

ADDENDUM 1**tam+cz****LLP ARCHITECTURE • PLANNING • INTERIORS**5650 N. FRESNO ST. SUITE # 110
FRESNO, CA 93710
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May 9, 2017

FRESNO CHAFFEE ZOO WARTHOG EXHIBIT**ADDENDUM NO. 1**

The following changes, omissions, additions, and alterations in, on, and to, the Contract Documents will apply to proposals made for the execution of the various parts of the work affected thereby. Careful note of this Addendum shall be taken by all parties of interest so that the proper allowance may be made in all computations, estimates, and contracts, and all trades affected shall be fully advised in the performance of the work which will be required by them. In cases of conflict between Drawings, Specifications, and this Addendum, this Addendum shall govern. Attention is directed to the Addendum receipt blank in the Form of Proposal.

ITEMS & RFI RESPONSES:

1. **ADD SPECIFICATION SECTION 08 6223 – TUBULAR SKYLIGHTS TO PROJECT MANUAL.**
2. **ADD SPECIFICATION SECTION 07 4213 –METAL WALL PANELS TO PROJECT MANUAL. RESPONSE TO RFI #1 NOLTE SHEET METAL.**
3. **ADD CHANGES TO ROCK WALL HEIGHT SHOWN ON EXHIBIT L5.1A, SEE ATTACHED 8-1/2” X 11” DRAWING.**
4. **REPLACE SHEET E1 WITH ATTACHED REVISED SHEET E1. SITE ELECTRICAL PLAN HAS BEEN REVISED TO SHOW BOOSTER PUMP LOCATION.**
5. **REPLACE SHEET E2 WITH ATTACHED REVISED SHEET E2. PANEL SCHEDULE HAS BEEN REVISED TO INCLUDE BOOSTER PUMP.**
6. **REPLACE SHEET L14.1 WITH ATTACHED REVISED SHEET L14.1 . IRRIGATION SCHEDULE HAS BEEN REVISED TO SHOW BOOSTER PUMP.**
7. **REPLACE SHEET L15.1 WITH ATTACHED REVISED SHEET L15.1 . SITE IRRIGATION PLAN HAS BEEN REVISED TO SHOW BOOSTER PUMP LOCATION.**
8. **REPLACE SHEET L16.1 WITH ATTACHED REVISED SHEET L16.1 . SITE IRRIGATION DETAILS HAS BEEN REVISED TO SHOW BOOSTER PUMP.**
9. **ADD ATTACHED WATERTRONICS BOOSTER PUMP DESIGN FORM AS SUPPLEMENTAL INFORMATION TO BOOSTER PUMP DESIGN.**

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FRESNO CHAFFEE ZOO WARTHOG EXHIBIT**ADDENDUM NO. 1 CONTINUED**

10. ADD ATTACHED BOOSTER PUMP CUT SHEET AS SUPPLEMENTAL INFORMATION.

**11. ZUMWALT RFI #001 RESPONSE ATTACHED. OMIT ALL REFERENCES TO DOOR HARDWARE TYPES ON SHEET A4 , TYPICAL DOOR HARDWARE NOTES.
REPLACE EXTERIOR DOOR 101 HARDWARE WITH HARDWARE LISTED:**

6 EA	HW HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1 EA	POWER TRANSFER	EPT-10	626	VON
1 EA	PANIC DEVICE	99EO	626	VON
1 EA	ELEC PANIC DEVICE	EL99-L	626	VON
1 EA	RIM CYLINDER	20-757 XP	626	SCH
2 EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
2 EA	KICKPLATE	8400 10 X 1" LDW	630	IVE
1 SET	SEALS	2525B	BLK	NGP
1 EA	THRESHOLD	PER DETAILS	AL	NGP
1 EA	KEYED REMOV MULLION	KR4964		VON
1 EA	MORTISE CYL	20-763XP	626	SCH
1 EA	POWER SUPPLY	PS902		VON
		CARD READERS BY OTHERS		

Padlock Hardware as listed:

Schlage KS23 with interchangeable primus core. Keyed to A22

**12. BMY RFI #1 : SEE RFI #1 WITH ARCHITECT'S RESPONSES ATTACHED.
FOR ADDITIONAL INFORMATION SEE DESIGN LAB 252 RFI RESPONSES 1-11 ON
ATTACHED DOCUMENT.**

13. BMY RFI #2: SEE RFI#2 RESPONSES ATTACHED.

14. ATASCADERO GLASS RFI #001: SEE RFI #001 RESPONSES ATTACHED.

15.

ADDENDUM 1**tam+cz**

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FRESNO CHAFFEE ZOO WARTHOG EXHIBIT**ADDENDUM NO. 1 CONTINUED**

16. NOLTE SHEET METAL RFI- SEE ATTACHED SHEET METAL SPECIFICATION TO BE ADDED TO THE PROJECT MANUAL
17. NELSON AND SONS RFI – OMIT LANGUAGE IN ATTACHMENT 'B' OF SPECIFICATION, REMOVE ALL TEXT REQUIRING PREQUALIFICATION.

“Per Attachment B of the Specifications for the Fresno Chaffee Zoo Warthog Exhibit bid # 2.8 it states that the General Contractor must be previously prequalified.”

This project does not require Contractor's to be prequalified with FCZ in order to bid on the project.

SECTION 08 6223 TUBULAR SKYLIGHTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tubular skylights, consisting of skylight dome, reflective tube, and diffuser assembly; configuration as indicated on the drawings.
- B. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 07 5300 - Elastomeric Membrane Roofing: Flashing-in of skylight base.

1.03 REFERENCE STANDARDS

- A. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2010.
- B. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2010.
- C. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2010.
- D. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics; 2012.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2012.
- F. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings; 2011.
- G. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- H. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2002 (Reapproved 2010).
- I. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2009).
- J. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Engaged in manufacture of tubular skylights for minimum of 10 years.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. DayLite, Natural Lighting Technologies: www.dayliteco.com.

B. Solatube International, Inc: www.solatube.com.

C. Tubular Skylight Inc: www.tubular-skylight.com.

2.02 TUBULAR SKYLIGHTS

A. Tubular Skylights: Transparent roof-mounted skylight dome and curb, reflective tube, and ceiling level diffuser assembly, transferring sunlight to interior spaces.

1. All components made and assembled by one manufacturer.
2. Design to withstand the following loads without breakage or permanent damage to any parts, when tested in accordance with ASTM E330:
 - a. Positive and negative wind load of 10 psf (475 Pa).
 - b. No permanent deflection in excess of 0.2 percent of span.
 - c. Live load of 100 psf (4.8 kPa) on dome with safety factor of 3.
3. Air Infiltration: Maximum 0.10 cfm per foot (0.15 L/s/m) of crack length at 6.24 psf (299 Pa) pressure differential when tested in accordance with ASTM E283.
4. Water Resistance: No uncontrolled water leakage at 6.24 psf (299 Pa) pressure differential with water rate of 5 gallons/h/sf (206 L/h/sq m), when tested in accordance with ASTM E331; design to ensure that water will not accumulate inside assembly.
5. Thermal Movement: Fabricate to allow for thermal movement resulting from temperature differential from minus 30 to 180 degrees F (minus 34 to 82 degrees C).
6. Flammability: Non-metal parts complying with the following:
 - a. Roof-Top Components: Class B when tested in accordance with ASTM E108 or UL 790.
 - b. Self-Ignition Temperature: Greater than 650 degrees F (343 degrees C), when tested in accordance with ASTM D1929.
 - c. Smoke Developed Index: Maximum of 450, when tested in accordance with ASTM E84; or maximum rating of 75, when tested in accordance with ASTM D2843.

- d. Combustibility - Light Transmitting Parts: Burning extent of 1 inch (25 mm) or less (ICC Class CC-1), when tested in accordance with ASTM D635 in the thickness intended for use.
 - e. Combustibility - Non-Light Transmitting Parts: Minimum 2.5 inches/min (64 mm/min) (ICC Class CC-2), when tested in accordance with ASTM D635.
- B. Roof Assemblies: Transparent, UV and impact resistant dome with flashing base supporting dome and top of tube.
- 1. Glazing: Polycarbonate plastic, 0.125 inch (3.2 mm) minimum thickness.
 - 2. Low-Angled Sun Reflector: Concentric, light refracting etched lines, minimum 2 inches (51 mm) high, to improve light input when sun is low on horizon.
 - 3. Base: One piece, seamless, leak-proof flashing functioning as base support for dome and top of tube.
 - 4. Base Material: Sheet aluminum, ASTM B209 (ASTM B209M), 0.060 inch (1.5 mm) thick, minimum.
 - 5. Base Height: 4 inches
 - 6. Dome Ring: Attached to top of base section; 0.090 inch (2.3 mm) nominal thickness injection molded high impact ABS; to prevent thermal bridging between base flashing and tubing and channel condensed moisture out of tubing; weather seal of medium density pile weather stripping.
- C. Reflective Tube: ASTM B209 (ASTM B209M) aluminum sheet, thickness between 0.015 inch (0.4 mm) and 0.020 inch (0.5 mm).
- 1. Interior Finish: Exposed interior surfaces of high reflectance specular finish; specular reflectance 92, total reflectance 95 percent.
 - 2. Tube Diameters: As indicated on the drawings.
- D. Diffuser Assemblies: Supporting light transmitting surface at bottom termination of tube, with compression seal to minimize condensation and bug or dirt infiltration.
- 1. Ceiling Ring: Edge trim for ceiling opening; injection molded high impact ABS.
 - 2. Diffuser Trim: Edge and attachment trim for diffuser lens; injection molded high impact ABS.
 - 3. Lens: Flush frosted lens.
 - 4. Lens Material: Polycarbonate plastic
 - 5. Visible Light Transmission: Minimum 90 percent.
 - 6. Seal: Closed cell EPDM foam rubber

2.03 ACCESSORIES

- A. Fasteners: Same material as metals being fastened, non-magnetic steel, non-corrosive metal of type recommended by manufacturer, or injection molded nylon.
- B. Joint Sealant: As specified in Section 07 9005..

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's printed instructions.
- B. Seal joints exposed to weather using procedures specified in Section 07 9005.
- C. Conduct field test for water tightness; conduct water test in presence of Architect. Correct defective work and re-test until satisfactory.

END OF SECTION

**SECTION 07 4213
METAL WALL PANELS**

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured weathering steel panels for walls and soffits, with related flashings and accessory components.

1.02 RELATED REQUIREMENTS

X.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Indicate dimensions, layout, joints, construction details, methods of anchorage.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years of experience.

1.06 MOCK-UP

A. Construct mock-up, 8 feet tall by 6 feet wide; include panel and soffit system, glazing, attachments to building frame, associated vapor retarder and air seal materials, weep drainage system, sealants and seals, related insulation, and panel joints in mock-up.

B. Mock-up may not remain as part of the Work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Western States Metal Roofing; Product 7/8" corrugated, Corten.

2.02 MANUFACTURED METAL PANELS

A. Wall Panel System: Factory fabricated prefinished metal panel system, site assembled.

1. Provide exterior panels, soffit panels, and subgirt framing assembly.
2. Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of wall according to the 2013 CBC.
3. Maximum Allowable Deflection of Panel: 1/90 of span.
4. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement within system; movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
5. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
6. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.

B. Exterior Panels:

1. Profile: Vertical; style as indicated.
2. Side Seams: side lap sealed with mastic tape..
3. Panel Width: 34 + inches .

C. Soffit Panels:

1. Profile: Style as indicated.

D. Subgirts:

E. Expansion Joints:

F. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

G. Anchors: Galvanized steel or Stainless steel.

2.03 ACCESSORIES

A. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, koko brown cap.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that building framing members are ready to receive panels.
- B. Verify that weather barrier has been installed over substrate completely and correctly.

3.02 INSTALLATION

- A. Install panels on walls and soffits in accordance with manufacturer's instructions.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.
- C. Fasten panels to structural supports; aligned, level, and plumb.
- D. Locate joints over supports. Lap panel ends minimum 2 inches (50 mm).
- E. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

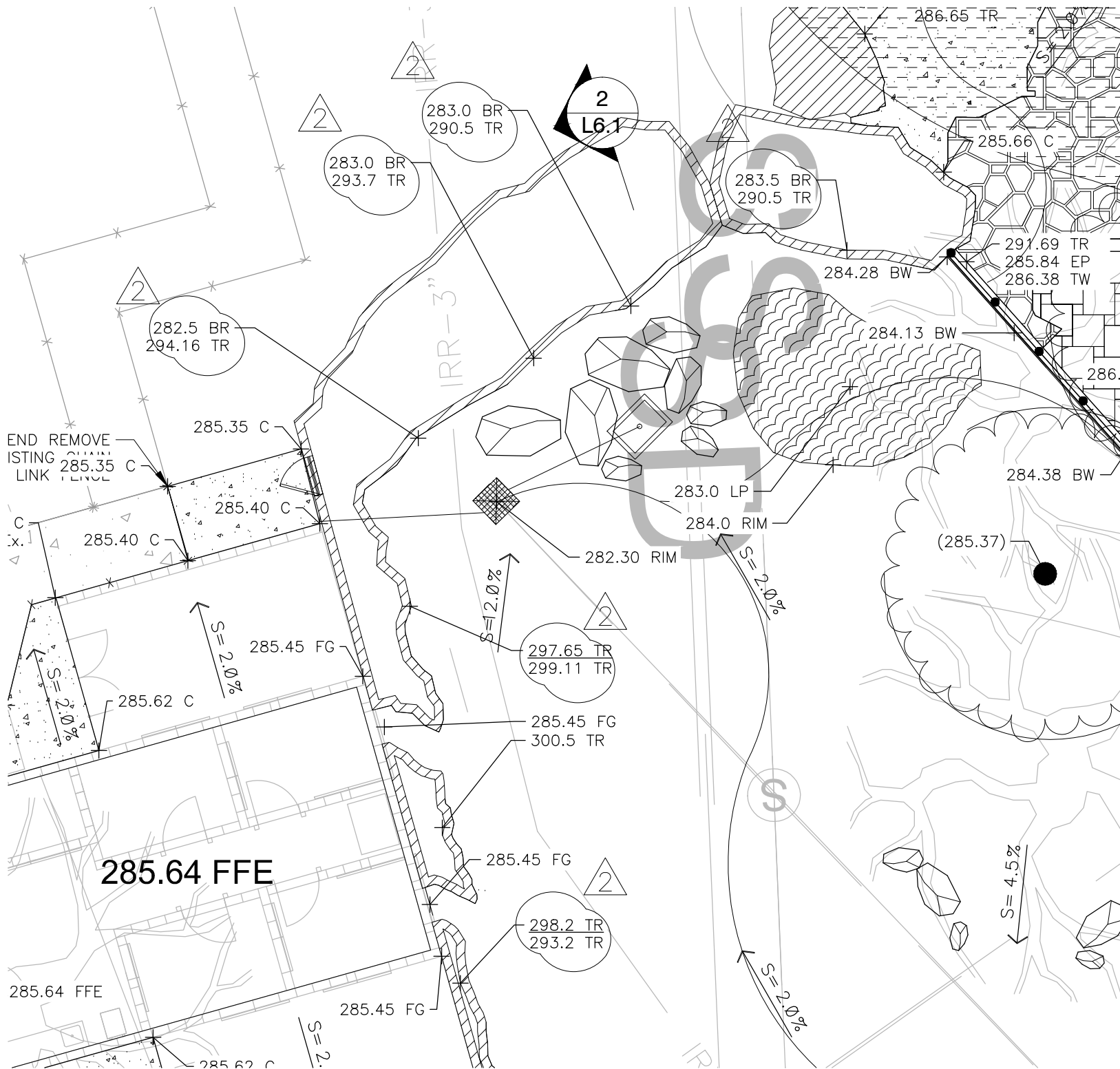
3.03 TOLERANCES

- A. Maximum Offset From True Alignment Between Adjacent Members Butting or In Line: 1/16 inch (1.6 mm).

3.04 CLEANING

- A. Remove site cuttings from finish surfaces.

END OF SECTION



project:
WARTHOGS

client:
CHAFFEE ZOO

designlab **252**
 P.O. Box 27616 Fresno, CA 93729
 Studio: 559.472.9966 Fax: 559.472.9969



05/08/2017

scale: **1" = 10' = 0"**
 sheet title:

L5.1a

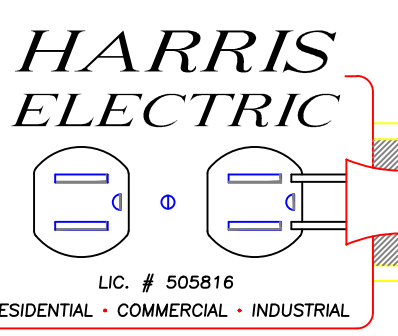
ADDENDUM 1

project:

**FRESNO
CHAFEE
ZOO
WARTHOG
EXHIBIT**



client: **FRESNO
CHAFEE
ZOO**
894
W.
Belmont
Ave.
Fresno,
Ca
93728



drawn by: **MAS** checked by: **TB**

submission: **No. 1** date: **12-22-16**
No. 2 OWNER CHANGES **2-22-16**
No. 3 OWNER CHANGES **3-3-17**
No. 4 OWNER CHANGES **3-17-17**

scale: 1/8" = 1'

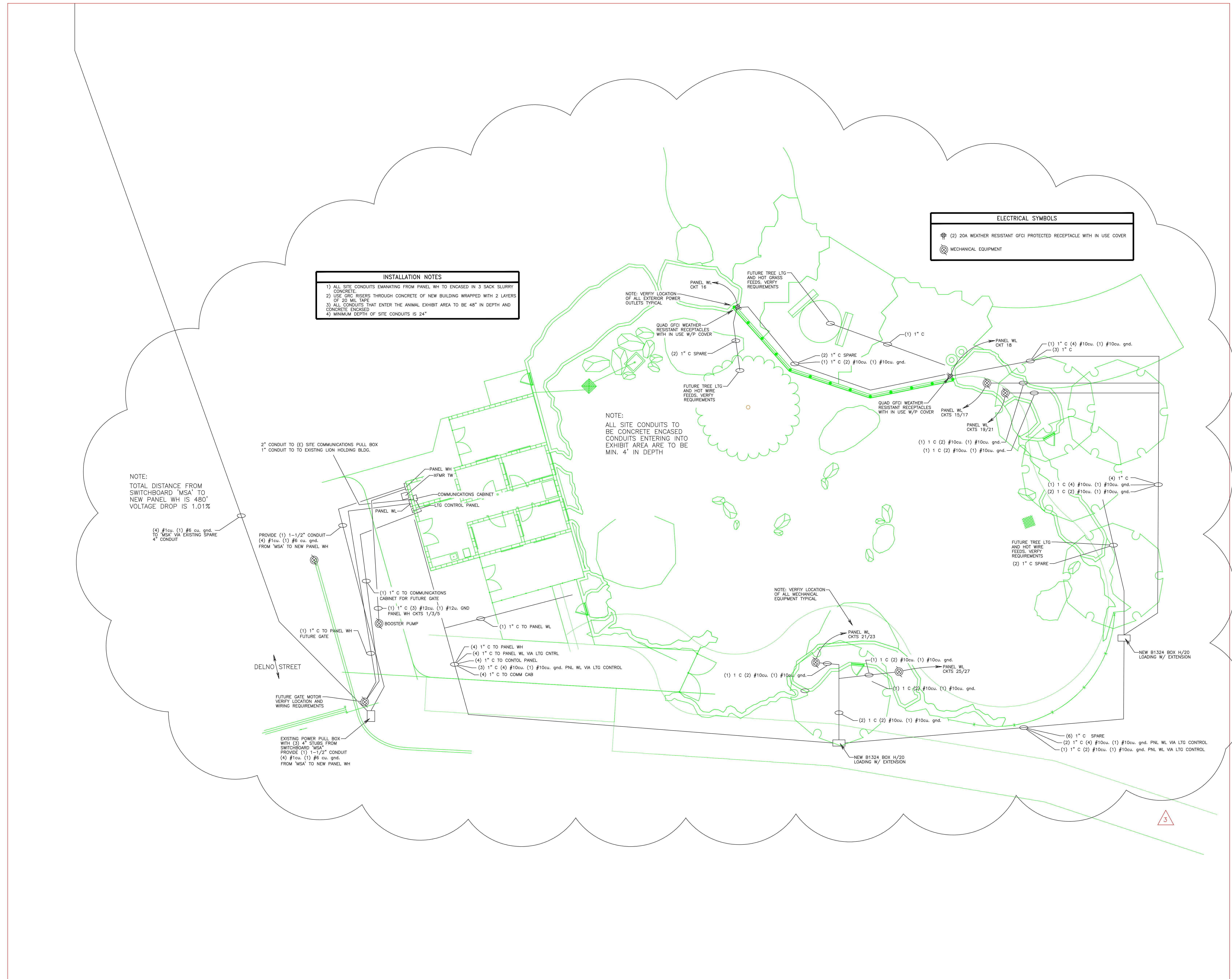
sheet title:

SITE

sheet no.

E1

project no.



INSTALLATION NOTES
1) ALL SITE CONDUITS EMANATING FROM PANEL WH TO BE ENCASED IN 3 SACK SLURRY CONCRETE.
2) USE GRC RISERS THROUGH CONCRETE OF NEW BUILDING WRAPPED WITH 2 LAYERS OF 20 MIL TAPE
3) ALL CONDUITS THAT ENTER THE ANIMAL EXHIBIT AREA TO BE 48" IN DEPTH AND CONCRETE ENCASED
4) MINIMUM DEPTH OF SITE CONDUITS IS 24"

ELECTRICAL SYMBOLS
⊕ (2) 20A WEATHER RESISTANT GFCI PROTECTED RECEPTACLE WITH IN USE COVER
⊗ MECHANICAL EQUIPMENT

NOTE:
ALL SITE CONDUITS TO BE CONCRETE ENCASED
CONDUITS ENTERING INTO EXHIBIT AREA ARE TO BE MIN. 4" IN DEPTH

NOTE:
TOTAL DISTANCE FROM SWITCHBOARD 'MSA' TO NEW PANEL WH IS 480'
VOLTAGE DROP IS 1.01%

EXISTING POWER PULL BOX WITH (3) 4" STUBS FROM SWITCHBOARD 'MSA'
PROVIDE (1) 1-1/2" CONDUIT FROM 'MSA' TO NEW PANEL WH
(4) #1cu. (1) #6 cu. gnd.

PROVIDE (1) 1-1/2" CONDUIT FROM 'MSA' TO NEW PANEL WH
(4) #1cu. (1) #6 cu. gnd.

DELNO STREET

FUTURE GATE MOTOR VERIFY LOCATION AND WIRING REQUIREMENTS

EXISTING POWER PULL BOX WITH (3) 4" STUBS FROM SWITCHBOARD 'MSA'
PROVIDE (1) 1-1/2" CONDUIT FROM 'MSA' TO NEW PANEL WH
(4) #1cu. (1) #6 cu. gnd.

(4) 1" C TO PANEL WH
(4) 1" C TO PANEL WL VIA LTG CNTRL
(4) 1" C TO CONTROL PANEL
(3) 1" C (4) #10cu. (1) #10cu. gnd. PNL WL VIA LTG CONTROL
(4) 1" C TO COMM CAB

(1) 1" C TO COMMUNICATIONS CABINET FOR FUTURE GATE
(1) 1" C (3) #12cu. (1) #12cu. gnd. PANEL WH CKTS 1/3/5
BOOSTER PUMP

PANEL WH - XFMR TW
COMMUNICATIONS CABINET
LTG CONTROL PANEL
PANEL WL

NOTE: VERIFY LOCATION OF ALL EXTERIOR POWER OUTLETS TYPICAL
PANEL WL CKT 16
FUTURE TREE LTG AND HOT GRASS FEEDS. VERIFY REQUIREMENTS

QUAD GFCI WEATHER-RESISTANT RECEPTACLES WITH IN USE W/P COVER
(2) 1" C SPARE
(1) 1" C (2) #10cu. (1) #10cu. gnd.

FUTURE TREE LTG AND HOT WIRE FEEDS. VERIFY REQUIREMENTS
(2) 1" C SPARE
(1) 1" C (2) #10cu. (1) #10cu. gnd.

NOTE: VERIFY LOCATION OF ALL MECHANICAL EQUIPMENT TYPICAL
PANEL WL CKTS 21/23

(1) 1 C (2) #10cu. (1) #10cu. gnd.
(1) 1 C (2) #10cu. (1) #10cu. gnd.

(2) 1 C (2) #10cu. (1) #10cu. gnd.

NEW B1324 BOX H/20 LOADING W/ EXTENSION
(6) 1" C SPARE
(2) 1" C (4) #10cu. (1) #10cu. gnd. PNL WL VIA LTG CONTROL
(1) 1" C (2) #10cu. (1) #10cu. gnd. PNL WL VIA LTG CONTROL

(1) 1 C (2) #10cu. (1) #10cu. gnd.
(1) 1 C (2) #10cu. (1) #10cu. gnd.

QUAD GFCI WEATHER-RESISTANT RECEPTACLES WITH IN USE W/P COVER
PANEL WL CKTS 15/17
PANEL WL CKTS 19/21
(1) 1 C (2) #10cu. (1) #10cu. gnd.
(1) 1 C (2) #10cu. (1) #10cu. gnd.

(2) 1" C SPARE
(1) 1" C (2) #10cu. (1) #10cu. gnd.

(1) 1" C
(2) 1" C SPARE
(1) 1" C (2) #10cu. (1) #10cu. gnd.

PANEL WL CKT 18
(1) 1" C (4) #10cu. (1) #10cu. gnd.
(3) 1" C

FUTURE TREE LTG AND HOT WIRE FEEDS. VERIFY REQUIREMENTS
(2) 1" C SPARE
(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

(1) 1" C (4) #10cu. (1) #10cu. gnd.
(2) 1 C (2) #10cu. (1) #10cu. gnd.

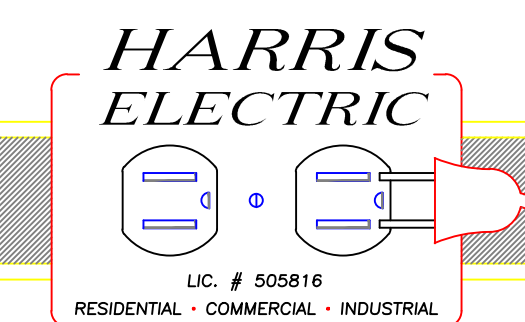
3

project:

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scale: AS SHOWN

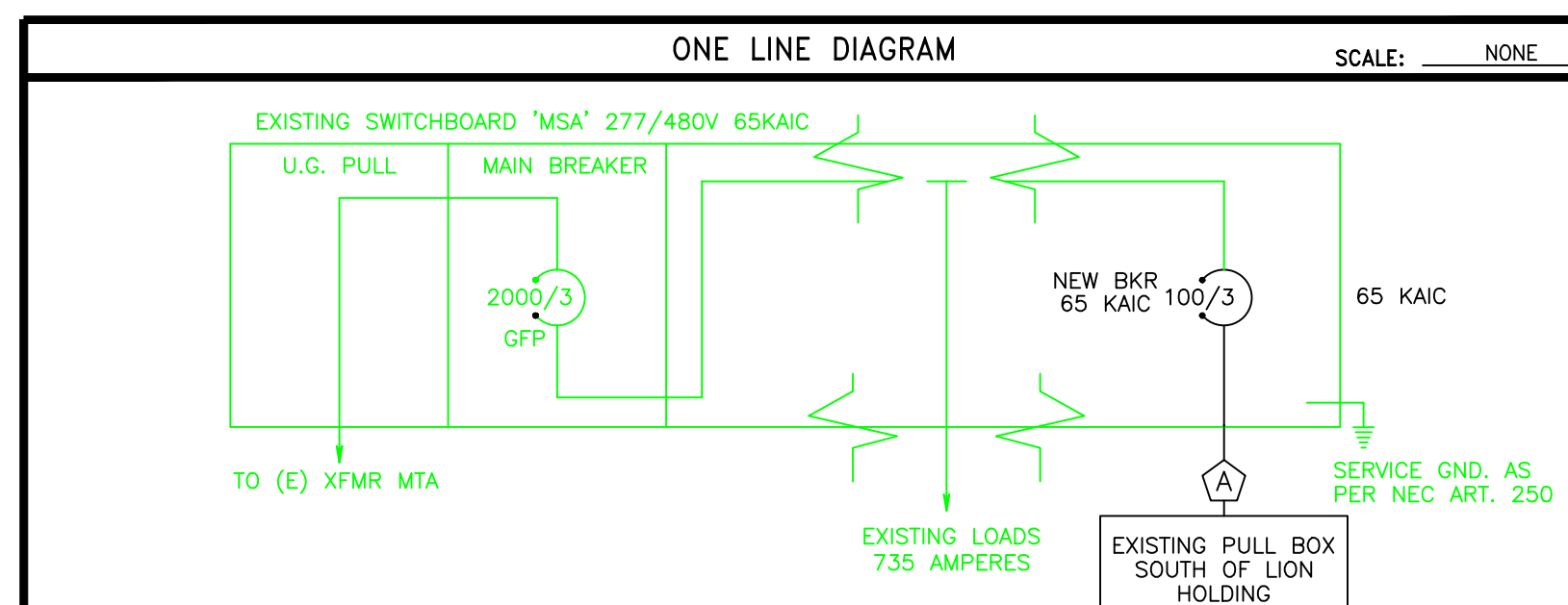
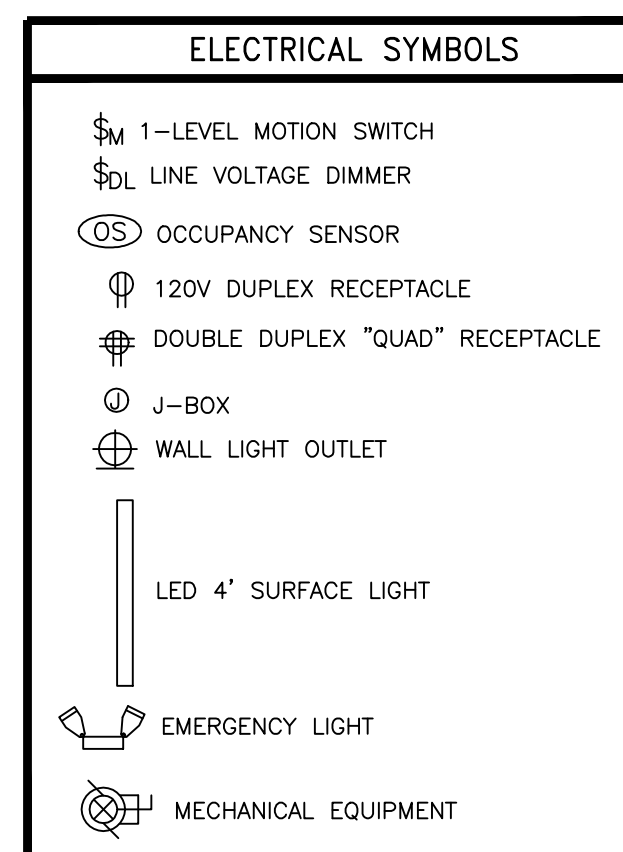
sheet title:
ELECTRICAL

sheet no.

E2

project no.

FIXTURE SCHEDULE						
TYPE	MANUFACTURER	VOLTS	LAMP	WATTS	CATALOG No.	DESCRIPTION
A	LITHONIA	UNV	LED	31	FEM48B000LMIMAFMDMVLGTZ1040K	WATER / VAPOR TIGHT 4 LED SURFACE
WT	LITHONIA	UNV	LED	14	WSTLEDP140KVVMMVOLTDBXD	EXTERIOR LED WALL LIGHT
EM	LITHONIA	UNV	LED	3	IND12100	EMERGENCY LIGHT
EMX	LITHONIA	UNV	LED	3	IND12100	EXTERIOR EMERGENCY LIGHT
R	BK LIGHTING	UNV	LED	1.6	SCDVSLEde27WFLA9MAC12	RED LIGHT



CONDUIT AND WIRE SCHEDULE

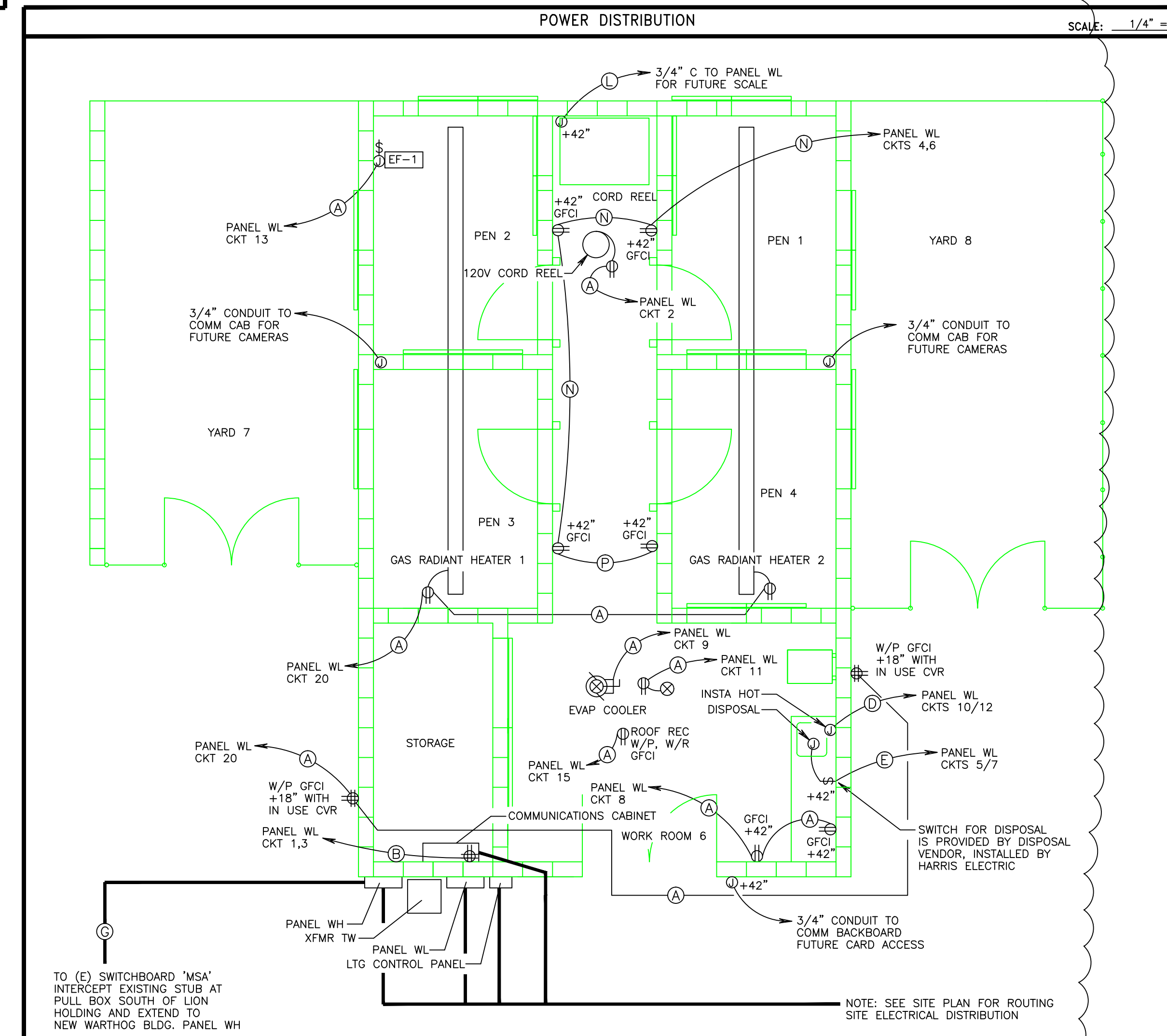
(A)	(E) 4" C NEW (4) #1cu. (1) #6cu. gnd.
(B)	1-1/2" C (4) #1cu. (1) #6cu. gnd.
(C)	1" C (3) #6cu. (1) #10cu. gnd.
(D)	*

LOAD SUMMARY

(E) LOADS	735 AMPS
PANEL WH	45 AMPS
TOTAL MSA	780 AMPS

CONDUIT AND WIRE SCHEDULE

(A)	1/2" C (2) #12cu. (1) #12cu. gnd.
(B)	1/2" C (3) #12cu. (1) #12cu. gnd.
(C)	1/2" C (4) #12cu. (1) #12cu. gnd.
(D)	3/4" C (2) #10cu. (1) #10cu. gnd.
(E)	3/4" C (2) #8cu. (1) #10cu. gnd.
(F)	3/4" C (2) #12cu. (2) #14cu. (1) #12cu. gnd.
(G)	1-1/2" C (4) #1cu. (1) #6cu. gnd.
(H)	12/2 (2) 16/2 MC LUMIARY CABLE
(I)	3/4" CONDUIT WITH PULL STRING
(M)	CAT-5E
(N)	3/4" PVC (2) #12cu. (1) #12cu. gnd.
(P)	3/4" PVC (4) #12cu. (1) #12cu. gnd.



1.126 KAIC

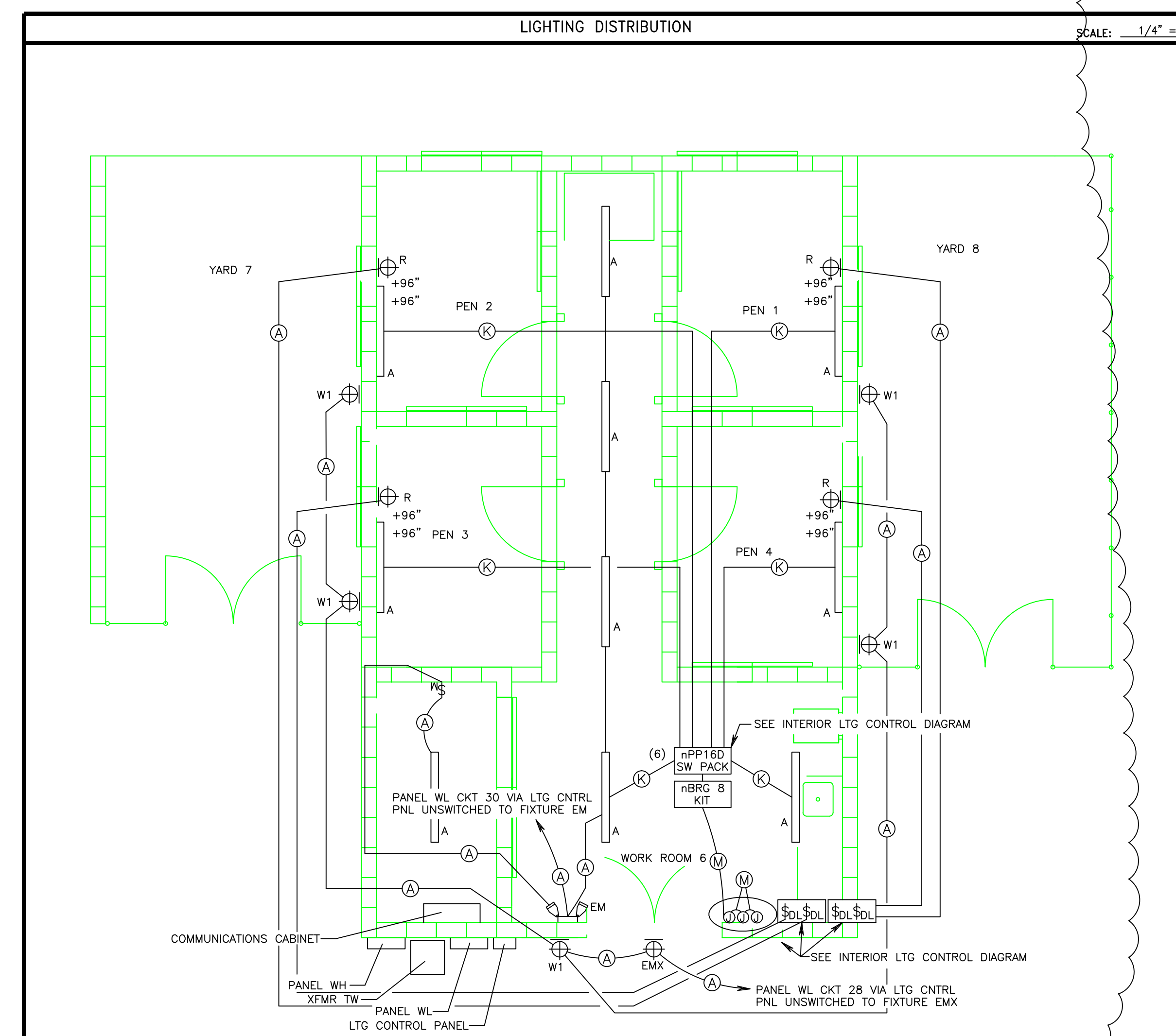
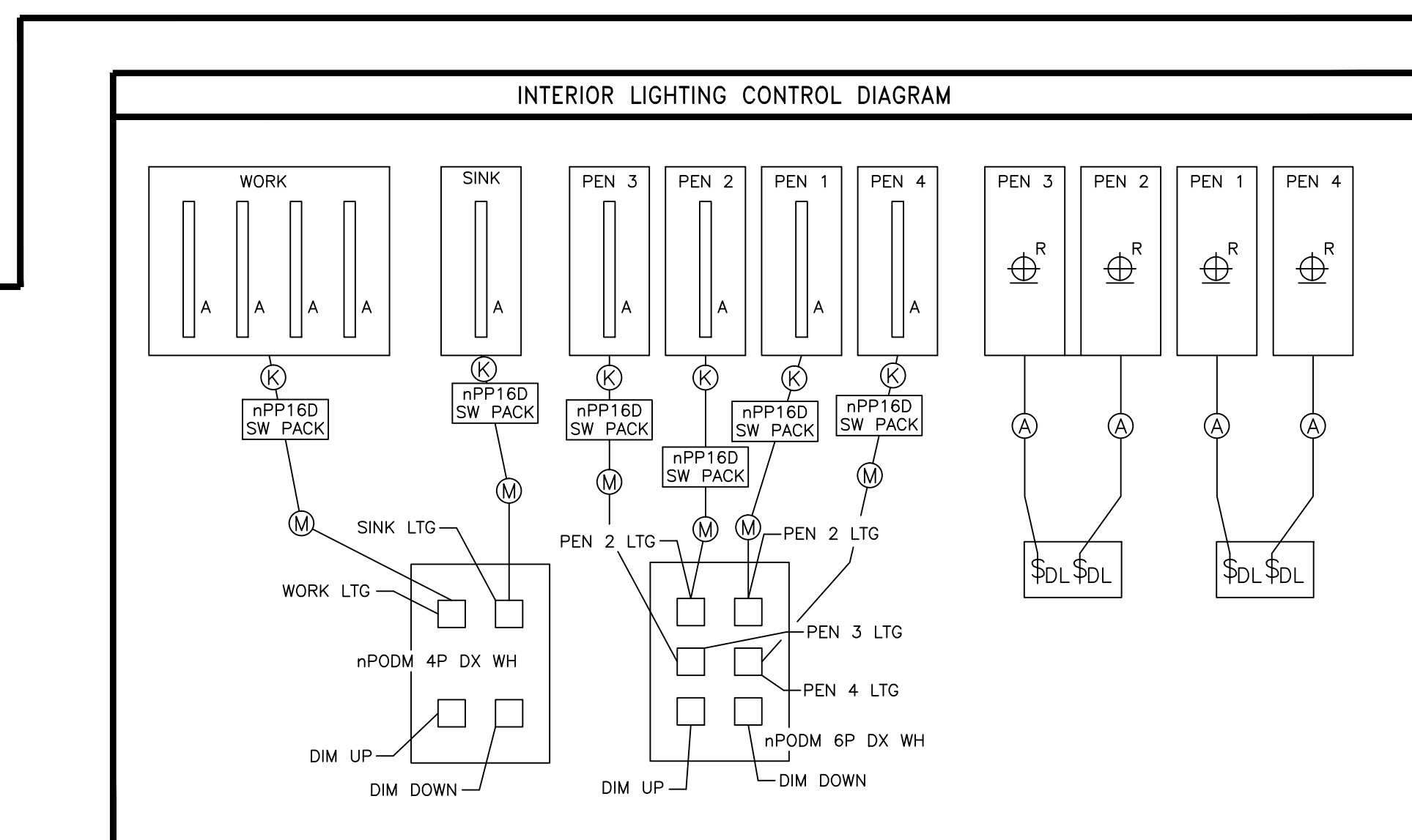
CKT NO.	BREAKER	OUTLET	WATTS	120-208 V			REMARKS
				125 AMP	125A MAIN	4-WIRE SURFACE N3R	
1	20 1	X	360				COMMUNICATION CAN QUAD
2	20 1	X	180				CORD REEL REC GFCI BKR
3	-	X	360				COMMUNICATION CAN QUAD
4	20 1	X	360				PENS 1,3 REC
5	40 2	X	2880				DISPOSAL
6	20 1	X	240				PENS 2,4 REC
7	-		2880				WORK AREA REC
8	30 2	X	2080				EVAP COOLER
9	20 1	X	864				INSTA-HOT
10	-		2080				COOLER PUMP
11	20 1	X	84				SITE QUAD REC
12	20 1	X	360				EF-1
13	20 1	X	600				SPARE
14	20 1	X	360				EXTERIOR HEATER 1
15	25 2	X	900				PATHWAY QUAD
16	20 1	X					SPARE
17	-	X	900				PATHWAY QUAD
18	20 1	X					EXTERIOR HEATER 2
19	25 2	X	900				BUILDING EXT QUAD
20	20 1		720				SPARE
21	-		900				EXTERIOR HEATER 3
22	20 1						SPARE
23	25 2	X	900				EXTERIOR HEATER 4
24	20 1						SPARE
25	-		900				EXTERIOR LTG
26	20 1	X	900				SPARE
27	25 2	X	900				EXTERIOR LTG
28	20 1		73				INTERIOR LTG
29	-		900				SPACE
30	20 1		377				SPACE
31	20 1						SPACE
32	20 1						SPACE
33	20 1						SPACE
34	20 1						SPACE
35	20 1						SPACE
36	20 1						SPACE
37	20 1						SPACE
38	20 1						SPACE
39	20 1						SPACE
40	20 1						SPACE
41	20 1						SPACE
42	20 1						SPACE

TOTAL WATTS PER PHASE | 6900 | 6797 | 8841
TOTAL 22538+ 25% OF LARGEST = 24498/208 X 1.73 = 68.1 AMPS
MAIN: 125A
FEEDER: 1-1/2" C (4) #1cu. (1) #6cu. gnd.
* PROVIDE GFCI BREAKER

4.057 KAIC

CKT NO.	BREAKER	OUTLET	WATTS	277-480 V			REMARKS
				100 AMP	100A MAIN	4-WIRE SURFACE N3R	
1	20 3	X					BOOSTER PUMP
2	20 1						SPARE
3	-						SPARE
4	20 1						SPARE
5	-						SPARE
6	20 1						SPARE
7	-						SPARE
8	-						SPARE
9	-						SPARE
10	-						SPARE
11	-						SPARE
12	-						SPARE
13	-						SPARE
14	-						SPARE
15	-						SPARE
16	-						SPARE
17	-						SPARE
18	-						SPARE
19	60 3	X	6900				45KVA XFMR TW / PNL WL
20	-						SPACE
21	-		6797				SPACE
22	-						SPACE
23	-		8841				SPACE
24	-						SPACE

TOTAL WATTS PER PHASE | 6900 | 6797 | 8841
TOTAL 31232 + 25% OF LARGEST = 36867/480 X 1.73 = 44.4 AMPS
MAIN: 100A
FEEDER: 1-1/2" C (4) #1cu. (1) #6cu. gnd.

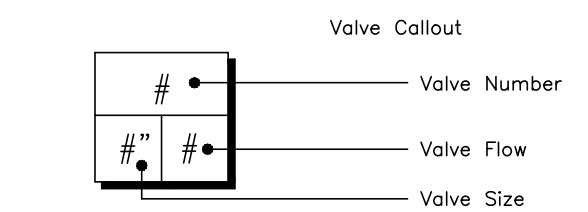


IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
⊙	TORO T1PSS-01 TURF SPORTS ROTOR, 5" POP-UP, ADJUSTABLE ARC FROM 45-90, VANDAL AND ABUSE RESISTANCE. WITH CHECK VALVE AND RUGGED DURABILITY. FEATURES 1" INLET SIZE, NPT. STAINLESS STEEL RISER. NON POTABLE	7	60	23.8	7'
■	TORO DZK-700 1" DRIP CONTROL VALVE KIT. WITH 1" IRRITROL 700 ULTRAFLOW INLINE VALVE, TORO Y-FILTER, AND LOW-FLOW PRESSURE REGULATOR AND FITTINGS. 0.10-10.0 GPM. NON POTABLE	6			
○	PIPE TRANSITION POINT	8			
⊕	TORO T-FGH-H-FIPT FLUSH VALVE, PLUMBED TO FLUSH MANIFOLD AT LOW POINT. NON POTABLE	7			
⊕	TORO T-YD-500-34 1/2" AIR VENT- MIPT AIR RELEASE AND VACUUM RELIEF VALVE. NON POTABLE	1			
⊙	TREE RING IRRIGATION-SMALL TREE 0.9 GPM EMITTER SPACED 12" OC. APPROX. 3/8 LF OF EMITTER LINE PER TREE. NON POTABLE	3			
⊙	TREE RING IRRIGATION-LARGE TREE 0.9 GPM EMITTER SPACED 12" OC. APPROX. 11/3 LF OF EMITTER LINE PER TREE. SEE DETAIL. NON POTABLE	12			
⊙	TORO T-DPC-DC DRIP EMITTER SINGLE OUTLET EMITTER. SELF-FLUSHING, PRESSURE COMPENSATING, WITH COLOR-CODED DUST CAP. 0.5GPM-BLUE. 1.0GPM-BLACK. 2.0GPM-RED. NON POTABLE	27			
	AREA TO RECEIVE DRIPLINE TORO T-PCB-E-1853-18 (24) DRIP-IN PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.53GPM EMITTERS AT 18.0' OC. DRIPLINE LATERALS SPACED AT 24.0' APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. NON POTABLE	5,431 SF.			
	AREA TO RECEIVE DRIPLINE TORO RGP-418-E (18) SUB-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE WITH ROOTGUARD TECHNOLOGY. 1.0GPM EMITTERS AT 18.0' OC. DRIPLINE LATERALS SPACED AT 18.0' APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. NON POTABLE	5,099 SF.			
⊙	IRRITROL 100 2" 1"-3" ELECTRIC REMOTE CONTROL VALVE, ANTI-CONTAMINATION MODEL, GLOBE CONFIGURATION. PRESSURE RANGE OF 20-220 PSI. OPTIONAL MODULAR PRESSURE REGULATION. NON POTABLE	3			
⊕	NIBCO T-580-S6-R-66-LL STAINLESS STEEL BALL VALVE SHUT OFF VALVE. NON POTABLE	1			
⊕	MASTER VALVE-TORO P110-16-0 GLOBE 2" PLASTIC IN-LINE MASTER VALVE. EQUIPPED TO WITHSTAND PRESSURE UP TO 220 PSI. FILTER SCREEN ON 2" AND 3" MODELS. STANDARD SOLENOID. GLOBE BODY STYLE. NON POTABLE	1			

IRRIGATION SCHEDULE

⊕	RAIN MASTER CONTROLLER EAGLE PLUS EGF-16-S CONTROLLER. INSTALL IN STAINLESS STEEL ENCLOSURE WITH DISCONNECT SWITCH	1			
⊕	TORO TWRS (III) WIRELESS RAIN SENSOR TRANSMITTER AND RECEIVER. MOUNT SENSOR TRANSMITTER AS NOTED OR APPROVED. MOUNT SENSOR RECEIVER NEXT TO THE IRRIGATION CONTROLLER AS NOTED OR APPROVED. USE CONTROLLER POWER OR OPTIONAL TRANSFORMER. ADJUST RAIN SHUTOFF INDEX.	1			
⊕	TORO TFS 2" PLASTIC TEE SIZES. EFFECTIVE FLOW MONITORING, EVEN IN FLOWS LESS THAN 5 GPM. COMPATIBLE WITH TORO AND COMPETITIVE CONTROLLERS. IMPELLER-BASED, PVC DESIGN. NON POTABLE	1			
⊕	WATERTRONICS WATERMAX 3000 - 5 HP EFFICIENT COMPACT PUMPING SYSTEM, 5 HORSEPOWER.	1			
⊕	WATER METER 2" 2" POC TO NPW	1			
---	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 3/4" PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE. NON POTABLE	867.4 LF.			
---	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1" PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE. NON POTABLE	531.7 LF.			
---	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1 1/4" PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE. NON POTABLE	105.3 LF.			
---	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1 1/2" PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE. NON POTABLE	247.2 LF.			
---	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 2" PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE. NON POTABLE	144.5 LF.			
---	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 2 1/2" PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE. NON POTABLE	116.9 LF.			
---	IRRIGATION MAINLINE: PVC SCHEDULE 40 2" PVC SCHEDULE 40 IRRIGATION PIPE. NON POTABLE	2.4 LF.			
---	IRRIGATION MAINLINE: PVC SCHEDULE 40 3" PVC SCHEDULE 40 IRRIGATION PIPE. NON POTABLE	178.4 LF.			
=====	PIPE SLEEVE: PVC SCHEDULE 40	78.5 LF.			



project:

**FRESNO
CHAFEE
ZOO
WARTHOG
EXHIBIT**



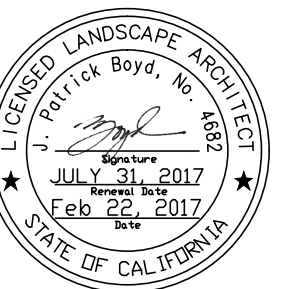
client:

**FRESNO
CHAFEE ZOO**

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drawn by: **PB** checked by: **KJ**

submittal: **No. 1** date: **12-23-2016**
No. 2 **02-22-2017**
No. 3 **03-24-2017**
No. 4

scale:

sheet title:

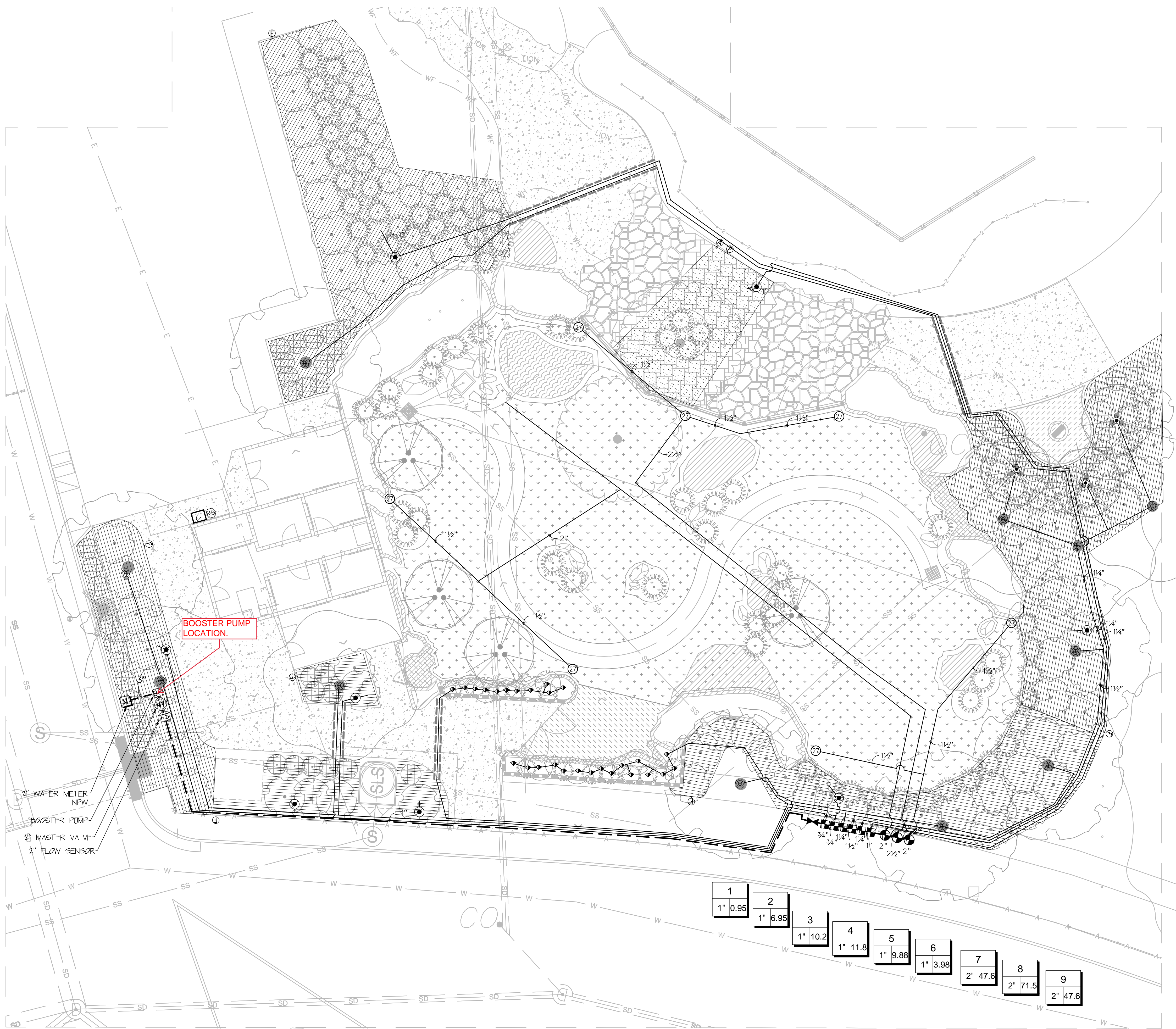
**Irrigation
Legend**

sheet no.

L14.1

project no. 16-06-005

NOTE:
ALL IRRIGATION SHALL BE NON POTABLE.
PLEASE LABEL ALL EQUIPMENT ACCORDINGLY.



GENERAL IRRIGATION NOTES

- THIS SYSTEM IS DIAGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR REVISIONS NECESSARY.
- SYSTEM DESIGN IS BASED ON MINIMUM OPERATION PRESSURE SHOWN FOR EACH POINT OF CONNECTION WITH MAXIMUM GPM DEMAND SPECIFIED. IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S CONSTRUCTION REPRESENTATIVE.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, CURB, ETC. CONTRACTOR SHALL COORDINATE ALL WORK WITH GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR LOCATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADS, PAVING AND STRUCTURES.
- MAINLINE FEEDER BETWEEN POINT OF CONNECTION, METER AND BACKFLOW PREVENTER TO BE OF MATERIAL REQUIRED BY CURRENT WATER DISTRICT.
- FINAL LOCATION OF THE AUTOMATIC CONTROLLER ENCLOSURE SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT, WHERE APPLICABLE.
- FINAL LOCATION OF THE BACKFLOW PREVENTION DEVICE SHALL BE APPROVED BY THE CITY'S REPRESENTATIVE, AND/OR LANDSCAPE ARCHITECT, WHERE APPLICABLE.
- IN ADDITION TO THE SLEEVES SHOWN ON THE PLAN, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SLEEVES OF SUFFICIENT SIZE UNDER ALL PAVED AREAS UPON APPROVAL OF THE OWNER'S REPRESENTATIVE, IF REQUIRED TO OPERATE SYSTEMS.
- IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST SYSTEM FOR MAXIMUM PERFORMANCE AND TO PREVENT OVER-SPRAY ONTO HARD SURFACES.
- CLEAN-UP ON A DAILY BASIS PER OWNER'S REPRESENTATIVE'S APPROVAL.

IRRIGATION NOTES

- IRRIGATION SLEEVES SHALL BE 2X DIAMETER OF PIPE.
- PRESSURE PIPE (MAINLINE) SHALL COMPLY WITH THE FOLLOWING:
 - PVC PLASTIC PIPE, ASTM D 1785, PVC 112, SCHED 40, 160 PSIG.
 - LATERAL PIPE (DOWNSTREAM FROM CIRCUIT VALVES) SHALL COMPLY WITH THE FOLLOWING: PVC PLASTIC PIPE, ASTM D 1785, PVC 112, SCHED 40, 160 PSIG.
- IRRIGATION LINES SHALL NOT BE LESS THAN 3/4" INSIDE DIAMETER.
- VALVES: MANUFACTURER'S STANDARD, OF TYPE AND SIZE INDICATED, AND AS FOLLOWS:
 - AUTOMATIC CIRCUIT VALVES: PLASTIC-BODIED GLOBE OR ANGLE VALVES OPERATED BY LOW-VOLTAGE SOLENOID, NORMALLY CLOSED, MANUAL FLOW ADJUSTMENT.
- VALVE BOX: MANUFACTURER'S STANDARD PLASTIC UNIT, WITH LABELED COVER, FOR EACH GROUP OF VALVES.
- SPACING OF 24 VOLT WIRES WILL NOT BE PERMITTED EXCEPT IN VALVE BOXES. LEAVE 24" COIL OF EXCESS WIRE AT EACH SOLVE. LABEL ALL WIRES W/ WATERPROOF MARKERS AT ALL SOLVES.
- VALVE MANIFOLDS: INSTALL VALVE BOXES 4' FROM AND PERPENDICULAR TO PATH EDGE, CURB, LAWN, BUILDINGS OR LANDSCAPE FEATURES AT MULTIPLE VALVE BOX GROUPS. EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, LAWN, ETC. AND EACH BOX SHALL BE 4' APART. SHORT SIDE OF VALVE BOX SHALL BE PARALLEL TO WALK, CURB, LAWN, ETC. FLUSH VALVES SHALL BE PLACED 2' FROM WALK.
- CONCRETE THRUST BLOCKS SHALL BE PROVIDED ON ALL MAINLINE PIPING THEY ARE TO BE LOCATED AT ALL ABRUPT CHANGES TO HORIZONTAL ALIGNMENT, REDUCTION IN PIPE SIZES, END OF LINE AND IN-LINE VALVES TO ABSORB ANY AXIAL THRUST OF THE PIPE. THE PIPE MANUFACTURER'S RECOMMENDATIONS FOR THRUST BLOCKS MUST BE FORMED AGAINST UNDISTURBED EARTH.


SUBSURFACE DRIP NOTES

- INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- SUBSURFACE DRIP LINE: 1/2 GPH EMITTER ASSEMBLIES SPACED @ 18" O.C. SEE PLANS FOR ROW SPACING. INSTALL APPROXIMATELY 4" BELOW SURFACE PARALLEL TO CONTOURS.
- CONTRACTOR TO INSTALL FIRST ROW OF SUBSURFACE DRIP LINE 2'-4" INSIDE OF PERIMETER OF EACH PLOT.
- IF LAST ROW BEFORE PERIMETER ROW IS LESS THAN 18", INSTALL ROW HALFWAY BETWEEN PREVIOUS ROW AND PERIMETER ROW.
- WHEN SUBSURFACE DRIP LINE RUN EXCEEDS 200 LINEAR FEET, INSTALL ADDITIONAL LATERAL FEED LINE. DO NOT ALLOW SINGLE SUBSURFACE DRIP LINE TO EXCEED 200 LINEAR FEET.
- FLUSH VALVE: INSTALL FLUSH VALVE AT LOWEST POINT IN SYSTEM. INSTALL ONE FLUSH VALVE PER 7 GPH. SEE DETAIL.
- AIR RELIEF VALVE: INSTALL AIR RELIEF VALVE AT HIGHEST POINT IN SYSTEM. SEE DETAIL.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE CALCULATIONS
 MAXIMUM ALLOWED WATER APPLIED (MAWA) = 622,108 GALLONS
 ESTIMATED TOTAL WATER USED (ETWU) (RECLAIMED) = 622,108 GALLONS

I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.
 J. PATRICK BOYD
 L.A. No. 4882
 Mar 17, 2017
 DATE:

project:
FRESNO CHAFFEE ZOO WARTHOG EXHIBIT



client:
FRESNO CHAFFEE ZOO

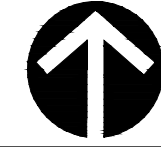
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 Studio: 559.472.9966 Fax: 559.472.9969



drawn by: **PB** checked by: **KJ**

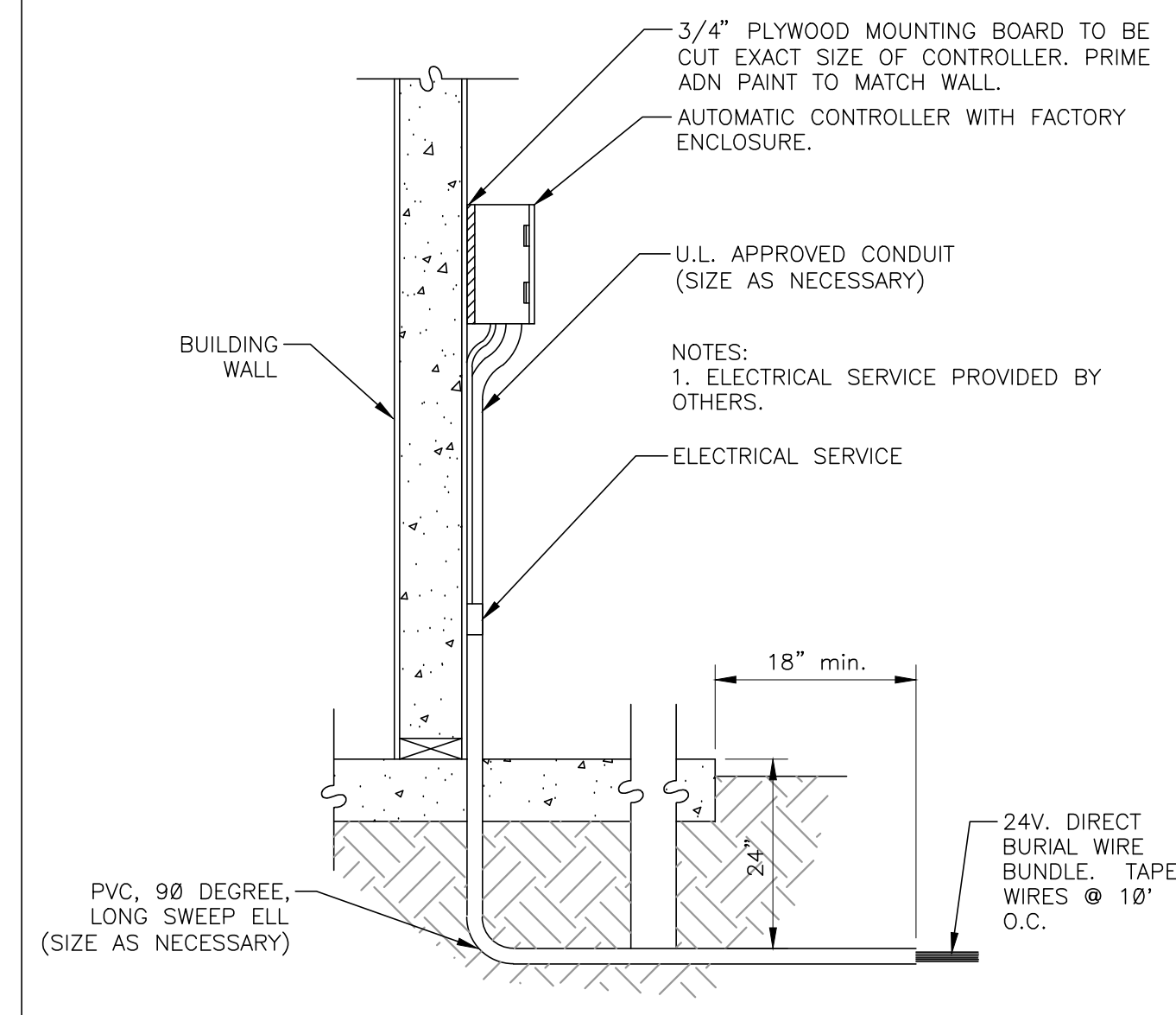
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No. 2 **02-22-2017**
No. 3 **03-24-2017**
No. 4

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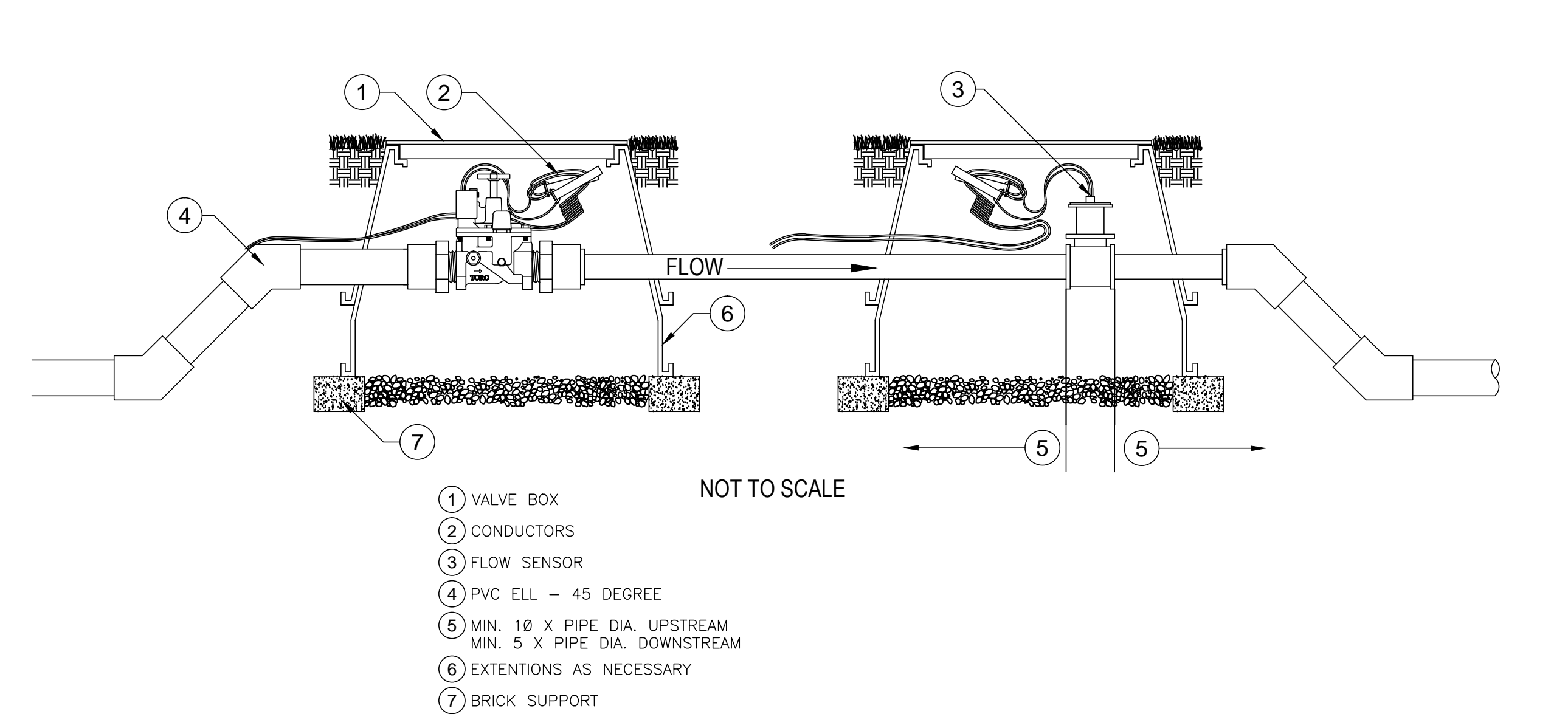
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Irrigation Plan

sheet no.
L15.1

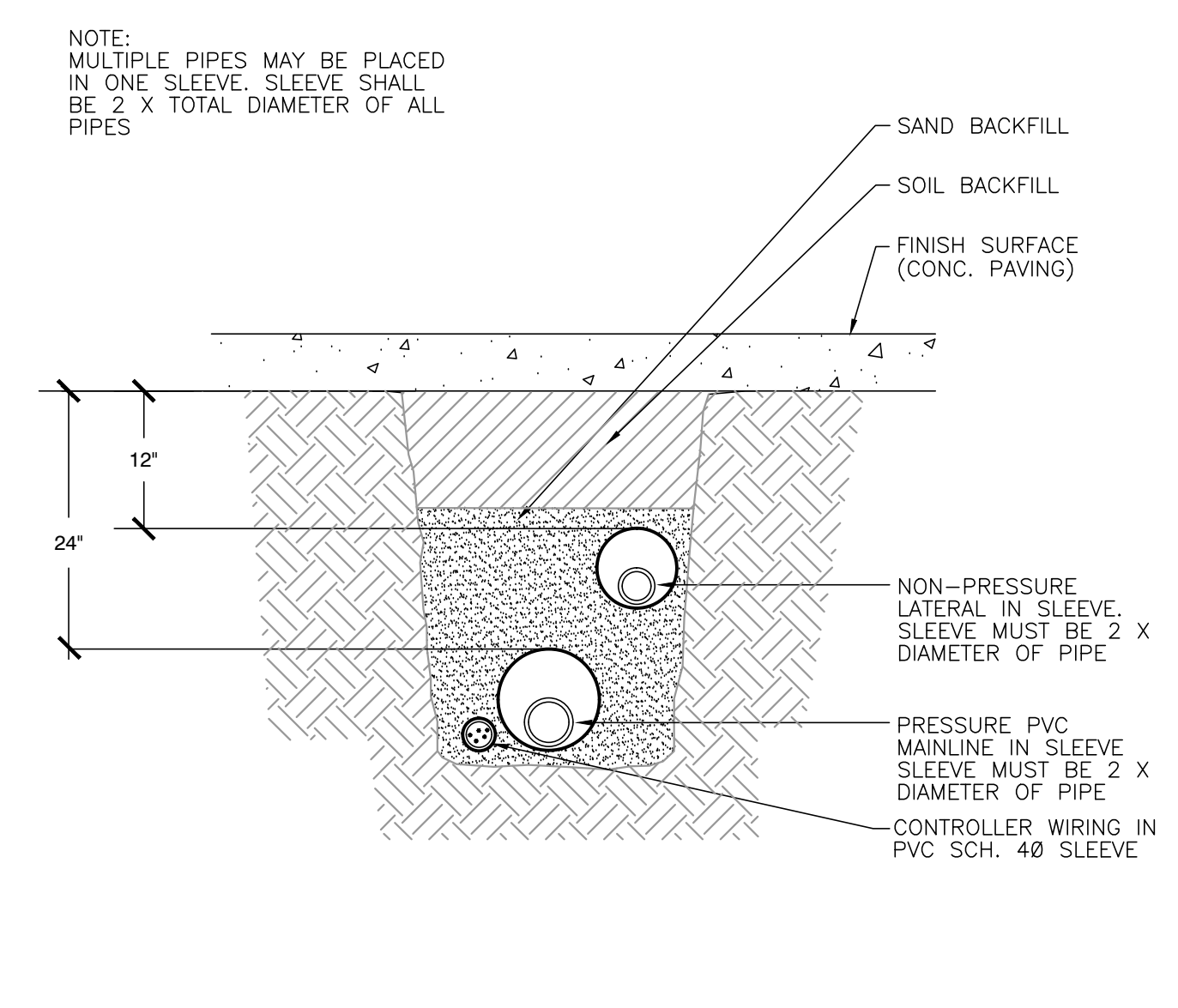
project no. 16-06-005



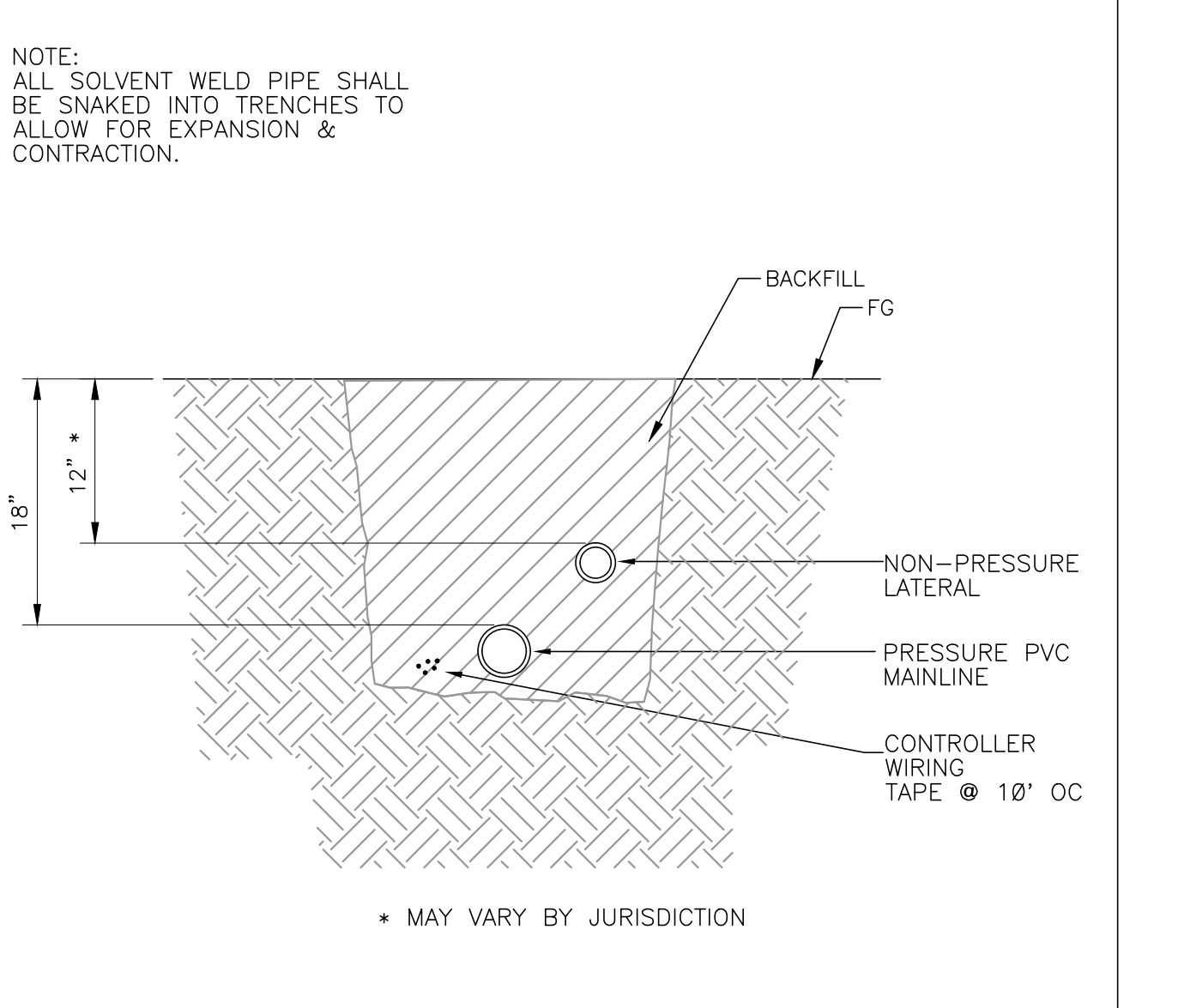
1 IRRIGATION CONTROLLER - WALL MOUNT
3/4" = 1'-0" DL-IR-IC-10



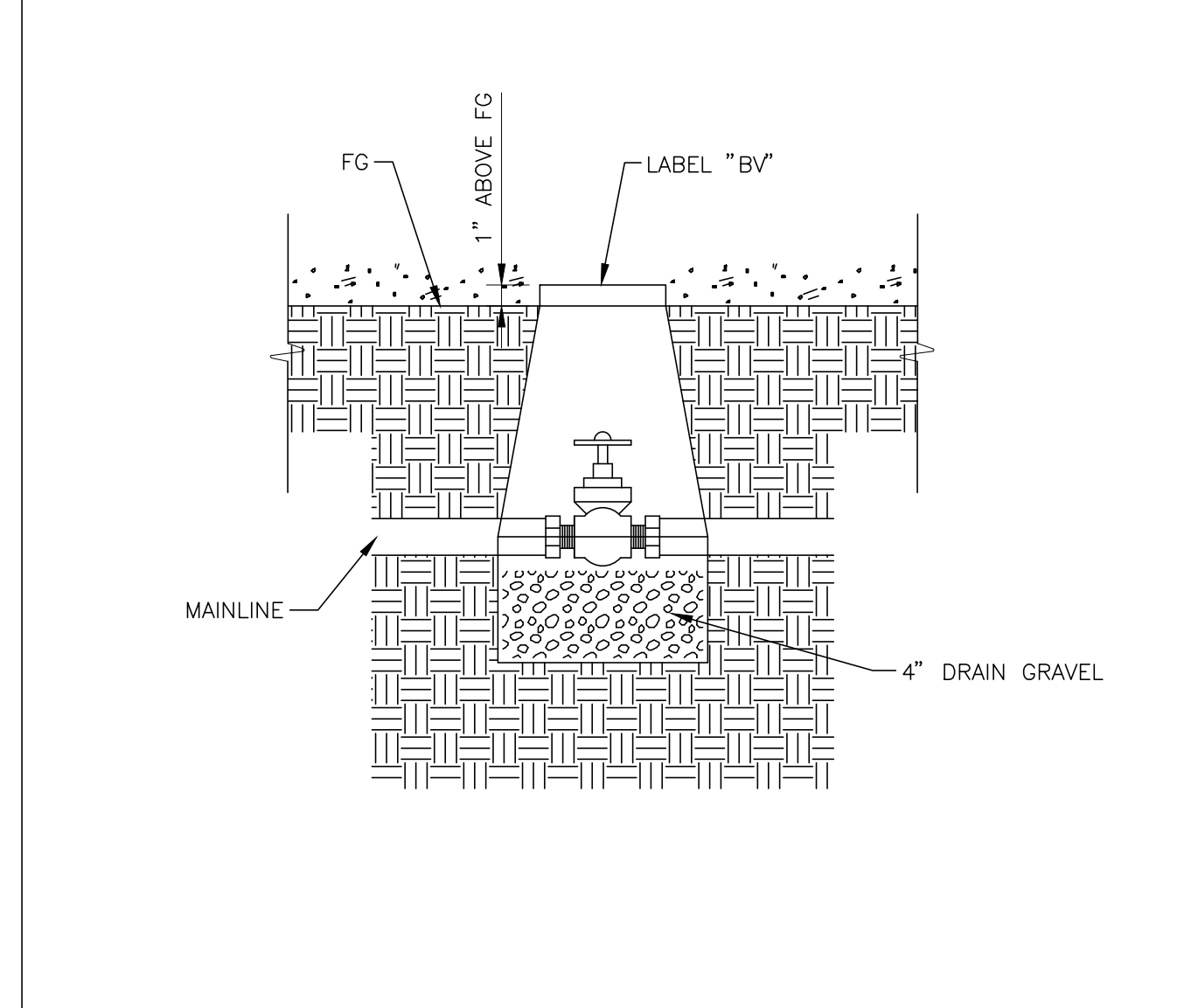
2 MASTER VALVE - FLOW SENSOR
3/4" = 1'-0" DL-IR-SEN-01



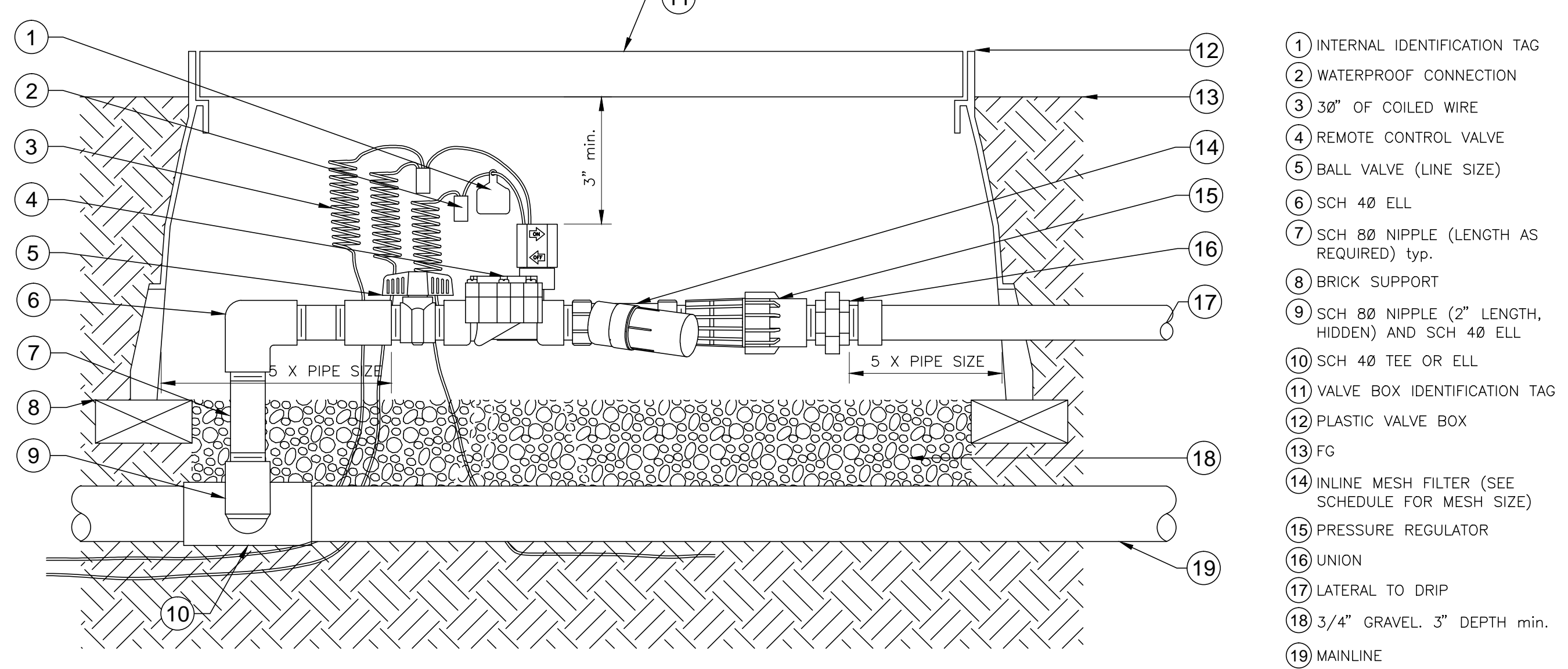
3 IRRIGATION SLEEVE - TRENCH
1" = 1'-0" DL-IR-PIP-05



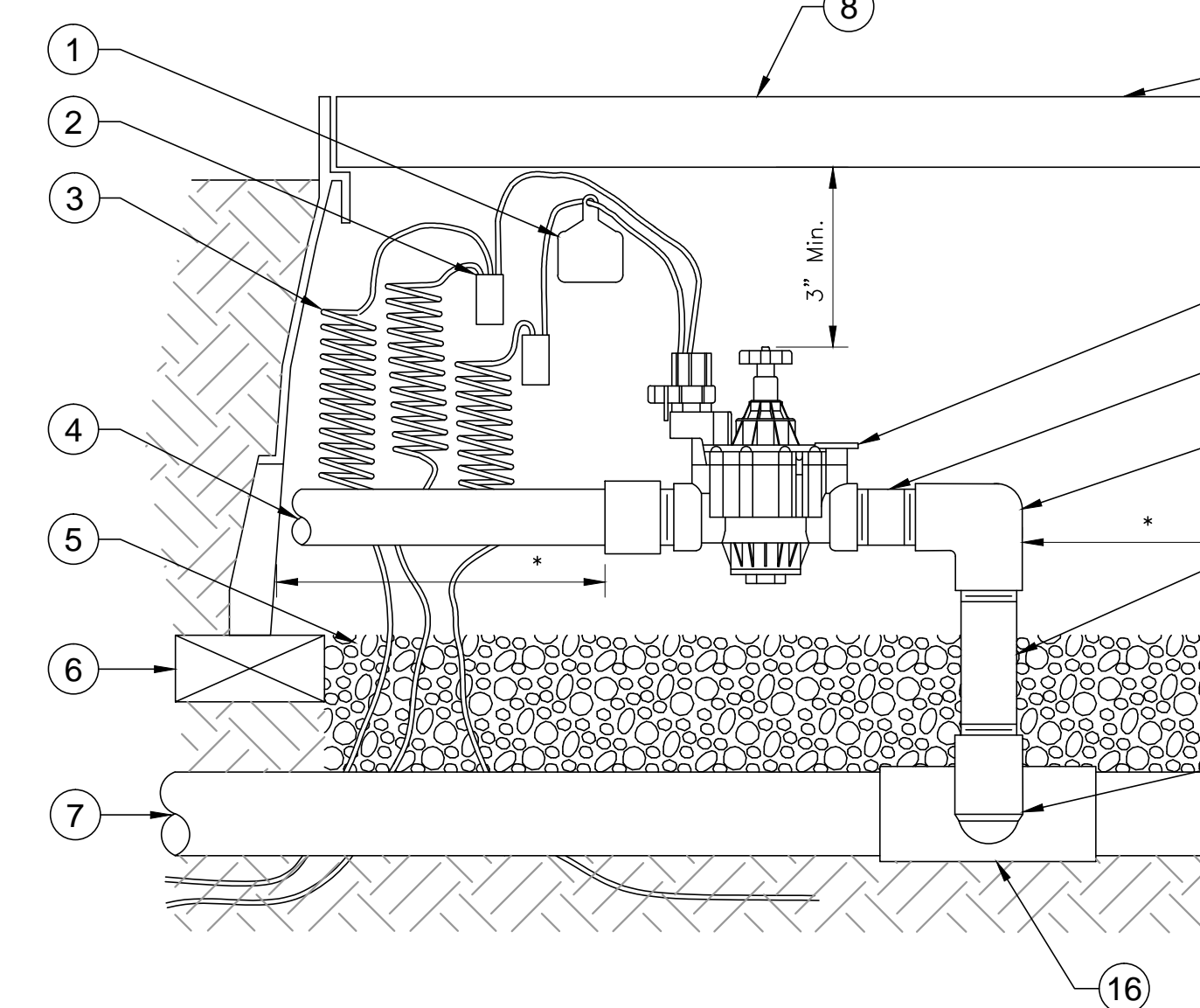
4 TRENCHING
1" = 1'-0" DL-IR-PIP-02



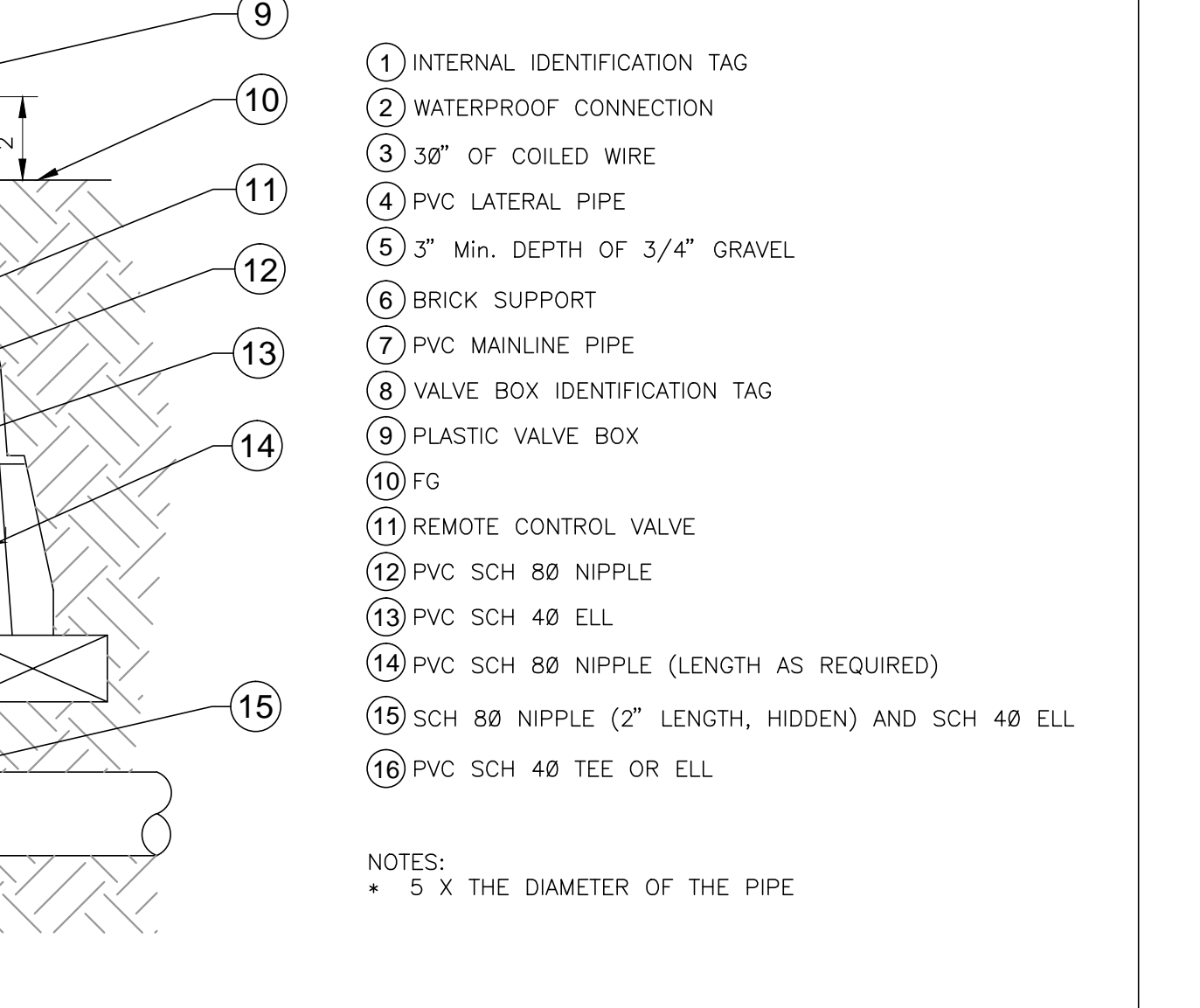
5 BALL VALVE
1 1/2" = 1'-0" DL-IR-VAL-06



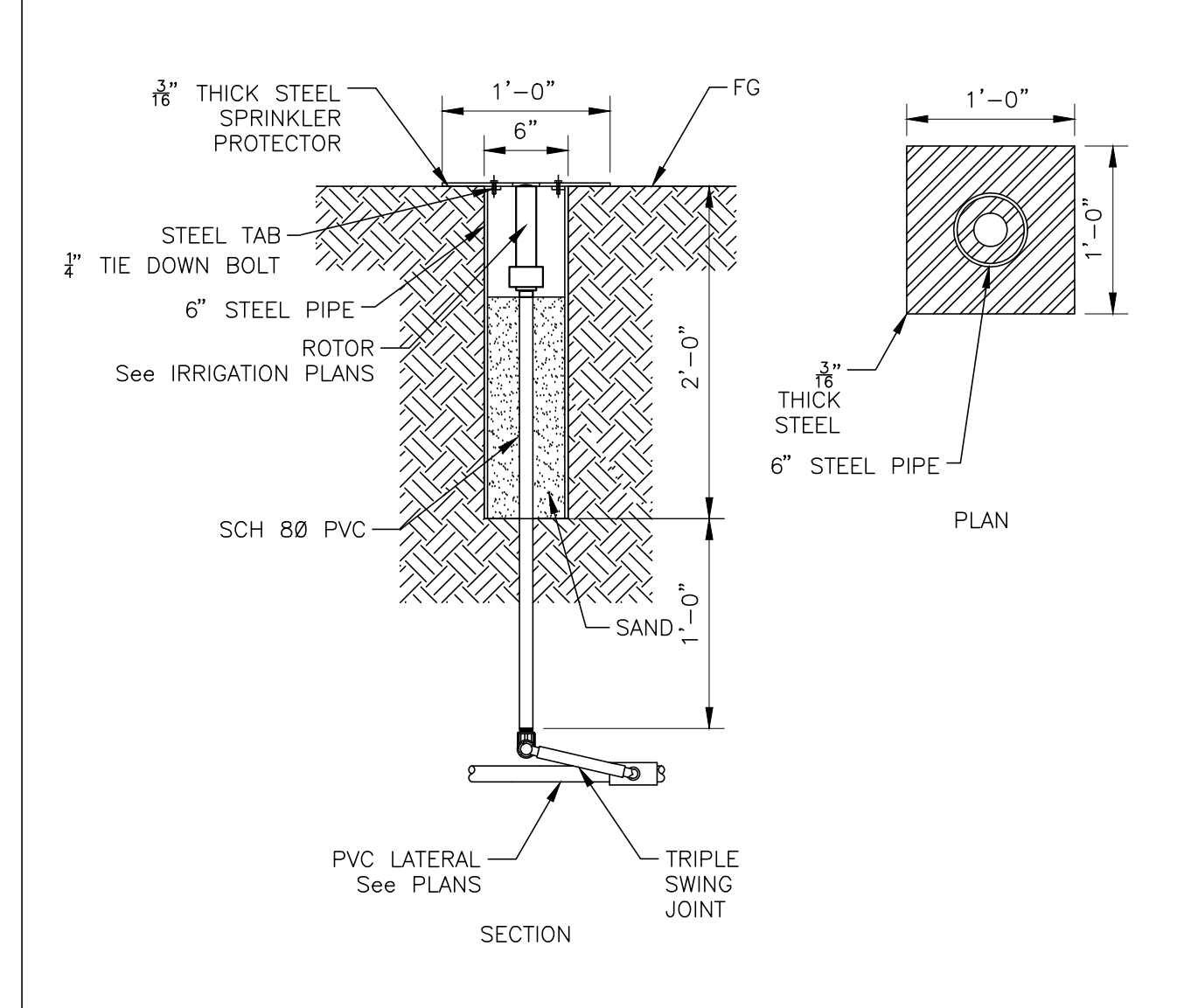
6 DRIP ZONE VALVE
3" = 1'-0" DL-IR-VAL-08



7 REMOTE CONTROL VALVE - GLOBE
3" = 1'-0" DL-IR-VAL-08



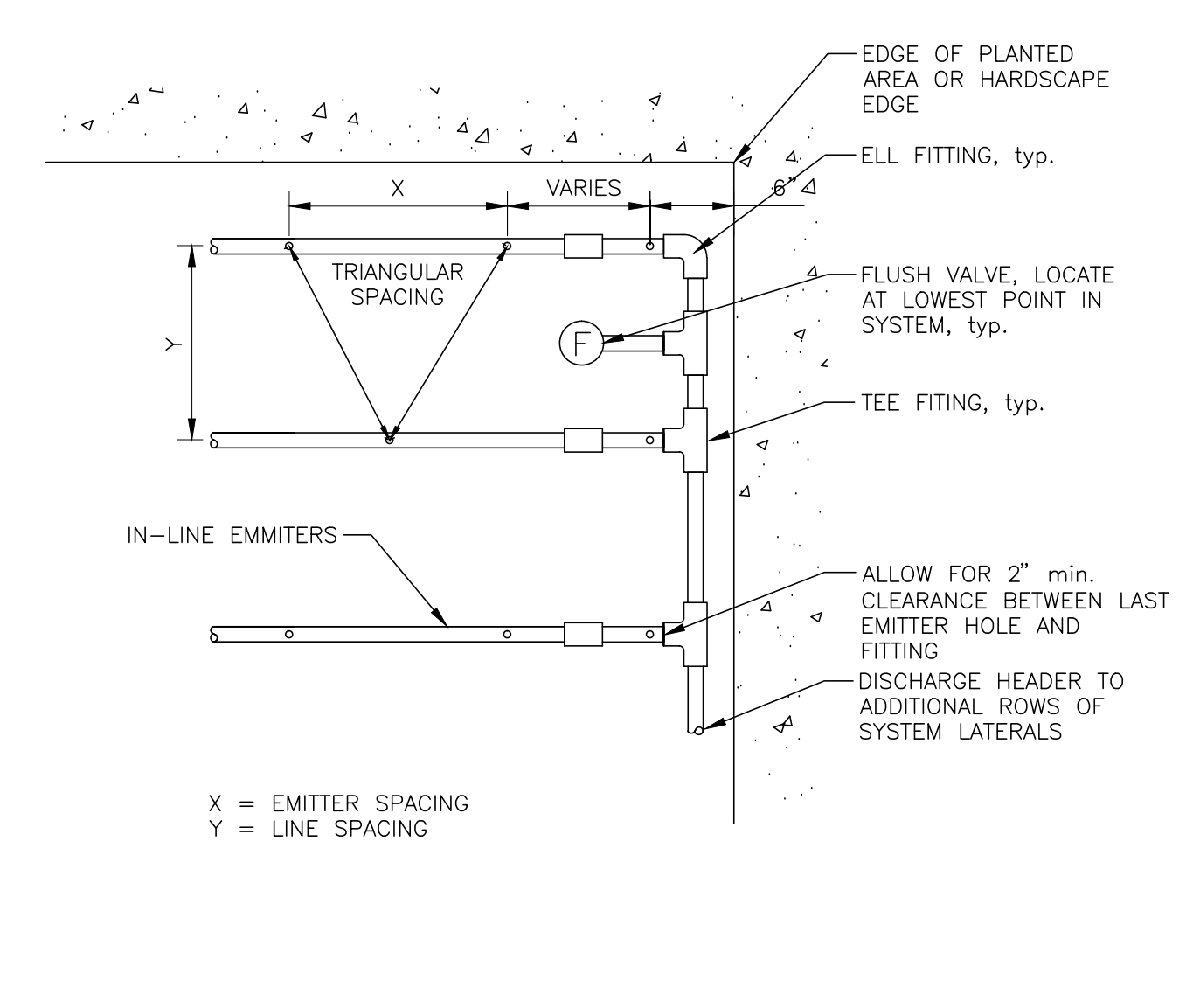
8 ROTOR IN STEEL PROTECTOR
1" = 1'-0" DL-IR-SPR-ROTO-05



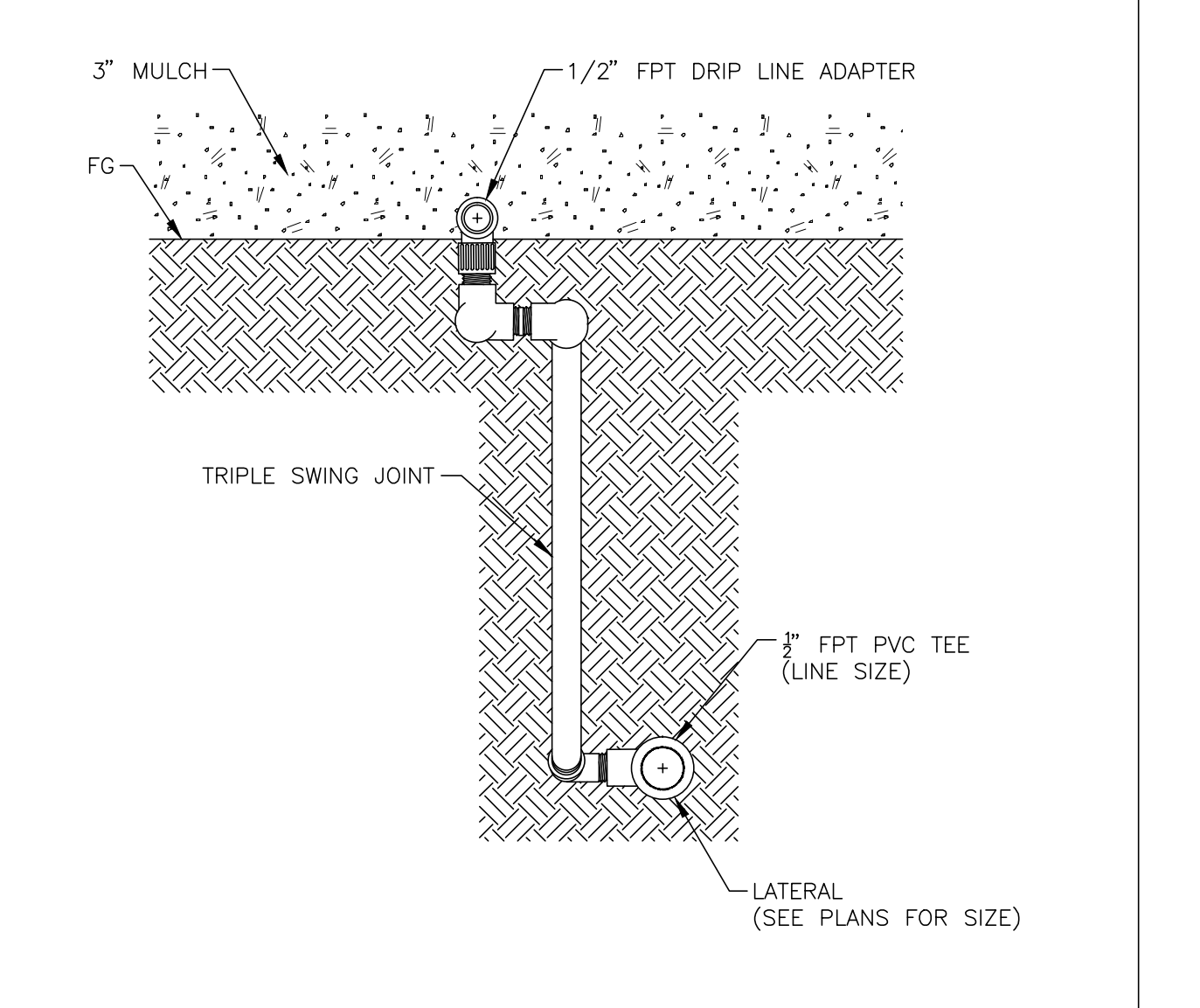
9 TREE RING IRRIGATION
1/4" = 1'-0" DL-IR-SPR-DRIP-07

TREE RING IRRIGATION

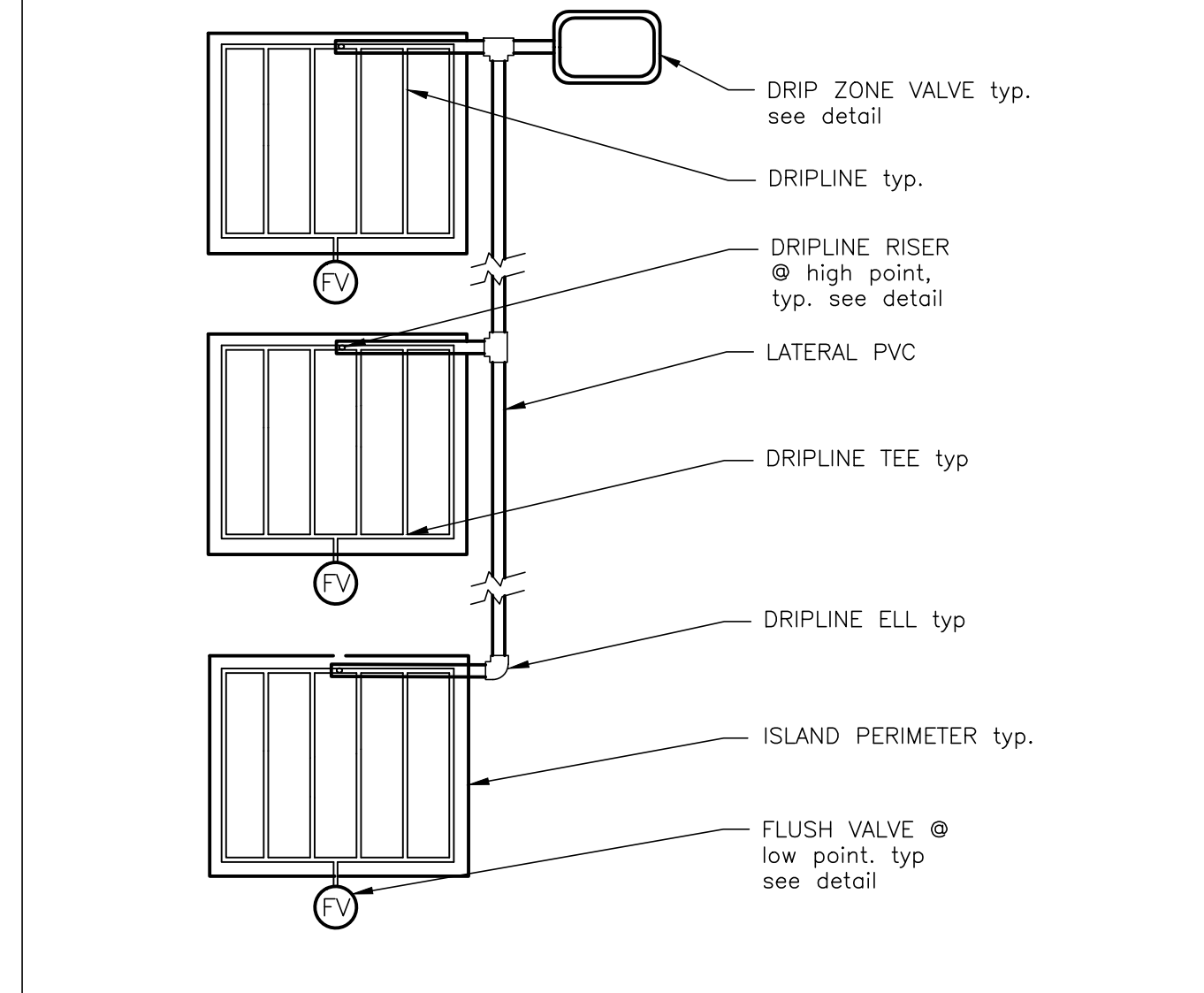
	'A' RING	'B' RING
SMALL TREE	Radius 3'-6"	2'-0"
	Emitter Spacing 1'-0"	1'-0"
	Emitter GPH 0.9000	0.9000
MEDIUM TREE	Radius 6'-0"	5'-0"
	Emitter Spacing 1'-0"	1'-0"
	Emitter GPH 0.9000	0.9000
LARGE TREE	Radius 10'-0"	8'-0"
	Emitter Spacing 1'-0"	1'-0"
	Emitter GPH 0.9000	0.9000



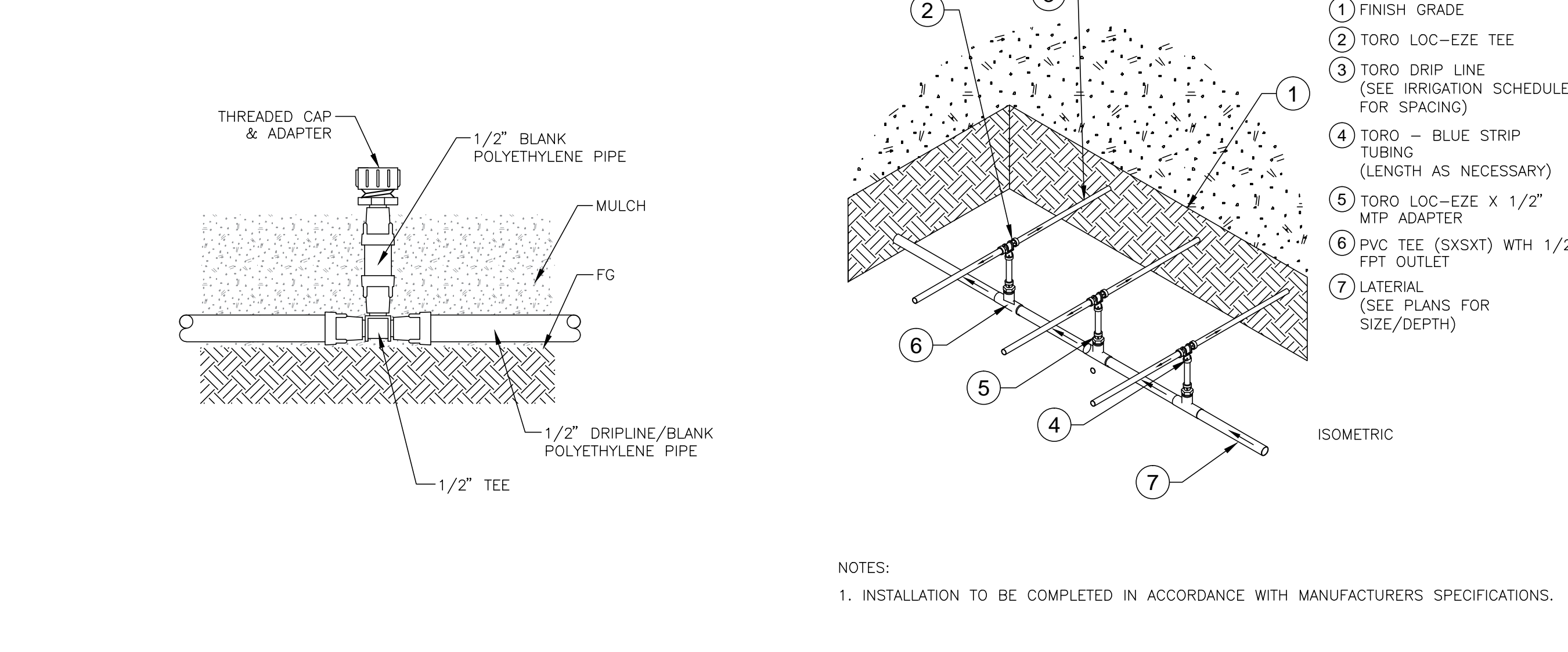
10 DRIPLINE LAYOUT
1" = 1'-0" DL-IR-SPR-DRIP-02



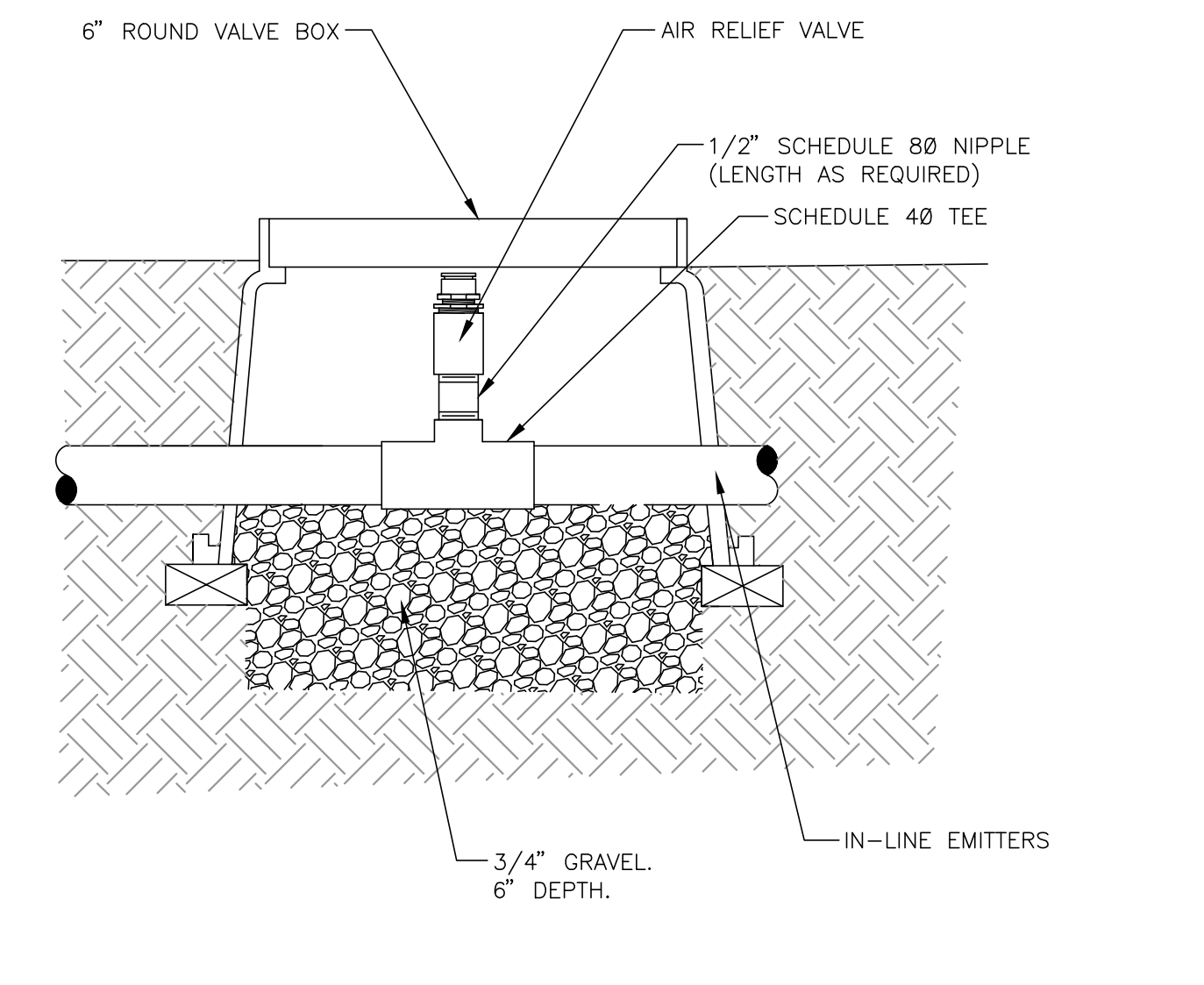
11 DRIP-LINE RISER DETAIL
3" = 1'-0" DL-IR-SPR-DRIP-03



12 DRIPLINE MANIFOLD LAYOUT
1" = 1'-0" DL-IR-SPR-DRIP-03



13 FLUSH VALVE - MANUAL - ON GRADE
6" = 1'-0" DL-IR-SPR-DRIP-01



14 TORO SUB-MANIFOLD DRIP-LINE DETAIL
1/2" = 1'-0" DL-IR-SPR-DRIP-01



15 AIR VACUUM RELIEF VALVE - DL252
3" = 1'-0" DL-IR-SPR-DRIP-01

project:
FRESNO CHAFEE ZOO WARTHOG EXHIBIT



client:

FRESNO CHAFEE ZOO

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drawn by: checked by:
PB KJ

submittal: date:
No. 1 12-23-2016
No. 2 02-22-2017
No. 3 03-24-2017
No. 4

scale:
sheet title:

Irrigation Details

sheet no.
L16.1

project no. 16-06-005

THE EFFICIENT PUMPING SYSTEM UP TO 85 GPM

Setting the standard for 25 years, the WaterMax Series provides a complete line of self-enclosed pumping systems for landscape irrigation. Watertronics' proprietary control software combines with VFD technology to provide highly efficient, precision pumping in a durable, compact design.

PRECISE PRESSURE REGULATION

WaterMax 3000 Pumping Systems are pre-fabricated, self-contained and incorporate the latest VFD technology to provide smooth, accurate, surge-free and energy efficient performance at varying flow rates. Whether your water source is a lake, pond or a boosted city supply, the 3000 can provide the water and constant pressure desired up to 85 GPM or 95 PSI.

BUILT TO WITHSTAND THE TEST OF TIME AND TOUGH CONDITIONS

A multi-step coating system of metal preparation, rust-inhibitive baked epoxy primecoat and a two-part UV-resistant baked polyurethane finish produces a long-lasting, durable, and rust-free product.

DYNAMIC FACTORY TESTING

Every WaterMax System is fully performance tested at field conditions prior to shipment to ensure your pump will perform exactly as promised. All WaterMax Products carry a 1 year limited warranty against defects in materials and workmanship.

- A compact pumping station built to provide years of dependable service
- Energy-efficient VFD system provides a surge-free soft start
- Pump Service Network (PSN) provides nationwide technical service for installation, start-up, user training and maintenance



- For suction lift, boost or flooded intake applications
- Flows up to 85 GPM
- Motor range: 3 HP, 5 HP, 7.5 HP
- Voltage options

208/3 phase - 240/1 phase - 240/3 phase - 480/3 phase

STANDARD FEATURES AND BENEFITS

- NEMA 3R service rated, fused main disconnect with lightning surge protection to safeguard station electronic components from power surge.
- Variable Frequency Drive for constant pressure, variable flow and surge free soft starting
- Multi-line operator interface display
- Alarms:
 - High pump temperature shutdown
 - High pressure shutdown
 - Low pressure shutdown
 - Motor overload shutdown
 - VFD fault shutdown
 - Phase loss (3 phase only)
- Pressure drop starting
- 316 stainless steel pressure transducer for accurate repeatability of all pressure signals
- Pump construction features include a bronze impeller and a cast iron volute with back pullout design
- Heavy duty, energy efficient pump/motor with ranges from 3 HP to 7.5 HP
- Station gate valve located inside the enclosure to isolate the pump station from the irrigation system
- Priming port for suction lift application located outside of the enclosure for easy system priming
- 2.5" foot valve (shipped loose on lift application)
- 2" silent check valve on booster model
- Engineered, forced air cooled, weather resistant 14 gauge steel enclosure with lockable lid
- Multi-step coating system which includes metal preparation, rust-inhibitive, baked epoxy prime coat, and a two-part ultraviolet insensitive baked polyurethane finish
- Corrosion resistant stainless steel hardware
- Performance run tested prior to shipment

AVAILABLE OPTIONS

- 24 volt controller start (up to 3 additional)
- Suction & Discharge drop pipes
- Flexible intake hose assembly with foot valve
- Stainless steel enclosure
- Dead-front service disconnect



NEMA 3R service rated, fused main disconnect with lightning surge protection to safeguard station electronic components from power surge.



A multi-step coating system which includes metal preparation, rust-inhibitive, baked epoxy prime coat, and a two-part ultraviolet insensitive baked polyurethane finish is used to produce a long lasting, rust-free and professional looking product.

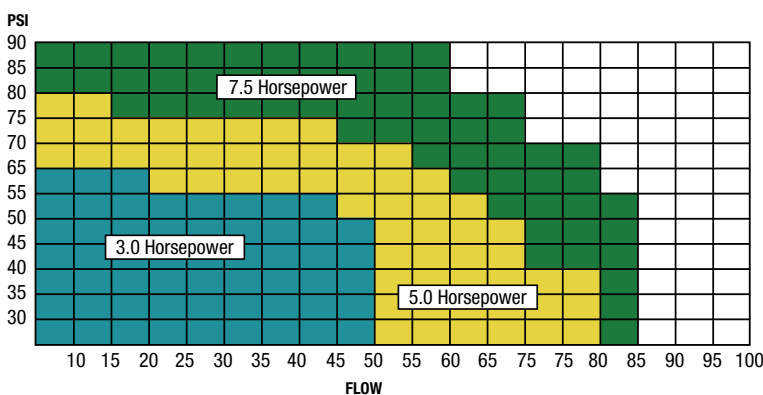


Variable Frequency Drive for constant pressure, variable flow and surge free soft starting



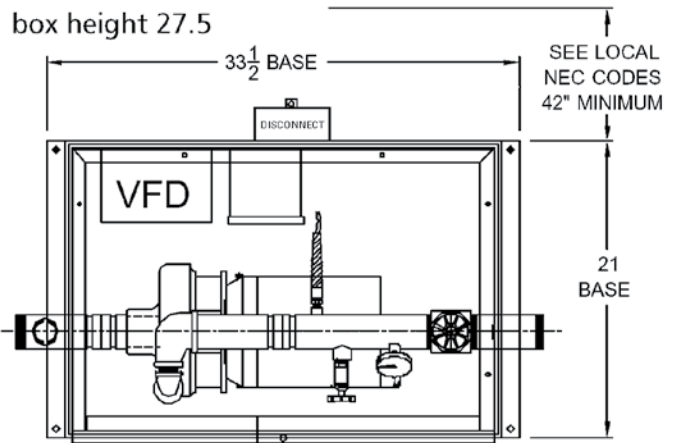
Exhaust fan cools the pump motor, switchgear and control logic. It activates when the pump starts.

3000 PUMP STATION PERFORMANCE CHART



Performance chart is based on a 5 foot suction lift.

Add 2 PSI for booster performance



TOP VIEW

Mike Elrod
 Soltek
 Project Manager
 1080 Holland Ave
 Clovis, CA. 93612
 559.696.8668

Received Date: May 8, 2017
 Project: Chaffee Zoo - Warthogs
 Delivered via: melrod@soltekpacific.com

RFI#1:

No.	Question:	Comments
1	Details 1 & 2/L7.1 and detail 7/L7.1; please specify ag base thickness.	5" AG
2	Detail 1/L7.1; is ag base required under concrete grade beam?	AG base is not required under the grade beam.
3	Is ag base required under colored stamped concrete?	Yes
4	Details 1,2,3,4,5/L10.1; please specify wood post size and type.	6" Douglas fir per detail 3/L10.1
5	Symbol W-103/L4.1 states a quantity of 241. This is incorrect or does not coincide with the scale of the plans, please clarify.	Length is 60'
6	Symbol W-105/L4.1 quantity is incorrect or does not coincide with the scale of the plans, please clarify.	Length is 73'
7	Details 1 & 2/L6.1 reference detail 1/L-8; there is no sheet L-8. Please clarify.	Wire Mesh fence details are located on L9.1
8	Detail 10/L10.1 Concrete grade beam is called out. Is this shotcrete, since it is in line with the shotcrete wall	4' Chain link access gates have been removed from the plans. Disregard detail.

9	Detail 10/L10.1 shows a single 4'-0" gate, whereas "CH" on L3.1 shows double gate. Please clarify.	"CH" refers to 11/L10.1 double access gate. A grade beam will not be necessary due to the concrete pad at that location.																																			
10	L3.1 shows two additional 3'-0" gates or doors, but does not specify what they are. Please specify.	<p>Item 10-man doors into rocks will be furnished by Contractor and installed by rock sub trade contractor. The doors need to be a 5-7/8" hollow metal frame and door. Door hardware at man doors into rocks to be as follows;</p> <table border="1"> <thead> <tr> <th>Qty</th> <th>Description</th> <th>Catalog Number</th> <th>Finish</th> <th>Mfr</th> </tr> </thead> <tbody> <tr> <td>3 EA</td> <td>HW HINGE</td> <td>5BB1HW 4.5 X 4.5</td> <td>652</td> <td>IVE</td> </tr> <tr> <td>1 EA</td> <td>STOREROOM LOCK</td> <td>L9080T 06A</td> <td>626</td> <td>SCH</td> </tr> <tr> <td>1 EA</td> <td>PRIMUS CORE</td> <td>20-740-XP</td> <td>626</td> <td>SCH</td> </tr> <tr> <td>1 EA</td> <td>FLOOR STOP</td> <td>FS436</td> <td>626</td> <td>IVE</td> </tr> <tr> <td>1 EA</td> <td>THRESHOLD</td> <td>PER</td> <td>AL</td> <td></td> </tr> <tr> <td>1 EA</td> <td>SURFACE CLOSER</td> <td>DETAILS 4040XP</td> <td>689</td> <td>LCN</td> </tr> </tbody> </table>	Qty	Description	Catalog Number	Finish	Mfr	3 EA	HW HINGE	5BB1HW 4.5 X 4.5	652	IVE	1 EA	STOREROOM LOCK	L9080T 06A	626	SCH	1 EA	PRIMUS CORE	20-740-XP	626	SCH	1 EA	FLOOR STOP	FS436	626	IVE	1 EA	THRESHOLD	PER	AL		1 EA	SURFACE CLOSER	DETAILS 4040XP	689	LCN
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11	Sheet A1; please clarify thickness of concrete in Yard 7 & 8, type/reinforcing/substrate.	No Concrete in Yards 7 or 8, native soil with 3' deep concrete footings at fencing per plan.																																			

Patrick Boyd
Vice President



p: 559.901.8647
e: patrick@designlab252.com

cc: Alan Mok
Dustan Bagliere



ZUMWALT CONSTRUCTION, INC.

GENERAL CONTRACTOR'S LICENSE #706140

5520 E. Lamona Ave., Fresno, CA 93727
(559) 252-1000 office • (559) 252-1005 fax
zumwalt@zumwaltconst.com e-mail

REQUEST FOR INFORMATION

R.F.I. NO. Pre Bid 001

PROJECT: Pre Bid FCZ WARTHOG EXHIBIT DATE: 5/2/17
ZOO PROJ MGR: MIKE ELROD RESPONSE NEEDED BY : 5/4/17
OWNER: FRESNO'S CHAFFE ZOO
ARCHITECT: TAM & CZ
INSPECTOR: City of Fresno

FROM: ZCI TO: ROBERT BORO/MIKE ELROD

SUBJECT: DOOR HARDWARE SCHEDULE

REFERENCE PLANS: SHEET NO. DETAIL NO.
SPEC'S: X SECTION 08- 7100 ARTICLE/PKG

REQUEST: Please furnish a Door Hardware schedule, There is no section 08-07100 in the spec book

SUGGESTION:

Table with 2 rows and 8 columns: Anticipated Cost Impact, Anticipated Time Impact, UNKNOWN, UNKNOWN, Yes, X, No, Yes, No

SIGNED BY: RICH FERREIRA DATE 5/2/17

RESPONSE: SEE ADDENDA 1 FOR DOOR REVISED HARDWARE SCHEDULE INFO.

ATTACHMENTS: () Specifications () Drawing No (s)

SIGNED BY: TITLE: DATE:



FAX

BID RFI NO. 1

To:	Mike Elrod	From:	Eric Bower
<i>Company:</i>	Soltek	<i>Company:</i>	BMY Construction Group, Inc.
<i>Fax number:</i>		<i>Page(s):</i>	(1) Including Cover Page
<i>Phone number:</i>		<i>Date:</i>	5/5/2017
Reference: FCZ Warthog Exhibit			

BMY Construction Group, Inc. is requesting the following clarifications, specifications and/or request for information:

1. Details 1 & 2/L7.1 and detail 7/L7.1; please specify ag base thickness.
2. Detail 1/L7.1; is ag base required under concrete grade beam?
3. Is ag base required under colored stamped concrete?
4. Details 1,2,3,4,5/L10.1; please specify wood post size and type.
5. Symbol W-103/L4.1 states a quantity of 241. This is incorrect or does not coincide with the scale of the plans, please clarify.
6. Symbol W-105/L4.1 quantity is incorrect or does not coincide with the scale of the plans, please clarify.
7. Details 1 & 2/L6.1 reference detail 1/L-8; there is no sheet L-8. Please clarify.
8. Detail 10/L10.1 Concrete grade beam is called out. Is this shotcrete, since it is in line with the shotcrete wall or cast in place concrete? Dimensions and reinforcing is needed if it is cast in place.
9. Detail 10/L10.1 shows a single 4'-0" gate, whereas "CH" on L3.1 shows double gate. Please clarify.
10. L3.1 shows two additional 3'-0" gates or doors, but does not specify what they are. Please specify.
11. Sheet A1; please clarify thickness of concrete in Yard 7 & 8, type/reinforcing/substrate.
Response to 11. No Concrete in Yards 7 or 8, native soil with 3' deep concrete footings at fencing per plan.

Thank you,
BMY Construction Group, Inc.

Eric Bower
President



FAX

BID RFI NO. 2

To:	Mike Elrod	From:	Eric Bower
<i>Company:</i>	Soltek	<i>Company:</i>	BMY Construction Group, Inc.
<i>Fax number:</i>		<i>Page(s):</i>	(1) Including Cover Page
<i>Phone number:</i>		<i>Date:</i>	5/5/2017
Reference: FCZ Warthog Exhibit			

BMY Construction Group, Inc. is requesting the following clarifications, specifications and/or request for information:

1. Please specify door hardware for Doors 103 thru 119.
#1 Response: As stated during the job walk. All animal pen gates will be custom fabrication, this includes the all pulley system and hardware. These will require shop drawings to be submitted for approval. Padlock type is listed in the Typical Door Hardware notes, sheet A4.
2. Please specify door types 118 & 119.
#2 Response: Doors for 118 & 119 are chain link fence gates.
3. Sheet L1.1 calls for 570 sf of interlocking pavers. This is incorrect or the scale of the plans is off. Please clarify.

Thank you,
BMY Construction Group, Inc.

Eric Bower
President

Request For Information No. 001

Project: Fresno Chaffee Zoo – Warthog Exhibit

Date: 5/3/2017

Required Response Date: ASAP

To: Jan Mitchell
BMY Construction Group, Inc.
Ph (559) 243-4200
jmitchell@bmyinc.com

Subject: Exterior Windows / Tubular Skylights

Description of Request:

1. Exterior window type B in sheet A4 calls for detail 6/A6, which shows a hollow-metal frame. Are these windows to be hollow metal, and if so, what glass type will be required?
2. Will any specifications be released for the tubular skylights?

RESPONSE :

- 1) WINDOW FRAMES CAN BE ALUMINUM. REFER TO SPEC FOR ALUMINUM WINDOW FRAMES. GLAZING SHALL BE SINGLE PANE, TEMPERED, 1/4" THICK, CLEAR FLOAT GLASS.
- 2) SKYLIGHT SPECIFICATION WILL BE ADDED. SEE ATTACHED.