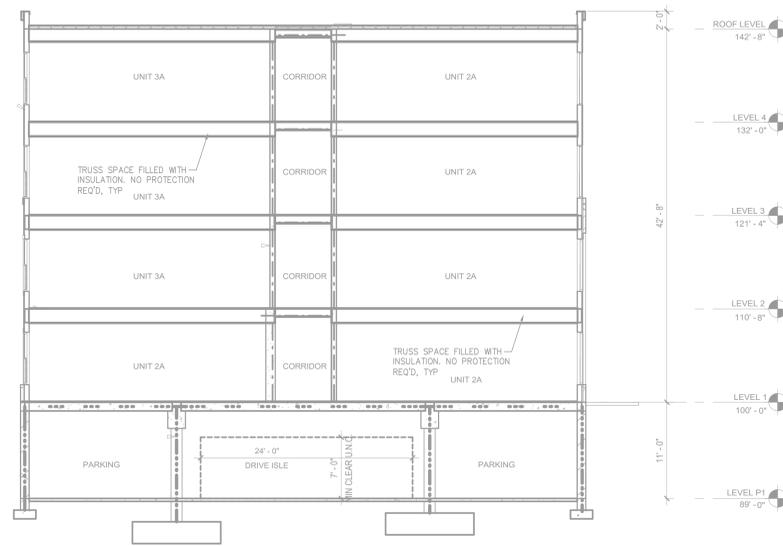


SECTION -A-  
SCALE = 1/8" : 1'-0"



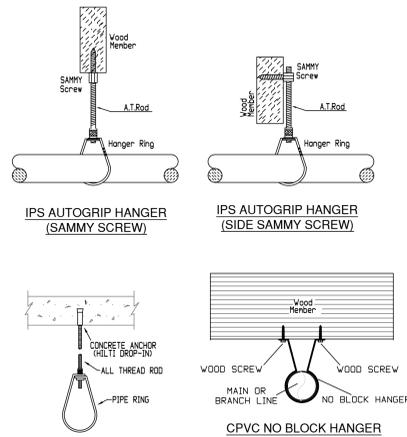
SECTION -B-  
SCALE = 1/8" : 1'-0"

- GENERAL NOTES
- INTERNATIONAL BUILDING CODE (2015)
    - OCCUPANCY: S-2, A-3, R-2
    - TYPE OF CONSTRUCTION: I-A (PARKING), V-B (CLUBHOUSE), V-A (FAMILY BUILDINGS)
    - SPRINKLER AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
      - LEVEL P1
      - ZONE 7 = 46,969 S.F.
      - ZONE 8 = 35,175 S.F.
      - CLUBHOUSE
      - ZONE 9 = 5,483 S.F.
      - BUILDING A
        - LEVEL 1 (ZONE 5) = 42,935 S.F.
        - LEVEL 2 (ZONE 3) = 42,935 S.F.
        - LEVEL 3 (ZONE 1) = 42,935 S.F.
        - LEVEL 4 (ZONE 1) = 42,935 S.F.
      - BUILDING B
        - LEVEL 1 (ZONE 6) = 29,773 S.F.
        - LEVEL 2 (ZONE 4) = 29,773 S.F.
        - LEVEL 3 (ZONE 2) = 29,773 S.F.
        - LEVEL 4 (ZONE 2) = 29,773 S.F.
      - TOTAL = 407,828 S.F.
    - INSTALLATION STANDARDS:
      - SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13 @ NFPA-14 (2016)
  - SPRINKLER PIPE TYPES:
    - 1" BRANCH LINES TO BE BLAZEMASTER CPVC PIPING WITH CEMENTED FITTINGS
    - 1/2" THROUGH 3" 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 6" MAIN & BRANCH LINES TO BE BLK SCHEDULE 10 PIPING WITH SHORT RADIUS GROOVED FITTINGS
    - 1" BRANCH LINES TO BE THREADED BLK SCHEDULE 40 WITH THREADED FITTINGS
    - 1/2" THROUGH 6" MAIN & BRANCH LINES TO BE GROOVED BLK SCHEDULE 10 WITH SHORT RADIUS GROOVED FITTINGS
  - DESIGN CRITERIA
    - RESIDENTIAL AREAS, CORRIDORS, OFFICES AND SIMILAR AREAS DESIGNED TO LIGHT HAZARD
    - PARKING GARAGE, MECH ROOMS, STORAGE ROOMS AND SIMILAR AREAS DESIGNED TO 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 REQUIREMENTS
    - DRY SYSTEM PIPE SLOPE INSTALLATION:
      - SPRINKLER MAINS TO BE 1/4" PER 10 FEET
      - SPRINKLER BRANCH LINES TO BE 1/2" PER 10 FEET
      - 4.4.1. DRY SYSTEM CAPACITY = 285 GAL.
  - SYMBOLS USED ON DRAWINGS:
    - PIPE ELEVATION A.F.F.
    - PIPE ELEVATION BELOW B.O.D.
    - ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
    - HYDRAULIC CALCULATION JUNCTION POINT
    - 10'-0" CEILING HEIGHT
  - SCOPE OF WORK:
    - TO INSTALL NEW STANDPIPE AND SPRINKLER SYSTEMS AND NEW DRY SYSTEM AS SHOWN ON THESE DRAWINGS. ALL PIPING IN PARKING GARAGE TO BE BLACK STEEL AND ALL PIPING IN OCCUPIED SPACES TO BE CONCEALED BLAZEMASTER CPVC PIPING. WHITE CONCEALED HEADS TO BE USED IN CLUBHOUSE WITH SEMI-RECESSED WHITE HEADS TO BE USED EVERYWHERE ELSE.
    - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)

MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)

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

NFPA 13 HANGER SPACING



HANGER DETAILS

MANUAL WET STANDPIPE  
LOCATION: 3RD & 4TH FLOOR  
STAR A  
REQUIRED FLOW: 500GPM  
REQUIRED INLET PSI: 149.2

PIPE LEGEND

|  |                                   |
|--|-----------------------------------|
|  | BLACK STEEL SPRINKLER PIPING      |
|  | CPVC BLAZEMASTER SPRINKLER PIPING |

SPRINKLER HEAD LEGEND

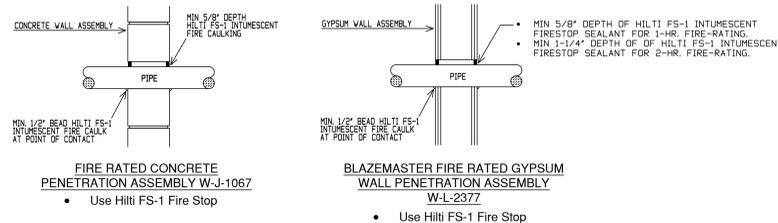
| SYN  | CNT | POSITION | FINISH | TEMP | K     | NPT  | ISN    | MPG      | MODEL   | ESCUTCHEON    | HEAD BOX (2 MIN) |
|------|-----|----------|--------|------|-------|------|--------|----------|---------|---------------|------------------|
| 41   | 4   | SIDEWALL | WHITE  | 200  | 5.60  | 1/2" | TY3333 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| 409  | 1   | PENDENT  | WHITE  | 200  | 5.60  | 1/2" | TY3333 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| 1796 | 1   | PENDENT  | WHITE  | 155  | 4.90  | 1/2" | TY2234 | TYCO     | LF11    | SEMI-RECESSED | 2                |
| 132  | 1   | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | RA5814 | RELIABLE | LT56    | SEMI-RECESSED | 2                |
| 18   | 1   | SIDEWALL | WHITE  | 155  | 8.00  | 3/4" | TY4332 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| 55   | 1   | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | TY3233 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| 96   | 1   | UPRIGHT  | BRASS  | 200  | 5.60  | 1/2" | TY3133 | TYCO     | TY-FRB  | N/A           | 2                |
| 270  | 1   | UPRIGHT  | BRASS  | 200  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14   | N/A           | 2                |
| 27   | 1   | SPRIG    | BRASS  | 200  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14   | N/A           | 2                |
| 2    | 1   | SIDEWALL | BRASS  | 200  | 11.20 | 3/4" | TY5332 | TYCO     | ELOS200 | N/A           | 2                |
| 14   | 1   | PENDENT  | BRASS  | 200  | 14.00 | 3/4" | TY6237 | TYCO     | EC-14   | SEMI-RECESSED | 2                |
| 17   | 1   | SPRIG    | BRASS  | 200  | 5.60  | 1/2" | RA5624 | RELIABLE | DD56-B  | N/A           | 2                |
| 58   | 1   | PENDENT  | WHITE  | 212  | 5.60  | 1"   | RA5114 | RELIABLE | GS DRY  | CONCEALED     | 2                |
| 1684 | 1   | SIDEWALL | WHITE  | 155  | 4.40  | 1/2" | TY2334 | TYCO     | LF11    | SEMI-RECESSED | 2                |
| 44   | 1   | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | RA1564 | RELIABLE | DH56    | SEMI-RECESSED | 2                |
| 19   | 1   | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | TY3333 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| 7    | 1   | UPRIGHT  | BRASS  | 286  | 5.60  | 1/2" | TY3133 | TYCO     | TY-FRB  | N/A           | 2                |
| 11   | 1   | UPRIGHT  | BRASS  | 286  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14   | N/A           | 2                |

3767 TOTAL SPRINKLERS

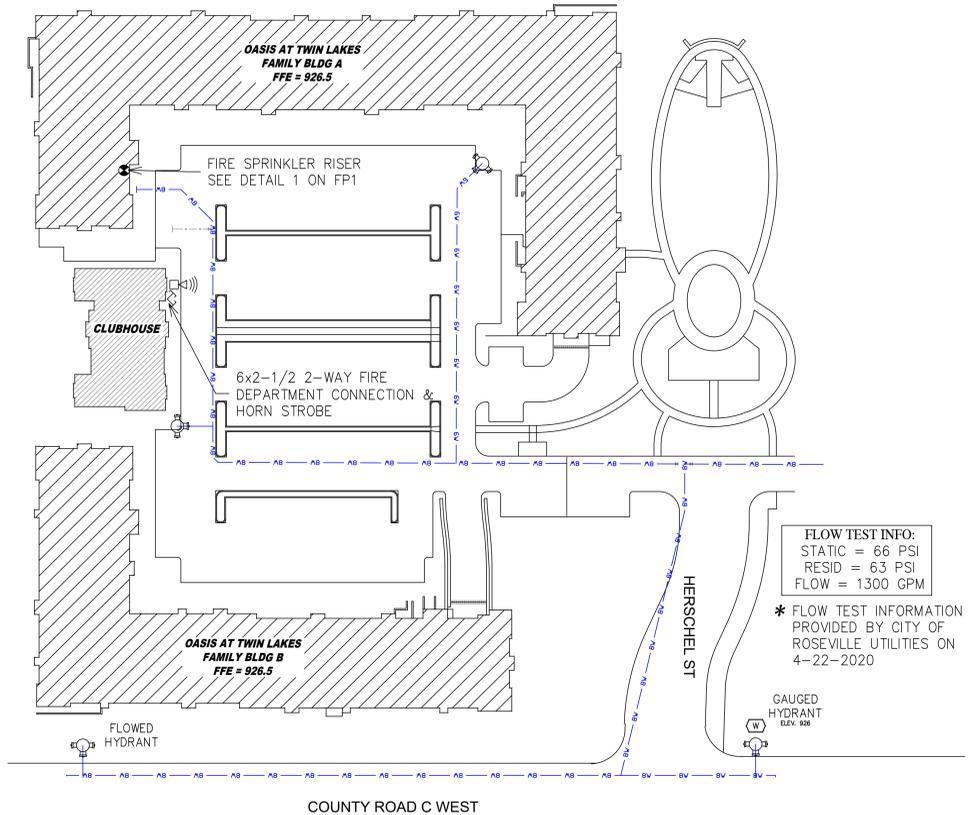
SPRINKLER HEAD LEGEND

- RISER LEGEND
- 8" UNDERGROUND SERVICE (BY OTHERS)
  - 8" GROOVED FLANGE ADAPTER
  - 8"x6" GROOVED CONC. REDUCER
  - 6" AMES 4000SS RFP BACKFLOW GxG BFV w/ TAMPERS
  - 4" GROOVED BUTTERFLY VALVE w/TAMPER
  - 4" GROOVED COMMERCIAL RISER MANIFOLD w/FLOW SMITH, PRESSURE GAUGE, PRESSURE RELIEF AND TEST & DRAIN
  - 4" OUT TO PARKING GARAGE (ZONE 7)
  - 4" GROOVED BUTTERFLY VALVE w/TAMPER
  - 4" GROOVED COMMERCIAL RISER MANIFOLD w/FLOW SMITH, PRESSURE GAUGE, PRESSURE RELIEF AND TEST & DRAIN
  - 4" OUT TO PARKING GARAGE (ZONE 9)
  - 4" GROOVED COMMERCIAL RISER MANIFOLD w/FLOW SMITH, PRESSURE GAUGE, PRESSURE RELIEF AND TEST & DRAIN
  - 4" OUT TO COMBINED STANDPIPE AND FDC
  - 4" VICTALIC PRE-TRIMMED DRY VALVE
  - 4" OUT TO CLUBHOUSE DRY SYSTEM (ZONE 9)
  - 2" MAIN DRAIN PIPED TO EXTERIOR, COORDINATE EXACT LOCATION w/GC AND OWNER
  - AIR COMPRESSOR
  - SPARE HEAD BOX

ALL WIRING/INTERFACING OF ALARMS BY OTHERS  
ALL PIPING PENETRATING THE EXTERIOR WALL TO BE GALVANIZED



FIRESTOPPING DETAILS



COUNTY ROAD C WEST

SITE PLAN  
SCALE: 1" = 50'-0"

Drawing Title: FIRE PROTECTION PLAN

**OASIS AT TWIN LAKES FAMILY APARTMENTS**  
**HERSCHEL ST**  
**ROSEVILLE, MN 55113**

Contract No. C-20-66

Drawing Date: 12/04/2020

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

Drawn By:

Approval By: STATE FIRE MARSHAL DIV.

SHEET NO. 1 OF 17

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 & Body Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-82).
- No installation or fabrication to begin without approved shop dwgs.
- All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor.
- All Dimensions Show as Center to Center.
- High Temperature Heads are to be Field Located Where Required.
- Provide one spare head cabinet w/ 8 hds. & one hd wrench.
- Hangers are to be U.L. Listed and F.M. Approved.
- Electrical wiring, alarm, detection and supervisory by owner.
- Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

SPRINKLER LEGEND

SEE PLAN

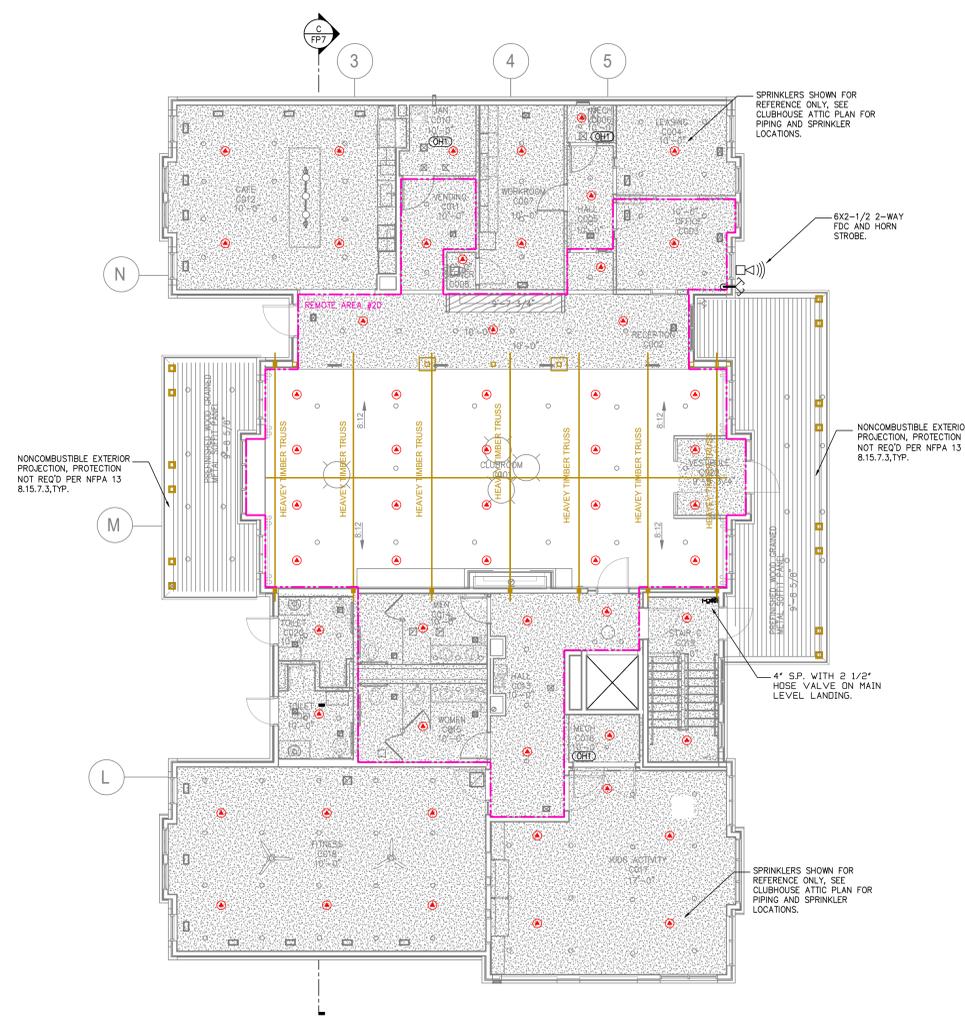
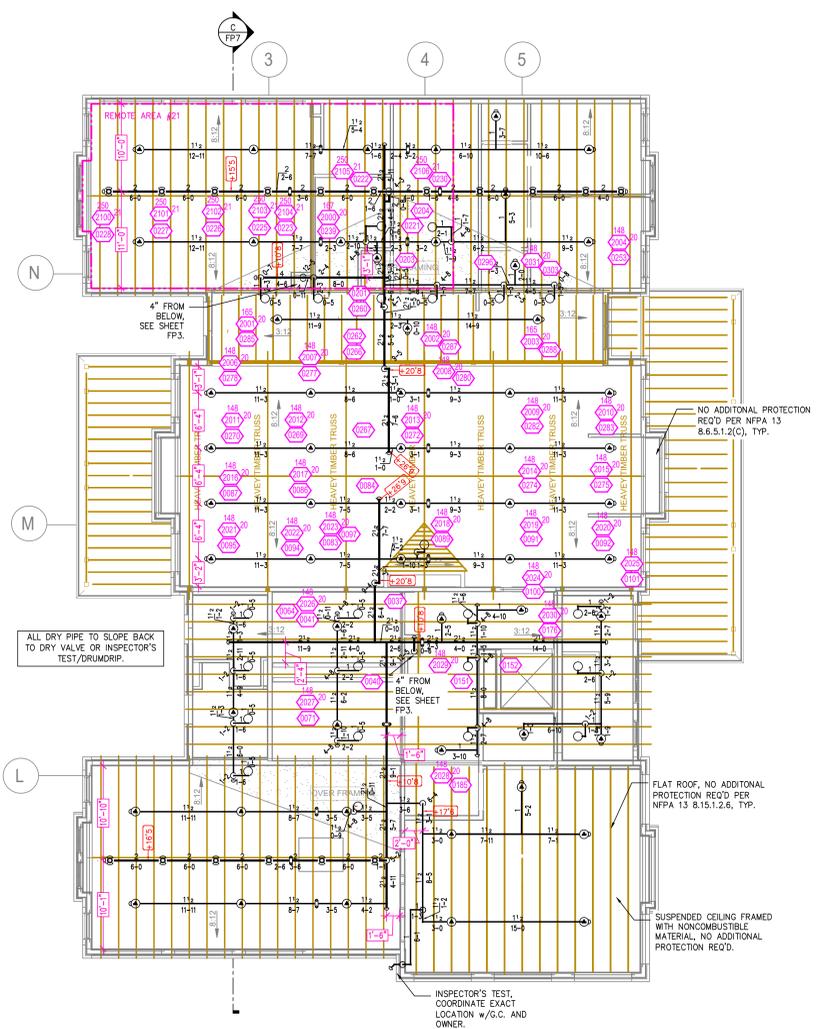
APPROVAL STAMPS



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



2' 4' 6' 8' 10' 12' 14' 16' 18'

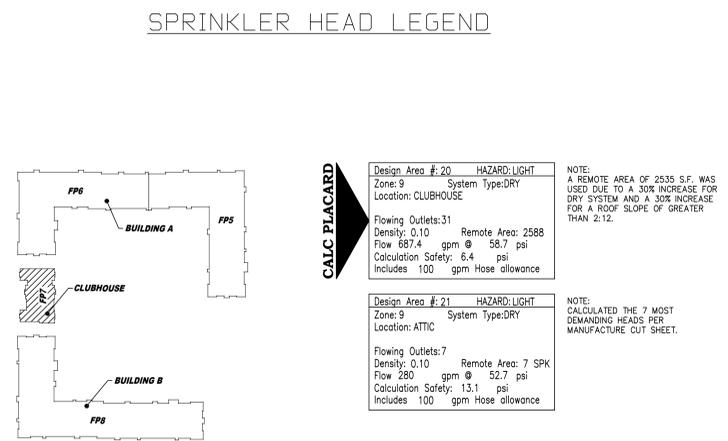


**PIPE LEGEND**

- BLACK STEEL SPRINKLER PIPING
- - - - CPVC BLAZEMASTER SPRINKLER PIPING

**SPRINKLER HEAD LEGEND**

| SYM                   | QTY | POSITION | FINISH | TEMP | K     | NPT  | ISN    | MPG      | MODEL # | ESLUTCH/CHN   | HEAD BOX (2 HIN) |
|-----------------------|-----|----------|--------|------|-------|------|--------|----------|---------|---------------|------------------|
| ◁ 141                 |     | SIDEWALL | WHITE  | 200  | 5.60  | 1/2" | TY3331 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| ● 408                 |     | PENDENT  | WHITE  | 200  | 5.60  | 1/2" | TY323  | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| ● 1796                |     | PENDENT  | WHITE  | 155  | 4.90  | 1/2" | TY2234 | TYCO     | LF71    | SEMI-RECESSED | 2                |
| ● 130                 |     | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | RA5814 | RELIABLE | LF76    | SEMI-RECESSED | 2                |
| ◁ 16                  |     | SIDEWALL | WHITE  | 155  | 8.00  | 3/4" | TY4332 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| ● 95                  |     | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | TY323  | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| ○ 96                  |     | UPRIGHT  | BRASS  | 200  | 5.60  | 1/2" | TY313  | TYCO     | TY-FRB  | N/A           | 2                |
| ○ 270                 |     | UPRIGHT  | BRASS  | 200  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14   | N/A           | 2                |
| ○ 27                  |     | SPRIG    | BRASS  | 200  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14   | N/A           | 2                |
| ◁ 2                   |     | SIDEWALL | BRASS  | 200  | 11.00 | 3/4" | TY5336 | TYCO     | EL05V20 | N/A           | 2                |
| ◁ 4                   |     | PENDENT  | BRASS  | 200  | 14.00 | 3/4" | TY6237 | TYCO     | EC-14   | SEMI-RECESSED | 2                |
| ○ 17                  |     | SPRIG    | BRASS  | 200  | 5.60  | 1/2" | RA5624 | RELIABLE | DS56-6  | N/A           | 2                |
| ◁ 58                  |     | PENDENT  | WHITE  | 212  | 5.60  | 1"   | RA5114 | RELIABLE | GS DRY  | CONCEALED     | 2                |
| ◁ 684                 |     | SIDEWALL | WHITE  | 155  | 4.40  | 1/2" | TY2334 | TYCO     | LF71    | SEMI-RECESSED | 2                |
| ◁ 44                  |     | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | RA1564 | RELIABLE | DS56    | SEMI-RECESSED | 2                |
| ◁ 9                   |     | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | TY3331 | TYCO     | TY-FRB  | SEMI-RECESSED | 2                |
| ○ 17                  |     | UPRIGHT  | BRASS  | 286  | 5.60  | 1/2" | TY313  | TYCO     | TY-FRB  | N/A           | 2                |
| ○ 11                  |     | UPRIGHT  | BRASS  | 286  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14   | N/A           | 2                |
| 3767 TOTAL SPRINKLERS |     |          |        |      |       |      |        |          |         |               |                  |



LEVEL 1 - CLUBHOUSE ATTIC  
SCALE = 1/8" : 1'-0"

LEVEL 1 - CLUBHOUSE  
SCALE = 1/8" : 1'-0"

1. System installed per NFPA-13 (2016 Edition) and State Fire Marshal.  
2. All equipment for this system shall be U.L. listed.  
3. Minimum pipe size shall be 1" nominal pipe.  
4. All Sch-10 & Bddy Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-8-2).  
5. No installation or fabrication to begin without approved shop dwgs.  
6. All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor.  
7. All Dimensions Shown are Center to Center.  
8. High Temperature Heads are to be Field Located Where Required.  
9. Provide one spare head cabinet w/ 8 hds. & one hd wrench.  
10. Hangers are to be U.L. Listed and P.M. Approved.  
11. Electrical wiring, alarm, detection and supervisory by owner.  
12. Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

SEE PLAN

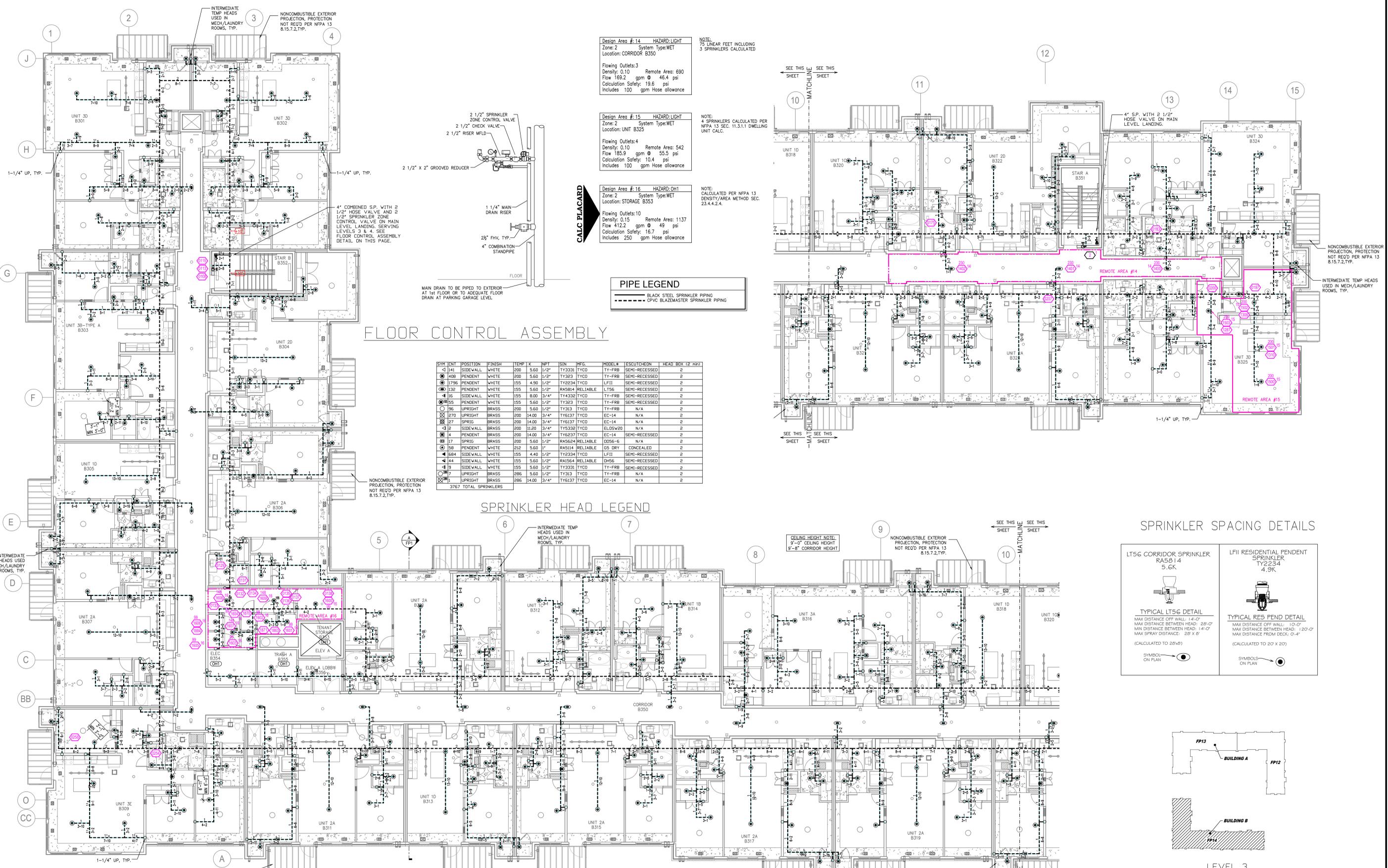
APPROVAL STAMPS



**FIRE PROTECTION PLAN**

**OASIS AT TWIN LAKES FAMILY APARTMENTS**  
HERSCHEL ST  
ROSEVILLE, MN 55113

Contract No. **C-20-66**  
Drawing Date: 12/04/2020  
Scale: 1/8" = 1'-0"  
Drawn By:  
Approval By: STATE FIRE MARSHAL DIV.  
SHEET NO. **7 OF 17**



Design Area # 14 HAZARD LIGHT  
 Zone: 2 System Type: WET  
 Location: CORRIDOR B350  
 Flowing Outlets: 3  
 Density: 0.10 Remote Area: 690  
 Flow 169.2 gpm @ 46.4 psi  
 Calculation Safety: 19.6 psi  
 Includes 100 gpm Hose Allowance

Design Area # 15 HAZARD LIGHT  
 Zone: 2 System Type: WET  
 Location: UNIT B325  
 Flowing Outlets: 4  
 Density: 0.10 Remote Area: 542  
 Flow 185.9 gpm @ 55.5 psi  
 Calculation Safety: 10.4 psi  
 Includes 100 gpm Hose Allowance

Design Area # 16 HAZARD OH1  
 Zone: 2 System Type: WET  
 Location: STORAGE B353  
 Flowing Outlets: 10  
 Density: 0.15 Remote Area: 1137  
 Flow 412.2 gpm @ 49 psi  
 Calculation Safety: 16.7 psi  
 Includes 250 gpm Hose Allowance

NOTE:  
 75 LINEAR FEET INCLUDING  
 3 SPRINKLERS CALCULATED

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

NOTE:  
 CALCULATED PER NFPA 13  
 DENSITY/AREA METHOD SEC.  
 23.4.4.2.4.

**PIPE LEGEND**

|     |                                   |
|-----|-----------------------------------|
| --- | BLACK STEEL SPRINKLER PIPING      |
| --- | CPVC BLAZEMASTER SPRINKLER PIPING |

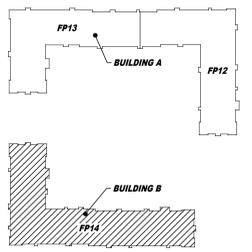
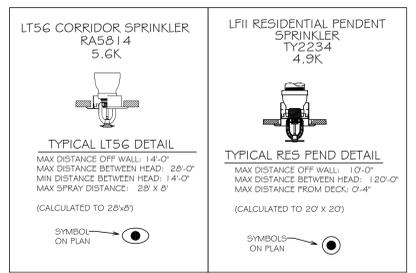
**SPRINKLER HEAD LEGEND**

| SYM                   | UNIT | POSITION | FINISH | TEMP | K     | RPT  | SIN    | HPG.     | MODEL# | ESCUTCHEON    | HEAD BOX (QTY) | HT |
|-----------------------|------|----------|--------|------|-------|------|--------|----------|--------|---------------|----------------|----|
| 141                   |      | SIDEWALL | WHITE  | 200  | 5.60  | 1/2" | TY3331 | TYCO     | TY-FRB | SEMI-RECESSED | 2              | 2  |
| 1796                  |      | PENDENT  | WHITE  | 200  | 5.60  | 1/2" | TY293  | TYCO     | TY-FRB | SEMI-RECESSED | 2              | 2  |
| 132                   |      | PENDENT  | WHITE  | 155  | 4.90  | 1/2" | TY2234 | TYCO     | LFTI   | SEMI-RECESSED | 2              | 2  |
| 132                   |      | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | RA5814 | RELIABLE | LT56   | SEMI-RECESSED | 2              | 2  |
| 16                    |      | SIDEWALL | WHITE  | 155  | 8.00  | 3/4" | TY4332 | TYCO     | TY-FRB | SEMI-RECESSED | 2              | 2  |
| 55                    |      | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | TY323  | TYCO     | TY-FRB | SEMI-RECESSED | 2              | 2  |
| 96                    |      | UPRIGHT  | BRASS  | 200  | 5.60  | 1/2" | TY313  | TYCO     | TY-FRB | N/A           | 2              | 2  |
| 270                   |      | UPRIGHT  | BRASS  | 200  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14  | N/A           | 2              | 2  |
| 27                    |      | SPRIG    | BRASS  | 200  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14  | N/A           | 2              | 2  |
| 2                     |      | SIDEWALL | BRASS  | 200  | 11.20 | 3/4" | TY5332 | TYCO     | ELOS20 | N/A           | 2              | 2  |
| 4                     |      | PENDENT  | BRASS  | 200  | 14.00 | 3/4" | TY6237 | TYCO     | EC-14  | SEMI-RECESSED | 2              | 2  |
| 17                    |      | SPRIG    | BRASS  | 200  | 5.60  | 1/2" | RA5624 | RELIABLE | DO56-6 | N/A           | 2              | 2  |
| 98                    |      | PENDENT  | WHITE  | 212  | 5.60  | 1"   | RA5114 | RELIABLE | OS DRY | CONCEALED     | 2              | 2  |
| 164                   |      | SIDEWALL | WHITE  | 155  | 4.40  | 1/2" | TY2334 | TYCO     | LFTI   | SEMI-RECESSED | 2              | 2  |
| 44                    |      | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | RA1964 | RELIABLE | DS56   | SEMI-RECESSED | 2              | 2  |
| 9                     |      | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | TY3331 | TYCO     | TY-FRB | SEMI-RECESSED | 2              | 2  |
| 7                     |      | UPRIGHT  | BRASS  | 286  | 5.60  | 1/2" | TY313  | TYCO     | TY-FRB | N/A           | 2              | 2  |
| 1                     |      | UPRIGHT  | BRASS  | 286  | 14.00 | 3/4" | TY6137 | TYCO     | EC-14  | N/A           | 2              | 2  |
| 3767 TOTAL SPRINKLERS |      |          |        |      |       |      |        |          |        |               |                |    |

**FLOOR CONTROL ASSEMBLY**

**SPRINKLER HEAD LEGEND**

**SPRINKLER SPACING DETAILS**



**LEVEL 3 - BUILDING B**  
 SCALE = 1/8" = 1'-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 & Boley Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-82).
- No installation or fabrication to begin without approved shop dwgs.
- 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 one spare head cabinet w/ 8 hds. & one hd wrench.
- Hangers are to be U.L. Listed and P.M. Approved.
- Electrical wiring, alarm, detection and supervisory by owner.
- Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

**SPRINKLER LEGEND**

SEE PLAN

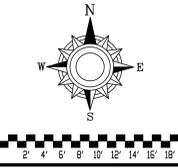
**APPROVAL STAMPS**



Drawing Title: **FIRE PROTECTION PLAN**

**OASIS AT TWIN LAKES FAMILY APARTMENTS**  
 HERSCHEL ST  
 ROSEVILLE, MN 55113

Contract No: **C-20-66**  
 Drawing Date: 12/04/2020  
 Scale: 1/8" = 1'-0"  
 Drawn By: \_\_\_\_\_  
 Approval By: STATE FIRE MARSHAL DIV.  
 SHEET NO. **14 OF 17**



| SY#  | QTY | POSITION | FINISH | TEMP | K     | NPY  | SIN    | MPG      | MODEL#   | ESPEC/NOTES   | HEAD BOX (2.00) |
|------|-----|----------|--------|------|-------|------|--------|----------|----------|---------------|-----------------|
| 141  | 1   | SIDEWALL | WHITE  | 200  | 5.60  | 1/2" | TY3331 | TYCD     | TY-FRB   | SEMI-RECESSED | 2               |
| 148  | 1   | PENDENT  | WHITE  | 200  | 5.60  | 1/2" | TY329  | TYCD     | TY-FRB   | SEMI-RECESSED | 2               |
| 1796 | 1   | PENDENT  | WHITE  | 155  | 4.90  | 1/2" | TY3234 | TYCD     | LF11     | SEMI-RECESSED | 2               |
| 132  | 1   | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | RA5814 | RELIABLE | LT56     | SEMI-RECESSED | 2               |
| 16   | 1   | SIDEWALL | WHITE  | 155  | 8.00  | 3/4" | TY4332 | TYCD     | TY-FRB   | SEMI-RECESSED | 2               |
| 55   | 1   | PENDENT  | WHITE  | 155  | 5.60  | 1/2" | TY323  | TYCD     | TY-FRB   | SEMI-RECESSED | 2               |
| 56   | 1   | UPRIGHT  | BRASS  | 200  | 5.60  | 1/2" | TY33   | TYCD     | TY-FRB   | N/A           | 2               |
| 570  | 1   | UPRIGHT  | BRASS  | 200  | 14.00 | 3/4" | TY6337 | TYCD     | EC-14    | N/A           | 2               |
| 57   | 1   | SPRIG    | BRASS  | 200  | 14.00 | 3/4" | TY6337 | TYCD     | EC-14    | N/A           | 2               |
| 2    | 1   | SIDEWALL | BRASS  | 200  | 11.20 | 3/4" | TY5332 | TYCD     | ELOSVD20 | N/A           | 2               |
| 4    | 1   | PENDENT  | BRASS  | 200  | 14.00 | 3/4" | TY6237 | TYCD     | EC-14    | SEMI-RECESSED | 2               |
| 17   | 1   | SPRIG    | BRASS  | 200  | 5.60  | 1/2" | RA5624 | RELIABLE | DD56-6   | N/A           | 2               |
| 58   | 1   | PENDENT  | WHITE  | 212  | 5.60  | 1"   | RA5114 | RELIABLE | OS DRY   | CONCEALED     | 2               |
| 104  | 1   | SIDEWALL | WHITE  | 155  | 4.40  | 1/2" | TY2334 | TYCD     | LF11     | SEMI-RECESSED | 2               |
| 44   | 1   | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | RA1564 | RELIABLE | DH56     | SEMI-RECESSED | 2               |
| 18   | 1   | SIDEWALL | WHITE  | 155  | 5.60  | 1/2" | TY3331 | TYCD     | TY-FRB   | SEMI-RECESSED | 2               |
| 17   | 1   | UPRIGHT  | BRASS  | 206  | 5.60  | 1/2" | TY33   | TYCD     | TY-FRB   | N/A           | 2               |
| 17   | 1   | UPRIGHT  | BRASS  | 206  | 14.00 | 3/4" | TY6337 | TYCD     | EC-14    | N/A           | 2               |

### SPRINKLER HEAD LEGEND

**Design Area #6 HAZARD-LIGHT**  
 Zone: 2 System Type:WET  
 Location: CORRIDOR B450

Flowing Outlets: 3 Remote Area: 690  
 Density: 0.10  
 Flow 169.2 gpm @ 51.6 psi  
 Calculation Safety: 14.4 psi  
 Includes 100 gpm Hose allowance

NOTE: 75 LINEAR FEET INCLUDING 3 SPRINKLERS CALCULATED

**Design Area #7 HAZARD-LIGHT**  
 Zone: 2 System Type:WET  
 Location: UNIT B425

Flowing Outlets: 4 Remote Area: 540  
 Density: 1  
 Flow 160.2 gpm @ 57.4 psi  
 Calculation Safety: 6.6 psi  
 Includes 100 gpm Hose allowance

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

**Design Area #8 HAZARD-LIGHT**  
 Zone: 2 System Type:WET  
 Location: UNIT B409

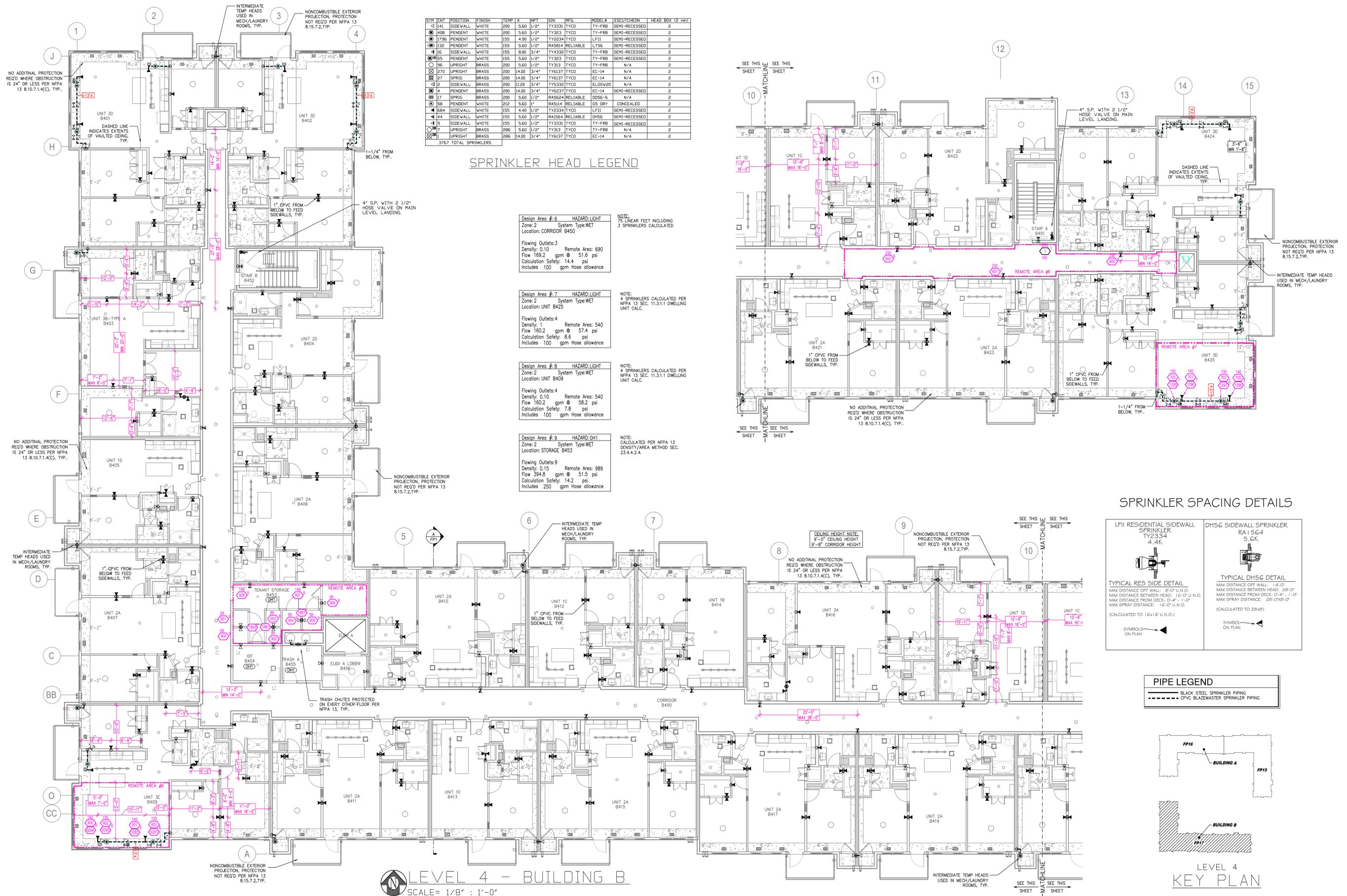
Flowing Outlets: 4 Remote Area: 540  
 Density: 0.10  
 Flow 160.2 gpm @ 58.2 psi  
 Calculation Safety: 7.8 psi  
 Includes 100 gpm Hose allowance

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

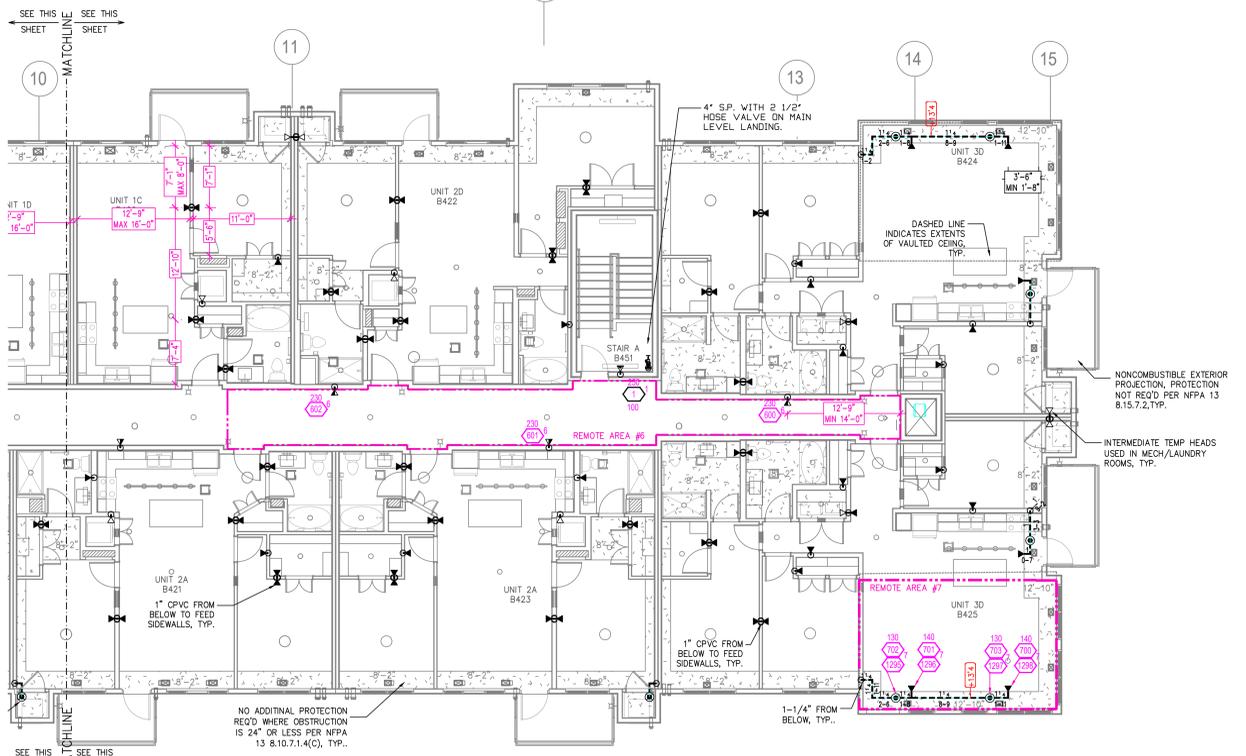
**Design Area #9 HAZARD-OH1**  
 Zone: 2 System Type:WET  
 Location: STORAGE B453

Flowing Outlets: 9 Remote Area: 989  
 Density: 0.15  
 Flow 394.8 gpm @ 51.5 psi  
 Calculation Safety: 14.2 psi  
 Includes 250 gpm Hose allowance

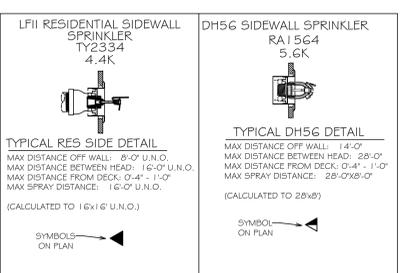
NOTE: CALCULATED PER NFPA 13 DENSITY/AREA METHOD SEC. 23.4.4.2.4.



**LEVEL 4 - BUILDING B**  
 SCALE = 1/8" = 1'-0"

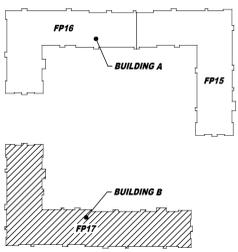


### SPRINKLER SPACING DETAILS



### PIPE LEGEND

- BLACK STEEL SPRINKLER PIPING
- CPVC BLAZEMASTER SPRINKLER PIPING



**LEVEL 4 KEY PLAN**

**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 & Bddy Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (2-6.2).
- No installation or fabrication to begin without approved shop dwgs.
- 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 one spare head cabinet w/ 6 hds. & one hd wrench.
- Hangers are to be U.L. listed and F.M. Approved.
- Electrical wiring, alarm, detection and supervisory by owner.
- Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

**SPRINKLER LEGEND**

SEE PLAN

**APPROVAL STAMPS**

Drawing Title: **FIRE PROTECTION PLAN**

**OASIS AT TWIN LAKES FAMILY APARTMENTS**  
 HERSHEY ST  
 ROSEVILLE, MN 55113

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