

**ADDENDUM NO. 1**

**FOR BID DOCUMENTS, SPECIFICATIONS AND PLANS  
FOR CONSTRUCTION OF**

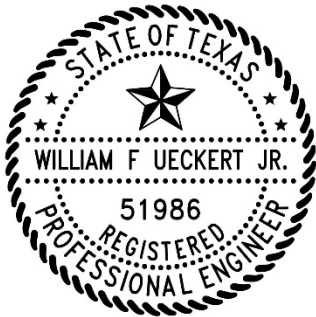
**LAGUNA MADRE WATER DISTRICT  
PROPOSED SANITARY SEWER, WATER AND PAVING IMPROVEMENTS  
FOR LONG ISLAND VILLAGE SEASIDE LIVING COMMUNITY  
BID No. LIV -24-05-01**

May 6, 2024

TO: PROSPECTIVE BIDDERS

This Addendum shall become an integral part of the Bidding Documents and shall be reflected in the bids submitted. Acknowledge receipt of this Addendum by indicating such in Bid Form. **FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.**

1. Changes to Contract Documents
  - a. Front End Documents - Specifications
    - i. Add Section 012000- Price and Payment - Attached
    - ii. Add Section 18000 - Mobilization - Attached
    - iii. Project Sign - Attached
  - b. Plans
    - i. Add Electrical Plans - Sheets E1.1 thru E4.2 - Attached
2. Questions
  - a. *Is there an estimated start date or month for this job?* - The bids will be presented to LMWD Board on June 5, 2024.
3. Other
  - a. The maximum weight limit on the swing bridge is 50,000 pounds, which includes truck, load, driver, fuel and everything.



*William F. Ueckert Jr.*

May 6, 2024

**SECTION 012000 - PRICE AND PAYMENT PROCEDURES**

## PART 1 - GENERAL

## 1.1 SECTION INCLUDES

- A. Application for Payment.
- B. Change procedures.
- C. Defect assessment.
- D. Unit prices.

## 1.2 APPLICATION FOR PAYMENT

- A. Submit three copies of EJCDC C-620 - Contractor's Application for Payment.
- B. Prior to submitting the Application for Payment to the Engineer, the contractor shall have the Inspector review the application and verify quantities.
- C. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- D. Submit updated construction schedule with each Application for Payment.
- E. Payment Period: Submit on a monthly basis.
- F. The quantities of the application for payment shall not exceed the plan or bid proposal quantities without a change order.
- G. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
  - 1. Partial release of liens from major Subcontractors and vendors.
  - 2. Affidavits attesting to off-Site stored products.
- H. Payment for stored material.
  - 1. In order to receive payment for stored material, the Inspector shall approve material that is stored on project site. The material stored shall be in a secured site close to the project site.
  - 2. Contractor shall provide invoice or bill of sale of the materials requesting payment.

## 1.3 CHANGE PROCEDURES

- A. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.
  - B. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.
    - 1. Use included Request for Information for requesting interpretations.
    - 2. Engineer may respond with a direct answer on the Request for Interpretation form.
  - C. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942.
  - D. Engineer may issue Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change. Contractor will prepare and submit estimate within ten 10 days.
  - E. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation.
  - F. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
  - G. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.
  - H. Change Order Forms: EJCDC C-941 - Change Order.
  - I. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
  - J. Correlation of Contractor Submittals:
    - 1. Promptly revise Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
    - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise sub schedules to adjust times for other items of Work affected by the change, and resubmit.
    - 3. Promptly enter changes in Record Documents.
- 1.4 DEFECT ASSESSMENT
- A. Replace the Work, or portions of the Work, not conforming to specified requirements.

- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, will direct appropriate remedy or adjust payment.
- C. Defective Work will be repaired according to instructions of Engineer, and unit sum/price will be reduced 50 percent at discretion of Engineer.
- D. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- E. Authority of Engineer to assess defects and identify payment adjustments is final.
- F. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined as unacceptable before or after placement.
  - 3. Products not completely unloaded from transporting vehicle.
  - 4. Products placed beyond lines and levels of the required Work.
  - 5. Products remaining on hand after completion of the Work.
  - 6. Loading, hauling, and disposing of rejected products.

#### 1.5 UNIT PRICES

- A. Authority: Measurement methods are delineated in individual Specification Sections.
- B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Section govern.
- C. Take measurements and compute quantities. Engineer] will verify measurements and quantities.
- D. Engineer will take measurements and compute quantities accordingly. Provide assistance in taking of measurements.
- E. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Quantities and measurements supplied or placed in the Work shall determine payment.
- F. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
- G. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.
- H. Measurement of Quantities:
  - 1. Measurement by Area: Measured by square dimension using mean length and width or radius.

2. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.

1.6 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement. The Owner-Contractor Agreement may identify certain Alternates to remain an Owner option for a stipulated period of time.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 012000

**SECTION 018000 - MOBILIZATION**

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawing and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. Description:
  - 1. This Section shall govern the mobilization of personnel, equipment, Contractor's office and supplies at the project site in preparation for beginning work on contract items that will be performed by the Contractor. In addition, this section shall include application fees, permit fees, cost of required bonds and insurance.

## 1.3 MEASUREMENT

- A. Description:
  - 1. Measurement of this item as specified in the bid proposal will be by "Lump Sum" based on a percentage indicated on the bid proposal.

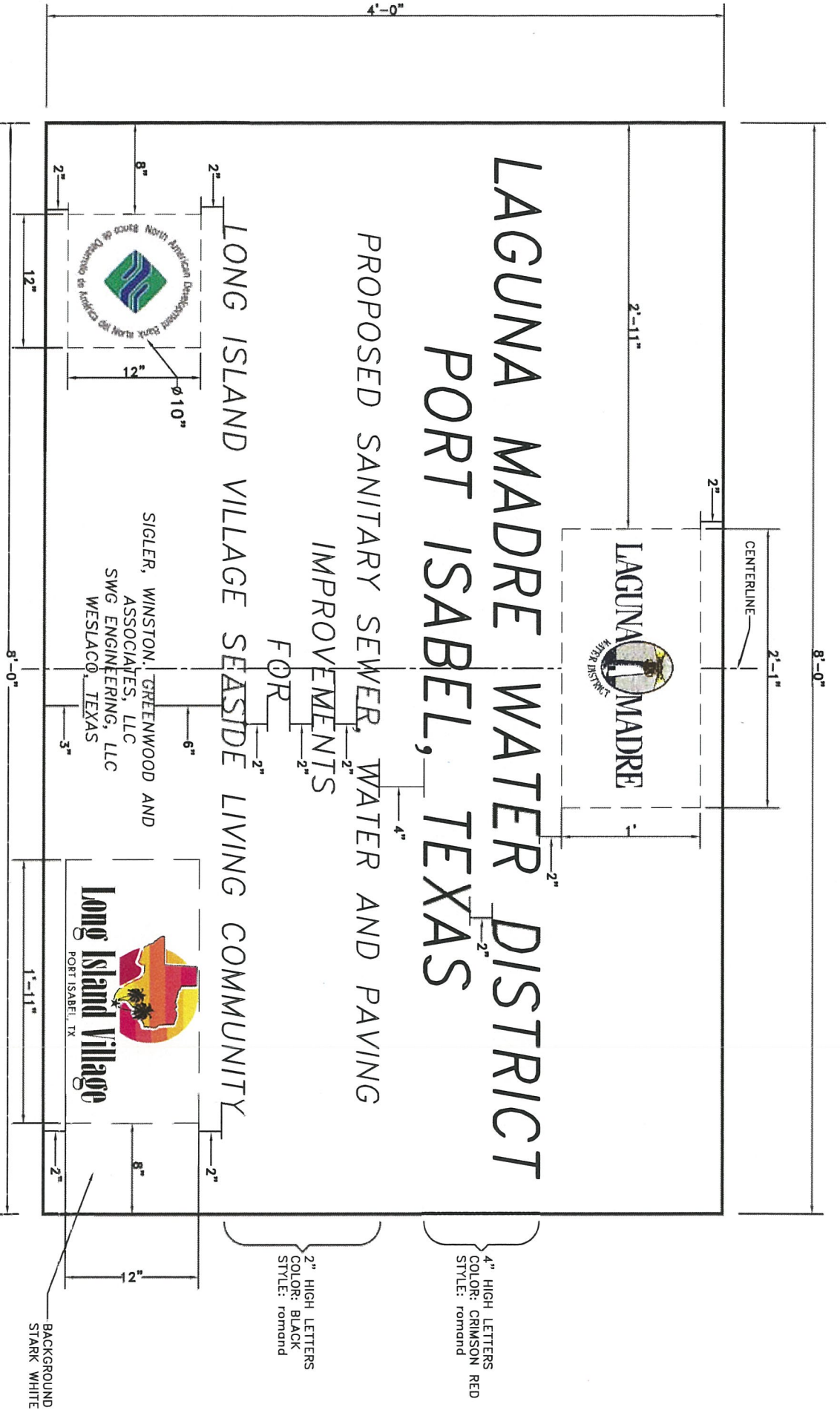
## 1.4 PAYMENT

- A. Description:
  - 1. The Mobilization amount bid for this Lump Sum shall be payable to the Contractor in four (4) payments.
    - a. Upon the issuance of the Notice to Proceed from the Engineer, the contractor may request 25% of the Mobilization amount in the bid proposal.
    - b. The contractor may request 50% of the Mobilization amount in the bid proposal less the previous amount received. Payment will be made when the following items have been submitted and approved by the Engineer.
      - 1) Construction Progress Schedule
      - 2) All Construction Material and Equipment Submittals
      - 3) Trench Safety Plan for all excavation
      - 4) Storm Water Pollution Prevention Plan (SWPPP)
    - c. The contractor may request 90% of the Mobilization amount in the bid proposal less previous payments when 10% of the contract amount of the construction items have been earned.
    - d. Upon completion of all work within the contract, payment for the remainder of the "Lump Sum" bid for Mobilization shall be made on the final pay estimate.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 018000



SCALE: 1" = 1'

SIGLER, WINSTON, GREENWOOD AND ASSOCIATES, LLC  
 SWG ENGINEERING, LLC  
 WESLACO, TEXAS

4" HIGH LETTERS  
 COLOR: CRIMSON RED  
 STYLE: rounded

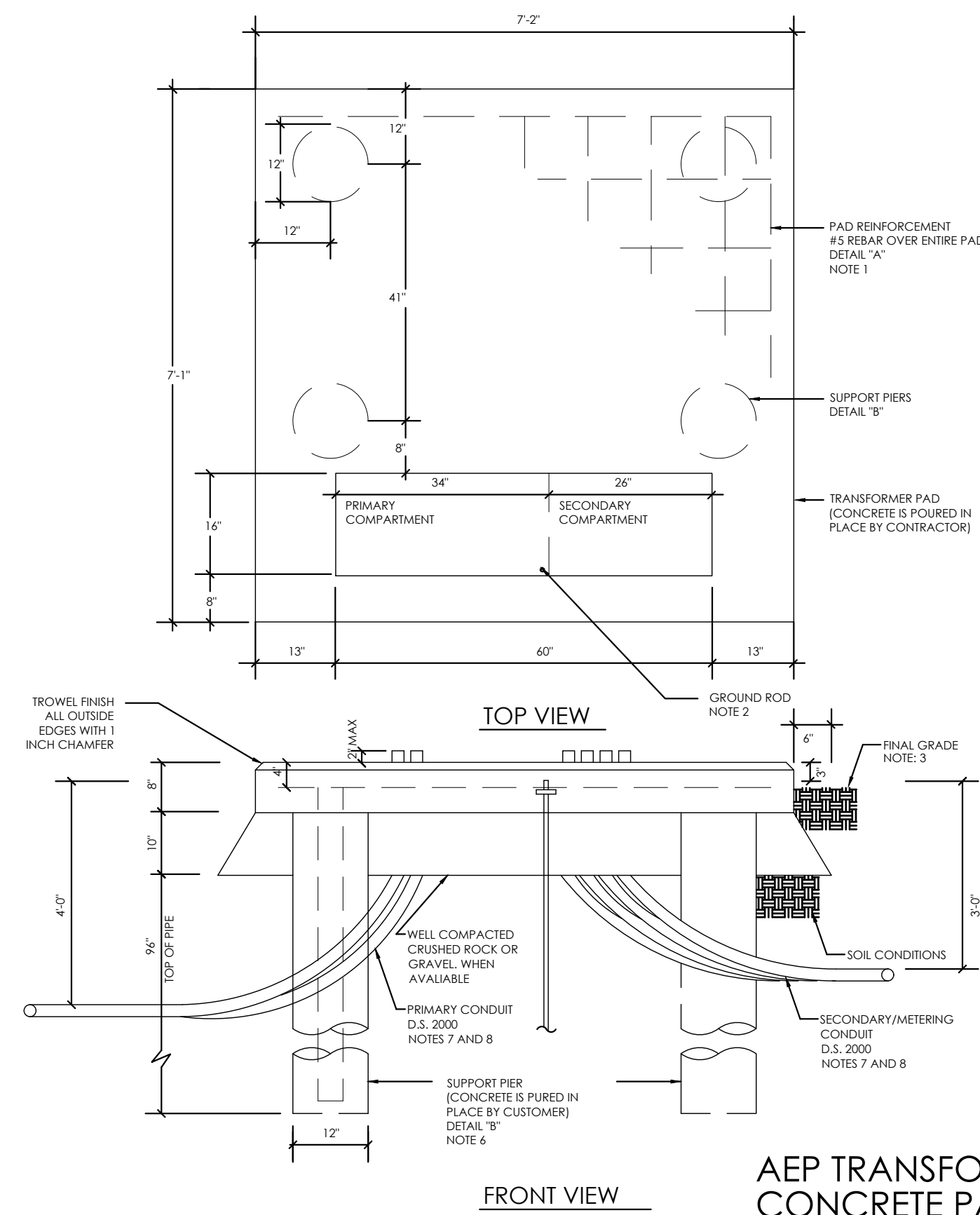
2" HIGH LETTERS  
 COLOR: BLACK  
 STYLE: rounded

BACKGROUND  
 STARK WHITE



01

CONCRETE PAD & PIERS FOR THREE PHASE PAD-MOUNTED TRANSFORMER

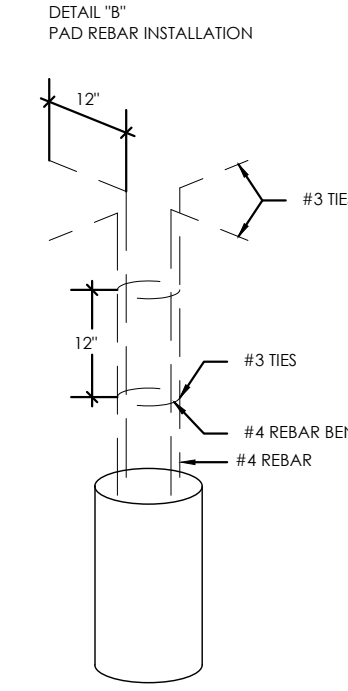


AEP TRANSFORMER CONCRETE PAD DETAIL  
NO SCALE

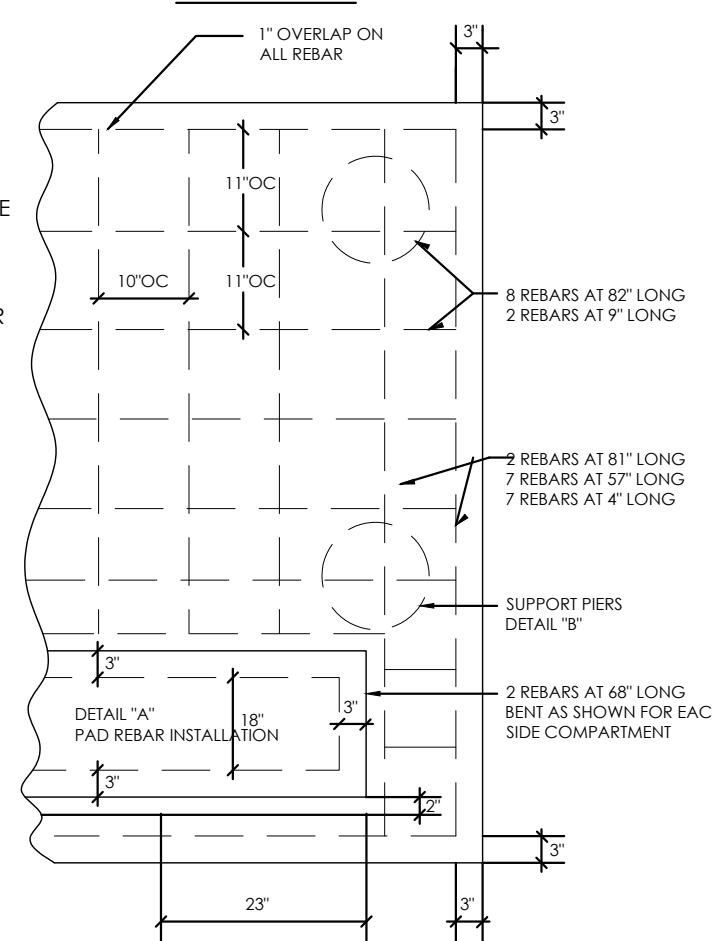
AMERICAN ELECTRIC POWER COMPANY DISTRIBUTION STANDARDS

- NOTE:
- SLAB REINFORCEMENT SHALL BE #5 REBARS, ON CENTER (OC) SPACING TO FOLLOW DIMENSIONS SHOWN ON THE DRAWINGS WITH 4" COVER. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS.
  - FOR GROUND ROD PLACEMENT, REFER TO DS 2235, 2236, OR 2237.
  - FINAL GRADE SHALL BE ESTABLISHED BEFORE INSTALLATION OF PAD.
  - CONCRETE PAD WITH PIERS IS TO BE INSTALLED OF PAD.
  - PIERS SHALL BE 12" MINIMUM IN DIAMETER, 8 FEET DEEP WITH 4 - #4 VERTICAL REBAR AND #3 TIES AT 12" ON CENTER (OC), AND PROVIDE A MINIMUM 3" COVER. THE #4 BEND BARS SHOULD BE 12" LONG IN THE HORIZONTAL DIRECTION.
  - PIERS REBAR BENT IN THE HORIZONTAL DIRECTION SO THAT IT MAY TIE IN WITH PAD REBAR.
  - THE NUMBER AND PLACEMENT OF SECONDARY CONDUITS TO BE DETERMINED BY ENGINEERING. CONDUIT MAY EXTEND IN ANY DIRECTION AS REQUIRED BY THE CUSTOMER.
  - BURIAL DEPTH OF CONDUIT IS DEFINED AS THE DISTANCE BETWEEN FINAL GRADE AND THE TOP OF THE CONDUIT. UNLESS OTHERWISE DESIGNATED BY ENGINEERING, CONDUITS SHALL BE INSTALLED AT A BURIAL DEPTH OF NOT LESS THAN 4'-0" AND SECONDARY CONDUITS SHALL BE INSTALLED AT A BURIAL DEPTH OF NOT LESS THAN 3'-0". THESE INITIAL DEPTHS ARE TO ALLOW FOR CHANGES TO THE SURFACE CONDITIONS, LOCAL AGREEMENTS AND CODES MAY REQUIRE ADDITIONAL DEPTH. IF OTHER ARE KNOWN EXTENSIVE CHANGES TO THE FINAL GRADE SUCH THAT THEIR DEPTHS ARE NOT MAINTAINED, CORRECTIVE ACTION SHALL BE TAKEN.

DETAIL - "B" - PIER REBAR INSTALLATION



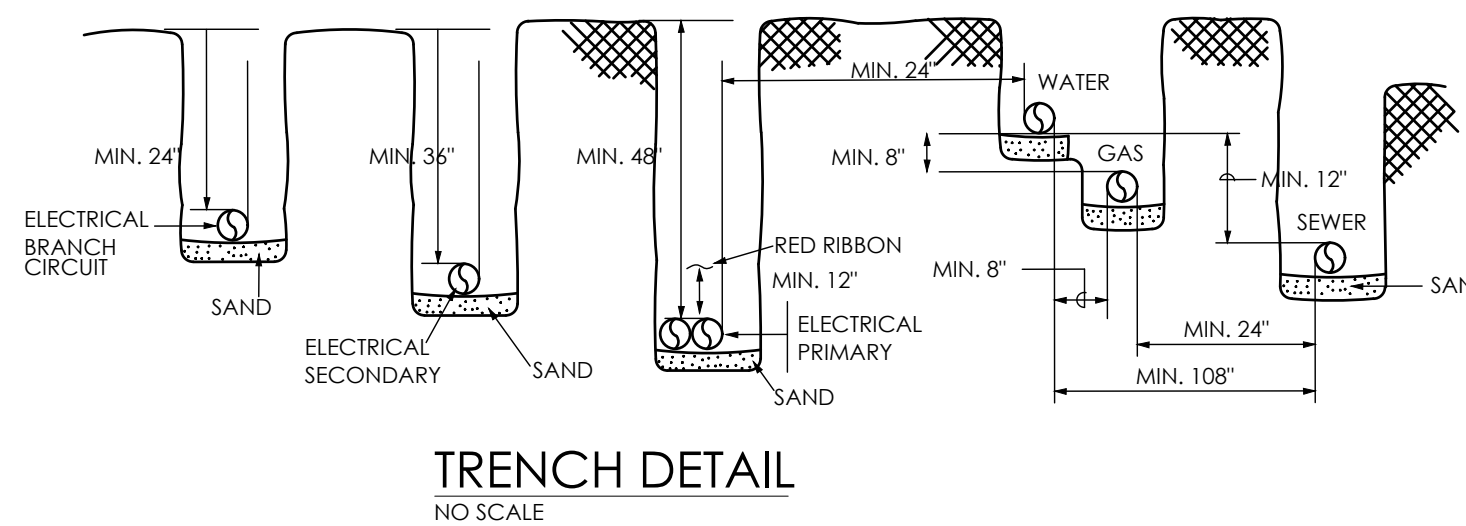
DETAIL - "A" - PAD INSTALLATION TOP VIEW



CONCRETE PAD AND PIERS FOR THREE PHASE PAD-MOUNTED TRANSFORMER. HIGH VOLUME CLAY OR SAND TYPE SOIL APPLICATIONS. 75KVA - 2500KVA. 25KV AND BELOW.

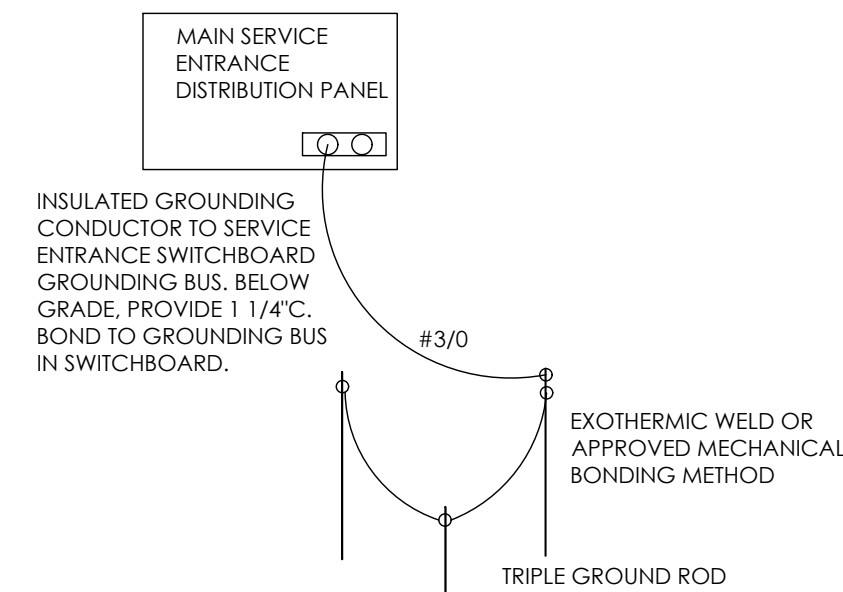
02

CLEAR TRENCH OF ALL ROCKS AND DEBRIS BEFORE ADDING SAND CUSHION. COMPACT TRENCH FILL TO 95% PROCTOR DENSITY. MAINTAIN A MINIMUM OF 60 INCHES UNDISTURBED EARTH BETWEEN PARALLEL WATER AND SEWER LINES OR SUPPORT WATER LINE ON SEPARATE SHELF A MINIMUM OF 12" ABOVE SEWER LINE. MAINTAIN A MINIMUM OF 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND SEWER. MAINTAIN A MINIM OF 12" VERTICALLY OR 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND WATER LINES, GAS LINES, TELEPHONE RACEWAYS AND CABLE RACEWAYS.



TRENCH DETAIL  
NO SCALE

03



ELECTRICAL GROUNDING REQUIREMENTS  
NO SCALE

DRY-TYPE TRANSFORMER SCHEDULE			
LABEL	TRANSFORMER DESCRIPTION	PRIMARY VOLTAGE FEEDER - 480V, 1Ø	SECONDARY VOLTAGE FEEDER - 120/208V, 1Ø, 3W
TX-R,R2	ENCAPSULATED; GENERAL, 2KVA, COPPER WINDINGS, 1-PHASE, (P)277V-(S)120V, 1.15%RISE, NEMA-4X STAINLESS STEEL ENCLOSURE	2#12, 1#12G, 1/2"C	2#12, 1#12G, 1/2"C

NOTE: ALL DRY-TYP TRANSFORMER SHALL BE ENERGY EFFICIENT MODELS AND MEET 2016 ENERGY EFFICIENT REQUIREMENTS.

LUMINAIRE SCHEDULE					
MARK	VOLTAGE	LAMP	MOUNTING	DESCRIPTION	MODEL NO.
AA	277V	1-LED FIXTURE 6,272 LM 45W	2ØPOLE 15' ABOVE 5' EMBEDDED	LED AREA LUMINAIRE, POLE MOUNT LUMINAIRE, PIR SENSOR, INCLUDE BASE COVER, RATED FOR WET LOCATION, UL LISTED, POLE SHALL BE SIZE FOR MIN. 150 MPH, CLASS 4 SYP UNFRAMED CCA TREATED POLE	FIXTURE MFR. LITHONIA DSX0-P1-40K-70CRI-14M-MVOLT-WOOD POLE-PIR-DNAXD-EGS POLE MFR. AMERICAN TIMBER & STEEL #0460D4132

- NOTE:
- EQUAL MANUFACTURER SHALL BE ACCEPTABLE WITH EQUAL PERFORMANCE OF SPECIFIED EQUIPMENT AND APPROVED BY ENGINEER.
  - SUBMIT EQUAL MANUFACTURERS TO ENGINEER 10 DAYS PRIOR TO BID DATE.
  - SUBMIT LIGHT FIXTURE CUSHIETS TO OWNER FOR APPROVAL PRIOR TO ORDER.
  - CONTRACTOR SHALL VERIFY THAT ANY IRRIGATION SPRINKLER HEAD IS AWAY FROM ANY LIGHT POLE A MINIMUM OF 75' TO AVOID CONSISTENT WATER TO LIGHT POLE. COORDINATE WITH IRRIGATION CONTRACTOR PRIOR TO ANY WORK.
  - CONTRACTOR SHALL VERIFY THAT ANY LIGHT POLES ON COMMON AREAS AND SIDE WALKS, THAT THE LOCATION OF THE POLE TO MEET THE ADA REQUIREMENTS.
  - CONTRACTOR SHALL FIELD VERIFY FOR EXISTING/NEW UNDERGROUND UTILITIES PRIOR TO ANY WORK.

ELECTRICAL LEGEND-GENERAL

—ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
[Symbol]	HEAVY DUTY DISCONNECT SWITCH FUSED
[Symbol]	HEAVY DUTY DISCONNECT SWITCH NONFUSED
[Symbol]	HEAVY DUTY COMBINATION DISCONNECT/MOTOR STARTER
[Symbol]	HEAVY DUTY MOTOR STARTER
[Symbol]	ENCLOSED BREAKER, RE: TO SCH. FOR MORE INFO.
[Symbol]	ROTARY TYPE DISCONNECT SWITCH
[Symbol]	120/277-208/480V, 2ØAMP, MOTOR RATED SWITCH, NEMA-1 (INTERIOR) ENCLOSURE, NEMA-3R (EXTERIOR) ENCLOSURE. VOLTAGE TO BE SELECTED PER EQUIPMENT CIRCUIT REQUIREMENTS.
[Symbol]	MOTOR
[Symbol]	PANELBOARD, CLEARANCE AS PER LATEST NEC SWITCH LEG
[Symbol]	ELECTRICAL CONDUIT
[Symbol]	UNDERGROUND ELECTRICAL CONDUIT
[Symbol]	COMMUNICATION CONDUIT AND WIRING
X, X, X	MULTI-POLE DEVICE CIRCUIT NUMBERS
X/X/X	THREE SINGLE POLE DEVICE CIRCUIT NUMBERS
[Symbol]	CONDUIT AND WIRE HOMERUN TO PANEL, SHORT HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATED OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION INDICATES PANEL AND BREAKER.
[Symbol]	UNDERGROUND CONDUIT AND WIRE HOMERUN TO PANEL, SHORT HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATED OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION INDICATES PANEL AND BREAKER.
[Symbol]	DETAIL NUMBER
[Symbol]	SHEET NUMBER
[Symbol]	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED MINIMUM OF 4" SQUARE
[Symbol]	PHOTO CELL (MFR. INTERMATIC #K4136M)
[Symbol]	LIGHTING CONTACTOR, NEMA-1, W/H.O.A. SWITCH
[Symbol]	DUPLEX RCPT, WEATHER RESISTANT "W", CFI INSTALLED IN "IN-USE" WEATHER PROOF STEEL ENCLOSURE- 2ØA/125V/2P/3W/G NEMA 5-2ØR WP/IN-USE SHALL BE EQUAL TO MFR. CARLON, METALLIC SERIES SINGLE GANG, VERTICAL MOUNT #ME9UVMG DOUBLE GANG, VERTICAL MOUNT #ME92UVMG

ELECTRICAL ABBREVIATIONS:

ABBV:	DESCRIPTION	ABBV:	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	MFR.	MANUFACTURER
BFC	BELOW FINISHED CEILING	(S.C.)	SHARE CIRCUIT
C	CONDUIT	QRCP(T/S)	QUAD RECEPTACLE(S)
CB	CIRCUIT BREAKER	RCPT(S)	DUPLEX RECEPTACLE(S)
EC	EMPTY CONDUIT	CRCP(T/S)	I.G. RECEPTACLE(S)
EX	EXISTING	QRCP(T/S)	QUAD I.G. RECEPTACLE(S)
F	FUSE	PNL	PANEL
G	GROUND (EQUIPMENT)	SO (S.O.)	SPACE ONLY
GFI	GROUND FAULT INTERRUPTER	SP	SPARE
MTD	MOUNT OR MOUNTED	ST (S.T.)	SHUNT TRIP
NF	NONFUSED	SW	SWITCH
NIC	NOT IN CONTRACT	UF	UNDERFLOOR
H,D	HEAVY DUTY	UG	UNDERGROUND
NL	NIGHT LIGHT	UNO(U.N.O.)	UNLESS NOTED OTHERWISE
AC	ABOVE COUNTER	WG	WIRE GUARD
HT.	HEIGHT	WP	WEATHERPROOF
MTD.	MOUNTING	XFMR	TRANSFORMER
FDR.	FEEDER	MB	MAIN BREAKER
CKT.	CIRCUIT	LTG.	LIGHTING
LC.	LIGHTING CONTACTOR	MLO	MAIN LUGS ONLY
IG	ISOLATED GROUND	RMC	RIGID METAL CONDUIT
EA.	EACH	RNC	RIGID NONMETALLIC CONDUIT
NI	NEMA-1	EMT	ELECTRICAL METALLIC TUBING CONDUIT
N3R	NEMA-3R	S/N	SOLID NEUTRAL
N4X	NEMA-4X	AC	ABOVE COUNTER AUTHORITY HAVING JURISDICTION
SS	STAINLESS STEEL	AHJ	AUTHORITY HAVING JURISDICTION

- NOTES:
- 48" AFF INDICATES TO TOP OF DEVICE;
  - 15" AFF INDICATES TO BOTTOM OF DEVICE;
  - ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.
  - AC INDICATES 6" ABOVE COUNTER TO BOTTOM OF DEVICE.

GENERAL ELECTRICAL NOTES

- ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.
- USE DIRECTIONAL ARROW ON EXIT SIGNS AS REQUIRED.
- IEEE STANDARD C37.2-1991, ELECTRICAL POWER SYSTEM DEVICE FUNCTION NUMBERS.
- CONTRACTOR SHALL NOT INSTALL MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A COMMON RACEWAY. IF CONTRACTOR IS PLANNING ON GROUPING MULTIPLE CIRCUITS IN A SINGLE RACEWAY, THE CONTRACTOR MUST SUBMIT ALL DERATING CALCULATIONS FOR THE PROPOSED INSTALLATION IN ACCORDANCE WITH NEC ARTICLE 310.15 (B) (2) FOR APPROVAL PRIOR TO INSTALLATION. NON APPROVED INSTALLATIONS WILL BE REMOVED AND REINSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE NEC AT NO ADDITIONAL COST TO THE OWNER.
- THERE SHALL NOT BE MORE THAN THE EQUIVALENT OF THREE 90° BENDS (270 DEGREES TOTAL) BETWEEN PULL POINTS. WHERE THERE ARE MORE THAN THREE QUARTER BENDS, CONTRACTOR SHALL PROVIDE PULL BOXES AS SPECIFIED AND SIZED IN ACCORDANCE WITH NEC.
- COMPLY WITH NEC REQUIREMENTS FOR ELECTRICAL INSTALLATIONS. ALL ELECTRICAL EQUIPMENT AND MATERIAL TO BE APPROVED, LISTED, LABELED, IDENTIFIED AND INSTALLED PER RECOGNIZED ELECTRICAL TESTING LABORATORY.
- ALL RECEPTACLES, SWITCHES AND JUNCTION BOXES SERVED BY EMERGENCY BRANCH CIRCUITS SHALL BE "RED" IN COLOR. COVERPLATES SHALL BE LABELED IN ACCORDANCE WITH SPECIFICATIONS TO INDICATE PANELBOARD AND CIRCUIT NO. (IE: ET'LA-3).

ELECTRICAL SYSTEM SPECIFICATIONS

THE ELECTRICAL WORK INCLUDES PROVIDING NEW MATERIALS, FIXTURES, DEVICES AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING ELECTRICAL SYSTEM. THE WORK ALSO INCLUDES FINAL CONNECTIONS TO EQUIPMENT ITEMS PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES OR ORDINANCES AND SUBJECT TO INSPECTION. THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR ELECTRICAL WORK ARE DIAGRAMMATIC, SHOWING THE LOCATION, TYPE DEVICES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. PROVIDE ALL FIXTURES, LAMPS, DEVICES, ACCESSORIES, OFFSETS AND MATERIALS NECESSARY TO FACILITATE THE SYSTEMS FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. PROVIDE A \$5,000 ELECTRICAL CONTINGENCY. COORDINATE WITH THE WORK OF OTHER SECTIONS. VERIFY EXISTING SITE CONDITIONS BEFORE BIDDING. MAKE ALL CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS. COMPLY WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

ALL WORK SHALL COMPLY WITH LOCAL LAWS GOVERNING ELECTRICAL INSTALLATIONS, AND THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE, REFER TO REFERENCE STANDARDS. PROVIDE CODE REQUIRED CLEARANCES AROUND ALL ELECTRICAL EQUIPMENT. OBTAIN ALL PERMITS RELATING TO ELECTRICAL WORK.

REFERENCE STANDARDS:  
A. Materials, equipment, devices and workmanship shall comply with applicable local, county, state and national codes, laws and ordinances, utility company regulations and industry standards.  
B. In case of differences between building codes, state laws, local ordinances, industry standards, utility company regulations and the Contract Documents, the most stringent shall govern. The Contractor shall promptly notify the Owner's Representative in writing of any such difference. Should the Contractor perform any work that does not comply with local codes, laws and ordinances, industry standards or other governing regulations, the work shall be corrected of noncompliance deficiencies with the Contractor bearing all costs.  
C. In addition to the aforementioned ordinances, industry standards published by the following organizations shall apply:

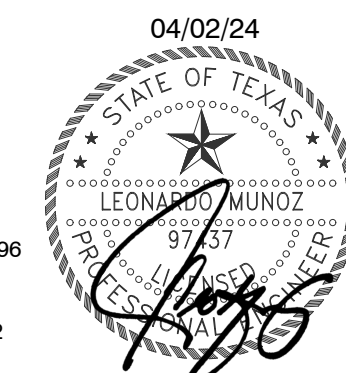
- AABM - American Association of Battery Manufacturers
- ADA - American's with Disabilities Act
- AIA - American Institute of Architects
- ANSI - American National Standards Institute
- ASTM - American Society for Testing and Materials
- CBM - Certified Ballast Manufacturers Association
- ETL - Electrical Testing Laboratories
- FM - Factory Mutual
- ICEA - Insulated Cable Engineers Associated
- IEEE - Institute of Electrical and Electronic Engineers
- IES - Illuminating Engineering Society
- IRI - Industrial Risk Insurance
- NBS - National Bureau of Standards
- NEC - National Electrical Code
- NECA - National Electrical Contractors Association
- NEMA - National Electrical Manufacturers Association
- NESC - National Electrical Safety Code
- NETA - National Electrical Testing Association
- NFPA - National Fire Protection Association
- UL - Underwriters Laboratories
- IECC - International Energy Code

INDEX OF SHEETS

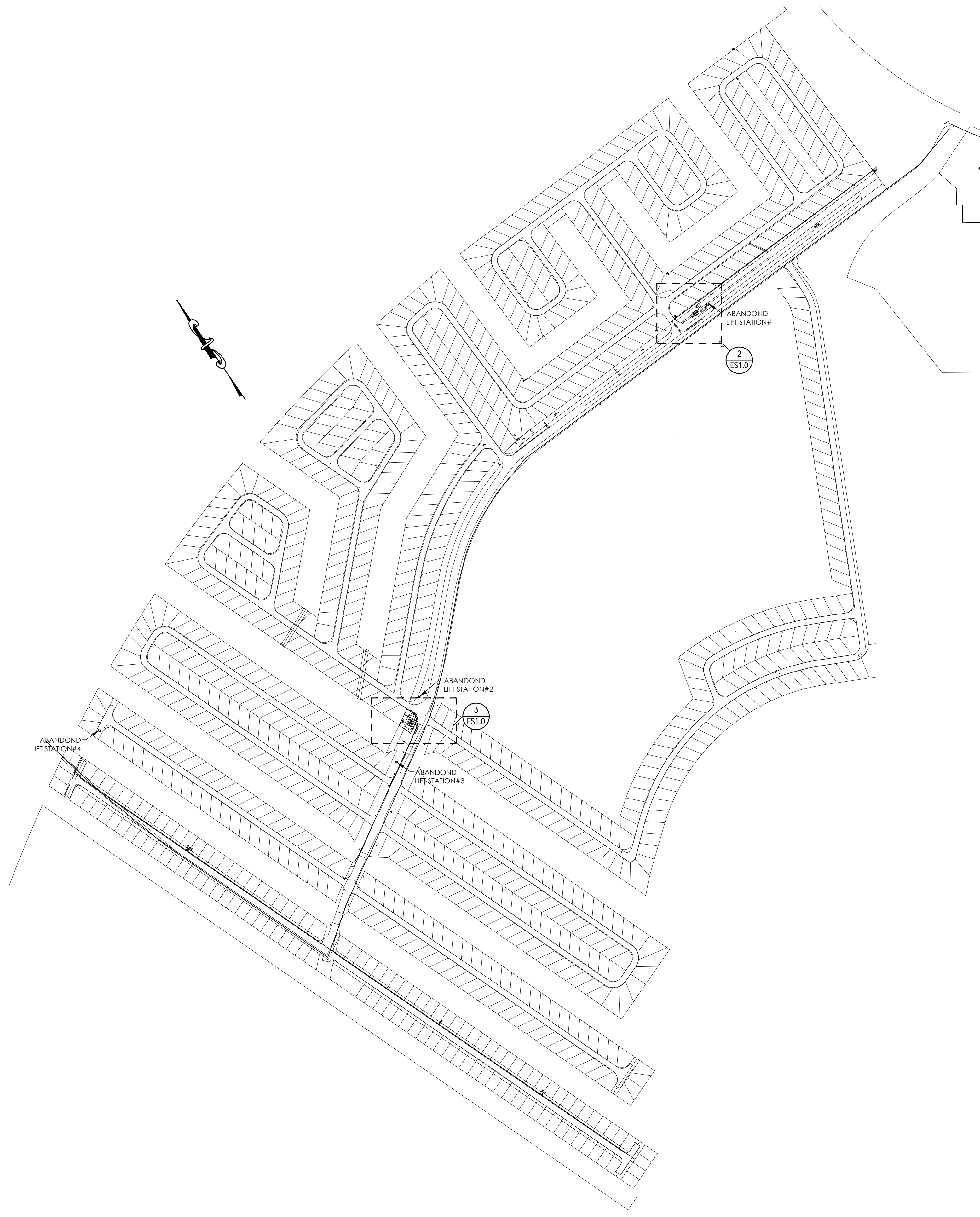
E1.1	ELECTRICAL LEGEND & NOTES
ES1.1	GENERAL LOCATION MAP
E2.1	ELECTRICAL LIFT STATION No.1 POWER PLAN
E2.2	ELECTRICAL LIFT STATION No.1 GROUNDING PLAN
E2.3	ELECTRICAL MASTER LIFT STATION POWER PLAN
E2.4	ELECTRICAL MASTER LIFT STATION GROUNDING PLAN
E3.1	ELECTRICAL RISER DIAGRAMS
E4.1	ELECTRICAL DETAILS/PANEL SCHEDULES
E4.2	ELECTRICAL DETAILS

TRINITY  
MEP ENGINEERING

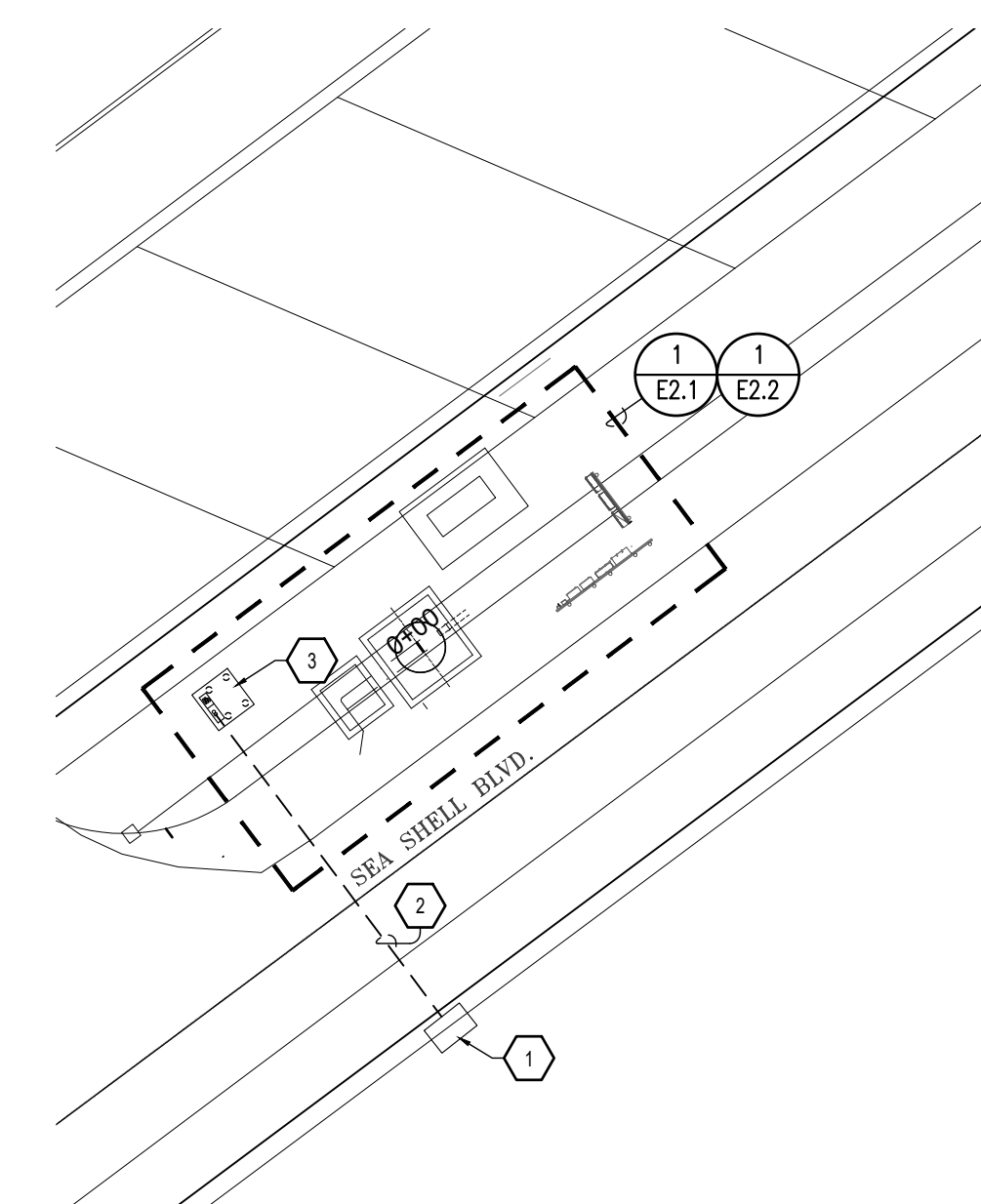
3533 Moreland Dr. Ste A | Weslaco, Tx 78596  
p:361.973.0500 | f:361.973.0511  
www.trinitymep.com | Copyright 2022  
Texas Registered Engineering Firm - F10362  
Project number: 23.4.30



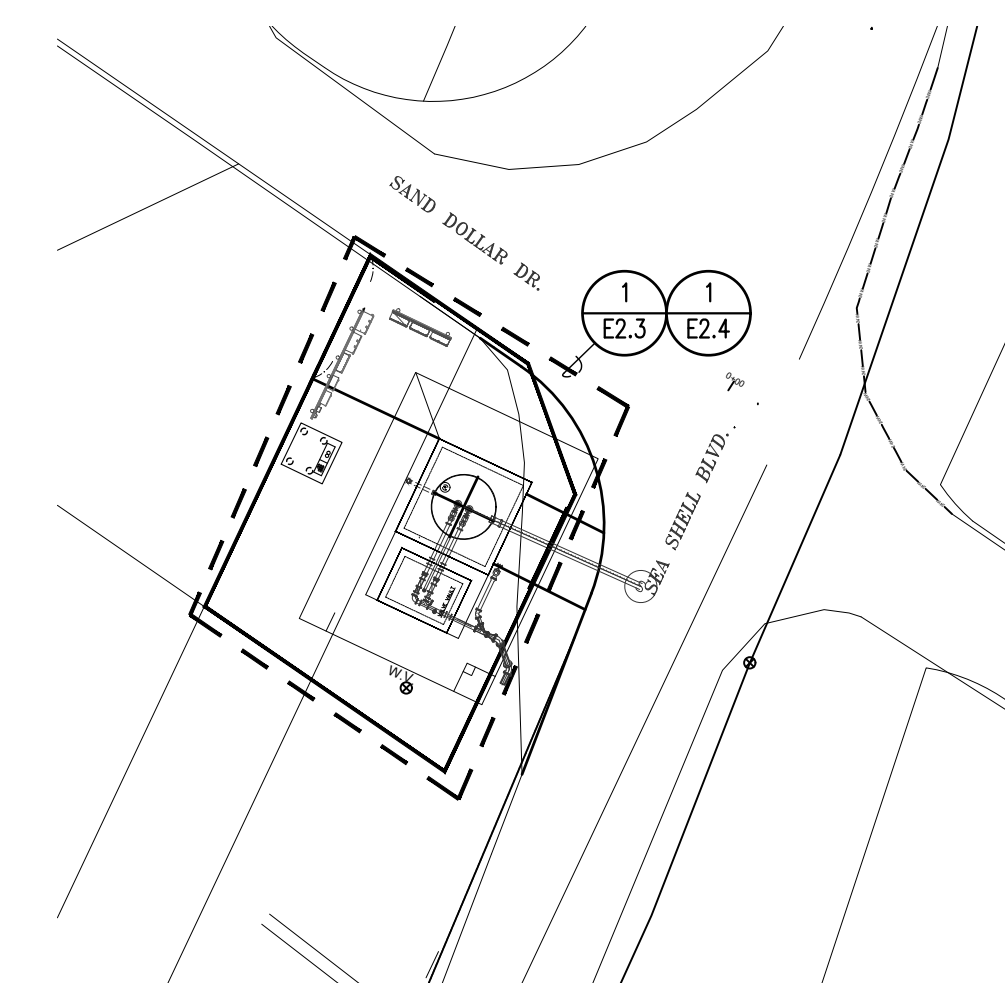
REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS GENERAL LEGEND AND NOTES			
SIGLER, WINSTON, GREENWOOD AND ASSOCIATES SWG ENGINEERING, LLC TEXAS FIRM REGISTRATION NO. F-592 WESLACO, TEXAS			
COPYRIGHT 2024 SWG ENGINEERING, LLC			
OWNER:	DESIGNED:	APPROVED:	PROJECT NO.:
DATE:	SHEET:	OF	E1.1



1 ELECTRICAL OVERALL SITE PLAN  
SCALE: 1"=200'-0"



2 LIFT STATION No. 1  
ELECTRICAL SITE PLAN  
SCALE: 1"=30'-0"



3 MASTER LIFT STATION  
ELECTRICAL SITE PLAN  
SCALE: 1"=30'-0"

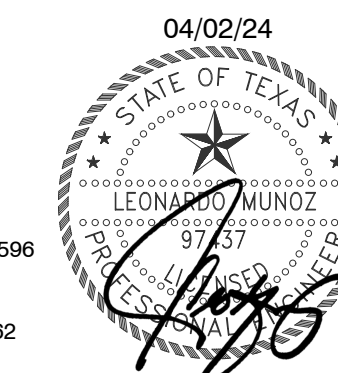
**GENERAL ELECTRICAL NOTES (TO ALL SHEETS)**

- A. CONTRACTOR TO VERIFY ALL EXISTING MAIN POWER SERVICES TO PROJECT SITE AND COORDINATE WITH POWER COMPANY FOR ALL NEW REQUIREMENTS AND ALL COST ASSOCIATED. CONTRACTOR SHALL INCLUDE ANY COST FOR THE NEW TRANSFORMER AND OTHER ASSOCIATED FEES IN BID. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL FEES WITH POWER COMPANY AND TO INCLUDE IN BID. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH POWER COMPANY AS SOON THE CONTRACT IS AWARDED TO ORDER TRANSFORMER AND THE RELATED ELECTRICAL SERVICE EQUIPMENT AS SOON AS POSSIBLE.
- B. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, TRENCHING AND BACKFILLING. COORDINATE WITH ALL UTILITIES PRIOR TO EXCAVATION.
- C. CONTRACTOR IS RESPONSIBLE CALL DIG-TESS: 1-1800-DIG-TESS 2-BUSINESS DAYS IN ADVANCE.
- D. ALL ELECTRICAL EQUIPMENT OUTDOORS SHALL BE RATED TYPE NEMA 3R UNLESS OTHERWISE NOTED.
- E. CONTRACTOR SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES. ALL WORK SHALL CONFORM TO NATIONAL ELECTRICAL CODES AND ALL OTHER AUTHORITY HAVING JURISDICTION. OBTAIN PERMITS AND PAY ALL FEES. PERFORM MODIFICATIONS TO MEET CODE AND ORDINANCE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER. ARCHITECT OR ENGINEER, VERIFY PRIOR TO BID DATE.
- F. VERIFY AT JOB SITE THE EXACT LOCATIONS OF STRUCTURAL MEMBERS SUCH AS BEAMS, COLUMNS, ETC. TO LOCATE EQUIPMENT CONDUIT, PANELS AND DEVICES. IF DEVIATIONS FROM THE DRAWING ARE NECESSARY TO MEET STRUCTURAL CONDITIONS MAKE DEVIATIONS WITHOUT ADDITIONAL COST, TO OWNER, ARCHITECT, OR ENGINEER.
- G. IN COOPERATION WITH OTHER CONTRACTORS, DETERMINE THE EXACT LOCATION OF EQUIPMENT AND DEVICES AND CONNECTIONS THERETO BY REFERENCE TO THE SUBMITTALS AND ROUGH-IN DRAWINGS, AND BY MEASUREMENTS AT THE SITE. REFER TO ALL OTHER TRADES SUBMITTAL FOR ELECTRICAL INFORMATION.
- H. GROUND ENTIRE ELECTRICAL SYSTEM IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- I. VERIFY AT JOB SITE GENERAL WORK TO BE DONE AS SPECIFIED, AS NOTED, OR AS REQUIRED FOR INSTALLATION ELECTRICAL SYSTEMS PRIOR TO SUBMISSION OF BIDS.
- J. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND EQUIPMENT TO BE REMOVED AND REPLACED BEFORE SUBMITTING HIS BID.
- K. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SMALL SCALE ONLY. THEY CONVEY THE INTENT OF THE WORK BUT DO NOT SHOW DETAIL SUCH AS JUNCTION AND PULL BOXES REQUIRED BY THE SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE(NEC). PROVIDE ALL MATERIALS AND METHODS CALLED FOR IN THE SPECIFICATIONS AND AS REQUIRED IN THE NEC TO PROVIDE A COMPLETE INSTALLATION OF ALL WORK.
- L. ALL WIRING SHALL BE COPPER.
- M. ALL SLEEVES, PENETRATIONS, ETC. SHALL BE SEALED SOLID NON-SHRINKING MATERIAL IMMEDIATELY UPON FILLING OF THE OPENING WITH PIPE OR CONDUIT.
- N. ARRANGE FOR SOURCES OF TEMPORARY CONSTRUCTION SERVICES. SUCH SERVICES SHALL BE NOMINALLY 120/240V, 1-PHASE, 3-WIRE FROM WHICH A COMPLETE SYSTEM OF TEMPORARY POWER AND LIGHTING SHALL BE PROVIDED FOR ALL CONSTRUCTION NEEDS.
- M. CONTRACTOR IS RESPONSIBLE TO VERIFY AND COORDINATE WITH EXISTING/NEW UNDERGROUND UTILITIES PRIOR TO ANY WORK.
- N. COORDINATE EXACT LOCATION OF ALL EQUIPMENT PRIOR TO ANY WORK.
- O. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR LIFT STATION SYSTEM AS REQUIRED.
- P. CONTRACTOR SHALL REFER TO EQUIPMENT SUBMITTAL FOR ALL ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
- Q. REFER TO CIVIL ENGINEERING DRAWINGS FOR THE CORRECT DIMENSIONS. SCALE ON DOCUMENT IS APPROXIMATION.
- R. CONTRACTOR SHALL INCLUDE ALL COST TO CONTRACT A LOW VOLTAGE CONTRACTOR TO PROVIDE AN ENGINEERED COMMUNICATION PATH STUDY PLANS, SPECS AND ALL LABOR/MATERIAL FOR A TURN KEY SYSTEM. CONTACT POWER SYSTEM ENGINEERING 608-206-3753, JIM WEIKERT. THE SCOPE IS TO CONDUCT THE STUDY AND THE COST FOR A TURN KEY SYSTEM FOR PROJECT SITE COMMUNICATION TO AN EXISTING COMMUNICATION LOCATION. CONTRACTOR SHALL PROVIDE AN ENGINEERED COMMUNICATION PATH OF STUDY DOCUMENTS AND SUBMIT OWNER AND LOCAL JURISDICTION FOR APPROVAL. VERIFY WITH OWNER FOR EXISTING LOCATION.

**ELECTRICAL RISER  
DIAGRAM KEYED NOTES:**

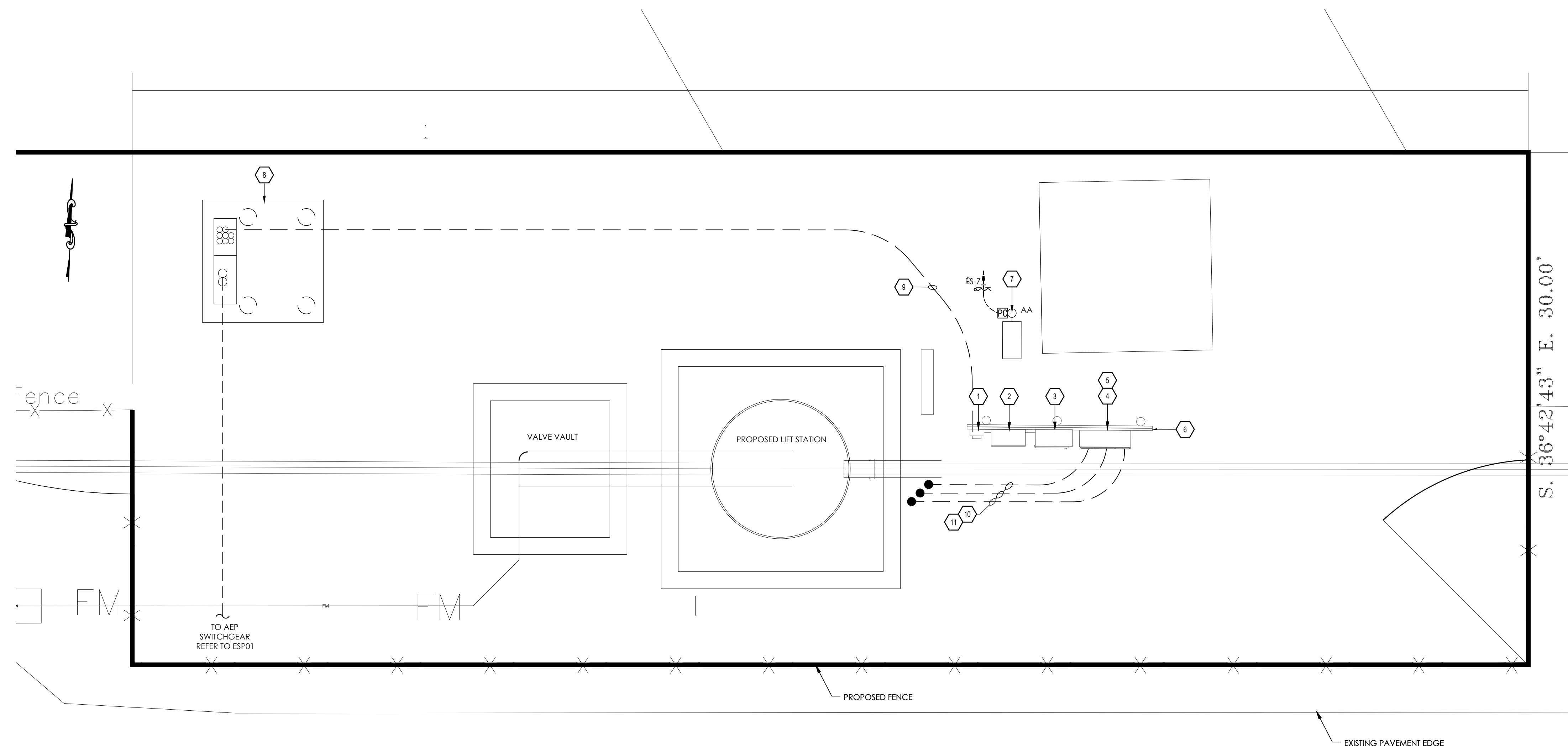
- 1 NEW UTILITY ELECTRICAL SWITCH GEAR. SWITCH GEAR BY AEP. CONTRACTOR SHALL PROVIDE NEW CONCRETE PAD. FIELD COORDINATE EXACT LOCATION.
- 2 INCLUDE ALL COST IN BID TO BORE EXISTING ROAD FOR NEW 2'-4" CONDUITS.
- 3 NEW UTILITY PAD MOUNTED TRANSFORMER. FIELD VERIFY EXACT LOCATION.

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REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS GENERAL LOCATION MAP			
SIGLER, WINSTON, GREENWOOD AND ASSOCIATES SWG ENGINEERING, LLC TEXAS FIRM REGISTRATION NO. F-592 WESLACO, TEXAS			
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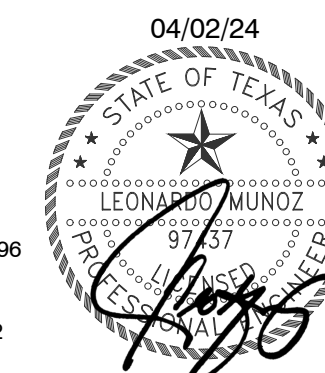


1 LIFT STATION No.1  
POWER PLAN  
SCALE: 1/4" = 1'-0"

**KEYED NOTES: ELECTRICAL**

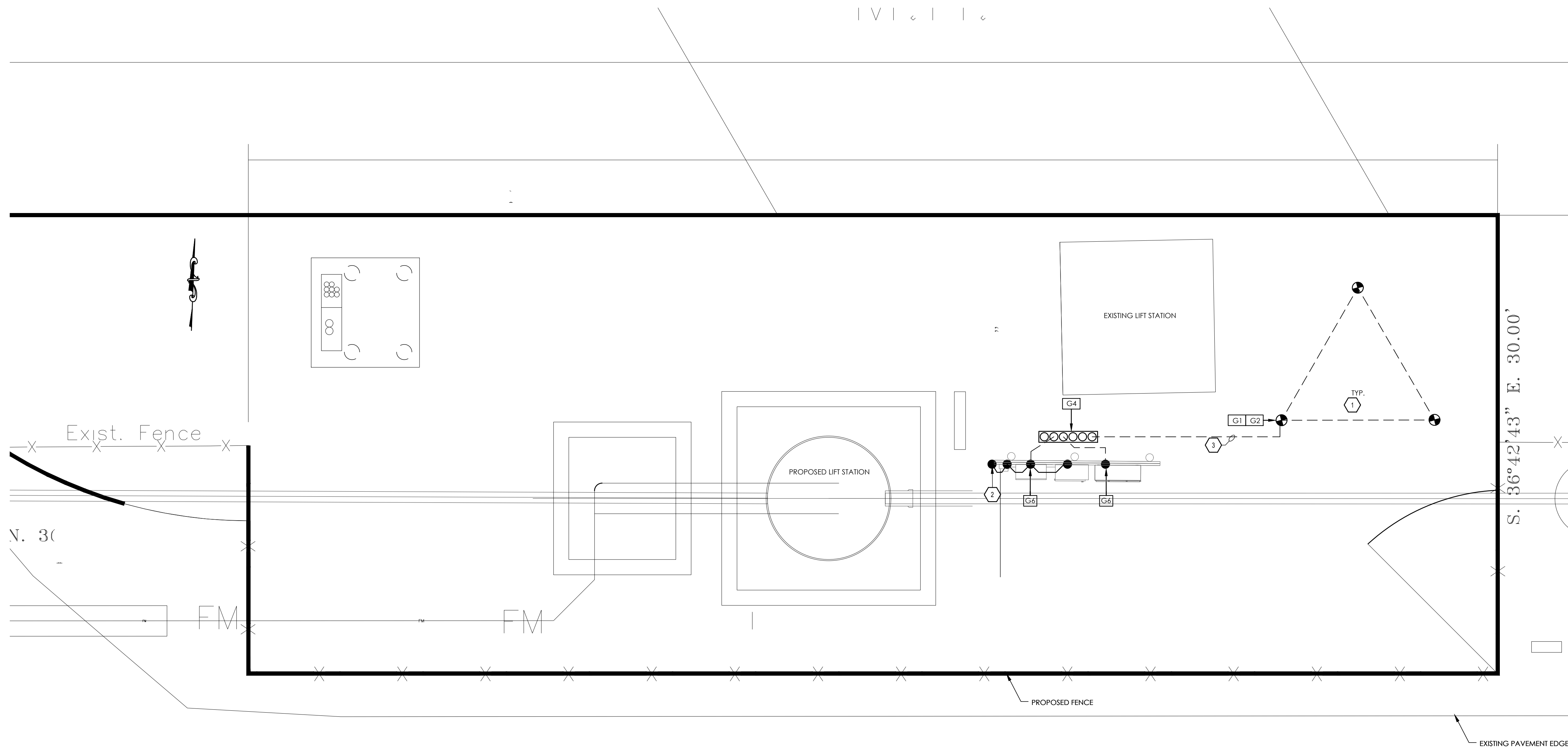
- 1 NEW ELECTRICAL UTILITY METER.
- 2 NEW ELECTRICAL MAIN PANELBOARD.
- 3 MTS-1: ROTARY GENERATOR DOCKING STATION, MANUAL TRANSFER SWITCH.
- 4 FURNISH AND INSTALL CABLING REQUIRED FOR CONTROLS PANEL. REFER TO INSTRUMENTATION I/O SCHEDULE.
- 5 PROVIDE NEMA 4X 316 SS POWER CONTROL PANEL. PANEL SHALL BE UL508A LISTED.
- 6 LOCATION OF H-FRAME AND ELECTRICAL EQUIPMENT TO FIELD COORDINATED WITH OWNER AND IAWD PRIOR TO ANY WORK.
- 7 CONTRACTOR TO PROVIDE AND INSTALL NEW POLE MOUNTED LIGHT FIXTURE. REFER TO LUMINAIRE SCHEDULE. POLE SHALL BE DIRECT BURIAL VERIFY EXISTING GROUND PRIOR TO ANY WORK. FIXTURE TO BE CONTROLLED VIA PHOTOCELL.
- 8 NEW POWER COMPANY PAD MOUNT TRANSFORMER 480/277V, 3Ø, 4W. PROVIDE CONCRETE PAD AS PER POWER COMPANY REQUIREMENTS. COORDINATE WITH AEP PRIOR TO ANY WORK.
- 9 CONTRACTOR TO PROVIDE AND INSTALL PVC CONDUIT FROM NEW UTILITY PAD MOUNT TRANSFORMER TO NEW ELECTRICAL SERVICE EQUIPMENT PER POWER COMPANY STANDARDS. VERIFY ALL REQUIREMENTS PRIOR TO ANY ROUGH-IN. REFER TO ELECTRICAL RISER DIAGRAM.
- 10 CONDUIT/WIRING TO PUMP LOCATION. FIELD COORDINATE CONDUIT ROUTE AND PUMP LOCATION.
- 11 ALL UNDER GROUND CONDUIT SHALL BE SCH-80 PVC.

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REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS PROPOSED LIFT STATION#1 ELECTRICAL POWER PLAN			
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1 LIFT STATION No.1  
ELECTRICAL GROUNDING PLAN  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES: POWER**

- A. REFER TO ONE-LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.
- B. ALL CONDUIT ROUTINGS, AND WIRE TERMINATION ARE SHOWN FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE ALL RACEWAYS, FITTINGS, AND EQUIPMENT NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- C. ALL EXPOSED CONDUIT TO BE ALUMINUM.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND ARCH FLASH STUDY TO BE PERFORMED AND PROVIDE NATIONAL ELECTRICAL CODE (NEC) COMPLIANT LABELS.

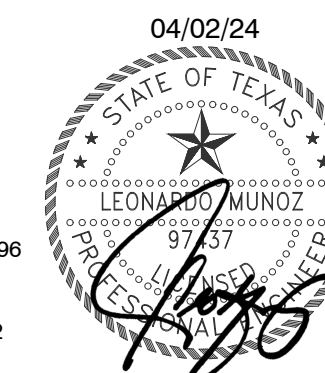
**ELECTRICAL GROUNDING LEGEND:**

- ◇ LIGHTING PROTECTION AT TERMINAL
- ⊗ GROUND ROD
- EQUIPMENT GROUND POINT
- GROUND LOOP TERMOWELDED FOR GROUND CONDUCTOR TAP
- GROUND BUS BAR
- GX DETAIL# TAG. REFER TO SHEETS ED03 FOR GROUNDING DETAILS.

**KEYED NOTES: ELECTRICAL**

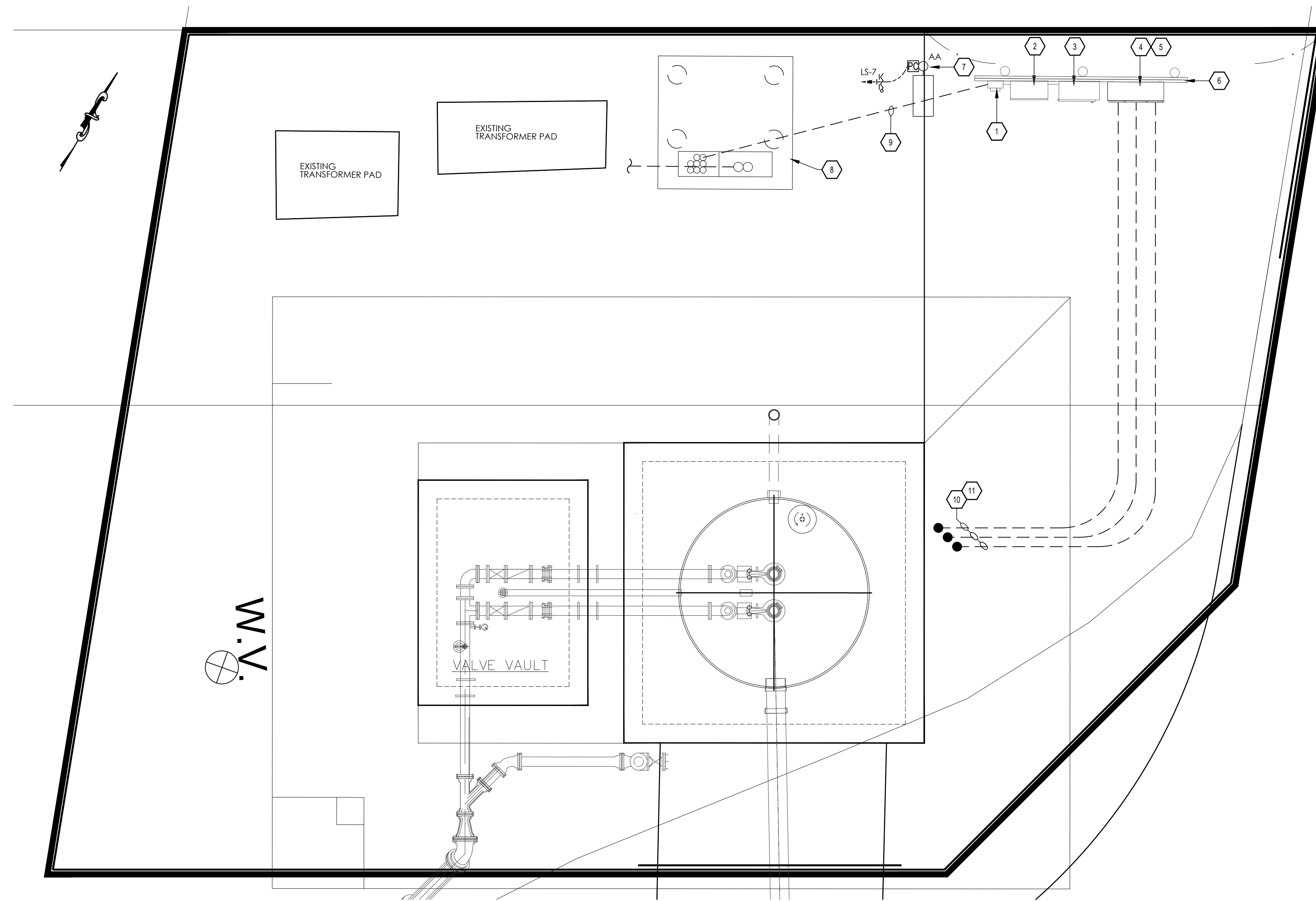
- 1 GROUND ROD TIED TO 3/4"X10' GROUND RODS SPACED 10' APART. INCLUDE GROUND TEST WELL. BOND TO CONTROL PANELS WITH INSULATED #2 TINNED COPPER.
- 2 GROUNDING CONNECTION TO SERVICE RACK.
- 3 #4#0 BARE GROUND.

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PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS PROPOSED LIFT STATION#1 ELECTRICAL GROUNDING PLAN			
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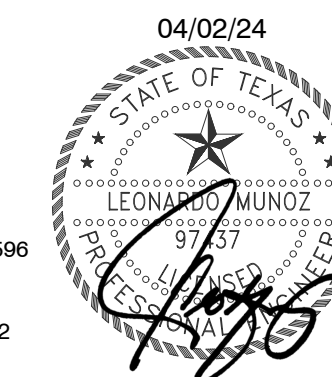



1 MASTER LIFT STATION  
POWER PLAN  
SCALE: 1/4" = 1'-0"

**KEYED NOTES: ELECTRICAL**

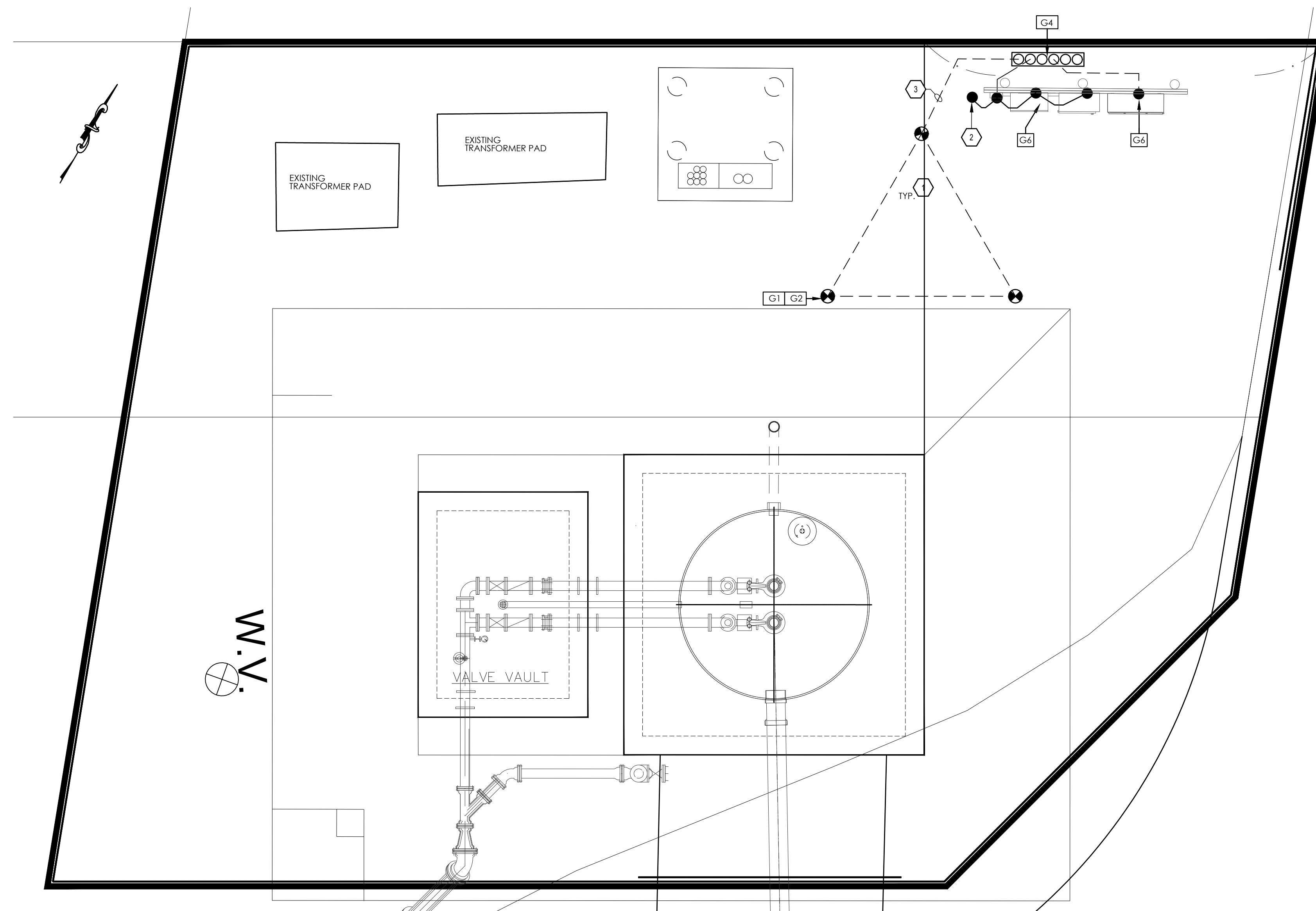
- 1 NEW ELECTRICAL UTILITY METER.
- 2 NEW ELECTRICAL MAIN PANELBOARD.
- 3 MTS-1: ROTARY GENERATOR DOCKING STATION, MANUAL TRANSFER SWITCH.
- 4 FURNISH AND INSTALL CABLING REQUIRED FOR CONTROLS PANEL. REFER TO INSTRUMENTATION 1/0 SCHEDULE.
- 5 PROVIDE NEMA 4X 316 SS POWER CONTROL PANEL. PANEL SHALL BE UL508A LISTED.
- 6 LOCATION OF H-FRAME AND ELECTRICAL EQUIPMENT TO FIELD COORDINATED WITH OWNER AND SUBV PRIOR TO ANY WORK.
- 7 CONTRACTOR TO PROVIDE AND INSTALL NEW POLE MOUNTED LIGHT FIXTURE. REFER TO LUMINAIRE SCHEDULE. POLE SHALL BE DIRECT BURIAL. VERIFY EXISTING GROUND PRIOR TO ANY WORK. FIXTURE TO BE CONTROLLED VIA PHOTOCELL.
- 8 NEW POWER COMPANY PAD MOUNT TRANSFORMER 480/277V 3Ø, 4W. PROVIDE CONCRETE PAD AS PER POWER COMPANY REQUIREMENTS, COORDINATE WITH AEP PRIOR TO ANY WORK.
- 9 CONTRACTOR TO PROVIDE AND INSTALL PVC CONDUIT FROM NEW UTILITY PAD MOUNT TRANSFORMER TO NEW ELECTRICAL SERVICE EQUIPMENT PER POWER COMPANY STANDARDS. VERIFY ALL REQUIREMENTS PRIOR TO ANY ROUGH-IN. REFER TO ELECTRICAL RISER DIAGRAM.
- 10 CONDUIT/WIRING TO PUMP LOCATION. FIELD COORDINATE CONDUIT ROUTE AND PUMP LOCATION.
- 11 ALL UNDER GROUND CONDUIT SHALL BE SCH-80 PVC.

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REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS PROPOSED MASTER LIFT STATION ELECTRICAL POWER PLAN			
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1 MASTER LIFT STATION  
GROUNDING PLAN  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES: POWER**

- A. REFER TO ONE-LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.
- B. ALL CONDUIT ROUTINGS, AND WIRE TERMINATION ARE SHOWN FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE ALL RACEWAYS, FITTINGS, AND EQUIPMENT NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- C. ALL EXPOSED CONDUIT TO BE ALUMINUM.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND ARCH FLASH STUDY TO BE PERFORMED AND PROVIDE NATIONAL ELECTRICAL CODE (NEC) COMPLIANT LABELS.

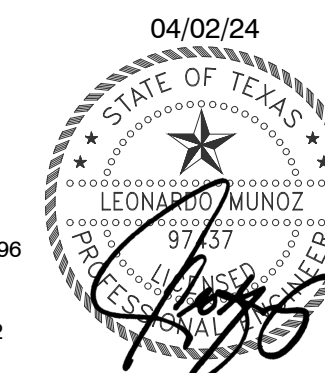
**ELECTRICAL GROUNDING LEGEND:**


- ⬠ LIGHTING PROTECTION AT TERMINAL
- ⊗ GROUND ROD
- EQUIPMENT GROUND POINT
- GROUND LOOP TERMOWELD FOR GROUND CONDUCTOR TAP
- GROUND BUS BAR
- ⊠ DETAIL# TAG. REFER TO SHEETS ED03 FOR GROUNDING DETAILS.

**KEYED NOTES: ELECTRICAL**

- 1 GROUND ROD TIED (3) 3/4"x10' GROUND RODS SPACED 10' APART. INCLUDE GROUND TEST WELL. BOND TO CONTROL PANELS WITH INSULATED #2 TINNED COPPER.
- 2 GROUNDING CONNECTION TO SERVICE RACK.
- 3 #4#0 BARE GROUND.

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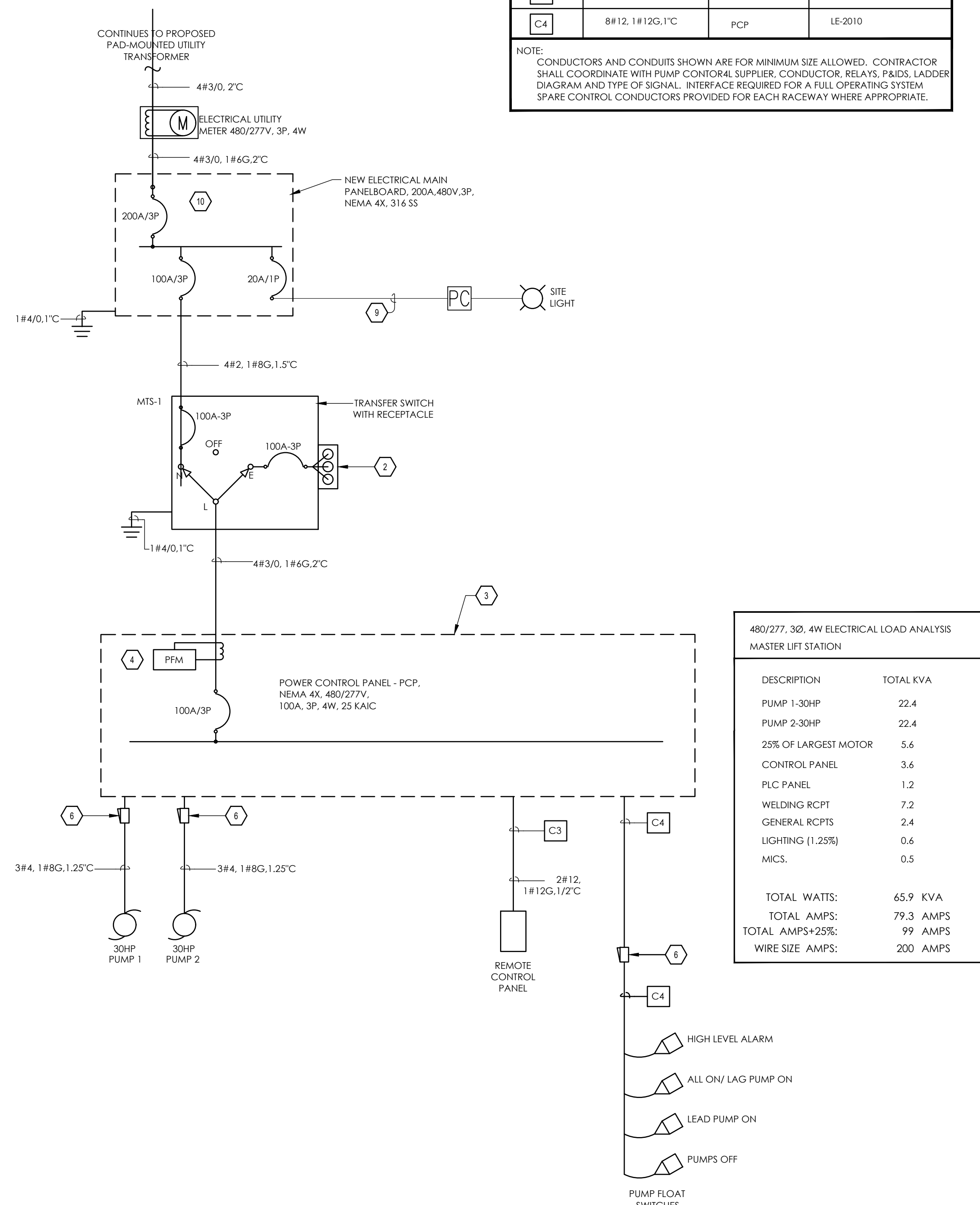


REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS PROPOSED MASTER LIFT STATION ELECTRICAL GROUNDING PLAN			
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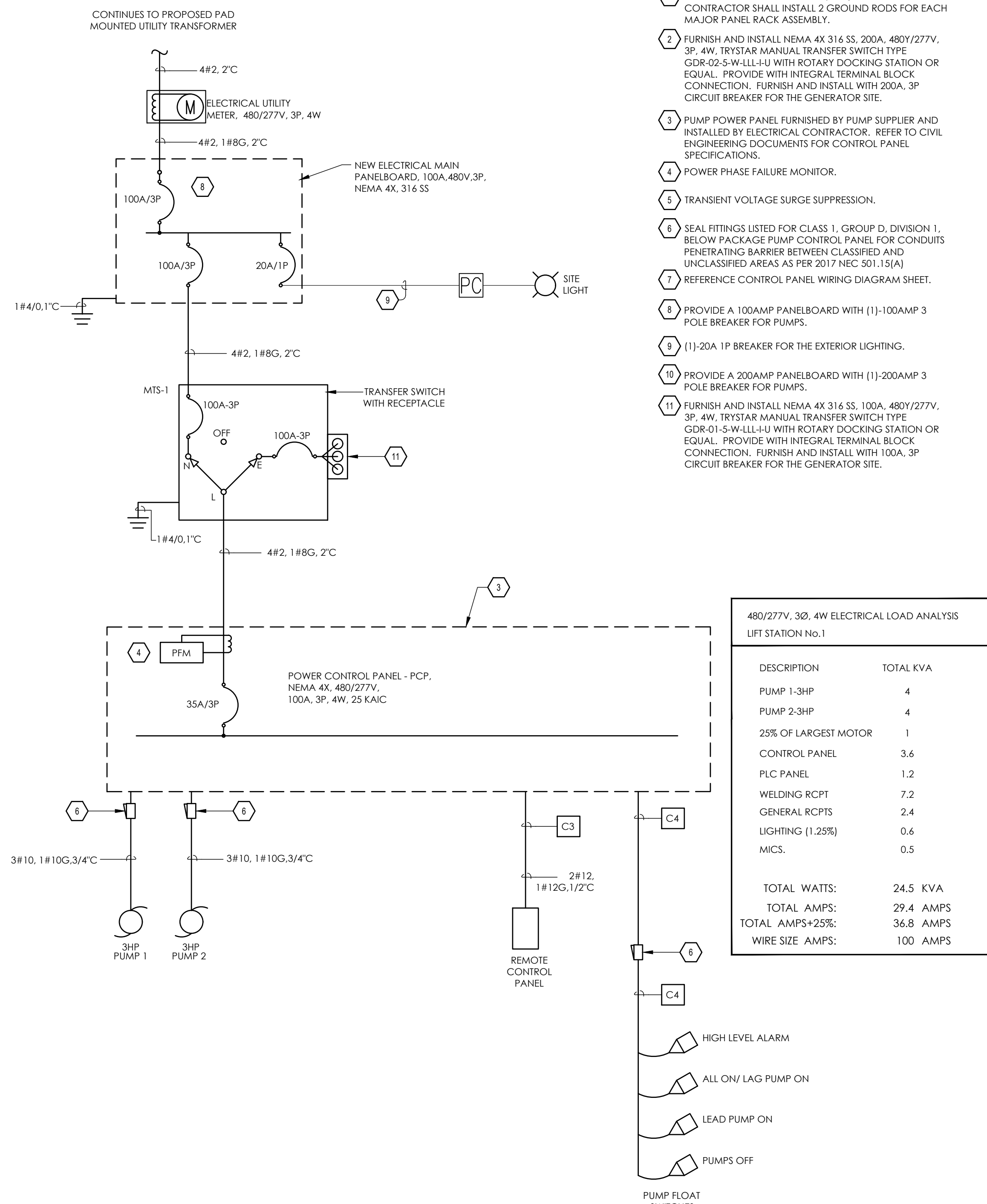
INSTRUMENTATION AND CONTROLS WIRING SCHEDULE			
MARK	CIRCUIT	FROM	TO
C1	1-2C/S-#16, 1#14G, 1'C	PLC	LEVEL SENSOR
C2	30#14, 1#14G, 2'C	PCP	PLC-1030
C3	30#14, 1#14G, 2'C	PCP	RP-1020
C4	8#12, 1#12G, 1'C	PCP	LE-2010

NOTE: CONDUCTORS AND CONDUITS SHOWN ARE FOR MINIMUM SIZE ALLOWED. CONTRACTOR SHALL COORDINATE WITH PUMP CONTROL SUPPLIER, CONDUCTOR, RELAYS, PAIDS, LADDER DIAGRAM AND TYPE OF SIGNAL. INTERFACE REQUIRED FOR A FULL OPERATING SYSTEM. SPARE CONTROL CONDUCTORS PROVIDED FOR EACH RACEWAY WHERE APPROPRIATE.



480/277, 3Ø, 4W ELECTRICAL LOAD ANALYSIS MASTER LIFT STATION	
DESCRIPTION	TOTAL KVA
PUMP 1-30HP	22.4
PUMP 2-30HP	22.4
25% OF LARGEST MOTOR	5.6
CONTROL PANEL	3.6
PLC PANEL	1.2
WELDING RCPT	7.2
GENERAL RCPTS	2.4
LIGHTING (1.25%)	0.6
MICS.	0.5
<b>TOTAL WATTS:</b>	<b>65.9 KVA</b>
<b>TOTAL AMPS:</b>	<b>79.3 AMPS</b>
<b>TOTAL AMPS+25%:</b>	<b>99 AMPS</b>
<b>WIRE SIZE AMPS:</b>	<b>200 AMPS</b>

MASTER LIFT STATION ELECTRICAL ONE-LINE DIAGRAM  
NO SCALE



480/277V, 3Ø, 4W ELECTRICAL LOAD ANALYSIS LIFT STATION No.1	
DESCRIPTION	TOTAL KVA
PUMP 1-3HP	4
PUMP 2-3HP	4
25% OF LARGEST MOTOR	1
CONTROL PANEL	3.6
PLC PANEL	1.2
WELDING RCPT	7.2
GENERAL RCPTS	2.4
LIGHTING (1.25%)	0.6
MICS.	0.5
<b>TOTAL WATTS:</b>	<b>24.5 KVA</b>
<b>TOTAL AMPS:</b>	<b>29.4 AMPS</b>
<b>TOTAL AMPS+25%:</b>	<b>36.8 AMPS</b>
<b>WIRE SIZE AMPS:</b>	<b>100 AMPS</b>

LIFT STATION No. 1 ELECTRICAL ONE-LINE DIAGRAM  
NO SCALE

**KEYED NOTES: ELECTRICAL**

- FURNISH AND INSTALL 1#4 GND, IN 3/4" PVC -SCH 80. CONTRACTOR SHALL INSTALL 2 GROUND RODS FOR EACH MAJOR PANEL RACK ASSEMBLY.
- FURNISH AND INSTALL NEMA 4X 316 SS, 200A, 480Y/277V, 3P, 4W, TRYSTAR MANUAL TRANSFER SWITCH TYPE GDR-02-S-W-L-L-U WITH ROTARY DOCKING STATION OR EQUAL. PROVIDE WITH INTEGRAL TERMINAL BLOCK CONNECTION. FURNISH AND INSTALL WITH 200A, 3P CIRCUIT BREAKER FOR THE GENERATOR SITE.
- PUMP POWER PANEL FURNISHED BY PUMP SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO CIVIL ENGINEERING DOCUMENTS FOR CONTROL PANEL SPECIFICATIONS.
- POWER PHASE FAILURE MONITOR.
- TRANSIENT VOLTAGE SURGE SUPPRESSION.
- SEAL FITTINGS LISTED FOR CLASS 1, GROUP D, DIVISION 1, BELOW PACKAGE PUMP CONTROL PANEL FOR CONDUITS PENETRATING BARRIER BETWEEN CLASSIFIED AND UNCLASSIFIED AREAS AS PER 2017 NEC 501.15(A)
- REFERENCE CONTROL PANEL WIRING DIAGRAM SHEET.
- PROVIDE A 100AMP PANELBOARD WITH (1)-100AMP 3 POLE BREAKER FOR PUMPS.
- (1)-20A 1P BREAKER FOR THE EXTERIOR LIGHTING.
- PROVIDE A 200AMP PANELBOARD WITH (1)-200AMP 3 POLE BREAKER FOR PUMPS.
- FURNISH AND INSTALL NEMA 4X 316 SS, 100A, 480Y/277V, 3P, 4W, TRYSTAR MANUAL TRANSFER SWITCH TYPE GDR-01-S-W-L-L-U WITH ROTARY DOCKING STATION OR EQUAL. PROVIDE WITH INTEGRAL TERMINAL BLOCK CONNECTION. FURNISH AND INSTALL WITH 100A, 3P CIRCUIT BREAKER FOR THE GENERATOR SITE.

**GENERAL NOTES:**

- PROVIDE GROUND /BONDING AS INDICATED ON THE NATIONAL ELECTRICAL CODE.
- NAME PLATES SHALL BE PROVIDED FOR ALL ELECTRICAL SWITCH GEAR, PANEL BOARDS, LIGHTING CONTACTORS, LIGHTING CONTROL PANELS, ETC., BY ELECTRICAL CONTRACTOR.
- NEW ELECTRICAL METERING AND SERVICE EQUIPMENT SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE LOCAL POWER UTILITY CO. AND CITY REQUIREMENTS. VERIFY AND COORDINATE WITH POWER UTILITY CO. AND AHJ BEFORE BID AND INSTALLATION.
- COMPLY WITH NFPA 70E SAFETY REQUIREMENTS.
- PANELBOARDS WITH MORE THAN 42 CIRCUITS SHALL BE IN ONE CABINET ENCLOSURE, UNLESS OTHERWISE NOTED.
- PROVIDE 4" CONCRETE PAD FOR ALL DRY-TYPE TRANSFORMERS.
- ALL TWO SECTION PANELBOARDS SHALL BE FEED THRU LUGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY OF ELECTRICAL SERVICE TO THE NEW BUILDING WITHIN PROJECT SCHEDULE. COORDINATE ALL COST FOR LABOR AND MATERIALS WITH LOCAL ELECTRICAL UTILITY COMPANY PRIOR TO BID. ALL COST ASSOCIATED WITH THE DELIVERY OF ELECTRICAL SERVICE INCLUDING ALL MATERIALS SHALL BE INCLUDED IN BID. TRANSITION OF NEW ELECTRICAL SERVICE SHALL PROCEED IN WEEKENDS OR HOLIDAYS, INCLUDE ALL COST IN BID FOR OVERTIME FROM ELECTRIC UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE MADE FOR SERVICE DELIVERY COSTS AFTER CONTRACT HAS BEEN AWARDED.
- ELECTRICAL SERVICE 480/277V 1000AMPS OR MORE SHALL INCLUDE GROUND FAULT PROTECTION.
- ELECTRICAL SERVICE 120V THRU 480V 1000AMPS OR MORE SHALL INCLUDE AN ARC REDUCTION MAINTENANCE SWITCH. COORDINATE EXACT LOCATION OF SUCH SWITCH.
- PROVIDE TRENCHING AND BACKFILLING FOR ALL UNDERGROUND CONDUITS FOR REGULAR NON-ASPHALT/CONCRETE SURFACE.
- PROVIDE SAWCUT AND PATCHING FOR ALL UNDERGROUND CONDUITS FOR REGULAR ASPHALT OR CONCRETE SURFACE. INCLUDE ALL COST TO PATCH SURFACE TO MATCH EXISTING FINISH.
- ALL ENCLOSURES SHALL BE STAINLESS NEMA 4X, STEEL 316 MATERIAL.
- ALL BREAKERS SHALL BE 100% RATED.
- ALL ENCLOSURES SHALL BE UL508A LISTED.

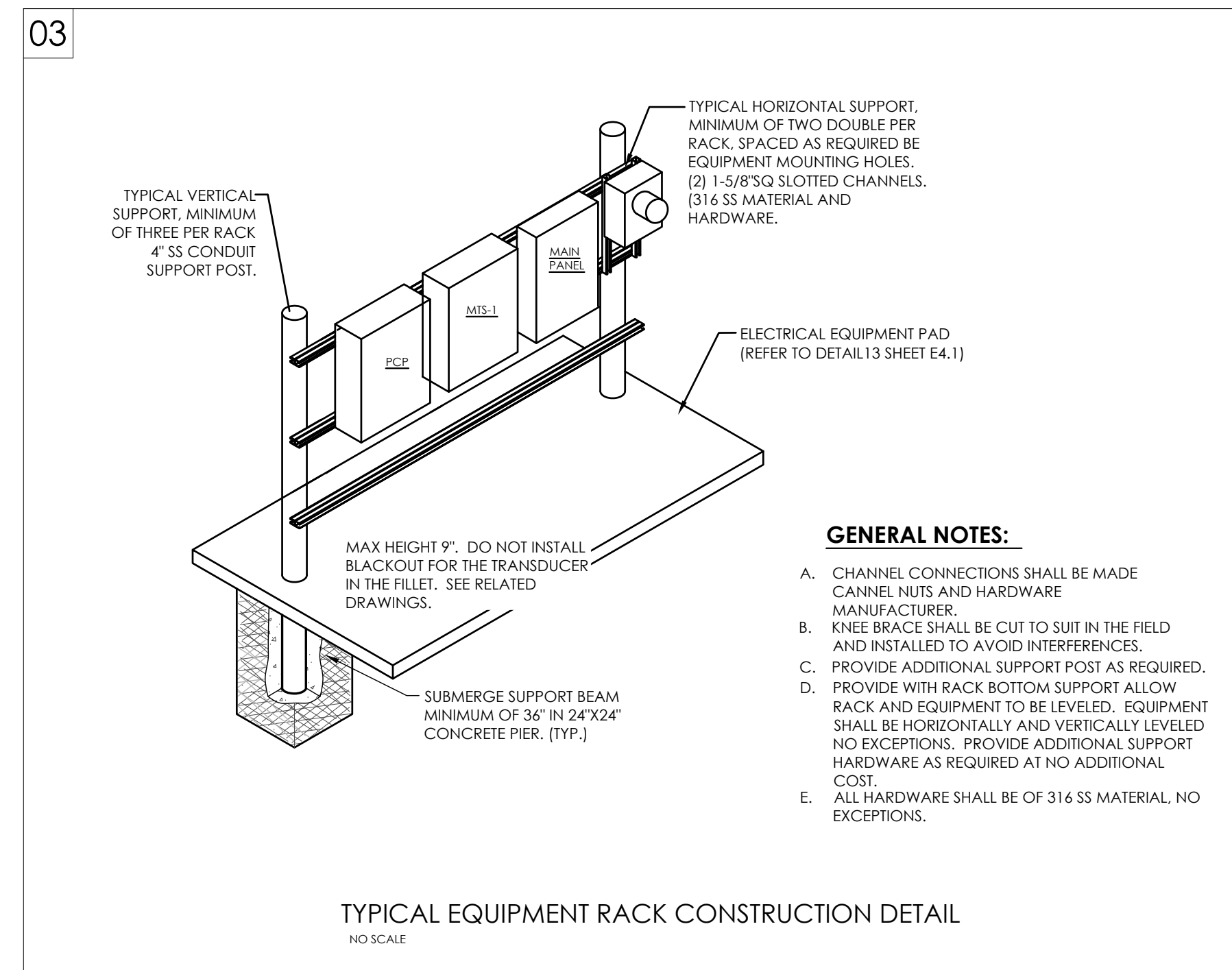
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REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS			
ELECTRICAL RISER DIAGRAM			
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DATE:	CHECKED:	APPROVED:	PROJECT NO.:
			E3.1

PANEL: PNL-1													
LOCATION: EXTERIOR	AMP	LUGS	NEMA	V(LL)	(P)	(W)	V(LN)	MNT	KAIC	FDR			
	200	MB	4X	480	3	4		120	25	1-RUN 4#3/0, 1#6G, 2"C			
LOAD SERVED	CTK #	LOAD KVA	BKR SIZE	POLE	FEEDER/BRANCH CIRCUIT SIZE			POLE	BKR SIZE	LOAD KVA	CTK #	LOAD SERVED	
PUMP CONTROL PANEL	1	30	100	3	4#2, 1#8G, 2"C			*			2	LTG	
	3	30						*			4	SPACE	
	5	30						*			6	SPACE	
SPACE	7							*			8	SPACE	
SPACE	9							*			10	SPACE	
SPACE	11							*			12	SPACE	
LOADS	-				(KVA)	-			(KVA)	-			DESCRIPTIVE LOADS
CONNECTED LOAD	-				90	-			0	-			LIGHTING
RESERVE	-				0	-			0	-			RECEPTACLES
TOTAL LOAD	-				90	-			0	-			COOLING
	-					-			0	-			HEATING
	-					-			90	-			OTHER
TOTAL AMPS	-				108	-				-			

PANEL: PNL-2													
LOCATION: EXTERIOR	AMP	LUGS	NEMA	V(LL)	(P)	(W)	V(LN)	MNT	KAIC	FDR			
	100	MB	4X	480	3	4		120	25	1-RUN 4#2, 1#8G, 2"C			
LOAD SERVED	CTK #	LOAD KVA	BKR SIZE	POLE	FEEDER/BRANCH CIRCUIT SIZE			POLE	BKR SIZE	LOAD KVA	CTK #	LOAD SERVED	
PUMP CONTROL PANEL	1	10	35	3	4#8, 1#10G, 3/4"C			*			2	LTG	
	3	10						*			4	SPACE	
	5	10						*			6	SPACE	
SPACE	7							*			8	SPACE	
SPACE	9							*			10	SPACE	
SPACE	11							*			12	SPACE	
LOADS	-				(KVA)	-			(KVA)	-			DESCRIPTIVE LOADS
CONNECTED LOAD	-				30	-			0	-			LIGHTING
RESERVE	-				0	-			0	-			RECEPTACLES
TOTAL LOAD	-				30	-			0	-			COOLING
	-					-			0	-			HEATING
	-					-			30	-			OTHER
TOTAL AMPS	-				36	-				-			



**STRUCTURAL DELEGATED DESIGN:**

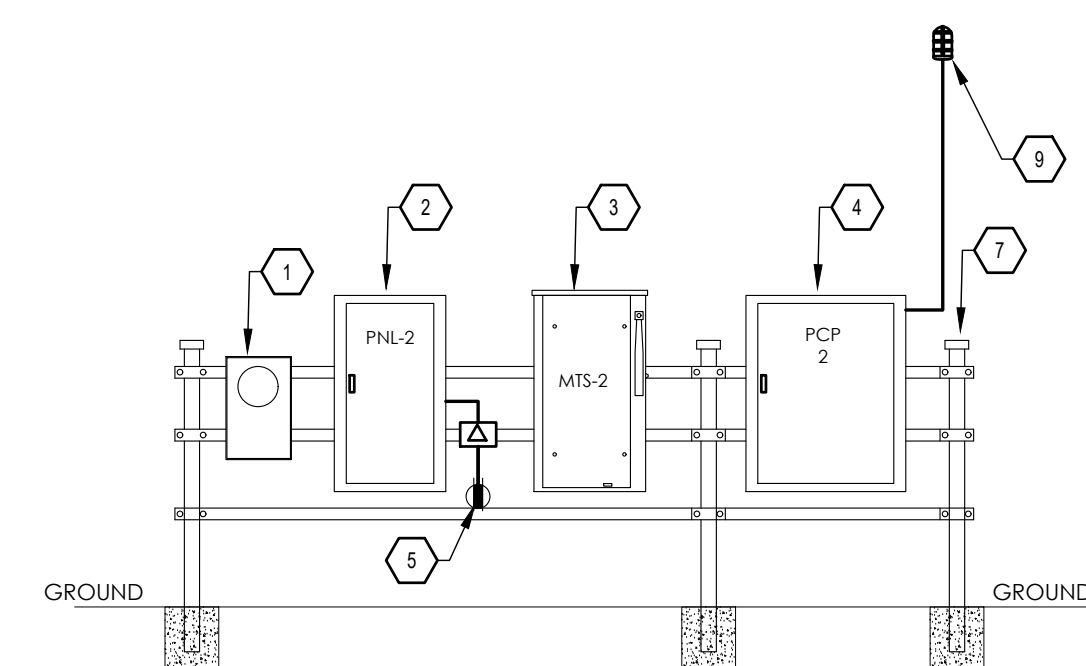
- A. CONTRACTOR SHALL OBTAIN COMPREHENSIVE ENGINEERING ANALYSIS BY QUALIFIED PROFESSIONAL STRUCTURAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. EVALUATE EXISTING SOIL CONDITIONS, WIND SPEED FACTORS, AND THE SPECIFIED MATERIALS TO DETERMINE THE STRUCTURE REQUIRED. PROVIDE PROFESSIONALLY SIGNED RECOMMENDATIONS AND/OR DESIGN DOCUMENTS FOR THE FOLLOWING:
  1. ELECTRICAL H-RACK DETAIL.
- B. CONTRACTOR SHALL PROVIDE STRUCTURAL EXPERT WILL ALL RELEVANT INFORMATION REQUIRED TO MAKE COMPETENT RECOMMENDATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

**GENERAL NOTES:**

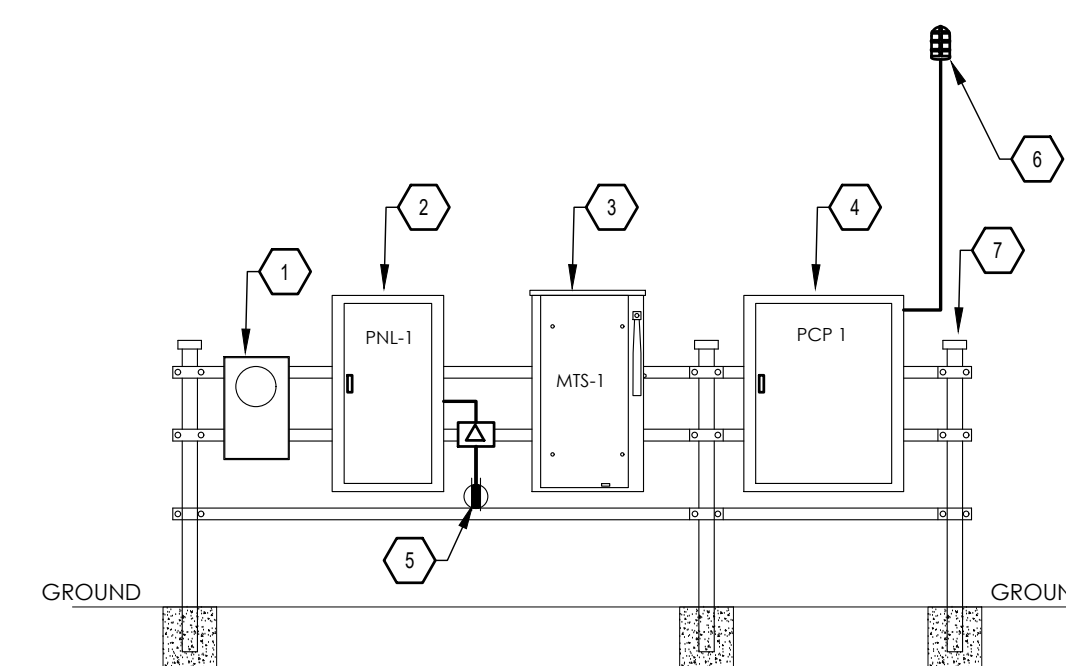
- A. CHANNEL CONNECTIONS SHALL BE MADE BY CHANNEL NUTS AND HARDWARE MANUFACTURER.
- B. KNEE BRACE SHALL BE CUT TO SUIT IN THE FIELD AND INSTALLED TO AVOID INTERFERENCES.
- C. PROVIDE ADDITIONAL SUPPORT POST AS REQUIRED.
- D. PROVIDE WITH RACK BOTTOM SUPPORT ALLOW RACK AND EQUIPMENT TO BE LEVELED. EQUIPMENT SHALL BE HORIZONTALLY AND VERTICALLY LEVELED NO EXCEPTIONS. PROVIDE ADDITIONAL SUPPORT HARDWARE AS REQUIRED AT NO ADDITIONAL COST.
- E. ALL HARDWARE SHALL BE OF 316 SS MATERIAL, NO EXCEPTIONS.
- F. CONTRACTOR TO PROVIDE PROTECTIVE END COVERS ON ALL STRUT.
- G. CONTRACTOR SHALL ROUTE ALL ABOVE GROUND CONDUIT IN ALUMINUM CONDUIT. ALL BELOW GRADE CONDUIT SHALL BE PVC SCH 80.
- H. ENCLOSURE SIDE ACCESSED CONDUIT IS NOT ALLOWED, ONLY BOTTOM ENTRY.
- I. PROVIDE ADDITIONAL SUPPORT POSTS AND UNISTRUT FOR LIFT STATION REQUIRING L-SHAPED ELECTRICAL EQUIPMENT H-RACK.
- J. CONDUIT SHOWN FOR REFERENCE PURPOSE ONLY. QUANTITY OF CONDUITS MAY VARY. REFER TO ELECTRICAL RISER DIAGRAM.
- K. ALL ENCLOSURES AND DISCONNECTS SHALL BE PAD-LOCKABLE.
- L. SERVICE RACK STRUTS SHALL BE OF STAINLESS STEEL 316 1.5" MINIMUM.
- M. SCADA SYSTEM MFR. SHALL BE RACO, REFER TO CIVIL ENGINEERING DOCUMENTS.

**KEYED NOTES:**

- 1 NEW ELECTRICAL UTILITY SERVICE METER.
- 2 MAIN PANELBOARD, REFER TO PANELBOARD SCHEDULE.
- 3 MTS - ELECTRICAL MANUAL TRANSFER SWITCH.
- 4 PCP - POWER CONTROL PANEL REFER TO CIVIL ENGINEERING SPECIFICATIONS.
- 5 PROVIDE WEATHER RESISTANT 20AMP GFCI DUPLEX RECEPTACLE IN A IN-USE WEATHER PROOF ENCLOSURE.
- 6 RED ALARM BEACON, INSTALL 3FT ABOVE THE FENCE LINE. SUPPORT RACEWAY WITH 316 SS C-CHANNEL UNISTRUT.
- 7 PROVIDE MYER HUBS FOR ALL CONDUIT PENETRATION INTO ENCLOSURES.



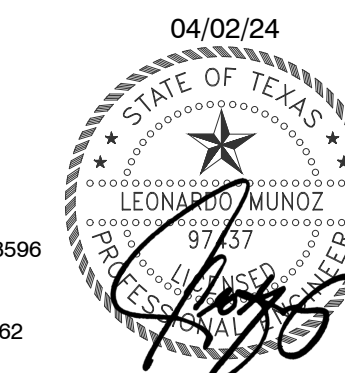
1 LIFT STATION No.1  
ELECTRICAL H-RACK DETAIL  
SCALE: NTS



2 MASTER LIFT STATION  
ELECTRICAL H-RACK DETAIL  
SCALE: NTS

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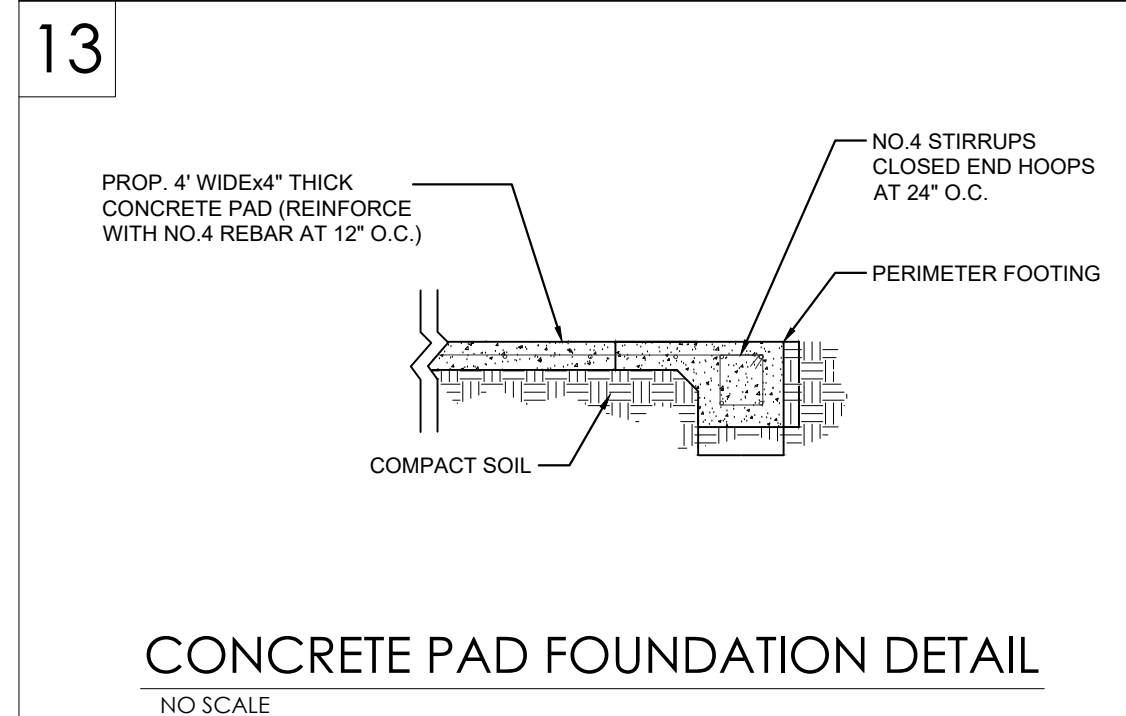
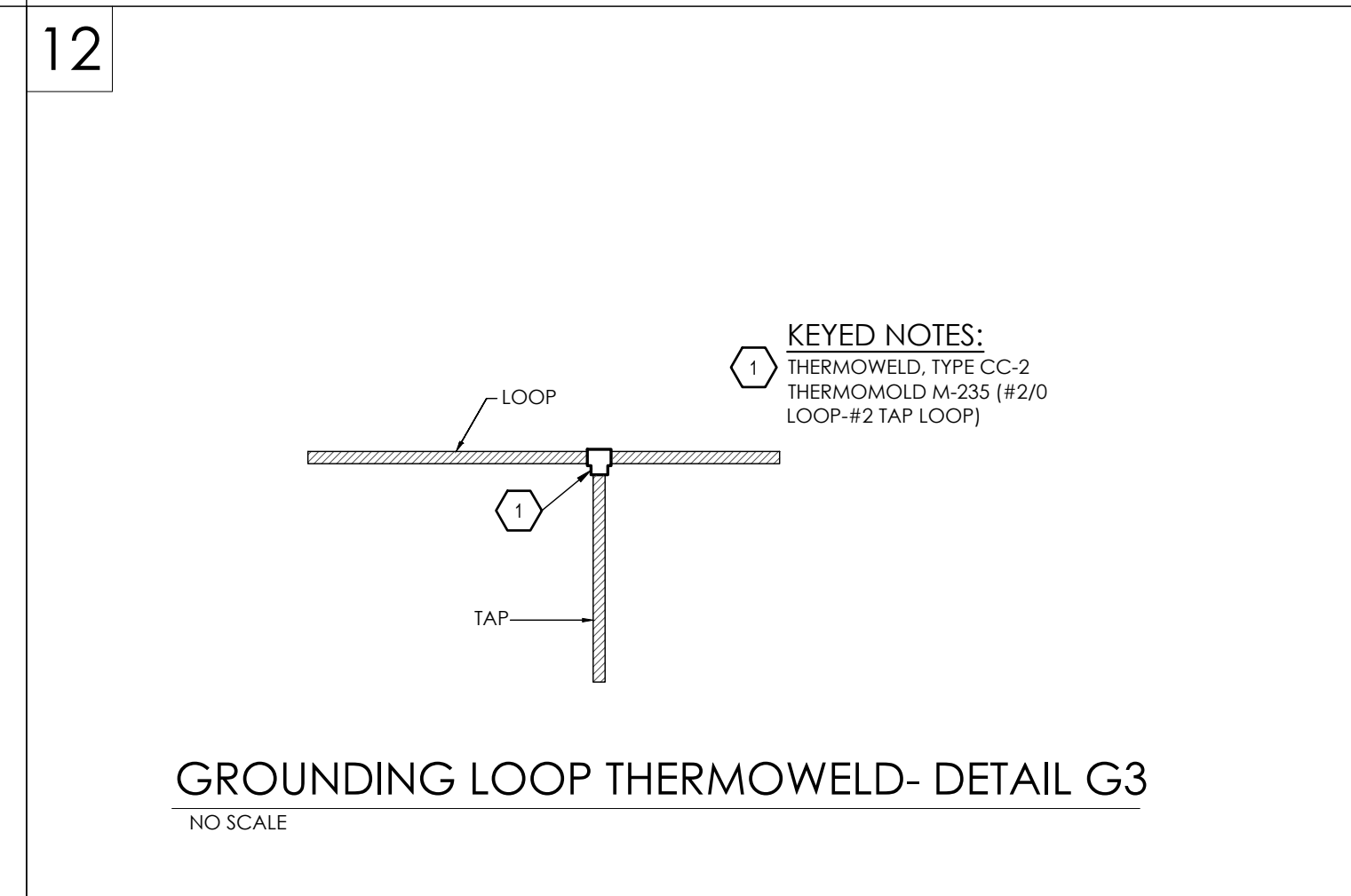
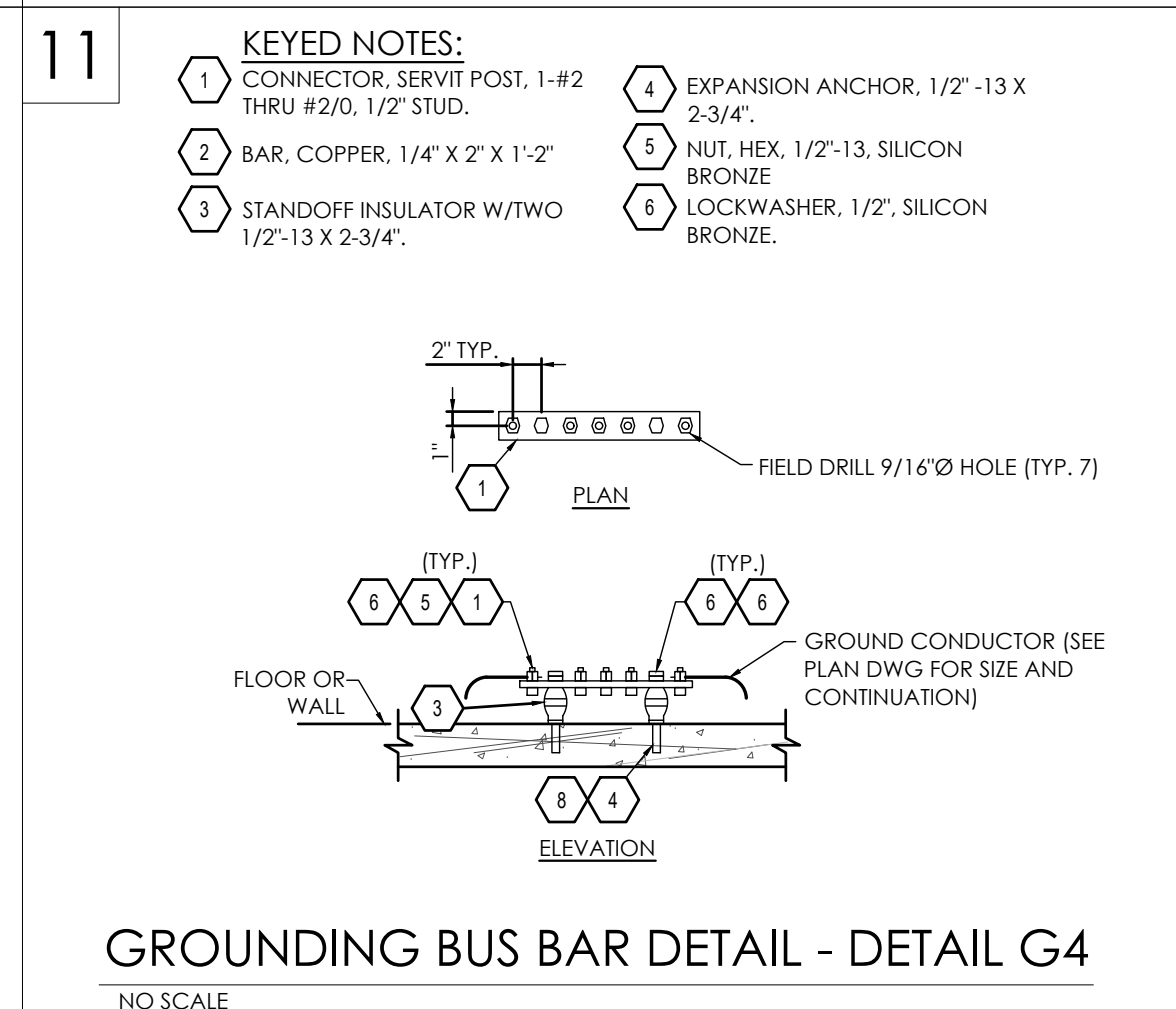
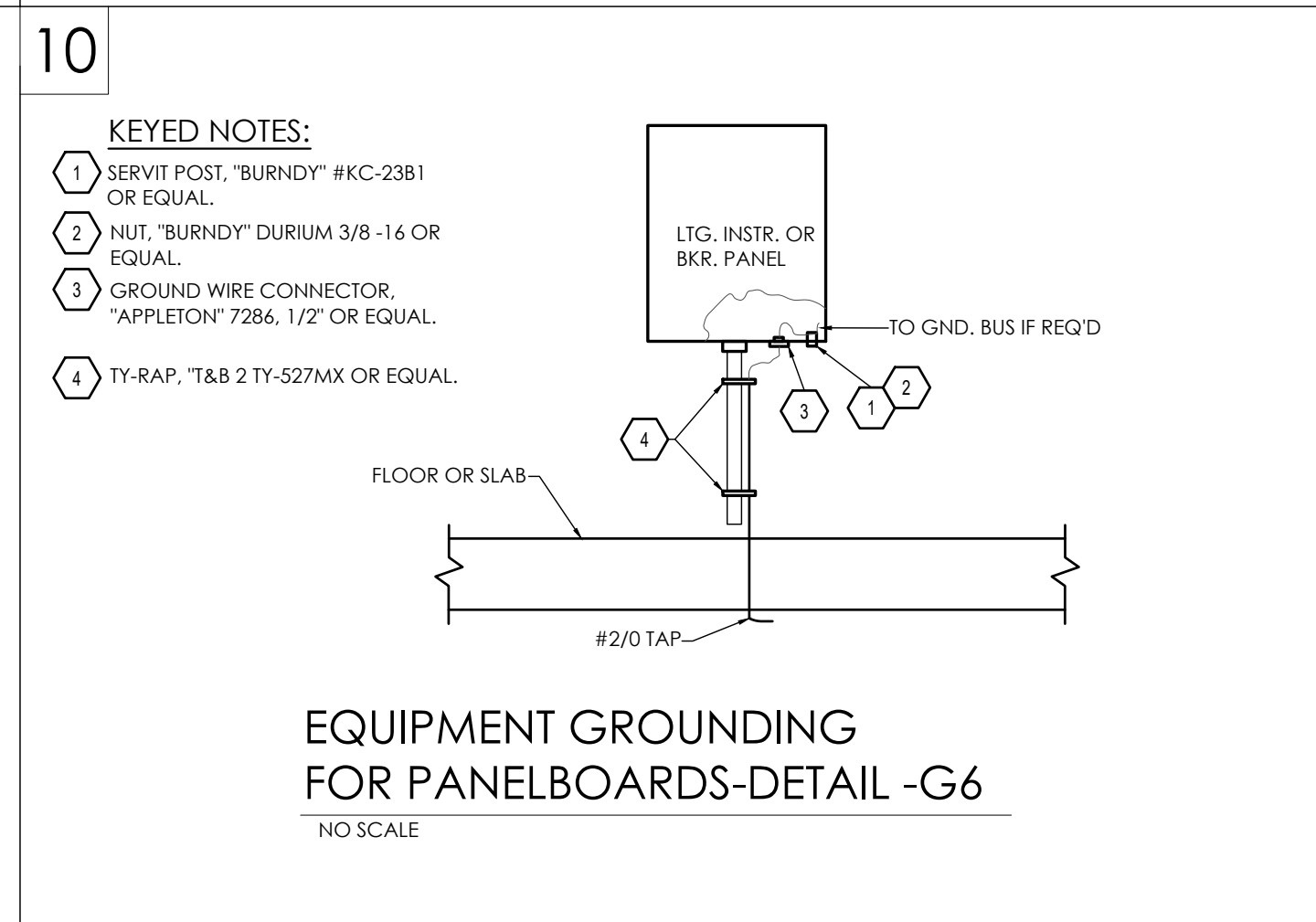
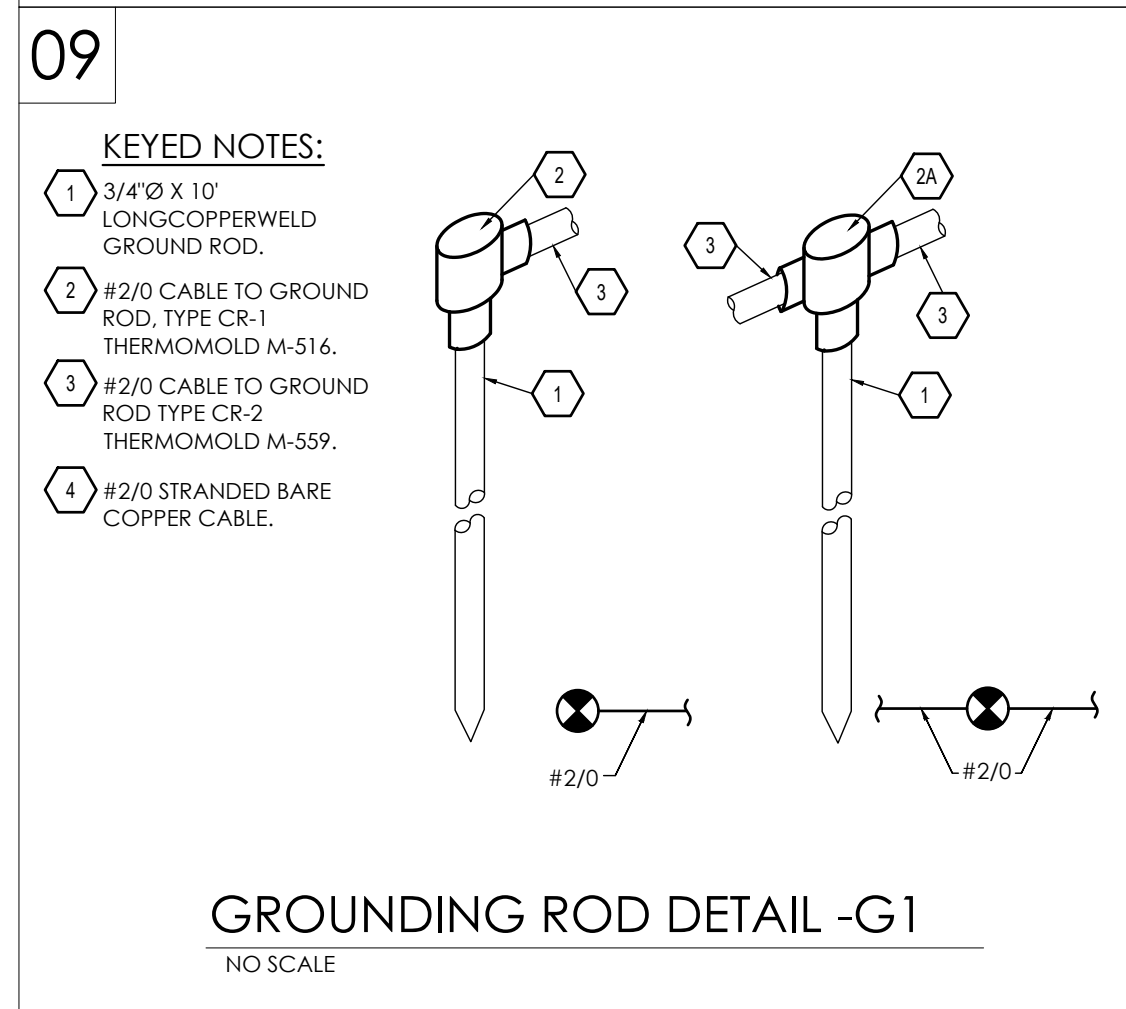
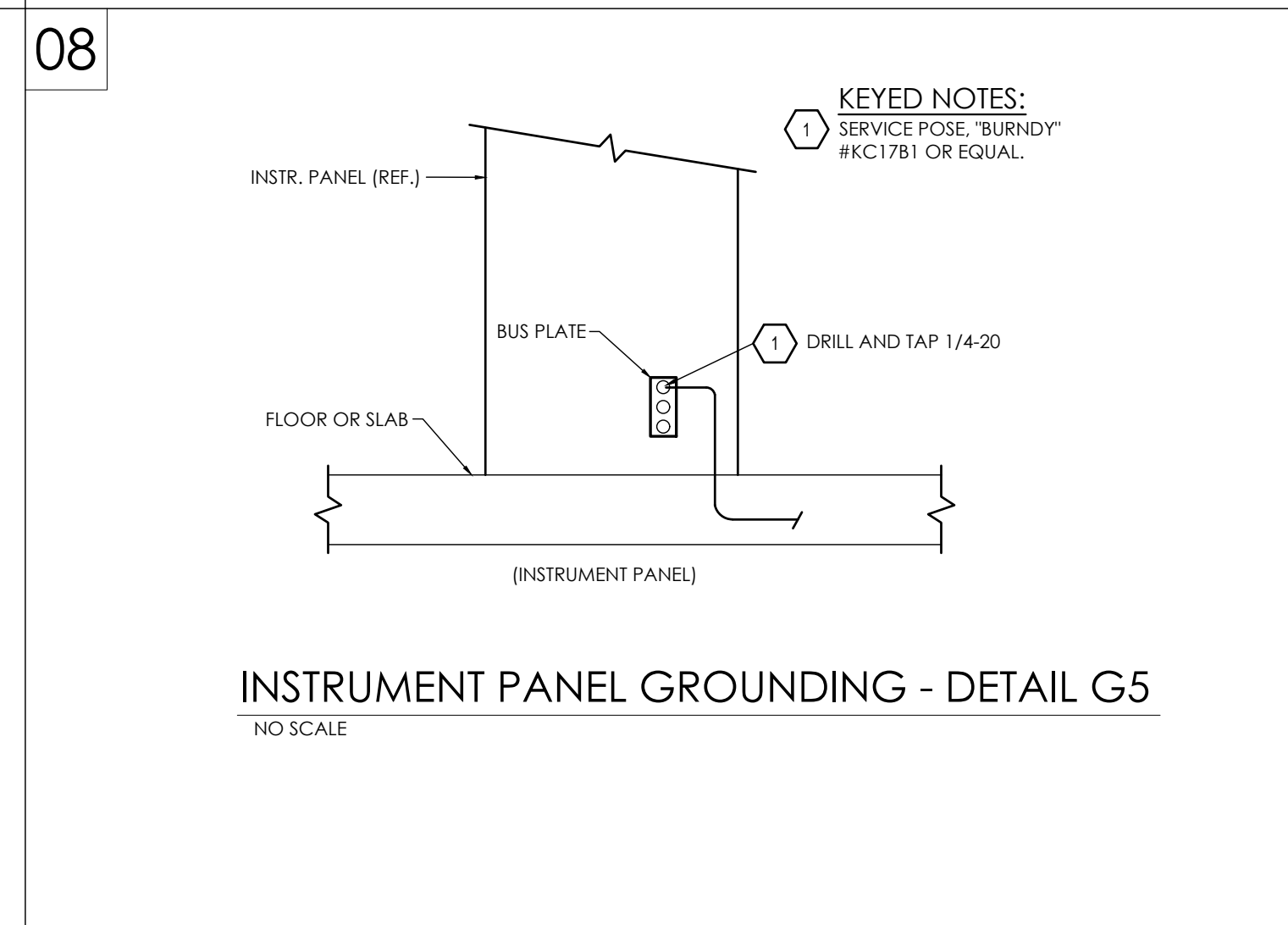
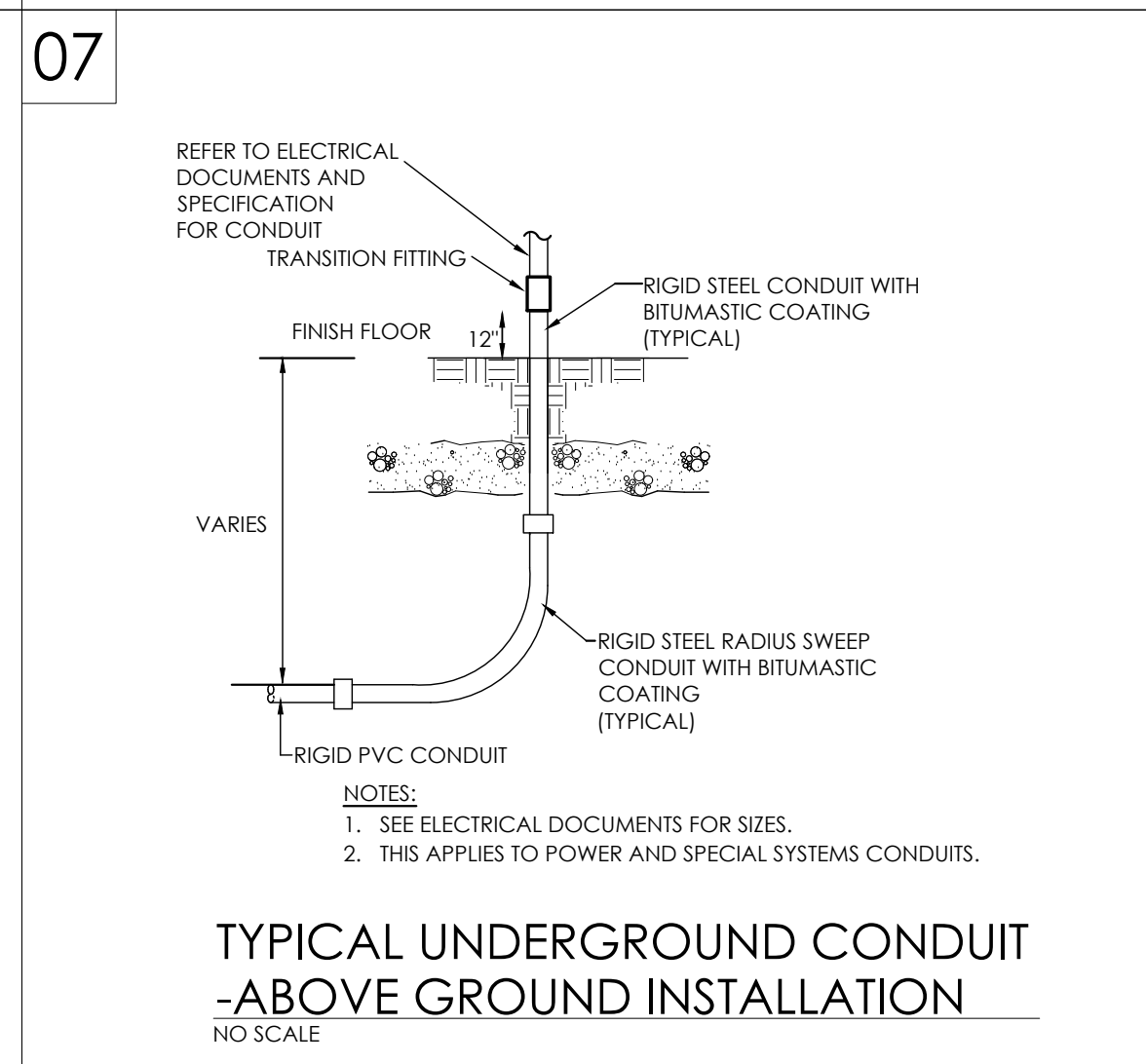
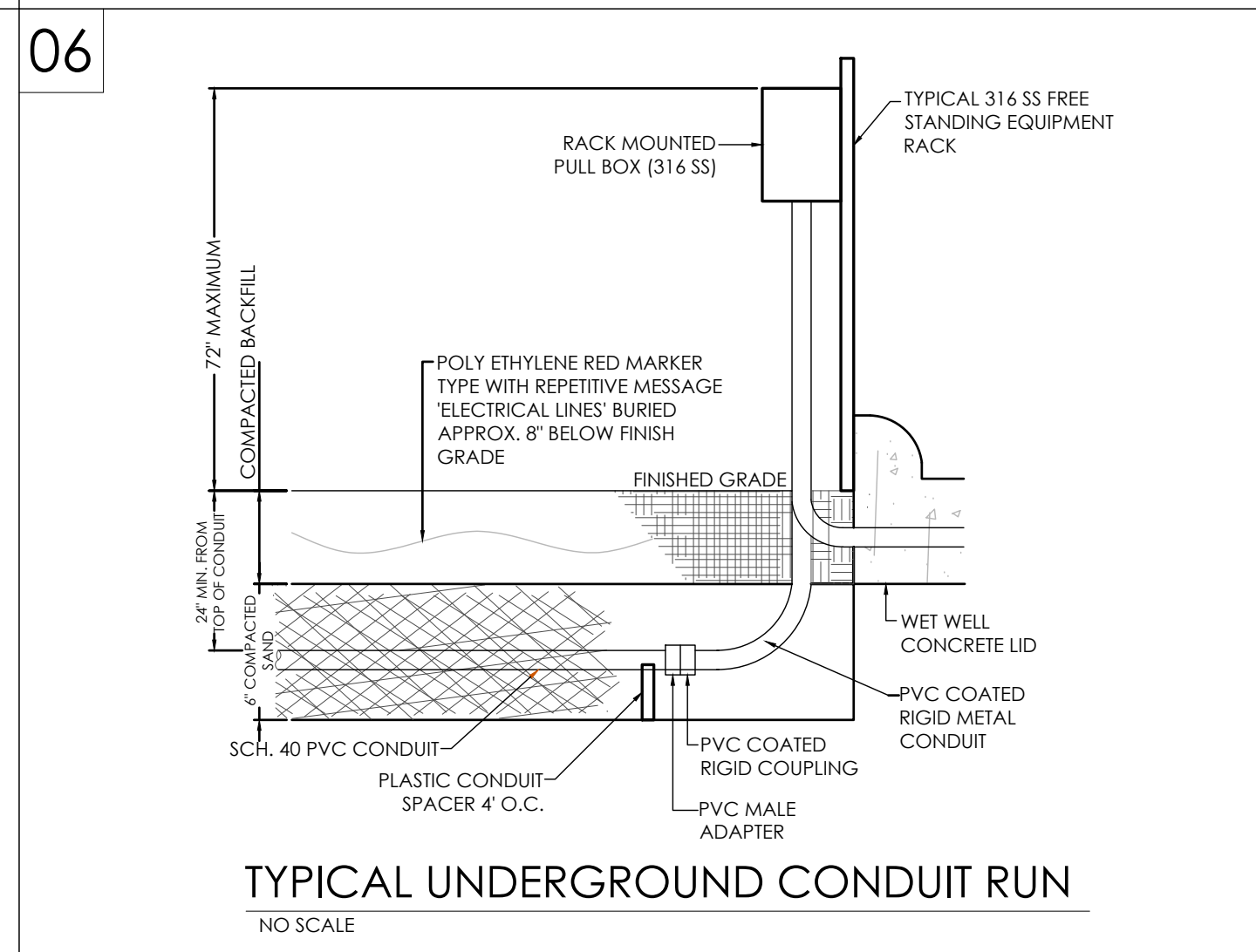
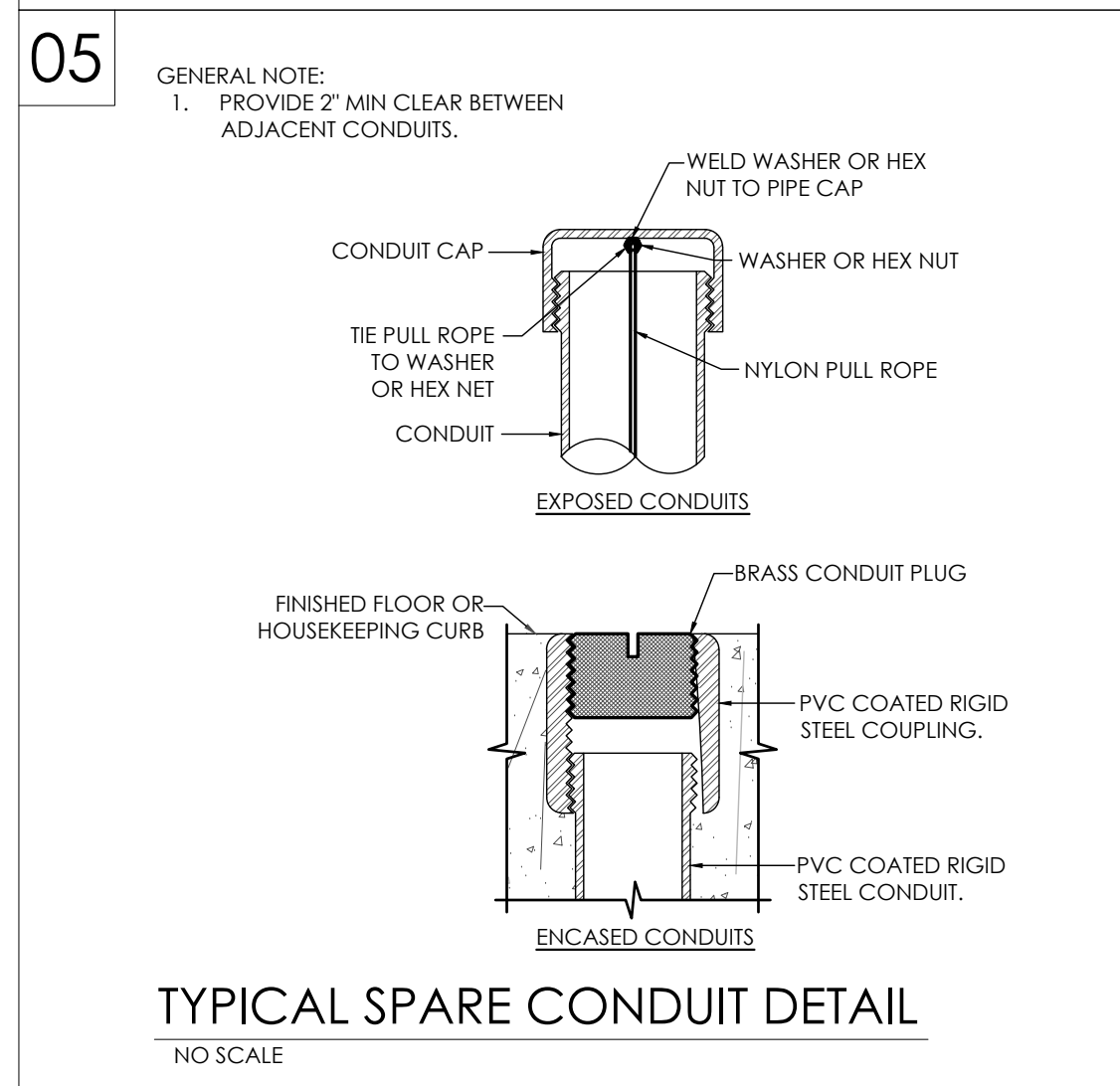
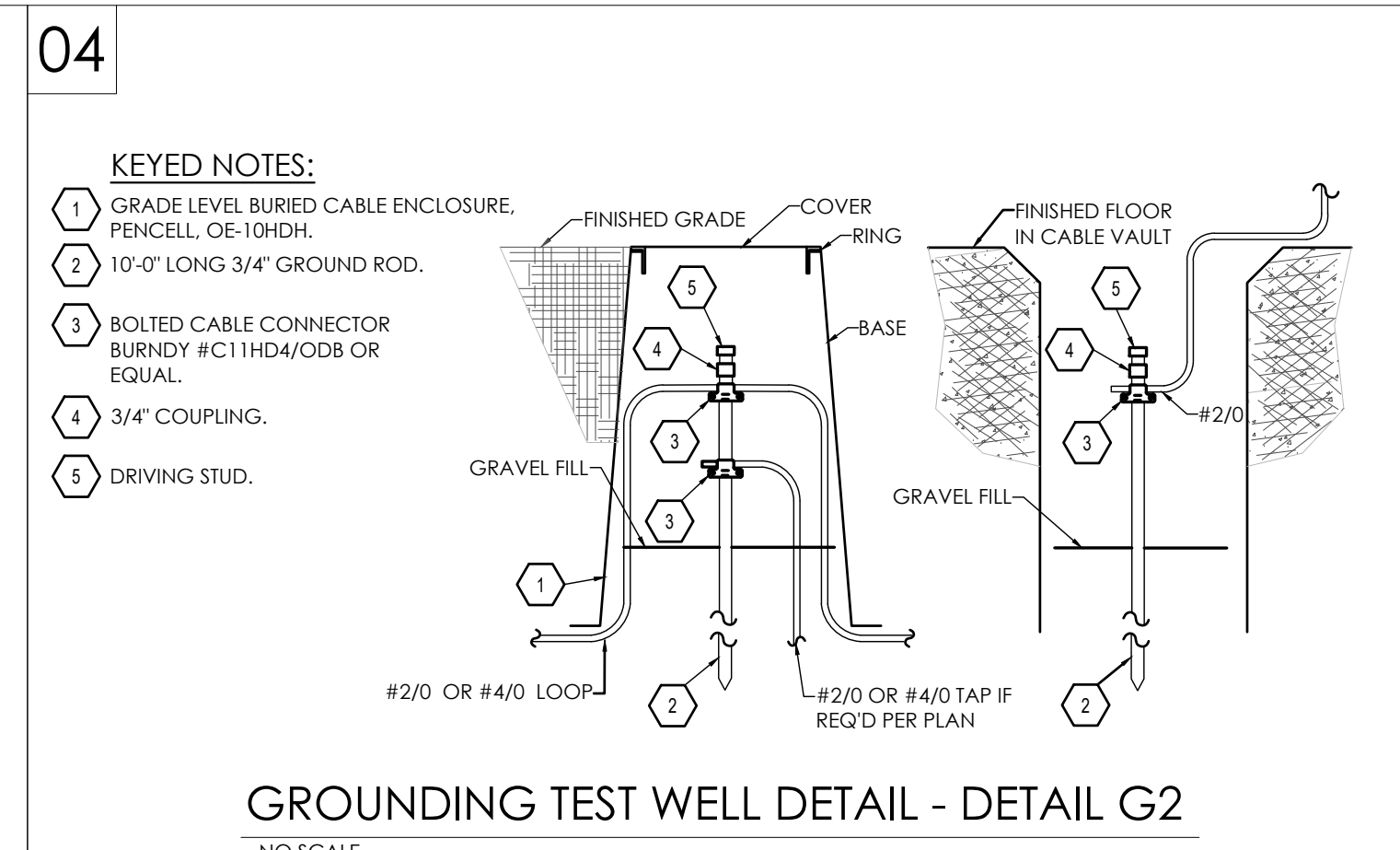
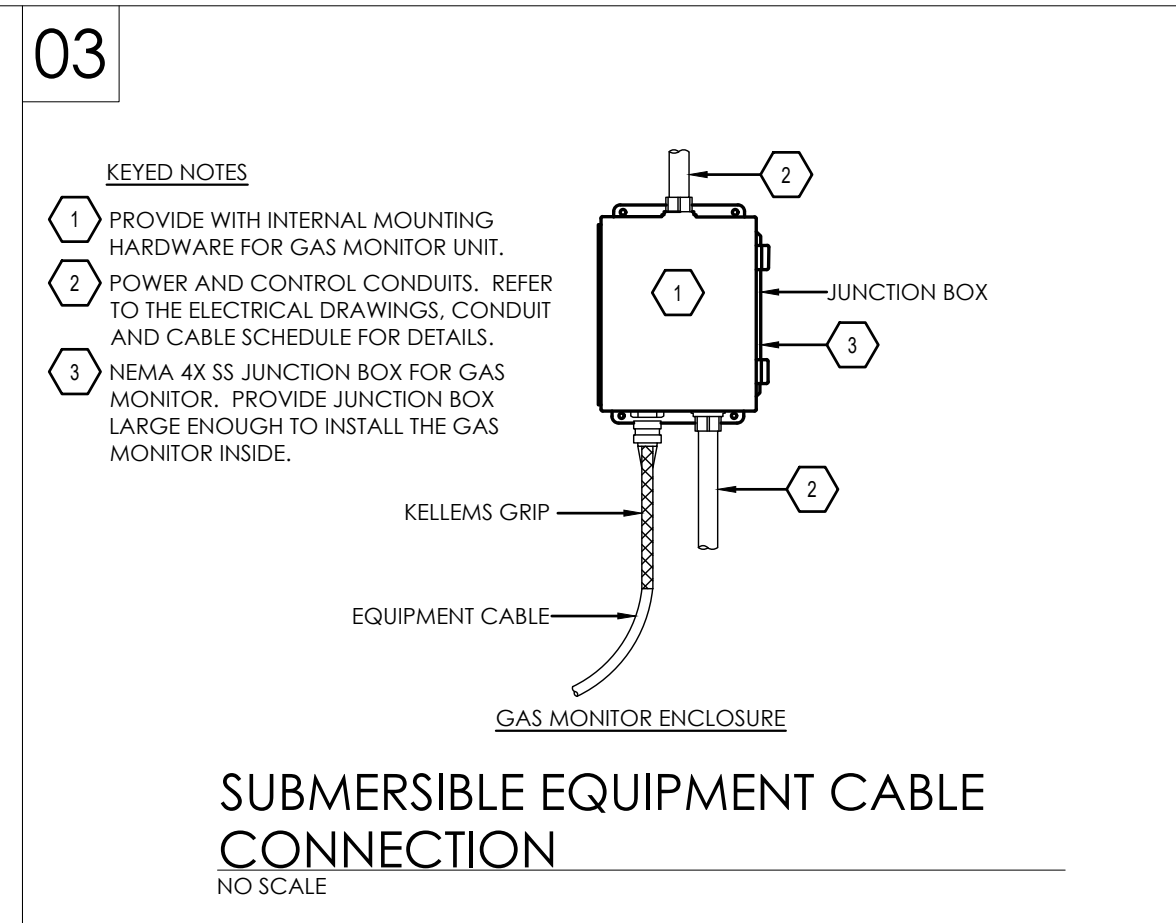
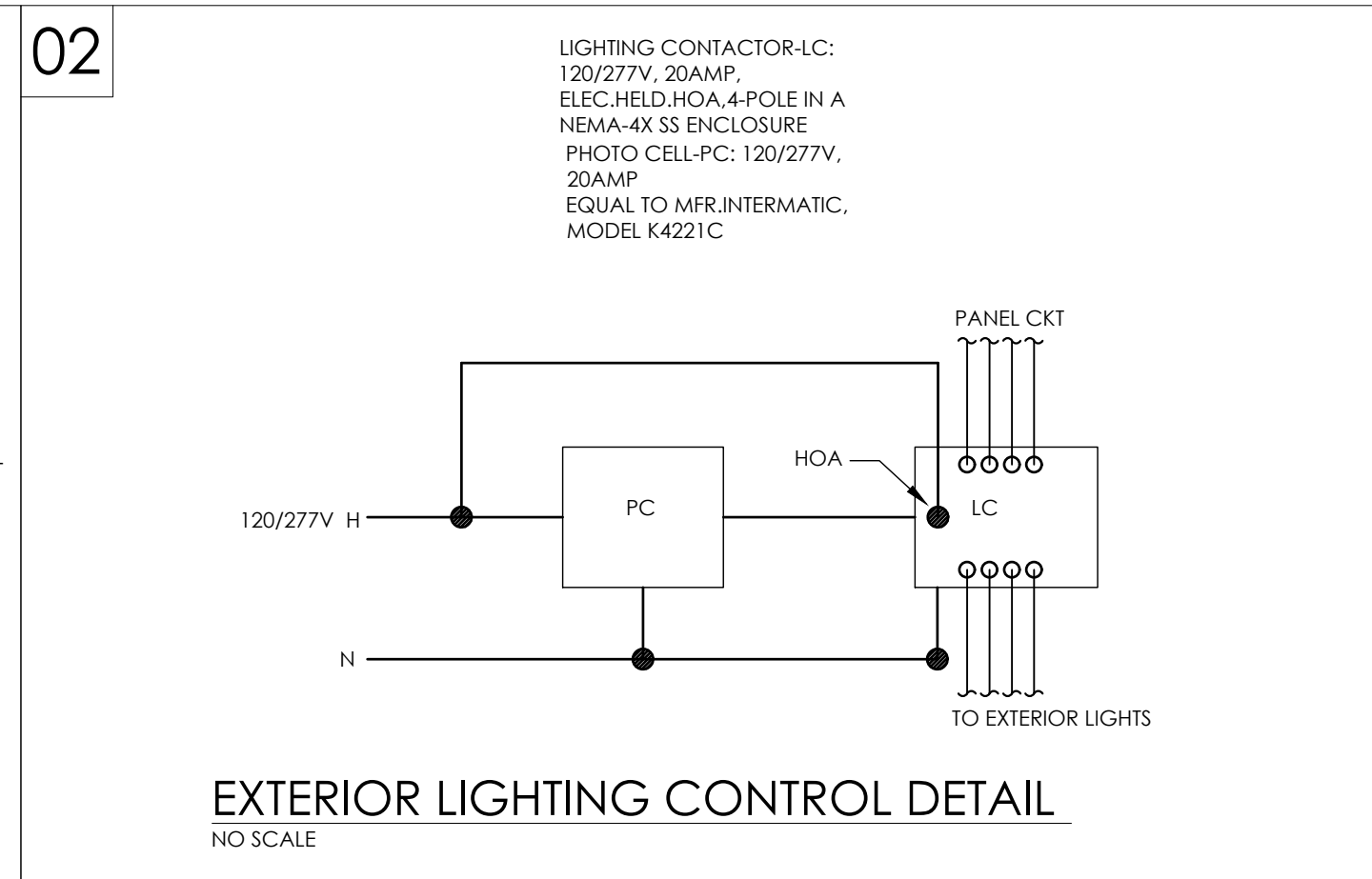
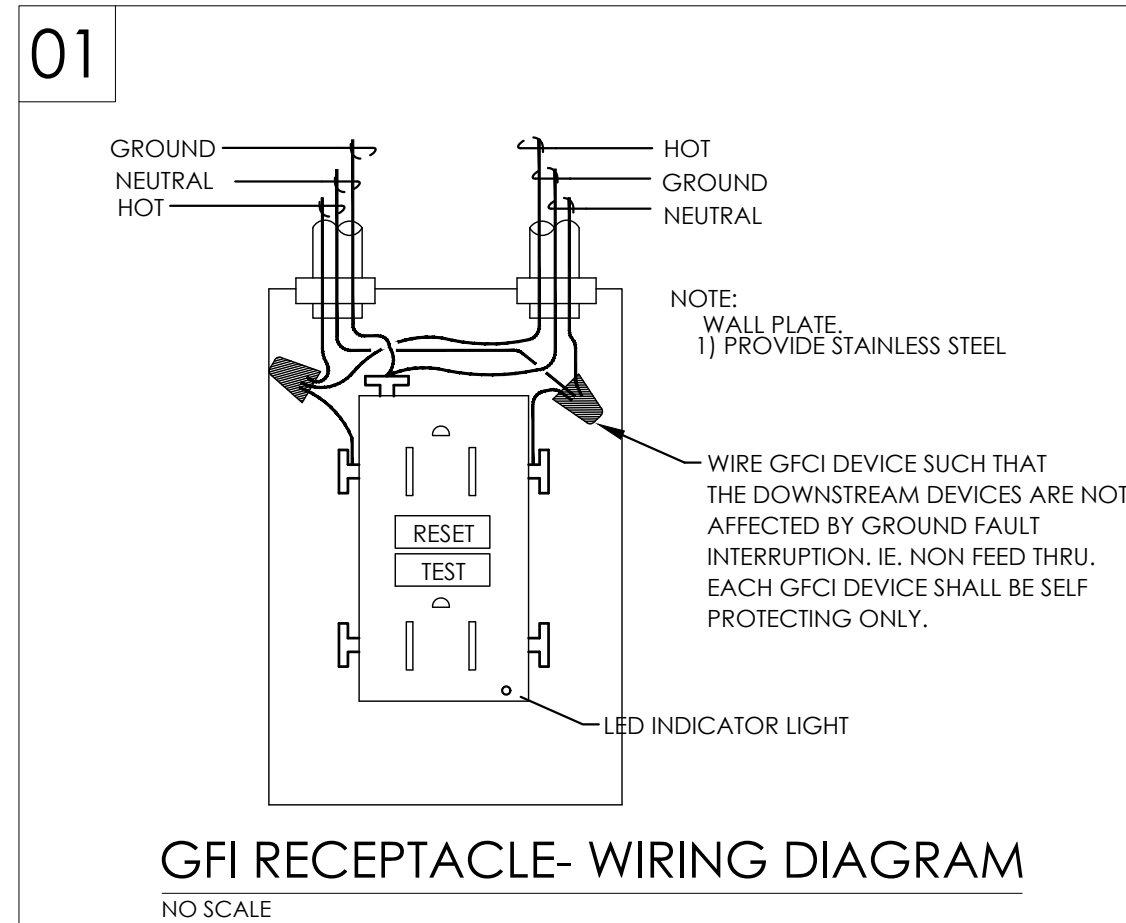
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Project number: 23.4.30



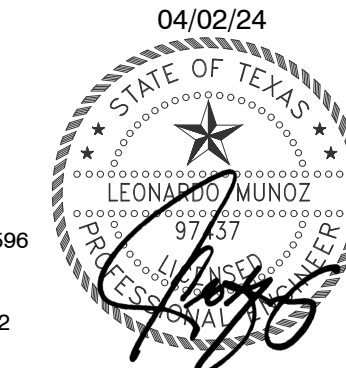
REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS <b>ELECTRICAL DETAILS</b>			
SIGLER, WINSTON, GREENWOOD AND ASSOCIATES <b>SWG ENGINEERING, LLC</b> TEXAS FIRM REGISTRATION NO. F-592 WESLACO, TEXAS			
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DATE:	CHECKED:	APPROVED:	PROJECT NO.:
			E4.1



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Project number: 23.4.30



REV.	DATE	DESCRIPTION	BY
PORT ISABEL, CAMERON COUNTY, TEXAS LAGUNA MADRE WATER DISTRICT LONG ISLAND VILLAGE SUBDIVISION PROPOSED ELECTRICAL IMPROVEMENTS ELECTRICAL DETAILS			
<b>SIGLER, WINSTON, GREENWOOD AND ASSOCIATES</b> <b>SWG ENGINEERING, LLC</b> TEXAS FIRM REGISTRATION NO. F-592 WESLACO, TEXAS			
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DATE:	CHECKED:	APPROVED:	PROJECT NO.:
			E4.2