

# CZAR Engineering, L.L.C.

## OCEAN CITY 29<sup>TH</sup> STREET FIRE HOUSE ADDENDUM #2 PROJECT 16-35 JULY 18, 2016

### GENERAL

1. **BID DUE DATE REMAINS UNCHANGED:**
  - a. 2:00 PM, Thursday, July 28, 2016.
2. **BID RECEIPT LOCATION:**
  - a. City Hall Room 101
  - b. See the Project Manual for additional information.
3. **PLANS, SPECIFICATIONS AND INSTRUCTIONS:**
  - a. Plans, specifications and instructions may be obtained, Monday through Friday from Purchasing Department, City Hall, 9<sup>th</sup> Street
4. **MANDATORY DOCUMENTS:**
  - a. All bidders were advised to review the mandatory document check list for all required mandatory documents, in addition, bidders were advised to review the FEDERAL mandatory documents in addition to Ocean City's mandatory documents.
5. **DRAWING LIST/ADDENDUMS:**
  - a. See attached master drawing log.
  - b. ADDENDUM(S)
    - i. #1 Issued 07-11-16
    - ii. #2 Issued 07-18-16
6. **CLARIFICATIONS/RFI'S:**
  - o **OCEAN CITY CONTRACT NUMBER**
    - 16-35 not 16-33 as noted on previous documents.

29<sup>Th</sup> STREET FIRE HOUSE REBID

July 18, 2016

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ADDENDUM #2

○ **INSURANCE:**

▪ Limits:

- Coverage limits noted in Ocean City's *Specifications and General Requirements for Contract 16-35*, Article 41.0 are to be provided in lieu of limits noted in *Supplemental Conditions*, Article 11 with the following exception:

- Where Article 41.0 does not provide specific coverage for those coverages required within in Article 11, those additional coverages noted in Article 11 shall also be provided.

- See Article 11.1.1.9 for coverage requirements

- Where a conflict exists anywhere within the required insurance limits, the greater coverage and limits shall be required.

○ **STRUCTURAL:**

- 1. What is the size and spacing of the grade beam stirrups in all details?

- Answer: #3 stirrups at piles only (for bar support)

- 2. Are all interior foundations to the right of where grade beam Detail A/S1 is keyed (like around the elev. pit, etc), Detail F/S2 (thickened slab) or are some or all of these foundations actually grade beams (A/S1)?

- Answer: All interior foundations under walls are grade beams per F/S2. Slab support is per E/S2

- 3. What is depth of elevator pit?

- Answer: +/- 14" per Section 2/A4

- 4. Detail H/S2 cut thru 8" struc. slab has a limit of +/- 11'-2", but note on S1 references site drawing for limit

- Site dwg. 1/1 has conc. indicated out to curb. Is the struc. slab out to 11'-2" from bldg. or does it extend to curb per site dwg? If it only is 11'-2" from bldg. what type of conc. extends from end of struc slab to curb?

- Answer: Structural reinforced slab apron extends 11'-2" from building per H/S2. Flatwork extends from there to curb per the site drawing.

- **FINISHES**
  - **FLOOR FINISH:**
    - PT-99 as shown on the drawings shall be resinous urethane flooring/cove base trim by Dura-Flex or approved equal, refer to specifications Section 096723. All references to 'Flow-crete' shall be disregarded.
    - Contractor is responsible for the coordination of concrete curing/sealing with floor preparation installation requirements.
  - **EXPOSED CMU (INTERIOR)**
    - All exposed interior CMU walls shall be painted PT50.
    - Liner panels, where indicated, shall be factory finished.
- **DOOR SCHEDULE:**
  - See attached SK2, dated 07-15-16 for door type clarification(s)
- **COLUMN ENCLOSURE:**
  - See attached SK3, dated 07-14-16.
- **MASONRY WATERPROOFING:**
  - Contractor shall apply (2) coats of the attached waterproofing material to all exterior masonry surfaces.
    - BASF H 1000 or approved equal.
- **ELECTRICAL/PLUMBING REVISIONS:**
  - See attached plans dated 07-18-16.

**END OF ADDENDUM #2**

29<sup>Th</sup> STREET FIRE HOUSE REBID

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July 18, 2016

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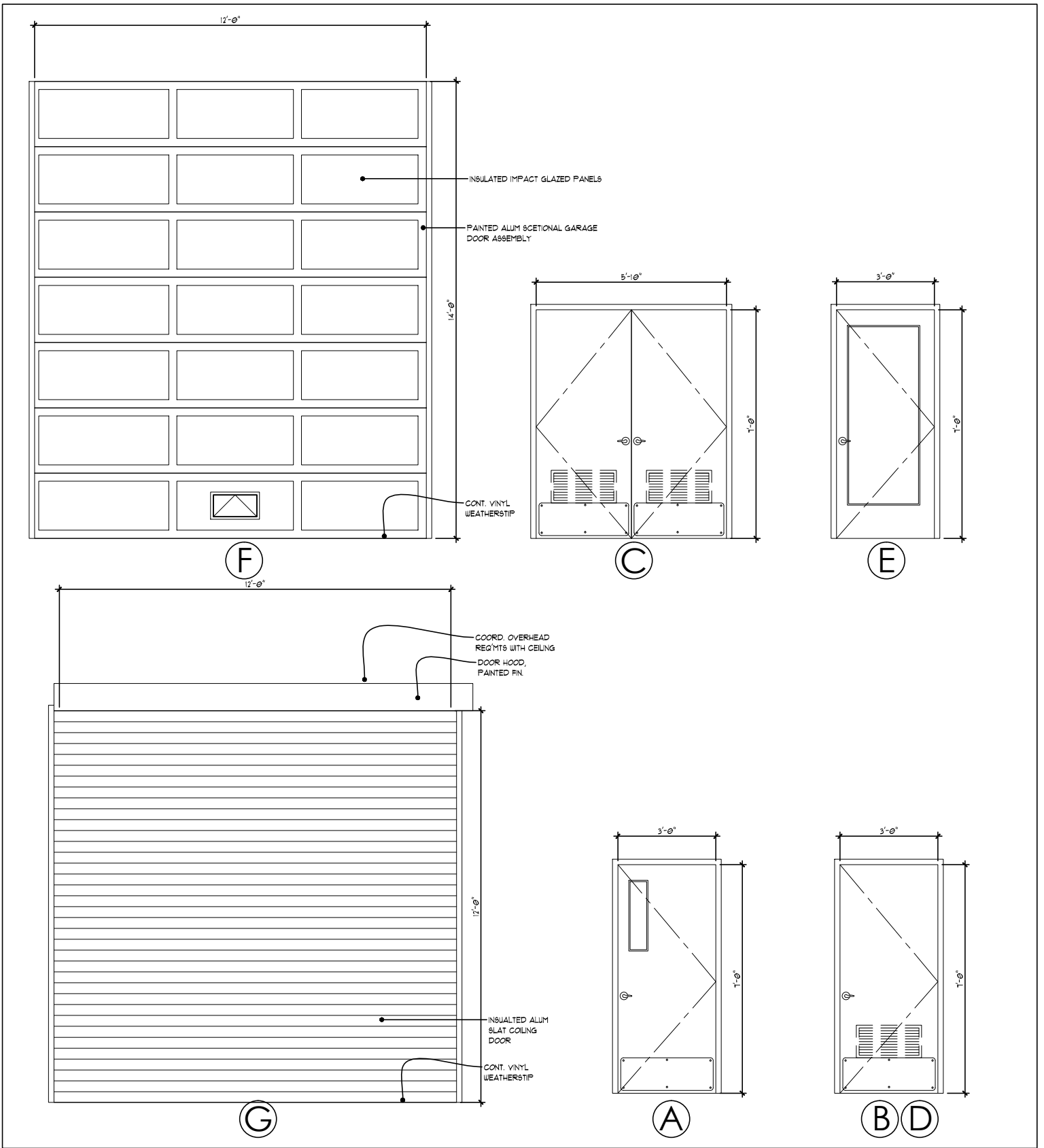
ADDENDUM #2

**29th STREET FIRE HOUSE  
RE- BID  
DRAWING LOG**

	DWG #		BID SET DATE	REV
	C	COVER	06/29/16	
	AC1	ARCH	06/29/16	
	A1	ARCH	06/29/16	
	A2	ARCH	06/29/16	
	A3	ARCH	06/29/16	
	A4	ARCH	06/29/16	
	A5	ARCH	06/29/16	
	A6	ARCH	06/29/16	
	A7	ARCH	06/29/16	
	1/1	CIVIL	05/16/16	
	S-1	STRUCTURAL	06/29/16	
	S-2	STRUCTURAL	06/29/16	
	S-3	STRUCTURAL	06/29/16	
	S-4	STRUCTURAL	06/29/16	
	S-5	STRUCTURAL	06/29/16	
	S-6	STRUCTURAL	06/29/16	
	MO.O	MECH	06/27/16	
	MO.1	MECH	06/27/16	
	M1.1	MECH	06/27/16	
	M1.2	MECH	06/27/16	

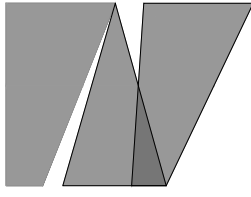
	DWG #		BID SET DATE	REV
	E0.0	ELEC	06/27/16	
	E0.1	ELEC	06/27/16	07/18/16
	E0.2	ELEC	06/27/16	
	E0.3	ELEC	06/27/16	07/18/16
	E0.4	ELEC	06/27/16	07/18/16
	E1.0	ELEC	06/27/16	
	E1.1	ELEC	06/27/16	07/18/16
	E1.2	ELEC	06/27/16	
	E1.3	ELEC	06/27/16	07/18/16
	E1.4	ELEC	06/27/16	07/18/16
	E1.5	ELEC	06/27/16	
	P0.0	PLUMBING	06/27/16	07/18/16
	P1.1	PLUMBING	06/27/16	07/18/16
	P1.2	PLUMBING	06/27/16	
	P2.1	PLUMBING	06/27/16	07/18/16
	P2.2	PLUMBING	06/27/16	07/18/16
	FP0.0	FIRE PRO	06/27/16	
	FP1.1	FIRE PRO	06/27/16	
	FP1.2	FIRE PRO	06/27/16	

**ADDENDUM #2 07-18-16**



FIRESTATION No. 2  
29TH STREET & WEST AVENUE

William C. Mclees, AIA  
NJ A114054 CA C29108

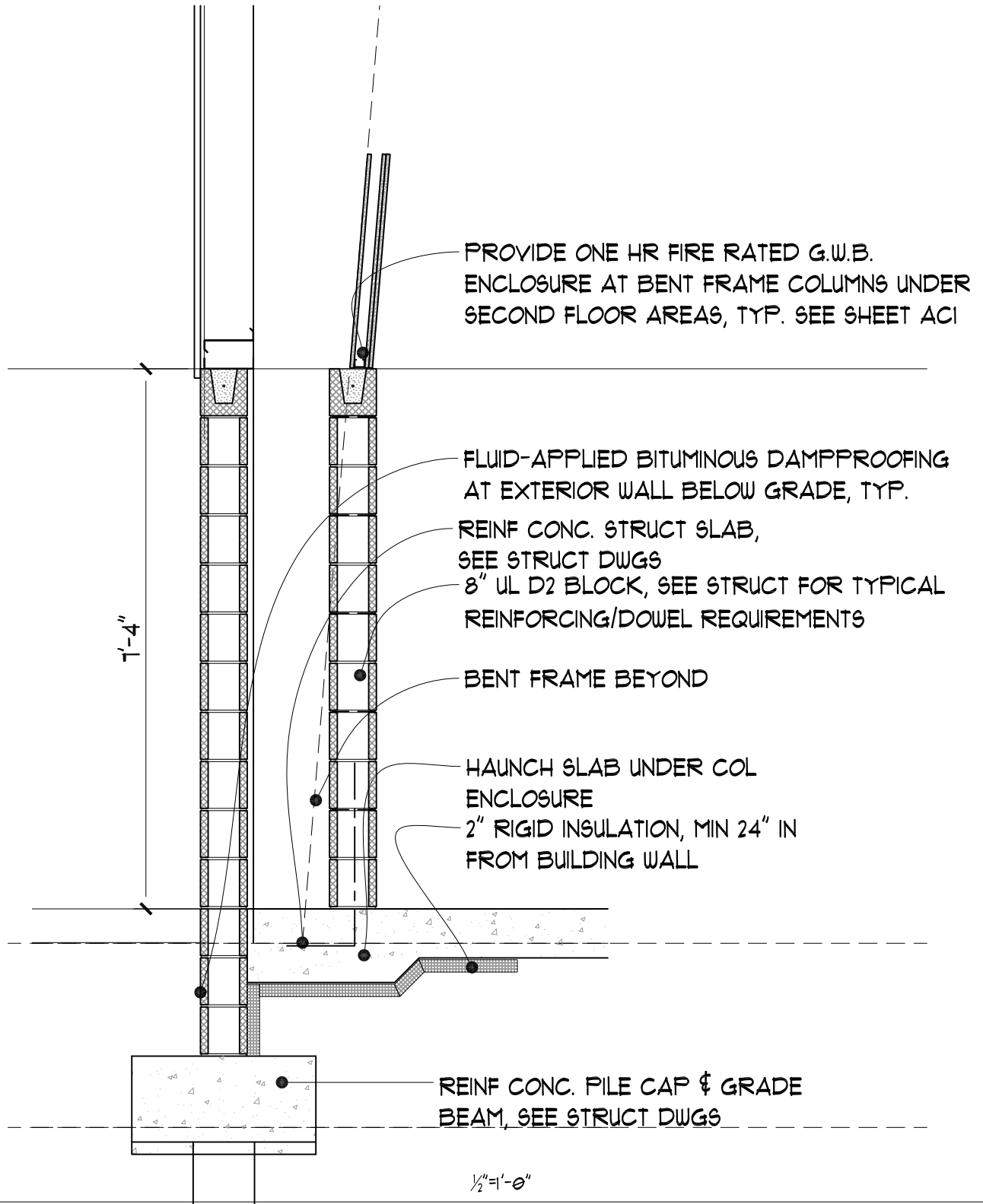


**william mclees**  
architecture

5 Macarthur Boulevard | Somers Point,  
NJ 08244  
t: 609.927.0888 | f: 609.927.0889  
www.wmarch.net

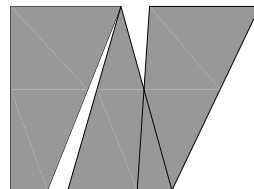
7/15/16  
**S2**

**ADDENDUM #2 07-18-16**



**FIRESTATION No. 2**  
 29TH STREET & WEST AVENUE  
 COLUMN ENCLOSURE DETAIL

William C. Mclees, AIA  
 NJ A114054 CA C29108



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7/14/16

**S3**

**ADDENDUM #2 07-18-16**

# MasterProtect® H 1000

High-performance, clear, breathable, 100% silane penetrating sealer

FORMERLY HYDROZO® 100

## PACKAGING

- 5 gallon (18.9 L) pails
- 55 gallon (208 L) drums

## COLOR

Clear

## YIELD

250–400 ft<sup>2</sup>/gallon (6–10 m<sup>2</sup>/L)

Coverage may vary greatly with porosity of the substrate; extreme porous substrate may require two coats. Perform test panels to ensure desired results and coverage rates.

## STORAGE

Store in unopened containers in a clean, dry area between 35 and 110° F (2 and 43° C). Keep from freezing.

## SHELF LIFE

18 months when properly stored

## VOC CONTENT

Less than 350 g/L less water and exempt solvents

## DESCRIPTION

MasterProtect H 1000 is a clear, breathable, high-performance, 100% silane, water repellent sealer that achieves highest depth of penetration.

## PRODUCT HIGHLIGHTS

- No masking of windows necessary and requires no cleaning after application
- No residue, will not harm glass windows, metal frames, or painted surfaces
- 100% silane
- Protects against chloride ion penetration
- Excellent depth of penetration
- Breathability allows interior moisture to escape without damaging sealer
- Solvent based, excellent for cold weather applications
- Protects the structure from damage caused by wind-driven rain
- Does not alter surface appearance
- Surface sealer helps reduce efflorescence, atmospheric staining, and mildew
- Superior water repellence so it penetrates deeply and chemically reacts within the pores of concrete to provide long-lasting protection
- Abrasion resistant so it provides long-lasting protection to horizontal substrates subject to traffic, such as bridge decks and highway surfaces

## APPLICATIONS

- Interior and exterior
- Horizontal and vertical
- Above grade
- Traffic-bearing concrete substrates
- Bridge decks and substructures
- Concrete highway surfaces
- Ramps and barrier rails
- Parking garages
- Buildings
- Stadiums
- Many other reinforced concrete structures

## SUBSTRATES

- Concrete
- Brick and masonry
- Stucco

**Technical Data**

**Composition**

MasterProtect H 1000 is 100% silane by weight.

**Compliances**

- Alberta DOT, Type 1c
- SWR Institute validated


**Typical Properties**

PROPERTY	VALUE
<b>Penetration</b> , in (mm), average depth, depending upon substrate	0.35 (9)
<b>Surface appearance after application</b>	Unchanged

**Test Data**

PROPERTY	RESULTS	TEST METHOD
<b>Flash point</b> , ° F (° C)	165 (62.7)	SETA
<b>Water repellency after heavy abrasion</b> , %	83.5 – exceeds criteria	Alberta DOT penetrating sealer, Type 1c (0.35 w/c ratio)
<b>Water weight gain</b> , % reduction		NCHRP 244 Series II-cube test
250 ft <sup>2</sup> /gal (6.1 m <sup>2</sup> /L)	90	
400 ft <sup>2</sup> /gal (9.8 m <sup>2</sup> /L)	85	
<b>Absorbed chloride</b> , % reduction		NCHRP 244 Series II-cube test
250 ft <sup>2</sup> /gal (6.1 m <sup>2</sup> /L)	96	
400 ft <sup>2</sup> /gal (9.8 m <sup>2</sup> /L)	87	
<b>Absorbed chloride</b> , % reduction	98 – exceeds criteria	NCHRP 244 Series IV - Southern climate
<b>Skid Resistance</b> , BPN		
Broomed Concrete		
Untreated	90	ASTM E 303
Treated	90	
<b>Water penetration of masonry</b> , % Reduction		
Facing Brick		
Dampness	100	ASTM E 514
Leakage	100	
<b>Water Exclusion</b> , %		
Brick	99	ASTM D 6532
Concrete	90	
<b>Water Absorption</b> , %		
Brick	0.05	ASTM D 6532
Concrete	0.96	
<b>Water Vapor Transmission</b>		
WVT (grains/h/ft <sup>2</sup> )	2.0	ASTM D 6490
Permeance (Perms)	4.8	
<b>Elevated Temperature Volatility</b> , % Weight Loss		
@85° F / 50% RH		BASF Method
30 min.	<1	
60 min.	<1	
@122° F / 50% RH		
30 min.	2	
60 min.	6	

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.



**SEALANT - WATERPROOFING & RESTORATION INSTITUTE**

Issued to: **BASF Corporation**  
 Product: **HYDROZO 100**

**ASTM D 6532:** Water Exclusion – Brick 99%, Concrete 90%  
 Water Absorption – Brick .05%, Concrete .96%

**ASTM D 6490:** Water Vapor Transmission – WVT (grains/h ft<sup>2</sup>) 2.0, Permeance 4.8  
**Validation Date:** 4/03/12 – 4/02/17

**No. 412-BAS417** *Copyright © 2012*

**CLEAR PENETRATING VERTICAL WATER REPELLENT VALIDATION PROGRAM**  
[www.swrionline.org](http://www.swrionline.org)



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## HOW TO APPLY

### SURFACE PREPARATION

1. Verify substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 14–28 days.
2. Clean all surfaces of all sand, surface dust and dirt, oil, grease, chemical films and coatings, and other contaminants prior to application. Power wash, sandblast, or shotblast as necessary to achieve the desired surface condition. Repoint any loose, disintegrated, or cracked mortar and allow a minimum of 72 hours drying time before application.
3. Air, substrate, and material temperatures should be 20° F (-7° C) and rising at the time of the application. Substrate must be frost free. Do not apply sealer when temperatures are expected to fall below 20° F (-7° C) within 12 hours or when rain is expected within 4 hours following application. Maximum application temperature is 95° F (35° C). May be applied to slightly damp surfaces.
4. Crack control, caulking, patching, and expansion joint sealants can be installed before or after application of the sealer. Allow adequate curing time following sealant-manufacturer's recommendations. Following the application, remove excess product that might pond on a concave sealant joint.

### APPLICATION

1. Test a small area of the surface (minimum 5 by 5 ft [1.5 by 1.5 m]) before general application to ensure desired performance results, aesthetics and coverage rates and to verify application technique. Allow 5–7 days for the product to fully react before evaluating. Contact Technical Service for detail.
2. Stir material thoroughly before and during application.
3. For horizontal surfaces, apply with a flooding action. Sealer may be applied with low-pressure spray, followed by brooming for even distribution.
4. For vertical surfaces, apply by low-pressure, non-atomizing sprayer. Apply from the bottom up for uniform distribution of the sealer. Apply to saturation, with a controlled rundown of 8" (20 cm). In certain cases, a mist coat before general application will help break the surface tension and assure maximum penetration of saturation coat.

## DRYING TIME

Typical drying time for MasterProtect H 1000 is 4–6 hours at 70° F (21° C) and 50% relative humidity. Cooler temperatures or higher relative humidity can extend the drying time.

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## CLEAN UP

Clean equipment with xylene or MasterSeal 990.

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## FOR BEST PERFORMANCE

- Do not apply during inclement weather or when inclement weather is anticipated within 12 hours.
- To prevent damage to nearby shrubbery and landscaping, cover or protect with drop cloth.
- Protect asphalt-based products such as roofing materials or plastic products from overspray.
- Caution should be taken with specialty coated glass. Small areas should be tested prior to application to ensure the product does not discolor the coating. Plastic windows will turn opaque when sprayed with this products.
- MasterProtect H 1000 will not inhibit water penetration through unsound or cracked surfaces or surfaces with defective flashing, caulking, or structural waterproofing.
- Variations in the texture and porosity of the substrate will affect the coverage and performance of the product.
- Paint line striping after the application of MasterProtect H 1000.
- Windows or other non-absorbent substrates subject to overspray should be clean and contaminate free at the time of application. Cleaning may be required after application if dirt or dust is present for the silane to react with.
- Make certain the most current versions of product data sheet and SDS are being used; visit master-builders-solutions.basf.us to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

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## HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting [www.master-builders-solutions.basf.us](http://www.master-builders-solutions.basf.us), e-mailing your request to [basfbcsst@basf.com](mailto:basfbcsst@basf.com) or calling 1(800)433-9517. Use only as directed.

**For medical emergencies only, call ChemTrec® 1(800)424-9300.**

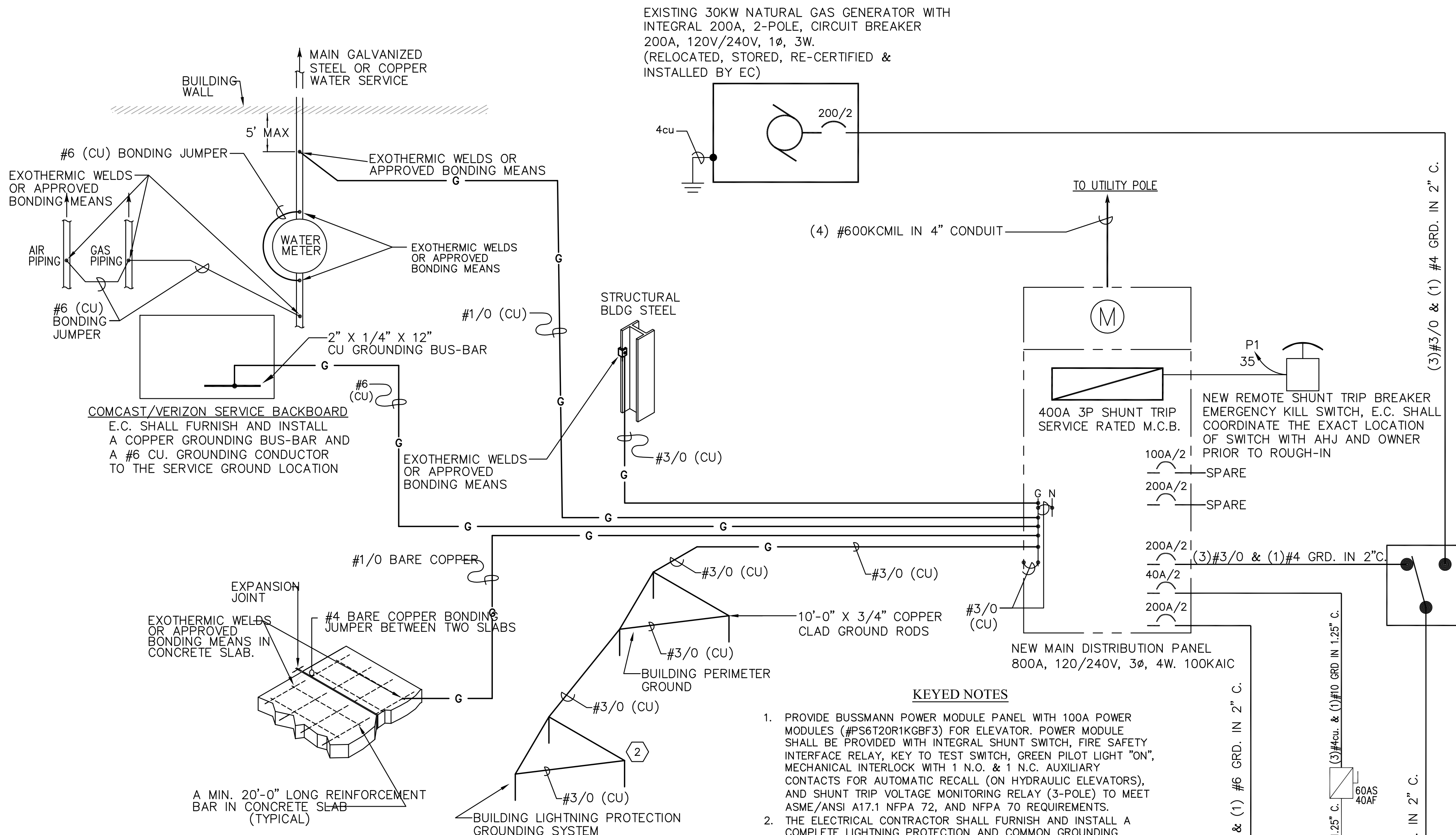
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## LIMITED WARRANTY NOTICE

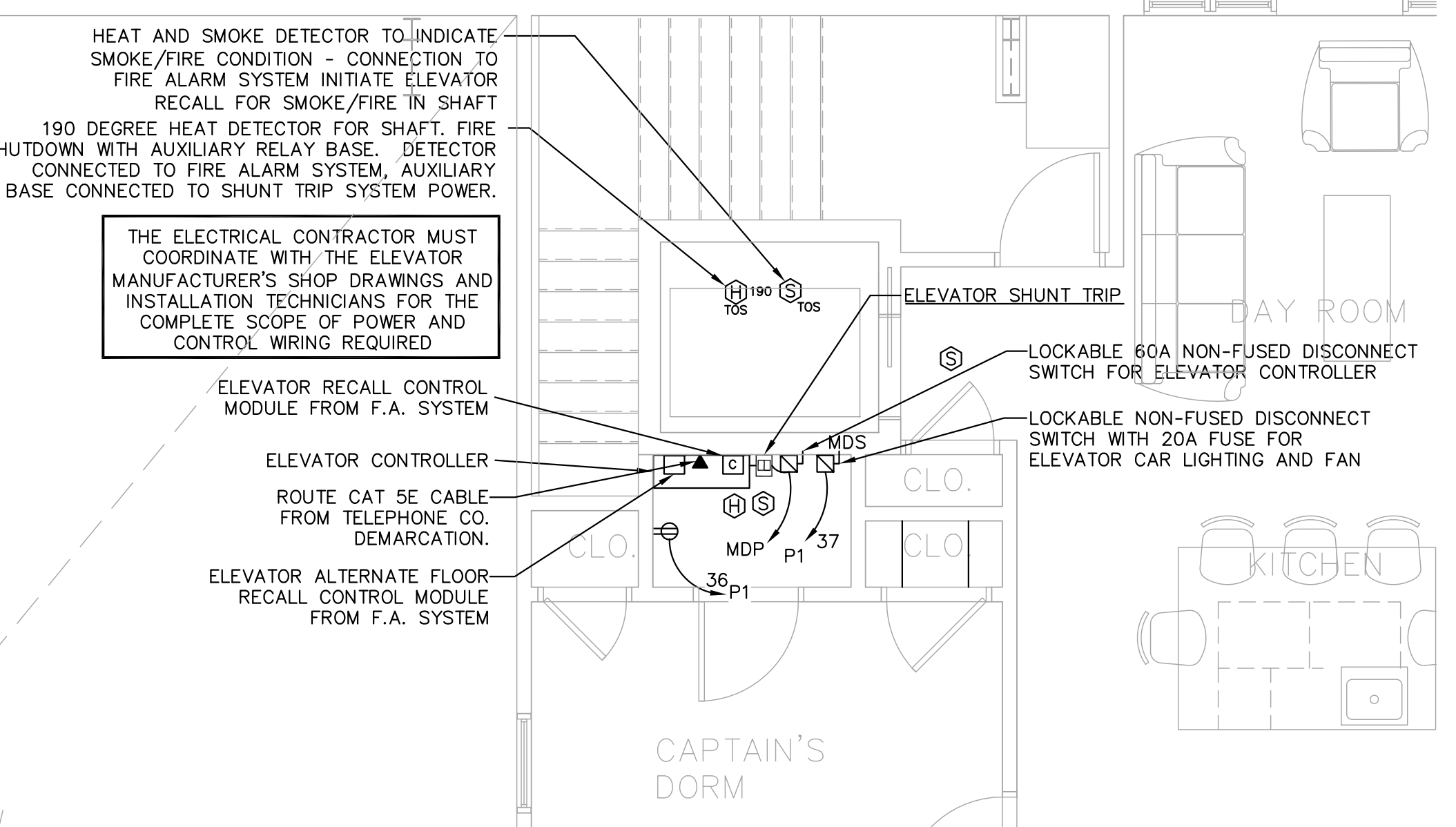
BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of BASF. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

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**1 ELECTRICAL SINGLE LINE DIAGRAM**  
E0.1 NOT TO SCALE



**2 ELEVATOR "MACHINE ROOM" DETAIL**  
E0.1 NOT TO SCALE

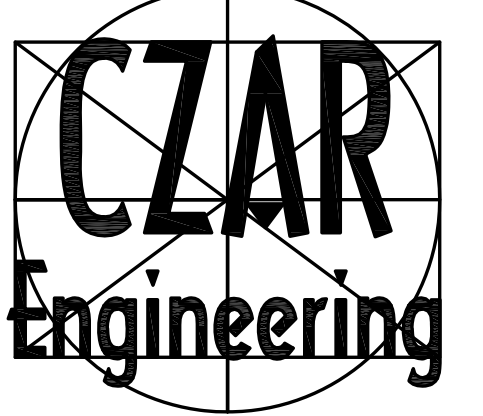
LIGHTING FIXTURE SCHEDULE					R=RECESSED	P=PENDANT
TYPE	MANUFACTURER	CATALOG NO.	LAMPS	MTG	REMARKS	
					S=SURFACE	W=WALL MOUNT
					U=UNIVERSAL	T=TRACK
A	CREE	CXB-A-UV-M-40K-8-UL-10V-CXBW16-CL16	160W LED	P	PENDANT MOUNTED LED HIGH BAY LIGHT. E.C. SHALL COORDINATE MOUNTING HEIGHT IN FIELD WITH OWNER AND EQUIPMENT.	
B	CREE	LR22-34L-35K-10V	34W LED	R	RECESSED 2 X 2 LED TROFFER DIMMABLE TO 5%	
C	CREE	LS4-44L-35K-10	44W LED	S	SURFACE MOUNTED 4'-0", LED STRIP LIGHT DIMMABLE TO 5%	
C2	TERRALUX	TLF-SL24A-A2540	(2)17W T8	S	SURFACE MOUNTED 2'-0", 2-LAMP FLUORESCENT STRIP LIGHT	
D	CREE	ZR22-32L-35K-10V	35W LED	R	RECESSED 2 X 2 LED TROFFER DIMMABLE TO 5%	
E	NEW HORIZON LIGHTING	NHL-XRLWP-G	(2)9W LED	S	EMERGENCY BATTERY PACK	
E1	NEW HORIZON LIGHTING	NHL-XRLWP-G	(2)9W LED	S	EMERGENCY BATTERY PACK	
E2	NEW HORIZON LIGHTING	NHL-RH2-LED-WP-2	(2)9W LED	S	REMOTE EMERGENCY HEADS	
F	CREE	CR-LE-22L-35K-10V-SMK-LE-L-SMK-LE-EC	22W LED	S	SURFACE MOUNTED 1 X 4 LED FIXTURE DIMMABLE TO 5%	
K	LUMARK	CROSSTOUR LED #XTOR2A-N-PC1	20W LED	S	SMALL LED WALLPACK LIGHT WITH BRONZE HOUSING	
L	LOUIS POULSEN	PH-3-21/2-1/15WLED-120V-BLK	15W LED	W	DECORATIVE WALL SCONCE	
P	LUCIFER	3RE-AD-2-SS-80X-21B-30-1-N-1-CGL-CY2	18W LED	ADJ WW	ADJUSTABLE DOWN LIGHT MOUNTED IN SOFFIT E.C. TO AIM FIXTURE PER OWNERS DIRECTION DURING HOURS OF DARKNESS	
R	B-K LIGHTING	5N-30-D-LED-e65-SP-A8-BLP-13-11	7W LED	W	WALL MOUNTED SIGN LIGHT, INCLUDE ALL DRIVERS, LAMPS AND HARDWARE	

GENERAL LIGHTING NOTES:  
1) E.C. SHALL FURNISH THE OWNER WITH SPARE STOCK OF (6) SPARE LAMPS FOR EACH TYPE OF FIXTURE SPECIFIED (EXCLUDING LED FIXTURES)  
2) E.C. SHALL FURNISH THE OWNER IN ITS ORIGINAL PACKAGING (1) SPARE LIGHTING FIXTURE FOR EACH TYPE SPECIFIED.

- GENERAL NOTES:**
- ALL LIGHTING FIXTURES, LAMPS AND RELATED DEVICES FURNISHED UNDER THIS CONTRACT SHALL CARRY THE APPROVAL LABEL OF UL OR ETL FOR THE SPECIFIC APPLICATION IN WHICH THEY ARE USED.
  - THE STATEMENT "FINISH TO BE SELECTED BY ARCHITECT" SHALL BE INTERPRETED TO MEAN THAT THE FINISH OF THE LUMINAIRE SHALL MATCH THE APPEARANCE OF A PAINT CHIP, COLOR NUMBER, OR METAL SWATCH FURNISHED BY THE DESIGN PROFESSIONAL DURING THE SUBMITTAL REVIEW PROCESS.
  - UNLESS OTHERWISE INDICATED, ALL FLUORESCENT BALLASTS SHALL BE ELECTRONIC TYPE. ELECTRONIC BALLASTS FOR STRAIGHT AND U-BENT LAMPS SHALL BE PROGRAMMED START TYPE. ELECTRONIC BALLASTS FOR COMPACT FLUORESCENT LAMPS (TWIN TUBE, TRIPLE TUBE, AND QUAD TUBE) SHALL BE EQUIPPED WITH A PROTECTIVE SHUT DOWN CIRCUIT TO SHUT OFF THE BALLAST WHEN THE LAMP IS APPROACHING FAILURE. UNLESS OTHERWISE NOTED, FLUORESCENT AND COMPACT FLUORESCENT BALLASTS SHALL BE MANUFACTURED BY ADVANCE, UNIVERSAL LIGHTING TECHNOLOGIES, OSRAM SYLVANIA, OR GENERAL ELECTRIC. UNLESS OTHERWISE NOTED, FLUORESCENT LAMP DIMMING BALLASTS SHALL BE LUTRON HL-LINE SERIES. UNLESS OTHERWISE NOTED, HIGH WATTAGE H.I.D. LAMP BALLASTS SHALL BE CWA TYPE; LOW WATTAGE H.I.D. LAMP BALLASTS SHALL BE ELECTRONIC TYPE.
  - WHITE LED'S SHALL MEET, AT A MINIMUM, CHROMATICITY STANDARDS SET BY ANSI/NEMA/ANSI 979-377-2008. L.E.D. LUMEN MAINTENANCE SHALL BE MEASURED IN ACCORDANCE WITH IESNA LM-80 STANDARDS. PHOTOMETRIC TESTING FOR SOLID STATE LUMINAIRES SHALL BE IN ACCORDANCE WITH IESNA LM-79 STANDARDS.
  - UNLESS OTHERWISE NOTED, LAMP DESIGNATIONS ARE FOR LAMPS BY PHILIPS. LAMPS OF EQUIVALENT CHARACTERISTICS WITH EQUAL OR BETTER PERFORMANCE FROM GENERAL ELECTRIC, OSRAM SYLVANIA AND VENTURE LIGHTING ARE ACCEPTABLE ALTERNATIVES.
  - CONTRACTOR SHALL CONFIRM FIXTURE VOLTAGES, CEILING TRIMS, AND MOUNTING HARDWARE ARE COMPATIBLE WITH THEIR APPLICATION AS DETERMINED BY THE DESIGN PROFESSIONAL PRIOR TO ORDERING FIXTURES.
  - CONTRACTOR SHALL SELECT, FURNISH AND INSTALL THE CORRECT SIZE OF SECONDARY WIRING FROM REMOTE TRANSFORMERS AND/OR REMOTE BALLASTS AS REQUIRED TO KEEP VOLTAGE DROP IN THE SECONDARY WIRING BELOW 3% OF RATED VOLTAGE.
  - ALL DIMMABLE FLUORESCENT, CERAMIC METAL HALIDE, AND L.E.D. LAMPS SHALL BE BURNED CONTINUOUSLY FOR 100 HOURS PRIOR TO FOCUSING OF FIXTURES AND COMMISSIONING OF CONTROL SYSTEMS.
  - CONTRACTOR SHALL PROVIDE LABOR AND EQUIPMENT FOR FOCUSING OF ADJUSTABLE FIXTURES AND PRESETTING OF LIGHTING CONTROL SYSTEMS. FOCUSING AND PRESETTING SHALL BE DONE IN THE PRESENCE OF THE ENGINEER. CONTRACTOR SHALL FOCUS LIGHTING AFTER DARK IF DIRECTED BY THE ENGINEER. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL PROVIDE AT LEAST ONE DAY OF A FACTORY-TRAINED AND CERTIFIED TECHNICIAN TO PROVIDE WARRANTY START UP AND PROGRAMMING FOR ALL LIGHTING CONTROL SYSTEMS AND PROGRAMMABLE LIGHTING FIXTURES.
  - CONTRACTOR SHALL PROVIDE THE FOLLOWING WITH THEIR BID:
    - THE UNIT PRICE, WITHOUT LAMP, FOR EACH LIGHTING FIXTURE TYPE LISTED WITHIN THE LIGHTING FIXTURE SCHEDULE. THE UNIT PRICE SHALL BE FOR ONE OF THE LISTED MANUFACTURERS FOR THAT PARTICULAR FIXTURE. THE MANUFACTURER SHALL BE IDENTIFIED. SUBSTITUTIONS FOR FIXTURES PROVIDED BY MANUFACTURERS NOT LISTED IN THE SCHEDULE ARE NOT ACCEPTABLE. SEE BELOW FOR REQUIREMENTS ASSOCIATED WITH SUBMITTING LIGHTING FIXTURE SUBSTITUTIONS.
    - THE TOTAL QUANTITY OF EACH FIXTURE TYPE WITH THE EXTENDED COST FOR THAT QUANTITY.
    - THE UNIT PRICE, TYPE, AND QUANTITY OF LAMPS.
  - WITHIN 21 DAYS OF CONTRACT AWARD, THE CONTRACTOR SHALL FURNISH SUBMITTALS FOR ALL SPECIFIED LIGHTING FIXTURES FOR REVIEW BY THE ENGINEER. THE SUBMITTALS SHALL INCLUDE LUMINAIRE CATALOG CUTS, SUBMITTAL SHEETS, OR MANUFACTURER'S SHOP DRAWINGS INDICATING THE FOLLOWING:
    - MANUFACTURER'S NAME AND COMPLETE CATALOG NUMBER
    - FIXTURE TYPE, DIMENSIONS AND FINISHES
    - FIXTURE PHOTOMETRIC TEST DATA FROM AN INDEPENDENT TEST LABORATORY
    - FIXTURE ACCESSORIES, COMPONENTS, AND HARDWARE WHEN SPECIFIED
    - LAMP TYPE, QUANTITY, WATTAGE, LUMEN OUTPUT, RATED LIFE, COLOR TEMPERATURE, COLOR RENDERING INDEX AND BEAM SPREAD AS APPLICABLE
    - BALLAST TYPE AND FIXTURE VOLTAGE
 SUBMITTALS FOR LIGHTING FIXTURES MOUNTED WITHIN ARCHITECTURAL COVES OR CASEWORK, VARIABLE LENGTH FIXTURES, AND FOR NON-STANDARD, OR CUSTOM FIXTURES, SHALL ALSO INCLUDE SCALED DRAWINGS SHOWING THE LAYOUT AND DIMENSIONS OF ALL FIXTURE COMPONENTS AND ACCESSORIES, THE METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS.



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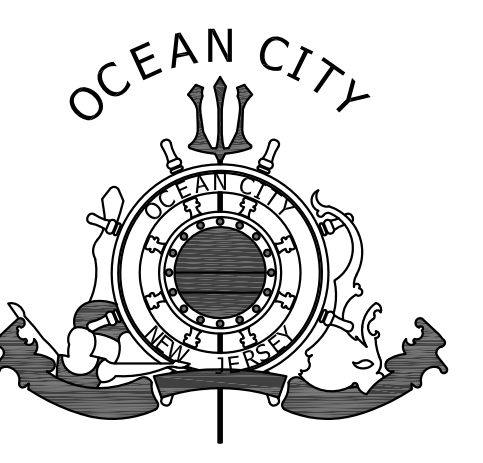


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**NEW FIRE STATION No. 2**

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ  
6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2

drawn by	EJT
description	Lighting Fixture Schedule, Notes & Legend
scale	NTS

sheet 07/22/15

**E0.1**  
commission no.



NEW PANEL "EP1"															
MAINS: 200A, M.L.O. 22KAIC			FED FROM: SEE SINGLE LINE DIAGRAM												
VOLTAGE: 240V, 1Ø, 3W			FEEDER: SEE SINGLE LINE DIAGRAM												
CONDUIT	WIRE SIZE	SERVICE TO:	CIRCUIT BREAKER				CIRCUIT BREAKER				SERVICE TO:	WIRE SIZE	CONDUIT		
			A	B	AMP	NO.	A	B	AMP	NO.					
3/4"	2#10 & 1#10 GRD	AIR COMPRESSOR	0.65		30	2	1	A	2	1	20	1.10	AHU-1	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	APPARATUS BAY LTG	0.64		20	1	5	A	6	1	20	0.75	GARAGE DOOR OPENER	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	APPARATUS BAY LTG	0.48		20	1	7	B	8	1	20	0.75	GARAGE DOOR OPENER	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	APPARATUS BAY LTG	0.48		20	1	9	A	10	1	20	0.75	GARAGE DOOR OPENER	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	EXTERIOR LTG	0.13		20	1	11	B	12	2	30	2.40	CU-1	3#10 & 1#10 GRD	3/4"
3/4"	2#12 & 1#12 GRD	STAIRS/STORAGE/EVENS/LTG	0.26		20	1	13	A	14	1	20	2.40			
3/4"	2#12 & 1#12 GRD	MICROWAVE	1.50		20	1	15	B	16	1	20	0.60	GARAGE DISPOSAL	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	COMCAST/VERIZON BOX/BRD	0.96		20	1	17	A	18	1	20	0.36	KITCHEN CONV. RECPT	2#12 & 1#12 GRD	3/4"
3/4"	3#12 & 1#12 GRD	EF-1	1.05		20	2	19	B	20	1	20	0.72	GAS RANGE/HOOD	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	COMM RACK	1.05		20	1	21	A	22	1	20	0.82	REFRIGERATOR	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	SECURITY MAG LOCKS	0.50		20	1	23	B	24	1	20	0.96	FREEZER	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	CAPTS RM & DORM LTG	0.43		20	1	27	B	28	1	20	0.30	KITCHEN CONV. RECPT	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	FIRE ALARM PANEL	0.30		20	1	29	A	30	1	20	0.80	LIVING ROOM LTG	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	CAPTS RM RECPT	1.44		20	1	31	B	32	2	30	1.18	1ST FLR UNIT HEATERS	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	LIVING RM RECPT	1.08		20	1	33	A	34	1	20	1.18	FIRE TRUCK RECPT	3#10 & 1#10 GRD	3/4"
3/4"	2#12 & 1#12 GRD	BUNKRM RECPT	1.80		20	1	35	B	36	1	20	0.98	ELEVATOR SUMP PUMP	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	VEST WALL HEATER	1.50		20	1	37	A	38	1	20	0.36	KITCHEN CONV. RECPT	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	STAR WALL HEATER	1.50		20	1	39	B	40	1	20	0.50	2ND FLR BATH WALL LTS	2#12 & 1#12 GRD	3/4"
			7.42	9.34	A				B				8.88	9.14	
			16.30				34.78				18.48				

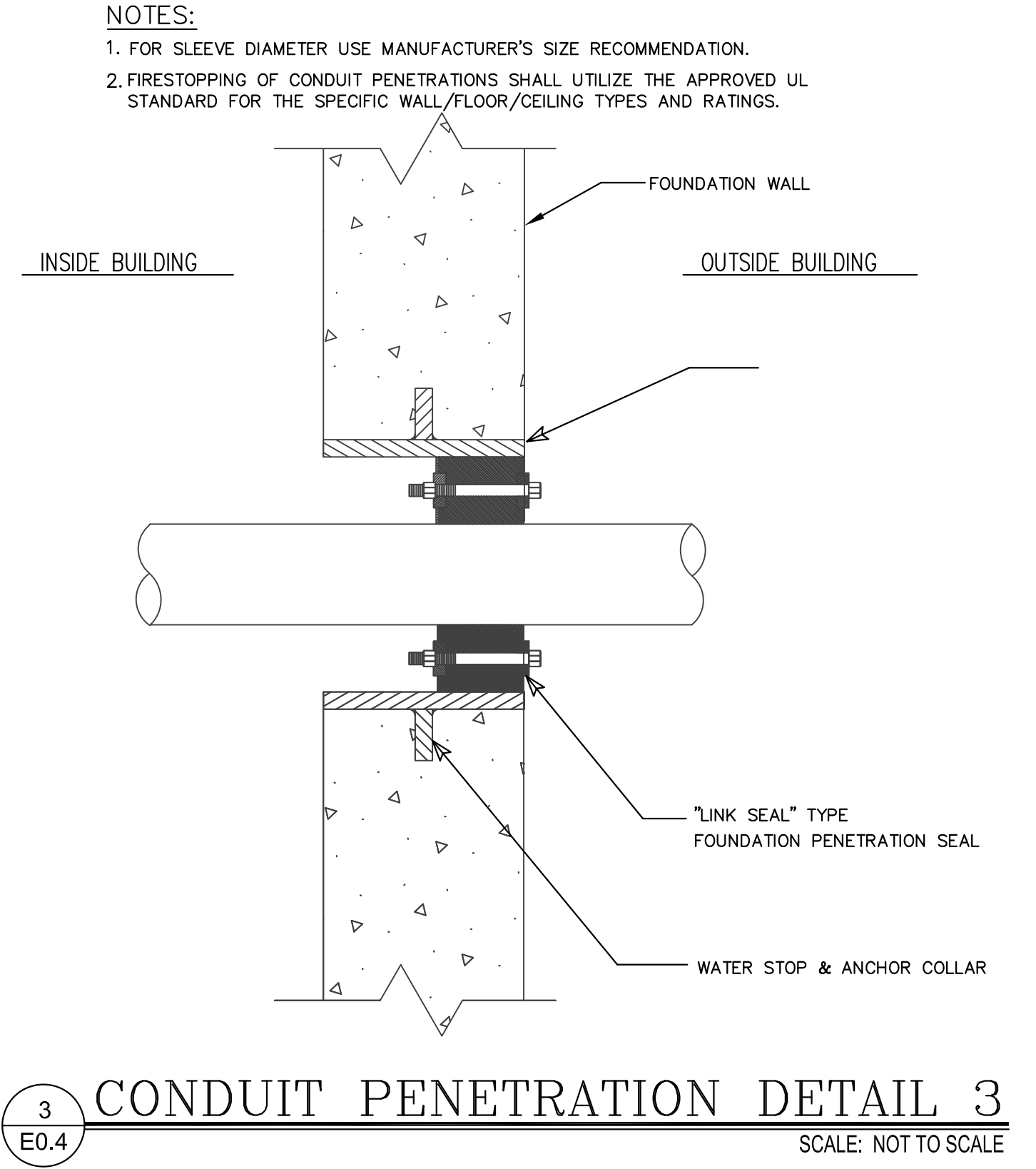
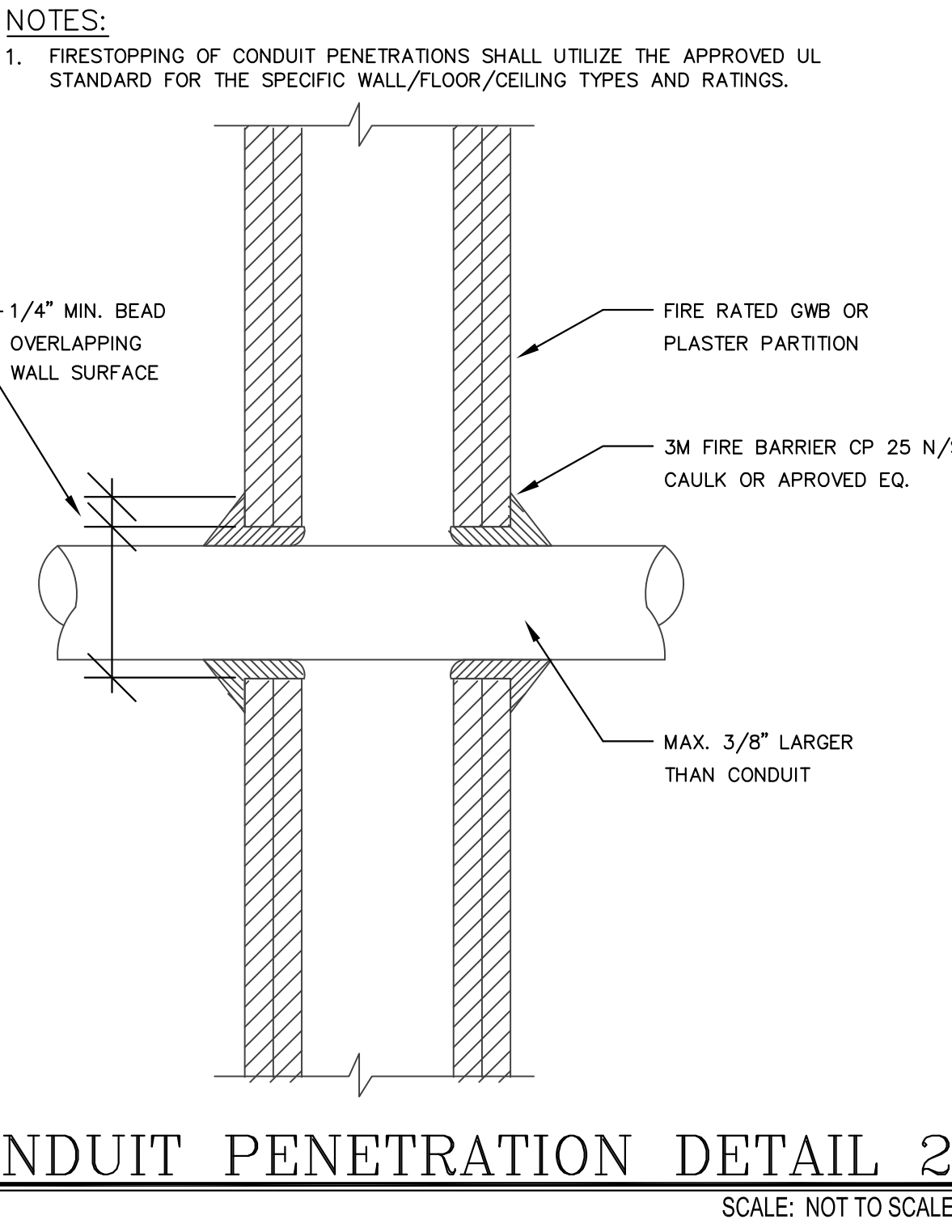
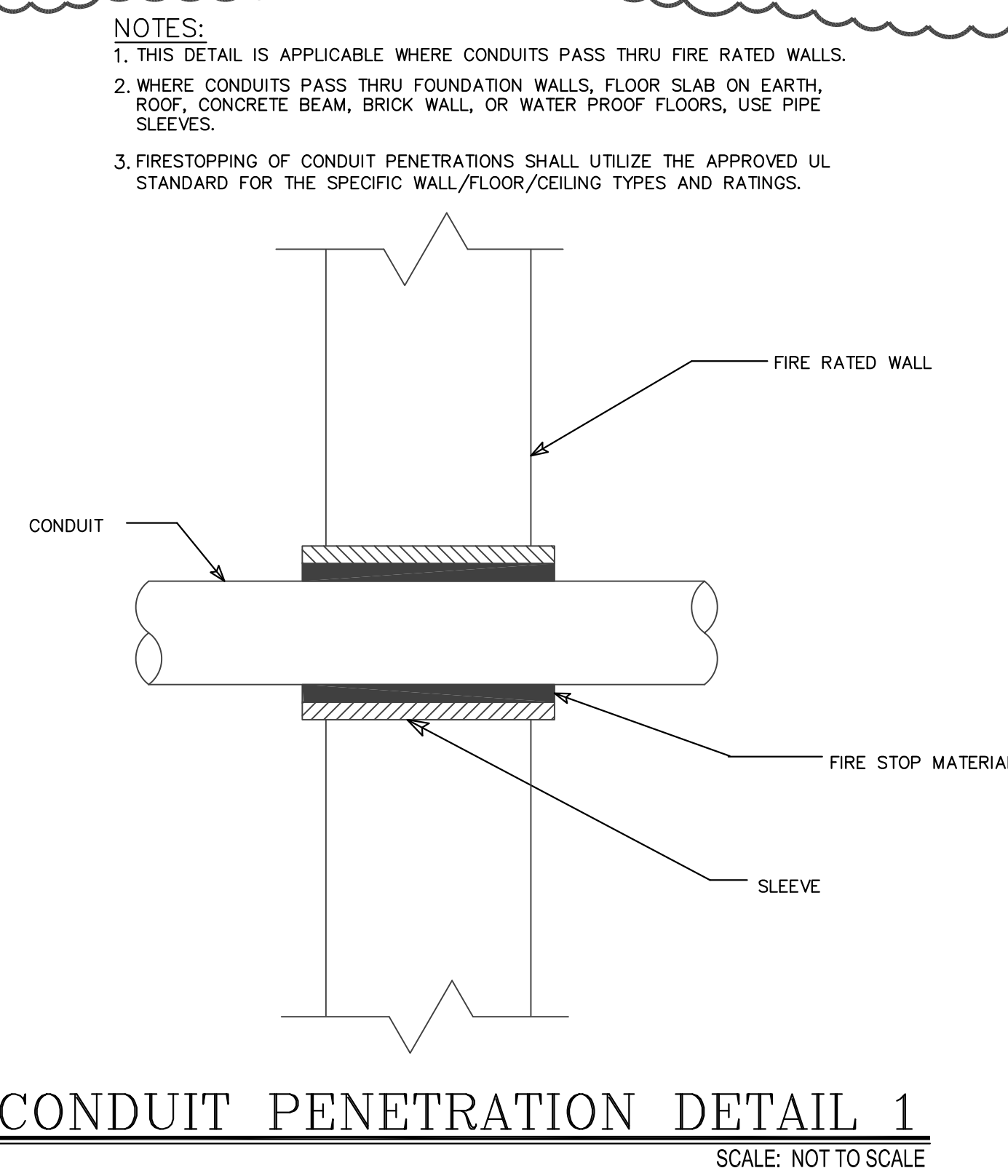
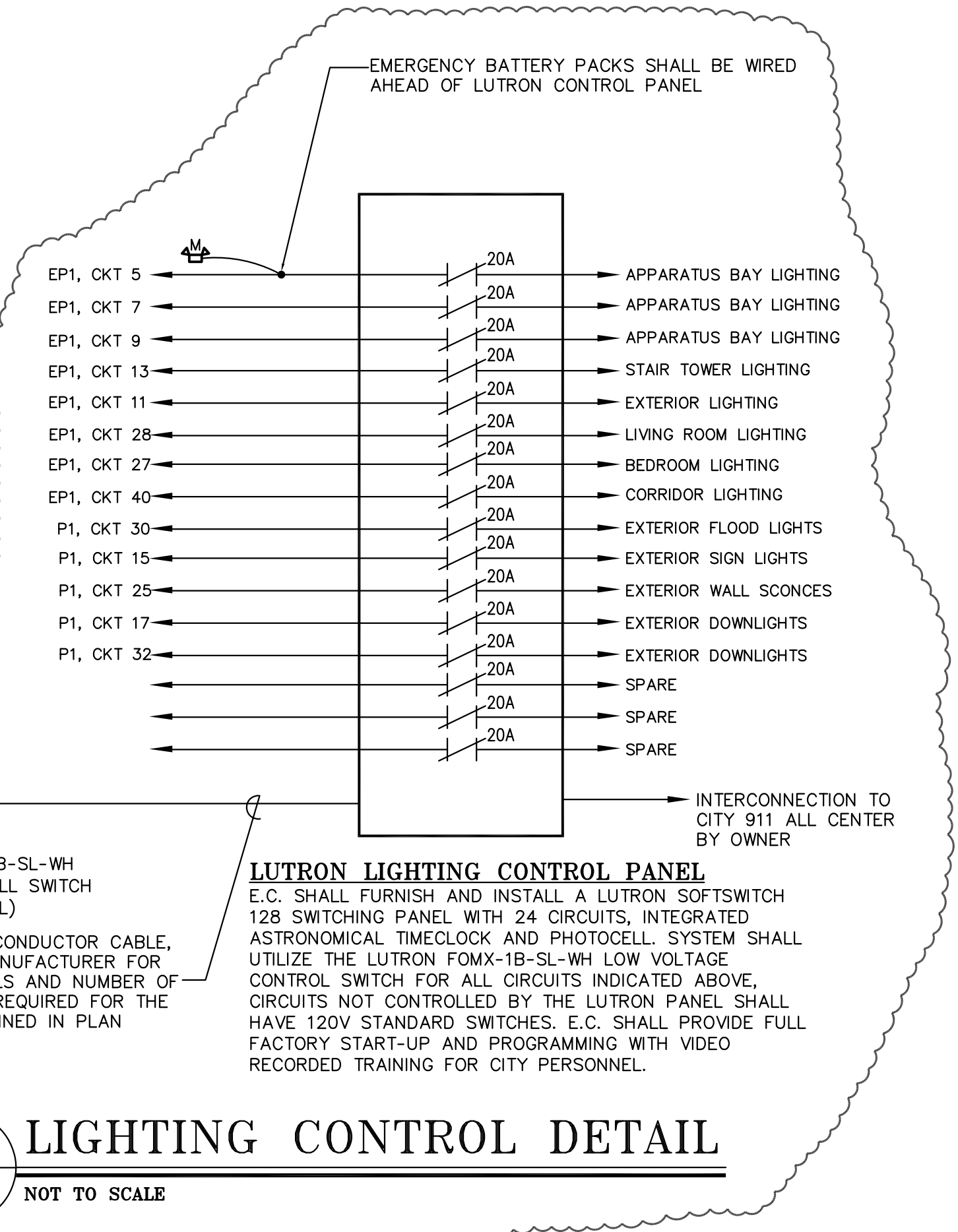
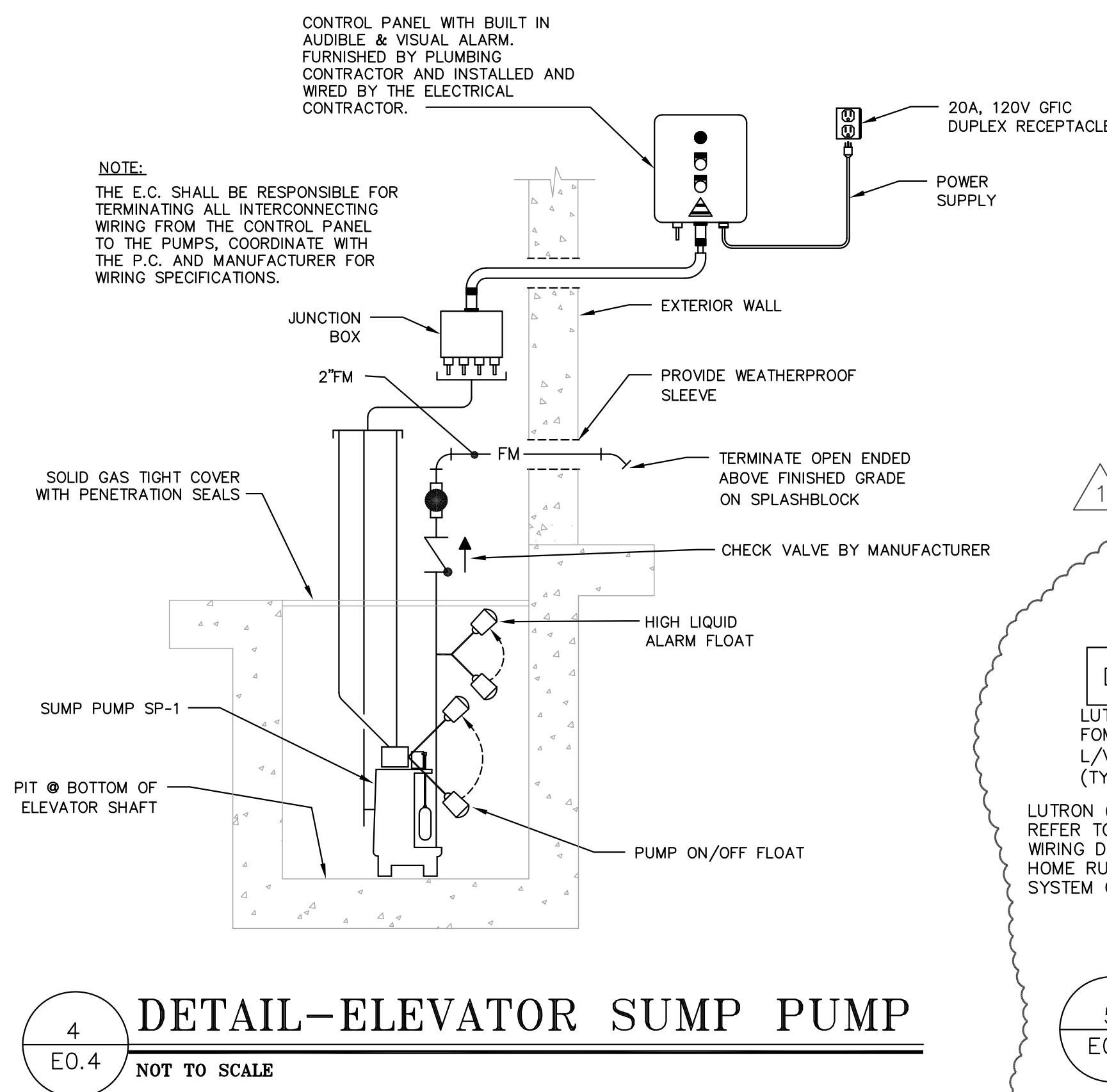
\* indicates that GFIC circuit breaker is required in this position.

LOAD SUMMARY  
34,780 W, 240 V = 144.9 AMPS  
145 A X 125% = 181.1 AMPS

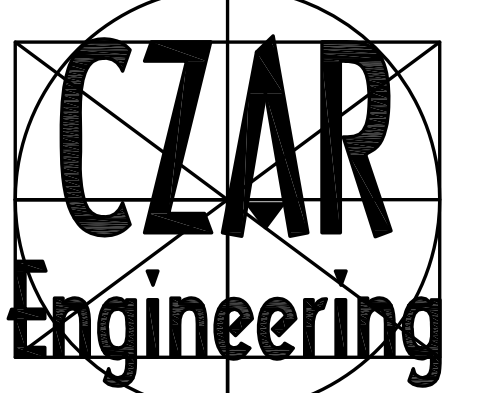
NEW PANEL "P1"															
MAINS: 200A, M.L.O. 22KAIC			FED FROM: SEE SINGLE LINE DIAGRAM												
VOLTAGE: 240V, 1Ø, 3W			FEEDER: SEE SINGLE LINE DIAGRAM												
CONDUIT	WIRE SIZE	SERVICE TO:	CIRCUIT BREAKER				CIRCUIT BREAKER				SERVICE TO:	WIRE SIZE	CONDUIT		
			A	B	AMP	NO.	A	B	AMP	NO.					
3/4"	2#12 & 1#12 GRD	1ST FLR CONV RECPT	1.08		20	1	1	A	2	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	STORAGE WALL HTR	1.50		20	1	3	B	4	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	LIFE GUARD AREA RECPT	1.08		20	1	5	A	6	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	APPARATUS BAY RECPT	0.90		20	1	7	B	8	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	APPARATUS BAY RECPT	0.54		20	1	9	A	10	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	APPARATUS BAY RECPT	0.90		20	1	11	B	12	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	LIFE GUARD AREA RECPT	0.90		20	1	13	A	14	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	EXTERIOR SIGN LIGHTS	0.15		20	1	15	B	16	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	EXTERIOR FRONT DOWNLIGHTS	0.15		20	1	17	A	18	1	20	1.80	CORRIDOR RECPT	2#12 & 1#12 GRD	3/4"
3/4"	3#12 & 1#12 GRD	SS-1	1.16		20	2	19	B	20	1	20	1.44	DRYER	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	DISHWASHER	0.96		20	1	23	B	24	1	20	0.54	EQUIP STORAGE RM RECPT	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	EXTERIOR FRONT SCONES	0.12		20	1	25	A	26	1	20	1.50	RESTROOM RECPT	2#12 & 1#12 GRD	3/4"
3/4"	2#10 & 1#10 GRD	WASHER	1.63		20	1	27	B	28	1	20	0.13	RESTROOM EXHAUST	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	2ND FLR CONV RECPT	1.26		20	1	29	A	30	1	20	0.20	RESTROOM WALL HTR	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	SPARE	1.50		20	1	31	B	32	1	20	0.10	EXTERIOR SOFFIT DN LTS	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	ELEVATOR LTS	1.50		20	1	33	A	34	1	20	0.25	ELEV PIT LITE RECPT	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	SHUNT TRIP COIL	0.10		20	1	35	B	36	1	20	0.18	ELEVATOR MACH RM RECPT	2#12 & 1#12 GRD	3/4"
3/4"	2#12 & 1#12 GRD	ELEVATOR LTS	0.10		20	1	37	A	38	1	20		SPARE		
3/4"	2#12 & 1#12 GRD	SPARE			20	1	39	B	40	1	20		SPARE		
			7.89	8.80	A				B				4.29	2.39	
			12.18				23.37				11.19				

\* indicates that a GFIC circuit breaker must be utilized in this position.

LOAD SUMMARY  
23,370 W, 240 V = 97.4 AMPS  
97 A X 125% = 121.7 AMPS



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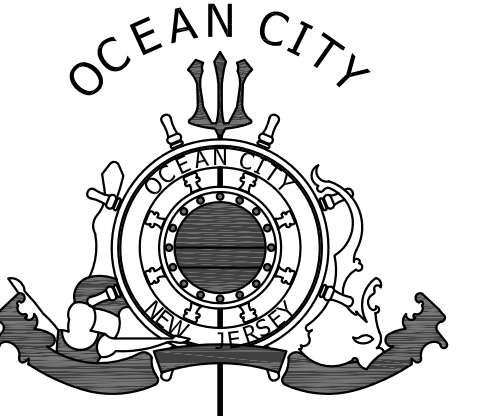


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Authorization No. 24GA27942000

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NEW FIRE STATION  
No. 2

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ

6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2

drawn by EJT  
description Control Single Line Diagram

scale NTS

sheet 07/22/15

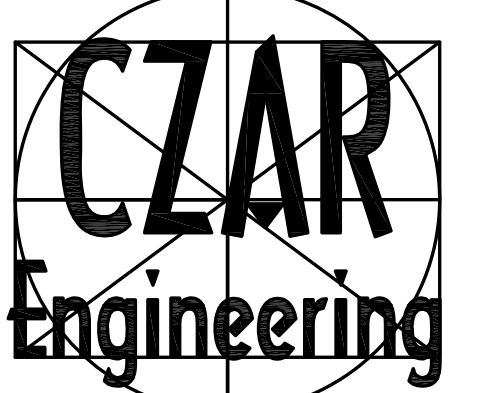
**E0.4**

commission no.



**william mclees  
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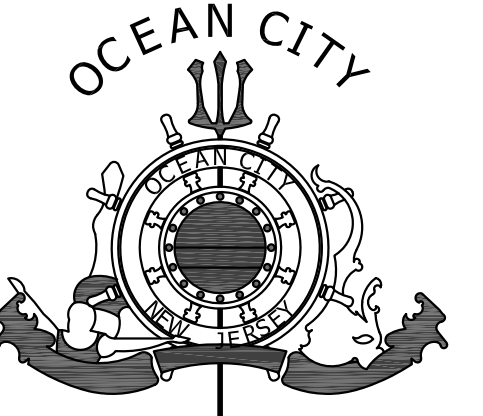


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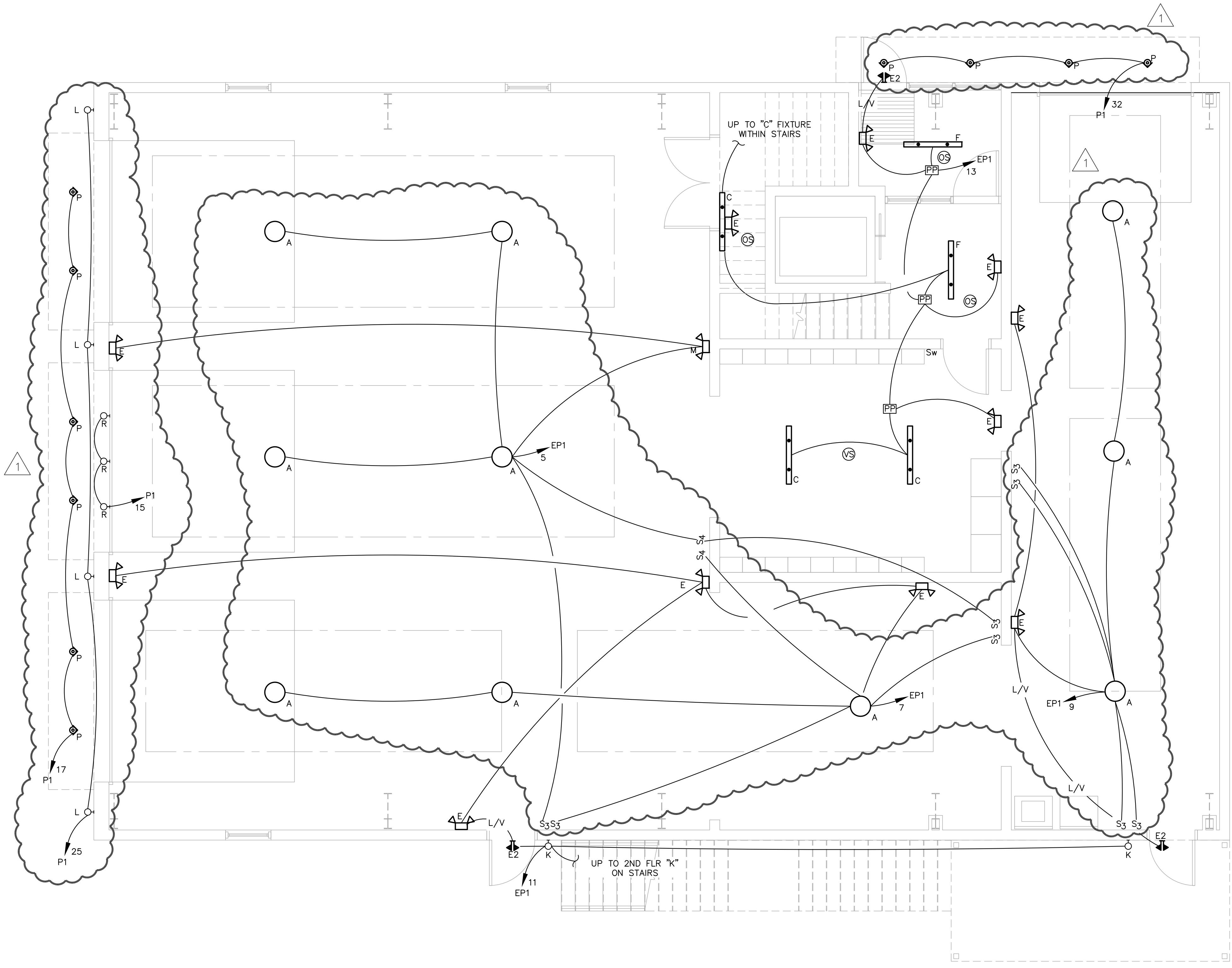
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**NEW FIRE STATION  
No. 2**

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ

6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2



**1 ELECTRICAL FIRST FLOOR LIGHTING PLAN**  
E-1.1 1/4" = 1'-0"

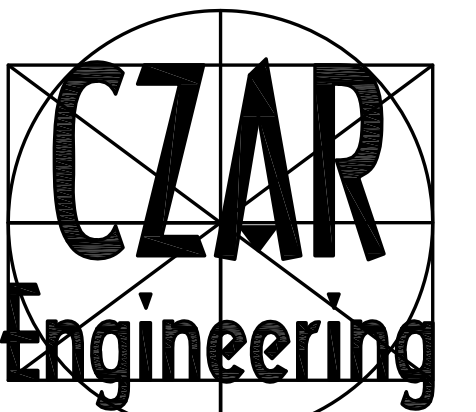
drawn by	EJT
description	
Electrical Lighting Plan First Floor	
scale	1/4" = 1'-0"

sheet	07/22/15
<b>E1.1</b>	
commission no.	



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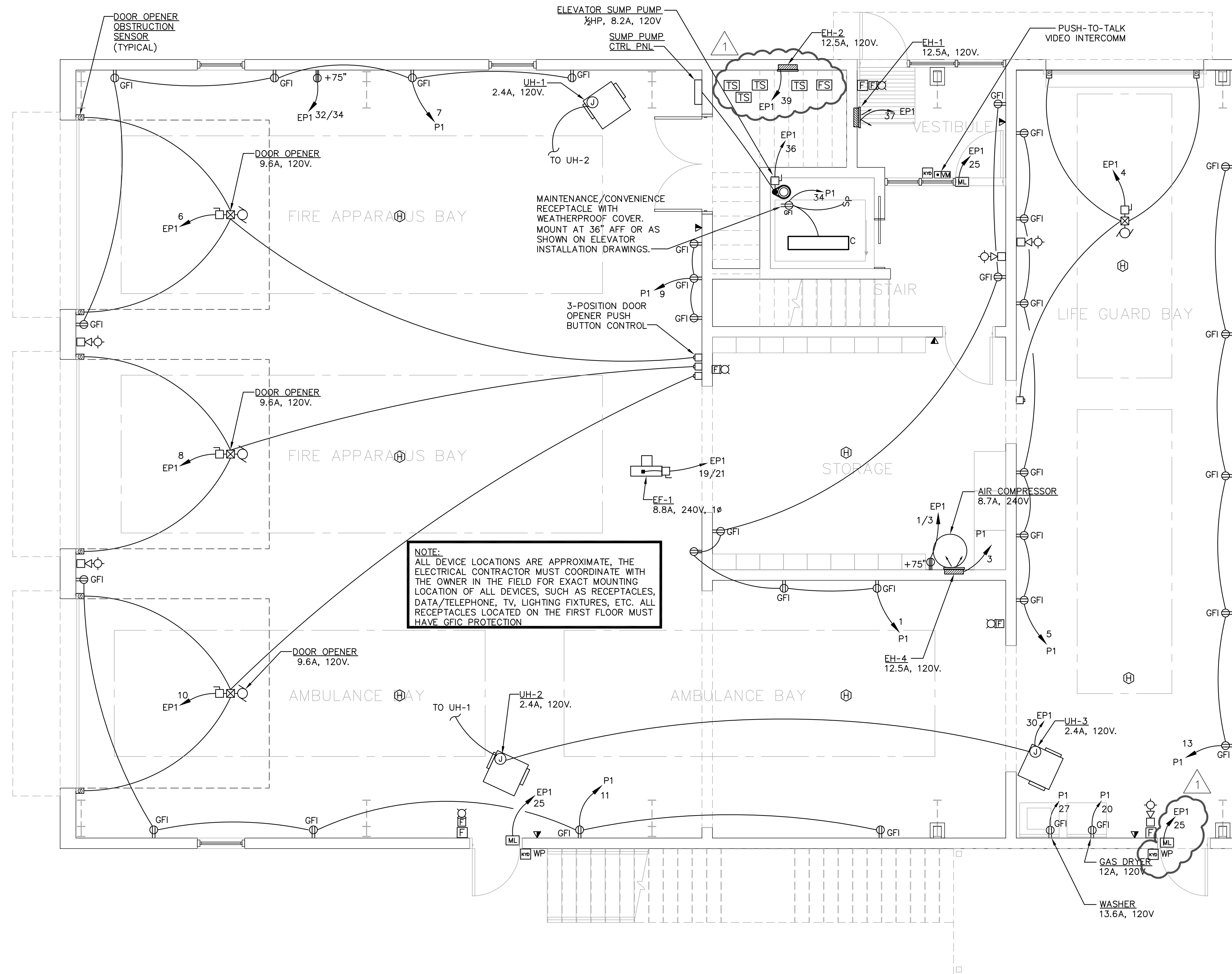


**NEW FIRE STATION**  
No. 2

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ  
6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2

drawn by	EJT
description	Electrical Power Plan First Floor
scale	1/4" = 1'-0"

sheet	07/22/15
<b>E1.3</b>	
commission no.	

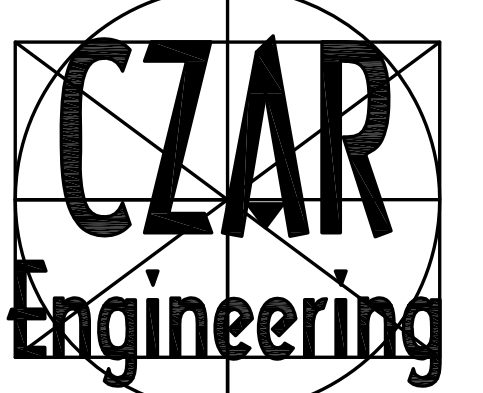


1  
E-1.3  
**ELECTRICAL FIRST FLOOR POWER PLAN**  
1/4" = 1'-0"



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architecture**

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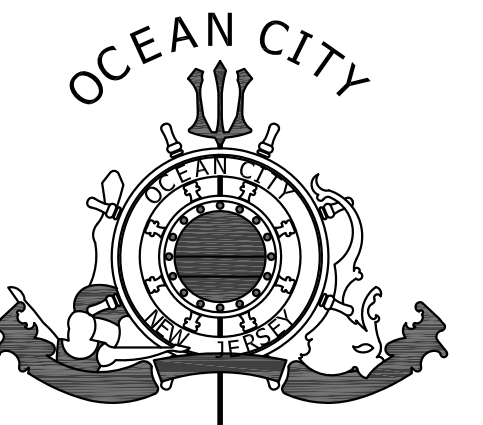


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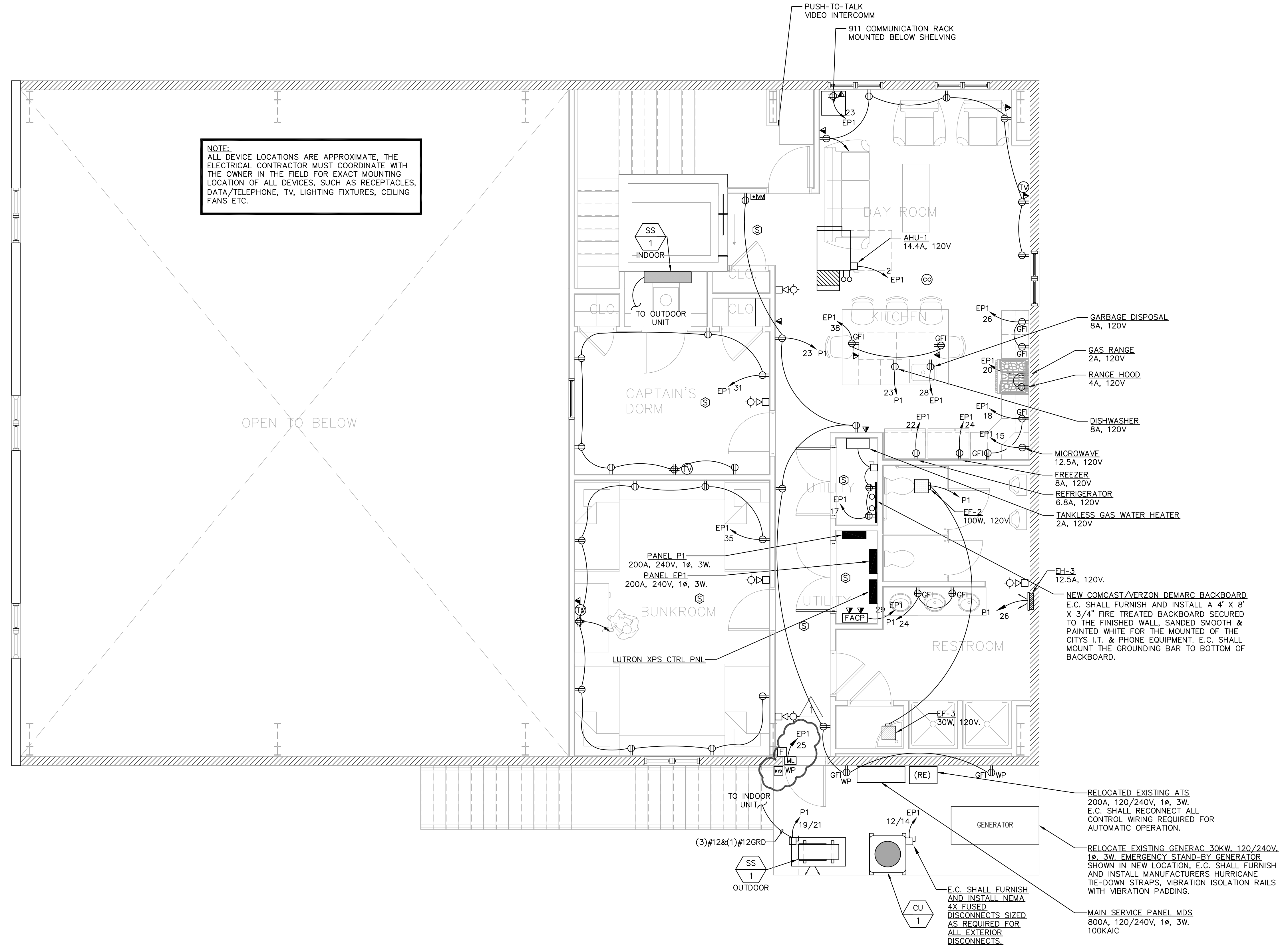
**NEW FIRE STATION  
No. 2**

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ

6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2

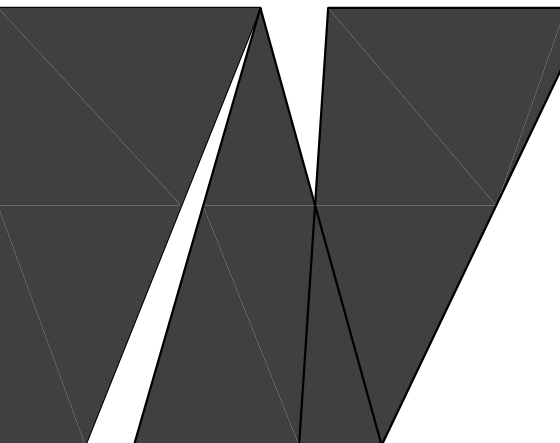
drawn by	EJT
description	Electrical Power Plan
scale	1/4" = 1'-0"

sheet	07/22/15
<b>E1.4</b>	
commission no.	



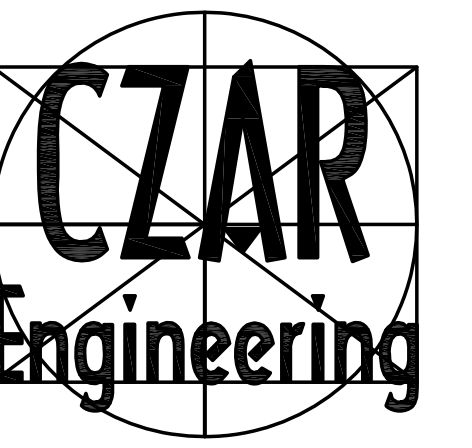
**1** **ELECTRICAL SECOND FLOOR POWER PLAN**  
E-1.4 1/4" = 1'-0"





william mclees architecture

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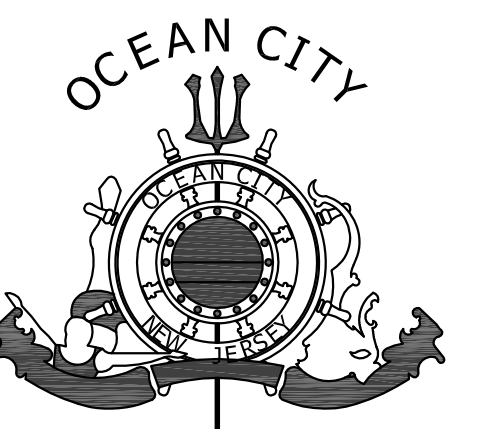


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NEW FIRE STATION  
No. 2

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ

6/27/16 BID ISSUE  
△ 7/18/16 ADDENDUM #2

drawn by PJL  
description  
PLUMBING LEGEND & NOTES

scale NONE

sheet

PO.0

commission no.

### NATURAL GAS PIPING NOTES

- GAS PIPING SHALL BE SIZED & INSTALLED AS PER 2015 INTERNATIONAL FUEL GAS CODE (IFGC) CHAPTER 4.
- GAS PIPING 2" & SMALLER SHALL BE ASTM A53 SCH 40 BLACK STEEL PIPE WITH THREADED JOINTS IN ACCORDANCE WITH ANSI/ASME B1.20.1. THREAD JOINT COMPOUND SHALL BE RESISTANT TO THE ACTION OF NATURAL GAS. GAS PIPING 2 1/2" & LARGER SHALL BE ASTM A53 SCH 40 BLACK STEEL PIPE WITH WELDED JOINTS IN ACCORDANCE WITH AWS B2.1, OR FLANGED JOINTS IN ACCORDANCE WITH ASTM B16.1. EXTERIOR ABOVE GROUND PIPING 2" & SMALLER SHALL BE GALVANIZED. EXTERIOR ABOVE GROUND PIPING 2 1/2" & LARGER SHALL BE PAINTED. ALL PIPING TO BE IDENTIFIED IN ACCORDANCE WITH ASME A13.2.
- GAS PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH IFGC 2015 SECTION 407 & ANSI/MSS SP-58. HANGER SPACING SHALL BE IN ACCORDANCE WITH IFGC 2015 SECTION 415.
- DRIP LEGS SHALL BE INSTALLED AT ANY POINT WHERE CONDENSATE COULD COLLECT AND AS REQUIRED BY AUTHORITY HAVING JURISDICTION. PIPING SHALL BE SLOPED NOT LESS THAN 1/4" IN 15 FEET TO PREVENT TRAPS.
- PRIOR TO ACCEPTANCE & INITIAL OPERATION, ALL PIPING SHALL BE INSPECTED AND TESTED TO DETERMINE THAT THE INSTALLATION COMPLIES WITH THE REQUIREMENTS OF IFGC 2015 SECTION 406.
- GAS SHUT OFF VALVES 1" & SMALLER SHALL BE CONBRACO SERIES GB-10 GAS BALL VALVE. VALVES 1 1/4" TO 2 1/2" SHALL BE CONBRACO SERIES 50 GAS COCK. VALVES 3" & LARGER SHALL BE CONBRACO SERIES 88-200 FULL PORT FLANGED BALL VALVE. VALVES SHALL NOT BE INSTALLED IN CONCEALED ABOVE CEILING LOCATIONS. VALVES SHALL CONFORM TO IFGC 2015 SECTION 409.
- GAS PRESSURE REGULATORS SHALL BE MAXITROL SERIES RV, R, RS, OR 325 AS REQUIRED AND AS RECOMMENDED BY GAS APPLIANCE MANUFACTURERS. ALL REGULATORS SHALL BE PROPERLY VENTED OR PROVIDED WITH LABELED & APPROVED VENT LIMITING DEVICES IN ACCORDANCE WITH IFGC 2015 SECTION 410.
- FLEXIBLE GAS CONNECTORS SHALL BE DORMONT STAINLESS STEEL PVC COATED SERIES 10, 20 OR 30 AS APPLICABLE PER ANSI Z21.24.

### EXCAVATION NOTES

- PROVIDE ALL EXCAVATING AND BACKFILLING, AND ALL SHORING, SAWCUTTING, SHEETING, PUMPING AND OTHER WORK INCIDENTAL TO EXCAVATING REQUIRED FOR WORK SHOWN ON DRAWING.
- ALL EXCAVATION SHALL BE UNCLASSIFIED AND SHALL INCLUDE EXCAVATION OF ALL MATERIALS ENCOUNTERED.
- TRENCH DEPTHS SHALL ALLOW ADEQUATE COVER OVER PIPING, WALL SHALL BE PER OSHA REQUIREMENTS. BOTTOMS SHALL BE INSTRUMENT GRADED IN THE DIRECTION OF SLOPE REQUIRED. EARTH SHALL BE SCOOPED UNDER BOTTOMS OF PIPE HUBS TO PROVIDE A SOLID BEARING FOR PIPE ON UNDISTURBED EARTH. CONCRETE OR OTHER APPROVED SUPPORTS SHALL BE PROVIDED FOR ALL PIPING INSTALLED IN FILLED GROUND.
- BACKFILL SHALL BE MADE WITH CLEAN EARTH, FREE FROM ROCKS, FROZEN EARTH, DEBRIS, OR OTHER FOREIGN MATERIALS. BACKFILL SHALL BE DEPOSITED IN UNIFORM LAYERS NOT OVER 6 INCHES THICK. EACH LAYER SHALL BE MECHANICALLY TAMPERED BEFORE NEXT LAYER IS APPLIED.
- FOR PLASTIC PIPE, THE MAXIMUM PARTICLE SIZE IN THE SIDE AND INITIAL BACKFILL SHALL BE NOT MORE THAN 1/2" FOR 6" PIPE & SMALLER, 3/4" FOR 8" PIPE & LARGER.
- EXCAVATION ADJACENT TO AND UNDER FOOTING AND FOUNDATIONS SHALL BE BACKFILLED SOLIDLY WITH 3000 POUND MINIMUM CONCRETE TO AN ELEVATION LEVEL WITH BOTTOM OF FOOTINGS AND FOUNDATIONS. WHERE EXCAVATION, DISTANT FROM FOOTINGS AND FOUNDATIONS, IS DEEPER THAN THE ANGLE OF REPOSE, BACKFILL SOLIDLY WITH 3000 POUND CONCRETE MINIMUM TO AN ELEVATION LEVEL WITH THE ANGLE OF REPOSE.
- ALL EXCAVATED MATERIAL REMAINING AFTER BACKFILLING OPERATION SHALL BE REMOVED FROM SITE.
- FINISHED SURFACES DISTURBED OR DAMAGED BY EXCAVATION SHALL BE REPAIRED AND RESTORED TO THEIR ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER AND LOCAL AUTHORITIES.

### DOMESTIC WATER SPECIFICATIONS

- DOMESTIC WATER SERVICE PIPE SHALL BE ASTM D1785 SCHEDULE 40 PVC PLASTIC PIPE WITH SOCKET TYPE SOLVENT CEMENT JOINTS IN ACCORDANCE WITH ASTM D2466. PRIMER SHALL BE IN ACCORDANCE WITH ASTM F856. SOLVENT CEMENT IN ACCORDANCE WITH ASTM D2564. ALL EXTERIOR PVC UNDERGROUND DOMESTIC WATER SERVICE PIPING SHALL BE PROVIDED WITH INSULATED COPPER TRACER WIRE. ALL WATER SERVICE PIPING SHALL BE WATER RATED FOR NOT LESS THAN 160 PSI @ 73F. HOT & COLD WATER DISTRIBUTION PIPING SHALL BE CPVC SCHEDULE 40 IN ACCORDANCE WITH ASTM D1784 AND F-441. ALL PIPING SHALL HAVE NSF SEAL FOR POTABLE WATER. HOT & COLD WATER DISTRIBUTION PIPE MAY BE ASTM B88 TYPE "L" SEAMLESS COPPER TUBE WITH SOLDER JOINT FITTINGS USING 95-5 SOLDER PER ASTM B32. CONTRACTOR MAY SUBSTITUTE PROGRESS FITTINGS AND JOINING METHODS. ALL HOT & COLD WATER DISTRIBUTION PIPING SHALL BE WATER RATED FOR NOT LESS THAN 100PSI @ 180F. PIPING MATERIALS FOR USE ON DOMESTIC WATER SYSTEMS INCLUDING FIXTURES & VALVES SHALL NOT CONTAIN MORE THAN 0.2 PERCENT LEAD.
- PRIOR TO DISINFECTION, POTABLE WATER PIPING SHALL BE FLUSHED WITH WATER UNTIL NO DIRTY WATER APPEARS AT THE POINTS OF OUTLETS.
- POTABLE WATER PIPING SHALL BE DISINFECTED PRIOR TO USE PER NATIONAL STANDARD PLUMBING CODE. THE PIPING SHALL BE FILLED WITH A WATER CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF CHLORINE AND SHALL BE VALVED OFF FOR 24 HOURS OR FILLED WITH A WATER CHLORINE SOLUTION CONTAINING AT LEAST 200 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR AT LEAST 3 HOURS. FOLLOWING THE ALLOWED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH POTABLE WATER UNTIL NO CHLORINE REMAINS IN THE SYSTEM. PROVIDE RESULTS OF DISINFECTION TO OWNER WHEN COMPLETE. STERILIZATION WORK SHALL COMPLY WITH NSPC 2015 SECTION 10.9.2, PARAGRAPHS A1 TO A9.
- DOMESTIC WATER PIPE SHALL CONSIST OF A HYDROSTATIC PRESSURE TEST OF 25 PSIG ABOVE THE WORKING PRESSURE UNDER WHICH IT IS OPERATED FOR NOT LESS THAN 60 MINUTES.
- IF LEAKS OCCUR DURING TESTING, REPAIRS SHALL BE MADE AND SYSTEM RETESTED UNTIL NO EVIDENCE OF LEAKS EXIST FOR THE DURATION OF THE TEST.
- DOMESTIC WATER PIPE SHALL BE INSULATED WITH 1" THICK FIBERGLASS PREFORMED INSULATION WITH VAPOR JACKET AND SELF SEALING TAPE, EQUAL TO OWENS-CORNING ASJ/SSL-2. PIPING IN EXTERIOR WALLS SHALL HAVE 2" THICK INSULATION. DOMESTIC WATER PIPE MAY BE INSULATED WITH AP/ARMAFLEX SS (SELFSEAL) FLEXIBLE ELASTOMERIC THERMAL INSULATION, 1/2" THICKNESS, OR APPROVED EQUAL. PIPING IN EXTERIOR WALLS SHALL HAVE 1" THICK INSULATION.
- BALL VALVES SHALL BE EQUAL TO APOLLO LEAD FREE SERIES 77CLF-100, 77CLF-200, 70LF-100 OR 70LF-200 RATED FOR 150 PSIG W.O.G. FOR 3" AND SMALLER PER MSS SP-110. BALL VALVES MAY BE TRUE UNION TYPE, CPVC TYPE IV IN ACCORDANCE WITH ASTM D1784. ALL VALVES SHALL BE RATED MINIMUM 150 PSIG.
- SHOCK ABSORBER SHALL BE JR SMITH FIGURE 5005 THRU 5030 AS APPLICABLE, & CERTIFIED TO BE TESTED IN ACCORDANCE WITH STANDARD PDI WH-201& ASSE 1010.
- UNDERGROUND SHUT OFF VALVE SHALL BE FULL PORT CAST IRON FLANGED BALL VALVE WITH S/S BALL & TRIM W/DOUBLE COATED ELECTROSTATICALLY APPLIED HEAT FUSED EPOXY COATING ON INTERIOR & EXTERIOR, RATED FOR 125 PSIG. PROVIDE VALVE BOX TO GRADE. COVER TO BE MARKED "WATER", COORDINATE INSTALLATION WITH WATER UTILITY.
- BACKFLOW PREVENTER FOR FIRE TRUCK FILL SHALL BE AMES REDUCED PRESSURE ZONE ASSEMBLY LEAD FREE MODEL LF4000B, ASSE 1013.

### ELEVATOR SUMP PUMP SPECIFICATIONS

- FORCE MAIN PIPE SHALL BE SERVICE WEIGHT SCHEDULE 40 GALVANIZED PIPE WITH SCREWED CAST-IRON DRAINAGE FITTINGS IN ACCORDANCE WITH ASME B16.12 FOR ABOVE GROUND, UNO.
- FORCE MAIN PIPE SHALL BE AIR TESTED TO NOT LESS THAN 5 PSIG GREATER THAN THE PUMP RATING. PIPING SYSTEM SHALL SUSTAIN A CONSTANT PRESSURE FOR NOT LESS THAN 15 MINUTES.
- ELEVATOR SUMP PUMP SHALL BE STANCOR OIL MINDER MODEL O/E SE-50, 74 GPM, AT 37 FEET TOTAL HEAD, 3600 RPM, AUTOMATIC OPERATION WITH FLOAT SWITCH, 1/2 HP, 115V/1PH/60HZ WITH 16 FOOT POWER CORD, CONTROL PANEL WITH BUILT IN AUDIBLE AND VISUAL ALARM (WHEN OIL IS PRESENT IN SUMP), JUNCTION BOX, POWER, PROBE AND FLOAT CABLES, HIGH LIQUID ALARM & REMOTE ALARM CONTACT.
- CHECK VALVE SHALL BE FURNISHED WITH SUMP PUMP.
- BALL VALVE SHALL BE EQUAL TO CONBRACO APOLLO SERIES 82-100.

### FIXTURE SPECIFICATION SCHEDULE

UNIT#	FIXTURE	MANUFACTURER	MODEL NO.	DESCRIPTION	TRIM
IMB-1	ICE MAKER BOX	SIoux-CHIEF	696	ABS BOX W/QUARTER TURN BALL VALVE	
LAV-1	LAVATORY	N/A	N/A	SOLID SURFACE COUNTER WITH INTEGRAL SINKS BY GC	AMERICAN STANDARD MODEL 6114.110.002 CHROME PLATED FAUCET 4" CENTERS, SINGLE LEVER, WITH POP-UP, 1.5 GPM AERATOR,
MR-1	MOP RECEPTOR	MUSTEE	62M	"DURASTALL" STRUCTURAL FIBERGLASS W/INTEGRAL DRAIN 24"x24"x12" HIGH 67,2424 WALL GUARDS	MUSTEE MODEL 63.600A HEAVY DUTY CHROME PLATED BRASS DUAL HANDLE FAUCET W/TOP REINFORCING BAR, MOUNTING BRACKET & PAIL HOOK ON SPOUT, VACUUM BREAKER, INTEGRAL STOPS, HOSE END SPOUT
SH-1	SHOWER	MUSTEE	140	"DURASTALL" SHOWER STALL, 36"x36", W/THERMOPLASTIC WALLS, SLIP RESISTANT BASE LESS SHOWER VALVE	POWERS SHOWER SYSTEM MODEL E710G2LBW CHROME PLATED PRESSURE/TEMPERATURE SHOWER VALVE W/METAL TRIM, 1.5 GPM 141-800 LOW FLOW SHOWER HEAD, 141-198 DELUXE ARM & FLANGE, 1.5 GPM LOW FLOW HAND SHOWER W/METAL HOSE & GLIDE RAIL, 141-600B DIVERTER W/METAL HANDLE, 141-319 IN LINE VACUUM BREAKER, ASSE 1016
SK-1	KITCHEN SINK	ELKAY	DSESR12722	STAINLESS STEEL 27"x22" SINGLE HOLE W/CENTER DRAIN	ELKAY MODEL LK1500 CHROME PLATED FAUCET, W/1.5 GPM FLOW REGULATOR, SINGLE LEVER HANDLE, SWIVEL SPOUT, D1125 S/S DRAIN W/BASKET STRAINER, RUBBER STOPPER
SK-2	WASH SINK	ADVANCE TABCO	4-0P-18	STAINLESS STEEL FLOOR MOUNT 1 COMPARTMENT W/BACKSPASH, GALVANIZED LEGS	ADVANCE TABCO K-101 CHROME PLATED FAUCET W/8" SWING SPOUT, LEVER HANDLES, BACKSPASH MOUNT, GRID DRAIN INSTALL OWNER'S SOAP DISPENSING SYSTEM
UR-1	URINAL	AMERICAN STANDARD	6590.503	WITREOUS CHINA 0.125 GPF, TOP SPUD, W/MANUAL FLUSH VALVE, WALL HANGERS	AMERICAN STANDARD MODEL 6045.013.002 CHROME PLATED MANUAL FLUSH VALVE, 0.125 GPF, TOP SPUD W/ ANGLE STOP WITH BACKFLOW PREVENTER
WC-1	WATER CLOSET	AMERICAN STANDARD	211AA.104	VITREOUS CHINA 1.28 GPF FLUSH TANK ELONGATED BOWL WEVERCLEAN SURFACE	CHURCH MODEL 255 ELONGATED OPEN FRONT SEAT LESS COVER
WC-2	WATER CLOSET	AMERICAN STANDARD	211CA.104	VITREOUS CHINA 1.28 GPF FLUSH TANK ELONGATED BOWL WEVERCLEAN SURFACE	CHURCH MODEL 255 ELONGATED OPEN FRONT SEAT LESS COVER
HB-1	HOSE BIBB	WOODFORD	122	HOT & COLD ANTI-SIPHON ASSE 1019 HORIZONTAL MOUNT ROUGH BRASS	
WH-1	WALL HYDRANT	WOODFORD	B26P	FREEZELESS ANTI-SIPHON ASSE 1052 HORIZONTAL MOUNT IN CHROME PLATED BRASS BOX W/LOOSE KEY HANDLE	
WB-1	WASHER BOX	SIoux-CHIEF	696	DOUBLE HOSE VALVE OUTLET BOX & DRAIN BOX W/WATER HAMMER ARRESTOR VALVES	W/SUPPORT BRACKETS, ABS FRAME PROVIDE MUSTEE MODEL 98 WASHER DRAIN PAN W/SIDE OUTLET PIPE TO FLOOR DRAIN
EW-1	EYEWASH	SPEAKMAN	SE-490-CV	WALL MOUNT STAINLESS STEEL W/TWIN SPRAY HEADS STAY OPEN BALL VALVE	WITH STAINLESS STEEL DUST COVER HEAVY DUTY WALL MOUNTING PLATE THERMOSTATIC MIXING VALVE PER DETAIL 2/P2.2

### GENERAL SPECIFICATIONS

- ALL PLUMBING SHALL COMPLY WITH THE 2015 EDITION OF THE NATIONAL STANDARD PLUMBING CODE AS ADOPTED BY THE NEW JERSEY UNIFORM CONSTRUCTION CODE.
- CONTRACTOR SHALL PROVIDE AND PAY ALL FEES AND PERMITS.
- THE DRAWINGS ARE INTENDED TO SHOW APPROXIMATE AND RELATIVE LOCATIONS OF MATERIALS AND EQUIPMENT. DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT POSITIONS AND CLEARANCES. BECAUSE OF DIAGRAMMATIC LAYOUT AND SMALL SCALE OF DRAWINGS, NOT ALL RISES, DROPS, OFFSETS, VENTS, TRAPS AND RELATED SPECIALTIES ARE INDICATED. PROVIDE ALL SUCH PIPING, FITTINGS, VALVES AND SPECIALTIES REQUIRED IN SUCH CASES TO INSURE A COMPLETE AND PROPERLY OPERATING INSTALLATION IN ACCORDANCE WITH CODES AND WITHOUT EXTRA COST TO OWNER.
- WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN PARTICULAR TRADE INVOLVED, THAT IS, PLUMBING WORK SHALL BE PERFORMED BY PLUMBERS, ELECTRICAL WORK SHALL BE PERFORMED BY ELECTRICIANS, MECHANICAL WORKED PERFORMED BY STEAM FITTERS AND SHEET METAL MECHANICS.
- ALL WORK SHALL BE INSPECTED, TESTED AND APPROVED BY THE PROPER AUTHORITIES HAVING JURISDICTION. CERTIFIED COPIES OF THESE APPROVALS SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT.
- SLEEVES SHALL BE INSTALLED THROUGH FLOORS AND FIRE RATED WALLS. SLEEVES SHALL BE 2 PIPE SIZES LARGER THAN PIPE PASSING THRU AND SHALL BE SCHEDULE 40 STEEL PIPE. PROVIDE FIRE PROOF SEAL BETWEEN PIPES AND SLEEVES WHEN PASSING THRU FIRE RATED WALLS/FLOORS. SLEEVES PASSING THRU FLOORS SHALL BE EXTENDED 4" ABOVE FLOOR.
- ESCUTCHEON PLATES SHALL BE PROVIDED ON ALL PIPE WHICH PASS THROUGH WALL PARTITIONS, FLOORS OR CEILINGS. PLATES SHALL BE ONE PIECE, CHROME FINISHED BRONZE.
- COREDRELLING SHALL BE ACCOMPLISHED BY MECHANICAL MEANS IN A MANNER THAT WILL NOT AFFECT THE INTEGRITY OF THE STRUCTURE. AFTER INSTALLATION OF PIPING THRU THE COREDRILL, PACK THE ANNULAR SPACE WITH OAKUM OR FIBROUS GLASS, LEAVING A MINIMUM OF TWO INCHES AT EACH END TO BE FILLED AND FINISHED WITH A "FIRE BARRIER" MATERIAL EQUAL TO 3M "PENETRATION SEALING SYSTEMS" SUCH AS "CP-25 CAULK", 303 PUTTY" OR "FS-195 WRAP". APPLICATION OF "FIRE BARRIER" MATERIAL SHALL BE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND APPLICABLE CODES.
- PROVIDE COPIES OF ALL TEST REPORTS TO OWNER.
- FLUSH TANK HANDLES FOR HANDICAPPED WATER CLOSETS SHALL FACE WIDE SIDE OF ROOM.
- COORDINATE LOCATION OF ALL ABOVE CEILING PIPING WITH MECHANICAL, ELECTRICAL & FIRE PROTECTION CONTRACTORS PRIOR TO INSTALLATION.
- IF CONFLICT ARISES BETWEEN ITEMS SHOWN ON DRAWINGS AND ITEMS SPECIFIED, THE MOST STRINGENT ITEM SHALL BE USED.
- THE INSTALLATION OF ALL INSULATION SHALL BE PERFORMED BY AN EXPERIENCED CRAFTSMAN IN A NEAT WORKMAN-LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS FOR SERVICE INTENDED.
- ALL NEW PLUMBING FIXTURES SHALL MEET THE APPROPRIATE "ANSI" STANDARDS LISTED IN THE PLUMBING SUBCODE. USE OF SUBSTANDARD AND NON-CONFORMING FOREIGN MADE PRODUCTS IS PROHIBITED.
- ALL PLUMBING SYSTEMS AND VALVES SHALL BE LABELED FOR PROPER IDENTIFICATION. NAMEPLATES, METAL TAGS, PLASTIC PIPE MARKERS IN ACCORDANCE WITH BRIMAR IDENTIFICATION & SAFETY PRODUCTS, BRIMAR INDUSTRIES, INC.
- INSULATE EXPOSED WASTE & WATER PIPING BELOW HANDICAPPED LAVATORIES WITH TRUBRO LA GUARD 2 FORM FIT INSULATING COVERS.
- HANDICAPPED FIXTURE HEIGHTS SHALL BE IN ACCORDANCE WITH ICC/ANSI A-117.1. SEE ARCHITECTURAL DRAWINGS FOR FIXTURE HEIGHTS.
- ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH CHROME PLATED SHUT OFF VALVES (ANGLE STOPS), CHROME PLATED SUPPLIES AND P-TRAPS.

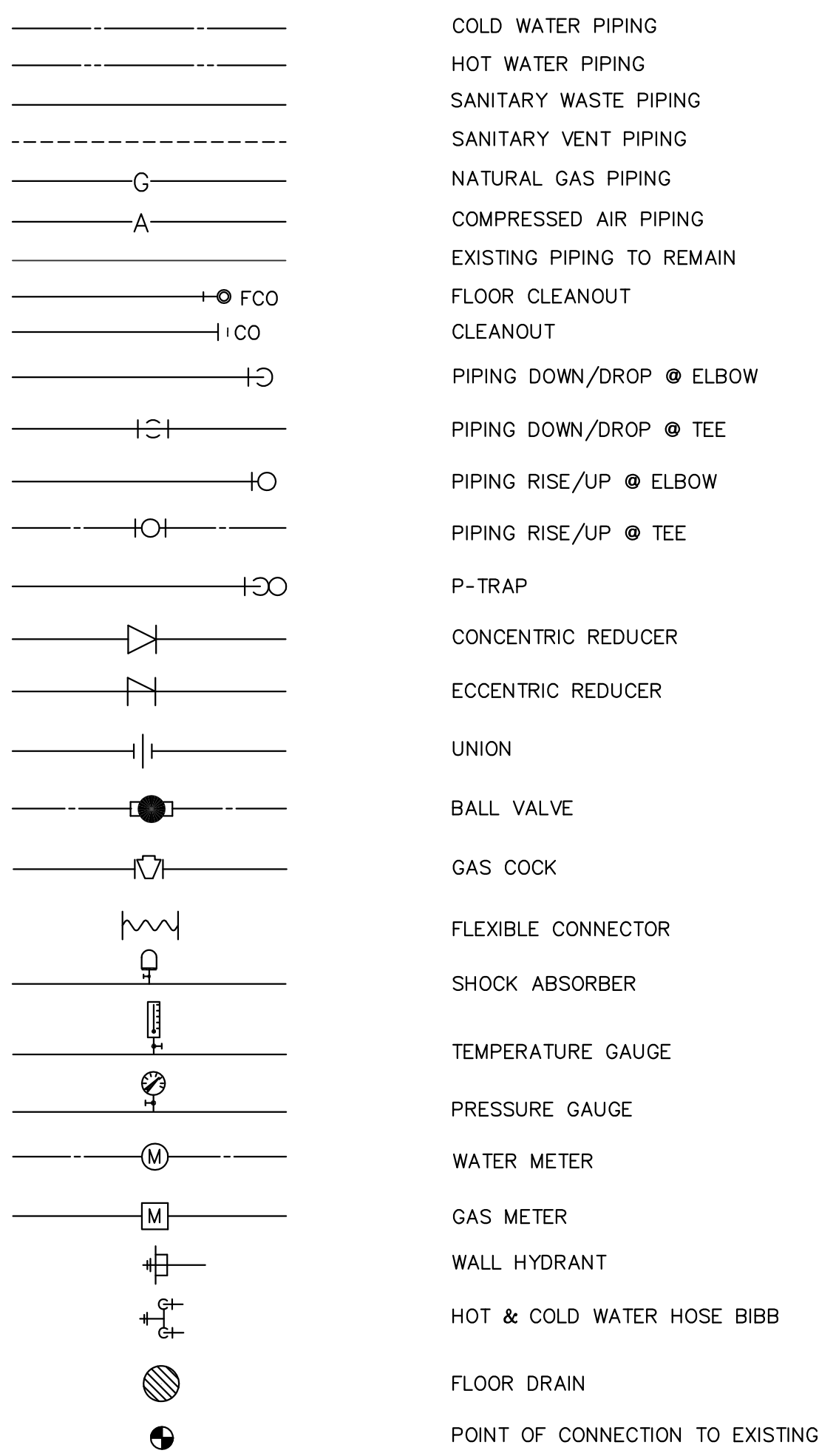
### HANGERS & SUPPORTS

- HANGERS AND ANCHORS SHALL BE SECURELY ATTACHED TO BUILDING CONSTRUCTION AT SUFFICIENTLY CLOSE INTERVALS TO SUPPORT PIPING AND ITS CONTENTS.
- VERTICAL PIPING FOR CAST IRON SHALL BE SUPPORTED AT BASE AND AT EACH STORY HEIGHT.
- VERTICAL PIPING FOR COPPER SHALL BE SUPPORTED AT EACH STORY HEIGHT BUT NOT MORE THAN 10 FOOT INTERVALS.
- HORIZONTAL PIPING FOR CAST IRON SHALL BE SUPPORTED WITH MINIMUM ONE HANGER LOCATED WITHIN 18" OF EACH JOINT UP TO 10 FOOT MAXIMUM PIPE LENGTH, AT CHANGES IN DIRECTION, AND AT EACH BRANCH CONNECTION. WHERE PIPE IS SUSPENDED BY NON-RIGID HANGERS MORE THAN 18" LONG PROVIDE LATERAL SUPPORT AT A MINIMUM 25 FOOT MAXIMUM SPACING. LATERAL SUPPORT SHALL CONSIST OF EITHER A SWAY BRACE OR EITHER A CHANGE IN DIRECTION OR A BRANCH CONNECTION THAT PROVIDES THE REQUIRED LATERAL SUPPORT.
- HORIZONTAL PIPING FOR COPPER SHALL BE SUPPORTED AT 6 FOOT INTERVALS FOR PIPE SIZES 1 1/4" AND SMALLER AND AT 10 FOOT INTERVALS FOR PIPE SIZES 1 1/2" AND LARGER. WHERE PIPE IS SUSPENDED BY NON-RIGID HANGERS MORE THAN 18" LONG PROVIDE LATERAL SUPPORT.
- ALL SUPPORTS COMING IN CONTACT WITH COPPER PIPING SHALL BE PLASTIC COATED.
- INSTALL METAL SHIELDS ON HANGERS SUPPORTING INSULATED PIPE.
- PROVIDE HANGERS THAT ARE U.L. LISTED AND LABELED.
- ALL DOMESTIC WATER AND SANITARY WASTE PIPE SUPPORTS SHALL BE IN ACCORDANCE WITH NSPC CHAPTER 8, MSS SP-58, 69 & 89.
- PLUMBING SYSTEMS SHALL BE INSTALLED SO AS TO PREVENT STRAINS & STRESSES WHICH WILL EXCEED STRUCTURAL STRENGTH OF PIPE. PROVISIONS SHALL BE MADE FOR EXPANSION & CONTRACTION OF PIPING.
- HANGERS, ANCHORS AND SUPPORTS SHALL BE OF METAL. OTHER MATERIAL OF SUFFICIENT STRENGTH TO SUPPORT THE PIPING AND ITS CONTENTS IS ACCEPTABLE. ALL SUPPORTS AND FASTENERS LOCATED OUTSIDE OR IN CORROSIVE AREAS SHALL BE GALVANIZED.
- MINIMUM ROD DIAMETER FOR SINGLE RIGID SUPPORTS SHALL BE AS FOLLOWS:  
A. FOR 1/4" THRU 2" PIPE: 3/8" DIAMETER  
B. FOR 2 1/2" AND 3" PIPE: 1/2" DIAMETER  
C. FOR 4" PIPE: 5/8" DIAMETER  
D. RODS MAY BE REDUCED ONE SIZE FOR DOUBLE ROD HANGERS(3/8" DIA MIN)

### COMPRESSED AIR PIPING

- COMPRESSED AIR PIPE FOR SHALL BE ASTM B88 TYPE "L" SEAMLESS COPPER TUBE WITH SOLDER JOINT FITTINGS USING 95-5 SOLDER.
- PIPING SYSTEM TESTS: TEST NEW PIPING, CAP AND FILL COMPRESSED AIR WITH OIL-FREE, DRY AIR, OR GASEOUS NITROGEN TO PRESSURE OF 50 PSI ABOVE SYSTEM OPERATING PRESSURE, BUT NOT LESS THAN 150 PSIG. ISOLATE TEST SOURCE AND LET STAND FOR (4) FOUR HOURS TO EQUALIZE TEMPERATURE. REFILL SYSTEM, IF REQUIRED, TO TEST PRESSURE AND HOLD FOR (2) TWO HOURS WITH NO DROP IN PRESSURE.

### LEGEND

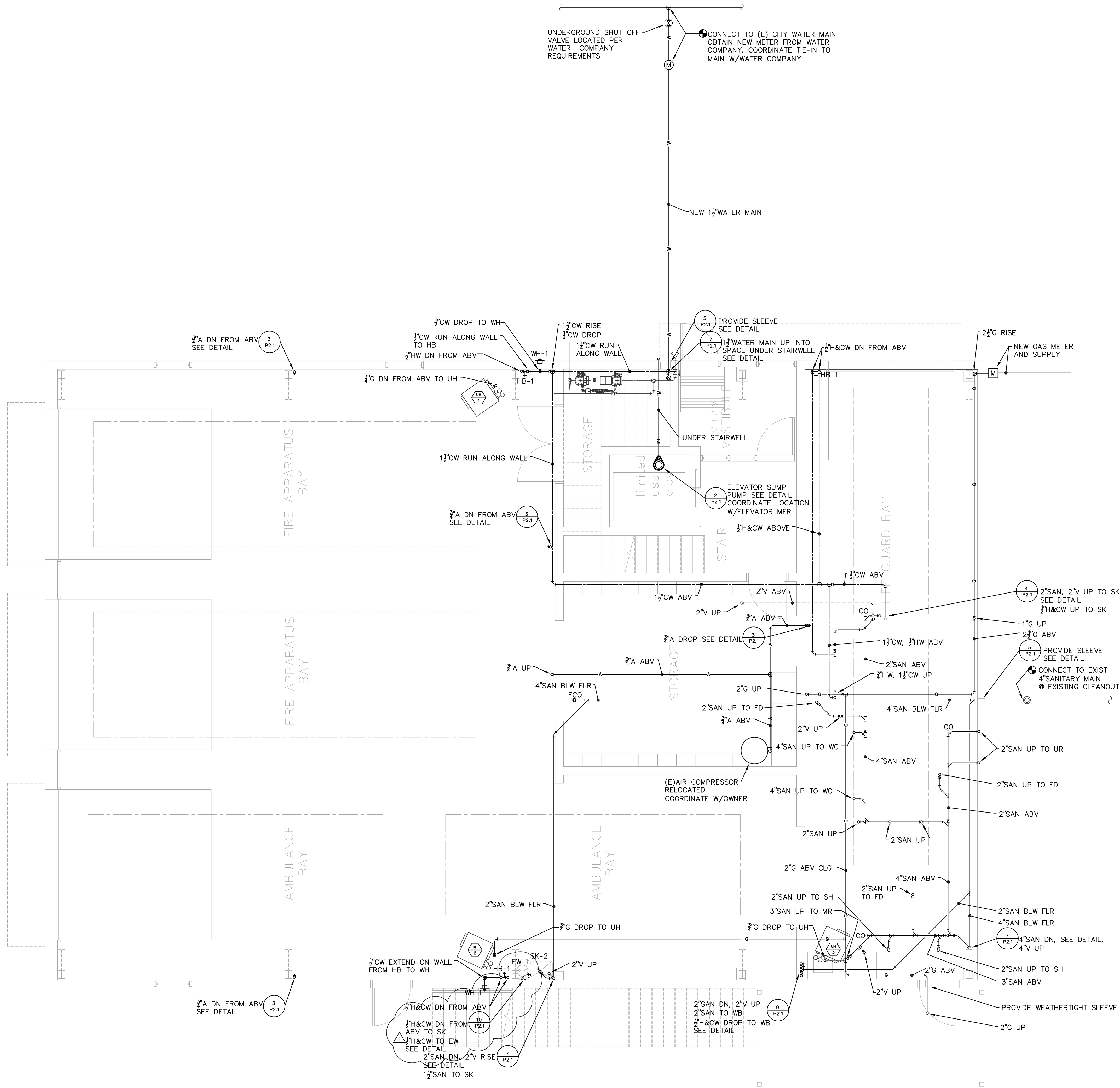


#### SUBMITTAL NOTE:

- CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL PIPING, VALVES, EQUIPMENT, ETC IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS. NO WORK SHALL BEGIN UNTIL APPROVAL HAS BEEN OBTAINED FROM ARCHITECT/ENGINEER.
- CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS 1/4" SCALE MINIMUM FOR REVIEW AND APPROVAL AS STATED IN NOTE 1 ABOVE.

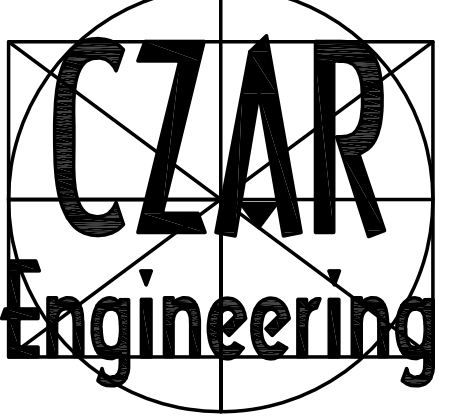
#### "AS BUILT" CONSTRUCTION DRAWINGS NOTES:

- A COMPLETE SET OF "AS-BUILT" DRAWINGS, (1) SET ON DISC IN PDF FORMAT AND (1) SET OF ELECTRONIC FILES PRODUCED IN AUTOCAD FORMAT RELEASE 2009. SHALL BE FURNISHED TO THE OWNER AND ENGINEER UPON PROJECT COMPLETION.



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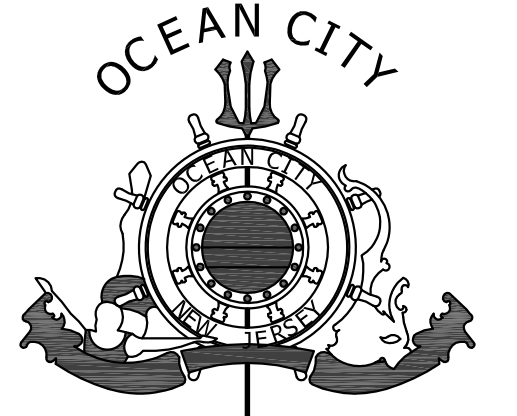


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**NEW FIRE STATION**  
No. 2

29TH STREET & WEST AVENUE  
OCEAN CITY, NJ

6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2

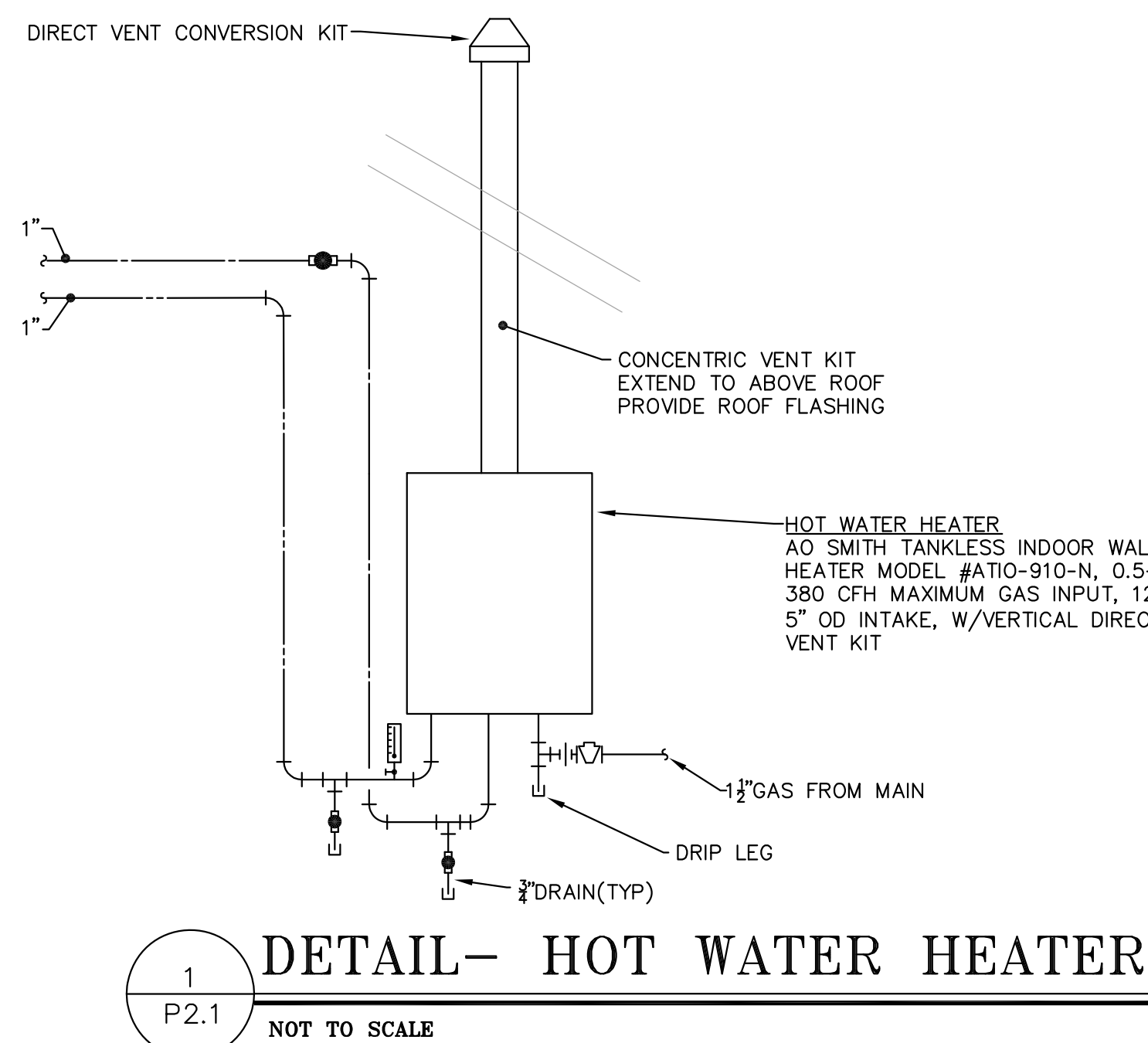
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description  
PLUMBING FIRST FLOOR PLAN

scale 1/4" = 1'-0"

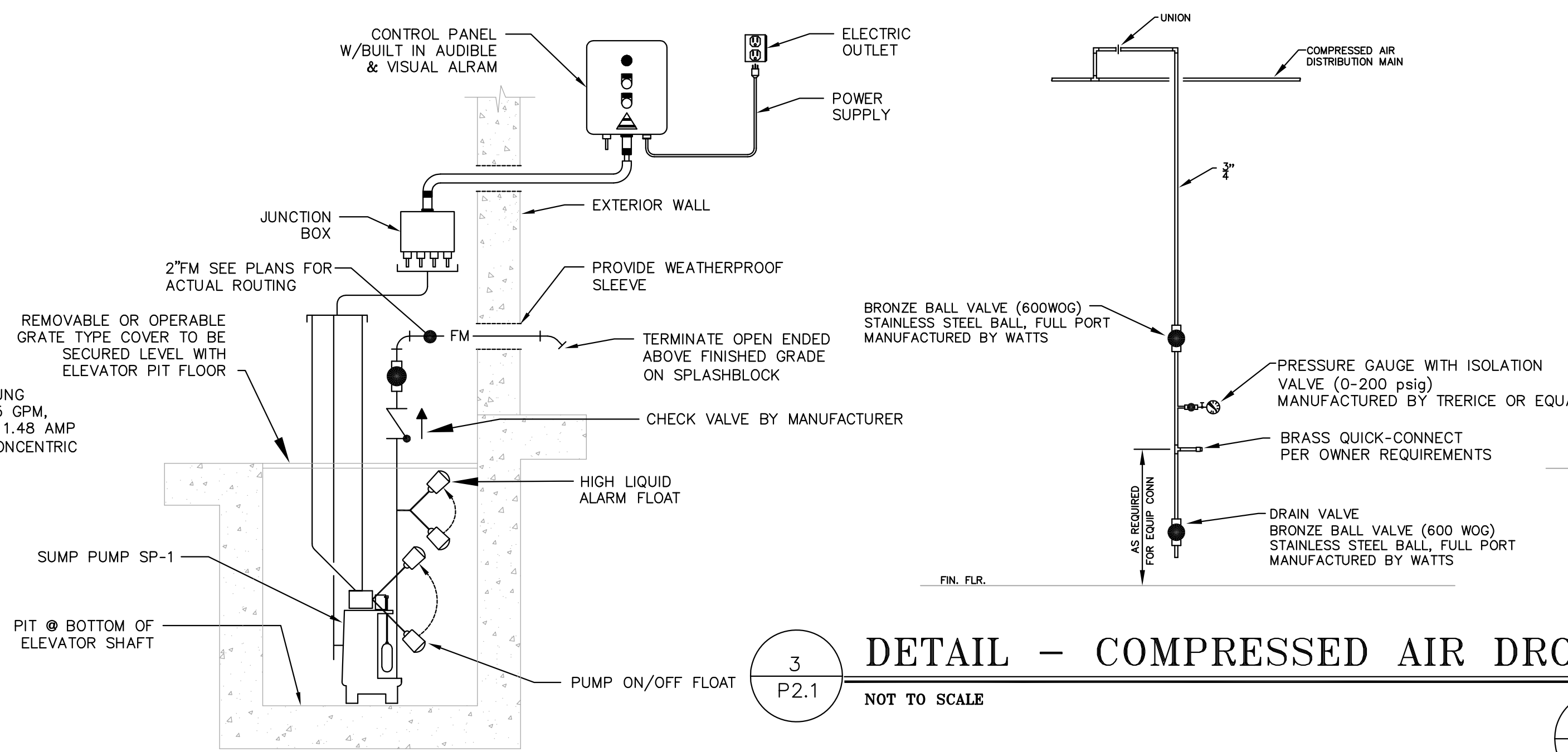
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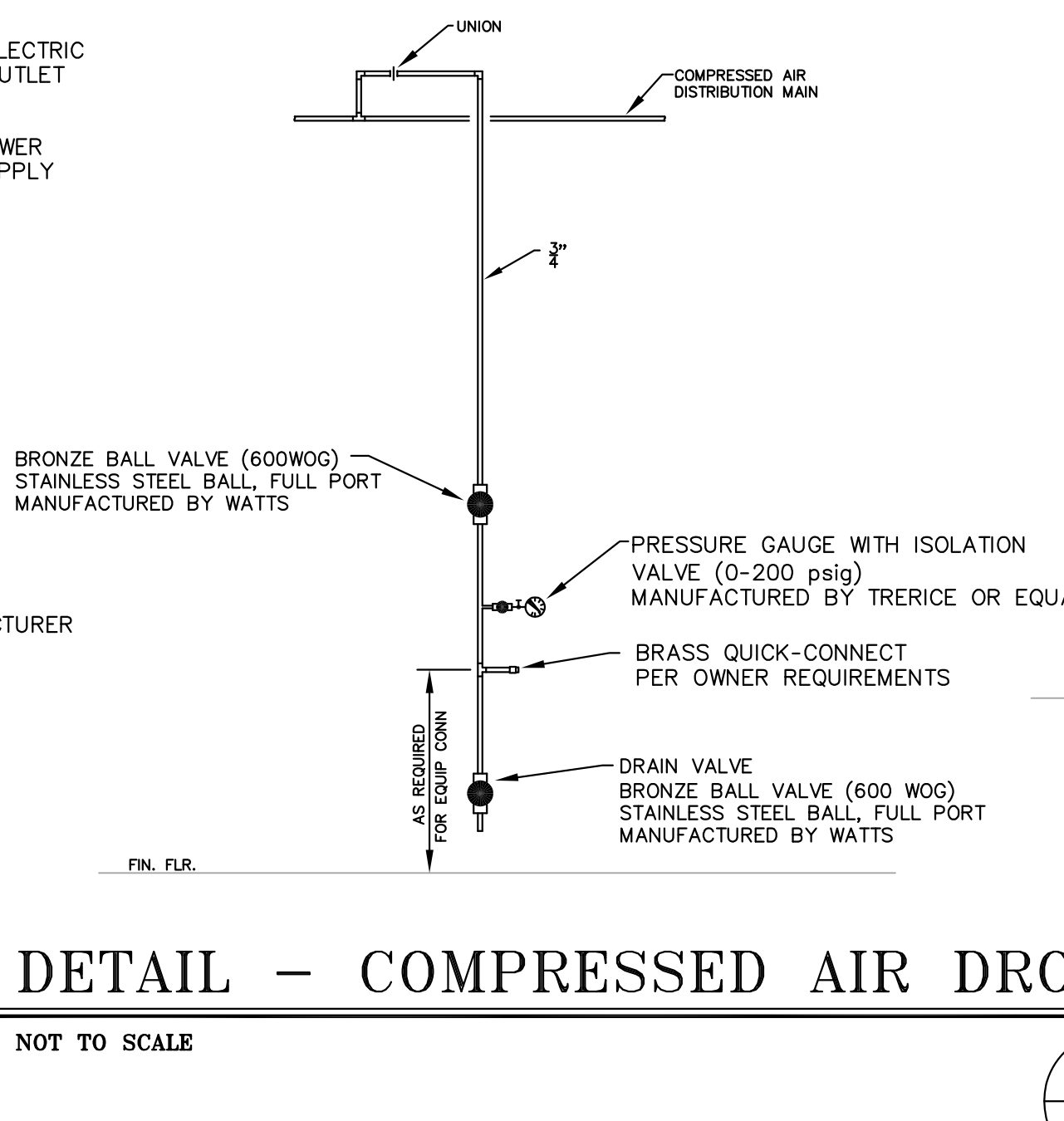
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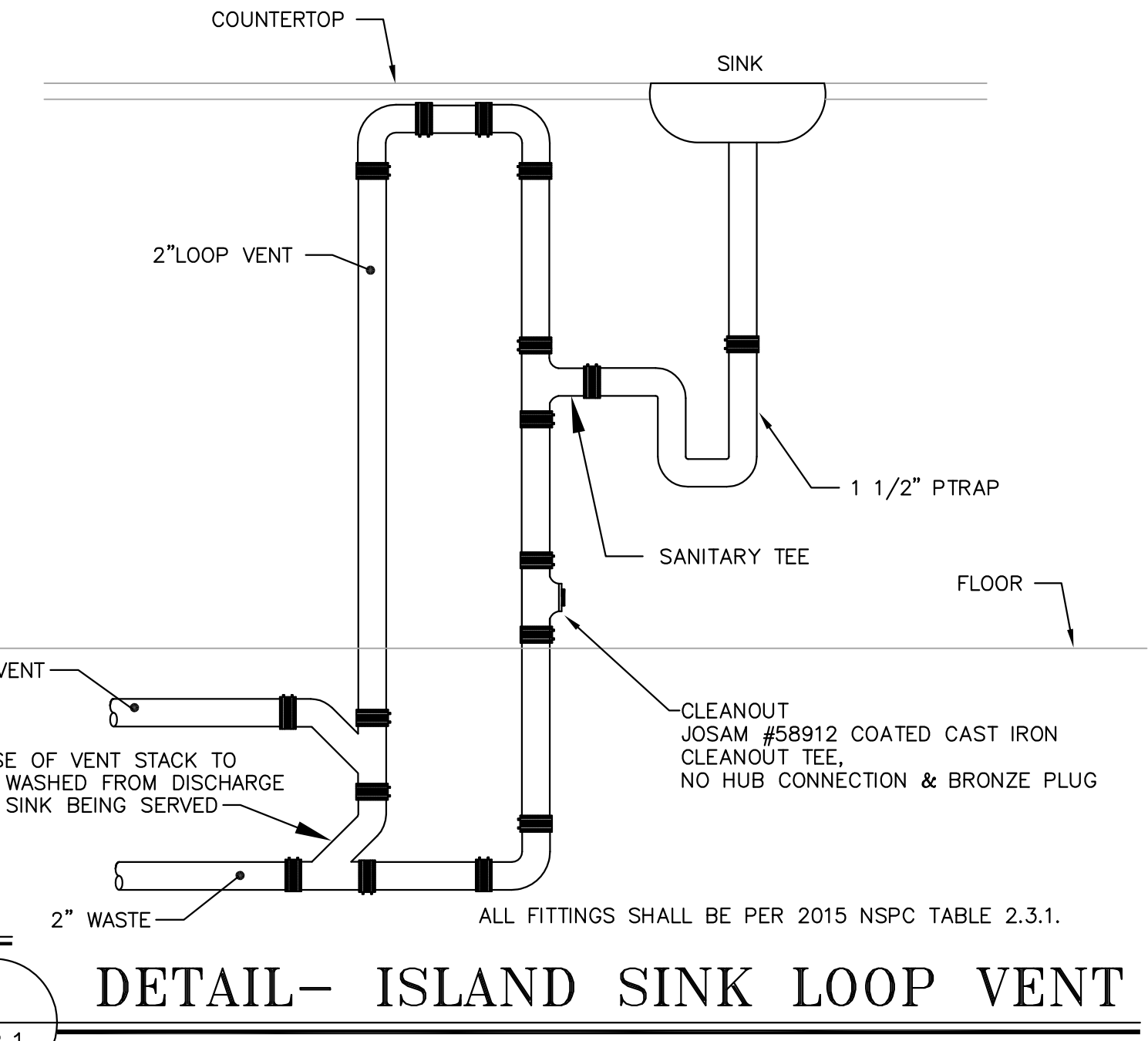
1  
P2.1  
**DETAIL- HOT WATER HEATER**  
NOT TO SCALE



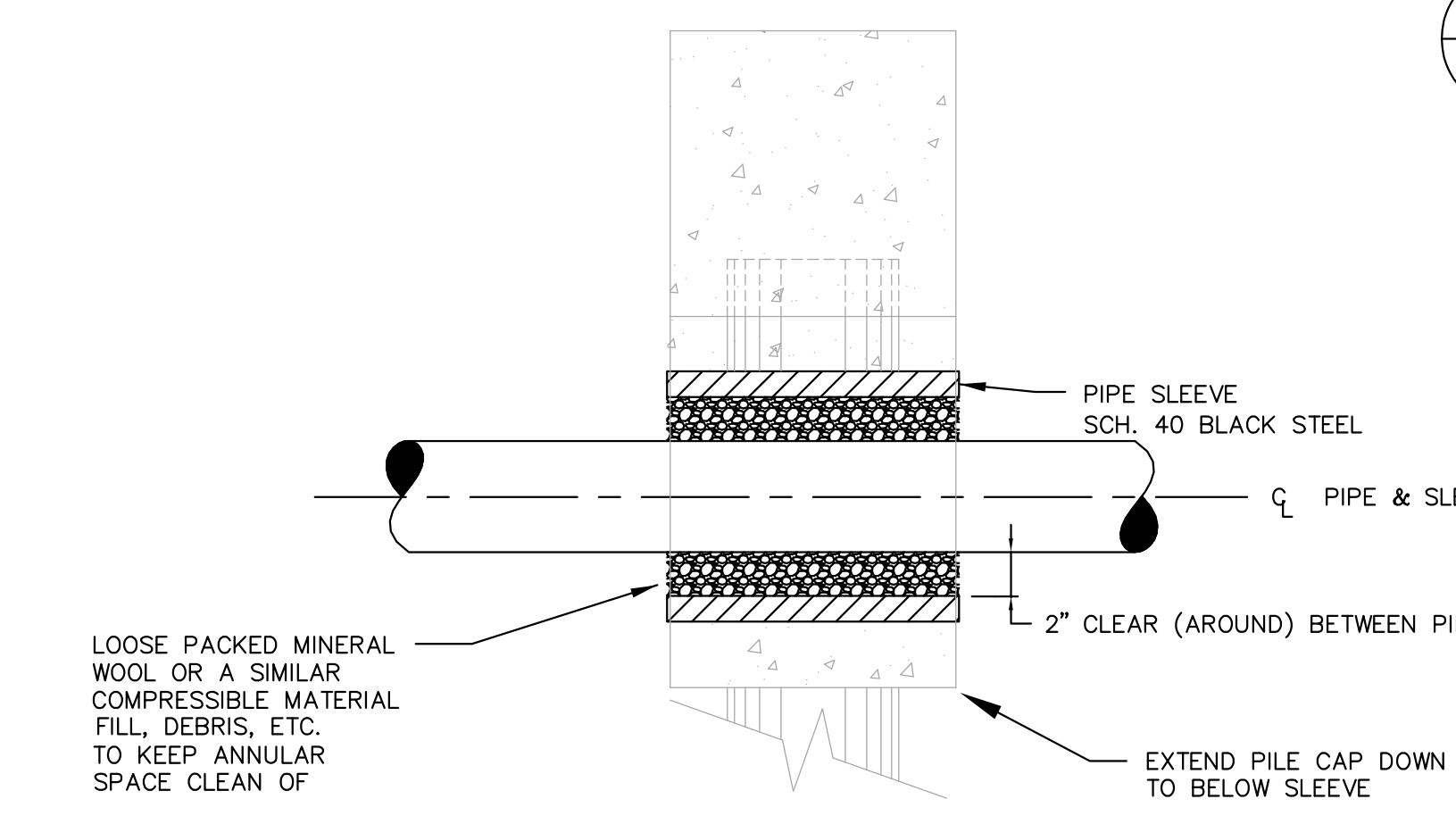
2  
P2.1  
**DETAIL-ELEVATOR SUMP PUMP**  
NOT TO SCALE



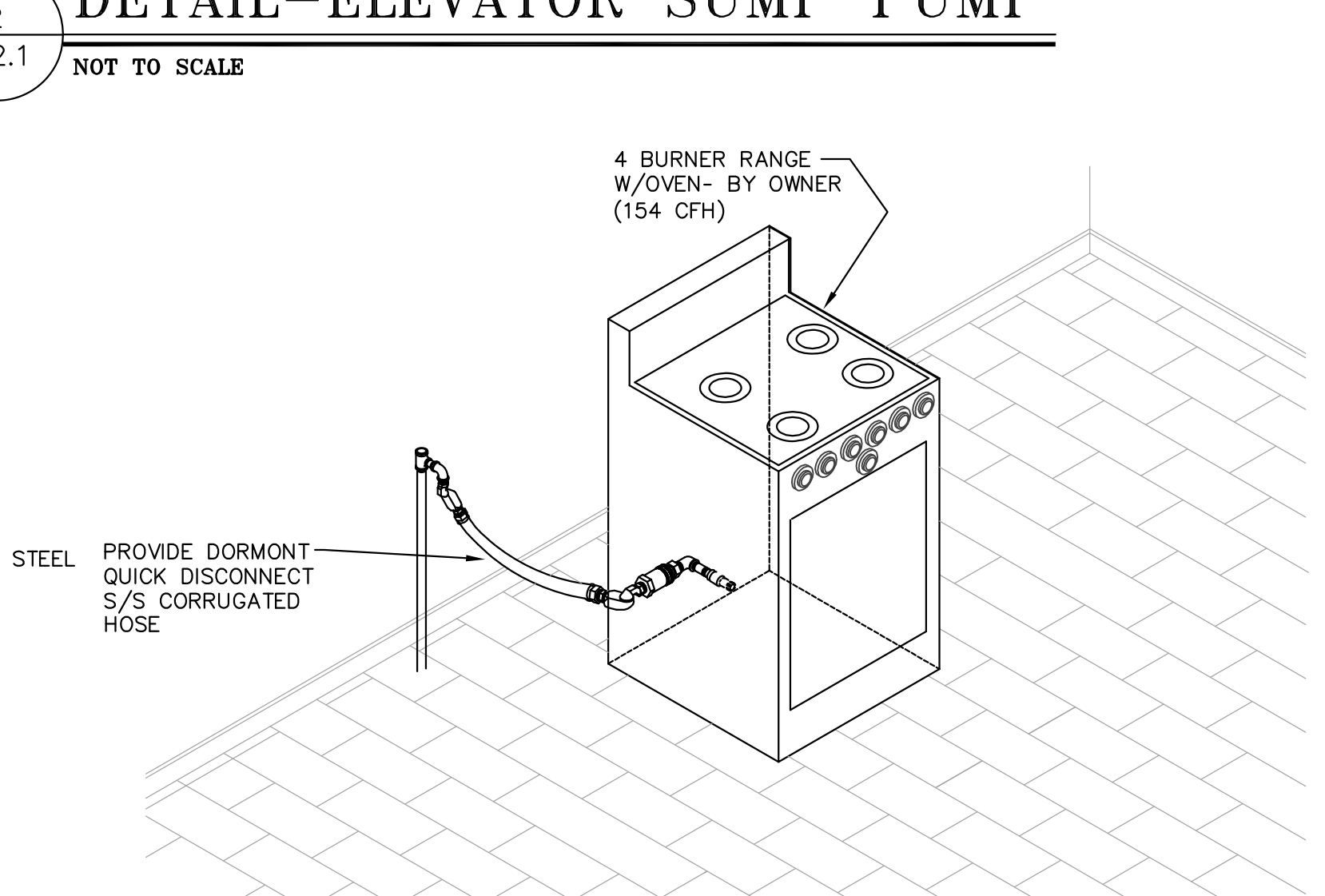
3  
P2.1  
**DETAIL - COMPRESSED AIR DROP**  
NOT TO SCALE



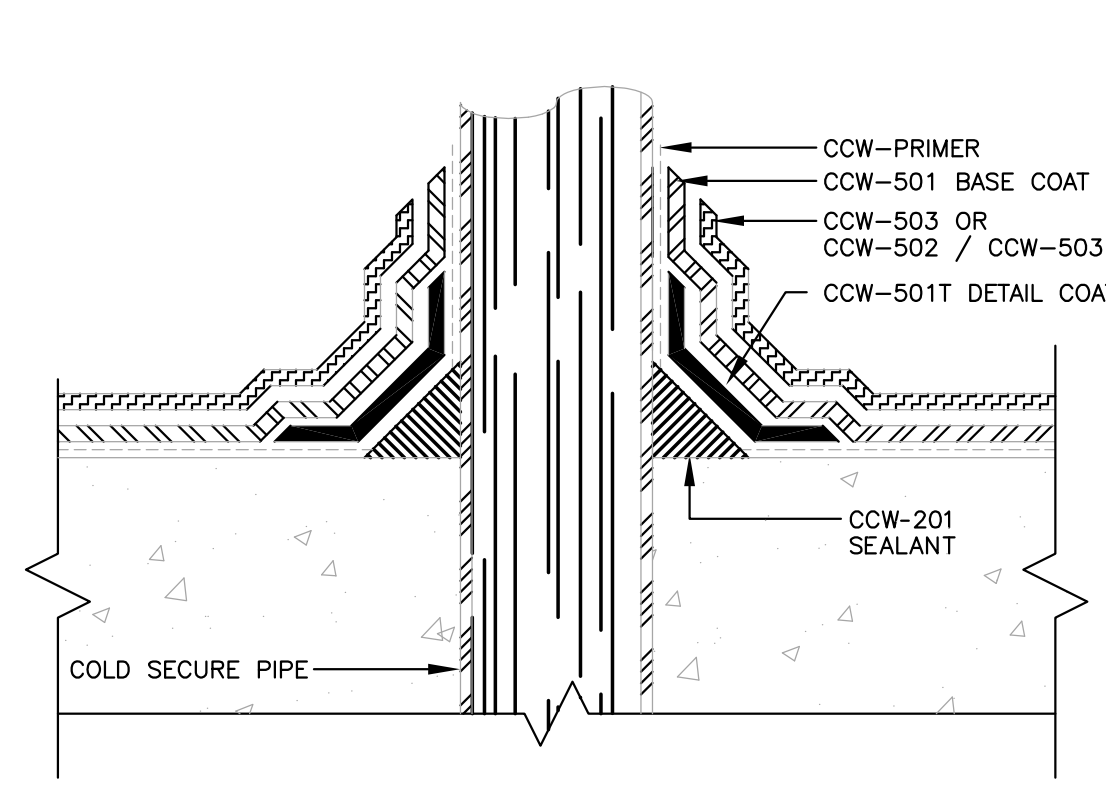
4  
P2.1  
**DETAIL- ISLAND SINK LOOP VENT**  
NOT TO SCALE



5  
P2.1  
**DETAIL- FOUNDATION SLEEVE**  
NOT TO SCALE

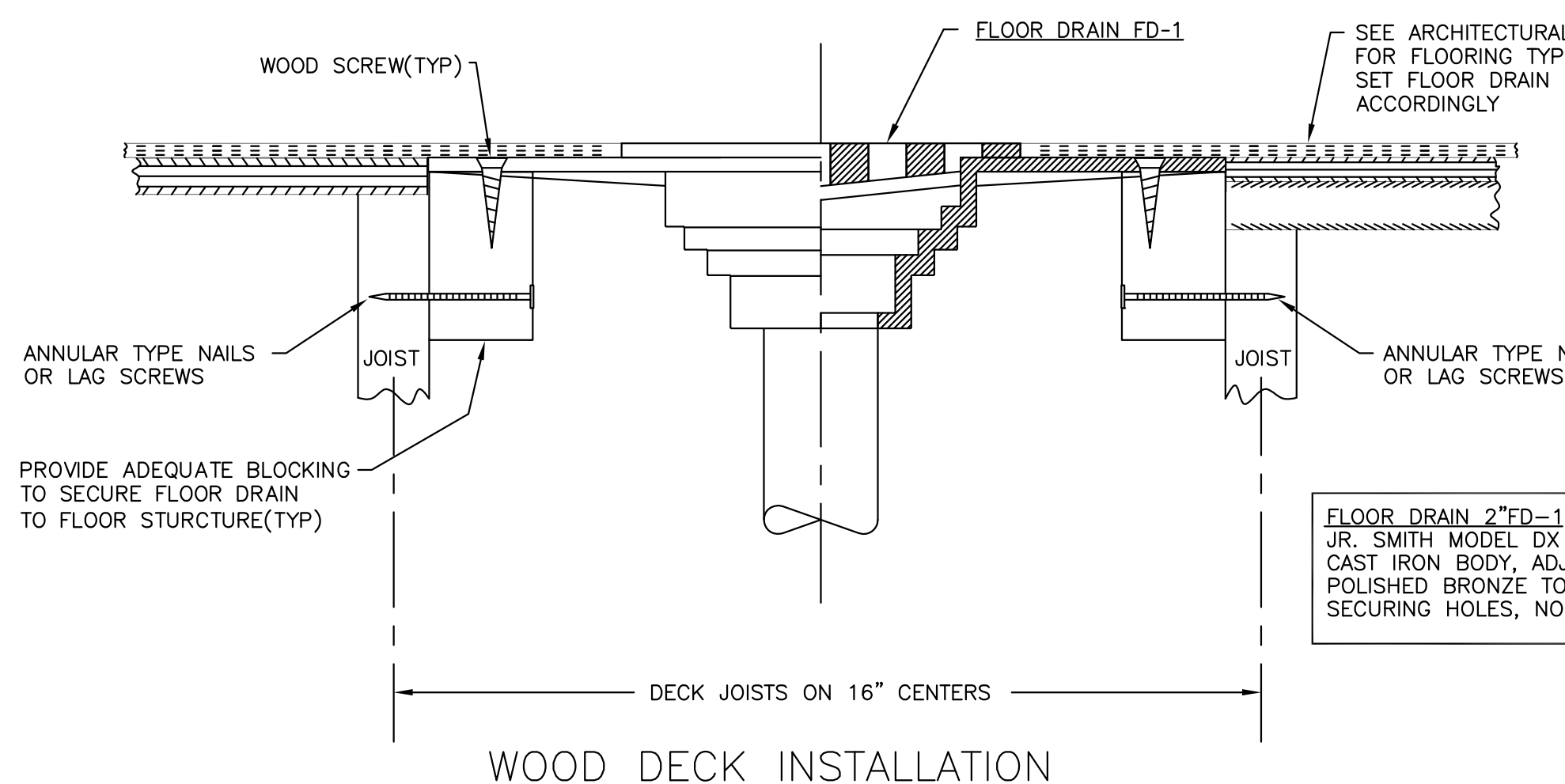


6  
P2.1  
**DETAIL - GAS PIPING TO GAS RANGE**  
NOT TO SCALE

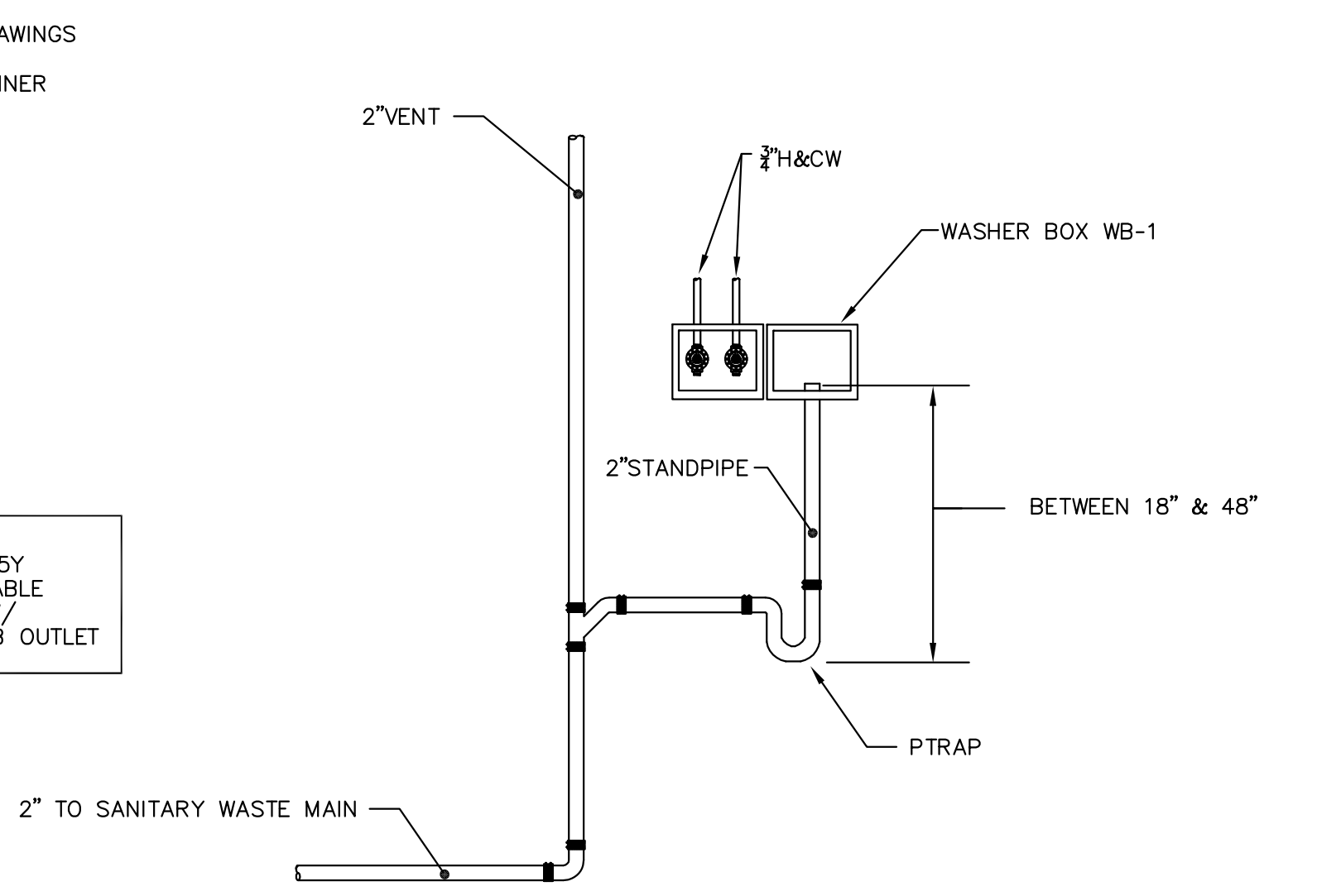


7  
P2.1  
**DETAIL - FLOOD PENETRATION**  
NOT TO SCALE

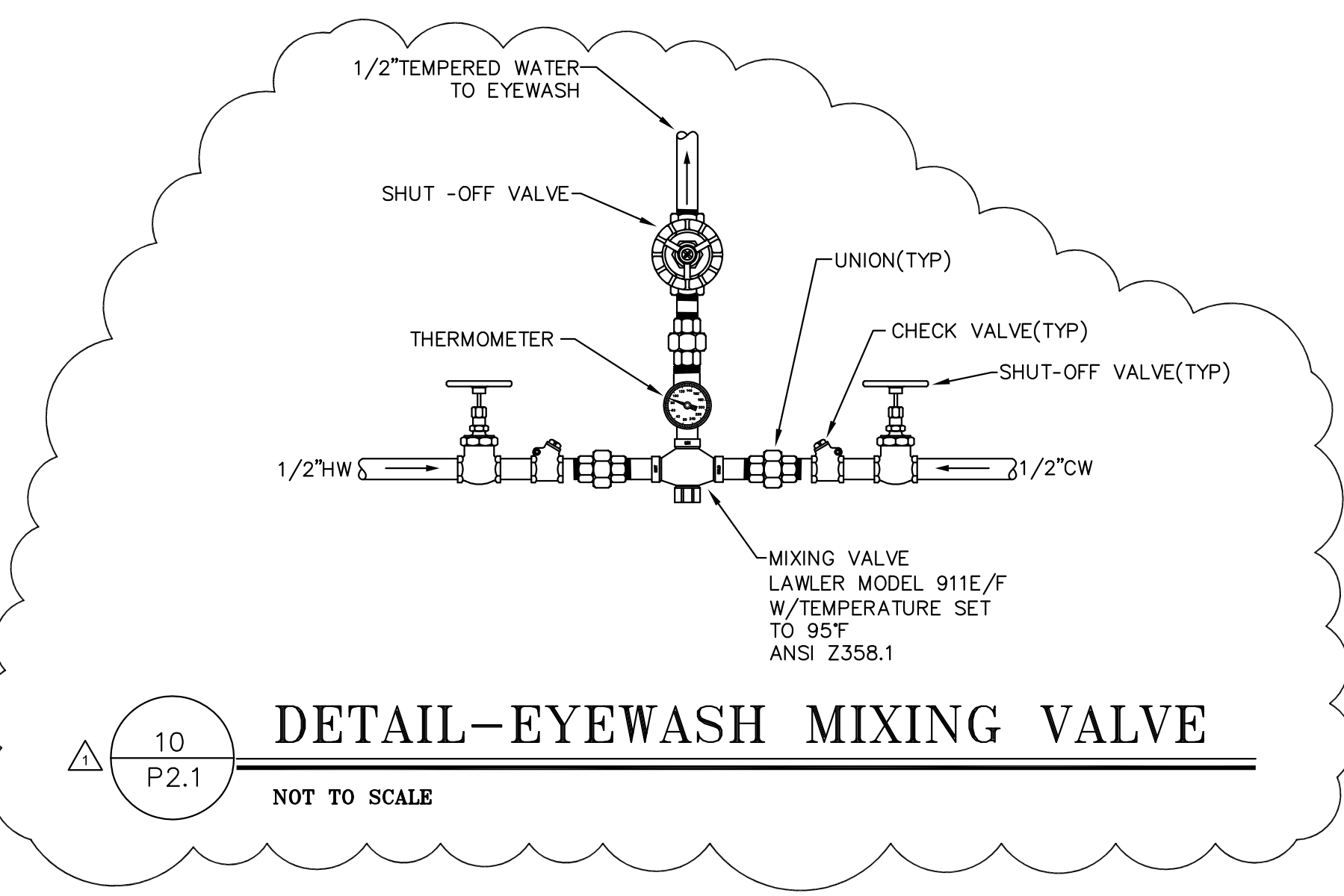
- NOTES**
- 1) CLEAN PIPE TO EXPOSE BRIGHT METAL. APPLY CCW-PRIMER. ALLOW PRIMER TO CURE. 1 HOUR MIN. / 8 HOURS MAX.
  - 2) APPLY CCW-201 SEALANT AND TOOL TO FORM A CANT. ALLOW SEALANT TO CURE OVER NIGHT.
  - 3) APPLY CCW-501T DETAIL TO COVER CANT ON THE VERTICAL, 6\"/>



8  
P2.1  
**DETAIL - FLOOR DRAIN**  
NOT TO SCALE



9  
P2.1  
**DETAIL- WASHER BOX PLUMBING**  
NOT TO SCALE



10  
P2.1  
**DETAIL-EYEWASH MIXING VALVE**  
NOT TO SCALE

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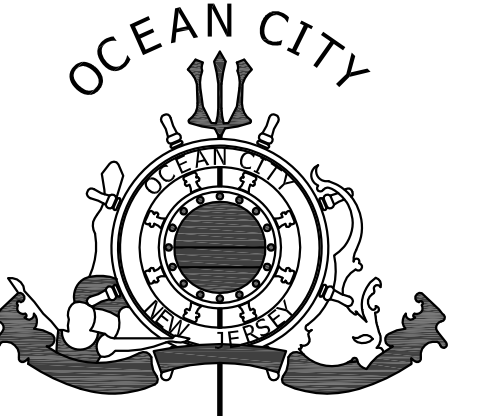
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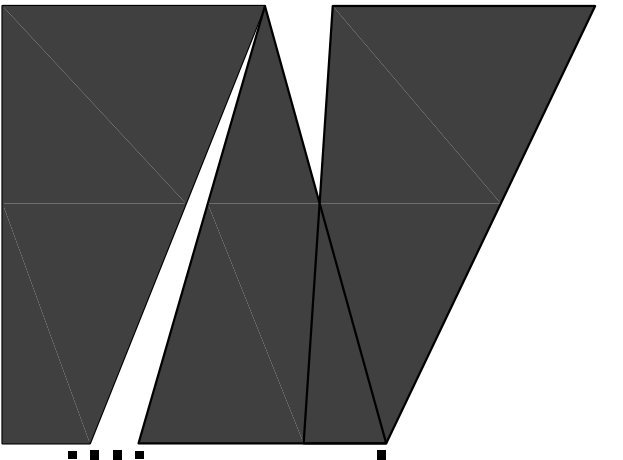
drawn by P.J.L.  
description  
PLUMBING DETAILS

scale AS NOTED

sheet

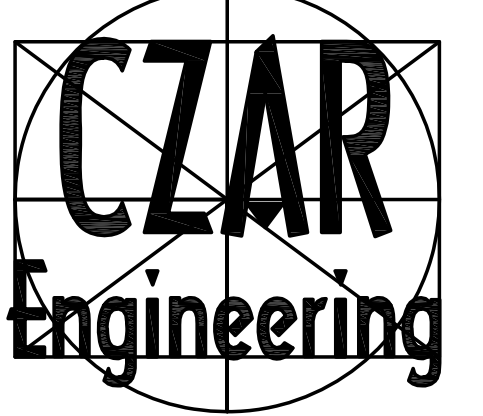
**P2.1**

commission no.



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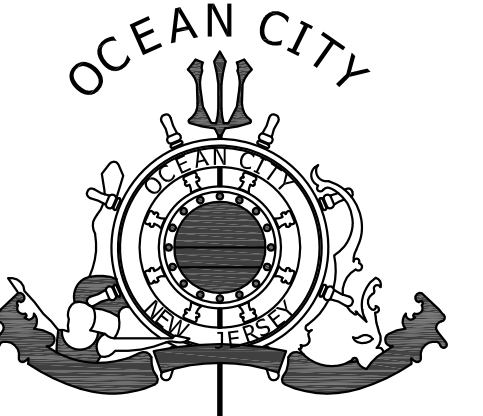


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6/27/16 BID ISSUE  
7/18/16 ADDENDUM #2

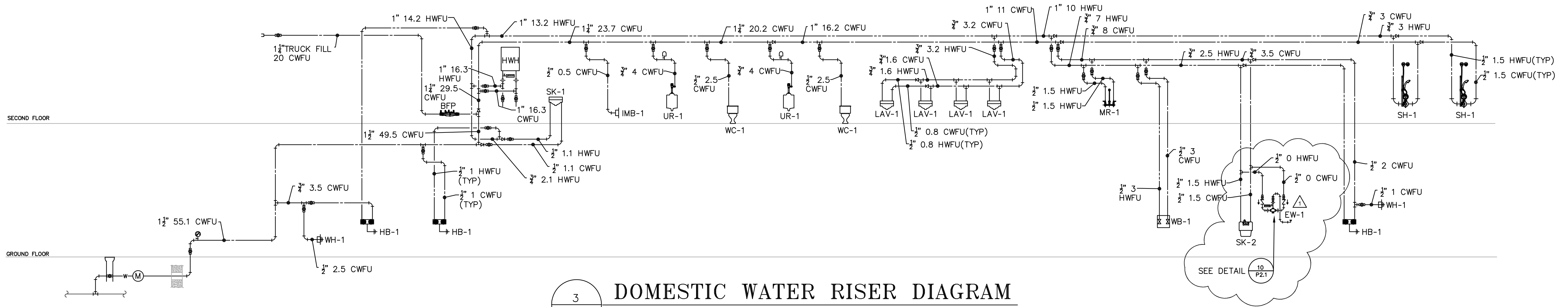
drawn by P.J.L.  
description  
PLUMBING RISER DIAGRAMS

scale AS NOTED

sheet

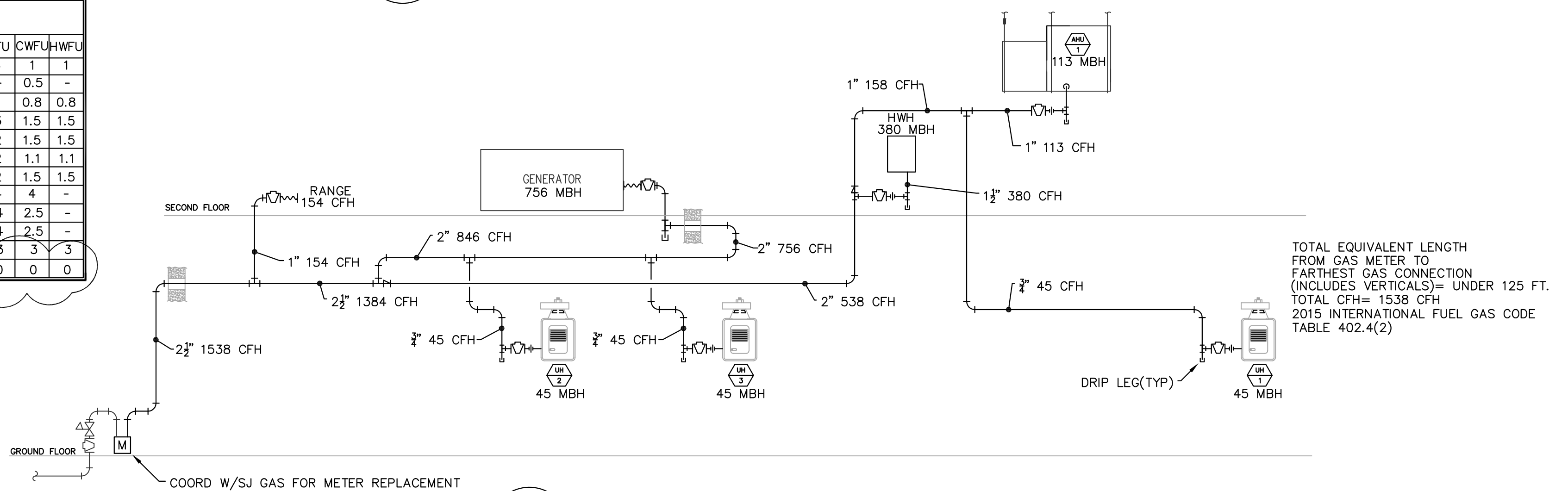
**P2.2**

commission no.

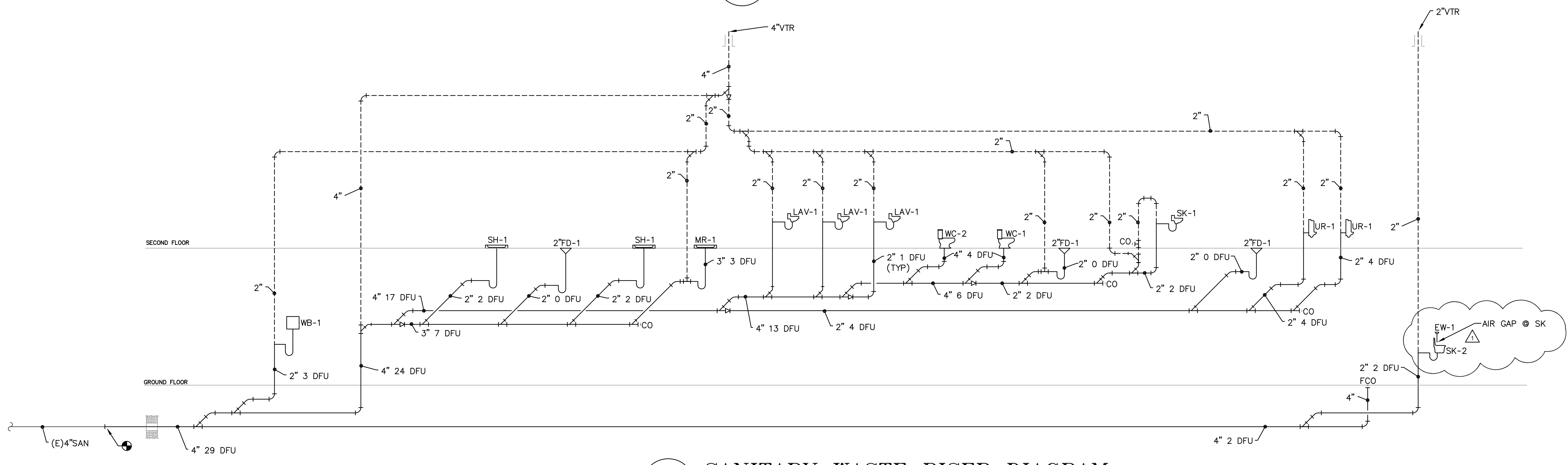


**3 DOMESTIC WATER RISER DIAGRAM**  
P2.2 NOT TO SCALE

FIXTURE CONNECTION SCHEDULE						
ITEM	DESCRIPTION	CW	HW	SAN	REMARKS	DFU
HB-1	HOSE BIBB	1/2"	1/2"	-	-	1
IMB-1	ICE MAKER BOX	1/2"	-	-	-	0.5
LAV-1	LAVATORY	1/2"	1/2"	1 1/4"	-	1
MR-1	MOP RECEPTOR	1/2"	1/2"	3"	-	3
SH-1	SHOWER	1/2"	1/2"	2"	-	2
SK-1	KITCHEN SINK	1/2"	1/2"	1 1/2"	-	2
SK-2	UTILITY SINK	1/2"	1/2"	1 1/2"	-	2
UR-1	URINAL	3/4"	-	2"	-	4
WC-1	WATER CLOSET	1/2"	-	4"	ADA HEIGHT	4
WC-1	WATER CLOSET	1/2"	-	4"	-	4
WB-1	WASHER-BOX	1/2"	1/2"	2"	-	3
EW-1	EYEWASH	1/2"	1/2"	-	DRAIN TO FD PROVIDE AIRGAP	0



**2 NATURAL GAS RISER DIAGRAM**  
P2.2 NOT TO SCALE



**1 SANITARY WASTE RISER DIAGRAM**  
P2.2 NOT TO SCALE