FIRE PROTECTION NOTES:

FIRE PROTECTION SUPPLY PIPE: ROUTE THE BUILDING FIRE MAIN TO THE WATER MAIN AND CONNECT TO THE SUPPLY LINE AT THE APPROPRIATE TIME AND LOCATION. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF WATER MAIN PRIOR TO START OF CONSTRUCTION.

WORK INCLUDES BUT IS NOT LIMITED TO:

1. INSTALLING A COMPLETE WET SYSTEM DESIGNED THROUGHOUT THE BUILDING .

RELATED WORK SPECIFIED ELSEWHERE:

1. WIRING OF FLOW ALARM SWITCHES AND TAMPER SWITCHES AND CONNECTION OF SWITCHES TO BUILDING ALARM SYSTEM ARE SPECIFIED IN ELECTRICAL DOCUMENTS.

SPRINKLER DESIGN REQUIREMENTS: (FOR LIGHT HAZARD):

- 2. THE CONTRACTOR SHALL SUBMIT 4 COMPLETE SETS OF SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ARCHITECT FOR REVIEW, PRIOR TO ORDERING MATERIAL AND/OR CUTTING PIPE. CONTRACTOR SHALL NOT CUT ANY PIPING UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND ACCEPTED. THE CONTRACTOR SHALL SHOW IN DASHED LINES THE LOCATION OF ALL DUCTWORK, LIGHTS AND DIFFUSERS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SPRINKLER PIPING AND HEADS LOCATIONS WITH OTHER TRADES. CONTRACTOR SHALL RELOCATE SPRINKLER PIPING AND HEADS AS NECESSARY IN ORDER TO AVOID CONFLICT WITH DUCTWORK, LIGHTS AND STRUCTURE.
- 4. PROVIDE AUXILIARY DRAINS AT LOW POINTS IN SYSTEM AND FOR TRAPPED SECTIONS AS REQUIRED BY NFPA-13. LOCATE AUXILIARY DRAINS IN MECHANICAL CLOSETS OR OTHER LOCATIONS OUT OF SIGHT.
- 5. THE CONTRACTOR SHALL INCLUDE A TEN POUND (10 PSI) BUFFER IN THE HYDRAULIC CALCULATIONS, I.E. THE PRESSURE REQUIRED FOR THE SPRINKLER SYSTEM (INCLUDING HOSE STREAM) SHALL BE A MINIMUM OF 10 PSI LESS THAN THE AVAILABLE PRESSURE AT THE REQUIRED FLOW.
- 6. THE CONTRACTOR SHALL PERFORM A FLOW TEST PRIOR TO COMMENCING DESIGN AND SHALL PROVIDE TEST INFORMATION TO THE ARCHITECT FOR APPROVAL. SPRINKLER SYSTEM DESIGN SHALL BE BASED UPON THE CONTRACTOR'S FLOW TEST.

QUALITY CRITERIA:

PERMITS, LICENSES, INSPECTION FEES:

- 1. OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTION FEES AS MAY BE REQUIRED FOR PERFORMANCE AND APPROVAL OF THE WORK PERFORMED UNDER THIS SECTION OF THE SPECIFICATIONS.
- 2. COMPLY WITH ALL REQUIREMENTS OF NFPA 13 AND THE STATE FIRE MARSHALL AND LOCAL CODES.

MATERIALS: MATERIALS SPECIFIED BY MANUFACTURER'S NAME SHALL BE USED UNLESS PRIOR APPROVAL OF A SUBSTITUTE IS GIVEN BY ADDENDA.

SUBMITTALS:

BEFORE MATERIALS AND EQUIPMENT ARE PURCHASED, SUBMIT FOR ARCHITECT'S APPROVAL, A COMPLETE SCHEDULE OF MATERIALS AND EQUIPMENT TO BE INCORPORATED IN THE WORK. SUBMITTALS SHALL INCLUDE THE FOLLOWING:

- 1. COMPLETE SHOP DRAWINGS WITH HYDRAULIC CALCULATIONS
- 2. ALL VALVES
- 3. DRY PIPE VALVE AND ACCESSORIES
- 4. SPRINKLER HEADS
- 5. TAMPER SWITCHES6. PIPE HANGERS AND SUPPORTS
- 7. PIPE AND FITTINGS
- 8. CABINETS
- 9. AIR COMPRESSOR10. ALARM VALVE

GROOVED JOINT COUPLINGS AND FITTINGS SHALL BE SHOWN ON DRAWINGS AND PRODUCT SUBMITTALS, AND BE SPECIFICALLY IDENTIFIED WITH THE APPLICABLE STYLE NUMBER.

SPRINKLER HEADS SHALL BE REFERRED TO ON DRAWINGS, SUBMITTALS AND OTHER DOCUMENTATION, BY THE SPRINKLER IDENTIFICATION OR MODEL NUMBER AS SPECIFICALLY PUBLISHED IN THE APPROPRIATE AGENCY LISTING OR APPROVAL. TRADE NAMES OR OTHER ABBREVIATED DESIGNATIONS SHALL NOT BE ALLOWED.

TESTING PIPE SYSTEMS:

TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE ARCHITECT OR HIS DESIGNATED REPRESENTATIVE. EQUIPMENT, MATERIALS AND INSTRUMENTS FOR TESTING SHALL BE FURNISHED BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.

AUTOMATIC SPRINKLER PIPING: THE AUTOMATIC SPRINKLER SYSTEMS SHALL BE HYDROSTATICALLY TESTED IN THEIR ENTIRETY OR IN ZONES DEFINED BY SHUT-OFF VALVES. THE PIPING SHALL BE TESTED AT A PRESSURE OF 200 PSIG, MEASURED AT THE LOW POINT IN THE SYSTEM OR ZONE, AND SHALL BE PROVED TIGHT AT THIS PRESSURE FOR A PERIOD OF NOT LESS THAN TWO HOURS. LEAKS DETECTED SHALL BE REPAIRED BY TIGHTENING, REWELDING JOINTS, OR REPLACING DAMAGED PIPE OR FITTINGS. CAULKING OF JOINTS WILL NOT BE PERMITTED.

DRY PIPE AIR TEST: ALL DRY PIPE PIPING SHALL BE TESTED AT 40 PSIG AND ALLOWED TO STAND FOR 24 HOURS. ALL LEAKS WHICH ALLOW A LOSS OF PRESSURE OVER 1½ PSI SHALL BE REPAIRED.

COMPRESSED AIR SYSTEM: ALL PIPING SHALL BE PNEUMATICALLY TESTED AT A PRESSURE OF 150 PSIG FOR A PERIOD OF NOT LESS THAN 2 HOURS. NO LOSS IN PRESSURE WILL BE PERMITTED. LEAKS DETECTED SHALL BE REPAIRED BY TIGHTENING OR REPLACING PIPE AND FITTINGS. CAULKING OF JOINTS WILL NOT BE PERMITTED.

OPERATION AND MAINTENANCE INSTRUCTIONS:

OPERATING AND MAINTENANCE INSTRUCTIONS, PRINTED AND BOUND IN HARD COVER THREE RING LOOSE LEAF NOTEBOOKS, SHALL BE PROVIDED FOR EACH ITEM OF EQUIPMENT LISTED BELOW; 5 SEPARATE COPIES SHALL BE PROVIDED. EACH NOTEBOOK SHALL BE PROVIDED WITHIN AN IDENTIFYING LABEL UNDER A CLEAR PLASTIC COVER SHIELD ON THE FRONT COVER WHICH SHALL IDENTIFY THE PROJECT, ENGINEER, CONTRACTOR AND DATE.

- 1. NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET NO. 25. PHOTO COPIES ARE NOT ACCEPTABLE.
- 1. NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET NO. 25. PHOTO COPIES ARE NO. 2. COPIES OF ALL APPROVED SUBMITTAL DATA (LISTED ABOVE UNDER SUBMITTALS).
- 3. AS-BUILT COPIES OF DESIGN DRAWINGS AND HYDRAULIC CALCULATIONS.

SEISMIC REQUIREMENTS:

PROVIDE SEISMIC PROTECTION FOR THE SPRINKLER SYSTEM. DESIGN AND INSTALL SEISMIC PROTECTION IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 SECTION TITLED "PROTECTION OF PIPING AGAINST DAMAGE WHERE SUBJECT TO EARTHQUAKES." SEISMIC REQUIREMENTS MAY BE WAIVED BY THE AUTHORITY HAVING JURISDICTION. PROVIDE WRITTEN DOCUMENTATION OF WAIVER.

GUARANTEE:

ALL EQUIPMENT SHALL BE GUARANTEED AS SPECIFIED UNDER THE GENERAL AND SPECIAL CONDITIONS. GUARANTEE ON ALL EQUIPMENT SHALL START AND COINCIDE WITH THE CONTRACTOR'S GUARANTEE OBLIGATIONS.

PIPE AND FITTINGS:

PIPE AND FITTINGS LISTED HEREIN SHALL BE FOR THE SERVICES INDICATED.

SPRINKLER AND STANDPIPE:

JOINTS:

MECHANICAL GROOVED JOINT COUPLINGS SHALL BE LISTED FOR USE IN FIRE PROTECTION SYSTEMS.

- 1. GROOVED END FITTINGS: FITTINGS SHALL BE DUCTILE IRON (ASTM A536); FORGED STEEL (ASTM A234); OR FABRICATED FROM CARBON STEEL PIPE (ASTM A53); WITH PRE-GROOVED ENDS FOR USE WITH MECHANICAL COUPLINGS OF THE SAME MANUFACTURER
- 2. MECHANICAL COUPLINGS: COUPLING HOUSINGS SHALL BE DUCTILE IRON (ASTM A536). BOLTS AND NUTS SHALL BE CARBON STEEL TRACK-TYPE (ASTM A183), MINIMUM TENSILE 110,000 PSI. GASKETS SHALL BE GRADE "E" EPDM, FOR WATER SERVICES FROM -30 TO +230EF. AT JOINTS ALLOWING CONTROLLED MOVEMENT, EXPANSION, CONTRACTION OF DEFLECTION, FLEXIBLE COUPLINGS WITH SHALL BE USED. AT ALL JOINTS NOT REQUIRING FLEXIBILITY, A RIGID COUPLING SHALL BE USED.
 a. RIGID TYPE: COUPLING HOUSINGS CAST WITH OFFSETTING, ANGLE-PATTERN BOLT PADS SHALL BE USED TO PROVIDE SYSTEM RIGIDITY AND SUPPORT AND HANGING IN ACCORDANCE WITH NFPA 13.
- b. FLEXIBLE TYPE: USE IN LOCATIONS WHERE VIBRATION ATTENUATION AND STRESS RELIEF ARE REQUIRED.

3. FLANGE ADAPTER: FLAT FACE, FOR DIRECT CONNECTION TO ANSI CLASS 125 OR 150 FLANGED COMPONENTS

UNDERGROUND PIPE:

- 1. STANDARD WEIGHT DUCTILE IRON PIPE WITH MECHANICAL "BOLTED TYPE" JOINTS.
- 2. PROVIDE TIE RODS AND THRUST BLOCKS AT EACH CHANGE OF DIRECTION OF THE UNDERGROUND FIRE SERVICE PIPING. INSTALL TIE RODS AND THRUST BLOCKS IN ACCORDANCE WITH NFPA-24 REQUIREMENTS.

FIRE DEPARTMENT VALVES:

VALVES:

- 1. VALVES OF THE SAME TYPE SHALL HAVE THE NAME OR TRADEMARK OF THE MANUFACTURERS AND THE WORKING PRESSURE STAMPED OR CAST ON THE VALVE BODY.
- 2. ALL VALVES INSTALLED IN HORIZONTAL LINES SHALL BE INSTALLED WITH THE STEMS HORIZONTAL OR ABOVE. VALVE
- HANDWHEELS SHALL BE ORIENTED, WHEN INSTALLED, TO PROVIDE MAXIMUM ACCESSIBILITY FOR OPERATION.

 3. ALL VALVES REQUIRING PACKING SHALL BE DESIGNED AND CONSTRUCTED SUCH THAT THEY CAN BE REPACKED UNDER PRESSURE.
- 4. VALVE HANDWHEELS SHALL BE MALLEABLE IRON.
- 5. FIRE DEPARTMENT VALVES: FIRE DEPARTMENT ANGLE VALVES SHALL BE 2½" SIZE PRESSURE REDUCING TYPE COMPLETE WITH CAP AND CHAIN. VALVES SHALL HAVE POLISHED BRASS FINISH AND SHALL BE ELKHART UP-25, POTTER-ROEMER 4085 OR EQUIVALENT BY NIBCO OR SIERRA.

SPRINKLER HEADS:

SPRINKLER HEADS SHALL BE GLASS-BULB TYPE. BODY SHALL BE DIE CAST BRASS, WITH HEX-SHAPED WRENCH BOSS CAST INTO THE BODY TO FACILITATE INSTALLATION AND REDUCE THE RISK OF DAMAGE DURING INSTALLATION.

SPRINKLER HEAD TYPES SHALL BE COORDINATED WITH THE ARCHITECT.

UPRIGHT SPRINKLER HEADS SHALL BE ½ INCH SPRAY TYPE WITH BRONZE FINISH. SPRINKLERS SHALL BE VIKING, CENTRAL SPRINKLER, RELIABLE, GRINNELL OR AUTOMATIC SPRINKLER.

CFC 2019 - 8.3.5 Thread Size Limitations:

Sprinklers having a K-factor exceeding K-5.6 (80) and having 1/2 in. (15 mm) National Pipe Thread (NPT) shall not be installed in new sprinkler systems.

PENDENT SPRINKLER HEADS UNLESS OTHERWISE INDICATED PENDENT SPRINKLER HEADS SHALL BE QUICK RESPONSE ½ INCH SPRAY TYPE WITH CHROME PLATED FINISH AND WHITE ESCUTCHEON PLATE. SPRINKLERS SHALL BE VIKING, CENTRAL SPRINKLER, RELIABLE, GRINNELL OR AUTOMATIC SPRINKLER.

SIDEWALL SPRINKLER HEADS SHALL BE QUICK RESPONSE ½ SPRAY TYPE WITH CHROME PLATED FINISH AND WHITE ESCUTCHEON. SPRINKLERS SHALL BE VIKING, CENTRAL SPRINKLER, RELIABLE, GRINNELL OR AUTOMATIC SPRINKLER.

CONCEALED PENDENT SPRINKLER HEADS SHALL BE ½ INCH SPRAY TYPE WITH CHROME PLATED FINISH AND WHITE ESCUTCHEON AND CEILING PLAT. SPRINKLERS SHALL BE VIKING, CENTRAL SPRINKLER, RELIABLE, GRINNELL OR AUTOMATIC SPRINKLER.

HANGERS:

HANGERS FOR FIRE PROTECTION PIPING:

HANGER FOR 4" AND LARGER HORIZONTAL LINES SHALL BE CLEVIS TYPE HANGERS, B-LINE B-3100 OR EQUIVALENT BY ANVIL, OR ERICO.

HANGER FOR HORIZONTAL LINES UP TO $3\frac{1}{2}$ " SHALL BE BAND TYPE HANGERS, B-LINE MODEL B-3172 OR EQUIVALENT BY ANVIL, OR ERICO.

SUPPORTS FOR VERTICAL LINES PASSING THROUGH FLOOR SHALL BE RISER CLAMP TYPE, FEE & MASON FIG. NO. 241, CARPENTER AND PATTERSON NO. 126 OR EQUIVALENT BY B-LINE, ANVIL OR ERICO.

GENERAL:

UNLESS SPECIFICALLY STATED OTHERWISE, THE FIRE PROTECTION SYSTEM SHALL CONFORM TO ALL OTHER SECTIONS OF THIS SPECIFICATION WHICH APPLY TO PIPE INSTALLATION, ACCESSORIES AND CONTROLS.

ALL THREADED HOSE OUTLETS SHALL COMPLY WITH THE LOCAL FIRE DEPARTMENT REQUIREMENTS.

ALL SHOP DRAWINGS SUBMITTED ON ITEMS REQUIRING UNDERWRITERS' LISTING SHALL BEAR EVIDENCE OF UNDERWRITERS' APPROVAL.

ALL EXPOSED FIRE SYSTEM PIPING INCLUDING VALVE ROOM PIPING SHALL BE CLEANED OF RUST, GREASE AND SCALED AND SHALL BE PROVIDED WITH A FIELD APPLIED PRIME COAT AND TWO COATS OF AN OIL BASED ENAMEL PAINT. COLOR SHALL BE RED OR AS DIRECTED BY ARCHITECT.

THE CONTRACTOR SHALL PERFORM ALL TESTS OF FIRE PROTECTION SYSTEMS AS REQUIRED BY GOVERNING CODES AND LOCAL AUTHORITIES AT NO ADDITIONAL COST TO THE OWNER. TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE OWNERS REPRESENTATIVE.

INSTALLATION:

INSTALL SPRINKLER PIPING WITH A SLOPE TO VALVE ROOM AND TO AUXILIARY LOW POINT DRAINS AS REQUIRED BY NFPA 13.

COORDINATE SPRINKLER INSTALLATION WITH BUILDING STRUCTURE AND OTHER TRADES.

ROUTE [DRY PIPE] [ALARM] VALVE DRAINS TO [OUTSIDE BUILDING] [FLOOR DRAIN] AND TERMINATE 9" AFG.

VERIFY LOCATIONS OF LIGHTS AND DIFFUSERS PRIOR TO INSTALLING SPRINKLER HEADS AND PIPING.

SPRINKLER HEADS SHALL BE INSTALLED ON CENTERLINE WITH LIGHTS, DIFFUSERS AND DOORS, IN LIVING UNITS. CEILING THE SPRINKLER HEADS SHALL BE INSTALLED IN THE CENTER OF 2' X 2' TILES AND IN THE CENTER OF THE ½ TILE IN 2' X 4' TILES.

CONTRACTOR SHALL PURGE AIR FROM ALL WET PIPE SPRINKLER SYSTEM PIPING PRIOR TO FINAL SYSTEM COMPLETION.

INSTALL A SPARE SPRINKLER CABINET NEAR THE SPRINKLER RISER. PROVIDE NUMBER OF SPARE SPRINKLERS AS REQUIRED BY NFPA-13, WITH AT LEAST ONE SPARE FOR EACH TYPE OF HEAD INSTALLED.

THESE SHEETS ARE NOT APPROVED FOR THE INSTALLATION ANY UNDERGROUND FIRE PROTECTION SYSTEM PIPING. A SEPERATE SUBMITTAL TO THE CITY OF ARACADERO FIRE DEPARTMENT FOR REVIEW AND AAPROVAL IS REQUIRED BY THE INSTALLING C-16 LISCENSED FIRE PROTECTION CONTRACTOR PRIOR TO ANY DEMOLITION, MODIFICATION OR INSTALLATION OF ANY FIRE PROTECTION COMPONENTS. AS PER 2019 CFC 105.4, 105.7, 901.3, CH.80,2016 NFPA 14 & CBC 107.2.1

CLIENT: ADDRESS:

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

NOTES:

ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER,

ENGINEER OR SPECIALIST DRAWINGS AND

- SPECIFICATIONS.

 3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING
- 4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO. DESCRIPTION DATE BY

02 FOR APPROVAL 08/22 M.N.

01 FOR APPROVAL 06/22 M.N.

00 FOR APPROVAL 04/22 M.N.

COASTAL PIT STOP, LLC

PROJECT:

FIRE SPRINKLER GENERAL NOTES

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

DRAWING NO. REV.

F 0 . 0 0

2019 CALIFORNIA FIRE CODE - TITLE 24, PART 9 with July Supplement;

SECTION 703: PENETRATIONS

MATERIALS AND FIRE STOP SYSTEMS USED TO PROTECT MEMBRANE AND THROUGH PENETRATIONS IN FIRE-RESISTANCE-RATED CONSTRUCTION AND CONSTRUCTION INSTALLED TO RESIST THE PASSAGE OF SMOKE SHALL BE MAINTAINED. THE MATERIALS AND FIRESTOP SYSTEMS SHALL BE SECURELY ATTACHED TO OR BONDED TO THE CONSTRUCTION BEING PENETRATED WITH NO OPENINGS VISIBLE THROUGH OR INTO THE CAVITY OF THE CONSTRUCTION. WHERE THE SYSTEM DESIGN NUMBER IS KNOWN, THE SYSTEM SHALL BE INSPECTED TO THE LISTING CRITERIA AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CHAPTER 23: MOTOR-FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

SECTION 2301: GENERAL - SCOPE

AUTOMOTIVE MOTOR-FUEL-DISPENSING FACILITIES, MARINE MOTOR FUEL-DISPENSING FACILITIES, FLEET VEHICLE MOTOR FUEL-DISPENSING FACILITIES AIRCRAFT MOTOR VEHICLE FUEL-DISPENSING FACILITIES AND REPAIR GARAGES SHALL BE IN ACCORDANCE WITH THIS CHAPTER AND THE CALIFORNIA BUILDING CODE, INTERNATIONAL FUEL GAS CODE AND CALIFORNIA MECHANICAL CODE, SUCH OPERATIONS SHALL INCLUDE BOTH THOSE THAT ARE OPEN TO THE PUBLIC AND PRIVATE OPERATIONS.

SECTION 2305: OPERATIONAL REQUIREMENTS

2305.2.4. EMERGENCY SHUTOFF VALVES.

AUTOMATIC EMERGENCY SHUTOFF VALVES REQUIRED BY SECTION 2306.7.4 SHALL BE CHECKED NOT LESS THAN ONCE PER YEAR BY MANUALLY TRIPPING THE HOLD-OPEN LINKAGE.

2305.5 FIRE EXTINGUISHERS.

APPROVED PORTABLE FIRE EXTINGUISHERS COMPLYING WITH SECTION 906 WITH A MINIMUM RATING OF 2-A:20-B:C SHALL BE PROVIDED AND LOCATED SUCH THAT AN EXTINGUISHER IS NOT MORE THAN 75 FEET (22,860 mm) FROM PUMPS, DISPENSERS OR STORAGE TANK FILL-PIPE OPENINGS

2305.6 WARNING SIGNS.

WARNING SIGN SHALL BE CONSPICUOUSLY POSTED WITHIN SIGHT OF EACH DISPENSER IN THE FUEL-DISPENSING AREA AND SHALL STATE THE

- NO SMOKING
- DISCHARGE YOUR STATIC ELECTRICITY BEFORE FUELING BY TOUCHING A METAL SURFACE AWAY FROM THE NOZZLE
- TO PREVENT STATIC CHARGE, DO NOT REENTER YOUR VEHICLE WHILE GASOLINE IS PUMPING
- IF A FIRE STARTS, DO NOT REMOVE NOZZLE-BACK AWAY IMMEDIATELY
- IT IS UNLAWFUL AND DANGEROUS TO DISPENSE GASOLINE INTO UNAPPROVED CONTAINERS.
- NO FILLING OF PORTABLE CONTAINERS IN OR ON A MOTOR VEHICLE. PLACE CONTAINER ON GROUND BEFORE FILLING.

NFPA 13: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS - 2019 ANNEX A: EXPLANATORY MATERIAL

MATERIALS AND FIRE STOP SYSTEMS USED TO PROTECT MEMBRANE AND THROUGH PENETRATIONS IN FIRE-RESISTANCE-RATED CONSTRUCTION AND CONSTRUCTION INSTALLED TO RESIST THE PASSAGE OF SMOKE SHALL BE MAINTAINED. THE MATERIALS AND FIRESTOP SYSTEMS SHALL BE SECURELY ATTACHED TO OR BONDED TO THE CONSTRUCTION BEING PENETRATED WITH NO OPENINGS VISIBLE THROUGH OR INTO THE CAVITY OF THE CONSTRUCTION. WHERE THE SYSTEM DESIGN NUMBER IS KNOWN, THE SYSTEM SHALL BE INSPECTED TO THE LISTING CRITERIA AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PIPE SCHEDULE SIZING METHOD:

| STEEL LIGHT HAZARD PIPE SCHEDULE | | | | | |
|---|-----------------|--|--|--|--|
| PIPE SIZE | SPRINKLER HEADS | | | | |
| 1" (25mm) | 2 SPRINKLERS | | | | |
| 1-1/4" (32mm) | 3 SPRINKLERS | | | | |
| 1-1/2" (40mm) | 5 SPRINKLERS | | | | |
| 2" (50mm) | 10 SPRINKLERS | | | | |
| 2-1/2" (65mm) | 30 SPRINKLERS | | | | |
| 3" (80mm) | 60 SPRINKLERS | | | | |
| 3-1/2"(90mm) | 100 SPRINKLERS | | | | |
| NFPA 13 TABLE 27.5.2.2.1 LIGHT HAZARD PIPE SCHEDULE | | | | | |

*HYDRAULIC CALCULATION HAS BEEN DONE FOR ALL PROJECTS WHICH SUPERSEDE THE ABOVE PIPE SCHEDULE

*MAXIMUM VELOCITY WAS LIMITED TO 20 FT/SECONDS. HOWEVER, NFPA 13 DOES NOT LIMIT THE VELOCITY WHEN USING HYDRAULIC CALCULATION METHOD.

| • | | | | | | |
|-------------------------------------|---------------------------------------|--|--|--|--|--|
| STEEL ORDINARY HAZARD PIPE SCHEDULE | | | | | | |
| PIPE SIZE | SPRINKLER HEADS | | | | | |
| 1" (25mm) | 2 SPRINKLERS | | | | | |
| 1-1/4" (32mm) | 3 SPRINKLERS | | | | | |
| 1-1/ 2" (40mm) | 5 SPRINKLERS | | | | | |
| 2" (50mm) | 10 SPRINKLERS | | | | | |
| 2-1/2" (65mm) | 20 SPRINKLERS | | | | | |
| 3" (80mm) | 40 SPRINKLERS | | | | | |
| 3-1/2"(90mm) | 65 SPRINKLERS | | | | | |
| 4" (100mm) | 100 SPRINKLERS | | | | | |
| 5" (125mm) | 160 SPRINKLERS | | | | | |
| 6" (150mm) | 275 SPRINKLERS | | | | | |
| NFPA 13 TABLE 2 | 7.5.3.4 ORDINARY HAZARD PIPE SCHEDULI | | | | | |

*HYDRAULIC CALCULATION HAS BEEN DONE FOR ALL PROJECTS WHICH SUPERSEDE THE ABOVE PIPE SCHEDULE

*MAXIMUM VELOCITY WAS LIMITED TO 20 FT/SECONDS. HOWEVER, NFPA 13 DOES NOT LIMIT THE VELOCITY WHEN USING HYDRAULIC CALCULATION METHOD.

CHAPTER 23: MOTOR-FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

SECTION 2301: GENERAL - SCOPE

A.4.3.2:

LIGHT HAZARD OCCUPANCIES INCLUDE OCCUPANCIES HAVING USES AND CONDIDTIONS SIMILAR TO THE FOLLOWING:

(12) OFFICES, INCLUDING DATA PROCESSING

A.4.3.3:

ORDINARY HAZARD (GROUP 2) OCCUPANCIES INCLUDE OCCUPANCIES HAVING USES AND CONDITIONS SIMILAR TO THE FOLLOWING

(15) MERCANTILE

A.4.3.6:

EXTRA HAZARD (GROUP 2) OCCUPANCIES INCLUDE OCCUPANCIES HAVING USES AND CONDITIONS SIMILAR TO THE FOLLOWING:

(9) CAR STACKERS AND CAR LIFT SYSTEMS WITH 2 CARS STACKED VERTICALLY

CHAPTER 19: DESIGN APPOACHES

19.2.6 HOSE ALLOWANCE

WHEN HOSE VALVES FOR FIRE DEPARTMENT USE ARE ATTACHED TO WET PIPE SPRINKLER SYSTEM RISERS IN ACCORDANCE WITH 16.15.2, THE FOLLOWING SHALL APPLY:

- (1) THE SPRINKLER SYSTEM DEMAND SHALL NOT BE REQUIRED TO BE ADDED TO STANDPIPE DEMAND AS DETERMINED FROM NFPA 14
- (2) WHERE THE COMBINED SPRINKLER SYSTEM DEMAND AND HOSE STREAM ALLOWANCE OF TABKE 19.3.3.1.2 EXCEEDS THE REQUIREMENTS OF NFPA 14, THIS HIGHER DEMAND SHALL BE USED.
- (3) FOR PARTIALLY SPRINKLERED BUILDINGS, THE SPRINKLER DEMAND, NOT ICLUDING HOSE STREAM ALLOWANCE, AS INDICATED IN FIGURE 19.3.3.1.1 SHALL BE ADDED TO THE REQUIREMENTS GICEN IN NFPA 14.

19.3 OCCUPANCY HAZARD FIRE CONTROL APPROACH FOR SPRAY SPRINKLERS

19.3.1 GENERAL:

THE WATER DEMAND REQUIREMENTS SHALL BE DETERMINED BY EITHER THE PIPE SCHEDULE METHOD IN ACCORDANCE WITH 19.3.2 OR THE HYDRAULIC CALCULATION METHOD IN ACCORDANCE WITH 19.3.3

19.3.1.24 CLASSIFICATIONS SHALL BE AS FOLLOWS:

- (1) LIGHT HAZARD
- ORDINARY HAZARD (GROUP 1 AND 2)
- (3) EXTRA HAZARD (GROUP 1 AND 2)
- (4) SPECIAL OCCUPANCY HAZARD (SEE CHAPTER 26)

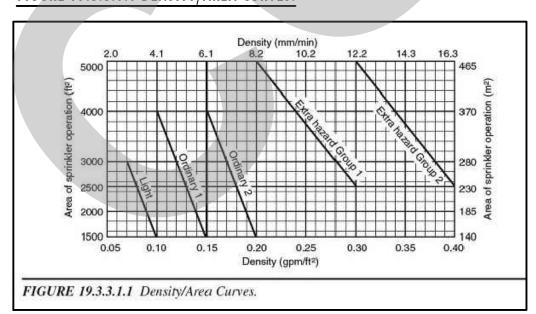
19.3.3 WATER DEMAND REQUIREMENTS - HYDRAULIC CALCULATION METHODS.

19.3.3.1 GENERAL:

THE WATER DEMAND FOR SPRINKLERS SHALL BE DETERMINED ONLY FROM ONE OF THE FOLLOWING, AT THE DISCRETION OF THE DESIGNER:

- DENSITY/AREA CURVES OF FIGURE 19.3.3.1.1 IN ACCORDANCE WITH THE DENSITY/AREA METHOD OD 19.3.3.2.
- (2) THE ROOM THAT CREATES THE GREATEST DEMAND IN ACCORDANCE WITH THE ROOM DESIGN METHOD OF 19.3.3.4
- (3) SPECIAL DESIGN AREAS IN ACCORDANCE WITH 19.3.3.4

FIGURE 19.3.3.1.1 DENSITY/AREA CURVES:



19.3.3.2 DENSITY/AREA METHOD.

19.3.3.2.1 WATER SUPPLY:

198.1.32.1.1: THE WTAER SUPPLY REQUIREMENT FOR SPRINKLERS ONLY SHALL BE CALUCLATED FROM THE DENSITY/AREA CURVES OF FIGUIRE 19.3.3.1.1 OF FROM CHAPTER 26 WHERE DENSITY/AREA CRITERIA ARE SPECIFIED FOR SPECIAL OCCUPANCY HAZARDS.

Occupancy classification is the formal designation of the primary purpose of the building, structure or portion thereof. Structures shall be classified into one or more of the occupancy groups listed in this section based on the nature of the hazards and risks to building occupants generally associated with the intended purpose of the building or structure. Ar area, room or space that is intended to be occupied at different times for different purposes shall comply with all applicable requirements associated with such potential multipurpose. Structures containing multiple occupancy groups shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically listed in this section, such structure shall be classified in the occupancy it most nearly resembles based on the fire safety and relative hazard. Occupied roofs shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard, and shall comply with

Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.

Business (see Section 304): Group B.

Educational (see Section 305): Group E.

Factory and Industrial (see Section 306): Groups F-1 and F-2 High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5

Institutional (see Section 308): Groups I-2, I-2.1, I-3 and I-4. [SFM] Laboratory (see Section 202): Group B, unless classified as Group L (see Section 453)

or Group H (see Section 307). [SFM] Laboratory Suites (see Section 453): Group L

Mercantile (see Section 309): Group N dential (see Section 310): Groups R-1, R-2, R-2.1, R-3, R-3.1 and R-4.

Storage (see Section 311): Groups S-1 and S-2.

Utility and Miscellaneous (see Section 312): Group U [SFM] Existing buildings housing existing protective social care homes or facilities established

prior to 1972 (see California Fire Code Chapter 11 and California Existing Building Code).

5703.6.2Design and fabrication of piping systems and components: Piping system components shall be designed and fabricated in accordance with the applicable standard listed in Table 5703.6.2 and Chapter 27 of NFPA 30, except as modified by Section 5703.6.2.1 and 5703.6.2.2.

| PIPING USE | STANDARD |
|---|------------|
| POWER PIPING | ASME B31.1 |
| PROCESS PIPING | ASME B31.3 |
| PIPIELINE TRANSPORTATION SYSTEM FOR LIQUID HYDROCABONS AND OTHER LIQUIDS. | ASME B31.4 |
| BUILDING SERVICE PIPING | ASME B31.9 |

5003.2.2Piping, tubing, valves and fittings:

Piping, tubing, valves, and fittings conveying hazardous materials shall be designed and installed in accordance with ASME B31 or other approved standards, and shall be in accordance with Sections 5003.2.2.1 and 5003.2.2.2.

<u>5003.2.2.1Design and construction:</u>

Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:

1. Piping, tubing, valves, fittings and related components shall be designed and fabricated from materials that are compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress and exposure to which they are

2. Piping and tubing shall be identified in accordance with ASME A13.1 to indicate the material

conveyed. 3. Manual valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing and provided with ready access at the following locations:

3.1. The point of use.

3.2. The tank, cylinder or bulk source.

4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be identified and the location shall have access clearly visible and indicated by means of a sign. 5.Backflow prevention or check valves shall be provided where the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.

1. Piping for inlet connections designed to prevent backflow.

2. Piping for pressure relief devices.

9.1 Hangers 9.1.1.1

Unless the requirements of 9.1.1.2 are met, types of hangers shall be in accordance with the

requirements of Section 9.1. 9.1.1.2

Hangers certified by a registered professional engineer to include all of the following shall be an

acceptable alternative to the requirements of Section 9.1: Hangers shall be designed to support five times the weight of the water-filled pipe plus 250 lb (115 kg) at each point of piping support.

These points of support shall be adequate to support the system.

The spacing between hangers shall not exceed the value given for the type of pipe as indicated in Table 9.2.2.1(a) or Table 9.2.2.1(b).

Hanger components shall be ferrous.

Detailed calculations shall be submitted, when required by the reviewing authority, showing stresses developed in hangers, piping, and fittings, and safety factors allowed.

The maximum distance between hangers shall not exceed that specified in Table 9.2.2.1(a) or Table 9.2.2.1(b), except where the provisions of 9.2.4 apply.

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

| | | NOMINAL PIPE SIZE (in.) | | | | | | (in.) | | | | |
|--|-----|-------------------------|-------|-------|------|-------|------|-------|------|------|------|------|
| Table 9.2.2.1(a) | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3 | 3-1/2 | 4 | 5 | 6 | 8 |
| STEEL PIPE EXCEPT THREADED LIGHWALL | NA | 12-0 | 12-0 | 15-0 | 15-0 | 15-0 | 15-0 | 15-0 | 15-0 | 15-0 | 15-0 | 15-0 |
| THREADED LIGHTWALL STEEL PIPE | NA | 12-0 | 12-0 | 12-0 | 12-0 | 12-0 | 12-0 | NA | NA | NA | NA | NA |
| COPPER TUBE | 8-0 | 8-0 | 10-0 | 10-0 | 12-0 | 12-0 | 12-0 | 15-0 | 15-0 | 15-0 | 15-0 | 15-0 |
| CPVC | 5-6 | 6-0 | 6-6 | 7-0 | 8-0 | 9-0 | 10-0 | NA | NA | NA | NA | NA |
| DUCTILE-IRON PIPE | NA | NA | NA | NA | NA | NA | 15-0 | NA | 15-0 | NA | 15-0 | 15-0 |

NA: NOT APPLICABLE

CLIENT: ADDRESS:

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SUPPORT TO THE BUILDING AND ANY

ADJACENT STRUCTURES.

DATE BY DESCRIPTION REV. NO. 02 FOR APPROVAL 08/22 M.N. 01 FOR APPROVAL 06/22 M.N. 00 FOR APPROVAL 04/22 M.N.

COASTAL PIT STOP, LLC

FIRE SPRINKLER CODE

ANALYSIS SCALE @ 24X36: PROJ. NO. PROJ. ENGR.

DRAWING NO.

PROJECT:

F 1 . 0 1

0 2

REV.

NTS



1. SYSTEM DESIGN AND INSTALLATION SHALL COMPLY NFDA 13 2019 AND LOCAL APPLICABLE

2. SYSTEM DESIGN BASIS: HYDRAULICALLY MOST DEMANDING 2 SPRINKLERS.
3. WATER SUPPLY:

HYDRANT FLOW TEST:

SYSTEM DEMAND:
REQUIRED PRESSURE:
TOTAL FLOW REQUIRED:

33.64 PSI 45.26 GPM

SAFETY MARGIN UNDER
4. ALL PIPE SHALL BE U.D.N. UNDERGROUND - IPS POLLY PIPE RISER - CPVC OVERHEAD -

- 5. MANUFACTURERS OF RESIDENTIAL SPRINKLERS PUBLISH INFORMATION REGARDING THE SPACING OF THEIR SPRINKLERS WITH RESPECT TO HEAT PROUCING DEVICES (FIRE PLACES, RANGES, OVES, HEATING, VENTS, WATER HEATERS, FURNACES, ETC.) WHETHER OR NOT ALL HEAT PRODUCING DEVICES ARE SHOWN ON THE PLAN PROPER MINIMUM DISTANCES MUST BE
- 6. THE MINIMUM DISTANCE BETWEEN ANY 2 RESIDENTIAL SPRINKLERS ON THIS PRODUCT IS HYDRAULICALLY LIMITED TO 12 FEET. SPRIRNKLERS SHALL NT EXCEED 6 FEET FROM ANY
- 8. THE INIMUM DISTANCE A SPRINKLER CAN BE LOCATED FROM A WALL IS 4 INCHES.

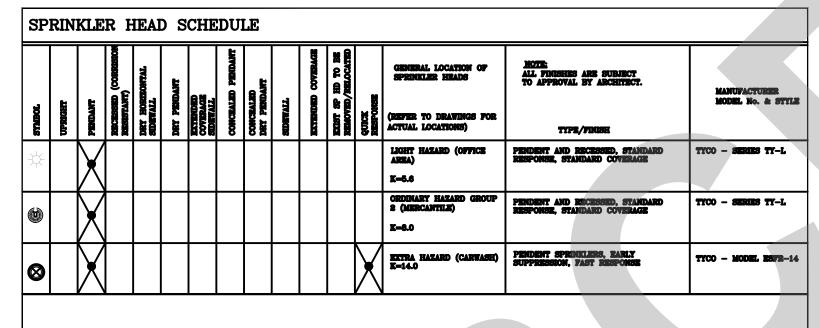
 9. PENDANT SPRINKLERS SHALL E A MINIMUM OF 36 FEET WAY FROM THE CENTER OF ANY OBSTRUCTIONS SUCH AS CEILING FANS AND LIGHT FIXTURES UNLESS THE REQUIREMENTS OF NEDA 13 2 8 2 APE MET
- NFPA 13.3 8.2. ARE MET.

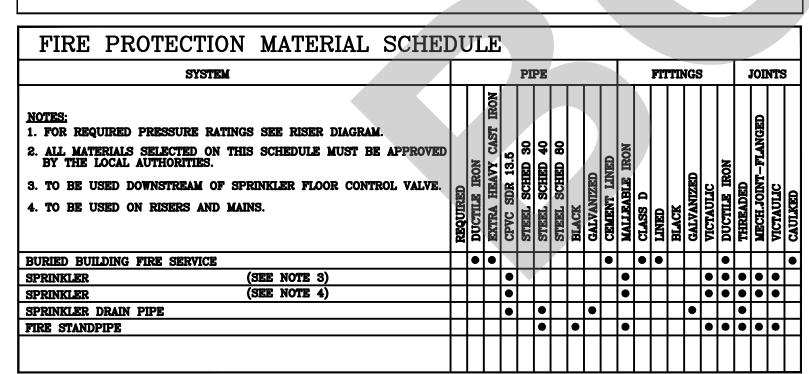
 O. INSTALLATION OF ALL RESIDENTIAL SPRINKLERS SHALL BE IN STRICT COMPLIANCE WITH THE
- MANUFACTURERS INSTALLATION GUIDE.

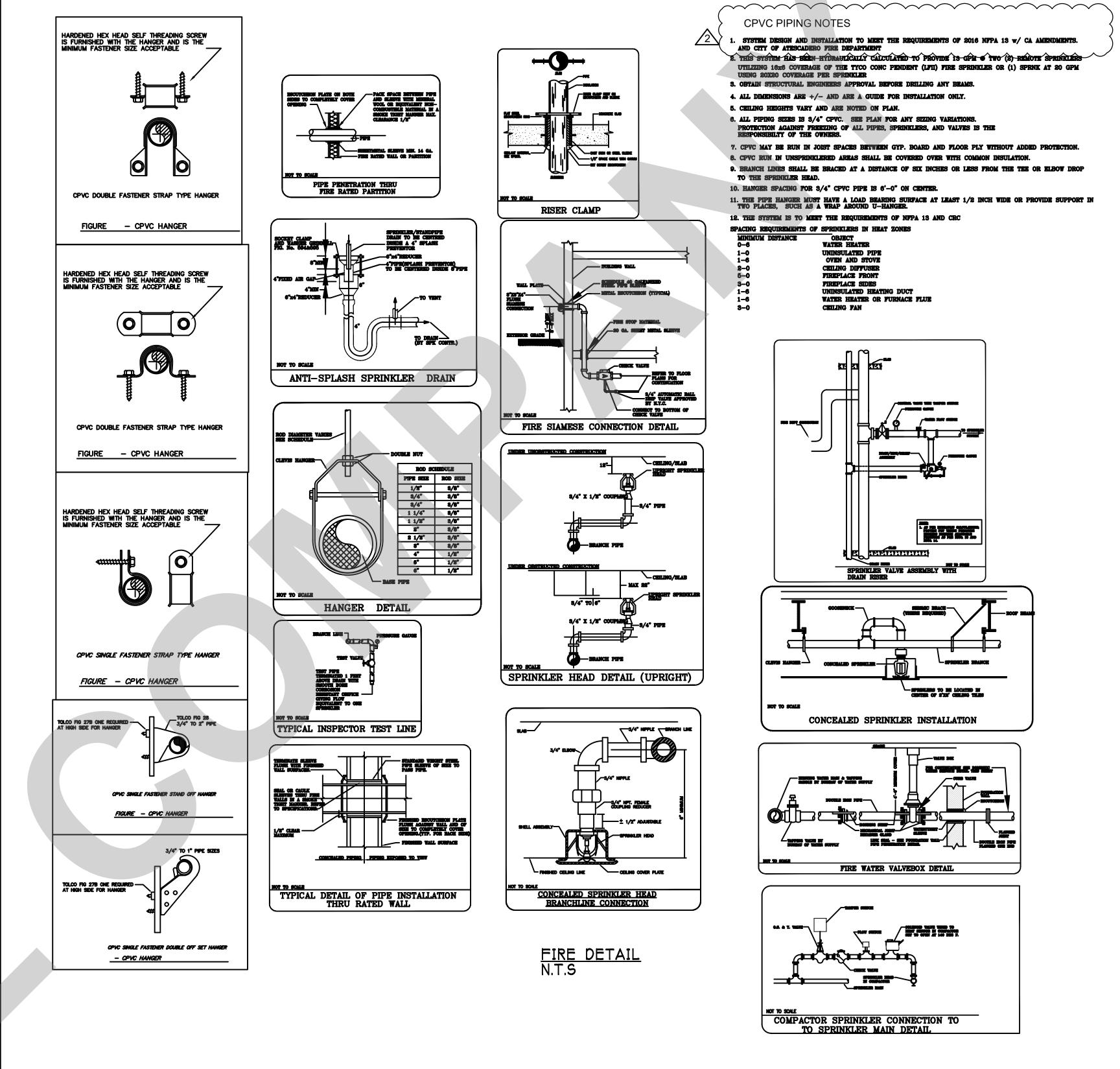
 11. PRIOR TO DRILLINGJOISTS, CONTACT STRUCTURAL ENGINEER FOR RECOMMENDED DRILLING

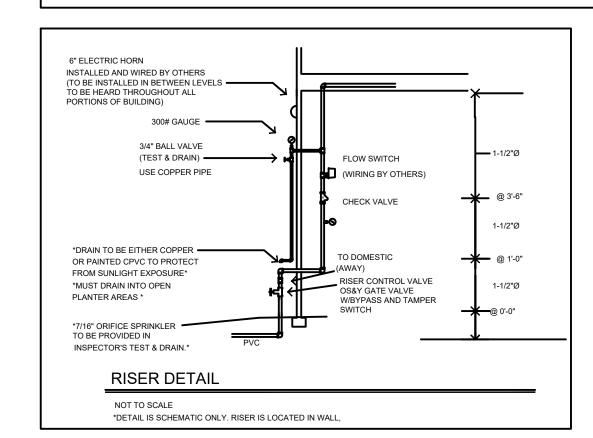
| | | | | | | | | _ | |
|--------------------------|------|----|--------|--------|----|--------|----|----|---|
| HANGER SPACING | | | | | | | | | HANGER NOTES |
| PIPE MATERIAL | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" | 2 1/2" | 3" | 1. | ALL LIGHTING SHOWN ARE THE MAXIMUM |
| COPPER | 8 | 8 | 10 | 10 | 12 | 12 | 12 | | RECOMMENDED DISTANCE BETWEEN HANGERS EXPRESSED. |
| CPVC | 5.5 | 6 | 6.5 | 7 | 8 | 9 | 10 | 2. | PROVIDE A HANGER ITHIN 6 INCHES OF ALL DROPS TO SPRINKLER HEADS WHEN |
| SCHEDULE 40 &10 STEEL | • | 12 | 12 | 15 | 15 | 15 | 15 | 3. | USING CPVC PIPE. + STEEL PIPE IS NOT ALLOWED IN SIZES LESS THAN 1 INCH. |
| THREADABLE | • | 12 | 12 | 12 | 12 | 12 | 12 | | MESS THAN I MON. |

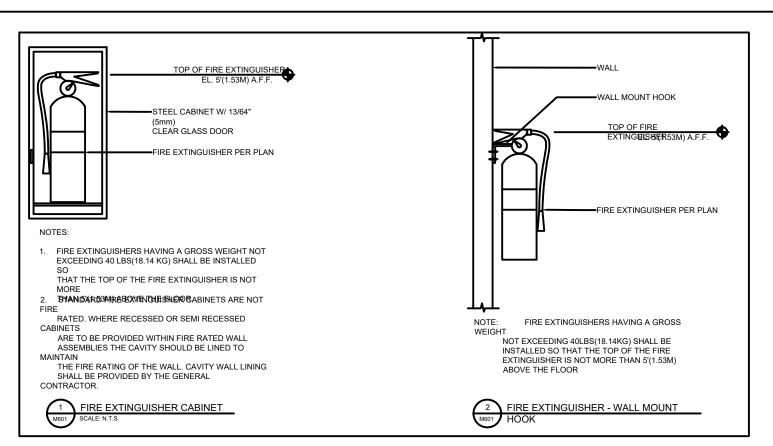
| DESCRIPTION | SYMBOL | | ABBREVIATIONS |
|-------------|--|----------|--------------------------------|
| | MBOLS AND ABBREVIATIONS INDICATED IS ARE NOT NECESSARILY WITHIN THE SCOP! | | |
| X | NODE NO | | |
| | FIRE SPRINKLER | | |
| SD | FIRE STANDPIPE PIPING | A.B.D. | AUTOMATIC BALL DRIP |
| SP | SPRINKLER PIPING (SP.) | A.D. | ACCESS DOOR |
| D | | CLG. | CEILING |
| D | SPK DRAIN PIPING | c.v. | CHECK VALVE |
| 本 | OS & Y VALVE W/ LOCK AND CHAIN | D.C.D.A. | DOUBLE CHECK DETECTOR ASSEMBLY |
| | WATER FLOW SWITCH | DN. | DOWN |
| | CAPPED OUTLET | ELEV. | ELEVATION |
| ── | GATE VALVE (G.V.) | F.H.C. | FIRE HOSE CABINET |
| <u></u> | LOCKSHIELD VALVE (GLOBE VALVE) | F.H. | FIRE HYDRANT |
| <u> </u> | CHECK VALVE (C.V.) | F.H.R. | FIRE HOSE RACK |
| ——♣—— | PRESSURE REGULATING VALVE | FL. | FLOOR |
| <u> </u> | STRAINER | G.V. | GATE VALVE |
| P | | H.C. | HUNG CEILING |
| | SHOCK ABSORBER | N.I.C. | NOT IN CONTRACT |
| Ψ | PRESSURE GAUGE | 0.S.&Y. | OUTSIDE SCREW & YOKE |
| ——II—— | UNION CONNECTION | P.O. | PLUGGED OUTLET |
| L DCDAH CO | DOUBLE CHECK DETECTOR ASSEMBLY | T.S. | TAMPER SWITCH |
| HV HR | HOSE VALVE | WFS | WATER FLOW SWITCH |
| HR SR | HOSE RACK SPRINKLER RIG ASSEMBLY | TS | TAMPER SWITCH |











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DIMENSION AT SITE BEFORE COMMENCING WORK.

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REV. NO. DESCRIPTION DATE BY

02 FOR APPROVAL 08/22 M.N.

01 FOR APPROVAL 06/22 M.N.

00 FOR APPROVAL 04/22 M.N.

COASTAL PIT STOP, LLC

PROJECT:

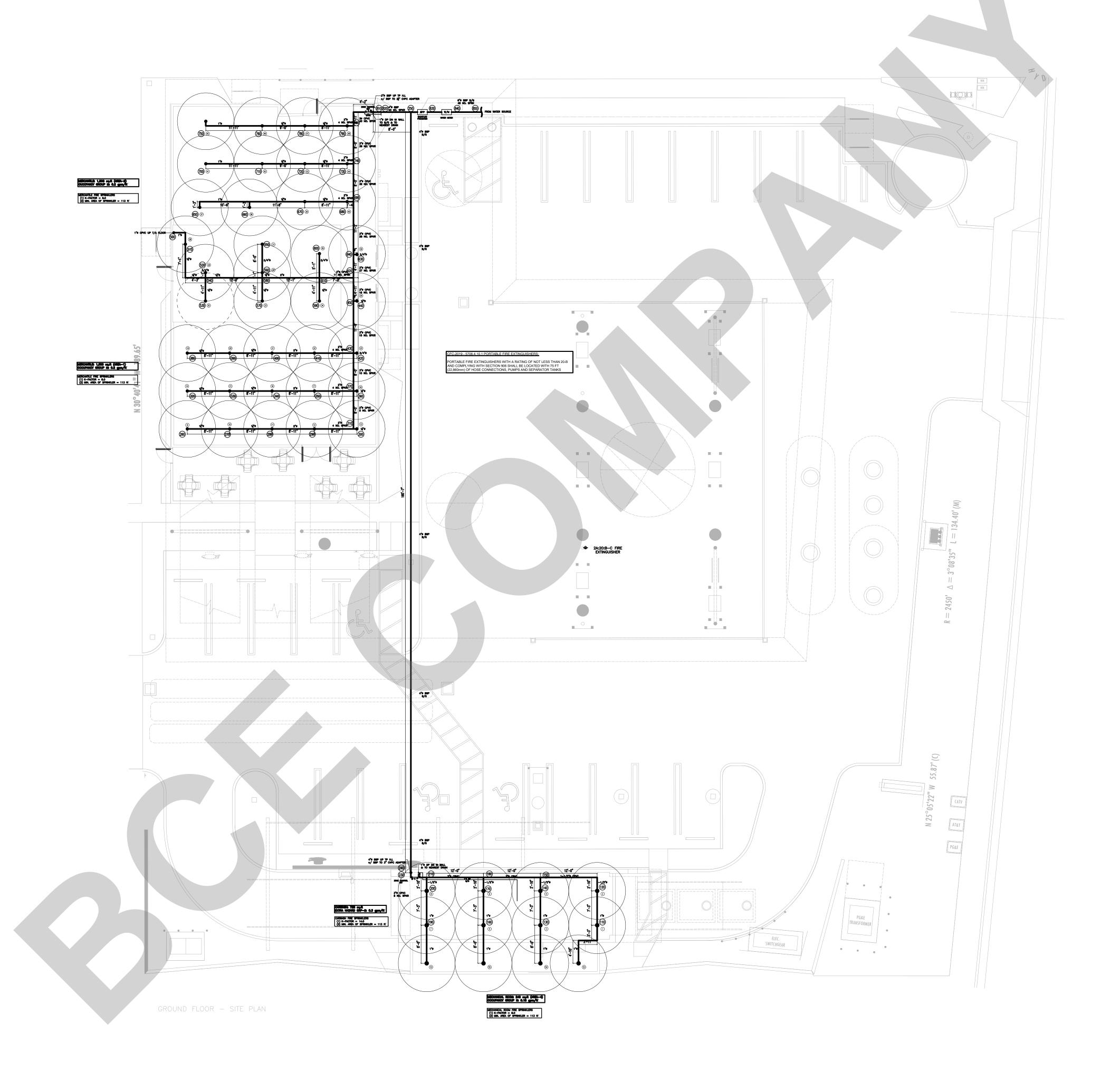
FIRE SPRINKLERS STANDARD DETAILS & SELECTION

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

DRAWING NO. REV.

F 1 . 0 2



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| REV. NO. | DESCRIPTION | DATE | BY |
|----------|--------------|-------|------|
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| 01 | FOR APPROVAL | 06/22 | M.N. |
| 00 | FOR APPROVAL | 04/22 | M.N. |

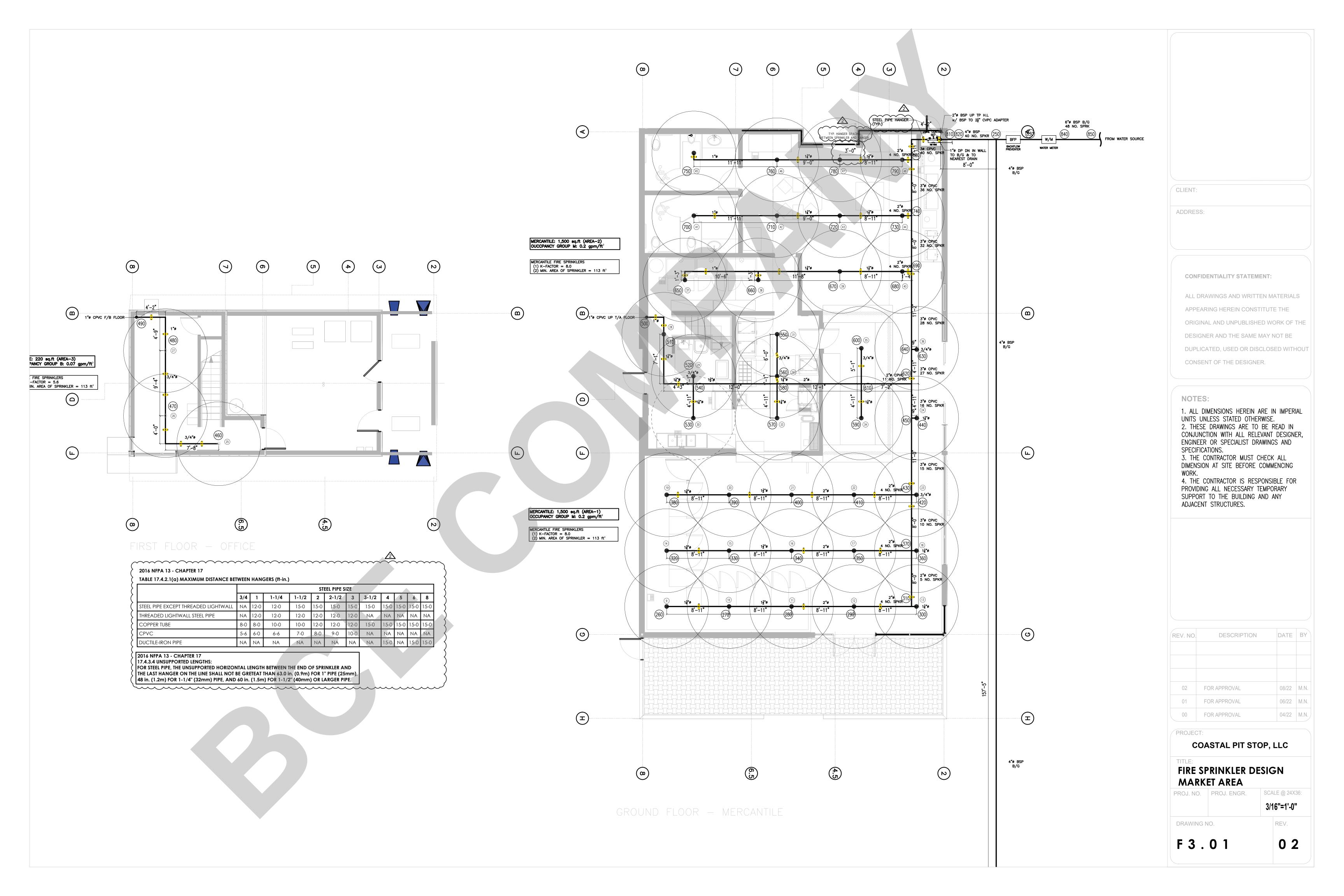
PROJECT:

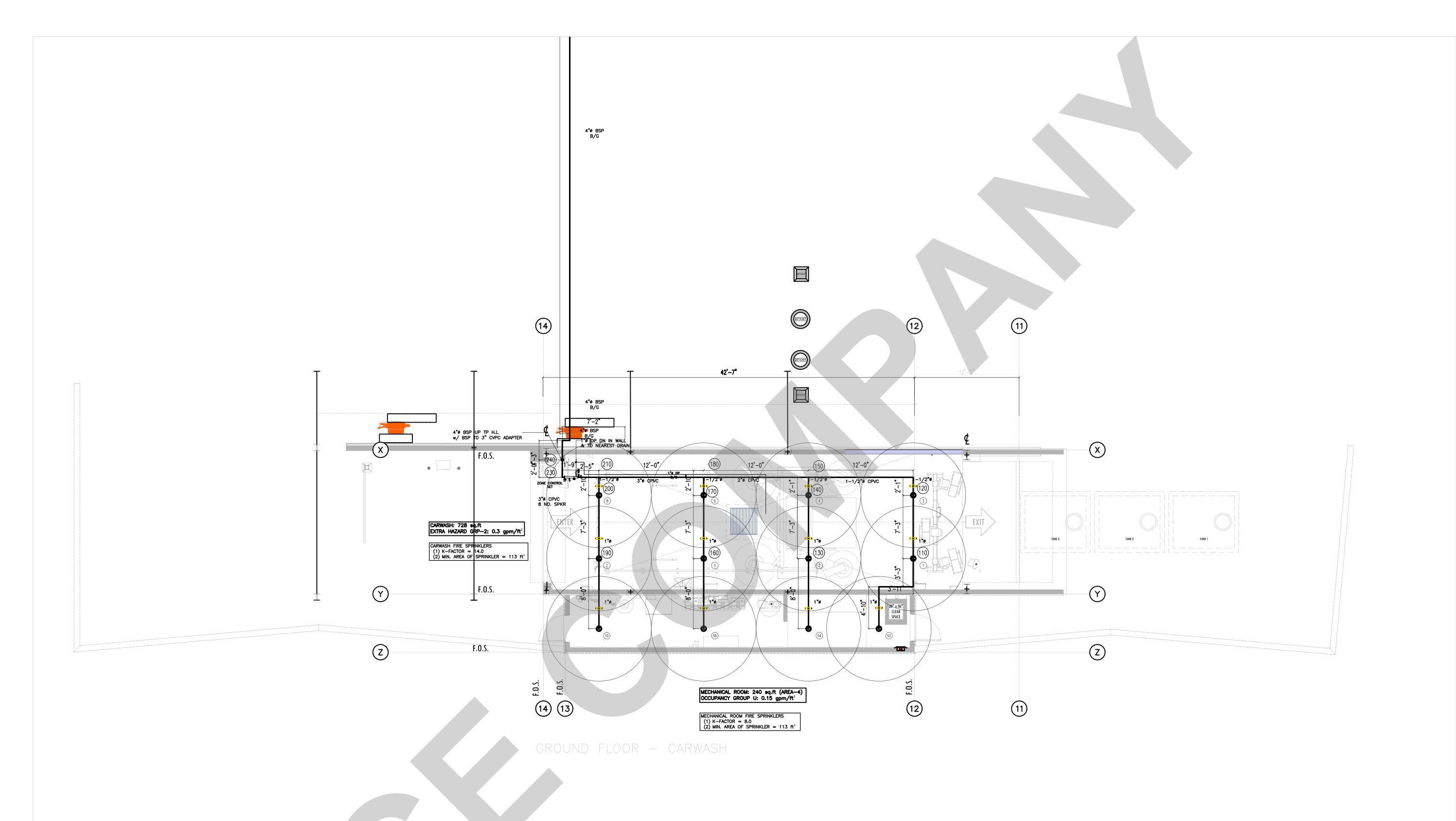
COASTAL PIT STOP, LLC

FIRE SUPPRESSION SITE PLAN

| PROJ. NO. | PROJ. ENGR. | SCA | LE @ 24X36: |
|-----------|-------------|-----|-------------|
| | | 3/3 | 32"=1'-0" |
| DRAWING N | 10. | | REV. |

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|----------|--------------|-------|------|
| | | | |
| | | | |
| | | | |
| 02 | FOR APPROVAL | 08/22 | M.N. |
| 01 | FOR APPROVAL | 06/22 | M.N. |
| 00 | FOR APPROVAL | 04/22 | M.N. |

PROJECT:

COASTAL PIT STOP, LLC

FIRE SPRINKLER DESIGN

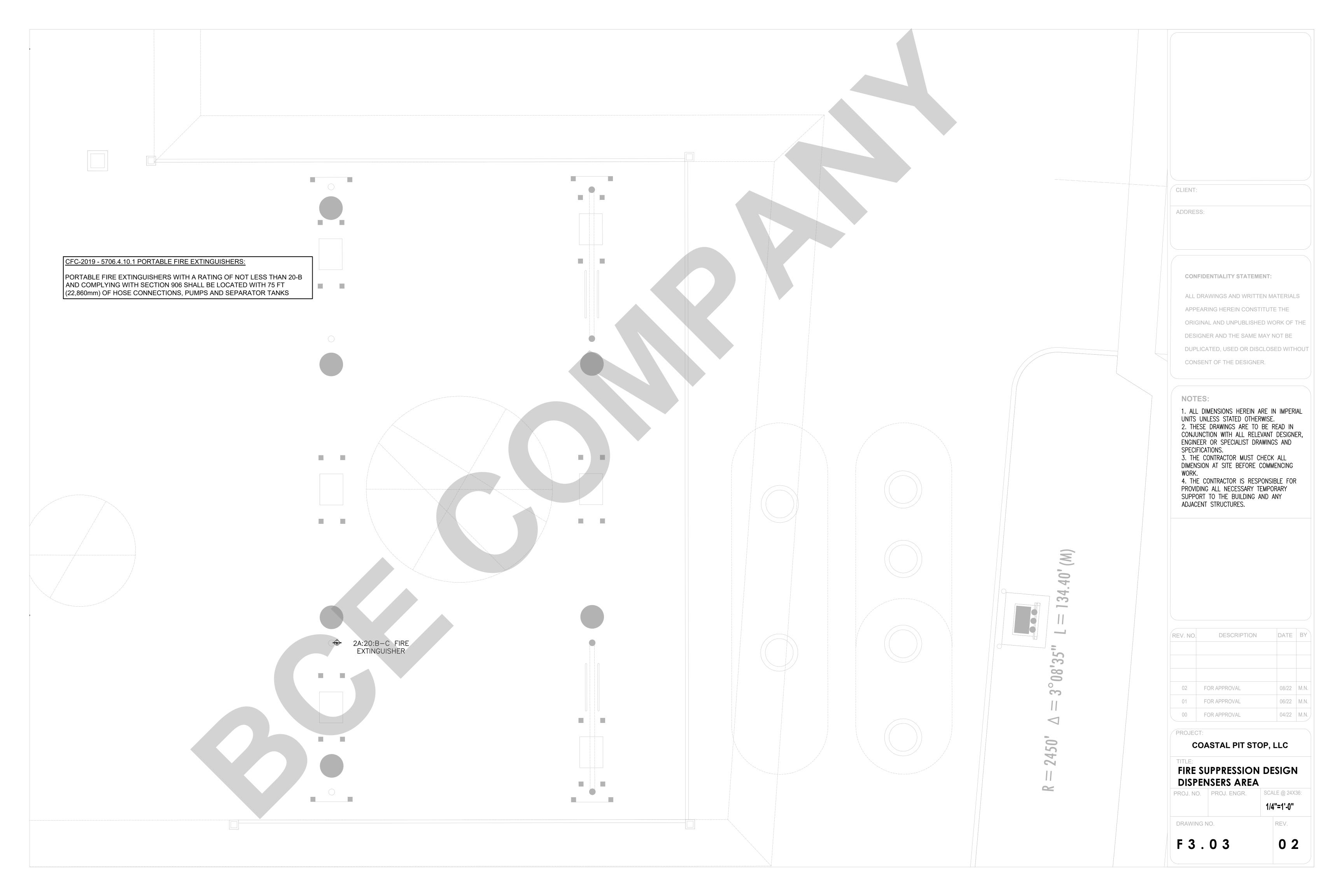
CARWASH AREA PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

DRAWING NO.

REV.

3/16"=1'-0"

F 3 . 0 2

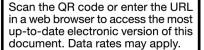




www.tyco-fire.com

Series TY-L - 5.6 and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers Standard Response, Standard Coverage

IMPORTANT Refer to Technical Data Shee TFP2300 for warnings pertaining to regulatory and health information. Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and com ponents. Improper handling and installation can permanently damage a sprinkler system or its compo nents and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.





General

Description The TYCO Series TY-L 5.6 and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers described herein are standard response, standard coverage, solder type spray sprinklers. They are designed for use in light, ordinary, and extra-hazard commercial occupancies such as banks, hotels, shopping malls, factories, refineries, and chemi-

Page 1 of 6

Page 4 of 6

NOVEMBER 2021

may impair the performance of these

The Series TY-L Recessed Pendent Sprinkler, where applicable, is intended for use in areas with a finished ceiling. It uses a two-piece Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) Recessed Escutcheon. The Recessed Escutcheon provides 1/4 in. (6,4 mm) of recessed adjustment or up to 1/2 in. (12,7 mm) of total adjustment from the flush pendent position. The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe drops

to the sprinklers must be cut.



the sprinklers will be exposed. An intermediate level version of the Series TY-L Pendent Sprinkler can be than 5.6 in new construction. They are obtained by utilizing the Series TY-L Pendent Sprinkler in combination with the Model S Shield.

Sprinkler Identification The Series TY-L 5.6 and 8.0 K-factor Upright, Pendent, and Recessed Number (SIN) Pendent Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION

. . Upright 5.6K, 1/2 in. NPT TY3211 . . . Pendent 5.6K, 1/2 in. NPT TY4111 . . . Upright 8.0K, 3/4 in. NPT ASSOCIATION (NFPA), in addition to TY4211 ... Pendent 8.0K, 3/4 in. NPT the standards of any other authorities TY4811 . . . Upright 8.0K, 1/2 in. NPT having jurisdiction. Failure to do so TY4911 . . . Pendent 8.0K, 1/2 in. NPT TY3111 is a re-designation for S1800 and G3111 Y4111 is a re-designation for S1810 and G310 TY4211 is a re-designation for S1811 and G3102 TY4811 is a re-designation for S1805 TY4911 is a re-designation for S1806

WRENCH

FIGURE 7

W-TYPE 9 SPRINKLER

WRENCH

FIGURE 8

W-TYPE 10 RECESSED

SPRINKLER WRENCH

RECESS

The owner is responsible for main-

taining their fire protection system

dition. Contact the installing contrac-

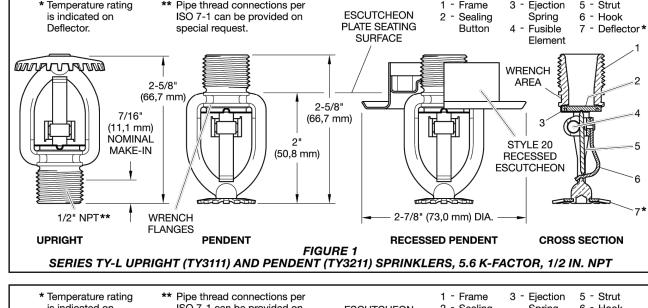
NFPA 13 prohibits installation of 1/2 in.

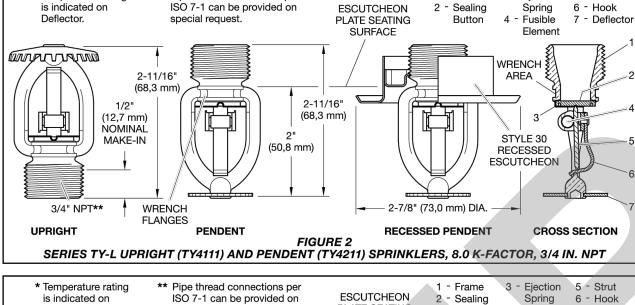
NPT sprinklers with K-factors greater

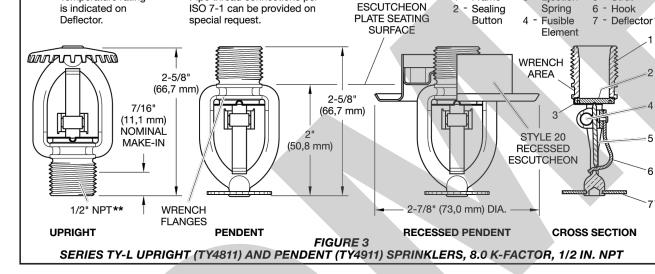
intended for retrofit in existing sprinkler

TFP110

Page 2 of 6







flats or frame arms and, consequently,

exposure of bare metal to the corrosive

just contact the sprinkler flats.

Inspect the sprinkler wrench flats

and frame arms and retouch (repair)

the wax coating whenever the coat-

ing has been damaged and bare

Retouch the wax coating on the

wrench flats by gently applying a

heated 1/8 in. diameter steel rod

to smooth it back over areas where

to the damaged areas of the wax.

removing the wrench.

metal is exposed.

bare metal is exposed.

the initial sprinkler installation.

and appropriate precautions need to be

prevent the installer from being burned.

If attempts to retouch the wax coating

with complete coverage are unsuc-

cessful, additional wax can be ordered

in the form of a wax stick, the end of

initial sprinkler installation.

taken when handling the heated rod to

following:

NOTICE

TFP110 Page 3 of 6

| | | Tomporeture | Frame | | | Sprinkler F | inish | | | |
|------------------------|---------------------|------------------------|-----------|------------------|------------------|------------------|---------------|-------------------------|--|--|
| K-Factor Type | | Temperature Color Code | | Natural Brass | Chrome Plated | Lead Coated | Wax Coated | Wax-Over-Lead Coated | | |
| | | 165°F (74°C) | Unpainted | 100 | | | | | | |
| | Upright (TY3111) | 212°F (100°C) | White | 1, 2, | 1, 2, 3, 5 | | 1, 2, 3 | | | |
| | | 280°F (138°C) | Blue | | | 1, 2 | 4 | N/A | | |
| 5.6 1/2 in. | | 165°F (74°C) | Unpainted | | | | 1, 2, 3 | | | |
| NPT | Pendent (TY3211) | 212°F (100°C) | White | 1, 2, 3 | | | 1, 2, 3 | | | |
| | | 280°F (138°C) | Blue | | | 1,2 | 4 | N/A | | |
| | Recessed Pendent | 165°F (74°C) | Unpainted | 1, 2 | 2, 3 | N/A ⁶ | | | | |
| | (TY3211 w/Style 20) | 212°F (100°C) | White | 1, 2 | 2, 3 | | IN/A | | | |
| NOTES: 1. UL Listed | | 4. FM Approved for | | | mperatures | | | _ | | |

SERIES TY-L 5.6 K-FACTOR SPRINKLERS

| | K-Factor Type | | Frame | Sprinkler Finish | | | | |
|----------------|---------------------|---------------|---------------|------------------|------------------|----------------|---------------|-------------------------|
| K-Factor | | | Color Code | Natural Brass | Chrome Plated | Lead Coated | Wax Coated | Wax-Over-Lead Coated |
| | | 165°F (74°C) | Unpainted | | | | 100 | |
| | Upright (TY4111) | 212°F (100°C) | White | 1, 2, | 3, 5 | 1, 2, 3 | | |
| | | 280°F (138°C) | Blue | | | 1, 2 | 4 | N/A |
| 8.0 3/4 in. | | 165°F (74°C) | Unpainted | | | | 1, 2, 3 | |
| NPT | | 212°F (100°C) | White | 1, 2, 3 | | 1, 2, 3 | | |
| | | 280°F (138°C) | Blue | | | 1, 2 | 4 | N/A |
| | | 165°F (74°C) | Unpainted | 1, 2 | | N/A | | |
| | (TY4211 w/Style 30) | 212°F (100°C) | White | ۱, | 2 | N/A | | |
| | | 165°F (74°C) | Unpainted | | | 1.0 | | |
| | Upright (TY4811) | 212°F (100°C) | White | 1, 2, 3, 5 | | | 1, 2, 3 | |
| | | 280°F (138°C) | Blue | | | 1, 2 | | N/A |
| 8.0 | | 165°F (74°C) | Unpainted | | | | 100 | _ |
| 1/2 in. NPT | Pendent (TY4911) | 212°F (100°C) | White | 1, 2 | 2, 3 | | 1,2,3 | |
| | | 280°F (138°C) | Blue | | | 1, 2 | | N/A |

LPCB Approved (LPCB Ref. No. 094a/03) SERIES TY-L 8.0 K-FACTOR SPRINKLERS

Recessed Pendent 165°F (74°C) Unpainted

(TY4911 w/Style 20) 212°F (100°C) White

Technical Data

UL and C-UL Listed FM and LPCB Approved

See Tables A and B for complete approval information including corrosion resistant **Maximum Working Pressure**

175 psi (12,1 bar)

Discharge Coefficient K=5.6 gpm/psi½ (80,6 Lpm/bar½) K=8.0 gpm/psi½ (115,2 Lpm/bar½) **Temperature Ratings**

See Tables A and B Sprinkler: See Tables A and B Recessed Escutcheon: White Coated, Chrome

LABORATORY LISTINGS AND APPROVALS

Plated, or Brass Plated

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SPRINKLER FINISH TEMPERATURE SIN 11 | 5.6K UPRIGHT (1/2 in. NPT) | TY3111 NATURAL BRASS 165°F (74°C) 112 5.6K PENDENT (1/2 in. NPT) TY3211 212°F (100°C) 101 8.0K UPRIGHT (3/4 in. NPT) TY4111 LEAD COATED 280°F (138°C) 165°F TO 212°F ONLY CHROME PLATED

SERIES TY-L PENDENT AND UPRIGHT SPRINKLERS PART NUMBER SELECTION

corrosion-resistant coating. Thereafter, annual inspections per NFPA 25 should suffice; however, instead of inspecting from the floor level, a random sampling of close-up visual inspections should be made so as to better determine the exact sprinkler condition and the longterm integrity of the corrosion resistant coating, as it may be affected by the

manufacturer with any questions.

sprinkler systems be inspected, tested, and maintained by a qualified Inspecrequirements and/or national codes.

1400 Pennbrook Parkway, Lansdale, PA 19446 | Telephone +1-215-362-0700

Warranty For warranty terms and conditions, visit

www.tyco-fire.com. Ordering

Procedure

Limited

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number Sprinkler Assemblies with NPT

Thread Connections Specify: Series TY-L (specify SIN), (specify K-factor), (specify Upright, Pendent, or Recessed Pendent) Sprinkler, Standard Response, Standard Coverage, (specify) temperature rating, (specify) finish or coating, P/N (specify

Recessed Escutcheon Specify: Style (specify) Recessed (specify*) finish, P/N (specify*)

Specify: W-Type 9 Sprinkler Wrench, P/N 56-000-1-849 Specify: W-Type 10 Sprinkler Wrench, P/N 56-000-1-948

N/A

Physical Characteristics

Ejection Spring

Fusible Element

Bronze w/TFFLON

. Stainless Steel

Bronze/MONEL

.Solder, Copper.

Wax Sticks (for retouching wrenchdamaged wax coating) Specify: Series TY-L Sprinklers, (specify color), color coded Wax Stick for retouching, (specify) temperature rated, P/N (specify): Red for 165°F (74°C) P/N 56-065-1-155

Blue for 212°F (100°C) and 280°F (138°C) P/N 56-065-1-286 Note: Each wax stick is suitable for retouching up to twenty-five sprinklers. The wax used for 280°F (138°C) sprinklers is the same as for 212°F (100°C) sprinklers. Therefore, the 280°F (138°C) sprinkler is limited to the same maximum ceiling temperature as the 212°F (100°C) sprinkler, which is 150°F (65°C).

> PROJECT: COASTAL PIT STOP, LLC

02 FOR APPROVAL

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FIRE SPRINKLER DATASHEET 01

DESCRIPTION

REV. NO.

DATE BY

08/22 M.N.

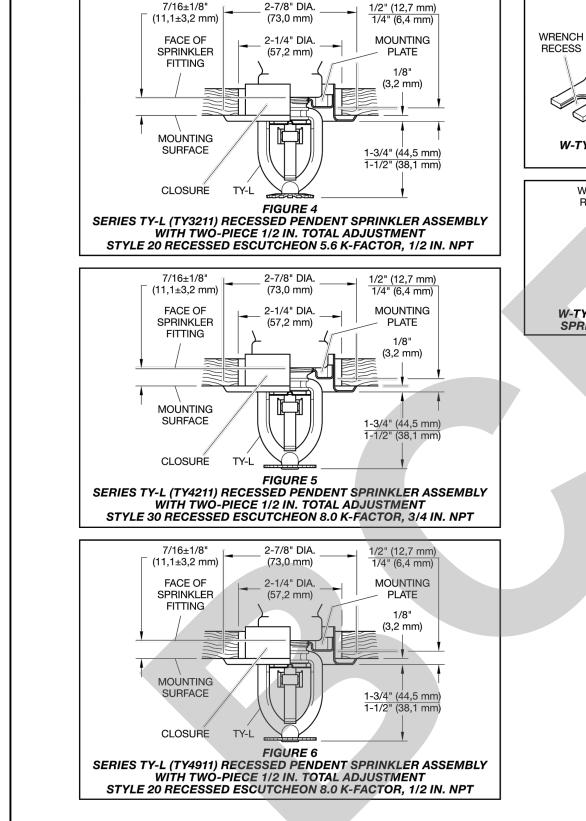
06/22 M.N.

04/22 M.N.

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: DRAWING NO. REV.

F4.01

0 2



Operation

A copper tube sealed by two stainless steel balls holds a fusible alloy. When the rated temperature is reached, the alloy melts and the balls are forced toward each other. This releases the Wax Coated Sprinklers sprinkler to operate.

Design Criteria

The TYCO Series TY-L 5.6 and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency, such as the UL Listing based on the requirements of NFPA 13 and FM Approval based on the requirements of FM Loss Prevention Data Sheets. Use only the Style 20 or 30 After Installation Recessed Escutcheon, as applicable, After installation, complete the for recessed pendent installations.

Installation The TYCO Series TY-L 5.6 and

8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers must be installed in accordance with this

General Instructions A leak tight 1/2 in. NPT sprinkler joint should be obtained with a torque of 7 to 14 ft-lb (9,5 to 19,0 Nm). A leak- tight 3/4 in. NPT sprinkler joint should be obtained with a torque of 10 to 20 ft-lb (13,4 to 26,8 Nm). Higher levels of torque may distort the sprinkler inlet and cause leakage or impair-

ment of the sprinkler. Do not attempt to compensate for insufficient adjustment in the escutcheon plate by under- or over-tightening the sprinkler. Re-adjust the position of the sprinkler fitting to suit.

Series TY-L Upright and Pendent Sprinklers Installation The Series TY-L Pendent and Upright Sprinklers must be installed in accordance with the following instructions: Step 1. Install pendent sprinklers in the pendent position. Install upright sprinklers in the upright position.

Step 2. With pipe thread sealant applied to the pipe threads, hand- With the steel rod heated as previtighten the sprinkler into the sprinkler ously described, touch the rod to the Frequent visual inspections are rec-**Step 3.** Tighten the sprinkler into the the wax stick to the rod approximately sprinkler fitting using only the W-Type 1/2 in. (12,7 mm) away from the area 9 Sprinkler Wrench, see Figure 7. For requiring retouching. The wax will melt wax coated sprinklers, use an 8 or 10 and run down onto the sprinkler.

in. adjustable Crescent wrench. With Series TY-L Recessed Pendent reference to Figures 1, 2, and 3, apply Sprinklers Installation the W-Type 9 Sprinkler Wrench to the

The Series TY-L Recessed Pendent wrench area, or as applicable, apply Sprinkler must be installed in accorthe adjustable Crescent wrench to the dance with the following instructions: Step 1. After installing the Style 20 or 30 Mounting Plate, as applicable. tension mechanism and allows the When installing wax-coated sprinklers over the sprinkler threads and with with the adjustable Crescent wrench, pipe thread sealant applied to the pipe threads, hand-tighten the sprinkler into take care to prevent damage to the wax coating on the sprinkler wrench the sprinkler fitting.

Step 2. Tighten the sprinkler into the sprinkler fitting using only the W-Type 10 Recessed Sprinkler Wrench, see • Open the jaws of the wrench suffi- Figure 8. With reference to Figure 1, 2, ciently wide to pass over the wrench or 3, apply the W-Type 10 Recessed flats without damaging the wax Sprinkler Wrench to the sprinkler wrenching flanges.

Page 5 of 6

• Before wrench tightening the sprin- Step 3. After the ceiling has been kler, adjust the jaws of the wrench to installed or the finish coat has been applied, slide on the Style 20 or 30 After wrench tightening the sprin-Closure over the Series TY-L Recessed kler, loosen the wrench jaws before Pendent Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

Care and Maintenance

The TYCO Series TY-L 5.6 and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers must be maintained and serviced in accordance

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and all personnel who may be affected

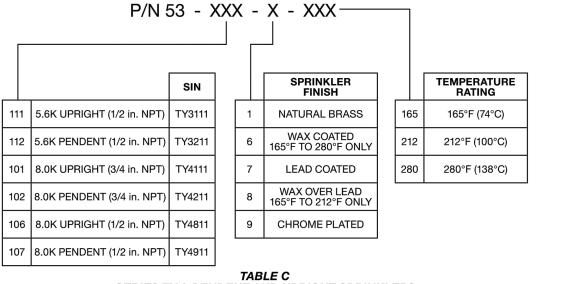
Only retouching of the wax coating applied to the wrench flats and frame by this action must be notified. arms is permitted, and the retouching Absence of an escutcheon, which is is to be performed only at the time of used to cover a clearance hole, may delay the time to sprinkler operation in The steel rod should be heated only to the point it can begin to melt the wax, Sprinklers that are found to be leaking

or exhibiting visible signs of corrosion must be replaced. Automatic sprinklers must never be painted, plated, coated or otherwise altered after leaving the factory. Modified or over-heated sprinklers must be which is color coded. Only the correct replaced. Care must be exercised to color coded wax is to be used, and avoid damage to the sprinklers before, retouching of wrench flats and frame during, and after installation. Sprinarms is only permitted at the time of klers damaged by dropping, striking,

area requiring additional wax with the ommended to be initially performed rod angled downward, and then touch for corrosion resistant coated sprinklers, after the installation has been

wrench twist/slippage, or the like, must

Page 6 of 6



completed, to verify the integrity of the

corrosive conditions present. The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION, such as, NFPA 25, in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product

It is recommended that automatic tion Service in accordance with local

from Table C)

Escutcheon, (specify material) with *Refer to Technical Data Sheet TFP770

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www.tyco-fire.com

Model ESFR-14 14.0 K-factor Pendent Sprinklers Early Suppression, Fast Response

General **Description**

TYCO Model ESFR-14, 14.0 K-factor, Pendent Sprinklers are Early Suppression, Fast Response (ESFR) sprinklers having a nominal K-factor of 14.0. FM Approvals installation standard, or They are suppression-mode sprinklers that are especially advantageous as a erenced to ensure applicability and to means of eliminating the use of in-rack sprinklers when protecting high-piled

Model ESFR-14 Sprinklers are primarily designed for protection of the following storage arrangements:

 most encapsulated or non-encapsulated common materials including cartoned, unexpanded plastics some storage arrangements of rubber tires, roll paper, flammable

For more specific criteria, refer to Table B in this technical data sheet as well as the applicable design standard.

The TYCO Model ESFR-14 Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (NFPA), in addition to the standards of any other authorities having jurisdiction, such as FM Global. Failure to do so may impair the performance of these devices.

IMPORTANT Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information. Always refer to Technical Data Sheet TFP700 for the "INSTALLEF WARNING" that provides cautions with respect to handling and instal lation of sprinkler systems and com ponents. Improper handling and installation can permanently damage a sprinkler system or its compo nents and cause the sprinkler to fai to operate in a fire situation or cause it to operate prematurely.

Page 1 of 4

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any

Sprinkler Identification **Number (SIN)**

Refer to Table A for sprinkler identifica-

Technical

UL and C-UL Listed

Natural Brass **Physical Characteristics**

Additional Technical Data

Refer to Table A for additional techni-

In all cases, the appropriate NFPA, other applicable standard, must be refobtain complete installation guidelines. The general guidelines in this technical data sheet are not intended to provide complete installation criteria.

Operation

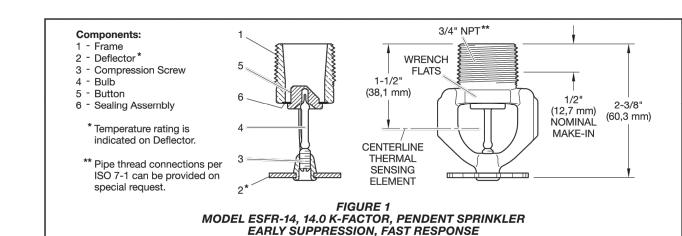
activate and water to flow.

The glass bulb contains a fluid which expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb, allowing the sprinkler to

.Bronze Bulb (3 mm)......Glass Sealing Assembly..Beryllium Nickel w/TEFLON

AUGUST 2018

TFP319 Page 2 of 4



| Item | Description | | |
|---------------------------------------|--------------------------------|--|--|
| Sprinkler Identification Number (SIN) | TY6236 | | |
| K-factor, gpm/psi½ (lpm/bar½) | 14.0 gpm/psi½ (201,6 lpm/bar½) | | |
| Temperature Rating °F (°C) | 155°F (68°C) 200°F (93°C) | | |
| Thread Size | 3/4 in. NPT or ISO 7-1 | | |
| Sprinkler Orientation | Pendent | | |
| Maximum Working Pressure, psi (bar) | 175 psi (12 bar) | | |

MODEL ESFR-14 PENDENT SPRINKLER TECHNICAL DATA

Design Criteria

The following general guidelines provided for the TYCO Model ESFR-14, 14.0 K-factor, Pendent Sprinklers can be used for quick reference.

NOTICE

The National Fire Protection Association and FM Approvals provide installation standards that must be used to properly design an automatic sprinkler system utilizing Early Suppression, Fast Response (ESFR) Sprinklers. The guidelines provided by NFPA and FM Global may differ; consequently, the appropriate standard must be used for a given installation.

In all cases, the appropriate NFPA or FM Approvals installation standard must be referenced to assure applicability and to obtain complete installation guidelines, since the following general guidelines are not intended to provide complete installation criteria. In addition to this technical data sheet, the following data sheets describe

other TYCO ESFR Sprinklers:

Model ESFR-25 (TY9226)

- K=25.2 Pendent Sprinkler TFP313 Model ESFR-22 (TY8226) K=22.4 Pendnet Sprinkler
- TFP315 Model ESFR-17 (TY7226) K=16.8 Pendent Sprinkler
- K=16.8 Upright Sprinkler • TFP317 Model ESFR-17 (TY7223)

Model ESFR-17 (TY7126)

K=16.8 Pendent Sprinkler Model ESFR-1 (TY6226) K=14.0 Pendent Sprinkler

Model ESFR-17 (TY7229) K=16.8 Pendent Sprinkler Roof Construction

Unobstructed or obstructed construction; for example, smooth ceiling, bar joists, beam and girder, and so forth. Where the depths of solid structural members, such as beams and stem, exceed 12 in. (302 mm), install Model

Professional Grade Fire Extinguisher The Shield 2-A20-B:C code compliant multipurpose fire extinguisher is designed to put out fires involving common combustibles and fires involving flammable liquids. It meets the fire protection needs of most business types and fulfills the NFPA's low and medium hazard extinguisher requirements for business and home use. It is supplied with a metal wall hook for secure and convenient mounting and meets or exceeds most State Code requirements. KEY FEATURES Anodized metal valve assembly for superior strength and corrosion resistance. Industrial grade steel cylinder with polyester powder coating designed to withstand harsh environments & rough usage. Rugged steel strap bracket with quick release pull tab keeps unit secure and readily accessible. Retention cord keeps pull pin attached to unit at all times. This extinguisher is UL Listed & tested for use on the following types of fire: Class A Fires: Fires involving ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics. Class B Fires: Fires involving flammable liquids, combustible liquids, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, alcohols, and flammable gases. Class C Fires: Fires that involve energized electrical equipment. Caution: Not UL Listed for use on fires involving cooking oil and WHERE TO INSTALL YOUR UNIT Agent Low and Medium Business Hazard Protection Valve Case Qty Weight Unit Size Metal 4 9.0 lb 16½ X 7½ X 4¾ For businesses such as retail stores, light manufacturing facilities, Carton Size Master Pack Size UPC USCG Approved 18 X 6½ X 5½ 18½ X 14 X 11½ 850148002066 Yes with A-6 Brkt.



research facilities and auto showrooms, For public areas such as

offices, classrooms, churches, parking garages, and assembly halls &

guest areas of hotels/motels. And also for your home - install one on

DOT Compliant Mounting Hardware

TFP319 Page 3 of 4

TFP319

| Storage Type | NFPA | FM Global |
|--|---|--------------------------------|
| Sprinkler Type | ESFR | Storage |
| Response Type | QR | QR |
| System Type | Wet | Wet |
| Temperature Rating °F (°C) | 155°F (68°C) 200°F (93°C) | 155°F (68°C) 200°F (93°C) |
| Open Frame (i.e., no solid shelves) Single, Double, Multiple-Row, or Portable Rack Storage of Class I-IV and Group A or B Plastics | Refer to NFPA 13 | Refer to FM 2-0 and 8-9 |
| Solid Pile or Palletized Storage of Class I-IV and Group A or B Plastics | Refer to NFPA 13 | Refer to FM 2-0 and 8-9 |
| Idle Pallet Storage | Refer to NFPA 13 | Refer to FM 2-0, 8-9, and 8-24 |
| Rubber Tire Storage | Refer to NFPA 13 | Refer to FM 2-0 and 8-3 |
| Roll Paper Storage (Refer to the Standard) | Refer to NFPA 13 | Refer to FM 8-21 |
| Flammable/Ignitable Liquid Storage (Refer to the Standard) | Refer to NFPA 30 | Refer to FM 7-29 |
| Aerosol Storage (Refer to the Standard) | Refer to NFPA 30B | Refer to FM 7-31 |
| Automotive Components in Portable Racks (Control mode only; refer to the Standard) | N/A | N/A |
| | ABLE B PENDENT SPRINKLERS ND DESIGN CRITERIA OVER | VIEW |

Page 4 of 4



Installation

TYCO Model ESFR-14 Pendent Sprinwith this section.

General Instructions Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present.

should be obtained by applying a minmum-to-maximum torque of 10 to 20 lb-ft (13,4 to 26,8 N·m). Higher levels of torque can distort the sprinkler inlet with consequent leakage or impairment

position (Ref. Figure 1). Step 1. With pipe thread sealant The owner is responsible for the applied, hand-tighten the sprinkler into the sprinkler fitting. Step 2. Wrench-tighten the Model ESFR-14 Sprinkler using only the W-Type 34 Sprinkler Wrench (Ref.

the wrench on the sprinkler wrench

flats (Ref. Figure 1). Step 3. After installation, inspect the bulb of each Model ESFR-14 Sprinkler for damage. In particular, verify that the

100 Pennbrook Parkway, Lansdale, PA 19446 | Telephone +1-215-362-0700

Care and Maintenance

TYCO Model ESFR-14, 14.0 K-factor, Pendent Sprinklers (TY6236) must be maintained and serviced in accordance with this section. Before closing a fire protection system

main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection systems from the proper authorities and notify all personnel who may be affected by this action.

Sprinklers which are found to be leaking or exhibiting visible signs of K=14.0, Pendent Sprinkler with corrosion must be replaced. klers must be installed in accordance Automatic sprinklers must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but ISO 7-1 Thread Connections have not operated, should be replaced if they cannot be completely cleaned K=14.0, Early Suppression, Fast by wiping the sprinkler with a cloth or Response Pendent Sprinkler with A leak-tight 3/4 in. NPT sprinkler joint by brushing it with a soft bristle brush. ISO 7-1 Thread Connection, (specify) Care must be exercised to avoid damage to the sprinklers before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler Note: Install the Model ESFR-14 that has a cracked bulb or that has lost P/N 56-462-1-001 Pendent Sprinkler only in the pendent liquid from its bulb. Refer to Installation

section for additional information. inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, such as NFPA 25, in addition to Figure 2) and by fully engaging (seating) the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local

requirements and/or national codes.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

ESFR-14 Sprinklers in each channel

ormed by the structural members.

Ceiling Slope Maximum 2 in. rise for 12 in. run (16.7%)

In some cases, the installation stan-

dards permit a greater coverage area.

Maximum Spacing
12 ft (3,7 m) for building heights up to

10 ft (3,1 m) for building heights greater

Minimum Clearance to Commodity

Consult FM Global guidelines for allow-

able deflector-to-ceiling distances as

well as thermal-sensing element-to-

Deflector-to-Ceiling Distance

6 in. to 14 in. (152 mm to 356 mm)

Maximum Coverage Area

Minimum Coverage Area

64 ft² (5,8 m2) per NFPA 13 / FM Global 2-0

than 30 ft (9,1 m)

Minimum Spacing

36 in. (914 mm)

FM Global 2-0

NFPA 13

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number Sprinkler Assemblies

Specify: Model ESFR-14 (TY6236).

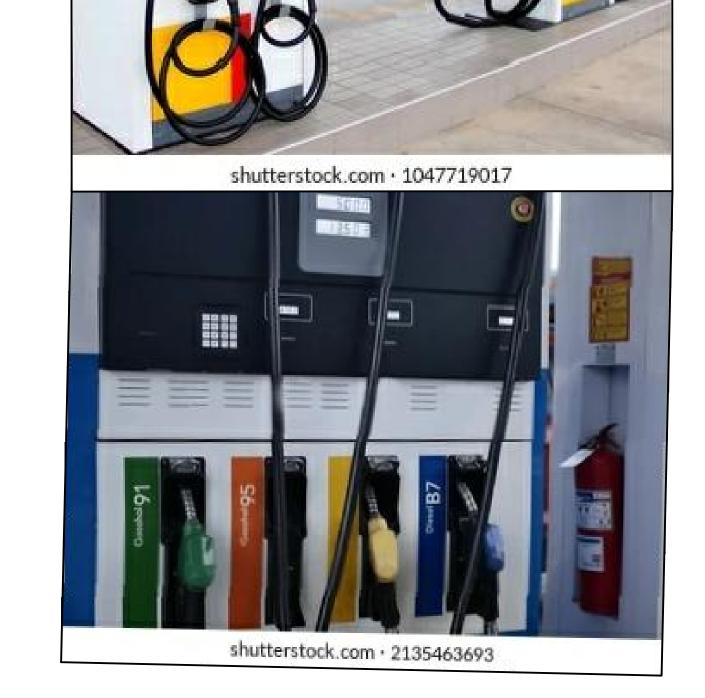
(specify) temperature rating, Natural Brass, P/N (specify): 200°F (93°C) 58-449-1-200 Special Order

Sprinkler Assemblies with temperature rating, Natural Brass,

Sprinkler Wrenches Specify: W-Type 34 Sprinkler Wrench

Johnson

Controls



PO Box 428 Kings Mountain, NC 28086 inquiries@shield

> DESCRIPTION DATE BY REV. NO. 02 FOR APPROVAL 08/22 M.N. 01 FOR APPROVAL 06/22 M.N. 04/22 M.N. 00 FOR APPROVAL

PROJECT:

CLIENT:

ADDRESS:

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

ORIGINAL AND UNPUBLISHED WORK OF THE

DUPLICATED, USED OR DISCLOSED WITHOUT

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL

2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND

3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING

PROVIDING ALL NECESSARY TEMPORARY

SUPPORT TO THE BUILDING AND ANY

ADJACENT STRUCTURES.

4. THE CONTRACTOR IS RESPONSIBLE FOR

APPEARING HEREIN CONSTITUTE THE

DESIGNER AND THE SAME MAY NOT BE

CONSENT OF THE DESIGNER.

UNITS UNLESS STATED OTHERWISE.

NOTES:

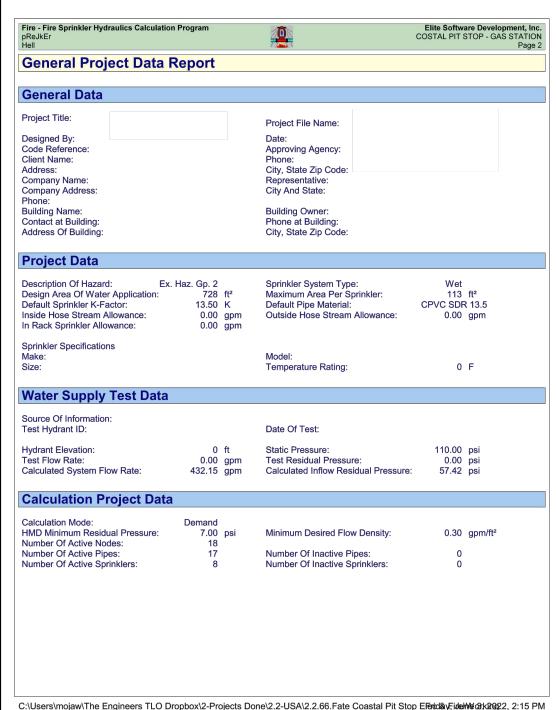
SPECIFICATIONS.

COASTAL PIT STOP, LLC

FIRE SPRINKLER DATASHEET 02

SCALE @ 24X36: PROJ. NO. PROJ. ENGR. DRAWING NO. REV.

F4.02



| Fire - Fi pReJkE Hell | re Sprinkler Hydraulics Calcu | ation Program | 4 | | | Elite Software Development, COSTAL PIT STOP - GAS STAT Pa | | |
|-----------------------------|--|-----------------------------------|---|---|--|---|--|--|
| Fire | Sprinkler Input | Data | | | | | | |
| Node | e Input Data | | | | | | | |
| Node No. | Node Description Branch Description | Area Group Branch Dia. (in) | Sprinkler KFactor (K) Branch Len. (ft) | Pressure Estimate (psi) Branch Stnd Fittings | Node Elev (ft) Branch Non- Stnd Fittings (ft) | Non-Sprinkler Flow (gpm) Branch Sprk KFactor (K) | | |
| 1 | Sprinkler | 0.000 | 13.50 0.0 | 7.00 | 9.50 0.0 | 0.00 0.00 | | |
| 2 | Sprinkler | 0.000 | 13.50 0.0 | 7.00 | 9.50 0.0 | 0.00 0.00 | | |
| 3 | Sprinkler | 0.000 | 13.50 0.0 | 16.28 | 9.50 0.0 | 0.00 0.00 | | |
| 4 | Sprinkler | 0.000 | 13.50 0.0 | 16.28 | 9.50 0.0 | 0.00 0.00 | | |
| 5 | Sprinkler | 0.000 | 13.50 0.0 | 20.05 | 9.50 0.0 | 0.00 0.00 | | |
| 6 | Sprinkler | 0.000 | 13.50 0.0 | 20.05 | 9.50 0.0 | 0.00 0.00 | | |
| 7 | Sprinkler | 0.000 | 13.50 0.0 | 23.50 | 9.50 0.0 | 0.00 0.00 | | |
| 8 | Sprinkler | 0.000 | 13.50 0.0 | 23.50 | 9.50 0.0 | 0.00 0.00 | | |
| 130 | No Discharge | 0.000 | N/A 0.0 | 9.11 | 9.50 0.0 | 0.00 0.00 | | |
| 160 | No Discharge | 0.000 | N/A 0.0 | 20.89 | 9.50 0.0 | 0.00 0.00 | | |
| 190 | No Discharge | 0.000 | N/A 0.0 | 25.64 | 9.50 0.0 | 0.00 0.00 | | |
| 220 | No Discharge | 0.000 | N/A 0.0 | 27.92 | 9.50 0.0 | 0.00 0.00 | | |
| 230 | No Discharge | 0.000 | N/A 0.0 | 36.66 | 9.50 0.0 | 0.00 0.00 | | |
| 240 | No Discharge | 0.000 | N/A 0.0 | 44.62 | -3.00 0.0 | 0.00 0.00 | | |
| 250 | No Discharge | 0.000 | N/A 0.0 | 55.05 | -3.00 0.0 | 0.00 0.00 | | |
| 830 | No Discharge | 0.000 | N/A 0.0 | 56.05 | -3.00 0.0 | 0.00 0.00 | | |
| 840 | No Discharge | 0.000 | N/A 0.0 | 57.05 | -3.00 0.0 | 0.00 0.00 | | |

| pReJkE Hell | re Sprinkler Hydraulics Calcul | lation Program | 2 | | | Elite Software Devel DSTAL PIT STOP - G |
|----------------|--|---------------------------|----------------------------|-------------------------------|------------------------------|--|
| Fire | Sprinkler Input | Data | | | | |
| | | | · | | | |
| Node | e Input Data (con | t'd) | | | | |
| | | | | | | |
| Node | Node Description | Area Group Branch Dia. | Sprinkler KFactor (K) | Pressure Estimate (psi) | Node Elev (ft) Branch Non- | Non-Sprinkler Flow (gpm) |
| Node No. | Node Description Branch Description | | | | ` ' | |
| | | Branch Dia. | KFactor (K) Branch Len. | Estimate (psi) Branch Stnd | Branch Non- Stnd Fittings | Flow (gpm) Branch Sprk |

| | • | nkler Input Data | | | | | | | |
|--------------|--------------|--------------------|-------------------------------|---------------|-----------------|-----------------------------|-----------------------------|---------------------------|-------------------------------|
| Pipe | Inpu | t Data | | | | | | | |
| Beg. Node | End. Node | Pipe Description | Nominal Diameter (inch) | Type Group | Fitting Data | Nominal Length (feet) | Fitting Length (feet) | Total Length (feet) | CFactor (gpm/inch- psi) |
| 1 | 130 | CPVC SDR 13.5 | 1.000 | 0 | Е | 4.00 | 7.00 | 11.00 | 150 |
| 2 | 130 | CPVC SDR 13.5 | 1.000 | 0 | Е | 4.00 | 7.00 | 11.00 | 150 |
| 130 | 160 | CPVC SDR 13.5 | 1.000 | 0 | Т | 12.00 | 5.00 | 17.00 | 150 |
| 3 | 160 | CPVC SDR 13.5 | 1.000 | 0 | Е | 4.00 | 7.00 | 11.00 | 150 |
| 4 | 160 | CPVC SDR 13.5 | 1.000 | 0 | Е | 4.00 | 7.00 | 11.00 | 150 |
| 160 | 190 | CPVC SDR 13.5 | 2.000 | 0 | т | 12.00 | 10.00 | 22.00 | 150 |
| 5 | 190 | CPVC SDR 13.5 | 1.000 | 0 | Е | 4.00 | 7.00 | 11.00 | 150 |
| 6 | 190 | CPVC SDR 13.5 | 1.000 | 0 | Е | 4.00 | 7.00 | 11.00 | 150 |
| 190 | 220 | CPVC SDR 13.5 | 3.000 | 0 | т | 12.00 | 15.00 | 27.00 | 150 |
| 7 | 220 | CPVC SDR 13.5 | 1.000 | 0 | Е | 0.50 | 7.00 | 7.50 | 150 |
| 8 | 220 | CPVC SDR 13.5 | 1.000 | 0 | Е | 0.50 | 7.00 | 7.50 | 150 |
| 220 | 230 | CPVC SDR 13.5 | 3.000 | 0 | 2ET | 12.00 | 41.00 | 53.00 | 150 |
| 230 | 240 | CPVC SDR 13.5 | 3.000 | 0 | Т | 0.50 | 15.00 | 15.50 | 150 |
| 240 | 250 | SCHED 40 WET STEEL | 4.000 | 0 | ET | 160.00 | 30.00 | 190.00 | 120 |
| 250 | 830 | Backflo Prev | 1.000 | Loss | | | | | |
| 830 | 840 | Meter | 1.000 | Loss | | | | | |
| 840 | 850 | SCHED 40 WET STEEL | 6.000 | 0 | | 50.00 | 0.00 | 50.00 | 120 |

Fire - Fire Sprinkler Hydraulics Calculation Program

| iro S | nrink | der Ou | tput Data | <u> </u> | / Ambail 5 | | | | Pag |
|--------------------------|-----------------------|-----------------------|-------------------------------------|---|--------------------------------|-----------------------------|---|---|-----|
| II C | Priir | ilei Ou | itput Date | a | | | | | |
|)vera | II Nod | e Grou | pings Out | tput Data | | | | | |
| Pipe Se Beg. Node | gment End. Node | Pipe Type Group | Pipe Flow Rate (gpm) | Sprinkler Flow At Beg. Node (gpm) | Non-Sprink Out (+) (gpm) | ler Flow In (-) (gpm) | Beg. Node Residual Pressure (psi) | Imbalance Flow At Beg. Node (gpm) | |
| 1 | 130 | 0 | -35.72 | 35.72 | 0.00 | 0.00 | 7.00 | | |
| 2 | 130 | 0 | -35.72 | 35.72 | 0.00 | 0.00 | 7.00 | 0.00000 | |
| 3 | 160 | 0 | -54.46 | 54.46 | 0.00 | 0.00 | 16.28 | 0.00000 | |
| 4 | 160 | 0 | -54.46 | 54.46 | 0.00 | 0.00 | 16.28 | 0.00000 | |
| 5 | 190 | 0 | -60.44 | 60.44 | 0.00 | 0.00 | 20.05 | 0.00000 | |
| 6 | 190 | 0 | -60.44 | 60.44 | 0.00 | 0.00 | 20.05 | 0.00000 | |
| 7 | 220 | 0 | -65.45 | 65.45 | 0.00 | 0.00 | 23.50 | 0.00000 | |
| 8 | 220 | 0 | -65.45 | 65,45 | 0.00 | 0.00 | 23.50 | 0.00000 | |
| 130 130 | 1 2 | 0 0 0 | 35.72 35.72 | 0.00 | 0.00 | 0.00 | 9.11 | 0.00000 | |
| 130 | <u>160</u> 3 | 0 | -71.44 54.46 | 0.00 | 0.00 | 0.00 | 20.89 | 0.00000 | |
| 160 160 160 | 4 130 190 | 0 0 0 | 54.46 71.44 -180.36 | 0.00 | 0.00 | 0.00 | 20.09 | 0.00000 | |
| 190 190 190 190 | 5 6 160 220 | 0 0 0 0 | 60.44 60.44 180.36 -301.25 | 0.00 | 0.00 | 0.00 | 25.64 | 0.00000 | |
| 220 220 220 220 | 7 8 190 230 | 0 0 0 | 65.45 65.45 301.25 -432.15 | 0.00 | 0.00 | 0.00 | 27.92 | 0.00000 | |
| 230 230 | 220 240 | 0 0 | 432.15 -432.15 | 0.00 | 0.00 | 0.00 | 36.66 | 0.00000 | |
| 240 240 | 230 250 | 0 | 432.15 -432.15 | 0.00 | 0.00 | 0.00 | 44.62 | 0.00000 | |
| 250 250 | 240 830 | 0 | 432.15 -432.15 | 0.00 | 0.00 | 0.00 | 55.05 | 0.00000 | |
| 830 830 | 250 840 | 0 | 432.15 -432.15 | 0.00 | 0.00 | 0.00 | 56.05 | 0.00000 | |
| 840 840 | 830 850 | 0 | 432.15 -432.15 | 0.00 | 0.00 | 0.00 | 57.05 | 0.00000 | |
| 850 | 840 | 0 | 432.15 | 0.00 | 0.00 | -432.15 | 57.42 | | |

| re - Fire : ReJkEr ell | Sprinkler Hyd | draulics Calcu | ılation Progra | m | <u> </u> | | | | ftware Develo PIT STOP - GA |
|-------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|-------------------------------------|---|--|---|---------------------------------------|
| ire S | <mark>prinkle</mark> | er Outp | ut Data | | | | | | |
| vera | II Pipe (| Output [| Data | | | | | | |
| Beg. End. Node | Nodal KFactor (K) | Elevation (feet) | Spk/Hose Discharge (gpm) | Residual Pressure (psi) | Nom. Dia. Inside Dia. C-Value | q (gpm) Q (gpm) Velocity (fps) | F. L./ft (psi/ft) Fittings Type-Grp | Pipe-Len. Fit-Len. Tot-Len. (ft) | PF-(psi) PE-(psi) PT-(psi) |
| 1 130 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 35.72 0.00 | 7.00 9.11 | 1.00 1.109 150 | 35.72 35.72 11.86 | 0.19213 E 0 | 4.00 7.00 11.00 | 2.113 0.000 2.113 |
| 2 130 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 35.72 0.00 | 7.00 9.11 | 1.00 1.109 150 | 35.72 35.72 11.86 | 0.19213 E 0 | 4.00 7.00 11.00 | 2.113 0.000 2.113 |
| 3 160 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 54.46 0.00 | 16.28 20.89 | 1.00 1.109 150 | 54.46 54.46 18.09 | 0.41937 E 0 | 4.00 7.00 11.00 | 4.613 0.000 4.613 |
| 4 160 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 54.46 0.00 | 16.28 20.89 | 1.00 1.109 150 | 54.46 54.46 18.09 | 0.41937 E 0 | 4.00 7.00 11.00 | 4.613 0.000 4.613 |
| 130 160 | 0.00 0.00 CP | 9.50 9.50 VC SDR 13 | 0.00 0.00 | 9.11 20.89 | 1.00 1.109 150 | 0.00 71.44 23.73 | 0.69271 T 0 | 12.00 5.00 17.00 | 11.776 0.000 11.776 |
| 5 190 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 60.44 0.00 | 20.05 25.64 | 1.00 1.109 150 | 60.44 60.44 20.08 | 0.50852 E 0 | 4.00 7.00 11.00 | 5.594 0.000 5.594 |
| 6 190 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 60.44 0.00 | 20.05 25.64 | 1.00 1.109 150 | 60.44 60.44 20.08 | 0.50852 E 0 | 4.00 7.00 11.00 | 5.594 0.000 5.594 |
| 160 190 | 0.00 0.00 CP | 9.50 9.50 VC SDR 13 | 0.00 0.00 | 20.89 25.64 | 2.00 2.003 150 | 0.00 180.36 18.36 | 0.21596 T 0 | 12.00 10.00 22.00 | 4.751 0.000 4.751 |
| 7 220 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 65.45 0.00 | 23.50 27.92 | 1.00 1.109 150 | 65.45 65.45 21.74 | 0.58916 E 0 | 0.50 7.00 7.50 | 4.419 0.000 4.419 |
| 8 220 | 13.50 0.00 CP | 9.50 9.50 VC SDR 13 | 65.45 0.00 | 23.50 27.92 | 1.00 1.109 150 | 65.45 65.45 21.74 | 0.58916 E 0 | 0.50 7.00 7.50 | 4.419 0.000 4.419 |
| 190 220 | 0.00 0.00 CP | 9.50 9.50 VC SDR 13 | 0.00 0.00 | 25.64 27.92 | 3.00 2.951 150 | 0.00 301.25 14.13 | 0.08453 T 0 | 12.00 15.00 27.00 | 2.282 0.000 2.282 |
| 220 230 | 0.00 0.00 CP | 9.50 9.50 VC SDR 13 | 0.00 0.00 | 27.92 36.66 | 3.00 2.951 150 | 0.00 432.15 20.27 | 0.16478 2ET 0 | 12.00 41.00 53.00 | 8.733 0.000 8.733 |

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| i re - Fire ReJkEr Iell | Sprinkler Hy | draulics Calc | ulation Progra | m | | <u> </u> | | | ftware Develo | |
|--------------------------------------|-------------------------|---------------|----------------|----------|-------------|--------------------|----------|-----------------------|---------------|--|
| Fire S | S <mark>prinkl</mark> e | er Outp | ut Data | | | | | | | |
| | | | | | | | | | | |
| Overa | II Pipe (| Output I | Data (coi | nt'd) | | | | | | |
| | | | | | | a (amm) | F. L./ft | Ding Les | | |
| Beg. | Nodal | Elevation | Spk/Hose | Residual | Nom. Dia. | q (gpm) Q (gpm) | (psi/ft) | Pipe-Len. Fit-Len. | PF-(psi) | |
| End. | KFactor | (feet) | Discharge | Pressure | Inside Dia. | Velocity | Fittings | Tot-Len. | PE-(psi) | |
| Node | (K) | (1001) | (gpm) | (psi) | C-Value | (fps) | Type-Grp | (ft) | PT-(psi) | |
| 230 | 0.00 | 9.50 | 0.00 | 36.66 | 3.00 | 0.00 | 0.16478 | 0.50 | 2.554 | |
| 240 | 0.00 | -3.00 | 0.00 | 44.62 | 2.951 | 432.15 | Т | 15.00 | 5.413 | |
| | CF | PVC SDR 13 | .5 | | 150 | 20.27 | 0 | 15.50 | 7.967 | |
| 240 | 0.00 | -3.00 | 0.00 | 44.62 | 4.00 | 0.00 | 0.05485 | 160.00 | 10.422 | |
| 250 | 0.00 | -3.00 | 0.00 | 55.05 | 4.026 | 432.15 | ET | 30.00 | 0.000 | |
| | SCHE | D 40 WET S | TEEL | | 120 | 10.89 | 0 | 190.00 | 10.422 | |
| 250 | Backflo | -3.00 | | 55.05 | | 432.15 | | | | |
| | Prev | | | | | 432.13 | | | | |
| 830 | 1.00 psi | -3.00 | | 56.05 | | | | | | |
| 830 | Meter | -3.00 | | 56.05 | | 432.15 | | | | |
| 840 | 1.00 psi | -3.00 | | 57.05 | | | | | | |
| 840 | 0.00 | -3.00 | 0.00 | 57.05 | 6.00 | 0.00 | 0.00746 | 50.00 | 0.373 | |
| 850 | 0.00 | -3.00 | 0.00 | 57.42 | 6.065 | 432.15 | 2.207 40 | 0.00 | 0.000 | |
| | | D 40 WET S | | 311.12 | 120 | 4.80 | 0 | 50.00 | 0.373 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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| Fire - Fire Sprinkler Hydraulics (pReJkEr Hell | Calculation Program | | | | | e Software Develo AL PIT STOP - GA | |
|---|--------------------------|----------------------------------|-------------------------------|-----------------------|---------------------------------|---------------------------------------|--|
| Fire Sprinkler Ou | tput Data | | | | | | |
| Overell Coninded on C | Dutant Data | | | | | | |
| Overall Sprinkler C | output Data | | | | | | |
| Flowing Sprinkler Node No. Area Group Code | Sprinkler KFactor (K) | Sprinkler Elevation (feet) | Residual Pressure (psi) | Flowing Area (ft²) | Flowing Density (gpm/ft²) | Sprinkler Discharge (gpm) | |
| 1 | 13.50 | 9.50 | 7.00 | 113.00 | 0.316 | 35.72 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.316 | 35.72 | |
| 2 | 13.50 | 9.50 | 7.00 | 113.00 | 0.316 | 35.72 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.316 | 35.72 | |
| 3 | 13.50 | 9.50 | 16.28 | 113.00 | 0.482 | 54.46 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.482 | 54.46 | |
| 4 | 13.50 | 9.50 | 16.28 | 113.00 | 0.482 | 54.46 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.482 | 54.46 | |
| 5 | 13.50 | 9.50 | 20.05 | 113.00 | 0.535 | 60.44 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.535 | 60.44 | |
| 6 | 13.50 | 9.50 | 20.05 | 113.00 | 0.535 | 60.44 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.535 | 60.44 | |
| 7 | 13.50 | 9.50 | 23.50 | 113.00 | 0.579 | 65.45 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.579 | 65.45 | |
| 8 | 13.50 | 9.50 | 23.50 | 113.00 | 0.579 | 65.45 | |
| Sub Totals For Non-Group | | | | 113.00 | 0.579 | 65.45 | |
| Totals For All Groups | | | | 904.00 | 0.478 | 432.15 | |

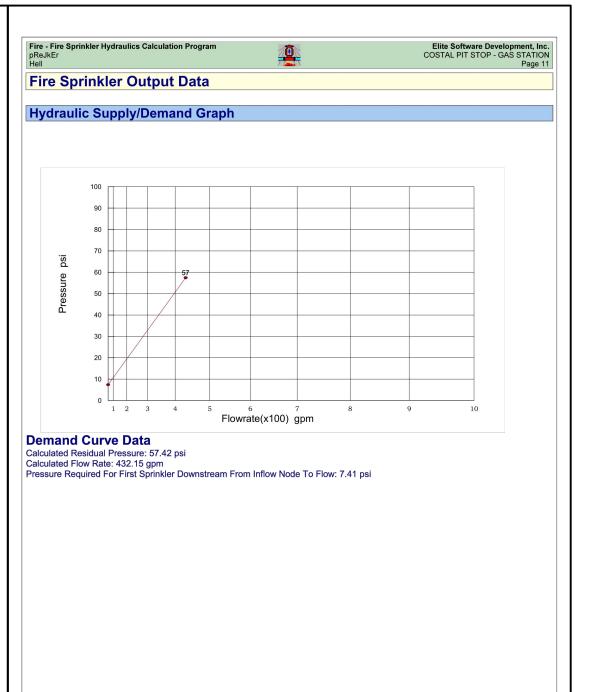
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| er Node | |
|------------------------|---|
| | |
| 1 | |
| 7.00 psi | |
| 35.72 gpm | |
| | |
| Wet | |
| 728.00 ft ² | |
| | |
| | |
| | |
| | |
| 54.02 gpm | |
| | |
| 23.73 ft/sec | |
| 3.79 psi | |
| 0.5000 psi | |
| 0.0000 psi | |
| 0.0000 psi | |
| | |
| 0.0000 gpm | |
| | |
| 17 | |
| 8 | |
| 195.03 gal | |
| 432.15 gpm | |
| 0.00 gpm | |
| 57.42 psi | |
| 432.15 gpm | |
| | |
| | |
| | Wet 728.00 ft² 0.300 gpm/ft² 0.594 gpm/ft² 91.00 ft² 432.15 gpm 54.02 gpm 23.73 ft/sec 3.79 psi 0.5000 psi 0.0000 psi 0.0000 psi 0.0000 gpm 0.0000 gpm 17 8 195.03 gal 432.15 gpm 0.00 gpm 57.42 psi |

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3. THE CONTRACTOR MUST CHECK ALL
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DIMENSION AT SITE BEFORE COMMENCING WORK.

ADJACENT STRUCTURES.

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY

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 04/22
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PROJECT:

COASTAL PIT STOP, LLC

HYDRAULIC CALCULATION MARKET 01 - ORDINARY

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

DRAWING NO. REV.

F 5.01

GENERAL NOTES:

- 1. FIRE ALARM DESIGN AS NFPA 72.
- 2
- 2. WIRING SHALL BE CLASS A TYPE.
- 3. FIRE ALARM BELLS AND MANUAL PULL STATION SHALL BE MOUNTED ON 98.42" AND 42.48" A.F.F.L RESPECTIVELY.
- 4. FAULT ISOLATOR MODULES / BOXES SHALL BE USED EVERY 20 ADDRESSABLE DEVICES MAXIMUM.
- 5. FIRE ALARM CONTROL PANEL SHALL BE INSTALLED WITH TOP ENDS AT 70.86" ABOVE F.F.L. UNLESS OTHERWISE INDICATED.
- 6. SPACES PROTECTED BY AUTOMATIC FIRE SUPPRESSION SYSTEM (FM200 PACKAGE) SHALL BE INTERFACED WITH FIRE PANEL TO PROVIDE FULL SYSTEM INFORMATION INCLUDING (ALARM 1, ALARM 2, GAS RELEASED, SYSTEM ABORTED, SYSTEM TROUBLE) SIGNALS.
- 7. SMOKE AND HEAT DETECTORS SHALL BE LEAST 39.37" AWAY FROM AIR-CONDITIONNING FRESH AIR SUPPLY (DIFFUSER, ETC...).
- 8. ALL PRE-ACTION AND DELUGE VALVE SHALL BE CONTROLLED, EACH WITH ITS OWN ADDRESS, FOR EXACT LOCATION REFER TO MECHANICAL FIRE FIGHTING DRAWINGS.
- 9. ALL ELECTRO-MECHANICAL SHAFTS SHALL BE PROVIDED WITH SMOKE DETECTORS AS PER CODE REQUIREMENTS.
- 10. THE OUTGOING & RETURN CIRCUIT CONDUCTORS SHALL NOT BE RUN IN THE SAME CABLE ASSEMBLY, RACEWAY OR ENCLOSURE.
- 11. PROVIDE 24 VDC AND / OR 12 VDC (AS PER MANUFACTURER REQUIREMENT'S) POWER SUPPLY NETWORK FOR BELLS, STROBE LIGHTS, FIRE AND SMOKE DAMPERS AND DOOR HOLDERS. SUPPLY TO BE FROM NEAREST AVAILABLE SOURCE TO THE APPROVAL OF THE ENGINEER.

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PROJECT:

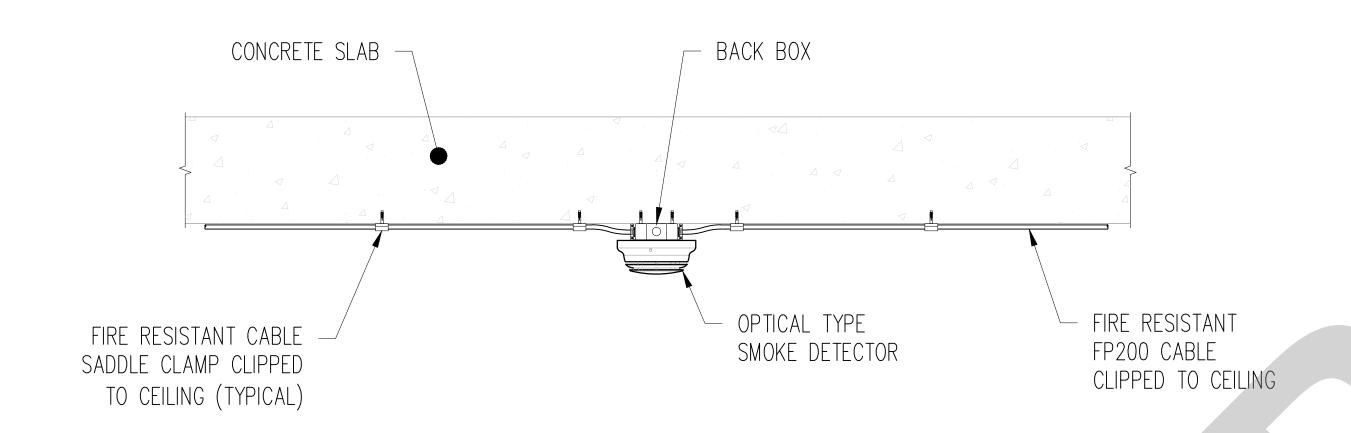
COASTAL PIT STOP

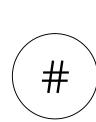
FIRE ALARM GENERAL NOTES

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

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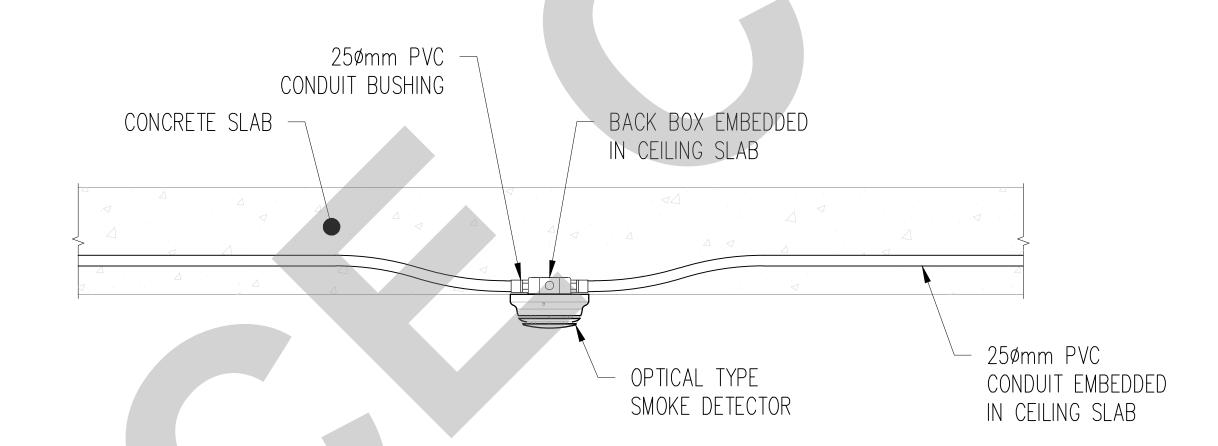
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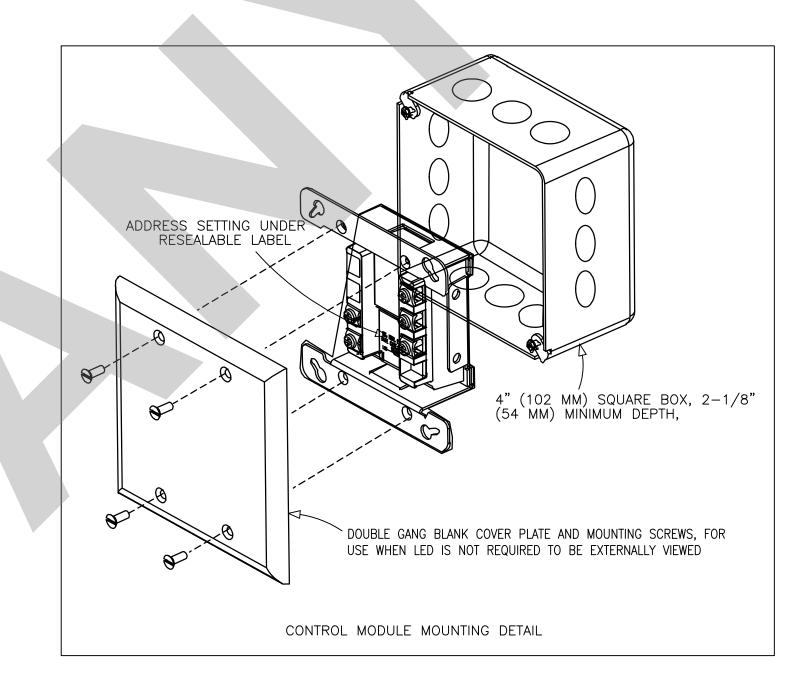
CEILING SLAB FLASHED CABLE MOUNTED TO SMOKE DETECTOR - INSTALLATION DETAIL

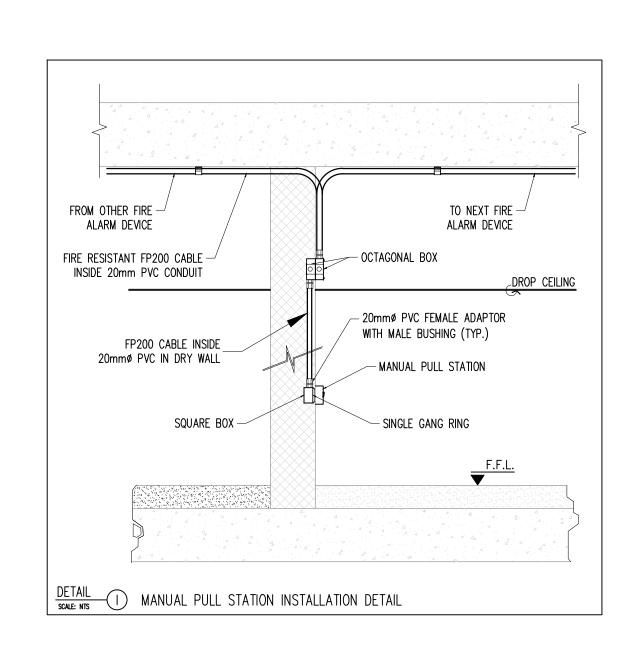
Scale 1:20



CEILING SLAB EMBEDDED CONDUIT MOUNTED TO SMOKE DETECTOR - INSTALLATION DETAIL

Scale 1:20





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PROJECT:

COASTAL PIT STOP

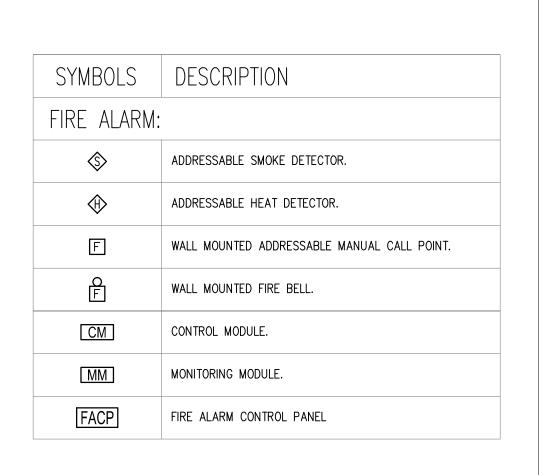
INSTALLATION DETAILS

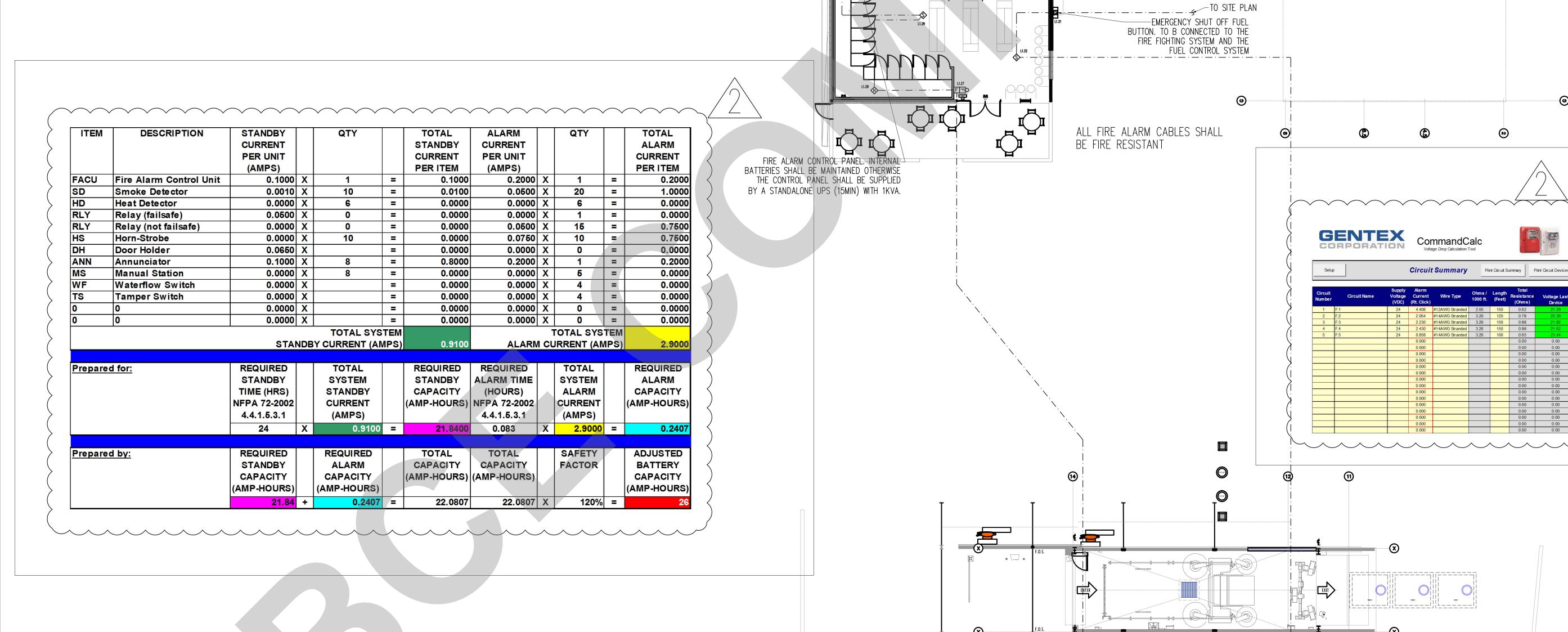
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DRAWING NO.

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-AS PER NFPA72 SECTION 10.4.4

PROVIDED AT THE LOCATION OF

LOCATION — MONITOR MODULE

CONTROL MODULE FOR FIRE FIGHTING ZONE

O UPPER FLOOR

FOR FIRE FIGHTING

TEMPER SWITCH

√TO SITE PLAN

@-

(b)

©

©

∕TO GROUND FLOOR

⊙ Θ

-⊙

— CONDUIT UNDER TILES

IN AREAS THAT ARE NOT CONTINUOUSLY OCCUPIED, AUTOMATIC SMOKE DETECTION SHALL BE

AND SUPERVISING STATION TRANSMITTING EQUIPMENT TO PROVIDE NOTIFICATION OF FIRE AT THAT

EACH FIRE ALARM CONTROL UNIT(S), TRANSPONDER, REMOTE CENTRAL EQUIPMENT SUCH AS AMPLIFIERS, LOCATIONS WHERE TWO OR MORE NOTIFICATION APPLIANCE CIRCUIT POWER EXTENDERS ARE INSTALLED,

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PROJECT:

COASTAL PIT STOP

FIRE ALARM

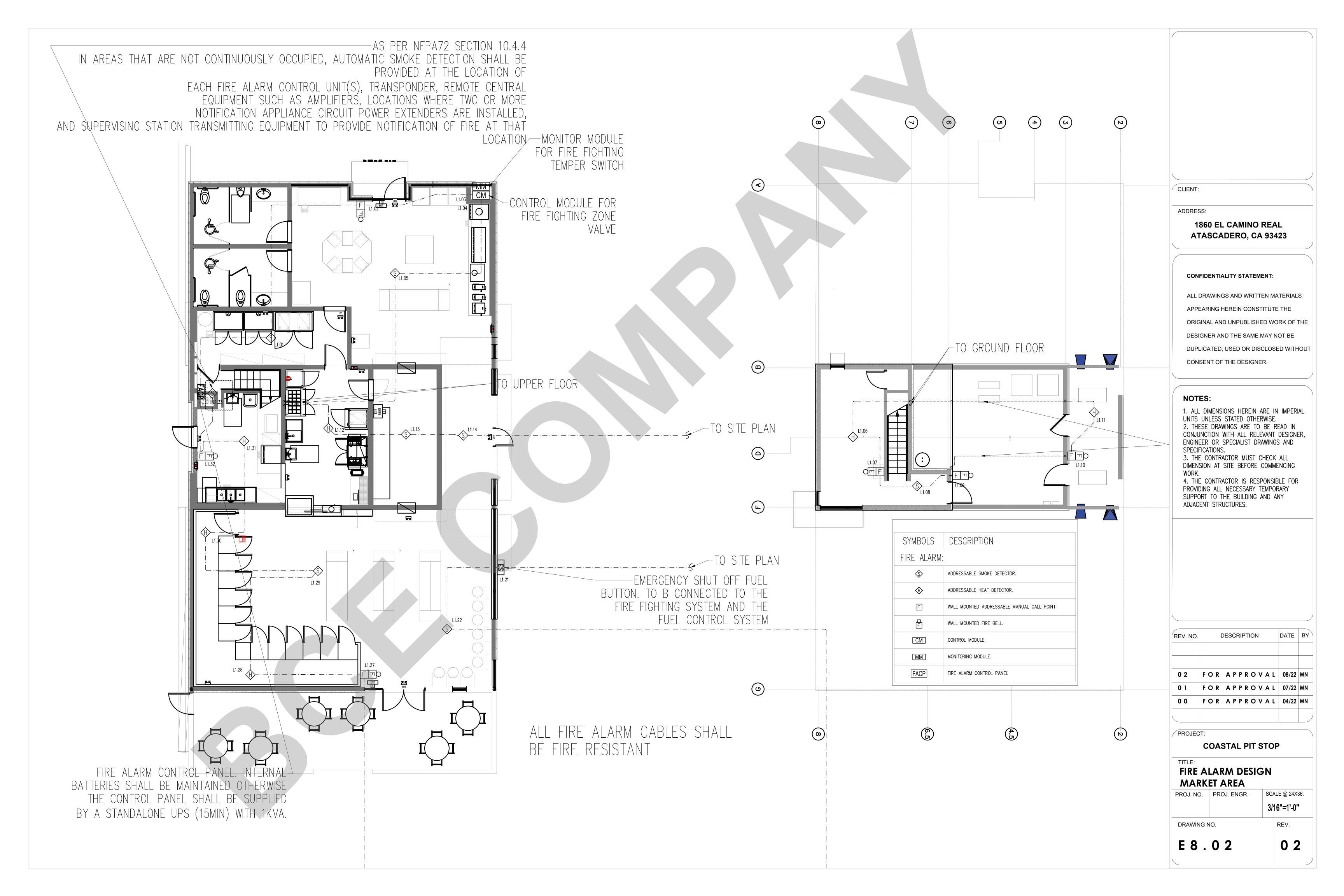
OVERALL LAYOUT

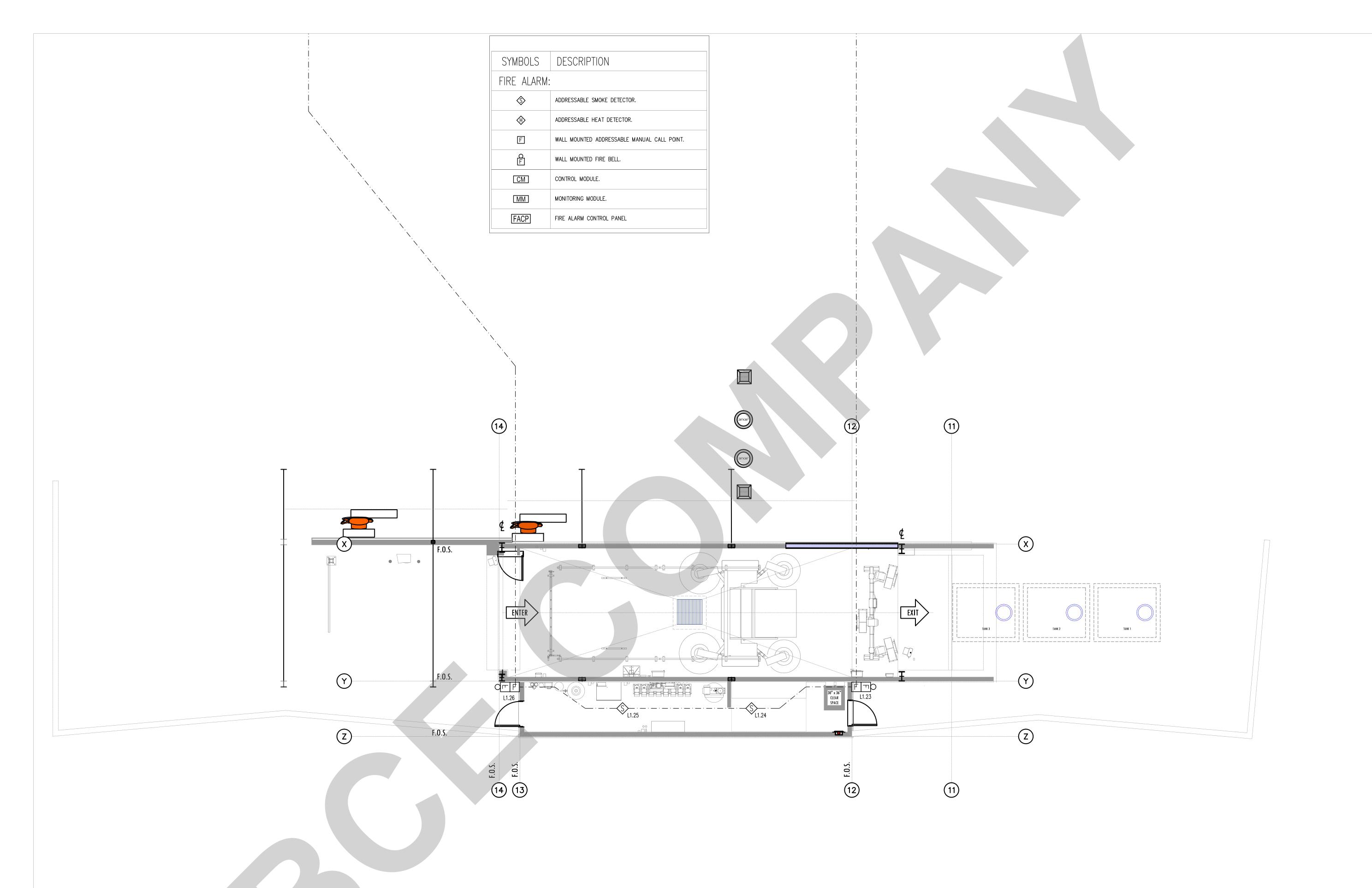
PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

3/32"=1'-0"

DRAWING NO.

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| 0 0 | FOR | APP | R O V | A L | 04/22 | MN |
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PROJECT:

COASTAL PIT STOP

FIRE ALARM DESIGN

CARWASH AREA

PROJ. NO. PROJ. ENGR.

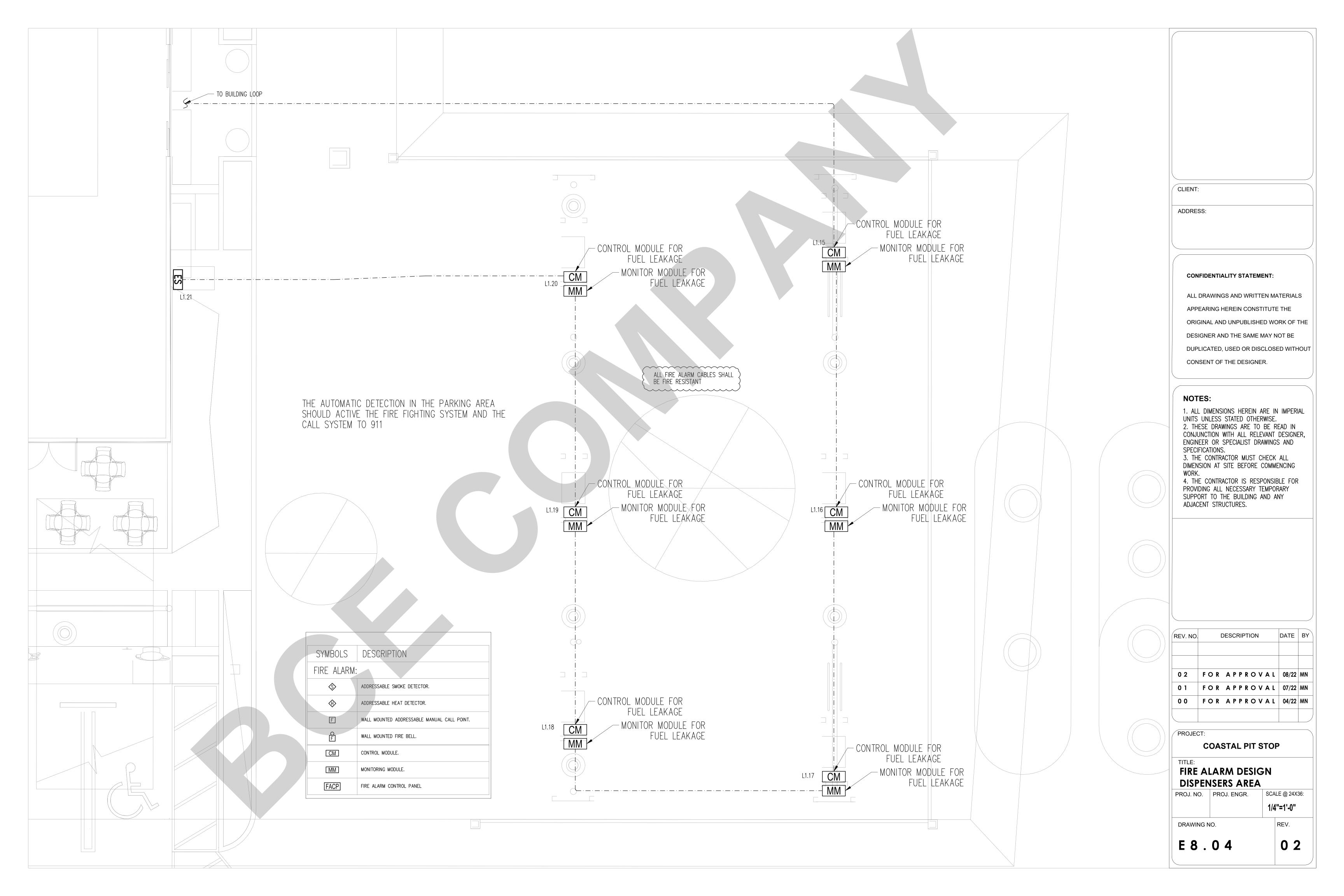
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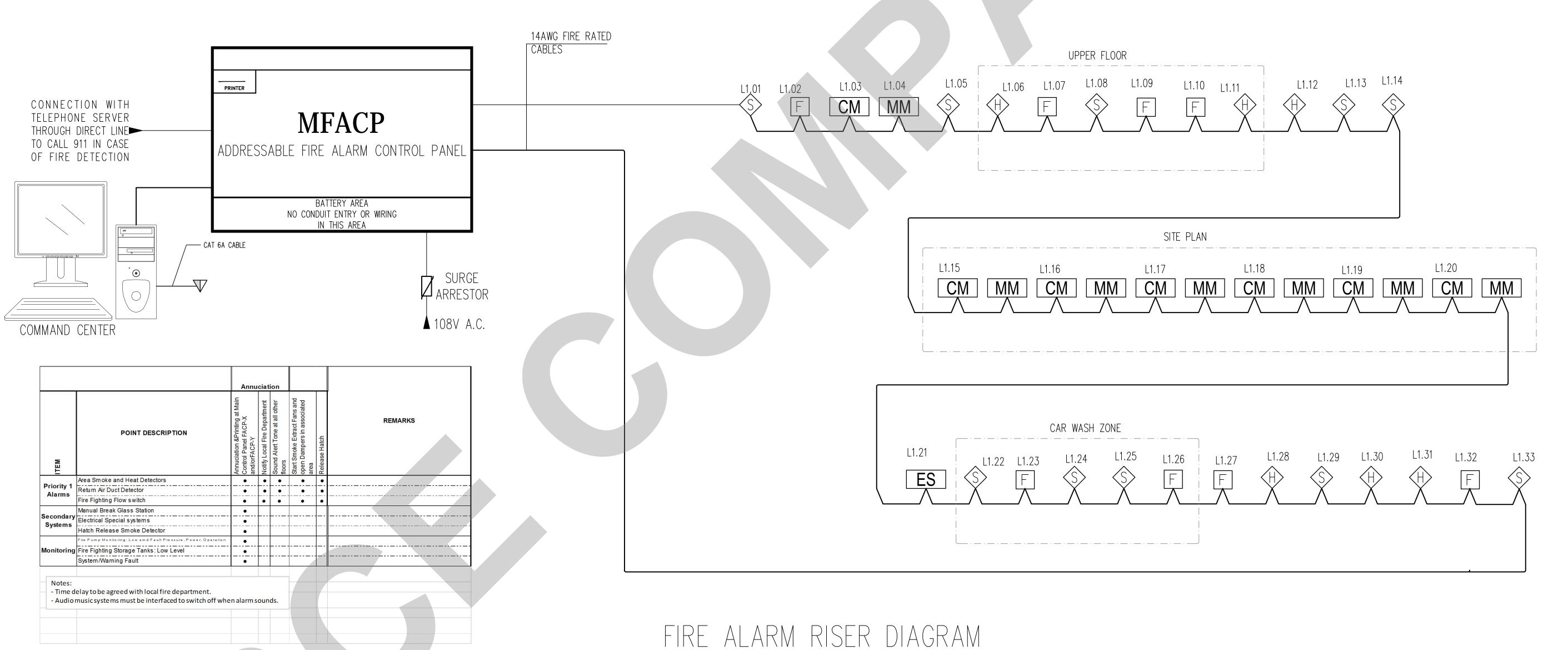
E8.03

0 2

SCALE @ 24X36:

3/16"=1'-0"





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| 0 0 | FOR APPROVAL | 04/22 | MN |
| | | | |

PROJECT:

COASTAL PIT STOP

FIRE ALARM RISER SINGLE LINE DIAGRAM

SCALE @ 24X36: PROJ. NO. PROJ. ENGR. NTS

DRAWING NO.

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Simplex

UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance*

Features

TrueAlarm detection with TrueSense operation combines photoelectric detection with heat detection to provide a multi-mode detector with four detection mechanisms:

- Stable and reliable photoelectric smoke detection with built-in **TrueAlarm** sensitivity drift compensation
- Resettable, thermistor-based fixed temperature detection
- Resettable, thermistor-based rate-of-rise temperature detection
- And TrueSense detection, a patented correlation of smoke activity and thermal activity providing intelligent fire detection earlier than with either activity alone

Functional chamber enclosure:

- Louvered design enhances smoke capture by directing flow to chamber
- Entrance areas are minimally visible when ceiling
- Operation is for ceiling or wall mounting

Multi-function LED indicator:

- Indicates normal and alarm conditions
- Provides status during magnetic functional test

Magnetically operated functional test:

- Initiates alarm and verifies performance
- Identifies general sensitivity status using detector LED pulses (normal, more sensitive, or less sensitive)
- With detectors categorized as normal or needing cleaning or other service, maintenance priorities can be more easily determined

Available options:

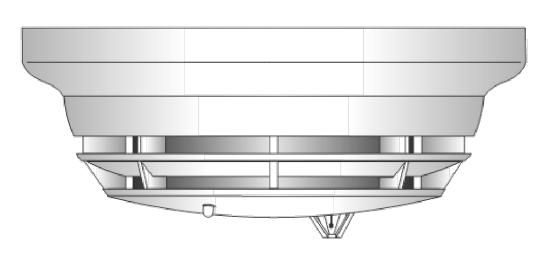
- Bases for 2-wire or 4-wire operation
- Auxiliary alarm relay output
- Remote alarm indicating LED

Designed for EMI compatibility

UL listed to Standard 268

True Alarm Smoke Detectors

TrueAlarm Photoelectric Smoke Detector with TrueSense Smoke/Heat Detection



4098-9602 TrueSense Detector Mounted in Base

Description

Simplex[®] 4098-9602 detectors combine photoelectric smoke detection technology and quick response thermistor-based heat detection technology into a sophisticated, intelligent detector that analyzes each of these activities and their combination to determine whether alarm conditions are present.

Four Detection Modes. An onboard microprocessor provides four independent detection modes: photoelectric detection with TrueAlarm sensitivity drift compensation, fixed temperature heat detection, rate-of-rise temperature heat detection, and TrueSense photoelectric/heat trending analysis and alarm detection. If any of these alarm conditions are experienced, an alarm is initiated.

Specifications

| Voltage | 15 to 32 VDC, from Control Panel IDC | | |
|-------------------------------------|---|--|--|
| Standby Current | 100 μA @ 24 VDC | | |
| Alarm Current, 2-Wire Operation | Up to 86 mA maximum, exact current is determined by alarm current limiting of connected IDC (initiating device circuit) | | |
| Alarm Current, 4-Wire Operation | 24 mA typical @ 24 VDC | | |
| Auxiliary Relay Ratings | Refer to page 3 under Product Selection | | |
| Rate-of-Rise Temperature Alarm** | ≥ 20° F/min (11° C/min), only in effect at temperatures above 90° F (32° C) | | |
| Fixed Temperature Alarm | 135° F (57° C) | | |
| UL Listed Temp. Range** | 32° F to 100° F (0° C to 38° C) | | |
| Operating Temp. Range | 15° F to 100° F (-9° C to 38° C) | | |
| Storage Temp. Range | 0° to 140° F (-18° C to 60° C) | | |
| Smoke Obscuration Sensitivity | 2.8%/ft Nominal, per UL268 | | |
| Air Velocity Range | 0-2000 ft/min (0-610 m/min) | | |
| Humidity Range | 10% to 95% RH from 32° F to 122° F (0° C to 50° C) | | |
| Color | Frost White | | |
| Dimensions | 4-7/8" Dia. x 2" H, mounted in base (124 mm x 51 mm), refer to p.3 for detail | | |

^{**} Always locate this and all rate-of-rise heat detection devices away from extremes of temperature fluctuation.

S4098-0017-4 1/2015

SSimplex

UL Listed*

MX Technology Addressable Devices

Addressable Smoke and Heat Sensors; Multi-Sensors (Smoke & Heat), Isolator Bases, Sounder Bases, and Accessories

Features

MX Technology addressable smoke sensor, heat sensor and multi-sensor features:

- Smoke Sensors provide accurate photoelectric sensing
- Heat Sensors provide electronic heat sensing with multiple alarm options
- Multi-Sensors combine photoelectric sensing with heat sensing
- **Isolator Bases** monitor line condition and separates input from output to isolate short circuits
- Sounder Bases provide multiple tone and volume selections and are available as MX Loop powered, or powered from separate 24 VDC
- Sounder-Beacon Bases are loop powered and provide the sounder base functions plus a visible flashing light
- Accessories include remote LED indicators, address flags and labels, and base adapters
- Smoke sensors and accessories are listed to UL 268, heat sensors to UL 521

Compatibility:

- For use with Simplex[®] 4100ES, 4010ES and 4100U Series fire alarm control panels equipped with an MX Loop Module
- Analog sensor information is communicated to the host control panel and analyzed using the MX Fastlogic algorithm
- The MX Fastlogic algorithm is considered an Expert algorithm that uses real fire data as a basis for the alarm

Installation and Service Features:

- Each sensor is supplied with an integral dust cover for protection during storage and installation and is easily removed when commissioning the system
- Unique 'park' position for commissioning and service
- The address flag is attached to the base to minimize errors during service
- Detector addressing is conveniently programmed using the MX Service tool
- Bases with multiple mounting options simplify installation

Description

Rugged Construction. MX compatible 4098-Series sensors provide robust and reliable construction which has undergone stringent environmental testing. Electrical contacts are molded into the plastic to eliminate movement. Construction uses durable, fire resistant FR110 plastic.

Detection Modes. MX Sensors communicate to the MX Loop Module using MX Technology communications. This allows each detector to operate in one or two of several detection modes, thus allowing it to be easily optimized to the risk.



4098-5202 Photoelectric Sensor and 4098-5203 Photoelectric Sensor with Heat Sensing



4098-5201 Heat Sensor



Photo Sensor on 4098-5215 Sounder Base



Photo Sensor on 4098-5212 Sounder-Beacon Base

S4098-0045-4 3/2015

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| 0 2 | FOR APPROVAL | 08/22 | MN |
| 0 1 | FOR APPROVAL | 07/22 | MN |
| 0 0 | FOR APPROVAL | 04/22 | MN |
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PROJECT:

COASTAL PIT STOP

FIRE ALARM DATA SHEET SHEET 1 OF 2

SCALE @ 24X36: PROJ. NO. PROJ. ENGR. NTS

DRAWING NO.

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Simplex

True Alert Multi-Candela Notification Appliances

UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance*

SmartSync Operation Audible/Visible Notification with Horn and Synchronized Flash, Non-Addressable

Features

Audible/visible (A/V) notification appliances with efficient electronic horn and high output xenon strobe, available for wall or ceiling mount

- Operation is compatible with ADA requirements (refer to important installation information on page 3)
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens

Operates over a two-wire SmartSync circuit to provide:

- Horns that are controlled separately from strobes on the same two-wire circuit
- "On-until-silenced" and "on-until-reset" operation on the same two-wire pair
- SmartSync horn activation of Temporal pattern, March Time pattern (at 60 BPM), or on continuously
- Strobe appliances on the same circuit operating at a synchronized 1 Hz flash rate
- Class B operation requires connection to a compatible SmartSync NAC or to SmartSync Control Module (SCM) 4905-9938
- Class A operation when connected to the 4905-9938 SCM or with 4100U series fire alarm control panel **NACs**

Wall mount A/Vs features:

- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing
- Covers are available separately to convert housing color
- Available UL listed sound damper for locations requiring attenuation of 5 to 6 dBA (stairwells, small rooms, highly reverberant areas, etc.)

Optional adapters and wire guards:

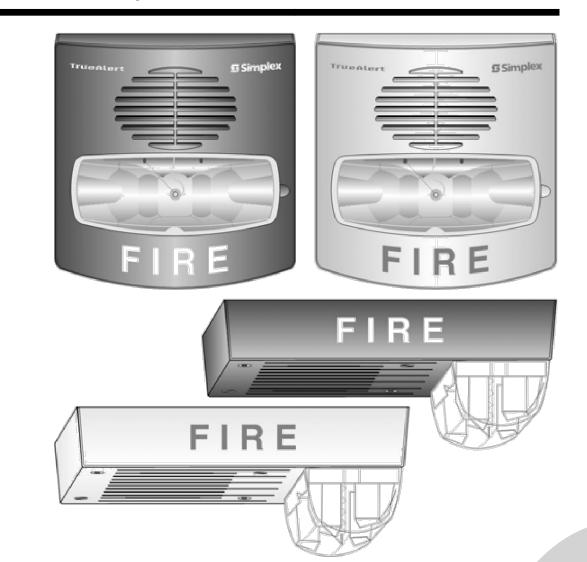
- Wall mount A/V adapters are available to cover surface mounted electrical boxes and to adapt to Simplex® 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount A/Vs

Visible notification appliance (strobe):

- 24 VDC xenon strobe; intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- UL listed to Standard 1971
- Regulated circuit design ensures consistent flash output and provides controlled inrush current

Audible notification appliance (horn):

- Low current, 24 VDC electronic horn with harmonically rich sound output suitable for either steady or coded operation (Temporal or 60 BPM March Time pattern)
- UL listed to Standard 464



Wall and Ceiling Mount A/Vs

Description

Multi-Candela TrueAlert A/Vs with horn and synchronized strobe provide convenient installation to standard electrical boxes. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. Since each model can be selected for strobe intensity output, on-site model inventory is minimized and changes encountered during construction can be easily accommodated.

Wall mount A/V housings are a one-piece assembly (including lens) that mounts to a single or double gang, or 4" square standard electrical box. The cover can be quickly removed (a tool is required) and covers are available separately for color conversion.

Ceiling mount A/Vs install using standard 4" electrical boxes. Color choice is determined by model number.

Strobe Intensity Selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

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S4906-0002-6 11/2014

Simplex

UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance*

True Alert Notification Appliances

SmartSync Control Module and Strobe Synchronization Modules

Features

Convert conventional Notification Appliance Circuits (NACs) into SmartSync circuits or synchronized strobe circuits:

- Simplex® SmartSync Control Modules combine separate horn and strobe NAC inputs into a 2-wire control that can silence horns while maintaining synchronized strobe operation
- Synchronized Flash Modules provide a 2-wire synchronized strobe output that also operates compatible 24 VDC conventional reverse polarity notification appliances

SmartSync Control Module (SCM) provides two-wire control to separately activate horns and strobes:

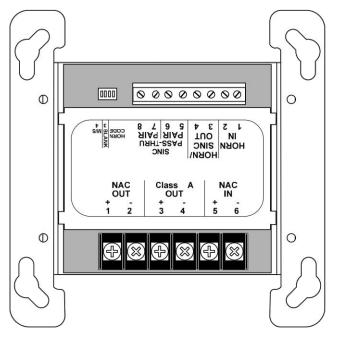
- Operation allows "on-until-silenced" and "on-until-reset" on the same two-wire pair while maintaining supervision continuity
- SmartSync horns sound as Temporal or March Time pattern, or continuous, controlled separately from strobes on the same circuit
- Strobes on the same circuit operate at a synchronized 1 Hz flash rate
- Output is either Class B or Class A

Conventional strobe synchronization models:

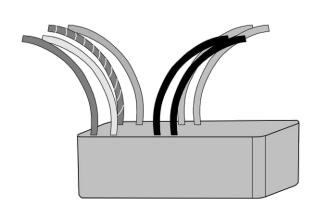
- Encapsulated package with color coded wire leads provides 1 Hz strobe synchronization and maintains supervision continuity
- Conventional horns and other DC appliances operate on the same 2-wire circuit
- Models are available with Class B or Class A
- Small size allows convenient mounting

UL listed to Standard 1971

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4905-9938 SmartSync Control Module (SCM), Shown Approximately 1/2 Size



4905-9922, Class A Synchronized Flash Module, Shown Approximately 1/2 Size

Smart*Sync* Control Module (SCM)

Model 4905-9938 SCM (SmartSync Control Module) converts two conventional NAC inputs into a SmartSync two-wire NAC output. One NAC can be programmed to operate as "on-until-silenced" and would be designated as the horn control (non-coded, on continuously during alarm). A second NAC would be programmed to provide "on-until-reset" operation and would be for the visible appliance (strobe) control (also non-coded, on continuously during alarm). Power is supplied by the strobe control NAC.

Selectable Horn output and Synchronized **Strobes.** In addition to operating the strobe and the horn independently, the SCM can be switch selected to operate the horns as temporal coded, march time coded (60 beats/minute), or on continuously. Strobes are activated with 1 Hz synchronized flashes.

S4905-0003-4 11/2014

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PROJECT:

COASTAL PIT STOP

FIRE ALARM DATA SHEET SHEET 2 OF 2

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: NTS

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DRAWING NO.

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