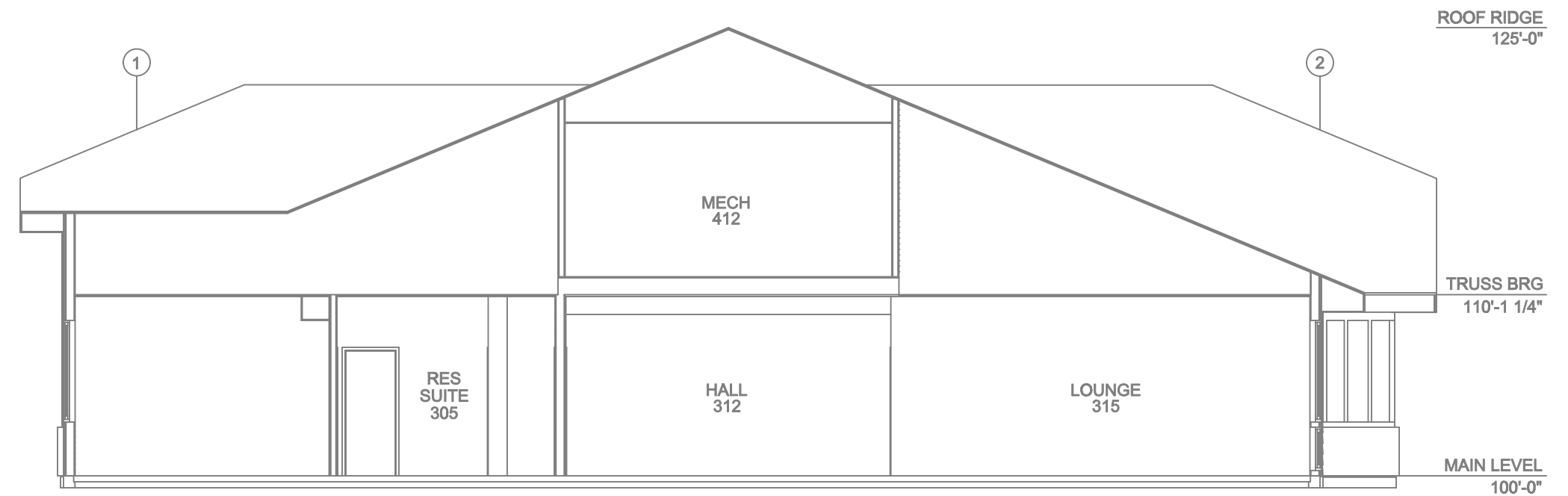


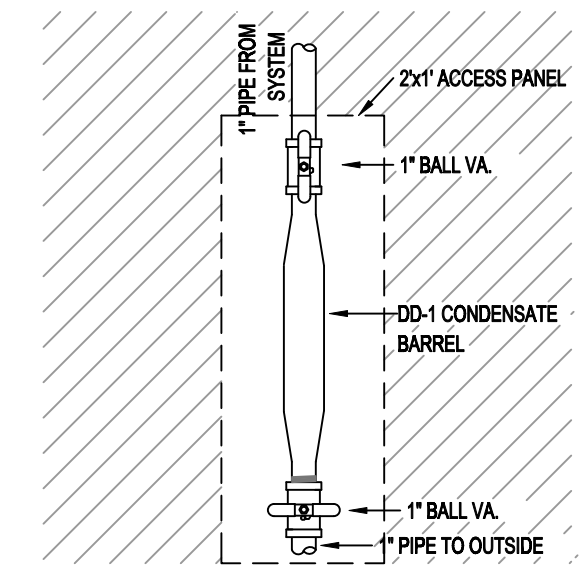
**B BUILDING SECTION**  
SCALE = 1/8" : 1'-0"



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

| SYM              | CNT | POSITION | FINISH | TEMP | K    | NPT  | SIN    | MFG.     | MODEL# | ESCUTCHEON  |
|------------------|-----|----------|--------|------|------|------|--------|----------|--------|-------------|
| 81               |     | UPRIGHT  | BRASS  | 212  | 5.00 | 1/2" | RA5626 | RELIABLE | AH56   | N/A         |
| 21               |     | UPRIGHT  | BRASS  | 200  | 5.00 | 1/2" | RA5624 | RELIABLE | DD564  | N/A         |
| 80               |     | UPRIGHT  | BRASS  | 212  | 5.00 | 1/2" | RA5625 | RELIABLE | DS56   | N/A         |
| 38               |     | SPRIG    | BRASS  | 212  | 5.00 | 1/2" | RA5626 | RELIABLE | AH56   | N/A         |
| 178              |     | UPRIGHT  | BRASS  | 200  | 5.00 | 1/2" | TY313  | TYCO     | TY-FRB | N/A         |
| 71               |     | PENDENT  | WHITE  | 105  | 4.00 | 1/2" | TY2236 | TYCO     | LF11   | 401         |
| 83               |     | SIDEWALL | WHITE  | 105  | 4.40 | 1/2" | TY2234 | TYCO     | LF11   | 401         |
| 80               |     | SIDEWALL | CHROME | 200  | 5.00 | 1/2" | TY3331 | TYCO     | TY-FRB | SEMI-RECESS |
| 170              |     | PENDENT  | CHROME | 200  | 5.00 | 1/2" | TY323  | TYCO     | TY-FRB | SEMI-RECESS |
| 88               |     | PENDENT  | CHROME | 200  | 5.00 | 1"   | RS714  | RELIABLE | FQ3R   | SEMI-RECESS |
| 81               |     | SPRIG    | BRASS  | 212  | 5.00 | 1/2" | RA5625 | RELIABLE | DS56   | N/A         |
| 80               |     | UPRIGHT  | BRASS  | 212  | 8.00 | 3/4" | RA5622 | RELIABLE | DD80-8 | N/A         |
| 18               |     | UPRIGHT  | BRASS  | 200  | 5.00 | 1/2" | TY3199 | TYCO     | CC-3   | N/A         |
| 100% TOTAL HEADS |     |          |        |      |      |      |        |          |        |             |

**SPRINKLER HEAD LEGEND**



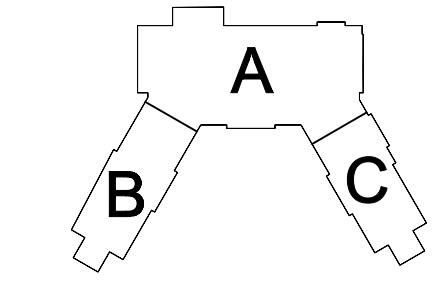
**DRUM DRIP DETAIL**

**NFPA 13 STEEL PIPE HANGER SPACING**  
(EXCEPT LIGHT WALL THRU PIPING)

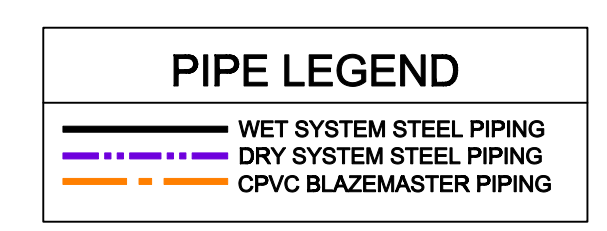
| NOMINAL SIZE INCHES | MAX SPACING feet |
|---------------------|------------------|
| 1"                  | 12'-0"           |
| 1-1/4"              | 12'-0"           |
| 1-1/2"              | 15'-0"           |
| 2"                  | 15'-0"           |
| 2-1/2"              | 15'-0"           |
| 3"                  | 15'-0"           |
| 4" & LARGER         | 15'-0"           |

**NFPA 13 CPVC PIPE HANGER SPACING**

| NOMINAL SIZE INCHES | MAX SPACING feet |
|---------------------|------------------|
| 3/4"                | 5'-8"            |
| 1"                  | 6'-0"            |
| 1-1/4"              | 6'-8"            |
| 1-1/2"              | 7'-0"            |
| 2"                  | 8'-0"            |
| 2-1/2"              | 9'-0"            |
| 3"                  | 10'-0"           |

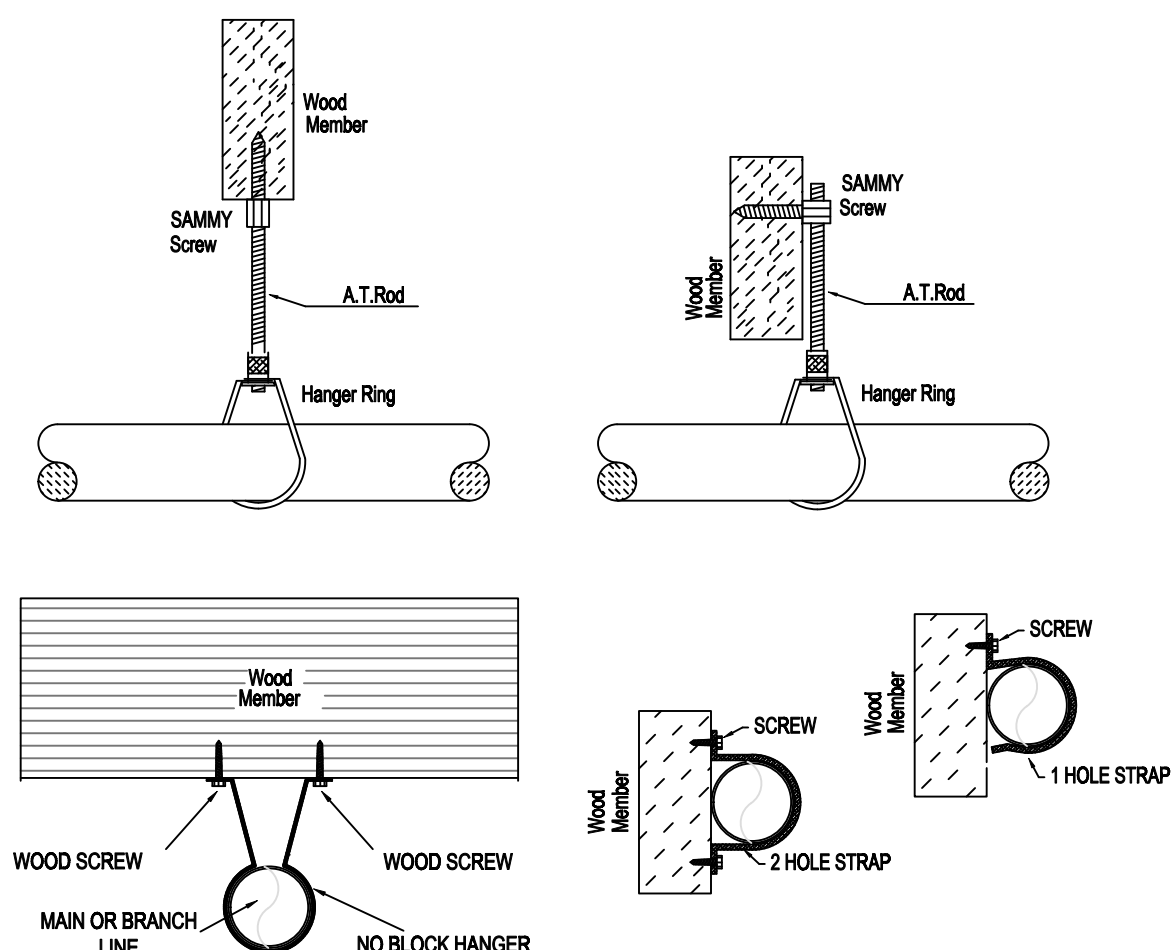


**KEY PLAN**

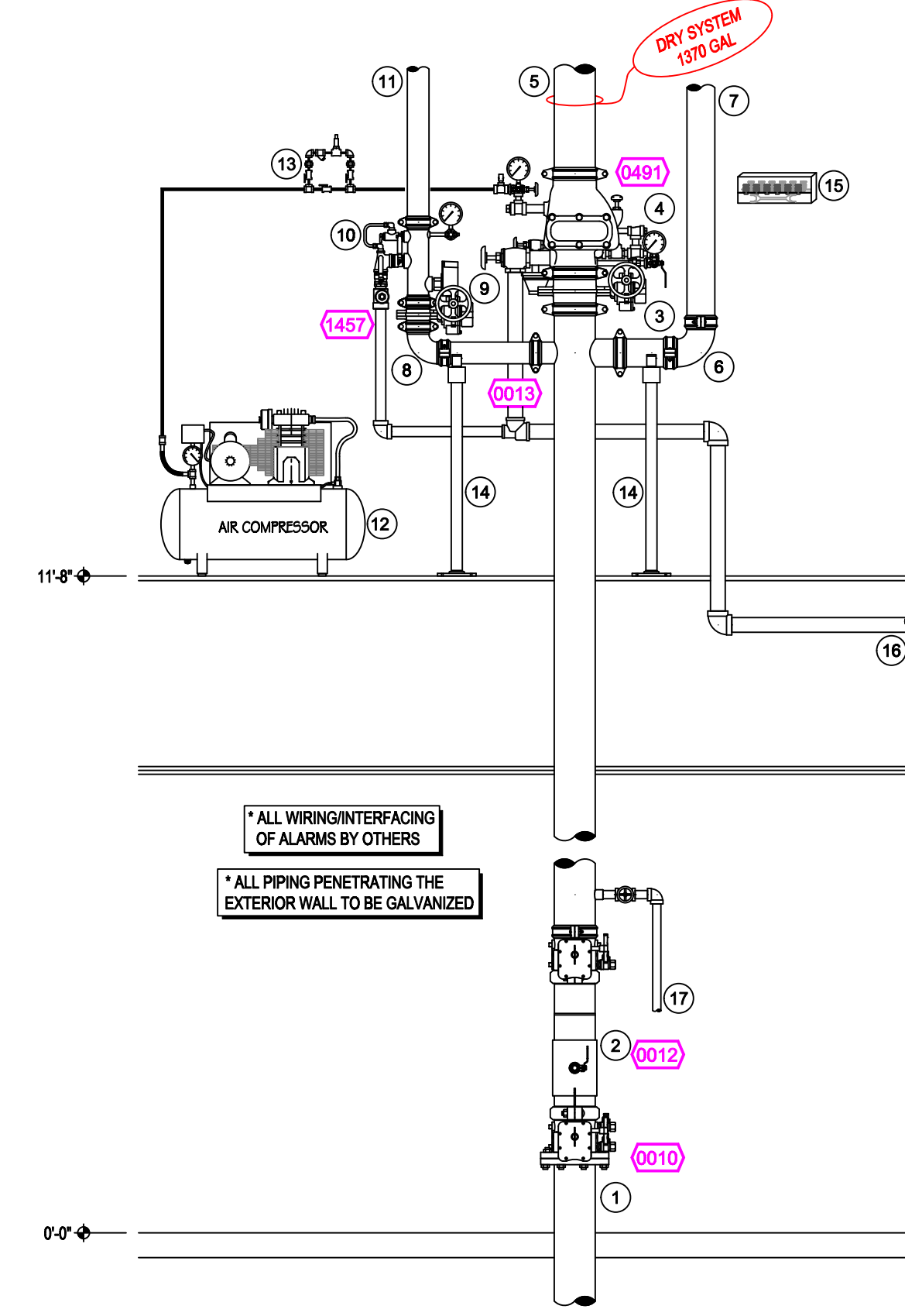


**GENERAL NOTES**

- MINNESOTA BUILDING CODE (2020)
  - OCCUPANCY-1, B, A-2, A-3
  - TYPE OF CONSTRUCTION-V
  - SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
    - MAIN LEVEL = 41,988 S.F.
    - DRY = 3,896 S.F. (ZONE 1)
    - WET = 38,308 S.F. (ZONE 2)
    - UPPER LEVEL = 17,888 S.F.
    - DRY = 6,418 S.F. (ZONE 1)
    - WET = 11,441 S.F. (ZONE 2)
    - ATTIC = 51,855 S.F. (ZONE 1)
  - INSTALLATION STANDARDS: SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13(2016)
- SPRINKLER PIPE TYPES:
  - WET-
    - 1" BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
    - 1/2" THROUGH 2" MAIN & BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
    - 1" BRANCH LINES TO BE BLK SCHEDULE 40 PIPING WITH THREADED FITTINGS
    - 1/2" THROUGH 2" MAIN & BRANCH LINES TO BE BLK SCHEDULE 10 PIPING WITH GROOVED FITTINGS
    - 2.5" MAINS & BRANCH LINES TO BE ROLL-GROOVED BLK SCHEDULE 10 PIPING
  - DRY-
    - 1" BRANCH LINES TO BE THREADED BLK SCHEDULE 40 WITH THREADED FITTINGS
    - 1/2" THROUGH 2" MAIN & BRANCH LINES TO BE GROOVED BLK SCHEDULE 40 WITH GROOVED FITTINGS
    - 2.5" MAINS & BRANCH LINES TO BE ROLL-GROOVED BLK SCHEDULE 40 PIPING
- DESIGN CRITERIA
  - OFFICES, RESIDENTIAL SUITES, HALLS, DINING, AND ATTIC DESIGNED TO LIGHT HAZARD
  - SMALL STORAGE CLOSETS, MECHANICAL, AND KITCHEN AREAS DESIGNED ORDINARY HAZARD GROUP 1
  - STORAGE 404 DESIGNED ORDINARY HAZARD GROUP 1
  - REMOTE AREA REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE PER NFPA 13 SEC. 11.2.3.2.3
- NOTES:
  - ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
  - HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 (2016) - SEE PLAN FOR HANGING REQ.
  - DRY SYSTEM PIPE SLOPE INSTALLATION:
    - SPRINKLER MAINS TO BE 1/4" PER 10 FEET
    - SPRINKLER BRANCH LINES TO BE 1/2" PER 10 FEET
  - DRY SYSTEM CAPACITY
    - 4.4.1. 1,370 GAL.
- SYMBOLS USED ON DRAWINGS:
  - 10'-0" PIPE ELEVATION A.F.F.
  - 12'-0" PIPE ELEVATION BELOW B.O.D
  - (OHT) ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
  - (J) HYDRAULIC CALCULATION JUNCTION POINT
  - 10'-0" CEILING HEIGHT
- SCOPE OF WORK:
  - TO INSTALL A NEW SPRINKLER SYSTEM IN THE MNTC BUILDING. THE SYSTEM WILL CONSIST OF TWO ZONES, ONE WET AND ONE DRY.
  - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)

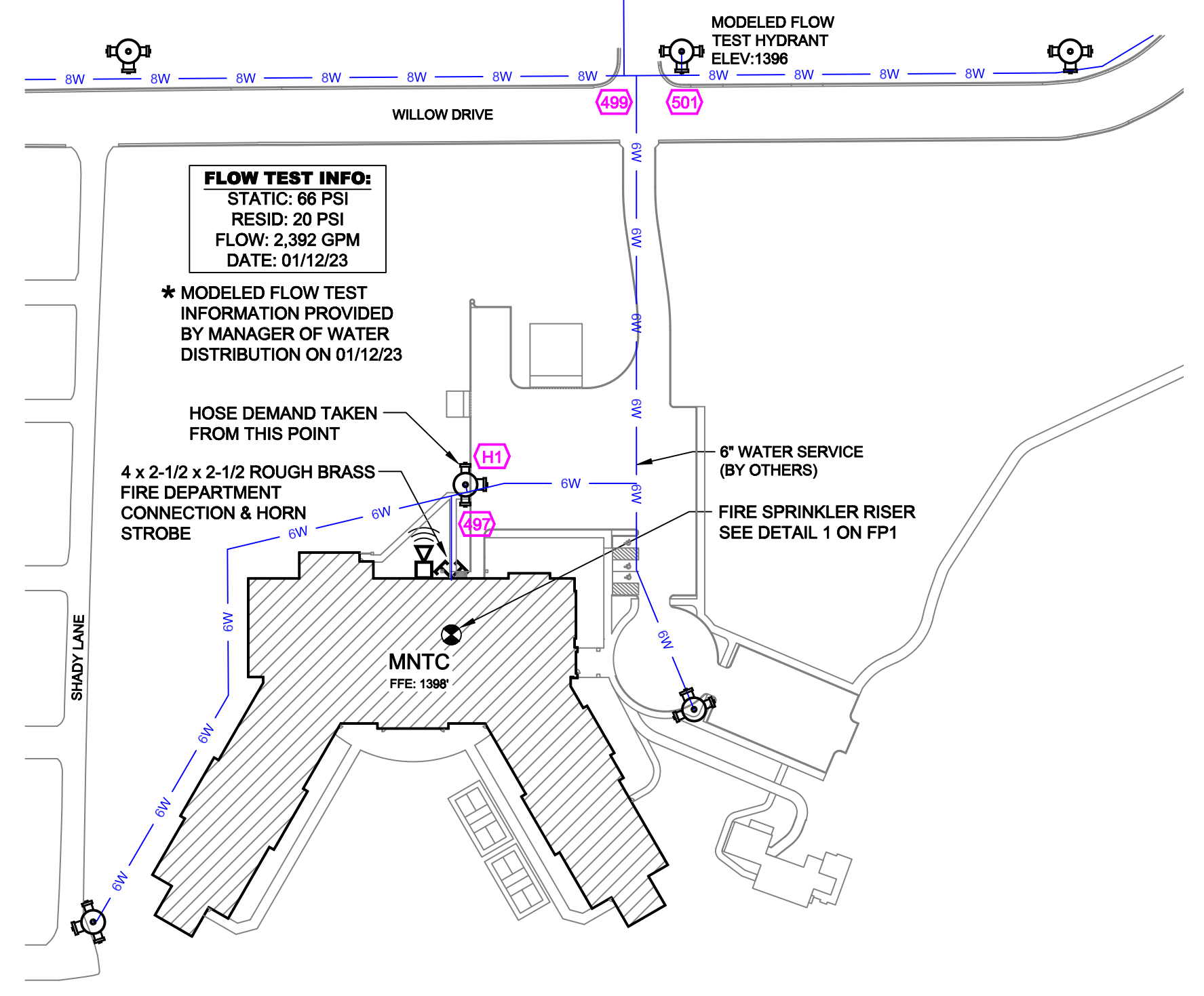
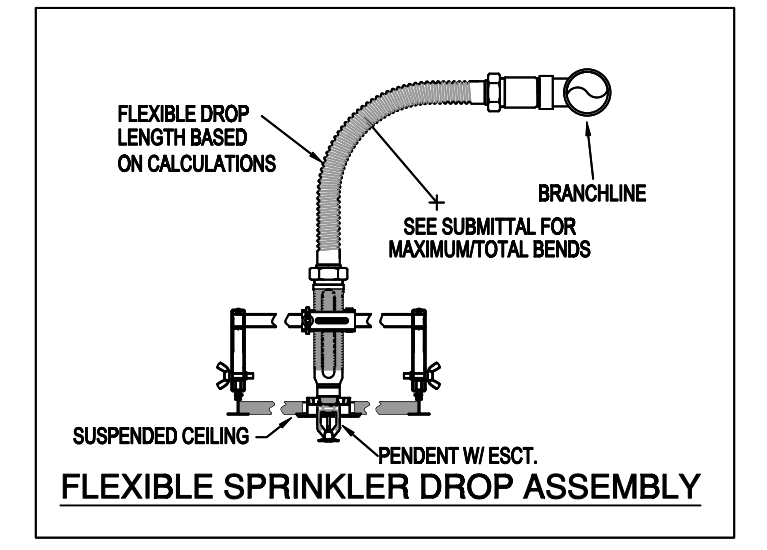


**HANGER DETAILS**



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

- RISER LEGEND**
- 6" 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 "FP" CONTRACTOR BY THE G.C.)
  - 6" AMES COLT C200 BACKFLOW GxG BFV w/ TAMPERS
  - 6" GROOVED BUTTERFLY VALVE w/ TAMPERS
  - 6" TO DRY SYSTEM
  - 4" GROOVED 90
  - 4" TO FDC
  - 3" GROOVED 90
  - 3" GROOVED BUTTERFLY VALVE w/ TAMPERS
  - 3" GROOVED COMMERCIAL RISER MANIFOLD w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN w/ PRV
  - 3" GROOVED TO WET SYSTEM
  - AIR MAINTENANCE DEVICE
  - AIR COMPRESSION SIZE FOR 1370 GALLON DRY SYSTEM
  - PIPE STAND
  - SPRINKLER HEAD BOX
  - 2" MAIN DRAIN TO BE PIPED OUTSIDE COORDINATE LOCATION w/ GC
  - AUX. LOW POINT DRAIN



**SITE PLAN**  
SCALE = 1" = 100'-0"

GENERAL NOTES

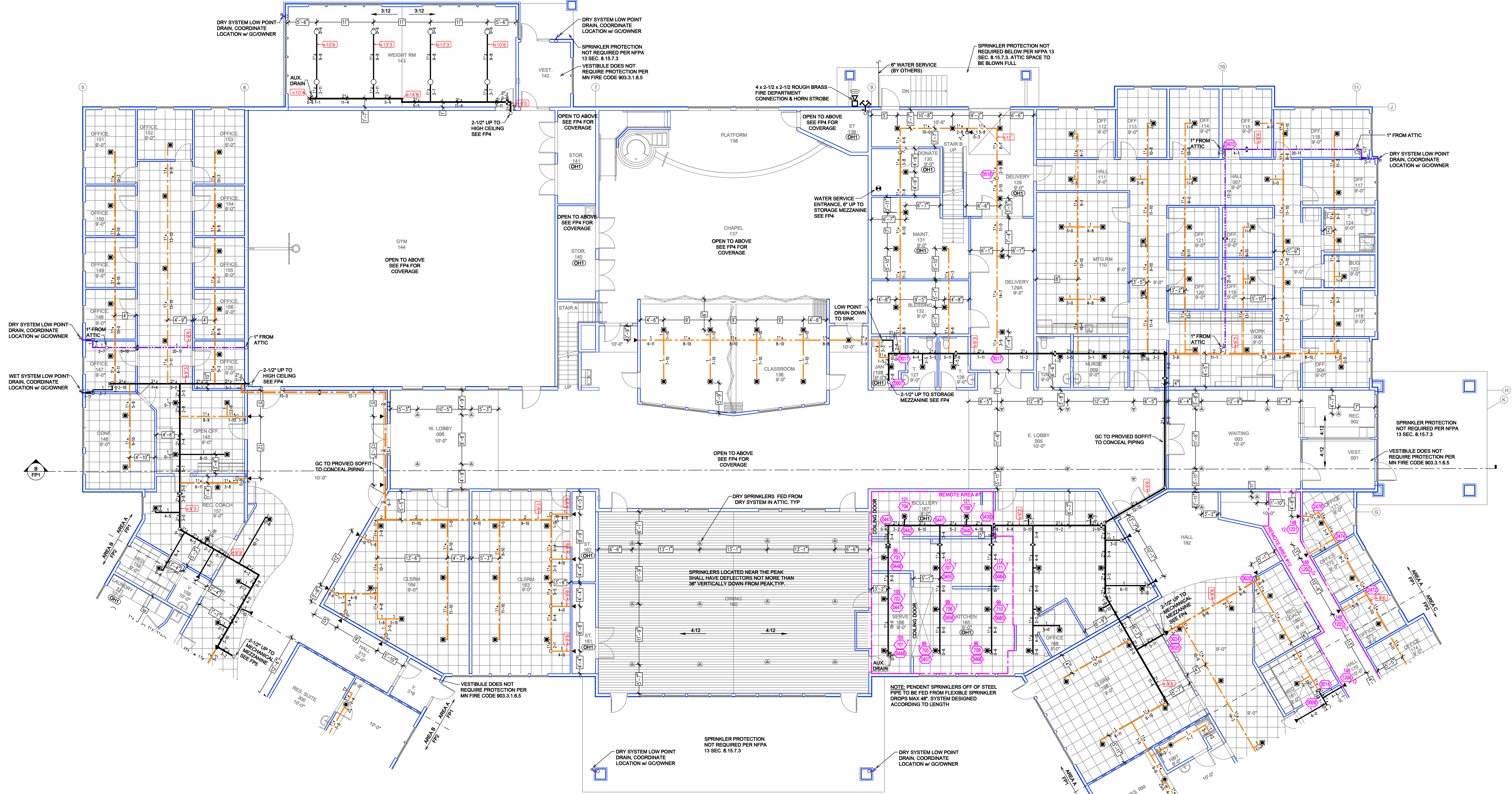
- SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL
- ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
- MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE
- ALL SCH-10 & LIGHTWALL PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS
- NO INSTALLATION OR FABRICATION TO BEGON WITHOUT APPROVED SHOP DRAWINGS
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR
- ALL DIMENSIONS SHOWN ARE CENTER TO CENTER
- HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED
- PROVIDE ON SPARE HEAD CABINET W/ HEADS & 1 HEAD WRENCH
- HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED
- ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER
- OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

| NO | REVISIONS | DATE | APPROVAL STAMPS |
|----|-----------|------|-----------------|
|    |           |      |                 |
|    |           |      |                 |

Drawing Title: FIRE PROTECTION PLAN

**MNTC**  
525 WILLOW DR  
ALEXANDRIA, MN 56308

Contract No. C23-1  
Drawing Date: 06/12/2023  
Scale: 1/8" = 1'-0"  
Drawn By: JGB  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO. FP 1 OF 7



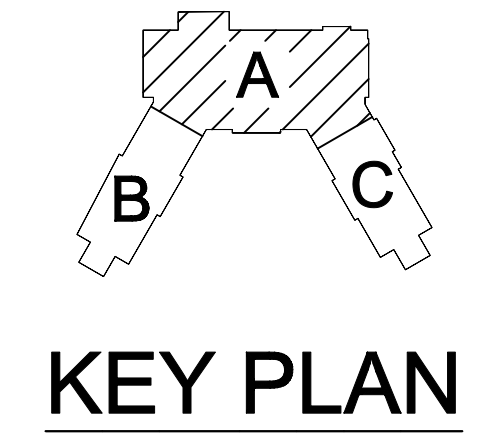
**MAIN LEVEL AREA A FIRE SPRINKLER PLAN**  
SCALE= 1/8" = 1'-0"

**PIPE LEGEND**

|  |                         |
|--|-------------------------|
|  | WET SYSTEM STEEL PIPING |
|  | DRY SYSTEM STEEL PIPING |
|  | CPVC BLAZEMASTER PIPING |

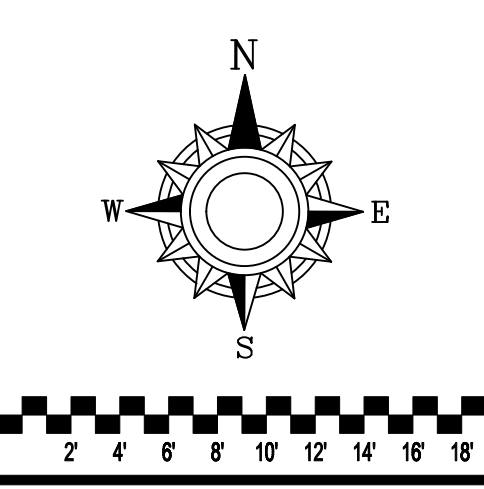
**Design Area # 7 HAZARD: OH1**  
Zone: 2 System Type: WET  
Location: KITCHEN  
165  
Flowing Outlets: 11  
Density: 0.15 Remote Area 928  
Flow: 443.1 gpm @ 51.4 psi  
Calculation Safety: 12.6 psi  
Includes 250 gpm Hose allowance

NOTE: 1500cf REDUCED BY 40% TO 900cf DUE TO CEILING HEIGHT PER NFPA 13 FIG. 11.2.3.2.1



**SPRINKLER HEAD LEGEND**

| SYM             | CHT      | POSITION | FINISH | TEMP | K    | RPT    | SIN      | MFG.   | MODEL#      | ESL/UT/CHCN |
|-----------------|----------|----------|--------|------|------|--------|----------|--------|-------------|-------------|
| 81              | UPRIGHT  | BRASS    | 212    | 5.80 | 1/2" | RA5826 | RELIABLE | AJ56   | NA          | NA          |
| 21              | UPRIGHT  | BRASS    | 200    | 5.80 | 1/2" | RA5824 | RELIABLE | DD56-6 | NA          | NA          |
| 80              | UPRIGHT  | BRASS    | 212    | 5.80 | 1/2" | RA5825 | RELIABLE | DS56   | NA          | NA          |
| 38              | SPRINK   | BRASS    | 212    | 5.80 | 1/2" | RA5828 | RELIABLE | AJ56   | NA          | NA          |
| 178             | UPRIGHT  | BRASS    | 200    | 5.80 | 1/2" | TY33   | TYCO     | TY-FRB | NA          | NA          |
| 71              | PENDENT  | WHITE    | 155    | 4.90 | 1/2" | TY2236 | TYCO     | LFI    | 401         | NA          |
| 83              | SIDEWALL | WHITE    | 155    | 4.40 | 1/2" | TY2334 | TYCO     | LFI    | 401         | NA          |
| 80              | SIDEWALL | CHROME   | 200    | 5.80 | 1/2" | TY3331 | TYCO     | TY-FRB | SEMI-RECESS | NA          |
| 170             | PENDENT  | CHROME   | 200    | 5.80 | 1/2" | TY323  | TYCO     | TY-FRB | SEMI-RECESS | NA          |
| 98              | PENDENT  | CHROME   | 200    | 5.80 | 1"   | RT714  | RELIABLE | F5CR   | SEMI-RECESS | NA          |
| 81              | SPRINK   | BRASS    | 212    | 5.80 | 1/2" | RA5825 | RELIABLE | DS56   | NA          | NA          |
| 80              | UPRIGHT  | BRASS    | 212    | 5.80 | 1/2" | RA5822 | RELIABLE | DD56-6 | NA          | NA          |
| 16              | UPRIGHT  | BRASS    | 200    | 5.80 | 1/2" | TY3199 | TYCO     | CC-3   | NA          | NA          |
| 995 TOTAL HEADS |          |          |        |      |      |        |          |        |             |             |



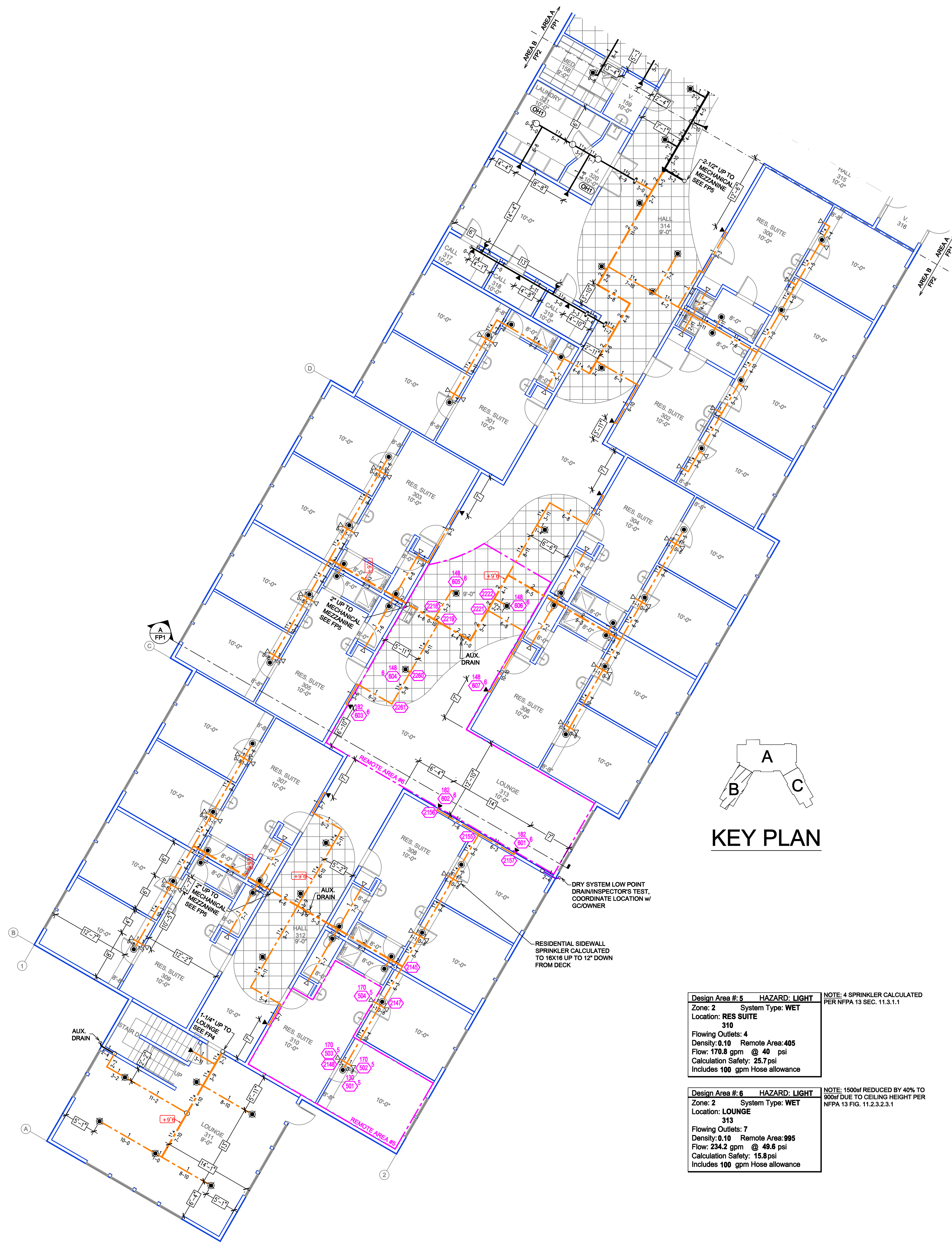
- GENERAL NOTES**
- SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL
  - ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
  - MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE
  - ALL SCH-40 & LIGHTWALL PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS ALL WELDING PER NFPA-54(2)
  - NO INSTALLATION OR FABRICATION TO BEGON WITHOUT APPROVED SHOP DRAWINGS
  - ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR
  - ALL DIMENSIONS SHOWN ARE CENTER TO CENTER
  - HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED
  - PROVIDE ON SPARE HEAD CABINET W/ HEADS & 1 HEAD WRENCH
  - HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED
  - ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER
  - OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

| NO | REVISIONS | DATE | APPROVAL STAMPS |
|----|-----------|------|-----------------|
|    |           |      |                 |

Drawing Title: **FIRE PROTECTION PLAN**

**MNTC**  
525 WILLOW DR  
ALEXANDRIA, MN 56308

Contract No. **C23-1**  
Drawing Date: 06/12/2023  
Scale: 1/8" = 1'-0"  
Drawn By: JGB  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO. **FP 2 OF 7**

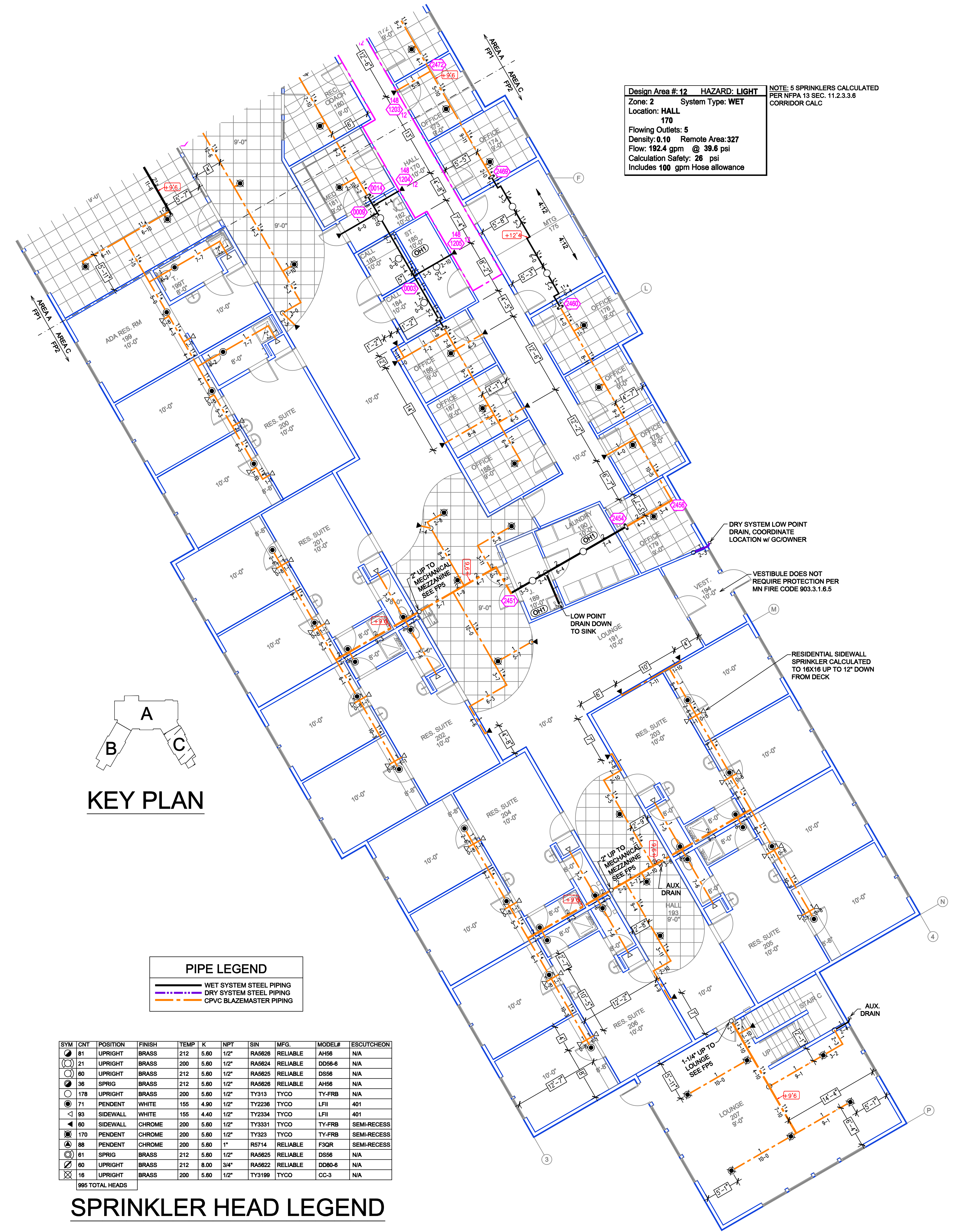


**Design Area # 5 HAZARD: LIGHT**  
 Zone: 2 System Type: WET  
 Location: RES SUITE 310  
 Flowing Outlets: 4  
 Density: 0.10 Remote Area: 405  
 Flow: 170.8 gpm @ 40 psi  
 Calculation Safety: 25.7 psi  
 Includes 100 gpm Hose allowance

**Design Area # 6 HAZARD: LIGHT**  
 Zone: 2 System Type: WET  
 Location: LOUNGE 313  
 Flowing Outlets: 7  
 Density: 0.10 Remote Area: 995  
 Flow: 234.2 gpm @ 49.6 psi  
 Calculation Safety: 15.8 psi  
 Includes 100 gpm Hose allowance

**NOTE: 4 SPRINKLERS CALCULATED PER NFPA 13 SEC. 11.3.1.1**

**NOTE: 100% REDUCED BY 40% TO 50% DUE TO CEILING HEIGHT PER NFPA 13 FIG. 11.2.3.2.1**



**Design Area # 12 HAZARD: LIGHT**  
 Zone: 2 System Type: WET  
 Location: HALL 170  
 Flowing Outlets: 5  
 Density: 0.10 Remote Area: 327  
 Flow: 192.4 gpm @ 39.6 psi  
 Calculation Safety: 28 psi  
 Includes 100 gpm Hose allowance

**NOTE: 5 SPRINKLERS CALCULATED PER NFPA 13 SEC. 11.2.3.3.6 CORRIDOR CALC**

**PIPE LEGEND**

- WET SYSTEM STEEL PIPING
- DRY SYSTEM STEEL PIPING
- CPVC BLAZEMASTER PIPING

**SPRINKLER HEAD LEGEND**

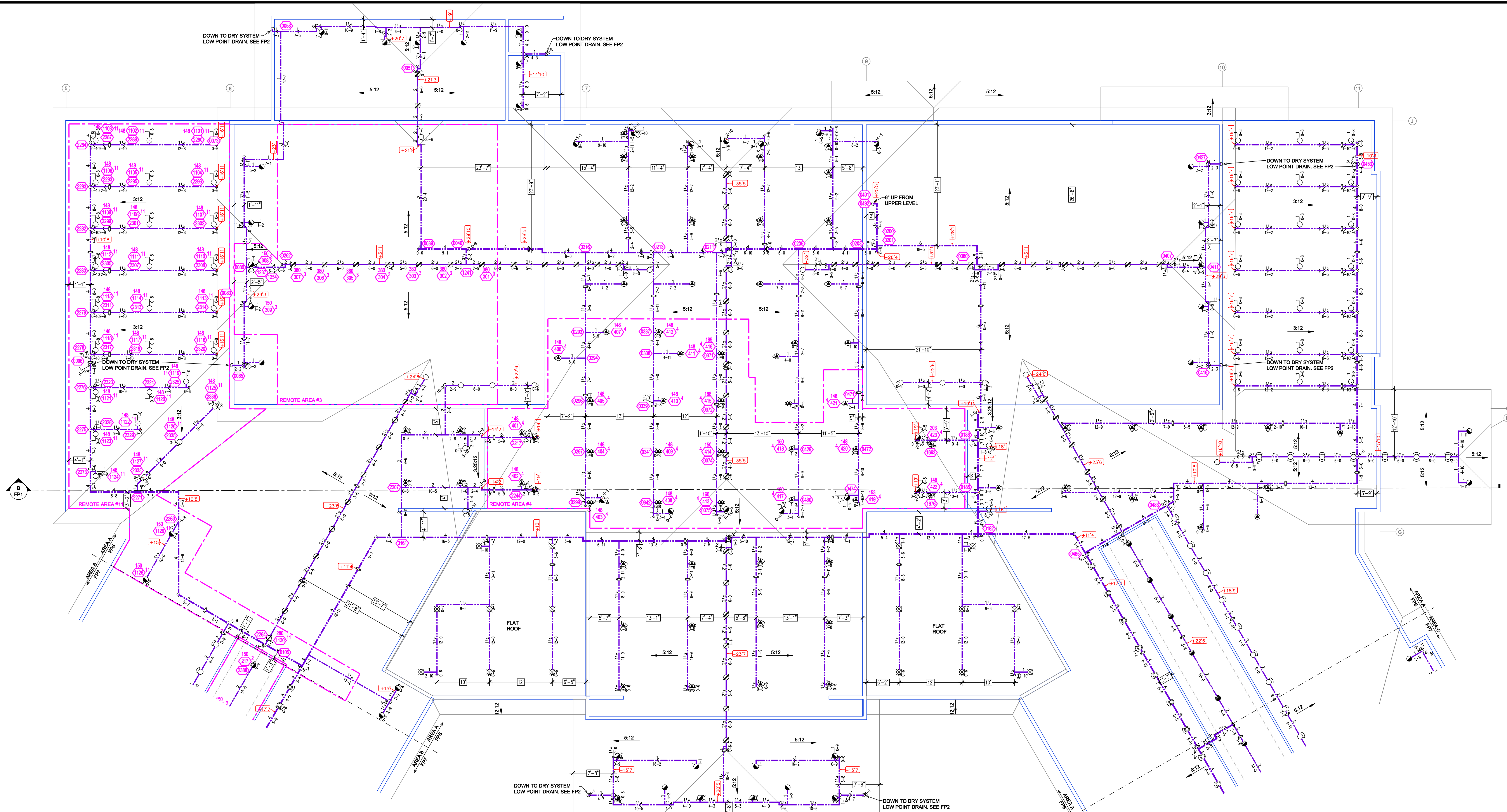
| SYM | CRIT | POSITION | FINISH | TEMP | K    | NPT  | SIN    | MFG      | MODEL# | ESCUTCHEON  |
|-----|------|----------|--------|------|------|------|--------|----------|--------|-------------|
| ⊙   | 81   | UPRIGHT  | BRASS  | 212  | 5.80 | 1/2" | RA5628 | RELIABLE | AH56   | N/A         |
| ⊙   | 21   | UPRIGHT  | BRASS  | 200  | 5.80 | 1/2" | RA5624 | RELIABLE | DS66-4 | N/A         |
| ⊙   | 60   | UPRIGHT  | BRASS  | 212  | 5.80 | 1/2" | RA5625 | RELIABLE | DS66   | N/A         |
| ⊙   | 38   | SPRIG    | BRASS  | 212  | 5.80 | 1/2" | RA5628 | RELIABLE | AH56   | N/A         |
| ⊙   | 178  | UPRIGHT  | BRASS  | 200  | 5.80 | 1/2" | TY313  | TYCO     | TY-FRB | N/A         |
| ⊙   | 71   | PENDENT  | WHITE  | 155  | 4.40 | 1/2" | TY228  | TYCO     | LFI    | 401         |
| ⊙   | 80   | SIDEWALL | WHITE  | 155  | 4.40 | 1/2" | TY234  | TYCO     | LFI    | 401         |
| ⊙   | 60   | SIDEWALL | CHROME | 200  | 5.80 | 1/2" | TY331  | TYCO     | TY-FRB | SEMI-RECESS |
| ⊙   | 170  | PENDENT  | CHROME | 200  | 5.80 | 1/2" | TY323  | TYCO     | TY-FRB | SEMI-RECESS |
| ⊙   | 88   | PENDENT  | CHROME | 200  | 5.80 | 1"   | RS714  | RELIABLE | F3QR   | SEMI-RECESS |
| ⊙   | 81   | SPRIG    | BRASS  | 212  | 5.80 | 1/2" | RA5625 | RELIABLE | DS66   | N/A         |
| ⊙   | 60   | UPRIGHT  | BRASS  | 212  | 5.80 | 3/4" | RA5622 | RELIABLE | DS66-4 | N/A         |
| ⊙   | 16   | UPRIGHT  | BRASS  | 200  | 5.80 | 1/2" | TY198  | TYCO     | CC-3   | N/A         |

895 TOTAL HEADS

**MAIN LEVEL AREA B FIRE SPRINKLER PLAN**  
 SCALE= 1/8" = 1'-0"

**MAIN LEVEL AREA C FIRE SPRINKLER PLAN**  
 SCALE= 1/8" = 1'-0"

|  | <p>GENERAL NOTES</p> <ol style="list-style-type: none"> <li>SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL</li> <li>ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED</li> <li>MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE</li> <li>ALL SCH-40 &amp; LIGHTWALL PIPING HAS WELDED OUTLETS &amp; GROOVED SHORT RADIUS FITTINGS</li> <li>ALL WELDING PER NFPA-514 (2011)</li> <li>NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS</li> <li>ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR</li> <li>ALL DIMENSIONS SHOWN ARE CENTER TO CENTER</li> <li>HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED</li> <li>PROVIDE ON SPARE HEAD CABINET W/ HEADS &amp; 1 HEAD WRENCH</li> <li>HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED</li> <li>ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER</li> <li>OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.</li> </ol> | <table border="1"> <thead> <tr> <th>NO</th> <th>REVISIONS</th> <th>DATE</th> <th>APPROVAL STAMPS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> | NO   | REVISIONS       | DATE | APPROVAL STAMPS |  |  |  |  |  |  |  |  |  |  |  |  | <p>Drawing Title: FIRE PROTECTION PLAN</p> <p><b>MNTC</b><br/>         525 WILLOW DR<br/>         ALEXANDRIA, MN 56308</p> | <p>Contract No. <b>C23-1</b><br/>         Drawing Date: 06/12/2023<br/>         Scale: 1/8" = 1'-0"<br/>         Drawn By: JGB<br/>         Approval By: STATE FIRE MARSHAL DIV.<br/>         SHEET NO. <b>FP 3 OF 7</b></p> |
|--|--|--|------|-----------------|------|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  | NO   | REVISIONS  | DATE | APPROVAL STAMPS |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |      |                 |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |      |                 |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |      |                 |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



**ATTIC AREA A FIRE SPRINKLER PLAN**  
 SCALE= 1/8" = 1'-0"

**PIPE LEGEND**

|  |                         |
|--|-------------------------|
|  | WET SYSTEM STEEL PIPING |
|  | DRY SYSTEM STEEL PIPING |
|  | CPVC BLAZEMASTER PIPING |

**Design Area # 11 HAZARD: LIGHT**  
 Zone: 1 System Type: DRY  
 Location: ATTIC  
 Flowing Outlets: 30  
 Density: 0.10 Remote Area: 2583  
 Flow: 616 gpm @ 50.6 psi  
 Calculation Safety: 11.8 psi  
 Includes 100 gpm Hose allowance

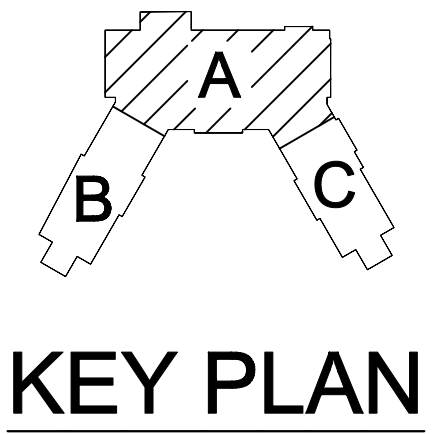
**Design Area # 3 HAZARD: LIGHT**  
 Zone: 1 System Type: DRY  
 Location: ATTIC  
 Flowing Outlets: 9  
 Density: 0.10 Remote Area: 2380  
 Flow: 448.8 gpm @ 58.9 psi  
 Calculation Safety: 5 psi  
 Includes 100 gpm Hose allowance

**Design Area # 4 HAZARD: LIGHT**  
 Zone: 1 System Type: DRY  
 Location: CLASSROOM/  
 LOBBY  
 Flowing Outlets: 23  
 Density: 0.10 Remote Area: 2812  
 Flow: 561.4 gpm @ 40.8 psi  
 Calculation Safety: 22 psi  
 Includes 100 gpm Hose allowance

NOTE: CALCULATION INCLUDES ALL SPRINKLER TYPES IN HIP UP TO 2585 S.F. PER MANUFACTURER'S DATA SHEET

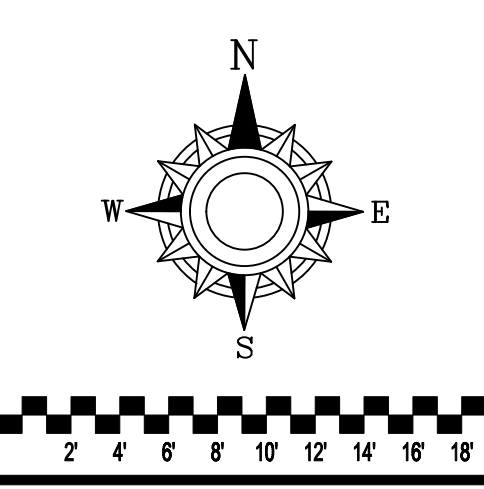
NOTE: 7 DD SPRINKLERS AND 2 AH SPRINKLERS CALCULATED PER MANUFACTURER'S DATA SHEET

NOTE: 1500sf INCREASED BY 30% TO 1950sf DUE TO SLOPED CEILING AND 30% TO 2535sf DUE TO DRY SYSTEM.



**SPRINKLER HEAD LEGEND**

| SYM             | QTY | POSITION | FINISH | TEMP | K    | NPT  | SIN    | MFG.     | MODEL# | ESL/OUT/CHEN |
|-----------------|-----|----------|--------|------|------|------|--------|----------|--------|--------------|
| 81              | 1   | UPRIGHT  | BRASS  | 212  | 5.80 | 1/2" | RA5626 | RELIABLE | AJH56  | N/A          |
| 21              | 1   | UPRIGHT  | BRASS  | 200  | 5.80 | 1/2" | RA5624 | RELIABLE | DD56-6 | N/A          |
| 80              | 1   | UPRIGHT  | BRASS  | 212  | 5.80 | 1/2" | RA5625 | RELIABLE | DS56   | N/A          |
| 38              | 1   | SPRIG    | BRASS  | 212  | 5.80 | 1/2" | RA5628 | RELIABLE | AJH56  | N/A          |
| 178             | 1   | UPRIGHT  | BRASS  | 200  | 5.80 | 1/2" | TY313  | TYCO     | TY-FRB | N/A          |
| 71              | 1   | PENDENT  | WHITE  | 155  | 4.90 | 1/2" | TY2236 | TYCO     | LFH    | 401          |
| 83              | 1   | SIDEWALL | WHITE  | 155  | 4.40 | 1/2" | TY2334 | TYCO     | LFH    | 401          |
| 80              | 1   | SIDEWALL | CHROME | 200  | 5.80 | 1/2" | TY3331 | TYCO     | TY-FRB | SEMI-RECESS  |
| 170             | 1   | PENDENT  | CHROME | 200  | 5.80 | 1/2" | TY323  | TYCO     | TY-FRB | SEMI-RECESS  |
| 88              | 1   | PENDENT  | CHROME | 200  | 5.80 | 1"   | RT714  | RELIABLE | F5CR   | SEMI-RECESS  |
| 81              | 1   | SPRIG    | BRASS  | 212  | 5.80 | 1/2" | RA5625 | RELIABLE | DS56   | N/A          |
| 80              | 1   | UPRIGHT  | BRASS  | 212  | 8.00 | 3/4" | RA5622 | RELIABLE | DD56-6 | N/A          |
| 16              | 1   | UPRIGHT  | BRASS  | 200  | 5.80 | 1/2" | TY3199 | TYCO     | CC-3   | N/A          |
| 995 TOTAL HEADS |     |          |        |      |      |      |        |          |        |              |

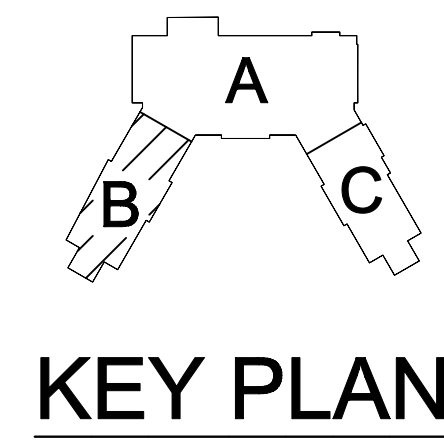
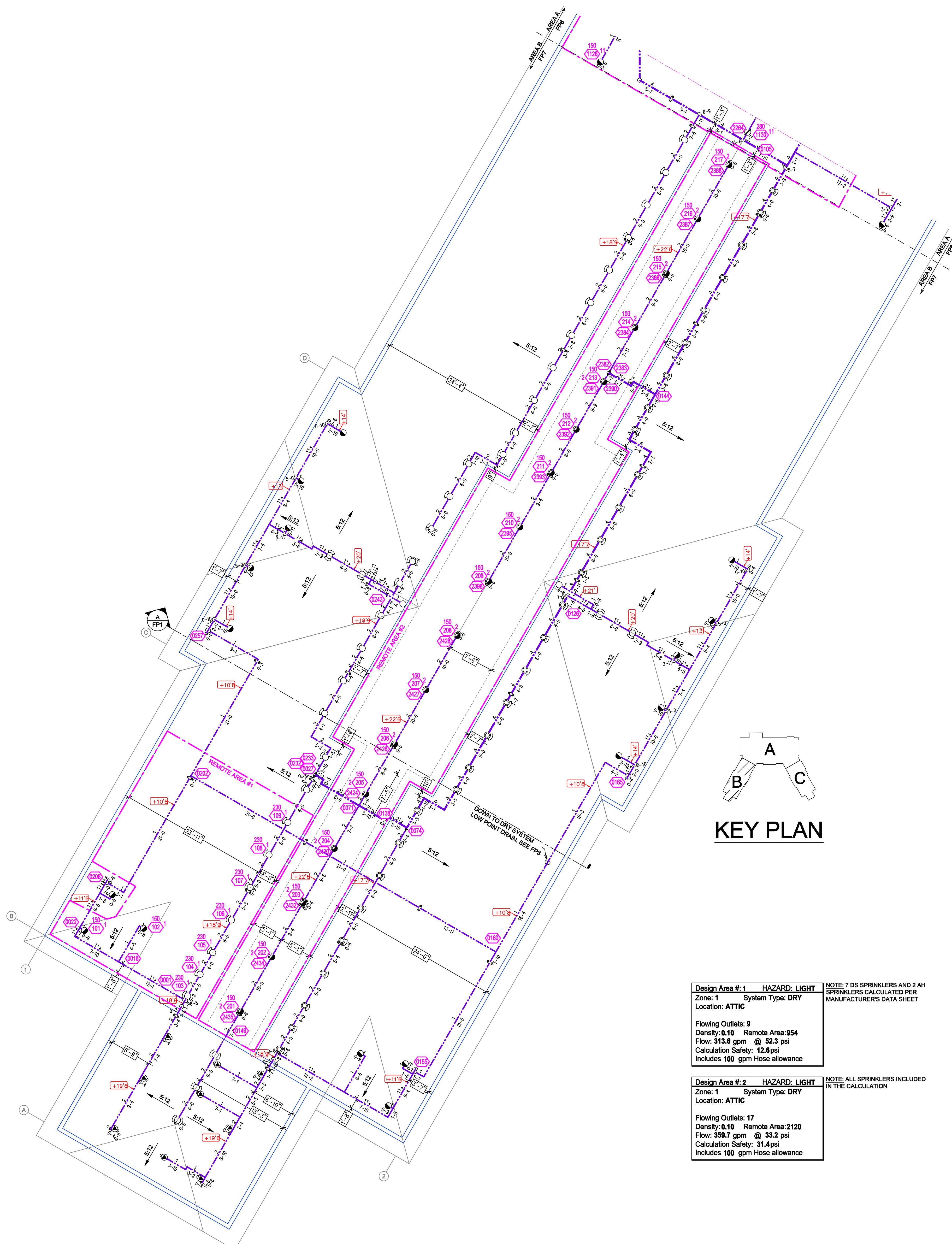


- GENERAL NOTES**
- SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL
  - ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED
  - MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE
  - ALL SCH-10 & LIGHTWALL PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS
  - ALL WELDING PER NFPA-514(2)
  - NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS
  - ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR
  - ALL DIMENSIONS SHOWN ARE CENTER TO CENTER
  - HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED
  - PROVIDE ON SPARE HEAD CABINET W/ HEADS & 1 HEAD WRENCH
  - HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED
  - ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER
  - OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING.

| NO | REVISIONS | DATE | APPROVAL STAMPS |
|----|-----------|------|-----------------|
|    |           |      |                 |
|    |           |      |                 |

Contract No. **C23-1**  
 Drawing Date: 06/12/23  
 Scale: 1/8" = 1'-0"  
 Drawn By: JGB  
 Approval By: STATE FIRE MARSHAL DIV.  
 SHEET NO. **FP 6 OF 7**

**MNTC**  
 525 WILLOW DR  
 ALEXANDRIA, MN 56308

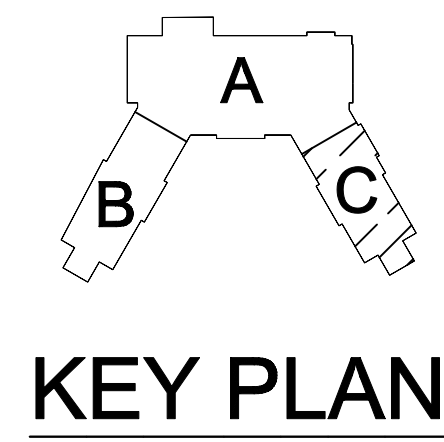
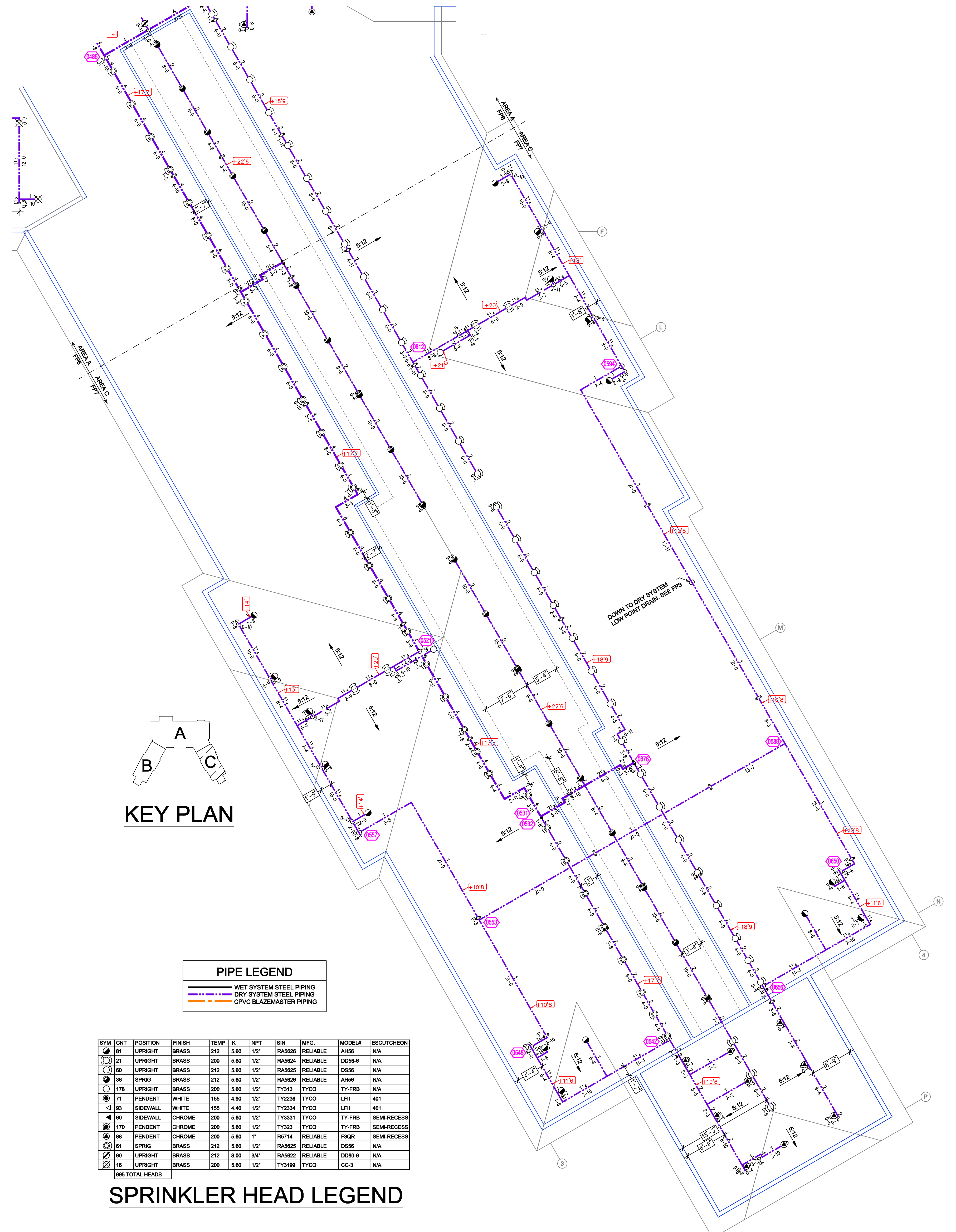


**Design Area # 1 HAZARD LIGHT**  
 Zone: 1 System Type: DRY  
 Location: ATTIC  
 Flowing Outlets: 9  
 Density: 0.10 Remote Area: 954  
 Flow: 313.6 gpm @ 52.3 psi  
 Calculation Safety: 12.6 psi  
 Includes 100 gpm Hose allowance

**Design Area # 2 HAZARD LIGHT**  
 Zone: 1 System Type: DRY  
 Location: ATTIC  
 Flowing Outlets: 17  
 Density: 0.10 Remote Area: 2120  
 Flow: 398.7 gpm @ 33.2 psi  
 Calculation Safety: 31.4 psi  
 Includes 100 gpm Hose allowance

NOTE: 7 DS SPRINKLERS AND 2 AH SPRINKLERS CALCULATED PER MANUFACTURER'S DATA SHEET

NOTE: ALL SPRINKLERS INCLUDED IN THE CALCULATION



**PIPE LEGEND**

- WET SYSTEM STEEL PIPING
- DRY SYSTEM STEEL PIPING
- CPVC BLAZEMASTER PIPING

**SPRINKLER HEAD LEGEND**

| SYM             | CRY | POSITION | FINISH | TEMP | K    | NPT  | SIN    | MFG      | MODEL# | ESCUTCHEON  |
|-----------------|-----|----------|--------|------|------|------|--------|----------|--------|-------------|
| ⊙               | U   | UPRIGHT  | BRASS  | 212  | 5.00 | 1/2" | RA6826 | RELIABLE | AH56   | NA          |
| ⊙               | U   | UPRIGHT  | BRASS  | 200  | 5.00 | 1/2" | RA5824 | RELIABLE | DS56-6 | N/A         |
| ⊙               | U   | UPRIGHT  | BRASS  | 212  | 5.00 | 1/2" | RA5825 | RELIABLE | DS56   | N/A         |
| ⊙               | S   | SPRIG    | BRASS  | 212  | 5.00 | 1/2" | RA6828 | RELIABLE | AH56   | N/A         |
| ⊙               | U   | UPRIGHT  | BRASS  | 200  | 5.00 | 1/2" | TY313  | TYCO     | TY-FRB | N/A         |
| ⊙               | P   | PENDENT  | WHITE  | 165  | 4.50 | 1/2" | TY2266 | TYCO     | LFPI   | 401         |
| ⊙               | S   | SIDEWALL | WHITE  | 165  | 4.40 | 1/2" | TY2334 | TYCO     | LFPI   | 401         |
| ⊙               | S   | SIDEWALL | CHROME | 200  | 5.00 | 1/2" | TY3331 | TYCO     | TY-FRB | SEMI-RECESS |
| ⊙               | P   | PENDENT  | CHROME | 200  | 5.00 | 1/2" | TY323  | TYCO     | TY-FRB | SEMI-RECESS |
| ⊙               | P   | PENDENT  | CHROME | 200  | 5.00 | 1"   | RS714  | RELIABLE | FSQR   | SEMI-RECESS |
| ⊙               | S   | SPRIG    | BRASS  | 212  | 5.00 | 1/2" | RA6825 | RELIABLE | DS56   | N/A         |
| ⊙               | U   | UPRIGHT  | BRASS  | 212  | 5.00 | 3/4" | RA6822 | RELIABLE | DS56-4 | N/A         |
| ⊙               | U   | UPRIGHT  | BRASS  | 200  | 5.00 | 1/2" | TY3198 | TYCO     | CC-3   | N/A         |
| 995 TOTAL HEADS |     |          |        |      |      |      |        |          |        |             |

**ATTIC AREA B FIRE SPRINKLER PLAN**  
 SCALE= 1/8" : 1'-0"

**ATTIC AREA C FIRE SPRINKLER PLAN**  
 SCALE= 1/8" : 1'-0"

|  |   |    |           |      |                 |   |  |
|--|---|----|-----------|------|-----------------|---|--|
|  | GENERAL NOTES   | NO | REVISIONS | DATE | APPROVAL STAMPS | Drawing Title: FIRE PROTECTION PLAN<br><b>MNTC</b><br>525 WILLOW DR<br>ALEXANDRIA, MN 56308 | Contract No. C23-1<br>Drawing Date: 06/12/23<br>Scale: 1/8" = 1'-0"<br>Drawn By: JGB<br>Approval By: STATE FIRE MARSHAL DIV.<br>SHEET NO. FP 07 OF 7 |
|  | 1. SYSTEM INSTALLED PER NFPA-13 (2016 EDITION) AND STATE FIRE MARSHAL.<br>2. ALL EQUIPMENT FOR THIS SYSTEM SHALL BE U.L. LISTED.<br>3. MINIMUM PIPE SIZE SHALL BE 1" NOMINAL PIPE.<br>4. ALL SCH-10 & LIGHTWALL PIPING HAS WELDED OUTLETS & GROOVED SHORT RADIUS FITTINGS.<br>5. ALL WELDING PER NFPA-514 (2011).<br>6. NO INSTALLATION OR FABRICATION TO BEGIN WITHOUT APPROVED SHOP DRAWINGS.<br>7. ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR.<br>8. ALL DIMENSIONS SHOWN ARE CENTER TO CENTER.<br>9. HIGH TEMPERATURE HEADS ARE TO BE FIELD LOCATED WHERE REQUIRED.<br>10. PROVIDE ON SPARE HEAD CABINET W/ HEAD & 1 HEAD WRENCH.<br>11. HANGERS ARE TO BE U.L. LISTED AND I.M. APPROVED.<br>12. ELECTRICAL WIRING, ALARM, DETECTION AND SUPERVISORY BY OWNER.<br>13. OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEATING TO PREVENT WET SYSTEM PIPING FROM FREEZING. |    |           |      |                 |   |  |