



WURZBACH PUMP STATION IMPROVEMENTS PROJECT

Solicitation Number: CO-00239

Job No.: 15-6003

ADDENDUM 4

November 6, 2018

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the bid proposal, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the bid proposal.

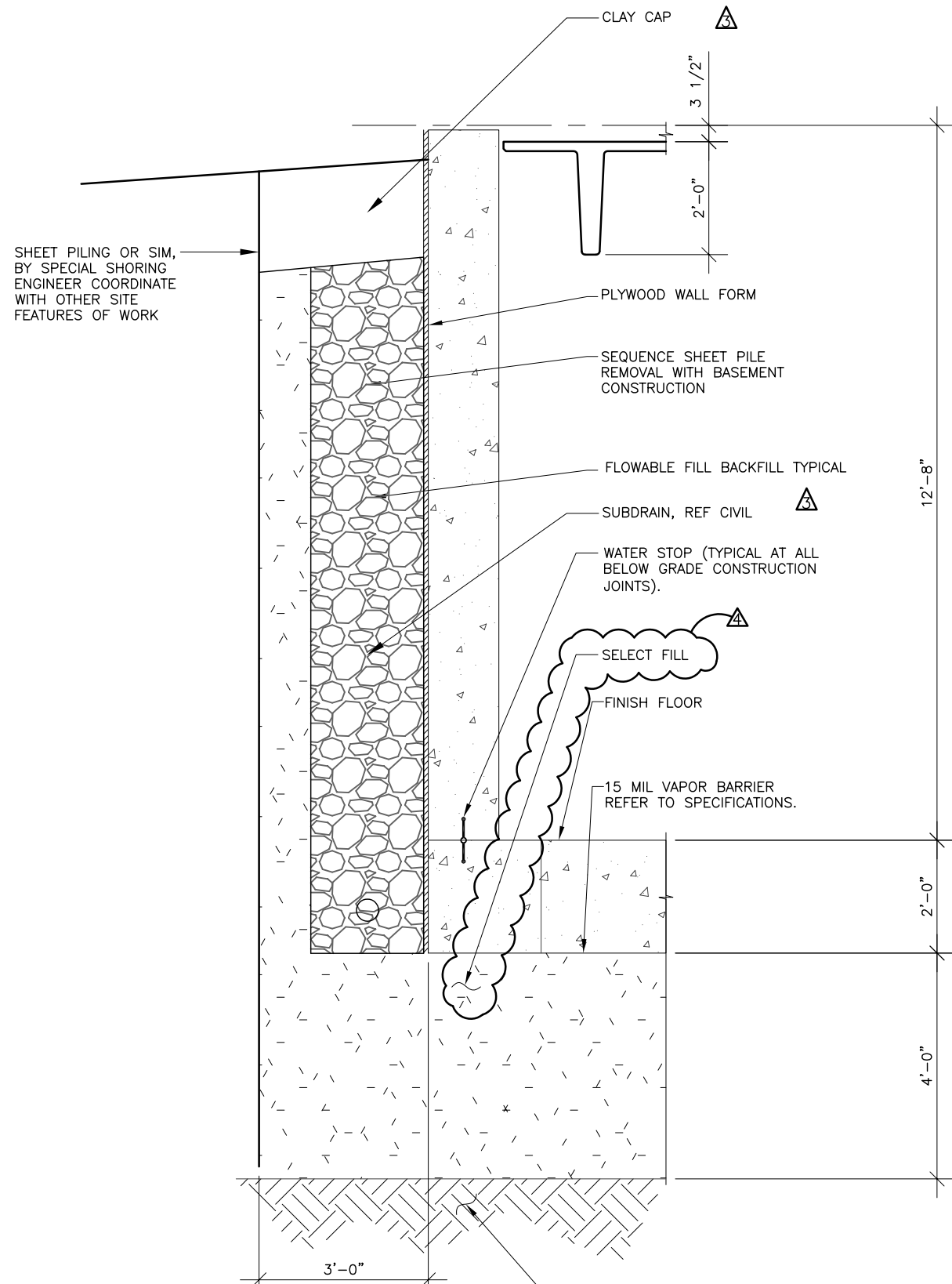
CHANGES TO THE PLANS

1. **Sheet S12:** Replace in entirety with the attached.
2. **Sheet E9:**
 - a. Revise the "SPD" item shown on each bus to "SA" item (Surge Arrestor). The Surge arrestors shall be per 16340-2.04.B.
 - b. The CPTs shall be connected to the bus and not the capacitor trip device (CD).
 - c. The 120/240V Power Panel shall be connected to the capacitor trip devices and not the 86 devices.
 - d. The top Bus A Breaker shall be re-labeled as "52 A1". The bottom Bus A breaker shall be re-labeled as "52 A2".
 - e. The top Bus B Breaker shall be re-labeled as "52 B1". The bottom Bus B breaker shall be re-labeled as "52 B2".
3. **Sheet E30:** Replace in entirety with the attached.
4. **Sheet E33:** Replace in entirety with the attached.



Grubb Engineering, Inc.
TBPE Firm Registration No. 3904

END OF ADDENDUM



1 TYPICAL WALL SECTION
SCALE: 3/8" = 1'-0"

TEMPORARY SPECIAL SHORING GENERAL NOTES

- TEMPORARY SPECIAL SHORING WILL BE REQUIRED DURING CONSTRUCTION OF THE PROPOSED FOUNDATION CONCRETE SLABS AND WALLS FOR THE PURPOSES OF:
 - TO PROVIDE A SAFE AND SECURE WORK SITE DURING THE EXCAVATION REQUIRED FOR THE ELECTRICAL BUILDING OF THIS STRUCTURE ON THIS PROJECT.
 - TO HOLD AND PREVENT SURROUNDING EARTH, WATER OR BOTH FROM ENTERING THE WORK AREA AS A RESULT OF THE PROPOSED EXCAVATION.
 - PROTECT EXISTING INFRASTRUCTURE ELEMENTS DURING THE CONSTRUCTION OF THE NEW FACILITIES.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR THE SPECIAL SHORING LAYOUT AND DESIGN. PRIOR TO DESIGN OF THE SPECIAL SHORING THE CONTRACTOR WILL BE RESPONSIBLE FOR IDENTIFYING LOCATING AND SURVEYING ALL EXISTING FEATURES, BOTH BURIED AND OVERHEAD, WHICH WILL BE REQUIRED TO BE RESTRAINED, PROTECTED OR COULD BE IN CONFLICT WITH CONSTRUCTION OF THE PROPOSED STRUCTURE AND THE SPECIAL SHORING. THE CONTRACTOR SHALL SUBMIT DETAILS AND DESIGN PLANS AND CALCULATIONS PREPARED BY AND BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, FOR REVIEW AND COMMENT BY THE OWNER, PRIOR TO BEGINNING ANY SPECIAL SHORING CONSTRUCTION. THE OWNER RESERVES THE RIGHT TO REJECT ANY DESIGNS SUBMITTED. REVIEW AND ACCEPTANCE OF THE DESIGN BY THE OWNER DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE COMPLETION OF THE WORK OR FROM LIABILITY FOR REPAIR OR REPLACEMENT OF DAMAGED PORTIONS OF ANY EXISTING OR NEW STRUCTURES DUE TO THE METHODS ACCEPTED AND EMPLOYED.

DESIGN OF THE SPECIAL SHORING SHALL CLEARLY IDENTIFY THE METHODS, MATERIALS, OTHER SUPPORTS AND OTHER EQUIPMENT PROPOSED FOR USE, AS WELL AS THE PROPOSED CONSTRUCTION SEQUENCE.

DESIGN OF THE TEMPORARY SPECIAL SHORING SHALL COMPLY WITH OSHA STANDARDS AND INTERPRETATIONS, 29 CFR 1926, SUBPART P, EXCAVATIONS. DESIGN OF TEMPORARY SPECIAL SHORING STRUCTURAL SYSTEMS SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, ACI 347-04 GUIDE TO FORMWORK FOR CONCRETE, SHEET PILING DESIGN MANUAL AND AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES.
- THE DESIGN OF SPECIAL SHORING SHALL ACCOUNT FOR THE CURRENTLY EXISTING SOIL PROPERTIES AND THE SOIL PROPERTIES FOR ANY REQUIRED SELECT BACKFILL UNDER OR AGAINST THE PROPOSED STRUCTURE. THE DESIGN OF SPECIAL SHORING SHALL ALSO ACCOUNT FOR ANY TEMPORARY TRAFFIC OR EQUIPMENT SURCHARGE LOADS, WHICH MAY BE NECESSARY FOR NORMAL PLANT OPERATIONS AND FOR CONSTRUCTION OF THE PROPOSED STRUCTURE. THE OWNER HAS LIMITED EXISTING SOIL INVESTIGATION INFORMATION, IN THIS AREA, AVAILABLE FOR REVIEW BY THE CONTRACTOR HOWEVER THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION FOR THE DESIGN OF THE SPECIAL SHORING. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING THE SERVICES OF A PROFESSIONAL ENGINEER FOR DETERMINATION OF IN-SITU SOIL DESIGN PROPERTIES FOR USE IN DESIGN OF THE SPECIAL SHORING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO OWNER FOR APPROVAL, ALL BACKFILL MATERIAL PROPOSED TO BE UTILIZED BETWEEN THE SPECIAL SHORING AND PERMANENT STRUCTURES. SUCH BACKFILL SHALL BE CONSISTENT WITH REQUIREMENTS OF BACKFILL SPECIFIED, ELSEWHERE IN THESE PLANS, FOR USE AT OTHER PERMANENT STRUCTURES ON THIS PROJECT.
- CONTRACTOR SHALL BE REQUIRED TO PROVIDE OWNER WITH ACCURATE "AS BUILT DRAWINGS" FOR ANY SPECIAL SHORING WHICH SHALL REMAIN IN PLACE, AFTER PERMANENT CONSTRUCTION IS COMPLETED.

100% SUBMITTAL

SEA
STRUCTURAL ENGINEERING
ASSOCIATES, INC.
CONSULTING ENGINEERS
SAN ANTONIO, TEXAS
STATE REG. NO. F-188
EXPIRES 12/31/2020
www.sea-inc.com

STATE OF TEXAS
PROFESSIONAL ENGINEER
ENG. H. JANELLA
109207
11/6/18

JOB NO.
15-6003

REVISIONS	
No.	Date
1	11/1/18
2	11/6/18

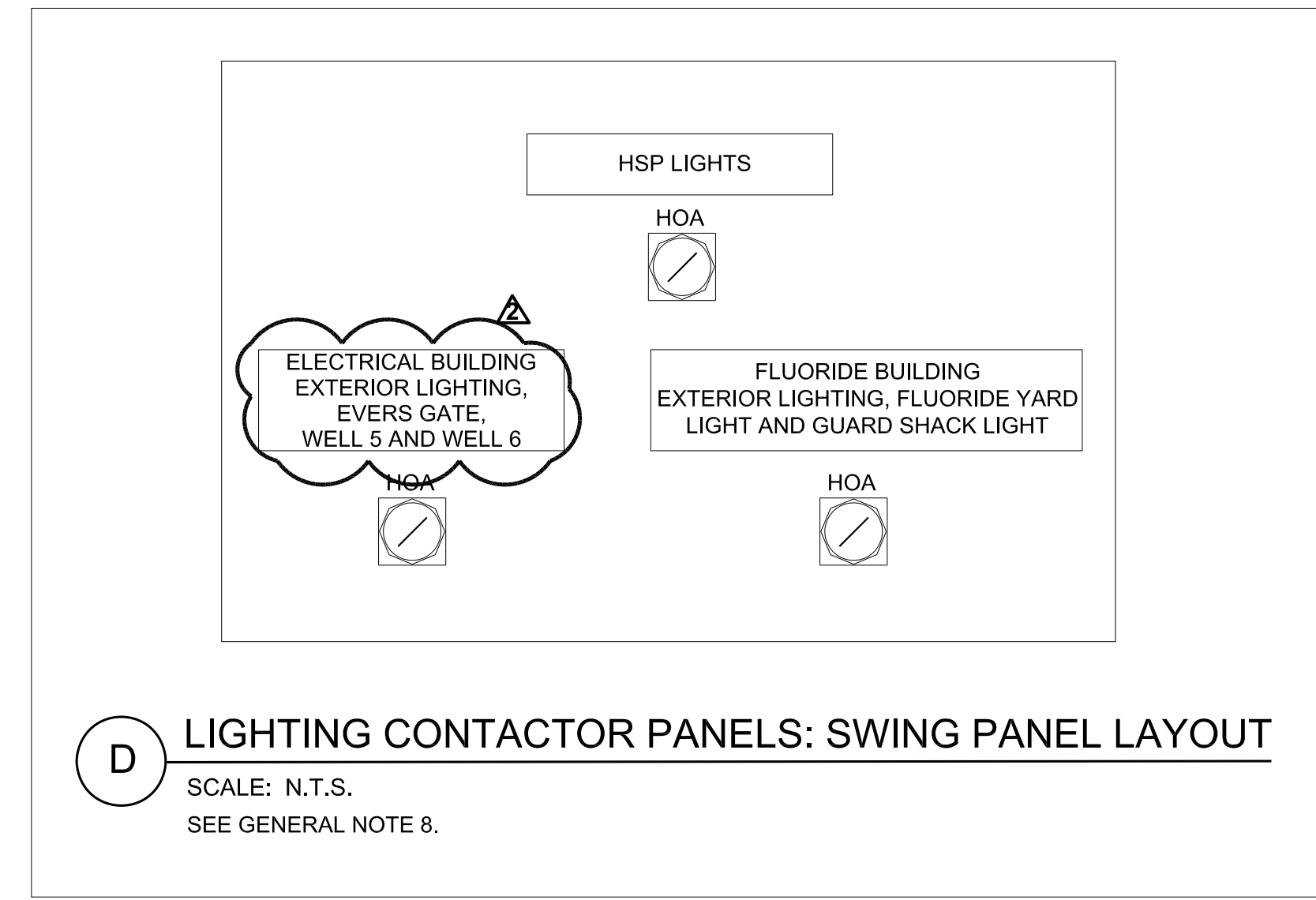
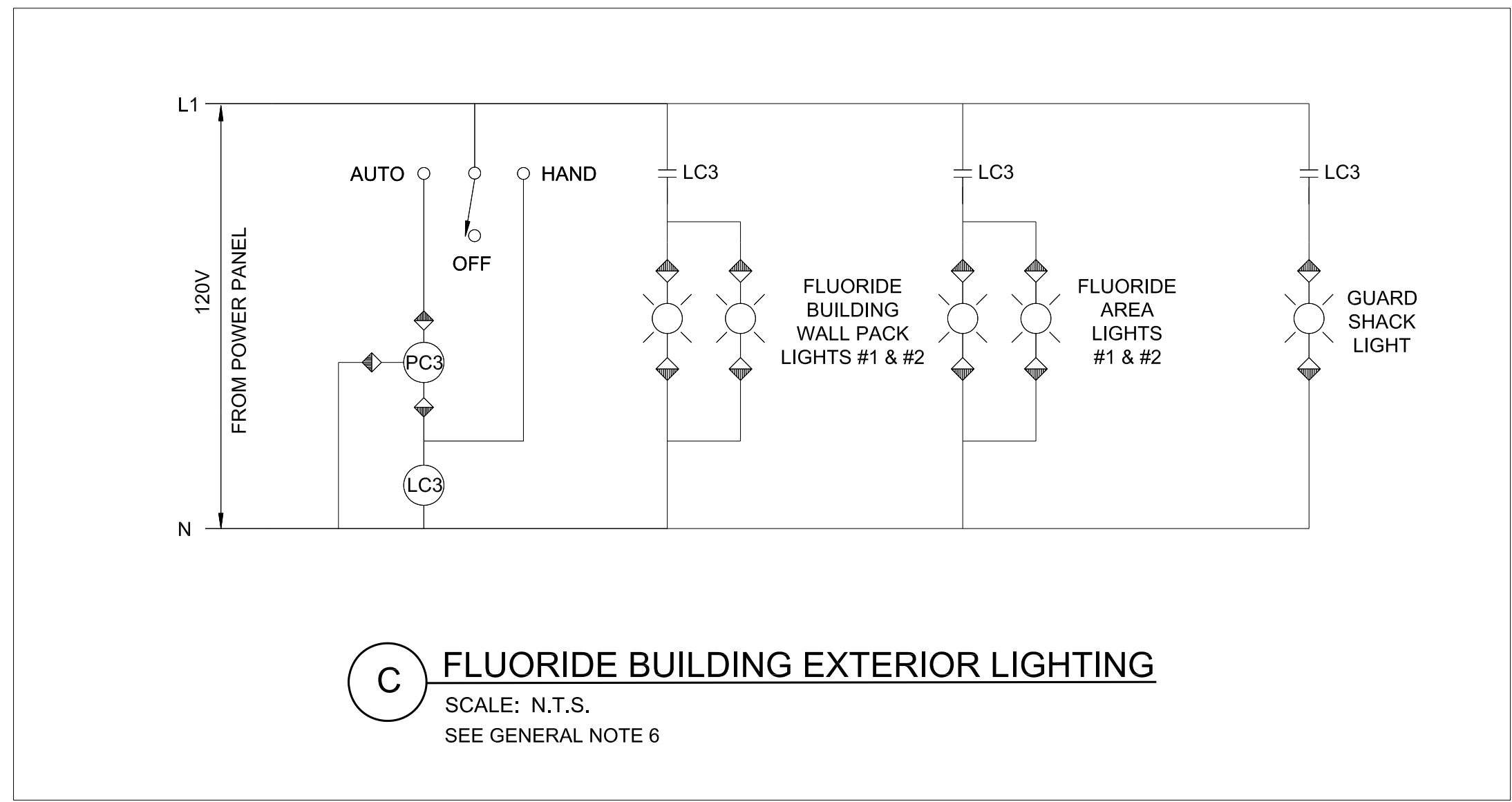
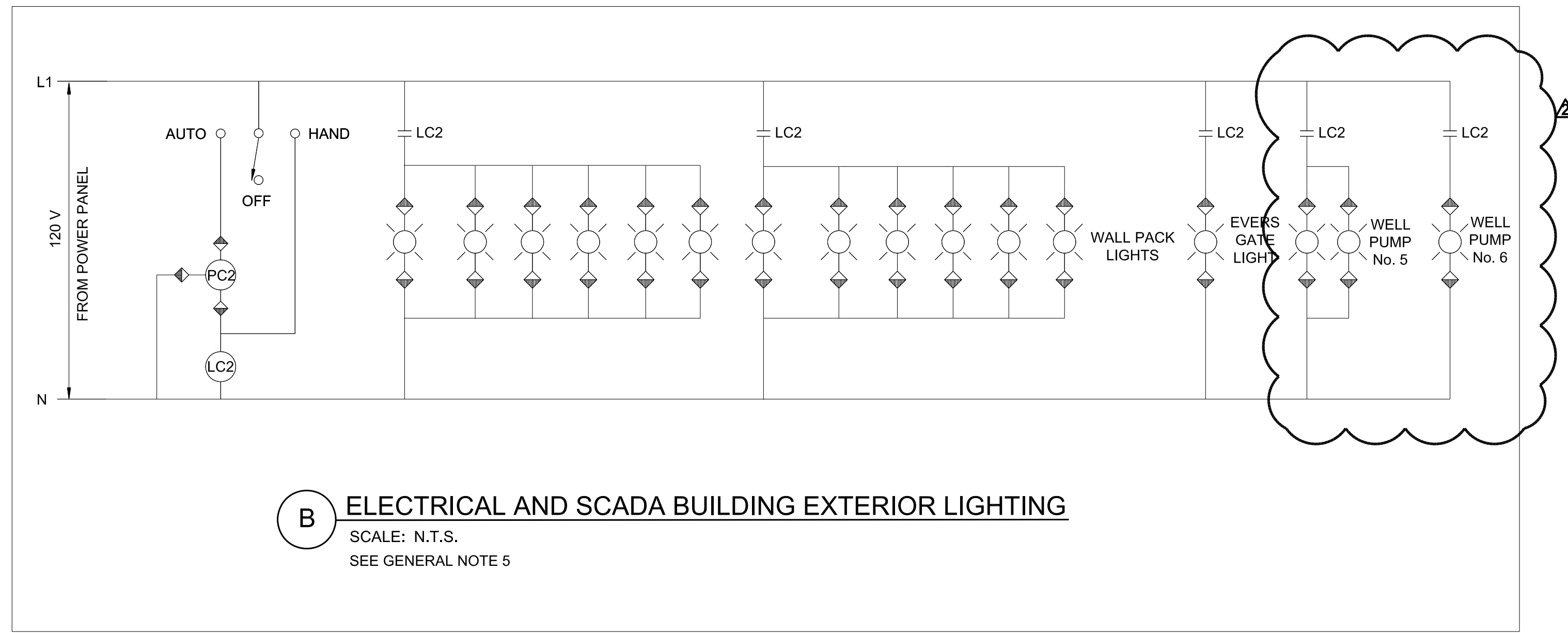
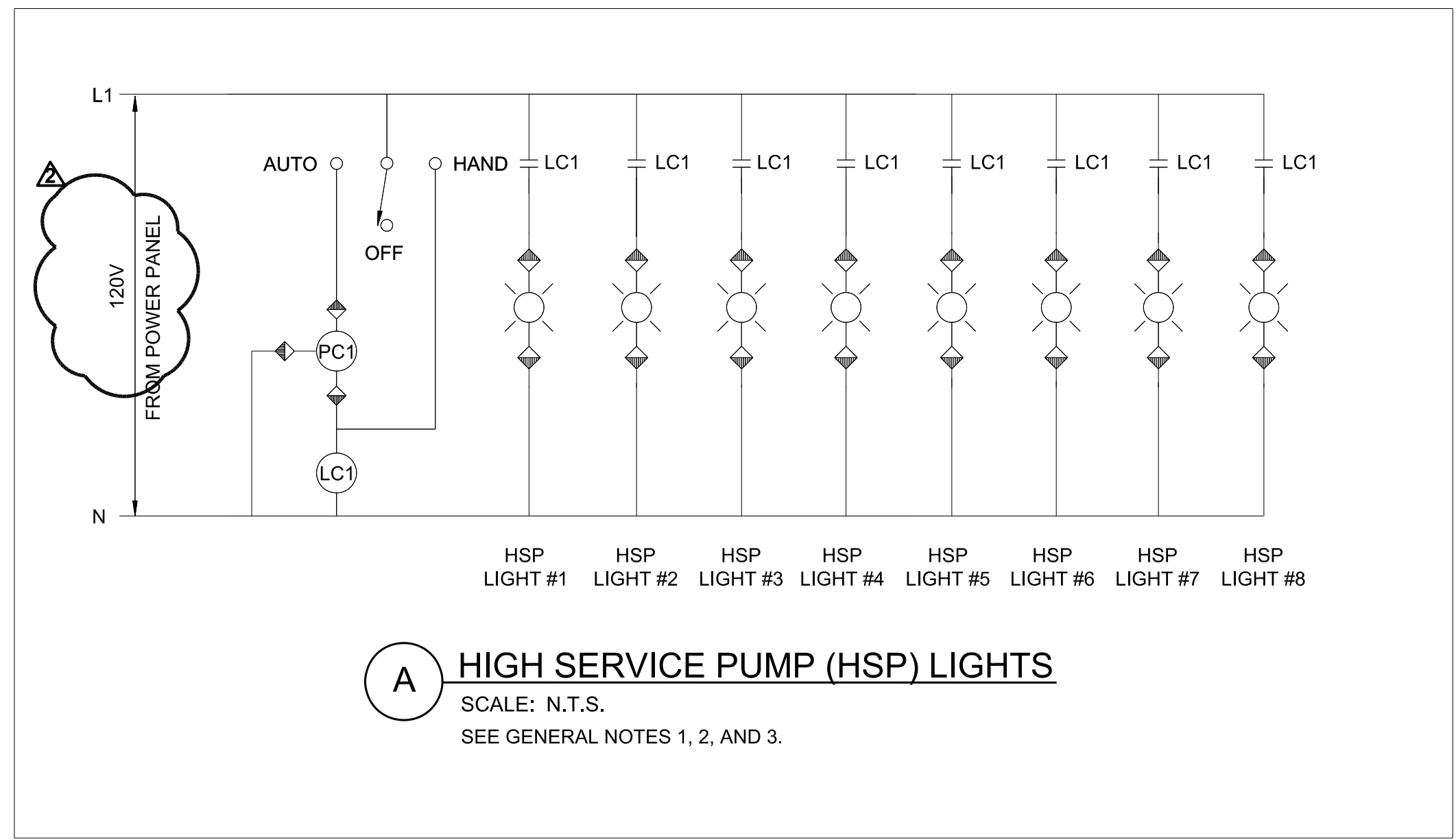
INFORMATION

GRUBB ENGINEERING, INC.
ELECTRICAL POWER SYSTEMS
DESIGN AND TESTING
2777 N. ST. MARYS ST. SAN ANTONIO, TEXAS 78212
BUS: (210) 688-7250 FAX: (210) 688-9805

Date:	10-12-18
Drawn by:	AGS
Designed by:	E.J.
Checked by:	E.J.
Scale:	REFER TO DRAWING
Approved by:	

San Antonio Water System

SAN ANTONIO WATER SYSTEM
WURZBACH PUMP STATION IMPROVEMENTS
BUILDING FOUNDATION EXCAVATION



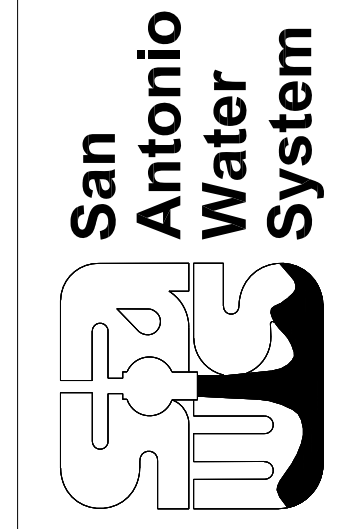
- GENERAL NOTES:**
1. INSTALL PHOTOCELL ON ELECTRICAL BUILDING SOUTH EXTERIOR WALL FOR HSP LIGHTS.
 2. ALL ON/OFF SWITCHES SHALL BE TWO-POLE TYPE.
 3. ALL SWITCHES NEED TO HAVE A MEANS OF LOCKOUT FOR SAFETY PURPOSES SHALL BE PROVIDED WITH MEANS FOR LOCKOUT DEVICE PER NFPA 70E.
 4. REFER TO SPECIFICATION 16050 FOR SWITCH AND NAMEPLATE REQUIREMENTS.
 5. INSTALL PHOTOCELL FOR DOORWAY LIGHTS ON ELECTRICAL BUILDING SOUTH EXTERIOR WALL.
 6. INSTALL PHOTOCELL FOR DOORWAY LIGHTS ON ELECTRICAL BUILDING SOUTH EXTERIOR WALL.
 7. INSTALL PHOTOCELL INTEGRATED TO EACH LIGHT.
 8. INSTALL TAG LABELED "LIGHTING CONTACTOR PANEL" ON FRONT EXTERIOR OF PANEL.

REVISIONS	Date	Appr'd	Drn.
10-29-18			
11-6-18			

DESCRIPTION
ADDENDUM No. 3
ADDENDUM No. 4

INFORMATION
GRUBB ENGINEERING, INC.
ELECTRICAL POWER SYSTEMS
DESIGN AND TESTING
THREE PARK RESERVE, IRVING, TEXAS 75039
2727 N. STE. MARKS ST. SAN ANTONIO, TEXAS 78212
BUS: (210) 658-7250 FAX: (210) 658-9845

Date: AUGUST 2018
Drawn by: SG
Designed by: SM, JDP, CC
Checked by: SM
Scale: NOT TO SCALE
Approved by: RDG



SAN ANTONIO WATER SYSTEM
WURZBACH PUMP STATION IMPROVEMENTS
EXTERIOR LIGHTING CONTROLS



TYPE: 250A COPPER BUS 100A MAIN BREAKER 208 / 120V 3-PHASE, 4-WIRE		POWER PANEL 'E' ELECTRICAL BUILDING						SERVICE ENTRANCE RATED WITH ISOLATED NEUTRAL BUS WITH ISOLATED GROUND BUS		
LABEL	LOAD	BKR	POLE	CKT#	CKT#	POLE	BKR	LOAD	LABEL	
ELECTRICAL BUILDING SWITCHGEAR/MCC ROOM RECEPTACLES #1	0.7 kW	20	1	1	2	1	20	0.7 kW	ELECTRICAL BUILDING SWITCHGEAR/MCC ROOM RECEPTACLES #2	
ELECTRICAL BUILDING SWITCHGEAR/MCC ROOM EXIT LIGHTING #1	0.3 kW	20	1	3	4	1	20	0.5 kW	ELECTRICAL BUILDING SWITCHGEAR/MCC ROOM EXIT LIGHTING #2	
ELECTRICAL BUILDING SWITCHGEAR/MCC ROOM LIGHTING	0.7 kW	20	1	5	6	1	20	0.5 kW	ELECTRICAL BUILDING SWITCHGEAR/MCC ROOM EMERGENCY LIGHTS	
ELECTRICAL BUILDING BASEMENT EMERGENCY LIGHTING	0.3 kW	20	1	7	8	1	20	0.7 kW	ELECTRICAL BUILDING BASEMENT RECEPTACLES	
ELECTRICAL BUILDING BASEMENT SUMP PUMP SP-1	1.92 W	20	1	9	10	1	20	0.5 kW	ELECTRICAL BUILDING BASEMENT ROOM LIGHTING	
ELECTRICAL BUILDING BASEMENT EXIT LIGHTING	0.1 kW	20	1	11	12	1	20	0.5 kW	ELECTRICAL BUILDING ROOF RECEPTACLE	
SPARE	-	20	1	13	14	1	20	0.5 kW	ELECTRICAL BUILDING EXTERIOR LIGHTING	
SPARE	-	20	1	15	16					
SPARE	-	20	1	17	18	1	20	-	SPARE	
SPARE	-	20	1	19	20	1	20	-	SPARE	
SPARE	-	20	1	21	22	1	20	-	SPARE	
SCADA/SECURITY ROOM RECEPTACLES	0.5 kW	20	1	23	24	1	20	0.7 kW	SCADA/SECURITY ROOM LIGHTING	
SCADA/SECURITY ROOM EXIT LIGHTING	0.7 kW	20	1	25	26	1	20	-	SPARE	
SPARE	-	20	1	27	28	1	20	-	SPARE	
SPARE	-	20	1	29	30	1	20	-	SPARE	
SPARE	-	20	1	31	32	1	20	-	SPARE	
SPARE	-	20	1	33	34	1	20	-	SPARE	
SPARE	-	20	1	35	36	1	20	-	SPARE	
SPARE	-	20	1	37	38	2	40	-	POWER PANEL 'H' (SCADA ROOM)	
SPARE	-	20	1	39	40					
SPARE	-	20	1	41	42			-	SPARE	
6.52 kW		TOTAL: 12.62 kW						6.1 kW		

A POWER PANEL 'E' LAYOUT
SCALE: N.T.S.

TYPE: 250A COPPER BUS 100A MAIN BREAKER 208 / 120V 3-PHASE, 4-WIRE		POWER PANEL 'F' ELECTRICAL BUILDING						SERVICE ENTRANCE RATED WITH ISOLATED NEUTRAL BUS WITH ISOLATED GROUND BUS		
LABEL	LOAD	BKR	POLE	CKT#	CKT#	POLE	BKR	LOAD	LABEL	
TANK 1 ROOF/RACK RECEPTACLES	0.5 kW	20	1	1	2	1	20	0.5 kW	TANK 2 ROOF/RACK RECEPTACLES	
TANK 1 CONTROL RACK LIGHT	0.2 kW	20	1	3	4	1	20	0.2 kW	TANK 2 CONTROL RACK LIGHT	
ANALYZER #1 RACK LIGHT	0.2 kW	20	1	5	6	1	20	0.2 kW	ANALYZER #2 RACK LIGHT	
ANALYZER#1 POWER/HEATER	0.5 kW	20	1	7	8	1	20	0.5kW	ANALYZER#2 POWER/HEATER	
GROUND STORAGE TANK No. 2 HEAT TRACE PANEL	0.3 kW	20	1	9	10	1	20	1.44 kW	LIGHTING CONTACTOR PANEL CKT. No. 2	
LIGHTING CONTACTOR PANEL CKT. No. 1	0.55 kW	20	1	11	12	1	20	0.48 kW	LIGHTING CONTACTOR PANEL CKT. No. 3	
SPARE	-	20	1	13	14	1	20	0.5 kW	GROUND STORAGE TANK No. 1 HEAT TRACE PANEL	
GROUND STORAGE TANK No. 2 LEVEL CONTROL PANEL	0.5 kW	20	1	15	16	1	20	0.5 kW	GROUND STORAGE TANK No. 1 LEVEL CONTROL PANEL	
SPARE	-	30	1	17	18	1	20	-	SPARE	
SPARE	-	20	2	19	20	2	20	-	SPARE	
SPARE	-	20	2	21	22					
TANK NO. 1 CATHODIC RECTIFIER PANEL	0.96kW	20	1	23	24	1	20	-	SPARE	
SPARE	-	20	1	25	26	1	20	0.5 kW	TANK 2 LADDER LIGHT	
SPARE	-	20	1	27	28	1	20	-	SPARE	
SPARE	-	20	1	29	30	1	20	-	SPARE	
SPARE	-	20	1	31	32	1	20	-	SPARE	
SPARE	-	50	3	33	34	1	20	-	SPARE	
SPARE	-			35	36	3	20			
SPARE	-			37	38					
SPARE	-	20	2	39	40	1	20	-	SPARE	
SPARE	-			41	42					
3.71 kW		TOTAL: 8.53 kW						4.82 kW		

B POWER PANEL 'F' LAYOUT
SCALE: N.T.S.

GENERAL NOTES:
 1. EACH CIRCUIT SHALL HAVE SEPARATE HOT, NEUTRAL, GROUND WIRES.
 2. DO NOT SHARE NEUTRAL OR GROUND WIRES FROM OTHER CIRCUITS.

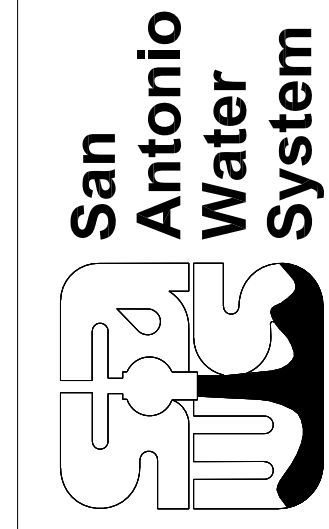
REVISIONS

Date	Appr'd	Description
11-6-18		ADDENDUM No. 4

INFORMATION

Date: AUGUST 2018
 Drawn by: SG
 Designed by: SM, JDP, CC
 Checked by: SM
 Scale: NOT TO SCALE
 Approved by: RDG

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 ELECTRICAL POWER SYSTEMS
 DESIGN AND TESTING
 2722 N. ST. MARKS ST. SAN ANTONIO, TEXAS 78212
 BUS: (210) 658-7250 FAX: (210) 658-9845



SAN ANTONIO WATER SYSTEM
 WURZBACH PUMP STATION IMPROVEMENTS
 POWER PANEL SCHEDULE - III