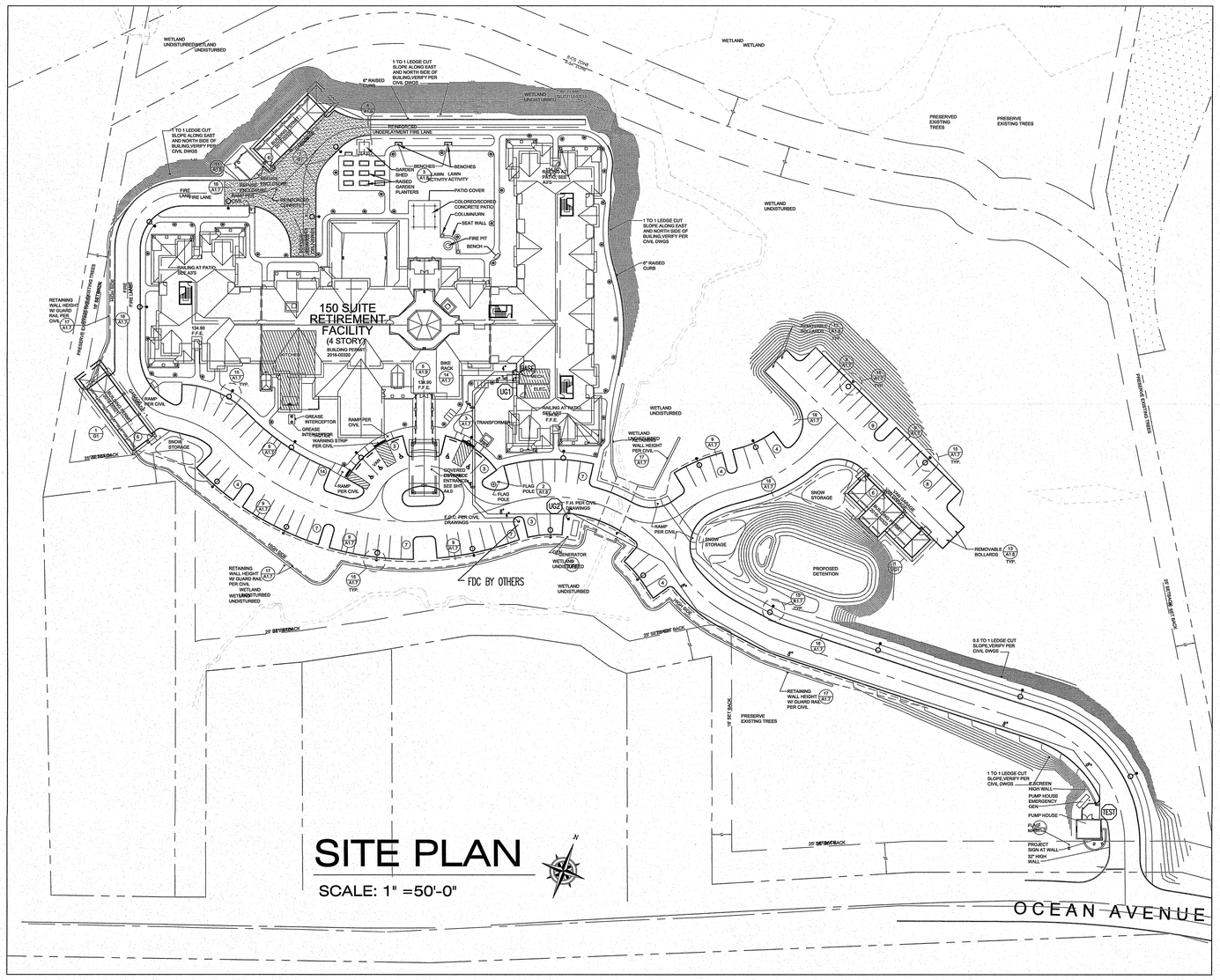



SITE PLAN

SCALE: 1" =50'-0"

## SPRINKLER SYSTEM NOTES

SCOPE OF WORK:
NEW SPRINKLER INSTALLATION FOR A 4 STOREY RETIREMENT APARTMENT FACILITY
WORK TO INCLUDE SPRINKLERS IN 4 WET SYSTEMS & 3 DRY SYSTEMS, ALL AREAS TO NFPA-13
ALSO INCLUDES A MANUAL CLASS 1 STANDPIPE CW 2-1/2" HOSE VALVES

The building occupancy is a RETIREMENT APARTMENTS FACILITY, LIGHT HAZARD WITH ORDINARY HAZARD AREAS AS OUTLINED BELOW

1A) DWELLING UNITS, LOUNGES, CORRIDORS, WASHROOMS ETC.
LIGHT HAZARD OCCUPANCY
DWELLING UNITS
DENSITY OF .10 USGPM/SQ.FT. @ 4 "RESIDENTIAL SPRINKLERS" + 100 USGPM HAND HOSE PER. NFPA-13

CORRIDORS
WHERE A SINGLE ROW OF E.C. SPRINKLERS ARE USED 75 LINEAL FEET OF SPRINKLER COVERAGE MIN. IN NFPA-13 AREAS"

AREAS OUTSIDE DWELLING UNITS
DENSITY OF .10 USGPM/SQ.FT. @ 900 SQ.FT. + 100 USGPM HAND HOSE
NOTE: AREA REDUCED WHERE APPLICABLE PER NFPA USING QUICK RESPONSE SPRINKLERS.

1B) MECHANICAL ROOMS, ELECTRICAL ROOMS KITCHEN & MISC STORAGE ETC.
ORDINARY HAZARD GROUP II OCCUPANCY
DENSITY OF .20 USGPM/SQ.FT. @ 1500 SQ.FT. + 250 USGPM HAND HOSE
NOTE: AREA MAY REDUCED PER NFPA USING QUICK RESPONSE SPRINKLERS.

1C) ATTIC SPACE:
LIGHT HAZARD --COMBUSTIBLE ATTIC PER NFPA-13
DENSITY OF .10 USGPM/SQ.FT. @ AREA PER TYCO DATA SHEETS + 100 USGPM HAND HOSE

2) Fire sprinkler protection consists of:
Wet SPRINKLER Systems
– IN ALL HEATED AREAS THROUGHOUT THE BUILDING
DRY SPRINKLER Systems
– IN ATTIC SPACE, FRONT & REAR OF BUILDING GROUND FLOOR CORE AREA.

NOTE: AREAS BETWEEN FLOORS TO MEET NFPA-13 8.15.1 REQUIREMENTS FOR OMITTING SPRINKLERS IN COMBUSTIBLE CONCEALED SPACES. TYPICALLY COMPOSITE WOOD JOIST CONSTRUCTION IS USED WITH JOIST CHANNELS NOT EXCEEDING 160 CU.FT.

Sprinkler systems are designed in accordance with NFPA 13 (2016).
Standpipe systems are designed in accordance with NFPA 14 (2013).

QUICK RESPONSE SPRINKLERS IN THE LIGHT & ORDINARY HAZARD AREAS OUTSIDE OF THE DWELLING UNITS AND RESIDENTIAL FAST RESPONSE SPRINKLERS USED IN DWELLING UNITS IN ACCORDANCE WITH NFPA 13 (2016).
NOTE: AREA MAY REDUCED PER NFPA USING QUICK RESPONSE SPRINKLERS.

3) REFER TO HYDRAULIC INFORMATION FOR DESIGN AREAS ON INDIVIDUAL SHEETS.

4A) CITY WATER SUPPLY HYDRANT TEST: Static – 76 P.S.I.
Flow – 58 P.S.I. @ 1342 USGPM.

4B) WATER SUPPLY BOOSTED WITH 2 PUMPS ACTIVATED: Static – 120 P.S.I.
Flow – 106 P.S.I. @ 950 USGPM.

NOTE: SITE WATER SUPPLY PUMPS – 4 PUMPS IN PARALLEL RATED AT 60 PSI @ 475 GPM

FLOW INFORMATION IS BASED ON HYDRANT FLOW INFORMATION & NEW SITE WATER PUMPS – THE ABOVE SUPPLY IS BASED ON 2 OF THE 4 PUMPS FLOWING WHICH IS SUFFICIENT FOR THE SPRINKLER SYSTEM SUPPLY.
NOTE PRESSURES HAVE ALREADY BEEN REDUCED FOR BACKFLOW DEVICES AND METER(UPSTREAM OF PUMPS) & ALSO THE ELEVATION DIFFERENCE BETWEEN THE TEST HYDRANTS AND THE SITE PUMP HOUSE.
ELEVATION INCREASE FROM THE SITE PUMP DISCHARGE TO THE BUILDING WATER ENTRY HAVE INCLUDED IN EACH HYDRAULIC CALCULATION.

ALARMS AND SWITCHES
1) Tamper Switches – BUILT IN TO BUTTERFLY VALVES
2) PADDLE FLOW Switch (WET SYSTEMS) – Potter VSR
3) PRESSURE FLOW Switch – POTTER PS10 DRY SYSTEM
4) LOW AIR PRESSURE Switch – POTTER PS40 DRY SYSTEM
5) OUTSIDE WATERMOTOR GONG

MATERIAL
1) BACKFLOW PREVENTION: 8" DDCV ASSEMBLY TYPE BY OTHERS ON FIRE LINE
2) Butterfly Valves: GROOVED TYCO VALVES c/w built in tamper switch
3) DRY PIPE Valve: GROOVED TYCO DPV-1 VALVE c/w built TRIM.
4) Fire Department Connection: FREE STANDING 4"x2-1/2"x2-1/2" BY OTHERS
5) Piping: 1-1/2" TO 4" SCH. 10 STEEL PIPE, black, ULC,F.M. APPROVED
1" TO 2" – SCH. 40 black,ULC,F.M. APPROVED
3/4" TO 2-1/2"- BLAZEMASTER CPVC PIPE, ULC APPROVED
ALL DRY SYSTEM PIPE TO BE GALVANIZED.
6) Fittings: 1-1/2" TO 6" – Grooved Fittings and Couplings
1" TO 2" – cast iron fittings, black
3/4" TO 2-1/2" – BLAZEMASTER CPVC fittings.
7) Welding: Outlets off mains and lines are welded in accordance with B 2.1 Standards.
8) Hangers: – WOOD SAMWYS & STRAP & STAND OFF STRAP HANGERS.
– Finish on rod – PLATED
– Rings – adjustable swivel loop type where applicable
Pipe hangers shall be installed as required by NFPA for supporting sprinkler piping. No other piping and/or devices are to be attached to the sprinkler pipe hanger system unless the piping or devices are specifically approved for the additional loading. THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.

NOT INCLUDED:
The following items are not included in the scope of this contract but will or may be done by others.
1) Underground piping.
2) Electrical wiring.
3) PAINTING OF PIPE
4) FREE STANDING FIRE DEPARTMENT CONNECTION
5) SITE WATER BOOSTER PUMPS & ASSOCIATED VALVES ETC.

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

| PIPE SIZE Inches | Ambient Temperature During Cure Period | | |
|---|---|---|---|
| | 60°F to 120°F | 40°F to 59°F | 0°F to 39°F |
| 3/4" | 45 min. | 1.5 hr. | 24 hr. |
| 1" | 45 min. | 1.5 hr. | 24 hr. |
| 1¼" | 1.5 hr. | 16 hr. | 120 hr. |
| 1½" | 1.5 hr. | 16 hr. | 120 hr. |
| 2" | 6 hr. | 36 hr. | See Note 1 |
| 2½" | 8 hr. | 72 hr. | See Note 1 |
| 3" | 8 hr. | 72 hr. | See Note 1 |

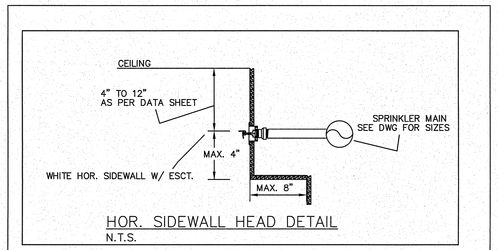
Note 1 For these sizes, the solvent cement can be applied at temperatures below 32°F, however, the sprinkler system temperature must be raised to a temperature of 32°F or above and allowed to cure per the above recommendations prior to pressure testing.

### BLAZEMASTER ® PIPE
SDR 13.5 (ASTM F442)
HANGER SPACING

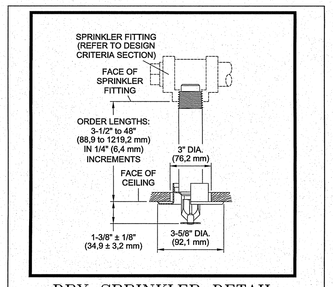
| NOMINAL SIZE inches | (mm) | MAX SPACING feet | (m) |
|---|---|---|---|
| 3/4" | (20.0) | 5.5' | (1.7) |
| 1" | (25.0) | 6.0' | (1.8) |
| 1¼" | (32.0) | 6.5' | (2.0) |
| 1½" | (40.0) | 7.0' | (2.1) |
| 2" | (50.0) | 8.0' | (2.4) |
| 2½" | (65.0) | 9.0' | (2.7) |
| 3" | (80.0) | 10.0' | (3.0) |

### SPRINKLER SYMBOL DESCRIPTION

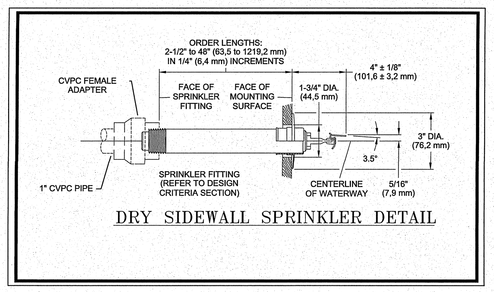
| SYMBOL | SIZE / STYLE | K-FAC / °F | MAKE / MODEL | PART# / FINISH | RESPONSE / COMMENTS | QTY |
|---|---|---|---|---|---|---|
| | | | | | | |
| TOTAL HEADS REQUIRED ON THIS SHEET: | | | | | | |




HOR. SIDEWALL HEAD DETAIL
N.T.S.




DRY SPRINKLER DETAIL

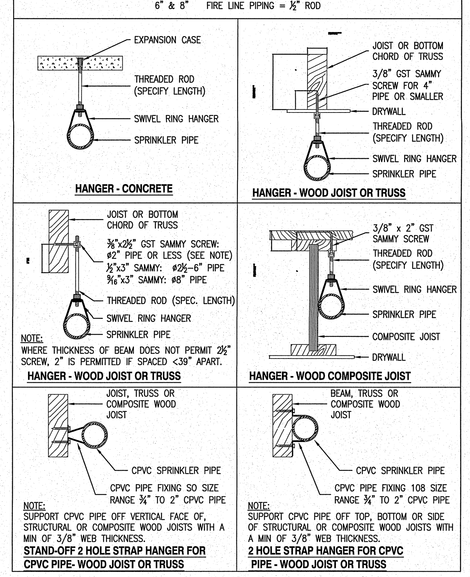



DRY SIDEWALL SPRINKLER DETAIL

**GENERAL FIRE SPRINKLER HANGER SPECIFICATIONS**

| MAXIMUM DISTANCE BETWEEN HANGERS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NOMINAL PIPE SIZE | 1" | 1½" | 2" | 2½" | 3" | 4" | 6" | 8" |
| STEEL PIPE EXCEPT THREADED LIGHTWALL | 12'–0" | 15'–0" | 15'–0" | 15'–0" | 15'–0" | 15'–0" | 15'–0" | 15'–0" |
| THREADED LIGHTWALL STEEL PIPE | 12'–0" | 12'–0" | 12'–0" | 12'–0" | 12'–0" | N/A | N/A | N/A |

1" – 4" FIRE LINE PIPING = ⅜" ROD
6" & 8" FIRE LINE PIPING = ½" ROD




## BLAZEMASTER PIPING
## RECOMMENDED PRACTICES AND PRECAUTIONS
DO'S AND DON'TS

WHILE NOT A COMPLETE LIST, THE FOLLOWING IS INTENDED TO HIGHLIGHT MANY OF THE "DO'S" AND "DON'TS" ADDRESSED IN THE MANUAL

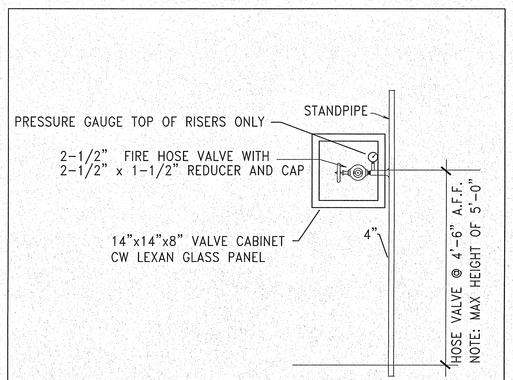
DOS

- INSTALL PRODUCT ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND DESIGN MANUAL.
- FOLLOW RECOMMENDED SAFE WORK PRACTICES.
- MAKE CERTAIN THAT THREAD SEALANTS, GASKET LUBRICANTS, OR FIRE STOP MATERIALS ARE COMPATIBLE WITH BLAZEMASTER CPVC PIPE AND FITTINGS.
- USE ONLY LATEX–BASED PAINTS IF PAINTING IS DESIRED.
- KEEP PIPE AND FITTINGS IN ORIGINAL PACKAGING UNTIL NEEDED.
- COVER PIPE AND FITTINGS WITH AN OPAQUE TARP IF STORED OUTDOORS.
- FOLLOW PROPER HANDLING PROCEDURES.
- USE TOOLS SPECIFICALLY DESIGNED FOR USE WITH PLASTIC PIPE AND FITTINGS.
- USE PROPER SOLVENT CEMENT AND FOLLOW APPLICATION INSTRUCTIONS.
- USE A DROP CLOTH TO PROTECT INTERIOR FINISHES.
- CUT THE PIPE ENDS SQUARE.
- DEBURR AND BEVEL THE PIPE END BEFORE SOLVENT CEMENTING.
- ROTATE THE PIPE ONE EIGHTH TO ONE QUARTER TURN WHEN BOTTOMING PIPE IN FITTING SOCKET.
- AVOID PUDDLING OF SOLVENT CEMENT IN FITTINGS AND PIPE.
- MAKE CERTAIN THAT SOLVENT CEMENT DOES NOT RUN AND PLUG THE SPRINKLER HEAD ORIFICE.
- FOLLOW THE MANUFACTURER'S RECOMMENDED CURE TIMES PRIOR TO PRESSURE TESTING.
- FILL LINES SLOWLY AND BLEED THE AIR FROM THE SYSTEM PRIOR TO PRESSURE TESTING.
- SUPPORT SPRINKLER HEAD PROPERLY TO PREVENT LIFT UP OF THE HEAD THROUGH THE CEILING WHEN ACTIVATED.
- KEEP THREADED ROD WITHIN 1/16" (1.588 mm) OF THE PIPE.
- INSTALL BLAZEMASTER CPVC IN WET FIRE SPRINKLER SYSTEMS ONLY.
- USE ONLY INSULATION AND/OR GLYCERIN AND WATER SOLUTIONS FOR FREEZE PROTECTION.
- ALLOW FOR MOVEMENT DUE TO EXPANSION AND CONTRACTION.
- RENEW YOUR BLAZEMASTER CPVC FIRE SPRINKLER INSTALLATION TRAINING EVERY TWO YEARS.

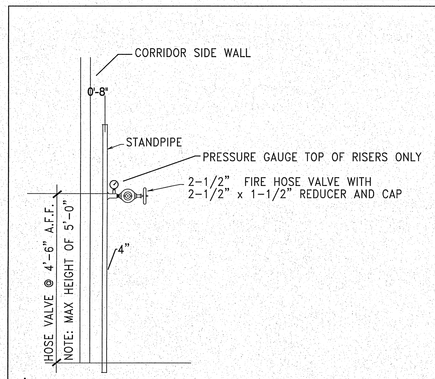
DON'TS

- DO NOT USE EDIBLE OILS SUCH AS CRISCO AS A GASKET LUBRICANT.
- DO NOT USE PETROLEUM OR SOLVENT–BASED PAINTS, SEALANTS, LUBRICANTS OR FIRE STOP MATERIALS.
- DO NOT USE ANY GLYCOL BASED SOLUTIONS AS AN ANTI–FREEZE.
- DO NOT MIX GLYCERIN AND WATER SOLUTIONS IN CONTAMINATED CONTAINERS.
- DO NOT USE BOTH TEFLON TAPE AND THREAD SEALANTS SIMULTANEOUSLY.
- DO NOT USE SOLVENT CEMENT THAT EXCEEDS ITS SHELF LIFE OR HAS BECOME DISCOLORED OR GELLED.
- DO NOT ALLOW SOLVENT CEMENT TO PLUG THE SPRINKLER HEAD ORIFICE.
- DO NOT CONNECT RIGID METAL COUPLERS TO BLAZEMASTER CPVC GROOVED ADAPTERS.
- DO NOT THREAD, GROOVE OR DRILL BLAZEMASTER CPVC PIPE.
- DO NOT USE SOLVENT CEMENT NEAR SOURCES OF HEAT, OPEN FLAME, OR WHEN SMOKING.
- DO NOT PRESSURE TEST UNTIL RECOMMENDED CURE TIMES ARE MET.
- DO NOT USE DULL OR BROKEN CUTTING TOOL BLADES WHEN CUTTING BLAZEMASTER PIPE.
- DO NOT USE BLAZEMASTER CPVC PIPE THAT HAS BEEN STORED OUTDOORS, UNPROTECTED AND IS FADED IN COLOR.
- DO NOT ALLOW THREADED ROD TO COME IN CONTACT WITH THE PIPE.
- DO NOT INSTALL BLAZEMASTER CPVC PIPE AND FITTINGS IN COLD WEATHER WITHOUT ALLOWING FOR EXPANSION.
- DO NOT INSTALL BLAZEMASTER CPVC PIPE AND FITTINGS IN DRY SYSTEMS.
- DO NOT PRESSURE TEST WITH AIR OR COMPRESSED GAS.

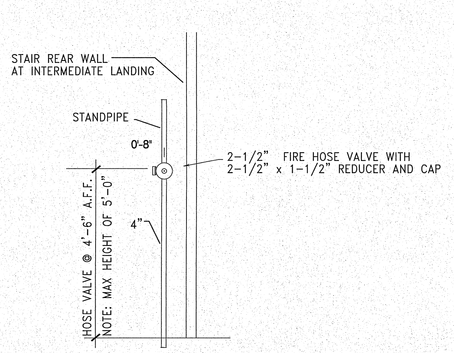
NOTE: THIS LIST DOES NOT CONSTITUTE A COMPLETE INSTALLATION GUIDE




⚠ DETAIL–STANDPIPE HOSE VALVE & CABINET AT CORRIDOR WALL




⚠ DETAIL–STANDPIPE HOSE VALVE AT STAIRS – DIM FROM CORRIDOR WALL




⚠ DETAIL–STANDPIPE HOSE VALVE AT STAIRS – DIM FROM REAR WALL

| DATE | REV | DESCRIPTION |
|---|---|---|
| DEC 15 2016 | 0 | ISSUED FOR APPROVAL |

REVISION HISTORY

ENGINEER'S STAMP
02/13/17

NICET CERTIFIED D. MANNERS 110933

EDGE FIRE PROTECTION
FRONTLINE DEFENSE
7 MONROE DRIVE
PELHAM, ALABAMA 35124
PHONE: (205)620-2433 OR (888)620-2433
FAX: (205)620-2434

PROJECT NAME:
PORTLAND RETIREMENT RESIDENCE
802 OCEAN AVE.
PORTLAND MAINE 04103

SHEET TITLE:
FIRE SPRINKLER SITE PLAN
NOTES AND DETAILS

DRAWN BY: D.S.
DATE: DEC 14 2016
SCALE: AS SHOWN
JOB NUMBER: MEC-16-001
SHEET NUMBER: FP 1 OF 9