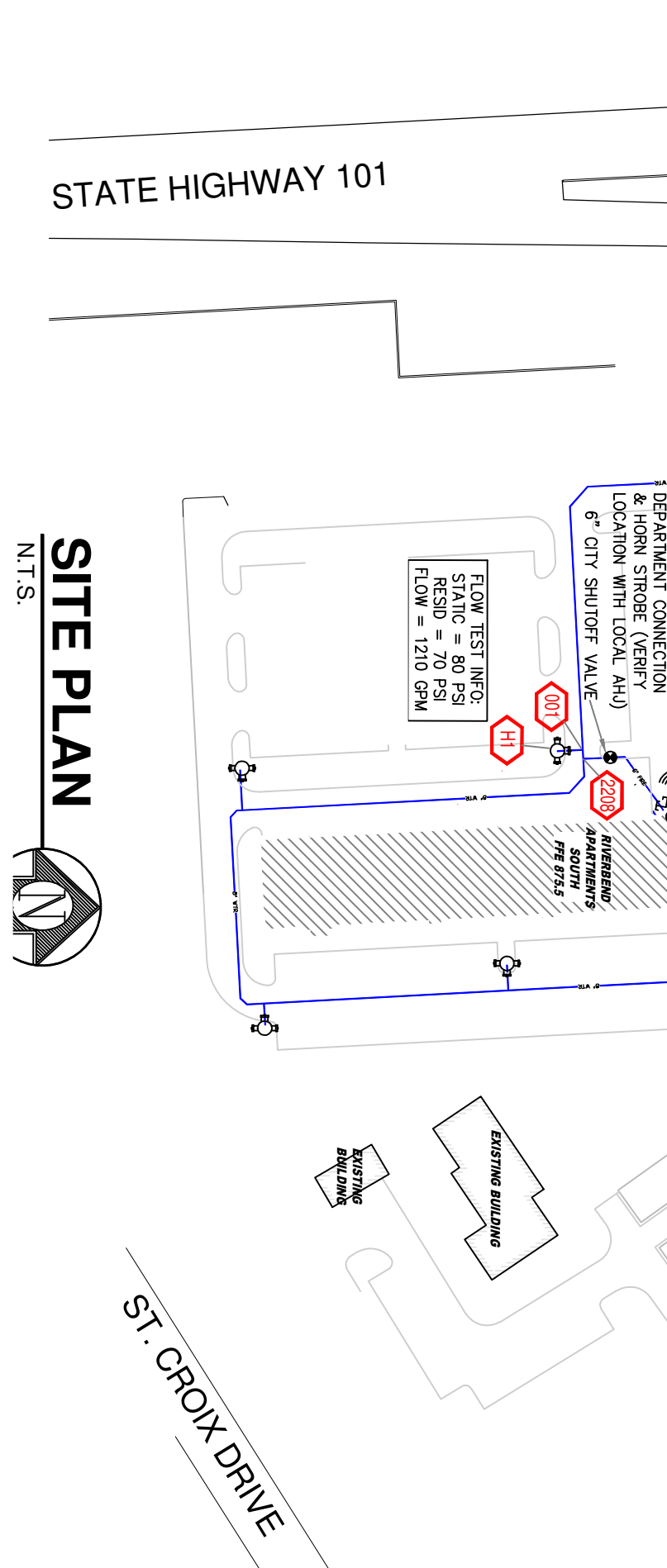
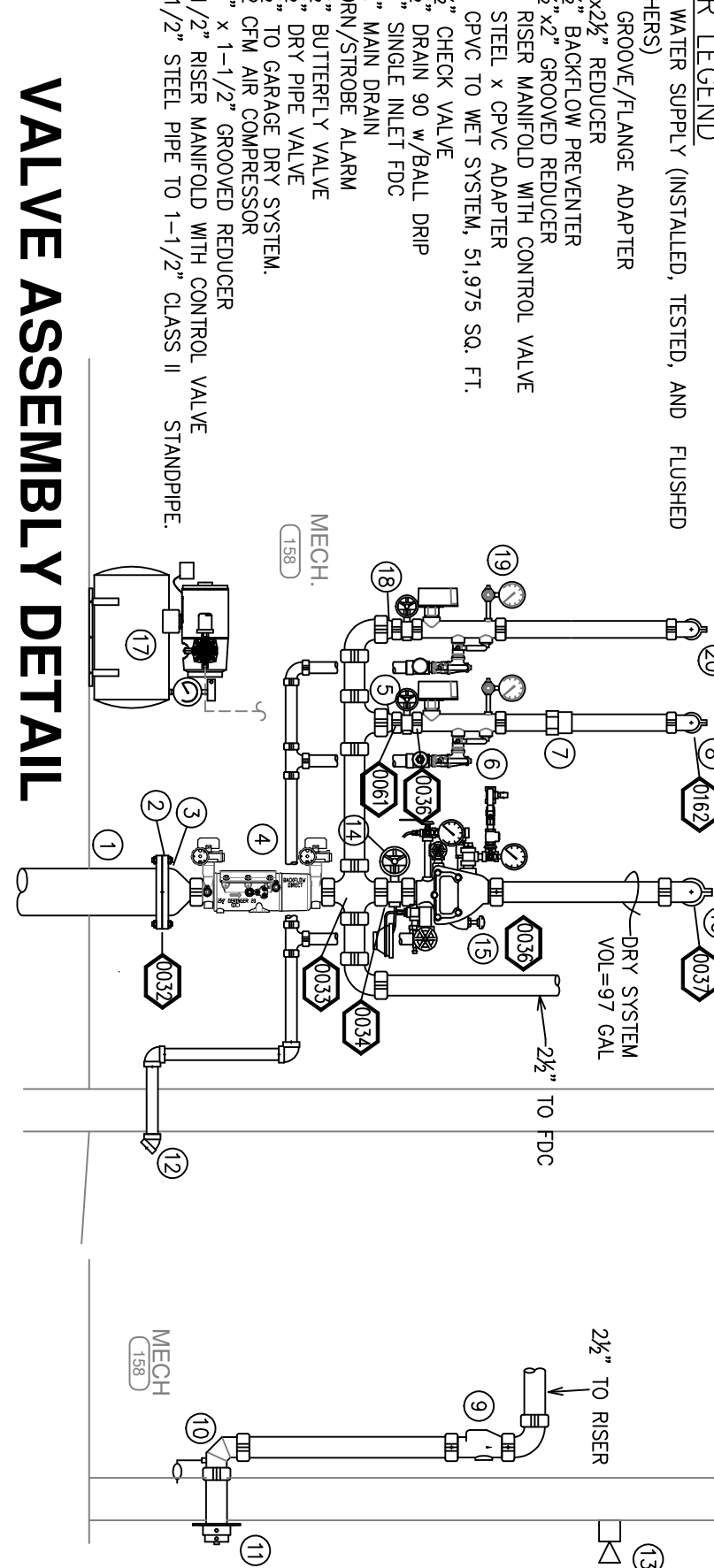
NFPA 13 HANGER SPACING



HANGER DETAILS

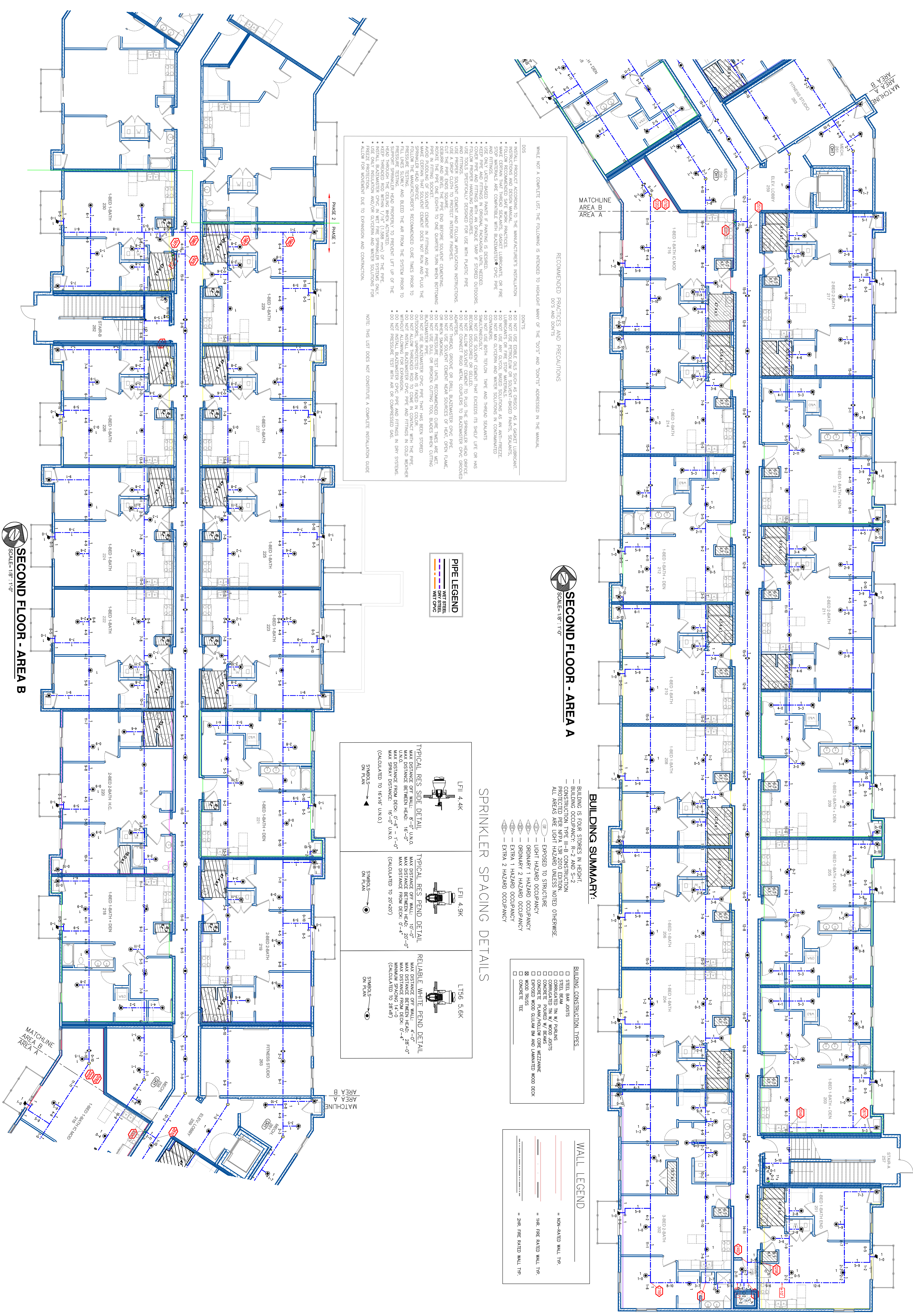
Use Hilti FS-1 Fire Stop

INSTALLATION DETAILS



SITE PLAN
N.T.S.





SECOND FLOOR - AREA A
SCALE: 1/8" = 1'-0"

SECOND FLOOR - AREA B
SCALE: 1/8" = 1'-0"

PIPE LEGEND

- Water Piping
- Wet Standstill
- Dry Standstill
- Wet CPVC

PIPE LEGEND

- Water Piping
- Wet Standstill
- Dry Standstill
- Wet CPVC

RECOMMENDED PRACTICES AND PRECAUTIONS
D.O'S AND DON'TS

DON'TS
 • DO NOT USE ENBLE GAS SUCH AS ARGON, AS A SOLVENT LIBERANT.
 • DO NOT USE FIBERGLASS OR SOLVENT-BASED PAINTS, SEALANTS, OR ADHESIVES ON THE STOP MATERIALS.
 • STOP MATERIALS ARE COMPATIBLE WITH BLAZEMASTER™ CPVC PIPE AND FITTINGS.
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DO'S
 • KEEP PIPE AND FITTINGS IN ORIGINAL PACKAGING UNTIL NEEDED.
 • USE PROPER SOLVENT CEMENT AND FOLLOW APPLICATION INSTRUCTIONS.
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SPRINKLER SPACING DETAILS

LF11 4.4K	LF11 4.9K	LT56 5.6K
MAX DISTANCE OF WALL: 8'-0" UNCL	MAX DISTANCE OF WALL: 10'-0" UNCL	MAX DISTANCE OF WALL: 10'-0" UNCL
MAX DISTANCE BETWEEN HEADS: 16'-0" UNCL	MAX DISTANCE BETWEEN HEADS: 16'-0" UNCL	MAX DISTANCE BETWEEN HEADS: 16'-0" UNCL
MAX DISTANCE FROM DECK: 0'-7" UNCL	MAX DISTANCE FROM DECK: 0'-7" UNCL	MAX DISTANCE FROM DECK: 0'-7" UNCL
(CALCULATED TO 16'x16' UNCL)	(CALCULATED TO 25'x25')	(CALCULATED TO 25'x25')

BUILDING SUMMARY:

- BUILDING IS FOUR STORES IN HEIGHT
- BUILDING OCCUPANCY: R-2 AND S-2
- CONSTRUCTION TYPE: III-B CONSTRUCTION
- PROTECTED PER NFPA 13R 2010 EDITION
- ALL AREAS ARE LIGHT HAZARD UNLESS NOTED OTHERWISE.
- (B) — EXPOSED TO STRUCTURE
- LIGHT HAZARD OCCUPANCY
- ORDINARY 1 HAZARD OCCUPANCY
- EXTRA 1 HAZARD OCCUPANCY
- EXTRA 2 HAZARD OCCUPANCY

BUILDING CONSTRUCTION TYPES:

- STEEL I-BEAM JOISTS
- STEEL BEAM TYP W/PIRANES
- CORRUGATED IN W/ WOOD JOISTS
- CONCRETE FISHED W/ BEAMS
- EXPOSED WOOD TRUSS AND LAMINATED WOOD DECK
- WOOD TRUSS
- CONCRETE TIE

WALL LEGEND

- NON-RATED WALL TYPE
- 1HR. FIRE RATED WALL TYPE
- 2HR. FIRE RATED WALL TYPE

NOTE: THIS LIST DOES NOT CONSTITUTE A COMPLETE INSTALLATION GUIDE.

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PHASE 2 / PHASE 1

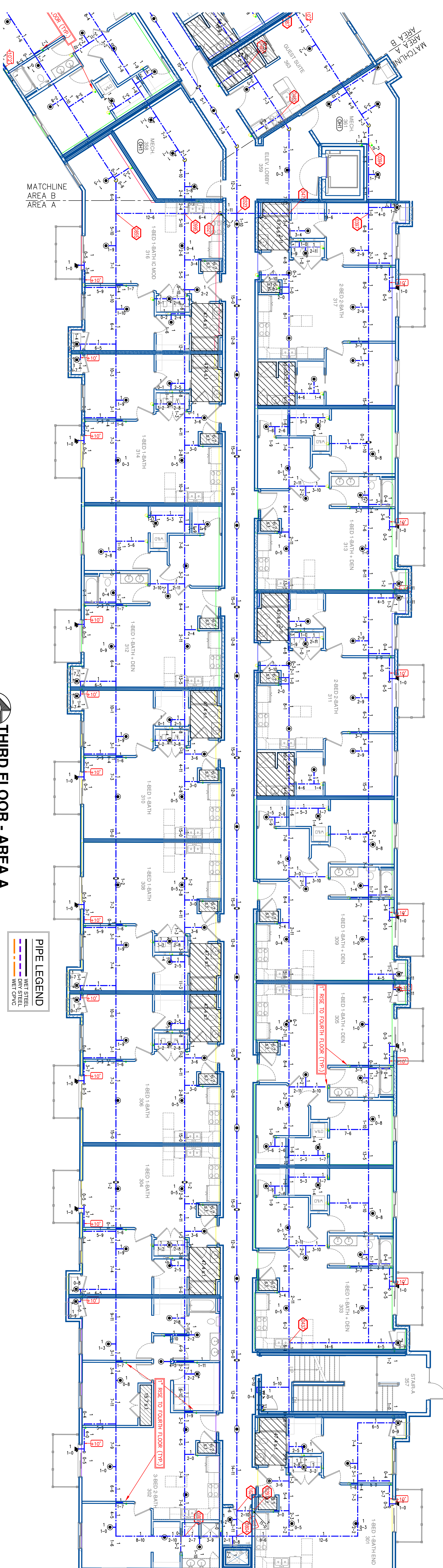
PHASE 2 / PHASE 1

WALL LEGEND

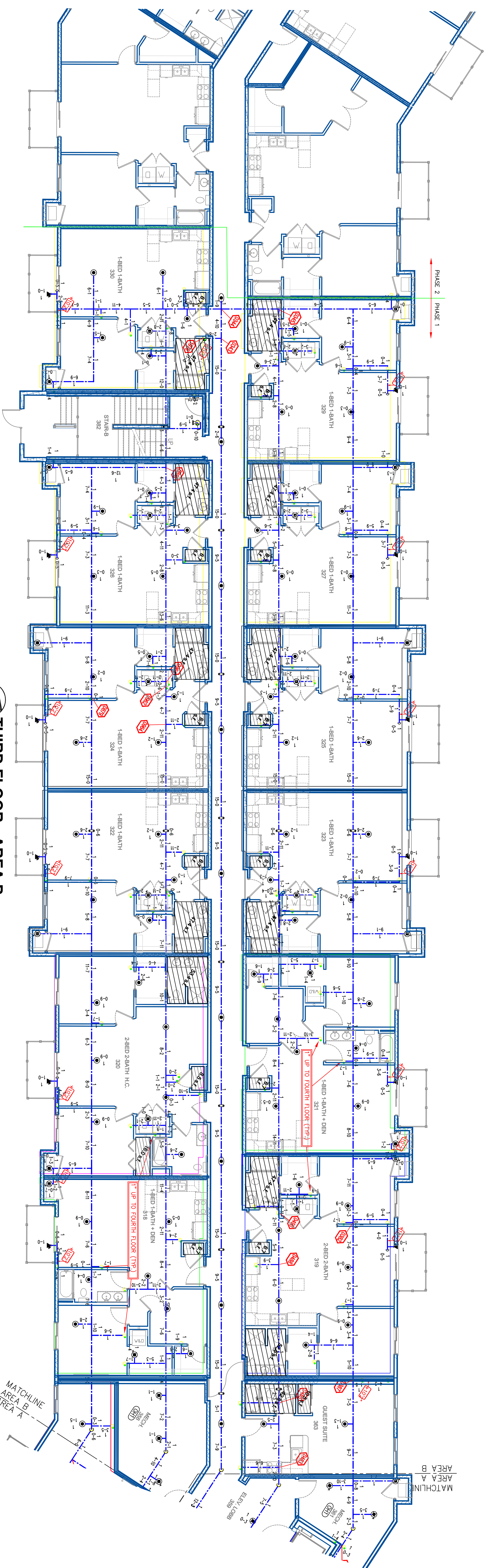
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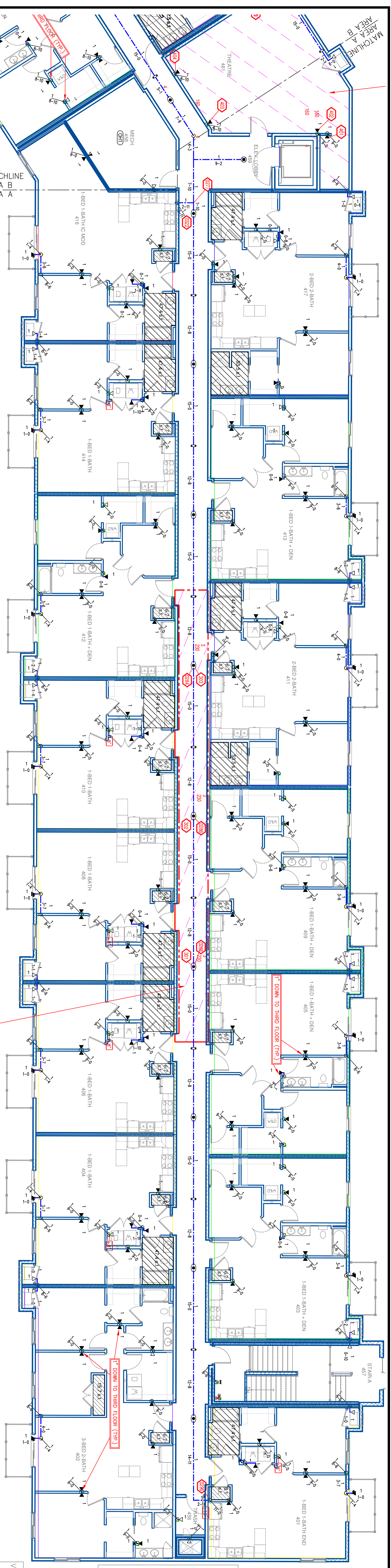
- NON-RATED WALL TYPE
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THIRD FLOOR - AREA A
SCALE: 1/8" = 1'-0"



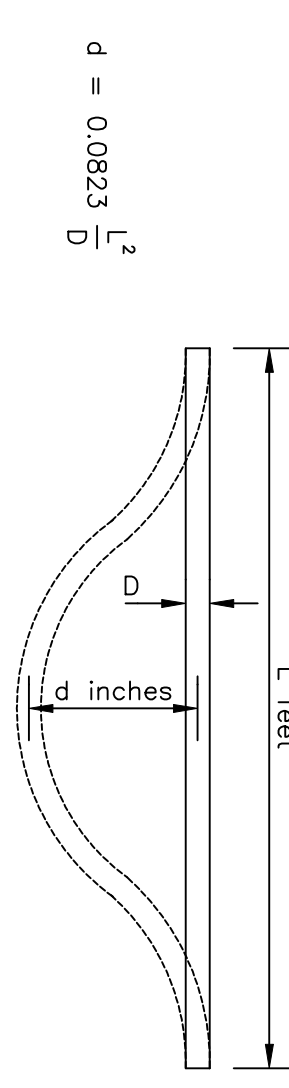
THIRD FLOOR - AREA B
SCALE: 1/8" = 1'-0"



FOURTH FLOOR - AREA A
SCALE: 1/8" = 1'-0"

PERMISSIBLE BENDING DEFLECTIONS SDR 13.5 (73°F)
(BOTH ENDS RESTRAINED)

PIPE SIZE	LENGTH OF RUN (L) IN FEET												
2"	5'	7'	10'	12'	15'	17'	20'	25'	30'	35'	40'	45'	50'
3/4"	0.3"	2.0"	3.8"	7.8"	11.3"	17.6"	22.6"	31.3"	48.0"	70.5"	96.0"	125.4"	158.7"
1"	0.5"	1.6"	3.1"	6.3"	9.0"	14.1"	18.3"	25.0"	38.1"	56.3"	80.0"	103.3"	136.4"
1 1/4"	0.2"	1.2"	2.4"	4.8"	7.2"	10.8"	14.3"	19.8"	29.7"	43.6"	60.0"	79.2"	102.9"
1 1/2"	0.2"	1.2"	2.4"	4.8"	7.2"	10.8"	14.3"	19.8"	29.7"	43.6"	60.0"	79.2"	102.9"
2"	0.1"	0.7"	1.4"	2.8"	4.1"	6.4"	8.3"	11.4"	17.9"	26.8"	35.1"	45.6"	57.8"
2 1/2"	0.1"	0.7"	1.4"	2.8"	4.1"	6.4"	8.3"	11.4"	17.9"	26.8"	35.1"	45.6"	57.8"
3"	0.1"	0.6"	1.2"	2.4"	3.4"	5.3"	6.9"	9.4"	14.7"	21.2"	28.8"	37.6"	47.6"



PIPE LEGEND

- BLAZEMASTER@ PIPE
- WET STEEL
- WET PVC

BLAZEMASTER@ PIPE
SDR 13.5 (ASTM F442)
HANGER SPACING

NOMINAL SIZE	MAX SPACING	INCHES	FEET
3/4"	(22.0)	3.5	(1.1)
1"	(25.0)	6.0	(1.9)
1 1/4"	(40.0)	7.0	(2.1)
2"	(50.0)	8.0	(2.4)
2 1/2"	(65.0)	9.0	(2.7)
3"	(80.0)	10.0	(3.0)

TABLE 1
MAXIMUM SUPPORT SPACING DISTANCE
END LINE SPRINKLER HEAD DROP ELEVATION

PIPE SIZE	< 100 PSI SYSTEM PRESSURE	> 100 PSI
3/4"	12'	9'
1"	12'	9'
1 1/4"	12'	12'
1 1/2"	12'	12'
2"	12'	12'
2 1/2"	12'	12'
3"	12'	12'

CALC PLACARD

Design Area: E.3
Zone: 4th Floor System Type: Wet
Location: Corridor

Flowing Outlets: 3
Remain Area: 890
Flow: 169.9 gpm @ 71 psi
Calculation Safety: 8.7
Includes: 100 gpm hose allowance

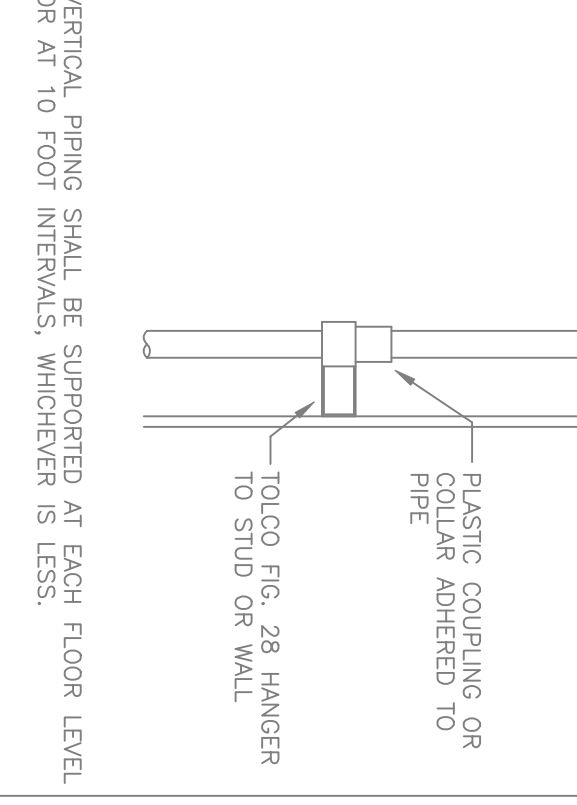
BLAZEMASTER@ PIPE DIMENSIONS

NOMINAL SIZE	AVERAGE OD	AVERAGE ID	POUNDS/FT
3/4"	(22.0)	1.050 (26.7)	1.68
1"	(25.0)	1.315 (33.2)	1.101 (28.0)
1 1/4"	(40.0)	1.660 (42.2)	1.994 (55.4)
1 1/2"	(40.0)	1.600 (48.3)	1.588 (46.6)
2"	(50.0)	2.375 (60.3)	2.903 (80.9)
2 1/2"	(65.0)	2.875 (73.0)	2.423 (67.5)
3"	(80.0)	3.500 (88.9)	2.951 (85.0)

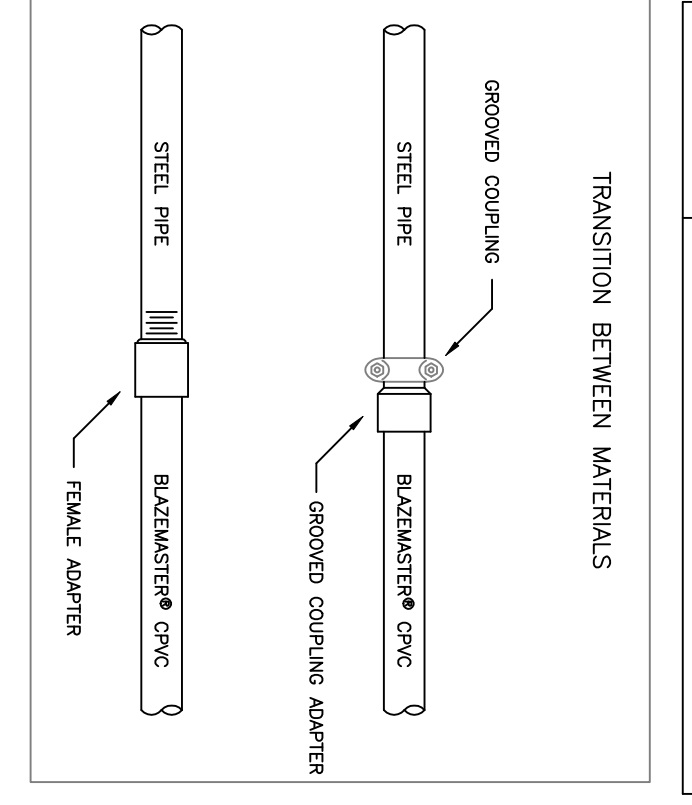
CURE TIMES WITH ONE STEP SOLVENT CEMENT
200 PSI (MAXIMUM TEST PRESSURE)

PIPE SIZE	60°F to 120°F Ambient Temperature During Cure Period	40°F to 59°F	0°F to 39°F
3/4"	45 min.	1.5 hr.	2 hr.
1"	1.5 hr.	1.5 hr.	2 hr.
1 1/4"	1.5 hr.	1.5 hr.	2 hr.
1 1/2"	1.5 hr.	1.5 hr.	2 hr.
2"	8 hr.	36 hr.	See Note 1
2 1/2"	8 hr.	72 hr.	See Note 1
3"	8 hr.	72 hr.	See Note 1

Note 1 For these sizes, the solvent cement can be applied at temperatures below 32°F, however, the sprinkler system temperature must be raised to a minimum of 32°F or above and allowed to cure per the above recommendations prior to pressure testing.

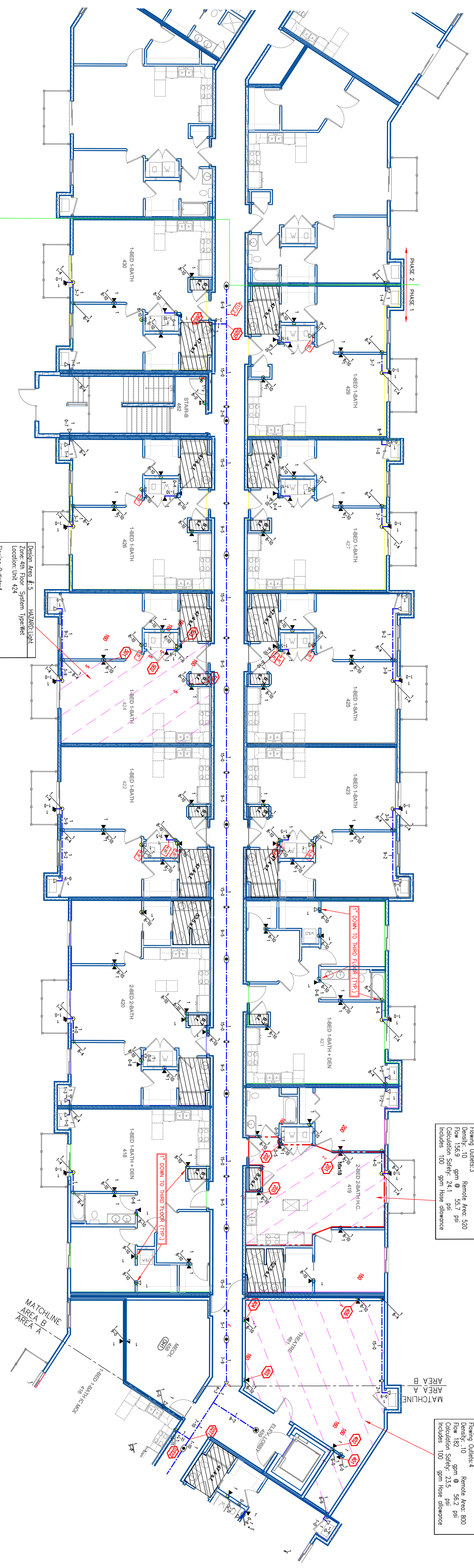


VERTICAL SUPPORT OF BLAZEMASTER@ PIPE AT MID FLOOR LOCATION



BLAZEMASTER@ PIPE ESTIMATING ONE STEP CEMENT REQUIREMENTS

FITTING SIZE	SAVING GRANT	number of joints per joint
3/4"	270	180
1"	180	130
1 1/4"	100	70
1 1/2"	70	50
2"	50	40
2 1/2"	50	40
3"	40	40



FOURTH FLOOR - AREA B
SCALE: 1/8" = 1'-0"

Design Area: E.3
Zone: 4th Floor System Type: Wet
Location: Unit 422

Flowing Outlets: 4
Remain Area: 640
Flow: 166.7 gpm @ 57 psi
Calculation Safety: 22.8
Includes: 100 gpm hose allowance

Design Area: E.2
Zone: 4th Floor System Type: Wet
Location: Unit 419

Flowing Outlets: 3
Remain Area: 520
Flow: 156.9 gpm @ 55.7 psi
Calculation Safety: 24.1
Includes: 100 gpm hose allowance

Design Area: E.4
Zone: 4th Floor System Type: Wet
Location: Theatrical 461

Flowing Outlets: 4
Remain Area: 800
Flow: 182 gpm @ 56.2 psi
Calculation Safety: 23.5
Includes: 100 gpm hose allowance