



**Sonoma County Public Infrastructure**

*[https://sonomacounty.ca.gov/development-services/sonoma-public-infrastructure-\(formerly-tpw\)](https://sonomacounty.ca.gov/development-services/sonoma-public-infrastructure-(formerly-tpw))*

**NOTICE TO BIDDERS,  
SPECIAL PROVISIONS  
AND  
TECHNICAL SPECIFICATIONS  
FOR CONSTRUCTION OF**

**2024 LEACHATE STORAGE TANK  
REPLACEMENT**

**BID OPENING DATE: 2:00 P.M., APRIL 4, 2024**

**ADDENDUM NO. 2**

---

DOCUMENT 000110  
TABLE OF CONTENTS

2024 LEACHATE STORAGE TANK REPLACEMENT

INTRODUCTORY INFORMATION

Document	Title
000110	Table of Contents

BIDDING REQUIREMENTS

Document	Title
001116	Invitation to Bid
002113	Instructions to Bidders <ul style="list-style-type: none"><li>- Receipt of Bids</li><li>- Contact Information</li><li>- Bid Submission</li><li>- Contents of Envelope Bid Price</li><li>- Required Bid Forms</li><li>- Required Bid Security</li><li>- Minimum Work</li><li>- Required Subcontractor List</li><li>- DIR Registration</li><li>- Other Requirements</li><li>- Existing Conditions</li><li>- Addenda</li><li>- Substitutions</li><li>- Wage Rates</li><li>- Equal Employment Opportunity</li><li>- Withdrawal of Bids</li><li>- Bid Opening</li><li>- Determination of Apparent Low Bidder</li><li>- Bid Evaluation</li><li>- Bid Protest</li><li>- Award</li><li>- Post Notice of Award Requirements</li><li>- Failure to Execute</li><li>- Modification of Commencement of Work</li><li>- Public Records</li><li>- Conformed Project Manual</li><li>- Definitions</li></ul>
002600	Procurement Substitution Request Form
002613	Indemnity and Release Agreement
003119	Existing Condition Information
003126	Existing Hazardous Materials Information - NONE
004113	Bid Form (Stipulated Sum – Single-Prime Contract)
004313	Bid Security Forms
004336	Proposed Subcontractors Form
004500	Statement of Qualifications for Construction Work
004513	Bidder's Registration and Safety Experience
004519	Non-Collusion Affidavit

## CONTRACTING REQUIREMENTS

Document	Title
005050	Notice of Intent to Award for Construction
005100	Notice of Award
005213	Agreement Form – Stipulated Sum
005500	Notice to Proceed
006113.13	Performance Bond Form
006113.16	Payment Bond Form
006400	Affidavit of Release of Liens Form
006536	Warranty Form
006700	Escrow Bid Documents
006800	Escrow Agreement for Security Deposits in Lieu of Retention

## CONDITIONS OF THE CONTRACT

Document	Title
007200	General Conditions
007300	Supplementary Conditions
007316	Insurance Requirements
007373	Statutory Requirements - Apprenticeship Program
009113	Addenda
009114	Addendum Sample

## SPECIFICATIONS

### Division 1 - General Requirements

Section	Title
011000	Summary
012000	Price and Payment Procedures
012600	Contract Modification Procedures
013150	Project Meetings
013200	Construction Progress Documentation
013300	Submittal Procedures
014100	Regulatory Requirements
014200	References
014500	Quality Control
015000	Temporary Facilities and Controls
015400	Site Security and Safety
015500	Vehicular Access and Parking
015723	Temporary Storm Water Pollution Control
016000	Product Requirements
017123	Field Engineering
017300	Execution
017419	Construction Waste Management and Disposal
017700	Closeout Procedures
017839	Project Record Documents

## TECHNICAL SPECS

Technical Specifications for Leachate Tank Replacement Project

DRAWINGS  
(See Drawing List on Drawing No. G-001)

END OF DOCUMENT



**INVITATION TO BID**

- 1.1 NOTICE.** The COUNTY OF SONOMA ("County") hereby gives notice that it will accept Bids for construction of the following public work:

COUNTY OF SONOMA  
2024 Leachate Storage Tank Replacement

- 1.2 BID SUBMISSION.** County will receive Electronic Bids via the County's Supplier Portal no later than 2:00 pm, on Thursday, April 4, 2024. The link to the Supplier Portal is:

<https://esupplier.sonomacounty.ca.gov/psp/FNPRD/SUPPLIER/ERP/h/?tab=DEFAULT>

Bidders must be registered to submit electronic proposals. See registration instructions on the Supplier Portal link above.

Proposers must submit one (1) electronic copy to the County of Sonoma's Supplier Portal. Hard copy, facsimile, and/or emailed submissions will not be accepted. Bidders shall refer to Document 002113 (Instructions to Bidders) for required documents and items to be submitted electronically.

- 1.3 CONTACT INFORMATION.**

Mailing address:

County of Sonoma  
**2300 County Center Drive, Suite A220  
Santa Rosa, CA 95403**

Project Manager:

Olivia Guevara  
Email: [spi-bid-inquiries@sonoma-county.org](mailto:spi-bid-inquiries@sonoma-county.org)

- 1.4 DESCRIPTION AND LOCATION OF THE WORK.** The Work consists of construction of County's **2024 Leachate Storage Tank Replacement**, at three closed landfill locations:

Guerneville Landfill	Sonoma Landfill	Roblar Landfill
13950 Pocket Drive	4376 Stage Gulch Road	7175 Roblar Road
Guerneville, CA 95446	Sonoma, CA 95476	Petaluma, CA 94952

The Work includes, but is not limited to, furnishing all labor, equipment, materials, and supplies for the installation of six (6) landfill leachate storage tanks at three (3) separate landfill sites in the County of Sonoma. The project involves the replacement of existing steel landfill leachate tanks with two (2) 200,000 gallon stainless steel leachate tanks at each of the three (3) County landfill sites: Guerneville, Roblar, and Sonoma.

- 1.5 CONTRACT TIME.** Substantial Completion shall be within **one hundred eighty days (180)** Days from the date when work is to commence as stated in the Notice to Proceed. Final Completion shall be within **one hundred ninety days (190)** Days from the date when work is to commence as stated in the Notice to Proceed.

- 1.6 REQUIRED CONTRACTOR'S LICENSE(S).** A California "**Class A**" contractor's license is required to Bid this Contract and through the completion of the project. All contractors and subcontractors shall be properly licensed by the Contractor's State Licensing Board and possess the necessary license classifications for the work they perform under this project.

- 1.7 REGISTRATION PURSUANT TO LABOR CODE SECTION 1723.5 REQUIRED.** As of March 1, 2015, all Contractors submitting a bid proposal for this project, and any Subcontractors listed therein, must be currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. County required proof of current registration by contractor and all listed subcontractors as a condition to bid on this project, subject only to the allowances of Labor Code section 1771.1.

- 1.8 PREVAILING WAGE LAWS.** This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The successful Bidder must comply

with all prevailing wage laws applicable to the Project, and related requirements contained in the Contract Documents.

Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at County's Facilities Development and Management Division and are deemed included in the Bidding Documents. Upon request, County will make copies available to any interested party. Contractor shall post the applicable prevailing wage rates at the Site, in addition to all other job site notices prescribed by regulation.

- 1.9 SUBSTITUTION OF SECURITIES.** County will permit successful Bidder to substitute securities for retention monies withheld to ensure performance of Contract, as set forth in Document 006800 (Escrow Agreement for Security Deposits in Lieu of Retention), in accordance with California Public Contract Code, Section 22300. By this reference, Document 006800 (Escrow Agreement for Security Deposits in Lieu of Retention) is incorporated in full in this Document 001116 (Invitation to Bid).
- 1.10 PROCUREMENT OF BIDDING DOCUMENTS.** Bidders may obtain Bidding Documents by registering at Sonoma County's Supplier Portal, the County's online procurement system (<https://esupplier.sonomacounty.ca.gov/psp/FNPRD/SUPPLIER/ERP/h/?tab=DEFAULT>). Printed copies will be available for examination at the office of the Facilities Development and Management, 2300 County Center Drive, Suite A220, Santa Rosa, California, and at the North Coast Builders Exchange.
- 1.11 BID PREPARATION COST.** Bidders are solely responsible for the cost of preparing their Bids.
- 1.12 RESERVATION OF RIGHTS.** County specifically reserves the right, in its sole discretion, to reject any or all Bids, or re-bid, or to waive inconsequential deviations from Bid requirements.
- 1.13 PRE-BID QUESTIONS.** All questions pertaining to the bid are to be submitted to the County's Project Manager via email [spi-bid-inquiries@sonoma-county.org](mailto:spi-bid-inquiries@sonoma-county.org) no later than **2 PM on Tuesday, March 12, 2024**. After the deadline no further questions will be accepted. The County will supply responses by **2 PM on Monday, March 25, 2024**.
- 1.14 PUBLIC BID OPENING.** There will be no in-person public bid opening for this solicitation. The public bid opening will be conducted virtually via a Microsoft Teams meeting. To participate use the following access details:

Microsoft Teams meeting

**Join on your computer, mobile app or room device**

[Click here to join the meeting](#)

Meeting ID: 233 524 228 456

Passcode: cx3yiq

[Download Teams](#) | [Join on the web](#)

**Or call in (audio only)**

[+1 707-582-0058](tel:+17075820058), [20932513](tel:+120932513)# United States, Santa Rosa

Phone Conference ID: 209 325 13#

[Find a local number](#) | [Reset PIN](#)

TO REQUEST ACCOMMODATION FOR THIS MEETING contact the meeting host. Instructions for turning on closed captioning located here: <https://support.microsoft.com/en-us/office/use-live-captions-in-a-teams-meeting-4be2d304-f675-4b57-8347-cbd000a21260>

- 1.15 MANDATORY PRE-BID CONFERENCE AND SITE VISIT.** County will conduct a Pre-Bid

Conference at 9 AM on Tuesday, March 26, and 1 PM on Thursday March 28 at 4376 STAGE GULCH ROAD, SONOMA CA 95476, and will continue on to 7175 Roblar Road, Petaluma CA 94952 and 13950 Pocket Drive Guerneville, CA 95446 immediately following. Bidders must attend one Pre-Bid conference and Site Visit and sign an attendance roster as a condition to bidding. The Pre-Bid Conference and Site Visit will last approximately four (4) hours.

END OF DOCUMENT

DOCUMENT 002113

**INSTRUCTIONS TO BIDDERS**

Bids are requested for a construction contract, or work described in general, as follows:

COUNTY OF SONOMA  
2024 LEACHATE STORAGE TANK REPLACEMENT

- 1.1 RECEIPT OF BIDS.** Refer to Document 001116 (Invitation to Bid), paragraph 1.2, for location, day and time for submittal of bids. County will accept Bids only from Bidders duly licensed in accordance with the California Business & Professions Code and in accordance with paragraph 1.6 of Document 001116 (Invitation to Bid). County will receive Electronic Bids via the County's Supplier Portal containing the respective items described in paragraph 1.5 below. County will reject all Bids received after the specified time listed in Document 001116 (Invitation to Bid), paragraph 1.1. Bidders must submit Bids in accordance with this Document 002113.
- 1.2 CONTACT INFORMATION.** Refer to Document 001116 (Invitation to Bid), paragraph 1.3.
- 1.3 MANDATORY PRE-BID CONFERENCE AND SITE VISIT.** County will conduct a Pre-Bid Conference and Site Visit at 9 AM on Tuesday, March 26, and 1 PM on Thursday March 28 at 4376 Stage Gulch Road, Sonoma, CA 95476, and will continue on to 7175 Roblar Road, Petaluma, CA 94952 and 13950 Pocket Drive Guerneville, CA 95446 immediately following. Bidders must attend one Pre-Bid Conference and Site Visit and sign an attendance roster as a condition to bidding. The Pre-Bid Conference and Site Visit will last approximately four (4) hours.
- 1.4 BID SUBMISSION.** Bids shall be deemed to include the written responses by the Bidder to any questions or requests for information by County made as part of Bid evaluation process after submission of Bid. Bidder's failure to submit all required documents strictly as required entitles County to reject the Bid as non-responsive.
- 1.5 CONTENTS UPLOADED TO SUPPLIER PORTAL - BID PRICE.** Bid upload shall include:
  - A. Document 004113 (Bid Form – Stipulated Sum - Single-Prime Contract) completed in accordance with paragraph 1.6 of this Document 002113.
  - B. Bid security supplied completed in accordance with paragraph 1.7 of this Document 002113.
  - C. Document 004336 (Proposed Subcontractors Form) in accordance with paragraph 1.9 of this Document 002113.
  - D. Document 004513 (Bidder Registration and Safety Experience Form)
  - E. Document 004500 (Statement of Qualifications for Construction Work)
  - F. Document 004519 (Non-Collusion Affidavit).
- 1.6 REQUIRED BID FORMS.** All Bidders must submit Bids using, where applicable, documents supplied in this Project Manual, including without limitation the documents listed above, in accordance with the instructions contained in those documents. County will reject as non-responsive any Bid not submitted on the required forms. Bids must be full and complete. Bidders must complete all Bid items and supply all information required by Bidding Documents. County reserves the right in its sole discretion to reject any Bid as non-responsive as a result of any error or omission in the Bid. Bidders may not modify the Bid Form or qualify their Bids. Bidders must submit clearly and distinctly written Bids. Bidders must clearly make any changes in their Bids by crossing out original entries, entering new entries, and initialing new entries. County reserves the right to reject any Bid not clearly written.
- 1.7 REQUIRED BID SECURITY.** Bidders must submit with their Bids either cash, a cashier's check or certified check from a responsible bank in the United States, or a bidder's bond executed by an admitted surety insurer. The amount of the security shall be not less than ten percent (10%) of amount of the total Bid Price, indicated on Document 004113 (Bid Form), payable to "County of Sonoma". All Bidders choosing to submit a bidder's bond must submit it

on the required form, Document 004313 (Bid Security Forms). County will reject as non-responsive any Bid submitted without the necessary Bid security.

County may retain Bid security of other than the Apparent Low Bidder for a period of 60 Days after award or until full execution of the Contract, whichever first occurs. Upon full execution of the Contract, and upon request by Bidder, County will return to the respective unsuccessful Bidders their Bid securities and Bid bonds.

- 1.8 MINIMUM WORK.** Contractor must perform, with their own organization, Work amounting to not less than thirty (30) percent of the Total Bid Price. When items of Work in the Engineer's Estimate are preceded by the letters (S) or (S-F), those items are designated as "Specialty Items". These items may be performed by subcontract and the value deducted from the Total Bid Price before calculating the amount of Work required to be self-performed by the Bidder. Where an entire Bid Item is subcontracted, the value of the Work subcontracted will be based on the Bid Price for that item. When a portion of a Bid Item is subcontracted, the value of Work subcontracted will be based on the percentage of the Bid Price of the item, calculated by dividing the subcontract bid price by the Bid Item Price. Copies of the relevant subcontractor bid(s) will be required for this purpose.
- 1.9 REQUIRED SUBCONTRACTORS LIST.** All Bidders must submit with their Bids the required information in Document 004336 (Proposed Subcontractors Form) for those Subcontractors who will perform any portion of Work, including labor, rendering of service, or fabricating and installing a portion of the Work, in excess of one half of one percent of total Bid. Violation of this requirement may result in Bid being deemed non-responsive and not being considered.
- 1.10 REGISTRATION PURSUANT TO LABOR CODE SECTION 1725.5 REQUIRED.** As of March 1, 2015, all Contractors and Subcontractors who will perform any portion of the Work must be currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. County required proof of current registration by Bidder and all Subcontractors listed on Document 00430 as a condition to bid on this project, subject only to the allowances of Labor Code section 1771.1.
- 1.11 OTHER REQUIREMENTS PRIOR TO BIDDING.** Submission of Bid signifies Bidder's careful examination of Bidding Documents and complete understanding of the nature, extent, and location of Work to be performed. As a condition to Bidding, Bidder must complete tasks listed in Document 005213 (Agreement Form), Article 5. Submission of Bid shall constitute Bidder's express representation to County that Bidder has fully completed these tasks.
- 1.12 EXISTING CONDITIONS INFORMATION.** Bidders may examine any available existing conditions information (e.g., record documents, specifications, studies, drawings of previous work, geotechnical data) by giving County reasonable advance notice. Document 003119 (Existing Conditions Information) [others in 0031xx series] applies to all supplied existing conditions information and all other information supplied regarding existing conditions either above ground or below ground.
- 1.13 ADDENDA.** Bidders must direct all questions about the meaning or intent of Bidding Documents to County (to the attention of the Project Manager identified in Document 001116, Invitation to Bid, paragraph 1.3) in writing. Interpretations or clarifications considered necessary by County in response to such questions will be issued by Addenda and posted on the Sonoma County Supplier Portal for all parties recorded by County as having received Bidding Documents. County may not answer questions received less than seven (7) Days prior to the date for opening Bids. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- A. Addenda may also be issued to modify the Bidding Documents as deemed advisable by County.
- B. Addenda shall be acknowledged by number with signature in Document 004113 (Bid Form) and shall be part of the Contract Documents. A complete listing of Addenda may be secured from County.
- 1.14 SUBSTITUTIONS.** Bidders must base their Bids on products and systems specified in

- Contract Documents or listed by name in Addenda.
- A. Except as provided in paragraph 1.14.D below, County will consider substitution requests only for “or equal items.” Bidders wanting to use “or equal” item(s) must submit Document 002600 (Procurement Substitution Request Form) no later than 14 Days prior to submitting their Bids. After that date, the County will not accept “or equal” substitution requests. To assess “or equal” acceptability of product or system, submittals of substitutions shall contain the information required in Document 002600 (Procurement Substitution Request Form) and set forth in Section 016000 (Product Requirements). Insufficient information will be grounds for rejection of substitution. County shall, within a reasonable period of time after having received a Request for Substitution, issue in writing its decision as to whether the proposed substitute item is an Equal item. County’s decision shall be conclusive on all Bidders.
  - B. Approved substitutions shall be listed in Addenda and become part of Contract Documents.
  - C. Substitutions may be requested after submitting Bids and Award of Contract only in accordance with requirements specified in Section 016000 (Product Requirements)
  - D. As further limitation on Bidder’s privilege to substitute items, County has found that certain items are designated as County standards and certain items are designated to match existing items in use on a particular public improvement, either completed or in the course of completion, or are available from only one source. As to such items, County will not permit substitution. County will not permit substitutions for the following items:
- 1.15 WAGE RATES.** Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at County’s Facilities Development and Management Division and are deemed included in the Bidding Documents. Upon request, County will make copies available to any interested party. Contractor shall post the applicable prevailing wage rates at the Site. This information is also available to Contractor at the Department of Industrial Relations’ website ([www.dir.ca.gov](http://www.dir.ca.gov)).
- 1.16 EQUAL EMPLOYMENT OPPORTUNITY.** Contractor shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical conditions, disability, or any other reason.
- 1.17 WITHDRAWAL OF BIDS.** Bidders may withdraw their Bids at any time prior to the Bid opening time fixed in this Document 002113, only by written request for the withdrawal of Bid filed with the Purchasing Agent. Bidder or its duly authorized representative shall execute request to withdraw Bid. The submission of a Bid does not commit County to award a contract for the Project, to pay costs incurred in the preparation of a Bid, or to procure or contract for any goods or services.
- 1.18 BID OPENING.** County will open all Bidders’ Bid submittals promptly following the deadline for receiving Bids specified in Document 001116 (Invitation to Bid), Paragraph 1.2, initially evaluate them for responsiveness, and determine an Apparent Low Bidder as specified herein.
- 1.19 DETERMINATION OF APPARENT LOW BIDDER.**
- A. County will determine Apparent Low Bidder in accordance with Public Contract Code Section 20103.8(b), taking into account all alternates (if any) included in the Total Bid Price as calculated in Document 004113 (Bid Form).
  - B. County reserves the right to add to or deduct from the Contract any of the additive or deductive items after the lowest responsible bidder has been determined following the Contract award.
- 1.20 BID EVALUATION.** County may reject any or all Bids and waive any informalities or minor irregularities in the Bids. County also reserves the right, in its discretion, to reject any or all Bids and to re-Bid the Project. County reserves the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional Bids, and to reject the Bid of any Bidder if County believes that it would not be in the best interest of Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by County. For purposes of this paragraph, an “unbalanced Bid” is one having nominal prices for some Bid

items and enhanced prices for other Bid items.

- A. In evaluating Bids, County will consider Bidders' qualifications, whether or not the Bids comply with the prescribed requirements, unit prices, and other data, as may be requested in Document 004113 (Bid Form) or prior to the Notice of Award.
- B. In order to evaluate Bidder's ability to perform and provide the Work in accordance with the Contract Documents to County's satisfaction within the prescribed time, County may conduct reasonable investigations and reference checks of Bidder, proposed Subcontractors, suppliers and other persons and organizations as County deems necessary to assist in the evaluation of any Bid and to establish Bidder's responsibility, qualifications, financial ability, proposed Subcontractors, suppliers, and other persons and organizations. Submission of a Bid constitutes Bidder's consent to the foregoing. County shall have the right to consider information provided by sources other than Bidder. County shall also have the right to communicate directly with Bidder's surety regarding Bidder's bonds.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between written words and figures will be resolved in favor of the words.
- D. Quantities stated in the Bidding Documents are approximate only and are subject to correction upon final measurement of the Work, and are subject further to the rights reserved by County to increase or diminish the amount of work under any classification as advantages to design or construction needs require.
- E. County may determine whether a Bidder is qualified in its sole discretionary judgment.

**1.21 BID PROTEST.** Any Bid protest must be submitted in writing to Sonoma County Public Infrastructure, 2300 County Center Drive, Suite A220, Santa Rosa, California, before 5:00 p.m., (as determined by the date and time stamp clock in the Facilities Development and Management Division) of the seventh (7<sup>th</sup>) calendar day following posting of Document 005050 (Notice of Intent to Award for Construction). Document 005050 (Notice of Intent to Award for Construction) will be posted at the Clerk of the Board of Supervisors, County of Sonoma Administration Building, 575 Administration Drive, Room 100A, Santa Rosa, California. County will use reasonable efforts to deliver by facsimile a copy of Document 005050 (Notice of Intent to Award for Construction) to all Bidders who submitted Bids no later than the Business Day after issuance, although any delay or failure to do so will not extend the Bid protest deadline described above.

- A. The initial protest document must contain a complete statement of the basis for the protest and must demonstrate that the protestor has a direct economic interest in the bid award.
- B. The protest must refer to the specific portion of the document that forms the basis for the protest.
- C. The protest must include the name, address, and telephone number of the person representing the protesting party.
- D. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- E. The procedure and time limits set forth in this paragraph are mandatory and are the sole and exclusive remedy in the event of Bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings. A Party may not rely on a protest submitted by another Party, but must timely pursue its own protest.

**1.22 AWARD.** If the Contract is to be awarded, it will be awarded to the lowest responsible responsive Bidder. Following completion of all required County procedures and receipt of all County approvals, County will issue Document 005100 (Notice of Award) to successful Bidder.

**1.23 POST-NOTICE OF AWARD REQUIREMENTS.** After Notice of Award, the successful Bidder must execute and submit the following documents as indicated below.

- A. Submit the following documents to County by 5:00 p.m. of the fourteenth (14<sup>th</sup>) Day following Notice of Award (Document 005100). Execution of Contract by County depends upon approval of these documents:
  - 1) Document 005213 (Agreement Form– Stipulated Sum): To be executed by successful Bidder. Submit two (2) originals, each bearing an original signature on the signature page and initials on each page.
  - 2) Document 006113.13 (Performance Bond Form): To be executed by successful Bidder and surety, in the amount set forth in Document 006113.13 (Performance Bond Form). Submit one original.
  - 3) Document 0062113.16 (Payment Bond Form): To be executed by successful Bidder and surety, in the amount set forth in Document 0062113.16 (Payment Bond Form). Submit one original.
  - 4) Insurance certificates and endorsements required by Document 007200 (General Conditions) Article 4. Submit one original set.
  - 6) Document 006536 (Warranty Form). To be executed by successful Bidder. Submit one original, bearing an original signature.
- B. County shall have the right to communicate directly with Apparent Low Bidder's proposed performance bond surety, to confirm the performance bond. County may elect to extend the time to receive faithful performance and labor and material payment bonds.
- C. Successful Bidder's failure to submit the documents required herein, in a proper and timely manner, entitles County to rescind its award, and to cause Bidder's Bid security to be forfeited as provided herein.

**1.24 FAILURE TO EXECUTE AND DELIVER DOCUMENTS.** If Bidder to whom Contract is awarded shall, within the period described in paragraph 1.23A of this Document 002113, fail or neglect to execute and deliver all required Contract Documents and file all required bonds, insurance certificates, and other documents, County may, in its sole discretion, foreclose on Bidder's surety bond, or deposit Bidder's cashier's check or certified check for collection, and retain the proceeds thereof as liquidated damages for Bidder's failure to enter into the Contract. Bidder agrees that calculating the damages County may suffer as a result of Bidder's failure to execute and deliver all required Contract Documents would be extremely difficult and impractical and that the amount of Bidder's required Bid security shall be the agreed and presumed amount of County's damages. In addition, upon such failure, County may determine the next Apparent Low Bidder and proceed accordingly.

**1.25 MODIFICATION OF COMMENCEMENT OF WORK.** County expressly reserves the right to modify the Commencement Date in the Notice to Proceed under the Contract and to independently perform and complete work related to the Project. To the fullest extent permitted by law, County accepts no responsibility to Contractor for damages attributed to County's need to complete additional work at the site.

**1.26 PUBLIC RECORDS ACT REQUESTS.**

- A. Per the Public Records Act, County will make available to the public all correspondence and written questions submitted during the Bid period, all Bid submissions opened in accordance with the procedures of this Document 002113, and all subsequent Bid evaluation information. Except as otherwise required by law, County will not disclose trade secrets or proprietary financial information submitted that has been designated confidential by Bidder. Any such trade secrets or proprietary financial information that a Bidder believes should be exempted from disclosure shall be specifically identified and marked as such. Blanket-type identification by designating whole pages or sections shall not be permitted and shall be invalid. The specific information must be clearly identified as such.
- B. Upon a request for records regarding this Bid, County will notify Bidder involved within ten (10) days from receipt of the request of a specific time when the records will be made available for inspection. If the Bidder timely identifies any "proprietary, trade secret, or confidential commercial or financial" information that Bidder determines is not subject to public disclosure, and requests County to refuse to comply with the records request, Bidder shall take all appropriate legal action and defend County's refusal to produce the



information in all forums; otherwise, County will make such information available to the extent required by applicable law, without restriction.

- C. Information disclosed in the Bid and attendant submissions are the property of County unless Bidder makes specific reference to data that is considered proprietary. Subject to the requirements in the Public Records Act, reasonable efforts will be made to prevent the disclosure of information except on a need-to-know basis during the evaluation process.

**1.27 CONFORMED PROJECT MANUAL AND CONSTRUCTION DRAWINGS.** Following Award of Contract, County may prepare a conformed Project Manual reflecting Addenda issued during bidding, which will, failing objection, constitute the approved Project Manual.

**1.28 DEFINITIONS.** All abbreviations and definitions of terms used in this Document 002113 are set forth in Document 007200 (General Conditions) and Section 014200 (References).

END OF DOCUMENT

**PROCUREMENT SUBSTITUTION REQUEST FORM**

To: **Olivia Guevara, County of Sonoma**

Project: **2024 Leachate Storage Tank Replacement**

Contractor: \_\_\_\_\_

Subcontractor/Supplier: \_\_\_\_\_

Drawing Sheet Reference/Detail No: \_\_\_\_\_

Specification Section: \_\_\_\_\_

The undersigned Bidder submits for consideration the following equipment instead of the specified item for the above Project:

<u>Section</u>	<u>Paragraph</u>	<u>Specified Item</u>
_____	_____	_____
_____	_____	_____

Proposed Substitution: \_\_\_\_\_

The undersigned encloses the information required herein. If this Document 002600 is being submitted by a Bidder wishing to use "equal" item(s) as provided in Document 001116 (Instructions to Bidders), the undersigned Bidder must also enclose the technical information (other than cost) otherwise required for a post-Award of Contract Request for Substitution ("RFS") under Section 016000 (Product Requirements). However, if this Document 002600 is being submitted under provisions of Contract Documents after Award of Contract, the undersigned Contractor must include all information (including cost) required under Section 016000 (Product Requirements).

The undersigned has (a) attached manufacturer's literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Contract Documents that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

A. Does the substitution affect dimensions shown on Drawings?  
\_\_\_\_\_

B. Are the manufacturer's guarantees and warranties on the proposed substitution items identical to those on the specified items? If there are differences, please specify each and every difference in detail.  
\_\_\_\_\_

C. What effect does the substitution have on other contractors, trades, or suppliers?  
\_\_\_\_\_

D. What are the differences between the proposed substitution and the specified item? If proposed substitution has a color or pattern, provide a color board showing proposed substitution in relation to the other adjacent colors and patterns.

\_\_\_\_\_

E. Will granting the requested substitution cause any schedule delay? (If yes, please explain)

\_\_\_\_\_

The undersigned Bidder certifies that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item.

Submitted by:

For Use by County:

\_\_\_\_\_  
Bidder/Contractor  
[note applicable]

\_\_\_\_ Accepted      \_\_\_\_ Accepted as Noted  
\_\_\_\_ Not Accepted      \_\_\_\_ Received Too Late

\_\_\_\_\_  
Signature

By: \_\_\_\_\_  
County's Project Manager

\_\_\_\_\_  
Name

Date: \_\_\_\_\_

\_\_\_\_\_  
Address

Reviewed  
By: \_\_\_\_\_  
Project Manager's Supervisor

\_\_\_\_\_  
City/State/Zip

Date: \_\_\_\_\_

Telephone: \_\_\_\_\_

Remarks: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

END OF DOCUMENT

**INDEMNITY AND RELEASE AGREEMENT**

Dated \_\_\_\_\_

POTENTIAL BIDDER: \_\_\_\_\_

COUNTY: COUNTY OF SONOMA

SITE: \_\_\_\_\_

PROJECT: 2024 LEACHATE STORAGE TANK REPLACEMENT

In consideration of the above-referenced County’s permitting the undersigned potential bidder (“Bidder”) to have access to, and to conduct investigations, tests and/or inspections on, the Site, Bidder hereby agrees as follows:

1. To the greatest extent permitted by law, Bidder hereby releases, and shall defend, indemnify and hold harmless County, and its officers, employees, consultants, representatives, and agents, and all other parties having any other interest in the Site, against any claim or liability, including attorney’s fees, arising from or relating to any Site-related access, investigation, test, inspection and/or other activity conducted by Bidder or any of Bidder’s officers, employees, consultants, representatives, and/or agents, regardless of whether claim or liability is caused in part by the negligence of County or by any released and indemnified party.
2. Bidder hereby waives the provisions of California Civil Code Section 1542 which provides as follows:  
 A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him, must have materially affected his settlement with the debtor.
3. Bidder shall repair any damage to the Site or adjacent property resulting from activities authorized hereunder, and comply with and be subject to all other requirements and obligations described or referenced in Document 003119 (Existing Conditions Information).
4. Attached hereto (or to be delivered separately before Bidder’s visit to the Site) is a certificate for comprehensive general liability insurance satisfying the requirements of Document 007200 (General Conditions).
5. Although this Indemnity and Release Agreement is not a Contract Document (see Document 005213 [Agreement Form]), it shall be fully effective and binding regardless of whether Bidder submits a Bid for the Project, is awarded a contract for the Project, or otherwise.

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature

Its: \_\_\_\_\_  
Title (If Corporation: Chairman, President  
or Vice President)

Its: \_\_\_\_\_  
Title (If Corporation: Secretary, Assistant  
Secretary, Chief Financial Officer or  
Assistant Treasurer)

END OF DOCUMENT

**DOCUMENT 003119**  
**EXISTING CONDITION INFORMATION**

**1.1 SUMMARY**

A. This Document 003119 sets forth the terms and conditions under which Bidder may review, study, use, or rely upon existing conditions information, including geotechnical data if applicable, concerning existing conditions at or contiguous to the Site. This Document 003119, the available geotechnical data, and the supplied existing conditions information are not Contract Documents.

**1.2 REPORTS AND INFORMATION**

A. Existence of Reports. County, its consultants, and prior contractors may have collected documents providing a general description of the Site and conditions of the Work. These documents may consist of geotechnical reports for and around the Site, contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding Underground Facilities. These reports, documents and other information are not part of the Contract Documents.

B. Inspection of Reports. Bidders may inspect reports and information regarding existing conditions available at the Facilities Development and Management Division, and may obtain copies upon Bidder's payment for the costs of reproduction and handling. These reports, documents and other information, are not part of the Contract Documents. Nevertheless, by submitting a Bid, Bidder accepts full responsibility for reviewing, knowing and understanding the contents of all of these materials.

C. Inclusion in Project Manual. Geotechnical reports and information regarding existing conditions may also be included in the Project Manual, but neither shall be considered part of the Contract Documents.

D. Existing Conditions Information. The following geotechnical reports and data, and information regarding existing conditions and Underground Facilities at or contiguous to the Site, are available for review through County:

- 1) Geotechnical Investigation, Guerneville Leachate Tanks, 13450 Pocket Drive, Guerneville, California
- 2) Geotechnical Investigation, Roblar Leachate Tanks, Roblar Road, Petaluma, California
- 3) Geotechnical Investigation, Sonoma Leachate Tanks, 4376 Stage Gulch Road, Sonoma, California

**1.3 USE OF INFORMATION ON EXISTING CONDITIONS**

A. Aboveground Existing Conditions. Under no circumstances shall County be deemed to make a warranty or representation of existing aboveground conditions, as-built conditions, or other aboveground actual conditions verifiable by reasonable independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform prior to bidding and Bidder must not rely on the information supplied by County regarding existing conditions. Bidder represents and agrees that in submitting its Bid, it is not relying on any information regarding existing conditions supplied by County.

B. Underground Facilities. Information supplied regarding existing Underground Facilities at or contiguous to the Site is based on information furnished to County by others (e.g., the builders of such Underground Facilities or others). Except as expressly set forth in this Document 003119, County does not assume responsibility for the accuracy, completeness or thoroughness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information. Except as expressly set forth in this Document 003119, County will be responsible only for the general accuracy of information regarding Underground Facilities, and only for those Underground Facilities that are owned by County. This express assumption of responsibility applies only if Bidder has conducted the independent investigation required of it and discrepancies were not apparent.

**1.4 LIMITED RELIANCE PERMITTED ON CERTAIN INFORMATION**

A. Geotechnical Data. Except as expressly set forth in this Document 003119, County does not warrant, and makes no representation regarding, the accuracy or thoroughness of any geotechnical data. Bidder represents and agrees that in submitting its Bid, it is not relying on any geotechnical data supplied by County, except as specifically set forth herein.

B. Technical Data. Bidder may rely upon the general accuracy of the "technical data" contained

in the geotechnical reports and existing conditions information identified above, but only insofar as it relates to boring method, location and logs; and laboratory test methods and results, provided Bidder has conducted the independent investigation required of it and discrepancies were not apparent. The term "technical data" in the referenced reports and drawings shall be limited as follows:

- 1) The term "technical data" shall include actual reported depths, reported quantities, reported soil types, reported soil conditions, and reported material, equipment, or structures that were encountered during subsurface exploration.
- 2) The term "technical data" does not include, and Bidder may not rely upon, any other data, interpretations, opinions or information shown or indicated in such drawings or reports that otherwise relate to subsurface conditions or described structures.
- 3) The term "technical data" shall not include the location of Underground Facilities.
- 4) Bidder may not rely on the completeness of reports and drawings for the purposes of bidding or construction. Bidder may rely upon the general accuracy of the "technical data" contained in such reports or drawings.
- 5) Bidder is solely responsible for any interpretation or conclusion drawn from any "technical data" or any other data, interpretations, opinions, or information contained in supplied existing conditions information.

### **1.5 INVESTIGATIONS**

A. Before submitting a Bid, each Bidder shall be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents. Bidders shall advise County in writing as limited by Section 1.12 of Document 002113 (Instructions to Bidders) of any questions, suppositions, inferences or deductions Bidders may have for County's review and response.

B. County has provided time in the period prior to bidding for Bidder to perform these investigations.

C. Notwithstanding the foregoing, hazardous materials investigations shall only be conducted by County as provided in Document 003126 (Existing Hazardous Materials Information).

END OF DOCUMENT

**EXISTING HAZARDOUS MATERIALS INFORMATION**

**1.1 SUMMARY**

A. This Document 003126 describes certain hazardous material surveys and use of data therein.

**1.2 REPORTS AND INFORMATION**

A. County, its consultants, contractors, and tenants have prepared documents providing a general description of the Site and locations of hazardous materials subject to the Work. These documents consist of surveys included in or with this Project Manual, or made available for review and copying. The surveys are the following:

1) **None**

B. Bidders may inspect such surveys at the Facilities Development and Management Division, and copies may be obtained at cost of reproduction and handling upon Bidder's payment for the costs. These surveys are not part of the Contract Documents.

**1.3 USE OF DATA AND INFORMATION**

A. Data and information regarding the locations of hazardous materials are not part of Contract Documents. Bidders may rely on this data and information for general accuracy regarding the locations of potentially hazardous materials subject of the Work.

B. County does not warrant and makes no representation regarding the completeness or thoroughness of any data or information regarding existing conditions or hazardous materials, including, but not limited to, quantities, characteristics, volumes, or associated structural features. Bidder represents and agrees that in submitting a Bid it is not relying on any such data, information or deductions.

**1.4 INVESTIGATIONS**

A. Before submitting a Bid, each Bidder shall be responsible for requesting County to obtain such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning hazardous materials matters. Bidders must provide County with sufficiently advance notice for County to determine whether the examination, etc. is warranted and, if so, to perform the examination, etc. Such examinations, etc. shall be performed only by County or its consultants; Bidders shall not perform them.

B. County has provided time in the period prior to bidding to perform these investigations.

C. Any County decision taken in good faith regarding these matters shall be conclusive and binding.

END OF DOCUMENT

**DOCUMENT 004113  
BID FORM (STIPULATED SUM – SINGLE PRIME CONTRACT)**

To be submitted by the time and date specified in Document 001116 (Invitation to Bid), paragraph 1.2.

TO THE County of Sonoma

THIS BID IS SUBMITTED BY:

\_\_\_\_\_  
(Firm/Company Name)

Re: 2024 Leachate Storage Tank Replacement

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the County of Sonoma, a political subdivision of the State of California ("County"), in the form included in the Contract Documents, Document 005213 (Agreement Form – Stipulated-Sum), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.

2. Bidder accepts all of the terms and conditions of the Contract Documents, Document 001116 (Invitation to Bid), and Document 002113 (Instructions to Bidders), including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for 90 Days after the day of Bid opening.

3. In submitting this Bid, Bidder represents:

(a) Bidder has examined all of the Contract Documents and the following Addenda (receipt of all of which is hereby acknowledged).

Addendum Number	ADDENDUM DATE	Signature of Bidder

(b) Bidder has visited the Site and performed all tasks, research, investigation, reviews, examinations, and analysis and given notices, regarding the Project and the Site, as set forth in Document 005213 (Agreement Form – Stipulated-Sum), Article 5.

(c) Bidder has given County prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and as-built drawings and actual conditions and the written resolution thereof through Addenda issued by County is acceptable to Contractor.

4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of  
2024 Leachate Storage Tank Replacement



money listed in the following Schedule:

**SCHEDULE OF BID PRICES**

All Bid items, including lump sums and unit prices, must be filled in completely. Bid items are described in Section 011000 (Summary) and in the Technical Specifications. Quote in figures only, unless words are specifically requested.

ITEM	S/F	DESCRIPTION	TOTAL LUMP SUM
1.		Guerneville Tank Replacement Project	
2.		Guerneville Trench Sheeting, Shoring and Bracing	
3.	S/F	Guerneville Bolted Stainless Steel Tank, Foundation and Appurtenances 200,000 Gallon	
4.		Roblar Tank Replacement Project	
5.		Roblar Trench Sheeting, Shoring and Bracing	
6.	S/F	Roblar Bolted Stainless Steel Tank, Foundation and Appurtenances 200,000 Gallon	
7.		Roblar Retaining Wall	
8.		Sonoma Tank Replacement Project	
9.		Sonoma Trench Sheeting, Shoring and Bracing	
10.	S/F	Sonoma Bolted Stainless Steel Tank, Foundation and Appurtenances 200,000 Gallon	
TOTAL BID PRICE*			

\*Basis to determine apparent low bid.

Total Bid Price:  
(Words)

5. Subcontractors for work included in all Bid items are listed on the attached Document 004366 (Proposed Subcontractors Form).

6. The undersigned Bidder understands that County reserves the right to reject this Bid.

7. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in paragraph 2 of this Document 004113 or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute and deliver the documents required by Document 002113 (Instructions to Bidders) within the times specified therein.

8. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.

2024 Leachate Storage Tank Replacement

Bid Form  
00400 - 2

9. The undersigned Bidder herewith encloses either a cashier's check, or certified check from a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do surety business in the State of California, in form specified in Document 00200 (Instructions to Bidders), in the amount of ten percent (10%) of the Total Bid Price contained above and made payable to "County of Sonoma."

10. The undersigned Bidder agrees to commence Work under the Contract Documents on the date to be established in Document 005500 (Notice to Proceed) and to complete all work within the time specified in Document 005213 (Agreement Form). The undersigned Bidder acknowledges that County has reserved the right to delay or modify the commencement date after issuance of Document 005500 (Notice to Proceed). The undersigned Bidder further acknowledges County has reserved the right to perform independent work at the Site, the extent of such work may not be determined until after the opening of the Bids, and that the undersigned Bidder will be required to cooperate with such other work in accordance with the requirements of the Contract Documents.

11. The undersigned Bidder agrees that, in accordance with Document 007200 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified in Document 005213 (Agreement Form) shall be as set forth in Document 005213 (Agreement Form).

12. IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.

NAME OF BIDDER: \_\_\_\_\_

licensed in accordance with an act for the registration of Contractors, and with license number: # \_\_\_\_\_ Expiration: \_\_\_\_\_.

\_\_\_\_\_  
Where incorporated, if applicable

Principals

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Signature of Bidder

NOTE: If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address:

\_\_\_\_\_

Contractor's Authorized Representative(s), (name, title):

\_\_\_\_\_

\_\_\_\_\_

Officers authorized to sign contracts:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number(s):

\_\_\_\_\_

Fax Number(s):

\_\_\_\_\_

Date of Bid:

\_\_\_\_\_

END OF DOCUMENT

**BID SECURITY FORMS**

KNOW ALL BY THESE PRESENTS:

That the undersigned \_\_\_\_\_ [Name of Contractor] as Principal and the undersigned as Surety are held and firmly bound unto the COUNTY OF SONOMA, a political subdivision of the State of California ("County"), as obligee, in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) lawful money of the United States of America being ten percent (10%) of the aggregate amount of said Principal \_\_\_\_\_'s Total Bid Price (as identified in Principal's Bid), for the payment of which, well and truly to be made, we bind ourselves, our successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is submitting a Bid for County of Sonoma, 2024 Leachate Tank Replacement Project.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Bid submitted by the said Principal be accepted and the Contract be awarded to said Principal and said Principal shall within the required periods enter into the Contract so awarded and provide the required Construction Performance Bond, Construction Labor and Material Payment Bond, insurance certificates, and all other endorsements, forms, and documents required under Document 002113 (Instructions to Bidders), then this obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bound parties have executed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Corporate Seal)

By

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

(Corporate Seal)

By

\_\_\_\_\_  
Attorney in Fact

END OF DOCUMENT

**PROPOSED SUBCONTRACTORS FORM**

Bidder submits the following information as to the subcontractors Bidder intends to employ if awarded the Contract.

Name of Bidder: \_\_\_\_\_

Full Name of Subcontractor and Location (City & State) of Mill or Shop	Subcontractor DIR	Description of Work	Percentage of Work Completed by Subcontractor	Subcontractor's License No.*

(Bidder to attach additional sheets if necessary)

\*Subcontractor license number can be submitted up to twenty-four (24) hours after the bid opening.

END OF DOCUMENT

STATEMENT OF QUALIFICATIONS FOR CONSTRUCTION WORK

**1.1 REQUIRED CONTENTS OF SOQ SUBMISSION**

(Provide the requested information in the precise order that it is listed)

- A. Attachment "A" Statement of Qualifications Questionnaire. Fill out the questionnaire completely. If additional pages are required to adequately explain an entry, include them at the end of the attachment.
- B. Litigation History. Description of litigation history for the past ten years, including names of involved parties, nature of dispute, and disposition.
- C. Capability to Provide Required Performance and Payment Bonds. Bidder shall include a letter from a surety duly licensed to do business in the State of California, having a financial rating from A. M. Best Company of A or better, that the surety has agreed to provide Bidder with the required performance and payment bonds in accordance with the requirements set forth in Documents 006113.13 (Performance Bond Form) and 006113.16 (Payment Bond Form). Such performance and payment bonds shall be in the minimum penal sums provided therein. Bidder shall include authorization that gives County the right to verify with the surety that the surety, based upon the Bid prices, will issue the required bonds under the conditions stated.
- D. Financial Capacity. Include audited or reviewed financial statements for the three most recently completed fiscal years for Bidder. Also include audited or reviewed financial statements for the three most recently completed fiscal years for any parent company(ies) of Bidder (if applicable).
- E. Human and Physical Resources. Bidder shall identify, describe, and quantify for itself and separately for its "designated Subcontractor(s)" (as defined in Document 00200 Instructions to Bidders), the following technical resources for the Work:
  - 1) Description and location of manufacturing facilities, naming products and quantifying production capacity and current demand;
  - 2) Description of field organization(s), naming skills and equipment;
  - 3) Description of safety program, quality control procedures, and safety experience; and
  - 4) Evidence of a valid California contractor's license and required licenses of all persons who are Key Personnel of the Bidder or any designated Subcontractor.
- F. Resumes of Proposed Key Personnel. Bidder shall provide a resume for each named Key Personnel of Bidder (only list the personnel that would be assigned to this specific project, including but not limited to the Project Manager, Superintendent, and Scheduler) and Bidder's designated Subcontractor(s), to include the following:
  - 1) Name and proposed assignment of Key Personnel - do not include home addresses or phone numbers;
  - 2) Years of experience;
  - 3) Education - degrees, schools, and years obtained;
  - 4) Professional license or registration(s);
  - 5) Fluency in English (Yes/No);
  - 6) Experience directly related to above proposed assignment;
  - 7) At least two client references, including contact names, addresses, and telephone numbers; and
  - 8) Description of two projects of a similar nature worked on in the past five years.
- G. Description of Project Scheduling Experience and Sample CPM Schedule. Provide a description of Bidder's experience with scheduling construction activities and using

Primavera project planner. Provide resumes (in paragraph "F" above) for proposed personnel or consultants and a description of their experience with scheduling construction activities and Primavera project planner. Submit a draft Initial CPM Schedule meeting the requirements of the Contract Documents for the Initial CPM Schedule (see Section 01320.1.4), which shall be time scaled, have preliminary resource loading, and showing a draft plan for proposed Work to be completed in the first sixty (60) days of the contract. In addition to the above minimum requirements, the draft schedule may include cost loading and a detailed plan for the proposed Work in the first sixty (60) days of the contract.

- H. Management Plan. Bidder shall submit a Management Plan as specified herein. The proposed Management Plan shall be described in sufficient detail to fully understand how Bidder plans to manage and coordinate the Work of manufacture, construction, installation, testing and commissioning, including but not limited to coordination with county, governmental authorities, suppliers, subcontractors, insurers, shippers, inspection agencies, and contractors for related work, all to ensure smooth project operation. The Management Plan shall contain at least the following:
1. Organization Chart: Bidder shall develop and propose an organization chart. The chart shall show the overall organization of member firms and subcontractors, their roles/responsibilities and how the management for each member firm will report within and to its firm's executive management. Bidder must provide a discussion of how each member's project manager will obtain technical and financial support and resources.
  2. Organization Chart shall include the specific people that will be assigned to each position. Provide resumes for all people as part of paragraph "F" above.

## 1.2 GENERAL CONDITIONS

- A. General Conditions for Content. The SOQ shall be clear and concise to enable Staff to make a thorough evaluation and arrive at a sound determination as to whether the SOQ meets County's requirements. To this end, the SOQ should be so specific, detailed, and complete as to demonstrate clearly and fully that the Bidder has a thorough understanding of and has demonstrated knowledge of the requirements to perform the Work.
- B. Explanations to SOQ. Any explanation requested by a Bidder regarding the meaning or interpretation of this Document 004500 must be requested in writing in accordance with Document 002113 (Instructions to Bidders). Oral explanations or instructions will not be binding. Any information provided to any prospective Bidder concerning this Document 004500 will be furnished to all prospective Bidders as an Addendum to the Bidding Documents.

## 1.3 DEFINITIONS

- A. Except as set forth herein, all abbreviations and definitions of terms used in this Document 004500 are as set forth in Document 007200 (General Conditions) or Section 014200 (References).

ATTACHMENT "A" -- STATEMENT OF QUALIFICATION QUESTIONNAIRE FOLLOWS ON FOLLOWING PAGES

ATTACHMENT "A" -- Statement of Qualification Questionnaire

Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Document 002113 (Instructions to Bidders) and this Document 004500. Failure to complete the questionnaire or inclusion of any false statement(s) shall be grounds for immediate disqualification.

**I. CONTACT INFORMATION**

Bidder's Name: \_\_\_\_\_

Bidder's Legal Organization:

Corporation\_\_\_\_\_ Partnership\_\_\_\_\_ Sole Proprietorship\_\_\_\_\_ Joint Venture\*\_\_\_\_\_

Name of President, Managing Partner, or Owner: \_\_\_\_\_

Bidder's Address: \_\_\_\_\_

Bidder's Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Contact's Phone (include extension): \_\_\_\_\_

Contact's E-mail (if different): \_\_\_\_\_

\*If a joint venture, provide all of the requested information for each member of the joint venture.

**II. GENERAL INFORMATION**

Complete Part II before proceeding.

1. Does Bidder possess a valid and current California Contractor's license for the Work proposed? Yes \_\_\_ No \_\_\_
2. Has Bidder's license been revoked at any time in the last five years? Yes \_\_\_ No \_\_\_
3. Has Bidder changed names or license numbers in the past 10 years? If so, state reason for change on an additional page. Yes \_\_\_ No \_\_\_
4. Does Bidder have a minimum of \$2,000,000 general liability insurance coverage? Yes \_\_\_ No \_\_\_
5. Has Bidder been "default terminated" by an owner (other than for convenience), or has a Surety completed a contract for Bidder within the last five years? Yes \_\_\_ No \_\_\_
6. Has Bidder been cited more than twice for failure to pay prevailing wages last five years? Yes \_\_\_ No \_\_\_
7. Has Bidder attached copies of its reviewed or audited financial statements and accompanying notes for the latest three years? Yes \_\_\_ No \_\_\_

Bidder will be immediately disqualified if any answer to questions 1, 4 or 7 is No.  
Bidder will be immediately disqualified if any answer to questions 2, 5 or 6 is Yes.



**PART III. SAFETY**

1. Has Cal/OSHA, Federal OSHA, the EPA or any Air Quality Management District cited Bidder in the past five years? Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, attach description of each citation.

2. How often does Bidder require documented safety meetings be held for:  
Field Supervisor Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_  
Employees Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_  
New Hires Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_  
Subcontractors Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_

3. How often does Bidder conduct documented safety inspections?  
Quarterly \_\_\_\_\_ Semi-annually \_\_\_\_\_ Annually \_\_\_\_\_ Other \_\_\_\_\_

4. Does Bidder have home office safety representatives who visit/audit the job site?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, how often?  
Quarterly \_\_\_\_\_ Semi-annually \_\_\_\_\_ Annually \_\_\_\_\_ Other \_\_\_\_\_

5. What is Bidder's Intrastate Experience Modification Rate? \_\_\_\_\_.

Bidder will be immediately disqualified if the answer to this question 5 is greater than 1.0.

**PART IV. DISPUTES**

Has Bidder had any claims, litigation, or disputes ending in mediation or arbitration, or termination for cause associated with any project in the past 10 years? If yes, attach description of each such instance including details of total claim amount, settlement amount, and owner's name and phone number.

Yes \_\_\_\_\_ No \_\_\_\_\_

**PART V. BONDING**

Bonding Capacity - Provide documentation from Bidder's surety identifying the following:

- 1. Name of bonding company/surety
- 2. Name of Surety Agent
- 3. Surety Agent address and telephone number
- 4. Is surety a California-admitted surety? Yes \_\_\_\_\_ No \_\_\_\_\_
- 5. Is surety listed in the current edition of the California Department of the Treasury's Listing of approved sureties? Yes \_\_\_\_\_ No \_\_\_\_\_
- 6. List surety's A.M. Best Rating
- 7. Give Bidder's bonding capacity per job and aggregate.
- 8. What percentage rate does Bidder pay for bonds?

**PART VI. FINANCIAL INFORMATION**

1. Has Bidder ever reorganized under the protection of the bankruptcy laws?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please state when \_\_\_\_\_

2. If Bidder has had the general liability carrier identified in Document 004513 (Bidder Registration and Safety Experience Form) for less than 5 years, please provide additional information below for balance of the past 5 years.

- |     |                 |          |           |
|-----|-----------------|----------|-----------|
| (3) | Agency Name: _  |          |           |
| (4) | Contact Name: _ |          |           |
| (5) | Phone Number: _ |          |           |
| (6) | Carrier: _      | Dates: _ | A.M. Best |
|     | Rating: _       |          |           |
| (7) | Carrier: _      | Dates: _ | A.M. Best |
|     | Rating: _       |          |           |
| (8) | Carrier: _      | Dates: _ | A.M. Best |
|     | Rating: _       |          |           |

3. Has Bidder ever had insurance terminated by a carrier? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, explain on separate signed sheet marked with correlating cross-reference to this paragraph of the questionnaire.

### **PART VII EXPERIENCE OF BIDDER**

The unique nature of this Project requires prior similar experience of the Bidder and the Key Personnel assigned. Provide the detailed project information requested in the format provided below (attach additional pages if necessary):

#### **Prime Contractor.**

- 1) List three (3) projects with a construction cost of at least \$5,000,000 each, completed in the past ten years.

List three (3) most recently completed projects. Projects of a similar nature are preferred. Note: if the projects listed above are also the three most recent, do not duplicate the list, just indicate that they are the same.

Project Name: \_  
Location: \_\_\_\_\_  
Owner: \_  
Owner Contact (name and phone number): \_\_\_\_  
Architect or Engineer: \_  
Architect or Engineer Contact (name and phone number): \_\_\_\_  
Project Mgr.: \_  
Project Superintendent: \_\_\_\_\_  
Project Scheduler: \_\_\_\_\_  
Description of Project, Scope of Work Performed: \_\_\_\_

Total Construction Cost: \_\_\_\_\_  
Total Change Order Amount: \_\_\_\_  
Original Scheduled Date of Completion: \_\_\_\_\_  
Time Extensions Granted (number of Days): \_  
Actual Date of Completion: \_\_\_\_  
Number of Stop Notices filed by subcontractors or suppliers: \_\_\_\_\_

NOTE: All references listed above should have correct and current telephone numbers. Bidder is advised to confirm the listing of a reference before including them.

Bidder hereby declares under penalty of perjury that all the information provided in this questionnaire is true and correct.

SIGNATURE

TITLE

END OF DOCUMENT

**DOCUMENT 004513**  
**BIDDER REGISTRATION AND SAFETY EXPERIENCE FORM**  
**INSTRUCTIONS**

**INDEPENDENT CONTRACTOR REGISTRATION**

Contractor's License # \_\_\_\_\_

Date: \_\_\_\_\_ Fed I.D. # \_\_\_\_\_

Full Corporate Name of Company:

\_\_\_\_\_

Street Address: \_\_\_\_\_

\_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Name of Principal Contact: \_\_\_\_\_

Type of Business:

\_\_\_\_\_ Sole Proprietor

\_\_\_\_\_ Partnership

\_\_\_\_\_ Non-Profit 501 C3

\_\_\_\_\_ Corporation

\_\_\_\_\_ other (please explain: \_\_\_\_\_)

**SENATE BILL 854 COMPLIANCE**

The California Legislature imposed a new registration requirement for contractors and subcontractors involved in public works projects. Senate Bill 854, passed in June, created a registration program, which went into effect on July 1, 2014 to fund the Department of Industrial Relations' monitoring and enforcement of prevailing wage laws.

Contractors and subcontractors wishing to work on a public works project must be registered by March 1, 2015. The bill also requires public agencies to include notice of the registration requirement

Contractor's Public Works Contractor Registration (PWCR) Affidavit # \_\_\_\_\_

Classification or Type of Worker (Carpenter, Plumber, etc.) that will be employed by the Contractor(s):

\_\_\_\_\_

\_\_\_\_\_

**Listing of Sub Contractors**

Contractor No.	Lic.	DIR #	Contractor	Classification of Workers

Once registration becomes mandatory early next year, contractors will also be subject to penalties for bidding or working on public works without being registered with DIR. However, contractors will not be in violation for working on a private job that is later determined to be public work. Contractors and subcontractors on all public works projects will be required to submit certified payroll records to the Labor Commissioner unless excused from this requirement, which will be phased in, according to the DIR, as follows:

- Will apply immediately to projects that have already been under CMU monitoring
- Will apply to new projects awarded on or after April 1, 2015
- May apply to other projects as determined by the Labor Commissioner
- Will apply to all projects, new or ongoing, on and after Jan. 1, 2016

Public agencies can replace an unregistered contractor or subcontractor with one who is registered, but contracts with unregistered contractors or subcontractors are not void as pertaining to past work.

## INSURANCE

### Workers' Compensation:

Carrier: \_\_\_\_\_

Address: \_\_\_\_\_

Phone and Fax: \_\_\_\_\_

Policy Number: \_\_\_\_\_

### General Liability:

Carrier: \_\_\_\_\_

Address: \_\_\_\_\_

Phone and Fax: \_\_\_\_\_

Policy Number: \_\_\_\_\_

Policy Limits: \$ \_\_\_\_\_

A.M. Best Rating: \_\_\_\_\_

### Automobile Liability:

Carrier: \_\_\_\_\_

Address: \_\_\_\_\_

Phone and Fax: \_\_\_\_\_

Policy Number: \_\_\_\_\_

Policy Limits: \$ \_\_\_\_\_

A.M. Best Rating: \_\_\_\_\_

**SAFETY EXPERIENCE**

The following statements as to safety experience of Bidder are submitted with Bid, as part thereof, and Bidder guarantees the truthfulness and accuracy of the information.

1. List Bidder's Interstate Experience Modification Rate for the last three years.

2021: \_\_\_\_\_  
2022: \_\_\_\_\_  
2023: \_\_\_\_\_

2. Use Bidder's last year's Cal/OSHA 300 log to fill in the following:

a. Number of lost workday cases \_\_\_\_\_

b. Number of medical treatment cases \_\_\_\_\_

c. Number of fatalities \_\_\_\_\_

3. Employee hours worked last year \_\_\_\_\_

4. State the name of Bidder's safety engineer/manager or Site Safety Officer:

\_\_\_\_\_

Attach a resume or outline of this individual's safety and health qualifications and experience.

BIDDER CERTIFIES, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND AUTHORIZES THE COUNTY OF SONOMA, AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

END OF DOCUMENT

**NON-COLLUSION AFFIDAVIT**  
PUBLIC CONTRACT CODE §7106

NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.  
[Office of Declarant] [Name of Bidder]

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

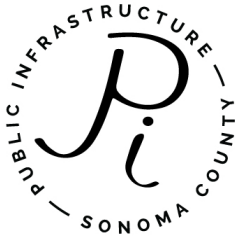
I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date] at \_\_\_\_\_ [city], \_\_\_\_\_ [state].

\_\_\_\_\_  
Name of Declarant (Please Print)

\_\_\_\_\_  
Signature of Declarant

END OF DOCUMENT





**Sonoma County Public Infrastructure**  
**Johannes J. Hoevertsz, Director**

**Monique Chapman, Deputy Director – Administration**  
**Michelle Ling, Deputy Director – Facilities Development & Management**  
**Trish Pisenti, Deputy Director – Transportation, Operations & Fleet**  
**Janice Thompson, Deputy Director – Engineering & Maintenance**



2300 COUNTY CENTER DRIVE, SUITE 220A, SANTA ROSA, CA 95403 ❖ PH: 707.565.2550 ❖ FAX: 707.565.3240

**DOCUMENT 005050**  
**NOTICE OF INTENT TO AWARD FOR CONSTRUCTION**

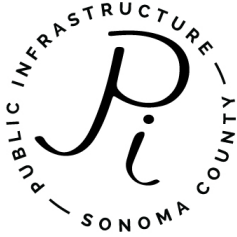
**COUNTY PROJECT: 2024 Leachate Storage Tank Replacement**

Sonoma County Public Infrastructure Integrated Waste Division intends to recommend to the Board of Supervisors of the County of Sonoma the award of the above-referenced Project to [Name of Contractor]. Any bid protest must be submitted in accordance with Document 002113 (Instructions to Bidders).

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Johannes J. Hoevertsz, Director  
Sonoma County Public Infrastructure

Post for 2 weeks.



# Sonoma County Public Infrastructure

## Johannes J. Hoevertsz, Director

Monique Chapman, Deputy Director – Administration  
Michelle Ling, Deputy Director – Facilities Development & Management  
Trish Pisenti, Deputy Director – Transportation, Operations & Fleet  
Janice Thompson, Deputy Director – Engineering & Maintenance



2300 COUNTY CENTER DRIVE, SUITE A220, SANTA ROSA, CA 95403 ❖ PH: 707.565.2550 ❖ FAX: 707.565.3240

DOCUMENT **005100**

### NOTICE OF AWARD

Dated: [Date of Award]

TO: [Name of Contractor]

ADDRESS: [Address of Contractor]

CONTRACT NO.: [Contract #]

CONTRACT FOR: [Name of Project]

The Contract Sum of your contract is **[Dollar Amount in Words]** Dollars (\$[ \$ ]).  
Work awarded includes: Base bid + alternate numbers as identified in Document 004113 (Bid Form) and described in Section 011000 (Summary) of the Contract Documents.

Copies of the proposed Contract Documents listed below accompany this Notice of Award.

- 1.1 You must comply with the following conditions by 5:00 p.m. of the 14th Day following the date of this Notice of Award, that is, by [Date].
  - A. Deliver to County four (4) fully executed originals of Document 005213 (Agreement Form - Stipulated Sum). Each copy of Document 005213 (Agreement Form - Stipulated Sum) must bear your original signature on the signature page and your initials on each page.
  - B. Deliver to County one (1) original of Document 006113.13 (Performance Bond Form), executed by you and your surety.
  - C. Deliver to County one (1) original of Document 006113.16 (Payment Bond Form), executed by you and your surety.
  - D. Deliver to County one (1) original set of the insurance certificates with endorsements required under Document 007200 (General Conditions).
  - E. Deliver to County one (1) original copy of Document 006536 (Warranty Form), executed by you.
- 1.2 Failure to comply with these conditions within the time specified will entitle County to consider your Bid abandoned, to annul this Notice of Award, and to declare your Bid security forfeited.
- 1.3 After you comply with the conditions in paragraph 1.2 of this Document 005100, County will return to you one (1) fully signed original of Document 005213 (Agreement Form - Stipulated Sum) and forward an electronic copy of the Project Manual (including Specifications and Drawings).
- 1.4 Before you may start any Work at the Site, you must attend a preconstruction conference. The preconstruction conference will be arranged through County's representative. Questions regarding bonds and insurance may be directed to the Contract Specialist at (707) 565-3043. All other inquiries regarding the Project should be directed to (insert PM name and email)

**2024 Leachate Storage Tank Replacement**

**Notice of Award**

005100 - 1

County of Sonoma

BY:

Sonoma County Public Infrastructure Director

END OF DOCUMENT

**DOCUMENT 005213**

**AGREEMENT FORM**

THIS AGREEMENT, dated this [Day] day of [Month], [Year], by and between [Name of Contractor], whose place of business is located at [Address of Contractor] ("Contractor"), and the COUNTY OF SONOMA, a political subdivision of the State of California ("County"), acting under and by virtue of the authority vested in the County by the laws of the State of California.

WHEREAS, County, by its Board Resolution No. \_\_\_\_\_ adopted on the [Day] day of, [Month] [Year] awarded to Contractor the following Contract:

**CONTRACT NUMBER #**

2024 Leachate Storage Tank Replacement

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and County agree as follows:

Article 1. Work

1.1 Contractor shall complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents.

Article 2. Notices to County

2.1 County has designated **Olivia Guevara**, Project Manager, to act as County's Representative(s), who will represent County in performing County's duties and responsibilities and exercising County's rights and authorities in Contract Documents. County may change the individual(s) acting as County's Representative(s), or delegate one or more specific functions to one or more specific County's Representatives, including without limitation engineering, architectural, inspection and general administrative functions, at any time with written notice and without liability to Contractor. Each County's Representative is the beneficiary of all Contractor obligations to County, including without limitation, all releases and indemnities.

2.2 All notices or demands to County under the Contract Documents shall be to County's Representative at:  
2300 County Center Drive, Suite A220, Santa Rosa, CA 95403  
or to such other person(s) and address(es) as County shall provide to Contractor.

Article 3. Contract Time and Liquidated Damages

3.1 Contract Time.

Contract Time commences on the date established in Document 005500 (Notice to Proceed). County reserves the right to modify or alter the Commencement Date of the Work. County may give a Notice to Proceed at any time within 60 Days after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.

Contractor shall achieve Substantial Completion of the entire Work within **one hundred eighty (180) Days** from the date when the Contract Time commences to run as provided in Document 007200 (General Conditions). Contractor shall complete the Work so that a Final Inspection Report can be issued in accordance with Section 017700 (Closeout Procedures) **one hundred ninety (190) Days** from the date when the Contract Time commences to run as provided in Document 007200 (General Conditions).

3.2 Liquidated Damages.

County and Contractor recognize that time is of the essence of this Agreement and that County will suffer financial loss (see Paragraph 3.3 below), if all or any part of the Work is not completed

within the times specified above, plus any extensions thereof allowed in accordance with the Contract Documents. Consistent with Article 14 of Document 007200 (General Conditions), Contractor and County agree that because of the nature of the Project, it would be impractical or extremely difficult to fix the amount of actual damages incurred by County because of a delay in completion of all or any part of the Work. Accordingly, County and Contractor agree that as liquidated damages for delay Contractor shall pay County:

- 3.2.1 **One Thousand Three Hundred dollars (\$1,300)** for each Day that expires after the time specified herein for Contractor to achieve Substantial Completion of the entire Work, until achieved.
- 3.2.2 **Two Thousand Three Hundred dollars (\$2,300)** for each Day that expires after the time specified herein for Contractor to achieve Final Inspection Report of the entire Work, until achieved.

These measures of liquidated damages shall apply cumulatively and except as provided below, shall be presumed to be the damages suffered by County resulting from delay in completion of the Work.

3.3 Liquidated damages for delay shall only cover project administrative (such as Project management and consultant expenses) and cost damages suffered by County as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from County (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof.

Article 4. Contract Sum

4.1 County shall pay Contractor the Contract Sum for completion of Work in accordance with Contract Documents as follows:

---

TOTAL CONTRACT SUM	
--------------------	--

Article 5. Contractor's Representations

In order to induce County to enter into this Agreement, Contractor makes the following representations and warranties:

5.1 Contractor has visited the Site and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.

5.2 Contractor has examined thoroughly and understood all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, products specifications or reports, available for Bidding purposes, of physical conditions, including Underground Facilities, which are identified in Document 003119 (Existing Condition Information), or which may appear in the Drawings. Contractor accepts the determination set forth in these Documents and Document 007200 (General Conditions) of the limited extent of the information contained in such materials upon which Contractor may be entitled to rely. Contractor agrees that, except for the information so identified, Contractor does not and shall not rely on any other information contained in such reports and drawings.

- 5.3 Contractor has conducted or obtained and has understood all such examinations, investigations, explorations, tests, reports and studies (in addition to or to supplement those referred to in Section 5.2 of this Document 005213) that pertain to the subsurface conditions, as-built conditions, Underground Facilities and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance or furnishing of Work, as Contractor considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Document 007200 (General Conditions); and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by Contractor for such purposes.
- 5.4 Contractor has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 5.5 Contractor has given County prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and as-built drawings and actual conditions and the written resolution thereof through Addenda issued by County is acceptable to Contractor.
- 5.6 Contractor is duly organized, existing and in good standing under applicable state law, and is duly qualified to conduct business in the State of California.
- 5.7 Contractor has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents and the Work to be performed herein. The Contract Documents do not violate or create a default under any instrument, agreement, order or decree binding on Contractor.
- 5.8 Contractor has listed the following Subcontractors pursuant to the Subcontractor Listing Law, California Public Contract Code §4100 *et seq.*:

Name of Subcontractor and Location of Mill or Shop	Description of Work: Reference To Bid Items	Subcontractor's License No.


5.9 Contractor has designated [**Contractor Project Mgr**], Project Manager, to act as Contractor's Representative(s), who will represent Contractor in performing Contractor's duties and responsibilities and exercising Contractor's rights and authorities in Contract Documents. Contractor has also designated [**Superintendent Name**], Superintendent, to act as Contractor's Superintendent. Contractor may change the individual(s) acting as Contractor's Representative(s), or delegate one or more specific functions to one or more specific Contractor's Representatives, at any time upon prior written notice and approval and without liability to County, but Contractor is limited to two representatives.

Article 6. Contract Documents

6.1 Contract Documents consist of the following documents, including all changes, Addenda, and Modifications thereto:

- Document 005100 Notice of Award
- Document 005213 Agreement Form
- Document 005500 Notice to Proceed
- Document 006113.13 Performance Bond Form
- Document 006113.16 Payment Bond Form
- Document 006400 Affidavit of Release of Liens Form
- Document 006536 Warranty Form
- Document 006700 Escrow Bid Documents (Optional)
- Document 006800 Escrow Agreement for Security Deposits in Lieu of Retention
- Document 007200 General Conditions
- Document 007300 Supplementary Conditions
- Document 007316 Insurance Requirements
- Document 007373 Statutory Requirements - Apprenticeship Program
- Document 009100 Addenda
- Specifications Divisions as listed in the Table of Contents
- Drawings listed in Drawing No. G-001

6.2 There are no Contract Documents other than those listed in this Document 005213, Article 6. Document 003119 (Existing Condition Information), Document 003126 (Existing Hazardous Materials Contract Documents). The Contract Documents may only be amended, modified or supplemented as provided in Document 007200 (General Conditions).

Article 7. Miscellaneous

- 7.1 Terms and abbreviations used in this Agreement are defined in Document 007200 (General Conditions) and Section 014200 (References) and will have the meaning indicated therein.
- 7.2 It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of County or acting as an employee, agent, or representative of County, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of the County is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.

- 7.3 Contractor shall not assign any portion of the Contract Documents, and may subcontract portions of the Contract Documents only in compliance with the Subcontractor Listing Law, California Public Contract Code §4100 *et seq.*
- 7.4 The Contract Sum includes all allowances (if any).
- 7.5 In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. §15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time County tenders final payment to Contractor, without further acknowledgment by the parties.
- 7.6 Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and on file at the Facilities Development and Management Division, and shall be made available to any interested party on request. Pursuant to Section 1861 of the Labor Code, Contractor represents that it is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.
- 7.7 Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable, all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).
- 7.8 This Agreement and the Contract Documents shall be deemed to have been entered into in the County of Sonoma, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in Sonoma County. Both parties hereby waive their rights under California Code of Civil Procedure Section 394 to file a motion to transfer any action or proceeding arising out of the Contract Documents to another venue.
- 7.9 Contractor accepts the claims procedure established by Article 12 of Document 007200 (General Conditions), as established under Section 930.2 of the California Government Code.



IN WITNESS WHEREOF the parties have executed this Agreement in duplicate the day and year first above written.

**COUNTY:**

**CONTRACTOR:**

Certificates of Insurance and Guaranty are on file with and reviewed as to substance for County by:

Department Head/Public Infrastructure

[Contractor's name]

Reviewed as to form by County Counsel:

Federal ID #: \_\_

County Counsel

By: \_\_\_\_  
[Signature]

Date: \_\_\_\_\_

Date: \_\_\_\_\_

[Please print name here]

Title: \_\_  
[If Corporation: Chairman, President, or Vice President]

County of Sonoma  
A Political Subdivision of the State of California

Chair, Board of Supervisors

By: \_\_\_\_  
[Signature]

Date: \_\_\_\_\_

Date: \_\_\_\_\_

[Please print name here]

Attest:

Clerk of the Board of Supervisors

Title: \_\_  
[If Corporation: Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer]

END OF DOCUMENT

DOCUMENT 005500

**NOTICE TO PROCEED**

Dated: [Month, Day], [Year]

To: [Name of Contractor]

Address: [Street Address]  
[City, State, Zip Code]

**CONTRACT FOR:** **CONTRACT NUMBER [#]**  
**NAME OF PROJECT**

You are notified that the Contract Time under the above Contract will commence to run on [Date] (Commencement Date). On that date, you are to start performing your obligations with respect to Work at the Site under the Contract Documents. In accordance with Article 3 of Document 005213 (Agreement Form), the date of Substantial Completion is [Date], and the date of Final Completion is [Date].

**Before you may start any Work at the Site, you must:**

1. Submit certified Safety Program and related information, Section 015400 (Site Security and Safety).
2. Submit copies of applicable permits, Section 011000 (Summary).
3. Submit approved fire protection plan, if applicable, Section 015400 (Site Security and Safety).
4. Submit copy of Storm Water Pollution Prevention Plan (SWPPP), if applicable, Section 011000 (Summary).

COUNTY OF SONOMA,  
A Political Subdivision of the State of California

By: \_\_\_\_\_

Its: County Project Manager

END OF DOCUMENT

**DOCUMENT 006113.13  
PERFORMANCE BOND FORM**

THIS CONSTRUCTION PERFORMANCE BOND ("Bond") is dated **[Enter Date]**, is in the penal sum of **[Enter Amount]** [which is one hundred percent of the Contract Sum], and is entered into by and between the parties listed below to ensure the faithful performance of the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, paragraphs 1 through 12, attached to this page. Any singular reference to **[Insert Name of Contractor]**, ("Contractor"), **[Insert Name of Surety]**, ("Surety"), County of Sonoma, a Political Subdivision of the State of California ("County") or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

**[ENTER CONTRACTOR NAME]**  
Name

**[ENTER SURETY NAME]**  
Name

**[Enter Address]**  
Address

**[Enter Principal Place of Business]**  
Principal Place of Business

City/State/Zip

City/State/Zip

CONSTRUCTION CONTRACT:

**2024 LEACHATE STORAGE TANK REPLACEMENT**

at 13950 Pocket Drive, Guerneville, CA 95446 and 4376 Stage Gulch Road, Sonoma, CA 95476 and 7175 Roblar Road, Petaluma, CA 94952;

DATED \_\_\_\_\_, 20\_\_\_\_, in the Amount of \$\_\_\_\_\_ (the "Penal Sum")

CONTRACTOR AS PRINCIPAL  
Company: (Corp. Seal)

SURETY  
Company: (Corp. Seal)

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Name and Title: \_\_\_\_\_

**BOND TERMS AND CONDITIONS**

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to County for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.

2. If Contractor completely and properly performs all of its obligations under the Construction Contract, Surety and Contractor shall have no obligation under this Bond.

3. If there is no County Default, Surety's obligation under this Bond shall arise after:

3.1 County has declared a Contractor Default under the Construction Contract pursuant to the terms of the Construction Contract; and

3.2 County has agreed to pay the Balance of the Contract Sum:

3.2.1 To Surety in accordance with the terms of this Bond and the Construction Contract; or

3.2.2 To a contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.

4. When County has satisfied the conditions of paragraph 3, Surety shall promptly (within 30 Days) and at Surety's expense elect to take one of the following actions:

- 4.1 Arrange for Contractor, with consent of County, to perform and complete the Construction Contract (but County may withhold consent, in which case the Surety must elect an option described in paragraphs 4.2, 4.3 or 4.4, below); or
- 4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; provided, that Surety may not select Contractor as its agent or independent contractor without County's consent; or
- 4.3 Undertake to perform and complete the Construction Contract by obtaining bids from qualified contractors acceptable to County for a contract for performance and completion of the Construction Contract and, upon determination by County of the lowest responsive and responsible Bidder, arrange for a contract to be prepared for execution by County and the contractor selected with County's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract; and, if Surety's obligations defined in paragraph 6, below, exceed the Balance of the Contract Sum, then Surety shall pay to County the amount of such excess; or
- 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances and, after investigation and consultation with County, determine in good faith its monetary obligation to County under paragraph 6, below, for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefore to County with full explanation of the payment's calculation. If County accepts Surety's tender under this paragraph 4.4, County may still hold Surety liable for future damages then unknown or unliquidated resulting from Contractor Default. If County disputes the amount of Surety's tender under this paragraph 4.4, County may exercise all remedies available to it at law to enforce Surety's liability under paragraph 6, below.

5. If Surety does not proceed as provided in paragraph 4, above, then Surety shall be deemed to be in default on this Bond ten Days after receipt of an additional written notice from County to Surety demanding that Surety perform its obligations under this Bond. At all times County shall be entitled to enforce any remedy available to County at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect Work, mitigate damages, advance critical Work to mitigate schedule delay, or coordinate Work with other consultants or contractors.

6. Surety's monetary obligation under this Bond is limited by the amount of this Bond identified herein as the Penal Sum. This monetary obligation shall augment the Balance of the Contract Sum. Subject to these limits, Surety's obligations under this Bond are commensurate with the obligations of Contractor under the Construction Contract. Surety's obligations shall include, but are not limited to:

- 6.1 The responsibilities of Contractor under the Construction Contract for completion of the Construction Contract and correction of Defective Work;
- 6.2 The responsibilities of Contractor under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages caused by non-performance of the Construction

Contract including, but not limited to, all valid and proper back charges, offsets, payments, indemnities, or other damages;

- 6.3 Additional legal, design professional and delay costs resulting from Contractor Default or resulting from the actions or failure to act of the Surety under paragraph 4, above (but excluding attorney's fees incurred to enforce this Bond).

7. No right of action shall accrue on this Bond to any person or entity other than County or its successors or assigns.

8. Surety hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. Surety consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, Modification, deletion, or addition to the Contract Documents, or of the Work required thereunder, shall release or exonerate Surety on this Bond or in any way affect the obligations of Surety on this Bond, unless such change, alteration, Modification, deletion or addition is a cardinal change.

9. Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction where a proceeding is pending between County and Contractor regarding the Construction Contract, or in the courts of the County of Sonoma, or in a court of competent jurisdiction in the location in which the Work is located. Communications from County to Surety under paragraph 3.1 of this Bond shall be deemed to include the necessary agreements under paragraph 3.2 of this Bond unless expressly stated otherwise.

10. All notices to Surety or Contractor shall be mailed or delivered (at the address set forth on the signature page of this Bond), and all notices to County shall be mailed or delivered as provided in Document 005213 (Agreement Form). Actual receipt of notice by Surety, County or Contractor, however accomplished, shall be sufficient compliance as of the date received at the foregoing addresses.

11. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein.

12. Definitions.

12.1 Balance of the Contract Sum: The total amount payable by County to Contractor pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved Modifications to the Construction Contract.

12.2 Construction Contract: The agreement between County and Contractor identified on the signature page of this Bond, including all Contract Documents and changes thereto.

12.3 Contractor Default: Material failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract including, but not limited to, "default" or any other condition allowing a termination for cause as provided in Document 007200 (General Conditions).

12.4 County Default: Material failure of County, which has neither been remedied nor waived, to pay Contractor progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted Contractor Default and is sufficient to justify Contractor termination of the Construction Contract.

END OF DOCUMENT

**DOCUMENT 006113.16  
PAYMENT BOND FORM**

THIS CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND ("Bond") is dated [Insert Date], is in the penal sum of [Insert one hundred percent of Contract Sum] and is entered into by and between the parties listed below to ensure the payment of claimants under the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, paragraphs 1 through 13, attached to this page. Any singular reference to [Insert Name Of Contractor], ("Contractor"), [Insert Name Of Surety], ("Surety"), the County of Sonoma, a Political Subdivision of the State of California ("County") or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

[ENTER CONTRACTOR NAME]  
Name

[ENTER SURETY NAME]  
Name

[Enter Address]  
Address

[Enter Principal Place of Business]  
Principal Place of Business

City/State/Zip

City/State/Zip

CONSTRUCTION CONTRACT:

**2024 LEACHATE STORAGE TANK REPLACEMENT**

at 13950 Pocket Drive, Guerneville, CA 95446 and 4376 Stage Gulch Road, Sonoma, CA 95476 and 7175 Roblar Road, Petaluma, CA 94952;

DATED \_\_\_\_\_, 20\_\_\_\_, in the Amount of \$ \_\_\_\_\_ (the "Penal Sum")

CONTRACTOR AS PRINCIPAL  
Company: (Corp. Seal)

SURETY  
Company: (Corp. Seal)

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Name and Title: \_\_\_\_\_

**BOND TERMS AND CONDITIONS**

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to County and to Claimants, to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2. With respect to County, this obligation shall be null and void if Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and

2.2 Defends, indemnifies and holds harmless County from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Construction Contract, provided County has promptly notified Contractor and Surety (at the address set forth on the signature page of this Bond) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to Contractor and Surety, and provided there is no County Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly through its Subcontractors, for all sums due Claimants. If Contractor or its Subcontractors, however, fail to pay any of the persons named in Section 9100 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to Work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor or Subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such Work and labor, then Surety shall pay for the same, and also, in case suit is brought upon this Bond, a reasonable attorney's fee, to be fixed by the court.
4. Consistent with the California Mechanic's Lien Law, Civil Code § 8000, *et seq.*, Surety shall have no obligation to Claimants under this Bond unless the Claimant has satisfied all applicable notice requirements.
5. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety under this Bond.
6. Amounts due Contractor under the Construction Contract shall be applied first to satisfy claims, if any, under any Construction Performance Bond and second, to satisfy obligations of Contractor and Surety under this Bond.
7. County shall not be liable for payment of any costs, expenses, or attorney's fees of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
8. Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations. Surety further hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract, or to the Work to be performed there under, or materials or equipment to be furnished there under or the Specifications accompanying the same, shall in any way affect its obligations under this Bond, and it does hereby waive any requirement of notice or any such change, extension of time, alteration or addition to the terms of the Construction Contract or to the Work or to the Specifications or any other changes.
9. This Bond shall inure to the benefit of the Claimants. Suit against Surety on this Bond may be brought by any Claimant, or its assigns, at any time after the Claimant has furnished the last of the labor or materials, or both, but, per Civil Code § 9558, must be commenced before the expiration of six months after the period in which stop notices may be filed as provided in Civil Code § 9356.
10. All notices to Surety or Contractor shall be mailed or delivered (at the address set forth on the signature page of this Bond), and all notices to County shall be mailed or delivered as provided in Document 005213 (Agreement Form). Actual receipt of notice by Surety, County or Contractor, however accomplished, shall be sufficient compliance as of the date received at the foregoing addresses.
11. This Bond has been furnished to comply with the California Mechanic's Lien Law including, but not limited to, Civil Code §§ 9550 *et seq.* Any provision in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirements shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
13. Definitions.



13.1.1 Claimant: An individual or entity having a direct contract with Contractor or with a Subcontractor of Contractor to furnish labor, materials or equipment for use in the performance of the Contract, as further defined in California Civil Code § 9100. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's Subcontractors, and all other items for which a stop notice might be asserted. The term Claimant shall also include the Employment Development Department as referred to in Civil Code § 9554 (b).

13.1.2 Construction Contract: The agreement between County and Contractor identified on the signature page of this Bond, including all Contract Documents and changes thereto.

13.1.3 County Default: Material failure of County, which has neither been remedied nor waived, to pay Contractor as required by the Construction Contract, provided that failure is the cause of the failure of Contractor to pay the Claimants and is sufficient to justify termination of the Construction Contract.

END OF DOCUMENT

**AFFIDAVIT OF RELEASE OF LIENS FORM**

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS ("Agreement and Release"), made and entered into this \_\_\_\_\_ [date] day of \_\_\_\_\_ [month], \_\_\_\_\_ [year], by and between the County of Sonoma, a Political Subdivision of the State of California ("County"), and \_\_\_\_\_ [name of Contractor] ("Contractor"), whose place of business is at \_\_\_\_\_ [address of Contractor].

RECITALS

- A. County and Contractor entered into Contract Number [ # ] (the "Contract").
- B. The Work under the Contract has been completed.

Now, therefore, it is mutually agreed between County and Contractor as follows:

AGREEMENT

- 1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____

- 2. Subject to the provisions of this Agreement and Release, County will forthwith pay to Contractor the sum of \$ \_\_\_\_\_ Dollars and \_\_\_\_\_ Cents (\$ \_\_\_\_\_) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with County as of the date of such payment.
- 3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against County arising from the Contract, except for the claims described in paragraph 4 of this Document 006400. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against County, and all of its agents, employees, consultants, inspectors, representatives, assignees and transferees, except for the Disputed Claims set forth in paragraph 4 of this Document 006400. Nothing in this Agreement and Release shall limit or modify Contractor's continuing obligations described in paragraph 6 of this Document 006400.
- 4. The following claims submitted under Document 007200 (General Conditions), Article 12, are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

Claim No.	Date Submitted	Description of Claim	Amount of Claim
-----------	----------------	----------------------	-----------------

[Insert information, including attachment if necessary]

5. Consistent with California Public Contract Code Section 7100, Contractor hereby agrees that, in consideration of the payment set forth in paragraph 2 of this Document 006400, Contractor hereby releases and forever discharges County, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract
6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor shall immediately defend, indemnify and hold harmless County, any County's Representatives, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in paragraph 4 of this Document 006400.
8. Contractor hereby waives the provisions of California Civil Code Section 1542, which provide as follows:
- A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM, MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR
9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.
11. All rights of County shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

\*\*\* CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING \*\*\*

COUNTY OF SONOMA,  
A Political Subdivision of the State of California

By: \_\_\_\_\_  
Director of Public Infrastructure

**[CONTRACTOR]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

REVIEWED AS TO FORM:

\_\_\_\_\_  
County Counsel

\_\_\_\_\_, 20\_\_\_\_

END OF DOCUMENT

**WARRANTY FORM**

TO THE County of Sonoma, for construction of

2024 Leachate STORAGE Tank Replacement

at 13950 Pocket Drive, Guerneville, CA 95446 and 4376 Stage Gulch Road, Sonoma, CA 95476 and 7175 Roblar Road, Petaluma, CA 94952.

The undersigned Contractor hereby guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein.

Contractor hereby grants to County for a period of One Year (1) year following the date of Substantial Completion of the Work, or such longer period specified in the Contract Documents ("Guaranty Period"), its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

Neither final payment nor use or occupancy of the Work performed by Contractor shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve Contractor of liability in respect to any express guarantees, warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting there from which shall appear within the Guaranty Period.

If at any time during the Guaranty Period any Work is found to be Defective, Contractor shall promptly (preferably within 48 hours of notification by County, but no later than 5 days following notification by County), without cost to County and in accordance with County's written instructions, correct such Defective Work. Contractor shall remove any Defective Work identified by County and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, County may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, County shall have all rights and remedies granted by law.

Inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be Defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the Guaranty Period.

This Guaranty is in addition to any other warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor's duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Guaranty and any warranty or obligation of Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of Contractor.

All abbreviations and undefined terms used in this Guaranty shall have the meanings set forth in the Contract Documents, including, without limitation, Document 007200 (General Conditions) and Section 014200 (References and Definitions).

\_\_\_\_\_  
[Contractor's name]

By: \_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Please print name here]

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

END OF DOCUMENT

**ESCROW BID DOCUMENTS**

**1.1 REQUIREMENTS FOR ESCROW BID DOCUMENTS.**

- A. Within the time period established in Document 002113 (Instructions to Bidders), Contractor shall submit to County a set of Escrow Bid Documents as defined in paragraph 2 below. Escrow Bid Documents will be used only in the manner and for the purposes described in this Document 006700.
- B. The submission of the Escrow Bid Documents, as with the bonds and insurance documents required under Document 002113 (Instructions to Bidders), is considered an essential part of the Contract award. Should Contractor fail to make the submission within the allowed time specified, Contractor may be deemed to have failed to enter into the Contract, Contractor shall forfeit the amount of its Bid security accompanying Contractor's Bid, and County may award the Contract to the next lowest responsive responsible Bidder.
- C. NO PAYMENTS WILL BE MADE, NOR WILL COUNTY ACCEPT CHANGE ORDER REQUESTS UNTIL THE ABOVE-REQUIRED INFORMATION IS SUBMITTED AND APPROVED. ALTERNATIVELY, COUNTY MAY DECLARE THE BID NON-RESPONSIVE.
- D. Contractor shall submit the Escrow Bid Documents, in person by an authorized representative of Contractor, to:

Olivia Guevara  
County of Sonoma  
2300 County Center Drive, Suite A220  
Santa Rosa, CA 95403

**1.2 SCOPE OF ESCROW BID DOCUMENTS.**

- A. Within the time period specified in Document 002113 (Instructions to Bidders), Contractor shall submit one copy of all documentary information received or generated by Contractor in preparation of Bid prices for the Contract Documents, as specified in paragraphs 5 and 6 of this Document 006700. This material is referred to in this Document 006700 as the "Escrow Bid Documents." Contractor's Escrow Bid Documents will be held in escrow as provided in this Document 006700.
- B. Contractor represents and agrees, as a condition of award of the Contract, that the Escrow Bid Documents constitute all written information used in the preparation of its Bid, and that no other written Bid preparation information shall be considered in resolving disputes or claims or may be considered in legal proceedings. Contractor also agrees that nothing in the Escrow Bid Documents shall change or modify the terms or conditions of the Contract Documents. Contractor is advised that the Escrow Bid Documents will only be used as a guide in the resolution of disputes and claims.

**1.3 OWNERSHIP OF ESCROW BID DOCUMENTS.**

- A. The Escrow Bid Documents are, and shall always remain, the property of Contractor, subject to joint review by County and Contractor, as provided in this Document 006700.
- B. County stipulates and expressly acknowledges that the Escrow Bid Documents constitute trade secrets. This acknowledgement is based on County's express understanding that the information contained in the Escrow Bid Documents is not known outside Contractor's business, is known only to a limited extent and only by a limited number of Contractor's Employees, is safeguarded while in Contractor's possession, is extremely valuable to Contractor and could be extremely valuable to Contractor's competitors by virtue of it reflecting Contractor's contemplated construction techniques. County further acknowledges that the Escrow Bid Documents and the information contained in them are made available to County only because such action is an express pre-requisite to award of the Contract. County agrees to safeguard the Escrow Bid Documents, and all

information contained in them, against disclosure to the fullest extent permitted by law, consistent with paragraph 4 of this Document 006700.

- 1.4 Escrow bid documents may be used in the determination of price adjustments and change orders and in the settlement of disputes and claims. If used in legal proceedings, escrow bid documents shall be subject to an appropriate protective order limiting their disclosure.

**1.5 FORMAT AND CONTENTS OF ESCROW BID DOCUMENTS.**

- A. Contractor may submit Escrow Bid Documents in their usual cost-estimating format; a standard format is not required. Contractor shall prepare and submit the Escrow Bid Documents in English.
- B. County requires Contractor to itemize clearly in the Escrow Bid Documents the estimated costs of performing the Work of each Bid item contained in Contractor's Bid. Contractor shall separate Bid items into sub-items as required to present a detailed cost estimate and allow a detailed cost review. The Escrow Bid Documents shall include all Subcontractor bids or quotes, supplier bids or quotes, quantity take-offs, crews, equipment, calculations of rates of production and progress, copies of quotes from Subcontractors and suppliers, and memoranda, narratives, add/deduct sheets, and all other information used by Contractor to arrive at the prices contained in the Bid. Escrow Bid Documents shall include costs of scheduled maintenance, depreciation, fleet rental expense discounts and incentives, and similar cost adjustments if used by Contractor to calculate its Bid prices. Estimated costs shall be broken down into Contractor's usual estimate categories such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials and subcontract costs as appropriate. Plant and equipment and indirect costs should be detailed in Contractor's usual format. Contractor shall identify its allocation of indirect costs, contingencies, markup and other items to each Bid item.
- C. Contractor shall identify all costs. For Bid items amounting to less than \$10,000, Contractor may estimate costs without a detailed cost estimate, provided that Contractor includes applicable labor, equipment, materials and subcontracts, and allocates applicable indirect costs, contingencies and markup.
- D. Bid documents provided by County should not be included in the Escrow Bid Documents unless needed to comply with these requirements.

**1.6 SUBMITTAL OF ESCROW BID DOCUMENTS.**

- A. Submit Escrow Bid Documents in a container clearly marked on the outside with Contractor's name, date of submittal, Project name and the words "Escrow Bid Documents - Open only in the presence of Authorized Representatives of both County and Contractor." County will review the Escrow Bid Documents for initial compliance. County has three Days after receipt of Bidder's Escrow Bid Documents to demand additional information.
- B. By submitting Escrow Bid Documents, Contractor represents that the material in the Escrow Bid Documents constitutes all the documentary information used in preparation of the Bid and that Contractor has personally examined the contents of the Escrow Bid Documents container and has found that the documents in the container are complete. Contractor agrees that it will not introduce or rely on any other documents to prove how it prepared its Bid.
- C. If Contractor's Bid is based upon subcontracting any part of the Work, each Subcontractor whose total subcontract price exceeds five percent of the total Contract Sum proposed by Contractor, shall provide separate Escrow Documents to be included with those of Contractor. Such documents shall be opened and examined in the same manner and at the same time as the examination described above for Contractor.
- D. If Contractor wishes to subcontract any portion of the Work after award, County retains the right to require Contractor to submit Escrow Documents for the Subcontractor before approval of the subcontract.

**1.7 STORAGE, EXAMINATION, AND FINAL DISPOSITION OF ESCROW BID DOCUMENTS.**

- A. The Escrow Bid Documents will be placed in escrow until Final Completion of Work on the



Project, in a mutually agreeable institution. Contractor shall pay the cost of storage for the Escrow Bid Documents until that time. The storage facilities shall be the appropriate size for all the Escrow Bid Documents and located conveniently to both County's and, to the extent reasonably possible, Contractor's offices, but in no event outside the County of Sonoma.

- B. Both County and Contractor shall examine the Escrow Bid Documents, at any time deemed necessary by either County or Contractor, to assist in the negotiation of price adjustments and Change Orders or the settlement of disputes and claims. Examination of the Escrow Bid Documents is subject to the following conditions:
- 1) As trade secrets, the Escrow Bid Documents are proprietary and confidential under paragraph 3.B. of this Document 006700.
  - 2) County and Contractor (and any Subcontractor, to the extent Escrow Bid Documents are required by a Subcontractor) shall each designate in writing to the other party(s) at least seven Days prior to any examination, representatives who are authorized to examine the Escrow Bid Documents. Except as otherwise provided in a court order, no other persons shall have access to the Escrow Documents.
  - 3) Except as otherwise provided in a court order, access to the documents may take place only in the presence of duly designated representatives of both County and Contractor. If Contractor fails to designate a representative or appear for joint examination on seven Days' notice, then County's Representative may examine the Escrow Bid Documents upon an additional three Days' notice.
  - 4) Following Final Completion of Work on the Project and achievement of final settlement, County shall direct the escrow agent holding the Escrow Bid Documents in writing to return those documents to Contractor.

END OF DOCUMENT

**ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION**  
P.C.C. §22300

THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into this \_\_\_\_\_ [date] day of \_\_\_\_\_ [month], \_\_\_\_\_ [year], by and between the COUNTY OF SONOMA, a Political Subdivision of the State of California (hereinafter called the "County"), whose address is 2300 County Center Drive, Suite A220, Santa Rosa, CA 95403; \_\_\_\_\_ [name of Contractor] ("Contractor"), whose place of business is located at \_\_\_\_\_ [Contractor's Address]; and Owner, as escrow agent ...OR... \_\_\_\_\_ [Name of Bank], a state or federally chartered bank in the State of California, whose place of business is located at \_\_\_\_\_ ("Escrow Agent").

For the consideration hereinafter set forth, County, Contractor and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by County pursuant to Contract Number [ # ] entered into between County and Contractor for [Name of Project], in the amount of \_\_\_\_\_ [Contract Sum] dated \_\_\_\_\_ [Date of Contract] (the "Contract"). Alternatively, on written request of Contractor, County shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify County within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between County and Contractor. Securities shall be held in name of \_\_\_\_\_, and shall designate Contractor as the beneficial owner.
2. County shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in paragraph 1 of this Document 00680.
3. When County makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when County pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of County. Such expenses and payment terms shall be determined by County, Contractor, and Escrow Agent.
5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to County.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from County to Escrow Agent that County consents to withdrawal of amount sought to be withdrawn by Contractor.
7. County shall have the right to draw upon the securities in event of default by Contractor. Upon

seven Days written notice to Escrow Agent from County of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by County.

8. Upon receipt of written notification from County certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
9. Escrow Agent shall rely on written notifications from County and Contractor pursuant to paragraphs 5 through 8, inclusive, of this Document 006800 and County and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
10. Names of persons who are authorized to give written notice or to receive written notice on behalf of County and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of County:

On behalf of Contractor:

\_\_\_\_\_

Title

\_\_\_\_\_

Title

\_\_\_\_\_

Name

\_\_\_\_\_

Name

\_\_\_\_\_

Signature

\_\_\_\_\_

Signature

\_\_\_\_\_

Address

\_\_\_\_\_

Address

\_\_\_\_\_

City/State/Zip

\_\_\_\_\_

City/State/Zip

On behalf of Escrow Agent:

\_\_\_\_\_

Title

\_\_\_\_\_

Name

\_\_\_\_\_

Signature

\_\_\_\_\_

Address

\_\_\_\_\_

City/State/Zip

At the time the Escrow Account is opened, County and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 006800.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

County

Contractor

\_\_\_\_\_

\_\_\_\_\_

Title

Title

\_\_\_\_\_

\_\_\_\_\_

Name

Name

Signature

Signature

\_\_\_\_\_

Escrow Agent

\_\_\_\_\_

Title

\_\_\_\_\_

Name

\_\_\_\_\_

Signature

REVIEWED AS TO FORM:

\_\_\_\_\_

County Counsel

\_\_\_\_\_

Date

END OF DOCUMENT

**GENERAL CONDITIONS**

TABLE OF CONTENTS

1 INTERPRETATION OF CONTRACT ..... 1

    1.1 Defined Terms ..... 1

    1.2 Contract Documents ..... 1

    1.3 Precedence Of Documents ..... 1

2 BID PERIOD INVESTIGATIONS AND SUBCONTRACTING ..... 1

    2.1 Investigation Prior To Bidding ..... 1

    2.2 Supplied Information on Underground Existing Conditions ..... 2

    2.3 Supplied Information on Above-Ground Existing Conditions ..... 3

    2.4 Subcontractors..... 3

3 CONTRACT AWARD AND COMMENCEMENT OF THE WORK..... 3

    3.1 Time Allowances for Performance of Contract Documents ..... 3

    3.2 Commencement Of Work..... 4

4 INSURANCE AND INDEMNIFICATION..... 4

    4.1 Insurance..... 4

    4.2 Indemnification..... 4

5 DRAWINGS AND SPECIFICATIONS..... 5

    5.1 Intent..... 5

    5.2 Drawing Details..... 5

    5.3 Interpretation Of Drawings And Specifications..... 5

    5.4 Checking Of Drawings..... 6

    5.5 Standards To Apply Where Specifications Are Not Furnished..... 6

    5.6 Deviation from Specifications and Drawings..... 6

    5.7 Ownership And Use Of Drawings, Specifications And Contract Documents..... 6

6 CONSTRUCTION BY COUNTY OR BY SEPARATE CONTRACTORS..... 6

    6.1 County's Right To Perform Construction And To Award Separate Contracts ..... 6

    6.2 Mutual Responsibility ..... 6

    6.3 County Authority Over Coordination..... 7

7 PAYMENT BY COUNTY..... 8

    7.1 Receipt And Processing Of Applications For Payment..... 8

8 CONTROL OF THE WORK..... 8

    8.1 Subcontractors..... 8

    8.2 Supervision Of Work By Contractor ..... 8

    8.3 Observation Of Work By County ..... 8

    8.4 Access To Work ..... 9

    8.5 Minimum Work ..... 10

9 WARRANTY, GUARANTY, AND INSPECTION OF WORK..... 10

    9.1 Warranty And Guaranty ..... 10

    9.2 Inspection Of Work ..... 11

    9.3 Correction Of Defective Work..... 12

    9.4 Acceptance And Correction Of Defective Work By County ..... 13

9.5	Rights Upon Inspection Or Correction.....	14
9.6	Samples And Tests Of Materials And Work .....	14
9.7	Proof Of Compliance Of Contract Provisions.....	14
9.8	Acceptance.....	14
10	CONTRACTOR'S ORGANIZATION AND EQUIPMENT.....	14
10.1	Contractor's Legal Address .....	14
10.2	Contractor's Superintendents Or Forepersons.....	15
10.3	Proficiency In English.....	15
10.4	Contractor's And Subcontractors' Employees.....	15
10.5	Contractor To List Trades Working .....	15
10.6	Contractor's Use Of The Site.....	15
11	PROSECUTION AND PROGRESS OF THE WORK.....	15
11.1	Schedules And Examinations Of Contract Documents.....	15
11.2	Commencement of Work Notification.....	16
11.3	Submittals .....	16
11.4	Contractor To Supply Sufficient Workers And Materials .....	16
11.5	Contractor's Project Data.....	17
12	CLAIMS BY CONTRACTOR/NON-JUDICIAL SETTLEMENT PROCEDURE .....	18
12.1	Scope.....	18
12.2	Procedure .....	18
12.3	Administration During/After Claim Submission.....	21
12.4	Subcontractor Claims .....	21
12.5	Waiver.....	21
13	LEGAL AND MISCELLANEOUS .....	22
13.1	Laws And Regulations.....	22
13.2	Permits And Taxes .....	22
13.3	Suspension Of Work .....	22
13.4	Termination Of Contract For Cause.....	23
13.5	Termination Of Contract For Convenience.....	24
13.6	Contingent Assignment Of Subcontracts .....	26
13.7	Remedies and Contract Integration .....	26
13.8	Patents .....	27
13.9	Substitution For Patented And Specified Articles .....	27
13.10	Interest Of Public Officers .....	27
13.11	Limit Of Liability.....	28
13.12	Severability.....	28
14	MODIFICATIONS OF CONTRACT DOCUMENTS.....	28
14.1	Alterations, Modifications And Force Account Work.....	28
14.2	Time Allowances .....	29
14.3	Notice Of Delay.....	29
14.4	Non-Compensable Time Extensions; Adverse Weather Parameters.....	29
14.5	Compensable Time Extensions.....	30
14.6	Liquidated Damages .....	31
14.7	Differing Site Conditions .....	31
14.8	Change Orders Related to Underground Facilities .....	32
15	WORKING CONDITIONS AND PREVAILING WAGES.....	33
15.1	Use Of Site/Sanitary Rules.....	33
15.2	Protection Of Work, Persons, And Property .....	34
15.3	Responsibility For Safety And Health.....	34
15.4	Emergencies.....	34

15.5	Use Of Roadways And Walkways .....	35
15.6	Nondiscrimination.....	35
15.7	Prevailing Wages.....	35
15.8	Environmental Controls .....	36
15.9	Shoring Safety Plan.....	36

## **GENERAL CONDITIONS**

### **1 INTERPRETATION OF CONTRACT**

#### **1.1 Defined Terms**

1.1.A. All abbreviations and definitions of terms used and not otherwise defined in this Document 007200 are set forth in Section 014200 (References). This Document 007200 subdivides at first level into Articles, and then into paragraphs.

#### **1.2 Contract Documents**

1.2.A. Contract Documents are complementary; what is called for by one is as binding as if called for by all. Contract Documents shall not be construed to create a contractual relationship of any kind between (i) Architect, Engineer or any County's Representative and Contractor; (ii) County and/or its representatives and a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (iii) between any persons or entities other than County and Contractor.

#### **1.3 Precedence Of Documents**

1.3.A. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:

1.3.B. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;

1.3.C. Document 005213 (Agreement Form - Stipulated Sum), and terms and conditions referenced therein;

1.3.D. Supplementary Conditions;

1.3.E. General Conditions;

1.3.F. Division 1 Specifications;

1.3.G. Drawings and Division 1 through 49 Specifications;

1.3.H. Written numbers over figures, unless obviously incorrect (i.e. [six] over [6]);

1.3.I. Figured dimensions over scaled dimensions;

1.3.J. Large-scale Drawings over small-scale Drawings.

1.3.K. Any conflict between Drawings and Division 1 through 49 Specifications will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.

1.3.L. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.

### **2 BID PERIOD INVESTIGATIONS AND SUBCONTRACTING**

#### **2.1 Investigation Prior To Bidding**

2.1.A. Prior to bidding, Contractor must investigate fully the Work of the Contract. Contractor examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions, and all other information made available for bidding. Contractor's investigation shall include, but is not limited to, a thorough examination of all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, product specification(s) or reports, available for Bidding purposes, of physical conditions, including Underground Facilities and information identified in Document 003119 (Existing Condition Information) and/or Document 003126 (Existing Hazardous Materials Information) (if used), or which may appear in the Contract Documents, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor shall completely and thoroughly correlate all such information and consider such information fully, prior to and as a condition of submitting its Bid. Contractor shall make inquiry as required in Document 003119 (Existing Condition Information).

2.1.B. Prior to submitting its Bid, Contractor shall take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures,



drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site).

- 2.1.C. Prior to submitting its Bid, Contractor must correlate its experience, knowledge and the results of its required investigation with the terms and conditions of the Contract Documents, and must give County prompt written notice of all conflicts, errors, ambiguities, or discrepancies of any type, that it may discover in or among the Contract Documents, as-built drawings (if any) and/or actual conditions. Contractor shall give this notice during the Bid period and submission of a Bid indicates Contractor's agreement that County responded to the notice through Addenda issued by County which is acceptable to Contractor.
- 2.1.D. Prior to submitting its Bid, Contractor must consider fully the fact that information supplied regarding existing Underground Facilities at or contiguous to the Site is in many cases based on information furnished to County by others (e.g., the builders of such Underground Facilities or others), and that due to their age or their chain of custody since preparation, may not meet current industry standards for accuracy. Contractor must also consider local underground conditions and typical practices for Underground Facilities, either through its own direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.
- 2.1.E. Prior to submitting its Bid, Contractor shall conduct (or request that County have conducted) any such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto or which Contractor deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents.
- 2.1.F. Prior to submitting its Bid, Contractor may rely on County supplied information regarding existing conditions only where such conditions are underground and not subject to reasonable verification. If existing information supplied by County indicates a discrepancy or a substantial risk of inaccuracy or omission, then Contractor must request specific additional information. Contractor shall advise County in writing during the Bid period of any questions, suppositions, inferences or deductions Contractor may have, for County's review and response by Addenda, and may not assert any such matters later that were not brought forth during the Bid period.
- 2.1.G. During performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing this required pre-Bid investigation, and shall not be entitled to change orders (time or compensation) due to information or conditions that Contractor should have known as a part of this pre-Bid investigation.

## **2.2 Supplied Information on Underground Existing Conditions**

- 2.2.A. Regarding Underground Facilities shown in the Contract Documents or supplied through Document 003119 (Existing Condition Information), County has compiled this information in good faith, relying on its records and third party records. Because of the nature and location of County and the Project, the existence of Underground Facilities is deemed inherent in the Work of the Contract, as is the fact that Underground Facilities are not always accurately shown or completely shown on as-built records, both as to their depth and location. In Article 14 of this Document 007200, this Contract establishes a heightened standard for claims involving Underground Facilities.

Contractor shall consider this fact in its bidding and in its planning and execution of the Work involving Underground Facilities.

- 2.2.B. Regarding subsurface conditions other than Underground Facilities, shown on the Contract Documents or supplied in Document 003119 (Existing Conditions Information), Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. County is not responsible for the completeness of any subsurface condition information for bidding or construction, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, County is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

### **2.3 Supplied Information on Above-Ground Existing Conditions**

- 2.3.A. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied through Document 003119 (Existing Condition Information), such information has been compiled in good faith, however, Contractor must independently verify such information. County does not expressly or impliedly warrant or represent that information as to aboveground conditions or as-built conditions indicated in the Contract Documents or Document 003119, is correctly shown or indicated, or otherwise complete for construction purposes.
- 2.3.B. As a condition to bidding, Contractor shall verify by independent investigation all such aboveground and as-built conditions, and bring any discrepancies to County's attention through written question. In submitting its Bid, Contractor shall rely on the results of its own independent investigation and shall not rely on County-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.

### **2.4 Subcontractors**

- 2.4.A. Consistent with Public Contract Code Sections 4101 *et seq.*, Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Bid. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without County's written approval. At County's request, Contractor shall provide County with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.
- 2.4.B. Subcontract agreements shall preserve and protect the rights of County under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward County under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
- 2.4.C. Contractor shall provide for the assignment to County of all rights any Subcontractor may have against any manufacturer, supplier, or distributor for breach of warranties and guarantees relating to the Work performed by the Subcontractor under the Contract Documents.
- 2.4.D. County shall be deemed to be an intended third-party beneficiary of all Subcontracts (of any tier) for the provision of labor, services, supplies or material to the Project, and each such agreement shall so provide.

## **3 CONTRACT AWARD AND COMMENCEMENT OF THE WORK**

### **3.1 Time Allowances for Performance of Contract Documents**

- 3.1.A. County will make the Award of Contract by issuing a Notice of Award. As a condition to County signing Document 005213 (Agreement Form – Stipulated Sum), however, Contractor shall deliver to County the executed agreements, forms, bonds and insurance documents required by Document 002113 (Instructions to Bidders) in the

required quantities and within the required times.

- 3.1.B. The Contract Time will commence to run on the date indicated in the Notice to Proceed (Commencement Date).
- 3.1.C. The total number of Days for completion of the Work under the Contract Documents shall be as provided in Document 005213 (Agreement Form - Stipulated Sum).

### **3.2 Commencement Of Work**

- 3.2.A. Contractor shall commence work on the Site on the Commencement Date found in the Notice to Proceed (Document 005500). Contractor shall not do any Work at the Site prior to that date.

## **4 INSURANCE AND INDEMNIFICATION**

### **4.1 Insurance**

- 4.1.A. See Document 007316 (Insurance Requirements), incorporated herein by this reference.

### **4.2 Indemnification**

- 4.2.A. County and each of its officers, employees, consultants and agents including, but not limited to the Board, Architect, Engineer and each County's Representative, shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.
- 4.2.B. To the furthest extent permitted by law (including without limitation California Civil Code Section 2782), Contractor shall assume defense of, and indemnify and hold harmless, County and each of its officers, employees, consultants and agents, including but not limited to the Board, Architect, Engineer and each County's Representative, from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether it is caused in part by the negligence of County or by any person or entity required to be indemnified hereunder.
- 4.2.C. With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against County and each of its officers, employees, consultants and agents including, but not limited to County, the Board, Architect, Engineer and each County's Representative.
- 4.2.D. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.
- 4.2.E. To the furthest extent permitted by law (including, without limitation, Civil Code Section 2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of Contract, negligence (active or passive), fault or strict liability of the party(ies) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, County may in its discretion back charge Contractor for County's costs and damages resulting therefrom and withhold such sums from progress payments or other Contract moneys which may become due.
- 4.2.F. The indemnities in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to County or other indemnified party to the extent of its active negligence.

- 4.2.G. Contractor's obligations under this paragraph 4.2 shall survive completion of the Work or termination of the Contract Documents for any reason whatsoever.

## **5 DRAWINGS AND SPECIFICATIONS**

### **5.1 Intent**

- 5.1.A. Drawings and Specifications are intended to describe a functionally complete and operable Project (and all parts thereof) to be constructed in accordance with the requirements of Contract Documents. Contractor shall perform any work, provide services and furnish any materials or equipment that may reasonably be inferred from the requirements of Contract Documents or from prevailing custom or trade usage as being required to produce this intended result. Contractor shall interpret words or phrases used to describe Work (including services), materials, or equipment that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.
- 5.1.B. As part of the "Work," Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, Shop Drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.
- 5.1.C. Contractor shall perform reasonably implied parts of Work as "incidental work" although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents including required tasks to be performed under Division 1 of Specifications. Contractor shall perform incidental work without extra cost to County. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price Bid and Contract Sum.

### **5.2 Drawing Details**

- 5.2.A. A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by County. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

### **5.3 Interpretation Of Drawings And Specifications**

- 5.3.A. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to County, in writing, in accordance with Section 012600 (Contract Modification Procedures). County will issue with reasonable promptness written responses, clarifications or interpretations as County may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give County prompt written notice as provided in Section 012600 (Contract Modification Procedures). If

the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with County's response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article 12 of this Document 007200.

#### **5.4 Checking Of Drawings**

5.4.A. Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent information shown in the Contract Documents and all applicable field conditions and measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Contractor shall promptly report to County, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from County before proceeding with any Work affected thereby. Dimensions shown on Drawings shall be followed; Contractor shall not scale Drawings.

#### **5.5 Standards To Apply Where Specifications Are Not Furnished**

5.5.A. The following general specifications shall apply wherever in the Specifications, or in any directions given by County in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do Work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work shall conform to the usual standards or codes, such as those cited in Section 014200 (References), for first-class work of the kind required. Contractor shall specify in writing to County the materials to be used or Work to be performed under this paragraph 5.5 fourteen (14) Days prior to furnishing such materials or performing such Work.

#### **5.6 Deviation from Specifications and Drawings**

5.6.A. Contractor shall perform Work in accordance with Drawings and Specifications. Contractor shall not deviate from Drawings or the dimensions given in the Drawings or the Specifications without County's advance written approval of the proposed deviation.

5.6.B. If County elects to change the Work, all changes in the Contract Documents will be made as set forth in Article 14 of this Document 007200.

#### **5.7 Ownership And Use Of Drawings, Specifications And Contract Documents**

5.7.A. Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of County. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

5.7.B. The County will be issuing the Drawings and Project Manual electronically for the Contractor's use, unless specifically stated otherwise.

### **6 CONSTRUCTION BY COUNTY OR BY SEPARATE CONTRACTORS**

#### **6.1 County's Right To Perform Construction And To Award Separate Contracts**

6.1.A. County may perform, with its own forces, construction or operations related to the Project. County may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility owners perform other work. When separate contracts are awarded for different portions of the Project or other construction or operations on the Site, the term "Contractor" in these Contract Documents shall mean the Contractor herein.

#### **6.2 Mutual Responsibility**

6.2.A. Contractor shall afford all other contractors, utility owners, and County (if County is

- performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' work, and shall cooperate with them to facilitate the progress of the Work.
- 6.2.B. Contractor shall coordinate its Work with the work of other contractors, County, and utility owners. Contractor shall hold coordination meetings with other contractors, County and its representatives, and utility owners as required by Section 013150 (Project Meetings).
  - 6.2.C. Unless otherwise provided in the Contract Documents, Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of other contractors, County or utility owners by cutting, excavating or otherwise altering the work of others and will only cut or alter the work of others with the written consent of County and the others whose work will be affected.
  - 6.2.D. Contractor's duties and responsibilities under paragraph 6.2.A of this Document 007200 are for the benefit of County and also for the benefit of such other contractors and utility owners working at the Site to the extent that there are comparable provisions for the benefit of Contractor in the direct contracts between County and such other contractors and utility owners.
  - 6.2.E. To the extent that any part of Contractor's Work is to interface with work performed or installed by other contractors, County, or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to County in writing any defect in in-place work that will impede or increase the cost of Contractor's interface unless corrected. County will require the entity responsible for the Defective Work to make corrections so as to conform to its contract requirements, or, if the defect is the result of an error or omission in the Contract Documents, issue a Change Order. If Contractor fails to measure, inspect and/or report to County in writing defects that are reasonably discoverable, Contractor shall bear all costs of accomplishing the interface acceptable to County. This provision shall be included in any and all other contracts or subcontracts for Work to be performed where such a conflict could exist.

### **6.3 County Authority Over Coordination**

- 6.3.A. County will have authority over coordination of the activities of multiple contractors in cases where County performs work with its own forces or contracts with others for the performance of other work on the Project, or utilities work on the Site. County may at any time and in its sole discretion, designate a person or entity other than County to have authority over the coordination of the activities among the various contractors. County's authority with respect to coordination of the activities of multiple contractors and utility owners shall not relieve Contractor of its obligation to other contractors and utility owners to coordinate its Work with other contractors and utility owners as specified in paragraph 6.2 of this Document 007200. Contractor shall promptly notify County in writing when another contractor on the Project fails to coordinate its work with the Work of Contract Documents.
- 6.3.B. Contractor shall suspend any part of the Work or carry on the same in such manner as directed by County when such suspension or prosecution is necessary to facilitate the work of other contractors or workers. No damages or claims by Contractor will be allowed if the suspension or Work change is due in whole or in part to Contractor's failure to perform its obligation to coordinate its Work with other contractors, County, and utility owners. Damages or claims will be allowed only to the extent of fault by County if the suspension or Work change is due in whole or in part to another contractor's failure to coordinate its work with Contractor, other contractors, County, and utility owners. County reserves the right to back charge Contractor for any damages or claims incurred by other contractors as a result of Contractor's failure to perform its obligations to coordinate with other contractors, County, and utility owners. County may deposit the funds retained with a Court of competent jurisdiction pursuant to applicable interpleader procedures and Contractor releases County of further liability regarding such funds.

**7 PAYMENT BY COUNTY**

**7.1 Receipt And Processing Of Applications For Payment**

7.1.A. As required by Section 012000 (Price and Payment Procedures), Contractor shall prepare the schedules, submit Applications for Payment and warrant title to all Work covered by each Application for Payment. County will review Contractor's Applications for Payment and make payment thereon, and Contractor shall make payments to Subcontractors, suppliers and others, as required by Section 012000 (Price and Payment Procedures).

**8 CONTROL OF THE WORK**

**8.1 Subcontractors**

8.1.A. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor. The Contractor may not assign any portion, or any rights hereunder, of the Contract Documents without the County's express written consent or, where applicable, compliance with the Subcontractor Listing Law.

**8.2 Supervision Of Work By Contractor**

8.2.A. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.

8.2.B. Contractor shall keep on the Site at all times during Work progress a competent resident Superintendent in conformance with paragraph 10.3.A.

**8.3 Observation Of Work By County**

8.3.A. County Representatives: County's Representative(s) will have limited authority to act on behalf of County as set forth in the Contract Documents. Except as otherwise provided in these Contract Documents or subsequently identified in writing by County, County will issue all communications to Contractor through County's Representative, and Contractor shall issue all communications to County through County's Representative in a written document delivered to County. Should any direct communications between Contractor and County's consultants, architects or engineers not identified in Article 2 of Document 005213 (Agreement Form - Stipulated Sum) occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to County's Representative.

8.3.B. Means and methods of Construction: Subject to those rights specifically reserved in the Contract Documents, County will not supervise, or direct, or have control over, or be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. County will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.

8.3.C. In exercising its responsibilities and authorities under the Contract Documents, County does not assume any duties or responsibilities to any Subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's Subcontractors or suppliers. Except as expressly set forth in the Contract Documents, in exercising their respective responsibilities and authorities under the Contract Documents, neither Architect, Engineer nor any County's Representative assumes any duties or responsibilities to any Subcontractor, sub-Subcontractor or supplier nor assumes any duty of care to Contractor or any Subcontractor, sub-Subcontractor or suppliers.

8.3.D. Work shall be performed under County's general observation and administration. Contractor shall comply with County's directions and instructions in accordance with

the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. County's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.

- 8.3.E. County may engage an independent consultant or architect (collectively for purposes of this paragraph 8.3, "Consultant") to assist in administering the Work. If so engaged, Consultant will advise and consult with County, but will have authority to act on behalf of County only to extent provided in the Contract Documents or as set forth in writing by County. Consultant will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Consultant will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
- 8.3.F. Consultant may review Contractor's Submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.
- 8.3.G. Consultant may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Consultant may recommend to County that it disapprove or reject Work that Consultant believes to be defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. County will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.
- 8.3.H. Consultant may conduct inspections to recommend to County the dates that Contractor has achieved Substantial Completion and when the Final Inspection Report can be issued, and will receive and forward to County for review written warranties and related documents required by Contract Documents.

#### **8.4 Access To Work**

- 8.4.A. During performance of Work, County and its agents, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as County's interests may require. Other contractors, County workers or utility owners performing work for County may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.
- 8.4.B. County may, at any time, and from time to time, during the performance of the Work, enter the Work Site for the for the purpose of installing any necessary work by County labor or other contracts, and for any other purpose in connection with the installation of facilities. In doing so, County shall endeavor not to interfere with Contractor and Contractor shall not interfere with other work being done by or on behalf of County.
- 8.4.C. If, prior to completion and final acceptance of all the Work, County takes possession of any structure or facility (whether completed or otherwise) comprising a portion of the Work with the intent to retain possession thereof (as distinguished from temporary possession contemplating return to Contractor), then, while County is in possession of the same, Contractor shall be relieved of liability for loss or damage to such structure other than that resulting from Contractor's fault or negligence. Such taking of possession by County shall not relieve Contractor from any provisions of the Contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure or facility. See also Section 011000 (Summary).



- 8.4.D. If, following installation of any equipment or facilities furnished by Contractor, defects requiring correction by Contractor are found, County shall have the right to operate such unsatisfactory equipment or facilities and make reasonable use thereof until the equipment or facilities can be shut down for correction of defects without injury to County.

## **8.5 Minimum Work**

- 8.5.A. Contractor must perform, with their own organization, Work amounting to not less than thirty (30) percent of the Total Bid Price. When items of Work in the Engineer's Estimate are preceded by the letters (S) or (S-F), those items are designated as "Specialty Items". These items may be performed by subcontract and the value deducted from the Total Bid Price before calculating the amount of Work required to be self-performed by the Bidder. Where an entire item is subcontracted, the value of the Work subcontracted will be based on the Bid Price for that item. When a portion of a Bid Item is subcontracted, the value of Work subcontracted will be based on the percentage of the Bid Price of the item, calculated by dividing the subcontract bid price by the Bid Item Price. Copies of the relevant subcontractor bid(s) will be required for this purpose.

## **9 WARRANTY, GUARANTY, AND INSPECTION OF WORK**

### **9.1 Warranty And Guaranty**

- 9.1.A. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work and completing Work in accordance with the terms of Contract Documents. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, architecture and/or engineering, materials, construction and workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.
- 9.1.B. Extended Guarantees: Any guaranty exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply County with all warranty and guaranty documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.
- 9.1.C. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this paragraph 9.1.C. are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to County that:
- 9.1.D. To Contractor's knowledge after due inquiry, no lead or Asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or Asbestos-containing materials were discovered, Contractor made immediate written disclosure to County.
- 9.1.E. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
- 9.1.F. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made

- immediate written disclosure to County.
- 9.1.G. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any Work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide County with copies thereof.

## **9.2 Inspection Of Work**

- 9.2.A. All materials, equipment, and workmanship used in Work shall be subject to inspection and testing at all times during construction and/or manufacture in accordance with the terms of Contract Documents. Work and materials, and manufacture and preparation of materials, from beginning of construction until Final Completion and acceptance of Work, shall be subject to inspection and rejection by County, its agents, representatives or independent contractors retained by County to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, County shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.
- 9.2.B. Contractor shall give County timely notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. Contractor shall also coordinate, schedule and give adequate notice to the appropriate inspection personnel of any Work that can only be inspected as it is placed or assembled (for example, concrete or masonry work), to enable the constant presence of such inspection personnel during such Work.
- 9.2.C. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish County with the required certificates of inspection, or approval. County will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Additionally, in the event that a scheduled inspection is canceled in less than 24 hours notice by Contractor and County incurs costs associated with the cancellation, Contractor will reimburse County for the actual costs of the canceled inspections. The amount will be deducted from payment owed Contractor.
- 9.2.D. If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of County, Contractor shall uncover the Work at County's request. Contractor shall bear the expense of uncovering Work and replacing Work.
- 9.2.E. In any case where Contractor covers Work contrary to County's request, Contractor shall uncover Work for County's observation or inspection at County's request. Contractor shall bear the cost of uncovering and re-covering the Work.
- 9.2.F. Whenever required by County, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne

by Contractor. If Work is found to be satisfactory, County, in manner herein prescribed for paying for alterations, Modifications, and extra Work, except as otherwise herein specified, will pay for examination.

- 9.2.G. Inspection of the Work by or on behalf of County, or County's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Contractor shall have an absolute duty, in the absence of a written Change Order signed by County, to perform Work in conformance with the Contract Documents.
- 9.2.H. Any inspection, evaluation, or test performed by or on behalf of County relating to the Work is solely for the benefit of County, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by County, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

### **9.3 Correction Of Defective Work**

- 9.3.A. If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, County may order Contractor to replace any Defective Work, or stop any portion of Work to permit County (at Contractor's expense) to replace such Defective Work. These County rights are entirely discretionary on the part of the County, and shall not give rise to any duty on the part of County to exercise the rights for the benefit of Contractor or any other party.
- 9.3.B. County may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not Defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. When necessary, a deductive Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, County may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from moneys due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with County's calculations, it may make a claim as provided in Article 12 of this Document 007200. County's rights under this paragraph 9.3.B shall be entirely discretionary and, like all other County rights and remedies under the Contract, in addition to any other rights it may have under the Contract Documents or by law.
- 9.3.C. Correction Period:
  - 9.3.C.1. With respect to equipment and machinery supplied by Contractor and incorporated into the Work, if within one year after the date of Substantial Completion of the portion of the Work incorporating the equipment and/or machinery (or, to the extent expressed by Change Order or Certificate of Substantial Completion, one year after County's written acceptance of such equipment), or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents (including extended warranties), any equipment or machinery is found to be Defective, Contractor shall promptly, without cost to County and in accordance with County's written instructions, correct such Defective Work.
  - 9.3.C.2. With respect to structures within the Scope of Work, if within one year after the date of Substantial Completion of the Work, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be defective,

Contractor shall promptly, without cost to County and in accordance with County's written instructions, correct such Defective Work.

- 9.3.D. Contractor shall remove any Defective Work rejected by County and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, County may have the Defective Work corrected or the rejected Work removed and replaced.
- 9.3.E. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, County shall have all rights and remedies granted by law.
- 9.3.F. Additionally, in special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order or Certificate of Substantial Completion.
- 9.3.G. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been corrected, removed, or replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- 9.3.H. If following installation of any Work furnished by Contractor, defects requiring correction by Contractor are found, County shall have the right to operate such Work and make reasonable use thereof until it can be shut down for correction of defects without causing injury to County.

#### **9.4 Acceptance And Correction Of Defective Work By County**

- 9.4.A. County may accept Defective Work. Contractor shall pay all claims, costs, losses and damages (including but not limited to staff and Consultant time) attributable to County's evaluation of and determination to accept such Defective Work. If County accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, County may deduct from moneys due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with County's calculations, Contractor may make a claim as provided in Article 12 of this Document 007200. If County accepts any Defective Work after final payment, Contractor shall pay to County, an appropriate amount as determined by County.
- 9.4.B. County may correct and remedy deficiency if, after five Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work in accordance with paragraph 9.3.B of this Document 007200; or provide a plan for correction of Defective Work acceptable to County; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, County may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which County has paid Contractor but which are stored elsewhere. Contractor shall allow County, its representatives, agents, employees, and other contractors and Architect's consultants access to the Site to enable County to exercise the rights and remedies under this paragraph 9.4.B. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by County in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in

the Contract Sum, County may deduct from moneys due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with County's calculations, Contractor may make a claim as provided in Article 12 of this Document 007200.

**9.5 Rights Upon Inspection Or Correction**

9.5.A. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by County of its rights and remedies under this Article 9. Where County exercises its rights under this Article 9, it retains all other rights it has by law or under the Contract Documents including, but not limited to, the right to terminate for default Contractor's right to proceed with the Work under the Contract Documents and/or make a claim or back charge where a Change Order cannot be agreed upon.

9.5.B. Inspection by County shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments or otherwise shall not operate to waive County's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of the Work paid therefore. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless County agrees otherwise in writing. Contractor shall immediately correct defective Work upon Contractor's knowledge of the defective Work, regardless of County's issuance of a correction notice or otherwise identifying the defective Work.

**9.6 Samples And Tests Of Materials And Work**

9.6.A. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, Samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare Samples or test specimens at its expense and furnish them to County. Contractor shall submit all Samples in ample time to enable County to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work.

**9.7 Proof Of Compliance Of Contract Provisions**

9.7.A. In order that County may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to County properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

**9.8 Acceptance**

9.8.A. Inspection by County or its authorized agents or representatives, any order or certificate for the payment of money, any payment, acceptance of the whole or any part of Work by County, any extension of time, any verbal statements on behalf of County or its authorized agents or representatives shall not operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to County herein or therein or any right to damages provided in the Contract Documents. Any waiver of any breach of the Contract Documents shall not be held to be a waiver of any other subsequent breach.

**10 CONTRACTOR'S ORGANIZATION AND EQUIPMENT**

**10.1 Contractor's Legal Address**

10.1.A. Address and facsimile number given in Contractor's Bid are hereby designated as Contractor's legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to County, which in conspicuous language advises County of a change in legal address or facsimile number, and which County accepts in writing. Delivery of any drawings, notice, letter or other communication to Contractor's legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor's designated facsimile number of any letter, memorandum, or other communication on

standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

**10.2 Contractor's Superintendents Or Forepersons**

10.2.A. Contractor shall at all times while Work is being performed at site, be represented on Site by a competent resident Superintendent authorized and competent to receive and carry out any instructions that County may give, and shall be liable for faithful observance of instructions delivered to Contractor. Said Superintendent shall not be replaced without County's express written consent. The Superintendent shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent shall be as binding as if given to or by Contractor. Communications, instructions, or Drawings given to Contractor's representative shall be deemed to have been given to Contractor.

10.2.B. In the event that the designated Superintendent is unable to be present at the site, Contractor shall designate a substitute Superintendent, subject to County's approval, and shall obtain County's consent as to time and duration of any such substitution.

**10.3 Proficiency In English**

10.3.A. Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

**10.4 Contractor's And Subcontractors' Employees**

10.4.A. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If County notifies Contractor that any of its employees, or any of its Subcontractors' employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses harassing, threatening or abusive language at the site to any person representing County or to any member of the public, or violates sanitary rules, or is otherwise unsatisfactory, and if County requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of County.

**10.5 Contractor To List Trades Working**

10.5.A. Contractor shall list the trades working on the Site and their scheduled activities on a daily basis, and provide a copy of that list to County.

**10.6 Contractor's Use Of The Site**

10.6.A. Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between County and any owner, former owner or tenant of such land, structure or buildings. Contractor may not occupy County-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior approval from County.

**11 PROSECUTION AND PROGRESS OF THE WORK**

**11.1 Schedules And Examinations Of Contract Documents**

11.1.A. Contractor shall submit schedules, reports, and submittals in the appropriate quantity and within the required time, arrange conferences and meetings and proceed with the Work in accordance with Contract Documents, including Sections 013150 (Project Meetings), 013200 (Construction Progress Documentation), and 013300 (Submittal Procedures).

11.1.B. Contractor shall submit to County for review and discussion:

11.1.C. At the Preconstruction Conference described in Section 013150 (Project Meetings), Progress Schedules and Reports as required by Sections 013200 (Construction Progress Documentation) and 013300 (Submittal Procedures). Contractor shall utilize Progress Schedule in planning, scheduling, coordinating, performing and controlling Work (including all activities of Subcontractors, assigned contractors, equipment

vendors and suppliers). Contractor shall update Progress Schedule on a monthly basis to depict accurately the actual progress of Work and for evaluating and preparing Contractor's monthly progress payments. Contractor's failure to submit and maintain an acceptable Progress Schedule may, in County's discretion, and without limiting the materiality of Contractor's other obligations under the Contract Documents, constitute grounds to declare Contractor in material breach of the Contract Documents.

11.1.D. Seven (7) Days after Commencement Date, but no later than the Preconstruction Conference (whichever is earlier), a preliminary Schedule of Values conforming to Section 012000 (Price and Payment Procedures) paragraph 1.6.C. See Section 012000 (Price and Payment Procedures) for further requirements regarding the Schedule of Values.

11.1.E. Unless otherwise provided in the Contract Documents, County will review for acceptability the schedules submitted in accordance with paragraph 11.1.B of this Document 007200. Contractor shall make corrections and adjustments to complete and resubmit the schedules and shall secure County's written acceptance prior to submitting first payment request. Schedules shall be updated and completed as required by Sections 012000 (Price and Payment Procedures), 013200 (Construction Progress Documentation) and 013300 (Submittal Procedures). No progress or mobilization payment shall be due or owing to Contractor until the schedules are submitted to and acceptable to County as meeting the requirements of the Contract Documents, including Sections 012000 (Price and Payment Procedures), 013200 (Construction Progress Documentation) and 013300 (Submittal Procedures). County's acceptance of Contractor's schedules will not create any duty of care or impose on County any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor's full responsibility therefore.

## **11.2 Commencement of Work Notification**

11.2.A. Before commencing any portion of Work, Contractor shall inform County in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to County in a reasonable time in advance of time at which Contractor proposes to begin Work, so that County may complete necessary preliminary work without inconvenience or delay to Contractor.

## **11.3 Submittals**

11.3.A. Contractor shall submit Submittals to County (or Architect if County so designates) for review in strict accordance with Section 013300 (Submittal Procedures). Submission of a Submittal shall constitute Contractor's representation that all requirements of Section 013300 (Submittal Procedures) have been complied with. All Submittals will be identified as County may require and in the number of copies specified in Section 013300 (Submittal Procedures).

11.3.B. Contractor shall not perform Work that requires submission of a Submittal prior to submission and favorable review of the Submittal. Where a Submittal is required by Contract Documents or the final Schedule of Submittals (if required) accepted by County, any related Work performed prior to County's approval of the pertinent Submittal shall be at the sole expense, responsibility, and risk of Contractor.

## **11.4 Contractor To Supply Sufficient Workers And Materials**

11.4.A. Unless otherwise required by County under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

11.4.B. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then County may issue a written notice to Contractor, requiring Contractor to accelerate the Work and/or furnish

additional qualified workers or materials as County may consider necessary, at no cost to County. If Contractor does not comply with the notice within five (5) Days of date of service thereof, County shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as County may elect. County may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate Work elements during the time period that County exercises this right. County will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. County will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of County from claims of others.

- 11.4.C. Exercise by County of the rights conferred upon County in paragraph 11.4.B of this Document 007200, is entirely discretionary on the part of County. County shall have no duty or obligation to exercise the rights referred to in paragraph 11.4.B of this Document 007200 and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of County's right to exercise such rights in other concurrent or future similar circumstances. The rights conferred upon County under paragraph 11.4.B of this Document 007200 are cumulative to County's other rights under any provision of the Contract Documents.
- 11.4.D. The County may, if it deems necessary for reasons other than those described in Paragraph 10.6.B, direct Contractor to accelerate the Work by increasing crew sizes, working overtime (as permitted by law) and/or performing shift work. If directed to perform overtime and/or shift work, Contractor will work said overtime and/or shift work, and the County shall pay Contractor solely for the additional premium wages paid, plus taxes imposed by law on such additional wages. Unless otherwise directed by the County, accelerated work shall be performed utilizing the most cost-effective available method. For example, the County shall not be responsible to pay the premium for overtime work if the same work could have been performed on second shift utilizing a lower premium.

## **11.5 Contractor's Project Data**

- 11.5.A. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Upon County's request, Contractor shall provide County with copies of certified payrolls and related documentation. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Bid estimates or budgets, Contractor shall provide County with a copy of such report upon County's request and whenever it is generated.
- 11.5.B. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide County with copies for each Day Contractor works on the Project, to be delivered to County either the same Day or the following morning before starting Work at the Site. Contractor shall take monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.
- 11.5.C. County shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, County shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid proposal and negotiation documents (subject to



Document 006700 [Escrow Bid Documents] if required by the Contract Documents), cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job Progress Reports, photographs, and as-built drawings maintained by Contractor. County and any other applicable governmental entity shall have the right to inspect all information and documents maintained under this paragraph 11.5 at any time during the Project and for a period of five years following Substantial Completion. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.

11.5.D. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Construction Change Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to County for reference. Upon completion of the Work, Contractor shall deliver to County, the Project Record Documents.

## **12 CLAIMS BY CONTRACTOR/NON-JUDICIAL SETTLEMENT PROCEDURE**

### **12.1 Scope**

12.1.A. The claim notice and documentation procedure described in this Article 12 applies to all claims and disputes arising under the Contract Documents, including without limitation any claim or dispute by any Subcontractor or material supplier, and any claims arising under tort law as well as contract law. All Subcontractor and supplier claims of any type shall be brought only through Contractor as provided in this Article 12. Under no circumstances shall any Subcontractor or supplier make any direct claim against County.

12.1.B. "Claim" means a separate written demand, sent by Contractor by registered mail or certified mail with return receipt requested, seeking, as a matter of right, the payment of money, the adjustment or interpretation of Contract Documents terms, or other relief arising under or relating to Contract Documents. In order to qualify as a "claim," the written demand must state that it is a claim submitted under this Article 12. A voucher, invoice, proposed change, Application for Payment, cost proposal, RFI, change order request, or other routine or authorized form of request for payment is not a claim under the Contract Documents. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a claim under the Contract Documents by submitting a separate notice and claim in compliance with claim submission requirements herein.

12.1.C. The provisions of this Article 12 constitute a non-judicial claim settlement procedure, and also step one of a two step claim presentment procedure by agreement under Section 930.2 of the California Government Code. Specifically, step one is compliance with this claims procedure and filing/administering timely claims in accordance with the Contract Documents. Step two is filing a timely Government Code Section 910 claim in accordance with the California Government Code. Any Government Code Section 910 claims shall be presented in accordance with the Government Code and shall affirmatively indicate Contractor's prior compliance with the claims procedure herein and previous dispositions under this Article.

12.1.D. The provisions of this Article 12 shall survive termination, breach or completion of the Contract Documents. Contractor shall bear all costs incurred in the preparation and submission of a claim.

### **12.2 Procedure**

12.2.A. Disputed Work. Should any clarification, determination, action or inaction by County, Architect/Engineer, or third party, Work, or any other event whatsoever, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents in

any way, or otherwise result in Contractor seeking additional compensation in time or money or damages for any reason (collectively "Disputed Work"), then Contractor shall so notify County. Contractor and County shall make good faith attempts to resolve informally any and all such issues, claims and/or disputes.

12.2.B. Duty to Work During Disputes. Notwithstanding any dispute or Disputed Work, Contractor shall continue to prosecute the Work and the Disputed Work in accordance with the determinations of County. Contractor's sole remedy for Disputed Work is to pursue the remedies in this Article 12 and follow the determinations of County.

12.2.C. Timely Notice of Disputed Work Required. Before commencing any Disputed Work, or within ten (10) Days after Contractor's first knowledge of the Disputed Work, whichever is earlier, Contractor shall file a written notice and preliminary cost proposal for the Disputed Work with County, stating clearly and in detail its objection and reasons for contending the Disputed Work is outside or in breach of the requirements of Contract Documents. The written notice must identify the subcontractors, vendors, and suppliers affected, if any, sufficient for County to visit the site to inspect the work and/or conduct a telephonic interview of the persons involved, and/or to photograph the work in question; and Contractor is encouraged to supply digital photographs by email if possible. The preliminary cost proposal must provide a good faith preliminary estimate of the labor (workers, crews), equipment and/or materials involved, and a corresponding good faith preliminary estimate of cost. If a written notice and preliminary cost proposal for Disputed Work is not issued within this time period, or if Contractor proceeds with the Disputed Work without first having given the notice of the Disputed Work, Contractor shall waive its rights to further claim on the specific issue.

12.2.D. Timely Notice of Potential Claims Required. County will review Contractor's timely notice and preliminary cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Contract Documents, then Contractor shall so notify County, in writing, within ten (10) Days after receiving the decision, by submitting a notice of potential claim, stating that a claim will be issued. (If County should fail to provide a decision on a notice and preliminary cost proposal within thirty (30) days, then Contractor shall submit a notice of potential claim within ten days following the thirtieth (30th) day, i.e., by the 40th day following the notice and preliminary cost proposal.) Contractor shall continue to prosecute the Disputed Work to completion.

12.2.E. Quarterly Claims Required. At the end of each calendar year quarter (March 31, June 30, September 30 and December 31) of each year, for each and every notice of potential claim that Contractor may have submitted in that quarter, Contractor shall submit a claim in the form specified herein. If a notice of potential claim pertains to Disputed Work that is ongoing at the end of the quarter, Contractor shall file a Potential Claim Update, as described herein, in lieu of the claim referenced in such notice of potential claim. Contractor may defer until the next reporting period the filing of a claim for any notices of potential claim timely issued within the last 15 days of the prior quarter.

Contractor may file a single consolidated claim each quarter, or may file separate claims each quarter, as Contractor sees fit, provided Contractor complies with the requirements below. The claim(s) shall include all arguments, justification, cost or estimates, schedule analysis, and detailed documentation supporting Contractor's position (further described below). Claims stating that damages, total damages (direct and indirect), schedule impact and/or any time extension will be determined at a later date shall not comply with this subparagraph and shall result in Contractor waiving its claim(s).

Contractor shall also maintain a continuing "claims log" that shall list all outstanding claims and their value, and provide such log to County quarterly.

12.2.F. Quarterly Updates to Notices of Potential Claims Required. If Disputed Work for which a notice of potential claim has been filed continues beyond the end of the calendar quarter, then Contractor shall, every quarter until the Disputed Work ceases, submit to

County a document titled "Potential Claim Update" that shall update and quantify all elements of the potential claim as completely as possible, including damages (direct and indirect), schedule impact and/or any time extension to date. Contractor's failure to submit a Potential Claim Update, or to quantify damages (direct and indirect), schedule impact and/or any time extension to date, in any quarter shall result in waiver of the claim for such quarter. Potential Claim Updates stating that damages (direct and indirect), schedule impact and/or any time extension to date will be determined at a later date shall not comply with this subparagraph and shall result in Contractor waiving its claim(s) for each quarter in which such Potential Claim Updates were submitted. At the end of the quarter in which the Disputed Work is completed, Contractor shall submit a claim as provided herein.

12.2.G. Claim Negotiations Required. Upon receipt of Contractor's claim including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, County or its designee will review the issue and render a determination within 45 days of submission, or such longer period as may be allowed pursuant to section 9204 of the Public Contract Code. Before rendering a determination, County may in its discretion conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further document, schedules or analysis requested by County to evaluate and decide Contractor's claim. Should County take no action on the claim within 45 days of submission, or such longer period as may be allowed pursuant to section 9204 of the Public Contract Code, it shall be deemed denied. Consistent with Public Contract Code section 9204, if County takes any action on the claim, it will provide Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. County shall tender any payment due to Contractor on any undisputed portion of a claim within 60 days after County issues its written statement.

If Contractor disputes County's written response, or if County fails to respond to a claim tendered pursuant to this Article 12 within the time period prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, County will schedule a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, County will provide Contractor with a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be tendered within 60 days after County issues its written statement. Any disputed portion of the claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with County and Contractor sharing the associated costs equally. County and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to the remaining procedures required by this Article 12.

At the time any disputed claim or portion of a claim is submitted to nonbinding mediation, all other claims and portions of claims that remain in dispute shall also be submitted for the same mediation, provided that each has been discussed at a meet and confer conference and has not already been submitted to mediation.

Contractor and County may mutually agree upon a written waiver of mediation, claims resolution protocols, neutral facilitators or mediators, or other alternative dispute resolution procedures, as appropriate and consistent with the Public Contract Code, including Sections 9204 and 20104 *et seq.*

12.2.H. If a claim submitted in accordance with this Article 12 totals less than \$375,000, then claims resolution shall proceed in a manner consistent with Public Contract Code Sections 9204 and 20104 *et seq.*

### **12.3 Administration During/After Claim Submission**

12.3.A. Owner may render a final determination based on the Claim or may, in its discretion, conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further evidence or analysis requested by Owner prior to rendering a final determination. Should Owner take no action on the Claim within 45 Days of submission, or such longer period as may be allowed pursuant to Section 9204 of the Public Contract Code, it shall be deemed denied. Consistent with Public Contract Code section 9204, if Owner takes any action on the Claim, it will provide Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Owner shall tender any payment due to Contractor on any undisputed portion of a Claim within 60 Days after Owner issues its written statement.

12.3.B. If Contractor disputes Owner's written response, or if Owner fails to respond to a Claim tendered pursuant to this Section 00700 within the time prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, Owner will schedule a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, Owner will provide Contractor with a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be tendered within 60 days after Owner issues its written statement. Any disputed portion of the Claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the Owner and the Contractor sharing the associated costs equally. The Owner and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to the remaining procedures of this Article 12. For each claim, Contractor shall establish a direct causal link between the item of cost/time requested, the notice of potential claim timely issued, and the specific changed Work asserted. Total cost claims shall not be allowed.

12.3.C. Notwithstanding and pending the resolution of any claim or dispute, Contractor shall diligently prosecute the disputed work to final completion in accordance with Owner's determination.

12.3.D. After their submission, claims less than \$375,000 shall also be subject to the Local Agency Disputes Act (Public Contract Code §§ 20104 *et seq.*), which provides further requirements to meet and confer, mediate and arbitrate before proceeding with a Government Code Claim in accordance with the procedures specified in this Article 12.

### **12.4 Subcontractor Claims**

Contractor shall present as its claims all Subcontractor, sub-Subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. County shall not be directly liable to any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project.

### **12.5 Waiver**

12.5.A. If Contractor fails to comply with this Article 12 as to any claim, then Contractor shall waive its rights to such claim.

- 12.5.B. All claim(s), Disputed Work items or issue(s) not raised in a timely notice, timely notice of potential claim or timely claim submitted under this Article 12, may not be asserted in any subsequent Government Code section 910 claim, litigation or legal action.
- 12.5.C. Contractor may request an extension of time to comply with the claims procedure herein, but must do so in advance of time periods expiring and County must give its approval in writing (which approval may be withheld in County discretion.) As to any other feature of the claim procedure herein (and its claims waiver feature), it may not be waived or altered absent a written change order signed by both parties and approved as to form by their legal counsel.
- 12.5.D. County shall not be deemed to waive or alter any provision under this Article 12, if at County's sole discretion, a claim is administered in a manner not in accord with this Article 12.

### **13 LEGAL AND MISCELLANEOUS**

#### **13.1 Laws And Regulations**

- 13.1.A. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall protect and indemnify County and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.
- 13.1.B. Whenever Drawings and Specifications require higher standards than are required by any applicable law, ordinance, regulation or order, Drawings and Specifications shall govern. Whenever Drawings and Specifications require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.
- 13.1.C. Contractor shall comply with applicable portions of Title 8 (Industrial Relations), Title 19 (Public Safety), Title 22 (Social Security, Division of Health) and Title 24 (California Building Standards Code), California Code of Regulations (Uniform Building Code) (most recent edition), Public Contract Code. Whenever Contract Documents require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Contract Documents shall govern. Whenever Contract Documents require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.

#### **13.2 Permits And Taxes**

- 13.2.A. County will pay applicable building permits, school, sanitation and water demand fees, except as otherwise provided in Section 011000 (Summary). Unless otherwise noted in Section 011000 (Summary), Contractor shall procure all permits and licenses applicable to the Work (including environmental matters to the extent applicable); pay all charges and fees, including fees for street opening permits; comply with, implement and acknowledge effectiveness of all permits; initiate and cooperate in securing all required notifications or approvals therefore; and give all notices necessary and incident to due and lawful prosecution of Work. Contractor shall pay all fees related to deferred submittals such as, but not limited to, fire sprinkler system, underground utilities, fuel storage tank and fire alarm system. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where County may have already obtained permits for the Work.

#### **13.3 Suspension Of Work**

- 13.3.A. County may, without cause, order Contractor in writing to suspend, delay or interrupt

Work in whole or in part for such period of time as County may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Section 012600 (Contract Modification Procedures). No adjustment shall be made to extent that:

- 13.3.B. Performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or
- 13.3.C. An equitable adjustment is made or denied under any other provision of Contract Documents; or
- 13.3.D. The suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder. Adjustments made in cost of performance may have a mutually agreed fixed or percentage fee; if the parties cannot agree, Contractor may file a claim under Article 12 of this Document 007200.

#### **13.4 Termination Of Contract For Cause**

- 13.4.A. County may declare Contractor in default of Contract Documents and County may terminate Contractor's right to proceed under the Contract Documents for cause;
- 13.4.B. Should Contractor make an assignment for the benefit of creditors; admit in writing its inability to pay its debts as they become due; file a voluntary petition in bankruptcy; be adjudged as bankrupt or insolvent; be the subject of an involuntary petition in bankruptcy which is not dismissed within 60 Days; file a petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any present or future statute, law, or regulation; file any answer admitting or not contesting the material allegations of a petition filed against Contractor in any such proceeding; or seek, consent to, or acquiesce in, the appointment of any trustee, receiver, custodian or liquidator of Contractor or of all or any substantial part of its properties or if Contractor, its directors or shareholders, take action to dissolve or liquidate Contractor; or
- 13.4.C. Should Contractor commit a material breach of the Contract Documents. If County declares Contractor in default due to material breach, however, County must allow Contractor an opportunity to cure such breach within 10 Days of the date of notice from County to Contractor providing notice of the default; or, if such breach is curable but not curable within such 10-Day period, within such period of time as is reasonably necessary to accomplish such cure; or
- 13.4.D. Should Contractor violate or allow (by a Subcontractor or other person or entity for which Contractor is responsible) a violation of any valid law, statute, regulation, rule, ordinance, permit, license or order of any governmental agency applicable to the Project or Work and does not cure (or cause to be cured) such violation within 10 Days of the date of the notice from County to Contractor demanding such cure; or, if such violation is curable but not curable within such 10-Day period, within such period of time as is reasonably necessary to accomplish such cure.
- 13.4.E. In order for Contractor to avail itself of a time period in excess of 10 Days, pursuant to subsections 13.4.A.2 and 13.4.A.2, Contractor must provide County within the 10-Day period with a written plan acceptable to County to cure said breach or violation which includes, for example, evidence of necessary resources, Subcontractor commitments, schedules and recovery schedules meeting Contract Document requirements and showing a realistic and achievable plan to cure the breach or violation. Contractor must then diligently commence and continue such cure according to the written plan.
- 13.4.F. If County at any time reasonably believes that Contractor is or may be in default under the Contract Documents as provided in paragraph 13.4.A of this Document 007200, County may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Contract Documents and a written plan from Contractor to remedy any default under the terms of Contract Documents which County may advise Contractor of in writing. Contractor shall, within 10 Days of County's request, deliver a written cure plan which meets the requirements of the written plan deliverable under paragraph 13.4.A.2 of this Document 007200. Failure of Contractor to provide such written assurances of performance and the required written

plan, within 10 Days of request, will constitute a material breach of Contract Documents sufficient to justify termination for cause.

- 13.4.G. In event of termination for cause, County will immediately serve written notice thereof upon Surety and Contractor. Surety shall have the rights and obligations set forth in Document 006113.13 (Performance Bond). Subject to the Surety's rights under the Performance Bond (which rights are waived upon a default thereunder), County may take over the Work and prosecute it to completion by contract or by any other methods it may deem advisable.
- 13.4.H. In the event of termination by County as provided in paragraph 13.4.A of this Document 007200 for cause:
- 13.4.I. County will compensate Contractor for the value of the Work delivered to County upon termination as determined in accordance with the Contract Documents, subject to all rights of offset and back charges, and provided that Contractor provides County with updated as-builts and Project Record Documents showing the Work performed up to the date of termination. However, County will not compensate Contractor for its costs in terminating the Work or any cancellation charges owed to third parties.
- 13.4.J. Contractor shall deliver to County possession of the Work in its then condition including, but not limited to, all designs, engineering, Project records, Project Record Documents, cost data of all types, Drawings and Specifications and contracts with vendors and Subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this paragraph 13.4.E shall not be interpreted to diminish any right which County may have to claim and recover damages for any breach of Contract Documents or otherwise, but rather, Contractor shall compensate County for all loss, cost, damage, expense, and/or liability suffered by County as a result of such termination and failure to comply with Contract Documents.
- 13.4.K. County's rights under paragraph 13.4.E.2 shall be specifically enforceable to the greatest extent permitted by law. County shall, to the extent applicable, have all other rights and remedies set forth in any Contract Document.
- 13.4.L. County may terminate portions or parts of the Work for cause, provided these portions or parts (i) have separate geographic areas from parts or portions of the Work not terminated or (ii) are limited to the Work of one or more specific trades or Subcontractors. In such case, Contractor shall cooperate with other contractors as required under Article 6 of this Document 007200.
- 13.4.M. In the event a termination for cause is determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience, and Contractor shall have no greater rights than it would have had following a termination for convenience. Any Contractor claim arising out of a termination for cause shall be made in accordance with Article 12 of this document and calculated in accordance with the provisions of the Contract Documents on Change Orders and claims. No other loss cost, damage, expense or liability may be claimed, requested or recovered by Contractor.

### **13.5 Termination Of Contract For Convenience**

- 13.5.A. County may terminate performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever County shall determine that termination is in County's best interest. Termination shall be effected by County delivering to Contractor notice of termination specifying the extent to which performance of the Work under the Contract Documents is terminated and the effective date of the termination.
- 13.5.B. After receiving a notice of termination under paragraph 13.5.A of this Document 007200, and except as otherwise directed by County, Contractor shall:
- 13.5.C. Stop Work under the Contract Documents on date and to extent specified in notice of

- termination;
- 13.5.D. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete portion of Work under the Contract Documents which is not terminated;
  - 13.5.E. Terminate all orders and subcontracts to extent that they relate to performance of Work terminated by the notice of termination;
  - 13.5.F. Assign to County in manner, at times, and to extent directed by County, all right, title, and interest of Contractor under orders and subcontracts so terminated. County shall have the right, in its sole discretion, to settle or pay any or all claims arising out of termination of orders and subcontracts;
  - 13.5.G. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with approval or ratification of County to extent County may require. County's approval or ratification shall be final for purposes of this paragraph 13.5;
  - 13.5.H. Transfer title to County, and deliver in the manner, at the times, and to the extent, if any, directed by County, all fabricated or unfabricated parts, Work in process, completed Work, supplies, and all other material produced as part of, or acquired in connection with performance of, Work terminated by the notice of termination, and completed or partially completed drawings, drawings, specifications, information, and other property which, if the Project had been completed, would have been required to be furnished to County;
  - 13.5.I. Use its best efforts to sell, in manner, at times, to extent, and at price or prices that County directs or authorizes, any property of types referred to in paragraph 13.5.B.6 of this Document 007200, but Contractor shall not be required to extend credit to any purchaser, and may acquire any such property under conditions prescribed and at price or prices approved by County. Proceeds of transfer or disposition shall be applied to reduce payments to be made by County to Contractor under the Contract Documents or shall otherwise be credited to the price or cost of Work covered by Contract Documents or paid in such other manner as County may direct;
  - 13.5.J. Complete performance of the part of the Work which was not terminated by the notice of termination; and
  - 13.5.K. Take such action as may be necessary, or as County may direct, to protect and preserve all property related to Contract Documents which is in Contractor's possession and in which County has or may acquire interest.
  - 13.5.L. After receipt of a notice of termination under paragraph 13.5.A of this Document 007200, Contractor shall submit to County its termination claim, in form and with all certifications required by Article 12 of this Document 007200. Contractor's termination claim shall be submitted promptly, but in no event later than 6 months from effective date of the termination. Contractor and County may agree upon the whole or part of the amount or amounts to be paid to Contractor because of a total or partial termination of Work under this paragraph 13.5. If Contractor and County fail to agree on the whole amount to be paid to Contractor because of the termination of the Work under this paragraph 13.5, County's total liability to Contractor by reason of the termination shall be the total (without duplication of any items) of:
  - 13.5.M. The reasonable cost to Contractor, without profit, for all Work performed prior to the effective date of the termination, including Work done to secure the Project for termination. Reasonable cost may not exceed the applicable percentage completion values derived from the Progress Schedule and the schedule of values. Deductions shall be made for cost of materials to be retained by Contractor, cost of Work defectively performed, amounts realized by sale of materials, and for other appropriate credits against cost of Work. Reasonable cost will include reasonable allowance for Project overhead and general administrative overhead not to exceed a total of ten percent of direct costs of such Work. When, in County's opinion, the cost of any item of Work is excessively high due to costs incurred to remedy or replace Defective or rejected Work, reasonable cost to be allowed will be the estimated reasonable cost of performing the Work in compliance with requirements of Contract Documents and excessive actual cost shall be disallowed.



- 13.5.N. A reasonable allowance for profit on cost of Work performed as determined under paragraph 13.5.C.1 of this Document 007200, provided that Contractor establishes to County's satisfaction that Contractor would have made a profit had the Project been completed, and provided further that the profit allowed shall not exceed 5 percent of cost.
- 13.5.O. Reasonable costs to Contractor of handling material returned to vendors, delivered to County or otherwise disposed of as directed by County.
- 13.5.P. A reasonable allowance for Contractor's internal administrative costs in preparing termination claim.
- 13.5.Q. Except as provided in this paragraph 13.5.C of this Document 007200, County shall not be liable for costs incurred by Contractor or Subcontractors after receipt of a notice of termination. Such non-recoverable costs include, but are not limited to, anticipated profits on Work not performed as of the date of termination, post-termination employee salaries, post-termination general administrative expenses, post-termination overhead or unabsorbed overhead, costs of preparing and submitting Contractor's Bid, attorney's fees of any type, and all costs relating to prosecution of claim or lawsuit.
- 13.5.R. County shall have no obligation to pay Contractor under this paragraph 13.5 unless and until Contractor provides County with updated and acceptable as-builts and Project Record Documents for Work completed prior to termination.
- 13.5.S. In arriving at the amount due Contractor under this clause, there shall be deducted:
- 13.5.T. All unliquidated advances or other payments on account previously made to Contractor which are applicable to the terminated portion of Contract Documents;
- 13.5.U. Any claim which County may have against Contractor in connection with Contract Documents; and
- 13.5.V. The agreed price for, or proceeds of sale of, any materials, supplies, or other things kept by Contractor or sold under provisions of this paragraph 13.5, and not otherwise recovered by or credited to County.

### **13.6 Contingent Assignment Of Subcontracts**

- 13.6.A. Contractor hereby assigns to County each Subcontract for a portion of the Work, provided that:
- 13.6.B. The assignment is effective only after County's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) pursuant to paragraphs 13.4 or 13.5 of this Document 007200.
- 13.6.C. The assignment is effective only for the Subcontracts which County expressly accepts by notifying the Subcontractor in writing;
- 13.6.D. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 006113.13 (Performance Bond Form) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
- 13.6.E. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense (except as otherwise provided in paragraphs 13.4 or 13.5 of this Document 007200), sign all instruments and take all actions reasonably requested by County to evidence and confirm the effectiveness of the assignment in County; and
- 13.6.F. Nothing in this paragraph 13.6 shall modify or limit any of Contractor's obligations to County arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

### **13.7 Remedies and Contract Integration**

- 13.7.A. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter-claims, disputes and other matters in question between County and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the State of California, County of Sonoma. All County remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein

provided; and in all instances County shall have any and all other equitable and legal rights and remedies which it would have according to law.

- 13.7.B. The Contract Documents, any Contract Modifications, and Change Orders shall represent the entire and integrated agreement between County and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written Modifications. County and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written Modification in sole reliance upon the information set forth or referenced in the Contract Documents or Contract Modifications and the parties are not and will not rely on any other information.
- 13.7.C. In any proceeding to enforce the Contract Documents, Contractor and County agree that the finder of fact shall receive detailed instructions on the meaning and operation of the Contract Documents, including their conditions, limitations of liability and remedies clauses, claims procedures and any other provisions impacting major defenses and theories of liability of the parties. Detailed findings of fact shall be requested, to verify Contract enforcement.
- 13.7.D. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

### **13.8 Patents**

- 13.8.A. Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. Contractor shall defend, indemnify and hold harmless County and each of its officers, employees, consultants and agents, including, but not limited to, the Board and each County's Representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

### **13.9 Substitution For Patented And Specified Articles**

- 13.9.A. Except as noted specifically in Specifications, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or Approved Equal" and Contractor may offer any substitute material or process that Contractor considers "equal" in every respect to that so designated and if material or process offered by Contractor is, in opinion of County, Equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00660 (Substitution Request Form) as provided in Document 002113 (Instructions to Bidders). A substitution will be approved only if it is a true Equal item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

### **13.10 Interest Of Public Officers**

No representative, officer, or employee of County, no member of the governing body of the locality in which the Project is situated, no member of the locality in which County was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

**13.11 Limit Of Liability**

COUNTY, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO, ARCHITECT AND EACH OTHER COUNTY REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

**13.12 Severability**

Any provisions or portions thereof of Contract Documents that are prohibited by, unlawful, or unenforceable under any applicable law of any jurisdiction shall as to such jurisdiction be ineffective without affecting other provisions or portions thereof in the Contract Documents.

**14 MODIFICATIONS OF CONTRACT DOCUMENTS**

**14.1 Alterations, Modifications And Force Account Work**

- 14.1.A. No modification or deviation from the Drawings and Specifications will be permitted except by written Contract Modification.
- 14.1.B. County may, without notice to the sureties, make alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, contract or otherwise change the Contract Time; delete any item or portion of the Work; and/or require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, County reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such County-furnished labor, materials, and equipment.
- 14.1.C. If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the Work, the price fixed in the Contract Documents shall be increased or decreased as set forth in a written Change Order by the amount that Contractor and County may agree upon as a reasonable and proper allowance for the cost increase or decrease. If an agreement cannot be reached, then County will reach a determination, which shall be final, subject to Contractor's rights under Article 12 of this Document 007200. In all cases Contractor shall perform the changed Work as directed by County subject to Contractor's rights under Article 12 of this Document 007200.
- 14.1.D. A Change Order will become effective when signed by County. If County exercises its right to decide disputed issues pertaining to changed Work as set forth in Articles 12 and 14 of this Document 007200, then the resulting Change Order shall be effective when signed by County, notwithstanding that Contractor has not signed it.
- 14.1.E. Changes not affecting the Contract Time or Contract Sum of the Work, in County's discretion, may be set forth in a written RFI-Reply executed by County or Architect's Supplemental Instruction (ASI). Execution of such an RFI-Reply or ASI constitutes Contractor's agreement to make the specified change without change to the Contract Sum or the Contract Time.
- 14.1.F. Changes or deviations from Contract Documents affecting the Contract Time or Contract Sum of the Work shall not be made without the authority of an effective Change Order or Construction Change Directive as provided in Section 012600 (Contract Modification Procedures), except in cases of emergency discussed in Article 15 of this Document 007200.

- 14.1.G. Changes in the Work made pursuant to this Article 14 and extensions of Contract Time necessary by reason thereof shall not in any way release the guarantees and warranties given by Contractor pursuant to provisions of the Contract Documents, nor shall such changes in the Work relieve or release the Sureties of bonds executed pursuant to said provisions. The Sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of time made by reason thereof.
- 14.1.H. Procedures for Modifications of Contract Documents and for calculating the cost of extra Work are given in Section 012600 (Contract Modification Procedures). Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Site or off-Site costs based on formulas, e.g., "Eichlay" or other formula. Rather, Contractor shall prove actual costs resulting from such delays. If Contractor requests compensation for delay to the construction, then Contractor shall prove and document actual costs plus markup per the cost categories and procedures in Section 012600 (Contract Modification Procedures) in order to request, claim or prove compensation for delay.

#### **14.2 Time Allowances**

- 14.2.A. The Contract Time may only be changed by Change Order or by Contract Modification, and all time limits stated in the Contract Documents are of the essence of Contract Documents.
- 14.2.B. The Contract Time will be adjusted in an amount equal to the time lost or added due to:
  - 14.2.C. Changes in the Work ordered by County;
  - 14.2.D. Acts or neglect by County, Architect, any County's Representative, utility owners or other contractors performing other work, provided that Contractor has fully and completely performed its responsibilities under the Contract Documents; or
  - 14.2.E. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise described or referenced in paragraph 14.4 below, earthquakes, civil or labor disturbances, strikes or acts of God, provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents.
- 14.2.F. The Contract Time shall not be extended for any cause identified in paragraph 14.2.B above, however, unless:
  - 14.2.G. Contractor actually has been prevented from completing any part of the Work within the Contract Time due to delay that is beyond Contractor's control and due to reasons for which Contractor is not responsible (delays attributable to and within the control of a Subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor);
  - 14.2.H. A claim for delay is made as provided herein; and
  - 14.2.I. Contractor submits a Time Impact Evaluation as required under Section 013200 (Construction Progress Documentation) that demonstrates actual delay to critical Work activities that actually delay the progress of the Work in the amount of time requested.

#### **14.3 Notice Of Delay**

- 14.3.A. Within seven (7) Days of the beginning of any delay, Contractor shall notify County in writing, by submitting a notice of potential claim, of all anticipated delays resulting from the delay event in question. Any request for extension of time shall be accompanied by Contractor's written statement that the adjustment claimed is the entire adjustment to which the claimant is entitled as a result of the occurrence of said event, and shall include a written schedule document that demonstrates delay to the critical path using a Time Impact Evaluation as specified in Section 013200 (Construction Progress Documentation). County will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this paragraph 14.3.A.

#### **14.4 Non-Compensable Time Extensions; Adverse Weather Parameters**

- 14.4.A. Where Contractor is prevented from completing any part of the Work within the

Contract Time due to delay beyond the reasonable control of Contractor and County, e.g., adverse weather conditions exceeding Contract Documents parameters, earthquakes, Acts of God and epidemics, and acts of other contractors or utilities. In such cases, an extension of Contract Time, in an amount equal to the time lost due to such delay (without compensation), shall be Contractor's sole and exclusive remedy for such delay. The adverse weather contingency for this Contract is provided in Document 007300 (Supplementary Conditions).

- 14.4.B. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the Contract's adverse weather contingency, nor will Contractor be entitled to any extension of Contract Time for any such delays. Contractor shall be entitled to an extension of Contract Time for adverse weather only (i) if the number of workdays of adverse weather, recognize as provided in this paragraph 14.4, exceeds these parameters (ii) Contractor proves that adverse weather actually caused delays to Work that is on the critical path, and (iii) Contractor satisfies the other requirements of this paragraph 14.4.
- 14.4.C. In order to qualify as an adverse weather day with respect to the foregoing parameters, daily rainfall must exceed 0.1 of an inch or more at the National Oceanic & Atmospheric Administration weather station identified in Document 007300 (Supplementary Conditions), and Contractor must give County written notice of its intent to claim an adverse weather day within one Day of the adverse weather day occurring. Contractor shall at all times employ all available mitigation measures to enable Work to continue.
- 14.4.D. Contractor shall include the foregoing rain parameters as in its Progress Schedule as required in Section 013200 (Construction Progress Documentation). As Work on the critical path is affected by rain, Contractor shall notify County and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float.
- 14.4.E. Subject to the other requirements of this paragraph, adverse weather days shall be recognized for the actual number of days Contractor proves it was delayed by adverse weather. For example, and not by way of limitation, if rain exceeding the amount described in paragraph 14.4.C does not in fact delay Contractor's progress on the critical path, then no adverse weather days shall be recognized. Conversely, if Contractor proves that rain exceeding the amount described in paragraph 14.4.C causes delay to Contractor for a period longer than the number of rain days incurred (e.g., if it rains during grading Work), then all such days shall be recognized as adverse weather days.
- 14.4.F. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, lime treatment, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for County to not recognize adverse weather days, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

#### **14.5 Compensable Time Extensions**

- 14.5.A. Contractor may receive a time extension and be compensated for delays caused directly and solely by County. Provided Contractor provides proper notice and documentation under Section 013200, such compensation may include extended field or home office overhead, field supervision, escalation charges, acceleration costs and extended subcontractor costs.
- 14.5.B. Contractor shall not be entitled to any time extension or compensation for any delays caused in whole or in part by Contractor's failure to perform its obligations under the Contract Documents, or during periods of delay concurrently caused by Contractor and either County or others.
- 14.5.C. Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:
- 14.5.D. County's right to sequence the Work in a manner which would avoid disruption to County's contractors and their subcontractors and County's employees, exercised as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by Contract Documents; County's enforcement of any

- government act or regulation; or the provisions of the Contract Documents; and
- 14.5.E. Extensive requests for clarifications to Contract Documents or Contract Modifications thereto, provided such clarifications or Contract Modifications are processed by County or its consultants in a reasonable time commensurate with Contract Documents requirements.

#### **14.6 Liquidated Damages**

- 14.6.A. Time is of the essence. Execution of Contract Documents by Contractor shall constitute acknowledgement by Contractor that Contractor understands, has ascertained and agrees that County will actually sustain damages in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion or extensions of time allowed pursuant to provisions hereof. Contractor and County agree that specified measures of liquidated damages shall be presumed to be the damages actually sustained by County as defined below, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.
- 14.6.B. Liquidated damages shall be considered not as a penalty but as agreed monetary damage sustained by County for increased Project administration expenses, including extra inspection, construction management, architectural and engineering expenses and County staffing costs related to the Project and Contract Documents because Contractor failed to perform and complete Work within time fixed for completion or extensions of time allowed pursuant to provisions hereof. Liquidated damages shall not be deemed to include within their scope additional damages or administrative costs arising from Defective Work, lost revenues, interest expenses, cost of completion of the Work, cost of substitute facilities, claims and fines of regulatory agencies, damages suffered by others or other forms of liability claimed against County as a result of delay (e.g., delay or delay-related claims of other contractors or subcontractors), and defense costs thereof. Contractor shall be fully responsible for the actual amount of any such damages it causes, in addition to the liquidated damages otherwise due County.
- 14.6.C. County may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages. Should Contractor fall behind the approved Progress Schedule, County may deduct liquidated damages based on its estimated period of late completion. County need not wait until Final Completion to withhold liquidated damages from Contractor's progress payments. Should money due or to become due to Contractor be insufficient to cover aggregate liquidated damages due, then Contractor forthwith shall pay the remainder of the assessed liquidated damages to County.

#### **14.7 Differing Site Conditions**

- 14.7.A. If Contractor encounters underground conditions that exceed the scope of the Work, Contractor shall promptly give County written notice of the condition, and shall give such notice before the conditions are disturbed, to include: (i) material that Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law, and is not within the scope of Work ("hazardous waste"); (ii) subsurface or latent physical conditions at the site differing from those indicated by information about the Site made available to Bidders prior to the deadline for submitting Bids, that Contractor did not and could not have known about by performing its required pre-Bid investigations; or (iii) unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for the Contract, that Contractor did not and could not have known about by performing its required pre-Bid investigations.
- 14.7.B. County shall promptly investigate the underground conditions, and if it finds that (i) the conditions do materially so differ in a manner Contractor did not anticipate and could

not have anticipated, or do involve hazardous waste outside the scope of the Work, and (ii) cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, then (iii) County shall initiate a change order under the procedures described in the contract, including but not limited to, issuing either a Request for Proposal or a Construction Change Directive under the procedures described in the Contract Documents, including without limitation Section 012600 (Contract Modification Procedures).

- 14.7.C. If County determines that underground conditions at the Site do not materially so differ in a manner Contractor did not anticipate and could not have anticipated, or do not involve hazardous waste outside the scope of the Work, or do not cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, or for any other reason that that no change in terms of the Contract Documents is justified, County will so notify Contractor in writing, stating reasons.
- 14.7.D. In the event that a dispute arises between County and Contractor whether the conditions do materially so differ, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. Contractor shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes and protests between contracting parties.
- 14.7.E. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials, claimed Latent or materially different Site conditions (whether above or below grade) if:
- 14.7.F. Contractor knew of the existence of such conditions at the time Contractor submitted its Bid; or
- 14.7.G. Contractor should have known of the existence of such conditions at the time Contractor submitted its Bid, or should have learned of such conditions and mitigated their impact, as a result of having complied with the requirements of Contract Documents, including without limitation, the investigation requirements herein at Articles 2 and 10 of Document 007200;
- 14.7.H. The information or conditions claimed by Contractor to be Latent or materially different consist of information, conclusions, opinions or deductions made from underground conditions reports, of the kind that this Document 007200 precludes reliance upon; or
- 14.7.I. Contractor was required to give written notice and failed to do so within the time required.
- 14.7.J. If, because of a differing site condition as defined herein, Contractor does not agree to continue with Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, County may order the disputed portion of Work deleted from the Work, or performed by others, or County may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant. If Contractor does not agree with County's determination of any adjustment in the Contract Sum or Contract Time as a result, Contractor may make a claim as provided in Article 12 of this Document 007200.

#### **14.8 Change Orders Related to Underground Facilities**

- 14.8.A. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by County or in information on file at USA or is not otherwise reasonably known to Contractor by performing its obligations in Articles 2 and 10 of this Document 007200, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency as required by Article 15 of this Document 007200), identify the owner of such Underground Facility and give written notice to that owner and to County. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- 14.8.B. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, for Underground Facilities either not shown or inaccurately shown in the Contract Documents, the information supplied pursuant to Document 003119 (Existing Condition Information) or in information on file at USA, only where the inaccuracy was (i) material and outside of the normal experience on projects of this nature, (ii) was not reasonably inferable from existing information, and (iii) directly results in a material, justifiable and actual increase in the cost of Contractor's work. For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, or if the Underground Facility could be determined or its cost impact mitigated by performing the obligations in Articles 2 and/or 10 of this Document 007200, then an increase in the Contract Price or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated or was shown at a different place or a different elevation in the Contract Documents, in the information supplied to Contractor pursuant to Document 003119 (Existing Conditions Information ), or in information on file at USA.
- 14.8.C. Main Line and Trunk Line Utilities (Government Code Section 4215). Consistent with Government Code Section 4215, as between County and Contractor, County will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or Document 003119 (Existing Condition Information). County will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or Document 003119 (Existing Condition Information) with reasonable accuracy, and equipment on the Project necessarily idled during such work.

## **15 WORKING CONDITIONS AND PREVAILING WAGES**

### **15.1 Use Of Site/Sanitary Rules**

- 15.1.A. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to County's approval.
- 15.1.B. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by County, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to the County or occupant thereof resulting from the performance of Work.
- 15.1.C. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by County at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.
- 15.1.D. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.



## **15.2 Protection Of Work, Persons, And Property**

- 15.2.A. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with Work. Contractor shall comply with all safety requirements specified in any safety program established by County, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all damage to Work, property or structures, and all injuries to persons, arising from the performance of Work of the Contract Documents.
- 15.2.B. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
- 15.2.C. Contractor shall remedy all damage, injury or loss to any property referred to in paragraph 15.2.A of this Document 007200, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. County and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work.
- 15.2.D. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- 15.2.E. County may, at its option, retain such moneys due under the Contract Documents as County deems necessary until any and all suits or claims against Contractor for injury to persons or property shall be settled and County receives satisfactory evidence to that effect.

## **15.3 Responsibility For Safety And Health**

- 15.3.A. Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and County's safety regulations as amended from time to time. Contractor shall comply with all County directions regarding protective clothing and gear.
- 15.3.B. Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify County, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard.
- 15.3.C. Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed, County-designated routes for ingress and egress thereto, and any other County-designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

## **15.4 Emergencies**

- 15.4.A. In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from County, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by County. Contractor shall give County prompt written notice if Contractor

believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If County determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

#### **15.5 Use Of Roadways And Walkways**

15.5.A. Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with County's prior concurrence, Contractor may provide detour, traffic control, or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

#### **15.6 Nondiscrimination**

15.6.A. No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Section 12940 of the Government Code. Every contractor for public works violating the provisions of Section 1735 of the Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the Labor Code.

#### **15.7 Prevailing Wages**

15.7.A. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (i) work of a similar character in the locality in which the Work is performed and (ii) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and County to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site, in addition to all other job site notices prescribed by regulation. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at County's Architecture Division and are deemed included in the Bidding Documents. Upon request, County will make copies available to any interested party. Contractor shall post the applicable prevailing wage rates at the Site.

15.7.B. Contractor shall forfeit, as a penalty to County, Fifty Dollars (\$50.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any Work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this paragraph 15.7.B and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 007200 and the Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by County. The Labor Commissioner pursuant to Labor Code Section 1775 shall determine the final amount of forfeiture.

15.7.C. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per

diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the Labor Code.

- 15.7.D. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation Labor Code 1725.5, 1776 and 1810-1815. Failure to do so shall constitute a default under this Contract.
- 15.7.E. Contractor and its Subcontractors shall be responsible for compliance with Labor Code Section 1776.
- 15.7.F. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, Work classification, straight time and overtime hours worked each Day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code Section 1776.
- 15.7.G. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor as required by Labor Code Section 1776.
- 15.7.H. Contractor shall inform County of the location of records enumerated above, including the street address, city and county, and shall, within five working Days, provide a notice of a change of location and address.
- 15.7.I. Contractor or Subcontractor has 10 Days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that Contractor or Subcontractor fails to comply with the ten-Day period, he or she shall, as a penalty to County on whose behalf the contract is made or awarded, forfeit \$25.00 for each calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this subparagraph due to the failure of a Subcontractor to comply with this subparagraph.
- 15.7.J. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Contractor shall and shall require all subcontractors to furnish the records specified in Labor Code 1776 (e.g. electronic certified payroll records) directly to the Labor Commissioner in a format prescribed by the Labor Commissioner at least monthly.
- 15.7.K. Contractor and all Subcontractors shall be registered and qualified to perform public work pursuant to Labor Code section 1725.5 as a condition to engage in the performance of any Work hereunder. Contractor shall verify that Subcontractors, including any Subcontractors that were not listed in the bid proposal, are registered pursuant to this paragraph 15.7.I.
- 15.7.L. If requested by County, Contractor shall also deliver certified payrolls and any related labor compliance documentation to County within ten Days of County's request.
- 15.7.M. When projects are on behalf of Community Development Commission, Project Manager will verify need of Contractor to deliver certified payrolls to County with each Application for Payment as described in Section 001200 (Price and Payment Procedures)

## **15.8 Environmental Controls**

- 15.8.A. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any Work performed under the Contract Documents including, without limitation, any toxic, water, and soil pollution controls and air pollution controls specified in Government Code Section 11017. Contractor shall be responsible for insuring that Contractor's Employees, Subcontractors, and the public are protected from exposure to airborne hazards or contaminated water, soil, or other toxic materials used during or generated by activities on the Site or associated with the Project.

## **15.9 Shoring Safety Plan**

- 15.9.A. At least five Days in advance of excavating any trench five feet or more in depth,

Contractor shall submit to County a detailed plan showing the shoring, bracing and sloping design and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by Labor Code Section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.

- 15.9.B. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. County's acceptance of any drawings showing the shoring or bracing design or work schedule shall not relieve Contractor of its responsibilities under this subparagraph.
- 15.9.C. Cal/OSHA Permit. Contractor shall comply with Labor Code 6500 and shall obtain, as applicable, a permit as required by Cal/OSHA for each of the following:
- 15.9.D. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
- 15.9.E. Construction or demolition of any building, structure, or scaffolding for falsework more than three stories high, or the equivalent height (36 feet).
- 15.9.F. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).
- 15.9.G. The underground use of diesel engines in mines or tunnels.

END OF DOCUMENT

**DOCUMENT 007300  
SUPPLEMENTARY CONDITIONS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. This document includes requirements that supplement the paragraphs of Document 007200 (General Conditions).

**1.2 SUPPLEMENTS**

**1.3 EXISTING UTILITIES**

- A. Drawings may indicate above-and below-grade structures, drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities, and additional information may be on file at the regional notification center, "Underground Service Alert" ("USA"). Contractor shall locate these known existing installations before proceeding with trenching or other operations that may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum. Additional utilities whose locations are unknown to County are suspected to exist. Contractor shall be alert to their existence; if they are encountered, Contractor shall immediately report to County for disposition of the same. In addition to reporting if any utility is damaged, Contractor shall take appropriate action as provided in this Document 007300. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 007300.
- B. At no additional cost to County, Contractor shall incorporate into the Work main or trunk line utilities identified in the Contract Documents and other utilities or underground structures known or reasonably discernible and that will remain in service, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations. Should County determine that Contractor has not responded in a timely manner or not diligently pursued restoration of service, County may restore service and deduct the costs of such action by County from the amounts due under the Contract.
- C. Consistent with Government Code Section 4215, as between County and Contractor, County will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or Document 003119 (Existing Condition Information). County will compensate Contractor for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or Document 003119 (Existing Condition Information) with reasonable accuracy, and equipment on the Project necessarily idled during such Work.
- D. Prior to performing Work at the Site, Contractor shall lay out the locations of known underground utilities that are to remain in service and other significant known underground installations. At no additional cost to County, prior to commencing other Work in proximity to such known underground utilities or installations that can be readily inferred from adjacent surface improvements, Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, such utilities or installations that are to remain and that are subject to damage. This obligation applies to all utilities (including, but not limited to, those referenced in paragraph 1.3.C of this Document 007300).
- E. Nothing in this Document 007300 shall be deemed to require County to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred by Contractor from the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site. Contractor shall immediately secure all available information and notify County and utility, in writing, of its discovery, while performing Work under the Contract Documents, of any utility facilities not identified in the Drawings and Specifications.

**1.4 UNDERGROUND FACILITIES**

- A. Before commencing Work of digging trenches or excavation, Contractor shall review all information

available regarding subsurface conditions, including but not limited to information supplied in Document 003119 (Existing Condition Information), and subject to the terms and conditions of these documents, Contractor shall also comply with Government Code Sections 4216 to 4216.9, and in particular Section 4216.2 which provides, in part:

- 1) "Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two working days, but no more than 14 calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation."
  - 2) Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching Work, Contractor shall provide County with copies of all USA records secured by Contractor. Contractor shall advise County of any conflict between information provided in Document 003119 (Existing Condition Information), the Drawings and that provided by USA records. Contractor's excavation shall be subject to and comply with the Contract Documents.
  - 3) In addition, County owns certain underground facilities which may not be reflected in USA records or those of other utility companies. Contractor shall notify County's representative prior to commencing any excavation in locations not shown clearly and unambiguously in the Contract Documents and shall allow ample time for County to locate and mark its facilities.
- B. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, Document 003119 (Existing Condition Information) and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordinating the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
- C. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by County or in information on file at USA or is otherwise reasonably available to Contractor, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency as required by Article 15.4.A of Document 007200), identify the Owner of such Underground Facility and give written notice to that Owner and to County. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that is owned and was built by County only where the Underground Facility:
- 1) Was not shown or indicated in the Contract Documents or in the information supplied pursuant to Document 003119 (Existing Condition Information) or in information on file at USA; and
  - 2) Contractor did not know of it; and
  - 3) Contractor could not reasonably have been expected to be aware of it or to have anticipated it from the information available. (For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, then an increase in the Contract Sum or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated in the Contract Documents, in the information supplied to Contractor pursuant to Document 003119 (Existing Condition Information), in information on file at USA, or otherwise reasonably available to Contractor.
- E. Contractor shall bear the risk that Underground Facilities may differ in nature or locations shown in information made available by County pursuant to Document 003119 (Existing Condition Information), in information on file at USA, or otherwise reasonably available to Contractor. Underground Facilities are inherent in construction involving digging of trenches or other excavations and Contractor is to apply

its skill and industry to verify the information available.

## **1.5 WEATHER DELAYS**

- A. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed herein. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds the adverse weather contingency and Contractor proves that adverse weather actually caused delays. Contractor shall give written notice of intent to claim an adverse weather Day within one (1) Day of the adverse weather delay occurring. Rain parameters are listed below. The Adverse Weather Contingency for this contract will be five (5) work days, and Contractor shall include in the project schedule at least five (5) work days for adverse weather. The total number of rain days constitutes the Adverse Weather Contingency to be included in the project schedule as described in Section 013200 (Construction Progress Documentation). The Adverse Weather Contingency is included in the total Contract Time. In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed 0.10 of an inch or more at the Santa Rosa, California station, as measured by the National Oceanic & Atmospheric Administration, and Contractor shall prove that the rain actually caused delay.
- B. Contractor shall include the foregoing rain parameters as a monthly activity in its Progress Schedule. As Work on the critical path is affected by rain, Contractor shall notify County and request that the Days be moved to the affected activities. Any adverse weather Days remaining shall be considered Project Float.
- C. Adverse weather delay for rain shall be recognized for the actual period of time Contractor proves it was delayed by rain exceeding the specified parameters. For example, and not by way of limitation, if rain exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves that rain exceeding the specified parameters causes delay to Contractor for a period longer than the number of rain Days incurred (e.g., if it rains during grading Work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.
- D. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for County to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

## **1.6 PRELIMINARY SCHEDULE OF SUBMITTALS**

- A. Seven (7) Days after Commencement Date, but no later than the Preconstruction Conference (whichever is earlier), a preliminary schedule of Submittals that shall list each required Submittal and the times for submitting, reviewing and processing such Submittal, as required by Section 013300 (Submittal Procedures). If no such schedule is agreed upon, then all Submittals shall be completed and submitted within 21 Days after receipt of Notice of Award from County.

END OF DOCUMENT

## INSURANCE REQUIREMENTS

### 1.1 SUMMARY

A. This document includes requirements that supplement the paragraphs of Document 007200 (General Conditions).

### 2.1 SUPPLEMENTS

A. Supplement to paragraph 4.1.A in Document 007200:

## I. Contractor - Required Insurance

At or before the date specified in Document 002113 (Instructions to Bidders), Contractor shall furnish to County satisfactory proof that Contractor has obtained the following insurance as specified below.

County reserves the right to review any and all of the required insurance policies and/or endorsements, but has no obligation to do so. Failure to demand evidence of full compliance with the insurance requirements set forth in this Contract or failure to identify any insurance deficiency shall not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Contract.

### 1. Workers Compensation Insurance & Employers Liability Insurance

- a. Workers Compensation insurance with statutory limits as required by the Labor Code of the State of California.
- b. Employers Liability with minimum limits of \$1,000,000 per Accident; \$1,000,000 Disease per employee; \$1,000,000 Disease per policy.
- c. The policy shall be endorsed to include a written waiver of the insurer's right to subrogate against County.
- d. Required Evidence of Insurance:
  - i. Subrogation waiver endorsement; and,
  - ii. Certificate of Insurance.

If injury occurs to any employee of Contractor, Subcontractor or sub-subcontractor for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from County under provisions of the Workers Compensation Insurance and Safety Act, as amended, or for which compensation is claimed from County, County may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If County is compelled to pay compensation, County may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse County.

### 2. General Liability Insurance

- a. Commercial General Liability Insurance on a standard occurrence form, no less broad than ISO form CG 00 01.
- b. Minimum Limits: The required limits may be provided by a combination of General Liability Insurance and Commercial Excess or Commercial Umbrella Liability Insurance. If Contractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Contractor.
  - i. Projects under \$1,000,000: \$1,000,000 per Occurrence; \$2,000,000 General Aggregate;



\$2,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.

- ii. ~~Projects from \$1,000,000 - \$4,999,999~~: \$2,000,000 per Occurrence; \$4,000,000 General Aggregate; \$4,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.
  - iii. ~~Projects from \$5,000,000 - \$9,999,999~~: \$5,000,000 per Occurrence; \$5,000,000 General Aggregate; \$5,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.
  - iv. ~~Projects \$10,000,000 and Over~~: Minimum Limits: \$10,000,000 per Occurrence; \$10,000,000 General Aggregate; \$10,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.
- c. Any deductible or self-insured retention shall be shown on the Certificate of Insurance. If the deductible or self-insured retention exceeds \$25,000 it must be approved in advance by County. Contractor is responsible for any deductible or self-insured retention and shall fund it upon County's written request, regardless of whether Contractor has a claim against the insurance or is named as a party in any action involving the County.
  - d. Insurance shall be maintained for the entire period of the Work including any warranty period. Completed operations insurance shall be maintained after the end of the warranty period for the additional periods specified below:
    - i. ~~Projects under \$1,000,000~~: one (1) year after the end of the warranty period.
    - ii. ~~Projects from \$1,000,000 - \$4,999,999~~: two (2) years after the end of the warranty period.
    - iii. ~~Projects from \$5,000,000 - \$9,999,999~~: three (3) years after the end of the warranty period.
    - iv. ~~Projects \$10,000,000 and Over~~: five (5) years after the end of the warranty period.
  - e. The County of Sonoma, its Board of Supervisors, and their employees, representatives, consultants, and agents, shall be endorsed as additional insureds for liability arising out of ongoing and completed operations by or on behalf of the Contractor in the performance of the Contract Documents. Additional insured status shall continue for the periods specified in Section 2.d. above.
  - f. The additional insured endorsement for completed operations shall not be restricted to work performed during the current policy period.
  - g. The County of Sonoma shall be additional insureds for liability arising out of Contractor's ongoing operations (ISO endorsement CG 20 26, Additional Insured – Designated Person or Organization, or equivalent).
  - h. The County of Sonoma shall be additional insureds for liability arising out of Contractor's ongoing operations (ISO endorsement CG 20 26, Additional Insured – Designated Person or Organization, or equivalent).
  - i. BKF Engineers shall be additional insureds for liability arising out of Contractor's ongoing operations (ISO endorsement CG 20 32, Additional Insured – Engineers, Architects or Surveyors Not Engaged by the Named Insured, or equivalent).
  - j. The policy definition of "insured contract" shall include assumptions of liability arising out of both ongoing operations and the products-completed operations hazard (broad form contractual liability coverage including the "f" definition of insured contract in ISO form CG 00 01, or equivalent).
  - k. The insurance provided to the additional insureds shall be primary to, and non-contributory with, any insurance or self-insurance program maintained by them.
  - l. The policy shall not exclude injury or damage caused by, or resulting from, explosion, collapse and/or underground hazards.
  - m. The policy shall not contain a Contractors' Warranty or other similar language which eliminates or restricts insurance because of a subcontractor's failure to carry specific insurance or to supply evidence of such insurance.
  - n. The policy shall be endorsed to include a written waiver of the insurer's right to subrogate against

all persons or entities that are, or are required to be, additional insureds.

- o.** The policy shall cover inter-insured suits between Contractor and the additional insureds and shall include a “separation of insureds” or “severability” clause which treats each insured separately.
- p.** Required Evidence of Insurance:
  - i.** Additional insured endorsements or policy language granting additional insured status;
  - ii.** Endorsement or policy language indicating that insurance is primary and non-contributory; and,
  - iii.** Certificate of Insurance.

### **3. Automobile Liability Insurance**

- a.** Minimum Limits:
  - i.** Projects under \$1,000,000: \$1,000,000 combined single limit per accident.
  - ii.** Projects \$1,000,000 and Over: \$2,000,000 combined single limit per accident.
- b.** The required limits may be provided by a combination of Automobile Liability Insurance and Commercial Excess or Umbrella Liability Insurance.
- c.** Insurance shall cover all owned, hired and non-owned vehicles.
- d.** The County of Sonoma, its Board of Supervisors, and their employees, representatives, consultants, and agents shall qualify as insureds.
- e.** Insurance shall be maintained for the entire term of this Contract, including any warranty period.
- f.** Required Evidence of Insurance:
  - i.** Endorsement or policy language indicating that County, its Board of Supervisors, and their employees, representatives, consultants, and agents, are insureds; and,
  - ii.** Certificate of Insurance.

### **4. Contractors Pollution Liability Insurance**

*(This requirement may be removed for projects that don't have the potential for environmental pollution.)*

- a.** Minimum Limits:
  - i.** Projects under \$5,000,000: \$1,000,000 per pollution Incident; \$1,000,000 Aggregate;
  - ii.** Projects \$5,000,000 and Over: \$2,000,000 per pollution Incident; \$2,000,000 Aggregate;
- b.** The insurance shall provide coverage for:
  - i.** bodily injury, sickness, disease, sustained by any person, including death;
  - ii.** property damage, including physical injury to or destruction of tangible property including the resulting loss of use thereof;
  - iii.** cleanup costs, and the loss of use of tangible property that has not been physically injured or destroyed including diminution of value and natural resources damages;
  - iv.** defense costs, including costs, charges, and expenses incurred in the investigation, adjustment, or defense of claims; and,
  - v.** liability assumed by Contractor under a written contract or agreement.
- c.** Any deductible or self-insured retention shall be shown on the Certificate of Insurance. If the deductible or self-insured retention exceeds \$25,000 it must be approved in advance by County. Contractor is responsible for any deductible or self-insured retention and shall fund it upon County's written request, regardless of whether Contractor has a claim against the insurance or is named as a party in any action involving the County.
- d.** If the insurance is on a Claims-Made basis, the retroactive date shall be no later than the commencement of Work.
- e.** Insurance shall be maintained for the entire period of the Work including any warranty period, plus the additional periods specified below:
  - i.** Projects under \$1,000,000: one (1) year after the end of the warranty period.
  - ii.** Projects from \$1,000,000 - \$4,999,999: two (2) years after the end of the warranty period.

- iii. ~~Projects from \$5,000,000-\$9,999,999~~: three (3) years after the end of the warranty period.
- iv. ~~Projects \$10,000,000 and Over~~: five (5) years after the end of the warranty period.
- f. If the insurance is on a Claims-Made basis, the continuation coverage may be provided by: (a) renewal of the existing policy; (b) an extended reporting period endorsement; or (c) replacement insurance with a retroactive date no later than the commencement of the Work.
- g. The County of Sonoma, its Board of Supervisors, and their employees, representatives, consultants, and agents shall be endorsed as additional insureds for liability arising out of ongoing and completed operations by or on behalf of the Contractor in the performance of the Contract Documents.
- h. The insurance provided to the additional insureds shall apply on a primary and non-contributory basis with respect to any insurance or self-insurance program maintained by them.
- i. The policy shall cover inter-insured suits between the Contractor and the additional insureds and include a "separation of insureds" or "severability" clause which treats each insured separately.
- j. Required Evidence of Insurance:
  - i. Additional insured endorsement or policy language granting additional insured status;
  - ii. Endorsement or policy language indicating that insurance is primary and non-contributory; and,
  - iii. Certificate of Insurance.

## 5. Professional Liability/Errors & Omissions Insurance

*(Required if the Contractor or its employees engage in design or professional activities (architecture, engineering or surveying) which are not subcontracted out).*

- a. Minimum Limit: \$1,000,000 per claim or per occurrence.
- b. Any deductible or self-insured retention shall be shown on the Certificate of Insurance. If the deductible or self-insured retention exceeds \$25,000 it must be approved in advance by County.
- c. If the insurance is on a Claims-Made basis, the retroactive date shall be no later than the commencement of the work.
- d. Insurance applicable to the work performed under the Contract shall be continued for two (2) years after completion of the work. Such continuation insurance may be provided by one of the following: (1) renewal of the existing policy; (2) an extended reporting period endorsement; or (3) replacement insurance with a retroactive date no later than the commencement of the work under this Contract.
- e. Required Evidence of Insurance: Certificate of Insurance.

## 6. Increase of Minimum Limits

Required minimum amounts of insurance may be increased should conditions of Work, in opinion of County, warrant such increase. Contractor shall increase required insurance amounts upon direction by County.

## 7. Standards for Insurance Companies

Insurers, other than the California State Compensation Insurance Fund, shall have an A.M. Best's rating of at least A:VII.

## 8. Documentation

- a. The Certificate of Insurance shall include the following reference: 2024 Leachate Storage Tank Replacement
- b. Contractor agrees to maintain current Evidence of Insurance on file with County for the periods specified above in Sections 1-5. Any requirement to maintain insurance after Final Completion of the Work, including providing Certificates evidencing required Insurance, shall survive the Contract.
- c. Required Evidence of Insurance shall be submitted to Adrian.Diaz@sonoma-county.org.
- d. Required Evidence of Insurance shall be submitted for any renewal or replacement of a policy that already exists, at least ten (10) days before expiration or other termination of the existing policy.

- e. Contractor shall provide immediate written notice if: (1) any of the required insurance policies are terminated; (2) the limits of any of the required policies are reduced; or (3) the deductible or self-insured retention is increased.
- f. Upon written request, certified copies of required insurance policies must be provided within thirty (30) days.

## 9. Material Breach

If Contractor fails to maintain Insurance which is required pursuant to the Contract Documents, it shall be deemed a material breach. County, at its sole option, may terminate the Contract for default and obtain damages from Contractor resulting from said breach. Alternatively, County may purchase the required Insurance, and without further notice to Contractor, County may deduct from sums due to Contractor any premium costs advanced by County for such insurance. These remedies shall be in addition to any other remedies available to County under the Contract Documents or Law.

## II. Subcontractors - Required Insurance

With respect to their portion of the work, subcontractors of all tiers shall maintain the same insurance required to be maintained by contractor with limits as follows:

1. Minimum General Liability Limits for Framing, Mechanical, and Electrical Subcontractors:
  - a. Projects under \$1,000,000: 1,000,000 per Occurrence; \$2,000,000 General Aggregate; \$2,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.
  - b. Projects \$1,000,000 and Over: \$2,000,000 per Occurrence; \$4,000,000 General Aggregate; \$4,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.
2. Minimum General Liability Limits for all Subcontractors other than Framing, Mechanical, and Electrical Subcontractors: \$1,000,000 per Occurrence; \$2,000,000 General Aggregate; \$2,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project.
3. Minimum Automobile Liability Limits: \$1,000,000 combined single limit per accident.
4. Minimum Employers Liability Limits: \$1,000,000 per Accident; \$1,000,000 Disease per employee; \$1,000,000 Disease per policy.
5. Professional Liability/Errors & Omissions Insurance (*Required for any architect, engineer, surveyor or other licensed professional engaged by Contractor to perform portions of the Work*)
  - a. Minimum Limit: \$1,000,000 per claim or per occurrence.
  - b. Any deductible or self-insured retention shall be shown on the Certificate of Insurance. If the deductible or self-insured retention exceeds \$25,000 it must be approved in advance by County.
  - c. If the insurance is on a Claims-Made basis, the retroactive date shall be no later than the commencement of the work.
  - d. Coverage applicable to the work performed under the Contract shall be continued for two (2) years after completion of the work. Such continuation coverage may be provided by one of the following: (1) renewal of the existing policy; (2) an extended reporting period endorsement; or (3) replacement insurance with a retroactive date no later than the commencement of the work under this Contract.
  - e. Required Evidence of Insurance: Certificate of Insurance.

## III. Builders Risk

With respect to Work under this Contract, County shall maintain “All-Risk” Course of Construction insurance as follows:

1. Insured Property shall include: (1) real property in course of construction; (2) building materials and supplies intended to be in or on the completed Work located at the Site, in storage or in transit, and whether or not owned or paid for by County; (3) fixtures and machinery intended to be in or on the completed Work; (4) scaffolding, cribbing, fencing, forms and temporary trailers, while located on the Site, in storage or in transit.
2. The limit of insurance shall be the full contract value.
3. Responsibility for paying deductibles is as follows:

<b><i>Contract Value or Description</i></b>	<b><i>Contractor's Responsibility for Deductible: Earthquake and Flood</i></b>	<b><i>Contractor's Responsibility for Deductible: Other Insured Perils</i></b>	<b><i>County's Responsibility for Deductible</i></b>
Full Contract Value under \$1,000,000	First \$10,000	First \$5,000	Balance of Deductible
Full Contract Value: \$1,000,000 - \$9,999,999	First \$20,000	First \$10,000	Balance of Deductible
Full Contract Value: \$10,000,000 - \$19,999,999	First \$50,000	First \$25,000	Balance of Deductible
Full Contract Value: \$20,000,000 and above	First \$60,000	First \$30,000	Balance of Deductible

4. Contractor and Subcontractors of all tiers shall be additional insureds.
5. **Excluded projects: dams; piers; roads; bridges; wastewater treatment facilities.**
6. **Excluded property: equipment, tools and personal effects belonging to Contractor or Subcontractors of all tiers.**
7. Insured perils: All Risks of Direct Physical Damage or Loss, including flood and, for scheduled locations, earthquake, except as excluded.
8. **Exclusions may include, but are not limited to:**
  - a. **Loss due to wear and tear, moths, vermin, termites, insects, latent defects, gradual deterioration, wet or dry rot, rust, corrosion, erosion or normal settling, shrinkage and/or expansion of buildings or foundations.**
  - b. **The cost of making good, faulty or defective workmanship, material, construction or design. Damage resulting from such faulty or defective workmanship, material, construction or design is not excluded.**
  - c. **Loss resulting from delay in completion of contract or non-compliance with contract conditions.**
  - d. **Loss or damage due to contaminants and/or pollutants. However, fire losses arising directly or indirectly from pollutants or contaminants are covered.**
  - e. **Loss of use or occupancy or consequential loss.**
  - f. **Liquidated damages and/or penalties for delay or detention in connection with guarantees of performance or efficiency.**
  - g. **Loss or damage caused by or resulting from infidelity or dishonesty on the part of any insured or the employees or agents of any insured.**
  - h. **Inventory shortage or unexplained disappearance.**

8. A copy of County's Course of Construction Insurance, including all policy coverages, conditions and exclusions, shall control in the event of any conflict with the language of these Supplementary Conditions. Upon request, County will provide a Certificate of Property Insurance.

END OF DOCUMENT

**STATUTORY REQUIREMENTS - APPRENTICESHIP PROGRAM**

- 1.1 Contractor and subcontractors shall comply with the requirements of California Labor Code Sections 1776, 1777.5, and 1777.6 concerning the employment of apprentices by Contractor or subcontractors. Willful failure to comply may result in penalties, including loss of the right to bid on or receive public works contracts.
  
- 1.2 Section 1777.5, as amended, requires a contractor or subcontractor employing tradespersons in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of a public works project and which administers the apprenticeship program in that trade for a certification of approval. The certificate shall also fix the ratio of apprentices to journeypersons that will be used in performance of the contract. The ratio of work performed by apprentices to journeypersons in such cases shall not be less than one *hour* of apprentices work for every five *hours* of labor performed by journeypersons (the minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeypersons), except:
  - A. When unemployment for the previous three-month period in the area exceeds an average of 15 percent;
  - B. When the number of apprentices in training in the area exceeds a ratio of one to five;
  - C. When a trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis state-wide or locally; or
  - D. Assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyperson.
  
- 1.3 Contractor is required to make contributions to funds established for administration of apprenticeship programs if contractor employs registered apprentices or journeypersons in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.
  
- 1.4 Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of the California Department of Industrial Relations, or from the Division of Apprenticeship Standards and its branch offices.

END OF DOCUMENT

DOCUMENT 009113  
**ADDENDA**

2024 LEACHATE STORAGE TANK REPLACEMENT

(Addenda have been incorporated into the conformed Project Manual.)

END OF DOCUMENT



**DOCUMENT 009114  
ADDENDUM NUMBER 1**

Issued: March 21, 2024

**2024 LEACHATE STORAGE TANK REPLACEMENT**

FROM: County of Sonoma  
2300 County Center Drive, Suite A220  
Santa Rosa, CA 95403

TO: Prospective Bidders

This Addendum forms a part of and modifies the Project Manual dated March 1, 2024. Bidder shall acknowledge receipt of this Addendum in the space provided in Document 004113 (Bid Form).

Addendum Number 1 consists of 8 pages (size 8 ½" x 11") and 0 revised Drawings.

**1.1 GENERAL CHANGES**

- A. Document 004500 Statement of Qualifications for Construction Workers was missing from the original bid package and has been attached to Addendum 1.
- B. The Bid Opening date has been changed from Thursday March 28, 2024 to Thursday April 4, 2024.

**1.2 CHANGES TO PRIOR ADDENDA**

- A. No changes.

**1.3 CHANGES TO INTRODUCTORY INFORMATION AND BIDDING REQUIREMENTS**

- A. Document 001116 (Invitation to Bid)
  - Paragraph 1.2 is Revised as follows:
    - a. County will receive Electronic Bids via the County's Supplier Portal no later than 2:00pm, on Thursday, April 4, 2024.
  - Paragraph 1.15 is Added as follows:
    - a. **MANDATORY PRE-BID CONFERENCE AND SITE VISIT.** County will conduct a Pre-Bid Conference and Site Visit at 9 AM on Tuesday, March 26, and 1 PM on Thursday March 28 at 4376 Stage Gulch Road, Sonoma, CA 95476, and will continue on to 7175 Roblar Road, Petaluma, CA 94952 and 13950 Pocket Drive Guerneville, CA 95446 immediately following. Bidders must attend one Pre-Bid Conference and Site Visit and sign an attendance roster as a condition to bidding. The Pre-Bid Conference and Site Visit will last approximately four (4) hours.
- B. Document 002113 (Instructions to Bidders)
  - Paragraph 1.3, is revised as follows:
    - a. **MANDATORY PRE-BID CONFERENCE AND SITE VISIT.** County will conduct a mandatory Pre-Bid Conference and Site Visit at the time and location identified in paragraph 1.15 of Document 001116 (Invitation to Bid). Bidders must attend Pre-Bid Conference and sign an attendance roster as a condition to bidding. The Pre-Bid Conference and Site Visit will last approximately four (4) hour(s).

The Pre-Bid Conference and Site Visit will not provide an opportunity for Bidders to have questions answered, but will be merely a showing of the site and existing

conditions. County will transmit to all parties recorded as having received Bidding Documents such Addenda as County in its discretion considers necessary in response to written questions. Bidders shall not rely on oral statements. Oral statements will not be binding or legally effective.

County, in its sole discretion, may elect to conduct additional Pre-Bid Conference and Site Visits. Notice of any Site Visits shall be given through addendum to the Bidders.

Bidders can arrange, subject to Project Manager's advance approval of a written workplan, a date and time to investigate conditions or otherwise conduct invasive investigations, explorations, test, or studies, subject to delivering an executed document 002613 (Indemnity and Release Agreement) and providing an insurance certificate as described therein by noon of the day prior to the scheduled site visit.

**1.4 CHANGES TO CONTRACTING REQUIREMENTS**

A. No changes.

**1.5 CHANGES TO CONDITIONS OF THE CONTRACT**

A. No changes.

**1.6 CHANGES TO SPECIFICATIONS**

A. No changes.

**1.7 CHANGES TO DRAWINGS**

A. No changes.

**1.8 QUESTION(S)/ANSWER(S)**

A. County's responses to Bidder questions shall be for the purposes of interpretation and clarification of the Contract Documents only, and shall not be construed as changing, superseding, or contradicting any express term in the Contract Documents. If any Bidder believes that a response to a question warrants a change in any term in the Contract Documents, the Bidder shall so request the change be made in writing addressed to County and received no later than the latest date for submitting Bidder questions. In the absence of a change in any term of the Contract Documents, the express terms of the Contract Documents shall have precedence. Bidder questions are listed below verbatim.

B. Question 1

What is the Engineer's Estimate on this project?

County's response: Sonoma County Public Infrastructure has recently changed our policy and we are no longer providing an Engineer's Estimate before project bid openings.

C. Question 2

May we please schedule a site visit to visit the project site/tank locations next week on Friday, March 15<sup>th</sup>? Please advise if there are plans to hold a scheduled pre-bid job walk, or if we may proceed with visiting the site next Friday?

County's response: See Section 1.3 Changes to Introductory Information and Bidding Requirements in Addendum 1.

D. Question 3

For bonding purposes, is there an engineer's estimate?

County's response: Sonoma County Public Infrastructure has recently changed our policy and we are no longer providing an Engineer's Estimate before project bid openings.

E. Question 4

Will there be a bid walk or is there access to the site?

County's response: See Section 1.3 Changes to Introductory Information and Bidding Requirements in Addendum 1.

F. Question 5

Can you please confirm that the project BID 2024 Leachate Storage Tank Replacement, Project IS SC001-0000001802, is a RE-BID of the 2023 Leachate Storage Tank Replacement that bid on June 23, 2023 last year?

County's response: No, Contract documents and specifications are not the same.

G. Question 6

Required document 004500 Statement of Qualifications for Construction Work is missing from the bid package. Please advise.

County's Response: 004500 Statement of Qualifications for Construction Work is attached to Addendum 1.

H. Question 7

Please confirm if SS drain line from the center of the tank is 8" dia. On sheet C502 Detail 2 indicates a similar detail to tank drain, but the detail is called out as Tank Outlet with a 4" dia pipe. It does not appear that the outlet is connected to the center of the tank, see tank foundation plans Sheets S-101, 102, 103 and there is under keynote 2 is a 4" dia discharge/drain that is not running below ground towards the center of the tank, but these plans do still show an underground 8" dia line that is also shown on tank sections and details sheets S-304, 305, 306. It looks like detail Tank Outlet on Sheet C502 should be eliminated, but please confirm.

County's Response: The Tank Outlet/Drain (common line) is 4" SST line that transitions to HDPE. The Structural Plans S-304-306 incorrectly show the Outlet/Drain as 8".

END OF DOCUMENT

STATEMENT OF QUALIFICATIONS FOR CONSTRUCTION WORK

**1.1 REQUIRED CONTENTS OF SOQ SUBMISSION**

(Provide the requested information in the precise order that it is listed)

- A. Attachment "A" Statement of Qualifications Questionnaire. Fill out the questionnaire completely. If additional pages are required to adequately explain an entry, include them at the end of the attachment.
- B. Litigation History. Description of litigation history for the past ten years, including names of involved parties, nature of dispute, and disposition.
- C. Capability to Provide Required Performance and Payment Bonds. Bidder shall include a letter from a surety duly licensed to do business in the State of California, having a financial rating from A. M. Best Company of A or better, that the surety has agreed to provide Bidder with the required performance and payment bonds in accordance with the requirements set forth in Documents 006113.13 (Performance Bond Form) and 006113.16 (Payment Bond Form). Such performance and payment bonds shall be in the minimum penal sums provided therein. Bidder shall include authorization that gives County the right to verify with the surety that the surety, based upon the Bid prices, will issue the required bonds under the conditions stated.
- D. Financial Capacity. Include audited or reviewed financial statements for the three most recently completed fiscal years for Bidder. Also include audited or reviewed financial statements for the three most recently completed fiscal years for any parent company(ies) of Bidder (if applicable).
- E. Human and Physical Resources. Bidder shall identify, describe, and quantify for itself and separately for its "designated Subcontractor(s)" (as defined in Document 00200 Instructions to Bidders), the following technical resources for the Work:
  - 1) Description and location of manufacturing facilities, naming products and quantifying production capacity and current demand;
  - 2) Description of field organization(s), naming skills and equipment;
  - 3) Description of safety program, quality control procedures, and safety experience; and
  - 4) Evidence of a valid California contractor's license and required licenses of all persons who are Key Personnel of the Bidder or any designated Subcontractor.
- F. Resumes of Proposed Key Personnel. Bidder shall provide a resume for each named Key Personnel of Bidder (only list the personnel that would be assigned to this specific project, including but not limited to the Project Manager, Superintendent, and Scheduler) and Bidder's designated Subcontractor(s), to include the following:
  - 1) Name and proposed assignment of Key Personnel - do not include home addresses or phone numbers;
  - 2) Years of experience;
  - 3) Education - degrees, schools, and years obtained;
  - 4) Professional license or registration(s);
  - 5) Fluency in English (Yes/No);
  - 6) Experience directly related to above proposed assignment;
  - 7) At least two client references, including contact names, addresses, and telephone numbers; and
  - 8) Description of two projects of a similar nature worked on in the past five years.
- G. Description of Project Scheduling Experience and Sample CPM Schedule. Provide a description of Bidder's experience with scheduling construction activities and using

Primavera project planner. Provide resumes (in paragraph "F" above) for proposed personnel or consultants and a description of their experience with scheduling construction activities and Primavera project planner. Submit a draft Initial CPM Schedule meeting the requirements of the Contract Documents for the Initial CPM Schedule (see Section 01320.1.4), which shall be time scaled, have preliminary resource loading, and showing a draft plan for proposed Work to be completed in the first sixty (60) days of the contract. In addition to the above minimum requirements, the draft schedule may include cost loading and a detailed plan for the proposed Work in the first sixty (60) days of the contract.

- H. Management Plan. Bidder shall submit a Management Plan as specified herein. The proposed Management Plan shall be described in sufficient detail to fully understand how Bidder plans to manage and coordinate the Work of manufacture, construction, installation, testing and commissioning, including but not limited to coordination with county, governmental authorities, suppliers, subcontractors, insurers, shippers, inspection agencies, and contractors for related work, all to ensure smooth project operation. The Management Plan shall contain at least the following:
1. Organization Chart: Bidder shall develop and propose an organization chart. The chart shall show the overall organization of member firms and subcontractors, their roles/responsibilities and how the management for each member firm will report within and to its firm's executive management. Bidder must provide a discussion of how each member's project manager will obtain technical and financial support and resources.
  2. Organization Chart shall include the specific people that will be assigned to each position. Provide resumes for all people as part of paragraph "F" above.

## 1.2 GENERAL CONDITIONS

- A. General Conditions for Content. The SOQ shall be clear and concise to enable Staff to make a thorough evaluation and arrive at a sound determination as to whether the SOQ meets County's requirements. To this end, the SOQ should be so specific, detailed, and complete as to demonstrate clearly and fully that the Bidder has a thorough understanding of and has demonstrated knowledge of the requirements to perform the Work.
- B. Explanations to SOQ. Any explanation requested by a Bidder regarding the meaning or interpretation of this Document 004500 must be requested in writing in accordance with Document 002113 (Instructions to Bidders). Oral explanations or instructions will not be binding. Any information provided to any prospective Bidder concerning this Document 004500 will be furnished to all prospective Bidders as an Addendum to the Bidding Documents.

## 1.3 DEFINITIONS

- A. Except as set forth herein, all abbreviations and definitions of terms used in this Document 004500 are as set forth in Document 007200 (General Conditions) or Section 014200 (References).

ATTACHMENT "A" -- STATEMENT OF QUALIFICATION QUESTIONNAIRE FOLLOWS ON FOLLOWING PAGES

ATTACHMENT "A" -- Statement of Qualification Questionnaire

Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Document 002113 (Instructions to Bidders) and this Document 004500. Failure to complete the questionnaire or inclusion of any false statement(s) shall be grounds for immediate disqualification.

**I. CONTACT INFORMATION**

Bidder's Name: \_\_\_\_\_

Bidder's Legal Organization:

Corporation \_\_\_\_\_ Partnership \_\_\_\_\_ Sole Proprietorship \_\_\_\_\_ Joint Venture\* \_\_\_\_\_

Name of President, Managing Partner, or Owner: \_\_\_\_\_

Bidder's Address: \_\_\_\_\_

Bidder's Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Contact's Phone (include extension): \_\_\_\_\_

Contact's E-mail (if different): \_\_\_\_\_

\*If a joint venture, provide all of the requested information for each member of the joint venture.

**II. GENERAL INFORMATION**

Complete Part II before proceeding.

1. Does Bidder possess a valid and current California Contractor's license for the Work proposed? Yes \_\_\_ No \_\_\_
2. Has Bidder's license been revoked at any time in the last five years? Yes \_\_\_ No \_\_\_
3. Has Bidder changed names or license numbers in the past 10 years? If so, state reason for change on an additional page. Yes \_\_\_ No \_\_\_
4. Does Bidder have a minimum of \$2,000,000 general liability insurance coverage? Yes \_\_\_ No \_\_\_
5. Has Bidder been "default terminated" by an owner (other than for convenience), or has a Surety completed a contract for Bidder within the last five years? Yes \_\_\_ No \_\_\_
6. Has Bidder been cited more than twice for failure to pay prevailing wages last five years? Yes \_\_\_ No \_\_\_
7. Has Bidder attached copies of its reviewed or audited financial statements and accompanying notes for the latest three years? Yes \_\_\_ No \_\_\_

Bidder will be immediately disqualified if any answer to questions 1, 4 or 7 is No.  
Bidder will be immediately disqualified if any answer to questions 2, 5 or 6 is Yes.

**PART III. SAFETY**

1. Has Cal/OSHA, Federal OSHA, the EPA or any Air Quality Management District cited Bidder in the past five years? Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, attach description of each citation.

2. How often does Bidder require documented safety meetings be held for:  
Field Supervisor Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_  
Employees Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_  
New Hires Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_  
Subcontractors Weekly \_\_\_\_\_ Bi-weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Less than monthly \_\_\_\_\_

3. How often does Bidder conduct documented safety inspections?  
Quarterly \_\_\_\_\_ Semi-annually \_\_\_\_\_ Annually \_\_\_\_\_ Other \_\_\_\_\_

4. Does Bidder have home office safety representatives who visit/audit the job site?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, how often?  
Quarterly \_\_\_\_\_ Semi-annually \_\_\_\_\_ Annually \_\_\_\_\_ Other \_\_\_\_\_

5. What is Bidder's Intrastate Experience Modification Rate? \_\_\_\_\_.

Bidder will be immediately disqualified if the answer to this question 5 is greater than 1.0.

**PART IV. DISPUTES**

Has Bidder had any claims, litigation, or disputes ending in mediation or arbitration, or termination for cause associated with any project in the past 10 years? If yes, attach description of each such instance including details of total claim amount, settlement amount, and owner's name and phone number.

Yes \_\_\_\_\_ No \_\_\_\_\_

**PART V. BONDING**

Bonding Capacity - Provide documentation from Bidder's surety identifying the following:

- 1. Name of bonding company/surety
- 2. Name of Surety Agent
- 3. Surety Agent address and telephone number
- 4. Is surety a California-admitted surety? Yes \_\_\_\_\_ No \_\_\_\_\_
- 5. Is surety listed in the current edition of the California Department of the Treasury's Listing of approved sureties? Yes \_\_\_\_\_ No \_\_\_\_\_
- 6. List surety's A.M. Best Rating
- 7. Give Bidder's bonding capacity per job and aggregate.
- 8. What percentage rate does Bidder pay for bonds?

**PART VI. FINANCIAL INFORMATION**

1. Has Bidder ever reorganized under the protection of the bankruptcy laws?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please state when \_\_\_\_\_

2. If Bidder has had the general liability carrier identified in Document 004513 (Bidder Registration and Safety Experience Form) for less than 5 years, please provide additional information below for balance of the past 5 years.

- |     |                 |          |           |
|-----|-----------------|----------|-----------|
| (3) | Agency Name: _  |          |           |
| (4) | Contact Name: _ |          |           |
| (5) | Phone Number: _ |          |           |
| (6) | Carrier: _      | Dates: _ | A.M. Best |
|     | Rating: _       |          |           |
| (7) | Carrier: _      | Dates: _ | A.M. Best |
|     | Rating: _       |          |           |
| (8) | Carrier: _      | Dates: _ | A.M. Best |
|     | Rating: _       |          |           |

3. Has Bidder ever had insurance terminated by a carrier? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, explain on separate signed sheet marked with correlating cross-reference to this paragraph of the questionnaire.

**PART VII EXPERIENCE OF BIDDER**

The unique nature of this Project requires prior similar experience of the Bidder and the Key Personnel assigned. Provide the detailed project information requested in the format provided below (attach additional pages if necessary):

**Prime Contractor.**

- 1) List three (3) projects with a construction cost of at least \$5,000,000 each, completed in the past ten years.

List three (3) most recently completed projects. Projects of a similar nature are preferred. Note: if the projects listed above are also the three most recent, do not duplicate the list, just indicate that they are the same.

Project Name: \_  
 Location: \_\_\_\_\_  
 Owner: \_  
 Owner Contact (name and phone number): \_\_\_\_  
 Architect or Engineer: \_  
 Architect or Engineer Contact (name and phone number): \_\_\_\_  
 Project Mgr.: \_  
 Project Superintendent:  
 Project Scheduler: \_\_\_\_  
 Description of Project, Scope of Work Performed: \_\_

Total Construction Cost:  
 Total Change Order Amount: \_\_  
 Original Scheduled Date of Completion: \_\_\_\_\_  
 Time Extensions Granted (number of Days): \_  
 Actual Date of Completion: \_\_\_\_  
 Number of Stop Notices filed by subcontractors or suppliers:

NOTE: All references listed above should have correct and current telephone numbers. Bidder is advised to confirm the listing of a reference before including them.



Bidder hereby declares under penalty of perjury that all the information provided in this questionnaire is true and correct.

SIGNATURE

TITLE

END OF DOCUMENT

**DOCUMENT 009114  
ADDENDUM NUMBER 2**

Issued: March 29, 2024

**2024 LEACHATE STORAGE TANK REPLACEMENT**

FROM: County of Sonoma  
2300 County Center Drive, Suite A220  
Santa Rosa, CA 95403

TO: Prospective Bidders

This Addendum forms a part of and modifies the Project Manual dated March 1, 2024. Bidder shall acknowledge receipt of this Addendum in the space provided in Document 004113 (Bid Form).

Addendum Number 2 consists of 4 pages (size 8 ½" x 11").

**1.1 GENERAL CHANGES**

A. No changes.

**1.2 CHANGES TO PRIOR ADDENDA**

A. Sections 1.7.A and Section 1.8.H in Addendum 1 were contradictory. Section 1.7.A should coincide with Section 1.8.H in Addendum 1 and should have stated the following: Yes, the Structural Plans S-304-306 incorrectly show the Outlet/Drain as 8". Drawings should be revised to show the Tank Outlet/Drain (common line) is 4" SST line that transitions to HDPE.

**1.3 CHANGES TO INTRODUCTORY INFORMATION AND BIDDING REQUIREMENTS**

A. No Changes.

**1.4 CHANGES TO CONTRACTING REQUIREMENTS**

A. No changes.

**1.5 CHANGES TO CONDITIONS OF THE CONTRACT**

A. No changes.

**1.6 CHANGES TO SPECIFICATIONS**

A. No changes.

**1.7 CHANGES TO DRAWINGS**

A. Sections 1.7.A and Section 1.8.H in Addendum 1 were contradictory. Section 1.7.A should coincide with Section 1.8.H in Addendum 1 and should have stated the following: Yes, the Structural Plans S-304-306 incorrectly show the Outlet/Drain as 8". Drawings should be revised to show the Tank Outlet/Drain (common line) is 4" SST line that transitions to HDPE.

**1.8 QUESTION(S)/ANSWER(S)**

A. County's responses to Bidder questions shall be for the purposes of interpretation and clarification of the Contract Documents only, and shall not be construed as changing, superseding, or contradicting any express term in the Contract Documents. If any Bidder believes that a response to a question warrants a change in any term in the Contract Documents, the Bidder shall so request the change be made in writing addressed to County and received no later than the latest date for submitting Bidder questions. In the absence of a change in any term of the Contract Documents, the express terms of the

Contract Documents shall have precedence. Bidder questions are listed below verbatim.

B. Question 1

Please send bid results from subject bid on 06/23/23.

County's response: Bid results from 06/23/23 is attached to Addendum 2.

C. Question 2

Will these tanks require a secondary containment system underneath the bolted steel floor in case of a floor leak?

County's response: See contract documents and bid as designed.

D. Question 3

Do you have the sign up list for the two Pre-Bid walks?

County's response: Yes. Attendee list is attached to Addendum 2.

END OF DOCUMENT

**COUNTY OF SONOMA**  
**TRANSPORTATION AND PUBLIC WORKS DEPARTMENT**

**PROJECT BID RESULTS**

<b>BID DATE:</b>	JUNE 23, 2023 2:00 PM
<b>PROJECT:</b>	LEACHATE TANK REPLACEMENT PROJECT
<b>PROJECT MANAGER:</b>	OLIVIA GUEVARA
<b>ESTIMATE:</b>	\$7,727,000 (BASE BID)

<b>RANK</b>	<b>BIDDER</b>	<b>BID AMOUNT</b>
1	CWS CONSTRUCTION GROUP INC	\$8,074,900.00
2	ANVIL BUILDERS INC	\$9,203,100.00



DOCUMENT 009114

**ADDENDUM SAMPLE**

**ADDENDUM NUMBER 1**

Issued: [Addendum Issue Date], 20

[Name of Project]

FROM: County of Sonoma  
2300 County Center Drive, Suite A220  
Santa Rosa, CA 95403

TO: Prospective Bidders

This Addendum forms a part of and modifies the Project Manual dated [Project Manual Date], 20 .  
[Add option to list date of prior Addenda, if any] Bidder shall acknowledge receipt of this Addendum in the space provided in Document 004113 (Bid Form).

Double-underline designates text to be inserted; ~~strike through~~ designates text to be deleted.

Addendum Number 1 consists of 2 pages (size 8 ½" x 11") and [# Drawings] revised Drawings.

**1.1 GENERAL CHANGES**

- A. No changes.
- B.

**1.2 CHANGES TO PRIOR ADDENDA**

- A. No changes.
- B.

**1.3 CHANGES TO INTRODUCTORY INFORMATION AND BIDDING REQUIREMENTS**

- A. No changes.
- B. Document [004113 (Bid Form)]
  - 1) Paragraph \_\_\_\_\_, [add or change or delete] Bid Item       .
  - a.
  - 2) Bidder shall use the revised Document [004113 (Bid Form)] attached, marked "[REVISED \_\_/\_\_/\_\_]" in its Bid.

**1.4 CHANGES TO CONTRACTING REQUIREMENTS**

- A. No changes.
- B. Document [005213 (Agreement-Stipulated Sum)]
  - 1) [New] Bid Item [\_\_\_\_\_] will be added to [or changed in] or [deleted from] the final Contract Documents.

**1.5 CHANGES TO CONDITIONS OF THE CONTRACT**

- A. No changes.
- B. Document [\_\_\_\_\_] (Title of Document)
  - 1) Insert the following after Paragraph [\_\_\_\_\_]:
  - 2) Delete Paragraph [\_\_\_\_\_], in its entirety.
  - 3) Modify Paragraph [\_\_\_\_\_], as follows: [Copy a paragraph from the specs and use strikeouts and double underlines (or boxes)]

**1.6 CHANGES TO SPECIFICATIONS**

- A. No changes.

- B. Section [\_\_\_\_] (Title of Section)
  - 1) Insert the following after Paragraph [\_\_\_\_]:
  - 2) Delete Paragraph [\_\_\_\_], in its entirety.
  - 3) Modify Paragraph [\_\_\_\_], as follows: [Copy a paragraph from the specs and use strikeouts and double underlines (or boxes)]

**1.7 CHANGES TO DRAWINGS**

- A. No changes.

**1.8 QUESTION(S)/ANSWER(S)**

- A. No questions received as of issue date. County's responses to Bidder questions shall be for the purposes of interpretation and clarification of the Contract Documents only, and shall not be construed as changing, superseding, or contradicting any express term in the Contract Documents. If any Bidder believes that a response to a question warrants a change in any term in the Contract Documents, the Bidder shall so request the change be made in writing addressed to County and received no later than the latest date for submitting Bidder questions. In the absence of a change in any term of the Contract Documents, the express terms of the Contract Documents shall have precedence. Bidder questions are listed below verbatim.
- B. [Bidder's Name]
  - 1) [List question verbatim]
  - 2) County's response: samples: "This is in the Contract Documents" "Bid it as you see it" "The Agency finds this question ambiguous and cannot answer it"]
- C. [Bidder's Name]
  - 1) [List question verbatim]
  - 2) County's response: \_\_\_\_\_
- D. [Bidder's Name]
  - 1) [List question verbatim]
  - 2) County's response: \_\_\_\_\_
- E. [Bidder's Name]
  - 1) [List question verbatim]
  - 2) County's response: \_\_\_\_\_

END OF DOCUMENT

## **SECTION 011000 SUMMARY**

### **PART 1 GENERAL**

#### **1.1 SUMMARY**

Section includes:

- 1) Summary of Work and Work Restrictions including:
  - a. Work Covered By Contract Documents
  - b. Unit Prices-Not Used
  - c. Work Under Other Contracts
  - d. Work Sequence
  - e. Hours Of Work And Notification Of Adjacent Residents
  - f. Partial Occupancy/Utilization Requirements

#### **1.2 WORK COVERED BY CONTRACT DOCUMENTS**

Work comprises construction of County's, 13950 Pocket Drive, Guerneville, CA 95446 and 4376 Stage Gulch Road, Sonoma, CA 95476 and 7175 Roblar Road, Petaluma, CA 94952, including without limitation the installation of six (6) landfill leachate storage tanks at three (3) separate landfill sites in the County of Sonoma. The project involves the replacement of existing steel landfill leachate tanks with two (2) 200,000 gallon stainless steel leachate tanks at each of the three (3) County landfill sites: Guerneville, Roblar, and Sonoma. Work generally includes mobilization, clearing and grubbing, installation of erosion control measures, site grading, excavation and fill, trenching, backfill, and compaction, sequencing existing tank relocation, demolition/removal of existing utilities, installation of six (6) 200,000 gallon stainless steel tanks and appurtenances, installation of 4" leachate piping and associated appurtenances, flow meter and vault, electrical improvements, instrumentation and controls, surface & restoration, demobilization and all other work described in the plans and specifications in accordance with the Contract Documents. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work.

#### **1.4 WORK UNDER OTHER CONTRACTS**

Contractor shall coordinate with County and any County forces, or other contractors and forces, as required by Document 007200 (General Conditions), paragraph 6.

- B. County will contract with other contractors or forces for other work including but not limited to the following:
- 1) None

#### **1.5 WORK SEQUENCE**

Construct Work in stages and at times to accommodate County operation requirements during the construction period; coordinate construction schedule and operations with County.

The Contractor shall phase construction activities to allow for continuous, uninterrupted pumping, storage and hauling of leachate. At least one (1) storage tank shall remain in service at all times.

At least two weeks prior to the start of construction, Contractor shall contact Underground Service Alert (USA) for utility mark outs and pothole all existing utilities that are in the vicinity of the work. Contractor shall survey the horizontal and vertical location to determine the position and elevation of each utility exposed by Contractor's potholing. Contractor shall provide a copy of the survey with locations and elevations to the Engineer one week prior to the start of construction. Notify the Engineer if any differences are noted and if there are any conflicts anticipated.

#### **1.6 HOURS OF WORK AND NOTIFICATION OF ADJACENT RESIDENTS**

Prior to starting construction, Sonoma County Public Infrastructure will notify adjacent residents of the proposed construction schedule.



Outdoor construction activity, except for emergency situations, will be confined to the hours 7:00 a.m. through 7:00 p.m. on Monday through Friday and, with at least forty-eight (48) hours prior notification to and approval from County's Project Manager, between 9:00 a.m. and 7:00 p.m. on Saturdays to minimize nuisances to local residents. Outdoor construction will not be allowed on Sundays or holidays.

#### **1.7 PARTIAL OCCUPANCY/UTILIZATION REQUIREMENTS**

Contractor shall allow County to take possession of and use any completed or partially completed portion of the Work during the progress of the Work as soon as is possible without interference to the Work.

Possession, use of Work, and placement and installation of equipment by County shall not in any way evidence the completion of the Work or any part of it.

Contractor shall not be held responsible for damage to the occupied part of the Work resulting from County occupancy.

Make available, in areas occupied, on a 24-hour per day and 7-day per week basis if required, any utility services, heating, and cooling in condition to be put in operation at the time of occupancy.

- 1) Responsibility for operation and maintenance of said equipment shall remain with Contractor.
- 2) Make, and County shall certify, an itemized list of each piece of equipment so operated with the date operation commences.
- 3) Itemized list noted above shall be basis for commencement of warranty period for equipment.

4) County shall pay for utility cost arising out of occupancy by County during construction. Use and occupancy by County prior to acceptance of Work does not relieve Contractor of its responsibility to maintain insurance and bonds required under the Contract until entire Work is completed and accepted by County.

Prior to date of Final Acceptance of the Work by County, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to Defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Document 007200 (General Conditions).

Use by County of Work or part thereof as contemplated by this Section 011000 shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by County of any of the conditions thereof.

#### **PART 2 PRODUCTS – NOT USED**

#### **PART 3 EXECUTION – NOT USED**

END OF SECTION

**SECTION 012000  
PAYMENT PROCEDURES**

**PART 1 GENERAL**

**1.1 SUMMARY**

A. Section includes:

- 1) Description of requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

**1.2 REFERENCES**

- A. California Public Contract Code
- B. Code of Civil Procedures
- C. Government Code

**1.3 SCOPE OF WORK**

A. Work under Contract Documents, or under any Bid item, allowance, or Alternate, shall include all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of Work, whether or not expressly specified or indicated.

**1.4 SCOPE OF PAYMENT**

A. Contract Sum, as adjusted by Contract Modification, shall be deemed to be full compensation and shall include all costs necessary to complete required Work, including Contractor overhead and profit, all costs (if any) for loss or damage arising from nature of Work or prosecution of the Work, and from action of elements. Unless Contract Documents expressly provide otherwise, the Contract Sum shall be deemed to include:

- 1) Any and all costs arising from any unforeseen difficulties which may be encountered during, and all risks of any description connected with, prosecution of Work or prosecution of Bid item (whether lump sum or unit price) until acceptance by County;
- 2) All expenses incurred due to suspension, or discontinuance of Work or discontinuance of Bid item (whether lump sum or unit price) as provided in Contract Documents;
- 3) Escalation to allow for cost increases between time of Contract Award and completion of Work or completion of Bid item (whether lump sum or unit price).
- 4) Any expense incurred by Contractor for any purpose in connection with the performance and completion of said Work, including all incidental Work necessary for completion of the Work.

B. Whenever it is specified herein that Contractor is to do Work or furnish materials of any class for which no price is fixed in Contract Documents, it shall be understood that Contractor is to do such Work or furnish such materials without extra charge or allowance or direct payment of any sort, and that cost of doing Work or furnishing materials is to be included in price Bid, unless it is expressly specified herein, in particular cases, that Work or material is to be paid for as extra Work.

C. No payment shall be made for materials or equipment not yet incorporated into the Work, except as may be specifically approved by County in its sole discretion. Before payment for any such materials and equipment, Contractor must satisfy the following conditions:

- 1) The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded warehouse;
- 2) Full title to the materials and/or equipment shall vest in County at the time of delivery to the Site, warehouse or other storage location;
- 3) Obtain a negotiable warehouse receipt, endorsed over to County for materials and/or equipment stored in an Off Site bonded warehouse. No payment will be made until such endorsed receipts are delivered to County;
- 4) Stockpiled materials and/or equipment shall be available for County inspection, but County shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents.

Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents;

- 5) After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, Defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense;
- 6) At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents;
- 7) Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that County has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect County's interest therein, all of which must be satisfactory to County. This documentation shall include, but not be limited to, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided.

#### **1.5 BASIS OF PAYMENT**

- A. When estimated quantity for specific portion of Work is not indicated or unit is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- B. When estimated quantity for specific portions of Work is listed in Bid Form, and Bid Item is described in Section 010220 (Unit Prices): As provided in Section 010220.
- C. County does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to leave out entire Bid Item or Items, or to add work not originally included in Bid or Contract Documents, when in its judgment such change is in County's best interests. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in Contract Documents, because of any differences between amount of work actually done and estimated amount as set forth herein, or for elimination of Bid Items.

#### **1.6 PROGRESS PAYMENTS**

- A. County's Project Manager and Architect are authorized to approve progress payments in conformance with Contract Documents and the Auditor/Controller of the County of Sonoma is authorized to process such payments upon their submission by the General Services Department.
- B. Progress payments will be made monthly.
- C. Schedule of Values:
  - 1) Not later than the time described in Document 007200 (General Conditions) paragraph 11.1.B, Contractor shall submit a preliminary, detailed breakdown of its Bid by scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities. Where more than one Subcontractor comprises the work of a Work item or activity, the breakdown shall show a separate line item for each subcontract. Furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Work activity, which cumulative sum equals the total Contract Sum. The format and detail of the breakdown shall be as directed by County to facilitate and clarify future progress payments to Contractor for direct Work under Contract Documents. Once approved by County, this breakdown shall be referred to as the Schedule of Values.
  - 2) Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-Site access roads, temporary power and lighting, security, and the like), shall be prorated through

all activities so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum.

- 3) County will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, reasonable cost allocations for the Work items listed. Upon favorable review by County, County will accept this Schedule of Values for use. County shall be the sole judge of reasonable cost allocations.
- 4) County will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in a complete reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to County.

D. Application for Payment:

- 1) On or before the twentieth (20th) Day of each month, Contractor shall submit to County three (3) copies of an Application for Payment for the cost of the Work put in place during the period from the fifteenth (15th) Day of the previous month to the fifteenth (15th) Day of the current month, along with one (1) copy of County-approved updated Schedule. Such Applications for Payment shall be for the total value of activities completed or partially completed, including approved activity costs, based upon Schedule of Values prices (or Bid item prices if unit price of all labor and materials incorporated in the Work up until midnight of the last Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as separate item in payment summary. If necessary, County and Contractor will meet to reconcile any differences. If Contractor is late submitting its Application for Payment, that Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day for Day basis.
- 2) Applications for Payment may include, but are not necessarily limited to the following:
  - a. Material, equipment, and labor incorporated into the Work, less any previous payments for the same;
- 3) At the time any Application for Payment is submitted, certify in writing the accuracy of the Application and that Contractor has fulfilled all scheduling requirements of Document 007200 (General Conditions) and Section 013200 (Construction Progress Documentation), including updates and revisions. A responsible officer of Contractor shall execute the certification.
- 4) No progress or initial payment will be processed prior to County receiving all requested, acceptable schedule update information. Failure to submit a Progress Schedule update complying with Section 013200 justifies denying the entire Application for Payment.
- 5) Each Application for Payment shall list each Change Order executed prior to date of submission, including the Change Order Number, and a description of the Work activities, consistent with the descriptions of original Work activities.
- 6) If County requires substantiating data, submit information requested by County, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Submit one (1) copy of substantiating data and cover letter for each copy of Application for Payment submitted.

Progress Payments:

- 7) County will review Contractor's Application for Payment following receipt. If adjustments need to be made to percent of completion of each activity, County will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
- 8) Each Application for Payment may be reviewed by County and/or inspectors to determine whether the Application for Payment is proper, and shall be rejected, revised, or approved by County pursuant to the Schedule of Values prepared in

- accordance with paragraph 1.6A of this Section 012000.
- 9) If it is determined that the Application for Payment is not proper and suitable for payment, County will return it to Contractor as soon as practicable, but no later than seven (7) Days after receipt, together with a document setting forth in writing the reasons why the Application for Payment is not proper. If County determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then County may approve the other portions of the Application for Payment, and in the case of disputed items or Defective Work not remedied, may withhold up to one hundred fifty percent (150%) of the disputed amount from the progress payment.
  - 10) Pursuant to Public Contract Code Section 20104.50, if County fails to make any progress payment within thirty (30) Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, County shall pay interest to Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. The thirty (30) Day period shall be reduced by the number of Days by which County exceeds the seven (7) Day return requirement set forth herein.
  - 11) As soon as practicable after approval of each Application for Payment for progress payments, County will pay to Contractor in manner provided by law, an amount equal to ninety-five percent (95%) of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in Contract Documents and/or Bidding Documents, provided that payments may at any time be withheld if, in judgment of County, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected.
  - 12) Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. County also may elect in its sole discretion to pay progress payments by joint check to Contractor and each Subcontractor having an interest in that progress payment in such amount.
  - 13) County reserves and shall have the right to withhold payment for any equipment and/or specifically fabricated materials that, in the sole judgment of County, are not adequately and properly protected against weather and/or damage prior to or following incorporation into the Work.
  - 14) Granting of progress payment or payments by County, or receipt thereof by Contractor, shall not be understood as constituting in any sense acceptance of Work or of any portion thereof, and shall in no way lessen liability of Contractor to replace unsatisfactory Work or material, though unsatisfactory character of Work or material may have been apparent or detected at time payment was made.
  - 15) When County shall charge sum of money against Contractor under any provision of Contract Documents, amount of charge shall be deducted and retained by County from amount of next succeeding progress payment or from any other moneys due or that may become due Contractor under Contract. If, on completion or termination of Contract, such moneys due Contractor are found insufficient to cover County's charges against it, County shall have right to recover balance from Contractor or Sureties.

## **1.7 SUBSTITUTION OF SECURITIES IN LIEU OF RETENTION**

- A. In accordance with the provisions of Public Contract Code Section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:
  - 1) At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually

agreed to by Contractor and County which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such moneys to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.

- 2) Alternatively, Contractor may request and County shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for in this Section 012000 for securities deposited by Contractor. Upon satisfactory completion of Contract Documents, Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from County, pursuant to the terms of this Section 012000.
  - 3) Contractor shall be beneficial owner of securities substituted for moneys withheld and shall receive any interest thereon.
  - 4) Contractor shall enter into escrow agreement with Controller according to Document 00680 (Escrow Agreement for Security Deposits in Lieu of Retention), as authorized under Public Contract Code Section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.
  - 5) If Contractor elects to receive interest on moneys withheld in retention by County, it shall, at the request of any Subcontractor performing more than five percent of Contractor's total bid, make that option available to the Subcontractor regarding any moneys withheld in retention by Contractor from the Subcontractor. If Contractor elects to receive interest on any moneys withheld in retention by County, then the Subcontractor shall receive the identical rate of interest received by Contractor on any retention moneys withheld from the Subcontractor by Contractor, less any actual pro rata costs associated with administering and calculating that interest. In the event that the interest rate is a fluctuating rate, the rate for the Subcontractor shall be determined by calculating the interest rate paid during the time that retentions were withheld from the Subcontractor. If Contractor elects to substitute securities in lieu of retention, then, by mutual consent of Contractor and the Subcontractor, the Subcontractor may substitute securities in exchange for the release of moneys held in retention by Contractor. Contractor may not require any Subcontractor to waive any provision of this paragraph.
  - 6) Public Contract Code Section 22300 is hereby incorporated in full by this reference.
  - 7) FINAL PAYMENT
- B. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punchlist, testing, record documents, Contractor maintenance after Final Acceptance and issuance of Final Inspection report, County will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including without limitation retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.
  - C. Prior progress payments shall be subject to correction in the final payment. County's determination of amount due as final payment shall be final and conclusive evidence of amount of Work performed by Contractor under Contract Documents and shall be full measure of compensation to be received by Contractor.
  - D. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to final payment, Document 006400 (Affidavit of Release of Liens Form).

## **1.8 EFFECT OF PAYMENT**

- A. Payment will be made by County, based on County's observations at the Site and the data comprising the Application for Payment. Payment will not be a representation that County has:

- 1) Made exhaustive or continuous on-Site inspections to check the quality or quantity of Work;
- 2) Reviewed construction means, methods, techniques, sequences, or procedures;
- 3) Reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by County to substantiate Contractor's right to payment; or
- 4) Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

## SECTION 012600

### CONTRACT MODIFICATION PROCEDURES

#### PART 1 GENERAL

##### 1.1 SUMMARY

A. Section includes:

- 1) Description of general procedural requirements for clarifications, alterations, modifications, and extras.

##### 1.2 GENERAL

A. Any change in scope of Work or deviation from Contract Documents including, without limitation, extra Work, or alterations or additions to or deductions from the original Work, shall not invalidate the original Contract, and shall be performed under the terms of the Contract Documents.

B. Only Contractor or County may initiate changes in scope of Work or deviation from Contract Documents.

- 1) Contractor may initiate changes by submitting RFIs.
  - a. RFIs shall be submitted to seek clarification of or to request changes in the Contract Documents.
  - b. RFIs related to concealed or unknown conditions shall be submitted in accordance with Document 007200 (General Conditions).
  - c. RFIs related to hazardous waste conditions shall be submitted in accordance with Document 007200 (General Conditions).
- 2) Contractor shall be responsible for its costs to implement and administer RFIs throughout the Contract duration, regardless of the number of RFIs submitted. Contractor shall be responsible for both County and its Architect's, Engineer's, and Consultant's administrative costs for answering RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by County; at County's discretion, such costs may be deducted from progress payments or final payment.
- 3) County may seek to clarify Contract Documents provisions by issuing Architect's Supplemental Instruction (ASI). If Contractor disagrees with ASI or believes that complying with ASI entitles it to changes in the Work or Contract Time, Contractor shall notify County in writing by submitting an RFI within ten (10) Days of receipt of the ASI.
- 4) County may initiate changes in the Work or Contract Time by issuing RFPs to Contractor. Such RFPs will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.
- 5) County may also, by Construction Change Directive ("CCD"), order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A CCD shall be used in the absence of total agreement on the terms of a Change Order.

##### 1.3 PROCEDURES

A. Cost Proposal and Procedures: Whenever Contractor is required in this Section 012600 to prepare a Cost Proposal, and whenever Contractor is entitled to submit a Cost Proposal and elects to do so, Contractor shall prepare and submit to County for consideration a Cost Proposal using the form attached to this Section 012600. All Cost Proposals must contain a complete breakdown of costs of credits, deducts, and extras; itemizing materials, labor, taxes, overhead and profit; plus cost of bonds and insurance. The cost of bonds and insurance shall not be more than 2% of the total cost of materials, labor, taxes, overhead and profit. All Subcontractor Work shall be so indicated. Individual entries on the Cost Proposal form shall be determined as provided in paragraphs 1.4 and 1.5 of this Section 012600. After receipt of a Cost Proposal with a detailed breakdown, County will act promptly thereon.

- 1) If County accepts a Cost Proposal, County will prepare Change Order for County and Contractor signatures.
- 2) If Cost Proposal is not acceptable to County because it does not agree with cost and/or



- time included in Cost Proposal, County will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except as otherwise provided in this Section 012600, Contractor shall have seven (7) Days in which to respond to County with a revised Cost Proposal.
- 3) When necessity to proceed with a change does not allow County sufficient time to conduct a proper check of a Cost Proposal (or revised Cost Proposal), County may issue CCD ordering Contractor to proceed on basis to be determined at earliest practical date. In this event, value of change, with corresponding equitable adjustment to Contract, shall not be more than increase or less than decrease proposed.
- B. RFI Procedures: Whenever Contractor requires information regarding the Project or Contract Documents, or receives a request for information from a Subcontractor, Contractor may prepare and deliver an RFI to County. Contractor shall use RFI format provided by County. Contractor must submit time critical RFIs at least thirty (30) Days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
- 1) County will respond within ten (10) Days from receipt of RFI with a written response to Contractor. Additionally, County may return RFI to Contractor requesting additional information from Contractor should original RFI be inadequate in describing condition. Contractor shall distribute response to all appropriate Subcontractors.
  - 2) If Contractor is satisfied with the response and does not request change in Contract Sum or Contract Time, then the response shall be executed without a change.
  - 3) If Contractor believes the response is incomplete, Contractor shall issue another RFI (with the same RFI number with the number .1 indicating if it is a follow-up RFI) to County clarifying original RFI.
  - 4) If Contractor believes that the response results in change in Contract Sum or Contract Time, Contractor shall notify County in writing within seven (7) Days after receiving the response. If County disagrees with Contractor, then Contractor shall proceed with the work identified and may give notice of intent to submit a Claim as described in Article 12 of Document 007200 (General Conditions), and submit its Claim within thirty (30) Days of County's response. If County agrees with Contractor, then Contractor must submit a Cost Proposal within twenty-one (21) Days of date of County's response as described in article 1.3.A above. Contractor's failure to deliver either the foregoing notice and Claim or Cost Proposal by the respective deadlines stated in the foregoing sentences shall result in waiver of the right to file a Cost Proposal or Claim.
- C. Supplemental Instruction: County may issue Supplemental Instruction to Contractor.
- 1) If Contractor is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Time, then the Supplemental Instruction shall be executed without a Change Order.
  - 2) If Contractor believes that the response results in change in Contract Sum or Contract Time, Contractor shall follow the procedure described in paragraph 1.3.B.4.
- D. Construction Change Directives: If at any time County believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, County may issue a CCD with its recommended cost and/or time adjustment. Upon receipt of CCD, Contractor shall promptly proceed with the change of Work involved and concurrently respond to County's CCD within seven (7) Days.
- 1) Contractor's response must be any one of following:
    - a. Provide written response to County, accepting County's response, time, and cost.
    - b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by the number .1, .2, .3, etc. for each revision), if County so requests.
    - c. Give notice of intent to submit a Claim as described in Article 12 of Document 007200 (General Conditions).
  - 2) If the CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
    - a. Mutual acceptance of a lump sum properly itemized and supported by sufficient

- substantiating data to permit evaluation.
        - b. Unit prices stated in the Contract Documents or subsequently agreed upon.
        - c. Force Account.
        - d. Cost to be determined in a manner agreed.
        - e. Lump Sum.
      - 3) Contractor's written agreement to a CCD shall be recorded in a Change Order.
      - 4) If Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by County on the basis of reasonable expenditures and savings of those performing the Work attributable to the change including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. If the parties still do not agree on the price for a CCD, Contractor may file a Claim per Article 12 of Document 007200 (General Conditions). Contractor shall keep and present, in such form as County may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided in paragraphs 1.4 and 1.5 of this Section 012600.
      - 5) Pending final determination of cost to County, amounts not in dispute may be included in Applications for Payment after a Change Order is executed for the amount not in dispute.
- E. County requested RFP: Contractor shall furnish a Cost Proposal within twenty-one (21) Days of County's RFP. Upon approval of RFP, County will issue a Change Order directing Contractor to proceed with extra Work. If the parties do not agree on the price for an RFP, County may either issue a CCD or decide the issue per Article 12 of Document 007200 (General Conditions). Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.
- F. All Changes:
  - 1) Documentation of Change in Contract Sum and Contract Time:
    - a. Contractor shall maintain detailed records of Work performed on a time-and-material basis.
    - b. Contractor shall document each proposal for a change in cost or time with sufficient data to allow evaluation of the proposal.
    - c. Contractor shall, on request, provide additional data to support computations for:
      - 1) Quantities of products, materials, labor, and equipment
      - 2) Taxes, insurance, and bonds
      - 3) Overhead and profit
      - 4) Justification for any change in Contract Time and new Progress Schedule showing revision due, if any
      - 5) Credit for deletions from Contract, similarly documented
    - d. Contractor shall support each claim for additional costs, and for Work performed on a Force-Account basis, with additional information including:
      - 1) Credit for deletions from Contract, similarly documented
      - 2) Origin and date of claim
      - 3) Dates and times Work was performed and by whom
      - 4) Time records and wage rates paid
      - 5) Invoices and receipts for products, materials, equipment, and subcontracts, similarly documented
- G. Correlation of Other Items:
  - 1) Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
  - 2) Contractor shall revise the Progress Schedules prior to the next monthly pay period.
  - 3) Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.
- H. Responses: For all responses for which the Contract Documents, including without limitation this Section 012600, do not provide a specific time period, recipients shall respond within a reasonable time.

#### **1.4 COST DETERMINATION**

- A. Total cost of extra Work or of Work omitted shall be the sum of labor costs, material costs, equipment rental costs, and specialist costs as defined herein plus overhead and profit as allowed herein. This limit applies in all cases of claims for extra Work, whether calculating Cost Proposals, Change Orders or CCDs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature. No special, incidental or consequential damages may be claimed or recovered against County, its representatives or agents, whether arising from breach of Contract, negligence, or strict liability, unless specifically authorized in the Contract Documents.
- B. Overhead and Profit: (Overhead shall be as defined in paragraph 1.8 of this Section 012600)
  - 1) Overhead and profit on labor for extra Work shall not exceed fifteen percent (15%).
  - 2) Overhead and profit on materials for extra Work shall not exceed fifteen percent (15%).
  - 3) Overhead and profit on equipment rental for extra Work shall not exceed fifteen percent (15%).
  - 4) When extra Work is performed by a first tier Subcontractor, Contractor shall receive a five percent (5%) markup on Subcontractors' total costs of extra Work. First tier Subcontractor's markup on its Work shall not exceed fifteen percent (15%).
  - 5) When extra Work is performed by a lower tier Subcontractor, Contractor shall receive a total of five percent (5%) markup on all Subcontractors' total costs of extra Work. First tier Subcontractors and lower tier Subcontractors shall combine markup not to exceed nineteen percent (19%) and shall be divided as mutually agreed.
  - 6) Notwithstanding the foregoing, in no case shall the total markup on any extra Work exceed twenty five percent (25%) of the direct cost, notwithstanding the actual number of Contract tiers.
  - 7) On proposals covering both increases and decreases in Contract Sum, overhead and profit shall be allowed on the net increase only as determined in this paragraph 1.4. When the net difference is a deduction, no percentage for overhead profit and commission shall be allowed, but rather a deduction shall apply.
  - 8) The markup shall include profit, small tools, cleanup, engineering, supervision, warranties, cost of preparing the cost proposal, jobsite overhead, home office overhead, and other items as defined in paragraph 1.8 of this section 012600. No markup will be allowed on taxes, insurance, and bonds.
- C. Taxes:
  - 1) All State sales tax, use tax, and Sonoma County and applicable City sales taxes shall be included.
  - 2) Federal and Excise tax shall not be included.
- D. Owner-Operated Equipment: When owner-operated equipment is used to perform extra Work, Contractor will be paid for operator as follows:
  - 1) Payment for equipment will be made in accordance with paragraph 1.5C of this Section 012600.
  - 2) Payment for cost of labor will be made at no more than rates of such labor established by Department of Industrial Relations Prevailing Wage Determination for type of worker and location of Work, whether or not owner-operator is actually covered by such an agreement.
- E. Accord and Satisfaction: Every Change Order shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay, and any other type of claim. Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order, but must do so expressly in writing delivered concurrently with the executed Change Order, and must also submit a Claim for the reserved disputed items pursuant to Article 12 of Document 007200 (General Conditions) no later than thirty (30) Days of Contractor's first written notice of its intent to reserve rights.

**1.5 COST BREAKDOWN**

- A. Labor: Contractor will be paid cost of labor for workers (including forepersons when

authorized by County) used in actual and direct performance of extra Work. Labor rate, whether employer is Contractor, Subcontractor or other forces, will be sum of following:

- 1) Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
  - 2) Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined in paragraph 1.5.A.1 of this Section 012600, such as taxes and insurance. Labor surcharge shall be and shall not exceed that set forth in California Department of Transportation official labor surcharges schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.
- B. Material: Only materials furnished by Contractor and necessarily used in performance of extra Work will be paid for. Cost of such materials will be cost, including sales/use taxes, to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:
- 1) If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to County notwithstanding fact that such discount may not have been taken.
  - 2) For materials salvaged upon completion of extra Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
  - 3) If cost of a material is, in opinion of County, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in paragraph 1.5.B.1 of this Section 012600.
- C. Equipment Rental: For Contractor- or Subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. If there is no applicable rate for an item of equipment, then payment shall be made for Contractor- or Subcontractor-owned equipment at rental rate listed in the most recent edition of the Association of Equipment Distributors (AED) book. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by County. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.
- 1) For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by County. The following shall be used in computing rental time of equipment:
    - a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be half ( $\frac{1}{2}$ ) hour of operation.
    - b. When daily rates are listed, less than four hours of operation shall be considered to be half ( $\frac{1}{2}$ ) Day of operation.
  - 2) For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
    - a. County will pay for costs of loading and unloading equipment.
    - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
    - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
    - d. County will not make any payment for transporting and loading and unloading

- equipment if equipment is used on Work in any other way than upon extra Work.
- 3) Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which County directs Contractor to discontinue use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and except for County's legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four (4) hours for zero (0) to four (4) hours of operation, six (6) hours for four (4) to six (6) hours of operation and eight (8) hours for six (6) to eight (8) hours of operation. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.

#### **1.6 FORCE-ACCOUNT WORK**

- A. If it is impracticable because of nature of Work, or for any other reason, to fix an increase or decrease in price definitely in advance, Contractor may be directed to proceed at a not-to-exceed (NTE) maximum price which shall not under any circumstances be exceeded. Subject to such limitation, such extra Work shall be paid for at actual necessary cost for Force-Account Work or at the negotiated cost, as determined by County. The cost for  
-  
Section 012600.
- B. Force-Account Work shall be used when it is not possible or practical to price out the  
-  
utilized during the pricing and negotiation phase of the change. Once negotiations have been concluded and a bilateral agreement has been reached, the tracking of the Work under Force-Account is no longer necessary. Force-Account Work shall also be used when a bilateral agreement on the value of the changed Work cannot be reached. County
- C. Whenever any Force-Account Work is in progress, Contractor shall report to County each Business Day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account Work on preceding Day. No claim for compensation for  
-  
(cost reimbursement) charges shall be recorded daily and summarized in a form  
-  
form each Day. Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; a list by size, type, and identification number of equipment and hours operated; and an indication of all Work performed by specialists.  
-  
seventy-five percent (75%) of the NTE amount has been expended.
- E. Force-Account Work shall be paid as extra Work under this Section 012600. Methods of determining payment for Work and materials provided in this paragraph 1.6 shall not apply to performance of Work or furnishings of material that, in judgment of County, may properly  
-  
Documents.

#### **1.7 COUNTY-FURNISHED MATERIALS**

- A. County reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

#### **1.8 OVERHEAD DEFINED**

- A. The following constitutes charges that are deemed included in overhead for all Contract Modifications, including Force-Account Work or CCD Work, whether incurred by Contractor, Subcontractors, or suppliers, and Contractor shall not invoice or receive payment for these costs separately:
  - 1) Drawings: field drawings, Shop Drawings, etc., including submissions of drawings
  - 2) Routine field inspection of Work proposed
  - 3) General Superintendence
  - 4) General administration and preparation of cost proposals, schedule analysis, Change Orders, and other supporting documentation as necessary
  - 5) Computer services
  - 6) Reproduction services

- 7) Salaries of project engineer, superintendent, timekeeper, storekeeper, and secretaries
- 8) Janitorial services
- 9) Temporary on-Site facilities, including for any extended periods of Contract Time
  - a. Offices
  - b. Telephones
  - c. Plumbing
  - d. Electrical: Power, lighting
  - e. Platforms
  - f. Fencing, etc.
  - g. Water
- 10) Home office expenses
- 11) Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents
- 12) Surveying
- 13) Estimating
- 14) Protection of Work
- 15) Handling and disposal fees
- 16) Final cleanup
- 17) Other incidental Work

**1.9 RECORDS AND CERTIFICATION**

- A. No payment for Force-Account Work shall be made until Contractor submits a Cost Proposal with original invoices substantiating materials and labor charges and all daily reports.
- B. County shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for Modification of Contract, including Force-Account Work and CCD Work.
- C. Further, County will have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, the Contract. If Contractor is a joint venture, right of County shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member. This right shall be specifically enforceable, and any failure of Contractor to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to the Article 12 of Document 007200 (General Conditions).

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

COST PROPOSAL FORM FOLLOWS ON NEXT PAGE

# COST PROPOSAL

**[Name of Project]**  
**Project No. [ # ]**

**CP Number:** \_\_\_\_\_

**Date:** \_\_\_\_\_

County Facilities Development and Management  
 2300 County Center Drive, Suite A220  
 Santa Rosa, CA 95403  
 (707) 565-2550 Phone  
 (707) 565-3240 Fax

**In Response To:** \_\_\_\_\_

RFP#, RFI# or ASI#

**FROM:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**TO:** [Project Manager Name, Title]  
 2300 County Center Drive, Suite A220  
 Santa Rosa, CA 95403

This Cost Proposal is in response to the above referenced form.

Brief description of change(s):

Number of pages attached: \_\_\_\_\_

ITEM DESCRIPTION	PRIME CONTR	SUB 1 (NAME)	SUB 2 (NAME)	SUB 3 (NAME)	SUB 4 (NAME)	TOTAL	
Material							
Direct Labor Cost							
Equipment							
Other (Specify) Extended Overhead							
Total Cost							
Subcontractor's Overhead and Profit 15% - 19% max							
Contractor's Overhead and Profit 15%							
Subcontractor Total							
O/P to Contractor For Sub-contractor's work at 5%							
Bonds and Insurance 2%							
<b>GRAND TOTAL</b>							
<b>REQUESTED CHANGE IN CONTRACT TIME</b>						<b>DAYS</b>	

BY

\_\_\_\_\_  
 Contractor

\_\_\_\_\_  
 Architect

- Architect agrees with above proposal.
- Architect DOES NOT agree with above proposal. See attached.

Date \_\_\_\_\_

Date \_\_\_\_\_

SECTION 013150

**PROJECT MEETINGS**

**PART 1 GENERAL**

**1.1 SUMMARY**

A. Section Includes:

- 1) Descriptions of the required Project meetings for the Work. These meetings include:
  - a. PRECONSTRUCTION CONFERENCE
  - b. PERIODIC PROGRESS MEETINGS
  - c. SPECIAL MEETINGS

**1.2 PRECONSTRUCTION CONFERENCE**

- A. County will call for and administer Preconstruction Conference at time and place to be announced (usually the week prior to start of Work at the Site).
- B. Contractor, its job superintendent, all major Subcontractors, and major suppliers shall attend Preconstruction Conference.
- C. Agenda may include, but not be limited to, the following items.
  - 1) Schedules
  - 2) Personnel and vehicle permit procedures
  - 3) Use of premises
  - 4) Location of Contractor's on-Site facilities
  - 5) Security
  - 6) Housekeeping
  - 7) Submittal and RFI procedures
  - 8) Inspection and testing procedures, on-Site and off-Site
  - 9) Utility shutdown procedures
  - 10) Control and reference point survey procedures
  - 11) Contractor's Injury and Illness Prevention Program
  - 12) Contractor's Initial Schedule
  - 13) Contractor's Schedule of Values
  - 14) Contractor's Schedule of Submittals
  - 15) Jurisdictional agency requirements
- D. County will distribute copies of meeting notes to attendees. Attendees shall have seven (7) Days to submit comments or additions to meeting notes. Meeting notes will constitute final memorialization of results of Preconstruction Conference.

**1.3 PERIODIC PROGRESS MEETINGS**

- A. County will schedule and administer periodic progress meetings throughout duration of Work. Progress meetings will be held periodically unless otherwise directed by County.
  - 1) Meetings shall be held at Contractor's on site field office unless otherwise directed by County.
  - 2) A County Representative will prepare agenda.
  - 3) County will record and distribute meeting notes to Contractor, who will distribute to those affected by decisions made at meeting. Attendees can either submit comments or additions to meeting notes prior to the next progress meeting, or may attend the next progress meeting and submit comments or additions there. Meeting notes, with any comments or additions, will constitute final memorialization of results of meeting.
- B. Progress meetings shall be attended by Contractor's job superintendent, major Subcontractors and suppliers as determined by Contractor, County, and others as appropriate to agenda topics for each meeting.
- C. Agenda may contain the following items, as appropriate:
  - 1) Review, revise as necessary, and approve previous meeting notes.
  - 2) Safety and Security: Review of Work progress since last meeting. Review of Contractor's safety program activities and results, including report on all serious injury



and/or damage accidents.

- 3) Old Business: Discuss Open Items in previous meeting notes
- 4) New Business: Discuss new items
- 5) Review Progress Schedule/Look Ahead: Status of Construction Work Schedule, delivery schedules, adjustments. Submittal, RFI, and Change Order status.
- 6) Other items affecting progress of Work.

**1.4 SPECIAL MEETINGS**

- A. County or Contractor may call special meetings by notifying all desired participants and County in advance, giving reason for meeting. Special meetings may be held without advance notice in emergency situations.
- B. At any time during the progress of Work, County shall have authority to require Contractor attend meeting of any or all of the Subcontractors engaged in Work or in other work, and notice of such meeting shall be duly observed and complied with by Contractor.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

## SECTION 013200

### CONSTRUCTION PROGRESS DOCUMENTATION

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Perform scheduling of Work under this Contract in accordance with requirements of this Section 013200.
  - 1) Development of schedule, of the Progress Schedule, monthly payment requests, and Project status reporting requirements of the Contract Documents shall employ scheduling as required in this Section 013200.
  - 2) Submit schedules and reports as specified in 007200 (General Conditions).
- B. Upon Award of Contract, immediately commence development of Initial Schedule to ensure compliance with schedule submittal requirements.

##### 1.2 GENERAL

- A. Progress Schedule shall be based on and incorporate Milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each Milestone shown on Progress Schedule shall adhere to times in Document 005213 (Agreement Form - Stipulated Sum), unless an earlier (advanced) time of completion is requested by Contractor and agreed to by County. A Change Order shall formalize any such agreement.
  - 1) County is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion date(s) for the Contract Time.
  - 2) Contractor is not entitled to extra compensation in event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in earlier (advanced) schedule but within the Contract Time.
- C. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- D. Failure of Progress Schedule to include any element of the Work or any inaccuracy in Progress Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. County's acceptance of Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon County, or act to relieve Contractor of its responsibility for means and methods of construction.
- E. Transmit each item under form approved by County or following Section 013300.
  - 1) Identify Project with County Contract number, and name of Contractor.
  - 2) Provide space for Contractor's approval stamp and County's review stamps.
  - 3) Submittals received from sources other than Contractor will be returned to Contractor without County's review.
- F. Include adverse weather contingency described in Document 007200 (General Conditions) and in Document 007300 (Supplementary Conditions) as the last activity in the Progress Schedule. If adverse weather Day(s) are granted by County, deduct the number of Day(s) from the weather contingency and apply those Day(s) to the date(s) the weather delay occurred.
  - 1) Adverse weather contingency shall be work days, not calendar days.
  - 2) Any unused adverse weather contingency days shall remain part of the total Contract Time.
  - 3) If weather related Day(s) are granted, such as wet soil conditions caused by rainfall, the time granted will be a contract time extension, not a reduction to the adverse weather contingency.

##### 1.3 INITIAL AND ORIGINAL PROGRESS SCHEDULE

- A. Contractor shall prepare an Initial Schedule for review at the Preconstruction Conference which shall serve as Contractor's schedule for up to fifteen (15) Days after the Notice to Proceed.
- B. Initial Schedule must indicate detailed plan for the Work to be completed in first sixty (60) Days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Show Work beyond sixty (60) Days in summary form.
- C. Contractor shall submit its Original Schedule for review no later than first progress payment. Original Schedule and all updates shall comply with all standards herein.
- D. All Schedules shall be time-scaled.
- E. County's review and comment on any Schedule shall be limited to Contract conformance (with sequencing, coordination, and Milestone requirements). Contractor shall make corrections to Schedule necessary to comply with Contract requirements and shall adjust Schedule to incorporate any missing information requested by County. Resubmit Initial Schedule if requested by County.

#### **1.4 SCHEDULE FORMAT AND LEVEL OF DETAIL**

- A. Each Schedule (Initial, Original, and updates) shall indicate all separate fabrication, procurement and field construction activities required for completion of the Work, including but not limited to the following:
  - 1) All Contractor, Subcontractor, and assigned Contractor Work shall be shown in a logical Work sequence that demonstrates a coordinated plan of Work for all contractors. The intent is to provide a common basis of acceptance, understanding, and communication, as well as interface with other contractors.
  - 2) Activities related to the delivery of Contractor- and County-furnished equipment to be Contractor-installed per Contract shall be shown.
  - 3) Apply the following information to all activities:
    - a. All activities shall be identified through codes or other identification to indicate the building (i.e. buildings, Site Work).
    - b. Include Contractor/Subcontractor responsibility to which they pertain to each activity.
    - c. Time scaled, CPM schedule.
    - d. No activity on schedule shall have duration longer than fifteen (15) workdays, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by County.
      - 1) Activity durations shall be total number of actual workdays required to perform that activity.
    - e. Start and completion dates of all items of Work, their major components, and milestone completion dates, if any. Show critical path in red; show early start, late start, and total float for each activity.
    - f. County-furnished materials and equipment, if any, identified as separate activities.
    - g. All facility equipment commissioning activities.
    - h. Activities for maintaining Project Record Documents.
    - i. Dependencies (or relationships) between activities.
    - j. Processing/approval of submittals and shop drawings for all Contract Documents-required material and equipment. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates. See Section 013300 (Submittal Procedures)
      - 1) Include time for submittals, resubmittals, and reviews by County. Coordinate with accepted schedule for submission of shop drawings, samples and other submittals.
      - 2) Contractor shall be responsible for all impacts resulting from resubmittal of shop drawings and submittals.
    - k. Procurement of major equipment, through receipt and inspection at jobsite, identified as separate activity.

- 1) Include time for fabrication and delivery of manufactured products for Work.
- 2) Show dependencies between procurement and construction.
- l. Activity description; what Work is to be accomplished and where.
- m. Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing Work.
- n. Identify activities that constitute the controlling operations or critical path. No more than twenty-five percent (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to ten (10) days.
- o. Interface with the work of other contractors, County, and agencies such as, but not limited to, utility companies.
- p. Show detailed Subcontractor Work activities.
- q. Activity durations shall be in Work days.
- r. Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays. The Progress Schedule shall exclude in its Work day calendar all non-Work days on which Contractor anticipates critical Work will not be performed.
- B. Seasonal weather conditions (which do not constitute a delay as defined herein) shall be considered in the planning and scheduling of all Work influenced by high or low ambient temperatures or presence of high moisture for the completion of the Work within the allotted Contract Time.
- C. Failure by Contractor to include any element of Work required for performance of the Work on the detailed construction schedule shall not excuse Contractor from completing all Work required within the Contract Time.
- E. Progress Schedule Submittals
  - 1) Submit one (1) electronic and two (2) print copies of schedule at each of the following times:
    - a. Initial Progress Schedule at the Preconstruction Conference
    - b. Original Schedule within twenty (20) Days of the Notice to Proceed date
    - c. Adjustments to the Schedule as required
    - d. Schedule updates monthly, five (5) Days prior to monthly progress schedule and billing meeting
  - 2) Contractor shall submit additional schedule reports as may be requested by County.
  - 3) Electronic files shall be complete copies, including all programs and electronic coding.

#### **1.5 MONTHLY SCHEDULE UPDATE SUBMITTALS**

- A. Following acceptance of Contractor's Initial Schedule, Contractor shall monitor progress of Work and adjust Schedule each month to reflect actual progress and any anticipated changes to planned activities. Schedule update submittals shall be submitted with each Contractor application for payment.
  - 1) Each Schedule update submitted shall be complete, including all information requested for the Initial Schedule and Original Schedule submittal.
  - 2) Each update shall continue to show all Work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed, and Contractor warrants the accuracy of as-built information as shown.
- B. Schedule update submittals are due with each monthly progress payment application.

#### **1.6 SCHEDULE REVISIONS**

- A. With each Schedule update identify clearly any revisions affecting the sequence of Work, provide a schedule diagram that compares the original sequence to the revised sequence of Work. Clearly show and discuss any changes in the critical path.
- B. Schedule revisions shall not be incorporated into any schedule update until County has reviewed the revisions. County may request further information and justification for schedule revisions and, within three (3) Days, Contractor shall provide County with a complete written narrative response to County's request.
- C. If County does not accept Contractor's revision, and Contractor disagrees with County's position, Contractor has seven (7) Days from receipt of County's letter rejecting the revision, to provide a written narrative providing full justification and explanation for the

revision. Contractor's failure to respond in writing within seven (7) Days of County's written rejection of a schedule revision shall be contractually interpreted as acceptance of County's position, and Contractor waives its rights to subsequently dispute or file a claim regarding County's position. If Contractor files a timely response as provided in this paragraph, and the parties are still unable to agree, Contractor's sole right shall be to file a claim as provided in Document 007200 (General Conditions), Article 12.

- D. At County's discretion, Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

#### **1.7 RECOVERY SCHEDULE**

- A. If a Schedule update shows a Substantial Completion date beyond any Contract Substantial Completion date, or individual Milestone completion dates, County may require Contractor to submit to County within seven (7) Days proposed revisions to recover the lost time. As part of this submittal, provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, provide a schedule diagram comparing the original sequence to the revised sequence of Work. If County reasonably requests, show the intended critical path; secure appropriate Subcontractor and supplier consent to the recovery Schedule; submit a narrative explaining trade flow and construction flow changes, duration changes, added/deleted activities, critical path changes and identify all near critical paths and man-hour loading assumptions for major Subcontractors. Contractor agrees to take all necessary actions to recover time at no additional cost to County. These actions may include, but are not limited to:
  - 1) Increase manpower in quantities and crafts necessary;
  - 2) To the extent allowed by applicable legal requirements, increase the number of working hours per shift, shifts per working day, working days per week, the amount of equipment, or and combination of the foregoing.
- B. The revisions shall not be incorporated into any Schedule update until County has reviewed the revisions.
- C. If County does not accept Contractor's revisions, County and Contractor shall follow the procedures in paragraphs 1.6B, 1.6C, and 1.6D of this Section 013200.
- D. At County's discretion, Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

#### **1.8 TIME EXTENSIONS**

- A. Contractor is responsible for requesting time extensions for time impacts that, in the opinion of Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accordance with Document 007200 (General Conditions).
- B. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- C. No time will be granted under the Contract Documents for cumulative effect of changes.
- D. County will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with.
- E. Failure of Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.

#### **1.9 WEEKLY SCHEDULE REPORT**

- A. At the Weekly Progress Meeting, described in Section 013150 (Project Meetings), Contractor shall provide and present a time scaled three week look ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

### **PART 2 PRODUCTS – NOT USED**

### **PART 3 EXECUTION – NOT USED**

END OF SECTION

## SECTION 013300

### SUBMITTAL PROCEDURES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1) Description of general requirements for Submittals for the Work:
    - a. Procedures
    - b. Product Data
    - c. Shop Drawings
    - d. Samples
      - 1) Design Data
      - 2) Test Reports
      - 3) Certificates
      - 4) Manufacturers' Instructions
      - 5) Material Safety Data Sheets
    - e. Installation, Operation, and Maintenance Manual
    - f. Computer Programs
    - g. Project Record Documents
  - 2) Delay of Submittals

##### 1.2 PROCEDURES

- A. Submit at Contractor's expense the following items ("Submittals") required by the Contract Documents:
  - 1) Schedule of Submittals
  - 2) Safety Program
  - 3) Progress Schedule
  - 4) Product Data; Shop Drawings; Samples
  - 5) Storm Water Pollution Prevention Plan
  - 6) Coordination Drawings
  - 7) Quality Assurance/Control Data
  - 8) Machine Inventory Sheets
  - 9) Installation, Operation, and Maintenance Manual
  - 10) Computer Programs
  - 11) Project Record Documents
  - 12) Other material requested by County
- B. Submit these Submittals to County, in accordance with in accordance with the accepted initial and/or Progress Schedule and with such promptness as to cause no delay in Contractor's own work or that of any other County contractor.
- C. Transmit each item with County provided Submittal transmittal form. Where manufacturer's standard drawings or data sheets are used, they shall be marked clearly to show those portions of the data that are applicable to this Project. Inapplicable portions shall be marked out. Organize Submittals by Specification Section. Submittals containing information about more than one Specification Section will be returned for resubmittal. Submittals shall include all information requested by each Specification Section. Incomplete Submittals will be returned not reviewed by County.
- D. Begin no fabrication or Work that requires Submittals until County's review does not require resubmittal. Do not extrapolate from Submittals covering similar Work.
- E. The data shown on the Submittals shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show County the materials and equipment Contractor proposes to provide and to enable County to review the information for the limited purposes specified in this Section 013300. Submittals shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as County may require to enable County to

- review the Submittal.
- F. At the time of each submission, Contractor shall give County specific written notice of all deviations, if any, that the Submittal may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be in a written communication attached to the Submittal transmittal form. In addition, Contractor shall cause a specific notation to be made on each Submittal submitted to County for review and approval of each such variation. County reserves the right to reject any product or work provided by Contractor if Contractor fails to provide this written notice of all deviation, even if County and/or Architect approved the Submittal.
  - G. Submittal coordination and verification is the responsibility of Contractor; this responsibility shall not be delegated in whole or in part to Subcontractors or suppliers. Before submitting each Submittal, review and coordinate each Submittal with other Submittals and with the requirements of the Work and the Contract Documents, and determine and verify:
    - 1) All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
    - 2) All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - 3) All information relative to Contractor's sole responsibility for means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto.
  - H. Contractor's submission to County of a Submittal shall constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above in this paragraph 1.2 of this Section 013300, with respect to Contractor's review and approval of that Submittal.
  - I. Designation of Work "by others" or the like in a Submittal shall not limit Contractor's responsibility under Contract Documents for either the Submittal or any work described therein.
  - J. After review by County of each Submittal, material will be returned to Contractor with actions defined as follows:
    - 1) NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with future Submittals and additional partial Submittals for portions of the Work not covered in this Submittal. Does not constitute approval or deletion of specified or required items not shown on the Submittal.
    - 2) MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as item 1 above, except that minor corrections as noted shall be made by Contractor.
    - 3) REVISE AS NOTED AND RESUBMIT - Rejected because of major inconsistencies or errors that shall be resolved or corrected by Contractor prior to subsequent review by County.
    - 4) INCOMPLETE SUBMITTAL - RESUBMIT - A portion of the submitted material does not conform to Drawings and/or Specifications (i.e. information is missing or incorrect). Contractor shall correct prior to subsequent review by County.
    - 5) REJECTED - RESUBMIT - Submitted material does not conform to Drawings and/or Specifications in major respect, i.e.: wrong size, model, capacity, or material.
    - 6) RETAINED FOR A/E AND COUNTY RECORD ONLY - INFORMATIONAL ONLY - No further action is required by Contractor.
  - K. County reserves the right to deduct monies from payments due Contractor to cover additional costs of review beyond the second submission. Illegible Submittals will be rejected and returned to Contractor for resubmission. Contractor shall be in breach of the Contract if Contractor, at least by second submission, is not complete.
    - 1) Charge for resubmissions:
      - a. One re-examination of Contractor's Submittals that have been returned for correction or replacement will be included in County's budget. Any additional re-examination of Contractor's Submittals will be considered additional scope services to be paid by Contractor through County. Contractor shall pay County (or County may deduct from any progress or final payment), for County personnel time

on an hourly basis at 2.5 times direct payroll expenses, and for consultant (including A/E) personnel time at 1.25 times the amount billed County.

- L. Favorable review will not constitute acceptance by County of any responsibility for the accuracy, coordination, or completeness of the Submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back-check comments, corrections, and modifications from County's review before fabrication. Contractor, Subcontractors, or suppliers may prepare Submittals, but Contractor shall ascertain that Submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. County's review will be only to assess if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as indicated by the Contract Documents. Favorable review of Submittal, method of Work, or information regarding materials and equipment Contractor proposes to provide shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by County, or any officer or employee thereof, and Contractor shall have no claim under Contract Documents on account of failure or partial failure or inefficiency or insufficiency of any plan or method of Work or material and equipment so accepted. Favorable review shall be considered to mean merely that County has no objection to Contractor using, upon Contractor's own full responsibility, plan or method of Work proposed, or furnishing materials and equipment proposed.
- M. Unless otherwise specified, County's review will not extend to the means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- N. Submit complete initial Submittal for those items where required by individual Specification Sections. Complete Submittal shall contain sufficient data to demonstrate that items comply with Specifications, shall meet minimum requirements for submissions cited in Specification Sections, shall include motor data and seismic anchorage certifications, where required, and shall include necessary revisions required for equipment other than first named.
- O. Copy, conform, and distribute reviewed Submittals in sufficient numbers for Contractor's files, Subcontractors, and vendors. Distribute copies of reviewed Submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions
- P. After County's review of Submittal, revise as noted and resubmit as required. Identify changes made since previous Submittal.
  - 1) Normally, Submittals will be processed and returned to Contractor within twenty-eight (28) Days of receipt
- Q. All Submittals shall be number-identified by Contractor, using unique sequential numbers for each submittal.
- R. Submission Requirements:
  - 1) Schedule submission of submittals so as not to delay Work and allow twenty-eight (28) Days from County receipt of initial Submittal and an additional twenty-eight (28) Day review period for all subsequent Submittals without delay to Work. Deliver initial Submittals to County at least twenty-eight (28) Days before dates reviewed Submittals will be needed.
  - 2) Unless otherwise noted, the following table lists the number of initial Submittals required from Contractor for each type of submission, to whom Contractor shall distribute the information, and County's return of reviewed submissions. If Contractor needs more copies of reviewed Submittals returned to it, then either submit additional copies or make copies from the returned Submittal. Submittals requiring resubmission will require the same quantity and distribution as an initial Submittal.

Provide two (2) additional copies of each submittal for products and/or systems included in Section 019100 (Commissioning) for review by the Commissioning Agent if Commissioning is part of the Work.



SUBMITTAL	Contractor Submittal		A/E Submittal Review Return	
	# of Copies/ Prints/ Samples*		# of Copies/ Prints/ Samples*	
Items Go To →	County	A/E	County	Contractor
Shop Drawings	2	4	2	1
Product Data	2	4	2	1
Samples	1	3	1	1
MSDSs	1	1	0	0
Installation, Operation, and Maintenance Manual	1	3	2	0
Other Documents	2	4	2	1

\*If submittal is an electronic file, only one (1) copy of the file should be submitted.

- 3) Accompany Submittals with Submittal transmittal form provided by County, containing:
  - a. Date, revision date, and Submittal identification number
  - b. Project name and County's Contract number
  - c. Contractor's name, address, and job number
  - d. Specification Section number clearly identified
  - e. The quantity of Shop Drawings, Product Data, or Samples submitted
  - f. Notification of deviations from Contract Documents
- 4) Submittal shall include:
  - a. Date and revision dates
  - b. Revisions, if any, identified
  - c. Project Name and Contract number
  - d. The names of:
    - 1) Contractor, Subcontractor, Supplier, Manufacturer, and separate detailer, when pertinent
  - e. Identification of product material by location within the Project
  - f. Relation to adjacent structure or materials
  - g. Field dimensions, clearly identified as such
  - h. Specification Section number and applicable detail reference number and Drawing number
  - i. Applicable reference standards, such as ASTM, ANSI, FS, NEMA, SMACNA or ACI
  - j. A blank space, on each Drawing or data sheet, 5" x 4" for the A/E review stamp
  - k. Identification of deviations from Contract Documents
  - l. Contractor's stamp, initialed or signed, with language certifying the review of Submittals, verification of field measurements, construction criteria, and technical standards in compliance with Contract Documents
  - m. MSDS for each item complying with OSHA's Hazard Communication Standard 29 CFR 1910.1200
  - n. Other pertinent data
- S. Resubmission requirements:
  - 1) Shop Drawings:
    - a. Revise initial Shop Drawings as required and resubmit as specified for initial Submittals.  
Resubmittals require the same amount of time to review as an initial submittal.
    - b. Indicate on Shop Drawings any changes that have been made other than those requested by County.
  - 2) Product Data and Samples:
    - a. Submit new Product Data and Samples as required for initial Submittals.
  - 3) Installation, Operation, and Maintenance Manual:
    - a. Revise initial Installation, Operation, and Maintenance Manual(s) as required and resubmit as specified for initial Submittals.

### 1.3 PRODUCT DATA

- A. Within ten (10) Days after the Notice to Proceed Commencement Date, submit two (2) copies of complete list of major products proposed for use, with name of manufacturer, telephone number, trade name, and model number of each product. Tabulate data by Specification Section.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- C. Product or Catalog Data:
  - 1) Manufacturers' standard drawings shall be modified to delete non-applicable data or include applicable data.
  - 2) Manufacturers' catalog sheets, brochures, diagrams, schedules, charts, illustrations, and other standard descriptive data:
    - a. Mark each copy to identify pertinent materials, products, or models.
    - b. Show dimensions and clearances required, performance characteristics and capacities, wiring diagrams and controls.
  - 3) Material Safety Data Sheets:
    - a. In addition to MSDSs otherwise required by the Contract Documents, submit four (4) copy for any products containing a hazardous substance such as paints, solvents, thinners, varnish, lacquer, glues and adhesives, mastics, sealants, equipment fuel, equipment lubricant, or other materials needed for the Project as required by the individual Specification Sections or as otherwise specified in the Contract Documents.
    - b. MSDSs must be submitted with Product Data in order for the Submittal to be reviewed.
- D. Supplemental Data:
  - 1) Submit number of copies that Contractor requires, plus two (2) copies that will be retained by County.
  - 2) Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to Project.
- E. Provide copies for Project Record Documents described in Section 017839 (Project Record Documents).

#### **1.4 SHOP DRAWINGS**

- A. Minimum Sheet Size: 8½ inches by 11 inches. All others: Multiples of 8½ inches by 11 inches, 34 inches by 44 inches maximum.
- B. Original sheet or reproducible transparency will be marked with County's review comments and returned to Contractor.
- C. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to Work.
- D. Include manufacturers' installation instructions when required by Specification Section.
- E. If Contractor submits Shop Drawings for items that Shop Drawings are not specified, County will not be obliged to review them.
- F. Contractor is responsible for procuring copies of Shop Drawings for its own use as it may require for the progress of the Work.
- G. Shop Drawings shall be drawn to scale and completely dimensioned, showing plan view together with such sectional views as are necessary to clearly show construction detail, materials, and methods.

#### **1.5 SAMPLES**

- A. Submit full range of manufacturers' standard colors, textures, and patterns for County's selection.
- B. Submit Samples to illustrate functional and aesthetic characteristics of product, with integral parts and attachment devices. Coordinate Submittal of different categories for interfacing Work.
- C. Include identification on each Sample, giving full information.
- D. Sizes: Unless otherwise specified, provide the following:
  - 1) Paint Chips: Manufacturers' standard
  - 2) Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square

- 3) Linear Products: Minimum 6 inches, maximum 12 inches long
- 4) Bulk Products: Minimum 1 pint, maximum 1 gallon
- E. Full size Samples may be used in Work upon approval by County.
- F. Field Samples and Mock-ups (if applicable):
  - 1) Erect field Samples and mock-ups at Site in accordance with requirements of Specification Sections. If testing is conducted, record and certify results and full Contract compliance.
  - 2) Modify or make additional field Samples and mock-ups as required to provide appearance and finishes approved by County.
  - 3) Approved field Samples and mock-ups may be used in Work upon approval by County.
  - 4) Construct or prepare as many additional Samples as may be required, as directed by County, until desired textures, finishes, and/or colors are obtained.
  - 5) Accepted Samples and mock-up shall serve as the standard of quality for the various units of Work.
- G. No review of a Sample shall constitute a change or modify the requirements in the Contract Documents.
- H. Finishes, materials, and workmanship in the completed Work shall match accepted Samples.

**1.6 INSTALLATION, OPERATION, AND MAINTENANCE MANUAL**

- A. Sheet Size: 8½ x 11 inch
- B. Drawing Size: Reduce drawings or diagrams to an 8½ x 11 inch or 11 x 17 inch size. However, where reduction is not practical to ensure readability, fold larger drawings separately and place in vinyl envelopes bound into the binder. Identify vinyl envelopes with drawing numbers.
- C. Binding: Bind in stiff, metal-hinged, three-ring binder(s) with standard three-hole punching.
- D. Multiple Items: Multiple items may be combined into one binder; tab each section with plastic-coated dividers.
- E. Page Protectors: Provide plastic sheet lifters prior to first page and following last page.
- F. Binder title: Include the following title on front and spine of binder:
 

[NAME OF PROJECT]  
 INSTALLATION, OPERATION, AND MAINTENANCE MANUAL, [ENTER DATE]
- G. Contents:
  - 1) Introductory Information:
    - a. Title page providing the same information as paragraph 1.6F above
    - b. Contractor's name, address, and telephone number
    - c. Table of Contents
  - 2) Contractor shall include, at a minimum, the following detailed information for each item as applicable and as required by individual Specification Sections:
    - a. Equipment function, normal operating characteristics, limiting operations.
    - b. Assembly, disassembly, installation, alignment, adjustment, and checking instructions.
    - c. Operating instructions for startup, routine and normal operation, regulation and control, shutdown, and emergency conditions.
    - d. Lubrication and maintenance instructions including specific type and amount of lubricant and recommended lubrication interval.
    - e. Guide to "troubleshooting."
    - f. Parts list and predicted life of parts subject to wear.
    - g. Outline, cross-section, and assembly drawings; engineering data; and electrical diagrams, including elementary diagrams, labeled wiring diagrams, connection diagrams, word description of wiring diagrams and interconnection diagrams.
    - h. Test data and performance curves.
    - i. A list of recommended spare parts with a price list and a list of spare parts provided under this Contract.
    - j. Copies of parts lists or other documents packed with equipment when delivered.
    - k. Instrumentation or tag numbers relating the equipment back to the Contract

- Documents.  
3) Index

**1.7 COMPUTER PROGRAMS**

- A. When any equipment requires operation by computer programs, Contractor shall submit copy of program on appropriate diskette plus all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Program shall be Windows compatible. Contractor shall provide required licenses to County at no additional cost.

**1.8 PROJECT RECORD DOCUMENTS**

- A. Submit Project Record Documents as required by Section 017839 (Project Record Documents).

**1.9 PROJECT DELAY CAUSED BY SUBMITTAL DELAY**

- A. Any Project delay which is caused by Contractor delay in submitting Submittals is considered avoidable delay, and will not be a basis for extension of Contract Time. Liquidated damages incurred because of late Submittals will be assessed to Contractor as otherwise provided in Contract Documents.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

## SECTION 014100

### REGULATORY REQUIREMENTS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section includes: regulatory requirements applicable to Contract Documents.
- B. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
- C. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a Change Order detailing and specifying the required Work shall be submitted to and approved by County before proceeding with the Work.

##### 1.2 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules and regulations are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements. The listing of applicable codes, laws, and regulations for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable laws, regulations, or ordinances having application to the Work. Where conflict among the requirements or with these Specifications occurs, the most stringent requirements shall be used.
- B. Conform to referenced codes, laws, ordinances, rules and regulations.

##### 1.3 CODES

- A. Codes that apply to Contract Documents include, but are not limited to, the following:
  - 1) CBC (Part 2, Title 24, CCR, including, without means of limitation, Sections 16A, 102A.23, 308, 420A, 504-506, 904.2.6, 1019 and 1604)
  - 2) CEC (Part 3, Title 24, CCR)
  - 3) CMC (Part 4, Title 24, CCR)
  - 4) CPC (Part 5, Title 24, CCR),
  - 5) California Energy Code (Part 6, Title 24 CCR)
  - 6) State Elevator Safety Regulations (Part 7, Title 24, CCR)
  - 7) California Green Building Standards Code (CALGreen) (Part 11, Title 24, CCR)
  - 8) UBC
  - 9) UPC
  - 10) UMC
  - 11) NEC

##### 1.4 LAWS, ORDINANCES, RULES, AND REGULATIONS

- A. During prosecution of Work to be done under Contract Documents, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:
  - 1) Federal:
    - a. Americans With Disabilities Act of 1990
    - b. 29 CFR, Section 1910.1001, Asbestos
    - c. 40 CFR, Subpart M, National Emission Standards for Asbestos
    - d. Executive Order 11246
    - e. Federal Endangered Species Act
    - f. Clean Water Act
  - 2) State of California:
    - a. California Code of Regulations, Titles 5, 8, 19, 21, 22, 24 and 25
    - b. California Public Contract Code

- c. California Health and Safety Code
  - d. California Government Code
  - e. California Labor Code
  - f. California Civil Code
  - g. California Code of Civil Procedure
  - h. CPUC General Order 95, Rules for Overhead Electric Line Construction
  - i. CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems
  - j. Cal/OSHA
  - k. OSHA: Hazard Communications Standards
  - l. California Endangered Species Act
  - m. Water Code
  - n. Fish and Wildlife Code
  - 3) State of California Agencies:
    - a. State and Consumer Services Agency
    - b. Office of Statewide Health Planning and Development
    - c. Department of Fish and Wildlife
    - d. Bay Area Air Quality Management District
    - e. San Francisco Bay Regional Water Quality Control Board
    - f. North Coast Regional Water Quality Control Board
      - 1) Order No. 93-61
      - 2) Order No. 81-73
      - 3) Clean Water Act Section 401
    - g. State of California, Department of Transportation (Caltrans) Specifications and Standards
      - 1) Standard Specifications
        - (a) Section 7 Legal Relations and Responsibility
        - (b) Section 12 Construction Area Traffic Control Devices
      - 2) Standard Plans:
        - (a) Temporary Traffic Control Systems
      - 3) California Manual on Uniform Traffic Control Devices, Current Edition (California MUTCD)
  - 4) County of Sonoma:
    - a. Ordinance 3836R
    - b. Building permit
    - c. Electrical permit
    - d. Grading permit
    - e. Encroachment permit
    - f. Valley Oak Protection Ordinance
    - g. Fuel storage tank permit
    - h. Fire sprinkler system permit
    - i. Fire alarm system permit
    - j. Underground fire protection water main and hydrant system permit
  - 5) Local Agencies:
    - a. Applicable County Ordinances
    - b. Northern Sonoma County Air Pollution Control District
  - 6) Other Requirements:
    - a. National Fire Protection Association (NFPA): Pamphlet 101, Life Safety.
    - b. References on Drawings or in Specifications to "code" or "building code" not otherwise identified shall mean the codes specified in this Section 014100, together with all additions, amendments, changes, and interpretations adopted by code authorities of the jurisdiction.
- B. Have access to all of the foregoing within 24 hours.
- C. Other Applicable Laws, Ordinances and Regulations:
- 1) Work shall be accomplished in conformance with all applicable laws, ordinances, rules and regulations of federal, state, and local governmental agencies and jurisdictions

- having authority over the Project.
  - 2) Work shall be accomplished in conformance with all rules and regulations of public utilities and utility districts.
  - 3) Where such laws, ordinances rules, and regulations require more care or greater time to accomplish Work, or require better quality, higher standards or greater size of products, Work shall be accomplished in conformance to such requirements with no change to the Contract Time and Contract Sum, except where changes in laws, ordinances, rules, and regulations occur subsequent to the time of opening of the Bids.
- D. Change Orders and Claims. The California Public Contract Code (including but not limited to Section 7105(d)(2)) and the California Government Code (Section 930.2 et seq.) apply to all contract procedures for changes, time extensions, change orders (time and money), and claims. Federal law (U.S. v. Holpuch 326 U.S. 234) shall supplement but not supercede California law on these requirements. Any change, alteration, Modifications, waiver, or omission to implement these procedures, shall have no legal effect unless approved in advance in a fully executed Change Order approved by County's Board of Supervisors.

**1.5 PRECEDENCE**

- A. Where Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, Drawings and Specifications shall take precedence so long as such increase is legal.
- B. Where no requirements are identified on Drawings or in Specifications, comply with all requirements of applicable codes, ordinances and standards of governing authorities having jurisdiction.
- C. Conflicts between referenced regulatory requirements: Comply with the one establishing the more stringent requirement.
- D. Conflicts between referenced regulatory requirements and Contract Documents: Comply with the one establishing the more stringent requirement.

**1.6 REQUIRED PROVISIONS ON CONTRACT CLAIM RESOLUTION**

- A. The California Public Contract Code specifies required provisions on resolving contract claims less than \$375,000, which are set forth below, and constitute a part of this Contract.
  - 1) For the purposes of this section, "Claim" means a separate demand by Contractor of \$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by County. In order to qualify as a Claim, the written demand must state that it is a Claim submitted under paragraph 12 of Document 007200 (General Conditions) and be submitted in compliance with all requirements of Document 007200 (General Conditions), paragraph 12. Separate Claims which total more than \$375,000 do not qualify as a "separate demand of \$375,000 or less," as referenced above, and are not subject to this section.
  - 2) A voucher, invoice, payment application, or other routine or authorized form of request for payment is not a Claim for purposes of this section. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a Claim under this section by submitting a separate claim in compliance with Contract Documents claim submission requirements.
  - 3) Caution: This section does not apply to tort claims and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the California Government Code.
- B. Procedure:
  - 1) The Claim must be in writing, submitted in compliance with all requirements of Document 007200 (General Conditions), Article 12, including, but not limited to, the time prescribed by and including the documents necessary to substantiate the Claim,

pursuant to Document 007200 (General Conditions), paragraph 12.3. Claims must be filed on or before the day of final payment. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Document 007200 (General Conditions), Article 12 or elsewhere in the Contract Documents.

- 2) For Claims of Fifty Thousand Dollars (\$50,000) or less
  - a. County shall respond in writing within forty-five (45) days of receipt of the Claim, or
  - b. County may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims County may have against Claimant.
    - 1) If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of County and Claimant.
    - 2) County's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
- 3) For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to Three Hundred Seventy-Five Dollars (\$375,000):
  - a. County shall respond in writing within sixty (60) days of receipt of the Claim, or
  - b. County may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims County may have against Claimant.
    - 1) If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of County and Claimant;
    - 2) County's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
- 4) Meet and Confer:
  - a. If Claimant disputes County's written response, or County fails to respond within the time prescribed above, Claimant shall notify County, in writing, either within fifteen (15) days of receipt of County's response or within fifteen (15) days of County's failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand County will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
  - b. Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written Claim as set forth in paragraph 1.6.B above, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

#### **1.7 COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT**

- A. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services, and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state, and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits, or activities provided under this Agreement and further agrees that



any violation of this prohibition on the part of Contractor, its employees, agents, or assigns shall constitute a material breach of the Contract Documents.

**1.8 CAL/OSHA PERMIT. OBTAIN, AS APPLICABLE, PERMIT(S) AS REQUIRED BY CAL/OSHA FOR THE FOLLOWING:**

- A. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
- B. Construction or demolition of any building, structure, or scaffolding for falsework more than three stories high, or the equivalent height (36 feet).
- C. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).

**1.9 COUNTY OF SONOMA BUILDING PERMIT(S)**

- A. County of Sonoma Building Permit. County will obtain the necessary permit from PRMD for the Work under this Contract requiring a permit. A copy of the permit and a copy of the required Inspection Record Card will be furnished to Contractor for posting at the Site.
- B. All other permits that may be required, such as deferred submittals (underground fire protection water supply system, fire sprinkler system, fire alarm system, fuel storage and tank, and kitchen exhaust hood systems), electrical, mechanical, fire prevention, irrigation, grading, slope protection, tree cutting, etc., have not been applied for and shall be obtained by Contractor. Applicable permit fees will be reimbursed by County to the extent specified in Document 007200 (General Conditions).

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

## SECTION 014200

### REFERENCES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes: Reference standards, abbreviations, symbols, definitions, and terminology used in Contract Documents.
- B. Full titles are given in this Section for standards cited in other Sections of Specifications.
- C. Material and workmanship specified by reference to number, symbol, or title of specific standard such as state standard, commercial standard, federal specifications, technical society, or trade association standard, or other similar standard, shall comply with requirements of standards except when more rigid requirements are specified or required by applicable codes.
- D. Standards referred to, except as modified herein, shall have full force and effect as though printed in the Contract Documents. Standards are not furnished to Contractor because manufacturers and trades involved are assumed to be familiar with their requirements.

##### 1.2 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES

- A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code, or laws or regulations (including all amendments, changes, errata, addenda, and supplements) in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
  - 1) When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of opening Bids.
    - a. Exception: Comply with issues in effect as listed in governing legal requirements.
- B. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual, or code, or of any instruction of any supplier, report it in writing at once by submitting a RFI to County, and do not proceed with the Work affected thereby until consent to do so is given by County.
- C. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, CCD, or Supplemental Instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
  - 1) The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
  - 2) The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
- D. No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of County, Contractor, or Architect, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to County, Architect, or any of their consultants, agents, representatives or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.
- E. Comply with the applicable portions of standards and specifications published by the technical societies, institutions, associations, and governmental agencies referred to in Specifications.
- F. Referenced Grades, Classes, and Types: Where an alternative or optional grade, class,

or type of product or execution is included in a reference but is not identified in Drawings or in Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

- G. Jobsite Copies:
  - 1) Obtain and maintain at the Site copies of reference standards identified on Drawings and in Specifications in order to properly execute the Work.
  - 2) At a minimum, the following shall be readily available at the Site:
    - a. Safety Codes: State of California, Division of Industrial Safety regulations.
- H. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

### 1.3 ABBREVIATIONS

- A. Listed hereinafter are the various organizations or references which may appear in the Contract Documents, along with their respective acronyms and/or abbreviations:

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	Architectural Aluminum Manufacturers Association
AAP	Affirmative Action Program
AASHTO	American Association of State Highway and Transportation Officials
ABMA	American Bearing Manufacturers Association
ABPA	American Board Products Association
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
AED	Association of Equipment Distributors
AFBMA	Anti-friction Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute (formerly American Standards Association)
APA	American Plywood Association
ARI	Air-Conditioning and Refrigeration Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWCI	Association of the Wall and Ceiling Industries
AWPA	American Wood-Preservers' Association
AWPB	American Wood Preservers Bureau
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIL	Basic Insulation Level
CALGreen	California Green Building Standards Code, T-24 Part 11
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	State of California, Department of Transportation
CBC	California Building Code
CCD	Construction Change Directive
CCR	California Code of Regulations
CEC	California Electric Code

CFR	Code of Federal Regulations
CI	Chlorine Institute, Inc.
CISPI	Cast Iron Soil Pipe Institute
CLMFI	Chain Link Fence Manufacturers Institute
CMAA	Crane Manufacturers Association of America, Inc.
CMC	California Mechanical Code
CO	Change Order
COE	United States Army Corps of Engineers
CPC	California Plumbing Code
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards, U.S. Department of Commerce
CSA	Canadian Standards Association
CTI	Ceramic Tile Institute
DHI	Door and Hardware Institute
DSA	Division of State Architect (formerly known as the Office of the State Architect)
EIA	Electronic Industries Association
EPA	Environmental Protection Agency
ETL	Electrical Testing Laboratories
FGMA	Flat Glass Marketing Association
FM	Factory Mutual
FMRC	Factory Mutual Research Corporation
FS	Federal Specifications
GA	Gypsum Association
HI	Hydraulic Institute
HMMA	Hollow Metal Manufacturer's Association
HPMA	Hardwood Plywood Manufacturers Association
HVAC	Heating, Ventilating and Air Conditioning
I.D.	Identification
IACS	International Annealed Copper Standards
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronic Engineers, Inc.
IES	Illuminating Engineering Society
ISA	The Instrumentation, Systems, and Automation Society
ISA	Instrumentation Society of America
ISO	International Organization for Standardization
JATC	Joint Apprenticeship Training Committee
JV	Joint Venture
LBE	Local Business Enterprise
M.I.	Middle Initial
M/WBE	Minority and/or Woman-Owned Business Enterprise
MBE	Minority Business Enterprise
MIA	Masonry Institute of America
MIA	Marble Institute of America
MLSFA	Metal Lath/Steel Framing Association
MS	Military Specifications
MSDS	Material Safety Data Sheet
MSS	Manufacturers Standardization Society of the Valve & Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NEC	National Electric Code

NEMA	National Electric Manufacturers Association
NESC	National Electrical Safety Code
NFoPA	National Forest Products Association
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NOFMA	National Oak Flooring Manufacturers Association
NRMCA	National Ready Mixed Concrete Association
NSF	National Sanitation Foundation
NTMA	National Terrazzo & Mosaic Association
NWWDA	National Wood Windows and Doors Association
OSHA	Occupational Safety and Health Administration
OSHPD	Office of Statewide Health Planning and Department
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute
PG&E	Pacific Gas and Electric Company
PM	Preventive Maintenance
PR	Proposal Request
PRMD	Permits and Resource Management Department, County of Sonoma
PS	Product Standard, U. S. Department of Commerce
RFI	Request for Information
RFP	Request for Proposals
RFS	Request for Substitution
RIS	Redwood Inspection Service
SAE	Society of Automotive Engineers
SDoI	Steel Door Institute
SDel	Steel Deck Institute
SFM	State of California, Office of State Fire Marshal
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joint Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America
TIE	Time Impact Evaluation
TMS	The Masonry Society
TPI	Truss Plate Institute Inc.
UBC	Uniform Building Code
UFC	Uniform Fire Code
UL	Underwriters' Laboratories, Inc.
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
USA	Underground Service Alert
USC	United States Code
WCLIB	West Coast Lumber Inspection Bureau
WHI	Warnock Hersey International
WIC	Woodwork Institute of California
WWPA	Western Wood Products Association
WWPI	Western Wood Preservers Institute

B. Abbreviations in Specifications:

AWG	American Wire Gauge
accord	Accordance
Co.	Company
Corp.	Corporation
cm.	centimeter (centimeters)
cu.	Cubic
Div.	Division
dia.	diameter
ft.	foot (feet)
g./gr.	gram (grams)
gal.	gallon (gallons)
gpd	gallons per Day
gpm	gallons per minute
hr.	hour
kg.	kilogram (kilograms)
in.	inch (inches)
Inc.	Incorporated
km.	kilometer (kilometers)
kVAR	Kilovolts amperes reactive
kW	Kilowatt
l.	liter (liters)
lbs.	pounds
m	meter (meters)
Mfg.	manufacturing
mg.	milligram (milligrams)
ml./mls.	milliliter (milliliters)
mm.	millimeter (millimeters)
No.	number
o.c.	on centers
O.D.	outside diameter
psi	pounds per square inch
psf	pounds per square foot
sq.	square
T & G	tongue and groove
U.S.	United States
yd.	yard (yards)

C. Abbreviations on Drawings:

- 1) Additional abbreviations, used only on Drawings, are indicated thereon.

**1.4 SYMBOLS**

A. Symbols in Specifications:

:	“shall be” or “shall” - where used within sentences or paragraphs
#1	Number
1#	Pound
&	And
%	Percent
C	Centigrade
F	Fahrenheit
°	Degree
/	per, except where used to combine words; example: power/fuel, and in that case it means and
“	inch (inches)
‘	foot (feet)
@	At

- B. Symbols on Drawings:
  - 1) Symbols, used only on Drawings, are indicated thereon.

## **1.5 DEFINITIONS**

- A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural.
- B. While County has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:
  - 1) Addenda: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-Bid Conference and/or Site Visit.
  - 2) Agreement Form (Document 005213): This Agreement is the basic Contract Document that binds the parties to construction Work. Agreement defines relationships and obligations between County and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract Documents.
  - 3) Alternate: Work added to or deducted from the Base Bid, if accepted by County.
  - 4) Application for Payment: Written application for monthly or periodic progress or final payment made by Contractor complying with the Contract Documents.
  - 5) Approved Equal: Approved in writing by County as being of equivalent quality, utility and appearance.
  - 6) Architect: The individual (or firm including the individual) holding a valid California State Architect's license designated within the Contract Documents as Architect to provide architectural and/or engineering services on the Project. When Architect is referred to within the Contract Documents and no Architect has in fact been designated, then the matter shall be referred to County. The term Architect shall be construed to include all of Architect's consultants retained for the Project, as well as employees of Architect. When the designated Architect is an employee of County, his or her authorized representatives on the Project will be included under the term Architect, and Architect is the beneficiary of all Contractor obligations to County, including without limitation, all releases and indemnities.
  - 7) Architect's Supplemental Instruction ("ASI"): A written clarification of Contract Documents issued by Architect that does not result in change in Contract Sum or Contract Time, nor substantially changes Drawings or Specifications. See Section 01250 (Clarification and Modification Procedures).
  - 8) Asbestos: Any material that contains more than one (1) percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by OSHA or Cal/OSHA.
  - 9) Bid: The offer or proposal of the Bidder submitted on the prescribed form(s) setting forth the prices for the Work to be performed.
  - 10) Bidder: One who submits a Bid to the County.
  - 11) Bidding Documents: All documents comprising the Project Manual (including all documents and Specification Sections listed in Document 00010 [Table of Contents]), including documents supplied for bidding purposes only and Contract Documents.
  - 12) Board: The Board of Supervisors of the County.
  - 13) Business Day: Any Day other than Saturday, Sunday, and the following days that have been designated as holidays by County. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday.
    - a. New Year's Day, January 1;
    - b. Martin Luther King Jr.'s Birthday, third Monday in January;
    - c. Lincoln's Birthday, February 12;
    - d. Presidents' Day, third Monday in February;

- e. Memorial Day, last Monday in May;
  - f. Independence Day, July 4;
  - g. Labor Day, first Monday in September;
  - h. Veterans' Day, November 11;
  - i. Thanksgiving Day, as designated by the President;
  - j. The Day following Thanksgiving Day;
  - k. Christmas Day, December 25; and
  - l. Each day appointed by the Governor of California and formally recognized by the Sonoma County Board of Supervisors as a day of mourning, thanksgiving, or special observance.
- 14) Change Order: A written instrument prepared by County and signed by County and Contractor, stating their agreement upon all of the following:
    - a. a change in the Work;
    - b. the amount of the adjustment in the Contract Sum, if any; and
    - c. the amount of the adjustment in the Contract Time, if any.
  - 15) Claim: Is defined in Document 007200 (General Conditions).
  - 16) Code Inspector: A local or state agency responsible for the enforcement of applicable codes and regulations.
  - 17) Commencement Date: The date on which Contract Time commences to run as provided in the Contract Documents.
  - 18) Construction Change Directive ("CCD"): A written order prepared and signed by County, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both.
  - 19) Consultant: A consultant is an expert or a professional in a specific field and has a wide knowledge of the subject matter.
  - 20) Contract Conditions or Conditions of the Contract: Consists of two parts: General Conditions and Supplementary Conditions.
    - a. General Conditions are general clauses that are common to County Contracts, including Document 007200 (General Conditions).
    - b. Supplementary Conditions modify or supplement General Conditions to meet specific requirements for these Contract Documents, including Document 007300 (Supplementary Conditions) and Document 007316 (Insurance Requirements) and Document 007373 (Statutory Requirements – Apprenticeship Program) (if used).
  - 21) Contract Documents and Contract: Contract Documents and Contract shall consist of the documents identified as the Contract Documents in Document 005213 (Agreement Form – Stipulated Sum), plus all changes, Addenda, and Modifications thereto.
  - 22) Contract Modification: Either:
    - a. a written amendment to Contract signed by Contractor and County; or
    - b. a Change Order; or
    - c. a Construction Change Directive; or
    - d. a written directive for a minor change in the Work issued by County.
  - 23) Contract Sum: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by County to Contractor for performance of the Work and the Contract Documents. The Contract Sum is also sometimes referred to as the Contract Price or the Contract Amount.
  - 24) Contract Time: The number or numbers of Days or the dates stated in the Agreement:
    - a. to achieve Substantial Completion of the Work or designated Milestones; and/or
    - b. to complete the Work so that it is ready for final payment and is accepted.
  - 25) Contractor: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neutral in gender. The term "Contractor" includes Contractor or its authorized representative.
  - 26) Contractor's Employees: Persons engaged in execution of Work under Contract as direct employees of Contractor, as Subcontractors, or as employees of Subcontractors.
  - 27) County: County of Sonoma



- 28) County-Furnished, Contractor-Installed: Items furnished by County at its cost for installation by Contractor at its cost under Contract Documents.
- 29) County's Representative(s): See Document 005213 (Agreement Form – Stipulated Sum).
- 30) Day: One calendar day of twenty-four (24) hours measured from midnight to the next midnight, unless the word "day" is specifically modified to the contrary.
- 31) Defective: An adjective which, when modifying the word "Work," refers to Work that is unsatisfactory or unsuited for the use intended, faulty or deficient, that does not conform to the Contract Documents, or breaches any express or implied warranty or guaranty, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of Samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by County). County is the judge of whether Work is Defective.
- 32) Disputed Work: As defined in Document 007200 (General Conditions), Article 12.
- 33) Drawings: The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.
- 34) Engineer: If used elsewhere in the Contract Documents, "Engineer" shall mean an individual (or firm including the individual) holding a valid California State Architect's or Engineer's license designated within the Contract Documents as Engineer to provide engineering and/or architectural services on the Project. Engineer may be an employee of or an independent consultant to County. When Engineer is referred to within the Contract Documents and no Engineer has in fact been designated, then the matter shall be referred to County. The term Engineer shall be construed to include employees of Engineer and/or employees that Engineer supervises. When Engineer is an employee of County, his or her authorized representatives on the Project will be included under the term Engineer. If Architect is an employee of County, Engineer is releases and indemnities.
- 35) Equal: Equal in opinion of County. Burden of proof of equality is responsibility of Contractor.
- 36) Final Acceptance or Final Completion: County's acceptance of the Work as satisfactorily completed in accordance with Contract Documents, as evidence by County's issuance of Final Inspection Report. Requirements for Final Acceptance/Final Completion include, but are not limited to:
- a. All systems having been tested and accepted as having met requirements of Contract Documents.
  - b. All required instructions and training sessions having been given by Contractor.
  - c. All Project Record Documents having been submitted by Contractor, reviewed by County, and accepted by County.
  - d. All punch list Work, as directed by County, having been completed by Contractor.
  - e. Generally all Work, except Contractor maintenance after Final Acceptance/Final Completion, having been completed to satisfaction of County.
- 37) Final Inspection Report: Document issued by County to indicate Final Completion has occurred.
- 38) Force Account: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.
- 39) Guaranty Period: Is defined in Document 006536 (Warranty Form).
- 40) Initial Schedule: See Section 013200 (Construction Progress Documentation).
- 41) Milestone: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.
- 42) Modification: Same as Contract Modification.
- 43) Not in Contract: Work that is outside the scope of Work to be performed by Contractor under Contract Documents.

- 44) Notice of Completion: Shall have the meaning provided in California Civil Code Section 9204, and any successor statute.
- 45) Notice of Potential Claim: As described in Document 007200 (General Conditions), Article 12.
- 46) Off Site: Outside geographical location of the Project.
- 47) Original Schedule: See Section 013200 (Construction Progress Documentation).
- 48) Partial Utilization: Use by County of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all of the Work.
- 49) PCBs: Polychlorinated biphenyls.
- 50) Phase: A specified portion of the Work (if any) specifically identified as a Phase in Document 005213 (Agreement Form) or Document 011000 (Summary).
- 51) Product Data: That information (brochures, catalog sheets, manufacturer's data sheets, etc.) supplied by vendors having technical and commercial characteristics of the supplied equipment or materials and accompanying commercial terms such as warranties, instructions, and manuals.
- 52) Progress Report: A periodic report submitted by Contractor to County with progress payment invoices accompanying progress schedule. See Section 013200 (Construction Progress Documentation) and Document 007200 (General Conditions).
- 53) Project: Total construction of which Work performed under Contract Documents may be whole or part.
- 54) Project Inspector: A person(s) subcontracted to testing and special inspection agency or engaged directly by County to provide general observation of the Work, scheduling requested inspections by Contractor and reporting to County.
- 55) Project Manager: See County Representative.
- 56) Project Manual: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, Drawings, and Specifications.
- 57) Project Record Documents: All Project deliverables required under Sections 01700 et seq., including without limitation, as-built drawings; Installation, Operation, and Maintenance Manuals; and Machine Inventory Sheets.
- 58) Request for Information ("RFI"): A document prepared by Contractor or County requesting information regarding the Project or Contract Documents as provided in Section 012600 (Contract Modification Procedures). The RFI system is also a means for County to submit Contract Document clarifications or supplements to Contractor.
- 59) Request for Proposals ("RFP"): A document issued by County to Contractor whereby County may initiate changes in the Work or Contract Time as provided in Contract Documents. See Section 012600 (Contract Modification Procedures).
- 60) Request for Substitution ("RFS"): A document prepared by Contractor requesting substitution of materials as permitted and to the extent permitted in Contract Documents. See Section 016000 (Product Requirements).
- 61) RFI-Reply: A document consisting of supplementary details, instructions, or information issued by County that clarifies or supplements Contract Documents, and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Time except as otherwise agreed in writing by County. RFI-Replies will be issued through the RFI administrative system.
- 62) Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
- 63) Schedule of Values ("SOV"): The detailed breakdown of Contractor's Bid by scheduled Work items and/or activities, to be used as a basis for Applications of Payment and as described in Section 012000 (Price and Payment Procedures).
- 64) Serving Utilities: Is a source or entity that provides utility services; electricity, gas, water, or sewer.
- 65) Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

- 66) Site: The particular geographical location of Work performed pursuant to Contract Documents.
- 67) Specifications: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards, and workmanship for the Work; performance of related services; and are contained in Divisions 1 through 49.
- 68) Subcontractor: A person or entity that has a direct contract with Contractor to perform a portion of the Work at the Site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and neutral in gender and includes Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.
- 69) Submittal: Includes shop drawings, material data, samples produced by Contractor, and other items referenced or described in Section 013300 (Submittal Procedures).
- 70) Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of County as evidenced by a Certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work (or specified part) is complete and ready for final payment as evidenced by written recommendation of County for final payment. The terms "Substantially Complete" and "Substantially Completed" as applied to all or part of the Work refer to Substantial Completion thereof.
- 71) Superintendent: A construction superintendent is Contractor's representative who is responsible for continuous field supervision, coordination, and completion of the work.
- 72) Supplemental Instruction ("SI"): See Architect's Supplemental Instruction above.
- 73) Underground Facilities: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: Electricity, gases, chemicals, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.
- 74) Unit Price Work: Shall be the portions of the Work for which a unit price is provided in Document 005213 (Agreement Form – Stipulated Sum) or Section 011000 (Summary).
- 75) Work: The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including everything shown in the Drawings and set forth in the Specifications. Wherever the word "work" is used, rather than the word "Work," it shall be understood to have its ordinary and customary meaning.
- C. The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:
- 1) Wherever words "as directed," "as required," "as permitted," or words of like effect are used, it shall be understood that direction, requirements, or permission of County is intended. Words "sufficient," "necessary," "proper," and the like shall mean sufficient, necessary, or proper in judgment of County. Words "approved," "acceptable," "satisfactory," "favorably reviewed," or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by County.
  - 2) Wherever the word "may" or "ought" is used, the action to which it refers is discretionary. Wherever the word "shall" or "will" is used, the action to which it refers is mandatory.
  - 3) By County: Work that will be performed by County or its agents at County's expense.
  - 4) By Others: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by County, other contractors, or other means.
  - 5) Concealed: Work not exposed to view in the finished Work, including within or behind

- various construction elements.
- 6) Exposed: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.
  - 7) Furnish: Supply only, do not install.
  - 8) Indicated: Shown or noted on the Drawings.
  - 9) Install: Install or apply only, do not furnish.
  - 10) Latent: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under Document 007200 (General Conditions).
  - 11) Law: Unless otherwise limited, all applicable laws including without limitation all federal, state, and local laws, statutes, standards, rules, regulations, ordinances, and judicial and administrative decisions.
  - 12) Material: This word shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.
  - 13) Provide: Furnish and install.
  - 14) Shown: As indicated on Drawings.
  - 15) Specified: As written in Specifications.
  - 16) Testing and special inspection agency: An independent entity engaged by County to inspect and/or test the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

**SECTION 014500  
QUALITY CONTROL**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Contractor's Quality Control
- B. Quality of the Work
- C. Inspections and Tests by Governing Authorities
- D. Inspections and Tests by Serving Utilities
- E. Inspections and Tests by Manufacturer's Representatives
- F. Tests and Inspections by County or Independent Testing and Inspection Agency
- G. Additional Testing and Inspection

**1.2 CONTRACTOR'S QUALITY CONTROL**

- A. Contractor's Quality Control: Ensure that products, services, workmanship, and Site conditions comply with requirements of Drawings and Specifications by coordinating, supervising, testing, and inspecting the Work and by utilizing only suitably qualified and appropriately audited, licensed, or trained personnel.
- B. Quality Requirements: Work shall be accomplished in accordance with quality requirements of Drawings and Specifications, including, by reference, all codes, laws, rules, regulations, and standards. When no quality basis is prescribed, the quality and testing procedures shall be in accordance with the best-accepted practices of the construction industry for the locale of the Project, for projects of this type, or standards set by engineering or technical societies (e.g., ASTM or ASHRAE), whichever is more stringent.
- C. Quality Control Personnel: Employ and assign knowledgeable and skilled personnel as necessary to perform quality control functions to ensure that the Work is provided as required.

**1.3 QUALITY OF THE WORK**

- A. Quality of Products: Unless otherwise indicated or specified, all products shall be new, free of defects, and fit for the intended use.
- B. Quality of Installation: All Work shall be produced plumb, level, square and true, or true to indicated angle, and with proper alignment and relationship between the various elements, as shown on or required by Contract Documents.
- C. Protection of Completed Work: Take all measures necessary to preserve completed Work free from damage, deterioration, soiling, and staining, until acceptance by County.
- D. Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Unless more stringent requirements are indicated or specified, comply with manufacturer's instructions and recommendations, reference standards and building code research report requirements in preparing, fabricating, erecting, installing, applying, connecting, and finishing Work.
- E. Deviations from Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Secure County's advanced written consent. Document and explain all deviations from reference standards and building code research report requirements and manufacturer's product installation instructions and recommendations, including acknowledgement by the manufacturer that such deviations are acceptable and appropriate for the Project.
- F. Verification of Quality: Work shall be subject to verification of quality by County in accordance with provisions of the Contract Documents.
  - 1) Cooperate by making Work available for inspection.
  - 2) Such verification may include mill, plant, shop, or field inspection as required.
  - 3) Provide access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.
  - 4) Provide all information and assistance as required, including that by and from

subcontractors, fabricators, materials suppliers and manufacturers, for verification of quality by County.

- 5) Applicable provisions of the Contract Documents shall govern Contract Modifications, if any, resulting from such verification activities.
- G. Observations by County's Consultants: Periodic and occasional observations of Work in progress will be made by County and County's consultants as deemed necessary to review progress of Work and general conformance with design intent.
- H. Limitations on Inspection, Test, and Observation: Neither employment of independent testing and inspection agency nor observations or tests by County and County's consultants shall in any manner relieve Contractor of obligation to perform Work in full conformance to all requirements of Contract Documents.
- I. County's Acceptance and Rejection of Work: County reserves the right to reject all Work not in conformance to the requirements of the Drawings and Specifications, or otherwise Defective.
- J. Correction of Defective Work: Defective Work shall be modified, replaced, repaired or redone by Contractor at no change in Contract Sum or Contract Time.
- K. Acceptance of Defective Work: Acceptance of Defective Work, without specific written acknowledgement and approval of County, shall not relieve Contractor of the obligation to correct such Work.
- L. Contract Adjustment for Defective Work: Should County determine that it is not feasible or in County's interest to require Defective Work to be repaired or replaced, an equitable reduction in Contract Sum shall be made by agreement between County and Contractor. If equitable amount cannot be agreed upon, a Construction Change Directive will be issued and the amount in dispute resolved in accordance with applicable provisions of Document 007200 (General Conditions).
- M. Non-Responsibility for Defective Work: County and County's consultants disclaim any and all responsibility for Work produced not in conformance with the Drawings and Specifications.
- N. Responsibility for Defective Work: Contractor shall have full responsibility for all consequences resulting from Defective Work, including without limitation all delays, disruptions, extra inspection and correction costs by Contractor and County and re-Work, and extra time and costs of all types. Contractor waives excuses for defective work relating to County's prior review of Submittals and/or prior failure to notice Defective Work in place on inspection.

#### **1.4 INSPECTIONS AND TESTS BY GOVERNING AUTHORITIES**

- A. Regulatory Requirements for Testing and Inspection: Comply with UBC requirements, including specific requirements of the building permit, if any, and all other requirements of governing authorities having jurisdiction.
- B. Inspections and Tests by Governing Authorities: Cause all tests and inspections required by governing authorities having jurisdiction to be made for Work under this Contract. Except as specifically noted, scheduling, conducting and paying for such inspections shall be solely Contractor's responsibility.

#### **1.5 INSPECTIONS AND TESTS BY SERVING UTILITIES**

- A. Inspections and Tests by Serving Utilities: Cause all tests and inspections required by serving utilities to be made for Work under this Contract. Scheduling, conducting, and paying for such inspections shall be solely Contractor's responsibility.

#### **1.6 INSPECTIONS AND TESTS BY MANUFACTURER'S REPRESENTATIVES**

- A. Inspections and Tests by Manufacturer's Representatives: Cause all tests and inspections specified to be conducted by materials or systems manufacturers to be made. Additionally, all tests and inspections required by materials or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Contract Sum.

#### **1.7 TESTS AND INSPECTIONS BY COUNTY OR INDEPENDENT TESTING AND INSPECTION AGENCY**

- A. County will conduct or County will select an independent testing and inspection agency or agencies to conduct tests and inspections as indicated on Drawings, in Specifications, and as required by governing authorities having jurisdiction.
- B. Responsibility for payment for tests and inspections shall be as indicated in paragraph C and 1.8 below. All time and costs for Contractor's service related to such tests and inspections shall be included in Contract Time and Contract Sum.
- C. All additional charges by testing and inspection agencies and governing authorities having jurisdiction shall be deducted from the Contract Sum due to the following:
  - 1) Contractor's failure to properly schedule or notify testing and inspection agency or authorities having jurisdiction.
  - 2) Changes in sources, lots, or suppliers of products after original tests or inspections.
  - 3) Changes in means, methods, techniques, sequences, and procedures of construction that necessitate additional testing, inspection, and related services.
  - 4) Changes in mix designs for concrete and mortar after review and acceptance of submitted mix design.
  - 5) Contractor submitted requests to change materials or products, which are accepted, but require testing and/or reinspection beyond original design.
- D. Contractor Responsibilities for Inspections and Tests:
  - 1) Unless specified otherwise, notify County and testing agency seventy-two (72) hours in advance of expected time of each test and inspection, and for all other operations requiring inspection and testing services, by submitting Contractor's inspection request in writing (or, if County provides a specific form, on that form).
    - a. When tests or inspections cannot be performed after such notice, reimburse County for testing and inspection agency personnel and travel expenses incurred due to Contractor's negligence.
    - b. For local fire inspections, notify County twenty-four (24) hours in advance of expected time of each test and inspection.
  - 2) Deliver to laboratory or designated location, adequate samples of materials proposed to be used that require advance testing, together with proposed mix designs.
  - 3) Cooperate with testing and inspection agency personnel, County, and County's consultants. Provide access to Work areas and off-Site fabrication and assembly locations, including during weekends and after normal Work hours.
  - 4) Provide incidental labor and facilities to provide safe access to Work to be tested and inspected, to obtain and handle Samples at the Site or at source of products to be tested, and to store and cure test Samples.
  - 5) Provide, at least fifteen (15) Days in advance of first test or inspection of each type, a schedule of tests or inspections indicating types of tests or inspections and their scheduled dates.

#### **1.8 ADDITIONAL TESTING AND INSPECTION**

- A. If initial tests or inspections made by County or the testing and inspection agency reveal that materials do not comply with Contract Documents, or if County has reasonable doubt that materials do not comply with Contract Documents, additional tests and inspections shall be made as directed.
  - 1) If additional tests and inspections establish that materials comply with Contract Documents, County shall pay all costs for such tests and inspections.
  - 2) If additional tests and inspections establish that materials do not comply with Contract Documents, all costs of such tests and inspections shall be deducted from Contract Sum.
  - 3) If Work requiring inspection is covered by follow-on or follow-up Work before it is inspected, uncover Work so proper inspections can be performed. All costs of such tests and inspections shall be deducted from Contract Sum.

## **PART 2 PRODUCTS**

### **2.1 TEST WATER**

- A. The Contractor shall coordinate with the County for the use of water available near the project site and shall pay all costs associated with the use of the water. the Contractor shall properly dispose of the water which is required for testing of piping and structures. The Contractor shall dispose of all testing water in the sanitary sewer without damage to property, and in accordance with applicable regulations.

## **PART 3 EXECUTION**

### **3.1 STATEMENT OF SPECIAL INSPECTIONS**

- A. The Statement of Special Inspections is provided on the structural drawings in accordance with the requirements of the California Building Code.

### **3.2 CONTRACTOR STATEMENT OF RESPONSIBILITY**

- A. Each Contractor responsible for the construction or fabrication of a system or component designated as part of the main wind force or main seismic force resisting systems for the system or component must submit a Statement of Responsibility.

END OF SECTION



## SECTION 015000

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 GENERAL

##### 1.1 SUMMARY

###### A. Section Includes:

- 1) Provide and maintain construction facilities and temporary controls as required to perform the Work; relocate as required by the progress of the Work.
- 2) Materials for construction facilities and temporary controls shall be suitable for the purposes intended and unless otherwise required by County, may be new or used.
- 3) Materials, installation and maintenance of construction facilities and temporary controls shall be in compliance with applicable regulatory requirements.
- 4) Maintain construction facilities in sound, neat and clean condition. Remove any graffiti and repair any vandalism to satisfaction of County.
- 5) Remove construction facilities and controls, including associated utilities and equipment, when their use is no longer required.
  - a. Remove and legally dispose of debris resulting from removal and reconditioning operations.
  - b. Restore or recondition, as applicable, areas of the site damaged or disturbed by the use of construction facilities and temporary controls.
- 6) Do not attach any temporary facilities and controls to existing finishes or components to remain without written permission from County.

###### B. Related Sections: The completion of the work described in this Section may require work in or coordination with other sections of these specifications. Contractor and the subcontractor shall be responsible for identifying and including all related work in other Sections of these specifications and/or drawings necessary for a complete installation of the work described in this Section.

##### 1.2 TEMPORARY UTILITIES

###### A. Electric Power: Contractor may use existing County provided electricity with County's prior approval and provided that the existing service and distribution are suitable for Contractor's loads without causing disruption or interference with County's use. If Contractor determines existing power is not adequate or suitable for the Work, Contractor shall provide, at no additional cost to County, power service from appropriate Utility source.

- 1) Provide lighting and convenience outlets in the temporary structures, if any.
- 2) Provide power outlets for construction operations, with branch wiring and distribution boxes located at each floor. Provide flexible power cords as required.
- 3) Provide adequate distribution equipment, wiring, and outlets to provide branch circuits for power and lighting as required.
- 4) Provide adequate artificial lighting for work areas when natural lighting and permanent lighting is not available or adequate for performance of Work.

###### B. Water: Contractor may use existing County provided water with County's prior approval provided existing water system is adequate to the needs of the work without disruption or interference of County's continued use. If existing water system is not adequate or suitable for the Work, Contractor shall arrange with utility service company to provide water for construction and other purposes such as final testing of plumbing and fire suppression systems; pay the costs for water used, sewer and related charges, permit and connection fees, if any.

- 1) If necessary, install temporary branch piping with taps located so that water is available throughout the Work by the use of hoses.
- 2) Make potable water available for human consumption.
- 3) As the work progresses protect existing interior finishes from damage by water.
- 4) Water may be available from fire hydrants located near the site. Obtain permission from the Fire Department to use the hydrants. Make all necessary arrangements with the Water Department, for the necessary installation of meters and payment of water

- used and related charges.
  - a. Install temporary lines from the hydrants to the construction site, if needed.
  - b. Pipe crossing traveled roadways shall be buried beneath the roadway and shall comply with all traffic requirements of regulatory agencies.
  - c. Remove all temporary lines and related appurtenances upon completion of work and restore all facilities to conditions to conditions prior to construction to the satisfaction of County.
- C. Heat and Ventilation: Provide temporary heating or ventilation as required, to maintain environmental conditions to facilitate progress of the Work, to prevent damage to building contents, or as required for worker or building occupant safety and comfort.
  - 1) Meet specified minimum conditions for the installation and curing of materials, and to protect materials and finishes from damage due to temperature and humidity conditions.
    - a. Portable heaters, if used, shall be appropriate for the conditions and use.
  - 2) Provide temporary forced ventilation of enclosed areas for installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, and gases, and as required to disperse odors and fumes in occupied buildings.
  - 3) Pay the costs of installation, maintenance, operation, and removal of temporary heat and ventilation, including costs for fuel consumed, temporary construction filters, strainers and guards required for the performance of the Work.
- D. Sanitary Facilities: Provide and locate temporary sanitary facilities as approved by County.
  - 1) Maintain in a neat, sanitary condition, with adequate supplies.
- E. Telephone: Arrange and pay for telephone service, and pay the costs throughout the duration of the Contract.
- F. Fire Protection: Contractor shall meet all fire protection requirements for the Work and if required by the responding firefighting agency shall submit Contractor's plans for fire protection and Fire Department access for fire fighting and equipment to County for approval prior to commencing work at the project site.
  - 1) Provide and maintain fire extinguishers, fire hoses, fire sprinklers, smoke detectors, controls and other equipment for fire protection in all areas of the Work and where materials are stored, in accordance with local and State fire codes and Cal-OSHA, whichever code is more stringent shall govern, and as directed by the Fire Department.
  - 2) Use fire protection equipment for fire protection only.
  - 3) Contractor shall maintain fire protection equipment, institute fire protection measures, and direct the prompt removal of unnecessary combustible materials and waste.
    - a. Contractor shall be responsible for overseeing correct and safe use of soldering coppers, extension lights, flammable liquids, welding and metal cutting apparatus, wax pots, and other flame tools.
    - b. Contractor shall be responsible to perform a walk-through before leaving the Site at the end of each work day to inspect the work areas for fire hazards.
    - c. Immediately mitigate all fire hazards.
  - 4) Take special precautions to minimize fire hazards when it becomes necessary to use stoves, tar pots or other temporary heating devices.
    - a. Such devices shall conform to the requirements of the National Fire Code of the NFPA and shall be used only under proper supervision.
    - b. Locate such devices so that there are minimum clearances in compliance with manufacturer's recommendations and regulatory requirements. Do not place within 10 feet of tarpaulins, canvas covers, loose paper or flammable material.
    - c. Properly insulate legs of temporary heating devices when it is necessary to place such equipment on combustible platforms.
    - d. Do not use heaters burning LP gas.
  - 5) Use special precautions to reduce fire hazard where electric or gas welding or cutting work is done. Provide and maintain suitable fire extinguishing equipment near such welding operations.
  - 6) Store paints, varnishes, volatile oils, and similar combustible materials in a non-

combustible storage building having good ventilation and containing no other material, or in metal lockers or metal boxes with self-closing covers. Store gasoline and other volatile flammable liquids in metal barrels well away from structure or other combustible materials.

- a. No storage of chemicals, solvents, paints, or other flammable materials will be allowed in the building.

### **1.3 CONSTRUCTION AIDS**

- A. Plant and Equipment: Furnish, operate, and maintain in safe and efficient operating condition a complete plant for fabricating, handling, conveying, applying, installing and erecting materials and equipment; and conveying systems for transporting workers.
  - 1) Include construction elevators, hoists, debris chutes and other equipment, tools and appliances necessary for performance of the Work.
- B. Construction Staging Areas: Construction staging shall be restricted to the areas approved by County in writing. Contractor shall provide adequate measures including fencing and lighting if necessary to secure the staging and storage areas.

### **1.4 BARRIERS AND ENCLOSURES**

- A. General: Provide and maintain temporary barriers and enclosures at the site.
  - 1) Provide as required to protect the Work and existing facilities from the elements.
  - 2) Protect adjacent construction, improvements and persons from damage or injury from demolition and construction operations.
  - 3) Prevent unauthorized entry to construction areas.
  - 4) Protect vehicular and pedestrian traffic from injury or damage from Contractor's operations.
  - 5) Provide 8-foot high commercial grade chain link fence around construction site. Clamp and bolt fence sections together.
    - a. Equip with vehicular gates with vandal-resistant locks, all keyed alike.
- B. Public Thoroughfare: Except as indicated or otherwise approved, construction operations shall not occupy public sidewalks except where pedestrian protection is provided in accordance with the requirements of the Building Code and the regulations of public authorities having jurisdiction and as required by County.
  - 1) Maintain and modify existing pedestrian walkways as required to conform with state and local Codes and Standards and shall comply with Americans with Disability Act (ADA) requirements for width, ramps, handrails, and access. Contractor shall clean any graffiti on barricade on a daily basis. Public thoroughfares shall be maintained free of debris and other construction material.
  - 2) Maintain at least one accessible path of travel around the construction site for persons with disabilities that conforms with the requirements of the State of California Title 24, Part 2 Accessibility Standards and the ADA.
  - 3) When Work is to be performed over an active public thoroughfare such as a sidewalk or building entrance, close thoroughfare if possible and approve by County, or take other precautions such as installing screens or barricades.
    - a. When the exposure to heavy falling objects may exist, such as during the erection of building walls or during demolition, provide special protection of the type detailed in 29 CFR 1910/1926 and as required by Cal-OSHA.
  - 4) Furnish, erect, and maintain all necessary safeguards for safety and protection of the public. Such safeguards shall include signs, barricades, lighting, fencing, railing, bridging, and flaggers, which conform to the requirements of state and local Codes and Ordinances.
    - a. Provide solid continuous bottom rail such as 2-by-4s or other material of high contrast attached to the base of barricade and fencing systems to direct blind pedestrians through a temporary path-of-travel.
    - b. Provide proper barricades and temporary curb ramps at all closed crosswalks and curb ramps.
  - 5) Provide 45-degree-beveled smooth, non-tripping transitions at all path-of travel height changes over 1/4 in.

- C. Potential Hazards: Storing, positioning or use of equipment, tools, materials, scraps, and trash in a manner that could present a hazard to the public or building by its accidental shifting, ignition, fumes, or other hazardous qualities is prohibited.
- D. Remove barriers and enclosures upon completion of the Work, in accordance with applicable regulatory requirements and to the satisfaction of County.

#### **1.5 TREE AND PLANT PROTECTION**

- A. Root protection: No storage of materials or equipment will be allowed within the Dripline. Whenever possible, excavation shall be on a radial line, diverging from the tree trunk.
- B. Where construction is to be performed in the vicinity of trees and shrubbery, the Work shall be carried on in a manner that will not cause damage. Trees and shrubbery that are to remain, shall be protected from injury or damage resulting from Contractor's operations as indicated in the drawings.

#### **1.6 GENERAL PROTECTION**

- A. Summary:
  - 1) Protect installed Work and provide special protection where specified in individual specification Sections.
  - 2) Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.
  - 3) Provide protective coverings at walls, projections, jambs, sills, and soffits of openings as required by the Work.
  - 4) Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
  - 5) Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
  - 6) Prohibit traffic from landscaped areas.

#### **1.7 ENVIRONMENTAL CONTROLS**

- A. General
  - 1) Contractor shall comply with all rules, regulations, ordinances and statutes that apply to any work performed under Contract Documents including, without limitation, any toxic, water and soil pollution controls and air pollution controls specified in Government Code, Section 11017. Contractor shall be responsible for insuring that Contractor's employees, subcontractors and the public are protected from exposure to airborne hazards or contaminated water, soil or other toxic materials used during or generated by activities on the Site or associated with the Project.
- B. Dust Control and Disposal of Surplus Soils
  - 1) Water or other dust palliative shall be sprayed on stockpiles of soil, unpaved construction and staging areas during construction to control dust, as needed, or required by County's Project Manager.
  - 2) All surplus soils that cannot be used on the Site will be disposed of at an acceptable disposal site at no additional cost to County. If any areas outside the Site are used for disposal or stockpiling of soil or other materials, Contractor will obtain all the required permits, including, if applicable, a grading permit. Contractor will notify the California Department of Fish and Game of the intent to use the site, and the Sonoma County Permit and Resource Management Department to determine if a grading permit is required. Contractor will provide evidence to County's Project Manager that the site does not affect wetlands under the jurisdiction of the Army Corps of Engineers, or that the site has the appropriate permit from the Army Corps of Engineers.
  - 3) Surplus concrete, rubble or pavement will be taken to a permitted concrete and/or asphalt recycling facility.
  - 4) Trucks hauling soil, sand, and other loose materials over public roads will cover the loads, or will keep the loads at least two (2) feet below the level of the sides of the container, or will wet the load sufficiently to prevent dust emissions.
  - 5) Paved roads and streets will be swept as needed, or required by County's Project

- Manager, to remove soil that has been carried onto them from the Site.
- 6) Traffic speeds on unpaved areas shall not exceed fifteen (15) mph, signs to be posted ensuring all drivers in the construction area are aware of this speed limit.
- C. Emergency Access
- 1) Contractor to maintain emergency vehicle access to existing areas of the site that require access through and/or have been altered due to site work phasing.

## 1.8 TEMPORARY CONTROLS

### A. General:

- 1) Contractor shall exercise all special controls necessary to control dust, water, and pollution as required by the project conditions, Legal Requirements, or when directed by **Olivia Guevara**. The cost of special controls required shall be included in the Contract Sum and shall not create additional costs to County.
- 2) Contractor shall not begin any demolition operations until all temporary dust curtains are in place and approved by **Olivia Guevara**. The dust partitions shall be maintained until after all sanding, painting or other operations which produce dust or fumes are completed. Dust protection will extend from floor to ceiling.
- 3) Contractor shall assume all the liability for claims related to dust or wind-blown materials attributable to its work. Special dust control measures shall be taken to keep dust from automobiles parked in the vicinity of the construction site.

### B. Dust Control:

- 1) Perform the Work in a manner to minimize the generation of dust and dirt, to prevent dust and dirt from interfering with the progress of the Work, and to keep dust and dirt from accumulating in Work areas and adjacent areas.
  - a. Water down the Work site at least three times daily or more frequently as required by County.
  - b. Provide continuous water misting using as fine a spray/mist as possible during earthwork, off-hauling and dirt moving activity.
  - c. Perform wet sweeping/vacuuming of the asphalt surfaces of all residual dirt and debris from immediately adjoining streets used for site access as required at the following minimum frequencies:
    - 1) During the initial mobilization period, once daily in the afternoon
    - 2) During all excavation and dirt moving activities, two times daily and once at the end of the work day
    - 3) After excavation and dirt moving activities until Project Completion, once weekly or more frequently as required by County
  - d. Wet/vacuum sweeper equipment shall have sufficient suction so as to ensure that while sweeping, dust and dirt is not blown towards neighboring businesses or residences.
  - e. Minimize the amount of excavated or demolished materials at the Work site. Stockpiled excavated material is prohibited at the Work site unless specifically authorized in writing by County.
  - f. If excavated material is allowed to be stockpiled, cover all such material with 10 mil HDPE plastic at all times.
  - g. Replace ground cover in disturbed areas as soon as possible.
  - h. Enclose, cover, water, or apply soil binders to exposed stockpiles.
  - i. Cover stockpiled imported backfill or other dust-generating soil materials with tarps at all times.
  - j. Limit dust emissions during periods of high winds (greater than fifteen (15) miles per hour). Suspend all excavation and dirt moving activities if winds exceed 25 mph.
  - k. Trucks and trailers used to transport excavated material shall be suitably constructed, covered, and equipped to prevent spillage of loaded materials on public streets and highways.
  - l. Hauling trucks carrying excavated material shall be loaded so that the material does not extend above the walls or back of the truck bed. The loaded material shall

- be wetted and tightly covered before the trucks leave the loading area.
- m. Vehicle travel speed shall be limited to 15 mph for all vehicles operating within the construction site. Limit equipment speed to ten (10) miles per hour in unpaved areas. Refer to Section 01571 for truck access requirements.
- C. Pollution: Comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of construction and disposal operations.
- 1) No burning of refuse, debris or other materials shall occur on or in the vicinity of the Project site.
  - 2) Prevent toxic concentrations of chemicals.
  - 3) Provide methods, means and facilities to prevent contamination of soil, water and atmosphere by the discharge of noxious substances from demolition and construction operations.
  - 4) Remove and legally dispose of soil contaminated by the performance of the Work, and replace with good soil at no expense to County.
  - 5) Provide systems for control of atmospheric pollutants.
  - 6) Prevent harmful dispersal of pollutants into the atmosphere.
  - 7) Maintain and operate construction equipment to minimize exhaust emissions of particulate and other pollutants.
    - a. Ensure that idling time for all heavy equipment is minimized to reduce on-Site emissions. Prohibit idling motors when equipment is not in use or when trucks are waiting in queues.
    - b. Maintain equipment in good mechanical condition. Implement specific maintenance programs to reduce emissions from equipment that would be in frequent use for much of the demolition and construction periods.
- D. Noise and Vibration Control: Conform with night and weekend construction work and general construction noise control requirements of local Codes and Ordinances and as described in the General Conditions / Supplemental Conditions.
- 1) Noise and Vibration Control
    - a. Contractor shall comply with any and all noise related ordinances and restrictions that apply to the location of the Work.
    - b. Secure written permission from County Representative at least three (3) working days prior to using noisy and vibratory equipment; such as, jackhammers, concrete saws, impact tools, and high frequency electrical equipment. This type of noisy and vibratory work will not be allowed in occupied buildings between the hours of 7:00 A.M. and 6:00 P.M., Monday through Friday. Refer to Section 01100 (Summary) for further restrictions, if any.
    - c. All internal combustion engines, equipment and impact tools used on the Site shall be operated with exhaust (and intake where applicable) mufflers that meet the requirements of the State Public Resources Code, and, where applicable, the Vehicle Code.
    - d. No equipment used on the Site shall produce noise levels in excess of the following limits in Db(A) at a distance of 50 feet from the equipment under test:
      - 1) Earthmoving Equipment
 

(a) Front loader	-	79
(b) Backhoes	-	85
(c) Dozers	-	80
(d) Tractors	-	80
(e) Scrapers	-	88
(f) Graders	-	85
(g) Truck	-	91
(h) Paver	-	89
      - 2) Materials Handling Equipment
 

(a) Concrete Mixer	-	85
(b) Concrete Pump	-	82
(c) Crane	-	83
(d) Derrick	-	88

- |                         |   |     |
|-------------------------|---|-----|
| 3) Stationary Equipment |   |     |
| (a) Pumps               | - | 76  |
| (b) Generators          | - | 78  |
| (c) Compressors         | - | 81  |
| 4) Impact Equipment     |   |     |
| (a) Pile Drivers        | - | 101 |
| (b) Jack Hammers        | - | 88  |
| (c) Rock Drills         | - | 98  |
| (d) Pneumatic Tools     | - | 86  |
| 5) Other Equipment      |   |     |
| (a) Saws                | - | 78  |
| (b) Vibrators           | - | 76  |
- 2) Idling diesel engines shall be turned off.
- E. Water Control:
- 1) In the event that site excavations encounter groundwater that must be removed, Contractor shall obtain a de-watering permit from the North Coast Regional Water Quality Control Board, and shall follow the requirements or conditions of that permit.
  - 2) Provide and operate existing dewatering system and pumping equipment. Continue operations and provide all additional dewatering measures as needed to maintain excavations free from standing water.
  - 3) Provide proper site drainage to protect excavations and adjoining structures and improvements from damage.
  - 4) Pretreat all dewatered groundwater using settling tanks and, as necessary, oil/water separators and other systems as approved by County and City prior to discharge into City sewer system.
    - a. Contractor shall conform to the requirements for handling groundwater and obtain and pay for all permits required for disposal into City sewer system as described in the General Conditions / Supplemental Conditions.
    - b. Discharge groundwater at locations approved by County.
    - c. Do not permit surface and subsurface water and other liquids to accumulate in or about the Project site and vicinity thereof.
    - d. Should conditions develop, control water or other liquids, and suitably dispose by means of temporary pumps, piping, drainage lines, troughs, ditches, dams or other methods.
- G. Sewerage Control: Take adequate measures to prevent the impairment of the operation of the sewerage system. Prevent all construction material, pavement, concrete, soil, or other debris from entering all sewers, sewer structure, catch basin, or storm water inlet.

**1.9 TEMPORARY STORAGE AND PARKING FACILITIES**

- A. Contractor shall confine its apparatus, the storage of materials and operations of its workers to limits indicated by any Legal Requirements and/or directions of County Project Manager, and shall not unreasonably encumber the premises with its material. Apparatus and equipment used by Contractor during construction shall be placed in such locations as not to interfere with or delay the completion of the Work. Where any portion of the Work is to be finished before other portions of the Work, the portions to be finished shall not be used for the storage of materials, and no construction apparatus shall be installed in such parts of the Work. Hoist and construction appliances shall be installed on the interior of the building to which the Work pertains only when approved by County Project Manager, and are to be installed on the exterior wherever possible.
- B. Storage:
- 1) Provide as required for the performance of the Work.
  - 2) Dimensions adequate for storage and handling of products.
  - 3) Ventilation to comply with specified and regulatory requirements for products stored.
  - 4) Heating adequate to maintain temperatures specified in respective Sections for products stored.
  - 5) Any use of any interior portion of building for storage shall be subject to County's

- approval.
- 6) Location of on-site material storage areas shall be approved by County prior to storage of materials.
- C. On-site vehicle parking is allowed for Contractor's and subcontractor's employees in areas designated by County Representative
- D. Arrange with County Representative all parking permits needed for work force and deliveries.
- E. See also Section 01571.

**1.11 CONTRACTOR USE OF SITE**

- A. Confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws.
- B. Do not unreasonably encumber Site with materials or equipment.
- C. Prior to commencement of construction, Contractor and County shall jointly survey the area adjacent to the Project area making permanent note and record of such existing damage as cracks, sags, or other similar damage. This record shall serve as a basis for determination of subsequent damage to these structures due to Contractor's operations. If possible, damage as noted shall be marked on the structure. All parties making the survey shall sign the official record of existing damage. Cracks, sags, or damage of any nature to the adjacent Project area, not noted in the original survey but subsequently noted, shall be reported immediately to County.
- D. Employees and visitors shall have unobstructed ingress and egress. Parking facilities shall not be blocked or hindered.
- E. Access to occupied areas: Contractor shall give County at least seven (7) days written notice prior to requiring access to or work in any/or occupied areas except the immediate unoccupied work area(s) as indicated on the Drawings.
- F. Assume full responsibility for protection and safekeeping of products stored on premises.
- G. Move any stored products that interfere with operations of County or other contractor.
- H. Coordinate parking, storage, staging, and Work areas with County.

**1.12 AIR QUALITY STANDARDS**

- A. Cover trucks hauling dirt.
- B. Removed earth tracked onto neighboring paved roads at least once daily.

**1.13 CONSTRUCTION STAKING AND MONUMENT PROTECTION**

- A. Contractor will provide construction staking to establish horizontal and vertical control for the project that are necessary for Contractor to proceed with the Work.
  - 1) Contractor to refer to Section 1.13 Lines and Grades, Measurements of the Construction Facilities and Temporary Controls for additional information on Construction Staking.
- B. Contractor shall notify County a least seven (7) days prior to the need for benchmark and initial control staking. Contractor shall be responsible for locating all other necessary controls and all construction staking necessary to properly locate all Work.
  - 1) Illegible survey requests or requests for surveys to County without proper notification may result in delayed surveys. No extension of Contract Time will be allowed due to such delays.
  - 2) Contractor shall be responsible for protecting and preserve the established property monuments, and shall make no changes or relocations without the prior written approval of County. Whenever Contractor knows or reasonably should know that any Work activity is likely to damage or destroy any property monuments, or require relocation because of necessary changes in grades or locations, provide at least five (5) Days advance notice to County. In any event, Contractor shall notify County whenever any property monuments are lost or destroyed or require relocation because of necessary changes in grads of locations. County shall replace or repair property monuments at Contractor's expense.
- C. Contractor shall be responsible for protecting and preserve the established construction stakes.



**1.14 PROTECTION OF EXISTING STRUCTURES AND UNDERGROUND FACILITIES**

- A. The Drawings may indicate existing above- and below-grade structures, drainage lines, storm drains, sewers, water lines, gas lines, electrical lines, hot water lines, and other similar items and Underground Facilities that are known to County.
  - 1) At least two (2) Business Days, or as otherwise noted, prior to commencement of excavation, notify County and USA.
- B. Where overhead service to a structure, known to receive service, does not exist, then underground service shall be assumed to exist.
- C. Attention is also directed to the existence of overhead power and telephone lines.
- D. Perform potholing by hand within 24 inches (in any direction) of the Underground Facilities. This may be done on an area-by-area basis, but shall be accomplished at least seven (7) Days in advance of the date of construction within such area.
- E. Power pole: Special attention is directed to the power poles shown on Drawings. Protection of the poles may require assistance from Pacific Gas and Electric Company. Cost for assistance by PG&E shall be borne by Contractor.
- F. No attempt has been made to locate private utilities on private property such as sprinkler irrigation systems or electrical conduits. Contact the property Owners prior to construction.
- G. In addition to reporting, if a utility is damaged, Contractor must take appropriate action as provided in Document 007200 (General Conditions).
- H. Additional compensation or extension of time on account of utilities not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00700 (General Conditions).

**1.15 PERMITS**

- A. Permits, agreements, or written authorizations that are known by County to apply to this Project are listed below:

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

**SECTION 015400  
SITE SECURITY AND SAFETY**

**PART 1 GENERAL**

**1.1 SUBMITTALS**

- A. See Section 013300 (Submittal Procedures).
- B. Safety Program.
- C. Fire Protection Plan.

**1.2 PROTECTION**

- A. Continuously maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.
- B. Properly protect the Work:
  - 1) With lights, guard rails, temporary covers and barricades.
  - 2) Enclose excavations with proper barricades.
  - 3) Brace and secure all parts of the Work against storm and accident.
  - 4) Provide such additional forms of protection that may be necessary under existing circumstances.
- C. Provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work and to exclude unauthorized persons from the Work. When regulated by Building Code, Cal OSHA, or other authority, such legal requirements for protection shall be considered as minimum requirements. Be responsible for the protection in excess of such minimum requirements as required.
- D. Related Sections:
  - 1) Section 015000 - Temporary Facilities and Controls
  - 2) Section 015500 – Vehicular Access and Parking

**1.3 CONTROL OF SITE**

- A. Contractor shall be responsible for securing the project Site (the fence, area within the fence, and the building) to:
  - 1) Provide site security to assure that no member of the public is able to gain access to the work area at any time. Contractor shall maintain access and egress routes at all times.
  - 2) Secure, maintain, and protect the building, its contents, the Work, stored materials, equipment and temporary facilities until time of acceptance, or such earlier time as County may choose to assume such responsibility. Security and protection may be by any legal method, or methods, acceptable to County.
  - 3) At Contractor's option, provide a night security guard during all hours that Contractor is not physically in control of the site through its performance of the Work.
- B. Ensure that no alcohol, firearms, weapons, or controlled substance enters or is used at the Site. Immediately remove from the Site and terminate the employment of any employee found in violation of this provision.

**1.4 SAFETY PROGRAM**

- A. Prior to starting any Work at the Site, submit a Safety Program that has been reviewed and approved by an Industrial Hygienist certified by the American Board of Industrial Hygiene or a Certified Safety Professional. The Safety Program shall include the name, certification number, and certification seal of the Industrial Hygienist or Certified Safety Professional. Comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances.
- B. Receipt and/or review of the Safety Program by County, Architect, Engineer or County's Representative shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.
- C. It is essential that Contractor and each Subcontractor implement an effective and vigorous Safety and Health Program to cover their respective portions of the Work. Subject to Contractor's overall responsibility for Project safety, it shall be understood that the full

responsibility for providing a safe place to work with respect to their respective portions of the Work rests with each individual Contractor and Subcontractor.

- D. Safety Program components:
  - 1) Injury and Illness Prevention Program (IIPP): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
  - 2) Site-Specific Safety and Health Plan (SSHP): Describing health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4) f.
- E. The wearing of hard hats shall be mandatory at all times for personnel on Site. Supply sufficient hard hats to equip properly all employees and visitors.
- F. Whenever an exposure exists, appropriate personal protective equipment (PPE) shall be used by all affected personnel. Supply PPE to all personnel under Contractor's direction.
- G. Submit three (3) copies of Safety Program specific to these Contract Documents to County within the time set forth in Section 01540 (Site Security and Safety), paragraph 1.4.

### **1.5 SAFETY REQUIREMENTS**

- A. Standards: Maintain the Project in accordance with state and local safety and insurance standards.
- B. Hazards Control:
  - 1) Store volatile wastes in covered metal containers and remove from premises daily.
  - 2) Prevent accumulation of wastes that create hazardous conditions.
  - 3) Provide adequate ventilation during use of volatile or noxious substances.
- C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
  - 1) Do not burn or bury rubbish or waste material on the Site.
  - 2) Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 3) Do not dispose of wastes into streams or waterways.
- D. Provide accident information on the forms provided by Contractor. This information shall be provided on the same Day as the occurrence of said incident.
- E. Coordinate emergency vehicle access route to the site with the City of Santa Rosa Fire Department. Emergency vehicle access route to be maintained at all times during the project as required by the City of Santa Rosa Fire Department.

### **1.6 SITE SAFETY OFFICER**

- A. Designate one of Contractor's staff as "Site Safety Officer" whose duties shall include the responsibility for enforcing the environmental protection provisions of the Contract Documents including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards. Submit for review by County Contractor's intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition program, and environmental safety and health plan. After review by County, the implementation and enforcement of these plans shall become the responsibility of the Site Safety Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by County.
- B. County's risk management representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

### **1.7 FIRE PROTECTION PLAN**

- A. Prior to starting any work that includes combustible materials at the Site, submit one (1) copy of a fire protection plan that has been reviewed and approved by the City of Santa Rosa Fire Department to County Project Manager. It is recommended that the plan include, but not be limited to, a discussion of the following items:
  - 1) Equipment spark arresters
  - 2) Fire-extinguishing equipment on hand

- 3) Method of operation in case of fire
- 4) Notification to authorities of any fire
- 5) Access available during performance of Work
- 6) Educating workers of fire protection plan

**1.8 SHORING SAFETY PLAN**

- A. Any conflict between this paragraph 1.8 and Division 2 of the Specifications shall be resolved in favor of the most stringent requirement.
- B. At least five Days in advance of any excavation five feet or more in depth, Contractor shall submit to County a detailed plan showing the shoring, bracing and sloping design (including calculations) and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by Labor Code Section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
- C. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. County's acceptance of any drawings showing the shoring or bracing design or Work schedule shall not relieve Contractor of its responsibilities under this paragraph 1.8.
- D. Contractor shall appoint a qualified supervisory employee who shall be responsible to determine the sloping or shoring system to be used depending on local soil type, water table, stratification, depth, etc.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

## SECTION 015500

### VEHICULAR ACCESS AND PARKING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes: This Section sets forth the minimum requirements for traffic routing and traffic control during construction of the Project.
  - 1) Furnish and install all temporary construction signs, traffic control devices, and pedestrian protection as required by County for safe and convenient routing of traffic at the Project site.

##### 1.2 ACCESS REQUIREMENTS

- A. The following access and egress restrictions will apply:
  - 1) Contractor shall not block access to fire hydrants or standpipe connections at any time.
- B. Contractor shall notify County and appropriate governmental agencies and adjacent property owners a minimum of five (5) working days prior to performing Work which necessitates closing or interfering with traffic on public thoroughfares, parking areas, driveways, and sidewalks.
  - 1) Obtain written permission from County prior to effecting such closures and interruptions.
  - 2) Provide protection for pedestrians as required by County.

##### 1.3 TRAFFIC REQUIREMENTS

- A. General: Contractor shall adequately safeguard the general public and the work by furnishing, installing, and maintaining temporary signs, runway, bridge, guardrails, fences and other facilities as necessary, or required, under the Contract Documents. Contractor shall provide, modify, and maintain proper barriers and enclosures for the protection of vehicular and pedestrian traffic, as required in Section 015000. Such protection measures for traffic specified in Section 015000 shall be incorporated in the Traffic Control Plan. Contractor shall submit traffic routing and safety barricade plans to County for approval and shall obtain and pay for necessary street use permits for all work not covered in Building (site) Permits. Contractor to submit traffic routing and safety plan to County for approval prior to trucks accessing the site. Under General Conditions, Contractor shall conduct operations and activities within area shown on Drawings; exceptions may be granted, for special activities, if deemed justified and appropriate as long as mitigation measures are implemented.
  - 1) During the construction period, construction truck movement shall be prohibited on weekdays between and between to minimize peak-hour traffic conflicts.
    - a. Contractor will be responsible for submitting and receiving this approval at the time of submitting general traffic plans to County Representative for approval.
  - 2) During the and peak traffic periods, Monday through Friday, Contractor shall conduct his operation in such manner as to leave the full roadway widths normally reserved for "peak hour" traffic on all streets and through intersections, unobstructed and in a condition satisfactory to accommodate vehicular traffic. Exceptions may be granted for special activities if justified and appropriate mitigation measures are implemented.
- B. Special Instruction to Contractor:
  - 1) Contractor shall coordinate, schedule and perform work in consideration with property owners in area.
  - 2) Contractor shall submit requests for deviation from the general traffic plan to County Project Manager three (3) weeks prior to need of special traffic lane requirements. The requests shall be subject to review and approval by County and any other impacted agencies.
  - 3) Contractor shall pay for costs of temporary signing, striping changes, and other traffic engineering related changes.
  - 4) Contractor shall provide trained flagmen to control construction traffic where traffic

- crosses pedestrian movements or as otherwise required and as needed or directed by County, at no additional cost to County.
- C. Maintenance of Traffic Signs, Signals and Pedestrian Signal Operation: Existing traffic signals shall be maintained and visible at all times to motorists approaching intersections and to pedestrians using crosswalks.
    - 1) In the event of necessary demolition operations, equipment, materials, or fences may block any traffic signal or sign from view, Contractor shall indicate location and extent of blockage and propose locations for temporary signs or signals.
    - 2) Any required traffic signal shutdown shall require prior approval by County and other regulatory agencies.
  - D. Prohibition of Stopping: Contractor may prohibit stopping in parking lanes where and when necessary as approved under the traffic plan to gain access to Work and to provide required traffic lanes.
    - 1) Contractor shall notify County of approved prohibition of parking and stopping, at least 72 hours in advance of effective date and time.
    - 2) Contractor shall provide, spaced every 25 feet, signs on type II barricades.
      - a. Contractor shall post required "TOW-AWAY" signs at least 72 hours in advance of effective date and time.
      - b. The effective dates, times, and name of Contractor and telephone number shall be shown on all signs.
    - 3) Contractor shall maintain signs on continual basis and shall replace damaged and missing signs daily.
    - 4) Contractor shall remove signs and mounting materials when construction activities are completed.
  - E. Mass Transit Vehicles: Contractor shall not prevent functional operation of mass transit vehicles at any time.
    - 1) Contractor shall become familiar with routes of coach lines that operate within surrounding area of work, and shall post a current copy of such routes in Contractor's on-site office.
    - 2) Lanes made available for traffic shall be located to include an adequate and allowable travel path for coach lines.
    - 3) Contractor's activity shall not preclude provisions of minimum turning radius for mass transit vehicles.
    - 4) Contractor shall notify County ten (10) working days in advance of doing any work in existing passenger loading zones for buses on each street, where such work could interfere with passenger loading-unloading operations

#### 1.4 SUBMITTALS

- A. Sequence of Operations and Traffic Routing Plans: Contractor shall submit proposed Sequence of Operations and Traffic Routing Plans to County for review and approval and shall perform work in accordance with approved plans.
  - 1) Plan shall show:
    - a. Sequence of operations, demolition, and excavation phasing.
    - b. Time required for each phase of Work, including beginning and ending dates.
    - c. Movement, parking and stacking of trucks hauling materials to and from demolition area.
    - d. Any proposed traffic lane closures and transitions.
    - e. Location and layout of traffic cones, signing, and barricades as necessary to provide and maintain the specified number and width of vehicular lanes and pedestrian walkways.
    - f. Location and details of trench protection/construction area using Type II and/or Type III barricades, k-rails, etc.
    - g. Proposed changes (removals, relocation, or temporary installation) of:
      - 1) Traffic signals and controllers.
      - 2) Street and safety lighting standards.

- 3) Traffic signs.
  - 4) Barricades, fence and k-railing.
  - 5) Temporary roadway striping.
  - 6) Flashing arrow signs.
  - 7) Other signs and directional devices.
- 2) Temporary detour signing, striping and temporary traffic signals shall be furnished, installed and maintained by Contractor.
- a. Traffic routing provisions shall not be construed as preventing Contractor from proceeding with mobilization of plant and equipment and placing orders for materials upon receipt of Notice to Proceed, nor shall Contractor be entitled to any delays or compensation due to "DISAPPROVED" Sequence of Operations and Traffic Routing Plans.
  - b. In general, if Sequence of Operations and Traffic Routing Plans comply with intent and specified details of requirements herein specified and with published County laws and regulations, they will be approved.

## 1.5 QUALITY ASSURANCE

- A. Traffic Coordination and Supervision: In order to assure smooth, continuous flow of pedestrian and vehicular traffic, Contractor shall employ a person, subject to approval by County, who has had good and sufficient experience in traffic supervision for the type of construction which is called for, in full compliance with all above traffic routing specifications.
- 1) This person shall maintain complete liaison with County for the purpose of developing and implementing requirements of above traffic routing specifications, and for their supplementation, rearrangement, or reduction.
- B. Traffic Coordination with Other Contractors: Contractor, in order to maintain smooth, continuous flow of traffic, shall coordinate traffic routing work with subcontractors and other contractors, working in the same or adjacent areas, including truck traffic hauling materials and equipment.
- 1) All proposed traffic routing changes shall be subject to approval of County and shall be considered as revisions to the approved Sequence of Construction and Traffic Routing Plans.
- C. Temporary Construction and Traffic Signs:
- 1) When it becomes necessary to close one or more lanes to vehicular traffic or to otherwise divert such traffic from its normal paths, Contractor shall clearly delineate temporary centerlines separating two-way traffic, and dividing lines for other temporary traffic lanes, by employing cones, barricades, flags, reflectors, and other approved methods or devices as needed.
    - a. Placing of devices shall commence sufficiently in advance of obstruction and cause of diverting traffic to minimize congestion and shall enable traffic to enter, traverse, and leave site of work without abrupt or unwarranted changes in direction.
    - b. Each temporary traffic lane shall not be less than 10 feet clear width unless otherwise specified or approved.
  - 2) High rise warning flag units, each displaying three flags mounted at height of 9 feet, to provide advance warning for traffic approaching the Work, will be required in all cases where motorists' visibility of obstruction or path of movement is limited or obstructed.
  - 3) Temporary signs, lights, barricades, and devices shall be in accordance with California Department of Transportation "Manual of Traffic Controls for Construction and Maintenance Work Zones," dated 1990.
  - 4) Contractor, before starting any Work which could affect normal flow of traffic, shall furnish and install, where and as necessary or directed, and maintain, temporary signs, mounted on barricades or other suitable supports as necessary.
  - 5) Barricades shall be provided and maintained by Contractor along and around all Work in contact with traffic, and shall not be removed until roadway is restored to County's standards and ready for use.
  - 6) Traffic cones shall be at least 20 inches in height, and when used to delineate traffic lanes or separate opposing traffic movements, shall be placed at not greater than 20 foot

- intervals.
- 7) All signs and equipment shall be installed where and as directed.
    - a. Signs for use at night shall be reflectorized or illuminated.
  - 8) Temporary construction and traffic signs, lights, devices, barricades and cones, upon completion of the need therefor, shall be removed from site by Contractor as Contractor's property, unless otherwise specified or needed for protection and security of the Site. See Section 01500.
  - 9) Contractor shall, as a minimum, provide at the site and have immediately available, the following signs and equipment.
    - a. Barricades as required by Section 21,400 of the California State Vehicle Code and as specified in the State of California's Department of Transportation "Manual of Traffic Controls for Construction and Maintenance Work Zones", dated 1990, in a sufficient number to safeguard the public and the Work.
    - b. "TOW-AWAY, NO STOPPING" signs as hereinbefore specified.
    - c. Traffic cones to delineate traffic lanes as required to guide and separate traffic movements.
    - d. Number of signs given below are approximate. Actual number of signs to be placed, shall be as indicated on approved Traffic Routing Plans.
      - 1) Four high level warning flag units, placed in advance of traffic approaching the Work, each displaying three flags mounted at a minimum height of 9 feet.
      - 2) Four "ROAD CONSTRUCTION AHEAD" signs, code C18, size 48" x 48", placed in conspicuous locations in advance of the Work, facing approaching traffic, as needed and as approved on the Sequence of Construction and Traffic Routing Plans.
      - 3) Four "SIDEWALK CLOSED, USE OTHER SIDE" signs, size 36" x 18", placed at ends of sidewalks to be closed, as needed and as approved on the Sequence of Construction and Traffic Routing Plans.
      - 4) Two flashing arrow signs, Type II conforming to Section 1203.03 of Caltrans Standard Specifications, dated January 1988, placed as needed and as approved on the Sequence of Construction and Traffic Routing Plans.
      - 5) Two "LEFT/RIGHT LANE CLOSED AHEAD" signs, code C20 (LT/RT), 48" x 48", placed as needed and as approved on the Sequence of Construction and Traffic Routing Plans.
      - 6) Any other signs, placed as needed and as approved on the Sequence of Construction and Traffic Routing Plans.
    - e. Signs and equipment shall conform to requirements of "California Manual on Uniform Traffic Control Devices (MUTCD)" published by the State of California Department of Transportation, dated 1996, including updates; and County standards.

## **PART 2 PRODUCTS**

(Not Used)

## **PART 3 EXECUTION**

(Not Used)

END OF SECTION



**SECTION 015723  
TEMPORARY STORM WATER POLLUTION CONTROL**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1) Preventing pollution of storm water run-off from construction site by keeping pollution out of storm drains, reducing exposure and discharge of materials and wastes to storm water, and by reducing erosion and sedimentation. Storm drains discharge run-off to creeks and the Bay without treatment.
- B. Related Sections:
  - 1) Section 015000 – Temporary Facilities and Controls
  - 2) Section 017419 – Construction Waste Management and Disposal
  - 3) Section 017300 – Execution

**1.2 QUALITY ASSURANCE**

- A. For sites of any size or projects involving grading or ground disturbance, the provisions of this section shall apply. In addition to these standards, Contractor shall comply with the Erosion Control Ordinance for the City and/or County where the project is located and with pertinent requirements of other government agencies having jurisdiction over this work.
- B. For sites over one (1) acre in size Contractor shall comply with the State Water Resources Control Board, Order No. 99-08-DWQ, National Pollutant Discharge Elimination System, known as the General Permit (Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity). The Storm Water Pollution Prevention Plan (SWPPP) shall conform to State and Regional Water Quality Control criteria. Contractor shall provide the Storm Water Pollution Prevention Plan within ten (10) working days of the approval of the contract, to County, at no additional cost. The plan shall include a Water Pollution Control program that clearly shows Water Pollution Control measures that will be implemented in tandem with the construction progress schedule and Water Pollution Control maintenance work. Contractor shall be responsible for penalties assessed or levied on Contractor or County as a result of Contractor's failure to comply with the provisions of this section or the requirements of the General Permit and Federal, State and local regulations and all requirements that govern Contractor's operations regarding storm water and non-storm water discharges.
- C. Contractor shall allow ten (10) working days for County to review the Storm Water Pollution Prevention Plan. If revisions are required, as determined by County, Contractor shall submit a revised plan within ten (10) days. No Clearing and Grubbing work shall be allowed until the SWPPP has been approved by County.
- D. The Storm Water Pollution Prevention Plan shall include a Water Pollution Control Plan that graphically indicates where Water Pollution Control measures and temporary erosion control work will be used year round and during all phases of construction. Updated and revised plans shall be submitted no later than August 1 of any year and shall be updated, revised and submitted by the first day of each month thereafter until and including March 31 of the following year. From April 1 to July 31, updates, revisions and number of submittals will be determined by County. The updated plan shall indicate any new construction work and the addition of any new temporary erosion control or slope protection facilities added or upgraded to accommodate the new earthwork.
- E. The Storm Water Pollution Prevention Plan and Water Pollution Control Program shall be updated and revised whenever there is a proposed change in construction or operations which may affect the site drainage patterns or discharge of pollutants to surface waters, groundwaters, or a separate municipal storm sewer system. The change will be recorded by amending (updating) the SWPPP in accordance with the provisions of SWPPP amendment which includes revisions to the Water Pollution Control program and graphic changes to the Water Pollution Control Plan.

- F. The Storm Water Pollution Prevention Plan shall include a site map which shall be a combination of the contract drainage, stage construction, and contour grading plans shown at either full or reduced size. Geometric equations, notes, details and all data non-related to Water Pollution Control work shall be removed to improve clarity. A copy of the contract plans shall be used as a base sheet with the pertinent stage of construction drawn in as an overlay. The intent of this combination of plans is to accurately show site conditions at various phases of construction.
- G. A copy of the Storm Water Pollution Prevention Plan, together with updates, revisions and amendments shall be kept at the construction site. At the request of County, Contractor shall furnish up to five (5) copies of the SWPPP for distribution.

**1.3 GENERAL REQUIREMENTS**

- A. Comply with Section 017419 – Construction Waste Management.
- B. The following general requirements shall be met on all projects within County.
  - 1) Non-hazardous Material/Waste Management
    - a. Designated Area: Propose designated areas of the project site, for approval by County Representative, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and away from catch basins, gutters, drainage courses, and creeks.
    - b. Granular Material:
      - 1) Store granular material at least ten feet away from basin and curb returns.
      - 2) Do not allow granular material to enter the storm drains or creeks.
      - 3) When rain is forecast within 24 hours or during wet weather, County Representative may require Contractor to cover granular material with sandbags.
    - c. Dust Control: Use reclaimed water to control dust on a daily basis or as required by County Representative.
    - d. Cleaning Paved Storage Areas: Thoroughly clean all on-site paved areas used for storage of materials or otherwise utilized or involved during the work immediately after the materials are removed from storage. Cleaning shall be accomplished by sweeping and not with use of water.
    - e. Recycling:
      - 1) To the extent practicable, recycle aggregate base material, asphalt concrete, and Portland cement concrete as described in these Specifications.
      - 2) In addition, to the maximum extent practicable, reuse or recycle any useful construction materials generated during the project.
    - f. Disposal:
      - 1) Maintain the project site in a clean and orderly manner at all times. To the extent practicable, Contractor shall collect scrap, debris, and waste material, and dispose of such materials properly. County Representative may require Contractor to clean and dispose of such materials at any time should the situation, in his/her opinion, constitute a danger.
      - 2) Inspect dumpsters for leaks and contact trash hauling contractors to replace or repair dumpsters that leak.
      - 3) Do not discharge water on-site from cleaning dumpsters.
      - 4) Arrange waste collection before dumpsters overflow.
  - 2) Hazardous Material/Waste Management
    - a. Storage:
      - 1) Label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels; and all hazardous wastes, such as waste oil and antifreeze; in accordance with the Sonoma County Hazardous Materials Storage Ordinance and all applicable State and Federal regulations.
      - 2) Store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations, and it is recommended that these materials and waste be covered, as needed, to avoid potential management of collected rainwater as a hazardous waste.

- 3) Keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDS), of hazardous materials and hazardous wastes stored on-site, to assist emergency response personnel in the event of a hazardous materials incident.
- b. Usage:
  - 1) When rain is forecast within 24 hours or during wet weather, County Representative may inform Contractor cannot apply chemicals in outside areas.
  - 2) Do not over apply pesticides or fertilizers and shall follow material manufacturers instructions regarding uses, protective equipment ventilation, flammability, and mixing of chemicals. Over-application of a pesticide constitutes a "label violation" subject to an enforcement action by the Sonoma County Agriculture Department.
- c. Disposal:
  - 1) Arrange for regular hazardous waste collection to comply with time limits on storage of hazardous waste.
  - 2) Dispose of hazardous waste only at authorized and permitted Treatment, Storage, and Disposal Facilities, and use only licensed hazardous waste haulers to remove the waste off-site, unless quantities to be transported are below applicable threshold limits for transportation specified in State and Federal regulations.
- 3) Spill Prevention and Control:
  - a. Keep a stockpile of spill cleanup materials, such as rags, or absorbents, readily accessible on-site.
  - b. Immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and clean up materials. If the waste is hazardous, Contractor shall handle the waste as described in Section A.2.c above.
  - c. Do not wash any spilled material into streets, gutters, storm drains, or creek and shall not bury spilled hazardous materials.
  - d. Report any hazardous materials spill to Sonoma County Department of Environmental Health, and to County's Representative.
- 4) Vehicle/Equipment Cleaning:
  - a. Do not perform vehicle or equipment cleaning on-site or in the street using soaps, solvents, degreasers, steam cleaning equipment, or equivalent methods.
  - b. Perform vehicle or equipment cleaning, with water only, in a designated, beamed area that will not allow rinse water to run off-site or into streets, gutters, storm drains, or creeks.
- 5) Vehicle/Equipment Maintenance and Fueling:
  - a. Do not perform maintenance and fueling of vehicles or equipment in a designated, beamed area a drip pan will not allow run-on of storm water or run-off spills.
  - b. Use secondary containment such as a drip pan to catch leaks or soils and time that vehicle or equipment fluids are dispensed, changed, or poured.
  - c. Keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on-site.
  - d. Clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in Section A.2.c above.
  - e. Do not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials.
  - f. Report any hazardous materials spill to Sonoma County Department of Environmental Health and County's Representative.
  - g. Inspect vehicle and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repair is made.
  - h. Recycle waste oil and antifreeze, to the maximum extent practicable.

- i. Comply with Federal, State, County and City requirements for above ground storage tanks.
- 6) Contractors Training and Awareness:
  - a. Train all employees/subcontractors on the storm water pollution prevention requirements contained in these Specifications.
  - b. Inform subcontractors of the storm water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.
  - c. Post warning signs in areas treated with chemicals.
  - d. Paint new catch basins, constricted as part of the project with a “No Dumping” stencil.

**1.4 ACTIVITY–SPECIFIC REQUIREMENTS**

- A. The following activity-specific requirements shall be met on all projects within County that include the listed activities.
  - 1) Paving Operations:
    - a. Project Site Management:
      - 1) When rain is forecast within 24 hours or during wet weather, County Representative may prevent Contractor from paving or placing concrete.
      - 2) County Representative may require Contractor to protect drainage courses by using control measure, such as filter fabric, waddles, and sand bags, to divert runoff or trap and filter sediment.
      - 3) Cover drip pans or absorbent material under paving equipment when not in use.
      - 4) Cover catch basins and manholes when paving or applying seat coat, tack coat, slurry seal, or fog seal.
      - 5) If the paving operation includes an on-site mixing plant, Contractor shall comply with Sonoma County General Industrial Activities Storm Water Permit requirements.
    - b. Paving Waste Management: Do not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. Instead, either collect the sand or return it to the stockpile, or dispose of it in a trash container. Do not use water to wash down fresh asphalt concrete pavement.
  - 2) Saw Cutting:
    - a. During saw cutting, cover or barricade catch basins using control measures, such as filter fabric, waddles, sand bags, and fine gravel dams, to keep slurry out of the catch basin.
    - b. Sanitary and Storm Drain Systems: When protecting a catch basin, ensure that the entire opening is covered.
    - c. Shovel, absorb, or vacuum saw cut slurry and pick up the waste before moving to the next location or at the end of each working day, whichever is sooner.
    - d. If saw cut slurry enters catch basins, remove the slurry from the storm drain system immediately.
  - 3) Contaminated Soil Management:
    - a. On all projects involving grading or excavation, look for contaminated soil as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes, or buried debris. If the project is not within an area of known soil contamination and no evidence of soil contamination is found, then testing of the soil shall only be required if directed by County Representative. Follow Section 007200 if contamination is found.
    - b. If the project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations shall be tested. The soil shall be managed as required by the following agency: Sonoma County Department of Environmental Health.
    - c. If the project is found to be within an area of soil contamination not identified by County in the project specifications, a change order shall be negotiated to cover

- additional work performed by Contractor.
- 4) Concrete, Grout and Mortar Waste Management:
    - a. Material Management: Concrete, grout and mortar; store and keep covered away from drainage areas and ensure that these materials do not enter the storm drain system.
    - b. Concrete Truck/Equipment Wash Out:
      - 1) Do not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks.
      - 2) Perform wash out of concrete trucks or equipment off-site or in designated area on-site where the water will flow onto dirt or into a temporary pit in a dirt area. Let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, then collect the wash water and remove it off-site.
    - c. Exposed Aggregate Concrete Wash Water:
      - 1) Avoid creating runoff by draining water from washing of exposed aggregate concrete to a dirt area. If a suitable dirt area is not available, then Contractor shall filter the wash water through straw bales or equivalent material before discharging to the storm drain.
      - 2) Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in a trash container.
  - 5) Painting:
    - a. Painting Cleanup:
      - 1) Designated Area:
        - (a) Conduct cleaning of painting equipment and tools in a designated area that will not allow run-on of storm water or run-off of spills.
        - (b) Contractor shall not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drains, or creeks.
      - 2) Water-based Paint:
        - (a) Contractor shall remove as much excess paint as possible from brushes, rollers, and equipment before starting cleanup.
        - (b) To the maximum extent practicable, Contractor shall dispose of wash water from aqueous cleaning of equipment and tools to the sanitary sewer.
        - (c) Otherwise, Contractor shall direct wash water onto dirt area and spade in.
      - 3) Oil-based Paint:
        - (a) Contractor shall remove as much excess paint as possible from brushes, rollers and equipment before starting cleanup.
        - (b) To the maximum extent practicable, Contractor shall filter paint thinner and solvents for reuse.
        - (c) Contractor shall dispose of waste thinner and solvent, and sludge from cleaning of equipment and tools as hazardous waste, as described in Section A.2.c above.
  - 6) Material/Waste Management:
    - a. Store paint, solvents, chemicals, and waste materials in compliance with the Sonoma County Hazardous Materials Storage Ordinances and all applicable State and Federal regulations. Store these materials in a designated area that will not allow run-on of storm water or run-off of spills.
    - b. Dispose of excess thinners, solvents, oil and water based paint as hazardous waste.
    - c. Dispose of dry, empty paint cans, buckets, old brushes, rollers, rags, and drop cloths in the trash.
  - 7) Earthwork: Maximize the control of erosion and sediment by using the BMP's for erosion and sedimentation in the *California Storm Water Best Management Practice Handbook-Construction Activity*.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

**SECTION 016000  
PRODUCT REQUIREMENTS**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Products
- B. Product Options and Substitutions
- C. Product Delivery Requirements
- D. Product Storage and Handling

**1.2 PRODUCTS**

- A. Products: New material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. For similar components, provide interchangeable components of the same manufacturer.

**1.3 PRODUCT OPTIONS AND SUBSTITUTIONS**

- A. Summary:
  - 1) This paragraph 1.3 describes procedures for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the Specifications or approved for use in Addenda that were not already the subject of a Document 002600 (Procurement Substitution Request Form) submittal as provided in Document 002113 (Instructions to Bidders).
- B. Contractor's Options:
  - 1) For products specified only by reference standard: Select any product meeting that standard.
  - 2) For products specified by naming one or more products or manufacturers:
    - a. Select products of any named manufacturer meeting Specifications.
    - b. If product becomes unavailable due to no fault of Contractor, submit Request for Substitution (RFS), including all information contained in this Section 01600 and a fully executed Document 002600 (Procurement Substitution Request Form), but using the term "Contractor" each place the term "Bidder" appears in that form.
- C. Substitutions:
  - 1) Except as provided in Document 002113 (Instructions to Bidders) with respect to "or Approved Equal" items, County will consider Contractor's substitution requests only when product becomes unavailable due to no fault of Contractor or if the product specified no longer complies with local regulations or laws. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS shall state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of Substantial Completion on time, and whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with County for work on the Project).
  - 2) Submit separate RFS (and four (4) copies) for each product and support each request with:
    - a. Product identification
    - b. Manufacturer's literature
    - c. Samples, as applicable
    - d. Name and address of similar projects on which product has been used, and dates of installation
    - e. Name, address, and telephone number of manufacturer's representative or sales engineer

- f. For construction methods: Detailed description of proposed method; drawings illustrating methods
- 3) Where required, itemize a comparison of the proposed substitution with product specified and list significant variations including, but not limited to dimensions, weights, service requirements, and functional differences. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed. Identify all variations of the proposed substitute from that specified in the RFS and indicate available maintenance, repair, and replacement service.
- 4) State whether the substitute will require a change in any of the Contract Documents (or provisions of any other direct contract with County for work on the Project) to adapt the design of the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty. Submit data relating to changes in construction schedule.
- 5) Include accurate cost data comparing proposed substitution with product and amount of net change in Contract Sum including, but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by County in evaluating the proposed substitute. County may require Contractor to furnish additional data about the proposed substitute.
- 6) County will not consider substitutions for acceptance (or, in County's sole discretion, County may make Contractor solely responsible for all resulting costs, expenses and other consequences) when a substitution:
  - a. Results in delay meeting construction Milestones or completion dates
  - b. Is indicated or implied on submittals without formal request from Contractor
  - c. Is requested directly by Subcontractor or supplier
  - d. Acceptance will require substantial revision of Contract Documents
  - e. Disrupts Contractor's job rhythm or ability to perform efficiently
- 7) Substitute products shall not be ordered without written acceptance of County.
- 8) County will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
- 9) All Contract Document requirements apply to Work involving substitutions.
- D. Contractor's Representation and Warranty:
  - 1) Contractor's RFS constitutes a representation and warranty that Contractor:
    - a. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
    - b. Will provide the same warranty for substitution as for specified product.
    - c. Will coordinate installation and make other changes that may be required for Work to be complete in all respects.
    - d. Waives claims for additional costs which may subsequently become apparent.
    - e. Will compensate County for additional redesign costs associated with substitution.
    - f. Will be responsible for Construction Schedule slippage due to substitution.
    - g. Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution that are subsequently rejected by County.
    - h. Will compensate County for all costs; including extra costs of performing Work under Contract Documents, extra cost to other contractors, and any claims brought against County, caused by late requests for substitutions or late ordering of products.
- E. County's Duties:
  - 1) Review Contractor's RFS with reasonable promptness.
  - 2) Notify Contractor in writing of decision to accept or reject requested substitution.
- F. Administrative Requirements:
  - 1) Specified products, materials, or systems for Project may include engineering or on-file standards required by the regulatory agency. Contractor's substitution of products, materials or systems may require additional engineering, testing, reviews, approvals,



assurances, or other information for compliance with regulatory agency requirements or both. Provide all agency approvals or other additional information required and pay additional costs for required County services made necessary by the substitution at no increase in Contract Sum or Contract Time, and as a part of substitution proposal.

**1.4 PRODUCT DELIVERY REQUIREMENTS**

- A. Deliver products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

**1.5 PRODUCT STORAGE AND HANDLING**

- A. Store products only in staging area per provisions of Section 011000 (Summary).
- B. Handle, store, and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.
- C. For exterior storage of fabricated products, place on appropriate supports, above ground.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

SECTION 017123

**FIELD ENGINEERING**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. Section Includes: Field engineering for the Work.
  - 1) Layout and install all Work to lines and grades in accordance with Contract Documents.
  - 2) Employ a civil engineer or land surveyor to establish building lines and elevations, check structural framework, and establish on the structural frame the required basic grid lines from which the Work shall be laid out.
- B. Related Sections:
  - 1) Section 017839–Project Record Documents: Documentation of Project layout and site conditions.

**1.2 QUALIFICATIONS OF SURVEYOR OR ENGINEER**

- A. Surveyor or civil engineers shall be licensed in the State of California.

**1.3 SURVEY REFERENCE POINTS**

- A. Basic horizontal and vertical control points for the Project will be furnished by County.
- B. Locate and protect control points prior to beginning Work; preserve all permanent reference points throughout construction operations.
  - 1) Do not change reference points without prior written notice to County.
  - 2) Report to County when any reference point has been lost, destroyed, or requires relocation because of necessary changes in grades or locations.
  - 3) Require engineer or surveyor to replace control points which may be lost or destroyed; base replacements on original survey control.

**1.4 PROJECT SURVEY REQUIREMENTS**

- A. Establish lines and levels, locate, and lay out:
  - 1) Site improvements:
    - a. Stakes for grading and fill placement.
    - b. Utility slopes and invert elevations.
    - c. Driveways and parking lots.
  - 2) Batter boards for structures.
  - 3) Building foundations, column locations, and floor levels.
- B. Verify layouts as Work proceeds to assure compliance with required lines, levels, and tolerances.

**1.5 RECORDS**

- A. Maintain a complete, accurate log of all control and survey work as it progresses. Record deviations from required lines and levels, and advise County when deviations are detected that exceed indicated or recognized tolerances. Record deviations that are accepted and not corrected on the Project record drawings.
- B. On completion of foundation walls and major site improvements, prepare a certified survey drawing showing all dimensions, locations, angles, and elevations of construction.

**1.6 SUBMITTALS**

- A. Submit to County certificate signed by the engineer or surveyor certifying that elevations and locations of improvements are in accordance with Contract Documents.
- B. Submit the certified survey drawing on a reproducible Mylar with two prints to County for incorporation into the Record Drawing sets.

**PART 2 – PRODUCTS – NOT USED**

**PART 3 – EXECUTION – NOT USED**

END OF SECTION

## SECTION 017300 EXECUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 2.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1) Construction layout.
  - 2) Field engineering and surveying.
  - 3) Installation of the Work.
  - 4) Cutting and patching.
  - 5) Coordination of Owner-installed products.
  - 6) Progress cleaning.
  - 7) Starting and adjusting.
  - 8) Protection of installed construction.
- B. Related Requirements:
  - 1) Section 011000 "Summary" for limits on use of Project site.
  - 2) Section 013300 "Submittal Procedures" for submitting surveys.
  - 3) Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
  - 4) Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.
  - 5) Section 078413 "Penetration Fire stopping" for patching penetrations in fire-rated construction.

#### 3.1 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

#### 4.1 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For **professional land surveyor and professional engineer**.
- B. Certificates: Submit certificate signed by **professional land surveyor or professional engineer** certifying that location and elevation of improvements comply with requirements.
- C. Cutting and Patching Plan: Submit plan describing procedures at least **10** days prior to the time cutting and patching will be performed. Include the following information:
  - 1) Extent: Describe reason for and extent of each occurrence of cutting and patching.
  - 2) Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
  - 3) Products: List products to be used for patching and firms or entities that will perform patching work.
  - 4) Dates: Indicate when cutting and patching will be performed.
  - 5) Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

- a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- E. Certified Surveys: Submit **two** copies signed by **a professional land surveyor**.
- F. Final Property Survey: Submit **10** copies showing the Work performed and record survey data.

### 5.1 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  - 1) Structural Elements: When cutting and patching structural elements, notify Engineer of locations and details of cutting and await directions from Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
  - 2) Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. **Operational elements include the following:**
    - a. Primary operational systems and equipment.
    - b. Fire separation assemblies.
    - c. Air or smoke barriers.
    - d. Fire-suppression systems.
    - e. Mechanical systems piping and ducts.
    - f. Control systems.
    - g. Communication systems.
    - h. Fire-detection and -alarm systems.
    - i. Conveying systems.
    - j. Electrical wiring systems.
    - k. Operating systems of special construction.
  - 3) Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. **Other construction elements include but are not limited to the following:**
    - a. Water, moisture, or vapor barriers.
    - b. Membranes and flashings.
    - c. Exterior curtain-wall construction.
    - d. Sprayed fire-resistive material.
    - e. Equipment supports.
    - f. Piping, ductwork, vessels, and equipment.
    - g. Noise- and vibration-control elements and systems.
  - 4) Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. General: Comply with requirements specified in other Sections.
  - 1) For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements in Section 018113.13 "Sustainable Design Requirements - LEED for New Construction and Major Renovations," Section 018113.16 "Sustainable Design Requirements - LEED for Commercial Interiors," Section 018113.19 "Sustainable Design Requirements - LEED for Core and Shell Development," and Section 018113.23 "Sustainable Design Requirements - LEED for Schools."
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1) If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Engineer for the visual and functional performance of in-place materials.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities, **mechanical and electrical systems**, and other construction affecting the Work.
  - 1) Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  - 2) Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1) Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 2) Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 3) Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - 1) Description of the Work.
  - 2) List of detrimental conditions, including substrates.
  - 3) List of unacceptable installation tolerances.
  - 4) Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to **the County of Sonoma** that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Engineer according to requirements in Section 013100 "Project Management and Coordination."

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer **and Olivia Guevara** promptly.
- B. General: Engage a professional **land surveyor or professional engineer** to lay out the Work using accepted surveying practices.
  - 1) Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2) Establish limits on use of Project site.
  - 3) Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 4) Inform installers of lines and levels to which they must comply.
  - 5) Check the location, level and plumb, of every major element as the Work progresses.
  - 6) Notify Engineer **and Olivia Guevara** when deviations from required lines and levels exceed allowable tolerances.
  - 7) Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- A. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer **and Olivia Guevara**.

### 3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
  - 1) Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - 2) Do not change or relocate existing benchmarks or control points without prior written approval of **Engineer or Olivia Guevara**. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Engineer **and Olivia Guevara** before proceeding.

- 3) Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of **two** permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1) Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2) Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3) Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- A. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and site work.
- B. Final Property Survey: Engage a **professional land surveyor** to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by a **professional land surveyor**, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
  - 1) Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
  - 2) Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

### 3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1) Make vertical work plumb and make horizontal work level.
  - 2) Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3) Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  - 4) Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1) Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer.
  - 2) Allow for building movement, including thermal expansion and contraction.
  - 3) Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with

integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### **3.6 CUTTING AND PATCHING**

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1) Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to [minimize] [prevent] interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1) In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2) Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3) [Concrete] [and] [Masonry]: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4) Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  - 5) Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 6) Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
  - 1) Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  - 2) Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    - a) Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b) Restore damaged pipe covering to its original condition.



- 3) Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
  - a) Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
- 4) Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
- 5) Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### **3.7 OWNER-INSTALLED PRODUCTS**

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
  - 1) Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  - 2) Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### **3.8 PROGRESS CLEANING**

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1) Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2) Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3) Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a) Use containers intended for holding waste materials of type to be stored.
  - 4) Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1) Remove liquid spills promptly.
  - 2) Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in **Section 015000 "Temporary Facilities and Controls."** **Section 017419 "Construction Waste Management and Disposal."**
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### **3.9 STARTING AND ADJUSTING**

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

### **3.10 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

**END OF SECTION 017300**

**SECTION 017419  
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes: Administrative and procedural requirements for diversion of construction and demolition debris from landfill, including salvaging, recycling, and disposing of nonhazardous demolition and construction waste.
- 1) Contractor shall minimize factors that contribute to waste, such as over-packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination.
  - 2) Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

**1.2 REFERENCES**

- A. Sonoma County Waste Management Agency: Contact the Sonoma County Eco-Desk at 707-565-3375 or [www.recyclenow.org](http://www.recyclenow.org) for copies of the following:
- 1) Builder's Guide to Re-Use and Recycling.
  - 2) Sonoma County Recycling Guide, Latest Edition.

**1.3 DEFINITIONS**

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, or renovation operations. Construction waste includes packaging. Land clearing debris including soil, vegetation, and rocks are not to be included.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Divert: To use material for any purpose other than disposal in a landfill.
- D. Salvage: Recovery of demolition or construction waste for subsequent incorporation into the Work or for turnover to the County.

**1.4 PERFORMANCE REQUIREMENTS**

- A. Diversion/Recycling Goals: The County's Green Building Policy for Public Construction Projects requires at least 75% of all demolition and construction waste be diverted from landfill.
- Demolition Waste:
- a. Asphaltic concrete paving
  - b. Concrete
  - c. Concrete reinforcing steel
  - d. Concrete masonry units
  - e. Brick and ceramic tile
  - f. Wood framing lumber including studs, joists, posts, beams and girders
  - g. Plywood, oriented strand board, and wood paneling
  - h. Metals, including galvanized and painted steel, stainless steel, iron, aluminum, copper, zinc, lead, brass, bronze, bolts, hangers, anchors, and metal used in suspended ceilings
  - i. Sheet metal including metal studs, lightgauge metal framing, flashings, counterflashings, gutters, downspouts, and other sheet metal fabrications
  - j. Wood doors, hollow metal doors and hollow metal frames
  - k. Door hardware
  - l. Aluminum windows and storefront framing
  - m. Acoustical ceiling panels and tiles
  - n. Carpet and carpet pad
  - o. Plumbing items including metal pipe, valves, sprinklers, supports and hangers
  - p. Porcelain and cast iron toilets and sinks
  - q. Mechanical items including equipment, ductwork, supports and hangers
  - r. Refrigerant from HVAC units and compressors
  - s. Electrical items including conduit, copper wiring, boxes, lighting fixtures, switchgear, and panelboards
  - t. Plastic film including shrink wrap and bags, stretch wrap, construction films and lumber wrap

- u. Clean dry unpainted drywall, gypsum, sheetrock
- 2) New Construction Waste:
  - a. Asphaltic concrete
  - b. Portland cement concrete and cement plaster
  - c. Concrete unit masonry, mortar, and grout
  - d. Wood products, including clean dimensional wood, palette wood, plywood, OSB, and particle board
  - e. Metals, including galvanized and primed steel, stainless steel, iron, aluminum, copper, zinc, lead, brass, and bronze. Uses include, but are not limited to miscellaneous metals, rebar, piping, conduit, hangers, supports, fasteners, etc.
  - f. Sheet metals including galvanized steel, stainless steel, aluminum, and copper. Uses include, but are not limited to ductwork, flashings, counterflashings, gutters, downspouts, hangers, supports, banding, etc.
  - g. Roofing
  - h. Packaging, including paper, cardboard, boxes, wood crates and pallets, metal banding, polystyrene packaging, and bubble wrap
  - i. Plastic film including shrink wrap and bags, stretch wrap, construction films and lumber wrap
  - j. Clean dry unpainted drywall, gypsum, sheetrock
  - k. Soils
  - l. Piping and fittings
  - m. Electrical Conduit
  - n. Steel Leachate Tanks

## 1.5 SUBMITTALS

- A. Waste Reduction Submittals:
  - 1) Records of Donations and Sales: Indicate receipt and acceptance for salvageable waste donated or sold to individuals and organizations. Indicate whether organization is tax exempt.
  - 2) Recycling Facility Records: Indicate receipt and acceptance of salvageable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
  - 3) Landfill Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices
  - 4) Maintain log of each load, of each category item diverted from landfill. Log in separately debris sent to a Class III landfill and materials sent to recycling facilities (See example in this Section).
    - a. Include in log the type of load, load weight, name of hauling service, recycling service or landfill, and date accepted by recycling service or by landfill.
    - b. County reserves the right to audit the log at any time; retain and make available all weight tickets, copies of receipts, and invoices.
    - c. Units of Measure: Calculate quantities and convert volume measurements to weights in accordance with the Conversion Rates Table in this Section.

## 1.6 QUALITY ASSURANCE

- A. Recycling Company Qualifications: Recycling companies shall meet any of the following:
  - 1) Recycling service provider contracted by Sonoma County to provide recycling services at the County landfill disposal site.
  - 2) Any recycling service that will certify in writing that accepted waste will be diverted from landfill, not dumped illegally, or dumped at sea.
- B. Waste Management Meetings: Include Construction Waste Management on the agenda of meetings. Meetings shall include all subcontractors affected by the Diversion/Recycling Goals. At a minimum, discuss waste management goals and issues at the preconstruction meeting and at periodic jobsite meetings.
  - 1) Review requirements for documenting quantities of each type of waste and its disposition.
  - 2) Review procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - 3) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - 4) Review waste management requirements for each trade.

## **PART 2 PRODUCTS**

### **2.1 SALVAGE MATERIALS**

- A. General:
  - 1) Clean salvaged items. Pack or crate items after cleaning. Identify contents of containers.
  - 2) Store items in a secure area until delivery to County or until re-installation.
  - 3) Protect items from damage during transport and storage.
- B. Salvaged Items for County's Use: Transport items to County's storage area designated by County's Representative. Salvage the following items for turnover to County: None
- C. Salvaged Items for Reuse in the Work: Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated. Salvage the following items for reuse:
  - 1) Doors.
  - 2) Door hardware.

## **PART 3 EXECUTION**

### **3.1 PREPARATION**

- A. General: Provide handling, containers, storage, and transportation as required to implement waste management goals during entire duration of the Contract.
- B. Site Access and Temporary Controls:
  - 1) Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 2) Comply with Section 015000 – Temporary Facilities and Controls for controlling dust and dirt, environmental protection, and noise.

### **3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE**

- A. Recycling Receivers and Processors: Refer to Sonoma County Recycling Guide, and "Builder's Guide to Re-Use and Recycling" for a list of recycling receivers and processors in Sonoma County. These resources are provided to the Contractor for information only and are not intended to limit the Contractor's means or methods for achieving the goal of diversion of waste material from landfill.
- B. Recycling Incentive: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste material shall accrue to Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
  - 1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from the Project site. Include list of acceptable and unacceptable materials at each container and bin.
  - 2) Stockpile recyclable materials on site without interfering with other materials.
  - 3) Designate a specific area or areas on site to facilitate separation of materials. Clearly mark bins for each category of waste.
  - 4) Keep waste bins and pile areas neat and clean. Do not contaminate non-recyclable waste with materials designated for reuse or recycling.
  - 5) Remove recyclable waste off County's property and transport to recycling receiver or processor.
- D. Environmental Controls during Handling, Storage, and Transport: Do not permit designated materials to become contaminated or to contaminate site or surrounding areas.
- E. Provide temporary protections to prevent water runoff which has been contaminated by recycled materials from entering storm water drainage system

### **3.3 HAZARDOUS WASTE**

- A. Hazardous Waste: Separate, store, and dispose of hazardous waste according to State regulations.
  - 1) Hazardous waste disposal information can be obtained from the Sonoma County Eco-Desk at 707-565-3375, or at [www.recyclenow.org](http://www.recyclenow.org).
  - 2) Keep all shipping manifests and make available to the County's Representative for auditing upon request.

- 3) Special wastes requiring Class II landfill disposal are considered hazardous waste, including, but not limited to:
  - a. Contaminated soil.
  - b. Treated wood.
  - c. Asbestos and asbestos-containing materials.
  - d. PCBs used in transformers and light fixture ballasts.
- 4) Deliver to a recycler the following mercury-containing products:
  - a. Fluorescent lamps.
  - b. High-pressure sodium lamps.
  - c. Mercury vapor lamps.
  - d. Mercury-containing thermostats and switches.
  - e. Metal halide lamps.
  - f. Neon lamps.

### **CONVERSION RATES TABLE**

The following conversion rates are estimates. The ranges vary widely, depending on how the materials are handled (compacted, loose, chipped, etc.). Use the conversion factors and receipts from previous projects to help you estimate the potential amount of materials and waste. Take into consideration the type and load of vehicles that will be used to haul the materials.

Ask your hauler or recycler to assist you in estimating these numbers.

<b>Material</b>	<b>Lbs/volume</b>	<b>Tons/cy</b>
Asphalt, crushed	45 lbs/cu. ft.	
Asphalt/paving, crushed	1,380 lbs/cy	0.7 tons/cy
Cardboard, corrugated, flattened boxes, loose	100 lbs/cy*	
Carpet & padding, loose	84.4 lbs/cy	
Cement, bulk	100 lbs/cu. ft.	
Cement, mortar	145 lbs/cu. ft.	
Concrete, scrap, loose	1,855 lbs/cy	0.9 tons/cy
Copper fittings, loose	1,048 lbs/cy	
Copper pipe, whole	211 lbs/cy	
Drywall	500 lbs/cy*	
Glass, broken	2,160 lbs/cy	
Gypsum, solid	142 lbs/cu. ft.	
Metal, scrap	1,000 lbs/cy*	
Steel, solid	487 lbs/cu. ft.	
Wood (chipped)	300 lbs/cy*	0.15 – 0.3 tons/cy
Mixed Construction and Demolition (C&D) Debris**	900 lbs/cy	0.45 tons/cy
Mixed Waste/Trash	350 lbs/cy*	0.5 – 0.175 tons/cy

\* USGBC Recommended weights

\*\* Construction and Demolition (C&D) Debris includes waste and recyclables generated from construction, renovation, and demolition or deconstruction of pre-existing structures. Land clearing debris including soil, vegetation, and rocks are not to be included.

**SAMPLE CONSTRUCTION WASTE MANAGEMENT LOG**

Total waste generated by project: \_\_\_\_\_ tons/cubic yards.

Material	Total Waste by Weight (Tons)	Diverted Waste by Weight (Tons)	Salvaged Waste by Weight (Tons)	Disposed at Landfill by Weight (Tons)	Hazardous Material by Weight (Tons)	Comments
Asphalt, crushed						
Asphalt/paving, crushed						
Cardboard, corrugated, flattened boxes, loose						
Carpet & padding, loose						
Cement, bulk						
Cement, mortar						
Concrete, scrap, loose						
Copper fittings, loose						
Copper pipe, whole						
Drywall						
Glass, broken						
Gypsum, solid						
Metal, scrap						
Steel, solid						
Wood (chipped)						
Mixed Construction and Demolition (C&D) Debris**						
Mixed Waste/Trash						

TOTAL:            \_\_\_\_\_Tons    \_\_\_\_\_Tons    \_\_\_\_\_Tons    \_\_\_\_\_Tons    \_\_\_\_\_Tons

TOTAL % Diverted from Landfill:    \_\_\_\_\_ %



END OF SECTION

## SECTION 017700

### CLOSEOUT PROCEDURES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1) Description of Contract closeout procedures including:
    - a. Removal of Temporary Construction Facilities
    - b. Substantial Completion
    - c. Final Completion
    - d. Project Record Documents
    - e. Project Guaranty
    - f. Warranties
    - g. Turn-In
    - h. Release of Claims
    - i. Fire Inspection Coordination
    - j. Building Inspection Coordination

##### 1.2 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to specified condition.
- D. Comply with paragraph 1.15 of Section 015000 (Temporary Facilities and Controls).

##### 1.3 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to County, with list of items remaining to be completed or corrected.
- B. Within reasonable time, County will inspect to determine status of completion.
- C. Should County determine that Work is not Substantially Complete, County will promptly notify Contractor in writing, listing all defects and omissions.
- D. Contractor shall remedy deficiencies and send a second written notice of Substantial Completion. County will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay the cost of the reinspection.
- E. When County concurs that Work is Substantially Complete, County will issue a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by County.
- F. Manufactured units, equipment and systems that require startup must have been started up and run for periods prescribed by County before a Certificate of Substantial Completion will be issued.
- G. A punch list examination will be performed upon Substantial Completion. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse County for costs associated with these visits.

##### 1.4 FINAL COMPLETION

- A. Final Completion occurs when Work meets requirements for County's Final Acceptance. When Contractor considers Work is Finally Complete, submit written certification that:
  - 1) Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
  - 2) Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of County, and are operative.

- 3) Work is complete and ready for final inspection.
- B. In addition to submittals required by Contract Documents, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- C. When County finds Work is acceptable and final closeout submittals are complete, County will issue a Final Inspection Report informing Contractor that the Work is complete, that any further accumulation of Liquidated Damages, if any were assessed, stop, and that the County will file the Notice of Completion with the County Recorder. Should County determine that Work is incomplete or Defective:
  - 1) County promptly will so notify Contractor, in writing, listing the incomplete or Defective items.
  - 2) Contractor shall promptly remedy the deficiencies and notify County when it is ready for reinspection.
- D. Final adjustments of accounts:
  - 1) Submit a final statement of accounting to County, showing all adjustments to the Contract Sum and complete and execute Document 006400 (Affadavit and Release of Liens Form).
  - 2) If so required, County shall prepare a final Change Order for submittal to Contractor, showing adjustments to the Contract Sum that were not previously made into a Contract Modification.

**1.5 PROJECT RECORD DOCUMENTS**

- A. Contract Documents will not be closed out and final payment will not be made until completion and submittal of Project Record Documents described in Section 017839 (Project Record Documents).

**1.6 PROJECT GUARANTY**

- A. Requirements for Contractor's guaranty of completed Work are included in Article 9 of Document 007200 (General Conditions). Contractor shall guaranty Work done under Contract against failures, leaks, or breaks or other unsatisfactory conditions due to defective equipment, materials, or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of year(s) from date of Final Acceptance.
- B. Neither recordation of Final Acceptance nor final certificate for payment nor provision of the Contract nor partial or entire use or occupancy of premises by County shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- C. County may make repairs to Defective Work as set forth in Document 007200 (General Conditions), paragraph 9.3.
- D. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to County, County shall have right to operate and use materials or equipment until said materials and equipment can, without damage to County, be taken out of service for correction or replacement. Period of use of Defective materials or equipment pending correction or replacement shall in no way decrease guaranty period required for acceptable corrected or replaced items of materials or equipment.
- E. Nothing in this Section 017700 shall be construed to limit, relieve, or release Contractor's, Subcontractors', and equipment suppliers' liability to County for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees, or Subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by County of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for Defective workmanship or Defective materials under laws of this State pertaining to acts of negligence.

**1.7 WARRANTIES**

- A. Execute Contractor's Submittals and assemble warranty documents, and Installation, Operation, and Maintenance Manuals described in Section 013300 (Submittal

Procedures), executed or supplied by Subcontractors, suppliers, and manufacturers. Contractor may submit documents in an electronic format acceptable to County with prior approval of County Project Manager.

- 1) Provide table of contents and assemble in 8½ inches by 11 inches three-ring binder with durable plastic cover, appropriately separated and organized.
- 2) Assemble in Specification Section order.
- B. Submit material prior to final Application for Payment.
  - 1) For equipment put into use with County's permission during construction, submit within fourteen (14) Days after first operation.
  - 2) For items of Work delayed materially beyond Date of Substantial Completion, provide updated Submittal within fourteen (14) Days after acceptance, listing date of acceptance as start of warranty period.
- C. Warranties are intended to protect County against failure of Work and against deficient, Defective, and faulty materials and workmanship, regardless of sources.
- D. Limitations: Warranties are not intended to cover failures that result from the following:
  - 1) Unusual or abnormal phenomena of the elements
  - 2) Vandalism after Substantial Completion
  - 3) Insurrection or acts of aggression including war
- E. Related Damages and Losses: Remove and replace Work which is damaged as result of Defective Work, or which must be removed and replaced to provide access for correction of warranted Work.
- F. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than one (1) year(s) after corrected Work was done, whichever is later.
- G. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- H. Warranty Forms: Submit drafts to County for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.
  - 1) Warranty shall be countersigned by manufacturers.
  - 2) Where specified, warranty shall be countersigned by Subcontractors and installers.
- I. Rejection of Warranties: County reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.
- J. Term of Warranties: For materials, equipment, systems, and workmanship, warranty period shall be one (1) one (1) year(s) minimum from date of Final Completion of entire Work except where:
  - 1) Detailed Specifications for certain materials, equipment or systems require longer warranty periods.
  - 2) Materials, equipment or systems are put into beneficial use of County prior to Final Completion as agreed to in writing by County.
- K. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to County free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of County.

## **1.8 TURN-IN**

- A. Contract Documents will not be closed out and final payment will not be made until all keys

issued to Contractor during prosecution of Work are turned in to County.

**1.9 RELEASE OF CLAIMS**

- A. Contract Documents will not be closed out and final payment will not be made until Document 006400 (Affidavit of Release of Liens Form) is completed and executed by Contractor and County.

**1.10 FIRE INSPECTION COORDINATION**

- A. Coordinate final fire inspection for the purpose of obtaining an occupancy certificate from County Building Inspection Division and secure sufficient notice to County to permit convenient scheduling (if applicable).

**1.11 BUILDING INSPECTION COORDINATION**

- A. Coordinate with County a final inspection for the purpose of obtaining an occupancy certificate.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION

SECTION 017839

**PROJECT RECORD DOCUMENTS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1) Administrative and procedural requirements for the following Project Record Documents:
    - a. Project Record Drawings, Shop Drawings
    - b. Project Record Specifications
    - c. Project Record Product Data
    - d. Miscellaneous Project Record Submittals
- B. Specific Project Record Documents requirements that expand requirements of this Section may be included in the individual Sections of Divisions 2 through 49, if used.

**1.2 SUBMITTAL**

- A. At completion of Project, deliver Project Record Documents to County. Project Record Documents required include:
  - 1) Marked-up copies of Drawings
  - 2) Marked-up copies of Shop Drawings
  - 3) Marked-up copies of Specifications, Addenda, Change Orders, and CCDs
  - 4) Marked-up Product Data submittals
  - 5) Final set of Project Record Drawings, including electronic version
  - 6) Final set of Project Record Specifications
  - 7) Final set of Project Record Product Data
  - 8) Record Samples
  - 9) Field records for variable and concealed conditions
  - 10) Record information on Work that is recorded only schematically
- B. Accompany submittal with transmittal letter containing:
  - 1) Date
  - 2) Project title and County's Contract number
  - 3) Contractor's name and address
  - 4) Number and title of each Project Record Document
  - 5) Certification that each document as submitted is complete and accurate, and signature of Contractor or Contractor's authorized representative.

**1.3 GENERAL**

- A. County will provide one full size set of Drawings and one (1) copy of the Project Manual for Contractor's use for recording as-built conditions.
- B. Post changes and Modifications to the Contract Documents as they occur. Do not wait until the end of the Project. County may periodically review Project Record Documents to assure compliance with this requirement.
- C. Refer instances of uncertainty to County for resolution.
- D. Maintenance of Documents and Samples:
  - 1) Store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
  - 2) Do not permit Project Record Documents to be used for construction purposes.
  - 3) Maintain Project Record Documents in good order and in a clean, dry, legible condition.
  - 4) Make Project Record Documents and Samples available at all times for inspection by County.

**1.4 PROJECT RECORD DRAWINGS, SHOP DRAWINGS, AND SAMPLES**

- A. Quality Draftsmanship: All Work on Project Record Drawings and Project Record Shop Drawings shall be performed by competent drafters and shall be clear and fully legible. County shall be the sole judge of the acceptability of the Project Record Drawings and

Project Record Shop Drawings.

- B. Mark-up Procedure: During the construction period, maintain a set of prints of Drawings and Shop Drawings for Project Record Documents purposes ("Field Set"). Stamp each document (on each sheet or page) "PROJECT RECORD" in 2-inch high letters. Also maintain a set of Samples for Project Record Documents purposes. Keep record documents current. Note: A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
  - 1) Mark Drawings and Shop Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
    - a. Dimensional changes to the Drawings and Shop Drawings
    - b. Revisions to details shown on the Drawings and Shop Drawings
    - c. Depths of various elements of foundation in relation to main floor level or survey datum
    - d. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements
    - e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure
    - f. Locations of underground Work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations, and similar items
    - g. Actual numbering and set points of each electrical circuit
    - h. Field changes of dimension and detail
    - i. Revisions to routing of piping and conduits
    - j. Revisions to electrical circuitry
    - k. Actual equipment locations
    - l. Duct, conduit, and cable size and routing
    - m. Changes made by Change Order or CCD
    - n. Details not on original Drawings or Shop Drawings
  - 2) Mark completely and accurately Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Drawings location.
  - 3) Mark important additional information that was either shown schematically or omitted from original Drawings.
  - 4) Note CCD numbers; Alternate numbers, Change Order numbers, and similar identification.
  - 5) Mark Drawing and Shop Drawing sets with red, erasable colored pencil.
  - 6) Mark Samples to record changes made after review
  - 7) Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing or Shop Drawing data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings or Shop Drawings.
    - a. Accurately record information in an understandable and legible drawing technique.
    - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- C. Preparation of Project Record Drawings and Project Record Shop Drawings: Thirty (30) days prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings and Project Record Shop Drawings with County.

#### **1.5 ADDITIONAL REQUIREMENTS FOR FINAL PROJECT RECORD DOCUMENTS**

- A. Thirty (30) days prior to Substantial Completion of the Work, Contractor will make available to Architect marked-up Drawings and Specifications, for Architect use in updating electronic drawing and specification files.

- B. After Substantial Completion and before Final Completion, Contractor shall carefully compare all data shown on the job set of Record Drawings with the corresponding record document computer files, prepared by Architect.
- C. Contractor shall clearly indicate on the Project Record Documents any changes that were not correctly transferred by the Architect. Contractor shall provide the correct information to the Architect.
- D. Contractor shall “cloud” all affected areas.

**1.6 PROJECT RECORD SPECIFICATIONS**

- A. During the construction period, maintain one (1) copy of the Specifications, including Addenda and Modifications issued, for Project Record Documents purposes.
- B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and CCD Work, and information on concealed installation that would be difficult to identify or measure and record later.
  - 1) In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
  - 2) Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and Installation, Operation, and Maintenance Manuals.
  - 3) Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in Installation, Operation, and Maintenance Manuals instead of submitted as Project Record Product Data.
- C. Preparation of Project Record Specifications: Thirty (30) days prior to inspection for Certification of Substantial Completion, review completed Field Set Project Record Specifications with County. When authorized, prepare final Project Record Specifications.
  - 1) After Substantial Completion and before Final Completion, carefully transfer all data shown on the Field Set to a separate clean set of Specifications provided by County. Include the printed designation “PROJECT RECORD SPECIFICATION” in a prominent location on the Specifications.

**1.7 PROJECT RECORD PRODUCT DATA**

- A. During the construction period, maintain one (1) copy of each Product Data submittal for Project Record Document purposes.
  - 1) Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the Site, and changes in manufacturer’s instructions and recommendations for installation.
  - 2) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 3) Note related Change Orders and mark-up of Project Record Drawings, where applicable.
  - 4) Upon completion of mark-up, submit a complete set of Project Record Product Data to County for County’s records.
  - 5) Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
  - 6) Contractor is responsible for mark-up and submittal of Project Record Product Data for the Work.
- B. Material, Equipment, and Finish Data:
  - 1) Provide data for primary materials, equipment, and finishes as required under each Specification Section.



- 2) Submit two sets prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
- 3) Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
  - a. Trade names
  - b. Model or type numbers
  - c. Assembly diagrams
  - d. Operating instructions
  - e. Cleaning instructions
  - f. Maintenance instructions
  - g. Recommended spare parts
  - h. Product data

#### **1.8 MISCELLANEOUS PROJECT RECORD SUBMITTALS**

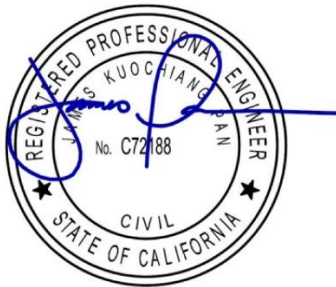
- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to County for County's records. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:
  - 1) Field records on excavations and foundations
  - 2) Field records on underground construction and similar Work
  - 3) Survey showing locations and elevations of underground lines
  - 4) Invert elevations of drainage piping
  - 5) Surveys establishing building lines and levels
  - 6) Authorized measurements utilizing unit prices or allowances
  - 7) Records of plant treatment
  - 8) Ambient and substrate condition tests
  - 9) Certifications received in lieu of labels on bulk products
  - 10) Batch mixing and bulk delivery records
  - 11) Testing and qualification of tradespersons
  - 12) Documented qualification of installation firms
  - 13) Load and performance testing
  - 14) Inspections and certifications by governing authorities
  - 15) Leakage and water-penetration tests
  - 16) Fire resistance and flame spread test results
  - 17) Final inspection and correction procedures

#### **PART 2 PRODUCTS – NOT USED**

#### **PART 3 EXECUTION – NOT USED**

END OF SECTION

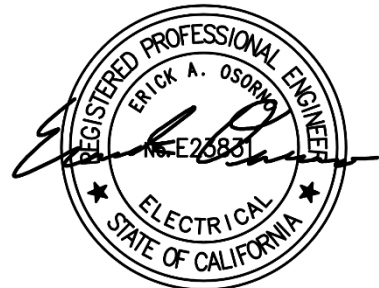
**TECHNICAL SPECIFICATIONS  
FOR  
LEACHATE TANK REPLACEMENT PROJECT**



12/16/2022



12/16/2022



12/16/2022

PREPARED BY:

GHD Inc.  
2235 Mercury Way, Suite 150  
Santa Rosa, CA 95407

PREPARED FOR:

COUNTY OF SONOMA  
2300 County Center Drive, Suite B100  
Santa Rosa, California 95403

**Leachate Tank Replacement Project**  
 Technical Specifications  
 Table of Contents

Section Number	Title
Division 01 - General Requirements	
01 20 00	Price and Payment Procedures
01 30 00	Administrative Requirements
01 73 00	Operation and Maintenance Data
Division 02 - Existing Conditions	
02 01 10	Existing Utilities and Underground Structures
02 32 00	Geotechnical Investigation Data
02 41 10	Demolition, Salvage and Abandonment
Division 03 – Concrete	
03 30 00	Cast-in-Place Concrete
03 48 10	Precast Concrete Meter and Valve Boxes
Division 09 – Painting and Coating	
09 90 00	Painting and Coatings
Division 26 – Electrical	
26 05 00	Basic Electrical Materials and Methods
26 05 19	Low Voltage Power Conductors and Cables
26 05 33	Raceways and Boxes for Electrical Systems
26 05 53	Identification for Electrical Systems
Division 31 – Earthwork	
31 00 00	Earthwork
31 01 40	Shoring and Trench Safety
31 11 00	Site Clearing and Grubbing
31 23 00	Trench Excavation Backfill
31 23 19	Dewatering
31 25 00	Erosion Control
Division 33 – Utilities	
33 20 00	Leachate Utilities
33 26 13	Bolted Steel Tank for Leachate Storage
Division 40 – Process Interconnections	
40 72 00	Level Instrumentation

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 GENERAL

- A. NOT USED
- B. NOT USED
- C. NOT USED
- D. NOT USED
- E. The Contractor shall install all equipment and appurtenances required to construct the complete, fully operational system as specified and shown in the project drawings and specifications in order to receive full contract payment upon completion.
- F. NOT USED

1.2 NOT USED

1.3 NOT USED

1.4 NOT USED

1.5 NOT USED

1.6 NOT USED

1.7 NOT USED

1.8 BASE BID ITEM DESCRIPTIONS

- A. The following Base Bid item descriptions are numbered in accordance with the Bid Schedule in the Bid Proposal Form.
  - 1. Guerneville Tank Replacement Project: Full compensation for the **Guerneville Tank Replacement Project** will be paid for at the contract lump sum (LS) price, which price shall constitute full compensation for all work required to complete the project except those work items described in **Bid Items 2 and 3**. Piping shall be inclusive off all piping, fittings and appurtenances up to the point of the flanged connection with the tanks.
  - 2. Guerneville Trench Sheet piling, Shoring and Bracing: **Trench Sheet piling, Shoring and Bracing** shall be paid for at the contract **lump sum (LS)** price, which price shall include full compensation for furnishing all planning, design, engineering, labor, materials, tools and equipment and doing all work involved in trench bracing, sheet piling and shoring or equivalent method as needed to construct the project including but not limited to that required as required under the provisions of any permits, and in accordance with the requirements of OSHA and the Construction Safety Orders of the State of California, pursuant to the provisions of Section 6707 and Section 6705 of the California Labor Code. This bid item

shall include removal and disposal of all such temporary sheeting, shoring, ground improvements and bracing.

3. Guerneville Bolted Stainless Steel Tank, Foundation, and Appurtenances 200,000 Gallon: Full compensation for **Bolted Stainless Steel Tank, Foundation, and Appurtenances** will be paid for at the contract **each (EA)** price, which shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the construction of the tank, including but not limited to the concrete tank foundation, concrete tank floor, excavation, subgrade preparation, aggregate base material over subgrade, formwork, reinforcing steel, anchor bolts, starter rings, drain sump; furnishing, transporting, staging, and assembly of the bolted tank and appurtenances at the location and dimensions shown on the Plans, including bolts, sealant and hydraulic testing, concrete mix designs, reinforcing steel, tank foundation and any proposed modifications to the tank structural design, calculations and related submittals and shop drawings and approval costs, and all other related tank improvement work as shown on the plans and described in these specifications. Tank piping and appurtenances shall include all of those up to the point of the flanged connection with the inlet piping.
4. Roblar Tank Replacement Project: Full compensation for the **Roblar Tank Replacement Project** will be paid for at the contract lump sum (LS) price, which price shall constitute full compensation for all work required to complete the project except those work items described in **Bid Items 2 and 3**. Piping shall be inclusive of all piping, fittings and appurtenances up to the point of the flanged connection with the tanks.
5. Roblar Trench Sheeting, Shoring and Bracing: **Trench Sheeting, Shoring and Bracing** shall be paid for at the contract **lump sum (LS)** price, which price shall include full compensation for furnishing all planning, design, engineering, labor, materials, tools and equipment and doing all work involved in trench bracing, sheeting and shoring or equivalent method as needed to construct the project including but not limited to that required as required under the provisions of any permits, and in accordance with the requirements of OSHA and the Construction Safety Orders of the State of California, pursuant to the provisions of Section 6707 and Section 6705 of the California Labor Code. This bid item shall include removal and disposal of all such temporary sheeting, shoring, ground improvements and bracing.
6. Roblar Bolted Stainless Steel Tank, Foundation, and Appurtenances 200,000 Gallon: Full compensation for **Bolted Stainless Steel Tank, Foundation, and Appurtenances** will be paid for at the contract **each (EA)** price, which shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the construction of the tank, including but not limited to the concrete tank foundation, concrete tank floor, excavation, subgrade preparation, aggregate base material over subgrade, formwork, reinforcing steel, anchor bolts, starter rings, drain sump; furnishing, transporting, staging, and assembly of the bolted tank and appurtenances at the location and dimensions shown on the Plans, including bolts, sealant and hydraulic testing, concrete mix designs, reinforcing steel, tank foundation and any proposed modifications to the tank structural design, calculations and related submittals and shop drawings and approval costs, and all other related tank improvement work as shown on the plans and described in these specifications. Tank piping and appurtenances shall include all of those up to the point of the flanged connection with the inlet piping.
7. Roblar Retaining Wall: Full compensation for **Retaining Wall** will be paid for at the contract **lump sum (LS)** price, which shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in installation of

the retaining wall at the Roblar Site as shown on the plans and described in these specifications.

8. Sonoma Tank Replacement Project: Full compensation for the **Sonoma Tank Replacement Project** will be paid for at the contract lump sum (LS) price, which price shall constitute full compensation for all work required to complete the project except those work items described in **Bid Items 2 and 3**. Piping shall be inclusive of all piping, fittings and appurtenances up to the point of the flanged connection with the tanks.
9. Sonoma Trench Sheeting, Shoring and Bracing: **Trench Sheeting, Shoring and Bracing** shall be paid for at the contract **lump sum (LS)** price, which price shall include full compensation for furnishing all planning, design, engineering, labor, materials, tools and equipment and doing all work involved in trench bracing, sheeting and shoring or equivalent method as needed to construct the project including but not limited to that required as required under the provisions of any permits, and in accordance with the requirements of OSHA and the Construction Safety Orders of the State of California, pursuant to the provisions of Section 6707 and Section 6705 of the California Labor Code. This bid item shall include removal and disposal of all such temporary sheeting, shoring, ground improvements and bracing.
10. Sonoma Bolted Stainless Steel Tank, Foundation, and Appurtenances 200,000 Gallon: Full compensation for **Bolted Stainless Steel Tank, Foundation, and Appurtenances** will be paid for at the contract **each (EA)** price, which shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the construction of the tank, including but not limited to the concrete tank foundation, concrete tank floor, excavation, subgrade preparation, aggregate base material over subgrade, formwork, reinforcing steel, anchor bolts, starter rings, drain sump; furnishing, transporting, staging, and assembly of the bolted tank and appurtenances at the location and dimensions shown on the Plans, including bolts, sealant and hydraulic testing, concrete mix designs, reinforcing steel, tank foundation and any proposed modifications to the tank structural design, calculations and related submittals and shop drawings and approval costs, and all other related tank improvement work as shown on the plans and described in these specifications. Tank piping and appurtenances shall include all of those up to the point of the flanged connection with the inlet piping.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Statement of Qualification (SOQ) for land surveyor or professional engineers employed by the Contractor in the work.
- B. Photographs and other records of examination, as required herein.

1.1 RELATED SECTION:

- A. Contract General Conditions.

1.2 OTHER WORK

- A. Refer to Contract General Conditions.
- B. Ensuring continuous operation of all utilities: Refer to General Contract Conditions, Section 01 10 00 "Summary of Work" and Section 02 01 10 "Existing Utilities and Underground Structures" for Contractor's responsibilities regarding existing utilities and obstructions.

1.3 UTILITIES

- A. Notify applicable utility providers:
  - 1. Prior to commencing Work,
  - 2. If damage occurs, or
  - 3. If conflicts or emergencies arise during Work.
- B. Prior to connecting to any existing structure or pipeline carrying wastewater, water, gas, storm water, or other material, the Contractor shall prepare and have approved by the Engineer his detailed plan on how the connection may be made without causing an uncontrolled discharge resulting in contamination of the soil or groundwater. By reviewing and approving the plan, the County does not accept responsibility for the adequacy thereof nor for any damages to public or private property caused by the Contractor.

1.4 PROJECT MEETINGS

- A. General:
  - 1. Schedule meetings throughout the progress of the Work, prepare meeting agenda and distribute with written notice of each meeting, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes within one day after each meeting to participants and parties affected by meeting decisions.
  - 2. Representatives of County, Contractor, and Subcontractors shall attend meetings, as needed.
- B. Preconstruction Conference:
  - 1. A preconstruction conference attended by the Contractor, the Engineer, County staff and others as appropriate will be held to discuss the Work in accordance with the applicable procedures specified in Section 01 10 00, "Summary of Work." All subcontractors are required to be in attendance when safety issues and safety training requirements are presented.



2. Attendees may include but not be limited to:
  - a. Engineer and other County representatives.
  - b. Contractor's resident superintendent.
  - c. Contractor's quality control representative.
  - d. Contractor's safety program representative.
  - e. Subcontractors' representatives whom Contractor may desire or Engineer may request to attend.
  - f. Engineer's representatives.
  - g. Utility agencies' representatives.
  - h. Others as appropriate.
- C. Progress Meetings:
  1. Schedule weekly progress meetings at the site. Conduct weekly meeting to review Work progress, progress schedule, submittal submissions schedule, Application for Payment, contract modifications, and other matters needing discussion and resolution.
  2. Attendees will include:
    - a. Engineer and other County representatives.
    - b. Contractor, and appropriate Subcontractors and Suppliers.
    - c. Engineer's representative(s).
    - d. Others as appropriate.
- D. Quality Control and Coordination Meeting(s):
  1. Schedule on a regular basis and as necessary to review test and inspection reports, and other matters relating to quality control of Work and work of other contractors.
  2. Attendees will include Engineer and other County Representatives, Contractor, Contractor's designated quality control representative, selected Subcontractors and Suppliers, and Engineer's representatives.
- E. Pre-installation Meetings:
  1. When required in individual specification sections, convene at site prior to commencing Work of that section.
  2. Require attendance of entities directly affecting, or affected by, Work of that section.
  3. Notify the Engineer 5 days in advance of meeting date.
  4. Provide suggested agenda to the Engineer to include reviewing conditions of installation, preparation and installation or application procedures, and coordination with related Work and work of others.
- F. Other Meetings: In accordance with Contract Documents and as may be required by County and Engineer.

#### 1.5 SEQUENCE OF WORK

- A. Include the Milestones and sequences of Work specified herein as a part of the progress schedule required under Section 01 32 00, "Construction Progress Documentation."
- B. Construct Work in stages to allow for County continuous occupancy during construction. Coordinate construction schedule and operation with the County.
- C. Be responsible for temporary connections and structures required to maintain County operations. Sequences other than those specified will be considered by Engineer, provided they afford equivalent continuity of operations.
- D. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption of County operations.

- E. Coordinate proposed Work with the Engineer and facility operations personnel before effecting unit shutdowns. Under no circumstances cease Work at the end of a normal working day if such actions may inadvertently cause a cessation of any facility operating process, in which case, remain onsite until necessary repairs are complete.
- F. Do not close lines, open switches, or take other action which would affect the operation of existing systems, except as specifically required by the Contract Documents and after approval of the Engineer. Such actions will be considered by County and Engineer upon one week written notice to the Engineer.

#### 1.6 ADJACENT FACILITIES AND PROPERTIES

- A. Contractor shall coordinate with the County in all construction operations to minimize conflicts pertaining to, but not limited to, construction noise, traffic access, and to ensure all necessary permits and easements are obtained.
- B. Examination:
  - 1. After Effective Date of the Agreement and before Work at site is started, Contractor, Engineer, and affected property owners and utility owners shall make thorough examination of pre-existing conditions including existing buildings, structures, pipelines, and other improvements in vicinity of Work, as applicable, which might be damaged by construction operations.
  - 2. Contractor shall take two sets of photographs and videotape pre-existing conditions prior to the start of the work. One set of photographs and videotape shall be given to the Engineer. Periodic reexamination shall be jointly performed to include, but shall not be limited to, cracks in structures, settlement, leakage, and similar conditions. Include public roads and improvements to adjacent private property as part of preexisting condition documentation.
  - 3. Record observations for signature of Contractor.
- C. Documentation:
  - 1. Submit two copies of photographs, videotapes and other records documenting examination for Engineer's signature. Engineer will review, sign, and return one record copy of every observation document and photograph to Contractor to be kept on file in Contractor's field office as site records.
  - 2. These observations and photographs and videotapes are intended for use as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and are for protection of adjacent property owners, utility owners, Contractor, and County.
- D. Notification: The Contractor shall notify all affected property owners at least one week prior to construction.

#### 1.7 SITE SECURITY

Contractor shall coordinate with the Engineer to ensure that site security is maintained at all times. Contractor shall take whatever measures are necessary to maintain site security, including the use of temporary fencing and gates if required. Contractor shall be completely responsible for the construction site security and for any vandalism or theft occurring thereto.

#### 1.8 OWNER (COUNTY) FACILITIES

- A. Operation and Shutdown of Existing Facilities:
  - 1. Schedule and conduct activities to ensure minimal disturbance to the leachate storage network, unless otherwise specified.

2. Conduct Work outside regular working hours on prior written consent of Engineer in accordance with Section 01 32 00, "Construction Progress Documentation," to meet Project schedule and avoid undesirable conditions.
3. Do not proceed with Work affecting a facility's operation without obtaining Engineer's advance approval of the need for and duration of such Work.

B. Relocation of Existing Facilities:

1. During construction, it is expected that minor relocations of Work may be necessary.
2. Provide complete relocation of existing structures and underground facilities; including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct banks, and other necessary items.
3. Use only new materials for relocated facilities. Match materials of existing facilities, unless otherwise approved by the Engineer.
4. Perform relocations to minimize downtime of existing facilities.
5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by Engineer.

C. Damage to Existing Facilities

1. The Contractor shall be responsible for restoring, repairing, or replacing County facilities damaged by the Contractor, to the satisfaction of the Engineer.

1.9 PHYSICAL CONDITIONS

- A. Exercise reasonable care to verify the location of existing subsurface structures and underground facilities, proceeding in accordance with Section 01 10 00, "Summary of Work" and of other applicable sections of the Specifications.
- B. Thoroughly check adjacent areas subject to excavation by visual examination (and by electronic metal and pipe detection equipment, as necessary) for indications of subsurface structures and underground facilities.
- C. Make exploratory excavations where existing underground facilities or structures may potentially conflict with proposed underground facilities or structures. Conduct exploratory excavations sufficiently ahead of construction to avoid possible delays to Contractor's Work.

1.10 REFERENCE POINTS AND SURVEYS

- A. Location and elevation of benchmarks are shown on the Survey Control Diagram contained in the Drawings.
- B. Dimensions for lines and elevations for grades of structures, appurtenances, and utilities are indicated on the Plans, together with other pertinent information required for laying out Work. If conditions vary from those indicated, Contractor shall notify the County and Engineer immediately.
- C. County and/or Engineer may perform checks to verify accuracy of Contractor's layout Work and that completed Work complies with the Contract Documents.
- D. Any existing survey points or other control markers destroyed shall be replaced by a Land Surveyor licensed in the State of California and approved by County. Replacement shall be at the Contractor's expense.
- E. Contractor's Responsibilities:
  1. Provide additional survey and layout required, and construction staking as required.

2. Locate and protect reference points prior to starting Work at site.
3. Check and establish exact location of existing facilities prior to construction of new facilities and any connections thereto.
4. In event of discrepancy in data provided by Engineer, request clarification before proceeding with Work.
5. Preserve and leave undisturbed control staking.
6. Re-establish reference points resulting from destruction by Contractor's operations.
7. Retain professional Land Surveyor or Civil Engineer registered in California who shall perform or supervise engineering surveying necessary for additional construction staking and layout.
8. Maintain complete accurate log of survey Work onsite as it progresses as a Record Document. Include in project as-builts. See Section 01 78 39, "Project Record Documents."
9. Submit documentation, as requested.
10. Provide competent employee(s), tools, stakes, and other equipment and materials as the Engineer may require to:
  - a. Check layout, survey, and measurement of Work.
  - b. Measure quantities for payment purposes.
11. Cooperate with the Engineer so that checking and measuring may be accomplished with least interference to Contractor's operations.

#### 1.11 PERMIT REQUIREMENTS

##### A. Other Permits and Approvals

##### B. Notification

1. The Contractor shall provide a contact name and mailing address for the purpose of notification in conformance with the approval or permit conditions. The Contractor shall provide the name(s), email addresses, and telephone numbers of representatives who can be reached at all times and who have the authority and responsibility to respond immediately to an emergency situation at the construction jobsite. Mailing addresses, email addresses, name and telephone numbers required for notification and emergency response shall be provided to the Engineer.

##### C. The Contractor shall submit copies of all other permits and approvals from other government agencies with respect to the work. If a permit is not required from these agencies, the Contractor should provide copies of correspondence that indicates that a permit is not required.

##### D. The above requirements shall be distributed to all Subcontractors working on the project site.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 OPERATION AND MAINTENANCE

- A. The Operation and Maintenance Manual Data for each piece of equipment must be submitted and favorably reviewed by the Engineer prior to final acceptance. Three (3) copies of the favorably reviewed Operation and Maintenance Manual shall be provided.
- B. The manual shall be bound in a 3-ring binder with rigid covers, marked to indicate the specific equipment furnished for this project, and shall utilize tab sheets to organize the information. Operation and maintenance manual shall include:
  - 1. Cover Page: Equipment Name, equipment tag number, project name, County's name, and other data as appropriate.
  - 2. Laminated Table of Contents: General description of information provided within each tab section.
  - 3. Lubrication Information: Required lubricants and lubrication schedules.
  - 4. Control Diagrams: Internal and connection wiring, including logic diagrams, wiring diagrams for control panels, ladder logic for computer-based systems, and connections between existing systems and new additions, and adjustments such as calibrations and set points for relays, and control or alarm contact settings.
  - 5. Start-up Procedures: Recommendations for installation, adjustment, calibration, and troubleshooting.
  - 6. Operating Procedures:
    - a. Step-by-step procedures for starting, operating, and stopping equipment under specified modes of operation.
    - b. Include safety precautions and emergency operating shutdown instructions.
  - 7. Preventative Maintenance Procedures: Recommended steps and schedules for maintaining equipment.
  - 8. Overhaul Instructions: Directions for disassembly, inspection, repair and reassembly of the equipment; safety precautions; and recommended tolerances, critical bolt torques, and special tools that are required.
  - 9. Parts List: Generic title and identification number of each component part of equipment; include bearing manufacturer, model and ball or roller pass frequencies for every bearing.
  - 10. Spare Parts List: Recommended number of parts to be stored at the site and special storage precautions.
  - 11. Drawings: Exploded view or plan and section views with detailed callouts.
  - 12. Provide electrical and instrumentation schematic record drawings.
  - 13. Source (Factory) Quality Control Test Results: Provide copies of factory test reports as specified in the Technical Specifications.
  - 14. Field Quality Control Test Results: After field testing is completed, insert field test reports as specified in the Technical Specifications.
  - 15. Equipment Summary Form: Completed form in the format attached below. Insert Equipment Summary Form after the tab sheet of each equipment section. The manufacturer's standard form will not be acceptable. Manual submitted without equipment summary form fully completed, including equipment identification number, will be rejected and returned.

### Equipment Summary Form

1. Equipment Item: \_\_\_\_\_  
Is it a packaged unit, i.e. pump, motor, shaft?      Yes \_\_\_\_\_      No \_\_\_\_\_  
If yes, please detail. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. How many: \_\_\_\_\_
3. Cost: \_\_\_\_\_
4. Manufacturer: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone #: \_\_\_\_\_      Fax: \_\_\_\_\_  
Email: \_\_\_\_\_      Website: \_\_\_\_\_
5. Equipment Identification Numbers:  
Serial Number: \_\_\_\_\_  
Model: \_\_\_\_\_  
Part #: \_\_\_\_\_
6. Location of Equipment: \_\_\_\_\_
7. Weight of Individual Components (Over 100 Pounds): \_\_\_\_\_  
\_\_\_\_\_
8. Nameplate Data:  
Horsepower: \_\_\_\_\_      RPM: \_\_\_\_\_  
Amperage: \_\_\_\_\_      Size: \_\_\_\_\_  
Voltage: \_\_\_\_\_      Frame Size: \_\_\_\_\_  
  
Service Factor (S.F.): \_\_\_\_\_      Seal Size: \_\_\_\_\_  
Speed: \_\_\_\_\_      Seal Type: \_\_\_\_\_  
Enclosure Type: \_\_\_\_\_      Bearings: \_\_\_\_\_  
GPM: \_\_\_\_\_      Impeller Size: \_\_\_\_\_  
Maximum Capacity @ \_\_\_\_\_ ft TDH      Other: \_\_\_\_\_  
Design Point Capacity @ \_\_\_\_\_ ft TDH
9. Manufacturer's Local Representative:  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_  
Email: \_\_\_\_\_      Website: \_\_\_\_\_

10. Maintenance Requirements (including schedules):

TASK	SCHEDULE

11. Lubricant List:


12. Spare Parts (with accurate part #'s):


12. Comments:

\_\_\_\_\_

13. General Info:

Year Installed: \_\_\_\_\_

Project Name & Number: \_\_\_\_\_

Design Engineer: \_\_\_\_\_

14. Warranty:

Start Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Prorated: \_\_\_\_\_

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK



SECTION 02 01 10

EXISTING UTILITIES AND UNDERGROUND STRUCTURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes: Contractor is responsible for locating and protecting existing utilities, facilities and underground structures. Responsibilities shall include but are not limited to those defined in this section.
- B. Refer to Drawings for the approximate locations of utilities and underground structures.

1.2 GENERAL

- A. The Contractor shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. The approximate locations of known existing utilities are shown in the Drawings. The Contractor shall verify the location of existing utilities at least two (2) full working days but no more than fourteen (14) calendar days prior to the beginning excavation by notifying Underground Services Alert North (USA North 811) at (800) 642-2442 or 811. The Contractor shall notify the Engineer of any utilities not shown in the Drawings or substantially different from the Drawings. The Contractor shall make exploratory potholes of all utilities including those not shown in the Drawings that may interfere with the Work. All such exploratory potholes shall be performed as soon as practicable after award of the Contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's Work.
- C. The number of exploratory potholes required shall be as many sufficient to determine the alignment and grade of the utility.

1.3 CALIFORNIA ADMINISTRATIVE CODE

- A. Section 1540(a)1 of Construction Safety Orders (Title 8) California Administrative Code, Section 1540 states:
- B. (1) "Prior to opening and excavation, effort shall be made to determine whether underground installations; i.e., sewer, water, fuel, electric lines, etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the approximate location of such an installation, the exact location shall be determined by careful probing or hand digging; and, when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of underground facilities in the area concerned shall be advised of proposed Work at least 48 hours prior to the start of actual excavation."
- C. The County and Engineer have determined the approximate location of public utilities and underground structures as well as existing mapping permits. However, in accordance with California's Administrative Code, Section 1540, the Contractor shall make the effort to determine the exact location of underground installations.

#### 1.4 PUBLIC UTILITIES AND AGENCIES AFFECTED

- A. General, For underground utility location call Underground Service Alert North (USA North 811) at (800) 642-2442 or 811.
- B. Electrical, Pacific Gas & Electric Company has jurisdiction over electrical power - Call a minimum of 48 hours prior to any excavation within ten (10) feet of existing electrical lines. It should be noted that where a structure is known to receive service and does not have overhead service, then underground service shall be assumed to exist. For underground utility location call Underground Service Alert North (USA North 811) at (800) 642-2442 or 811.
- C. Telephone Service
- D. Storm Drainage, County of Sonoma .

#### 1.5 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The Contractor shall not destroy, remove, or otherwise disturb any existing survey markers, street monuments, or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or the permanent markers points that will be disturbed by the construction operations have been properly referenced. All survey markers or points disturbed by the Contractor shall be accurately replaced after all street or roadway resurfacing has been completed.

#### 1.6 RESTORATION OF PAVEMENT

- A. General. All paved areas, including asphalt concrete berms cut or damaged during construction, shall be replaced with similar materials and of a thickness equal to the existing plus 1 inch or 6 inches, whichever is greater, except where specific resurfacing requirements have been called for in the Contract Documents. Restoration of paved areas shall be in accordance with the requirements of Sonoma County standards and State of California, Department of Transportation (Caltrans) Specifications and Standards Section 39 Asphalt Concrete. All pavements that are subject to partial removal shall be neatly sawcut in straight lines.
- B. Temporary Resurfacing. The Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing until final restoration of improvements.
- C. Permanent Resurfacing. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight line to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement and other facilities (i.e., valve lids, manhole covers, etc). The Contractor shall replace damaged pavement striping in kind.

#### 1.7 EXISTING UTILITIES AND IMPROVEMENTS

- A. General. The Contractor shall protect all existing underground utilities and other improvements that may be impaired during construction operations. It shall be the Contractor's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The Contractor shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.

- B. Utilities to be moved. In case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the Contractor, be notified by the County to move such property. Time of relocation of the utility by the utility company is not a responsibility of the County. When utility lines that are to be removed are encountered within the area of operations, the Contractor shall notify the Engineer a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.
- C. Where the proper completion of the Work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement that is indicated, the Contractor shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the Engineer and the County of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the Contractor in a manner that will restore or replace the utility or improvement as nearly as possible to its former location and to equal or better condition as found prior to removal.
- D. County's Right of Access. The right is reserved to the County and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work of this Contract.
- E. Underground Utilities Indicated. Existing utility lines that are indicated or the locations of which are made known to the Contractor prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling, and if damaged, shall be immediately repaired or replaced by the Contractor to the satisfaction of the Engineer.
- F. Underground Utilities not Indicated. In the event that the Contractor damages any existing utility lines that are not indicated or the locations of which are not made known to the Contractor prior to excavation, a written report there-of shall be made by the Contractor to the County.
- G. All costs of locating, repairing damage not due to failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the Work which was interrupted or idled during such Work will be paid for as extra Work.
- H. Approval of Repairs. All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement County before being concealed by backfill or other Work. Contractor to schedule with County for all inspections.
- I. Maintain In Service. All power and telephone or the communication cable ducts, gas and water mains, irrigation lines, sanitary sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of Work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the Engineer are made with the County of said pipelines, duct, main, irrigation lines, sanitary sewer, storm drain, pole, or wire or cable. The Contractor shall be responsible for and shall repair all damage due to its operations, and the provisions of this section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

## 1.8 TREES WITHIN STREET RIGHTS-OF-WAYS AND PROJECT LIMITS

- A. General. The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the County. All existing trees and shrubs that are damaged during construction shall be trimmed or replaced by the Contractor or a certified tree company under permit from the County. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.
- B. Trimming. Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All limbs over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material.
- C. Replacement. The Contractor shall immediately notify the County if any tree is damaged by the Contractor's operations. If, in the opinion of the County, the damage is such that replacement is necessary, the Contractor shall replace the tree at its own expense. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the Contractor shall pay to the County of said tree a compensatory payment acceptable to the tree County, subject to the approval of the jurisdictional agency or County. The size of the trees shall be not less than 1-inch diameter nor less than 6 feet in height.

## 1.9 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sanitary sewer, storm drain, gas, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway; the Contractor shall notify the respective authorities representing the owners or agencies responsible for such facilities not less than three (3) days nor more than seven (7) days prior to excavation so that a representative of said owners of agencies can be present during such Work if they so desire. The Contractor shall also notify USA at (800) 642-2442 or 811 at least two (2) working days, but no more than fourteen (14) calendar days, prior to such excavation.

## PART 2 PRODUCTS (NOT USED)

## PART 3 EXECUTION

### 3.1 CONTRACTOR RESPONSIBILITY

- A. The Contractor shall anticipate work along existing water, sanitary sewer, electrical, gas, communication, drainage and telephone services. It may be expected that there will be variation in location from that as shown on the Drawings to the actual location. Contractor responsible for verifying actual location in the field after pre-marking by the various utilities affected.
- B. No extra payment will be allowed for the removal, replacement, repair, or possible increased cost caused by inadvertent or planned interception and breaking of underground obstructions which may exist.
- C. It should be understood that the various utilities are indicated on the Drawings to show only the approximate location and must be verified in the field by the Contractor. The various utility agencies will cooperate with the Contractor to endeavor to familiarize him with all known

underground utilities obstructions, but this will not relieve the Contractor from full responsibility in anticipating and locating their actual location.

- D. The Contractor, in conjunction with the affected utility company(s), shall pothole and establish the horizontal and vertical location of all utilities shown on the Drawings and marked in the field. This may be done on an area-by-area basis, but shall be accomplished at least five working days in advance of the date of construction within such area. Any discrepancies (horizontal and/or vertical) between the location of a utility found by the potholing operation than that shown on the Drawings shall be brought to the Engineer's attention immediately. Potholing shall be required at the connection to existing facilities prior to the shop drawing submittals.

### 3.2 PRIOR INVESTIGATION

- A. Prior to bidding, each bidder shall make his own subsurface investigations, talk to the various utilities affected to secure, for his own information, the knowledge of each utility with the precise location of their facilities so that he may take into account in his bid the difference in location from that believed to exist to that which may actually prove to be the precise location.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02 32 00

GEOTECHNICAL INVESTIGATION DATA

PART 1 GENERAL

1.1 INVESTIGATION

- A. Soil and subsurface investigations were conducted for this project, and the results and recommendations are contained in the following reports:
1. Title: Geotechnical Investigation, Guerneville Leachate Tanks, 13450 Pocket Drive, Guerneville, California  
Date: January 19, 2022  
Author: Miller Pacific Engineering Group
  2. Title: Geotechnical Investigation, Roblar Leachate Tanks, Roblar Road, Petaluma, California  
Date: January 19, 2022  
Author: Miller Pacific Engineering Group
  3. Title: Geotechnical Investigation, Sonoma Leachate Tanks, 4376 Stage Gulch Road, Sonoma, California  
Date: January 19, 2022  
Author: Miller Pacific Engineering Group
- B. A copy of this information may be reviewed only at the office of the County or Engineer. A copy of the soils boring logs is included with the drawings.
- C. Reproductions of information will NOT be available or made at the office of the Engineer.
- D. This report of explorations and tests of subsurface conditions at the site has been utilized by the Engineer in preparation of the Contract Documents. Bidder may rely upon the accuracy of the "technical" data contained in such reports but not upon nontechnical data, interpretations or opinions contained therein or for the completeness thereof for the purposes of bidding or construction.
- E. These Geotechnical Investigations are not part of the Contract Documents but the technical data contained therein upon which Bidder is entitled to rely are incorporated therein by reference. Such technical data is boring method, location and logs; and laboratory test methods and results.
- F. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data, which pertain to the physical conditions, surface or subsurface, at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

County of Sonoma  
Leachate Storage Tanks Replacement Project

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION



THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02 41 10

DEMOLITION, SALVAGE AND ABANDONMENT

PART 1 GENERAL

1.1 DESCRIPTION

- A. The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor as required for the demolition, abandonment, or removal of pavements and structures and utility removals and abandonments, as indicated on the Drawings and as specified herein.
- B. The Work of this Section shall include, but shall not be limited to the following items:
  - 1. Demolition of asphalt pavement, concrete structures, pavement, underground piping, and other features as required to install utilities, structures, concrete pavement and asphalt pavement.
  - 2. Abandonment or removal of existing pipe and other utilities as indicated on the Drawings and specified herein.
  - 3. Abandonment or removal of electrical, instrumentation and controls facilities.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02 01 10 - Existing Utilities and Underground Structures
- B. Section 02 32 00 - Geotechnical Investigation Data
- C. Section 31 00 00 - Earthwork
- D. Section 31 11 00 - Site Clearing and Grubbing

1.3 DEMOLITION/ABANDONMENT COORDINATION

- A. The Contractor shall anticipate and coordinate construction demolition and improvement as shown on the Drawings and described in the Construction Documents.
- B. The Contractor shall carefully coordinate the extent of the Work in areas where existing utilities shall be reconnected to new facilities and where existing facilities shall remain operational.
- C. While Work is being performed, the Contractor shall provide adequate access for normal operations, including access, routine operation and maintenance. The Contractor shall erect and maintain fences, warning signs, barricades, and other devices as required for the protection of the Contractor's and County's employees and the public around pipelines, structures and excavations. The Contractor shall remove all such protection when the demolition/abandonment operations are completed, or as Work progresses, or when directed by the Engineer or County.
- D. The Contractor shall coordinate all Work with the Engineer and County.
- E. The Contractor shall be responsible for scheduling and coordinating any required shut down and/or relocations as necessary for performance of the work.

#### 1.4 POTENTIALLY HAZARDOUS WASTE

- A. Work impacting petroleum hydrocarbons is regulated by applicable governmental agencies and standards.
- B. Work impacting lead material(s), including the tank primer coat, is regulated by applicable governmental agencies and standards.
- C. When approved by the County, Contractor shall impact, excavate, demolish, recycle, and/or properly dispose of material containing lead under the rules and regulations of the following agencies:
  - 1. US Department of Transportation (US DOT)
  - 2. US Environmental Protection Agency (US EPA)
  - 3. California Environmental Protection Agency (Cal/EPA)
  - 4. California Department of Public Health (CDPH)
  - 5. California Department of Toxic Substances Control (DTSC)
  - 6. California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA)
  - 7. California Department of Resources Recycling and Recovery (CalRecycle)
  - 8. California Air Resources Board (CARB)
- D. Contractor shall prevent visible dust migration during demolition, excavation, transportation, placement, and handling of material containing lead. Contractor shall use wet methods (water) when impacting lead containing coatings to suppress airborne lead dust.
- E. Employee exposure to material containing any detectable quantity of lead will trigger compliance with applicable lead regulations, including 8 CCR 1532.1. Individuals engaged in lead-related construction work activities should attend lead hazard training appropriate to their assignments. All training for other lead-related construction activities should be in accordance with the Cal/OSHA and CDPH worker training provisions, including 8 CCR 1532.1(I).
- F. Contractor shall designate, in writing, one or more individuals as lead Supervisor(s). Supervisor(s) shall be capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them. Supervisors shall be trained, as required by 8 CCR 1532.1, and, when required, be certified consistent with section 8 CCR 1532.1(I)(3).
- G. Contractor is responsible for all sampling, characterization, removal, handling and disposal of contaminated materials that are not determined to be hazardous waste by the Engineer under 22 California Code of Regulations Division 4.5, including trucking, disposal site fees, and additional testing if required by disposal sites. You shall comply with all disposal regulations, such as City, County, and/or State permits and licenses, as may be required.
- H. Handle, store, and dispose of hazardous waste under 22 California Code of Regulations Division 4.5. Dispose of hazardous waste within 90 days of the start of generation. Store hazardous waste in sealed, covered containers labeled with the contents and accumulation start date under 22 CA Code of Regulations, Division 4.5. Labels must comply with the provisions of 22 CA Code of Regulations, Division 4.5 § 66262.31 and § 66262.32. Use a hazardous waste manifest and a transporter registered with the Department of Toxic Substances Control (DTSC) and in compliance with the California Highway Patrol Biennial Inspection of Terminals Program to transport hazardous waste to an appropriately permitted hazardous waste management facility.

- I. In general, the Contractor shall maintain awareness of potential signs of contamination throughout the project limits and shall notify the County immediately upon discovery of any potential contamination.
- J. The Contractor shall provide 40-hour OSHA-HAZWOPER certified workers when performing any work around potentially contaminated areas and provide a field Site Safety Officer that is also an 8-hour OSHA-HAZWOPER Supervisor trained to directly oversee the contaminated materials removal and handling operation. All workers in this circumstance must have their initial and annual renewal refresher training, medical clearance and personal protective equipment in accordance with 8CCR Section 5192.
- K. The Contractor shall provide for secure onsite temporary storage of petroleum hydrocarbon-containing and lead-containing material and/or related waste. Waste storage location, equipment, containers and methods shall comply with all applicable regulations.
- L. Waste streams shall be tested by the Contractor using appropriate US EPA and CalEPA testing protocols for the purpose of hazardous waste characterization. It is the Contractor's sole responsibility to ensure the waste produced by the Contractor's work is properly characterized and disposed of. Waste shall be packaged, stored, handled, transported and disposed of appropriately for each category of waste generated based on the testing results and regulatory protocol. The cost of all waste characterization, waste profiling, transportation and disposal will be the responsibility of the Contractor.
- M. At the conclusion of the project, the project site shall be free of any lead and petroleum hydrocarbon contamination potentially produced as a result of the Contractor's work. Lead contamination of the environment caused by the Contractor shall be the Contractor's sole responsibility to assess and decontaminate to a pre-project condition.
- N. Prior to disposal of any excess material from the work site, submit to the Engineer written authorization for such disposal and entry permission signed by the approved disposal site. You shall disclose in landfill applications the existing conditions and the written disposal and entry permission shall include acknowledgement of such disclosure.

#### 1.5 MATERIAL SALVAGE

- A. Contractor shall salvage all County owned equipment to be incorporated into the design, including but not limited to inline flow meters and electrical equipment indicated in the plans.
- B. Temporary relocation and removal of existing leachate tanks to be completed by the County. Contractor to protect existing leachate tanks to be retained by the County for future use.

#### 1.6 MATERIAL RECYCLE

- A. Recycle all steel from existing steel tanks at an approved recycling facility.

#### 1.7 SUBMITTALS

- A. Demolition and Abandonment Plan: The Contractor shall prepare and submit a Utility and Building Demolition and Abandonment Plan to the Engineer for review at least fourteen (14) days prior to start of demolition. The procedures shall provide for safe conduct of the Work, careful deactivation, removal and disposition of materials and equipment, protection of property which are to remain undisturbed, coordination with existing facilities to remain in service, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operation.

## 1.8 REPAIR OF DAMAGE

- A. Any damage to existing street improvements, utility poles, building elements to remain, other existing utilities and facilities to remain, and private property, as caused by the Contractor's operations shall be repaired at the Contractor's expense to the satisfaction of the Engineer.
- B. Damaged items shall be repaired or replaced with new materials as required to restore damaged items or surfaces to a condition equal to and matching that existing prior to damage or start of Work of this Contract.

## 1.9 PROTECTION OF EXISTING FACILITIES

- A. Before beginning any cutting, trenching, demolition or abandonment Work, the Contractor shall carefully inspect the existing facilities to determine the extent of the Work. The Contractor shall take all necessary precautions to prevent damage to existing facilities which are to remain in place and in operation. The Contractor shall be responsible for any damages to existing facilities, which are caused by the operations of the Contractor. Damages to such facilities shall be repaired or replaced to existing condition at no additional cost to the County and to the satisfaction of the Engineer. The Contractor shall carefully coordinate the Work of this Section with all other Work and shall provide shoring, bracing, and supports, as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition Work performed under any part of this Contract. The Contractor shall remove all temporary protection when the Work is complete or when so authorized by the Engineer.
- B. The Contractor shall carefully consider all bearing loads and capacities for placement of equipment and material.

## PART 2 PRODUCTS (NOT USED)

## PART 3 EXECUTION

### 3.1 DEMOLITION AND ABANDONMENT OF FACILITIES

- A. Demolition shall be accomplished in accordance with applicable codes and regulations. Blasting shall not be permitted.
- B. Disposal of all materials shall be performed in compliance with all applicable local, state and federal codes, regulations, and requirements. Structures to be abandoned shall be cleaned prior to abandonment.
- C. The Drawings used in this Contract to indicate demolition, abandonment and salvage are based on Record Drawings and the best available information on the existing facilities. The structures and utilities may differ slightly. Prior to the submittal of bids, the Contractor shall conduct a comprehensive survey of the facilities to verify the scope of Work, the extent of utilities, and the physical sequencing constraints.
- D. The Drawings define the minimum portion of the structures to be removed. Unless otherwise shown on the Drawings, the Contractor may make rough cuts or breaks that exceed the limits of demolition shown.

- E. All debris, materials, piping, and miscellaneous waste products from the demolition process shall be removed safely from the project site as soon as possible. They shall be disposed of in accordance with applicable federal, state, and local regulations. The Contractor is responsible for determining and complying with these regulations and shall bear all costs associated with disposal of these items.
- F. All equipment, materials, and piping within the limits of the demolition shall become the property of the Contractor, unless noted otherwise on the Drawings, and shall be removed from the site.
- G. No toxic or hazardous materials are anticipated for demolition or removal. If these or questionable substances are found during the demolition process, report the condition immediately to the Engineer in writing.

### 3.2 UTILITIES

- A. The existing known utilities at the project site include potable water, underground electrical and overhead power, leachate piping & on-lot sewage system piping, and storm. Existing utilities shall be maintained as specified in Section 02 01 10, "Existing Utilities and Underground Structures."
- B. The Contractor shall be responsible for coordinating all utility service shut-downs with the County or County's Representative before demolition is started.
- C. Where utility lines that are abandoned or are designated for abandonment are exposed by demolition excavation, they shall be removed.
- D. All utilities designated to remain in service shall remain in service for the duration of the work.
- E. Salvage utility facilities for reuse where designated on the Drawings. Store in a safe and protected location until reinstalled. The Contractor shall be responsible for any damages to these facilities. Damages to such facilities shall be repaired or replaced with new at no additional cost to the County and to the satisfaction of the Engineer.

### 3.3 STORAGE TANKS

- A. Contractor shall coordinate with the County to remove each tank from service and drain each tank prior to demolition. Pump any remaining leachate from the bottom of each tank. Water may be used for dust control or other construction activities.
- B. All demolished and removed materials shall be recycled and/or legally disposed of by the Contractor.
- C. Remove existing steel leachate storage tanks including appurtenances by cutting or other mechanical method. Use of cutting torches is prohibited.

### 3.4 POTENTIALLY HAZARDOUS WASTE

### 3.5 PAVING DEMOLITION

- A. Asphalt concrete and armor coats shall be saw cut with a suitable tool before excavation. For all roads and paved areas, saw cutting shall be required. Breaking of asphalt, concrete, or armor coats with jack hammers or excavation equipment will not be permitted.

- B. All edges of asphalt concrete or armor coats shall be cut four (4) inches vertically, with a neat, square edge.
- C. In all cases, existing asphalt paving or armor coating shall be saw cut out after construction and just prior to final paving to a point twelve (12) inches or wider than each side of the trench line. Saw cuts shall be parallel or perpendicular to centerline of the trench. Any strip of existing pavement with a width of four (4) feet or less shall be removed and replaced with new pavement.
- D. The Contractor shall dispose of all Portland cement concrete and asphalt concrete generated from removal or demolition activities on the project at a recycler for these materials. The Contractor shall provide receipts verifying delivery and approximate quantity (TONS) of the material delivered to the material recycler.

### 3.6 PROTECTED AREAS

- A. The existing structures not designated for removal, along with its associated utilities and landscaping, shall remain in place, in service and accessible to employees. The Contractor shall exercise caution when working near these structures. Any damage to structures, surrounding landscaping, or paved areas shall be repaired or replaced to original pre-contract conditions at the Contractor's sole expense. The Contractor is responsible for providing any temporary access as required for this facility.
- B. All other areas of the site not within the limits of demolition and grading shown on the Drawings shall be left undisturbed. Any damage to these areas during the demolition or construction process shall be repaired or replaced to original pre-contract conditions at the Contractor's sole expense. Disturbed areas, not within the demolition and grading limits shown on the Drawings, shall be reseeded.

### 3.7 BACKFILLING

- A. The Contractor shall backfill all demolition areas to final grade with appropriate fill material as shown on the Drawings and described in these Specifications.
- B. Backfill material shall meet the applicable requirements of Section 31 00 00, "Earthwork." In all areas not immediately backfilled to ground level, the Contractor shall erect safety barriers around the excavation.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Formwork.
  2. Reinforcement.
  3. Accessories.
  4. Cast-in place concrete.
  5. Finishing and curing.

1.2 SYSTEM DESCRIPTION

- A. Design, engineer and construct formwork, shoring and bracing in accordance with ACI 301 to conform to design and applicable code requirements to achieve concrete shape, line and dimension.

1.3 REFERENCES

- A. American Concrete Institute:
1. ACI 301 – Specifications for Structural Concrete
  2. ACI 302.1R – Guide to Concrete Floor and Slab Construction
  3. ACI 305.1 – Standard Specification for Hot Weather Concreting
  4. ACI 306.1 – Standard Specification for Cold Weather Concreting
  5. ACI 318 – Building Code Requirements for Structural Concrete
  6. ACI 347 – Guide to Formwork for Concrete
- B. ASTM International:
1. ASTM C31/C31M – Standard Practice for Making and Curing Concrete Test Specimens in the Field
  2. ASTM C33 – Standard Specification for Concrete Aggregates
  3. ASTM C39/C39M – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
  4. ASTM C94/C94M – Standard Specification for Ready-Mix Concrete
  5. ASTM C143/C143M – Standard Test Method for Slump of Hydraulic Cement Concrete
  6. ASTM C150 – Standard Specification for Portland Cement
  7. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete
  8. ASTM C173/C173M – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
  9. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete
  10. ASTM C494/C494M – Standard Specification for Chemical Admixtures for Concrete
  11. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
  12. ASTM C1017/C1017M – Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
  13. ASTM C1064/C1064M – Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
  14. ASTM C1077 – Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation



15. ASTM C1107/C1107M – Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
16. ASTM E1155 – Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers

C. AWS D1.4/D4.1M – Structural Welding Code – Steel Reinforcing Bars

#### 1.4 SUBMITTALS

- A. Shop Drawings: Signed and sealed by professional Civil or Structural Engineer licensed in the State of California.
1. Indicate pertinent dimensioning, form materials, arrangement of joints and ties, location of bracing and temporary supports, schedule of erection and stripping.
  2. Indicate reinforcement sizes, spacing, locations, quantities, grade, bending and cutting schedules, and supporting and spacing devices.
  3. Indicate slabs-on-grade.
  4. Indicate penetrations and embedded objects.
- B. Product Data:
1. Cementitious materials: type, manufacturing location, shipping locations, and certificates showing compliance with ASTM C150.
  2. Coarse and fine aggregates: types, pit or quarry locations, producers' names, and gradations.
  3. Admixtures: types, brand names, producers, manufacturer's technical data sheets, and certification data.
  4. Ready-mix plant certification or ASTM C94 certification documentation.
  5. Attachment accessories.
  6. Joint devices and filler materials.
- C. Design Data:
1. Submit concrete mix designs for each concrete strength. Identify mix ingredients and proportions, including admixtures. Submit separate mix designs when admixtures require hot and cold weather concrete work or air entrained concrete work.
  2. Submit certified laboratory compression test results for each concrete strength.
- D. Manufacturer's Installation Instructions: Submit installation procedures and interface required with adjacent Work.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of embedded utilities and components concealed from view in finished construction.

#### 1.6 QUALITY ASSURANCE

- A. Construct and erect concrete formwork in accordance with ACI 301.
- B. Perform concrete reinforcing work in accordance with ACI 301.
- C. Perform cast-in-place concrete work in accordance with ACI 301.
- D. Conform to ACI 305 when concreting during hot weather.
- E. Conform to ACI 306.1 when concreting during cold weather.

- F. Perform Work in accordance with State of California standards.
- G. Maintain one copy of each document on site.
- H. Design Work under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of California.

## 1.7 COORDINATION

- A. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

## PART 2 PRODUCTS

### 2.1 FORM MATERIALS AND ACCESSORIES

- A. Form Materials: At discretion of Contractor. New material to be used.
- B. Form Release Agent: Colorless mineral oil not capable of staining concrete or impairing natural bonding characteristics of coating intended for use on concrete.

### 2.2 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet bars, uncoated.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for support of reinforcing; plastic tipped or non-corroding for supports in slabs forming finished ceilings or where supports are exposed to weather.
- C. Fabricate concrete reinforcement in accordance with ACI 318.
- D. Weld reinforcement in accordance with AWS D1.4.

### 2.3 CONCRETE MATERIALS

- A. Cement:
  - 1. ASTM C150, Type II/V Portland type.
  - 2. The concrete must contain at least 675 pounds of cementitious material per cubic yard.
  - 3. The cementitious material must be composed of one of the following, by weight:
    - a. 25 percent natural pozzolan or fly ash with a CaO content of up to 10 percent and 75 percent Portland cement.
    - b. 20 percent natural pozzolan or fly ash with a CaO content of up to 10 percent, 5 percent silica fume, and 75 percent Portland cement.
    - c. 12 percent silica fume, metakaolin, or UFFA, and 88 percent Portland cement.
    - d. 50 percent GGBFS and 50 percent Portland cement.
- B. Normal Weight Aggregates: ASTM C33.
  - 1. Coarse aggregate maximum size: 1 inch in accordance with ACI 318.
- C. Water: ACI 318; potable, clean, and without deleterious amounts of chloride ions.

## 2.4 ADMIXTURES:

- A. Air Entrainment Admixture: ASTM C260, containing no chlorides or other corrosion causing chemicals.
- B. Chemical: ASTM C494/C494M Type A – Water Reducing, Type D – Water Reducing and Retarding, containing no chlorides or other corrosion causing chemicals.
- C. Fly Ash: ASTM C617 Class F.
- D. Plasticizing: ASTM C1017/C1017M Type I, plasticizing and Type II, plasticizing and retarding.

## 2.5 ACCESSORIES

- A. Epoxy Bonding Compound: ASTM C881. Provide Type I for bonding hardened concrete to hardened concrete; Type II for bonding freshly mixed concrete to hardened concrete; and Type III as a binder in epoxy mortar or concrete, or for use in bonding skid-resistant materials to hardened concrete. Provide Grade 1 or 2 for horizontal surfaces and Grade 3 for vertical surfaces. Provide Class A if placement temperature is below 40 degrees F; Class B if placement temperature is between 40 and 60 degrees F; or Class C if placement temperature is above 60 degrees F.
- B. Polysulphide Sealant: ASTM C920-87, Type M, grade NS, Class 121/2 Min.
  - 1. Primer: in accordance with manufactures recommendations.
  - 2. Prepare surfaces, primer, and install in accordance with manufactures recommendations for intended application.
- C. Evaporation Retardant:
  - 1. Provide to retard rapid evaporation of water from fresh exposed concrete.
  - 2. Fluorescent color tint which shall disappear completely upon drying is optional.
  - 3. Manufacturers:
    - a. Master Builders Co., Cleveland, OH, Confilm or Confilm LL-898.
    - b. Evelid Chemical Co., Cleveland, OH, Eucobar.
    - c. Or approved equal.
- D. Non-Shrink Grout: ASTM C1107/C1107M; Grade A; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 3,000 psi in 72 hours and 7,000 psi in 28 days.

## 2.6 JOINT DEVICES AND FILLER MATERIALS

- A. Joint Filler: ASTM D1751; Asphalt impregnated fiberboard or felt, 1/4 inch thick; tongue and groove profile.
- B. Joint Sealant: ASTM C920 unless otherwise noted; suitable for materials to which applied.
  - 1. Horizontal Joints: Grade P, use T.
  - 2. Vertical Joints: Grade NS.

## 2.7 CONCRETE MIX

- A. Mix and deliver concrete in accordance with ASTM C94/C94M, Option A.
- B. Select proportions for concrete in accordance with ACI 301.
- C. Furnish concrete of the following strength:

Parameter	All concrete shown on structural drawings	Miscellaneous concrete not shown on structural drawings
Compressive Strength (measured at 28 days)	4,000 psi	3,000 psi
Maximum Water-Cement Ratio	0.45 by weight	0.59 by weight
Maximum Aggregate Size	1.0 inch	1.0 inch
Slump	1 inch minimum to 4 inches maximum, as measured at point of placement	1 inch minimum to 4 inches maximum, as measured at point of placement
Air Content	6% plus or minus 2%	6% plus or minus 2%
Fly Ash Content	25% maximum, 15% minimum of total weight of cementitious materials	25% maximum, 15% minimum of total weight of cementitious materials

- D. Employ an independent commercial testing laboratory complying with ASTM C1077 and favorably reviewed by the Engineer to design all concrete mixes and carry out all necessary testing. Concrete mix design proportions shall be established on the basis of field experience and trial mixtures with the materials to be employed in accordance with ACI 318 Section 26.4.
1. When the testing laboratory has mix designs meeting the specifications that are available from prior projects, submit material and mixture proportions with supporting test results and test record statistics to demonstrate compliance with the requirements of this Section and ACI 318 Section 26.4. Include calculations for  $f'_{cr}$  based on source quality test records.
  2. If new mix designs are required, prepare a range of trial batches for each design and submit the mixes that demonstrate satisfactory test results in accordance with ACI 318 Section 26.4.
    - a. Allow for the variability of concrete strength from test to test by increasing the required average compressive strength over the specified strength as specified in ACI 318 Section 26.4.
- E. Select admixture proportions for normal weight concrete in accordance with ACI 301.
1. Use of admixtures will not relax weather placement requirements.
    - a. Use accelerating admixtures in cold weather only when approved by the Engineer.
    - b. Use set retarding admixtures during hot weather only when approved by the Engineer.
  2. Do not use calcium chloride nor admixtures containing calcium chloride.
  3. Add air entraining agent to concrete mix for concrete work exposed to exterior.
  4. Do not exceed the water-cementitious material ratios. Vary the water-reducing admixtures to accomplish an increase in slump or workability time.

## PART 3 EXECUTION

### 3.1 FORMWORK ERECTION

- A. Erect formwork, shoring and bracing to achieve design requirements. Use new materials for all formwork.
- B. Camber slabs and framing to achieve ACI 301 tolerances.
- C. Provide bracing to ensure stability of formwork.

- D. Form external corners of equipment pad with 3/4-inch chamfer.
- E. Apply form release agent to formwork prior to placing form accessories and reinforcement.
- F. Clean forms as erection proceeds, to remove foreign matter.

### 3.2 INSERTS, EMBEDDED COMPONENTS, AND OPENINGS

- A. Provide formed openings where required for work to be embedded in and passing through concrete members.
- B. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- C. Install concrete accessories straight, level, and plumb.
- D. Install Vapor Retarder in accordance with ASTM 1643.
- E. Place formed construction joint device in pattern pouring sequence.

### 3.3 REINFORCEMENT PLACEMENT

- A. Place reinforcement, supported and secured against displacement.
- B. Ensure reinforcing is clean, free of loose scale, dirt, or other foreign coatings.
- C. Space reinforcement bars with minimum clear spacing in accordance with ACI 318.
- D. Weld reinforcement in accordance with AWD D1.4.
  - 1. Do not weld crossing reinforcement bars for assembly except as permitted by the Engineer.
- E. Maintain concrete cover around reinforcement in accordance with ACI 318.

### 3.4 EXAMINATION

- A. Verify requirements for concrete cover over reinforcement.
- B. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete

### 3.5 PREPARATION

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Remove laitance, coatings, and unsound materials.
- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- C. Remove debris and ice from formwork, reinforcement, and concrete substrates.
- D. Remove water from areas receiving concrete before concrete is placed.

### 3.6 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301.
- B. Notify testing laboratory minimum 24 hours prior to commencement of operations.
- C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints, and anchor bolts are not disturbed during concrete placement.
- D. Deposit concrete at final position. Prevent segregation of mix.
- E. Place concrete in continuous operation for each panel or section determined by predetermined joints.
- F. Do not interrupt successive placement: do not permit cold joints to occur.
- G. Consolidate concrete.
- H. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- I. Saw cut joints within 12 hours after placing. Saw cut joints as soon as concrete surface is firm enough not to be torn or damaged by blade and before random shrinkage cracks can form. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
- J. Screed slabs on grade level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

### 3.7 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
- B. Remove formwork progressively and in accordance with code requirements.

### 3.8 CONCRETE FINISHING

- A. Steel trowel surfaces which are indicated to be exposed.
- B. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains as indicated on drawings.

### 3.9 CURING AND PROTECTION

- A. Cure surfaces in accordance with ACI 301.
- B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
  - 1. Protect concrete footings from freezing for minimum 5 days.
- C. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete for not less than 7 days.

### 3.10 FIELD QUALITY CONTROL

- A. Field inspection will be performed by Engineer.

- B. Provide free access to Work and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- D. Concrete Inspections:
  - 1. Continuous Placement Inspection: Inspect for proper installation procedures.
  - 2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.
- E. Strength Test Samples:
  - 1. Sampling Procedures: ASTM C172.
  - 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, field cured.
  - 3. Samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. Additional samples for seven-day compressive strength tests shall be taken for each class of concrete at the beginning of the concrete work or whenever the mix or aggregate is changed (CBC sec 1905A.1.15).
  - 4. When volume of concrete for any class of concrete would provide less than 5 sets of cylinders, take samples from five randomly selected batches, or from every batch when less than 5 batches are used.
  - 5. Make one additional cylinder during cold weather concreting, and field cure.
- F. Field Testing:
  - 1. Slump Test Method: ASTM C143/C143M.
  - 2. Air Content Test Method: ASTM C173/C173M.
  - 3. Temperature Test Method: ASTM C1064/C1064M.
  - 4. Measure slump and temperature for each compressive strength concrete sample.
  - 5. Measure air content in air entrained concrete for each compressive strength concrete sample.
- G. Cylinder Compressive Strength Testing:
  - 1. Test Method: ASTM C39/C39M.
  - 2. Test Acceptance: In accordance with ACI 318.
  - 3. Testing laboratory will transport cylinders from site, cure, test, and provide report.
  - 4. Test results from cured test cylinders shall be evaluated separately for each specified concrete mixture.
  - 5. Test one cylinder at 7 days.
  - 6. Test two cylinders at 28 days.
  - 7. Retain one for testing when requested by Engineer.
  - 8. Dispose remaining cylinders when testing is not required.
- H. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken
- I. Reinforcement Inspection:
  - 1. Inspect for correct materials, fabrication, sizes, locations, spacing, concrete cover, and splicing.

### 3.11 PATCHING

- A. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.

- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.
- C. Patch imperfections in accordance with ACI 301.

### 3.12 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
- B. Repair or replacement of defective concrete will be determined by Engineer.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

END OF SECTION



THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 33 05 17

PRECAST CONCRETE METER AND VALVE BOXES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Meter boxes.
  - 2. Valve boxes.
  
- B. Related Sections:
  - 1. Section 33 20 00 – Leachate Utilities.

1.2 REFERENCES

- A. ASTM International:
  - 1. ASTM A48/A48M - Standard Specification for Gray Iron Castings.
  - 2. ASTM A185/A185M - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
  - 3. ASTM A536 - Standard Specification for Ductile Iron Castings.
  - 4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 5. ASTM C33 - Standard Specification for Concrete Aggregates.
  - 6. ASTM C150 - Standard Specification for Portland Cement.
  - 7. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
  - 8. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - 9. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
  - 10. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
  - 11. ASTM C890 - Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures.
  - 12. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
  - 13. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joints Sealants.
  - 14. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3  - 15. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3  - 16. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
  - 17. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
  - 18. ASTM D4104 - Standard Test Method (Analytical Procedure) for Determining Transmissivity of Nonleaky Confined Aquifers by Overdamped Well Response to Instantaneous Change in Head (Slug Test)</sup></sup>

1.3 DESIGN REQUIREMENTS

- A. Design Criteria:

1. Watertight precast reinforced air-entrained concrete structures designed to ASTM C890 AASHTO HS-20 live loading and installation conditions, and manufactured to conform to ASTM C913.
2. Minimum 28-day Compressive Strength: 5,000 psi Type II/V Portland cement.
3. The concrete must contain at least 675 pounds of cementitious material per cubic yard.
4. The cementitious material must be composed of one of the following, by weight:
  - a. 25 percent natural pozzolan or fly ash with a CaO content of up to 10 percent and 75 percent Portland cement.
  - b. 20 percent natural pozzolan or fly ash with a CaO content of up to 10 percent, 5 percent silica fume, and 75 percent Portland cement.
  - c. 12 percent silica fume, metakaolin, or UFFA, and 88 percent Portland cement.
  - d. 50 percent GGBFS and 50 percent Portland cement.
5. Honeycombed or re-tempered concrete is not permitted.

#### 1.4 SUBMITTALS

- A. Section 01 33 00 – Submittal Procedures: Requirements for submittals.
- B. Shop Drawing: Indicate plan, location and inverts of connecting piping.
- C. Product Data: Submit design data on valve vaults and meter boxes.
- D. Manufacturer's Certificates: Submit Statement of Compliance, supporting data, from materials suppliers attesting that precast concrete valve vaults and meter boxes provided meet or exceed ASTM Standards and specified requirements.
- E. Manufacturer's Installation Instructions: Submit special procedures for precast concrete valve vaults and meter boxes installation.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Section 01 78 39 – Project Record Documents: Requirements for close out submittals.
- B. Project Record Documents: Accurately record actual locations and inverts of buried pipe, components and connections.

#### 1.6 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation Meeting.
- B. Convene minimum one week prior to commencing work of this section.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing and protecting products.
- B. Transport and handle precast concrete units with equipment designed to protect units from damage.
- C. Do not place concrete units in position to cause overstress, warp or twist.

#### 1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

- B. Coordinate work with County and utilities within construction area.

## PART 2 PRODUCTS

### 2.1 VAULT & LID

- A. Provide pre-cast vault as shown on Drawings.
  - 1. Concrete shall be minimum 5,000 psi compressive strength
  - 2. Reinforcing shall be ASTM A-615, Grade 60
  - 3. Vault shall be designed to meet AASHTO HS-20 loading
  - 4. Provide shop drawings and calculations stamped/signed by a California licensed civil or structural engineer.
  - 5. Manufacturer:
    - a. Old Castle Precast
    - b. Jensen Precast
    - c. Approved Equivalent
- B. Vault Access Cover:
  - 1. Type 316 stainless steel hardware, hinges and slam lock
  - 2. Diamond-pattern tread plate cover reinforced for H-20 wheel loading
  - 3. Extruded aluminum channel frame with 1-1/2" drain coupling for pipe connection
  - 4. Mill finish aluminum with bituminous coating applied to exterior frame
  - 5. Engineered lift assistance using compression spring operators enclosed in telescopic tubes for smooth, easy one-hand door operation
  - 6. Constructed with corrosion resistant materials
  - 7. Heavy-duty construction and positive latching mechanism help to prevent unauthorized access
  - 8. Warranty: Minimum 5 year manufacturer's warranty against defects in materials and workmanship
  - 9. Manufacturer:
    - a. Bilco Type J AL
    - b. USF Fabrication UEZ-180
    - c. Halliday Series H
    - d. Approved Equivalent
  - 10. Substitutions: Section 01 60 00 - Product Requirements.

### 2.2 VALVE BOXES

- A. Valve boxes:
  - 1. Manufacturer: Christy Model G5 Traffic Box or Approved Equivalent.
  - 2. Substitutions: Section 01 60 00 - Product Requirements.

### 2.3 BEDDING AND BACKFILL

- A. Install bedding and backfill as shown on the Drawings and as described in the Specifications.
- B. Maintain optimum moisture content of bedding material to attain required compaction density.

### 2.4 FABRICATION AND MANUFACTURE

- A. Fabricate precast reinforced concrete structures in accordance with ASTM C913, to dimensions indicated on Drawings, and to specified design criteria.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify piping connection, size, location and invert as indicated on Drawings.

#### 3.2 PREPARATION

- A. Ream pipe ends and remove burrs.
- B. Remove scale and dirt from components before assembly.
- C. Establish invert elevations for each component in system.
- D. Hand trim excavation to suit valve vaults and meter boxes. Remove stones, roots or other obstructions.

#### 3.3 FIELD QUALITY CONTROL

- A. Section 01 45 00 - Quality Control: Field inspecting, testing, adjusting, and balancing.
- B. Request inspection by Engineer prior to placing aggregate cover over piping.

#### 3.4 PROTECTION OF FINISHED WORK

- A. Section 01 77 00 – Closeout Procedures: Protecting finished work.

END OF SECTION

SECTION 09 90 00  
PAINTING AND COATING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and field application of paints, stains, and other coatings.

1.2 REFERENCES

- A. ASTM International:
  - 1. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
  - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. California Department of Health Services:
  - 1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.
- C. Green Seal:
  - 1. GC-03-2nd Edition, January 7, 1997 - Anti-Corrosive Paints.
  - 2. GS-11-1st Edition, May 20, 1993 - Product Specific Environmental Requirements.
- D. Painting and Decorating Contractors of America:
  - 1. PDCA - Architectural Painting Specification Manual.
- E. Bay Area Air Quality Management District:
  - 1. Regulation 8, Rule 3 – July 1, 2009 - Architectural Coatings.
- F. Northern Sonoma County Air Pollution Control District
- G. SSPC: The Society for Protective Coatings:
  - 1. SSPC - Steel Structures Painting Manual.

1.3 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

- A. Section 01 33 00 – Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on finishing products.
- C. Samples:
  - 1. Submit two 8.5"x11" painted samples, illustrating selected colors for each color and system selected

- D. Manufacturer's Installation Instructions: Submit special surface preparation procedures, substrate conditions requiring special attention.

#### 1.5 SUSTAINABLE DESIGN SUBMITTALS

- A. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements per paragraph 2.2 of this section
  - 1. Materials Resources Certificates:
    - a. Certify source for regional materials and distance from Project site.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

#### 1.7 QUALITY ASSURANCE

- A. Perform Work in accordance with 2019 California Building Code (CBC).

#### 1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing work of this section with minimum three years documented experience.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, VOC content, warning labels, contents by volume or major constituents, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

#### 1.10 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.
- B. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

### 1.11 SEQUENCING

- A. Sequence application to the following:
  - 1. Do not apply finish coats until paintable sealant is applied.

### 1.12 WARRANTY

- A. Furnish five-year manufacturer warranty for paints and coatings.

### 1.13 EXTRA MATERIALS

- A. Supply 1 gallon of each color, and type; store where directed.
- B. Label each container with color, type, and location, in addition to manufacturer's label.

## PART 2 PRODUCTS

### 2.1 PAINTS AND COATINGS

- A. Manufacturers:
  - 1. Tnemec.
  - 2. Ameron Protective Coatings Div.
  - 3. ICI Devoe.
  - 4. Carboline Protective Coatings.
  - 5. Sherwin Williams.
  - 6. Dampney Compant, Inc.
  - 7. Or approved Equal.
- B. Furnish materials in accordance with 2019 California Building Code (CBC).

### 2.2 COMPONENTS

- A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
  - 1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
  - 2. For good flow and brushing properties.
  - 3. Capable of drying or curing free of streaks or sags.
- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.
- C. Patching Materials: Latex filler.
- D. Fastener Head Cover Materials: Latex filler.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify surfaces and substrate conditions are ready to receive Work as instructed by product manufacturer.



- B. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.
- C. Test shop applied primer for compatibility with subsequent cover materials.

### 3.2 PREPARATION

- A. Surface Appurtenances: Remove electrical plates, hardware, and fittings prior to preparing surfaces or finishing.
- B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section.
- C. Marks: Seal with shellac those which may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
- F. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.
- G. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.
- H. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- I. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- J. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

### 3.3 APPLICATION

- A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- C. Sand metal surfaces lightly between coats to achieve required finish.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

### 3.4 FIELD QUALITY CONTROL

- A. Inspect and test questionable coated areas.

3.5 CLEANING

- A. Collect waste material which may constitute fire hazard, place in closed metal containers, and remove daily from site.

END OF SECTION

SECTION 26 05 00

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes equipment grounding conductors; bonding methods and materials; conduit and equipment supports; anchors and fasteners; nameplates and labels; and wire markers.

1.2 REFERENCES

- A. NECA (National Electrical Contractors Association) – Standard of Installation.
- B. NETA ATS (International Electrical Testing Association) – Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- C. IEEE 142 (Institute of Electrical and Electronics Engineers) - Recommended Practice for Grounding of Industrial and Commercial Power Systems.
- D. NFPA 70 - National Electrical Code (NEC).
- E. ASTM B 8 - Specifications for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- F. ASTM B 187 - Specifications for Copper Bus, Rod, and Shapes.
- G. UL 83 - Thermoplastic-Insulated Wires and Cables.
- H. UL 467 - Electrical Grounding and Bonding Equipment.

1.3 SYSTEM DESCRIPTION

- A. Anchor and fasten electrical products to building elements and finishes as follows:
  - 1. Concrete Structural Elements: Provide preset inserts.
  - 2. Concrete Surfaces: Provide expansion anchors.
  - 3. Solid Masonry Walls: Use expansion anchors and preset inserts.
- B. Identify electrical components as follows:
  - 1. Nameplate for each electrical distribution and control equipment enclosure.
  - 2. Label for identification of individual wall switches and receptacles, control device stations, and equipment.
  - 3. Wire marker for each conductor at panelboard gutters; pull boxes; and each load connection.

1.4 DESIGN REQUIREMENTS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc. (UL), Electrical Testing Laboratories, Inc. (ETL), or other recognized, acceptable testing and listing agencies as suitable for purpose specified and shown.

- B. Grounding shall be in accordance with the National Electrical Code (NEC). Where size, type, rating and quantities indicated or specified are in excess of NEC requirements, the more stringent requirements and the greater size, rating, and quantity indications govern.
- C. Select materials, sizes, and types of anchors, fasteners, and supports to carry loads of equipment and raceway, including weight of wire and cable in raceway.

#### 1.5 SUBMITTALS

- A. Submit all product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. Product Data: Submit grounding electrodes and connections for fastening components and nameplates, labels, and markers.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of components and grounding electrodes.

#### 1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.
- B. Installer: A firm with at least five years of successful installation experience on projects with electrical grounding work similar to that required for this project.

#### 1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

### PART 2 PRODUCTS

#### 2.1 GROUNDING SYSTEM

- A. Except as otherwise indicated, provide for each electrical ground indicated, an assembly of materials, including, but not necessarily limited to, cable/wire, connectors, terminals (solderless lugs), bonding jumper braid, and other items and accessories needed for a complete installation. Where more than one type meets indicated requirements, selection is Contractor's option. Where materials or components are not otherwise indicated, provide products as recommended by the accessories manufacturers and in compliance with the NEC, and established industry standards.
- B. All grounding materials required shall be furnished new and undamaged in accordance with the following requirements:

#### 2.2 WIRE

- A. Electrical Equipment Grounding Conductor: Insulated, soft-drawn copper, Class B stranding or solid, with green-colored polyvinyl chloride insulation, UL 83, sized according to the NEC, unless otherwise noted.

### 2.3 MECHANICAL CONNECTORS

- A. Description: Bolt-on bronze connectors, suitable for grounding and bonding applications in configurations required for the particular installation.

### 2.4 ANCHORS AND FASTENERS

- A. Materials and Finishes: Corrosion resistant.

### 2.5 FORMED STEEL CHANNEL

- A. Description: Stainless steel.

### 2.6 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, white letters on black background.
- B. Letter Size:
  - 1. 1/8-inch (3 mm) letters for identifying individual equipment and loads.
  - 2. 1/4-inch (6 mm) letters for identifying grouped equipment and loads.
- C. Labels: Embossed adhesive tape, with 3/16-inch white letters on black background.

### 2.7 WIRE MARKERS

- A. Description: Cloth tape, split sleeve, or tubing-type wire markers.
- B. Legend:
  - 1. Power Circuits: Branch circuit or feeder number as indicated on Drawings.
  - 2. Control Circuits: Control wire number as indicated on shop drawings.

## PART 3 EXECUTION

### 3.1 EXISTING WORK

- A. Perform work on energized equipment or circuits with experienced and trained personnel.
- B. Remove, relocate, and extend existing installations to accommodate new construction.

### 3.2 GROUNDING AND BONDING INSTALLATION:

- A. Installation:
  - 1. Remove paint, rust, mill-oils, and surface contaminants at connection points.
  - 2. Bond together each metallic raceway, pipe, duct and other metal object entering enclosures and exiting slabs. Install minimum # 12 AWG bare copper conductor.
  - 3. Equipment Grounding Conductor: Install separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
  - 4. Permanently ground entire electrical system in accordance with NEC, including service equipment, distribution panels, lighting panel boards, switch and starter enclosures, motor frames, grounding type receptacles, and other exposed non-current carrying metal parts of electrical equipment.
  - 5. Permanently attach equipment and grounding conductors prior to energizing equipment.

### 3.3 GROUND CONDUCTORS

- A. Grounding conductors shall be located and connected as indicated on drawings.
- B. Exposed conductors shall be installed inconspicuously in vertical or horizontal positions on supporting structures. When located on irregular supporting surfaces or equipment, the conductors shall run parallel to or normal to dominant surfaces.
- C. Conductors routed over concrete, steel, or equipment surfaces shall be kept in close contact with those surfaces by using fasteners located at intervals not to exceed 3 feet.
- D. Provide a separate equipment-grounding conductor for low voltage distribution systems, single or three phase feeder circuit and each branch circuit with single or three phase protective devices. Install a grounding conductor in conduit with phase and neutral conductors. Single-phase branch circuits for 120 and 277 volt lighting, receptacles, and motors shall have a phase, neutral, and ground conductors installed in the common conduit. Provide suitable bonding jumpers and approved grounding type bushings for flexible conduits used for equipment connection utilized in conjunction with the above branch circuits with. Single-phase circuits for equipment and all branch circuits installed in non-metallic or flexible conduits shall be provided with a separate grounding conductor.

### 3.4 CONDUIT GROUNDING

- A. All grounding bushings within all enclosures, including equipment enclosures, shall be wired together and connected internally to the enclosure grounding lug or grounding bus with a bare copper conductor. Grounding bushings shall be grounded with conductors sized in accordance with NEC, but not smaller than #8 AWG.

### 3.5 EQUIPMENT GROUNDING

- A. Comply with NEC 250, except where larger sizes or more conductors are indicated.
  - 1. All electrical equipment shall be connected to the grounding system with an insulated, green, stranded or solid copper equipment-grounding conductor.
  - 2. Terminate each end on suitable lug, bus, or bushing. The term "electrical equipment", as used in this article, shall include, but not be limited to, all enclosures containing electrical connections or bare conductors, except that individual devices, such as solenoids, pressure switches, and limit switches, shall be exempt from this requirement, unless the device requires grounding for proper operation.
  - 3. Most other equipment will be furnished with grounding pads and/or grounding lugs which shall be connected to the grounding system. All ground connection surfaces shall be cleaned immediately prior to connection.
  - 4. Contractor shall furnish all grounding material required, but not furnished with the equipment.
- B. Install equipment grounding system such that all metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, portable equipment and other conductive items in close proximity with electrical circuits will operate continuously at ground potential and provide a low impedance path for possible ground fault currents. The system shall comply with the NEC, Table 250-95.
- C. Where grounding system extension stingers are indicated on the drawings to be provided for connection to electrical equipment, connect the bare grounding conductor to the equipment ground bus, pad, or lug. Except where otherwise indicated on the drawings, all equipment ground conductors that are not an integral part of a cable assembly, shall be

sized in accordance with the requirements of NEC. All ground conductors installed in metallic conduit shall be insulated.

- D. Suitable grounding facilities, acceptable to the Engineer, shall be furnished on electrical equipment not so equipped. The grounding facilities shall consist of compression type terminal connectors bolted to the equipment frame or enclosure and providing a minimum of joint resistance.

### 3.6 ANCHORS, FASTENERS AND SUPPORT

- A. Installation:
  - 1. Locate and install anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
  - 2. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
  - 3. Do not use spring steel clips and clamps.
  - 4. Do not use powder-actuated anchors.
  - 5. Do not drill or cut structural members.
- B. Supports:
  - 1. Fabricate supports from structural steel or formed steel members. Rigidly weld members or install hexagon head bolts to present neat appearance with adequate strength and rigidity. Install spring lock washers under nuts.
  - 2. Install surface-mounted cabinets and panel board with minimum of four anchors.
  - 3. In wet and damp locations use steel channel supports to stand cabinets and panel boards 1-inch off wall.

### 3.7 IDENTIFICATION OF COMPONENTS

- A. Installation:
  - 1. Degrease and clean surfaces to receive nameplates and labels.
  - 2. Install nameplate and label parallel to equipment lines.
  - 3. Secure nameplate to equipment front using screws, rivets or adhesive.

### 3.8 ACCEPTANCE TESTING

- A. Grounding and Bonding: Perform inspections and tests in accordance with NETA ATS.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK



## SECTION 26 05 19

### Low Voltage Electrical Power Conductors and Cables

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section includes building 600 volt wire and cable, instrumentation cable, control cable, wiring connectors and connections.

##### 1.2 REFERENCES

- A. NECA (National Electrical Contractors Association) - Standard of Installation.
- B. NETA ATS (International Electrical Testing Association) - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- C. ANSI/NFPA 70 - National Electrical Code

##### 1.3 DESCRIPTION OF WORK

- A. The requirements of this section apply to cable and wires specified on the drawings and in these specifications. The extent of electrical wire and cable work is indicated on drawings and schedules, and by the requirements of this section. The applications for cable, wire and connectors required, but not limited to, are as follows:
  - 1. Power distribution circuitry.
  - 2. Lighting circuitry.
  - 3. Equipment circuitry.
  - 4. Wiring for motors of mechanical equipment.
- B. Conductor sizes are based on copper. Wire and cable routing shown on drawings is diagrammatic unless dimensioned. Route wire and cable as required for project conditions. Support raceway and cables in accordance with other sections of these specifications.

##### 1.4 REGULATORY REQUIREMENTS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc. (UL), Electrical Testing Laboratories, Inc. (ETL), or other recognized, acceptable testing and listing agencies as suitable for the purpose specified and shown.

##### 1.5 SUBMITTALS

- A. Submit all product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. Product Data: Submit manufacturer's catalog cuts and technical data for building wire and cables.

##### 1.6 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of components and circuits.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years' experience.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements as indicated on drawings.

1.9 COORDINATION

- A. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.
- B. Wire and cable routing indicated is approximate unless dimensioned. Include wire and cable lengths within 10 feet of length shown.

PART 2 PRODUCTS

2.1 BUILDING WIRE AND CABLE

- A. Building wire and cable shall be insulated, single conductor, copper, stranded, rated for 600-volts AC. The insulation shall be thermoplastic material rated for 90 degrees Celsius dry locations, 75 degrees Celsius wet locations, THHN/THWN, RHW or XHHW, per ANSI/NFPA 70.
- B. For Interior Dry Location: Use only building wire, THHN/THWN insulation, in raceway.
- C. For Exterior Wet or Dry Locations: Use only building wire, THHN/THWN insulation, in raceway.
- D. For Underground Dry or Wet Locations: Use only RHW or XHHW insulation in raceway.

2.2 INSTRUMENTATION CABLE

- A. Instrumentation cables for field mounted equipment and devices shall be minimum two (2) conductor No. 16 AWG, tin-coated copper, stranded, shielded twisted pair, 80 degree Celsius, PVC insulation foil shield with overall heavy duty polyethylene jacketing, rated for 600-volt AC, Belden No. 9342, General Cable No. C2536, or approved equal.
- B. Control cables to field mounted equipment and devices shall be a single conductor, insulated, No. 12 AWG minimum, copper, solid or stranded, rated for 600-volts AC. The insulation shall be thermoplastic material rated for 90 degrees Celsius dry locations, 75 degrees Celsius wet locations, THHN/THWN or XHHW, per ANSI/NFPA 70 and compliant with UL 83.
- C. Multi-conductor control cables for field mounted equipment and devices shall consist of several single conductor, insulated No. 12 AWG minimum, copper, solid or stranded, rated for 600-volts AC with an overall protective PVC jacket. The insulation shall be thermoplastic material rated for 90 degrees Celsius dry locations, 75 degrees Celsius wet locations, THHN/THWN or XHHW, per ANSI/NFPA 70 and compliant with UL 83. Circuit identification shall consist of Method 1 - color coding in accordance with ICEA S-66-524, Appendix K Table K-2.

- D. Instrumentation and control cable connected to equipment or devices within control panels shall be sized per requirements of equipment manufacturer (minimum #16 AWG).

### 2.3 WIRE COLOR CODE

- A. Color-code all conductors:
  - 1. Wire sizes 10 AWG and smaller shall have integral color-coded insulation.
  - 2. Wire sizes 8 AWG and larger may have black insulation but shall be identified by color-coded electrical tape at all junction, splice, pull, or termination points.
  - 3. Color tape shall be applied to at least 3-inches of the conductor at the termination ends and in junction or pull boxes or where readily accessible.
  - 4. Conductors for all systems shall not change color at splice points.
  - 5. Where there are two or more neutrals in one conduit, each shall be individually identified with the proper circuit.
  - 6. Each phase shall be uniquely color-coded.
  - 7. Color-code wires as indicated below:

	<u>120/240-Volts</u>	<u>120/208-Volts</u>	<u>277/480-Volts</u>
Phase:	a – black	a - black	a – brown
	b – red	b - red	b - orange
	n – white	c - blue	c - yellow
	g – green	n - white	n - white, or gray
		g - green	g – green

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that mechanical work likely to damage wire and cable has been completed.
- B. Verify that raceway installation is complete and supported.

### 3.2 PREPARATION

- A. Completely and thoroughly clean and swab raceway before installing wire.

### 3.3 EXISTING WORK

- A. Extend existing circuits using materials and methods and compatible with existing electrical installations, or as otherwise specified.
- B. Remove all unused and abandoned signal and control wiring from end to end.

### 3.4 INSTALLATION

- A. General:
  - 1. Install wire and cable in accordance with manufacturer's instructions and NECA "Standard of Installation".
  - 2. Route wire and cable as required for project conditions.
  - 3. Identify and color code wire and cable. Identify each conductor with its circuit number or other designation indicated.
  - 4. Protect exposed cable from damage.
  - 5. Pull all conductors into raceway at same time.

6. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
  7. Support cables above accessible ceiling using standard support methods to support cables from structure. Do not rest cable on ceiling panels.
  8. Neatly train and lace wiring inside boxes, equipment, and panelboards
- B. Cable and Wire Size:
1. Use conductor not smaller than 12 AWG for power and lighting circuits.
  2. Use conductor not smaller than 14 AWG for control circuits.
  3. Use 10 AWG conductors for 20 ampere, 120-volt branch circuits longer than 75 feet.
  4. Use 10 AWG conductors for 20 ampere, 277-volt branch circuits longer than 200 feet.
  5. Use stranded conductor for all equipment, branch and control circuits.
- C. Special Techniques - Wiring Connections:
1. Clean conductor surfaces before installing lugs and connectors. Where an anti-oxidation lubricant is used, apply liberally, coating all exposed conductor surfaces.
  2. Use suitable cable fittings and connectors.
  3. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
  4. Tape un-insulated conductors and connector with two layers of half-lapped rubber insulating compound tape and two layers of half-lapped, 7-mil electrical tape, Scotch 33+, or equal.
  5. Use split bolt connectors for copper conductor splices and taps, 8 AWG and larger.
  6. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
  7. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
  8. Stranded conductors for control circuits shall have fork or ring terminals crimped on for all device terminations. Bare stranded conductors shall not be placed directly under the screws.

### 3.5 FIELD QUALITY CONTROL

- A. Visual and Mechanical Inspection:
1. Inspect wire and cable for physical damage and proper connection.
  2. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.
  3. Verify continuity of each branch circuit conductor.
  4. Inspect compression-applied connectors for correct cable match and indentation.
- B. Electrical Testing and Verification:
1. All 600 volt conductors 8 AWG and larger, shall be verified by use of a 500-volt meg-ohm-meter.
  2. Perform continuity test to insure correct cable connection.
  3. Correct malfunctions and/or deficiencies immediately as detected at no additional cost to the owner, including additional verification testing.
  4. Compile test report results and submit for approval
  5. Subsequent to final wire and cable terminations, energize all circuitry and demonstrate functional adequacy in accordance with system requirements.
- C. Test Values
1. Compare bolted connection resistance to values of similar connections.

2. Bolt-torque levels should be in accordance with NETA ATS Table 10.12 unless otherwise specified by the manufacturer.
3. Minimum insulation-resistance values should not be less than 50 meg-ohms.
4. Investigate deviations between adjacent phases.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 26 05 33

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes conduit and tubing, surface and buried raceways, wireways, outlet boxes, pull boxes, junction boxes, hand holes and concrete manholes.

1.2 REFERENCES - CODES AND STANDARDS

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ASTM A 48 - Standard Specification for Grey Iron Castings.
- C. NECA - Standard of Installation.
- D. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- E. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
- F. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit.
- G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
- H. NEMA TC 6 - Non-Metallic Conduit.
- I. NEMA 250 - Enclosures for Electrical Equipment (1,000 Volts Maximum).
- J. NFPA 70 - NEC.
- K. UL 6 - Rigid Metal Conduit
- L. UL 6A – Standard for Electrical Rigid Metal Conduit – Aluminum, Red Brass, and Stainless Steel
- M. UL 514B - Conduit, Tubing and Cable Fittings.
- N. UL 651 - Rigid Non-Metallic Conduit

1.3 BOX APPLICATION

- A. Provide raceway, boxes and handholes located as indicated and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements and for a complete wiring system.

1.4 SUBMITTALS

- A. Detailed conduit routing plan as follows:
  - 1. Exposed and/or concealed in building walls for conduits larger than 2-inch outside diameter.
  - 2. All underground conduits (3/4-inch and larger) in duct bank; concealed in floor slabs, equipment pads and concrete slabs.

- B. Product Data:
  - 1. Rigid Steel Conduit.
  - 2. PVC Coated galvanized rigid steel conduit.
  - 3. Liquid tight flexible metal conduit.
  - 4. Nonmetallic conduit.
  - 5. Raceway fittings.
  - 6. Conduit bodies.
  - 7. Surface raceway.
  - 8. Pull boxes, junction boxes and manholes.
- C. Manufacturer's Installation Instructions:
  - 1. Submit application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.
  - 2. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents:
  - 1. Record actual routing of conduits.
  - 2. Record actual locations and mounting heights of outlet, pull boxes, junction boxes and manholes.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- B. Protect PVC and PVC-coated metallic conduit from sunlight.

### PART 2 - PRODUCTS

#### 2.1 CONDUIT

- A. Galvanized Rigid Steel Conduit (GRSC or RGS), couplings and elbows shall be hot-dip galvanized, rigid mild steel in accordance with ANSI C80.1 and UL 6. The conduit interior and exterior surfaces shall have a continuous zinc coating with a transparent overcoat of enamel, lacquer, or zinc chromate. Conduit shall be formed with continuous welded seams with a uniform wall thickness, in minimum 10-foot lengths, with threaded ends.
- B. Stainless steel rigid conduit shall be manufactured of Type 304 or Type 316 Stainless Steel. Stainless steel rigid conduit shall be listed to UL 6A and manufactured in accordance with ANSI C80.1. Product shall be labeled or marked showing evidence of third-party listing to product standard. Conduit shall be threaded on both ends. Taper of conduit threads shall be  $\frac{3}{4}$ " per foot (1 in 16) per ANSI/ASME B.1.20.1. Conduit shall be supplied with a straight-tapped stainless steel coupling manufactured in accordance with UL 6 on one end. A color-coded thread protector shall be installed on the other end: Trade Sizes 1, 2, 3, 4, (blue);  $\frac{1}{2}$ , 1-1/2, 2-1/2, (black);  $\frac{3}{4}$ , 1-1/4 (red).
- C. Polyvinyl Chloride (PVC) coated galvanized rigid steel conduit shall be in accordance with NEMA RN 1. Coating shall be applied under controlled factory conditions. Prior to coating, conduit shall meet requirements of ANSI C80.1 and UL 6 or ANSI C80.6 and UL 1242 as appropriate. PVC coated conduits shall have ultra-violet (UV) inhibitor in the coating material.



- D. Liquid-Tight Flexible Metal Conduit shall be plastic-jacketed, galvanized steel, "Sealtite" Type EF for general service areas. Conduit shall be UL listed.
- E. Non-Metallic Conduit shall be as follows:
  - 1. Schedule 40: Conduit shall be 90 degree Celsius, polyvinyl chloride in conformance with NEMA TC-2 and UL 651 requirements.
  - 2. Spacers used in duct bank installations shall be high impact plastic, interlocking bases, and intermediate type spacers. Place spacers between 6 and 10 feet apart.
- F. Electrical metallic tubing (EMT), rigid aluminum, flexible aluminum, or flexible non-metallic conduits shall not be used on this project.

## 2.2 RACEWAY FITTINGS

- A. Couplings and Thread Protectors. Each length of threaded conduit shall be provided complete from the manufacturer with a coupling on one end and a thread protector on the other. The thread protector shall have sufficient mechanical strength to protect the threads during normal handling and storage.
- B. Metal Conduit Fittings shall conform to the requirements of UL 514B where this standard applies. Galvanized iron or galvanized steel fittings shall be used with steel conduit. Threaded fittings shall engage a minimum of five threads made up wrench-tight and be compatible with conduit. EMT fittings shall be compression type, UL approved for rain tight applications and setscrew type with insulated throat for indoor applications.
- C. Stainless Steel fittings shall be listed to UL 514B except non-integral factory installed couplings which are listed to the conduit standard.
- D. Liquid-Tight Flexible Conduit Fittings shall be galvanized steel, T&B 53XX series insulated throat, and shall bear the UL label. Die-cast malleable fittings are not acceptable.
- E. Liquid-Tight Flexible Metal Conduit Fittings shall be galvanized steel similar to T&B "Tite-Bite."
- F. Non-Metallic Conduit Fittings shall be of same material and strength characteristics as the conduit and shall be solvent welded as recommended by manufacturer. End bells shall be plastic, high impact, tapered to fit. Where conduit transition from non-metallic to metallic is required, provide non-metallic female "terminal" adapter. Non-metallic "male" adapters are not acceptable.
- G. Special Fittings. Conduit sealing, explosion proof, dust proof, and other types of special fittings shall be provided as required and shall be consistent with the area and equipment with which they are associated. Fittings installed outdoors or in damp locations shall be sealed and gasketed. Outdoor fittings shall be of heavy cast construction. Hazardous area fittings and conduit sealing shall conform to NEC requirements for the area classification.
- H. Bushings shall be provided for the termination of all conduits not terminated in hubs, couplings or insulated throat connectors. Grounding type insulated bushings with insulating inserts in metal housings shall be provided for conduit 1-1/4 inches and larger. Standard bushings shall be galvanized steel or malleable iron in all sizes.
- I. Locknuts. One interior and one exterior locknut shall be provided for all conduit terminations not provided with threaded hubs and couplings. Locknuts shall be designed to securely bond with the conduit to the box when tightened. Locknuts shall be so constructed that they will not be loosened by vibration.

- J. Unions. Watertight conduit unions shall be Appleton or Crouse-Hinds Type UNF or UNY, or Approved Equal.
- K. Raintight Conduit terminating hubs, where indicated on the drawings or required by these specifications, shall be Meyer's rigid conduit hubs, or Approved Equal.

### 2.3 CONDUIT BODIES

- A. Malleable iron conduit bodies shall be cast malleable iron with tensile strength meeting ASTM A 48, Class 30A requirements. Malleable conduit bodies shall be finished with an epoxy powder coating. Cover shall be malleable iron with captive screws.
- B. All conduit bodies' entrances shall be machined NPT threads with a smooth, rounded, internal conduit stop bushing.
- C. All conduit bodies shall be equipped with a sealed and gasketed cover. Cover shall be secured using stainless steel machine screws.

### 2.4 CONDUIT SUPPORTS

- A. Conduit supports shall be furnished and installed in accordance with other section of these specifications. Conduits shall be supported so that fittings are accessible. Support systems shall be limited to electrical conduits only.
- B. Hanger rods shall be 3/8-inch diameter galvanized threaded steel rods, minimum. Conduit racks over 18-inch wide, over one level, or supporting 2-inch RSC or larger, shall be 1/2-inch diameter rod minimum.
- C. Conduit Clamps. Conduits in single runs or groups of two shall be supported by 316 stainless steel clamps and clamp backs.
- D. Support Channels. Supports for banks of three or more conduits shall be constructed of formed 316 stainless steel support channels (Unistrut, Kindorf, Superstrut, B-Line or Approved Equal) with associated conduit or tubing clips. Support channels shall be steel, hot-dip galvanized after fabrication with galvanized steel clips for steel conduit or tubing.

### 2.5 OUTLET BOXES AND SWITCH BOXES

- A. Outlet boxes shall be cast metal (FS or FD type) with mounting lugs and gasketed covers.
- B. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported, per NEC requirements.
- C. Outlet Box Accessories: Provide outlet box accessories as required for each installation, meeting requirements of individual wiring situations.

### 2.6 PULL BOXES, JUNCTION BOXES, AND HANDHOLES

- A. Surface-Mounted Cast Metal Box: NEMA 250, NEMA Type 3R or 4 as indicated, flat-flanged, surface-mounted junction box:
  - 1. Material: 316 Stainless Steel.
  - 2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.
- B. Concrete pull boxes, vaults and hand holes for power, lighting, controls and telecommunications shall be pre-cast concrete boxes, sized as indicated. Pull boxes shall be equipped with a

concrete cover for non-traffic rated locations, or cast-in frame, galvanized steel, adjustable, high impact traffic cover (H-20 load rated), sump, lifting lugs, and conduit knock-outs as indicated. Knockout location and sizes shall be coordinated with the duct bank for each location. Cover shall be engraved with the words "POWER," "LIGHTING," "CONTROLS," "COMM/DATA," "TELEPHONE" or similar as applicable.

- C. Concrete handholes and/or pull boxes for buried power (MH-P-xx) and control (MH-C-xx) conduits shall be either cast-in-place or pre-cast concrete vault.
  - 1. Size shall be indicated.
  - 2. Pull boxes, Vaults and Handholes shall be equipped with:
    - a. Galvanized steel covers for non-traffic rated locations and cast-in frame, galvanized steel, adjustable, high impact traffic cover (H-20 load rated) for traffic rated locations.
    - b. Sump, lifting lugs, conduit knock-outs, pick holes, bolt down holes in cover plate, and pull irons. Knockout location and sizes shall be coordinated with the duct bank for each location. Hot-dip galvanized cable racks shall be provided as required to support the cables in the pull box. Cover shall be engraved with the words "POWER," "LIGHTING," or "CONTROLS" as applicable.

## 2.7 CLOSURE FOAM

- A. All conduit, raceways, cables and sleeves penetrations through fire rated and hazardous location walls, shafts, floor, ceilings, etc., shall be sealed by closure foam as in Dow Corning #3-6548 silicone RTV, GE RTV 850 silicone foam, or Approved Equal.

## 2.8 SEALING AND FIREPROOFING

- A. Penetrations. All conduits, raceways, cables and sleeve penetrations through fire rated and hazardous location walls, shafts, floor, ceilings, etc., shall be sealed with a UL-approved fire stopping system.
- B. Furnish UL listed products or products tested by a nationally recognized independent testing laboratory. Select products with rating not less than the rating of the wall, ceiling or floor being penetrated.
- C. Manufacturers:
  - 1. 3M CP 25WB + Caulk
  - 2. 3M FS 195 wrap or strip with restricting collar
  - 3. 3M CS 195 composite sheets
  - 4. Proset Systems fire rated floor and wall penetrations
  - 5. Dow Corning Fire Stop System
- D. Use stamped steel, chrome plated, hinged, split ring escutcheons or floor/ceiling plates for covering openings in occupied areas where conduit is exposed.
- E. In exterior wall openings below grade, use a modular mechanical type seal consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the conduit and the cored opening or a water-stop type wall sleeve.
- F. At non-rated interior wall or floor openings use Tremco Fyre-Sil, Sika Corp. Sikaflex Ia, Sonneborn Sonolastic NPT, or Mameco Vulkem 116 urethane caulk or Approved Equal.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify outlet locations and routing and termination locations of raceway prior to rough in.

#### 3.2 INSTALLATION OF RACEWAYS

##### A. Routing

1. Install raceway and boxes in accordance with NECA "Standard of Installation."
2. Conduit routing is diagrammatic only. Contractor shall field route conduit and raceways between equipment and devices as required to obtain a complete wiring system.
3. All exposed conduits shall be installed parallel or perpendicular to dominant surfaces with right-angle turns made of symmetrical bends or fittings.
4. Conduit shall not be installed on the outside face of exposed columns, but shall be routed on the web or on the inside of a flange of the column.
5. Except where prevented by the location of other work, a single conduit or a conduit group shall be centered on structural members.
6. Conduit shall be located at least 6 inches from hot water or steam pipes and from other hot surfaces

##### B. Moisture Pockets

1. Moisture pockets shall be eliminated from conduits. If water cannot drain to the natural opening in the conduit system, a hole shall be drilled in the bottom of a pull box or a "C-type" conduit fitting provided in the low point of the conduit run.

##### C. Couplings and Unions

1. Metal conduit shall be joined by threaded conduit couplings, with the conduit ends butted.
2. The use of running threads, Erickson type couplings, split couplings or similar unions are not permitted.

##### D. Conduit Bodies

1. Conduit bends shall meet the requirements of NEC, minimum bend radius of the cable installed or as indicated, whichever is greater.
2. Conduits or tubing deformed or crushed in any way shall be removed from the Site.

##### E. Bends and Offsets

1. Changes in direction of conduits shall be made with fittings or bends.
2. Conduit bends shall meet the requirements of NEC, minimum bend radius of the cable installed or as indicated, whichever is greater.
3. Bends shall be made using appropriate tools or mechanical equipment. The use of a pipe tee or vise for bending conduit or tubing will not be permitted.
4. For non-metallic conduit or plastic coated steel, approved factory bends and offsets shall be used.
5. Conduits or tubing deformed or crushed in any way shall be removed from the Site.
6. Install no more than the equivalent of three 90 degree bends between boxes or outlets

##### F. Cutting and Threading

1. The plane of all conduit ends shall be square with the centerline.
2. Where threads are required, they shall be cut and cleaned prior to conduit reaming.
3. The ends of all conduit and tubing shall be reamed to remove all rough edges and burrs.
4. Cutting oil shall be used in threading operations; the dies shall be kept sharp, and provisions shall be made for chip clearance.
5. Threads on conduits and fittings shall be lubricated with conducting and sealing compound.

6. All steel conduits shall be coated after threading with cold-galvanized zinc coating. The Contractor shall furnish this protective material and shall apply it in the field prior to installing conduit or fittings.
- G. Connections to Boxes and Cabinets
1. Conduit shall be securely fastened to all boxes and cabinets.
  2. Threads on metallic conduit shall project through the wall of the box to allow the bushing to butt against the end of the conduit.
  3. The locknuts, both inside and outside, shall then be tightened sufficiently to bond the conduit securely to the box.
  4. Locknuts on connectors shall be tightened securely to bond the connectors.
- H. All conduits entering enclosures outdoors or in wet areas shall enter through Meyer's hubs, or Approved Equal, or threaded openings.
- I. Cleaning
1. Precautions shall be taken to prevent the accumulation of water, dirt, or concrete in the conduit.
  2. Conduit in which water or other foreign materials have been permitted to accumulate shall be thoroughly cleaned or, where such accumulation cannot be removed by methods acceptable to the Owner, the conduit shall be replaced.
  3. For conduits sizes 3 inches and larger, draw a flexible testing mandrel approximately 12 inches long with a diameter less than the inside diameter of the conduit through the conduit. After which, draw a stiff bristle brush through until conduit is clear of particles of foreign materials. For conduits less than 3 inches, draw a stiff bristle brush through until conduit is clear of particles and foreign material.
- J. Empty Conduit
1. All conduits installed for future use shall have a polypropylene pull line with a minimum tensile strength of 200 lbs., Jet Line, Cat. No. 232, polyolefin, or Approved Equal. Pull line shall be secured at both ends to ensure future accessibility.
- K. Rooftop Conduits
1. Provide redwood sleepers on waterproof mastic base for all conduit runs exposed on roofs.
- L. Identification
1. All conduits shall be identified in accordance with other section of these specifications.
- M. Grounding
1. All conduits shall be grounded in accordance with these Specifications.
  2. A solid or stranded bare copper or green insulated copper solid or stranded ground wire shall be provided in all conduits and raceways.
- N. Polyvinyl Chloride (PVC) Coated Galvanized Rigid Steel Conduit
1. PVC -coated, steel conduit and fittings shall be installed where highly corrosive conditions exist, indoors or outdoors.
  2. The Contractor shall patch any damaged coating according to the manufacturer's instructions.
- O. Non-Metallic Conduit
1. Schedule 80 shall be used for all power, signal feeders and branch circuits, in earth under roadways. Conduits must be buried in earth in accordance with the NEC.
  2. Schedule 40 shall be used for all other power, signal feeders and branch circuits in earth or enclosed in concrete, unless otherwise noted on the drawings. Conduits must be buried in earth in accordance with the NEC.

- P. Conduit Support
1. Fasten conduit supports to building structures and surfaces in accordance with these specifications.
  2. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
  3. Do not use wire, ceiling support wires or perforated pipe straps to support conduit. Remove any temporary installation support wire.
- Q. Spacing of Supports
1. All conduit runs shall be rigidly supported, except where buried in concrete,.
  2. Each conduit shall be supported within one (1) foot of junction boxes and fittings.
  3. Spacers used in duct bank installations shall be placed no more than 6 to 10 feet apart.
  4. Support spacing along conduit runs shall be as follows.

CONDUIT SIZE	MAXIMUM DISTANCE BETWEEN SUPPORTS
½ inch through 1-1/4 inch	5 feet
1-1/2 inch and larger	8 feet

- R. Ground and bond raceway and boxes in accordance with these Specifications.

### 3.3 CABINET AND BOX INSTALLATION

- A. Install electrical boxes as indicated, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
- B. Locate boxes and conduit bodies so as to ensure ready accessibility of electrical wiring, maintain headroom and to present neat mechanical appearance.
- C. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only. In inaccessible ceiling areas, install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- D. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices with each other.
- E. Use flush mounting outlet boxes in finished areas.
1. Do not install flush mounting boxes back-to-back in walls.
  2. Provide minimum 6-inch separation between adjacent boxes.
  3. Provide minimum 24-inch separation in acoustic rated walls.
  4. Use stamped steel bridges to fasten flush mounting outlet box between studs.
  5. Secure flush mounting box to interior wall and partition studs.
  6. Accurately position to allow for surface finish thickness.
  7. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
  8. Use adjustable steel channel fasteners for hung ceiling outlet box.
- F. Support boxes independently of conduits.
- G. Coordinate installation of electrical boxes and fittings with cable and raceway installation work. Provide knockout closures to cap unused knockout holes where blanks have been removed.
- H. Fasten boxes rigidly to substrate or structural surfaces to which they are being mounted, or solidly embed electrical boxes in concrete or masonry as appropriate.

- I. Except as prevented by the location of other work, all junction boxes and outlet boxes shall be centered on structures.
- J. Conduit openings in formed boxes shall be made with a hole saw or shall be punched.
- K. Cabinets and boxes shall be rigidly mounted.
  - 1. Mounting on concrete shall be secured by self-drilling anchors.
  - 2. Mounting on steel shall be by drilled and tapped screw holes, or by special support channels welded to the steel, or by both.
  - 3. Cabinets shall be leveled and fastened to the mounting surface with not less than ¼-inch air space between the enclosure and mounting surface.
  - 4. All mounting holes in the enclosure shall be used.
- L. Large Pull Boxes - Boxes larger than 100 cubic inches in volume or 12 inches in any dimension.
  - 1. Interior Dry Locations - Use hinged enclosure.
  - 2. Other Locations - Use surface mounted box of appropriate location classification.

### 3.4 ANCHORS

- A. Where supports for raceways, boxes, and cabinets are mounted on concrete surfaces, they shall be fastened with self-drilling tubular expansion shell anchors with externally split expansion shells, single-cone expanders, and annular break-off grooved chucking cones. Anchors shall be Phillips "Red Head" or Approved Equal.

### 3.5 SEALING AND FIREPROOFING

- A. Fire-Rated Surface:
  - 1. Where conduit penetrates fire rated surface, install fire-stopping product in accordance with manufacturer's published instructions.
  - 2. All openings through fire rated wall, floor, ceiling or roof must be sealed.
  - 3. Install galvanized sheet metal sleeves (minimum 12-gage) through opening and extending beyond minimum of one (1) inch on each side of building element.
  - 4. Pack void between sleeve and building element with backing material.
  - 5. Seal ends of sleeve with UL listed fire-resistive silicone compound to meet fire rating of structure penetrated.
- B. Non-Rated Surfaces:
  - 1. Opening through a non-fire rated wall, floor, ceiling or roof must be sealed using an approved type of material.
  - 2. Use galvanized sheet metal sleeves in hollow wall penetrations to provide a backing for the sealant. Grout area around sleeve in masonry construction.
  - 3. Install escutcheons or floor/ceiling plates where raceway, penetrates non-fire rated surfaces in occupied spaces.
  - 4. Install rubber links of mechanical seal tightened in place and sized for the pipe, in exterior wall openings below grade, in accordance with the manufacturer's instructions.
  - 5. All pipe penetrations at interior partitions and/or walls, laboratory spaces, telephone, data and communication rooms and similar spaces where the room pressure or odor transmission must be controlled, shall be sealed. Sealant shall be applied to both sides of the penetration in such a manner that the annular space between the pipe sleeve and the pipe is completely filled.

### 3.6 PULL BOX AND VAULT INSTALLATION

- A. Openings or "knockouts" in precast concrete vaults shall be located as indicated and shall be sized sufficiently to permit passage of the largest dimension of pipe and/or flange.

- B. After the structure and all appurtenances are in place and approved, backfill shall be placed to the original ground line or to the limits indicated.
- C. All joints between precast concrete vault sections shall be made watertight. The plastic joint sealing compound shall be installed according to the manufacturer's recommendations to provide a watertight joint which remains impermeable throughout the design life of the structure. The outside of the entire structure shall be coated with an approved water proofing material.
- D. Access doors shall be built up such that the hatch is flush with the surrounding surface unless otherwise indicated or directed by the Owner. The Contractor is responsible for placing the cover at the proper elevation where paving is to be installed and shall make all necessary adjustments so that the cover meets these requirements.

### 3.7 ADJUSTING

- A. Install knockout closures in unused openings in boxes.

### 3.8 CLEANING

- A. Clean interior of boxes to remove dust, debris, and other material.
- B. Clean exposed surfaces and restore manufacturer's finish.

END OF SECTION



SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. The extent of the electrical systems and equipment requiring identification is indicated, and the extent of identification required is specified herein and in individual sections of Work requiring identification. The types of electrical identification specified in this section include the following:
  - 1. Exposed conduit color banding.
  - 2. Buried cable warnings.
  - 3. Cable/conductor identification.
  - 4. Operational instructions and warnings.
  - 5. Danger signs.
  - 6. Equipment/system identification signs.

1.2 REFERENCES - CODES AND STANDARDS

- A. ANSI Z535.1 - Safety Color Code.
- B. APWA ULCC - Uniform Color Code for Buried Utilities.
- C. NFPA 70 – NEC.

1.3 SYSTEM DESCRIPTION

- A. Label the following electrical equipment with nameplates which clearly identify each item, the function or use of the item, and the circuit identification of the feed to the item:
  - 1. All transformers shall be identified by 1-inch high block letters cut in stencil and applied with yellow paint on a flat-black background. The transformer number, primary and secondary voltages, and the kVA shall be shown. The nameplate shall be located on the front of the transformer.
  - 2. All Metal-Clad Switchgear, Metal-Enclosed Switchgear, Switchboards, Distribution Panelboards, Power and Lighting Panels, Motor Control Centers, Local Control Panels, Terminal Cabinets and all electrical equipment enclosure shall be identified using laminated plastic nameplates. Show the equipment number, voltage rating, current rating, number of phases, connection type, short circuit interrupting rating, and circuit number
  - 3. Identify all receptacles and lighting switches, by the circuit number indicated using ¼-inch high white characters on ½-inch wide black stick-on tape placed on the device coverplate. Place the tape on the device enclosure if the device is not wall mounted.
  - 4. All motors, starters, disconnect switches, Time Switches, Special Function Pushbuttons and Switches, and miscellaneous control devices shall be identified by function and circuit number, with ¼-inch high white characters on a ½-inch wide black stick-on tape where installed indoors and engraved plastic nameplates where installed outdoors.
  - 5. All underground raceway or cable shall be marked with buried warning tape along its entire length.
  - 6. All exposed raceway longer than 10 feet in length shall be identified.
  - 7. Panelboard Directories: Furnish all panelboards with a complete 8-1/2-inch by 11-inch typewritten directory mounted in the inner door under a clear plastic cover set in a metal frame.
- B. Branch circuits and devices:

1. Label all individual receptacle outlets at the outlet faceplate to indicate the panelboard of origin and branch circuit number. Label modular furniture feeds at the power pole drop in a visible and consistent location. Labels shall be self adhesive, thermal machine printed type such as Brothers, Panduit, T&B, or Approved Equal and shall be clear plastic with black lettering.
2. All branch circuits in outlet boxes shall be identified with circuit number using wrap-around labels (T&B, BRADY, 3M, or Approved Equal).
3. As an alternative to separate nameplates, device plates may be engraved directly with lettering filled with black enamel.

#### 1.4 SUBMITTALS

- A. Product Data: nameplates, labels, and markers.
- B. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation and installation of Product.

#### 1.5 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70 – NEC.
- B. Furnish products listed and classified by UL, ETL, or other recognized, approved testing and listing agencies as suitable for the purpose specified and shown.

### PART 2 PRODUCTS

#### 2.1 NAMEPLATES AND LABELS

- A. Nameplates
  1. Engraved, three layer laminated plastic, white letters on black background for normal power and white letters on red background for emergency power. Communications and control cabinets shall be labeled with white letters on green background.
  2. Locations
    - a. Each electrical distribution and control equipment enclosure.
    - b. Communication cabinets.
    - c. Motor control centers, including each combination module.
  3. Letter Size
    - a. Use 1/2-inch letters for identifying individual equipment and loads.
    - b. Use 1/4-inch letters for identifying grouped equipment, loads, panelboards, and transfer switch.
    - c. Use 1/2-inch letters for identifying the main switchboard, motor control centers, and large distribution switchboards.
- B. Labels
  1. Embossed adhesive tape, with 3/16-inch white letters on colored background to match color scheme of plastic laminate labels in 2.1.A. Use only for identification of individual wall switches and receptacles, control device stations, and multi-outlet devices.
  2. Thickness.
    - a. 1/16-inch for units up to 20 square inches or 8-inch length; 1/8-inch for larger units.

#### 2.2 WIRE MARKERS

- A. Manufacturers
  1. Brady.

2. Thomas & Betts.
  3. 3-M Co.
  4. Or Approved Equal.
- B. Description: Tape, split sleeve, or tubing type wire markers, self-adhesive.
- C. Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes, control panels, motor controllers and starters, and each load connection.
- D. Legend
1. Power and Lighting Circuits: Branch circuit or feeder number indicated.
  2. Control Circuits: Control wire number indicated on shop drawings.
  3. Neutral Conductors: Clearly indicate the branch circuit or feeder number the neutral serves. In multi-wire circuits where the neutral is shared, mark the neutral with the circuit number of the "A" phase.

### 2.3 CONDUIT MARKERS

- A. Provide manufacturer's standard preprinted, flexible or semi-rigid, permanent, plastic-sheet conduit markers, minimum of 3 mils thick and 1-1/2-inch wide extending 360 degrees around conduits; designed for self-adhesive attachment to conduit. Except as otherwise indicated, provide lettering that indicates the voltage of the conductor(s) in the conduit. Provide 8-inch minimum length for 2-inch and smaller conduit, 12-inch minimum length for larger conduit.
- B. Identify conduits containing conductors above 600-volts with the following alternating markers
1. DANGER - HIGH VOLTAGE
  2. The voltage, as applicable (i.e. – 12-kV, 4.16-kV, etc.).
- C. Identify conduits containing conductors below 600-volts with the following markers.
1. The voltage, as applicable (i.e. 480-Volts, 240-Volts, etc.).
- D. Location: Furnish markers for each conduit longer than 10 feet.
- E. Spacing: 20 feet on center.
- F. Color: Unless otherwise indicated or required by governing regulation, provide conduit tags in the following colors.
1. Normal and Emergency Power Systems: Orange w/black letters.
  2. Fire Alarm System: Red w/black letters.
  3. Telephone System: Green w/yellow letters.
  4. Data/Communication. System: White w/black letters.
- G. Legend:
1. 480 Volt System: Normal 480Y/277-volts.
  2. 208 Volt System: Normal 208Y/120-volts.
  3. Fire Alarm System: Fire alarm.
  4. Telephone System: Telephone.
  5. Data/Communication System: Data/Communications.

### 2.4 FASTENERS

- A. Secure all labels and nameplates with self-tapping stainless steel screws. Use contact type permanent adhesive where screws cannot or should not penetrate the substrate.

## 2.5 BAKED ENAMEL DANGER SIGNS

- A. Provide manufacturer's standard "DANGER" signs of baked enamel finish on 20 gage steel; of standard red, black and white graphics; 14-inch by 10-inch size except where 10-inch by 7-inch is the largest size which can be applied where needed, and except where larger size is needed for adequate vision; with recognized standard explanation wording (e.g. HIGH VOLTAGE, KEEP AWAY, BURIED CABLE, DO NOT TOUCH SWITCH).
  - 1. At each entry doors of Electrical Rooms: "DANGER HIGH VOLTAGE – KEEP OUT, AUTHORIZED PERSONNEL ONLY".

## 2.6 LETTERING AND GRAPHICS

- A. Coordinate names, abbreviations and other designations used in the electrical identification Work, with the corresponding designations shown, specified or scheduled. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of the electrical systems and equipment.

## 2.7 UNDERGROUND WARNING TAPE

- A. Three-inch minimum width, 5 mil thickness, foil bonded polyethylene tape, detectable type, with suitable continuous warning legend describing buried electrical lines. Tape color shall conform to APWA uniform color code using ANSI Z535.1 safety colors. Text shall be black, 2-inch minimum letters.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.
- B. Coordination: Where identification is to be applied to surfaces that require finish, install identification after completion of painting.
- C. Regulations: Comply with governing regulations and the requests of governing authorities for the identification of electrical Work.

### 3.2 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws, rivets, or adhesive.
- C. Secure nameplate to outside moveable surface of door on panelboard.
- D. Conduit Identification:
  - 1. Where electrical conduit is exposed in spaces with exposed mechanical piping, which is identified by a color-coded method, apply color-coded identification on the electrical conduit in a manner similar to the piping identification. Except as otherwise indicated, use orange as the coded color for conduit.
  - 2. Paint red band or provide red tape on each fire alarm conduit longer than 10 feet, minimum 20 feet on center.
- E. Cable/Conductor Identification:

1. Apply cable/conductor identification on each cable and conductor in each box/enclosure/cabinet where the wires of more than one circuit or communication/signal system are present, except where another form of identification (such as color-coded conductors) is provided.
  2. Match identification with marking system used in panelboards, shop drawings, contract documents, and similar previously established identification for project electrical Work.
- F. Operational Identification and Warnings
1. Wherever reasonably required to ensure safe and efficient operation and maintenance of the electrical systems, and electrically connected mechanical systems and general systems and equipment, including the prevention of misuse of electrical facilities by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification, instruction or warnings on switches, outlets and other controls, devices and covers of electrical enclosures. Where detailed instructions or explanations are needed, provide plasticized tags with clearly written messages adequate for the intended purposes.
- G. Danger Signs
1. In addition to the installation of danger signs required by governing regulations and authorities, install appropriate danger signs at the locations indicated and at locations subsequently identified by the Installer of electrical Work as constituting similar dangers for persons in or about the project.
  2. High Voltage
    - a. Install danger signs wherever it is possible, under any circumstances, for persons to come into contact with electrical power of voltages higher than 110-120 volts.
    - b. Critical Switches/Controls
    - c. Install danger signs on switches and similar controls, regardless of whether concealed or locked up, where untimely or inadvertent operation (by anyone) could result in significant danger to persons, or damage to or loss of property.
- H. Equipment/System Identification Signs
1. Install an engraved plastic-laminate sign on each major unit of electrical equipment in the building; including the central or master unit of each electrical system and the communication/signal systems, unless the unit is specified with its own self-explanatory identification or signal system.
  2. Except as otherwise indicated or specified, provide single line of text, ½-inch high lettering on 1-1/2-inch high sign (2-inch high where two lines are required), white lettering in black field.
  3. Provide text matching terminology and numbering of the shop drawings.
  4. Provide signs for each unit of the following categories of electrical Work.
    - a. Major electrical switchboard.
    - b. Electrical substation.
    - c. Motor control center.
    - d. Fire alarm control panel and annunciators.
    - e. Data / communications.
- I. Install signs at locations indicated or, where not otherwise indicated, at location for best convenience of viewing without interference with operation and maintenance of equipment. Secure to substrata with fasteners, except use adhesive where fasteners should not or cannot penetrate the substrata.
- J. Identify underground conduits using underground warning tape. Install one tape per trench at 3 inches below finished grade.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 31 00 00

EARTHWORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. Earthwork shall consist of performing all operations necessary for excavation, subgrade preparation and grading where applicable.
- B. All work shall conform to the lines, grades and cross-sections or elevations shown on the Drawings. Prior to placing fill, the area shall be cleared and grubbed in conformance with Section 31 11 00, "Site Clearing and Grubbing." The exposed area shall then be disked, plowed, benched and/or compacted as directed by the Engineer or specified herein, to insure proper bonding and compaction.
- C. Prior to bid, Contractor shall verify existing topography and notify Engineer of any discrepancy between existing topographic information indicated on the plans and actual field topographic data. Failure to notify Engineer of any discrepancy prior to bid indicates Contractor acceptance of existing conditions in conformance with those shown on the Plans.
- D. The following Soils Reports have been prepared for the project:
  - 1. Title: Geotechnical Investigation, Guerneville Leachate Tanks, 13450 Pocket Drive, Guerneville, California  
Date: January 19, 2022  
Author: Miller Pacific Engineering Group
  - 2. Title: Geotechnical Investigation, Roblar Leachate Tanks, Roblar Road, Petaluma, California  
Date: January 19, 2022  
Author: Miller Pacific Engineering Group
  - 3. Title: Geotechnical Investigation, Sonoma Leachate Tanks, 4376 Stage Gulch Road, Sonoma, California  
Date: January 19, 2022  
Author: Miller Pacific Engineering Group
- E. Boring logs for each tank site are provided in the Drawings to indicate subsurface conditions of each site.
- F. Sub-excavation and compaction will be required to densify the upper layer of soil to make it suitable for tank support.
- G. Groundwater was not encountered at the Guerneville or Sonoma sites during geotechnical investigation. Boreholes were not left open for an extended period of time and groundwater observations may not accurately reflect stabilized levels. The groundwater at all three Leachate tank sites should be anticipated at 4 to 5 feet below existing grades. The Contractor should expect groundwater and soil moisture conditions within the project areas that may vary depending on seasonal rainfall and runoff conditions. Groundwater may be present close to the ground surface during prolonged wet winter weather. Groundwater will drop during dry summer and fall weather.
- H. Existing power and telephone lines, trees, fences, pipelines or other conduits, embankments, and structures in the vicinity of the work that are to remain shall be supported and protected from injury by the Contractor during the construction and until the completion of the Work. The

Contractor shall be liable for all damages to such structures, as herein provided, and shall save and keep the County and Engineer harmless from any liability or expense for injuries, damages, or repairs to same.

- I. Excess material from the excavation shall become the property of the Contractor and shall be disposed of at Contractor's expense.
- J. Related items described elsewhere:
  - 1. Section 02 01 10 - Existing Utilities and Underground Structures
  - 2. Section 31 23 19 - Dewatering
  - 3. Section 31 11 00 - Site Clearing and Grubbing
  - 4. Section 31 01 40 - Shoring and Trench Safety
  - 5. Section 31 23 00 - Trench Excavation and Backfill

## 1.2 QUALITY ASSURANCE

- A. Qualifications of workers: Provide sufficient skilled workers and supervisors who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.
- B. Codes and Standards:
  - 1. Wherever a test method is referenced in this Section it shall be made in accordance with the most current test methods in use by the California Department of Transportation (Caltrans) as listed in the State Standard Specifications, latest edition, or ASTM method as listed below at the County's option:

<u>TEST</u>	<u>TEST METHOD</u>
Standard Specification for Concrete Aggregates	ASTM C33
Density of Soil in Place by Sand Cone Method	ASTM D1556
Moisture-Density Relations of Soil & Soil Aggregates	ASTM D1557
Unconfined Compressive Strength of Cohesive Soil	ASTM D2166
Laboratory Determination of Water Content of Soil & Rock	ASTM D2216
Classification of Soils for Engineering Purposes	ASTM D2487
Resistance R-Value and Expansion Pressure of Compacted Soils	ASTM D2844
Density of Soil and Soil-Aggregate in Place by Nuclear Methods	ASTM D2922
Density of Soil in Place by the Drive-Cylinder Method	ASTM D2937
Direct Shear Test of Soils Under Consolidated Drained Conditions	ASTM D3080
Liquid Limit, Plastic Limit, & Plasticity Index of Soils	ASTM D4318
Expansion Index of Soils	ASTM D4829
Particle-Size Analysis of Soils	ASTM D6913

- 2. Where reference is made to the State Standard Specifications, reference shall mean the State of California, Department of Transportation (Caltrans), Standard Specifications, 2018, excluding measurement and payment Sections.

## 1.3 TESTING

- A. Relative compaction and moisture tests will be made at locations determined by the Engineer. When tests indicate that the specified compaction has not been achieved, that portion of the Work shall be reworked until the required density and moisture has been attained.
- B. The Contractor shall be responsible for the sampling and testing costs associated with any failed test.



- C. The Contractor shall be responsible for the sampling and testing costs associated with soil disposal requirements for soils that are not determined to be contaminated.
- D. The Geotechnical Engineer will perform all observations and testing for excavations and trenches.
- E. A minimum of 72 hours' notice shall be given to the Engineer by the Contractor prior to commencing or recommending any grading operation.

#### 1.4 SUBMITTALS

- A. Submit all product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. Samples: In accordance with the provisions of Section 01 33 00, "Submittal Procedures," of the specifications, submit samples of all materials 15 days prior to construction. Periodic testing of the material will also be made during construction.
- C. Product Data: submit data for subgrade stabilization fabric indicating fabric properties, test methods, and manufacturer's installation instructions.
- D. Material Source: Submit name of imported fill materials supplied.
- E. Manufacturer's Certificate: Submit Certifications that products meet or exceed specified requirements.

### PART 2 PRODUCTS

#### 2.1 TOPSOIL AND UNDOCUMENTED FILL

- A. Topsoil is classified as the top three inches of excavated material including buried organics, shallow vegetation roots and other deleterious materials and excluding cleared and grubbed materials.
- B. Undocumented fill pertains to soils previously imported and placed at the project site.

#### 2.2 GENERAL FILL MATERIAL

- A. Shall be non-expansive and free of debris and organic material, with a Liquid Limit less than 40 and a plasticity index less than 20 percent as determined by ASTM D4318, shall not contain clumps/rock larger than 3 inches.
- B. Existing material excavated on site may be used as general fill provided it meets the requirements of subparagraph 2.3.A, after vegetative matter, rocks larger than 3 inches, and other debris is removed and after approval by the Geotechnical Engineer. Moisture condition to within 2% of the optimum moisture content, placed in thin lifts and compacted to a minimum of 90% relative compaction, unless noted otherwise on the Drawings.
- C. Any imported fill material shall be tested to determine its suitability for use as fill material.
- D. All on-site and off-site sources of fill shall be approved by the Geotechnical Engineer a minimum of 2 working days prior to placement or importation to the site.

### 2.3 ENGINEERED FILL

- A. Material specified in paragraph 2.2, except that potentially expansive soils shall not be used as engineered fill within the top 3 feet of subgrade beneath lightly loaded structures, building foundations, concrete slabs and paving. Highly plastic soils (Plasticity Index >25) should not be placed in areas that support foundations or pavements.
- B. Standard Specifications, Section 26, Class 2, 3/4-inch maximum.

### 2.4 IMPORT FILL

- A. Imported fill shall be approved by the Geotechnical Engineer, and shall:
  - 1. Be predominately granular and free of organic material.
  - 2. At least 60 percent material retained on the #200 sieve
  - 3. Maximum particle size of 6 inches
  - 4. A plasticity index less than 20 percent.
  - 5. Liquid Limit less than 40

### 2.5 STRUCTURAL AGGREGATE

- A. Structural aggregate material shall consist of washed angular aggregate with the following ASTM D6913 test particle size distribution:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/4 Inch	100%
No. 4	0-5%
No. 200	0-3%

### 2.6 PIPE BEDDING MATERIAL

- A. Pipe bedding material shall be well graded sand with 90 – 100% of particles passing the No. 4 sieve and no more than 5% finer than the No. 200 sieve.

### 2.7 TRENCH BACKFILL MATERIAL

- A. The following materials may be used as Trench Backfill Material above the pipe zone in unpaved areas:
  - 1. General Fill Material.
  - 2. Engineered Fill Material.
  - 3. Standard Specifications, Section 26, Class 2, 3/4-inch maximum.
- B. Backfill shall be placed and compacted as described in Paragraph 3.4.
- C. Backfill for trench sections in finished gravel surface areas shall be as indicated on the Drawings.

### 2.8 PERMEABLE MATERIAL

- A. State Standard Specification Section 68.2.02F(3), Class 2.

### 2.9 AGGREGATE BASE

- A. Standard Specifications, Section 26, Class 2, 3/4-inch maximum.

2.10 SAND

- A. Standard Specifications, Section 19-3.02E(2), Salt Free.

2.11 PEA GRAVEL

- A. Pea gravel material shall be clean, dried, free of organic/deleterious materials, have a minimum sand equivalent value of 30 and shall conform to the following ASTM C33 test particle size distribution:

<u>Sieve Size</u>	<u>Percent Passing</u>
1/2 Inch	100%
3/8 Inch	85% - 100%
No. 4	10% - 30%
No. 8	0% - 10%
No. 200	0% - 15%

2.12 SUBGRADE STABILIZATION FABRIC

- A. Standard Specifications, Section 96-1.02O, Class B2.

2.13 NOT USED

2.14 NOT USED

2.15 ROCK SLOPE PROTECTION FABRIC

- A. Standard Specifications, Section 96-1.02I, Class 8.

PART 3 EXECUTION

3.1 GENERAL

- A. Clear all brush, over-sized debris, loose soils, and organic material from areas to be graded. Any excavated areas should be restored with properly moisture conditioned and compacted fill as described in this Section.
- B. Verify exact location (horizontal and vertical) of all utilities by potholing prior to the start of excavation. Underground pipe or conduits to remain shall be protected during the work to not disturb their function.
- C. All active portions of the construction site and material excavations shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice a day with complete coverage, preferably in the late morning and after work for the day.
- D. All grading, earthmoving and excavation shall cease during periods of winds greater than 20 miles per hour average over a one hour period.
- E. All material transported offsite shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- F. Areas disturbed by earthmoving or excavation activities shall be minimized at all times.
- G. Clearing and grubbing shall conform to Section 31 11 00, "Site Clearing and Grubbing."

### 3.2 TOPSOIL EXCAVATION

- A. Remove all topsoil and organics.
- B. Material specified in Paragraph 2.1 shall be removed before commencement of any excavation. Do not use this material for fill or backfill, except as approved by the Geotechnical Engineer. Topsoil shall be spread on fill slopes or other areas of the site approved by the Engineer.

### 3.3 DISPOSAL OF WASTE MATERIAL

- A. Refer to Technical Specification Section 01 74 19 – Construction Waste Management.
- B. Burning is prohibited. Remove unsuitable material from the site in accordance with all local laws, codes and ordinances.
- C. Existing clean suitable fill material may be stockpiled at a designated location on site after approval by the Engineer.

### 3.4 COMPACTION

- A. Compaction Equipment: All compaction shall be determined by the Contractor to obtain the densities specified and approved.
- B. For general engineered fill construction, the following compaction requirements apply:
  - 1. Maximum 8-inch lifts of uncompacted thickness.
  - 2. Compact to a minimum 90% relative compaction as determined by ASTM D1557 for fills less than 5 feet in thickness.
- C. Nuclear density testing should be performed on each lift of compacted fill to confirm compaction at a frequency of at least one test:
  - 1. Per 5,000 cubic yards for mass fill
  - 2. per 5,000 square feet for tank pad
  - 3. per 300 feet for trench or wall backfill
  - 4. per 300 feet for roadway subgrade (<40 feet wide)

### 3.5 SITE EXCAVATION

- A. Perform all excavation of every description, regardless of the type, nature, or condition of material encountered, as specified, shown, or required to accomplish the Work.
- B. The Contractor shall control excavations and stockpiling in a manner to prevent water from entering the excavations. Material for fill, backfill, or for protection of excavations from surface drainage shall be neatly placed and kept shaped and covered so as to cause no dust or interference with other work.
- C. The Geotechnical Engineer shall observe all excavated bottoms, including foundations and utility structures and trenches, following removal of material. Unsuitable materials observed by the Geotechnical Engineer in the excavated bottom shall be removed by the Contractor and stabilized using Engineered Fill material, as specified in Paragraph 2.3.

### 3.6 STRUCTURAL EXCAVATION

- A. Expansive clay shall be removed to a minimum depth of 2.5 feet beneath the interior of the ring footing and replaced with native or imported engineered fill with a Plasticity Index less than 15.
- B. Excavate for structures to the lines and grades shown or as required to accomplish the Work. Perform all excavation regardless of the type, nature, or condition of the material encountered. Shore and brace (e.g., driven sheet piles, trench bracing) excavations as required. Protect adjacent utility facilities to remain. Remove all debris and sort material to be reused as Engineered Fill. The method of excavation used is optional; however, no heavy equipment shall be operated within 4 feet of existing structures or newly completed construction, except as approved by the Engineer. Excavation that cannot be accomplished without endangering existing or new structures shall be performed with hand tools. All benching, shoring and sloping of excavations shall be at the Contractor's expense.

### 3.7 REMOVAL OF WATER

- A. See Section 31 23 19 – Dewatering.
- B. Water disposal shall meet Federal, State, and local requirements and as specified.

### 3.8 SUBGRADE STABILIZATION

- A. Any soft, wet, or otherwise unsuitable materials encountered at the subgrade elevation shall be brought to the attention of the Geotechnical Engineer for evaluation of over-excavated depth and stabilized. Stabilization may be accomplished by excavating to firm, native material and replacing with engineered fill. If unsuitable materials are observed within the excavation bottom by the Geotechnical Engineer over-excavation will be required.
- B. Areas receiving fill shall be prepared according to the following, unless noted otherwise on the Drawings:
  - 1. Scarified to a depth of at least 8-inches.
  - 2. Moisture conditioned to above the optimum moisture content.
  - 3. Compacted to at least 90 percent relative compaction (ASTM D-1557).

### 3.9 OVER-EXCAVATION

- A. If groundwater or excessive soil moisture prevents operations described in 3.8.B, the bottom of the excavation may require over-excavation and a layer of subgrade stabilization fabric and aggregate base placed on the excavation bottom to provide a firm base on which to place and compact subsequent fill. The thickness of the aggregate base layer and/or need for subgrade stabilization fabric shall be evaluated by the Geotechnical Engineer at the time of excavation.
- B. If the bottom of an excavation is found to consist of soft or unstable material that is incapable of properly supporting the pipe or structure, the Engineer shall be advised immediately in writing.
- C. The Contractor shall obtain the Engineer's approval prior to performing any over-excavation. Any over-excavating and resultant backfill and compaction without such approval shall be at the Contractor's expense. The quantity of approved unsuitable material excavated and its replacement shall be paid for as extra work only with the authorization of the Engineer and in accordance with the Contract Documents.

- D. Where undocumented fill is encountered during construction, Contractor shall over-excavate and recompact per requirements of Paragraph 3.4.

### 3.10 ROCK EXCAVATION

- A. Rock excavation shall include removal and disposal of the following: (1) all boulders measuring 1/3 of a cubic yard or more in volume; (2) all rock material in ledges, bedding deposits, and unstratified masses; (3) concrete or masonry structures which have been abandoned; and (4) conglomerate deposits which are so firmly cemented that they possess the characteristics of solid rock.
- B. Rock excavation is not anticipated for this project.
- C. Explosives and Blasting: Use of Explosives and Blasting will not be permitted.

### 3.11 MOISTURE CONDITIONING

- A. The term "moisture conditioning" as used in these Specifications, is defined to refer to any approved method of obtaining a required moisture content for materials to be compacted. Included under moisture conditioning requirements shall be the furnishing of all required water and the furnishing of all other necessary labor, materials and equipment required to provide the approved or required percent of moisture content. Moisture conditioning, as required, shall be performed for all materials specified to be compacted regardless of whether or not such requirement is specifically stated. No separate payment will be made for any or all operations of the Contractor pertaining to moisture conditioning or from delays occasioned thereby.
- B. Moisture conditioning method shall be approved by the Geotechnical Engineer.
- C. Prior to and during compaction, all earthwork materials specified to be compacted, including but not limited to backfill, refill and foundation subgrade, shall have an approved moisture content which shall be uniform in each layer of material compacted. If the moisture content is less than the approved requirement, compaction operations shall not proceed until the Contractor has added the necessary amount of water. If the moisture content is greater than the approved requirement, compaction operations shall not proceed until such time as the materials have dried sufficiently or have been otherwise mechanically dewatered or replaced with materials having the approved moisture content. The soil should be mixed after water is added to distribute the water evenly throughout the lift. Sufficient time should be allowed between water application and compaction to allow the water to penetrate the soil clods and reach a uniform value in the lift. If the soil is too moist, aeration or other methods approved by the Geotechnical Engineer will be required to lower moisture content to the desired level.
- D. Contractor shall be responsible to demonstrate throughout the duration of all earthwork operations, that required moisture conditioning limits are being obtained. Care must be exercised to ensure that the moisture content is not above moisture requirements. This is to ensure that the structural stability of the material is not affected.

### 3.12 SITE GRADING

- A. Perform all earthwork to the lines and grades as shown and/or established by the Engineer. Shape, trim, and finish slopes to conform to the lines, grades, and cross sections as shown or approved. Make slopes free of all exposed roots and stones exceeding 3 inches in diameter which are loose and liable to fall. Round tops of banks to circular curves, in general, not less than a 6-foot radius. Rounded surfaces shall be neatly and smoothly trimmed.

- B. Work that has been suspended by weather, scheduling or for any other reason, shall be protected against the effects of such weather or other conditions. Grading which has been considered acceptable, but which has been subsequently damaged shall be re-worked to meet the requirements of the Specifications.
- C. Slopes shall be re-dressed as required to mitigate any erosion that may occur prior to establishment of the erosion control mitigation measures.
- D. All grades shown on the Plans are expressed as finished elevations.
- E. Cut slopes into the native soil shall be no steeper than 2H:1V. Fill slopes should be laterally overbuilt at least one foot, and the slope face trimmed back to firm, compacted material. Compacted fill slopes shall be no steeper than 2H:1V.
- F. Fills placed on slopes with inclinations of 6H:1V or steeper shall be benched during placement of engineered fill. The benches shall consist of a level surface excavated at least 4 feet horizontally into native subgrade. The benches shall continue progressively up the slope at vertical increments of not greater than 3 feet.
- G. Fill placed on slopes steeper than 4H:1V shall be keyed into firm native soil at the toe of the fill slope. The bottom of the keyway shall extend a minimum of 3 feet below the downslope grade at the toe of the proposed fill and have a minimum width of 10 feet extending beneath the toe of the fill slope with a gradient of no less than 5% toward the back of keyway.
- H. Upon field observations at the time of construction, the Geotechnical Engineer may determine subdrainage of the keyways is necessary.

### 3.13 CONCRETE SLABS ON GRADE

- A. Excavate to subgrade, scarify 8-inches and compact to at least 90% of the ASTM D1557 maximum dry density with a moisture content within 2 percent of the ASTM D1557 optimum moisture content.
- B. Install at least four inches of Caltrans Class 2 Aggregate Base or thicknesses shown on the Drawings and compact to a minimum of 92 percent of the ASTM D1557 maximum dry density with a moisture content within 2 percent of the ASTM D1557 optimum moisture content.

### 3.14 CONTAMINATED SOILS HANDLING

- A. Contaminated soils are not anticipated to be encountered during construction.
- B. If contaminated soil is discovered during construction activities, notify the Engineer and County.
- C. Contractor to maintain separate stockpiles for potentially contaminated soil such that potentially contaminated soil is not commingled with non-contaminated soil.
- D. Contractor to prepare a 10-mil, polyethylene plastic sheeting lined containment area for stockpiling and covering of potentially contaminated soils. Overlap the plastic sheeting a minimum of two feet to prevent run off underneath the plastic sheeting.
- E. Collect soil samples to fully characterize excavated soil for disposal and manage accordingly. Sample, according to protocols set forth in ASTM E1903-97, Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process, any

soils generated as a result of excavations in these areas, as well as the bottoms and side walls of any such excavations.

- F. Contractor to hire a California-certified laboratory to sample and test the potentially contaminated soil in accordance with sampling requirements of the nearest Class II or III landfill that accepts contaminated soils, or other type of disposal means preapproved by the County, as laboratory results indicate. In general, for gasoline and diesel contaminated soils, this includes the collection of one 4-point composite for every 100 cubic yards of excavated contaminated soil, and analysis for TPH-gas and TPH-diesel by EPA 8015, and for volatile organic compounds by EPA 8260.
- G. Should the laboratory testing confirm the presence of contaminated soil, submit test results and any additional reporting requirements to the Class II or III landfill at least three working days prior to the planned disposal date.
- H. Upon review of the test results, the Class II or III landfill will determine if the contaminated soil may be disposed of at the facility.
- I. If the test results exceed the acceptance limits of the Class III landfill, Contractor shall submit test results and any additional reporting requirements to the nearest Class II landfill.
- J. Upon review of the test results, the Class II landfill will determine if the contaminated soil may be disposed at the facility or if additional testing is required.
- K. If additional testing is necessary, Contractor shall hire a California-certified laboratory to sample and test the contaminated soil in accordance with the additional sampling requirements.
- L. If characterization determines that wastes are hazardous under RCRA or CalEPA Hazardous Waste guidelines, treat and/or dispose of all contaminated soils at properly permitted facilities approved by the County and all other controlling regulatory agencies for such purposes.
- M. Complete disposal facility applications as necessary to obtain preapproval for disposal of all contaminated soil.

### 3.15 ADDITIONAL EXCAVATION IF CONTAMINATION IS DISCOVERED

- A. If contaminated soil is discovered during construction activities, notify the Engineer and County.
- B. Call upon an OSHA-certified, trained personnel, experienced in identifying unknown contaminants (such as a Professional Geologist or Registered Civil Engineer) to collect confirmation samples. Identify possible contaminated areas, and notify the Engineer or County. If warranted or directed by the Engineer or County, perform additional remedial excavation of soil and collect confirmation soil samples.
- C. In areas where additional remedial excavation is required, complete excavation and backfilling as requested by the Engineer, County, or trained personnel prior to continuing with project.
- D. If additional soils are excavated, follow the same protocol for stockpiling, characterizing, reloading, and disposal as described in other sections of this specification.
- E. This work will be completed as an extra scope once total contaminated soil exceeds estimations for the project.



### 3.16 DISCOVERED CONTAMINATION NOT PREVIOUSLY KNOWN TO EXIST

- A. If contaminated soil is discovered where not expected and contaminants cannot be identified, call upon an OSHA-certified, trained personnel experienced in identifying unknown contaminants (such as a Professional Geologist/Engineer to collect samples and field identify possible contaminated areas.

### 3.17 WASTE MINIMIZATION

- A. Minimize the generation of contaminated waste. Take all necessary precautions to avoid mixing clean and contaminated wastes.

### 3.18 CONTAMINATED MATERIAL STORAGE AREA MAINTENANCE

- A. When contaminated materials are present and require stockpiling, complete the following tasks:
  1. Stockpile Site Locations
  2. Liner Maintenance: Maintain a stockpile area bottom to prevent tears or holes in the plastic. Any tears shall be patched or the area relined with 10-mil plastic within 24 hours. Sweep clean roadways leading to stockpile areas and repair all surface damage caused by the stockpile traffic.
  3. Dust Control: Control all dust that may arise during stockpiling activities by keeping roads swept or wet, as necessary.
  4. Conduct: All activities will be conducted in a manner that minimizes litter, nuisances, dust, noise impacts, and mud.
  5. Access: Unauthorized access will be prevented within potentially contaminated soil areas.
  6. Traffic Control: Traffic will be controlled in a safe manner.
  7. Emergency Communications: The Contractor using the stockpile area shall provide telephone or radio communication capacity for emergency purposes.
  8. Record Keeping: Maintain a log book in which storage dates, quantity of material accepted and leaving, and concentrations of constituents are tracked and any special occurrences such as written public complaints will be recorded.
  9. Length of Use/Site Closure: When Contractor completes the use of the stockpile area, he shall ensure the area is clean of any potentially contaminated soils and have approval from County prior to leaving the site.

### 3.19 TRANSPORTATION OF CONTAMINATED SOIL

- A. With preapproval from the County and the disposal facility, reload, transport, and dispose of contaminated materials in accordance with all local, state, and federal laws, rules, and regulations for transporting contaminated soil.
- B. Contractor shall arrange the hauling and disposal of the contaminated soil at the accepted landfill licensed to accept such soil.
- C. Transport all contaminated soil off site only to appropriate permitted Treatment and/or Disposal Facilities, approved by the County. The Contractor performing the work of this Section shall be licensed for the transportation and hauling of hazardous wastes. The firm shall provide a route plan, which clearly identifies the routes he proposes to follow while transporting soil to the off-site disposal facility.
- D. Compliance with Federal Motor Carrier Safety Regulations: A motor carrier driver or other person must comply with the rules when he/she is transporting hazardous materials by a motor vehicle, which must be marked or placarded in accordance with DOT 177.823.

- E. Transport drivers will offload soil only at the approved disposal facilities.
- F. Ensure contaminated soil is free of debris, concrete, or asphalt rubble. Ensure no free water is ponding or leaking from trucks.

### 3.20 REPORT, MANIFESTS, AND RECORDS

- A. Provide the Engineer or County with a compliance certificate verifying that all waste soils were received by the approved landfill has been properly disposed.
- B. Provide copies of all manifests, permits, or other documents currently in effect relating to the specific wastes to be transported, treated, and disposed hereunder except as otherwise stated in this Section.
- C. As the waste generator, the County shall furnish completed State of California Hazardous Waste Manifests (or the Uniform Manifest - 40 CFR Parts 260, 262, 271 - if effective at time of preparation) for all contaminated soils to be removed from the project area for transportation to an appropriate disposal facility. These manifests shall accompany the waste loads to disposal and be properly completed by the hauler and disposal agent as required by federal and state hazardous waste management law. The final manifest shall then be returned by registered mail to the County within the designated time period specified by federal law.
- D. The contract work will not be considered complete nor will the County make final payment until the Engineer or County receives certifications of treatment and/or disposal.

### 3.21 NON-CONTAMINATED SOIL REUSE

- A. Soil containing very low levels of contamination may be considered for reuse as backfill, but must be cleared with the Engineer or County for reuse, prior to reuse.
- B. Non-contaminated soil may be reused for backfill, if preapproved by the Engineer or County, and is permitted in other sections of the specifications.

### 3.22 DISPOSAL OF UNSUITABLE AND EXCESS EXCAVATED MATERIAL

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off project site.
- B. Location of disposal site and length of haul are the Contractor's responsibility.
- C. Soil characterization testing required for hauling and off-site disposal or reuse of excess excavated material are the Contractor's responsibility.
- D. Place excess excavated materials suitable for fill and/or backfill on site where directed by Engineer.
- E. Remove from site and dispose of any excess excavated materials after all fill and backfill operations have been completed.
- F. Segregate all excavated contaminated soil designated by the Engineer from all other excavated soils, and stockpile on site on two 6 mil polyethylene sheets with a polyethylene cover. A designated area shall be selected for this purpose. Provide and maintain temporary erosion controls on and around soil stockpiles until they are removed from site. Dispose of excavated contaminated material in accordance with State and Local requirements.

3.23 CLEAN UP

- A. Upon completion of earthwork operations, clean areas within contract limits, remove tools, and equipment. Provide site clear, clean, free of debris, and suitable for subsequent construction operations. Remove debris, rubbish, and excess material from the site.

END OF SECTION

SECTION 31 01 40

SHORING AND TRENCH SAFETY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shoring required for general safety, worker protection, and protection of adjacent property from the hazards of caving ground.
- B. Shoring for trench excavations.
- C. Shoring for structural excavations.
- D. Contractor's responsibilities.
- E. Contractor's trench safety plan.
- F. Contractor's supervisor.
- G. Related requirements and Work described elsewhere includes:
  - 1. Division 01 – Requirements for temporary facilities, controls, public safety, and convenience.
  - 2. Section 02 01 10 - Existing Utilities and Underground Structures
  - 3. Section 31 00 00 - Earthwork
  - 4. Section 31 11 00 - Site Clearing and Grubbing
  - 5. Section 31 23 00 - Trench Excavation and Backfill
  - 6. Section 31 23 19 - Dewatering
  - 7. Section 03 48 10 - Precast Concrete Valve Vaults and Meter Boxes.

1.2 CONTRACTOR'S RESPONSIBILITIES FOR SAFETY

- A. The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons (including employees) and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.
- B. Safety provisions shall conform to U.S. Department of Labor (OSHA), the California Occupational Safety and Health Act, and all other applicable Federal, State, county, and local laws, ordinances, codes, the requirements set forth below, and any regulations that may be detailed in other parts of these Specifications.
- C. Contractor is advised that Part 1926 of 29 CFR, subpart P, has been revised. This regulation governs excavations, trenching and protective systems, sloping, benching, wood, and aluminum shoring for various types of soils, and depths of excavations. The Contractor shall follow these regulations (including the latest revisions) for this project.
- D. Where any of these are in conflict, the more stringent requirement shall be followed.

1.3 PERMIT

- A. For trenches or excavations of depth five (5) feet or deeper, the Contractor shall obtain from the State Division of Industrial Safety a permit for such excavation; submit a copy of the permit to the Engineer, prior to initiating any work requiring said permit.

- B. Excavations in excess of 5 feet shall be shored or laid back per Cal-OSHA requirements for the soil types listed below for each site:
  - 1. Guerneville: Type B soil
  - 2. Roblar: Type A soil
  - 3. Sonoma: Type C soil

#### 1.4 CONTRACTOR SUBMITTALS

- A. Submit all plans, product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. The Contractor's attention is directed to the provisions for "Shoring and Bracing Drawings" in Section 6705 of the California Labor Code. The Contractor, prior to beginning any trench or structure excavation five (5) feet deep or greater, shall submit to the Engineer for review for compliance with Section 6705 the Contractor's detailed plan showing design of all shoring, bracing, sloping of the sides of excavation, or other provisions for worker protection against the hazard of caving ground during the excavation of such trenches or structure excavation. If such plan varies from the shoring system standards established in the Construction Safety Orders of the State of California, such alternative system plans shall be prepared, stamped and signed by a civil or structural engineer licensed in the State of California at the Contractor's expense.
- C. Certificates of Compliance: Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.
- D. For all materials that are not pre-approved by the County the Contractor shall designate the source and/or submit samples of all materials in advance of their use for required testing and Engineer's approval. All testing costs shall be at the Contractor's expense.

#### 1.5 SAFETY ORDERS

- A. The Contractor shall have at the work site, copies or suitable extracts of the Construction Safety Orders of Cal-OSHA, and Part 1926 of 29 CFR, subpart P.
- B. All work shall comply with the provisions of these and all other applicable laws, ordinances and regulations.

#### 1.6 TRENCH SAFETY PLAN

- A. For trenches and excavations five feet or more in depth, the Contractor shall submit to the Engineer a detailed plan, design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazards of caving ground.
- B. If such plan varies from the shoring system standards established by the Construction Safety Orders, or Part 1926 of 29 CFR, Subpart P, the plan shall be prepared, sealed and signed by a civil or structural engineer registered in California. Signed and sealed copies of calculations necessary to qualify the system shall also be submitted.
- C. Nothing herein shall be deemed to allow the use of shoring, sloping, or protective system less effective than that required by the Construction Safety Orders of the Division of Industrial Safety, or Part 1926 of 29 CFR, subpart P.
- D. If Contractor proposes to use trench jacks or speed shores, submittals shall show length and type of shoring vertical and horizontal spacing, vertical or horizontal wales and planks.

Shields, when proposed or used, shall show depth allowed in the soils expected to be encountered.

#### 1.7 ENGINEER'S REVIEW

- A. The duty of the Engineer to conduct construction review of the Contractor's performance is not intended to include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.
- B. The Engineer will review the submittal of the Contractor's proposed shoring system to verify the general scope of the Work, to determine that qualified professional engineering services are used and to determine that appropriate construction techniques are proposed for use. This review shall not in any way be construed to relieve the Contractor from sole responsibility for the design and safety of such shoring.

#### 1.8 CONTRACTOR'S SUPERVISOR

- A. The Contractor shall appoint a qualified supervisory employee who shall be responsible to determine the sloping or shoring system which shall be used depending on local soil type, water table, stratification, depth, etc.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 31 11 00

SITE CLEARING AND GRUBBING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes the following:
  - 1. Removing surface debris.
  - 2. Removing designated shrubs and other plant life.
  - 3. Excavating topsoil.
- B. Related Sections include, but are not limited to, the following:
  - 1. Section 01 10 00 - Summary
  - 2. Section 01 33 00 - Submittal Procedures
  - 3. Section 01 50 00 - Temporary Facilities and Controls
  - 4. Section 02 01 10 - Existing Utilities and Underground Structures
  - 5. Section 02 41 10 - Demolition, Salvage and Abandonment

1.3 SUBMITTALS

- A. Submit all product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. Product Data: Submit data for herbicide in accordance with Section 01 33 00, "Submittal Procedures." Indicate compliance with applicable codes for environmental protection.

1.4 QUALITY ASSURANCE

- A. The Contractor shall be responsible for all actions, damage, and effects arising out of any and all herbicide and/or pesticide use. The Contractor shall obtain and pay for all required permits and licenses prior to application.
- B. Conform to applicable code for environmental requirements, disposal of debris, and use of herbicides.

1.5 REFERENCES

- A. "Guide for Plant Appraisal" 9th Edition, published by International Society of Arboriculture, printed 2000.
- B. State of California, Department of Transportation (Caltrans) Specifications and Standards Section 14 Environmental Stewardship.



## PART 2 PRODUCTS (NOT USED)

## PART 3 EXECUTION

### 3.1 SITE ACCEPTANCE

- A. The Contractor shall examine the area and conditions under which work in this Section will be performed. If conditions are detrimental to timely and proper completion of the work as described in the Construction Documents and these Specifications, the Contractor shall notify the Engineer in writing, describing the nature and extent of the issues.
- B. Verify existing plant life designated to remain is tagged or identified
- C. Identify waste area or salvage area for placing removed materials.

### 3.2 PROTECTION

- A. The Contractor shall contact Underground Services Alert North (USA North 811) (800) 642-2442 or 811 in accordance with the requirements of Section 02 01 10, "Existing Utilities and Underground Structures."
- B. The Contractor shall be solely responsible for the protection of adjacent properties, structures, streets, and utilities. Any damage shall be repaired to its original condition, as determined by the Engineer and County, at the Contractor's expense.
- C. The Contractor shall be financially responsible for the health and well-being of all existing plants designated to remain. In case of damage, the Contractor shall forfeit an amount in proportion to the extent of damage, as determined by the County and Engineer.
- D. The Contractor shall protect benchmarks, survey control points, and existing structures not identified for removal from damage or displacement.

### 3.3 CLEARED MATERIAL

- A. Clearing and grubbing shall consist of removal of all objectionable material within the limits of work shown on the plans and as directed by the Engineer. Objectionable materials shall include but are not limited to all abandoned pipes, conduits, waste concrete, undergrowth and dead wood. All objectionable cleared material shall become the property of the Contractor and shall be removed from the project site and disposed of or recycled properly.

### 3.4 REMOVAL

- A. Remove debris, rock, trees, roots and root balls, and extracted plant life from site.
- B. Remove paving and concrete slabs as indicated on the drawings. Neatly saw cut edges at right angle to surface.
- C. Remove abandoned utilities in accordance with Section 02 41 10, "Demolition, Salvage and Abandonment," and as indicated on the drawings. Indicate removal termination point for underground utilities on Record Documents.
- D. Remove trees and shrubs indicated and as described in Section 02 41 10, "Demolition, Salvage and Abandonment."

- E. Continuously cleanup and remove waste materials from site. Do not allow materials to accumulate on site.
- F. Do not burn or bury materials on site. Leave site in clean condition.

### 3.5 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated or re-graded without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Control dust in accordance with Section 14-9.03 of the Standard Specifications.
- D. Topsoil to be removed from the site or reused at location shown on the Drawings with approval of the Engineer.

### 3.6 SITE PREPARATION

- A. Shape slopes and swales with no abrupt change of gradient. All mounds and swales indicated on the plans shall be constructed and approved before soil preparation is started.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 31 23 00

TRENCH EXCAVATION AND BACKFILL

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes: The Work covered in this section consists of performing all operations necessary to excavate all earth, regardless of character and subsurface conditions, from the trench or adjacent thereto and to place stabilization, bedding, cover, water removal, backfill, base, and compaction as shown on the Drawings and as specified, or as may be ordered by the Engineer.
- B. Such earthwork shall include, but may not necessarily be limited to, the loosening, removing, loading, transporting, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the Work, which shall include, but not necessarily be limited to, the furnishing, placing, and removing of sheeting, shoring and bracing necessary to safely support the sides of all excavations; all pumping, ditching, draining and other required measures for the removal or exclusion of water from the excavation; the supporting of structures above and below the ground; all backfilling around structures and all backfilling of trenches and pits; the disposal of excess excavated materials; borrow of materials to make up deficiencies for fills; and all other incidental earthwork.
- C. General intent:
1. It is the general intent of these specifications to specify conduct of the Work in such manner as to cause no exposure to unsafe conditions during construction and to provide a trench that will properly support and protect the pipe and only minor settlement in areas where such settlement will not be noticed, or compensation made for any expected settlement. The degree of compaction and type of material will vary in accordance with type of pipe, and soil and surface conditions.
  2. The Contractor shall obtain compaction and install base and finished gravel surface. Access roads shall be clean and free of dust, mud or debris by providing cleanup as necessary.
  3. If the Contractor does not properly clean up, (to preconstruction conditions) the County shall have the option of using outside equipment and labor to perform the Work and such costs will be deducted from the contract.
  4. Stabilization material will be required only where soil conditions warrant and as directed by the Engineer.
  5. No backfilling shall be done until the installation to be covered has been inspected and approved for covering. Compaction of backfill shall proceed immediately after backfilling, in appropriate layers.
  6. During construction, heavy rains may be encountered causing wet backfill and other unsuitable working conditions. During these periods the County will have authority to shut down the Work to avoid poor working conditions, wet unsuitable backfill, damage to base and paving, unsafe conditions, etc.
- D. Contaminated soil and groundwater shall be handled in accordance with Section 31 00 00, "Earthwork," and all regulatory agency requirements.
- E. Related Work:
1. Section 02 01 10 - Existing Utilities and Underground Structures
  2. Section 26 05 00 - Basic Electrical Materials and Methods
  3. Section 26 05 33 - Raceway and Boxes for Electrical Systems

4. Section 31 00 00 - Earthwork
5. Section 31 01 40 - Shoring and Trench Safety
6. Section 31 23 19 - Dewatering

## 1.2 QUALITY ASSURANCE

- A. Qualifications of workers: Provide sufficient skilled workers and supervisors who shall be present at all times during execution of this portion of the Work and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.
- B. Codes and standards:
  1. Wherever a test method is referenced in this section it shall be made in accordance with the most current test methods in use by the California Department of Transportation (Caltrans).
  2. Where reference is made to the State Standard Specifications, reference shall mean: State of California, Business and Transportation Agency, Department of Transportation (Caltrans), Standard Specifications, 2018, excluding measurement and payment Sections.

## 1.3 GUARANTEES

- A. The Contractor shall guarantee their Work against settlement for a period of one year after the Notice of Completion has been filed and shall repair all damage caused by settlement within that time. For the purpose of this specification, settlement will be deemed to have occurred if the following conditions exist:
  1. Along unpaved portions, a depression of 1 inch below the average of the sides of the uncut portion shall be deemed a settlement.

## 1.4 CONTRACTOR SUBMITTALS

- A. Submit all product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. The Contractor's attention is directed to the provisions for "Shoring and Bracing Drawings" in Section 6705 of the California Labor Code. The Contractor, prior to beginning any trench or structure excavation five (5) feet deep or over, shall submit to the Engineer for review for compliance with Section 6705 the Contractor's detailed plan showing design of all shoring, bracing, sloping of the sides of excavation, or other provisions for worker protection against the hazard of caving ground during the excavation of such trenches or structure excavation. If such plan varies from the shoring system standards established in the Construction Safety Orders of the State of California, such alternative system plans shall be prepared, stamped and signed by a civil or structural engineer licensed in the State of California at the Contractor's expense.
- C. Certificates of Compliance: Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.
- D. For all materials, the Contractor shall designate the source and/or submit samples of all materials in advance of their use for required testing and Engineer's approval, if requested. All testing costs shall be at the County's expense.

## 1.5 QUALITY ASSURANCE

- A. General: All soils testing will be performed by the County.

- B. Where soil material is required to be compacted to a percentage of maximum density the maximum density at optimum moisture content will be determined in accordance with the standards outlined ASTM D1557. Field density in-place tests will be performed by the County.
- C. The Contractor shall notify the Engineer at least 2 working days prior to performing any utility excavation.

## PART 2 PRODUCTS

### 2.1 EXCAVATION

- A. The Contractor shall complete all excavation regardless of type, nature, or condition of the material encountered. The Contractor shall make their own estimate of the kind and extent of the various materials to be excavated in order to accomplish the Work. The Contractor should refer to the available Geotechnical Engineering Investigation report (soils report) for anticipated excavation conditions.

### 2.2 BEDDING AND COVER MATERIAL

- A. Pipe Bedding Material: Section 31 00 00, "Earthwork."

### 2.3 TRENCH BACKFILL

- A. Trench Backfill Material: Section 31 00 00, "Earthwork."

### 2.4 PERMEABLE MATERIAL

- A. Permeable Material: Section 31 00 00, "Earthwork."
- B. Permeable material shall be used in over-excavated areas of trenches, including where the bottom of excavations is unstable, disturbed or wet.

### 2.5 GEOTEXTILE FABRICS

- A. Subgrade Stabilization Fabric: Section 31 00 00, "Earthwork."

### 2.6 SLURRY CEMENT BACKFILL

- A. Slurry Cement Backfill: Standard Specifications Section 19-3.02E.

### 2.7 STEEL PLATE

- A. When steel plate bridging is provided, it shall conform to Section 602.1 of the Caltrans Encroachment Permit Manual, with the following minimum thicknesses:

Trench Width	Minimum Plate Thickness
(10") 0.25 m	(1/2") 13 mm
(1' - 11") 0.58 m	(3/4") 19 mm
(2' - 7") 0.80 m	(7/8") 22 mm
(3' - 5") 1.04 m	(1") 25 mm
(5' - 3") 1.60 m	(1 1/4") 32 mm

- B. For spans greater than 5 feet-3 inches, a structural design shall be prepared by a California registered civil engineer.
- C. Plates to be coated with a “no slip” surface.

## PART 3 EXECUTION

### 3.1 GENERAL

- A. The Contractor shall perform all excavation of whatever substance is encountered to the lines and grades shown on the plans. All excavated materials shall become the property of the Contractor and disposed of in accordance with local and state requirements.
- B. Not more than 300 feet of excavation trench will remain unbackfilled at the end of each day of Work. The maximum amount of open trench permitted in any one location shall be the length necessary to accommodate the amount of pipe installed and backfilled in a single day. All trenches shall be fully backfilled at the end of each day or, in lieu thereof, shall be covered by heavy steel plates adequately braced and capable of supporting vehicular traffic in those locations where it is impractical to backfill at the end of each day. The above requirements for backfilling or use of steel plate may be waived in cases where the trench is located further than 100 feet from any traveled roadway or occupied structure. In such cases, however, barricades and warning lights meeting safety requirements shall be provided and maintained. All operations shall be carried out in an orderly fashion. Backfilling, compacting, base, and cleanup will be accomplished as sections of the pipe are installed.
- C. Where abandoned underground structures are encountered, remove to sufficient depth to allow underground lines to cross, backfill and compact during rough grading. The Engineer may require further work to be done if visual inspection indicates during construction.

### 3.2 WIDTH OF TRENCH

- A. Except where otherwise specifically noted or directed, excavation for pipelines and utilities shall be open-cut trenches, sides of trenches shall be vertical, shored as required, and shall be uniform width from top to bottom. Trenches shall be of a width as shown on the Drawings.
- B. If trench widths exceed those shown on the Drawings, install all additional stabilization material, special bedding and cover, backfill, base and paving or higher strength pipe in conformance with these specifications and as directed by the Engineer at no additional cost to the County.
- C. Subgrade: The surface of the subgrade after compaction shall be hard, uniform, smooth, self-draining, and true to grade and cross section.
- D. Trench Bottom: The pipe bedding shall be given a final trim establishing grade such that each pipe section when first laid will be continually in contact with the bedding along the extreme bottom of the pipe. Rounding out the trench bottom or bedding to form a cradle for the pipe will not be allowed. The Contractor shall hand excavate for bell holes and fittings.

### 3.3 NOT USED

### 3.4 REMOVAL OF WATER

- A. Dewatering: Section 31 23 19 – Dewatering.

- B. Water disposal shall meet federal, state, and local requirements and as specified.

### 3.5 SHORING, SHEETING AND BRACING

- A. See Section 31 01 40 - Shoring and Trench Safety. The Contractor shall furnish and install all shoring, sheeting and bracing required to support adjacent earth banks and structures for the protection and safety of all personnel working in the trench. All shoring, sheeting and bracing shall conform to the requirements of the State or local agents having jurisdiction over such matters. Remove shoring, sheeting and bracing in a manner that will protect the workman and prevent caving of banks and damage to the pipe, grade, sidewall support, bedding compaction, excavation, backfill or adjacent property.

### 3.6 OVER-EXCAVATION

- A. If the bottom of an excavation is found to consist of soft or unstable material that is incapable of properly supporting the pipe or structure, the Engineer shall be advised immediately.
- B. The Contractor shall obtain the Engineer's approval prior to performing any over-excavation. Any over-excavating and resultant backfill and compaction without such approval shall be at the Contractor's expense. The quantity of approved unsuitable material excavated and its replacement shall be paid for as extra work only with the authorization of the Engineer and in accordance with the Contract Documents.

### 3.7 ROCK EXCAVATION

- A. Rock excavation shall include removal and disposal of the following: (1) all boulders measuring 1/3 of a cubic yard or more in volume; (2) all rock material in ledges, bedding deposits, and unstratified masses; (3) concrete or masonry structures which have been abandoned; and (4) conglomerate deposits which are so firmly cemented that they possess the characteristics of solid rock.
- B. The Contractor shall obtain the Engineer's approval prior to performing any rock excavation. Any rock excavation and resultant backfill and compaction without such approval shall be at the Contractor's expense. The quantity of approved rock excavated and its replacement with suitable fill material shall be paid for as extra work only with the authorization of the Engineer and in accordance with the Contract Documents.
- C. Rock excavation is not anticipated for this project. If the Contractor encounters rocks during earthwork activities, the Engineer shall be advised immediately.
- D. Explosives and Blasting: Use of Explosives and Blasting will not be permitted.

### 3.8 TRENCH BACKFILL IN THE PIPE ZONE

- A. The pipe zone is the area of the trench 12 inches below and above the installed pipe.
- B. The Contractor shall backfill the pipe zone with the bedding and cover materials specified to the dimensions shown on the Drawings. The trench shall be final-graded by hand to provide a secure bedding full length with hand excavation made for bells or collars.
- C. Trench backfill in the pipe zone shall be moisture conditioned to within 2 percent of the ASTM D1557 optimum moisture content and compacted to achieve a minimum relative compaction of 90 percent of the ASTM D1557 maximum dry density, unless noted otherwise on the Drawings.



- D. Additional backfill shall then be installed and the sides of the pipes, moisture conditioned to within 2 percent of the ASTM D1557 optimum moisture content. Backfill on the sides of the pipe shall be shovel sliced to remove voids and tamped to not less than 90 percent compaction to secure full-length bedding and proper pipe wall support. After this, cover material shall be added and mechanically compacted to a relative compaction not less than 90 percent.

### 3.9 TRENCH BACKFILL IN THE TRENCH ZONE

- A. The trench zone is the area above the pipe zone and up to subgrade in paved areas or up to the ground surface in unpaved areas.
- B. The Contractor shall backfill the trench zone with the trench cover materials specified to the dimensions shown on the Drawings. The trench shall be final-graded by hand to provide a secure bedding full length with hand excavation made for bells or collars.
- C. Trench backfill in the trench zone shall be moisture conditioned to within 2 percent of the ASTM D1557 optimum moisture content, placed in maximum 8 inch thick loose lifts prior to compacting, and compacted to achieve a minimum relative compaction of 90 percent of the ASTM D1557 maximum dry density.
- D. Trench backfill within 12 inches of subgrade in non-vehicular areas shall be moisture conditioned to within 2 percent of the ASTM D1557 optimum moisture content, placed in maximum 6 inch thick loose lifts prior to compacting, and compacted to achieve a minimum relative compaction of 95 percent of the ASTM D1557 maximum dry density.
- E. Trench backfill within 12 inches of subgrade in vehicular areas shall be moisture conditioned to within 2 percent of the ASTM D1557 optimum moisture content, placed in maximum 6 inch thick loose lifts prior to compacting, and compacted to achieve a minimum relative compaction of 95 percent of the ASTM D1557 maximum dry density.

### 3.10 PLACING AND SPREADING OF BACKFILL MATERIALS

- A. Backfill shall not be dropped directly upon any structure or pipe. Backfill shall not be placed around nor upon any structure for a minimum of 72 hours or until the concrete has attained sufficient design strength to withstand the loads imposed, whichever is greater.
- B. Backfill materials shall be placed and spread evenly in horizontal layers.
- C. During spreading each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer and uniformity of moisture throughout backfill materials. Pipe Zone backfill materials shall be manually spread around the pipe so that when compacted, the Pipe Zone backfill will provide uniform bearing and side support.
- D. Where the backfill material moisture content is below the optimum moisture content water shall be added before or during spreading until the proper moisture content is achieved.
- E. Where the backfill material moisture content is too high to permit the specified degree of compaction, the material shall be dried or replaced until the moisture content is satisfactory.
- F. Backfill shall be mechanically compacted by means of tamping rollers, sheepsfoot rollers, pneumatic tire roller, vibrating rollers, or other mechanical tampers. All such equipment shall be of a size and type subject to review by the Engineer. Impact-type pavement breakers (stompers) will not be permitted. Permission to use specific compaction equipment shall not be construed as guaranteeing or implying that the use of such equipment will not result in

damage to adjacent ground, existing improvements, or new improvements. The Contractor shall make its own determination in this regard.

- G. Material for mechanically compacted backfill shall be placed in lifts which, prior to compaction, shall not exceed the thickness specified below for various types of equipment:
  - 1. Vibratory equipment, including vibratory plates, vibratory smooth-wheel rollers, and vibratory pneumatic-tired rollers - maximum lift thickness of 1 foot.
  - 2. Rolling equipment, including sheepsfoot (both vibratory and non-vibratory), grid, smooth-wheel (non-vibratory), pneumatic-tired (non-vibratory), and segmented wheels - maximum lift thickness of 1 foot.
  - 3. Hand-directed mechanical tampers-maximum lift thickness of 4 inches.
- H. Mechanically compacted fill shall be placed in horizontal layers of thickness not exceeding those specified above, compatible to the material being placed and the type of equipment being used. Each layer shall be evenly spread, moistened or dried, if necessary, and then tamped or rolled until the specified relative compaction has been attained.

### 3.11 COMPACTION OF BACKFILL MATERIALS

- A. Specification Section 31 00 00 - Earthwork. Each layer of backfill material as defined herein, shall be mechanically compacted to the specified percentage of maximum density. Equipment that is consistently capable of achieving the required degree of compaction shall be used and each layer shall be compacted over its entire area while the material is at the required moisture content range.
- B. Flooding, ponding, or jetting shall not be used.
- C. Equipment weighing more than 10,000 pounds shall not be used closer to structure walls than a horizontal distance equal to the depth of the fill against the structure wall at that time or 5-feet, whichever is greater. Hand operated power compaction equipment shall be used where use of heavier equipment is impractical or restricted due to weight limitations.
- D. Trench Backfill Requirements:
  - 1. The Contractor shall maintain the specified trench width up to a horizontal plane lying 12 inches above the top of the pipe.
  - 2. If, at any location under said horizontal plane, the Contractor slopes the trench walls or exceeds the maximum trench widths indicated the Pipe Zone backfill shall be "improved" or the pipe class improved at no additional cost to the County. "Improved" backfill shall mean Slurry Cement Backfill or other equivalent materials acceptable to the Engineer.

### 3.12 COMMUNICATIONS/ELECTRICAL

- A. Bed and backfill in accordance with the Drawings.

### 3.13 STEEL PLATE

- A. General: When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring may be required to preserve unobstructed traffic flow.
- B. When steel plate bridging is required, the following conditions shall apply:
  - 1. Steel plates used for bridging must extend a minimum of 12 inches beyond the edges of the trench.
  - 2. Steel plate bridging shall be installed to operate with minimum noise.
  - 3. The trench shall be adequately shored to support the bridging and traffic loads.

4. Bridging shall be secured against displacement by using adjustable cleats, shims or other devices.

C. Steel plate bridging should not exceed 4 consecutive working days in any given week.

### 3.14 TESTING

A. Relative compaction shall be to the densities specified and referenced herein. All testing will be performed by the County.

END OF SECTION

## SECTION 31 23 19

### DEWATERING

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

- A. The Contractor is advised that groundwater may be present in some of the proposed excavations, depending on site location, depth of excavation, soil conditions and time of year. As necessary, the Contractor shall keep excavations free from water during construction.
- B. The Contractor shall provide all labor, materials, and equipment necessary to dewater trench and structure excavations, in accordance with the requirements of the Contract Documents, to enable the pipes and structures to be installed in excavations that are free from standing or flowing water that may be due to groundwater, surface water, stormwater or precipitation.
- C. The Contractor shall develop an excavation dewatering plan in accordance with paragraph 1.5.A of this Section.
- D. The Contractor shall qualitatively monitor for odor or visual discrepancies indicative of hydrocarbon contamination in groundwater during dewatering operations. The Contractor shall notify the County immediately if potential contamination is encountered.
- E. The Contractor's dewatering operations shall not interfere with County operations. Under no circumstances shall dewatering water be allowed to cause hazardous conditions for vehicles or exceed the capacity of existing site drainage features. Dewatering pump noise shall be mitigated, especially at night. Any mitigating measures taken to conform to these requirements shall be at no extra expense to the County.
- F. The Contractor shall obtain any and all permits required in conjunction with dewatering operations, including permits for construction of dewatering wells.

##### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 01 40 – Shoring and Trench Safety
- B. Section 31 23 00 – Trench Excavation and Backfill

##### 1.3 DEFINITIONS

- A. Dewatering: Practices that manage the discharge of groundwater and accumulated precipitation from a work location so that construction work may be accomplished.

##### 1.4 DISCHARGE

- A. No water shall be discharged into nearby storm drains without the prior written consent of the Engineer and 24 hours advance notice to the County.
- B. The Contractor shall coordinate groundwater discharge into the nearest storm drainage feature with the County, including verifying water quality requirements, discharge flow limitations into nearby swales, and location of discharges.

- C. If turbidity requirements are required by the County, Contractor shall reduce turbidity with settling tank and or filter to remove soil particles from the groundwater prior to discharge.
- D. In no case shall the Contractor's groundwater disposal operation surcharge the existing site drainage features and structures.
- E. The costs associated with any damage caused as a result of Contractor's groundwater disposal operation surcharging the collection system shall be the Contractor's sole responsibility.

#### 1.5 SUBMITTALS

- A. Submit all plans, product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- B. Dewatering Plan
  - 1. Dewatering systems shall be designed and maintained by the Contractor and shall be coordinated with the design of shoring specified in Section 31 01 40, "Shoring and Trench Safety." The plans should contain at a minimum the sizes of pumps, tanks, filtration devices, and the points of disposal. The plan should also include alternate (contingent) systems, and the Contractor should be prepared to alter the initial dewatering or shoring systems to meet the specified requirements.
  - 2. The plan shall also include applicable water quality requirements.
- C. Section 01 33 00 – Submittal Procedures.
- D. Product Data: Submit data for each of the following:
  - 1. Dewatering Pumps: Indicate sizes, capacities, priming methods, and engine or motor characteristics.
  - 2. Pumping equipment for control of discharge.
  - 3. Size of tank(s) used for storage.
  - 4. Specifications and size and type of filters and any other materials used for filtration.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Section 01 33 00 – Submittal Procedures.
- B. Once storage tank(s) are no longer needed, clean and remove from the site and return the area to original condition.

#### 1.7 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 – Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this Section.

#### 1.8 COORDINATION

- A. Coordinate work to permit the following construction operations to be completed on stable substrate.
  - 1. Excavation for structures and pipelines as specified in Section 31 23 00 "Trench Excavation and Backfill."

- B. Coordinate with the Engineer prior to the commencement of any soil excavation and groundwater discharge.
- C. All dewatering operations shall be adequate to assure the integrity of the finished project.

## PART 2 PRODUCTS

### 2.1 DEWATERING EQUIPMENT

- A. Select dewatering equipment to meet specified performance requirements.

## PART 3 EXECUTION

### 3.1 DEWATERING OPERATIONS

- A. Install dewatering system in accordance with the approved Dewatering Plan.
  - 1. Secure County approved areas for siting of groundwater storage tanks and treatment systems. Located system components to allow continuous dewatering operations without interfering with the excavation work.
  - 2. Install the dewatering system in accordance with State, local and Unified Building Code standards.
- B. Remove water from the excavation in accordance with the approved Dewatering Plan.
  - 1. Keep excavations free from water during construction.
  - 2. Draw down the static water level a minimum of 2 feet below the bottom of excavations to maintain the undisturbed state of natural soils and allow the placement of any fill to the specified density.
  - 3. Operate dewatering systems continuously until backfill has been completed to 1-foot above the normal static groundwater level.
  - 4. Control the release of groundwater to its static level to prevent disturbance of the natural foundation soils or compacted fill and to prevent floatation or movement of structures and pipelines.
  - 5. Control groundwater to prevent softening of the bottom of excavations, or formation of "quick" conditions. Dewatering systems shall not remove natural soils.
  - 6. At all times, site grading shall promote drainage away from excavations. Surface runoff shall be diverted from excavations.
  - 7. Dewatering in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
  - 8. Control surface runoff to prevent entry or collection of water in excavations.
- C. Notify the Engineer and stop excavation work should the dewatering system not adequately control water within the excavation.
  - 1. Supplement or modify dewatering system and provide other remedial measures to control water within excavation.
  - 2. Demonstrate dewatering system operation complies with performance requirements before resuming excavation operations.
- D. Notify the Engineer and stop excavation work if potentially contaminated groundwater is encountered.
  - 1. Upon notification from the Contractor regarding potential groundwater contamination, the County will sample and analyze to verify the existence and extent of contamination.
- E. Notify the Engineer and stop excavation work if settlement or ground movement is detected.

1. Contractor shall control the rate and effect of the dewatering in such a manner as to avoid all settlement and subsidence.
  2. Where critical structures or facilities exist immediately adjacent to areas of proposed dewatering, reference points shall be established and observed at daily intervals to detect any settlement or ground movement that may develop. The Contractor shall conduct the dewatering operation in a manner that protects adjacent structures and facilities. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the Contractor.
- F. Maintain all equipment in an operable state.
1. Inspect equipment daily and repair or replace as needed.
  2. Clean accumulated sediment from tanks as needed.
- G. Remove dewatering systems after dewatering operations are discontinued.
1. The Contractor shall be responsible for sampling and disposal of sediments collected in storage tanks, as well as other waste materials related to groundwater discharge.
  2. Repair damage caused by dewatering systems or resulting from failure of systems to protect property.

END OF SECTION

SECTION 31 25 00

EROSION CONTROL

PART 1 - GENERAL

1.1 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
  - 1. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
    - a. ASTM D 4439-14 Standard Terminology for Geosynthetics
    - b. ASTM D 4491-14 Water Permeability of Geotextiles by Permittivity
    - c. ASTM D 4533-11 Trapezoid Tearing Strength of Geotextiles
    - d. ASTM D 4632-13 Grab Breaking Load and Elongation of Geotextiles
    - e. ASTM D 4751-12 Determining Apparent Opening Size of a Geotextile
    - f. ASTM D 4873-09 Identification, Storage, and Handling of Geosynthetic Rolls
- B. California Department of Transportation, 2018 Standard Specifications, Section 13 Water Pollution Control.
- C. Field Guide for Construction Site Dewatering.
- D. Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual (June 2011).
- E. Construction Site Best Management Practices (BMP) Manual.
- F. Construction Site Monitoring Program (CSMP) Guidance Manual.
- G. Manuals and templates are available at Caltrans Division of Construction website:  
<http://www.dot.ca.gov/hq/construc/stormwater/>.

1.2 GENERAL

- A. A Storm Water Pollution Prevention Plan (SWPPP) document is not required for this project.
- B. The Contractor shall prepare a Water Pollution Control Program (WPCP) for review and approval by the Engineer, and implement water pollution prevention measures outlined in the approved WPCP, specified in this specification section, in Standard Specification Section 13, and the requirements of the National Pollution Discharge Elimination System (NPDES).
- C. The Contractor shall become fully informed of, and comply with the applicable Federal, State and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.
- D. Unless arrangements for disturbance of areas outside the project limits are made by the County and made part of the contract, it is expressly agreed that the County assumes no responsibility to the Contractor or property owner whatsoever with respect to any arrangements made between the Contractor and property owner to allow disturbance of areas outside the project limits.
- E. The Contractor shall be responsible for the costs and for any liability imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this section including, but not limited to, compliance with the applicable provisions of Federal, State and local regulations. For the purposes of this paragraph, costs and liabilities include but are not limited to fines,



penalties and damages whether assessed against the State or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act.

- F. Conformance with the requirements of this section "Erosion Control," shall not relieve the Contractor from the Contractor's responsibilities, as provided in Section 5-1.36, "Property and Facility Preservation," Section 7-1.05, "Indemnification," and Section 7-1.06, "Insurance," of the Standard Specifications.
- G. Earthwork construction activities shall be limited to summer months approximately from May 15 through October 15.
- H. Heavy equipment shall be placed outside of drainage channels except when necessary to perform the Work.
- I. Upon completion of construction activities, drainage channels shall be restored and re-contoured as nearly as practicable to pre-project conditions, and shall match adjacent natural channel contours.
- J. All cleared and grubbed materials shall be removed from the project sites and disposed of by the Contractor. Refer to Specification Section 02 41 10 "Demolition, Salvage and Abandonment" for additional details and requirements.

### 1.3 EROSION AND SEDIMENT CONTROLS

- A. The controls and measures required by the Contractor include but are not limited to the items below.
  - 1. Structural Practices: Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following devices.
    - a. Silt Fences. The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly placed and installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading). Silt fences shall be installed in the locations indicated on the drawings. Final removal of silt fence barriers shall be upon approval by the County.
    - b. Fiber Rolls (sediment logs or wattles): Contractor shall provide fiber rolls as temporary structural practice to minimize erosion and sediment runoff. Fiber rolls shall be properly placed and installed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in an area between a ridge and drain, fiber rolls shall be placed as work progresses; fiber rolls shall be removed/replaced/relocated as needed for work to progress in the drainage area). Areas where fiber rolls are to be used are shown on the Drawings. Final removal of fiber roll barriers shall be upon approval by the County. Fiber Rolls shall be provided as follows:
      - 1) Along the downhill perimeter edge of all areas disturbed.
      - 2) Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.
      - 3) Along the toe of all cut slopes and fill slopes of the construction areas.
      - 4) Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Rows shall be spaced a maximum of 100 feet apart.

- 5) Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Rows shall be spaced a maximum of 100 feet apart.
  - 6) At the entrance to culverts that receive runoff from disturbed areas.
- c. Diversion Dikes. Diversion dikes shall have a maximum channel slope of 2 percent and shall be adequately compacted to prevent failure. The minimum height measured from the top of the dike to the bottom of the channel shall be 18 inches. The minimum base width shall be 6 feet and the minimum top width shall be 2 feet. The Contractor shall ensure that the diversion dikes are not damaged by construction operations or traffic. Diversion dikes shall be located as shown on the Drawings.

#### 1.4 SUBMITTALS

- A. Prepare and submit a Water Pollution Control Program, including a minimum of one (1) 11"x17" figure showing the details of the water pollution control measures and Best Management Practices (BMPs) that will be implemented.
1. As part of the water pollution control work, a Water Pollution Control Program, hereafter referred to as the "WPCP," is required for this contract. The WPCP shall conform to the requirements in Section 13-2, "Water Pollution Control Program," of the Standard Specifications, the requirements in the Caltrans manuals, and these Construction Details.
  2. No work having potential to cause water pollution, as determined by the Engineer, shall be performed until the WPCP has been approved by the Engineer.
  3. Within 30 calendar days after the approval of the contract, the Contractor shall submit 3 copies of the WPCP to the Engineer. The Contractor shall allow ten (10) days for the Engineer to review the WPCP. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the WPCP within seven (7) days of receipt of the Engineer's comments and shall allow seven (7) days for the Engineer to review the revisions. Upon the Engineer's approval of the WPCP, 3 additional copies of the WPCP incorporating the required changes shall be submitted to the Engineer. Minor changes or clarifications to the initial submittal may be made and attached as amendments to the WPCP. In order to allow construction activities to proceed, the Engineer may conditionally approve the WPCP while minor revisions or amendments are being completed. The objectives of the WPCP shall be to identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and to identify, construct, implement and maintain water pollution control measures, hereafter referred to as control measures, to reduce to the extent feasible pollutants in storm water discharges from the construction site during construction under this contract.
  4. The WPCP shall incorporate control measures and minimum requirements in the following categories:
    - a. Soil stabilization practices;
    - b. Sediment control practices;
    - c. Wind Erosion Control practices;
    - d. Tracking control practices;
    - e. Non-storm water management and waste management and materials disposal control practices.
  5. Specific objectives and minimum requirements for each category of control measures are contained in the Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual.
  6. The Contractor shall consider the objectives and minimum requirements presented in the SWPPP-WPCP Preparation Manual for each of the above categories. When minimum requirements are listed for any category, the Contractor shall incorporate into the WPCP and implement on the project, one or more of the listed minimum controls required in order to meet the pollution control objectives for the category. In addition, the Contractor shall consider other control measures presented in the SWPPP-WPCP Preparation Manual and shall incorporate into the WPCP and implement on the project the control measures necessary to meet the objectives of the WPCP. The Contractor shall document the

selection process in accordance with the procedure specified in the SWPPP-WPCP Preparation Manual.

7. The following contract items of work, as shown on the project Plans, shall be incorporated into the WPCP as critical temporary control measures:
    - a. During construction and as part of the erosion control measures:
      - 1) Place silt fence 1' minimum beyond all grading limits.
      - 2) Place fiber rolls around all soil stock piles and at the grading limits.
      - 3) Place straw bales or rock bags around all storm drain inlets.
      - 4) The Contractor shall consider other control measures to supplement these critical temporary control measures when necessary to meet the pollution control objectives of the WPCP.
  8. The Contractor shall maintain and protect the temporary control measures throughout the duration of the project and shall restore these controls to the lines and grades shown on the Plans prior to acceptance of the project.
  9. The WPCP shall include, but not be limited to, the following items as described in the Handbook:
    - a. Project description and Contractor's certification;
    - b. Project information;
    - c. Pollution sources, control measures, and water pollution control drawings; and
    - d. Amendments, if any.
  10. The Contractor shall amend the WPCP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, or when deemed necessary by the Engineer. The WPCP shall also be amended if the WPCP has not achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved WPCP, which are required on the project to control water pollution effectively. Amendments to the WPCP shall be submitted for review and approval by the Engineer in the same manner specified for the initially approved WPCP. Amendments shall be dated and attached to the on-site WPCP document.
  11. The Contractor shall keep a copy of the WPCP, together with updates, revisions and amendments at the project site.
- B. Submit all product data, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- C. Product Data:
  1. Submit data for erosion control materials listed in this section indicating properties, test methods, and manufacturer's installation instructions.
- D. Material Source: Submit name of imported fill materials supplied.
- E. Manufacturer's Certificate: Submit Certifications that products meet or exceed specified requirements.

## PART 2 - PRODUCTS

### 2.1 TEMPORARY CONSTRUCTION FENCE

- A. General:
1. Fence height shall be 4 feet located from top of ground to top of fence.
  2. Fence shall extend from the top of ground. No gaps between the fence and the top of ground shall be permitted.

- B. Fabric:
  - 1. Fence material shall be plastic.
  - 2. Fence material shall be orange in color.
  - 3. Fence material shall be resistant to temperature change and shall be UV protected.
  
- C. Framing and Accessories:
  - 1. Provide posts and accessories necessary to erect fence in location desired.
  - 2. Posts shall be either fiberglass or steel, specifically made for the installation of fencing.
  - 3. Fencing shall be secured to the posts through the use of nylon ties or nylon wire (minimum 12 gauge). Steel wire shall not be used.

## 2.2 TEMPORARY SILT FENCES

- A. The filter fabric shall meet the requirements of Section 96-1.02B of the 2018 State Standard Specifications.
  - 1. Type: Nonwoven.
  
- B. Mill Certificate or Affidavit. A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above.
  
- C. The Contractor may use either wooden stakes or steel posts for silt fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot.

## 2.3 TEMPORARY FIBER ROLLS (sediment logs or wattles)

- A. Standard Specifications, Section 21-2.02P Fiber Rolls.
  - 1. Type A or Type B
  - 2. 8 – 10 inches in diameter, 10 – 20 feet long.
  
- B. Standard Specifications, Section 13-6.03E Temporary Fiber Rolls.
  
- C. The Contractor shall use wooden stakes for fiber roll installation. Wooden stakes utilized for fiber roll installation, shall have a minimum cross section of 1 inch by 2 inches, or as suggested by the fiber roll manufacturer.

## 2.4 EROSION CONTROL BLANKETS

- A. Standard Specifications, Section 21-2.02O Jute Mesh or Netting.

## 2.5 TEMPORARY COVERS

- A. Standard Specifications, Section 13-5.02F Temporary Covers.
  
- B. Standard Specifications, Section 88-1.02H Temporary Covers.

## 2.6 GRAVEL-FILLED BAGS

- A. Standard Specifications, Section 13-5.02G Gravel-Filled Bags.
  
- B. Standard Specifications, Section 96-1.02F Gravel-Filled Bags.

## 2.7 SEDIMENT FILTER BAGS

- A. Standard Specifications, Section 96-1.02G Sediment Filter Bag.

2.8 TEMPORARY HYDRAULIC MULCH

- A. Standard Specifications, Section 13-5.03E Temporary Hydraulic Mulch (Bonded Fiber Matrix).
- B. Standard Specifications, Section 13-5.03F Temporary Hydraulic Mulch (Polymer-Stabilized Fiber Matrix).

2.9 TEMPORARY TACKED STRAW

- A. Standard Specifications, Section 13-5.03H Temporary Tacked Straw.

2.10 TEMPORARY HYDROSEED

- A. Standard Specifications, Section 13-5.03I Temporary Hydroseed.

PART 3 - EXECUTION

3.1 GENERAL

- A. Upon approval of the WPCP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the control measures included in the WPCP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these construction details, the Contractor's responsibility for WPCP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 8 1.06, "Suspensions," of the Standard Specifications. Requirements for installation, construction, inspection, maintenance, removal and disposal of control measures are specified in the Handbook and these construction details.
- B. Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the duration of the project.
- C. Implementation of soil stabilization practices and sediment control measures for soil-disturbed areas of the project site shall be completed prior to the start of any other construction activities.
- D. Throughout the winter season, the active, soil-disturbed area of the project site shall be no more than 0.04 acres. The Engineer may approve, on a case-by-case basis, expansions of the active, soil-disturbed area limit. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control measures to protect soil-disturbed areas of the project site before the onset of precipitation. The Contractor shall maintain a quantity of soil stabilization and sediment control materials on site equal to 30 percent of that sufficient to protect unprotected, soil-disturbed areas on the project site and shall maintain a detailed plan for the mobilization of sufficient labor and equipment to fully deploy control measures required to protect unprotected, soil-disturbed areas on the project site prior to the onset of precipitation. The Contractor shall include a current inventory of control measure materials and the detailed mobilization plan as part of the WPCP.
- E. Soil-disturbed areas of the project site shall be considered to be non-active whenever soil disturbing activities are expected to be discontinued for a period of 10 or more days and the areas are fully protected. Areas that will become non-active shall be fully protected with soil stabilization practices and sediment control measures within 5 days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur.

- F. Active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control measures unless fair weather is predicted through the following work day. The weather forecast shall be monitored by the Contractor on a daily basis.
- G. The National Weather Service (<http://www.weather.gov/>) forecast shall be used. If precipitation is predicted prior to the end of the following work day, construction scheduling shall be modified, as required, and the Contractor shall deploy functioning control measures prior to the onset of the precipitation.
- H. The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the WPCP for sediment tracking, wind erosion, non-stormwater management and waste management and disposal.
- I. The Engineer may order the suspension of construction operations which create water pollution if the Contractor fails to conform to the requirements of this section "Erosion Control" as determined by the Engineer.

### 3.2 INSTALLATION OF TEMPORARY CONSTRUCTION FENCE

- A. Posts:
  - 1. Posts shall be installed plumb and in straight alignment.
  - 2. Posts shall be spaced every 6.5 feet maximum, unless otherwise approved by the Engineer.
- B. Fabric:
  - 1. Fabric shall be stretched taut between fence posts. Equal tension shall be applied so that fence remains straight and taut between posts.
  - 2. Install fabric on security side of fence and anchor to posts so that fabric remains in tension after pulling force is released.
  - 3. Fasten fabric to posts with nylon ties or nylon wire spaced 12 inches maximum.
- C. Maintenance:
  - 1. Fence shall not be allowed to be in disrepair. All breaks or tears in the fence fabric will be repaired immediately.
  - 2. All posts shall remain plumb and in straight alignment. All fallen posts shall be reset immediately.
  - 3. Contractor shall maintain temporary construction fencing in such a manner as to protect Work from damage and to protect the safety of the general public.
  - 4. No Contractor personnel or equipment shall be allowed outside of the fenced construction easement area.

### 3.3 INSTALLATION OF SILT FENCES

- A. Silt fences shall extend a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated 6 inches wide and 8 inches deep on the upslope side of the location of the silt fence. The trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the County
- B. Maximum spacing for post supports shall be 6 feet on center. Posts shall be buried 18 inches minimum and shall not exceed 36-inches above the ground surface.

### 3.4 INSTALLATION OF FIBER ROLLS (sediment logs or wattles)

- A. Fine grade the subgrade by hand dressing where necessary to remove local deviations and to remove larger stones or debris that will inhibit intimate contact of the fiber roll with the subgrade. Prior to roll installation, contour a concave key trench 2 inches deep along the proposed installation route. Soil excavated in trenching should be placed on the uphill or flow side of the roll to prevent water from undercutting the roll.
- B. Place fiber rolls into the key trench and stake through the roll within 6 feet of each end. Spacing for stakes shall be 3 to 5 feet. Stakes are typically driven in on alternating sides of the roll. Stakes shall be buried 12 inches minimum.
- C. When more than one fiber roll is placed in a row, the rows should be abutted securely to one another to provide a tight joint, not overlapped. Fiber rolls shall be placed in a single row, lengthwise on the contour, with ends of adjacent rolls tightly abutting one another.

### 3.5 INSTALLATION OF OTHER SEDIMENT AND EROSION CONTROLS

- A. Install other sediment and erosion controls in accordance with project WPCP and Standard Specification Section 13.

### 3.6 MAINTENANCE

- A. The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.
  - 1. Silt Fence Maintenance. Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be re-vegetated.
  - 2. Fiber Roll Maintenance. Fiber roll barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged rolls, end runs and undercutting beneath rolls. Necessary repairs to barriers or replacement of rolls shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Roll rows used to retain sediment shall be turned uphill at each end of each row. When a fiber roll barrier is no longer required, it shall be removed. The immediate area occupied by the roll and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be re-vegetated.

### 3.7 INSPECTIONS

- A. General. The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every seven (7) calendar days, within two (2) calendar days of forecasted rains, and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site.

Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

- B. Inspections Details. Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Storm Water Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.
- C. Inspection Reports. For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, maintenance performed, and actions taken. The report shall be furnished to the Engineer within 24 hours of the inspection as a part of the Contractor's work. A copy of the inspection report shall be maintained on the job site.

END OF SECTION



THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 33 20 00

LEACHATE UTILITIES

PART 1 GENERAL

1.1 DESCRIPTION

- A. Section includes: The Contractor shall provide all materials, equipment, and labor necessary to furnish and install all leachate pipe with all necessary fittings and coupling systems and all appurtenant work, complete and operable, including all connections as shown on the Drawings and as specified herein.
  
- B. Section includes:
  - 1. Leachate Piping.
  - 2. Couplings.
  - 3. Rubber Expansion Joints.
  - 4. Restrained Joints.
  - 5. Tracer Wire.
  - 6. Detectable Pipe Warning Tape.
  - 7. Bedding and Cover Materials.
  - 8. Valves.
  - 9. Air Release Valves.
  - 10. Pipe Hangers, Supports and Stem Guides.
  - 11. Flange Insulation Kits.
  - 12. Mechanical Seals and Water Stops.
  - 13. Non-shrink Grout.
  - 14. Pressure Gauges.
  - 15. Accessories.

1.2 RELATED WORK

- A. Contract General Conditions.
  
- B. Section 03 30 00 – Cast-In-Place Concrete.
  
- C. Section 31 01 40 - Shoring and Trench Safety.
  
- D. Section 31 23 00 - Trench Excavation and Backfill.
  
- E. Section 31 23 19 - Dewatering.

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. American Public Works Association (APWA)
  - 1. Uniform Color Code for Marking of Underground Utility Locations.
  
- B. American Society of Testing and Materials (ASTM)
  - 1. ASTM A193 – Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Special Purpose Applications
  - 2. ASTM A194 – Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both
  - 3. ASTM D3035 – Standard Spec for PE Pipe (DR-PR) Based on Controlled Outside Diameter

4. ASTM D3261-16 – Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
  5. ASTM D3350-21 – Standard Specification for Polyethylene (PE) Plastic Pipe and Fittings Materials
  6. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
- C. American Water Works Association (AWWA)
1. AWWA C906 – Polyethylene (PE) Pressure Pipe & Fittings, 4 inch through 63 inch for Water.

#### 1.4 QUALITY ASSURANCE

- A. Standards: The materials and work performed in this Section shall conform to the applicable standards of:
1. The American National Standards Institute (ANSI).
  2. The American Society for Testing and Materials (ASTM).
  3. American Water Works Association Inc. (AWWA).
  4. The National Sanitation Foundation (NSF).
  5. The American Society of Mechanical Engineers, Boiler and Pressure Vessel Code (ASME).
  6. Plumbing and Drainage Institute (PDI).
  7. Underwriters Laboratories Inc. (UL).
  8. Uniform Plumbing Code (UPC).
  9. National Fire Protection Association (NFPA).
  10. Factory Mutual Research Corporation (FMRC).
- B. Tests: All materials used in the manufacture of the pipe shall be tested in accordance with the requirements of AWWA and NSF-61, and the referenced standards, as applicable, in addition to national, local, and state codes.
- C. Contractor shall coordinate with and provide a minimum 48-hour notice to the County for all inspections.
- D. All costs of inspection and tests shall be borne by the Contractor.
- E. The pipe shall be subjected to the specified hydrostatic strength tests, flexure tests, and crushing tests. The crushing tests shall be made on samples taken from the center of full-length sections of pipe.
- F. Unless noted otherwise, all above ground piping and fittings shall be SST pipe or approved equal.
- G. All below ground piping shall be HDPE unless noted otherwise.
- H. Unless noted otherwise, all pipe and associated fittings exposed in vaults and transitioning between vaults and tank penetrations shall be SST or approved equal.
- I. The Contractor shall verify with the pipe manufacturer all connection details.
- J. Qualification of manufacturers:
1. The material shall be the product of a supplier regularly engaged in the manufacturing of pipe and plumbing products.
  2. All materials shall be new and of current manufacture and shall be guaranteed against defects or workmanship in accordance with the General Conditions.

- K. Qualification of installers:
  - 1. For the actual assembly, installation, and testing of the work in this Section, use only thoroughly trained and experienced personnel who are completely familiar with the requirements for this work and with the installation recommendations of the manufacturers of the specified items.
  - 2. In acceptance or rejection of installed materials, no allowance will be made for lack of skill on the part of installers.

#### 1.5 CONTRACTOR SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 00, "Submittal Procedures". Submit complete shop drawings including layouts, elevations, and details to the Engineer.
- B. Submit all product data, shop drawings, laboratory test results, material source information, and certificates of compliance listed in this Section under a single submittal cover for review. Incomplete submittals will not be reviewed.
- C. Material List:
  - 1. In accordance with the provisions of Section 01 33 00 "Submittal Procedures" of the Specifications, submit with the shop drawings a complete list of all materials and equipment proposed to be furnished and installed under this portion of the work, giving manufacturer's name, catalog number, and catalog cuts for each item where applicable.
- D. Manufacturers' Literature and Data (Submit all items as one submittal package for review):
  - 1. HDPE Pipe.
  - 2. Stainless Steel Pipe.
  - 3. Gaskets.
  - 4. Valves.
  - 5. Check Valves.
  - 6. Valve boxes.
  - 7. Joint restraint.
  - 8. Couplings.
  - 9. Rubber Expansion Joints.
  - 10. Detection Wire
- E. Testing Certifications:
  - 1. Hydrostatic Testing.
  - 2. Certification of Disinfection, including free chlorine residuals, and bacteriological examinations.
- F. Temporary Leachate Storage Plan: Submit plan outlining the steps that the Contractor will take to provide continuous leachate storage at each site.
- G. Manufacturer's recommendations:
  - 1. Accompanying the materials list and shop drawings, submit four copies of the manufacturer's current recommended method of installation.
- H. Certificates of Compliance: Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.
- I. Refer to Section 09 90 00 for paint and coating submittal requirements.

1.6 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

1.7 DELIVERY, STORAGE, AND HANDLING:

- A. Coated pipe shall be shipped on bunks, and secured with nylon belt tied down straps or padded banding located approximately over braces. Coated pipe shall be stored on padded skids, sand or dirt berms, sand bags, old tires or other suitable means so that coating will not be damaged. Coated pipe shall be handled with the wide belt slings, padded forks, or other means that will not damage the pipe or coating. Chains, cables or other equipment likely to cause damage to the pipe or coating shall not be used. Prior to shipment, the pipe shall be visually inspected for damage to the coating. Any damaged areas shall be repaired at the Contractor's expense in accordance with the standard to which the coating was applied.
- B. Deliver and store valves and other materials and appurtenances in shipping containers with labeling in place.

PART 2 PRODUCTS

2.1 GENERAL

- A. These Specifications are intended to be standard specifications and they may therefore contain specifications for materials not required for this project or allowed on any or various parts of it. Certain materials, which are applicable for only one portion or a small portion, may be shown on the plans and not particularly specified herein.
- B. All materials shall conform to sizes, capacity, quality and quantities as shown on the drawings or described in these Specifications. Materials shall be from new stock, delivered in good condition. No damage to stock shall be used.
- C. Where no method of tests for materials is specified, the latest applicable test specified by ASTM or AWWA shall be followed.
- D. After delivery to the site, all materials shall be carefully unloaded, protected against breakage, rusting, accumulation of foreign matter, disintegration, and injury. The Contractor shall be responsible for all lost or damaged material supplied and work done under this contract.

2.2 PIPING

- A. High Density Polyethylene Pipe (HDPE):
  - 1. Size: As shown on plans.
  - 2. Pipe: ANSI/AWWA C906
  - 3. Pressure rating: shall be 160 psi meeting the requirements of SDR 17 as a minimum strength.
  - 4. Materials: polyethylene pipe and fittings shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type III, Class C, Category 5, Grade P34 per ASTM D1238.
  - 5. Fittings:
    - a. Fittings shall be fully pressure rated to match the pipe SDR pressure rating to which they are made.
    - b. All fittings shall be molded or fabricated by the manufacturer. All fittings shall be installed using butt-fused fittings.

6. Joints:
    - a. Pipe shall be joined with butt, heat fusion joints as outlined in ASTM D2657 and conform to the Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe, Technical Report TR-33/2005, published by the Plastic Pipe Institute (PPI).
    - b. All joints shall be made in strict compliance with the manufacturer's recommendations.
    - c. A factory qualified joining technician as designated by pipe manufacturer or experienced, trained technician shall perform all heat fusion joints in the presence of the County's inspector.
  7. Pipe transitions:
    - a. Polyethylene flange adapters at pipe material transitions shall be backed up by stainless steel flanges conforming to ANSI B16.1 and shaped as necessary to suit the outside dimensions of the pipe. The flange adapter assemblies shall be connected with corrosion resisting bolts and nuts of Type 316 Stainless Steel as specified in ASTM A726 and ASTM A307. All bolts shall be tightened to the manufacturer's specified torques. Bolts shall be tightened alternatively and evenly. After installation, apply a bitumastic coating to bolts and nuts.
  8. Identification:
    - a. The following shall be continuously indent printed on the pipe or spaced at intervals not exceeding 5-feet:
      - 1) Name and/or trademark of the pipe manufacturer
      - 2) Nominal pipe size
      - 3) Dimension ratio
      - 4) The letters PE followed by the polyethylene grade in accordance with ASTM
      - 5) Manufacturing standard references as required
      - 6) A production code from which the date and place of manufacture can be determined
  9. Manufacturer: All HDPE pipe and fittings shall be from a single manufacturer, who is fully experienced, reputable and qualified in the manufacture of the HDPE pipe to be furnished.
    - a. JM Eagle
    - b. Approved equivalent.
- B. Stainless Steel Piping (SST):
1. General Service Piping:
    - a. Welded; comply with ASTM A813/A813M.
    - b. Class: SW; comply with ASTM A814/A814M.
  2. Schedule: 80S.
  3. Grade: Type 316L.
  4. Dimensions: As indicated in piping schedule.
  5. Fittings:
    - a. Piping 2 Inches and Smaller: Socket welding.
    - b. Piping 2-1/2 Inches and Larger: Flanged.
  6. Dimensions: Comply with ASTM A312/A312M.
  7. Threaded Fittings:
    - a. Comply with ASME B16.11 and ASTM A182.
    - b. Grade: Type 316L.
    - c. Threads: Comply with ASME B1.20.1.
  8. Butt-Welding Fittings:
    - a. Comply with ASTM A403/A403M.
    - b. Grade: Type 316L.
    - c. Class: CR; comply with ASME B16.9.
  9. Socket-Welding Fittings:
    - a. Comply with ASTM A403/A403M.

- b. Grade: Type 316L.
    - c. Class: WP; comply with ASME B16.11.
  10. Flanged Fittings:
    - a. Type: Threaded.
    - b. Class: 300.
    - c. Comply with ASTM A182/A182M.
    - d. Grade: Type 316L.
    - e. Facing and Drilling: Comply with ASME B16.5.
  11. Backing Flanges:
    - a. Material: Stainless steel.
    - b. Class: 150.
    - c. Comply with ASTM A351/A351M.
    - d. Type: Van stone.
    - e. Drilling: Comply with ASME B16.1.
  12. Flanged Connections:
    - a. As required to connect stainless-steel piping to fittings and equipment.
- C. Ethylene Propylene Diene Monomer (EPDM) Flexible Hosing
  1. Material-handling hose assemblies shall be made of EPDM tube and cover intended for use in extraction of bulk tank contents.
  2. Size: as shown on drawings
  3. Fitting Type: cam and groove C x cam and groove C
  4. Fitting Material: aluminum x aluminum
  5. Length: 20 feet
- D. Ductile Iron Fittings (below grade):
  1. Ductile iron: ANSI/AWWA C110/A21.10.
  2. Compact fittings ANSI/AWWA C153/A21.53.
  3. Coating and Lining:
    - a. Above Ground: Cement-mortar lining in accordance with AWWA-C104 and fusion-bonded epoxy coating in accordance with ANSI/AWWA C116/A21.16. Provide a polyurethane top coat on all above ground piping not made of stainless steel.
    - b. Below Ground: Cement-mortar lining in accordance with AWWA-C104, and an exterior bituminous coating in accordance with AWWA C203
    - c. Jackets for Below Ground: ANSI/AWWA C105/A21.5 polyethylene jacket.

## 2.3 COUPLINGS

- A. Restrained Coupling
  1. Manufacturers: Romac, Smith Blair, EBAA Iron, or approved equal.
  2. Type: AWWA C219, NSF 61 listed.
  3. Body: Ductile Iron; ASTM A536
  4. Bolts: 316 stainless steel.
  5. Coating: Fusion-bonded epoxy in accordance with ANSI/AWWA C116/A21.16, or approved equivalent.
  6. Pressure rating: meet or exceed adjacent piping system rating.
  7. System compatible with connecting pipe; verify connecting pipe O.D.
- B. Restrained Flange Coupling Adaptor
  1. Manufacturers: Romac, Smith Blair, EBAA Iron, or approved equal.
  2. System: restrain plain end of pipe to a flange, conforming to AWWA C110.
  3. Body: Ductile Iron; ASTM A536
  4. Bolts: 316 stainless steel,
  5. Coating: Fusion-bonded epoxy in accordance with ANSI/AWWA C116/A21.16, or approved equivalent.

6. Pressure rating: meet or exceed adjacent piping system rating.
7. System compatible with connecting pipe; verify connecting pipe O.D.

#### 2.4 FLEXIBLE EXPANSION JOINTS

- A. Material: Ductile iron conforming to the material requirements of ASTM A536 and ANSI/AWWA C153/A21.53.
- B. Function: Each flexible expansion joint shall consist of an expansion joint designed and cast as an integral part of a ball and socket type flexible joint, having a minimum per ball deflection of: 20° for sizes 4-inch through 12-inch. The flexible expansion fitting shall not expand or exert an axial imparting thrust under internal water pressure. The flexible expansion fitting shall not increase or decrease the internal water volume as the unit expands or contracts. The minimum total linear travel shall be 8-inches.
- C. Coatings: All internal surfaces (wetted parts) shall be lined with a minimum of 15 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C213. Sealing gaskets shall be constructed of EPDM. The coating shall meet ANSI/NSF-61.
- D. Linings: Exterior surfaces shall be coated with a minimum of 6 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C116/A21.16.
- E. Provide polyethylene sleeves, meeting ANSI/AWWA C105/A21.5, for direct buried applications.
- F. Testing and Certification: Each flexible expansion joint shall be pressure tested prior to shipment against its own restraint to a minimum of 350 PSI for 3-inch through 16-inch. A minimum 2:1 safety factor, determined from the published pressure rating, shall apply. Provide manufacturer's certification of compliance.
- G. Manufacturer:
  1. EBAA Iron, Inc. Force Balanced FLEX-TEND.
  2. Substitutions: Section 01 60 00 - Product Requirements.

#### 2.5 RUBBER EXPANSION JOINT

- A. Materials: Pure gum rubber, neoprene, Hypalon, viton-lined.
- B. Control Rods: Type 316 Stainless Steel
- C. Manufacturer:
  1. Red Valve Redflex J-1 Triple Arch Expansion Joint
  2. Substitutions: Section 01 60 00 - Product Requirements.

#### 2.6 TRACER WIRE

- A. Manufacturers:
  1. Pro-Line
  2. Substitutions: Section 01 60 00 - Product Requirements.
- B. Characteristics:
  1. Type: THWN
  2. Gage: No. 12
  3. Materials: Copper conductor, PVC insulation, nylon jacket.



## 2.7 WARNING TAPE

- A. Tape shall be an inert plastic film (non-metallic) formulated for prolonged underground use that will not degrade when exposed to alkalies, acids and other destructive substances commonly found in soil.
- B. Tape shall be puncture-resistant and shall have an elongation of two times its original length before parting.
- C. Tape shall be installed with the printed side up and run continuously along the entire length of the utility intended for identification. Tape shall be installed on the main piping and all appurtenant laterals, including blowoffs, air valve assemblies, fire hydrants, and services. Tape splices shall overlap a minimum of twenty-four (24) inches for continuous coverage.
- D. Tape shall be colored yellow to identify the leachate pipe with printed message: "Caution: Leachate Buried Below". Ink used to print messages shall be permanently fixed to tape and shall be black in color with message printed continuously throughout.
- E. Tape shall be minimum 0.004 inches (or 4 mil) thick x six (6) inches wide with a printed message on one side. Tape used with the installation of onsite potable shall be a minimum of three (3) inches wide.

## 2.8 BEDDING AND COVER MATERIALS

- A. Unless otherwise specified or shown, all material used for pipe embedment shall be as specified in Section 31 23 00, "Trench Excavation and Backfill."
- B. For pipe bedding and backfill, refer to Section 31 00 00, "Earthwork."

## 2.9 VALVES

- A. Resilient Wedge Gate Valves: AWWA C509.
  - 1. Body Material: ductile iron.
  - 2. Working Pressure: 250psig.
  - 3. Seat: Resilient.
  - 4. Stem: Non-rising bronze stem.
  - 5. Underground Installation: Operating Nut: 2-inch square; open counterclockwise unless otherwise indicated.
  - 6. Aboveground Installation: Hand wheel.
  - 7. Ends: Mechanical joint end connections for underground installation. Flanged joint end connections for aboveground installation.
  - 8. Coating: 12-mil holiday-free epoxy AWWA C550; interior/exterior.
  - 9. Bolting: 304 stainless steel
  - 10. Manufacturers:
    - a. Mueller Company
    - b. Clow Eddy - Iowa
    - c. American Flow Control
    - d. NIBCO
    - e. Substitutions: Section 01 60 00 - Product Requirements.
- B. Check Valves
  - 1. Size: Per plan.
  - 2. Type: In-line check, including isolation valve and strainer.
  - 3. Materials:

- a. Body: Lead-free Silicon Bronze alloy
  - b. Hinge Pin: Type 316 Stainless steel
  - c. Hing Pin Plug: Lead-free Silicon Bronze alloy
  - d. Bonnet: Lead-free Silicon Bronze alloy
  - e. Nuts: Type 316 Stainless steel
  - f. Disc Hanger: Lead-free Silicon Bronze alloy
  - g. Seat Disc Washer: Type 316 Stainless steel
  - h. Seat Disc: PTFE
4. Joints: Flanged
  5. Manufacturer:
    - a. Val-Matic
    - b. Substitutions: Section 01 60 00 - Product Requirements.

## 2.10 PIPE HANGERS, SUPPORTS AND STEM GUIDES

- A. Components:
  1. Pipe Supports: provide pipe support with saddle, U-bolt, gusset, pipe adjuster, base stand, expansion anchor bolts, and all other required installation hardware.
  2. Brackets and Stem Guides: provide brackets, stem guides, supports, bolts pipe clamps, and all other required installation hardware.
  3. Material: stainless steel.
- B. Manufacturer:
  1. B-Line.
  2. Waterman.
  3. Substitutions: Section 01 60 00 - Product Requirements.

## 2.11 FLANGE INSULATION KITS

- A. The Contractor shall provide a flange insulation kit for flanged connections between metallic pipes of dissimilar materials. Flange insulation kits shall be of the full face gasketed type and of material suitable for use with leachate.
- B. Manufacturer:
  1. Calpico, Inc.
  2. Substitutions: Section 01 60 00 - Product Requirements.

## 2.12 MECHANICAL SEALS AND WATERSTOPS

- A. Mechanical Seals:
  1. Description: Shall be modular, mechanical type for core drilled applications, consisting of inter-locking synthetic elastomeric rubber links shaped to continuously fill the annular space between the pipe and the wall opening.
  2. Seal Element: EPDM.
  3. Pressure Plates: Reinforced Nylon Polymer
  4. Bolts, Nuts and Hardware: 316 Stainless Steel.
  5. Manufacturer: Link-Seal.
  6. Substitutions: Section 01 60 00 - Product Requirements.
- B. Silicone Sealants: High-performance waterproof silicone sealant specifically designed for below grade and submerged applications.
- C. Waterstops:
  1. Manufacturer:
    - a. Volclay Waterstop-RX.

b. Substitutions: Section 01 60 00 - Product Requirements.

2.13 NON-SHRINK GROUT

- A. Pre-mixed ready for use formulation requiring only addition of water; non-shrink, non-corrosive, non-metallic, non-gas forming, no chlorides.
- B. Properties: Certified to maintain initial placement volume or expand after set and meet the following minimum properties when tested in accordance with CRD-C621, for Type D non-shrink grout:

Property	Test	Time	Result
Setting Time	ASTM C191	Initial	2 hours (Approx)
		Final	3 hours (Approx)
Expansion			0.10% - 0.4% Maximum
Compressive Strength	CRD-C621	1 day	4,000 psi
		7 days	7,000 psi
		28 days	10,000 psi to 10,800 psi

2.14 ACCESSORIES

- A. Valve Wrench
  - 1. Requirement: Provide one (1) manual valve operating wrench.
  - 2. Material: Powder-coated carbon steel.
  - 3. Size: 5 ft to 5.6 ft (minimum) adjustable for 2" AWWA valve operation nut
  - 4. Manufacturer:
    - a. Mueller
    - b. Pipeline Products SW-510
    - c. Reed Valve
    - d. Approved Equivalent
- B. Utility Locator
  - 1. Requirement: Provide one (1) electronic utility locator / detector capable of detecting buried utilities.
  - 2. Detection Depth: Up to 23 feet.
  - 3. Power: 50 Hz or 60 Hz mains electrical and harmonics (3 mA @ 1 meter).
  - 4. Radio: 15 kHz to 60 kHz (25 µA @ 1 meter).
  - 5. Display Panel: Color LCD.
  - 6. Keypad.
  - 7. Battery: 7.4V Li-Ion pack.
  - 8. Warranty: 3 years (minimum).
  - 9. Manufacturer:
    - a. Leica Model DD230 Smart Locator
    - b. Substitutions: Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

### 3.2 PREPARATION

- A. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs. Use only equipment specifically designed for pipe cutting. Use of chisels or hand saws will not be permitted. Grind edges smooth with beveled end for push-on connections.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare pipe connections to equipment with flanges or unions.

### 3.3 BEDDING AND BACKFILL

- A. For pipe bedding and backfill, refer to Section 31 00 00, "Earthwork".
- B. Maintain optimum moisture content of bedding material to attain required compaction density.

### 3.4 INSTALLATION - PIPE

- A. HDPE pipe shall be installed in accordance with the instructions of the manufacturer, as shown on the Drawings and as specified herein. A factory qualified joining technician as designated by the pipe manufacturer shall perform all heat fusion joints.
- B. Install pipe to indicated elevation to within tolerance of 5/8 inches.
- C. Install tracer wire on the top of installed non-metal pipe. Tape tracer wire to pipe at minimum 10 foot intervals.
- D. Route pipe in straight line.
- E. Install pipe with no high points. If unforeseen field conditions arise which necessitate high points, install air release valves as directed by Engineer.
- F. Install pipe to have bearing along entire length of pipe. Excavate bell holes to permit proper joint installation. Do not lay pipe in wet or frozen trench.
- G. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- H. Close pipe openings with watertight plugs during work stoppages.
- I. Form and place concrete for thrust restraints at each elbow or change of direction of pipe main.
- J. Establish elevations of buried piping with not less than 2 feet of cover unless noted otherwise on the Drawings. Measure depth of cover from final surface grade to top of pipe barrel.
- K. Install pipe warning tape continuous over top of pipe buried 12 inches below finish grade, above pipe line.

### 3.5 INSTALLATION - VALVES

- A. Gate Valves: Install valves per Plan.
  - 1. Set valves on solid bearing compacted soil unless noted otherwise per Plan.

- B. Check Valves: Install valves per Plan.
- C. Center and plumb valve box over valve. Set box cover flush with finished grade.
- D. Install tracer wire from pipe on both sides of valve on PVC riser and to within 2 inches of the top of the valve box.

3.6 PIPE SLEEVES:

- A. Install where pipelines pass through retaining walls, building foundations and floors. Seal with modular mechanical type link seal. Install piping so that no joint occurs within a sleeve. Split sleeves may be installed where existing lines pass through new construction.

3.7 THRUST RESTRAINT

- A. Install clamps, set screw retainer glands, or restrained joints. Protect metal restrained joint components against corrosion by applying a bituminous coating, or by concrete mortar encasement of metal area. Do not encase pipe and fitting joints to flanges.

3.8 METERS

- A. Install meter box and meter per Drawings.

3.9 HANGER AND SUPPORT INSTALLATION

- A. Pipe Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.

3.10 PRESSURE TESTING

- A. Prior to acceptance of the Work by the County, the Contractor shall perform pressure testing on the leachate piping systems in accordance with:
  - 1. AWWA C906 for Polyethylene pressure pipe.
  - 2. AWWA C220-98 Standard for Stainless-Steel Pipe, 4 inch and larger
- B. Prior to acceptance and initial operation, inspect and test the piping system to ensure that the design, materials, fabrication, and installation are in accordance with these specifications.
- C. Test piping prior to being enclosed, covered-up, or treated externally with insulation, tape wrapping, mastic coating, and like treatments, unless noted otherwise in other sections.
- D. When existing water mains are used to supply test water, they shall be protected from backflow contamination by temporarily installing a double-check-valve assembly between the test and supply main or by other approved means. Before pressure testing, the temporary backflow protection shall be removed and the main under test isolated from the supply main.
- E. Notify the Engineer at least 48 hours prior to testing, and conduct tests in the presence of Engineer.
- F. Piping systems shall show no pressure loss, unless noted otherwise, while being tested in accordance with this section. When leakage or other defects are located, repair or replace the affected portion of the piping system and retest. In the event repairs, replacement, or

additions are made following the pressure test, retest the affected piping. In the case of very minor repairs, replacement, or additions, the Engineer may, solely at its discretion, omit retesting provided precautionary measures are taken to assure sound construction.

- G. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at the Contractor's expense.
  
- H. General Test Procedures:
  - 1. All valves shall be in full-open position during the test. Do not include components (gauges, relief valves, instrumentation, and like items) as part of the tests that are not rated for the testing pressure.
  - 2. Do not attempt to modify a piping system when it is pressurized, including tightening leaking joints. Do not repair, replace, or retighten leaking joints or components until the pressure has been reduced to ambient level.
  - 3. Measure test pressure with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate the maximum test pressure. Record pressure loss due to leakage during the pressure test period while the system is pressurized but isolated from the pressure source.
  - 4. Test at a minimum of 150 percent of their maximum sustained working pressure using clean water. The test allowance shall not be less than the amount determined using AWWA C605 for any segment of pipe tested. The Engineer must witness hydrostatic testing. The test pressure shall be not less than the following values, irrespective of the design maximum allowable working pressure:
    - a. Maximum Sustained Working Pressure: 100 psi
    - b. Test Pressure: 150 psi (minimum)
    - c. Test duration: 2 hours (minimum)
  - 5. Prepare test records of inspection and tests performed. Indicate which portions of the piping system are in accordance these specifications. Briefly document test procedures, instruments and media used, and test pressures. Before requesting final approval of a piping installation, submit copies of test records for Engineer's approval.

### 3.11 FIELD QUALITY CONTROL

- A. Section 01 45 00 - Quality Control: Field inspecting, testing, adjusting, and balancing.
- B. Compaction Requirements: In accordance with Section 31 23 00.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at the Contractor's expense.

END OF SECTION

## SECTION 33 26 13

### BOLTED STAINLESS STEEL TANK FOR LEACHATE STORAGE

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Furnish all materials, equipment, tools, and labor necessary for the design, manufacture, erection, testing and acceptance of bolted stainless-steel tanks with a capacity of 200,000 gallons each.
- B. Related Sections:
  - 1. Section 03 30 00 – Cast-in-Place Concrete
  - 2. Section 33 20 00 – Leachate Utilities

##### 1.2 REFERENCES

- A. American Waterworks Association
  - 1. AWWA D103-19 – Bolted steel tank fabrication and erection
- B. California Building Code – CBC 2019
- C. American Society of Civil Engineers
  - 1. ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures

##### 1.3 QUALITY ASSURANCES

- A. Qualification of Fabricators:
  - 1. The materials shall be furnished by one supplier who is regularly engaged in the manufacture of bolted stainless-steel storage tanks and has experienced, factory-qualified representatives that can supervise the field assembly.
  - 2. All materials shall be new and of current manufacture and shall be guaranteed against defects in workmanship in accordance with other sections of these Specifications.
  - 3. Provide five-year manufacturer's warranty on the tank and appurtenances.
- B. Qualification of Installers:
  - 1. For the erection and testing of the work in this Section, use only thoroughly trained and experienced personnel who are completely familiar with the requirements for this work and with the installation recommendations of the manufacturer and these Specifications.
- C. Hydrostatic Testing
  - 1. Hydrostatic testing shall be performed in accordance with this Section. The County will furnish enough water for one (1) filling of each tank for testing and disinfection. The Contractor shall continuously monitor the filling operation to control the rate and level to avoid overflow.

## 1.4 SUBMITTALS

- A. General:
1. Make all submittals and resubmittals in strict accordance with the provisions of Section 01 33 00 Submittal Procedures.
  2. Make all submittals to fully describe what is to be furnished and/or installed under this Section.
  3. Submit to Engineer to check for compliance with the drawings and specifications prior to fabrication.
- B. Required Submittals:
1. Shop drawings: Within 30 days after award of contract and before any of the materials are delivered to the job site, submit complete Shop Drawings for the tanks, structural calculations, foundations and appurtenances under one submittal cover, stamped and signed by a licensed California Professional Structural or Civil Engineer.
- C. Detailed shop drawings shall include:
1. Concrete foundation, including rebar layout
  2. Plate thickness and width
  3. Number and size of structural members
  4. Construction and erection details of all accessories and related work
  5. Size and spacing of hold-down anchorages
  6. All other pertinent data concerning the construction of the tank
  7. Materials list: Submit a complete list of all materials and equipment proposed to be furnished and installed under this portion of the work.
  8. Manufacturer's recommendations: Submit two copies of the manufacturer's current recommended method of installation for the work in this section.
  9. At the conclusion of the tank fabrication and erection work, the Contractor shall submit a written report containing the information outlined in the AWWA D103-19.

## PART 2 MATERIALS

### 1.1 DESIGN CRITERIA

- A. General:
1. The stainless steel storage tanks shall meet the requirements of AWWA Specifications D103-19 and the 2019 California Building Code, and these shall be made a part of this Specification.
- B. Tank Criteria:
1. The tank dimensions are as follows:
    - 1) Inside diameter: 40'-0"
    - 2) Tank height: 27'-7" (to top of vertical shell plates)
  2. The overflow height and tank capacity:
    - 1) Overflow:
 

Guerneville	Roblar	Sonoma
23'-9"	23'-9"	21'-4"
    - 2) Tank capacity (gallons): 200,000 (minimum)



3. Provide a self-supporting roof with a slope of 1 inch in 12 inches without a center column.
4. Provide an exterior ladder with safety railing around the perimeter of the tank roof.
5. The tank details shall be designed to eliminate joints that will promote corrosion, pockets that will accumulate rainwater, and attachments to the shell which result in excessive localized stresses due to imposed loads.
6. All tank material shall be Type 316 stainless steel plates and fasteners.

C. Structural Design Criteria:

1. Roof Live Load: 20 psf (no reduction allowed)
2. Wind Velocity: 102 miles per hour
3. Snow Load: none
4. Lowest One-day Mean Temperature: 32°F
5. Corrosion Allowance: none
6. Roof Type: Self-supporting stainless steel
7. Concrete Compressive Strength: 4,000 psi
8. Steel Reinforcing Tensile Strength: 60,000 psi

D. Seismic Design Criteria:

Item	Guerneville	Roblar	Sonoma
Site Class	C	C	C
Response Modification Coefficient, R	3	3	3
Overstrength Factor, $\Omega_0$	2	2	2
Seismic Design Category	D	D	E
Seismic Use Group	II	II	II
Mapped Acceleration, $S_S$	1.50 g	1.50 g	2.52 g
Mapped Acceleration, $S_1$	0.60 g	0.60 g	0.97 g
Spectral Response Acceleration, $S_{DS}$	1.20 g	1.20 g	2.01 g
Spectral Response Acceleration, $S_{D1}$	0.56 g	0.56 g	0.90 g
Site Coefficient, $F_a$	1.2	1.2	1.2
Site Coefficient, $F_v$	1.4	1.4	1.4
Simultaneous Combination of Horizontal and Vertical Loads	Yes	Yes	Yes
Minimum Freeboard	3.9 feet	3.9 feet	6.3 feet
Roof Live Load for Seismic Design	20 psf	20 psf	20 psf

E. Tank Foundation Design Criteria:

Item	Guerneville	Roblar	Sonoma
Minimum Embedment	18 inches	18 inches	18 inches
Minimum Width	18 inches	18 inches	18 inches
Allowable Bearing Pressure	3,000 PSF (DL+LL) 4,000 PSF (W or E)	3,000 PSF (DL+LL) 4,000 PSF (W or E)	3,000 PSF (DL+LL) 4,000 PSF (W or E)
Base Friction Coefficient	0.35	0.35	0.35
Lateral Passive Resistance	350 PCF	350 PCF	350 PCF

- F. Accessories: All accessories shall be in accordance with AWWA D103-19, Cal OSHA, and the Division of Industrial Safety, and as shown on the Drawings or described below:
1. Ladders:
    - a. For the interior and exterior, Contractor shall furnish and install Type 316 stainless steel ladder.
    - b. The ladders shall begin at the ground or tank bottom and extend along the height of the tank to top of the tank or the hatch opening. Ladder rungs shall be one-inch diameter SLIPNOT skid resistant stainless steel or approved equal.
    - c. Security enclosure: provide stainless steel security enclosure and access gate per details and location shown on the Plans.
  2. Roof Hatch:
    - a. Contractor shall furnish and install weather-tight roof hatches as shown on the Drawings.
    - b. The cover shall have automatic hold-open arm, with compression spring operator for easy opening and closing, with inside and outside handles and locking hasp on the top side.
    - c. The hatch shall be Type 316 stainless steel.
    - d. Rubber gasket sealant shall be installed on roof hatches. The seal material should be suitable for use in leachate storage tanks.
    - e. Roof hatches shall be completely sealed against any water penetration.
    - f. Manufacturer:
      - 1) Bilco Company, New Haven Connecticut
      - 2) Approved equal.
  3. Vents:
    - a. Mushroom type vents shall be constructed and installed as shown on the Drawings and fitted with replaceable 2 x 2 (2 openings per linear inch) stainless steel backer mesh and #3 stainless steel insect mesh. The vent assembly shall be Type 316 stainless steel.
    - b. Type 316 stainless steel nuts and bolts shall be used to install roof vents and screens.
  4. Tank Inlet, Outlet, Drain, and Overflow Piping:
    - a. Tank piping connections shall be located as shown on the Drawings.
    - b. Stainless steel pipe for connections shall be at least 1/4-inch thick.

- c. All exposed metallic piping that is not stainless steel shall be coated with fusion bonded epoxy coating with urethane topcoat. Color by County.
- 5. Level Indicator:
  - a. Contractor shall furnish and install new leachate level indicator assembly as shown in the project plans with depths measured in 2-inch increments from empty to full. Leachate level indicator shall be at half scale.
  - b. The leachate level indicator assembly shall include a Type 316 stainless steel jacketed foam glass float, bottom anchor, top anchors, stainless steel guide wires and float cable, Type 316 stainless steel support brackets and gauge-board assembly, aluminum housing, 316 stainless steel trim, Teflon bearing sheave elbows, cable clamp, stainless steel indicator, cable fastener and gauge board connector.
  - c. Provide spring tensioners for tensioning guide wire for smooth operation.
    - 1) Manufacturer:
    - 2) LiquiLevel Industrial Series.
    - 3) Approved Equivalent.
  - d. Tie- off points:
  - e. Contractor shall install OSHA compliant tie-off points on the tank roof as shown in the Drawings.
- 6. Manways
  - a. Manways shall be 30-inch diameter clear opening and shall be located as shown on the Drawings.
  - b. Manway shall be inward opening with swing arm and include a cover plate and easy lock system.
  - c. Manway shall be installed and furnished per OSHA standards for drinking water storage tanks.
  - d. Nuts and bolts shall be Type 316 stainless steel.
  - e. Provide and install gasket suitable for leachate service.
  - f. Manufacturer:
    - 1) Chase Associates, Type CM-2 or Approved Equivalent
- 7. Sampling Ports
  - a. Install sampling ports and fittings on the tank per Drawings.
- 8. Handrail
  - a. Handrail shall be installed on tank roof as shown on Drawings. Handrail assembly shall meet all OSHA, Federal and State regulations and consist of Type 316 stainless steel.
- 9. Elastomeric Sealant/Adhesive
  - a. Sikaflex-1a.
  - b. Substitutions not permitted.
  - c. Gasketed joints not permitted.
- G. Tank Manufacturer:
  - 1. American Structures, Inc.
  - 2. United Industries Group, Inc.
  - 3. Tarsco Bolted Tank
  - 4. Approved Equivalent

## PART 3 EXECUTION

### 1.1 ERECTION, INSTALLATION, APPLICATION

- A. Field erection of bolted steel tanks shall be in strict accordance with the tank manufacturer's recommendations and instructions.
- B. Particular care shall be exercised in handling and bolting of the tank plates, supports, and members to avoid abrasion or scratching per manufacturer's recommendations.

### 1.2 FIELD QUALITY CONTROL

- A. Testing
  - 1. Hydrostatic Test:
    - a. Following completion of erection and cleaning of the tank, the tank shall be tested for liquid-tightness.
      - 1) Perform leak test of tank floor by vacuum method as described in AWWA D103-19.
      - 2) Perform leak test on roof by spraying the outside with potable water from a hose with a minimum 50 psig static head pressure at the nozzle. Monitor the inside of the roof for evidence of leakage.
      - 3) Perform leak test on tank by filling the tank with water to its overflow elevation and monitoring the level and water loss for a period of not less than five (5) calendar days.
    - b. Any leaks disclosed by these tank tests shall be corrected by the Contractor in accordance with the tank manufacturer's recommendations and AWWA D103-19.
- B. Inspection: The County's inspector shall be present for all testing

END OF SECTION

SECTION 40 72 00  
LEVEL INSTRUMENTATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes process instrumentation, instrumentation assemblies and instrumentation process fittings used throughout the project, including:
  - 1. Flow meter (hard wired and battery powered versions)
  - 2. Submersible pressure transducer
  - 3. Float switch
- B. Coordinate instrumentation requirements, including but not limited to ratings, system interface voltages, wiring requirements, termination and connection requirements to ensure compatibility between control panels, instrumentation, all connected devices and physical attachment requirements for a fully functional system
- C. Provide all fittings and associated fitting connections for mounting and connecting process instrumentation.
- D. Coordinate communication protocols to insure proper data transfer and compatibility between all connected devices.

1.2 SPECIAL REQUIREMENTS

- A. Controls and Instrumentation Integrator: A qualified integrator shall be within 100 miles of Project site; established principle address of business, and capable of providing parts, service and coordination of maintenance and repairs.
  - 1. Integrator shall specialize in the manufacturing and installing of Instrumentation and control systems specified in this section and elsewhere with minimum five (5) years documented experience.

1.3 REFERENCES

- A. NECA (National Electrical Contractors Association) Standard of Installation
- B. ASTM International (ASTM):
  - 1. A182, Standard Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service.
  - 2. A276, Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
  - 3. B32, Standard Specification for Solder Metal.
- C. Instrumentation, Systems, and Automation Society (ISA):
  - 1. S5.1, Instrumentation Symbols and Identification.
  - 2. PR12.6, Installation of Intrinsically Safe Systems for Hazardous Locations
  - 3. S5.4, Standard Instrument Loop Diagrams.

4. S20, Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves.
  5. S50.1, Compatibility of Analog Signals for Electronic Industrial Process Instruments.
- D. National Electrical Manufacturers Association (NEMA):
1. ICS 1, Industrial Control and Systems: General Requirements.
  2. ICS 2, Industrial Control Devices, Controllers and Assemblies.
  3. ICS 4, Industrial Control and Systems: Terminal Blocks.
  4. ICS 5, Industrial Control and Systems: Control Circuit and Pilot Devices.
  5. ICS 6, Industrial Control and Systems: Enclosures.
  6. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
- E. National Institute of Standards and Technology (NIST).

#### 1.4 DEFINITIONS

- A. Analog Signals: 4-20mA DC two-wire circuits conforming to ANSI/ISA S50.1
- B. Discrete Signals: Two state based logic signals that are either DC or 120-Vac
- C. I/O: Input and/or Output
- D. PLC: Programmable Logic Controller.

#### 1.5 SYSTEM DESCRIPTION

- A. Instrumentation: Provide sensor elements, transmitters, switches, actuated valve controllers, power and control devices, raceways, wiring, power circuits, control circuits, process tubing, process fittings, process connections and all appurtenances for controlling, monitoring and alarming of the various functions, for a complete and fully functional system.
- B. Provide instrumentation hardware, instrumentation installation, instrument calibration and third party verification of installed systems. Coordinate with other trades for installation and connection requirements.
- C. Where instrumentation is provided as part of a packaged system, coordinate the requirements specified for a complete operating system.
- D. Provide all wiring between field devices and control panels: Provide and terminate control and instrumentation cables for each piece of equipment and each device and test for proper operation.

#### 1.6 SUBMITTALS

- A. General Product Data:
  1. The Contractor shall be responsible for the accuracy and completeness of all aspects of the controls submittal.
    - a. Within thirty (30) days of the notice to proceed, provide Controls and Instrumentation Integrator qualifications.

- b. Within sixty (60) days of the notice to proceed, provide:
  - 1) Hardware product information submittal, including but not limited to product data sheets, shop drawings, related calculations, layout diagrams and interconnection diagrams.
  - 2) Power supply load calculations
  - 3) Interconnection diagrams.
  - 4) Testing Submittals: Indicate proposed testing procedures and methods, testing firm biography and contact information.
- B. All diagrams and drawings shall be provided as standard 11"x17" format at a scale that is readily legible and prepared to ANSI standards. Submit equipment layout, point-to-point wiring diagrams, interconnection wiring diagrams, equipment dimensions, support points, weights, and external power requirements.
- C. Product Data:
  1. Submit catalog data for each component being furnished showing operational characteristics and connection requirements, including supply voltage, frequency, electrical load, listed accuracies, description of operation, operating instructions, and calibration procedures.
  2. For measuring instruments and devices, submit completed ISA S20 forms for each device including device ratings, features, physical dimensions manufacturer's recommended upstream and downstream straight piping lengths, recommended location of any pressure taps and estimates of pressure losses through the device.
- D. Installation Method: The proposed method of mounting sensors and instruments shall accompany all shop drawings.
- E. Parts List: Submit a Parts List with current net prices and a list of recommended spares
- F. Coordinate and identify all interconnection wiring between installed control panels, motor control centers, field devices, and other devices.
- G. Factory Testing and Calibration: All measuring devices and meters shall be factory tested. Provide a certification of calibration from an independent test laboratory. Calibration curves based on factory and/or laboratory testing (see option below) shall be provided for the Engineer's review. Furnish calibration curves in units of output (inches or rpm / gpm) versus measured flow. Upon receipt of the Engineer's review, Contractor may release the meter(s) for shipment to the job site.
  1. As an option to laboratory testing each meter, the calibration curves of six (6) "like devices" may be substituted provided the calibration data is available from at least one identical device (pipe size, flow range, and type plus accessories such as extension registers).
- H. Test Documentation: Upon completion of each required test, document the test and submit a copy of the test procedures used with accompanying documentation indicating name of testing firm and name of person performing test.

## 1.7 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Include as-built layout diagrams, interconnection diagrams, cabling information, loop reports and component calibration sheets.
- B. Affidavits: Furnish affidavits from the manufacturers stating that the meters have been properly installed and tested, and each is ready for full time operation.
- C. Operation and Maintenance (O&M) Manuals:
  - 1. Furnish manufacturer's installation, lubrication, operation and maintenance manuals, bulletins, and spare parts lists.
  - 2. Submit bound copies of O&M manuals for each device, including project record documents, instructions for adjustments, calibration and preventative maintenance.
  - 3. Include copies of all submitted documentation in Adobe Acrobat PDF format, supplied on compact disc (CD) media format.

## 1.8 MAINTENANCE MATERIALS

- A. Provide any special tools or instrumentation necessary for normal operation and maintenance.
- B. Maintenance material shall be suitably packaged with labels indicating the contents of each package. The material shall be delivered to the County prior to system commissioning.

## 1.9 WARRANTY

- A. Furnish one (1) year manufacturer's warranty from date of substantial completion for defective parts and labor to install the part. Third party warranties shall not be acceptable.

## 1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver instrumentation and control devices individually wrapped for protection and in suitable packaging to protect against damage.
- B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect equipment from dirt, water, construction debris, and traffic. Provide space heaters if required, to prevent condensation and keep equipment dry.

## 1.11 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five (5) years experience.

## 1.12 FIELD MEASUREMENTS

- A. Verify field conditions, field measurements, connections, interface locations and interface requirements prior to installation.



## 1.13 COORDINATION

- A. Coordinate requirements and installation requirements of systems being interfaced with.
- B. Coordinate location of all field located equipment and instrumentation with other trades prior to commencing work.

## PART 2 PRODUCTS

### 2.1 FLOW COMPONENTS

- A. Flow Sensor and Monitor
  - 1. Meters shall consist of a combination of an AWWA Class II turbine meter for measuring high rates of flow and a nutating disc type positive displacement by-pass meter for measuring low rates of flow. An automatic valve shall direct flows through the disc meter at low flow rates and through the turbine meter at high flow rates. At high flow rates, the automatic valve shall also serve to restrict the flow through the disc meter to minimize wear.
    - a. The turbine measuring assembly shall be a self-contained unit, easily removable for servicing. The turbine meter's rotor spindle shall be stainless steel with a ceramic bearing and endstone. It shall conform to AWWA Standard C701.
    - b. The nutating disc chamber shall be a self-contained unit mounted in the by-pass housing and easily removable for servicing. It shall conform to AWWA Standard C-700.
      - 1) A strainer shall be provided for the disc meter. It shall be easily removable and have an effective straining area of at least double the disc meter inlet.
    - c. The automatic valve shall be of the spring loaded type and use resistance for operation. Only the cover must be removed to gain access to the valve for inspection or service.
  - 2. Size: As shown in the Contract Drawings
  - 3. Connections: flanged, per AWWA C702.
  - 4. Materials:
    - a. Casing: Type 316 stainless steel
      - 1) Size, model, manufacturer's trademark, and arrows indicating direction of flow shall be cast in raised characters on both sides of the maincase.
    - b. Cover: copper alloy, not less than 75% copper
      - 2) The size and arrows indicating direction of flow shall be cast in raised characters on the housing cover. Meter serial number shall be imprinted on the meter flange or cover.
    - c. Meter Housing: cast iron epoxy-coated
      - 1) Meters shall comply with the lead-free requirements as defined by the 2014 provisions of the Safe Drinking Water Act.
    - d. Register Box: enclosures, rings, and lids shall be made of engineering thermoplastic or other suitable synthetic polymer.
      - 1) Secured to the meter bayonet with a tamper resistant TORX® or proprietary seal screw.

- 2) Name of the manufacturer shall be permanently cast or molded in the lid of the register box. The lid and shroud shall be recessed and overlap the register box to protect the lens.
- 3) Serial number of the meter shall be imprinted on the lid.
- e. Automatic Valve: All valve parts shall be made of water works bronze, stainless steel, or a suitable polymer with a replaceable semi-hard rubber seal.
5. Separate high and low flow registers or encoders shall be provided in separate magnetic drive assemblies. Turbine and disc flow rates shall be totalized independently. Include output signal cables for remote display and data recording.
6. Field Testing: One horizontal 2" NPT tapped boss shall be provided on the detector check valve housing near the outlet for use during field performance testing purposes, as a tap for pressure recording or as a secured port for gathering health department samples.
7. Meter Performance:
  - a. Normal Operating Range: 2.5 – 4500 gpm
  - b. Maximum head loss at continuous flow (psi): 7
  - c. Maximum continuous (gpm): 3500
  - d. Maximum capacity (gpm): 4500
  - e. Extended low flow (gpm): 1.25
8. Manufacturer:
  - a. Rosemount Model # 8732EMT2M1KUM4 transmitter with Modbus Protocol
  - b. No substitutions.

## 2.2 LEVEL COMPONENTS

- A. Submersible Level Transmitter
  1. 0-30 psig (69.2 ft of water column)
  2. Sensing range 4-20mA
  3. Stainless Steel body and polyoxymethylene (POM) ported bullet nose cab
  4. ½" male NPT
  5. 100ft cable shielded and vented
  6. Manufacturer:
    - a. ProSense SLT Series model # SLT1-030-L100
    - b. No substitutions

## 2.3 Float Switches

- A. Description
  1. Liquid level sensing float-type switch, with restraint device to allow adjustment of contact elevation.
  2. All wetted parts of float shall be constructed from non-corrodible material, hermetically sealed and suitable for Class I, Division 1 hazardous environment.
  3. Output switch shall be of the mercury wetted contact type, capable of conducting a minimum of 5-Amps of current at 120-VAC.
  4. Switch contacts shall be form A or B, as required.
  5. Manufacturer:

- a. Anchor Scientific – Type S
- b. Flygt – ENM – 10
- c. Or approved equal

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Equipment Locations: The locations of equipment and instrumentation are approximate. The exact locations shall be governed by structural conditions, site conditions, and physical interferences of related systems.
  1. Install instrumentation so that access to device ports, enclosures and interface points are readily accessible.
  2. Where job conditions require changes in locations and arrangements, or when the County exercises the right to require changes in location of equipment that do not impact material quantities or cause material rework, Contractor shall make such changes without additional cost to the County.
- B. Install in accordance with NECA “Standard of Installation.”
- C. Install instrumentation plumb. Anchor and secure in accordance with manufacturer recommendations and as specified elsewhere.
- D. Install, calibrate and test individual components.
- E. Install instrumentation in accordance with manufacturer recommendations.
- F. Make electrical wiring interconnections.
- G. Install instrumentation nameplates.
- H. Provide grounding and bonding of instrumentation in accordance with manufacturer’s requirements and as specified elsewhere.

### 3.2 INSTRUMENTATION CALIBRATION

- A. General: Prior to commissioning, calibrate devices according to the manufacturer's recommended procedures to verify operational readiness and ability to meet the indicated functional and tolerance requirements.
- B. Calibration Points: Each instrument shall be calibrated at 20%, 40%, 60%, 80% and 100% of span using calibrated test instruments to simulate inputs. The test instruments shall have accuracies traceable to National Institute of Testing Standards.
- C. Bench Calibration: Instruments that have been bench-calibrated shall be examined in the field to determine whether any of the calibrations are in need of adjustment prior to commissioning.

- D. Field Calibration: Instruments that were not bench-calibrated shall be calibrated in the field to ensure proper operation in accordance with the instrument loop diagrams or specification data sheets.
- E. Calibration Tags: A calibration and testing tag shall be affixed to each piece of equipment or system indicating date and name of calibration firm. Calibration firm shall sign the tag when calibration is complete affirming calibration has occurred and is ready to be put into service.

### 3.3 ADJUSTING

- A. Each device shall be field tested, adjusted and tuned to operate with the process loop. Field test results shall be recorded and submitted to the County for their records.

### 3.4 FIELD TESTING AND COMMISSIONING

- A. Electrical Tests
  - 1. Insulation Tests
    - a. Perform resistance measurements through all bolted connections with low-resistance ohmmeter.
    - b. Measure insulation resistance of each control circuit-to-ground.
    - c. Perform an insulation resistance test at 1,000 volts dc on all control wiring. For units with solid-state components, follow manufacturer's recommendations.
  - 2. Test Values: Control wiring insulation test resistance shall be a minimum of two megohms.
  - 3. Check electrical circuits for continuity and for short circuits.
- B. Each hardwired point shall be tested and approved with a point verification test prior to the start of the operational tests.
  - 1. Point testing shall include point to point testing of all field connected devices and where modifications have been made to factory provided control panels.
  - 2. Point testing shall not occur until after calibration of devices has occurred.
  - 3. Make corrections and repairs where found prior to proceeding to operational testing.
- C. Operational Tests:
  - 1. Procedures, Forms, and Checklists:
    - a. Conduct all testing in accordance with, and documented on, Engineer accepted procedures, forms, and checklists.
    - b. Describe each test item to be performed.
    - c. Have space after each test item description for sign off by appropriate party after satisfactory completion.
  - 2. Each loop shall have a Loop Report to organize and track its inspection, adjustment, and calibration. Reports shall include the following information and checkoff items with spaces for comment and signoff by the contractor:
    - a. Project Name.
    - b. Component Identification.
    - c. Check offs/signoffs for each component.
      - 1) Tag/identification.

- 1) Installation.
  - 2) Termination-wiring.
  - 3) Termination-tubing.
  - 4) Calibration/adjustment.
  - d. Check offs/signoffs for the loop.
    - 1) Interface terminations.
    - 2) I/O signal operation.
      - a) Verified inputs/outputs operational. Sent/Received, processed, and adjusted.
    - 3) Total loop operational.
  3. Each active instrumentation element shall have a Component Calibration Sheet. Sheets shall have the following information, spaces for data entry, comments and signoff by the contractor:
    - a. Project Name.
    - b. Loop Number.
    - c. Component Identification.
    - d. Manufacturer.
    - e. Model Number/Serial Number.
    - f. Summary of Functional Requirements.
      - 1) For Indicators: Scale and ranges
      - 2) For Transmitters/Converters: Input and output ranges
      - 3) For Computing Elements: Function
      - 4) For Controllers: Action (direct/reverse) control modes (PID)
      - 5) For Switching Elements: Unit range, differential (FIXED/ADJUSTABLE), reset (AUTO/MANUAL)
    - g. Calibration Settings:
      - 1) For Analog Devices: Required and actual inputs and outputs at 0, 10, 50, and 100 percent of span, rising and falling
      - 2) For Discrete Devices: Required and actual trip points and reset points
      - 3) For Controllers: Mode settings (PID)
  4. Maintain Loop Reports and Component Calibration Sheets to jobsite and make them available to County.
  5. Verify manual operation of devices, where provided for correct operation.
  6. Make corrections and repairs where found prior to proceeding to functional performance testing.
- D. Functional Performance Testing:
1. Test procedures shall be developed and submitted for approval prior to commencing work and shall indicate comprehensive step-by-step procedures.
  2. Functional Performance Test shall not occur until after operational check, electrical checks and point testing has occurred.
  3. Verify sequence of operation including testing of safety controls, interposing controls, loop checks, alarm annunciation, remote annunciation, local control operation without automation, etc.
  4. Equipment to be tested shall include all installed systems.

### 3.5 DEMONSTRATION AND TRAINING

- A. Furnish eight (8) hours of instruction for Operators, to be conducted at project site with Controls and Instrumentation Integrator. Coordinate with County for times and dates of training. Training times and dates shall be as directed by the County.
  - 1. Demonstrate device operation and function.
  - 2. Identify project specific instrumentation and its function.
  - 3. Identify special features and interface points.
  - 4. Review standard maintenance practices and calibration procedures.

END OF SECTION



APPROVALS

COUNTY OF SONOMA

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

ENGINEER: GHD Inc.

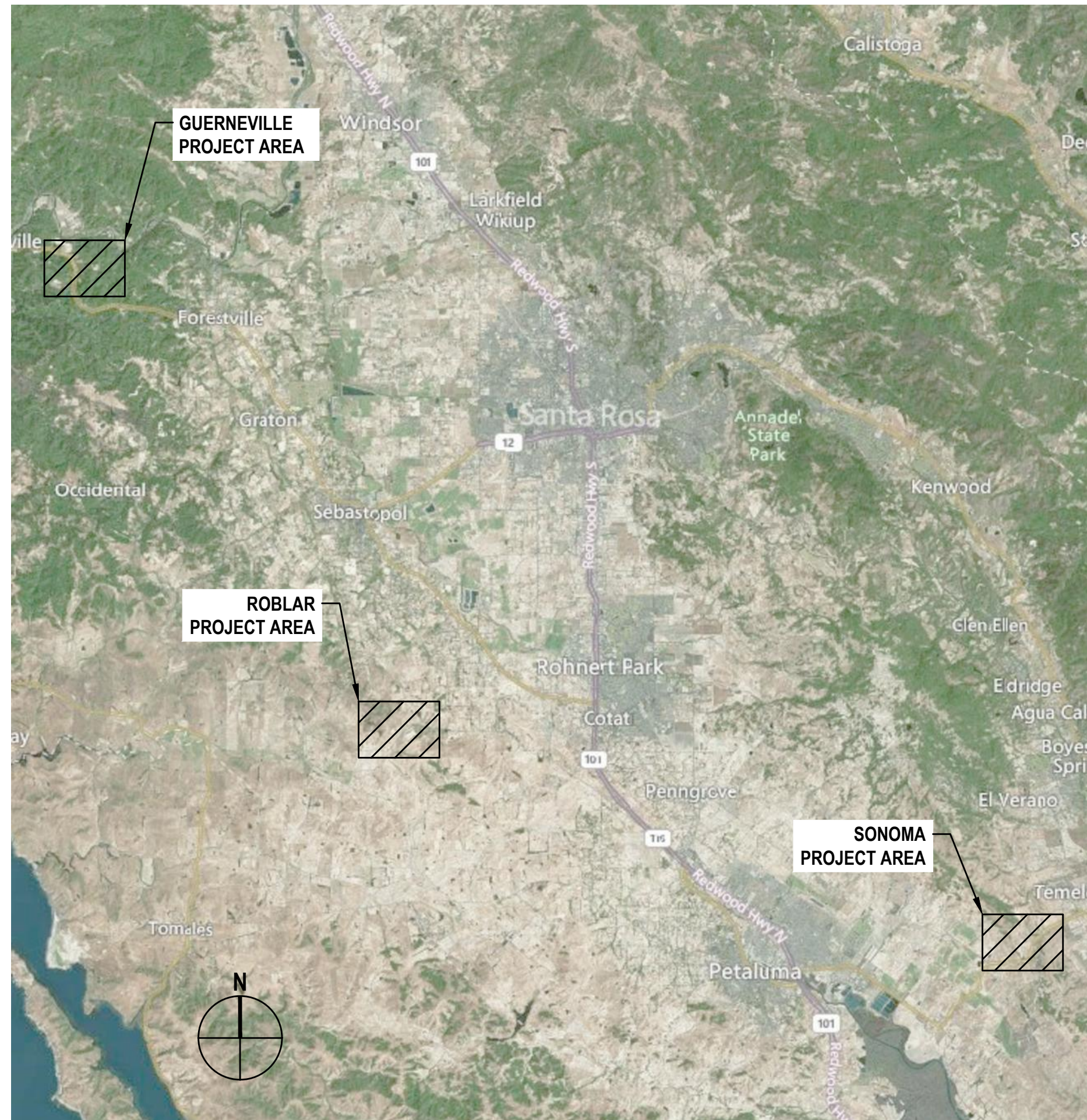
 SIGNED \_\_\_\_\_ DATE 1/13/2023

# COUNTY OF SONOMA LEACHATE TANK REPLACEMENT

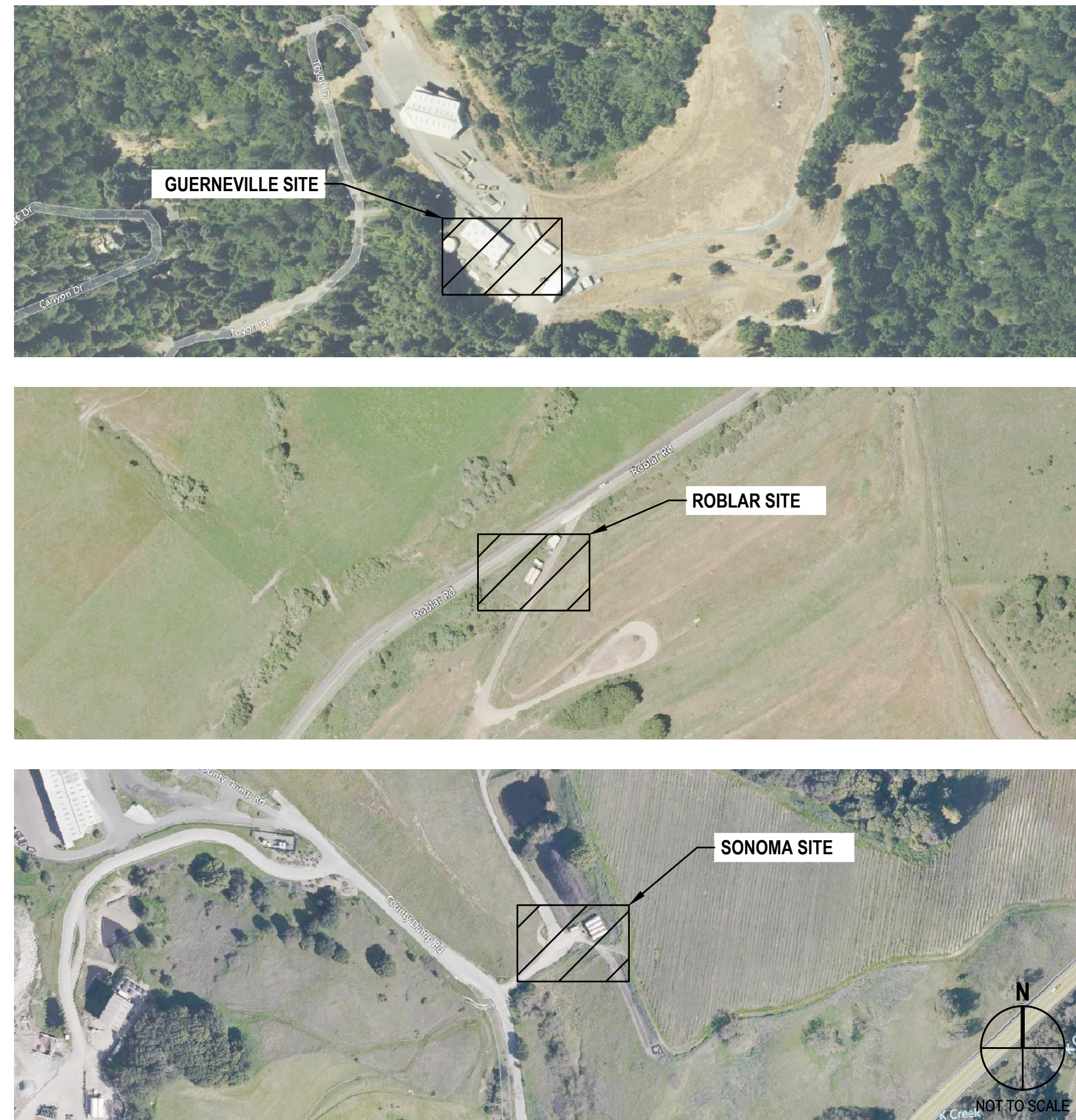
JANUARY 2023



AREA MAP



VICINITY MAP



SHEET INDEX

GENERAL

- 1 G-001 TITLE SHEET AND VICINITY MAP
- 2 G-002 LEGEND, ABBREVIATIONS AND GENERAL NOTES

CIVIL

- 3 C-001 GEOTECHNICAL BORING LOGS
- 4 C-101 EXISTING SITE PLAN AND SURVEY CONTROL - GUERNEVILLE SITE
- 5 C-102 SITE DEMOLITION PLAN - GUERNEVILLE SITE
- 6 C-103 SITE PLAN - GUERNEVILLE SITE
- 7 C-104 EXISTING SITE PLAN AND SURVEY CONTROL - ROBLAR SITE
- 8 C-105 SITE DEMOLITION PLAN - ROBLAR SITE
- 9 C-106 SITE PLAN - ROBLAR SITE
- 10 C-107 EXISTING SITE PLAN AND SURVEY CONTROL - SONOMA SITE
- 11 C-108 SITE DEMOLITION PLAN - SONOMA SITE
- 12 C-109 SITE PLAN - SONOMA SITE
- 13 C-501 EROSION CONTROL & DRAINAGE DETAILS
- 14 C-502 CIVIL DETAILS 1
- 15 C-503 CIVIL DETAILS 2

ELECTRICAL

- 39 E-001 ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES
- 40 E-101 ELECTRICAL DEMOLITION SITE PLAN - GUERNEVILLE SITE
- 41 E-102 ELECTRICAL SITE PLAN - GUERNEVILLE SITE
- 42 E-103 ELECTRICAL DEMOLITION SITE PLAN - ROBLAR SITE
- 43 E-104 ELECTRICAL SITE PLAN - ROBLAR SITE
- 44 E-105 ELECTRICAL DEMOLITION SITE PLAN - SONOMA SITE
- 45 E-106 ELECTRICAL SITE PLAN - SONOMA SITE
- 46 E-501 ELECTRICAL DETAILS
- 47 E-501 ELECTRICAL RISER DIAGRAMS AND SCHEDULES
- 48 E-502 ELECTRICAL SCHEDULES

STRUCTURAL

- 16 S-001 STRUCTURAL LEGEND, ABBREVIATIONS AND GENERAL NOTES
- 17 S-002 STRUCTURAL GENERAL NOTES
- 18 S-003 STATEMENT OF SPECIAL INSPECTIONS
- 19 S-004 TYPICAL STRUCTURAL DETAILS
- 20 S-101 TANK FOUNDATION PLAN - GUERNEVILLE SITE
- 21 S-102 TANK FOUNDATION PLAN - ROBLAR SITE
- 22 S-103 TANK FOUNDATION PLAN - SONOMA SITE
- 23 S-104 TANK ROOF PLAN - GUERNEVILLE SITE
- 24 S-105 TANK ROOF PLAN - ROBLAR SITE
- 25 S-106 TANK ROOF PLAN - SONOMA SITE
- 26 S-107 RETAINING WALL PLAN & ELEVATION - ROBLAR SITE
- 27 S-108 CONTAINMENT PAD PLAN AND SECTIONS - ALL SITES
- 28 S-301 TANK ELEVATION AND SECTION - GUERNEVILLE SITE
- 29 S-302 TANK ELEVATION AND SECTION - ROBLAR SITE
- 30 S-303 TANK ELEVATION AND SECTION - SONOMA SITE
- 31 S-304 TANK SECTIONS AND DETAILS - GUERNEVILLE SITE
- 32 S-305 TANK SECTIONS AND DETAILS - ROBLAR SITE
- 33 S-306 TANK SECTIONS AND DETAILS - SONOMA SITE
- 34 S-501 STRUCTURAL DETAILS 1
- 35 S-502 STRUCTURAL DETAILS 2
- 36 S-503 STRUCTURAL DETAILS 3
- 37 S-504 STRUCTURAL DETAILS 4
- 38 S-505 STRUCTURAL DETAILS 5

No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client	COUNTY OF SONOMA		
Project	LEACHATE TANK REPLACEMENT		
Project No.	12558724	Date	1/13/2023
Scale	AS SHOWN		

Title	TITLE SHEET AND VICINITY MAP		Size	ANSI D
Project No.	12558724	Sheet No.	01 of 48	
Drawing No.	G-001			



### GENERAL NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK. ANY DISCREPANCY DISCOVERED BY CONTRACTOR IN THESE PLANS OR ANY FIELD CONDITIONS DISCOVERED BY CONTRACTOR THAT MAY DELAY OR OBSTRUCT THE PROPER COMPLETION OF THE WORK PER THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY UPON DISCOVERY. SAID NOTIFICATION SHALL BE IN WRITING.
- CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO HOLD HARMLESS, INDEMNIFY AND DEFEND THE OWNER, ENGINEER AND THEIR CONSULTANTS, AND EACH OF THEIR OFFICERS, EMPLOYEES AND AGENTS.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO FACILITIES DURING CONSTRUCTION.
- UNDERGROUND OBSTRUCTIONS, NOT SHOWN ON THESE PLANS, MAY BE ENCOUNTERED. THOSE SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE AND THE CONTRACTOR IS CAUTIONED THAT THE OWNER, THE ENGINEERS, AND DISTRICT ASSUME NO RESPONSIBILITY FOR ANY OBSTRUCTIONS EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY COMPANIES WORKING WITHIN THE LIMITS OF THIS PROJECT.
- ALL UNDERGROUND IMPROVEMENTS SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO BACKFILLING TRENCHES AND EXCAVATIONS.
- ALL LANDSCAPING AND UTILITIES OR OTHER COUNTY OWNED OR PRIVATE IMPROVEMENTS DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED IN KIND OR AS DIRECTED BY THE COUNTY OR ENGINEER.
- A GEOTECHNICAL INVESTIGATION REPORT FOR THE PROJECT DATED JANUARY 2022, HAS BEEN PREPARED BY MILLER PACIFIC ENGINEERING CORP. AND IS AVAILABLE AS A REFERENCE DOCUMENT. THE SOIL BORINGS LOGS ARE INCLUDED AS PART OF THE CONSTRUCTION CONTRACT DOCUMENTS.
- ACCESS TO THE PROJECT SITE IS ACROSS LANDS OWNED BY THE COUNTY.
- ALL DISTANCES SHOWN ON THE DRAWINGS ARE BASED ON HORIZONTAL AND VERTICAL MEASUREMENTS.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
- EROSION CONTROL MEASURE SHOWN HERE ARE THE MINIMUM RECOMMENDED. THE CONTRACTOR SHALL ADHERE TO THE GSD/QSP SPECIFIC PLAN OF BMP'S (BEST MANAGEMENT PRACTICES) FOR THE PROJECT SITE APPROPRIATE TO THE PHASE OF CONSTRUCTION AND THE TIME OF YEAR.
- CONTRACTOR SHALL PROPERLY ADJUST THE VOLUMETRIC QUANTITIES OF CONCRETE DELIVERIES TO AVOID SPILLAGE ON STEEP SLOPES. ALL SPILLS SHALL BE REMOVED AND CLEANED IMMEDIATELY.
- FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION WILL BE ENFORCED IN ACCORDANCE WITH 2019 CBC AND CFC CHAPTER 33.
- IF CONTAMINATED SOIL IS ENCOUNTERED DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY COUNTY. AFTER CONTAMINATED SOIL IS ENCOUNTERED (OIL, PETROLEUM, HYDROCARBONS, SMELLS OR ODORS, OIL SHEET AT THE SURFACE) ALL CONTAMINATED SOILS WILL BE STOCKPILED ON AND COVERED WITH 10 MIL PLASTIC SHEETING.
- UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.
- (E) UTILITIES NOT DESIGNATED FOR REMOVAL MUST BE PROTECTED AND CONTINUOUS SERVICE MAINTAINED DURING THE CONTRACT. ANY TEMPORARY SHUT-DOWNS MUST BE COORDINATED WITH THE COUNTY.
- CONTRACTOR RESPONSIBLE FOR REPAIRING DAMAGE CAUSED FROM CONSTRUCTION.
- CONTRACTOR RESPONSIBLE FOR REMOVING AND DISPOSING OF MATERIAL OFF SITE.
- CONTRACTOR RESPONSIBLE FOR COORDINATING REMOVAL AND RELOCATION OF COUNTY STRUCTURES AND EQUIPMENT WITHIN PROJECT LIMITS.
- LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND SHALL POTHOLE FOR EXACT LOCATIONS.
- NOT ALL FITTINGS SHOWN. PROVIDE ALL FITTINGS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM.
- CONTRACTOR SHALL RESTORE STAGING AREAS WITHIN AND OUTSIDE OF CONSTRUCTION LIMITS TO PRE-CONSTRUCTION CONDITIONS.
- CONTRACTOR SHALL USE CAUTION TO PREVENT DAMAGE TO TANKS THAT MUST REMAIN IN SERVICE AND SHALL NOT INTERFERE WITH TANK AND LEACHATE SYSTEM OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND INTERFERENCE TO TANKS, AND LEACHATE SYSTEM OPERATIONS.

### EROSION CONTROL NOTES

- AT A MINIMUM, THE CONTRACTOR SHALL EMPLOY THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) AS DESCRIBED IN THE CURRENT CALIFORNIA STORMWATER BMP HANDBOOK FOR CONSTRUCTION (WWW.CASQA.ORG):
  - EC-1 SCHEDULING
  - EC-2 PRESERVATION OF EXISTING VEGETATION
  - EC-4 HYDROSEEDING
  - SE-1 SILT FENCE
  - SE-5 FIBER ROLLS
  - SE-10 STORM DRAIN INLET PROTECTION
  - WE-1 WIND EROSION CONTROL
  - NS-9 VEHICLE EQUIPMENT AND FUELING
  - NS-10 VEHICLE & EQUIPMENT MAINTENANCE
  - TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
  - TC-3 ENTRANCE/OUTLET TIRE WASH
  - WM-1 MATERIALS DELIVERY AND STORAGE
  - WM-2 MATERIAL USE
  - WM-3 STOCKPILE MANAGEMENT
  - WM-4 SPILL PREVENTION AND CONTROL
  - WM-5 SOLID WASTE MANAGEMENT
  - WM-8 CONCRETE WASTE MANAGEMENT
  - WM-9 SANITARY/SEPTIC WASTE MANAGEMENT
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MINIMIZE EROSION AND PREVENT THE TRANSPORT OF SEDIMENT TO SENSITIVE AREAS.
- SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
- MINIMIZE DISTURBANCE OF EXISTING VEGETATION TO THAT NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL MAKE ADEQUATE PREPARATIONS, INCLUDING TRAINING & EQUIPMENT, TO CONTAIN SPILLS OF OIL AND OTHER HAZARDOUS MATERIALS.
- ACTIVITIES SUCH AS VEHICLE WASHING ARE TO BE CARRIED OUT AT AN OFF-SITE FACILITY WHEREIN THE WATER IS DISCHARGED INTO A SANITARY SEWER.
- THE CONTRACTOR SHALL PROVIDE COVERED WASTE RECEPTACLE FOR COMMON SOLID WASTES AT CONVENIENT LOCATIONS ON THE JOB SITE AND PROVIDE REGULAR COLLECTION OF WASTES.
- THE CONTRACTOR SHALL PROVIDE SANITARY FACILITIES OF SUFFICIENT NUMBER AND SIZE TO ACCOMMODATE CONSTRUCTION CREWS AND ENSURE ADEQUATE ANCHORAGE OF SUCH FACILITIES TO PREVENT THEM FROM BEING TIPPED BY THE WEATHER OR VANDALISM.
- APPROPRIATE STORAGE AND DISPOSAL OF WATER FROM DEWATERING OPERATIONS SHALL BE EXERCISED IN THE EVENT THAT ACCUMULATED WATER MUST BE REMOVED FROM A WORK LOCATION.
- COVERED AND SECURED STORAGE AREAS FOR POTENTIALLY TOXIC MATERIALS SHALL BE PROVIDED. ALL HAZARDOUS MATERIAL CONTAINERS SHOULD BE PLACED IN SECONDARY CONTAINMENT.
- VEHICLE AND EQUIPMENT & MAINTENANCE SHOULD BE PERFORMED OFF-SITE WHENEVER PRACTICAL.
- SOIL STOCKPILES SHALL BE COVERED, AND LOCATED AT LEAST 50 FEET AWAY FROM DRAINAGE CHANNELS AND STORMWATER SYSTEMS.
- CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
- ALL SEDIMENT DEPOSITED ON PAVED SURFACES SHALL BE SWEEPED AT THE END OF EACH WORKING DAY, AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. A STABILIZED CONSTRUCTION ENTRANCE MAY BE REQUIRED TO PREVENT SEDIMENT FROM BEING DEPOSITED ON PAVED ROADWAYS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN ACCORDANCE TO THEIR RESPECTIVE BMP FACT SHEET UNTIL DISTURBED AREAS ARE STABILIZED.
- THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIX ANY DEFICIENCIES INDICATED BY THE OWNER'S REPRESENTATIVE TO PREVENT EROSION AND CONTROL SEDIMENT.
- PRIOR TO FINAL ACCEPTANCE ALL DISTURBED AREAS OF THE SITE SHALL BE PERMANENTLY STABILIZED WITH HYDROSEED BY CONTRACTOR AND TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE REMOVED AS DIRECTED.

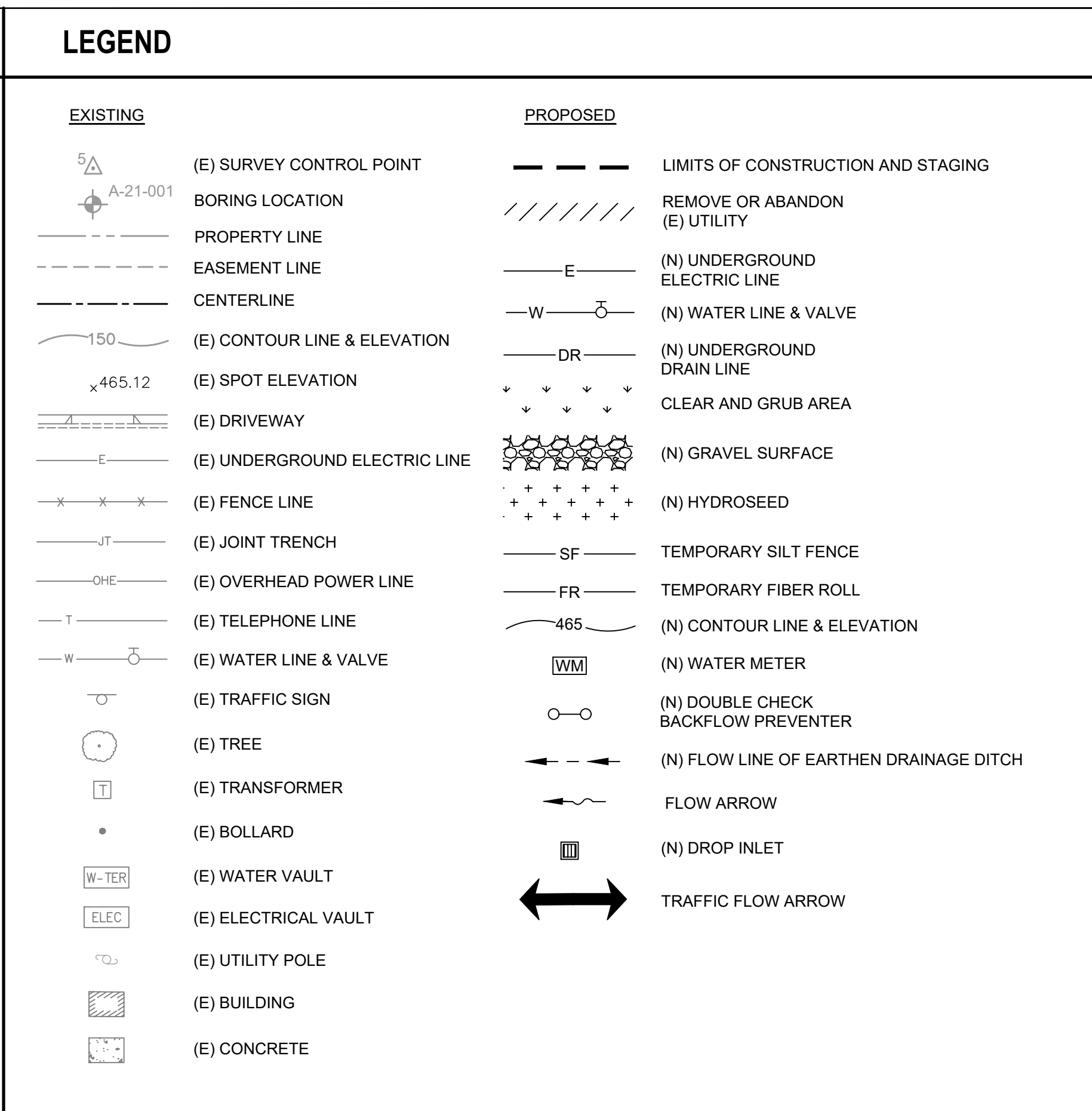
### GRADING NOTES

- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL FINISHED GRADES. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING. STAKING WILL BE REVIEWED BY OWNER FOR CONFIRMATION TO DESIGN PRIOR TO CONSTRUCTION.
- ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING WALLS AND DOORS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
- ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS.
- ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
- DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.
- COMPLETELY COVER ANY SOIL STOCKPILES WITH 10 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.
- CONTRACTOR TO INSTALL STRAW WATTLES AROUND STOCKPILE AND GRADED AREAS. CONTRACTOR TO SEED ALL DISTURBED AREAS WITH APPROVED NATIVE MIX AND APPLY STRAW.
- ALL BACKFILLS AND FILLS SHALL BE PLACED IN HORIZONTAL LIFTS NO MORE THAN 8 INCHES THICK MOISTURE CONDITIONED AND COMPACTED PER SPECIFICATIONS.
- ENGINEERED FILL MATERIALS SHALL CONSIST OF AN APPROVED AGGREGATE MIXTURE FREE OF VEGETATION, ORGANIC MATERIAL, RUBBISH AND/OR RUBBLE. A MAXIMUM PARTICLE SIZE OF 4 INCHES, A PLASTICITY INDEX LESS THAN 15 AND A LIQUID LIMIT LESS THAN 45. EXCEPT FOR CLAY SOILS, NATIVE SOILS MAY BE USED AS ENGINEERED FILL. SEE SPECIFICATIONS.
- FOUNDATION SUBGRADE PREPARATION WILL EXTEND A MINIMUM OF 5 FEET BEYOND THE PLANNED FOUNDATIONS IN ALL DIRECTIONS.
- GEOTECHNICAL ENGINEER OR REPRESENTATIVE SHALL INSPECT THE TANK FOUNDATION EXCAVATIONS PRIOR TO INSTALLATION OF NEW IMPROVEMENTS. PROVIDE MINIMUM 3 WORKING DAY NOTICE FOR INSPECTIONS.
- CONTRACTOR TO PROVIDE A EROSION AND SEDIMENT CONTROL PLAN APPROVED BY OWNER. SEE SPECIFICATIONS.
- ROOT BALLS, LOOSE SOIL OR ROCKS EXPOSED AT SUBGRADE SHALL BE REMOVED TO EXPOSE FIRM NATURAL SOILS OR BEDROCK. 5. THE OWNER OR THEIR REPRESENTATIVE SHALL INSPECT THE TANK FOUNDATION EXCAVATION PRIOR TO THE INSTALLATION OF NEW IMPROVEMENTS.
- MATERIAL REMOVED BELOW THE BOTTOM OF THE PROPOSED FOUNDATIONS SHALL BE REPLACED WITH ENGINEERED FILL.

### ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE	JB	JUNCTION BOX
AB	AGGREGATE BASE	LF	LINEAR FEET
AC	ASPHALT	MAX	MAXIMUM
APN	ASSESSORS PARCEL NUMBER	MH	MANHOLE
AWWA	AMERICAN WATER WORKS ASSOCIATION	MIN	MINIMUM
BFP	BACKFLOW PREVENTER	N	NORTH
BFP/VCV	BACKFLOW PREVENTION CHECK VALVE	(N)	NEW
BLDG	BUILDING	NG	NATURAL GROUND
BMP	BEST MANAGEMENT PRACTICE	OD	OUTSIDE DIAMETER
C	COLD WATER	OH	OVERHEAD
CB	CATCH BASIN	PE	PLAIN END
CDF	CONTROLLED DENSITY FILL	PGE	PACIFIC GAS AND ELECTRIC
CI	CAST IRON	PL	PLASTIC, PROPERTY LINE
CLR	CLEARANCE	POC	POINT OF CONNECTION
CMP	CORRUGATED METAL PIPE	PSI	POUNDS PER SQUARE INCH
CO	CLEANOUT	PVC	POLYVINYL CHLORIDE PIPE
COM, COMM	COMMUNICATION	RC	RELATIVE COMPACTION
CONC	CONCRETE	RCP	REINFORCED CONCRETE PIPE
COND	CONDUIT	RE	RIM ELEVATION
COR	CORNER	RWB	RETAINING WALL BOTTOM
CP	CONTROL POINT	RWT	RETAINING WALL TOP
		RWD	REDWOOD
DI	DRAIN INLET	S	SOUTH
DIA	DIAMETER	SCH	SCHEDULE
DIP	DUCTILE IRON PIPE	SD	STORM DRAIN
DN	DOCUMENT NUMBER	SDMH	STORM DRAIN MANHOLE
DR	DRAIN	SL	STREET LIGHT
DWG	DRAWING	SLB	STREET LIGHT BOX
DW	DRIVEWAY	SS	SANITARY SEWER
E	EAST	SSMH	SANITARY SEWER MANHOLE
(E)	EXISTING	STA	STATION
EB	ELECTRICAL BOX	STD	STANDARD
EG	EXISTING GRADE	SST	STAINLESS STEEL
ELEC	ELECTRIC	TB	TELEPHONE BOX, TOP OF BANK
ELEV	ELEVATION	TEL, TELE	TELEPHONE
EOR	ENGINEER OF RECORD	TOE	TOP OF GRATE
EP	EDGE OF PAVEMENT, END POINT	TOF	TOP OF BANK
ER	EDGE OF ROAD	TOF	TOP OF FOUNDATION
FCA	FLANGE COUPLING ADAPTER	TW	TOP OF WALL
FG	FINISH GRADE	TYP	TYPICAL
FH	FIRE HYDRANT	UG	UNDERGROUND
FL	FLOWLINE, FLANGE	UON	UNLESS OTHERWISE NOTED
FND	FOUND	V	VERTICAL
FM	FLOW METER	VAR	VARIES
FNL	FENCE LINE	W	WATER, WEST
FS	FINISH SURFACE	WB	WATER BOX
G	GAS	WM	WATER METER
GALV	GALVANIZED	WV	WATER VALVE
GB	GRADE BREAK		
GV	GAS VALVE		
H	HORIZONTAL, HOT WATER		
HDPE	HIGH DENSITY POLYETHYLENE		
HMA	HOT MIX ASPHALT		
ID	INSIDE DIAMETER		
INV, IE	INVERT ELEVATION		
IT	INFORMATION TECHNOLOGY		
(ITEM NO)	TITLE REPORT ITEM NUMBER		

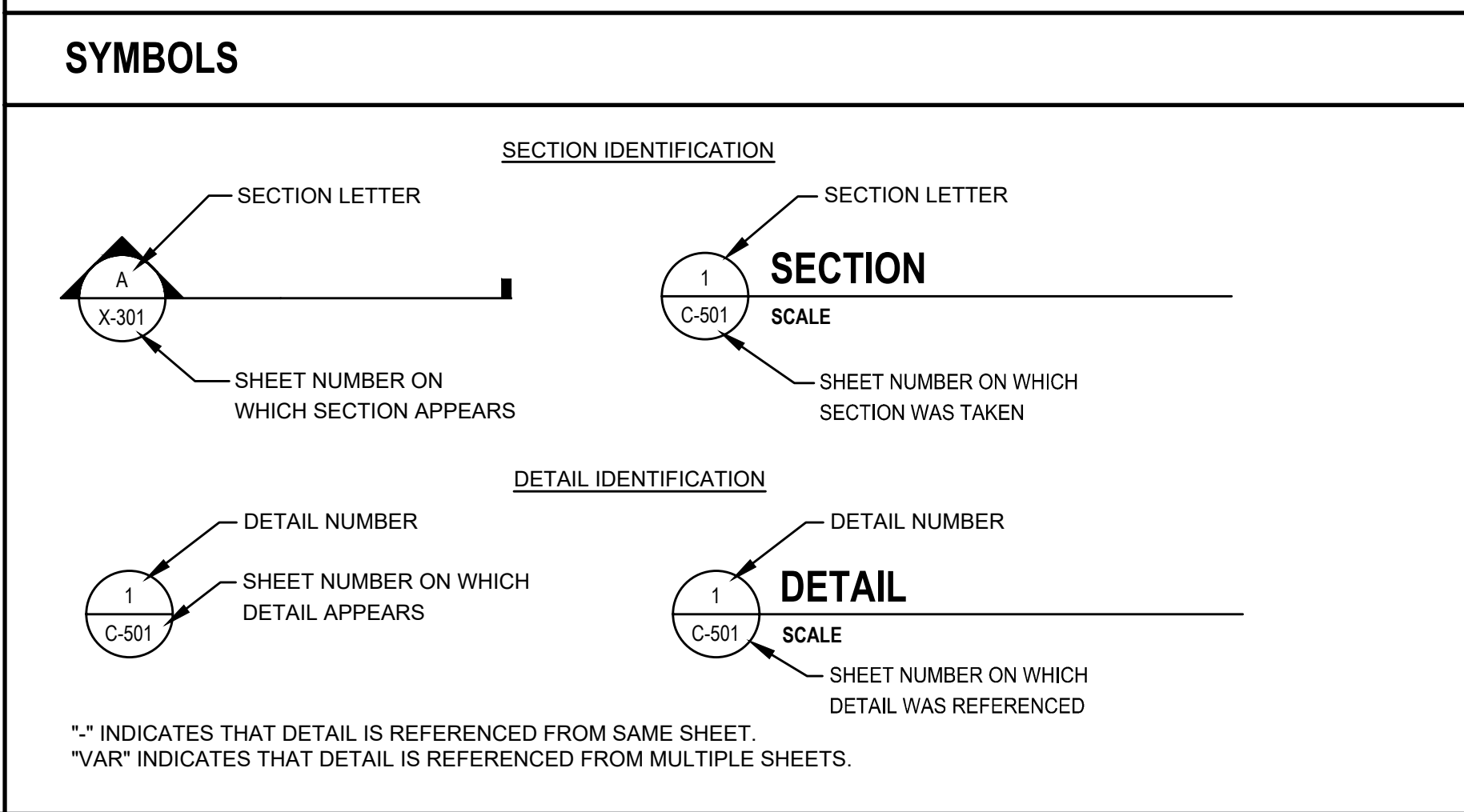
NOTE: SOME ABBREVIATIONS MAY BE USED IN COMBINATION



### DRAWING DESIGNATION

DESIGNATION	DISCIPLINE
G	GENERAL
C	CIVIL
S	STRUCTURAL
E	ELECTRICAL

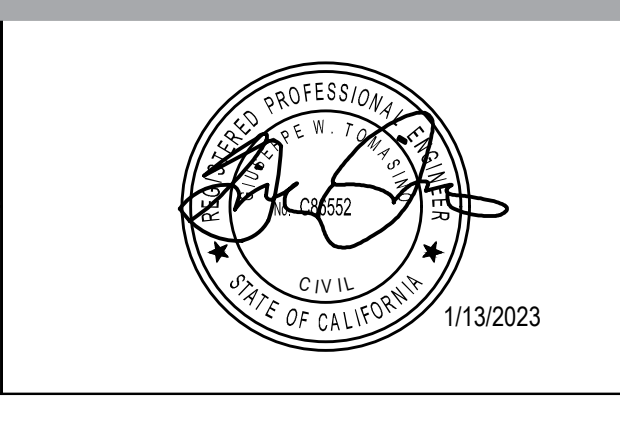
NUMBER	SHEET TYPE
000	GENERAL
100	PLANS
200	ELEVATIONS
300	SECTIONS
400	LARGE SCALE VIEWS
500	DETAILS
600	SCHEDULES AND DIAGRAMS
700	CODE COMPLIANCE FORMS



No.	Issue	Checked	Approved	Date
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director
			G. TOMASINO	

100% SUBMITTAL

Bar is one inch on original size sheet  
0 \_\_\_\_\_ 1"



GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client **COUNTY OF SONOMA**

Project **LEACHATE TANK REPLACEMENT**

Project No. **12558724**

Date **1/13/2023**

Scale **AS SHOWN**

Title **LEGEND, ABBREVIATIONS AND GENERAL NOTES**

Size **ANSI D**

Drawing No. **G-002**

Sheet No. **02 of 48**



BORING 1G		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/20/2021		ELEVATION: 482 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	2.0-Inches Aggregate Base rock								
0.5-1.0	Sandstone Medium to dark gray brown, friable, low hardness, highly weathered. [Bedrock]	50/2"							
1.0-1.5		75/5"		3.9					
1.5-2.0		50/4"		8.1					
2.0-6.5	Boring terminated at 6.5 feet. No groundwater encountered during exploration.								

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Guerneville Leachate Tank 13450 Pocket Drive Guerneville, California	MMT Checked	<b>A-3</b> FIGURE
---	---	-------------------	--	----------------	----------------------

FILENAME: 1206.192 Appendix A - Guerneville.dwg  
Project No. 1206.192 Date: 12/28/2021

BORING 1-R		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/18/2021		ELEVATION: 160 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	Sandy GRAVEL (GP) Medium gray, dry, medium dense, angular gravel, ~25-30% fine to medium grained sand. [Fill]	39/6"	116	6.4					
0.5-1.0	Sandstone Medium yellow brown, friable, crushed, low hardness, completely weathered. [Wilson Grove Bedrock]	32		5.7					
1.0-1.5		20	97	6.2	UC 320				
1.5-2.0		108		10.5	TXUU 3250				
2.0-3.0	grades medium brown mottled red and orange	22	71	14.5					
3.0-4.5	Claystone Medium dark blue gray, friable, low hardness, highly to completely weathered. [Wilson Grove Bedrock]	16	92	30.8	TXUU 1500				
4.5-6.0		60	103	22.3	UC 1840				
6.0-20.5	Boring terminated at 20.5 feet. Groundwater measured at 17.0 feet upon completion of exploration.								

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Roblar Leachate Tank Roblar Road Patatuma, California	MMT Checked	<b>A-3</b> FIGURE
---	---	-------------------	---	----------------	----------------------

FILENAME: 1206.192 Bl. Roblar.dwg  
Project No. 1206.192 Date: 12/27/2021

BORING 1-S		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/21/2021		ELEVATION: 249 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	Clayey SAND (SC) Medium to dark brown and gray, moist, medium dense, fine to coarse grained sand, ~30% gravel, ~35-40% medium plasticity clay. [Colluvium]	40	88	16.2	UC 770	P200	36.2%		
0.5-1.0	CLAY (CL) Dark brown, moist, stiff, medium to high plasticity clay, ~20% fine to medium grained sand. [Colluvium]	22							
1.0-1.5		10							
1.5-2.0	Tuff Blue gray brown, friable, low hardness, highly weathered. [Bedrock]	34	57	69.3	UC 2100	TXUU	2500		
2.0-3.0		19		59.2					
3.0-4.5		29		61.0					
4.5-17.5	Boring terminated at 17.5 feet. No groundwater encountered during exploration.								

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Sonoma Leachate Tank 4376 Stage Gulch Road Sonoma, California	MMT Checked	<b>A-3</b> FIGURE
---	---	-------------------	---	----------------	----------------------

FILENAME: 1206.192 Bl. Sonoma.dwg  
Project No. 1206.192 Date: 12/22/2021

BORING 2-S		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/21/2021		ELEVATION: 250 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	CLAY with Sand (CL) Medium dark brown, moist, very stiff, medium plasticity clay, ~20% fine to coarse grained sand. [Colluvium]	25	78	19.2					
0.5-1.0	Clayey SAND with Gravel (SC) Light to medium gray brown, dry, medium dense, fine to coarse grained sand, ~45-50% medium plasticity clay, ~20% gravel. [Colluvium]	25	65	24.5		P200	47.1%		
1.0-1.5		11		34.6					
1.5-2.0	CLAY with Sand (CL) Black, moist, medium stiff, medium plasticity clay, ~20% fine to coarse grained sand. [Colluvium]								
2.0-3.0	Tuff Medium brown, friable, crushed, low hardness, highly weathered. [Bedrock]	44	64	57.3	UC 1670				
3.0-4.5		26	62	62.3	UC 1450				
4.5-17.5	Boring terminated at 17.5 feet. No groundwater encountered during exploration.								

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Sonoma Leachate Tank 4376 Stage Gulch Road Sonoma, California	MMT Checked	<b>A-4</b> FIGURE
---	---	-------------------	---	----------------	----------------------

FILENAME: 1206.192 Bl. Sonoma.dwg  
Project No. 1206.192 Date: 12/22/2021

BORING 2G		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/20/2021		ELEVATION: 483 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	2.0-Inches Aggregate Base rock								
0.5-1.0	Sandstone Medium dark brown, friable, low hardness, highly weathered. [Bedrock]	50/6"	120	6.0					
1.0-1.5		50/5"		4.9					
1.5-6.5	Boring terminated at 6.5 feet. No groundwater encountered during exploration.	50/4.5"							

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Guerneville Leachate Tank 13450 Pocket Drive Guerneville, California	MMT Checked	<b>A-4</b> FIGURE
---	---	-------------------	--	----------------	----------------------

FILENAME: 1206.192 Appendix A - Guerneville.dwg  
Project No. 1206.192 Date: 12/28/2021

BORING 2-R		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/18/2021		ELEVATION: 167 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	Clayey GRAVEL with Sand (GC) Medium gray brown, dry to moist, medium dense, subangular gravel, ~30-35% fine to medium grained sand, ~10-15% low plasticity clay. [Fill]	30	103	13.7	UC 1730				
0.5-1.0	Sandstone Medium red brown mottled gray, friable, crushed, low hardness, moderately weathered. [Wilson Grove Bedrock]	25		14.2					
1.0-1.5		25	111	15.5	UC 320				
1.5-3.0	Claystone Dark medium gray, crushed, low hardness, friable, moderately weathered. [Wilson Grove Bedrock]	48	105	22.7	UC 2210				
3.0-4.5		51	97	21.7	UC 540				
4.5-15.5	Boring terminated at 15.5 feet. No groundwater encountered during exploration.								

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Roblar Leachate Tank Roblar Road Patatuma, California	MMT Checked	<b>A-4</b> FIGURE
---	---	-------------------	---	----------------	----------------------

FILENAME: 1206.192 Bl. Roblar.dwg  
Project No. 1206.192 Date: 12/27/2021

BORING 2 (CONTINUED)		EQUIPMENT: Track-Mounted Drill Rig with 4.0-inch Solid Flight Auger		DATE: 10/21/2021		ELEVATION: 250 - feet*		*REFERENCE: Google Earth, 2021	
DEPTH (meters/feet)	SAMPLE SYMBOL (4)	BLOWS / FOOT (1)	DRY UNIT WEIGHT (pcf) (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH (psf) (3)	OTHER TEST DATA		OTHER TEST DATA	
0-0.5	Tuff Medium brown, friable, crushed, low hardness, highly weathered. [Bedrock]	61	58	66.6	UC 890				
0.5-7.0		41		63.0					
7.0-23.0	Boring terminated at 23.0 feet. No groundwater encountered during exploration.								

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS (2) METRIC EQUIVALENT DRY UNIT WEIGHT  $kN/m^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$  (3) METRIC EQUIVALENT STRENGTH  $(kPa) = 0.0479 \times \text{STRENGTH (psf)}$  (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

Water level encountered during drilling  
Water level measured after drilling

<b>MILLER PACIFIC ENGINEERING GROUP</b>	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	<b>BORING LOG</b>	Sonoma Leachate Tank 4376 Stage Gulch Road Sonoma, California	MMT Checked	<b>A-5</b> FIGURE
---	---	-------------------	---	----------------	----------------------

FILENAME: 1206.192 Bl. Sonoma.dwg  
Project No. 1206.192 Date: 12/22/2021

**1 GUERNEVILLE BORING LOGS**  
SEE SHEET C-101

**2 ROBLAR BORING LOGS**  
SEE SHEET C-106

**3 SONOMA BORING LOGS**  
SEE SHEET C-111

No.	Issue	Checked	Approved	Date
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director
			M. KENNEDY	

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client	COUNTY OF SONOMA
Project	LEACHATE TANK REPLACEMENT
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	GEOTECHNICAL BORING LOGS - GUERNEVILLE SITE
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN
Drawing No.	C-001
Sheet No.	03 of 48



**SURVEY INFORMATION**

**BASIS OF BEARING:**

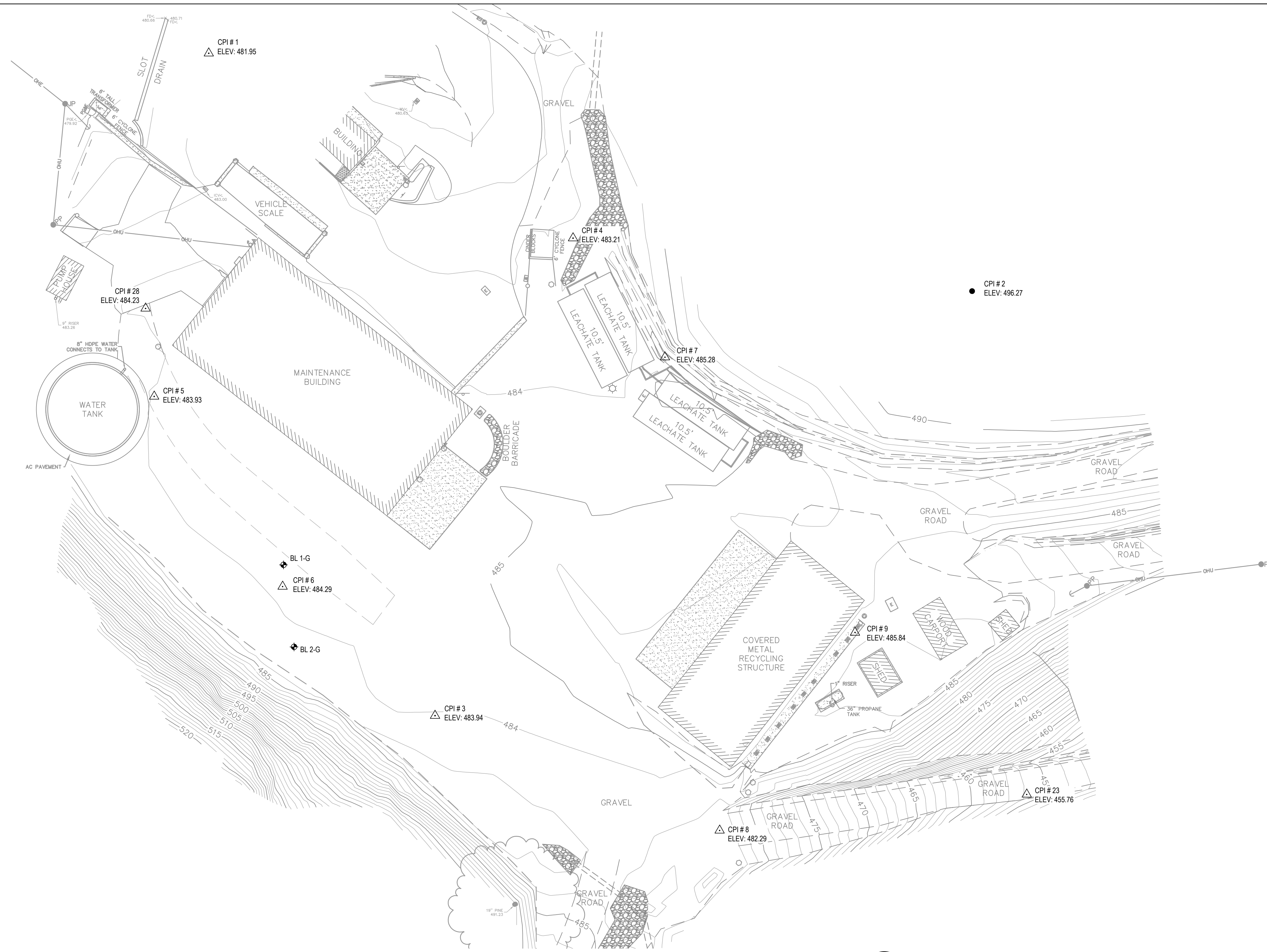
THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 2, NAD 83, EPOCH 2017.50 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATION P196 AND STATION P195, BEING A GRID BEARING OF NORTH 24°23'10" WEST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC).

**BENCHMARK:**

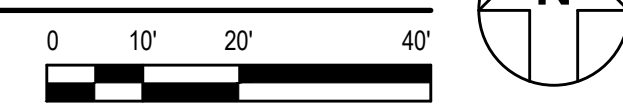
CINQUINI & PASSARINO CONTROL POINT NO. 2, BEING A FOUND CONTROL 3/4" IRON PIPE AS SHOWN HEREON.  
ELEVATION = 496.27' (NAVD 88)  
THE ORTHOMETRIC ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) AND WERE DETERMINED BY STATIC GPS TIES TO CGPS STATION P195 WITH A PUBLISHED ELLIPSOIDAL HEIGHT OF 483.292', IN ADDITION TO APPLYING THE NGS GEOID HEIGHT MODEL "GEOID2012B".

**SURVEY CONTROL TABLE**

POINT #	NORTHING	EASTING	ELEV	DESCRIPTION
1	1942567.351	6288796.653	481.95	SET CPI CTRL CUT 'X'
2	1942480.493	6289075.390	496.27	FND CTRL 3/4" IRON PIPE
3	1942325.503	6288879.290	483.94	SET CPI CTRL SPIKE 100d
4	1942499.848	6288929.688	483.21	SET CPI CTRL SPIKE 100d
5	1942442.051	6288776.731	483.93	SET CPI CTRL SPIKE d
6	1942372.627	6288823.626	484.29	SET CPI CTRL SPIKE d
7	1942456.378	6288963.243	485.28	SET CPI CTRL SPIKE 100d
8	1942283.580	6288983.205	482.29	SET CPI CTRL SPIKE 100d
9	1942355.874	6289032.648	485.84	SET CPI CTRL CUT 'X'
23	1942296.735	6289095.352	455.76	SET CPI CTRL SPIKE 60d
28	1942474.180	6288773.588	484.23	SET CPI CTRL MAG NAIL
BL 1-G	1942380.559	6288823.943	484.48	BORING LOCATION
BL 2-G	1942350.623	6288827.812	483.65	BORING LOCATION



**EXISTING SITE PLAN AND SURVEY CONTROL**



No.	Issue	Checked	Approved	Date
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director
			G. TOMASINO	
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

Title **EXISTING SITE PLAN AND SURVEY CONTROL – GUERNEVILLE SITE**  
Drawing No. **C-101**  
Sheet No. **04 of 48**

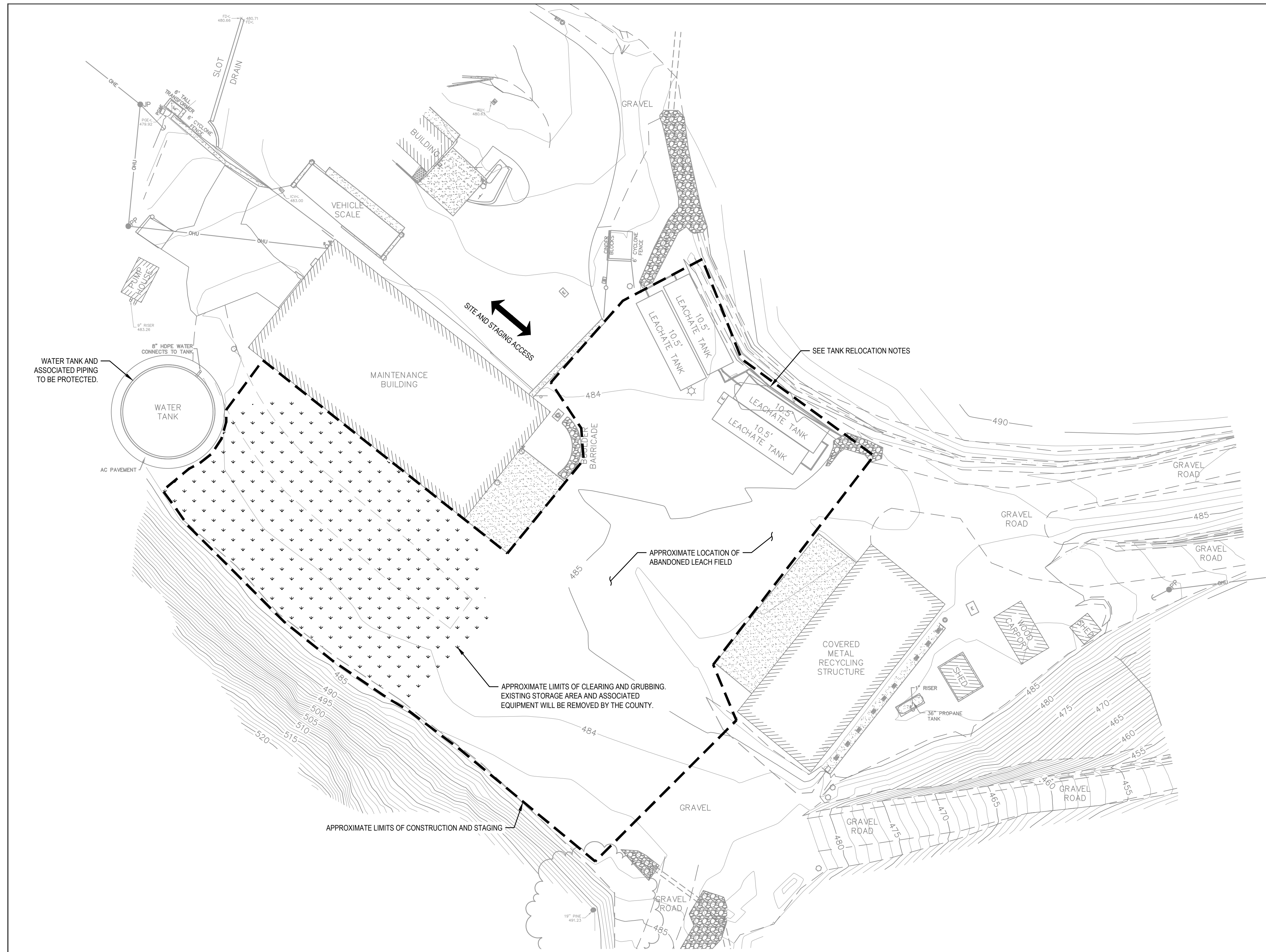


**GENERAL NOTES**

- (E) UTILITIES NOT DESIGNATED FOR REMOVAL MUST BE PROTECTED AND CONTINUOUS SERVICE MAINTAINED DURING THE CONTRACT. ANY TEMPORARY SHUT-DOWNS MUST BE COORDINATED WITH OWNER.
- REMOVAL AND RELOCATION OF THE (E) LEACHATE TANKS SHALL BE PHASED TO MAINTAIN UNINTERRUPTED STORAGE OF LEACHATE DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR (E) LEACHATE TANK REMOVAL AND RELOCATION AS DIRECTED BY OWNER.
- CONTRACTOR TO INSTALL CONCRETE WASHOUT PER DETAIL 4 SHEET C-501.
- LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND SHALL POT HOLE FOR EXACT LOCATIONS.
- CONTRACTOR SHALL USE CAUTION TO PREVENT DAMAGE TO TANKS THAT MUST REMAIN IN SERVICE AND AVOID INTERFERENCE WITH TANK AND LEACHATE SYSTEM OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND INTERFERENCE TO TANKS, AND LEACHATE SYSTEM OPERATIONS.

**TANK RELOCATION NOTES**

- EXISTING LEACHATE SYSTEM TO BE UNINTERRUPTED DURING CONSTRUCTION.
- CONTRACTOR TO SALVAGE (E) MAG METER AT (E) LEACHATE TANKS FOR RE-USE.
- CONSTRUCTION OF NEW TANKS AND NEW FILL STATION TO BE INSTALLED PRIOR TO DRAINING EXISTING TANKS AND SALVAGING EXISTING FLOW METER FOR INSTALLATION AS SHOWN ON SHEET C-105.
- TANKS TO BE DRAINED BY OWNER BEFORE TIE IN WITH EXISTING LINE.
- EXISTING TANKS TO REMAIN ON SITE.



**SITE DEMOLITION PLAN**

0 10' 20' 40'

No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	STP	Project Manager
Designer	GWT	Design Check	MGK	Project Director
				G. TOMASINO
				M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet

0 1"



**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



Client **COUNTY OF SONOMA**

Project **LEACHATE TANK REPLACEMENT**

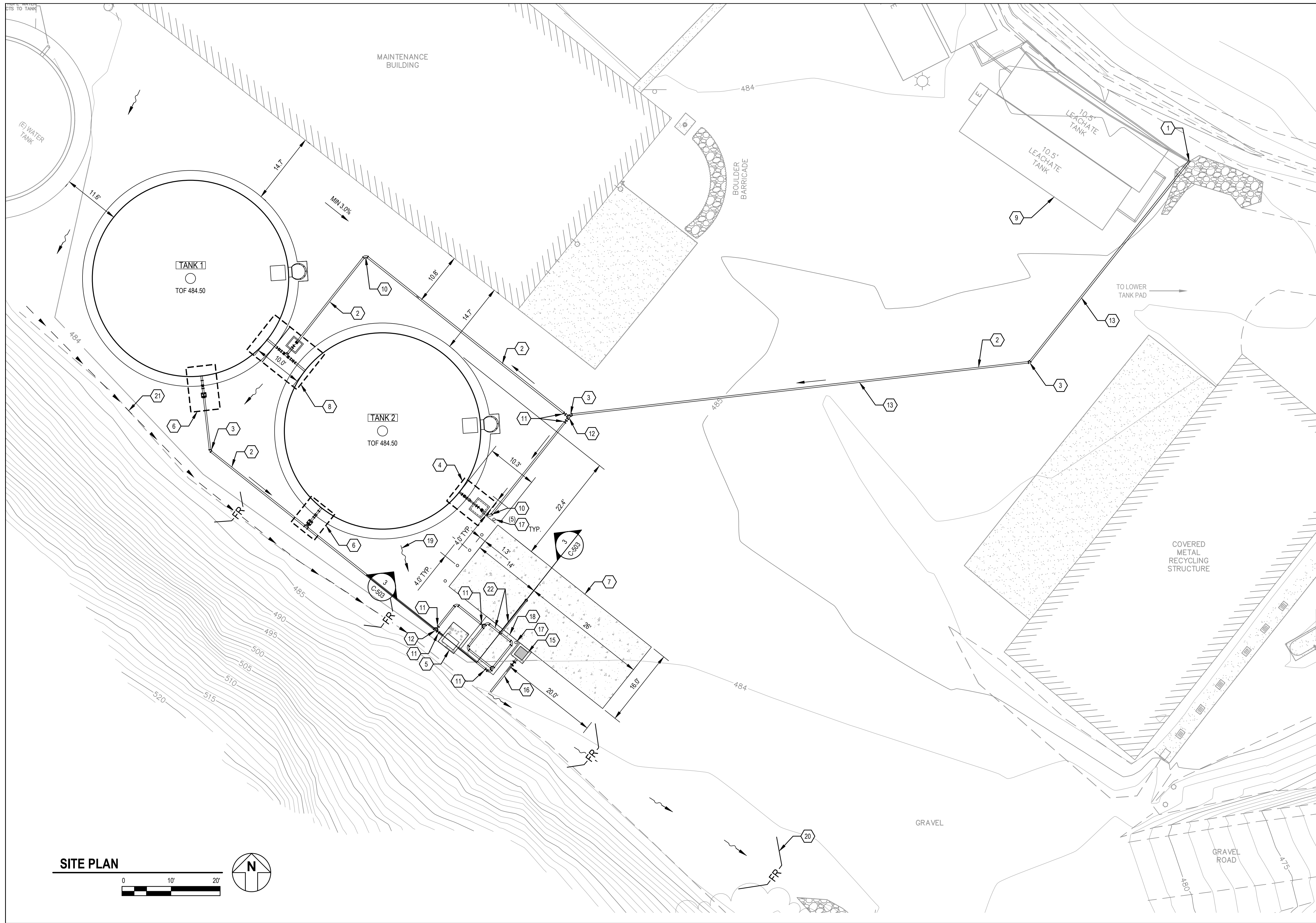
Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

Title **SITE DEMOLITION PLAN - GUERNEVILLE SITE**

Size **ANSI D**

Drawing No. **C-102** Sheet No. **05 of 48**





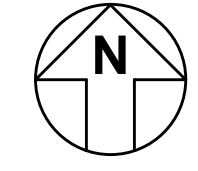
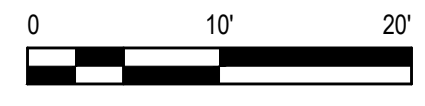
**GENERAL NOTES**

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND SHALL POTHOLE FOR EXACT LOCATIONS.
2. NOT ALL FITTINGS SHOWN. PROVIDE ALL FITTINGS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM.

**KEYNOTES**

1. CONNECT TO EXISTING 4" HDPE FILL LINE PER SPECIFICATIONS. CONTRACTOR TO PROVIDE NECESSARY FITTINGS.
2. (N) 4" HDPE PIPE. MAINTAIN CONTINUOUS UPWARD SLOPE TOWARD TANKS.
3. (N) 4" 45° DI ELBOW.
4. (N) 4" TANK INLET, SEE DETAIL 1 SHEET C-502.
5. (N) CAL WEST RAIN CUSTOM PUMP, FLOW METER AND BACKFLOW PREVENTION ASSEMBLY OR APPROVED EQUAL, ANCHORED TO PAD PER DETAIL 2, SHEET S-004 PER MANUFACTURER REQUIREMENTS.
6. (N) 4" TANK OUTLET, SEE DETAIL 2 SHEET C-502.
7. (N) 16" X 40" CONTAINMENT PAD PER DETAIL 1 SHEET S-108.
8. (N) TANK INTERTIE, SEE DETAIL 3 SHEET C-502.
9. RELOCATION OF THE EXISTING LEACHATE TANKS SHALL BE PHASED TO MAINTAIN UNINTERRUPTED STORAGE OF LEACHATE DURING CONSTRUCTION. SEE SHEET C-103 FOR TANK RELOCATION NOTES.
10. (N) 4" 90° DI ELBOW.
11. (N) 4" DI GATE VALVE IN RISER BOX, SEE DETAIL 2 SHEET C-503.
12. (N) 4"x4"x4" DI TEE.
13. (N) SCHEIB DRAINAGE ANTI SEEP COLLAR OR APPROVED EQUAL, INSTALLED EVERY 20 FT BETWEEN FITTINGS. INSTALL PER MANUFACTURER INSTRUCTIONS.
14. NOT USED.
15. (N) 24" X 24" X 36" JENSEN PRECAST JUNCTION BOX OR APPROVED EQUAL PER DETAIL 3, SHEET C-503.
16. (N) 6" PVC DRAIN PIPE, MIN 1% SLOPE.
17. (N) BOLLARD PER DETAIL 5, SHEET C-503.
18. (N) 8.5' X 8.5' SLAB PER DETAIL 2, S-004.
19. GRADE AWAY FROM TANK FOOTINGS AND ADJACENT BUILDINGS TO MAINTAIN POSITIVE DRAINAGE.
20. INSTALL FIBER ROLLS ACROSS DRAINAGE SWALE.
21. ESTABLISH AND MAINTAIN POSITIVE DRAINAGE ALONG (E) TOE OF SLOPE.
22. (N) SS CAL WEST RAIN PRE-FABRICATED FILL STATION WITH MANUAL BYPASS. SEE DETAIL 3 SHEET C-503

**SITE PLAN**



No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

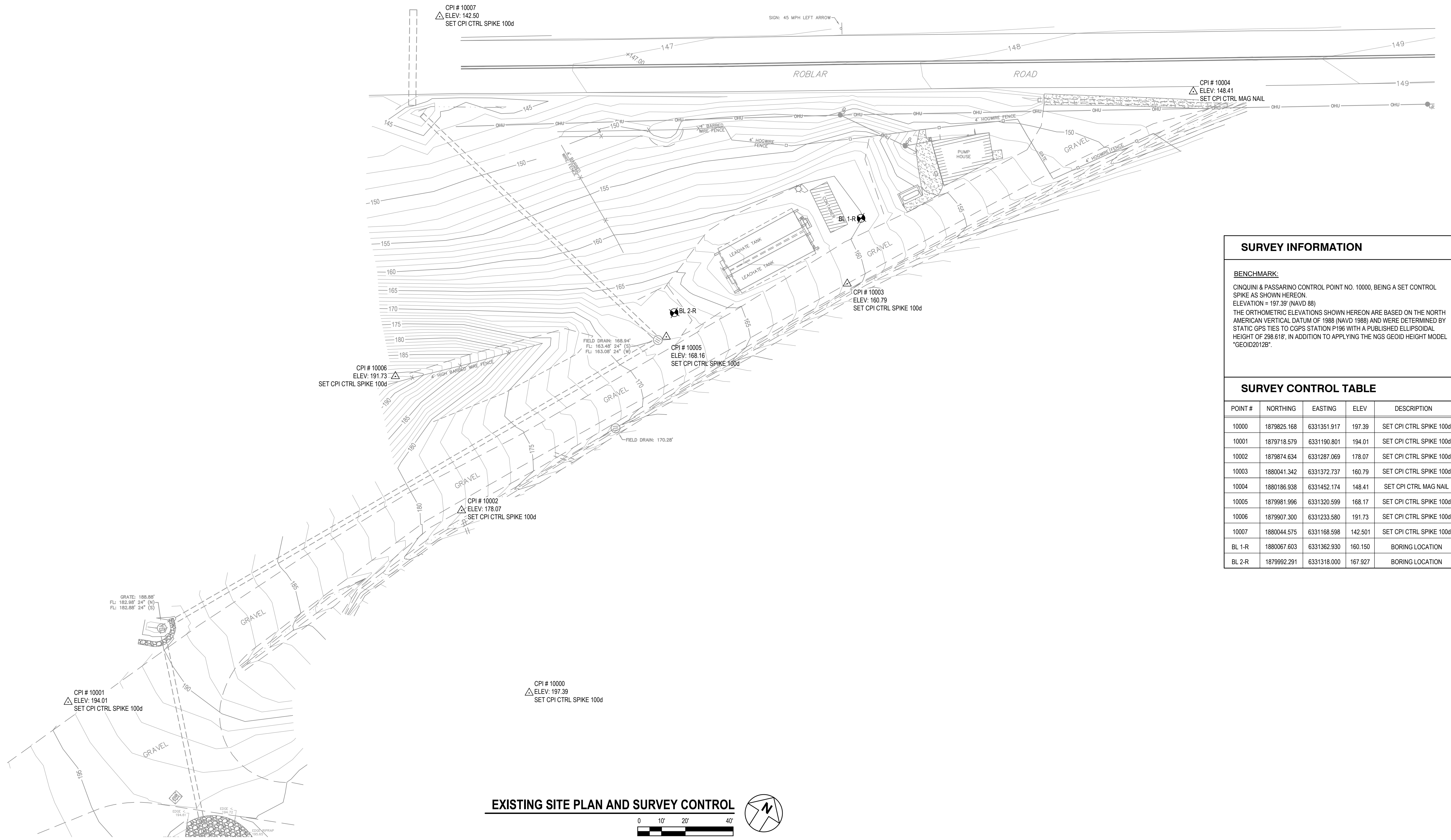
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client	<b>COUNTY OF SONOMA</b>		
Project	<b>LEACHATE TANK REPLACEMENT</b>		
Project No.	12558724	Date	1/13/2023
Scale	AS SHOWN		

Title	<b>SITE PLAN - GUERNEVILLE SITE</b>		
Drawing No.	C-103	Sheet No.	06 of 48





**SURVEY INFORMATION**

**BENCHMARK:**  
 CINQUINI & PASSARINO CONTROL POINT NO. 10000, BEING A SET CONTROL SPIKE AS SHOWN HEREON.  
 ELEVATION = 197.39' (NAVD 88)  
 THE ORTHOMETRIC ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) AND WERE DETERMINED BY STATIC GPS TIES TO CGPS STATION P196 WITH A PUBLISHED ELLIPSOIDAL HEIGHT OF 298.618', IN ADDITION TO APPLYING THE NGS GEOID HEIGHT MODEL "GEOID2012B".

**SURVEY CONTROL TABLE**

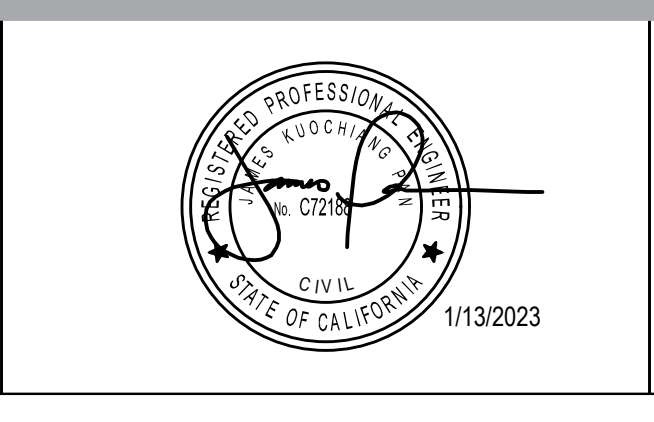
POINT #	NORTHING	EASTING	ELEV	DESCRIPTION
10000	1879825.168	6331351.917	197.39	SET CPI CTRL SPIKE 100d
10001	1879718.579	6331190.801	194.01	SET CPI CTRL SPIKE 100d
10002	1879874.634	6331287.069	178.07	SET CPI CTRL SPIKE 100d
10003	1880041.342	6331372.737	160.79	SET CPI CTRL SPIKE 100d
10004	1880186.938	6331452.174	148.41	SET CPI CTRL MAG NAIL
10005	1879981.996	6331320.599	168.17	SET CPI CTRL SPIKE 100d
10006	1879907.300	6331233.580	191.73	SET CPI CTRL SPIKE 100d
10007	1880044.575	6331168.598	142.50	SET CPI CTRL SPIKE 100d
BL 1-R	1880067.603	6331362.930	160.150	BORING LOCATION
BL 2-R	1879992.291	6331318.000	167.927	BORING LOCATION

**EXISTING SITE PLAN AND SURVEY CONTROL**

No.	Issue	Checked	Approved	Date
1	Author <b>D. AGUAS</b>	Drafting Check <b>S. PEARL</b>	Project Manager <b>G. TOMASINO</b>	
2	Designer <b>S. PEARL</b>	Design Check <b>M. KENNEDY</b>	Project Director <b>M. KENNEDY</b>	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
 0 ————— 1"



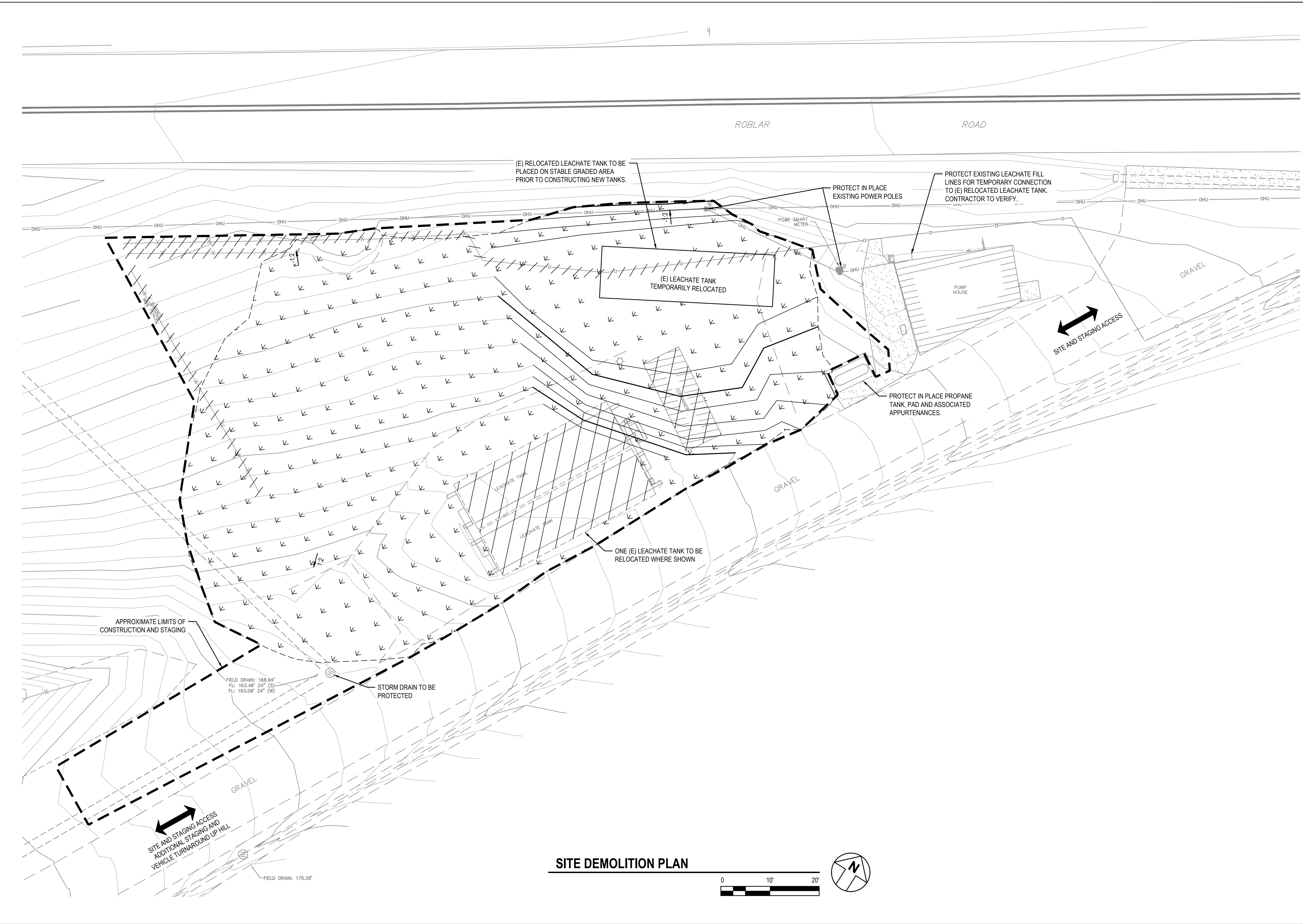
**GHD** Inc.  
 2235 Mercury Way Suite 150  
 Santa Rosa California 95407 USA  
 T 1 707 523 1010 F 1 707 527 8679  
 www.ghd.com

Conditions of Use  
 This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client **COUNTY OF SONOMA**  
 Project **LEACHATE TANK REPLACEMENT**  
 Project No. **12558724**  
 Date **1/13/2023**  
 Scale **AS SHOWN**

Title **EXISTING SITE PLAN AND SURVEY CONTROL - ROBLAR SITE**  
 Drawing No. **C-104**  
 Sheet No. **07 of 48**





- ### GENERAL NOTES
- (E) UTILITIES NOT DESIGNATED FOR REMOVAL MUST BE PROTECTED AND CONTINUOUS SERVICE MAINTAINED DURING THE CONTRACT. ANY TEMPORARY SHUT-DOWNS MUST BE COORDINATED WITH OWNER.
  - REMOVAL AND RELOCATION OF THE (E) LEACHATE TANKS SHALL BE PHASED TO MAINTAIN UNINTERRUPTED STORAGE OF LEACHATE DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR (E) LEACHATE TANK REMOVAL AND RELOCATION AS DIRECTED BY OWNER.
  - CONTRACTOR TO INSTALL CONCRETE WASHOUT PER DETAIL 4 SHEET C-501.
  - LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND SHALL POTHOLE FOR EXACT LOCATIONS.
  - CONTRACTOR SHALL USE CAUTION TO PREVENT DAMAGE TO TANKS THAT MUST REMAIN IN SERVICE AND AVOID INTERFERENCE WITH TANK AND LEACHATE SYSTEM OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND INTERFERENCE TO TANKS, AND LEACHATE SYSTEM OPERATIONS.
  - CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC CONTROL AT ROBLAR ROAD AS NECESSARY.
- ### TANK RELOCATION NOTES
- (E) LEACHATE TANKS TO BE DRAINED BY OWNER PRIOR TO REMOVAL AND RELOCATION.
  - OWNER RESPONSIBLE FOR COORDINATION AND REMOVAL OF (E) STORAGE CONTAINER.
  - CONTRACTOR RESPONSIBLE FOR COORDINATION, REMOVAL AND RELOCATION OF EXISTING LEACHATE TANKS AS DIRECTED BY OWNER.
  - PREP AND GRADE AREA FOR TEMPORARY RELOCATION OF ONE (E) LEACHATE TANK AND CONNECT RELOCATED TANK TO (E) LEACHATE FILL LINES FROM PUMP HOUSE. CONTRACTOR TO VERIFY LOCATION OF (E) LEACHATE FILL LINES.
  - CONTRACTOR TO SALVAGE (E) MAG METER AT (E) LEACHATE TANKS FOR RE-USE.
  - CONNECT RELOCATED (E) LEACHATE TANK TO TEMPORARY POWER, BY OTHERS.
  - COMPLETE SITE GRADING AND CONSTRUCT RETAINING WALL, CONSTRUCT TANK 1 AND CONNECT TO (E) LEACHATE FILL LINES PER PLANS ON SHEET C-110.
  - OWNER TO PUMP AND HAUL LEACHATE FROM (E) LEACHATE TANK PRIOR TO RELOCATION. CONTRACTOR TO REMOVE RELOCATED TANK FROM SITE AFTER COMPLETION AND COMMISSIONING OF TANK 1 AS DIRECTED BY OWNER.

**SITE DEMOLITION PLAN**

0 10' 20'

No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet

0 1"



**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



Client **COUNTY OF SONOMA**

Project **LEACHATE TANK REPLACEMENT**

Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

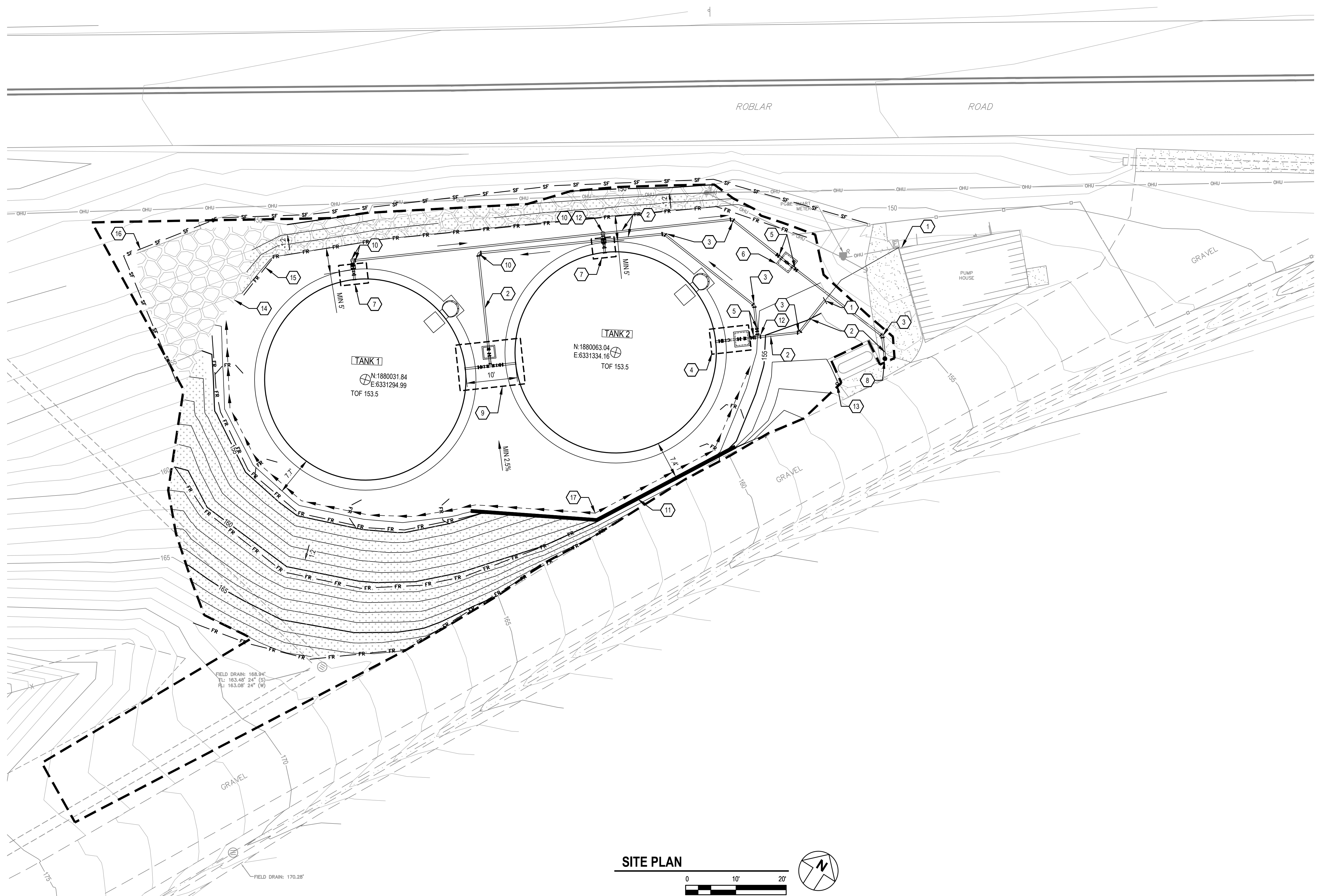
Title **SITE DEMOLITION PLAN - ROBLAR SITE**

Size **ANSI D**

Drawing No. **C-105** Sheet No. **08 of 48**

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.





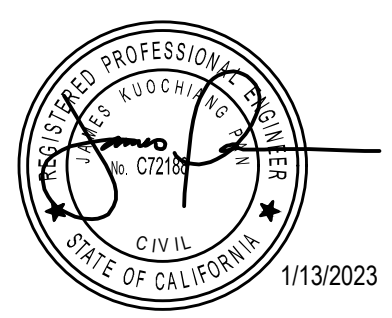
- GENERAL NOTES**
1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND SHALL POT HOLE FOR EXACT LOCATIONS.
  2. NOT ALL FITTINGS SHOWN. PROVIDE ALL FITTINGS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM.
- KEYNOTES**
1. CONTRACTOR TO PROVIDE NECESSARY FITTINGS TO CONNECT TO (3) EXISTING 2" HDPE FILL LINES THAT DAYLIGHT BEHIND PUMP HOUSE PER SPECIFICATIONS. CONTRACTOR TO VERIFY ALIGNMENT.
  2. (N) 4" HDPE PIPE.
  3. (N) 4" 45° DI ELBOW.
  4. (N) 4" TANK INLET, SEE DETAIL 1 SHEET C-502.
  5. (N) 4" DI GATE VALVE.
  6. (E) 4" FLOW METER IN (N) PRE-CAST VAULT, SEE DETAIL 4 SHEET C-503.
  7. (N) 4" TANK OUTLET, SEE DETAIL 2 SHEET C-502.
  8. (N) 4" PUMP CONNECTION. QUICK COUPLING PROVIDED BY OWNER.
  9. (N) TANK INTERTIE. SEE DETAIL 3 SHEET C-502.
  10. (N) 4" 90° DI ELBOW.
  11. (N) RETAINING WALL. SEE SHEET S-107.
  12. (N) 4"x4"x4" DI TEE.
  13. (N) BOLLARD. SEE DETAIL 5 SHEET C-503.
  14. (N) CLASS IV ROCK SLOPE PROTECTION PER CALTRANS STANDARD 4-7203A OVER CLASS 8 RSP FABRIC.
  15. INSTALL FIBER ROLLS PER DETAIL 2 SHEET C-501.
  16. INSTALL SILT FENCE PER DETAIL 1 SHEET C-501.
  17. ESTABLISH AND MAINTAIN POSITIVE DRAINAGE ALONG TOE.



No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

Title **SITE PLAN - ROBLAR SITE**  
Size **ANSI D**  
Drawing No. **C-106**  
Sheet No. **09 of 48**



**SURVEY INFORMATION**

**BASIS OF BEARING:**

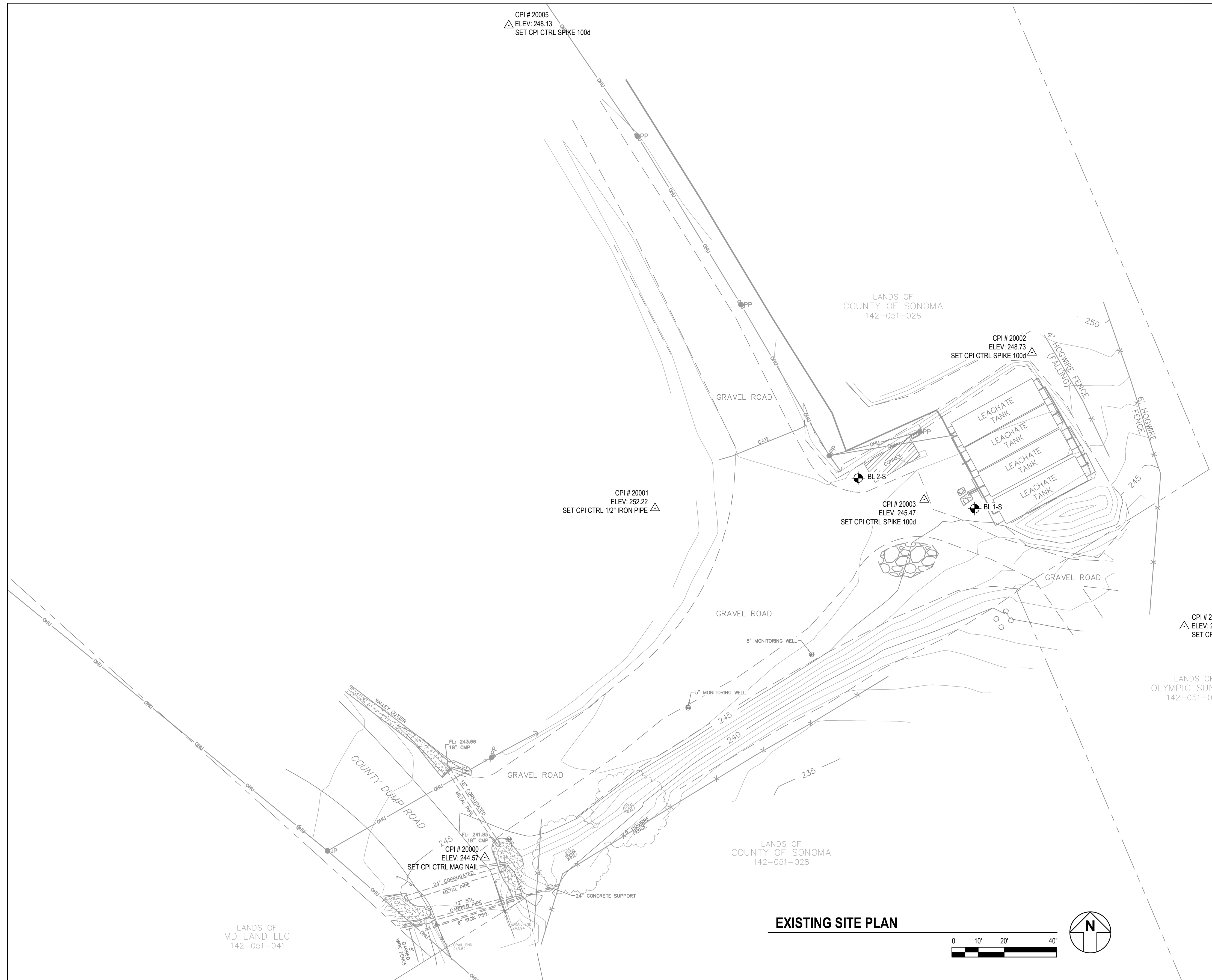
THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 2, NAD 83, EPOCH 2017.50 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATION P200 AND STATION P196, BEING A GRID BEARING OF NORTH 75°21'34" WEST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC).

**BENCHMARK:**

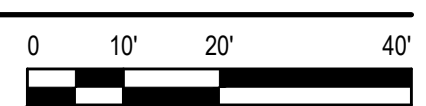
CINQUINI & PASSARINO CONTROL POINT NO. 20001, BEING A SET 1/2" CONTROL IRON PIPE AS SHOWN HEREON.  
ELEVATION = 252.22' (NAVD 88)  
THE ORTHOMETRIC ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) AND WERE DETERMINED BY STATIC GPS TIES TO CGPS STATION P196 WITH A PUBLISHED ELLIPSOIDAL HEIGHT OF 298.618', IN ADDITION TO APPLYING THE NGS GEOID HEIGHT MODEL "GEOID2012B".

**SURVEY CONTROL TABLE**

POINT #	NORTHING	EASTING	ELEV	DESCRIPTION
20000	1851449.683	6416027.633	244.57	SET CPI CTRL MAG NAIL
20001	1851582.973	6416092.563	252.22	SET CPI CTRL 1/2" IRON PIPE
20002	1851642.321	6416236.381	248.73	SET CPI CTRL SPIKE 100d
20003	1851586.207	6416195.242	245.47	SET CPI CTRL SPIKE 100d
20004	1851537.904	6416294.476	240.73	SET CPI CTRL SPIKE 100d
20005	1851767.176	6416036.777	248.13	SET CPI CTRL SPIKE 100d
BL 1-S	1851582.786	6416214.521	245.43	BORING LOCATION
BL 2-S	1851594.423	6416170.089	246.51	BORING LOCATION



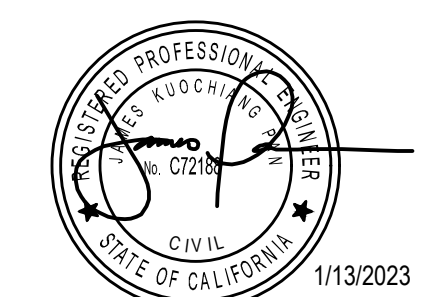
**EXISTING SITE PLAN**



No.	Issue	Checked	Approved	Date
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director
			G. TOMASINO	
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



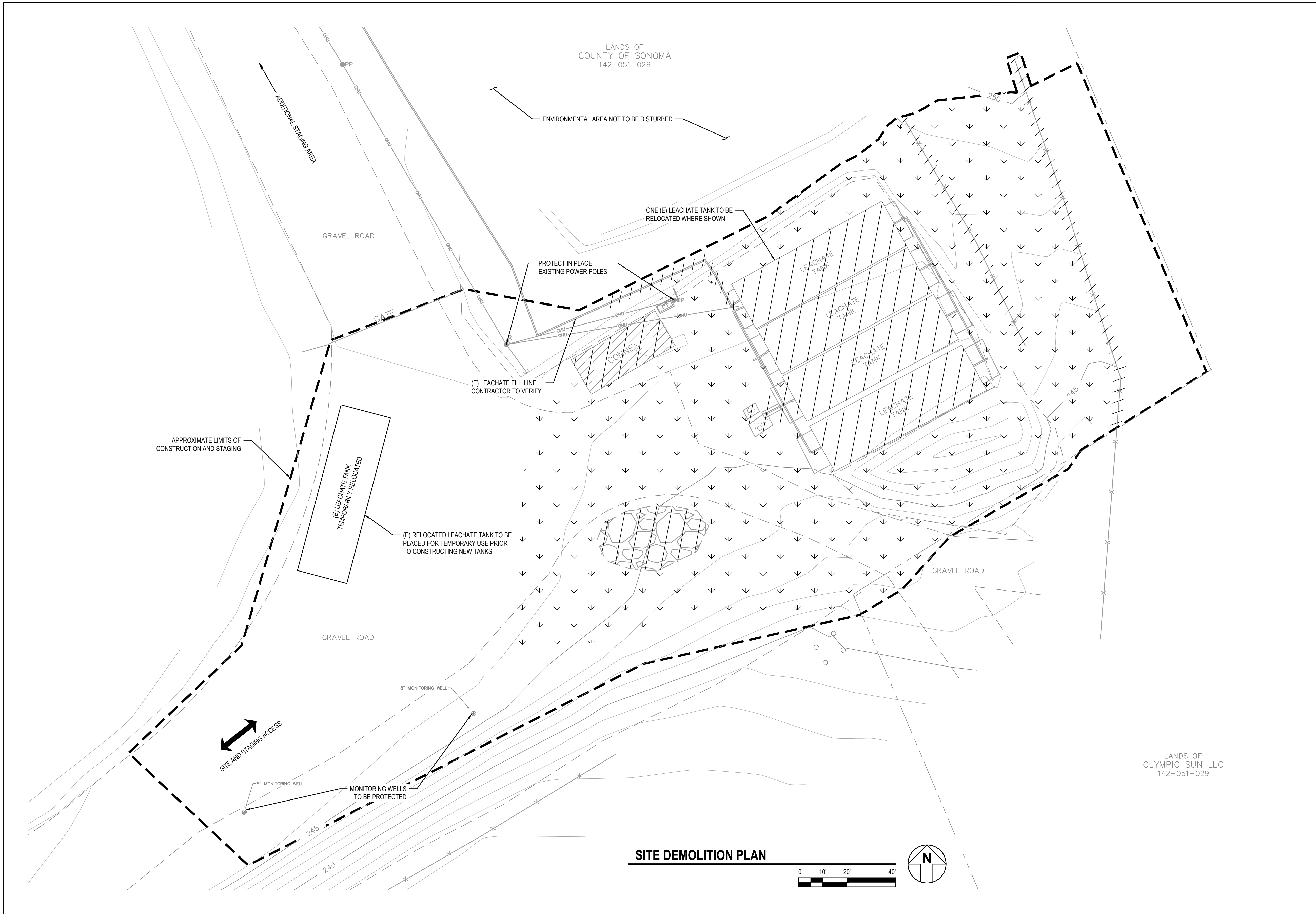
**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679



Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	<b>EXISTING SITE PLAN AND SURVEY CONTROL - SONOMA SITE</b>
Size	ANSI D
Drawing No.	C-107
Sheet No.	10 of 48





**GENERAL NOTES**

- (E) UTILITIES NOT DESIGNATED FOR REMOVAL MUST BE PROTECTED AND CONTINUOUS SERVICE MAINTAINED DURING THE CONTRACT. ANY TEMPORARY SHUT-DOWNS MUST BE COORDINATED WITH OWNER.
- REMOVAL AND RELOCATION OF THE (E) LEACHATE TANKS SHALL BE PHASED TO MAINTAIN UNINTERRUPTED STORAGE OF LEACHATE DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR (E) LEACHATE TANK REMOVAL AND RELOCATION AS DIRECTED BY OWNER.
- CONTRACTOR TO INSTALL CONCRETE WASHOUT PER DETAIL 4 SHEET C-501.
- LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND SHALL POT-HOLE FOR EXACT LOCATIONS.
- CONTRACTOR SHALL USE CAUTION TO PREVENT DAMAGE TO TANKS THAT MUST REMAIN IN SERVICE AND AVOID INTERFERENCE WITH TANK AND LEACHATE SYSTEM OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND INTERFERENCE TO TANKS, AND LEACHATE SYSTEM OPERATIONS.
- ACCESS ROADS TO NEIGHBORING FACILITIES SHALL BE MAINTAINED AND FREE OF OBSTRUCTIONS AT ALL TIMES.

**TANK RELOCATION NOTES**

- (E) LEACHATE TANKS TO BE DRAINED BY OWNER PRIOR TO REMOVAL AND RELOCATION.
- OWNER RESPONSIBLE FOR COORDINATION AND REMOVAL OF (E) STORAGE CONTAINER.
- CONTRACTOR RESPONSIBLE FOR COORDINATION, REMOVAL AND RELOCATION OF EXISTING LEACHATE TANKS AS DIRECTED BY OWNER.
- PREP AND GRADE AREA FOR TEMPORARY RELOCATION OF ONE (E) LEACHATE TANK AND CONNECT RELOCATED TANK TO (E) LEACHATE FILL LINES. CONTRACTOR TO VERIFY LOCATION OF (E) LEACHATE FILL LINES AND TRENCH AND CONNECT TO (E) RELOCATED TANK FOR TEMPORARY USE.
- CONTRACTOR TO SALVAGE (E) MAG METER AT (E) LEACHATE TANKS FOR RE-USE.
- CONNECT RELOCATED (E) LEACHATE TANK TO TEMPORARY POWER, BY OTHERS.
- COMPLETE SITE GRADING, CONSTRUCT NEW TANKS AND CONNECT TO (E) LEACHATE FILL LINES PER PLANS ON SHEET C-110.
- OWNER TO PUMP AND HAUL LEACHATE FROM (E) RELOCATED LEACHATE TANK. CONTRACTOR TO REMOVE TANK FROM SITE AS DIRECTED BY OWNER.

**SITE DEMOLITION PLAN**

No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

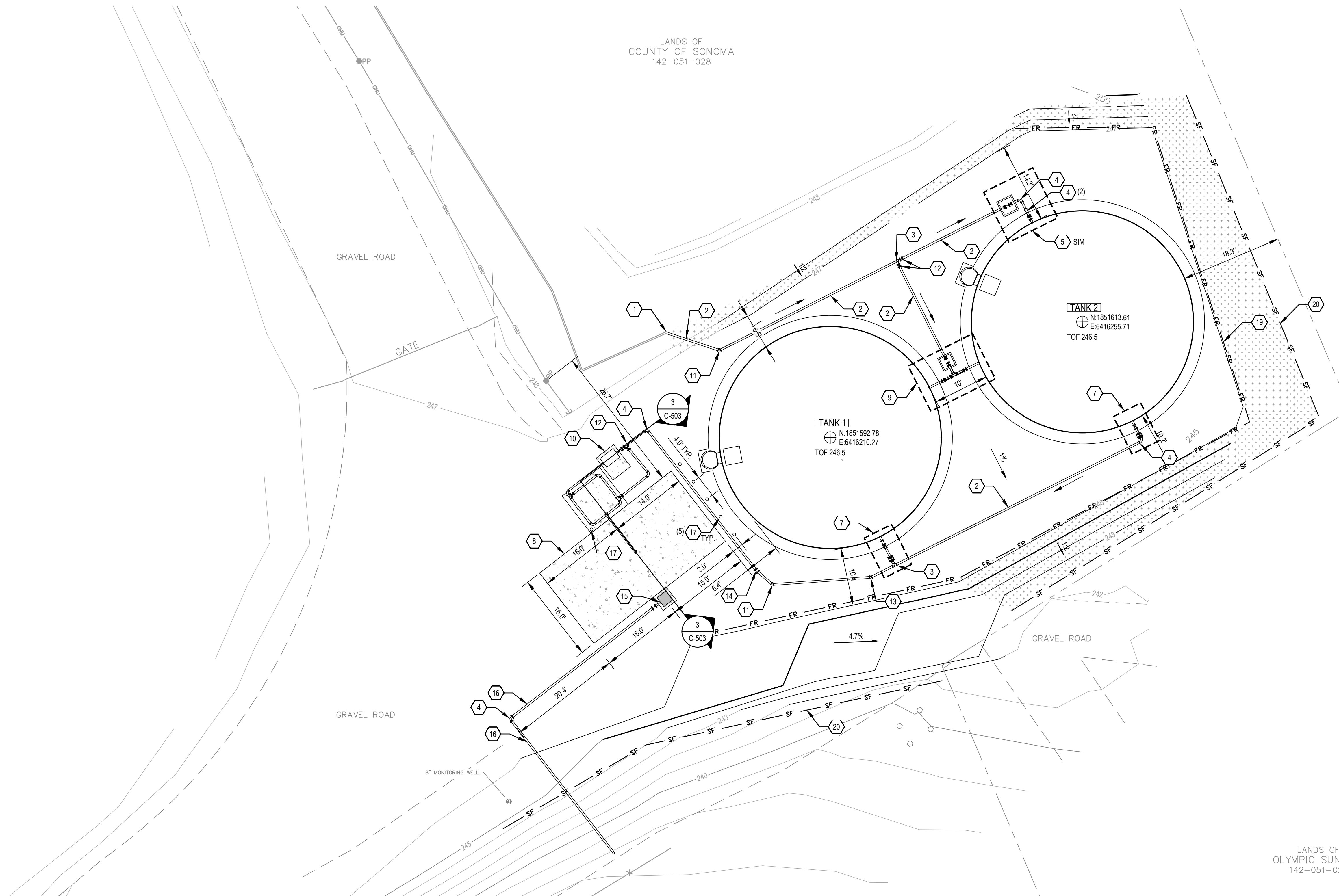


Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	<b>SITE DEMOLITION PLAN - SONOMA SITE</b>
Size	ANSI D
Drawing No.	C-108
Sheet No.	11 of 48



LANDS OF  
COUNTY OF SONOMA  
142-051-028



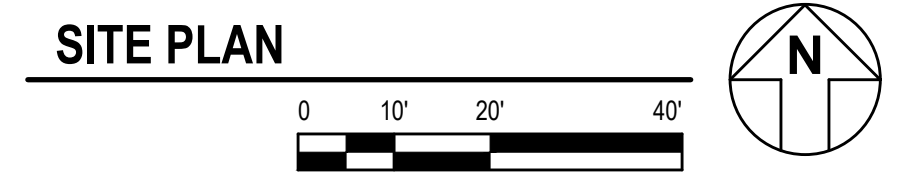
**GENERAL NOTES**

1. ALL BACKFILLS AND FILLS SHALL BE MOISTURE CONDITIONED TO SLIGHTLY ABOVE THE OPTIMUM, PLACED IN HORIZONTAL LIFT NO MORE THAN 8 INCHES THICK AND COMPACTED TO A LEAST 90% R.C. IN ACCORDANCE WITH ASTM-D1557.
2. ENGINEERED FILL MATERIALS SHALL CONSIST OF A HOMOGENOUS MIXTURE OF SOIL AND ROCK FREE OF VEGETATION, ORGANIC MATERIAL, RUBBISH AND/OR RUBBLE, A MAXIMUM PARTICLE SIZE OF 4 INCHES, A PLASTICITY INDEX LESS THAN 15 AND A LIQUID LIMIT LESS THAN 45. EXCEPT FOR CLAY SOILS, NATIVE SOILS MAY BE USED AS ENGINEERED FILL.
3. FOUNDATION SUBGRADE PREPARATION WILL EXTEND A MINIMUM OF 5 FEET BEYOND THE PLANNED FOUNDATIONS IN ALL DIRECTIONS.
4. GEOTECHNICAL ENGINEER OR REPRESENTATIVE SHALL INSPECT THE TANK FOUNDATION EXCAVATIONS PRIOR TO INSTALLATION OF NEW IMPROVEMENTS. PROVIDE MINIMUM 3 WORKING DAY NOTICE FOR INSPECTIONS.

**KEYNOTES**

1. CONTRACTOR TO PROVIDE NECESSARY FITTINGS TO CONNECT TO EXISTING 3" HDPE FILL LINE PER SPECIFICATIONS.
2. (N) 4" HDPE PIPE.
3. (N) 4"x4"x4" DI TEE.
4. (N) 4" 90° DI ELBOW.
5. (N) 4" TANK INLET, SEE DETAIL 1 SHEET C-502.
6. NOT USED.
7. (N) 4" TANK OUTLET, SEE DETAIL 2 SHEET C-502.
8. (N) 16' X 30' CONTAINMENT SLAB PER DETAIL 1, SHEET S-108.
9. (N) TANK INTERTIE, SEE DETAIL 3 SHEET C-502.
10. (N) CAL WEST RAIN CUSTOM PUMP, FLOW METER AND BACKFLOW PREVENTION ASSEMBLY OR APPROVED EQUAL, ANCHORED TO PAD PER DETAIL 2, SHEET S-004 PER MANUFACTURER REQUIREMENTS.
11. (N) 4" 45° DI ELBOW.
12. (N) 4" DI GATE VALVE IN RISER BOX, SEE DETAIL 2 SHEET C-503.
13. (N) 4" 22.5° DI ELBOW.
14. (N) 4" 11.25° DI ELBOW.
15. (N) 24" X 24" X 36" JENSEN PRECAST JUNCTION BOX OR APPROVED EQUAL PER DETAIL 3, SHEET C-503.
16. (N) 6" PVC DRAIN PIPE MIN 1% SLOPE. CONTRACTOR TO COORDINATE DISCHARGE POINT WITH OWNER.
17. (N) BOLLARD PER DETAIL 5, SHEET C-503.
18. (N) 8.5' X 8.5' SLAB PER DETAIL 2, S-004.
19. INSTALL FIBER ROLLS PER DETAIL 2 SHEET C-501.
20. INSTALL SILT FENCE ALONG BOTTOM OF SLOPE PER DETAIL 1 SHEET C-501.

LANDS OF  
OLYMPIC SUN LLC  
142-051-029



No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



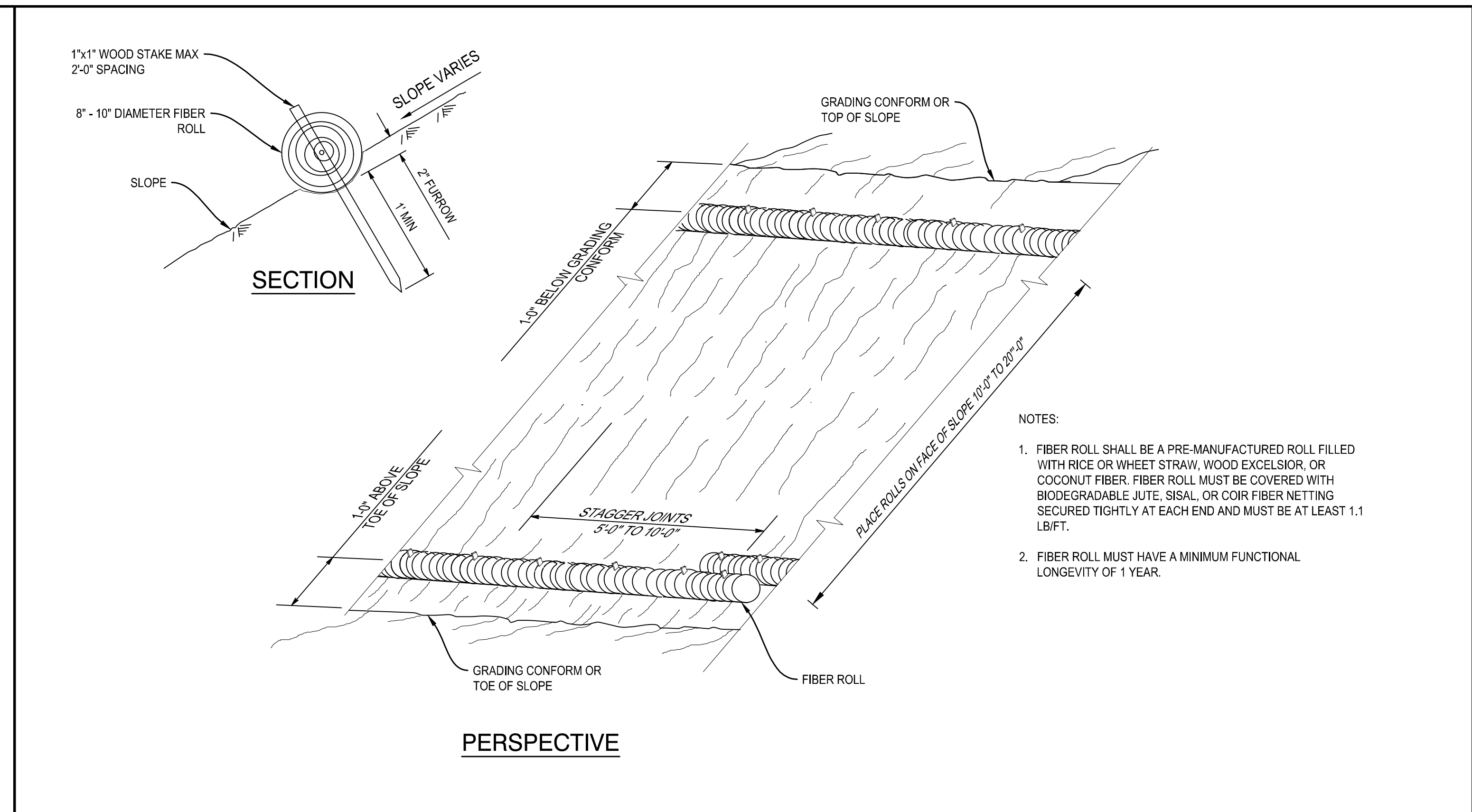
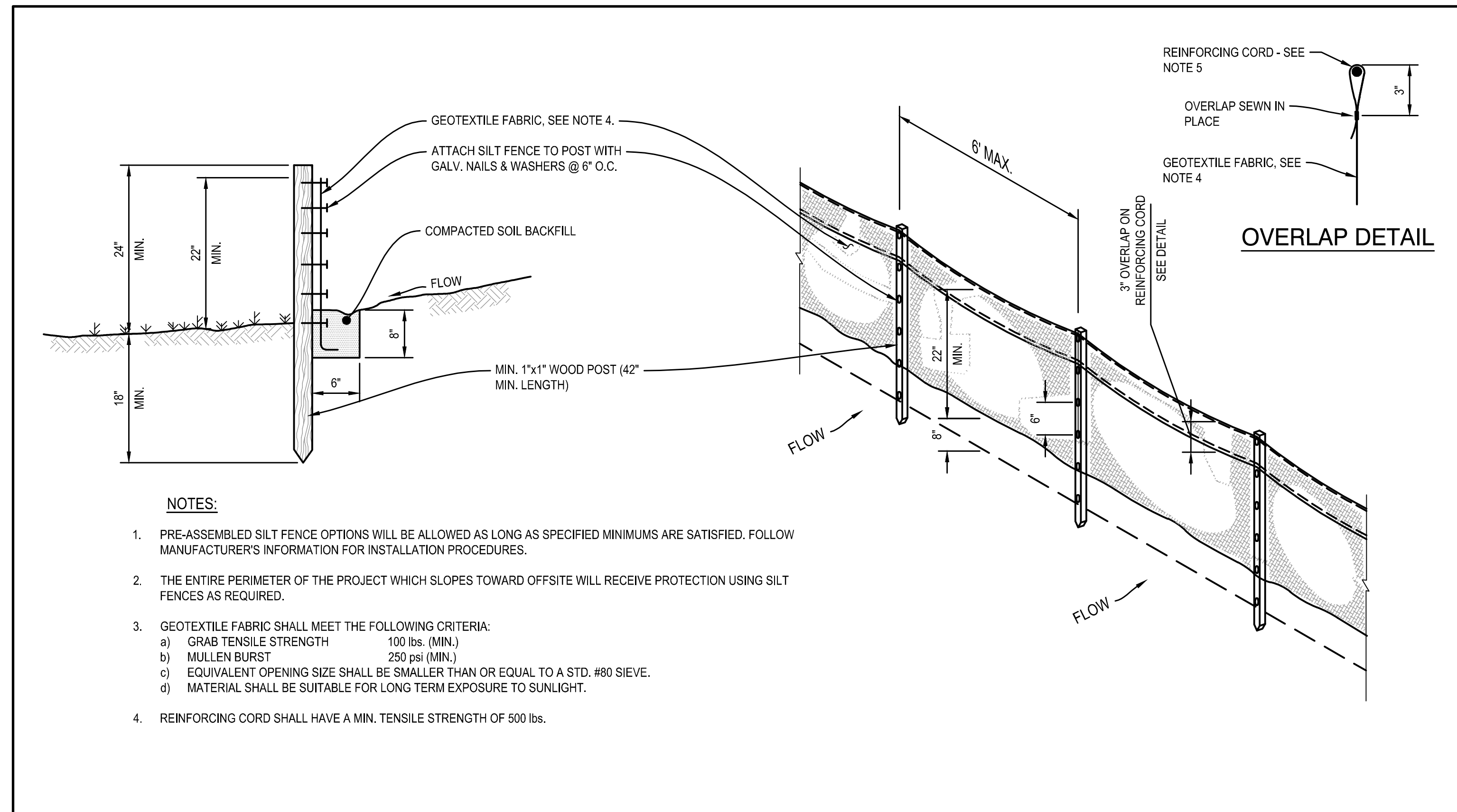
**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

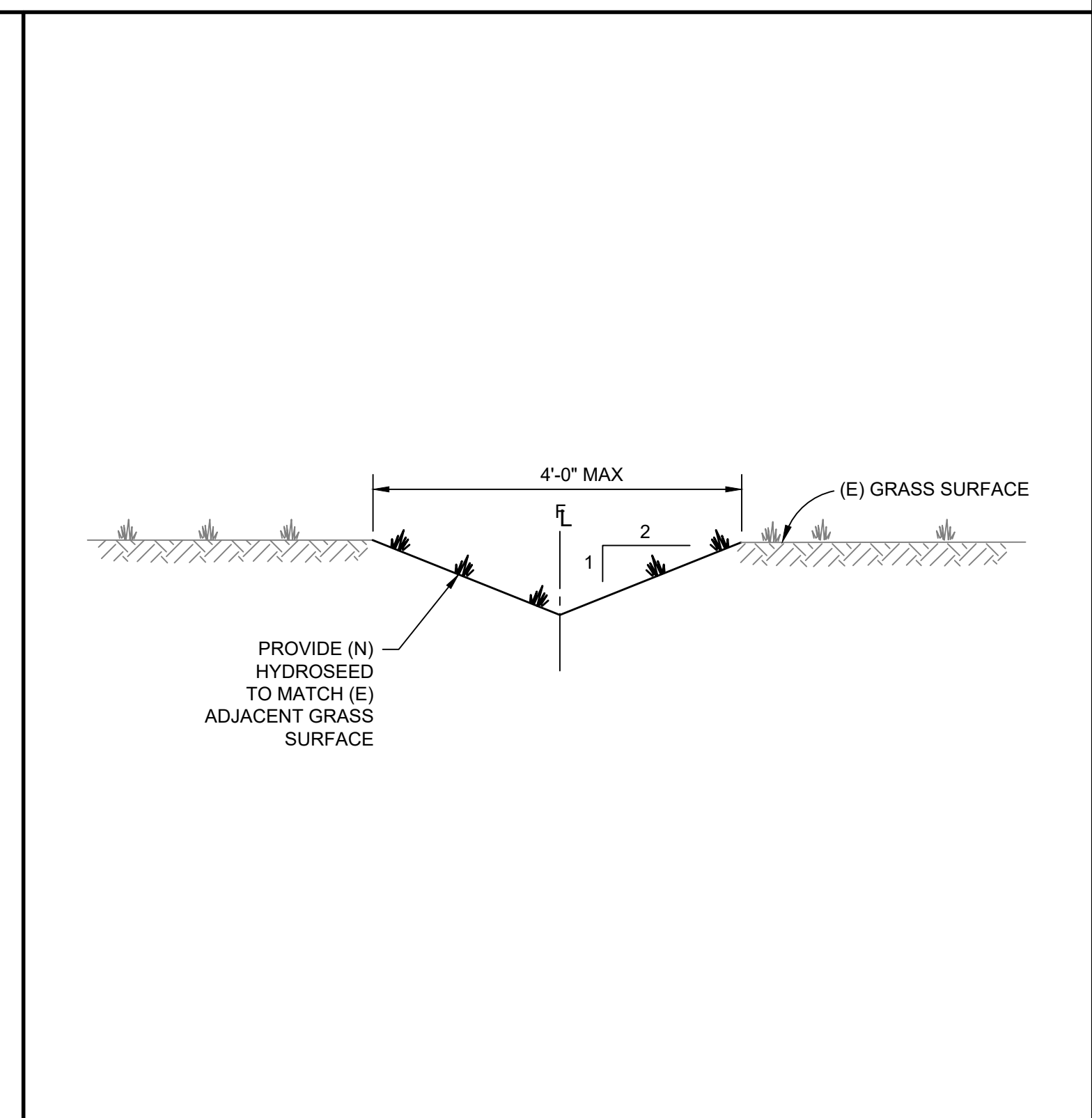
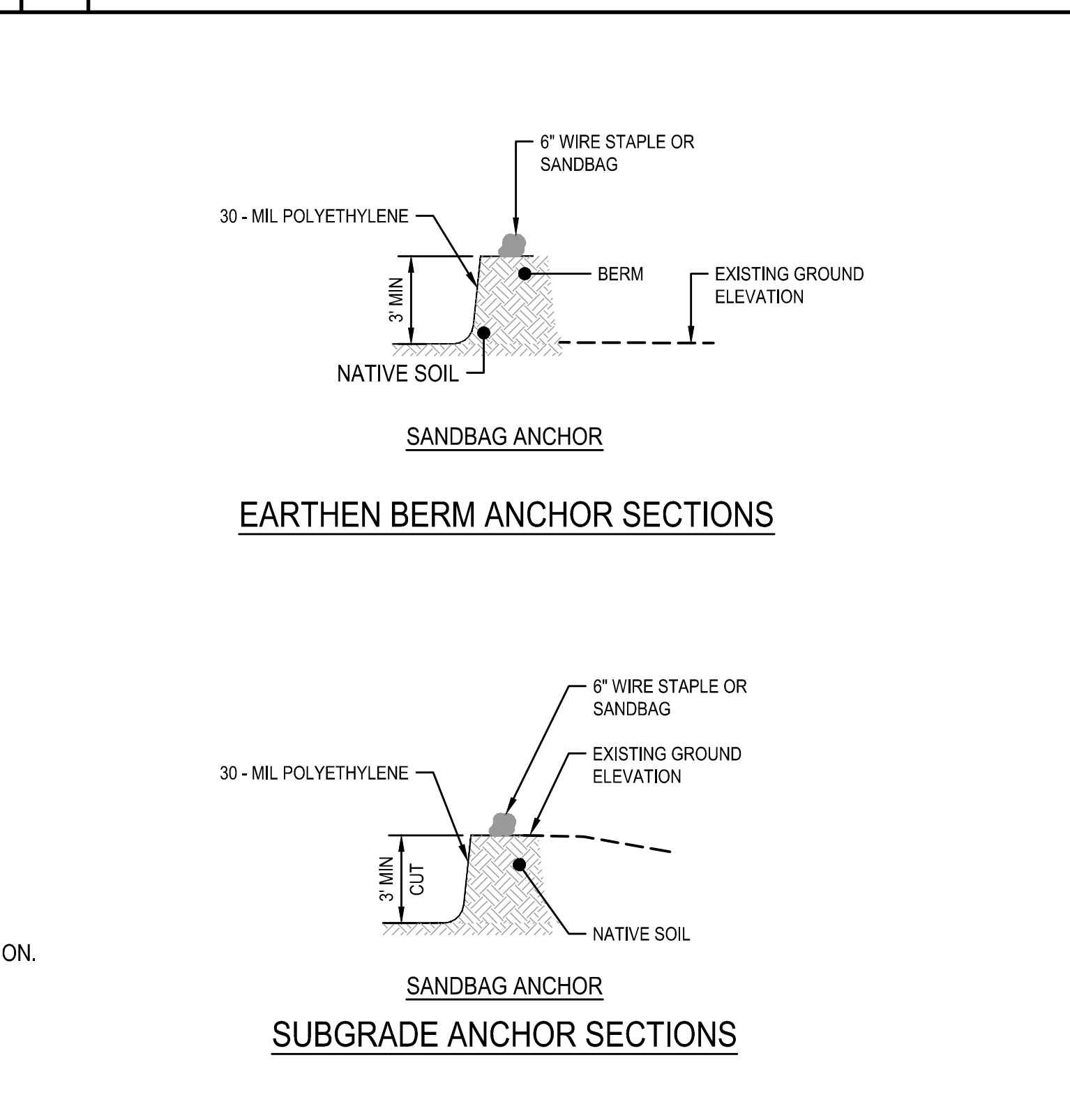
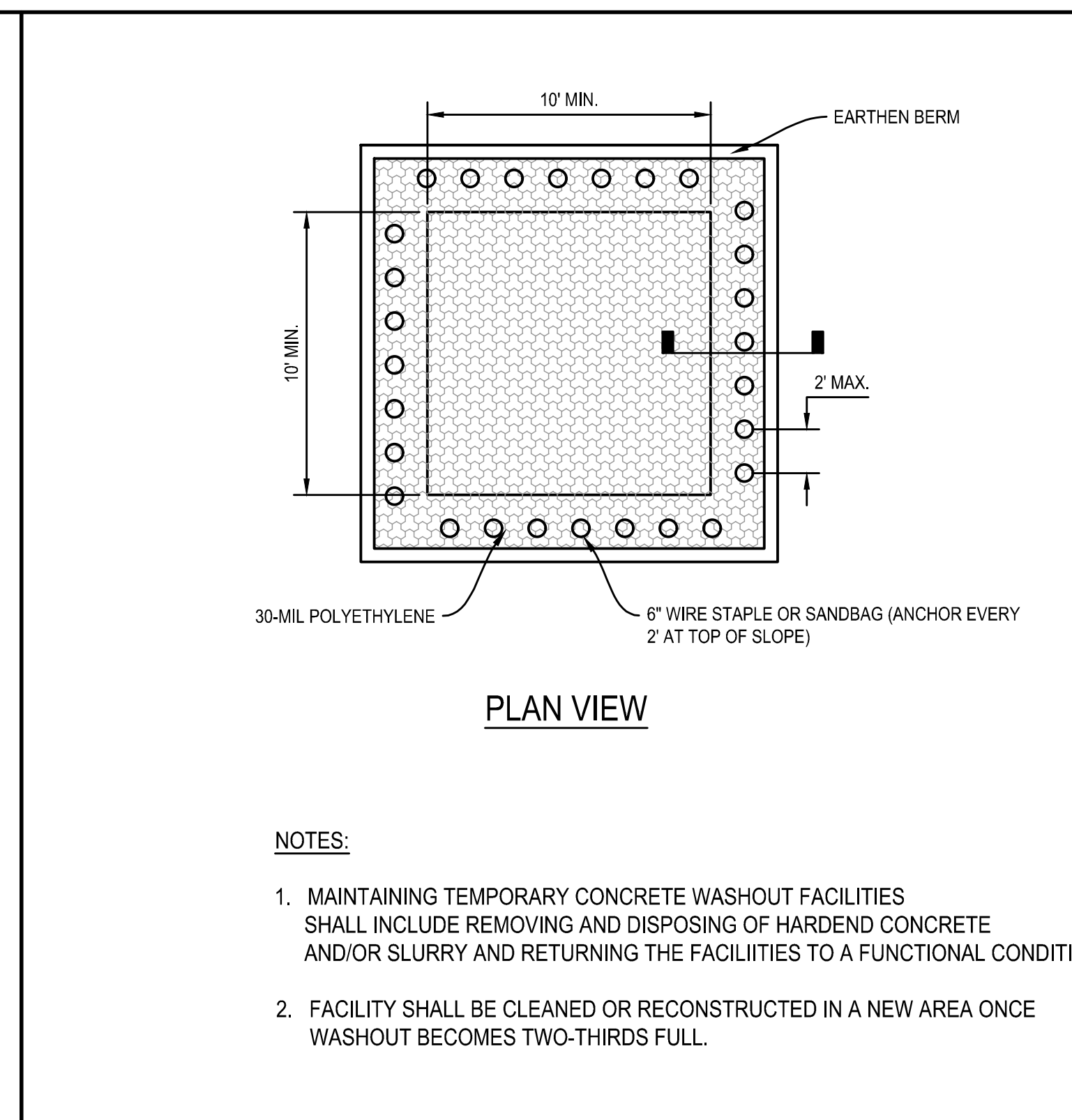
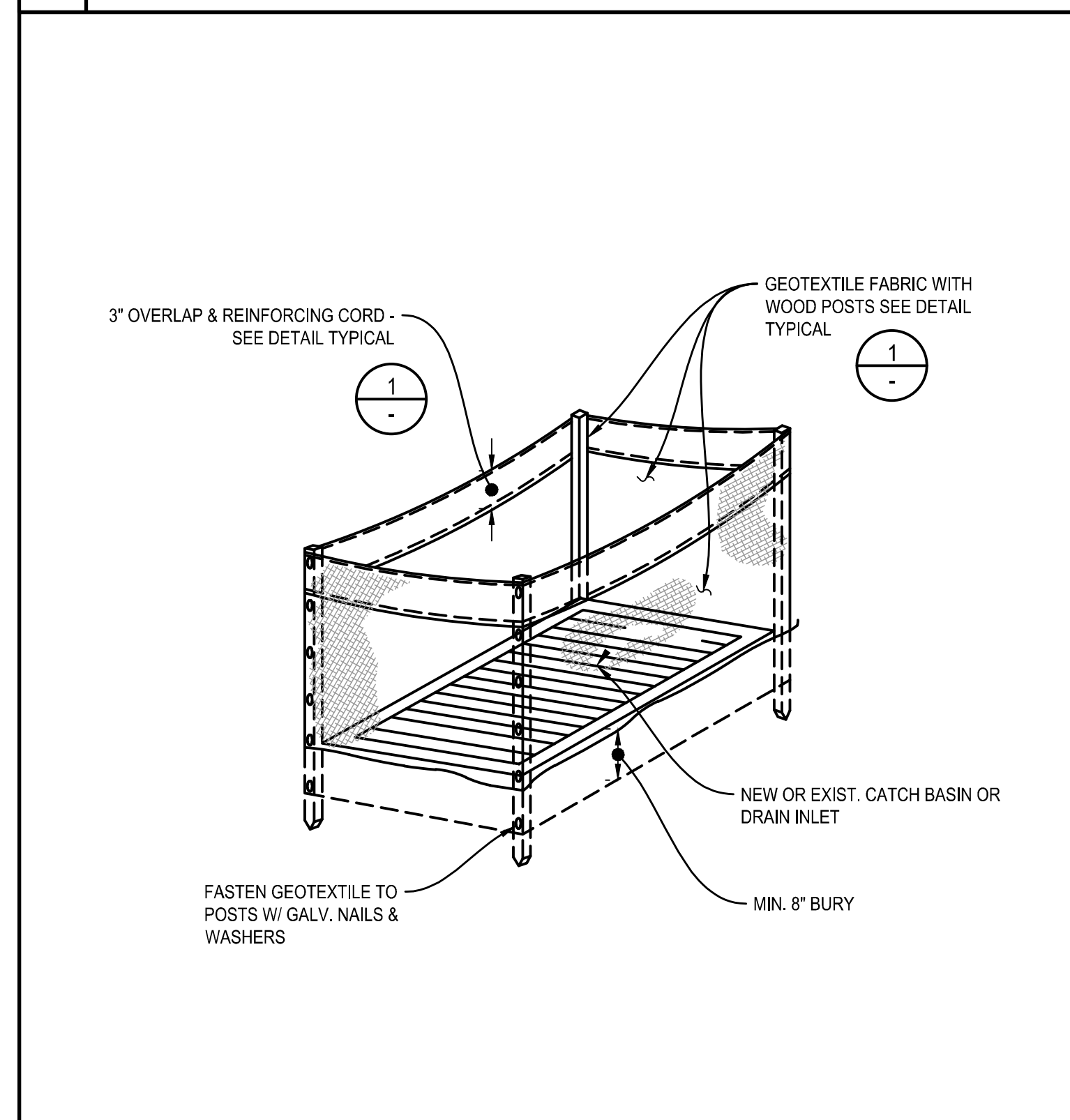
Title **SITE PLAN - SONOMA SITE**  
Drawing No. **C-109**  
Sheet No. **12 of 48**





**1 TEMPORARY SILT FENCE** NOT TO SCALE

**2 FIBER ROLL** NOT TO SCALE



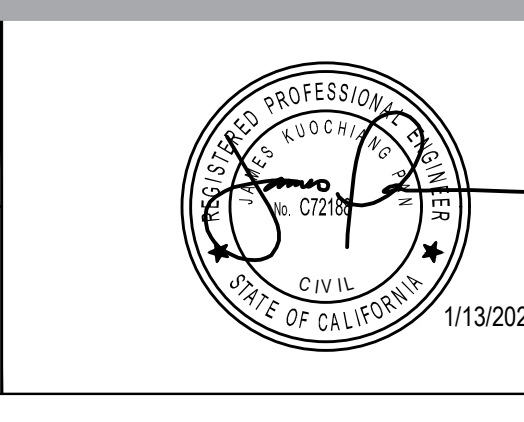
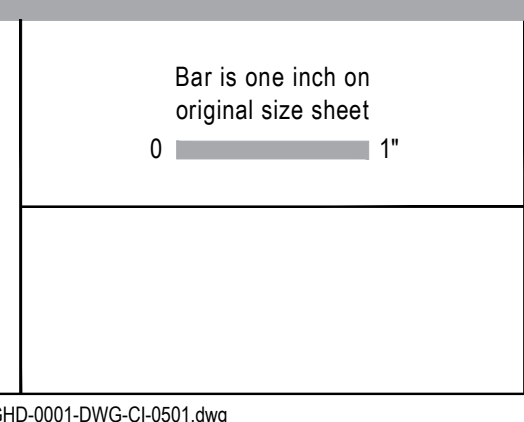
**3 DRAINAGE INLET PROTECTION** NOT TO SCALE

**4 CONCRETE WASHOUT AREA** NOT TO SCALE

**5 DRAINAGE SWALE SECTION** NOT TO SCALE

No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

100% SUBMITTAL



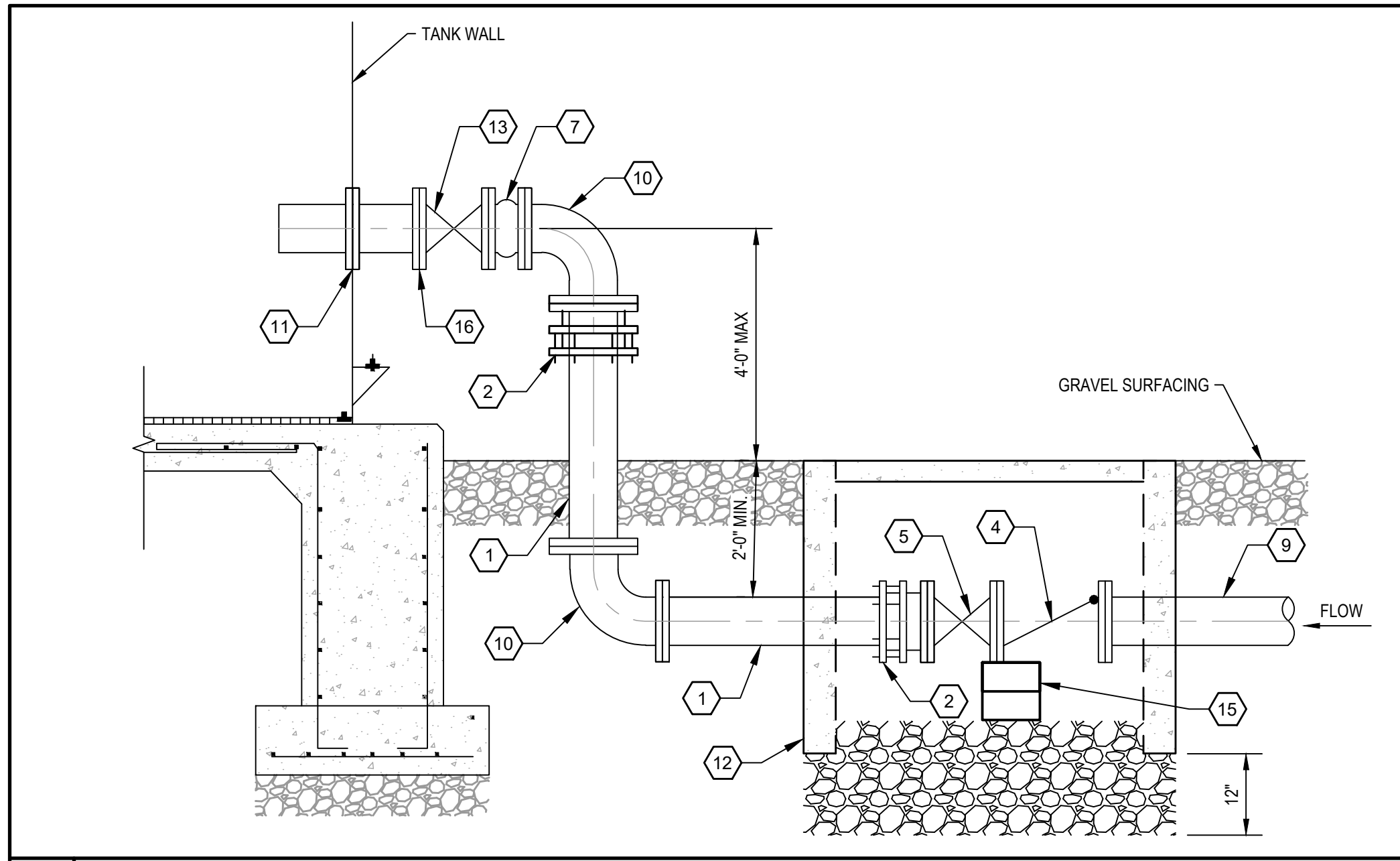
**GHD** GHD Inc.  
 2235 Mercury Way Suite 150  
 Santa Rosa California 95407 USA  
 T 1 707 523 1010 F 1 707 527 8679  
 www.ghd.com

Conditions of Use  
 This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

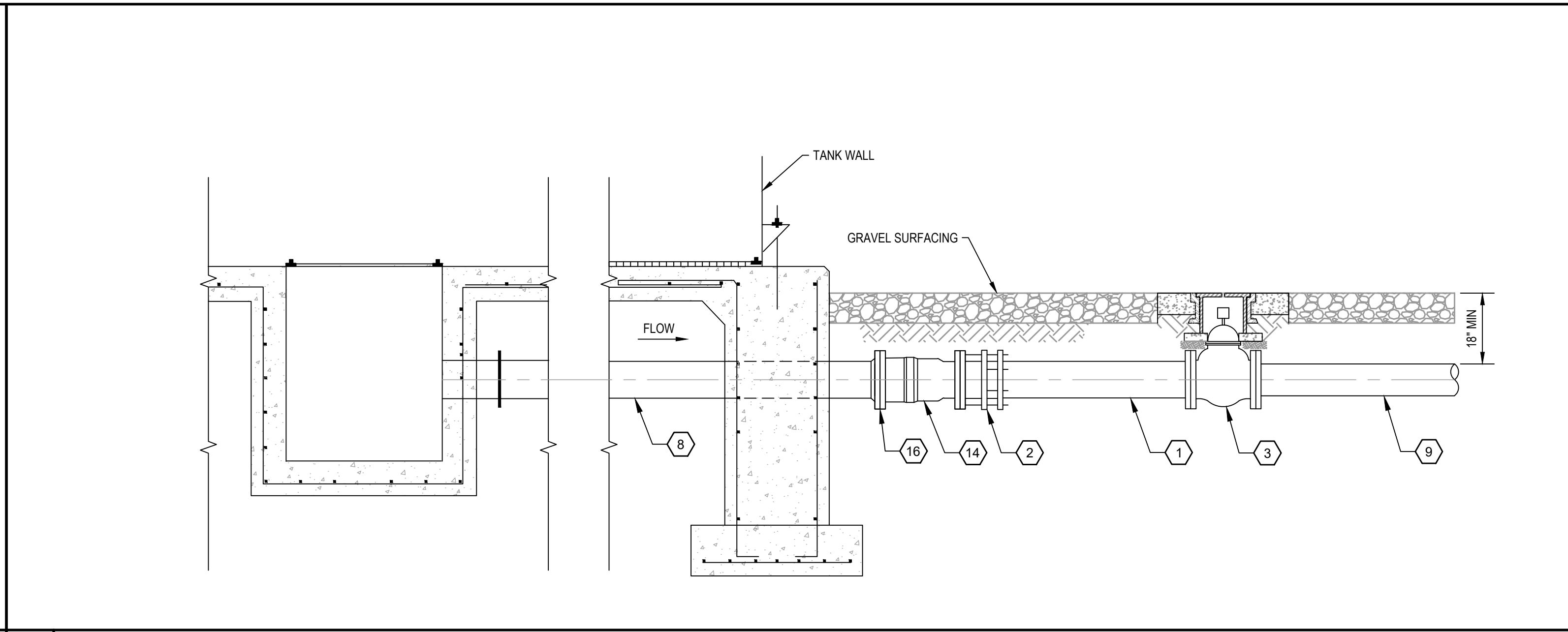
Client **COUNTY OF SONOMA**  
 Project **LEACHATE TANK REPLACEMENT**  
 Project No. **12558724**  
 Date **1/13/2023**  
 Scale **AS SHOWN**

Title **EROSION CONTROL AND DRAINAGE DETAILS**  
 Drawing No. **C-501**  
 Sheet No. **13 of 48**





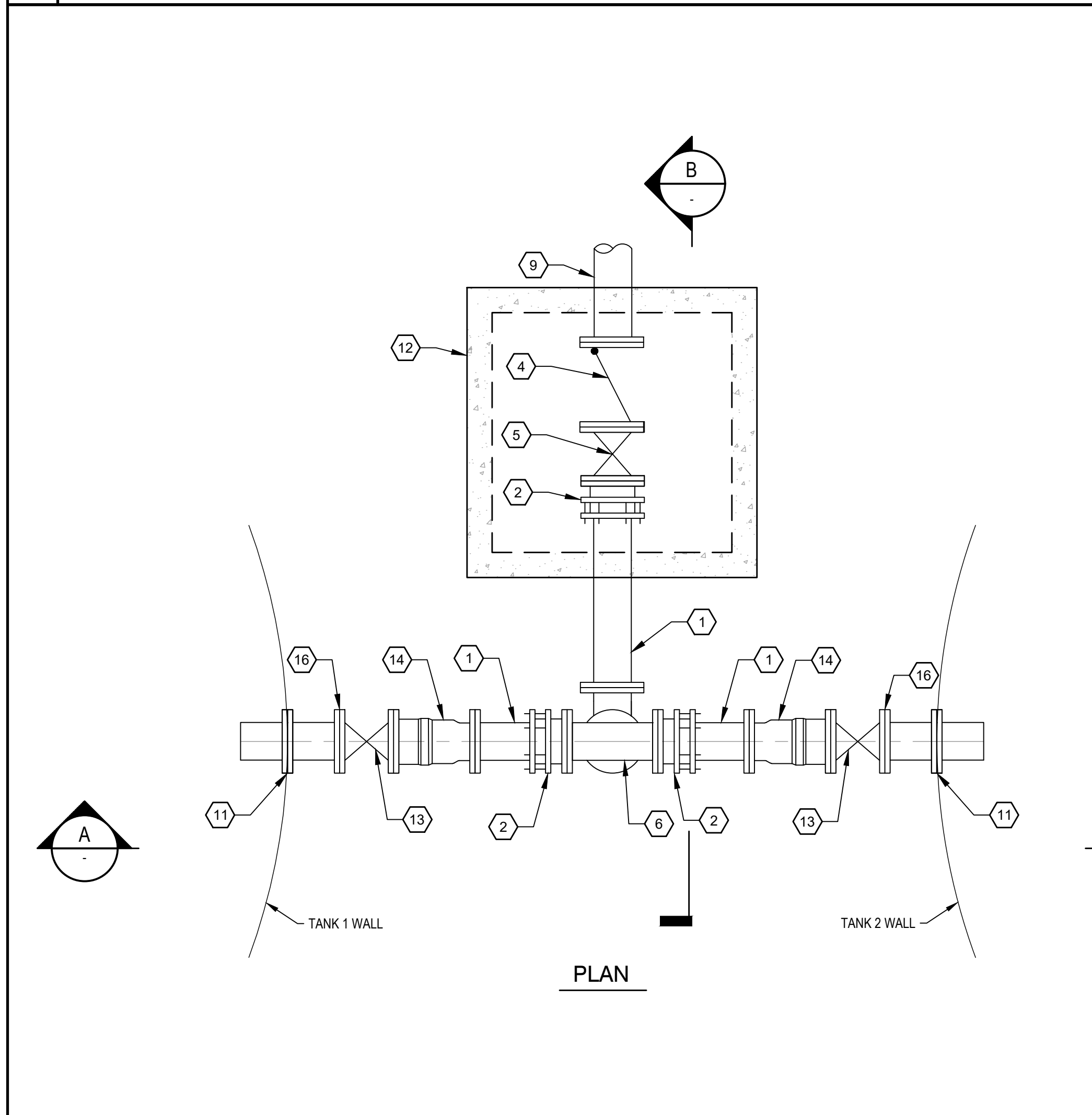
**1 TANK INLET** NOT TO SCALE



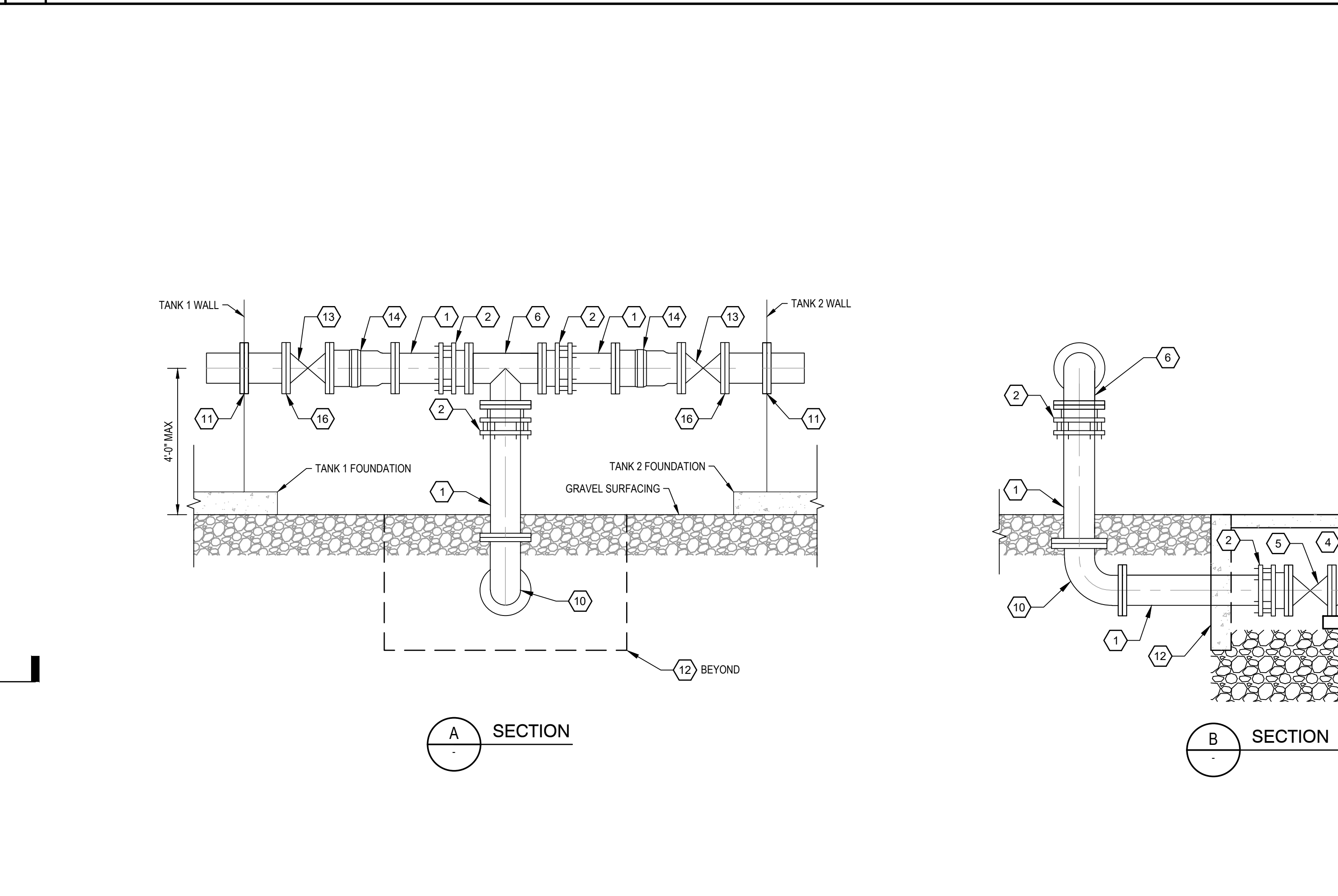
**2 TANK OUTLET** NOT TO SCALE

- GENERAL NOTES**
1. ABOVE GRADE PIPING SHALL BE FLANGED. BELOW GRADE PIPING SHALL BE RESTRAINED MECHANICAL JOINT. CONTRACTOR MAY PROPOSE ALTERNATIVE FITTINGS UPON REVIEW AND APPROVAL.
  2. PROVIDE DIELECTRIC GASKETS BETWEEN ALL FLANGES OF DISSIMILAR METAL.
  3. ALL ABOVE GRADE METALLIC PIPING SHALL BE COATED WITH FUSION BONDED EPOXY COATING WITH URETHANE TOP COAT.
  4. INSTALL FLEXIBLE EXPANSION JOINT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL IN POLYETHYLENE SLEEVE AND BED AND BACKFILL A MINIMUM OF 6" ON ALL SIDES WITH COHESIONLESS PEA GRAVEL.

- SHEET KEYNOTES**
1. (N) 4" FL x PE DI PIPE.
  2. (N) 4" RESTRAINED FCA.
  3. (N) 4" GATE VALVE IN RISER BOX. SEE DETAIL 2 SHEET C-503.
  4. (N) 4" CHECK VALVE.
  5. (N) 4" DI GATE VALVE WITH OPERATING NUT.
  6. (N) 4"x4"x4" DI TEE.
  7. (N) 4" RUBBER FLEXIBLE EXPANSION JOINT.
  8. (N) 4" FL x PE SST PIPE.
  9. (N) 4" HDPE PIPE WITH BUTTED FLANGE ADAPTER.
  10. (N) 4" 90° DI ELBOW.
  11. (N) 4" FLANGED NOZZLE PER TANK MANUFACTURER. SEE DETAIL 10 SHEET S-501.
  12. (N) 36"x36" PRECAST CONCRETE VAULT.
  13. (N) 4" DI GATE VALVE WITH HAND WHEEL.
  14. (N) 4" DOUBLE-BALL FLEXIBLE EXPANSION JOINT.
  15. (N) CINDER BLOCK PIPE SUPPORTS.
  16. (N) DIELECTRIC UNION.



**3 TANK INTERTIE** NOT TO SCALE

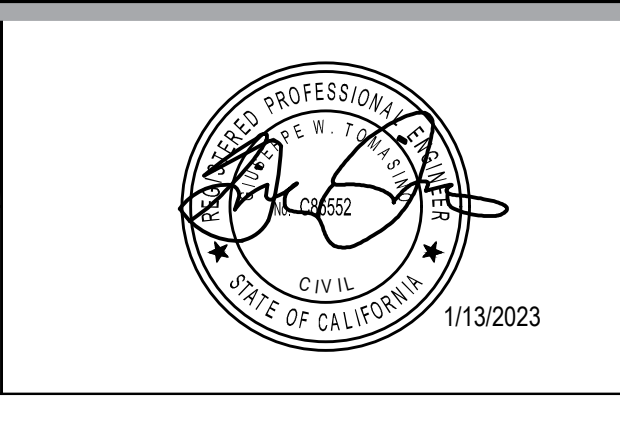


**A SECTION** and **B SECTION**

No.	Issue	Checked	Approved	Date	
Author	D. AGUAS	Drafting Check	S. PEARL	Project Manager	G. TOMASINO
Designer	S. PEARL	Design Check	M. KENNEDY	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 ————— 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**

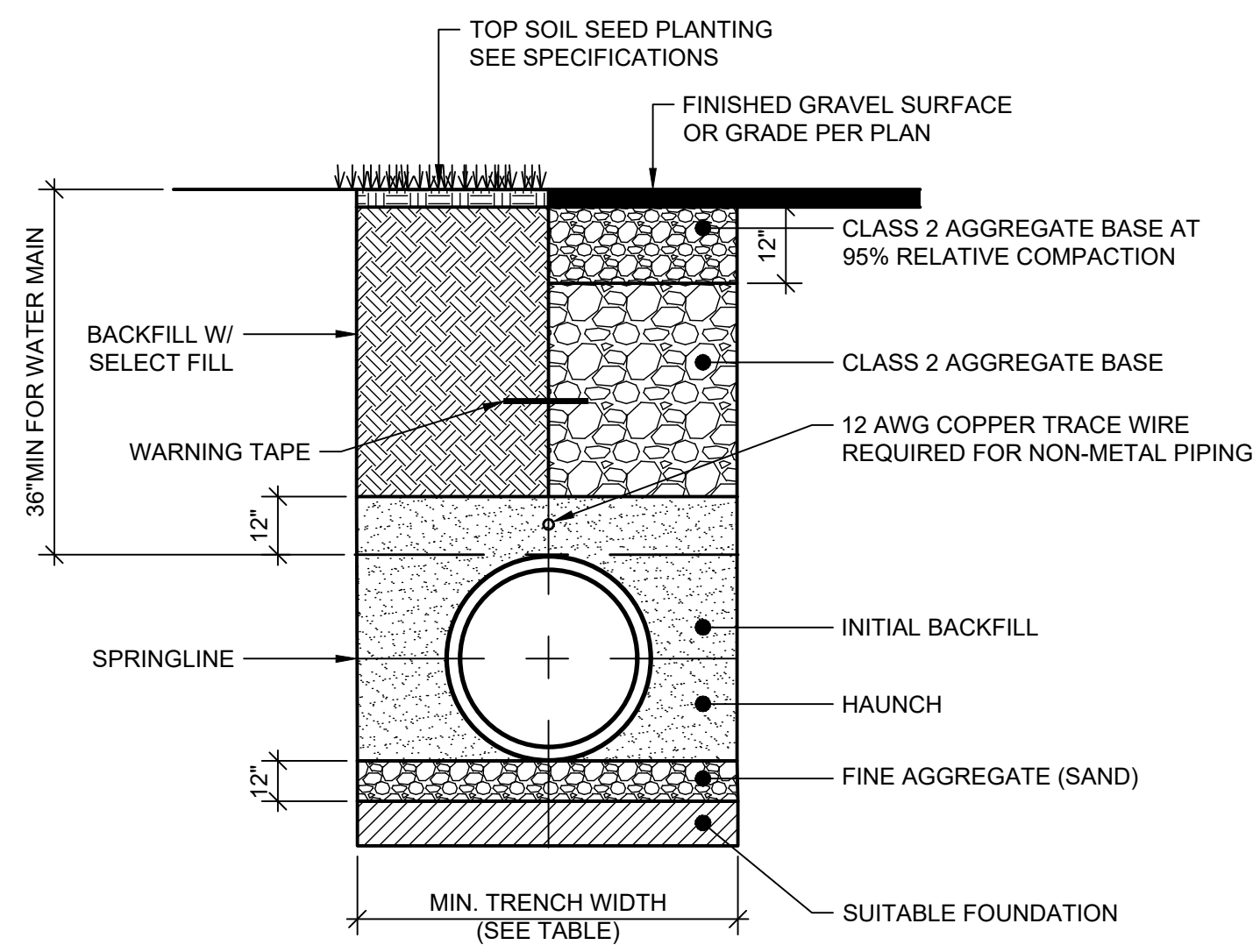
Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

Title **CIVIL DETAILS 1**

Size **ANSI D**

Drawing No. **C-502** Sheet No. **14 of 48**



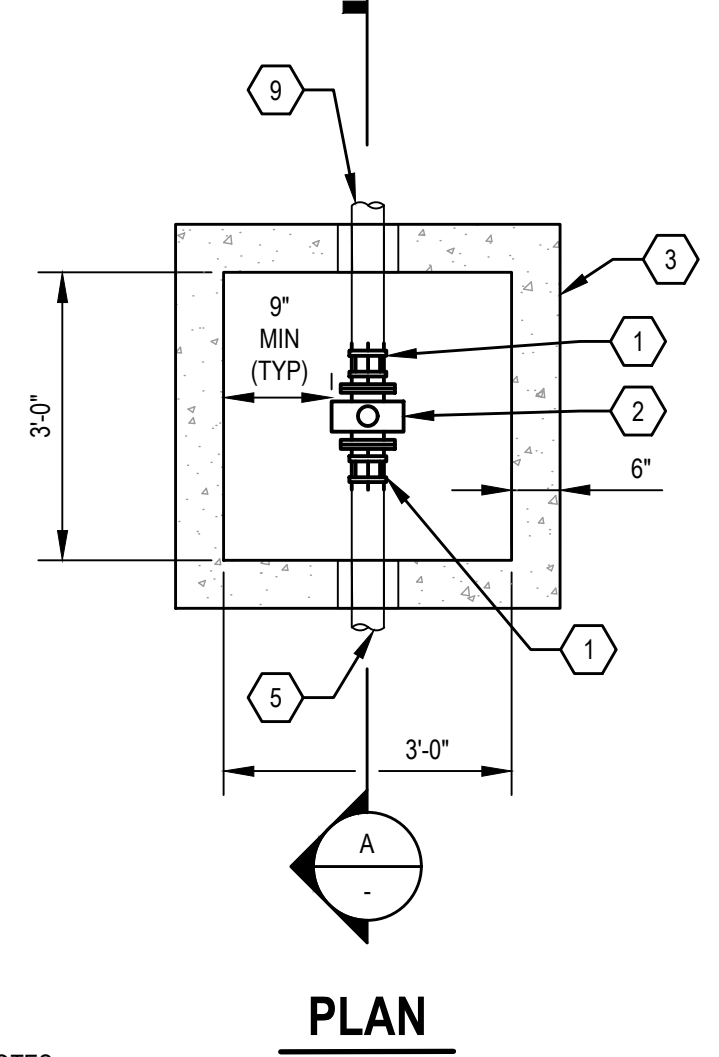
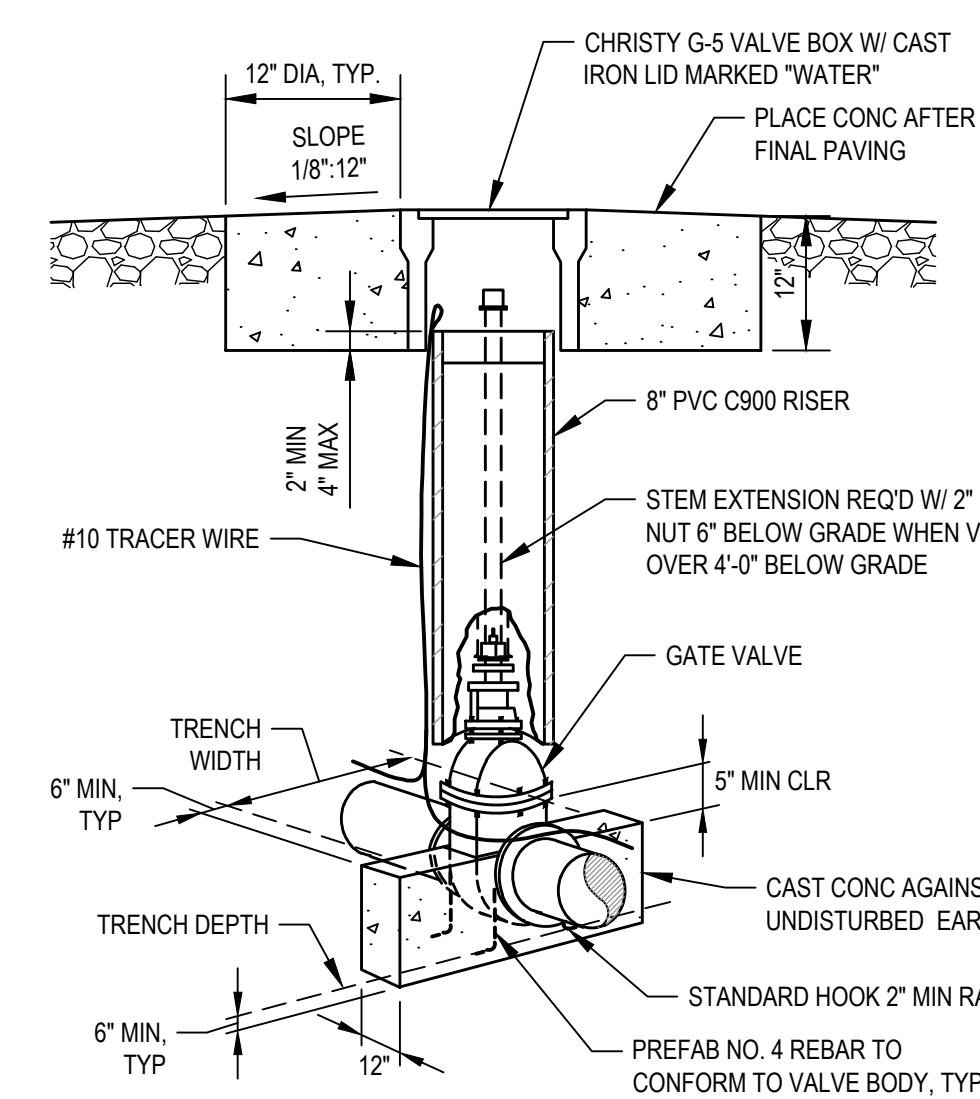


RECOMMENDED MINIMUM TRENCH WIDTHS	
PIPE DIA	MIN. TRENCH WIDTH
<4"	18"
4"	24"
6"	30"
8"	30"
12"	36"

- NOTES:**
- WIDER TRENCHES SHALL REQUIRE HIGHER STRENGTH PIPE AND/OR SPECIAL BEDDING.
  - DIFFERING TRENCH WIDTHS REQUIRE PRIOR APPROVAL OF ENGINEER.
  - WARNING AND IDENTIFICATION TAPE SHALL BE BURIED 12 INCHES BELOW FINISHED GRADE OR 6" BELOW TOP OF SUBGRADE UNDER PAVEMENTS AND SLABS.
  - TRACER WIRE SHALL BE BURIED DIRECTLY ABOVE PIPING AT A DISTANCE NOT TO EXCEED 12 INCHES ABOVE THE TOP OF PIPE.

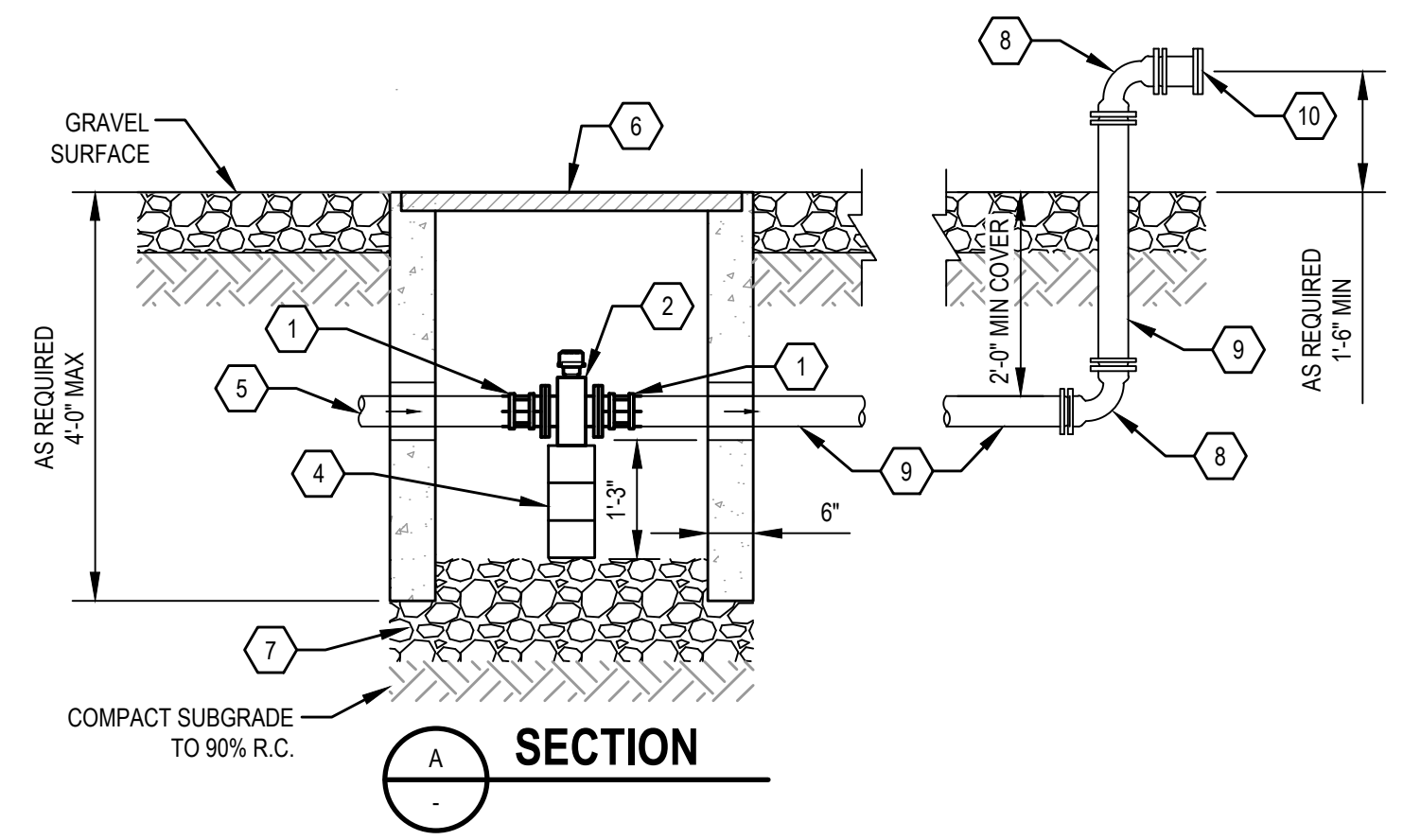
**NOTES:**

- A BURIED VALVE 5' AND DEEPER SHALL BE PROVIDED WITH A SOLID STEEL EXTENSION STEM OPERATOR WITH A 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
- CONTRACTOR SHALL REMOVE ALL DEBRIS AND SOIL FROM VALVE BOX BEFORE ACCEPTANCE.
- CONCRETE COLLAR FLUSH WITH FINISHED GRADE FOR PAVED AREA AND 2" ABOVE FINISHED GRADE FOR UNPAVED AREA.
- JOINTS, BOLTS AND NUTS SHALL BE CLEAR OF CONCRETE.
- VALVE BOX SHALL BE CHRISTY MODEL G5 TRAFFIC BOX, OR APPROVED EQUAL.
- VALVE SIZE AS SHOWN ON PLANS.
- WRAP VALVE IN PPOLYETHYLENE PRIOR TO POURING CONCRETE.



**NOTES:**

- ABOVE GRADE PIPING SHALL BE FLANGED. BELOW GRADE PIPING SHALL BE FUSED HDPE OR RESTRAINED MECHANICAL JOINT, UNLESS NOTED OTHERWISE. CONTRACTOR MAY PROPOSE ALTERNATIVE FITTINGS UPON REVIEW AND APPROVAL.
- PROVIDE DIELECTRIC GASKETS BETWEEN ALL FLANGES OF DISSIMILAR METAL.
- PRECAST CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
- INSTALL PIPE SUPPORT IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTION.
- EXISTING MAG METER, EXISTING FLEX HOSE AND CAM LOCK FITTING TO BE SALVAGED AND RE-USED.



**MATERIAL LIST**

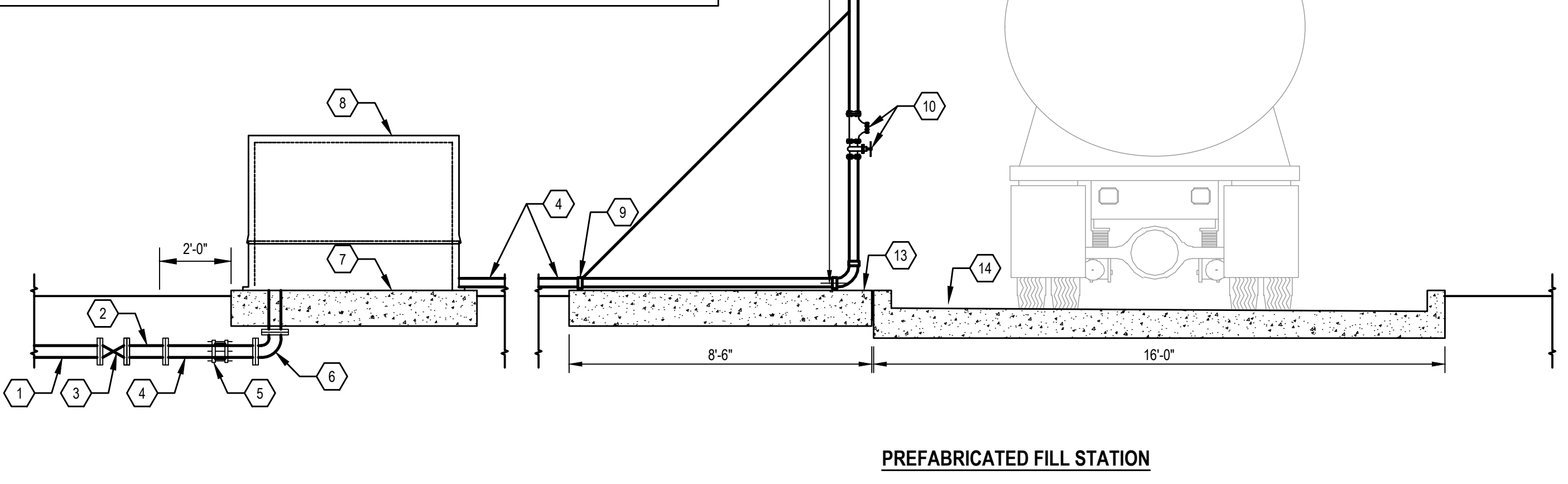
ITEM	QTY	DESCRIPTION
1	1	4" TRANSITION COUPLING
2	1	SALVAGED 4" MAGNETIC FLOW METER, PROVIDED BY OWNER.
3	1	3'x3' ID PRECAST CONCRETE UTILITY VAULT, DEPTH AS REQUIRED (4'-0" MAX)
4	AS REQ'D	CMU BLOCK FLOW METER SUPPORT.
5	AS REQ'D	4" HDPE PIPE
6	1	3' X 3' SINGLE LEAF VAULT ACCESS COVER
7	0.17 CY	GRANULAR BEDDING (COMPACTED)
8	2	4" SST RESTRAINED MJ 90° ELBOW
9	AS REQ'D	4" SST PIPE
10	1	SALVAGED FLEX HOSE CAM LOCK COUPLING FROM EXISTING SYSTEM

**1 TYPICAL TRENCH SECTION** NOT TO SCALE

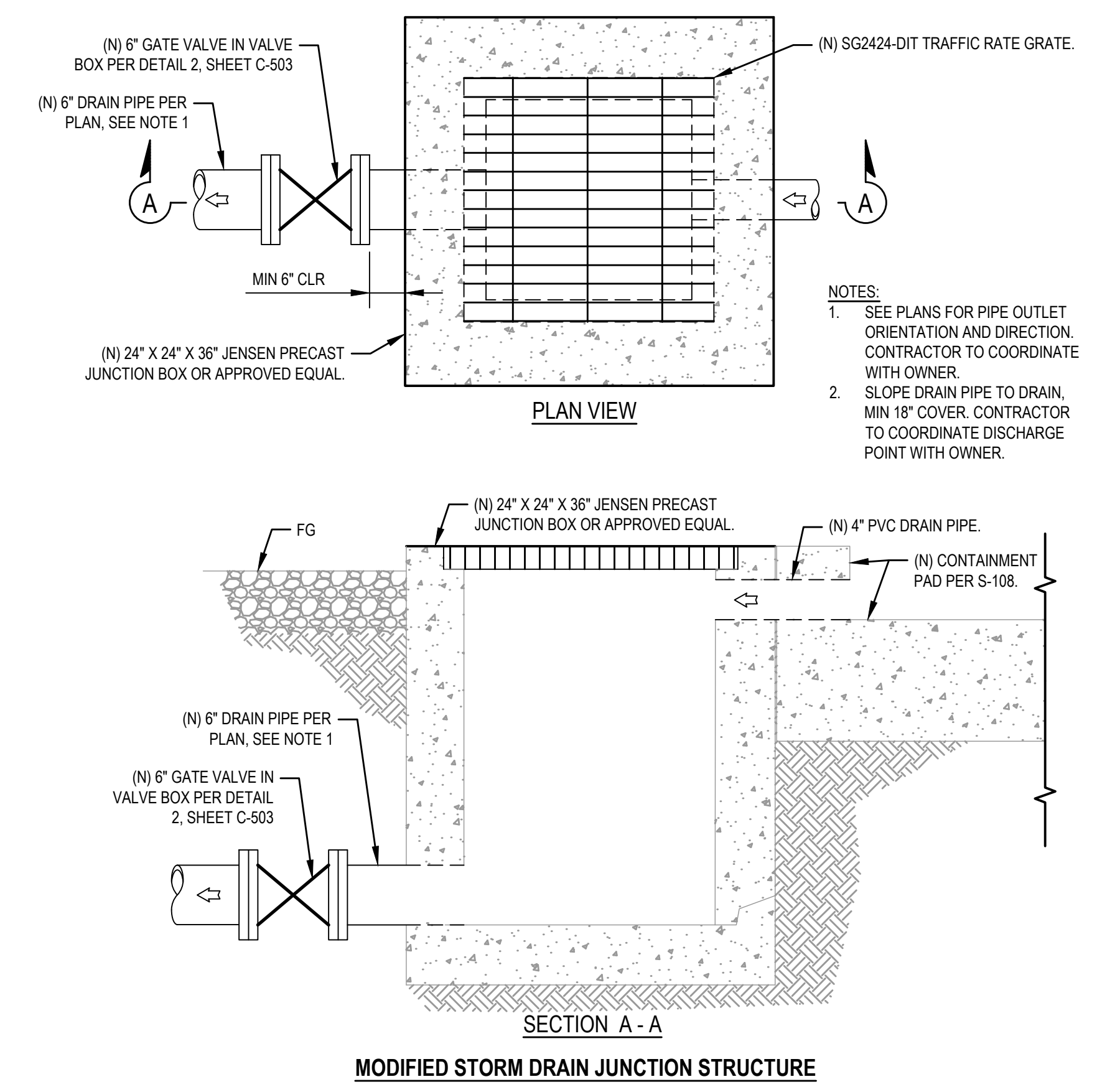
**2 GATE VALVE IN RISER BOX** NOT TO SCALE

**4 FLOW METER VAULT** NOT TO SCALE

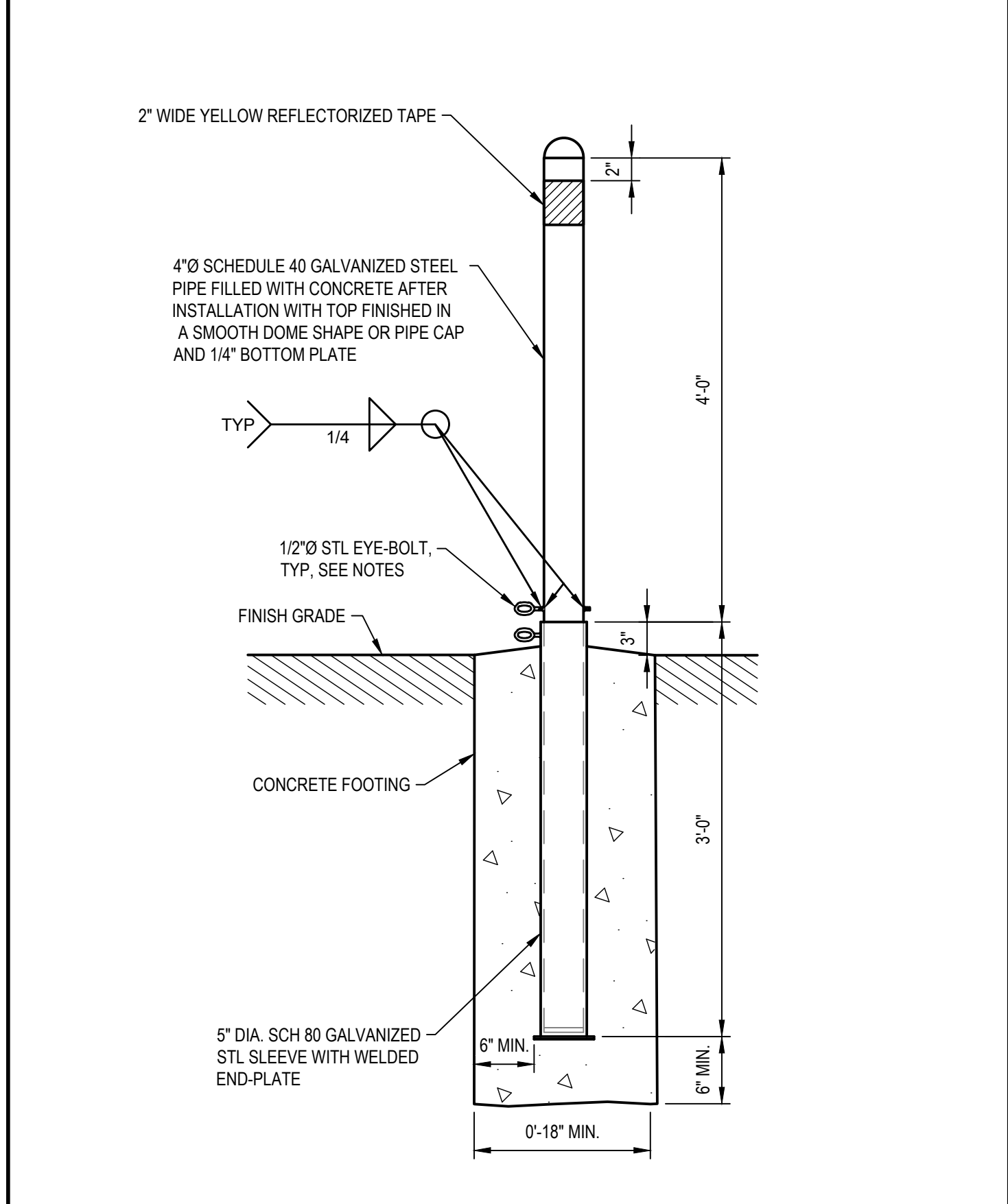
- SHEET KEYNOTES**
- (N) 4" HDPE PIPE PER SPECIFICATIONS.
  - (N) 4" DI TEE. SEE PLAN FOR MANUAL BYPASS.
  - (N) 4" DI GATE VALVE WITH RISER BOX PER DETAIL 2, THIS SHEET.
  - (N) 4" SST PIPE.
  - (N) 4" FLEX COUPLING.
  - (N) 4" SST ELBOW PER SPECIFICATIONS.
  - (N) EQUIPMENT PAD PER DETAIL 2, SHEET S-004. DIMENSIONS PER MANUFACTURER REQUIREMENTS.
  - (N) CAL WEST RAIN CUSTOM PUMP, FLOW METER AND BACKFLOW ASSEMBLY IN SST ENCLOSURE, ANCHORED TO EQUIPMENT PAD PER MANUFACTURER REQUIREMENTS.
  - (N) WAGNER STEEL, OR APPROVED EQUAL, 4" PIPE BRACE. CONTRACTOR TO INSTALL (2) ON OPPOSITE SIDE OF J-STAND ANCHORED TO PAD USING HILTI KWIK BOLT TZ 5/8" WEDGE ANCHOR, MIN 6" EMBEDMENT.
  - (N) BALL VALVE AND FLEX HOSE QUICK COUPLING FOR ALTERNATIVE FILLING. PROVIDED WITH CUSTOM CAL WEST RAIN J-STAND OR APPROVED EQUAL.
  - (N) CAL WEST RAIN SCH 10 304 STAINLESS STEEL CUSTOM J-STAND OR APPROVED EQUAL.
  - (N) 4" FLEXIBLE DISCHARGE HOSE PROVIDED WITH CUSTOM CAL WEST J-STAND OR APPROVED EQUAL.
  - (N) 8.5' X 8.5' EQUIPMENT PAD PER DETAIL 2, SHEET S-004.
  - (N) CONTAINMENT PAD PER SHEET S-108.



**PREFABRICATED FILL STATION**



**MODIFIED STORM DRAIN JUNCTION STRUCTURE**



**5 REMOVABLE BOLLARD** NOT TO SCALE

**3 FILL STATION AND OVERFLOW SUMP** NOT TO SCALE

<p>Bar is one inch on original size sheet</p> <p>0 1"</p>			<p>GHD Inc. 2235 Mercury Way Suite 150 Santa Rosa California 95407 USA T 1 707 523 1010 F 1 707 527 8679 www.ghd.com</p>	<p>Client <b>COUNTY OF SONOMA</b></p> <p>Project <b>LEACHATE TANK REPLACEMENT</b></p> <p>Project No. <b>12558724</b></p> <p>Date <b>1/13/2023</b></p> <p>Scale <b>AS SHOWN</b></p>	<p>Title <b>CIVIL DETAILS 2</b></p> <p>Size <b>ANSI D</b></p> <p>Drawing No. <b>C-503</b></p> <p>Sheet No. <b>15 of 48</b></p>
<p>100% SUBMITTAL</p>		<p>Conditions of Use This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.</p>			

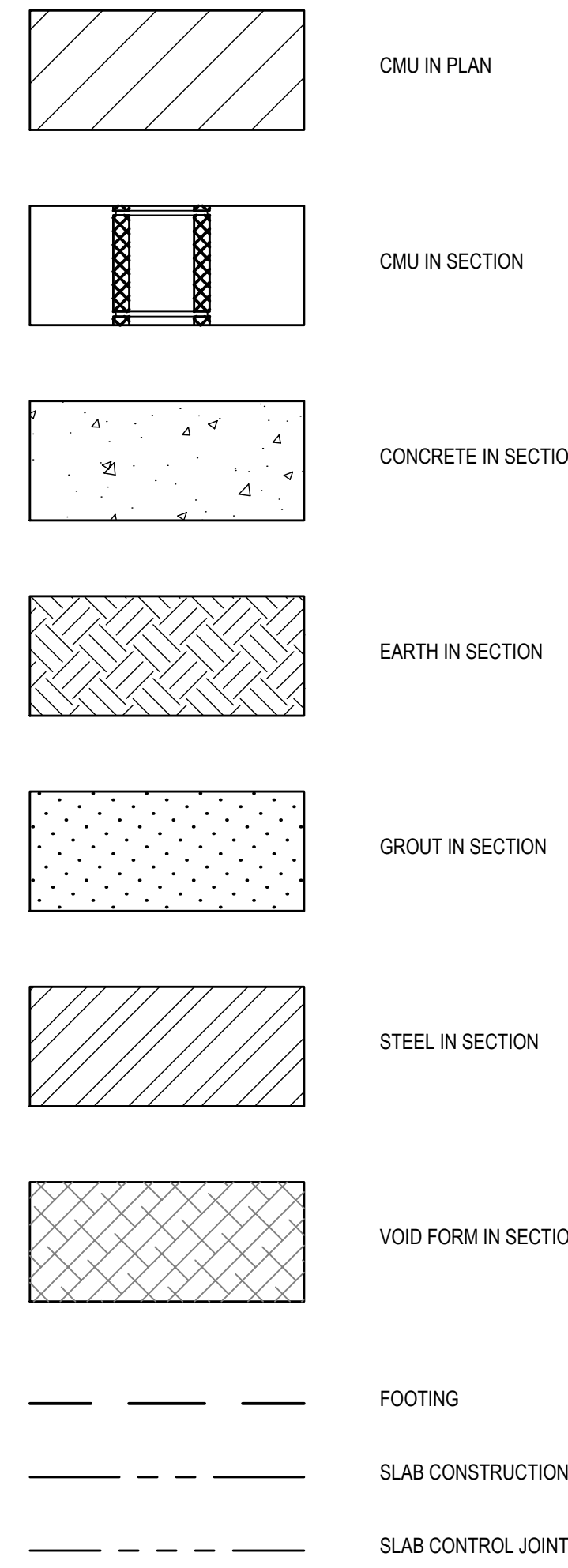


**STRUCTURAL ABBREVIATIONS**

**STRUCTURAL LEGEND**

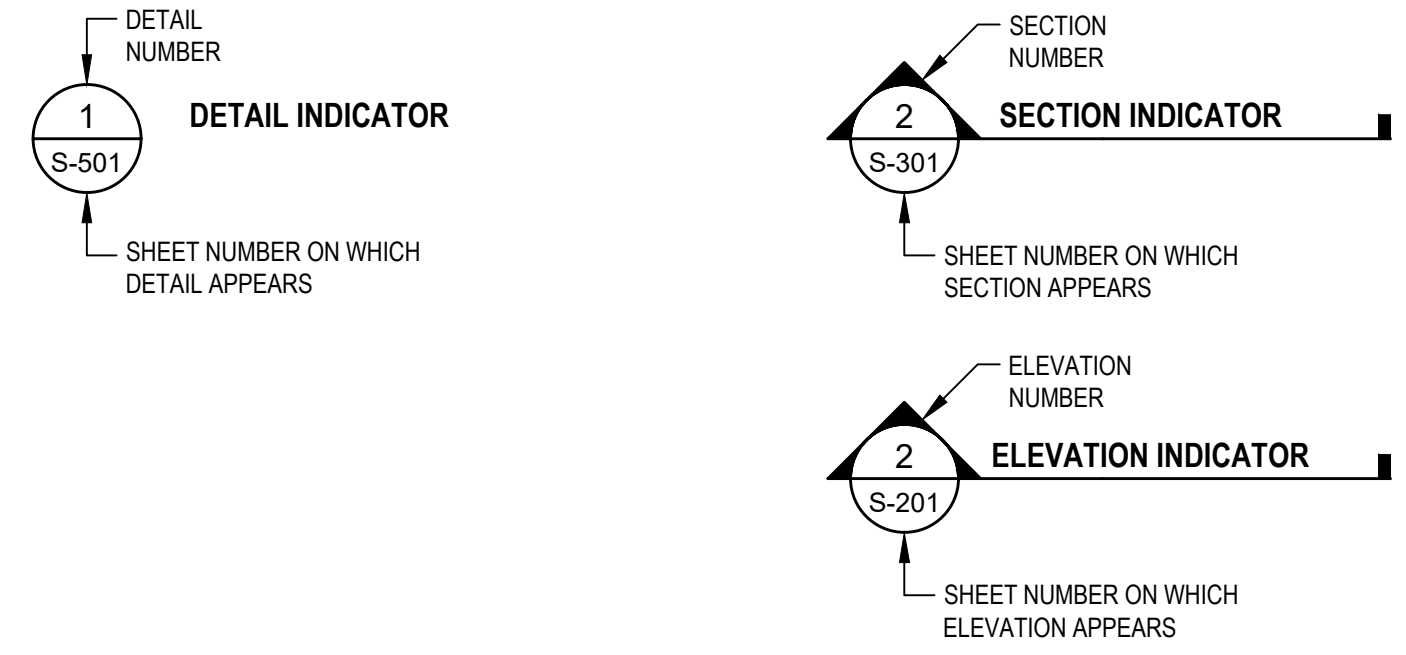
**GENERAL STRUCTURAL NOTES**

AB	ANCHOR BOLT	JT	JOINT
ABV	ABOVE	L	ANGLE
ACI	AMERICAN CONCRETE INSTITUTE	LBS	POUNDS
ADD'L	ADDITIONAL	LG	LONG
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LL	LIVE LOAD
AISI	AMERICAN IRON AND STEEL INSTITUTE	LLH	LONG LEG HORIZONTAL
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	LLV	LONG LEG VERTICAL
ALT	ALTERNATE	LOC	LOCATION
ALUM	ALUMINUM	LONGIT/LONGL	LONGITUDINAL
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LP	LOW POINT
APA	AMERICAN PLYWOOD ASSOCIATION	LT	LEFT
ARCH	ARCHITECT/ARCHITECTURAL	LWR	LOWER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAINT	MAINTENANCE
AWS	AMERICAN WELDING SOCIETY	MAS	MASONRY
AWWA	AMERICAN WATER WORKS ASSOCIATION	MAX	MAXIMUM
		MB	MACHINE BOLT
		MC	CHANNEL
		MCJT	MASONRY CONTROL JOINT
B/	BOTTOM OF	MECH	MECHANICAL
BB	BOTTOM BARS	MFR	MANUFACTURER
BLDG	BUILDING	MHHW	MEAN HIGHER HIGH WATER
BLKG	BLOCKING	MIN	MINIMUM
BM	BEAM	MISC	MISCELLANEOUS
BRG	BEARING	MLLW	MEAN LOWER LOW WATER
BS	BOTH SIDES	MNTG	MOUNTING
BTWN	BETWEEN	MO	MASONRY OPENING
		MOD	MODIFIED
C	CHANNEL	MTL	METAL
C/C	CENTER TO CENTER		
CAP	CAPACITY	(E)	NEW
CBC	CALIFORNIA BUILDING CODE	NIC	NOT IN CONTRACT
CF	CUBIC FEET	NO.	NUMBER
CHKD	CHECKED	NOM	NOMINAL
CJ	CONTRACTION/CONTROL JOINT	NS	NEAR SIDE
CL	CENTERLINE	NTS	NOT TO SCALE
CLR	CLEAR		
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
COL	COLUMN	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OF	OUTSIDE FACE
CONN	CONNECTION	OPG	OPENING
CONSTR	CONSTRUCTION	OPP	OPPOSITE
CONT	CONTINUOUS		
COORD	COORDINATE	PL	PLATE
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	PLCS	PLACES
CTR/CTRD	CENTER/CENTERED	PNL	PANEL
		PREFAB	PREFABRICATED
		PT	POINT, PRESSURE TREATED
d	PENNY (NAIL SIZE)	QTY	QUANTITY
DBL	DOUBLE		
DEG	DEGREES	R/RAD	RADIUS
DET	DETAIL	REF	REFERENCE
DIA	DIAMETER	REINF	REINFORCING
DIM	DIMENSION	REQD	REQUIRED
DL	DEAD LOAD	RF	ROOF
DWG	DRAWING	RM	ROOM
DWL	DOWEL		
(E)EXIST	EXISTING	SCHED/SCH	SCHEDULE
EA	EACH	SEC	SECTION
EF	EACH FACE	SF	SQUARE FEET
ELE/ELEV	ELEVATION	SHT	SHEET
EMBED	EMBEDMENT	SIM	SIMILAR
ENGR	ENGINEER	SP	SPACE/SPACES
EQ	EQUAL	SPCG	SPACING
EQUIP	EQUIPMENT	SPEC	SPECIFICATIONS
ETC	ET CETERA	SST	STAINLESS STEEL
EW	EACH WAY	STD	STANDARD
EWEF	EACH WAY EACH FACE	STIFF	STIFFENER
EXT	EXTERIOR	STL	STEEL
		STRUCT	STRUCTURAL
FF	FINISHED FLOOR	SYM	SYMMETRICAL
FG	FINISHED GRADE		
FIN	FINISH	T	TOP
FL	FLOOR	T/	TOP OF
FLG/FL	FLANGE	T&B	TOP AND BOTTOM
FND	FOUNDATION	TB	TOP OF BAR
FO	FACE OF	THK	THICK
FOM	FACE OF MASONRY	TOC	TOP OF CONCRETE
FOW	FACE OF WALL	TOS	TOP OF STEEL
FPT	FEMALE PIPE THREAD	TYP	TYPICAL
FRMG	FRAMING		
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
		UON	UNLESS OTHERWISE NOTED
GA	GAUGE	VAR	VARIES
GALV	GALVANIZED	VERT	VERTICAL
GR	GRADE		
GWB	GYP SUM WALL BOARD		
		W/	WITH
HK	HOOK	W OR WF	WIDE FLANGE (BEAM)
HM	HOLLOW METAL	W/O	WITHOUT
HOF	HORIZONTAL OUTSIDE FACE	WP	WORK POINT
HORIZ	HORIZONTAL	WS	WATERSTOP
HSS	TUBE STEEL/HOLLOW STRUCTURAL STEEL	WT	TEE
HT	HEIGHT		
		&	AND
IBC	INTERNATIONAL BUILDING CODE	@	AT
ID	INSIDE DIAMETER	°	DEGREE
IE	THAT IS	Ø	DIAMETER
INFO	INFORMATION	'	FEET
INT	INTERIOR	"	INCHES
INTERMED	INTERMEDIATE	#	NUMBER
INTERSECT	INTERSECTION	±	PLUS OR MINUS
INV	INVERT		



- GENERAL**
- CONTRACTOR TO COORDINATE ALL STRUCTURAL DOCUMENTS WITH ALL OTHER DISCIPLINES AND REPORT ANY DISCREPANCIES TO THE OWNER PRIOR TO THE START OF ANY FABRICATION OR CONSTRUCTION.
  - CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE OWNER PRIOR TO CONSTRUCTION.
  - ABBREVIATIONS ON THIS SHEET APPLY ONLY TO THE STRUCTURAL DRAWINGS, REFER TO OTHER DISCIPLINES FOR APPLICABLE SYMBOLS NOT PROVIDED HERE.
  - THIS IS A STANDARD ABBREVIATION AND LEGEND SHEET, THEREFORE, SOME ABBREVIATIONS AND LEGEND SYMBOLS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.
  - DO NOT SCALE DRAWINGS.

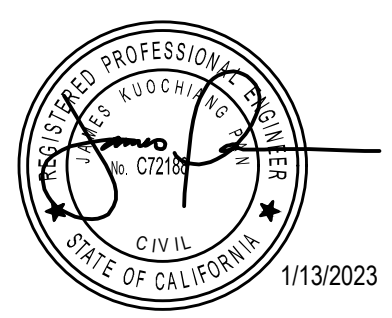
**ANNOTATION**



No.	Issue	Checked	Approved	Date	
Author	CFB	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

**Conditions of Use**  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>STRUCTURAL LEGEND, ABBREVIATIONS AND GENERAL NOTES</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-001</b>
Sheet No.	<b>16 of 48</b>

**STRUCTURAL GENERAL NOTES**

**GENERAL**

- REFERENCE TO CODES, RULES, REGULATIONS, STANDARDS, MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS OF REGULATORY AGENCIES IS TO THE LATEST PRINTED EDITION OF EACH IN EFFECT AT THE DATE OF SUBMISSION OF BID UNLESS THE DOCUMENT DATE IS SHOWN.
- THESE DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND FOR CHECKING DIMENSIONS. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES AND RESOLVE BEFORE PROCEEDING WITH THE WORK.
- DO NOT SCALE THE DRAWINGS.
- PROVIDE MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DURING CONSTRUCTION. RETAIN A REGISTERED CIVIL ENGINEER WHOM IS PROPERLY QUALIFIED TO DESIGN BRACING, SHORING, ETC. VISITS TO THE SITE BY THE OWNER'S REPRESENTATIVE WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.
- INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE OWNER'S REPRESENTATIVE.
- REFER TO CIVIL DRAWINGS FOR SIZE AND LOCATION OF FLOOR, ROOF AND WALL OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE THE SIZE AND LOCATION OF OPENINGS ASSOCIATED WITH, BUT NOT LIMITED TO, ELECTRICAL, MECHANICAL AND PLUMBING TRADES. SUBMIT FINAL SIZING AND LOCATION REQUIREMENTS OF OPENINGS TO THE OWNER'S REPRESENTATIVE FOR REVIEW.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING A SAFE PLACE TO WORK AND MEETING THE REQUIREMENTS OF ALL APPLICABLE JURISDICTIONS. EXECUTE WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY AGAINST DAMAGE BY FALLING DEBRIS AND OTHER HAZARDS IN CONNECTION WITH THIS WORK.
- UNLESS NOTED OTHERWISE, REFER TO DRAWINGS OTHER THAN STRUCTURAL FOR FINISHES, SLOPES, DEPRESSIONS, OPENINGS, CURBS, STAIRS, RAMPS, TRENCHES, EQUIPMENT AND LOCATIONS AND EXTENT OF SUCH CONDITIONS.
- CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
- DETAILS OR CONDITIONS NOT FULLY DEVELOPED ON STRUCTURAL DOCUMENTS ARE SIMILAR TO DEVELOPED DETAILS.
- REFER TO SITE SPECIFIC GEOTECHNICAL REPORTS FOR SITE CONDITIONS, EXCAVATION, SHORING REQUIREMENTS, UNDERPINNING, BACKFILL BEHIND WALLS AND SUBDRAINAGE PREPARATIONS.
- ALL BUILDING FOUNDATION PLANS, FLOOR PLANS AND ROOF PLANS TO BE COORDINATED WITH GENERAL NOTES AND TYPICAL DETAILS AS APPLICABLE.

**SPECIAL INSPECTION**

- SPECIAL INSPECTIONS, PER CBC 1704A AND 1705A.

**CONCRETE**

- ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS. CONTRACTOR TO REVIEW FORMING, REINFORCING DETAILS AND ANY EMBEDDED ITEMS AND DETERMINE PRIOR TO FABRICATION OF ANY REINFORCING, PLACEMENT REQUIREMENTS AND CLEARANCES.
- CONCRETE IS REINFORCED AND CAST-IN-PLACE UNLESS OTHERWISE NOTED. WHERE REINFORCING IS NOT SPECIFICALLY SHOWN OR WHERE DETAILS ARE NOT GIVEN, PROVIDE REINFORCING SIMILAR TO THAT SHOWN FOR SIMILAR CONDITIONS. SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.
- ROUGHEN CONCRETE SURFACES OF CONSTRUCTION JOINTS TO 1/4 INCH AMPLITUDE AND CLEAN OF LAITANCE, FOREIGN MATTER, AND LOOSE PARTICLES. LOCATE CONSTRUCTION JOINTS AS SHOWN ON THE DRAWINGS. SUBMIT ALTERNATE JOINT LOCATIONS OR JOINTS NOT SHOWN TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH THE WORK.
- AT LOCATIONS WHERE CONCRETE IS CAST AGAINST EXISTING CONCRETE, ROUGHEN CONTACT SURFACES TO 1/4 INCH AMPLITUDE AND CLEAN OF LAITANCE, FOREIGN MATTER, AND LOOSE PARTICLES. EXISTING SURFACE SHALL BE SATURATED SURFACE DRY WITH NO STANDING WATER PRIOR TO NEW CONCRETE POUR.
- CONCRETE CLEAR COVER TO REINFORCING BARS IS AS FOLLOWS, UNLESS OTHERWISE NOTED:

LOCATION	CLEAR COVER
CONCRETE PLACED AGAINST EARTH	3 INCHES
FORMED SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH EARTH:	
#6 BARS AND LARGER	2 INCHES
#5 BARS AND SMALLER	1 1/2 INCHES
SLABS ON GRADE (TOP CLEARANCE)	1 1/2 INCHES
BEAMS, GIRDERS AND COLUMNS NOT EXPOSED TO WEATHER OR EARTH	1 1/2 INCHES
WALL OR SLAB SURFACES NOT EXPOSED TO WEATHER OR EARTH:	
#5 AND SMALLER	3/4 INCH
#5 AND #7	1 INCH
#8, #9, #10 AND #11	1 1/2 INCHES
#14 AND #18	2 1/2 INCHES

- NON-SHRINK GROUT, 7000 PSI: EUCLID CHEMICAL COMPANY'S "EUCCO-NS", L&M CRYSTEX, MASTER BUILDERS' "MASTERFLOW 713", OR FIVE STAR GROUT. WHERE HIGH FLUIDITY OR INCREASED PLACING TIME IS REQUIRED, USE EUCLID CHEMICAL COMPANY'S "EUCCO HI-FLOW GROUT", MASTER BUILDERS' "MASTERFLOW 928", OR APPROVED EQUAL.

**FORMWORK**

- PROVIDE POUR POCKETS IN FORMS AND UNDER EXISTING STRUCTURAL MEMBERS AS REQUIRED TO PREVENT AIR POCKETS AND/OR "HONEYCOMB" UNDER OR AROUND THE EXISTING MEMBERS. CONCRETE CAST WITH AIR POCKETS AND/OR "HONEYCOMB" UNDER OR AROUND THE MEMBERS IS NOT ACCEPTABLE.
- REMOVE FORMS AND SHORES IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	REMOVE FORMS AND SHORES NO SOONER THAN
CONCRETE PLACED AGAINST EARTH	72 HOURS
COLUMNS AND WALLS	48 HOURS
FOOTINGS, PILE CAPS AND GRADE BEAMS	

- PROVIDE CURING WHERE FORMS ARE REMOVED IN LESS THAN 7 DAYS INCLUDING, BUT NOT LIMITED TO, WALLS, COLUMNS, AND UNDERSIDE OF ELEVATED SLABS.

**REINFORCING STEEL**

- ALL CONCRETE REINFORCING SHALL BE ASTM A615, GRADE 60.
- REINFORCING SHALL EXTEND CONTINUOUS FOR THE DIMENSION SHOWN.
- NO WELDING OF ANY REINFORCING IS PERMITTED.
- LOCATE ALL REINFORCING AS SHOWN ON DRAWINGS AND FASTEN SECURELY.
- ALL REINFORCING TO TERMINATE WITH STANDARD HOOKS AS SHOWN ON PLANS. ALL STIRRUPS AND TIES TO BE CLOSED WITH 135 DEGREE BENDS.
- ACCURATELY POSITION, SUPPORT, AND SECURE REINFORCEMENT FROM DISPLACING DUE TO FORMWORK, CONSTRUCTION, OR CONCRETE PLACEMENT OPERATIONS. LOCATE AND SUPPORT REINFORCING BY METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS, AND HANGERS AT A MAXIMUM 3-FOOT SPACING.

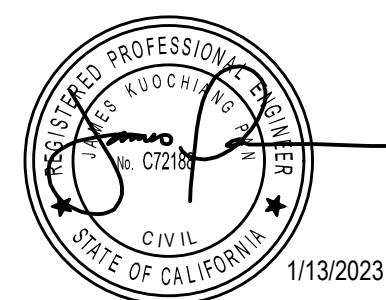
**FOUNDATIONS**

- CONTRACTOR SHALL PREPARE SITE AND PROVIDE FILL IN ACCORDANCE WITH ALL RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT AND EARTHWORK SPECIFICATION.
- CONTRACTOR'S GEOTECHNICAL ENGINEER TO BE PRESENT TO OBSERVE SITE PREPARATION AND EXCAVATION AS WELL AS FILL EXCAVATION AND RE-COMPACTION AS RECOMMENDED IN THE GEOTECHNICAL REPORT.
- PROVIDE SITE DE-WATERING AS NECESSARY TO ACHIEVE THE WORK. WATER SHALL BE TESTED PRIOR TO DISPOSAL.
- LOCATE AND PROTECT EXISTING UTILITIES TO REMAIN DURING AND/OR AFTER CONSTRUCTION.
- REMOVE ABANDONED FOOTINGS, UTILITIES, ETC. WHICH INTERFERE WITH NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED.
- NOTIFY THE OWNER'S REPRESENTATIVE IF ANY BURIED STRUCTURES NOT INDICATED, SUCH AS UTILITY LINES, FOUNDATIONS, ETC., ARE FOUND.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, UNDERPINNING AND PROTECTION OF EXISTING CONSTRUCTION.
- REMOVE LOOSE SOIL AND STANDING WATER FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING CONCRETE.
- EXCAVATIONS FOR FOUNDATIONS MUST BE ACCEPTED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLACING REINFORCING AND CONCRETE. NOTIFY THE OWNER'S REPRESENTATIVE WHEN EXCAVATIONS ARE READY FOR INSPECTION.

No.	Issue	Checked	Approved	Date
Author	CFB	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
			G. TOMASINO	
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 ————— 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679



**Conditions of Use**  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>STRUCTURAL GENERAL NOTES</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-002</b>
Sheet No.	<b>17 of 48</b>



**STATEMENT OF SPECIAL INSPECTIONS**

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION AND STRUCTURAL TESTING REQUIREMENTS OF THE BUILDING CODE SECTIONS 1704 AND 1705.

THIS STATEMENT OF SPECIAL INSPECTIONS ENCOMPASS THE FOLLOWING DISCIPLINES:

STRUCTURAL SPECIAL INSPECTIONS PER 1704  
 STRUCTURAL SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE  
 STRUCTURAL SPECIAL INSPECTIONS FOR WIND RESISTANCE

THE SCHEDULE OF SPECIAL INSPECTIONS SUMMARIZES THE SPECIAL INSPECTIONS AND TESTS REQUIRED. SPECIAL INSPECTORS WILL REFER TO THE APPROVED PLANS AND SPECIFICATIONS FOR DETAILED SPECIAL INSPECTION REQUIREMENTS. ANY ADDITIONAL TESTS AND INSPECTIONS REQUIRED BY THE APPROVED PLANS AND SPECIFICATIONS WILL ALSO BE PERFORMED.

THE SPECIAL INSPECTIONS IDENTIFIED ARE IN ADDITION TO THOSE REQUIRED BY OTHER SECTIONS OF THE BUILDING CODE. SPECIAL INSPECTION IS NOT A SUBSTITUTE FOR INSPECTION BY THE BUILDING OFFICIAL.

THE SPECIAL INSPECTION COORDINATOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL/CONTRACTING OFFICER AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 1704.1.2.

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY PER SECTION 1704.1.2. THE FINAL REPORT WILL DOCUMENT THE REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF DISCREPANCIES NOTED IN INSPECTIONS.

JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR IS REQUIRED TO COORDINATE ALL INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE SPECIAL INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO ANY SPECIAL INSPECTIONS THAT ARE REQUIRED. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE SPECIAL INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO ANY CONCRETE TO BE POURED.

THE INSPECTORS AND TESTING AGENCIES SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED PER SECTION 1704.1. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL/CONTRACTING OFFICER, PRIOR TO COMMENCING WORK. IF APPROPRIATE AGENTS ARE NOTED AS "TO BE DETERMINED (TBD)", THE OWNER IS RESPONSIBLE TO COORDINATE THE ASSEMBLY OF A SPECIAL INSPECTION TEAM. ALL SPECIAL INSPECTORS AND QUALIFICATIONS SHALL BE SUBMITTED TO GHD INC. AND THE BUILDING OFFICIAL FOR REVIEW.

SPECIALY INSPECTED WORK THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL IS SUBJECT TO REMOVAL OR EXPOSURE.

CONTINUOUS INSPECTION IS ALWAYS REQUIRED DURING THE PERFORMANCE OF THE WORK UNLESS OTHERWISE SPECIFIED. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED, IT IS THE AGENT'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT ALL THE WORK IS INSPECTED IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE.

**CONTRACTOR STATEMENT OF RESPONSIBILITY**

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OR FABRICATION OF A SYSTEM OR COMPONENT DESIGNATED ABOVE AS PART OF THE MAIN WIND FORCE OR MAIN SEISMIC FORCE RESISTING SYSTEMS ABOVE MUST SUBMIT A STATEMENT OF RESPONSIBILITY PER SECTION 1706.

**QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS**

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION AND TESTING ACTIVITIES ARE SUBJECT TO THE APPROVAL OF NMWD. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR MINIMUM QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING A STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATION SHALL APPEAR BELOW THE AGENCY NUMBER ON THE SCHEDULE.

PE/SE STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES  
PE/GE GEOTECHNICAL ENGINEER - A LICENSED GE OR PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS  
EIT ENGINEER-IN-TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION

**AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION**

ACI-CFTT CONCRETE FIELD TESTING TECHNICIAN - GRADE 1  
ACI-CCI CONCRETE CONSTRUCTION INSPECTOR  
ACI-LTT LABORATORY TESTING TECHNICIAN - GRADE 1&2  
ACI-STT STRENGTH TESTING TECHNICIAN

**AMERICAN WELDING SOCIETY (AWS) CERTIFICATION**

AWS-CWI CERTIFIED WELDING INSPECTOR  
AWS/AISC-SSI CERTIFIED STRUCTURAL STEEL INSPECTOR

**INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION**

ICC-SMSI STRUCTURAL MASONRY SPECIAL INSPECTOR  
ICC-SWSI STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR  
ICC-SFSI SPRAY-APPLIED FIREPROOFING SPECIAL INSPECTOR  
ICC-PCSI PRESTRESSED CONCRETE SPECIAL INSPECTOR  
ICC-RCSI REINFORCED CONCRETE SPECIAL INSPECTOR

**AMERICAN SOCIETY OF NONDESTRUCTIVE TESTING (ASNT)**

**SCHEDULE OF INSPECTION AND TESTING AGENCIES**

THIS STATEMENT OF SPECIAL INSPECTIONS / QUALITY ASSURANCE PLAN INCLUDES THE FOLLOWING BUILDING SYSTEMS:

SOILS AND FOUNDATIONS  
 CAST-IN-PLACE CONCRETE  
 PRECAST CONCRETE  
 MASONRY LEVEL 1  
 MASONRY LEVEL 2

WOOD CONSTRUCTION  
 MECHANICAL & ELECTRICAL SYSTEMS  
 ARCHITECTURAL SYSTEMS  
 STRUCTURAL STEEL  
 COLD-FORMED STEEL FRAMING

SPECIAL INSPECTION AGENCIES	FIRM AND CONTACT INFO.
1. SPECIAL INSPECTION COORDINATOR	TBD
2. CONCRETE INSPECTOR	TBD
3. STEEL INSPECTOR	TBD
4. SOILS INSPECTOR	TBD
5. CONCRETE TESTING AGENCY	TBD

**TABLE 1705.3 - CONCRETE**

ITEM 1: INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 2: INSPECTION OF REINFORCING STEEL WELDING <input type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 3: INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE. <input type="checkbox"/> PERIODIC <input checked="" type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 4: INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 5: VERIFYING USE OF REQUIRED DESIGN MIX. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 6: AT TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE. <input type="checkbox"/> PERIODIC <input checked="" type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 7: INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. <input type="checkbox"/> PERIODIC <input checked="" type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 8: INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 9: INSPECTION OF PRESTRESSED CONCRETE: A. APPLICATION OF PRESTRESSING FORCES <input type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM <input type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 10: ERECTION OF PRECAST CONCRETE MEMBERS <input type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 11: VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTSTRESSONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
ITEM 12: INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI


**TABLE 1705.6 - INSPECTION OF SOILS**

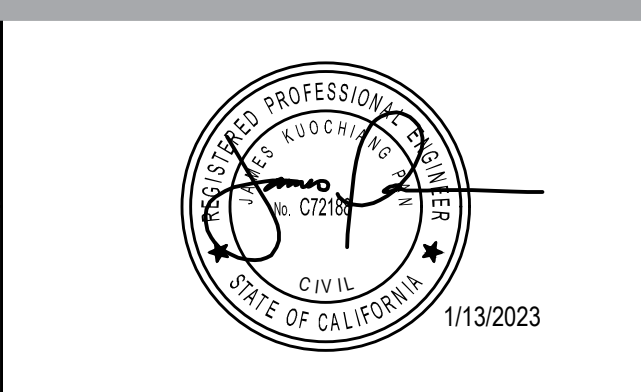
ITEM 1: VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIRED BEARING CAPACITY. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 2: VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 3: PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS. PERFORM SIEVE TESTS (ASTM D422 & D1140), ATTERBERG LIMIT TEST (ASTM D4318) AND MODIFIED PROCTOR TESTS (ASTM D1557) OF EACH SOURCE OF FILL MATERIAL. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 4: VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL. TEST DENSITY OF EACH LIFT OF FILL BY NUCLEAR METHODS (ASTM D6938) OR SAND CONE (ASTM D1556). VERIFY EXTENT AND SLOPE OF FILL PLACEMENT. VERIFY COMPACTION OF FILL AND BACKFILL MATERIAL TO 95 PERCENT OF ASTM D 1557. TEST EACH LIFT AT RANDOMLY SELECTED LOCATIONS EVERY 1000 SQUARE FEET OF FILL OR 50 LINEAR FOOT OF WALL OR CONTINUOUS FOOTING, WHICHEVER IS GREATER. PERFORM A MINIMUM OF ONE TEST PER ISOLATED FOOTING. PERFORM 3 TEST MINIMUM PER LIFT. <input type="checkbox"/> PERIODIC <input checked="" type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 5: PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY. <input checked="" type="checkbox"/> PERIODIC <input type="checkbox"/> CONTINUOUS	AGENCY # (QUALIF.): PE/GE

**NOTES:** SEE GENERAL STRUCTURAL NOTES FOR REFERENCE GEOTECHNICAL REPORT AND DESIGN BEARING CAPACITIES.

No.	Issue	Checked	Approved	Date	
Author	CFB	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0  1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

**Conditions of Use**  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**

Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

Title **STATEMENT OF SPECIAL INSPECTORS**

Drawing No. **S-003** Sheet No. **18 of 48**

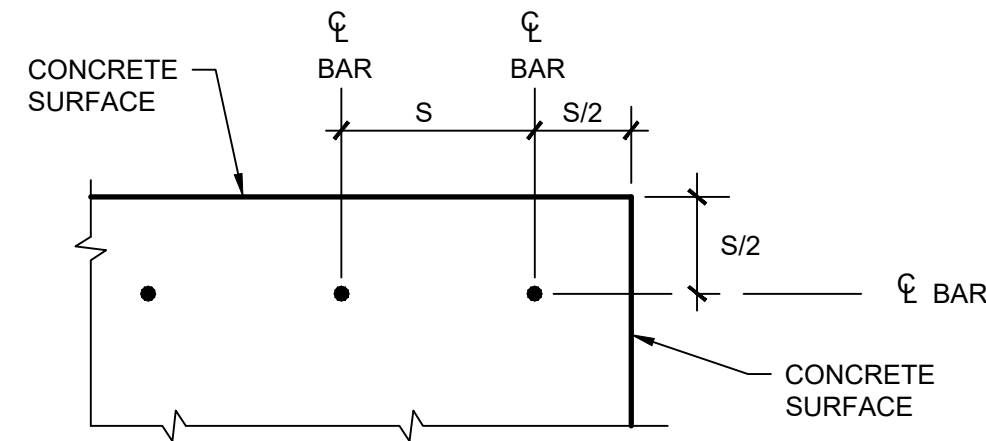


BAR SIZE	DEVELOPMENT LENGTH ( $l_d$ )											
	3000 PSI CONC. (f <sub>c</sub> )				4000 PSI CONC. (f <sub>c</sub> )				5000 PSI CONC. (f <sub>c</sub> )			
	TOP		OTHER		TOP		OTHER		TOP		OTHER	
#3	13	22	12	17	12	19	12	15	12	17	12	13
#4	18	29	14	22	15	25	12	19	14	23	12	17
#5	22	36	17	28	19	31	15	24	17	28	13	22
#6	26	43	20	33	23	37	18	29	20	34	16	26
#7	38	63	29	48	33	54	25	42	29	49	23	38
#8	43	72	33	55	37	62	29	48	34	56	28	43
#9	49	81	37	62	42	70	33	54	38	63	29	48
#10	56	89	43	69	49	78	38	60	44	69	34	54
#11	68	98	52	76	59	85	45	66	53	76	41	59

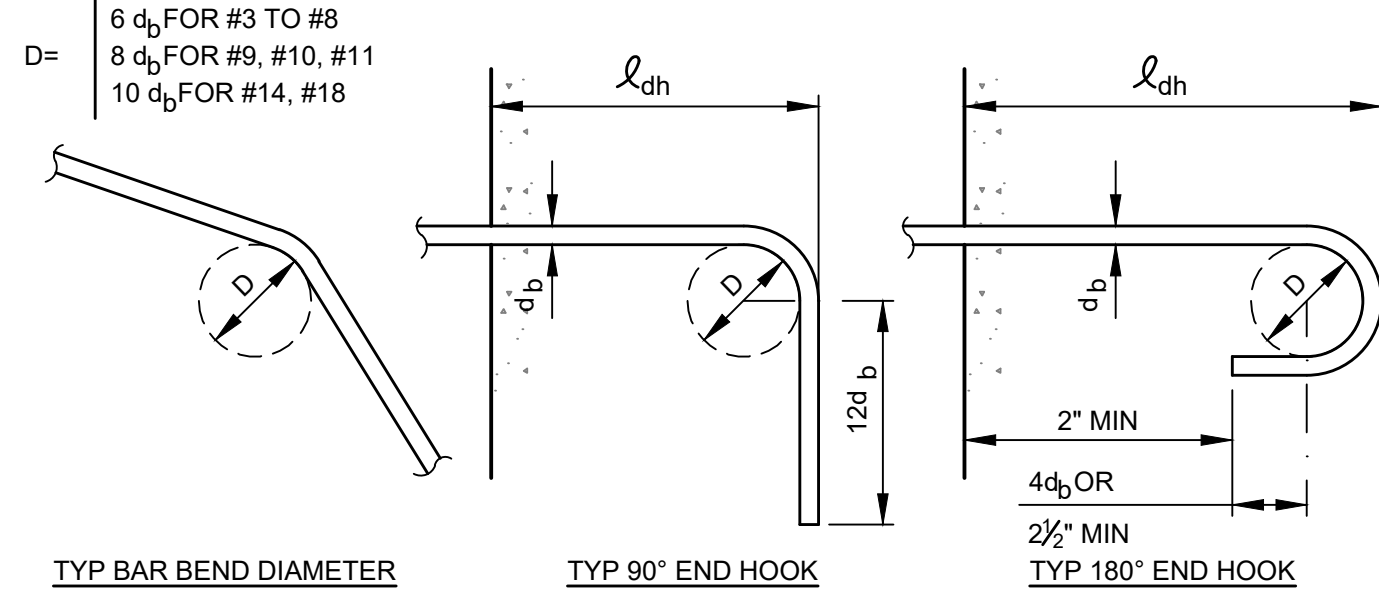
  

BAR SIZE	TENSION LAP SPLICE LENGTH (CLASS 'B' SPLICE)											
	3000 PSI CONC. (f <sub>c</sub> )				4000 PSI CONC. (f <sub>c</sub> )				5000 PSI CONC. (f <sub>c</sub> )			
	TOP		OTHER		TOP		OTHER		TOP		OTHER	
#3	17	28	16	22	16	25	16	19	16	22	16	17
#4	23	38	18	29	20	33	16	25	18	29	16	23
#5	28	47	22	36	25	41	19	31	22	36	17	28
#6	34	56	26	43	29	49	23	38	26	44	20	34
#7	49	82	38	63	43	71	33	55	38	63	30	49
#8	56	93	43	72	49	81	38	62	44	72	34	56
#9	63	105	49	81	55	91	42	70	49	81	38	63
#10	73	116	56	90	63	101	49	78	57	90	44	70
#11	88	128	68	99	76	111	59	85	68	99	53	76

- NOTES:
- LENGTHS SHOWN ARE FOR GRADE 60 UNCOATED BARS.
  - LENGTHS SHOWN ARE IN INCHES.
  - INCREASE LENGTHS 30% FOR LIGHT WEIGHT CONCRETE
  - TOP BARS: HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
  - THE QUANTITY 'S' IS DEFINED AS FOLLOWS:

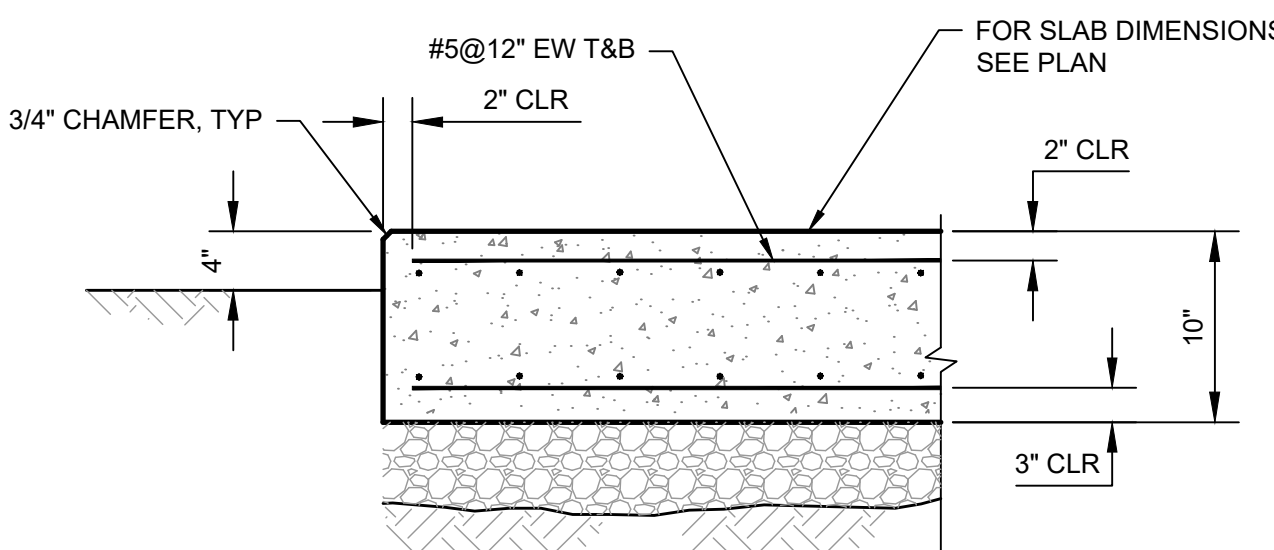


**1** TYP **BAR DEVELOPMENT LENGTHS AND LAP SPLICE LENGTHS**  
SCALE: NOT TO SCALE



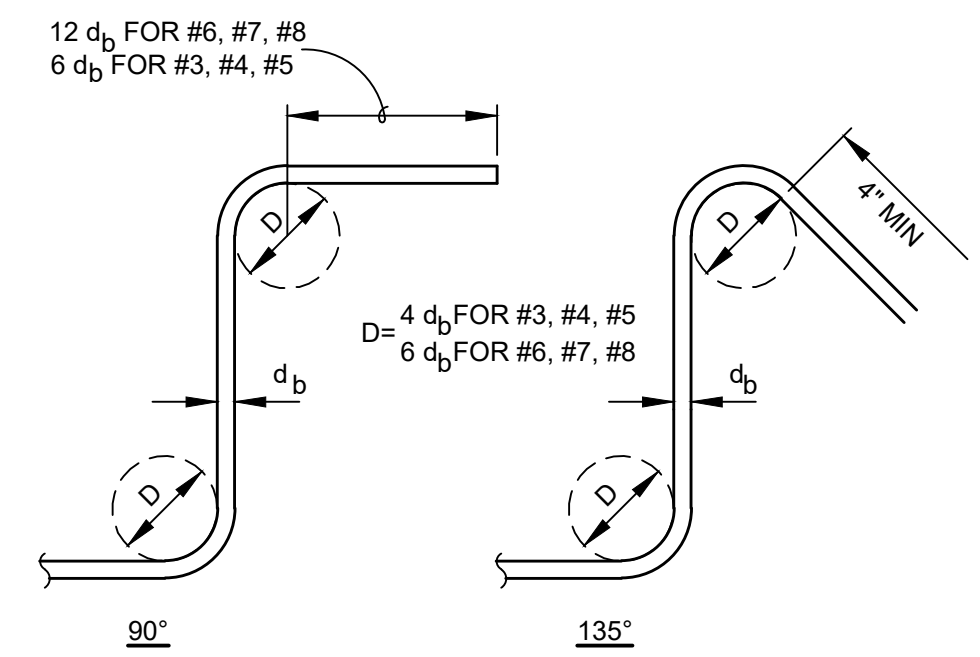
BAR SIZE	MINIMUM TENSION EMBEDMENT LENGTHS FOR STANDARD END HOOKS ON REINFORCING BARS ( $l_{dh}$ (IN.))			
	NORMAL WEIGHT CONCRETE, f <sub>c</sub> PSI			
	3000	4000	5000	6000
#3	6	6	6	6
#4	8	7	6	6
#5	10	9	8	7
#6	12	10	9	9
#7	14	12	11	10
#8	16	14	12	11
#9	18	15	14	13
#10	20	17	16	14
#11	22	19	17	16
#14	38	33	29	27
#18	50	43	39	35

**4** TYP **BAR BENDS AND END HOOKS**  
SCALE: NOT TO SCALE

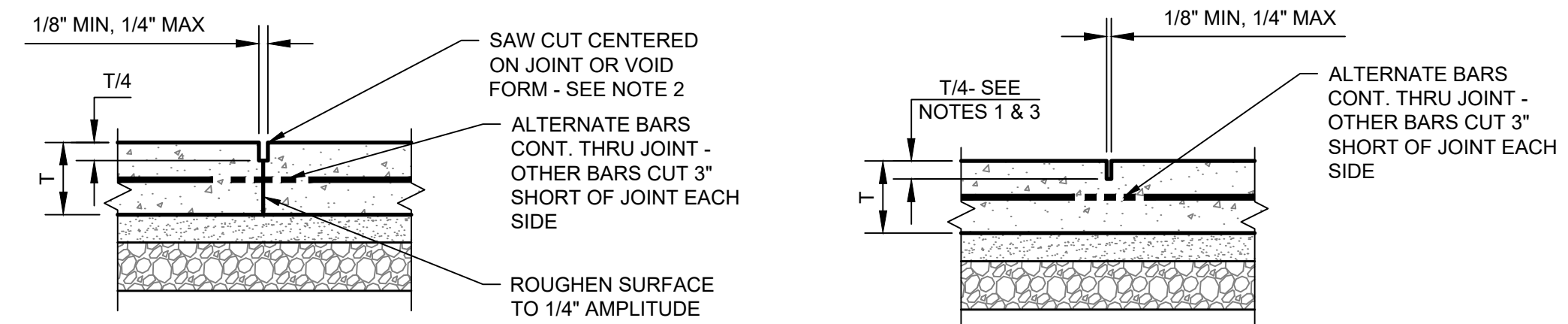


- NOTES:
- SUBGRADE PREPARATION, INCLUDING SOFT SOIL REPAIR AREAS, SHOULD BE PERFORMED PER THE RECOMMENDATIONS PER GEOTECHNICAL REPORT, SECTIONS 8.1 AND 8.4.
  - SUBGRADE PREPARATION - REMOVE AND REPLACE UPPER 24 INCHES OF SUBGRADE BENEATH BOTTOM OF AGGREGATE BASE LAYER AND 3 FEET LATERALLY BEYOND SLAB WITH NON-EXPANSIVE FILL MEETING REQUIREMENTS OF SOILS REPORT. COMPACT AND MOISTURE CONDITION SUBGRADE IN ACCORDANCE WITH SOILS REPORT.
  - 6" MIN OF CALTRANS CLASS 1 PERMEABLE MATERIAL TYPE "A" COMPACTED TO AT LEAST 95% RELATIVE COMPACTION IN ACCORDANCE WITH ASTM D698.
  - USE THIS DETAIL FOR TYPICAL EXTERIOR SLAB ON GRADE UNLESS OTHERWISE NOTED.

**2** TYP **TYPICAL EXTERIOR SLAB ON GRADE**  
SCALE: NOT TO SCALE

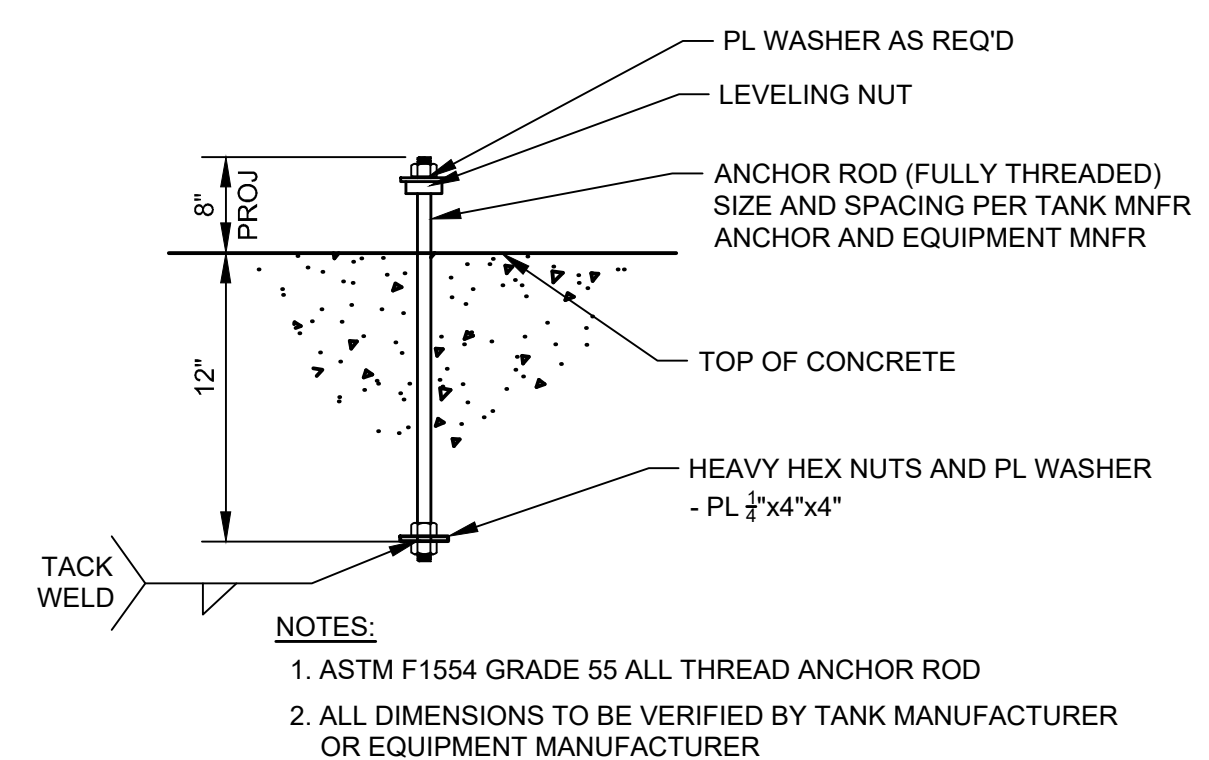


**3** TYP **STIRRUP AND TIE HOOKS**  
SCALE: NOT TO SCALE



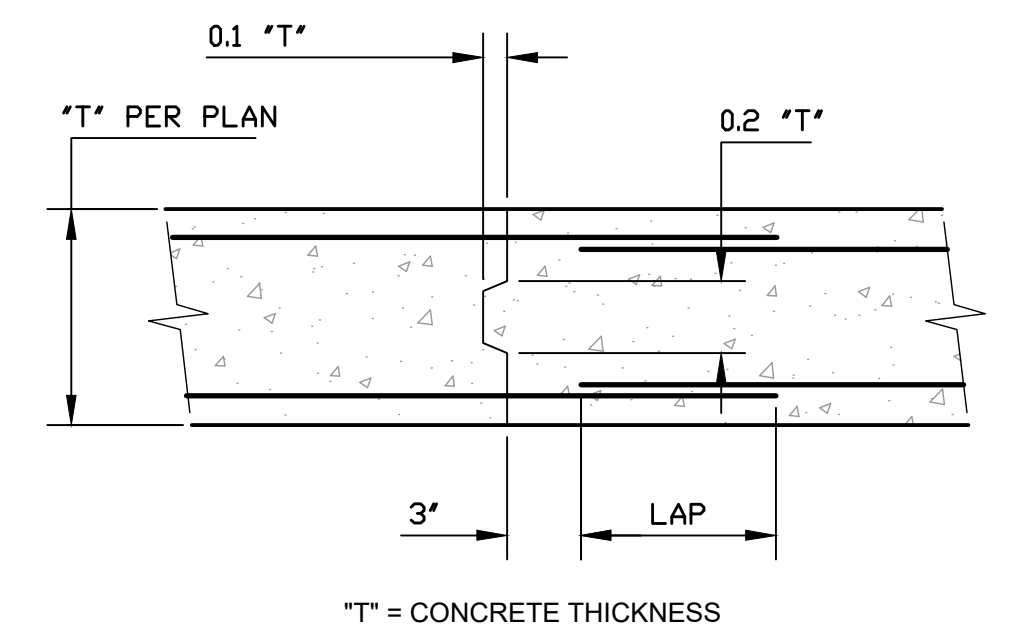
- NOTES:
- SAWCUT JOINTS WITHIN 12 HOURS AFTER PLACING CONCRETE
  - REMOVE VOID FORM AFTER PLACING CONCRETE.
  - DEPRESS REINFORCEMENT IN VICINITY OF SAWCUT TO AVOID DAMAGING REINFORCEMENT

**5** TYP **SLAB CONTROL JOINTS**  
SCALE: NOT TO SCALE



- NOTES:
- ASTM F1554 GRADE 55 ALL THREAD ANCHOR ROD
  - ALL DIMENSIONS TO BE VERIFIED BY TANK MANUFACTURER OR EQUIPMENT MANUFACTURER

**6** TYP **TYPICAL CAST-IN-PLACE ANCHOR ROD DETAIL**  
SCALE: NOT TO SCALE

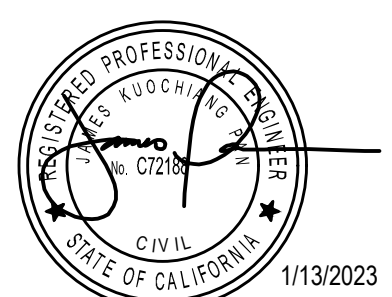


**7** TYP **SLAB CONSTRUCTION JOINT**  
SCALE: NOT TO SCALE

No.	Issue	Checked	Approved	Date	
Author	CFB	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"

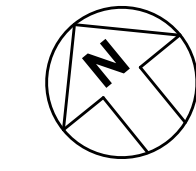


**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

Title **TYPICAL STRUCTURAL DETAILS**  
Size **ANSI D**  
Drawing No. **S-004**  
Sheet No. **19 of 48**



- KEYNOTES**
- (N) 2" SST INFLUENT/FILL
  - (N) 4" SST DISCHARGE/ DRAIN
  - (N) LIQUID LEVEL INDICATOR
  - (N) 32" MANWAY
  - (N) DRAIN SUMP
  - (N) BOTTOM LANDING

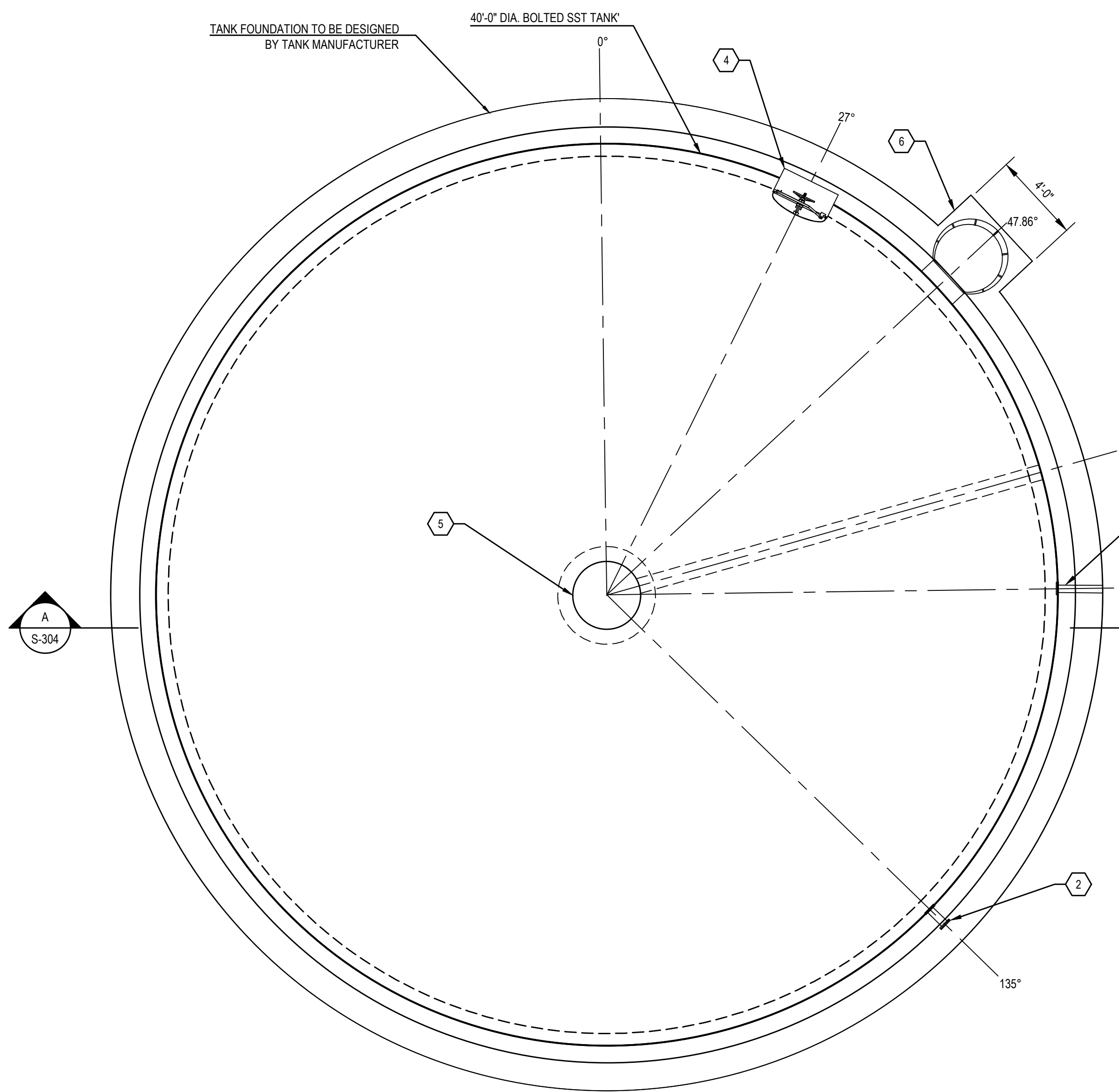
**SHEET NOTES**

**GENERAL**

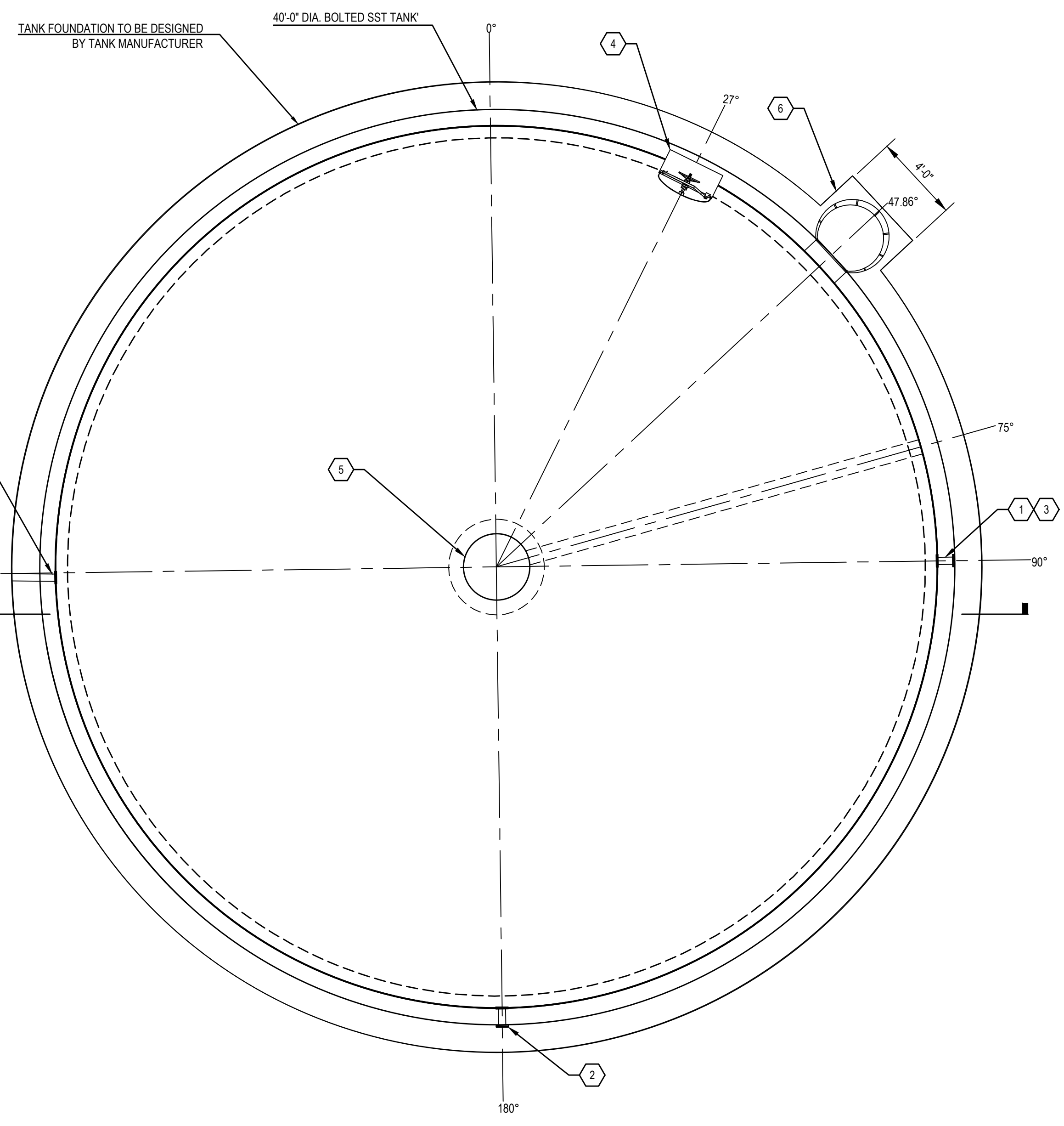
- DESIGN CRITERIA: 2019 CALIFORNIA BUILDING CODE (2019 CBC)  
ASCE 7-16  
ACI 318-14  
AWWA D103-09
- LOADS:  
RISK CATEGORY = III, AWWA SEISMIC USE GROUP = II  
ROOF LIVE LOADS: 20 PSF (REDUCTIONS TAKEN AS ALLOWED BY BUILDING CODE)  
GROUND SNOW LOAD: P<sub>g</sub> = 0 PSF  
WIND LOADS:  
MAIN FORCE RESISTING SYSTEM:  
BASIC WIND SPEED: V = 102 MPH  
EXPOSURE CATEGORY: C  
SEISMIC LOADS:  
SEISMIC IMPORTANCE FACTOR: I<sub>e</sub> = 1.50  
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:  
S<sub>s</sub> = 1.50 g S<sub>1</sub> = 0.60 g  
SOIL SITE CLASS: C  
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:  
S<sub>DS</sub> = 1.20 g S<sub>D1</sub> = 0.56 g  
SEISMIC DESIGN CATEGORY: D

**FOUNDATIONS**

- FOUNDATION DESIGN BASED UPON RECOMMENDATIONS CONTAINED IN PROJECT GEOTECHNICAL REPORT FOR GUERNEVILLE LEACHATE TANKS DATED JANUARY 19, 2022 BY MILLER PACIFIC ENGINEERING GROUP
- FOUNDATION DESIGN CRITERIA:  
MINIMUM DEPTH: 18 INCHES  
ALLOWABLE BEARING CAPACITY: 3,000 PSF DL + LL  
BASE FRICTION COEFFICIENT: 0.35  
LATERAL PASSIVE RESISTANCE: 350 PCF



**1 TANK 1 PLAN**  
SCALE: NTS

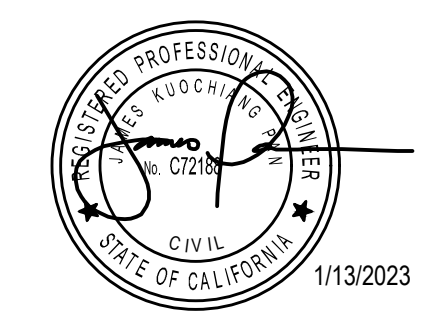


**2 TANK 2 PLAN**  
SCALE: NTS

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

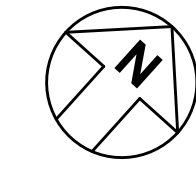
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client	<b>COUNTY OF SONOMA</b>	
Project	<b>LEACHATE TANK REPLACEMENT</b>	
Project No.	Date	Scale
12558724	1/13/2023	AS SHOWN

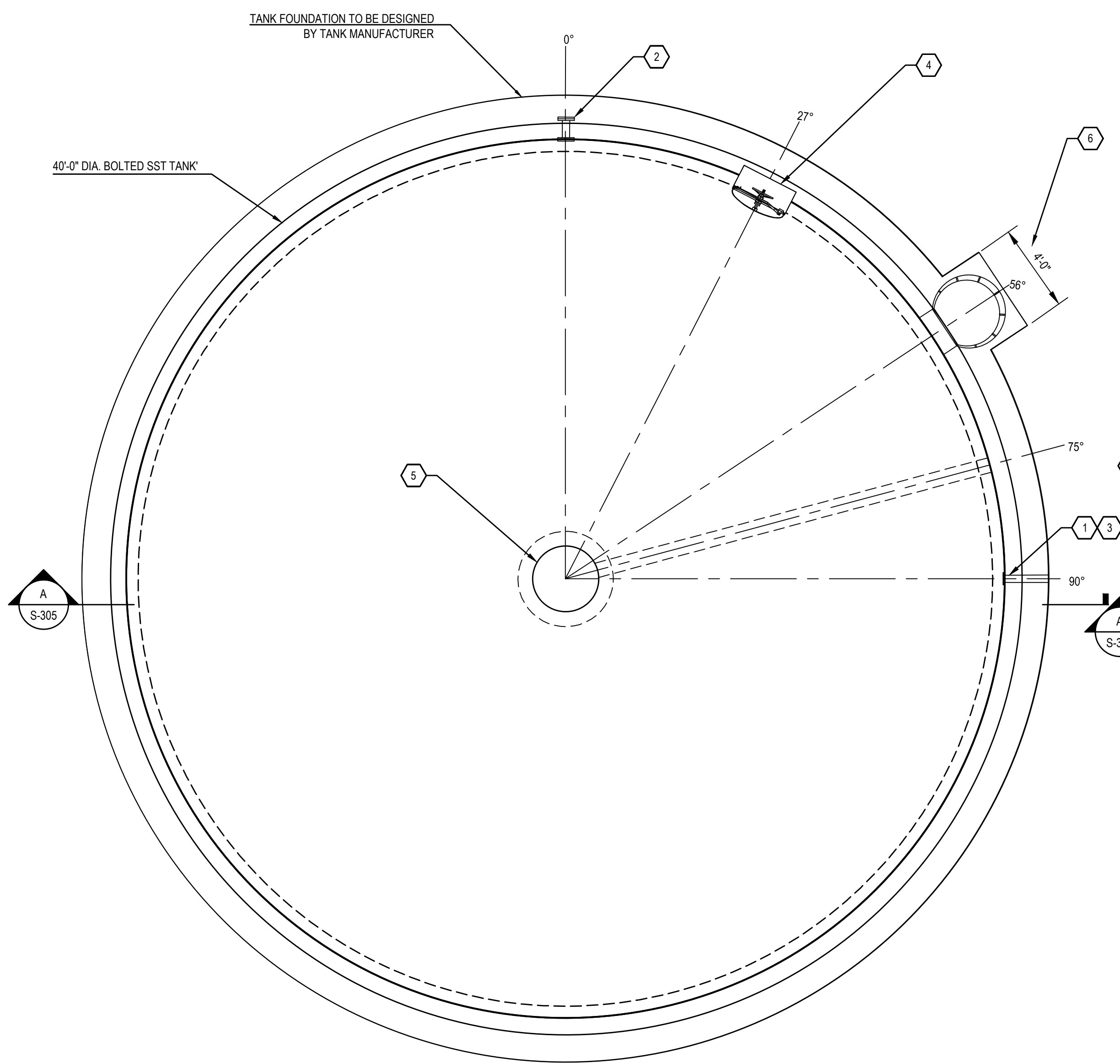
Title	<b>TANK FOUNDATION PLAN - GUERNEVILLE SITE</b>	Size	<b>ANSI D</b>
Drawing No.	<b>S-101</b>	Sheet No.	20 of 48



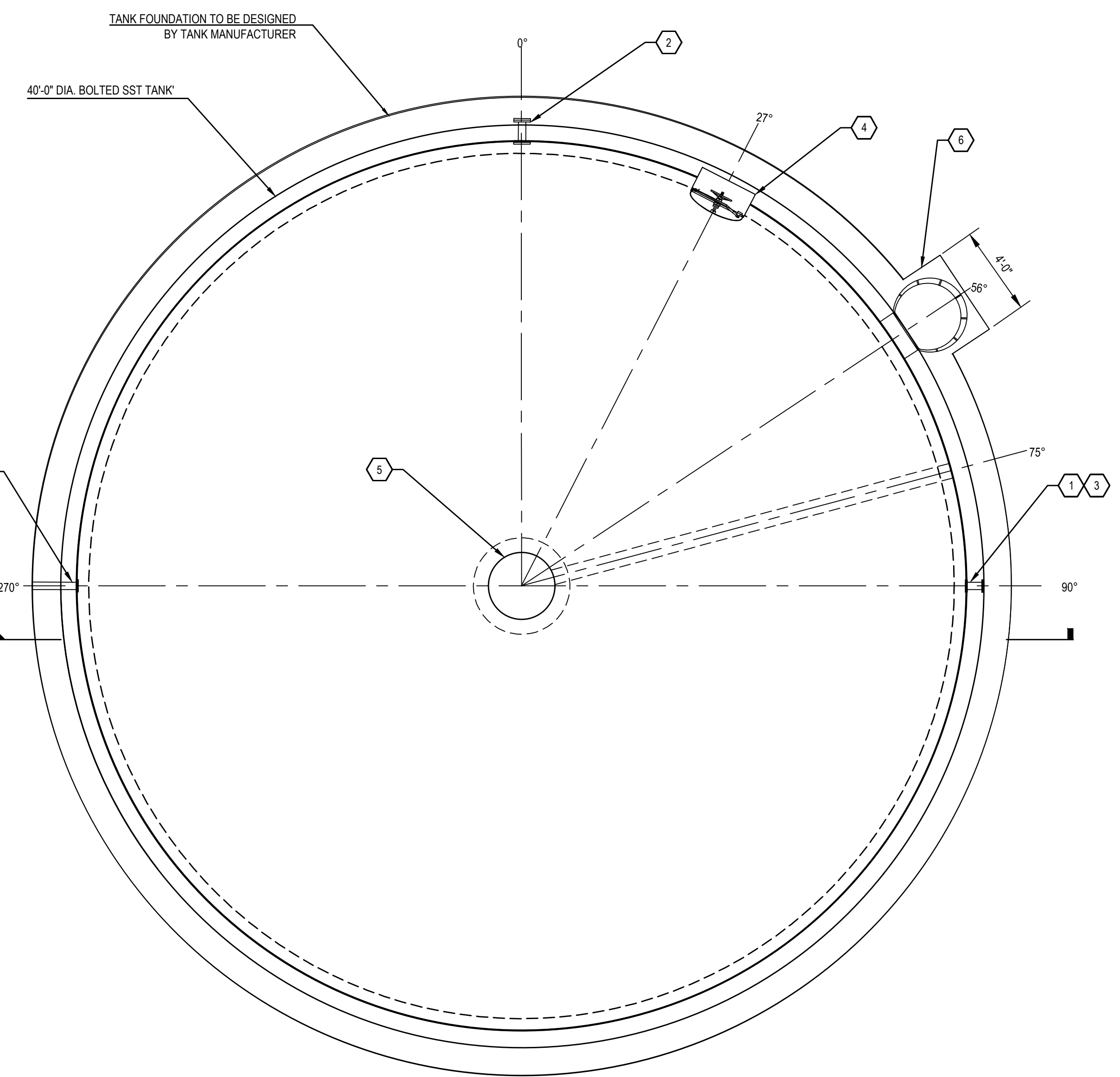


KEYNOTES	
1.	(N) 2" SST INFLUENT/FILL
2.	(N) 4" SST DISCHARGE/ DRAIN
3.	(N) LIQUID LEVEL INDICATOR
4.	(N) 32" MANWAY
5.	(N) DRAIN SUMP
6.	(N) BOTTOM LANDING

SHEET NOTES	
<b>GENERAL</b>	
1. DESIGN CRITERIA:	2019 CALIFORNIA BUILDING CODE (2019 CBC) ASCE 7-16 ACI 318-14 AWWA D103-09
2. LOADS:	RISK CATEGORY = III, AWWA SEISMIC USE GROUP = II
ROOF LIVE LOADS:	20 PSF (REDUCTIONS TAKEN AS ALLOWED BY BUILDING CODE)
GROUND SNOW LOAD:	$P_g = 0$ PSF
WIND LOADS:	MAIN FORCE RESISTING SYSTEM: BASIC WIND SPEED: $V = 102$ MPH EXPOSURE CATEGORY: C
SEISMIC LOADS:	SEISMIC IMPORTANCE FACTOR: $I_e = 1.50$ MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS: $S_s = 1.50$ g $S_1 = 0.60$ g SOIL SITE CLASS: C DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS: $S_{DS} = 1.20$ g $S_{D1} = 0.56$ g SEISMIC DESIGN CATEGORY: D
<b>FOUNDATIONS</b>	
1.	FOUNDATION DESIGN BASED UPON RECOMMENDATIONS CONTAINED IN PROJECT GEOTECHNICAL REPORT FOR ROBLAR LEACHATE TANKS DATED JANUARY 19, 2022 BY MILLER PACIFIC ENGINEERING GROUP
2.	FOUNDATION DESIGN CRITERIA: MINIMUM DEPTH: 18 INCHES ALLOWABLE BEARING CAPACITY: 3,000 PSF DL + LL BASE FRICTION COEFFICIENT: 0.35 LATERAL PASSIVE RESISTANCE: 350 PCF



**1 TANK 1 PLAN**  
SCALE: NTS

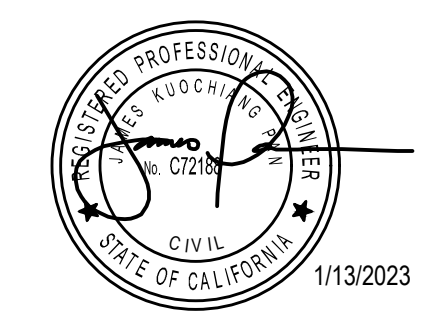


**2 TANK 2 PLAN**  
SCALE: NTS

No.	Issue	Checked	Approved	Date
Author	<b>DRA</b>	Drafting Check	<b>MGK</b>	Project Manager
Designer	<b>MGK</b>	Design Check	<b>MGK</b>	Project Director
				<b>G. TOMASINO</b>
				<b>M. KENNEDY</b>

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



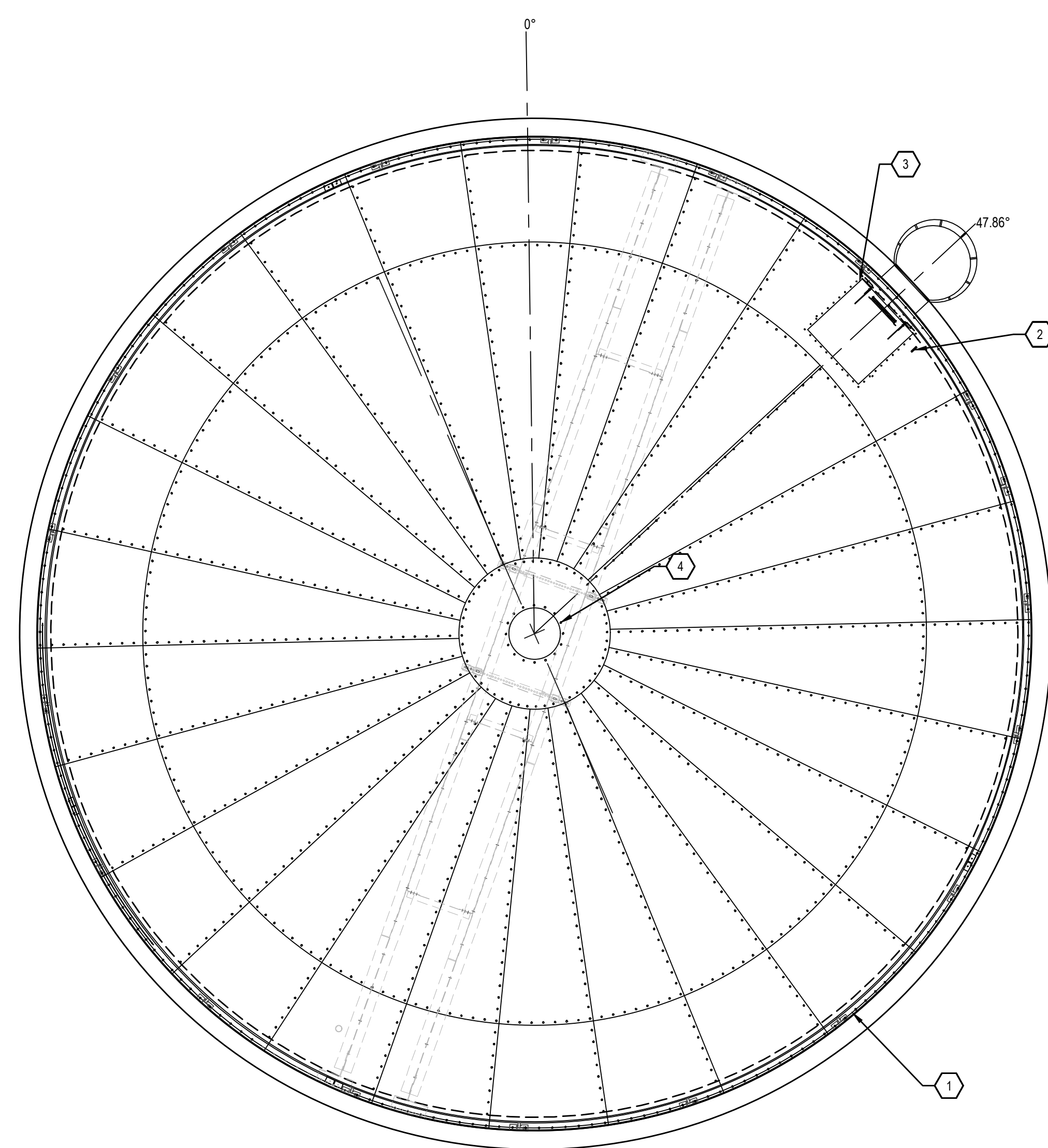
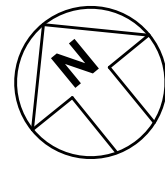
Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>TANK FOUNDATION PLAN - ROBLAR SITE</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-102</b>
Sheet No.	<b>21 of 48</b>

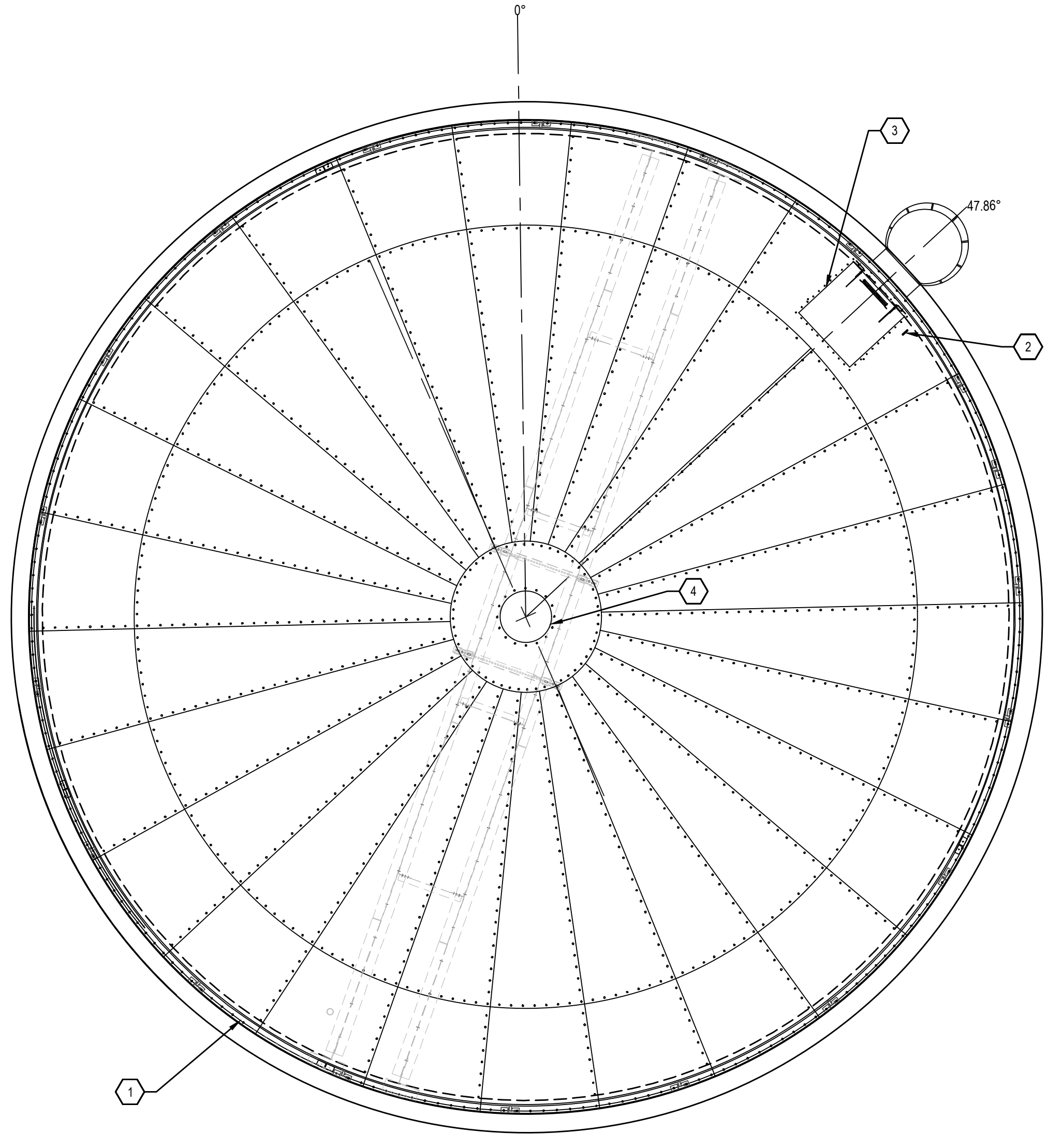




KEYNOTES	
1.	STAINLESS STEEL PERIMETER GUARDRAIL
2.	STAINLESS STEEL TIEOFF
3.	36" X 36" STAINLESS STEEL ROOF HATCH
4.	Ø17 1/2" SST ROOF VENT, SEE DETAIL 3/S-503



**1** TANK 1 ROOF PLAN  
S-104 SCALE: NTS

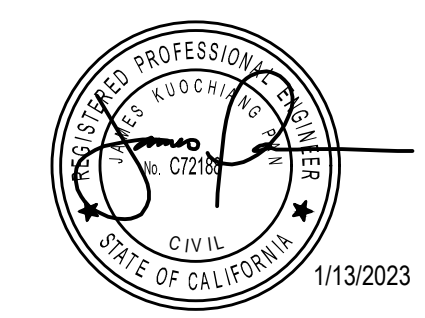


**2** TANK 2 ROOF PLAN  
S-104 SCALE: NTS

No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
				G. TOMASINO
				M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



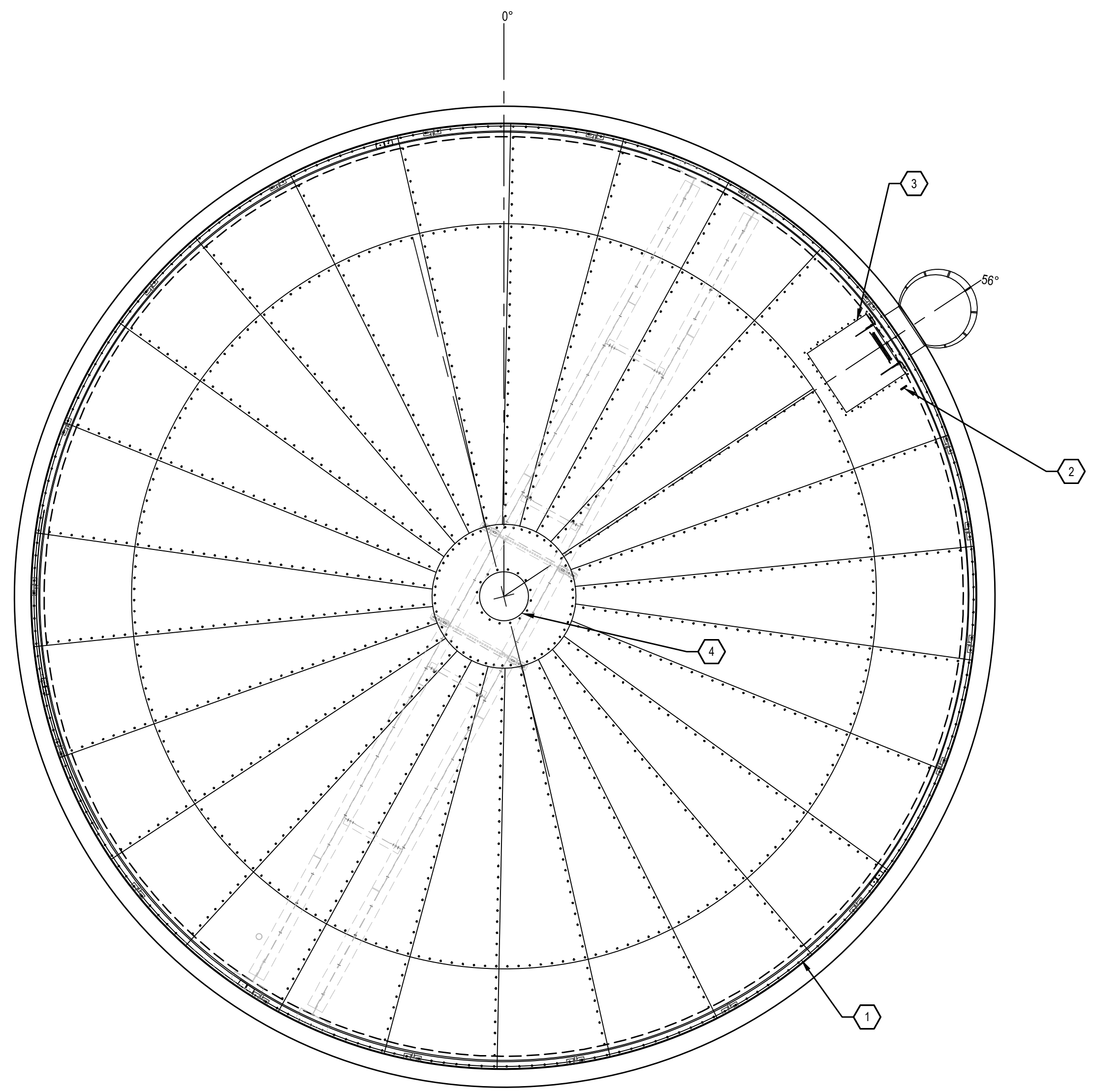
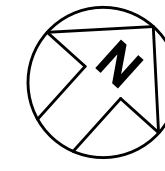
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	COUNTY OF SONOMA
Project	LEACHATE TANK REPLACEMENT
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

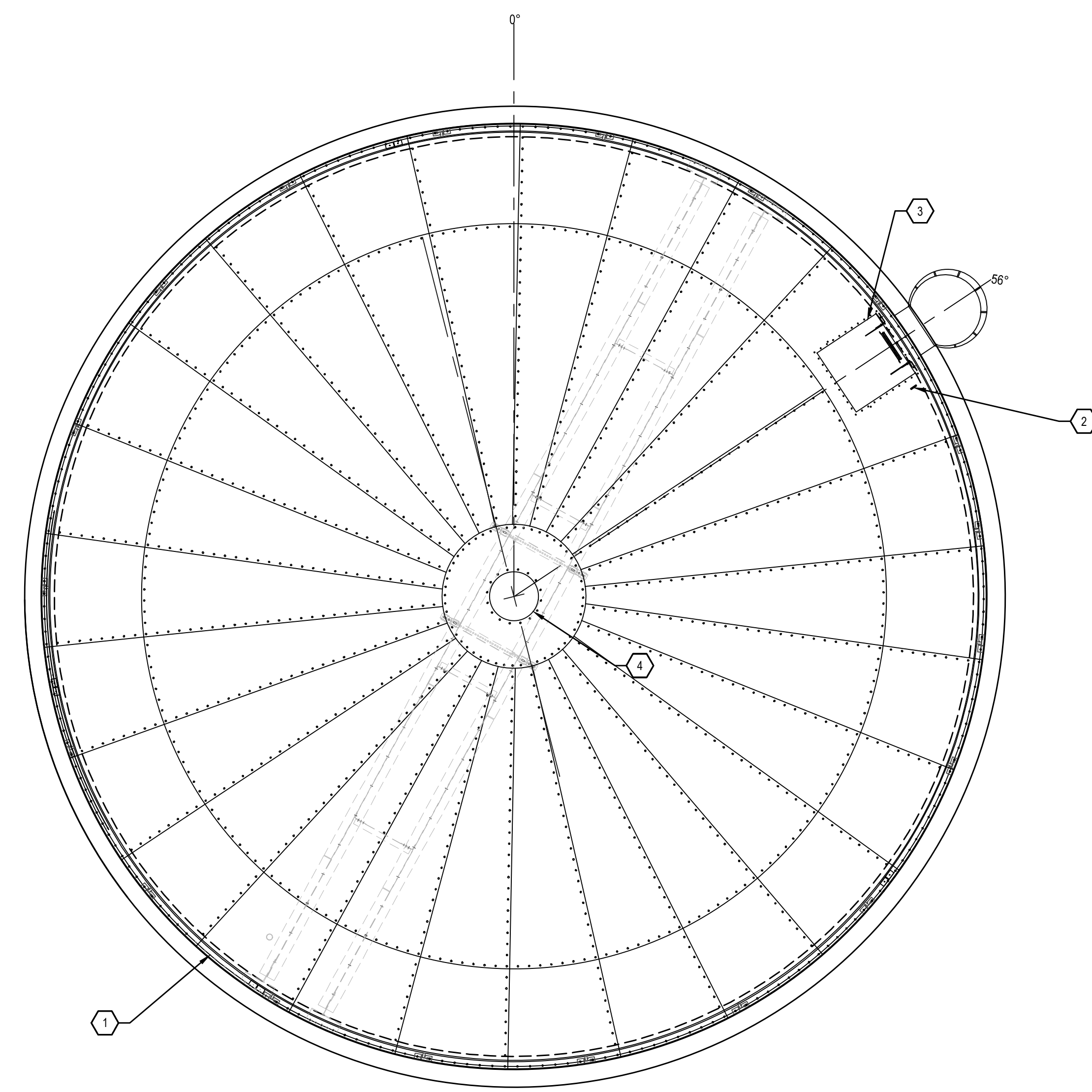
Title	TANK ROOF PLAN - GUERNEVILLE SITE
Size	ANSI D
Drawing No.	S-104
Sheet No.	23 of 48



KEYNOTES	
1.	STAINLESS STEEL PERIMETER GUARDRAIL
2.	STAINLESS STEEL TIEOFF
3.	36" X 36" STAINLESS STEEL ROOF HATCH
4.	Ø17 1/2" SST ROOF VENT, SEE DETAIL 3/S-503



**1 TANK 1 ROOF PLAN**  
S-105 SCALE: NTS

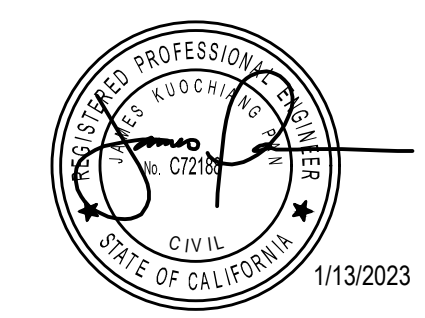


**2 TANK 2 ROOF PLAN**  
S-105 SCALE: NTS

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



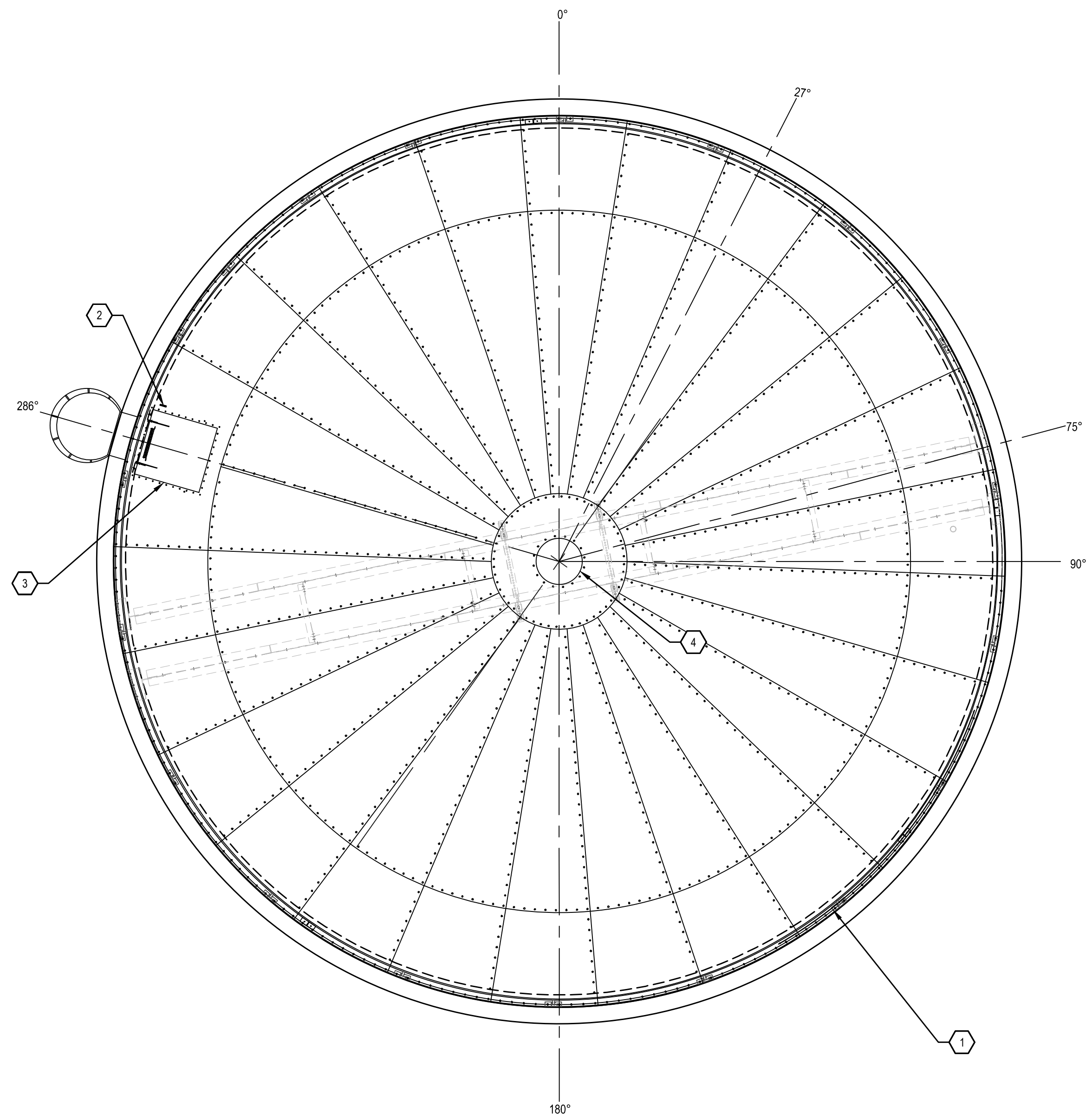
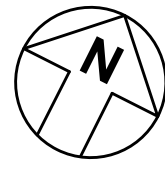
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

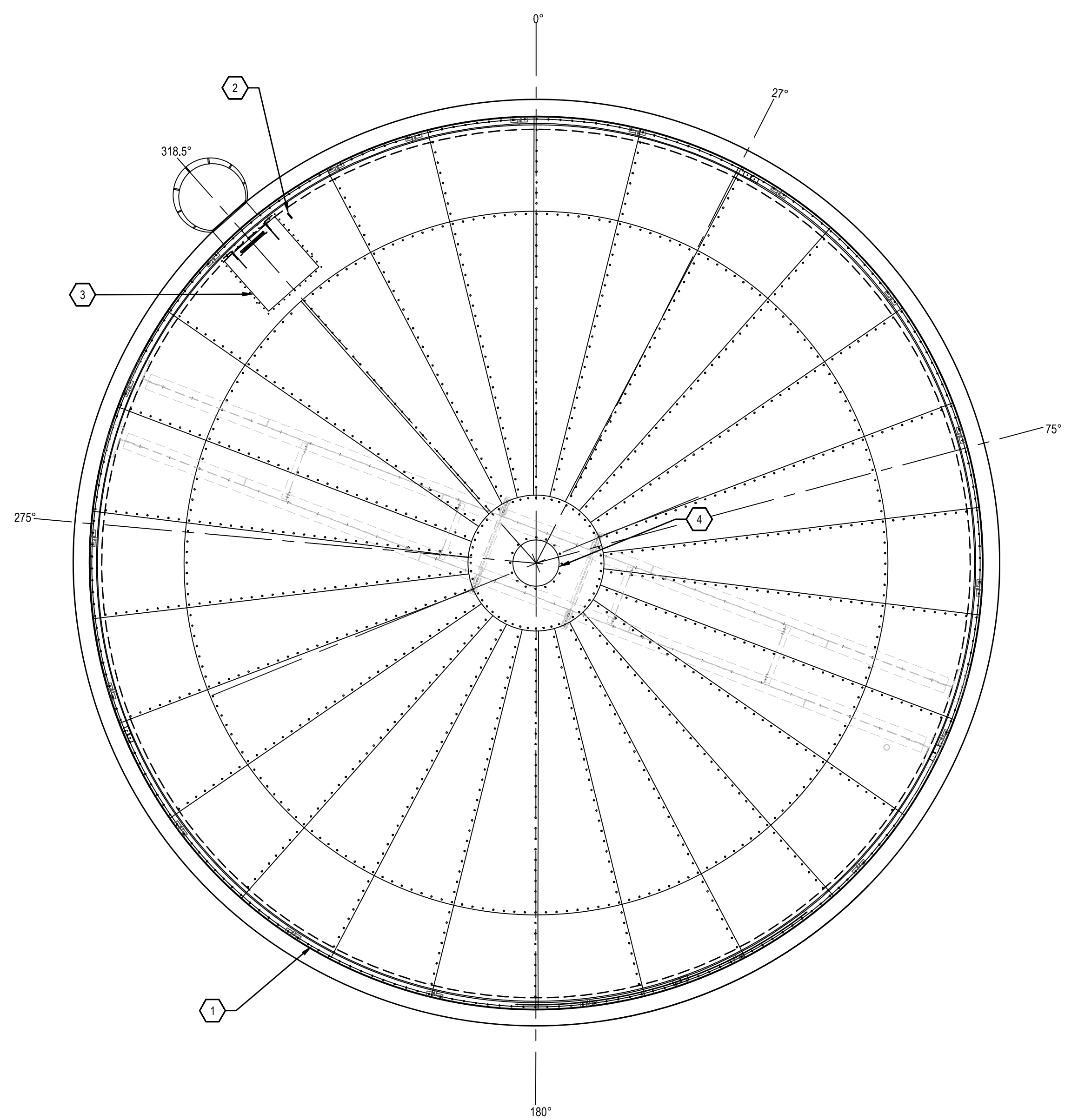
Title	<b>TANK ROOF PLAN - ROBLAR SITE</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-105</b>
Sheet No.	<b>24 of 48</b>



KEYNOTES	
1.	STAINLESS STEEL PERIMETER GUARDRAIL
2.	STAINLESS STEEL TIEOFF
3.	36" X 36" STAINLESS STEEL ROOF HATCH
4.	Ø17 1/2" SST ROOF VENT, SEE DETAIL 3/S-503



**1 TANK 1 ROOF PLAN**  
S-106 SCALE: NTS

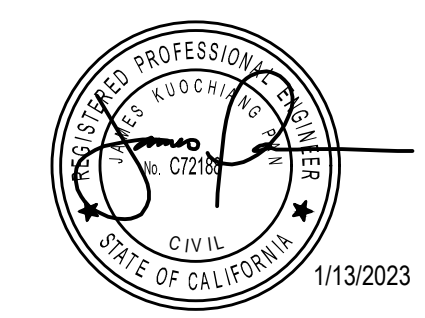


**2 TANK 2 ROOF PLAN**  
S-106 SCALE: NTS

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

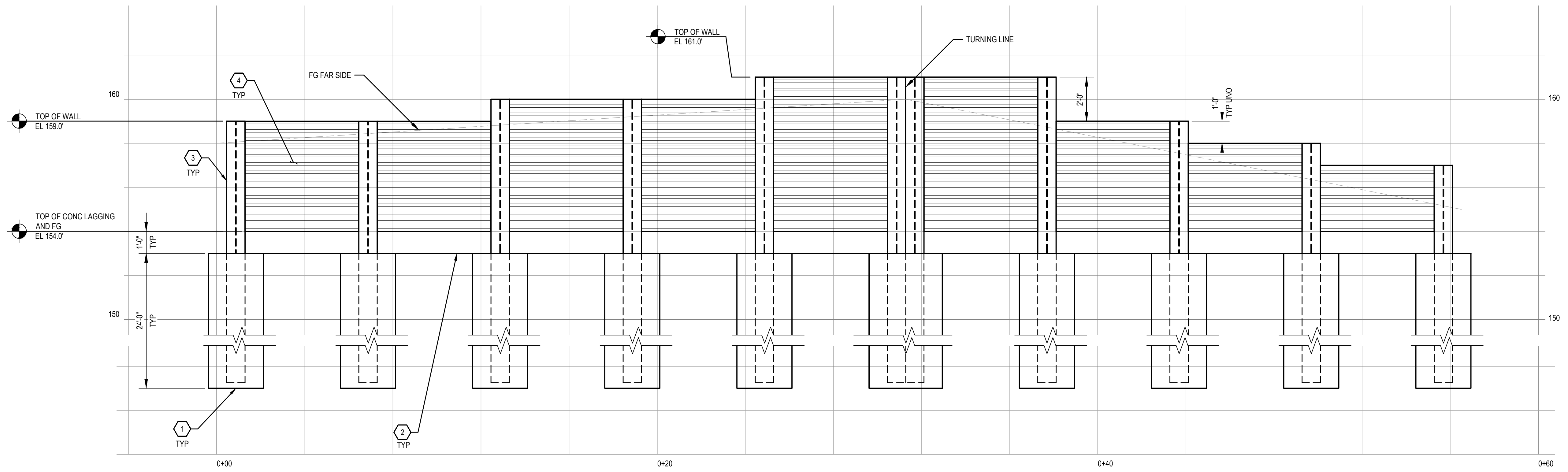


Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

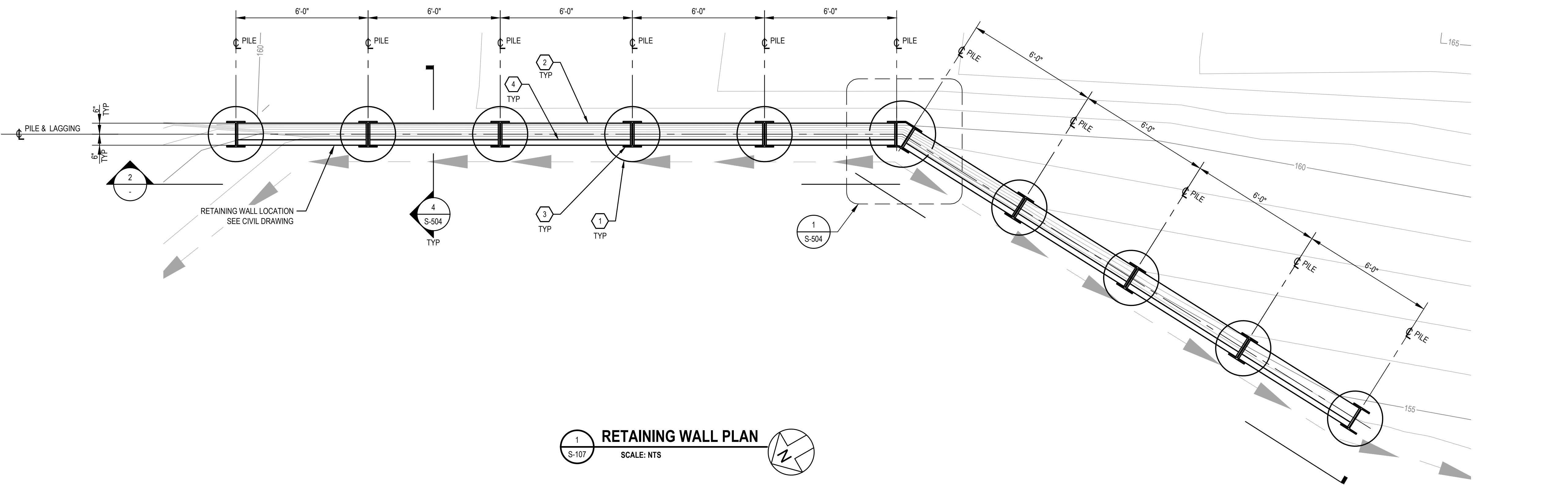
Client	<b>COUNTY OF SONOMA</b>		
Project	<b>LEACHATE TANK REPLACEMENT</b>		
Project No.	12558724	Date	1/13/2023
Scale	AS SHOWN		

Title	<b>TANK ROOF PLAN - SONOMA SITE</b>
Size	ANSI D
Sheet No.	25 of 48
Drawing No.	S-106

KEYNOTES	
1.	CAST-IN DRILLED HOLE CONCRETE, SEE DETAIL 4/S-504
2.	PRE-CAST LAGGING, SEE DETAIL 3/S-504
3.	W14x61 STEEL SOLDIER PILE, SEE DETAIL 4/S-504
4.	METAL DECK LAGGING, SEE DETAIL 4/S-504



**2 RETAINING WALL ELEVATION**  
S-107 SCALE: NTS

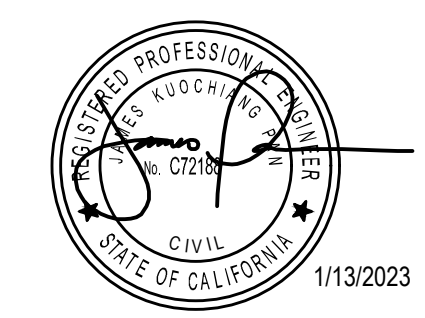


**1 RETAINING WALL PLAN**  
S-107 SCALE: NTS

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



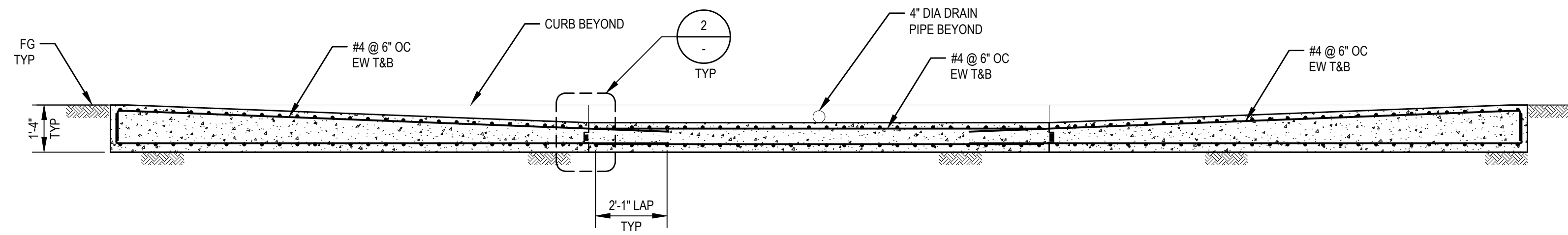
Client	COUNTY OF SONOMA
Project	LEACHATE TANK REPLACEMENT
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	RETAINING WALL PLAN & ELEVATION - ROBLAR SITE
Size	ANSI D
Sheet No.	26 of 48
Drawing No.	S-107

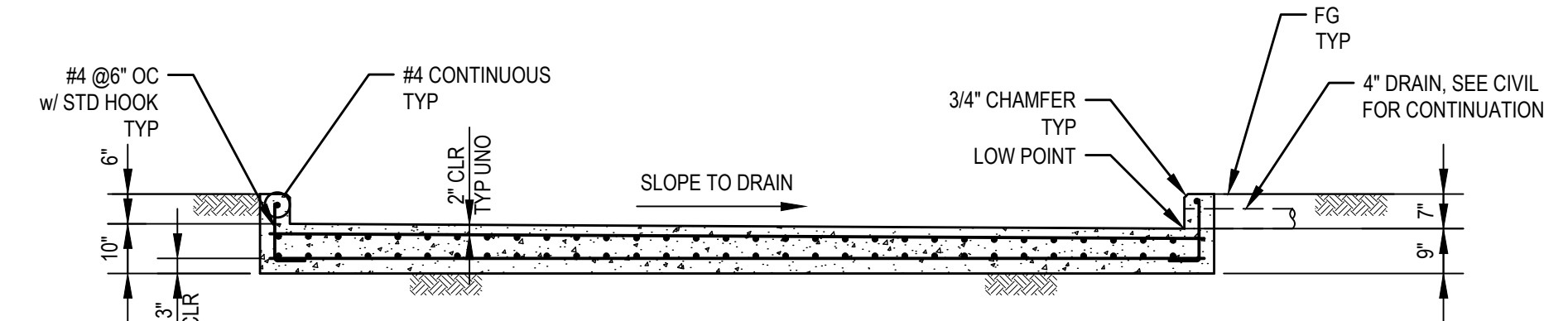
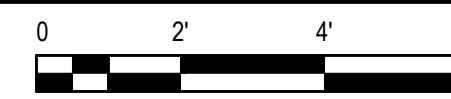


**SHEET NOTES**

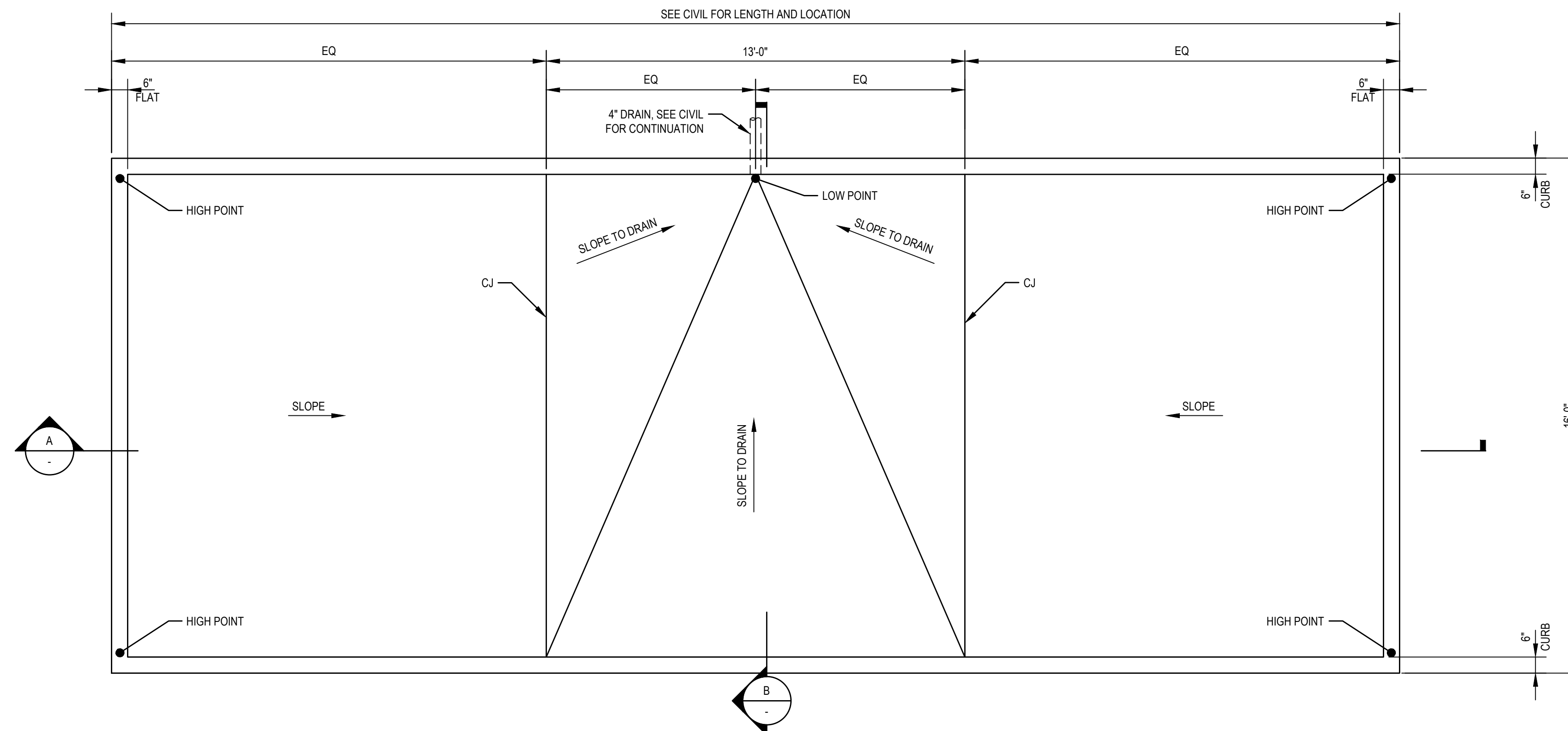
- FOR CONTAINMENT PAD LOCATION, SEE CIVIL SHEETS



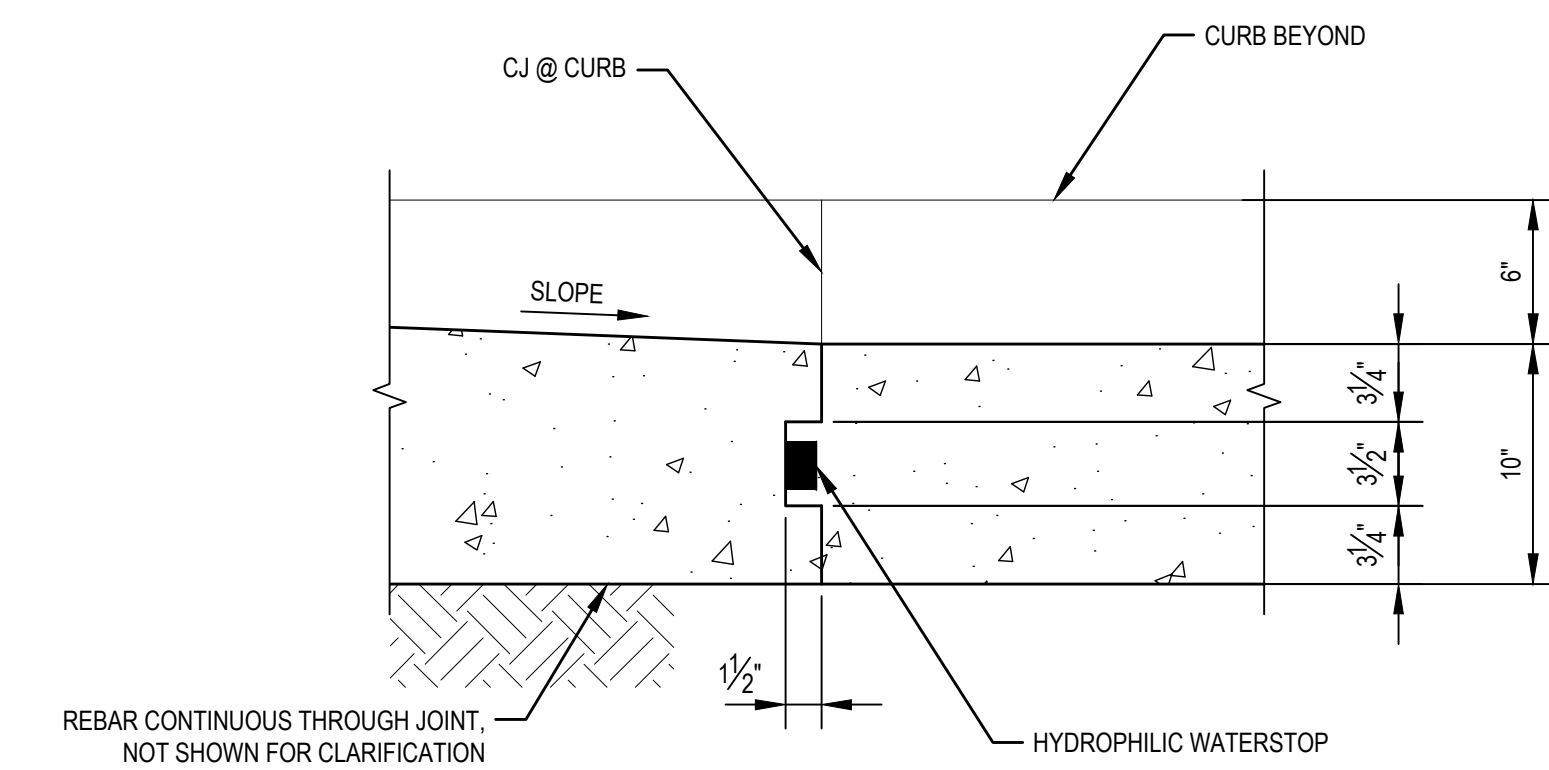
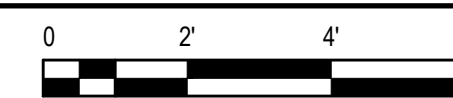
**A**  
CONTAINMENT PAD SECTION  
SCALE: 3/8"=1'-0"



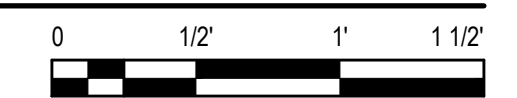
**B**  
CONTAINMENT PAD SECTION  
SCALE: 3/8"=1'-0"



**1**  
CONTAINMENT PAD PLAN  
SCALE: 3/8"=1'-0"



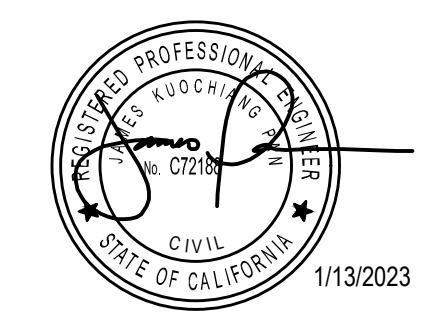
**2**  
CONSTRUCTION JOINT DETAIL  
SCALE: 1 1/2"=1'-0"



No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
			G. TOMASINO	
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

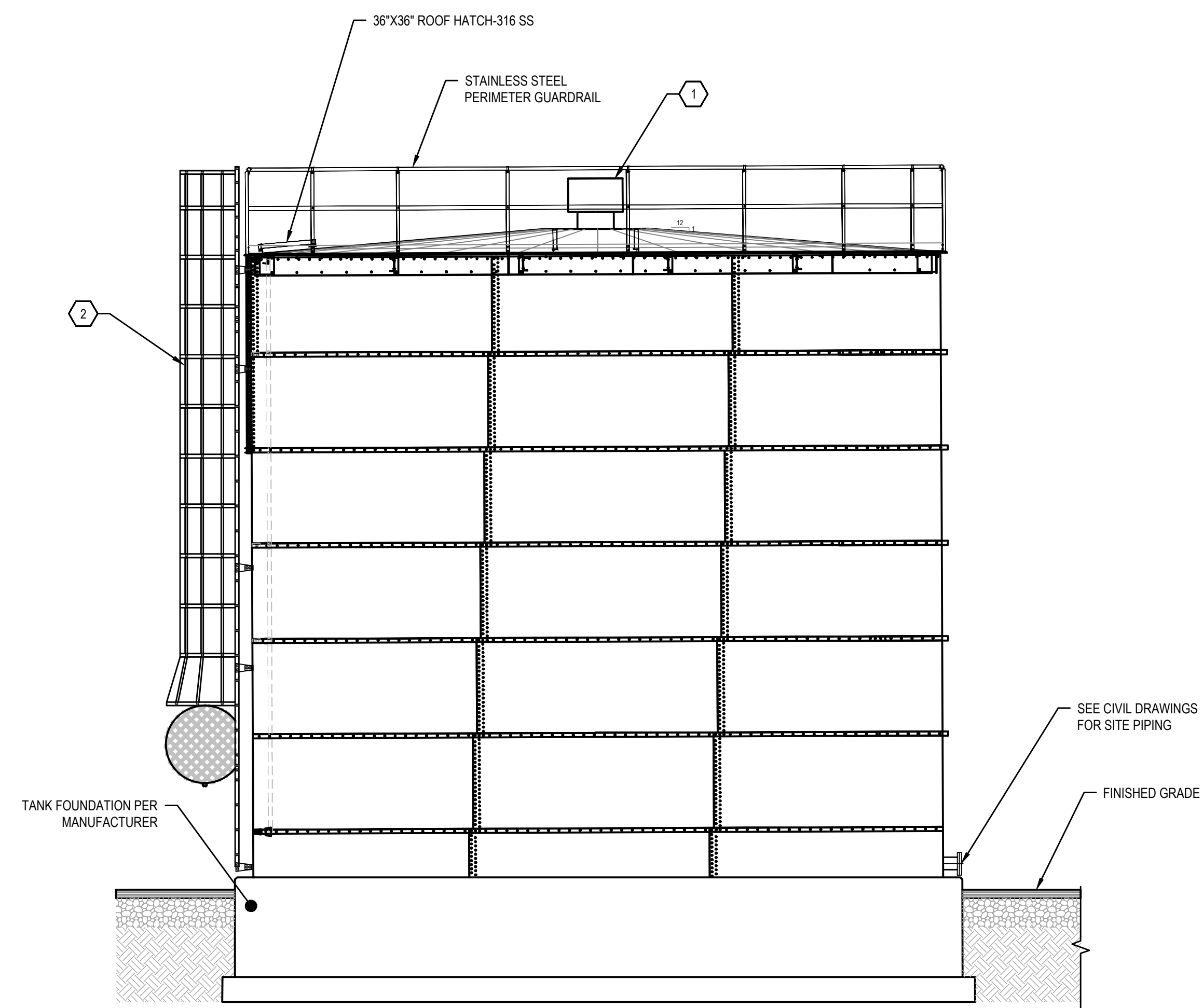


Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

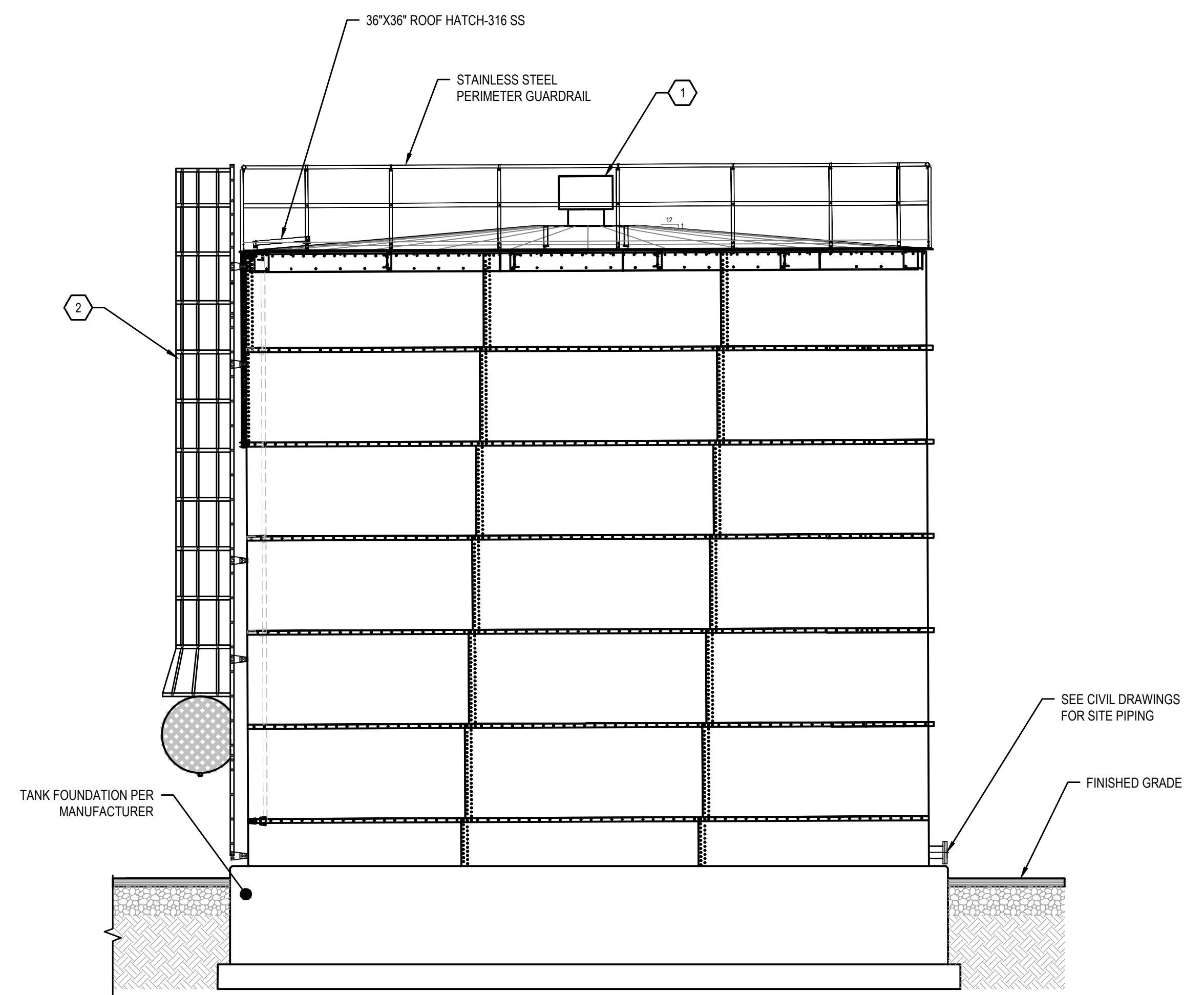
Title	<b>CONTAINMENT PAD PLAN &amp; SECTIONS - ALL SITES</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-108</b>
Sheet No.	<b>27 of 48</b>

**KEYNOTES**

1. Ø17 1/2" SST ROOF VENT, SEE DETAIL 3/S-503
2. LADDER W/ SAFETY CAGE-316 SS



**1 TANK 1 ELEVATION**  
SCALE: NTS

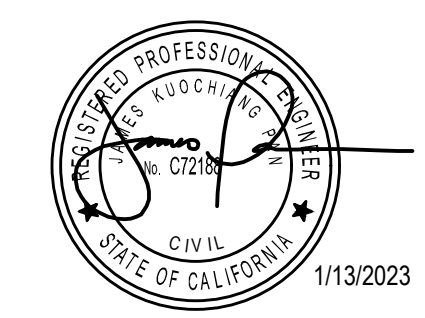


**2 TANK 2 ELEVATION**  
SCALE: NTS

No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
				G. TOMASINO
				M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

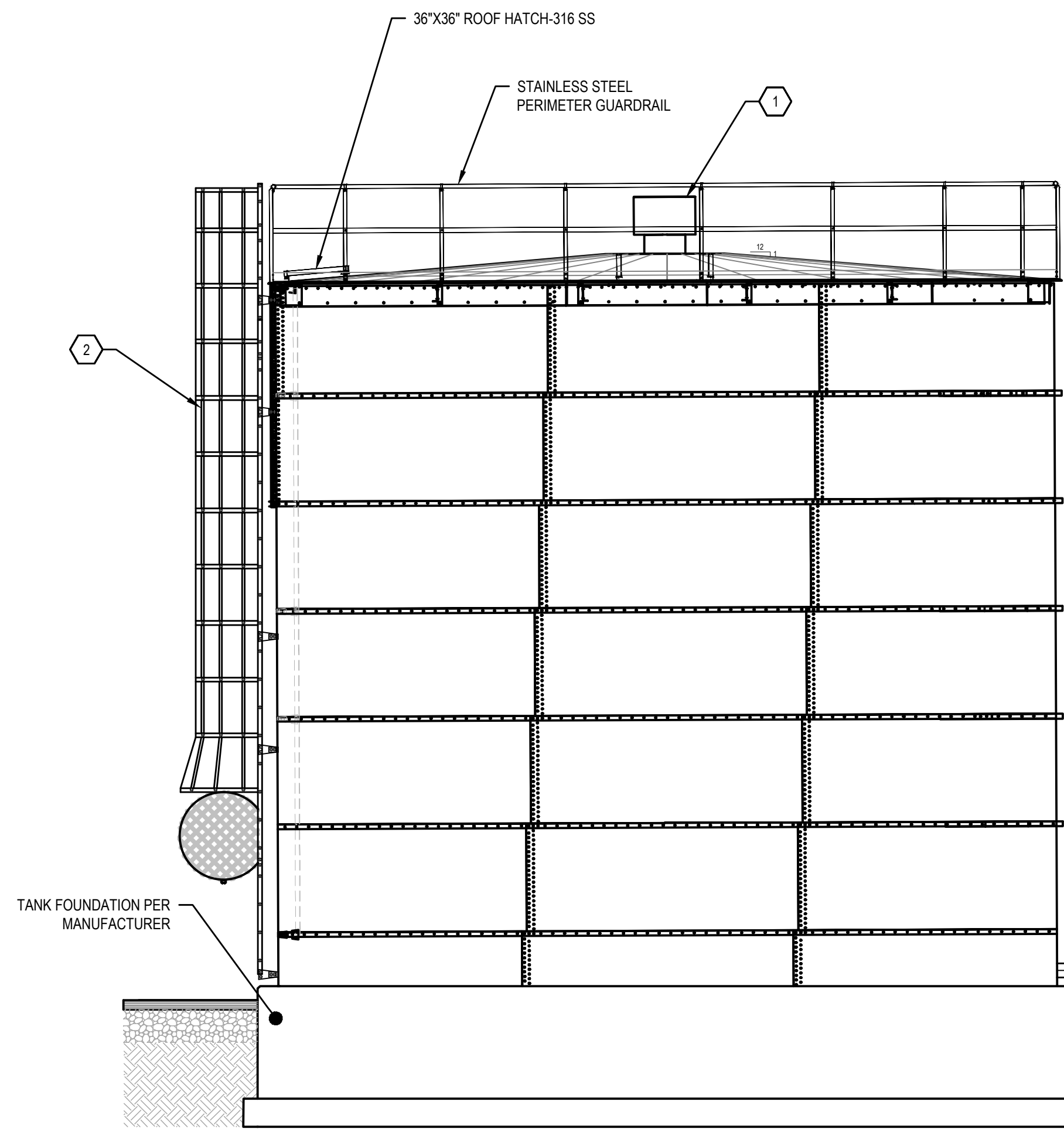


Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

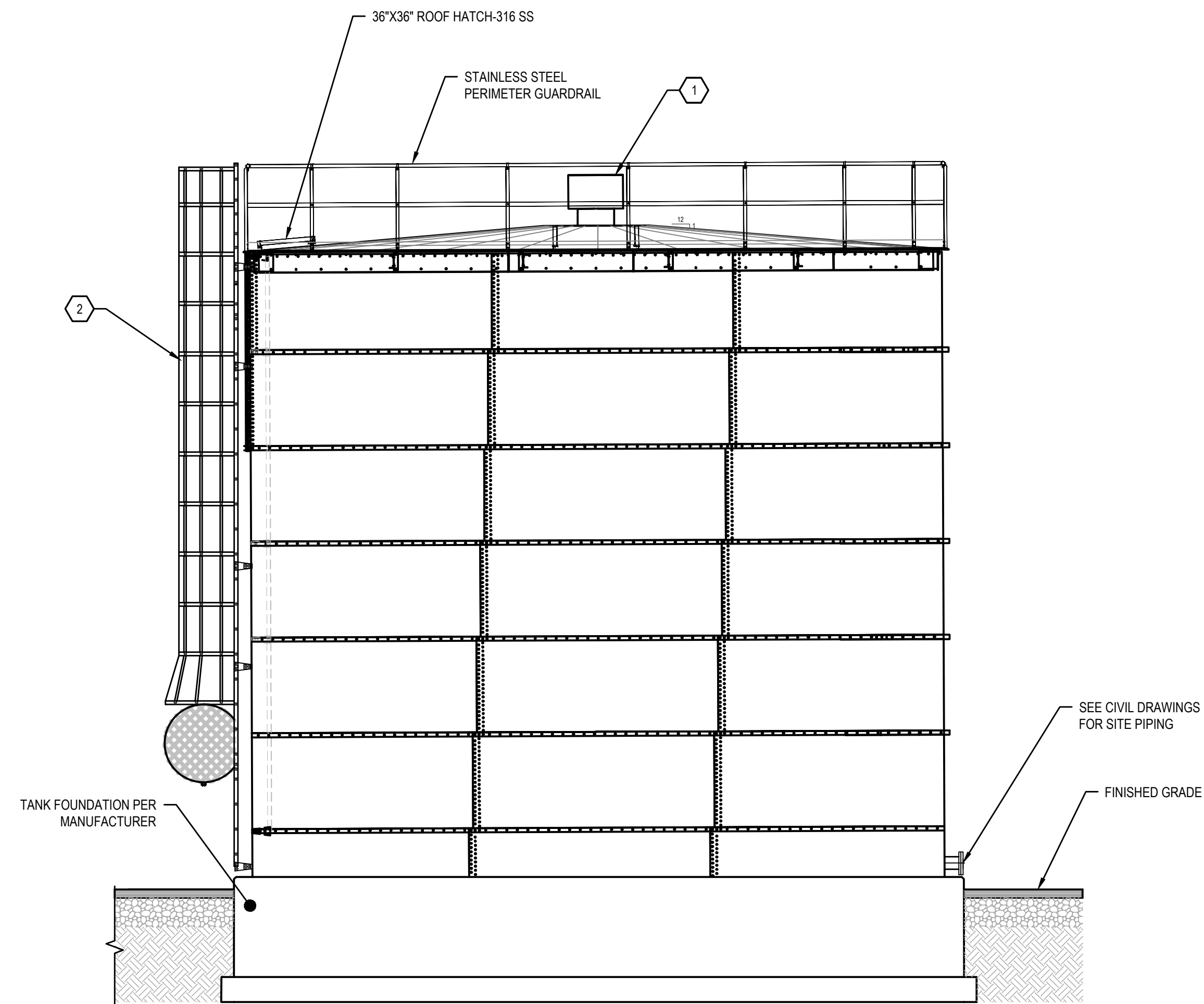
Title **TANK ELEVATION AND SECTION - GUERNEVILLE SITE**

Drawing No. **S-301**  
Sheet No. **28 of 48**

KEYNOTES	
1.	Ø17 1/2" SST ROOF VENT, SEE DETAIL 3/S-503
2.	LADDER W/ SAFETY CAGE-316 SS



**1**  
TANK 1 ELEVATION  
SCALE: NTS

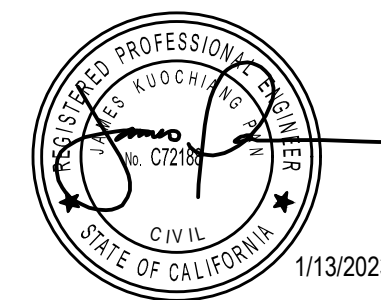


**2**  
TANK 2 ELEVATION  
SCALE: NTS

No.	Issue	Checked	Approved	Date
Author	<b>DRA</b>	Drafting Check	<b>MGK</b>	Project Manager
Designer	<b>MGK</b>	Design Check	<b>MGK</b>	Project Director
				<b>G. TOMASINO</b>
				<b>M. KENNEDY</b>

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



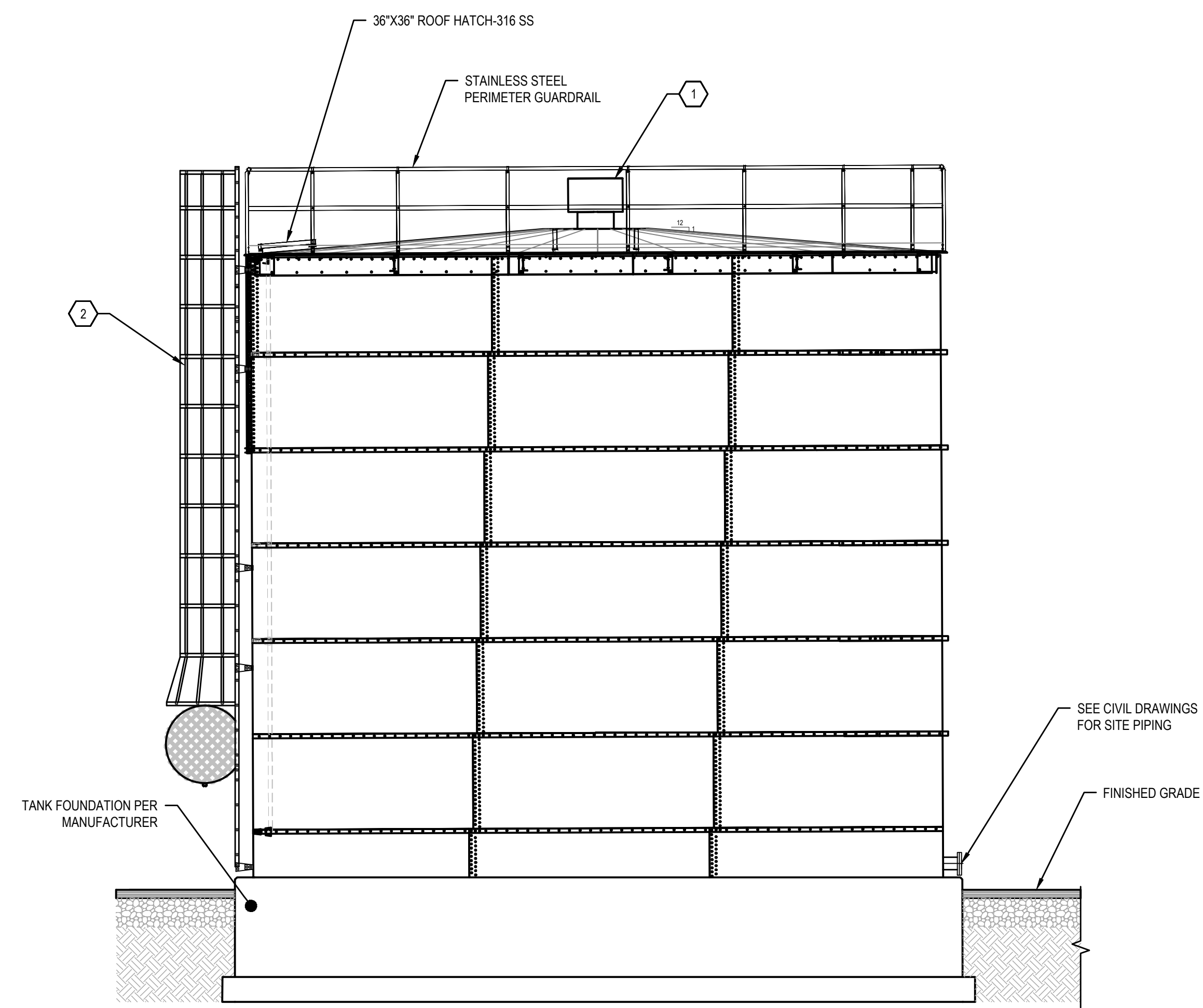
Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>TANK ELEVATION AND SECTION - ROBLAR SITE</b>	Size	<b>ANSI D</b>
Drawing No.	<b>S-302</b>	Sheet No.	<b>29 of 48</b>

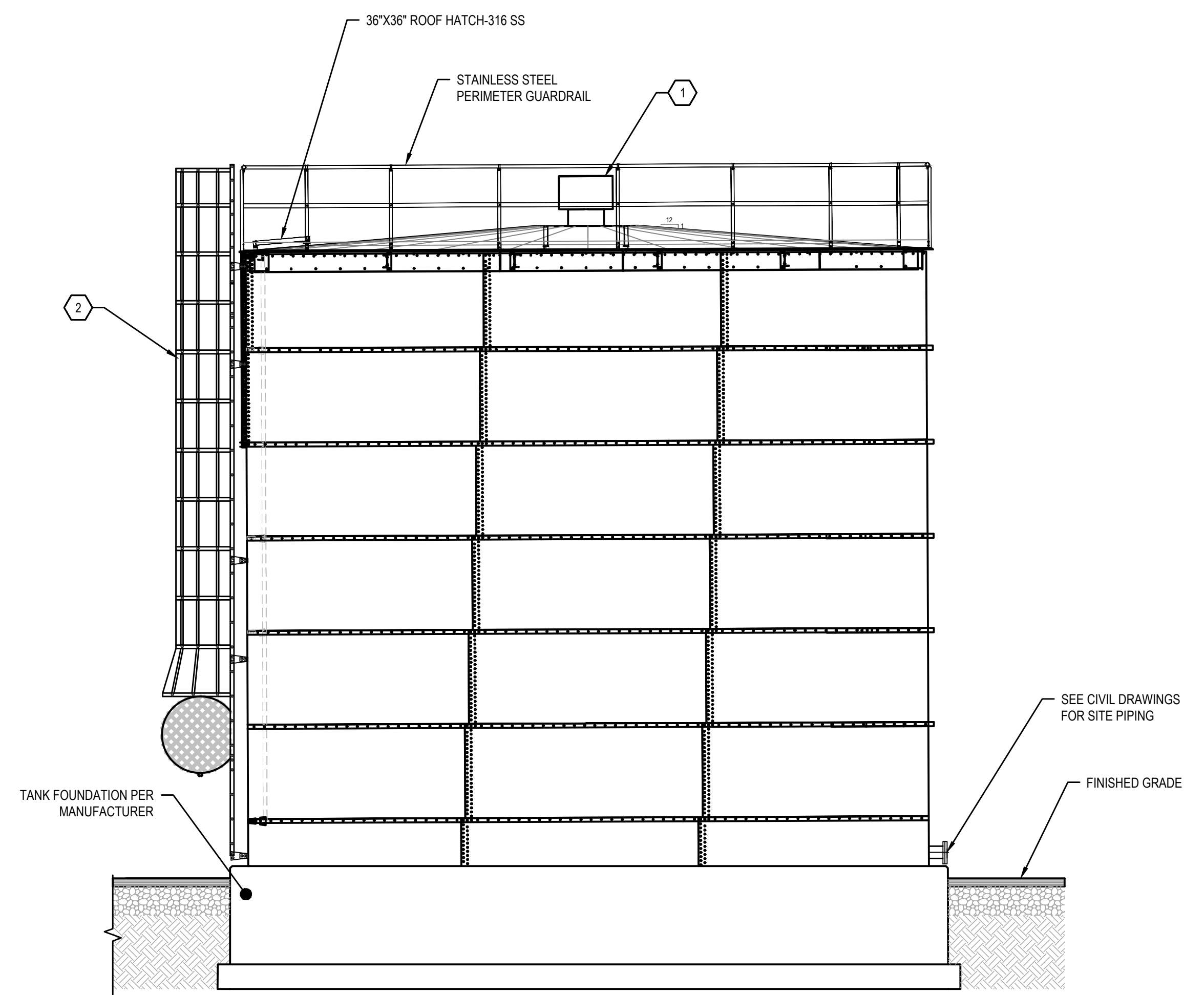


**KEYNOTES**

1. Ø17 1/2" SST ROOF VENT, SEE DETAIL 3/S-503
2. LADDER W/ SAFETY CAGE-316 SS



**1 TANK 1 ELEVATION**  
SCALE: NTS

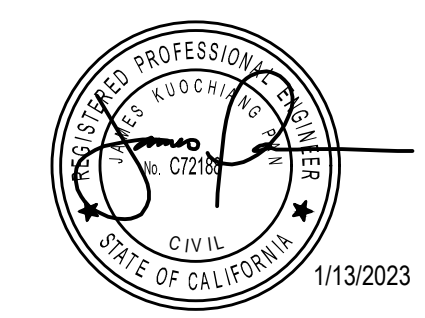


**2 TANK 2 ELEVATION**  
SCALE: NTS

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

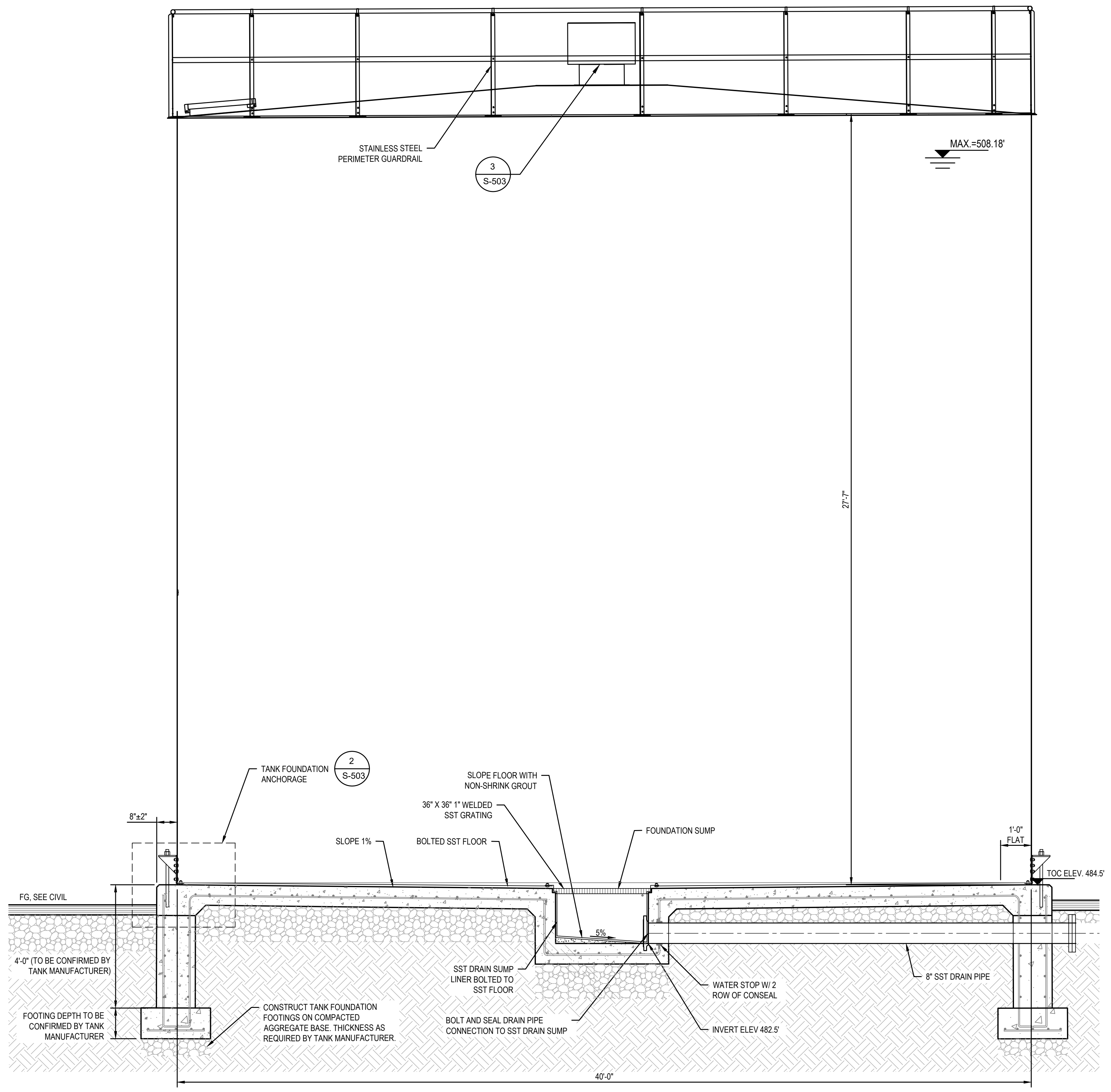


Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

Title **TANK ELEVATION AND SECTION - SONOMA SITE**

**GENERAL NOTES**

1. FILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION. WHERE FILL THICKNESS IS GREATER THAN 5 FEET, FILL MATERIAL SHALL BE COMPACTED AT LEAST 92% RELATIVE COMPACTION.
2. IN PAVED AREAS, THE UPPER 12 INCHES OF FILL SHALL BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION.

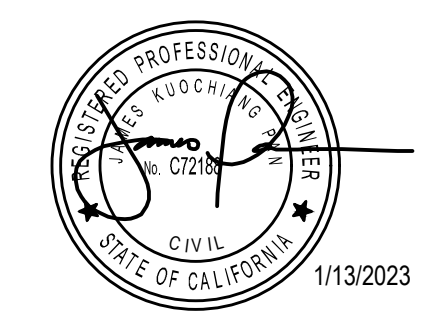


**A TANK DRAIN AND OVERFLOW SECTION**  
S-101

No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
				M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679



Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

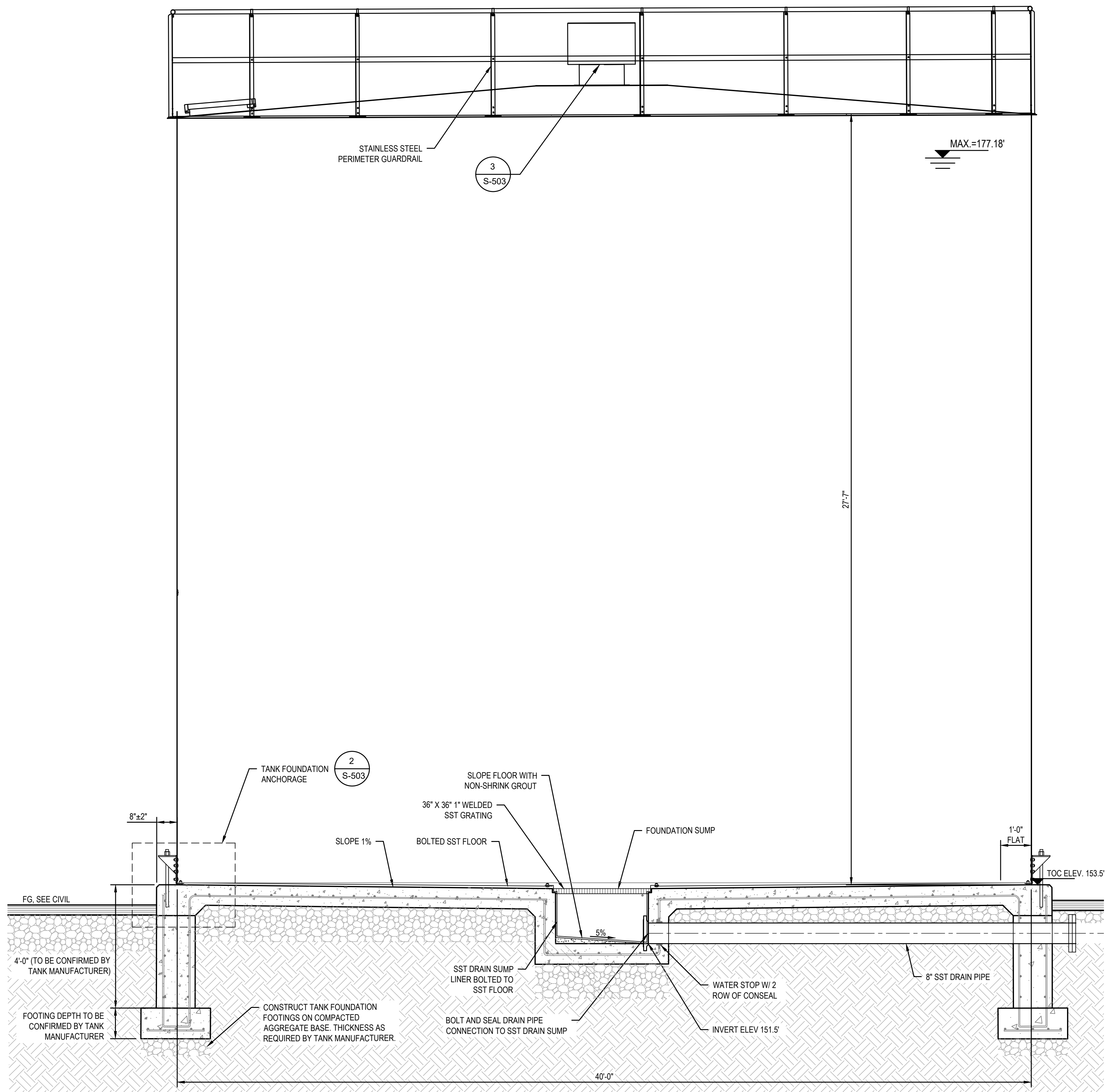
Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>TANK SECTIONS AND DETAILS - GUERNEVILLE SITE</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-304</b>
Sheet No.	<b>31 of 48</b>



**GENERAL NOTES**

1. FILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION. WHERE FILL THICKNESS IS GREATER THAN 5 FEET, FILL MATERIAL SHALL BE COMPACTED AT LEAST 92% RELATIVE COMPACTION.
2. IN PAVED AREAS, THE UPPER 12 INCHES OF FILL SHALL BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION.

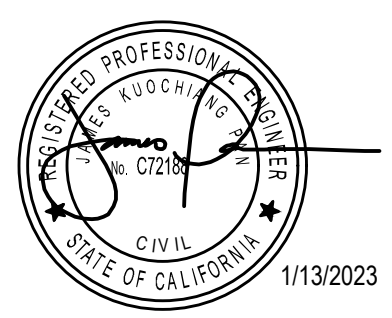


**A**  
S-101 **TANK DRAIN AND OVERFLOW SECTION**

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

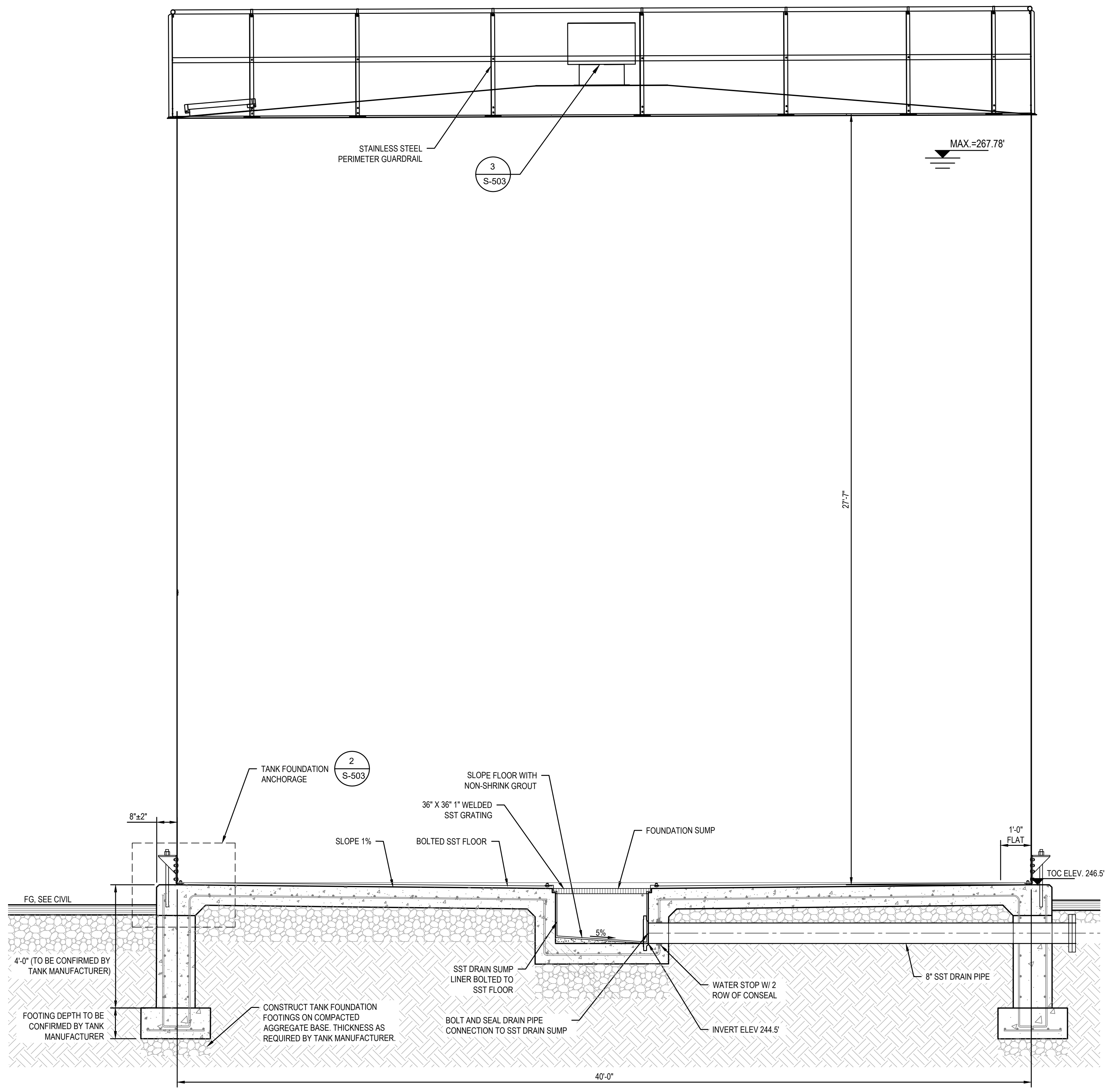


Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>TANK SECTIONS AND DETAILS - ROBLAR SITE</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-305</b>
Sheet No.	<b>32 of 48</b>

**GENERAL NOTES**

1. FILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION. WHERE FILL THICKNESS IS GREATER THAN 5 FEET, FILL MATERIAL SHALL BE COMPACTED AT LEAST 92% RELATIVE COMPACTION.
2. IN PAVED AREAS, THE UPPER 12 INCHES OF FILL SHALL BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION.

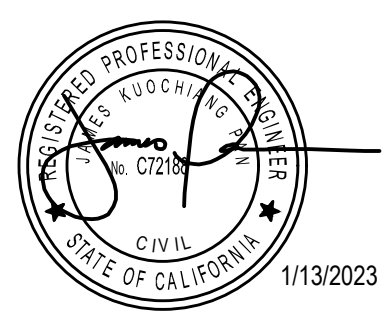


**A**  
S-101 **TANK DRAIN AND OVERFLOW SECTION**

No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
				M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



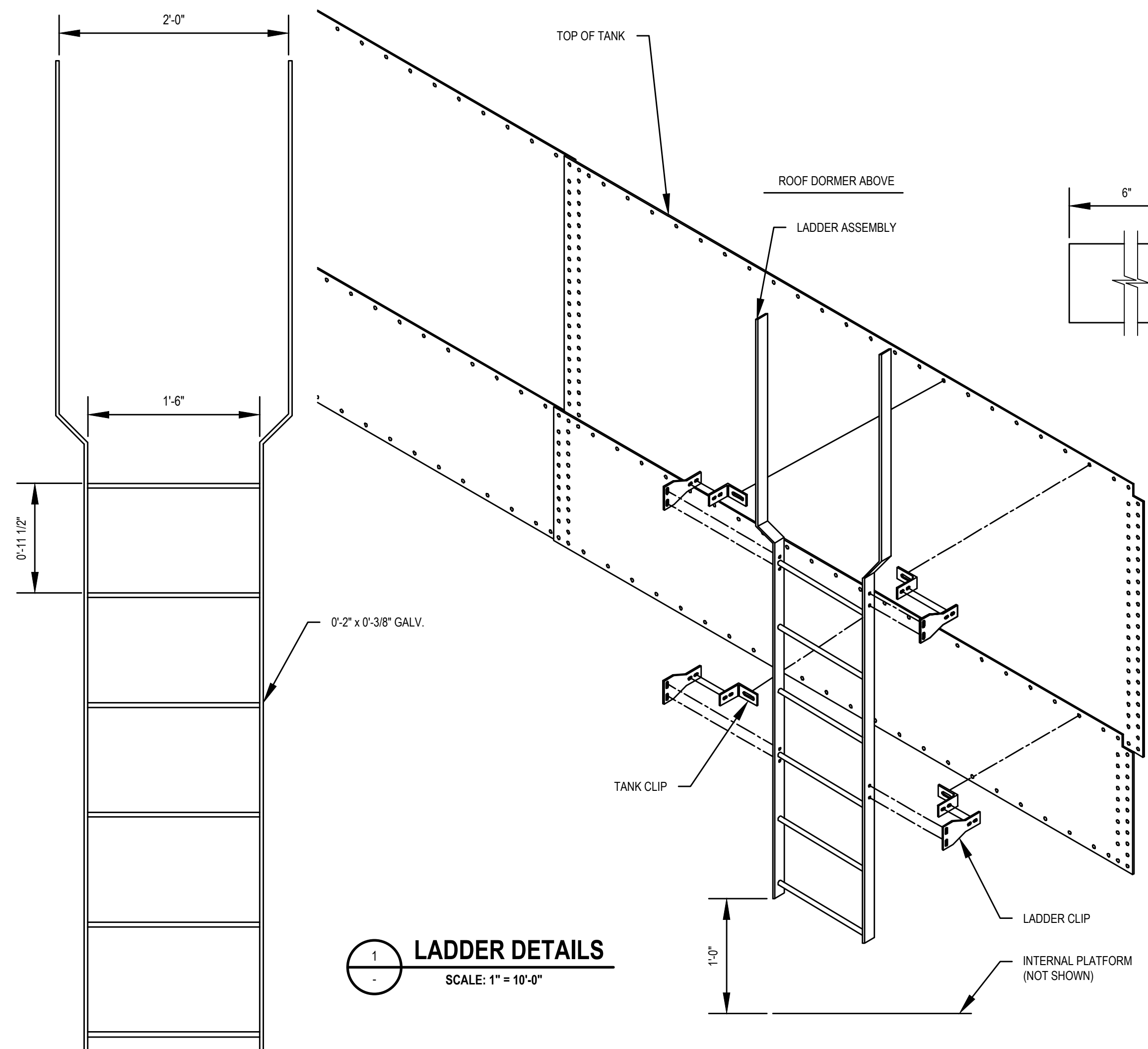
**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



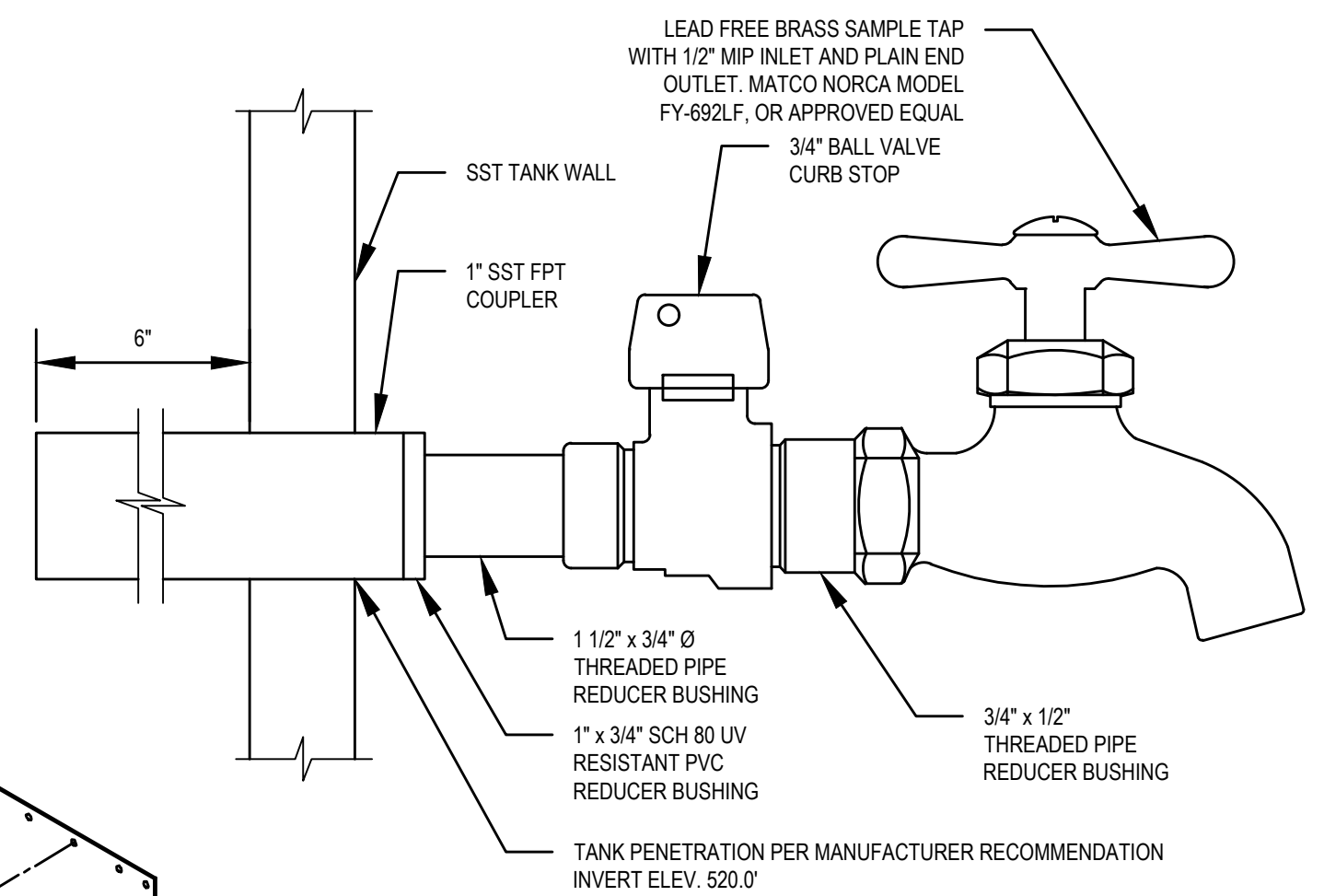
Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>TANK SECTIONS AND DETAILS - SONOMA SITE</b>
Size	<b>ANSI D</b>
Drawing No.	<b>S-306</b>
Sheet No.	<b>33 of 48</b>

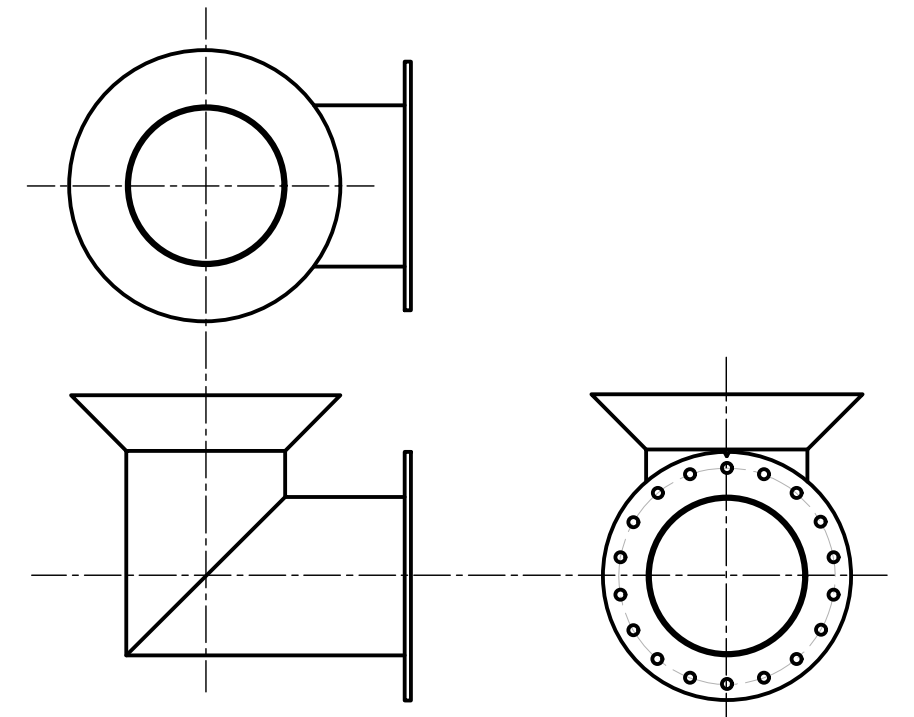




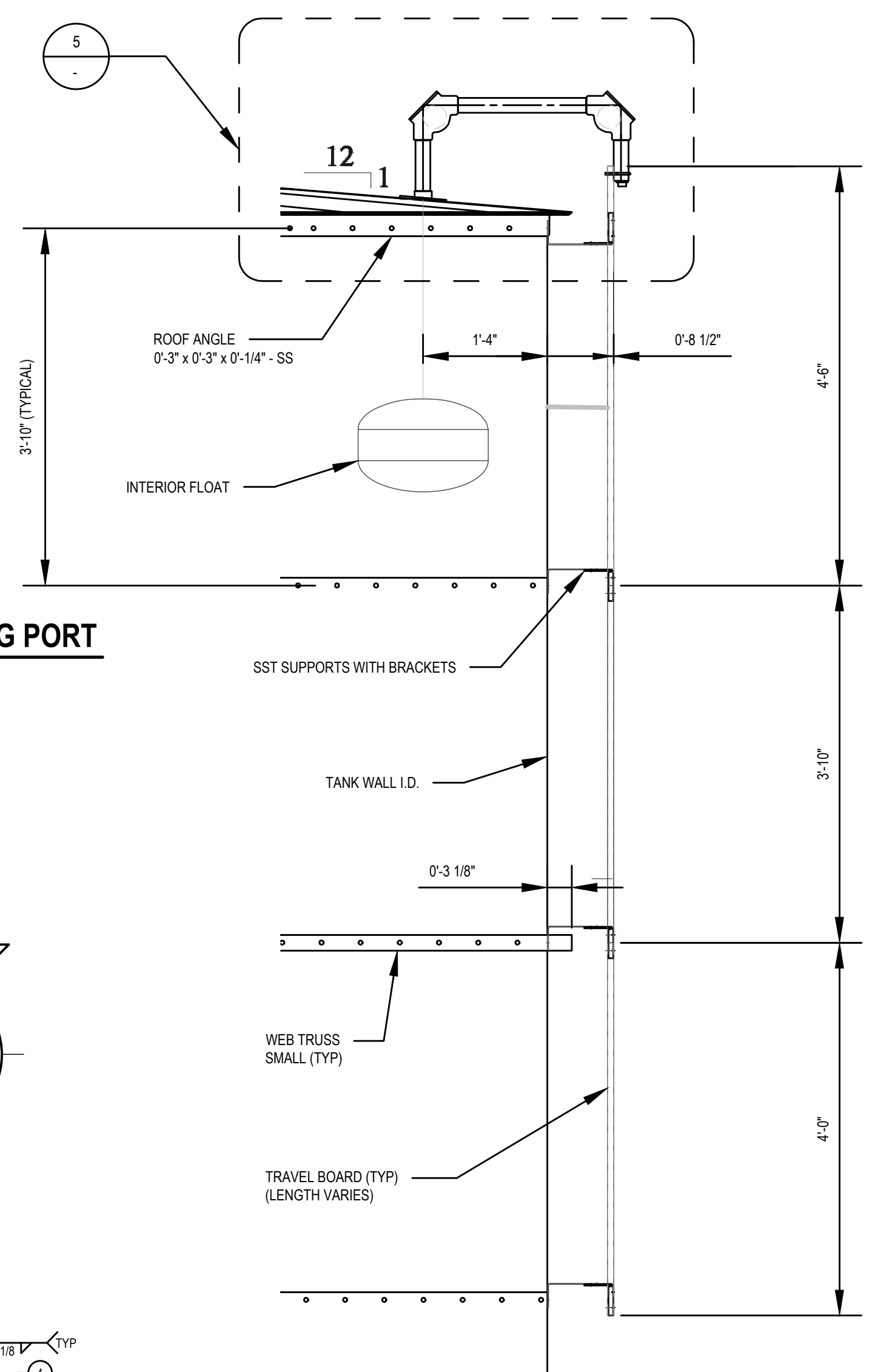
**1 LADDER DETAILS**  
SCALE: 1" = 10'-0"



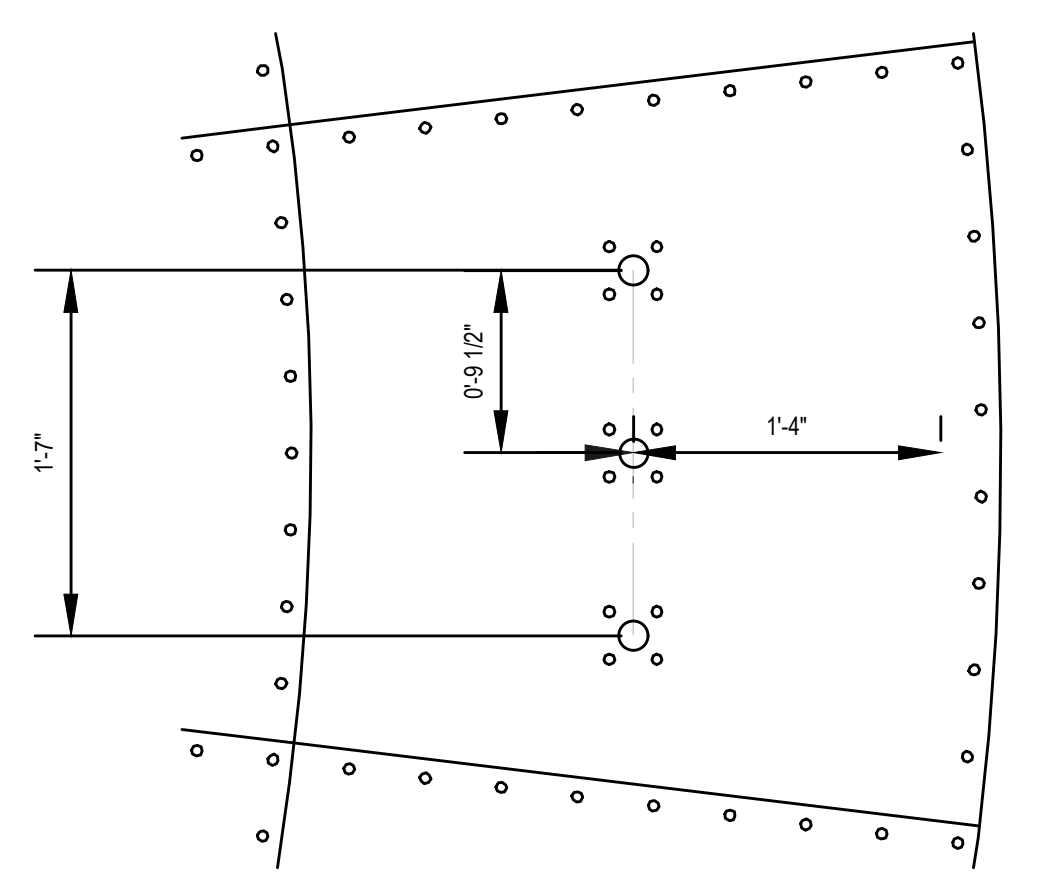
**6 1\"/>**



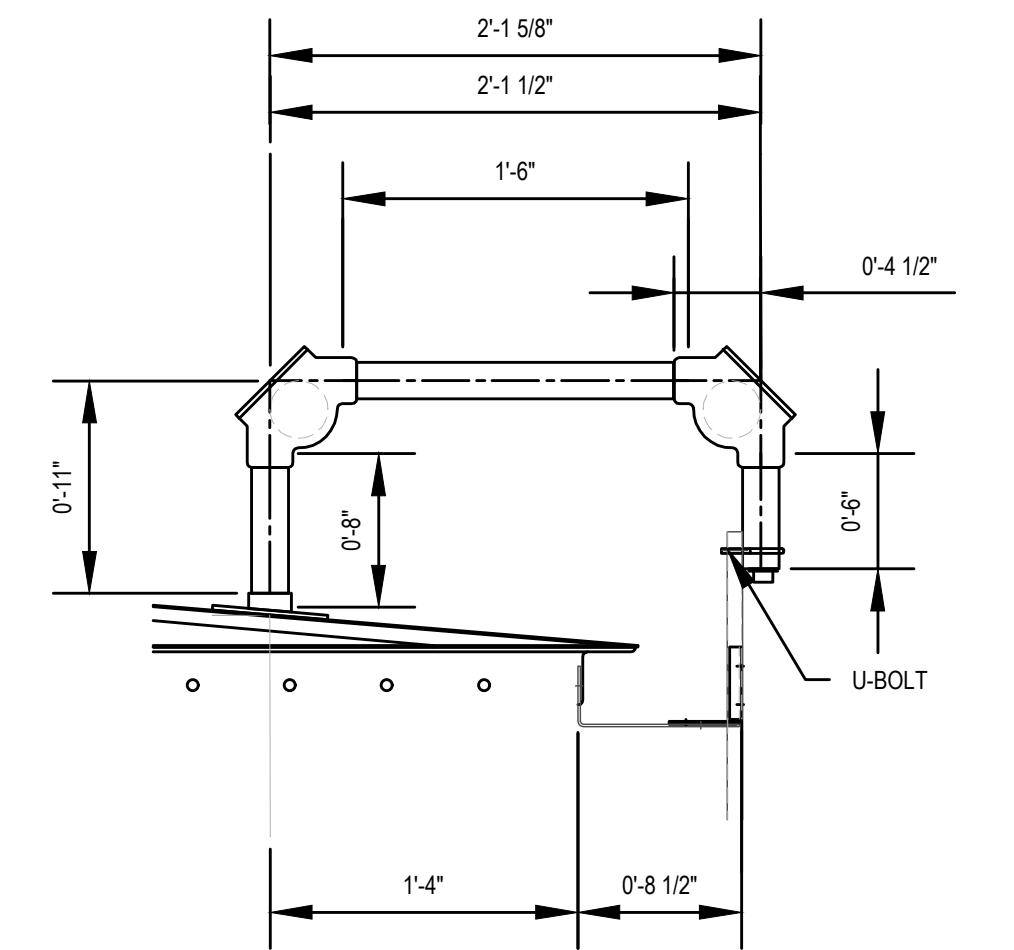
**7 OVERFLOW WEIR CONE**  
SCALE: 1" = 10'-0"



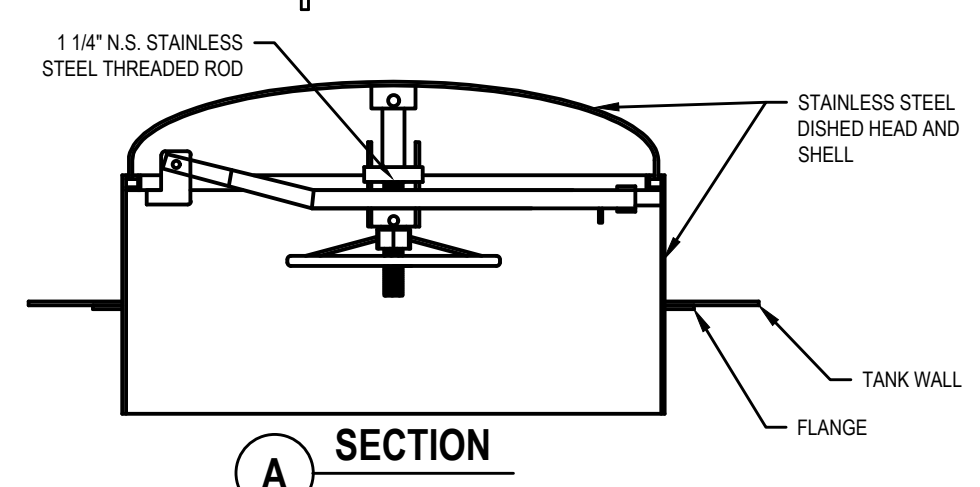
**3 LIQUID LEVEL INDICATOR DETAIL**  
SCALE: 1" = 15'-0"



**4 ROOF PANEL DETAIL**  
SCALE: 1" = 10'-0"

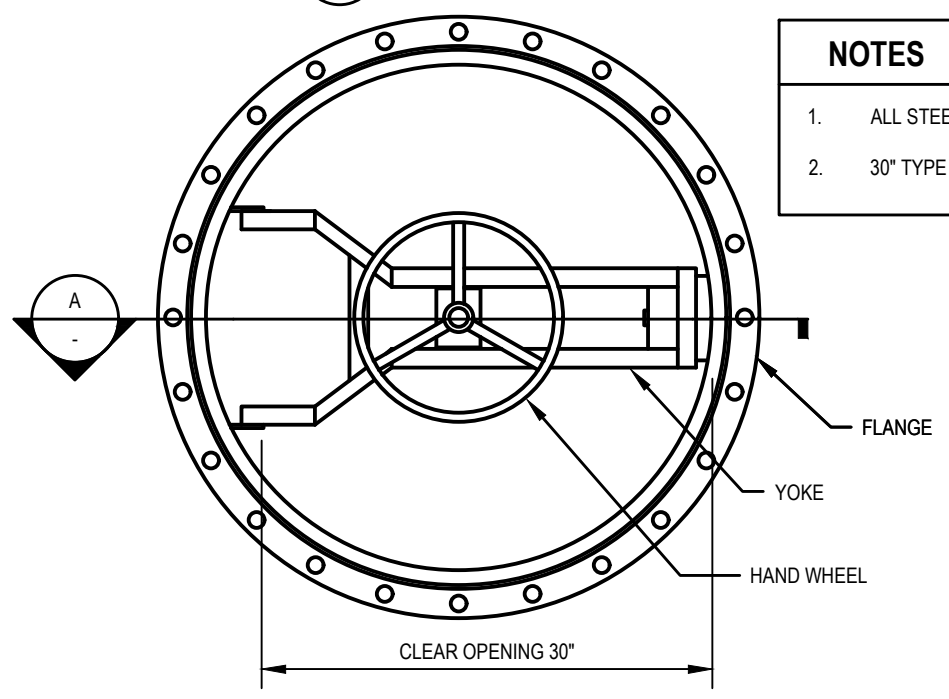


**5 DETAIL**  
SCALE: 1" = 10'-0"

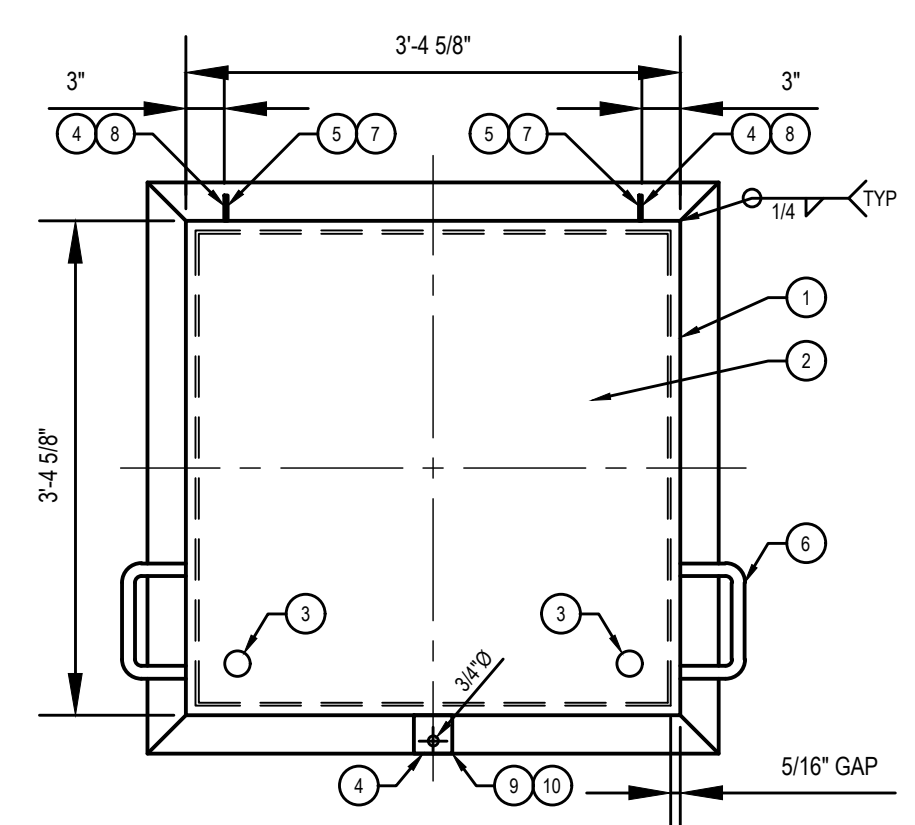


**A SECTION**

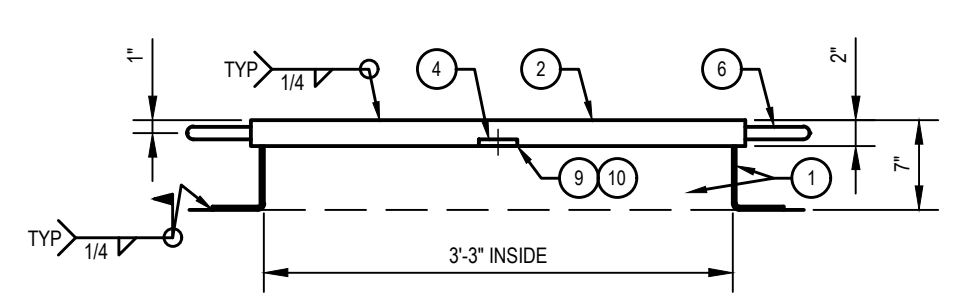
- NOTES**
- ALL STEEL SHALL BE AISI TYPE 316 STAINLESS STEEL.
  - 30" TYPE CM-2 AS MANUFACTURED BY CHASE ASSOCIATES OR APPROVED EQUAL.



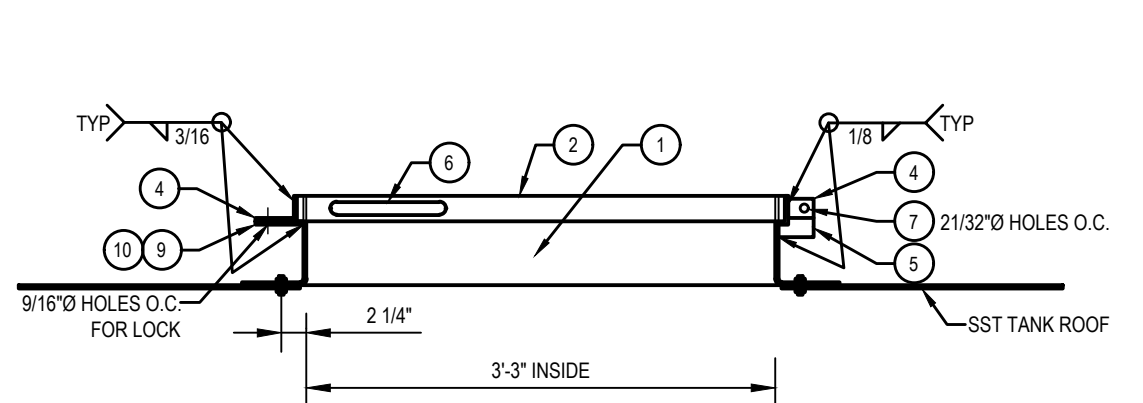
**2 EXTERIOR ELEVATION MANWAY DETAIL**  
NOT TO SCALE



**TOP VIEW**



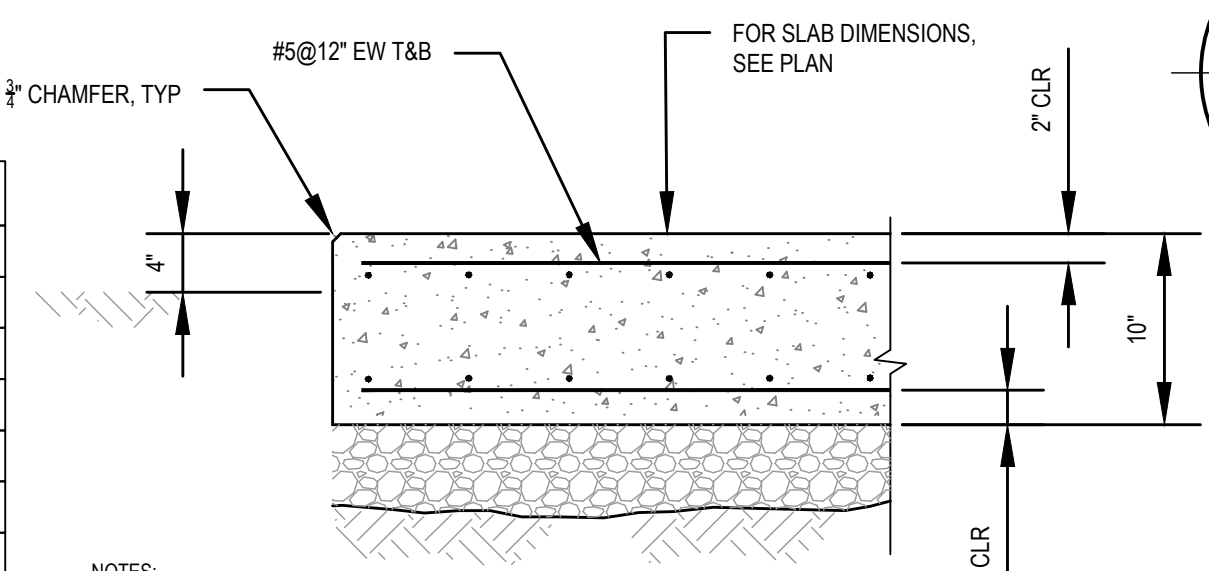
**FRONT VIEW**



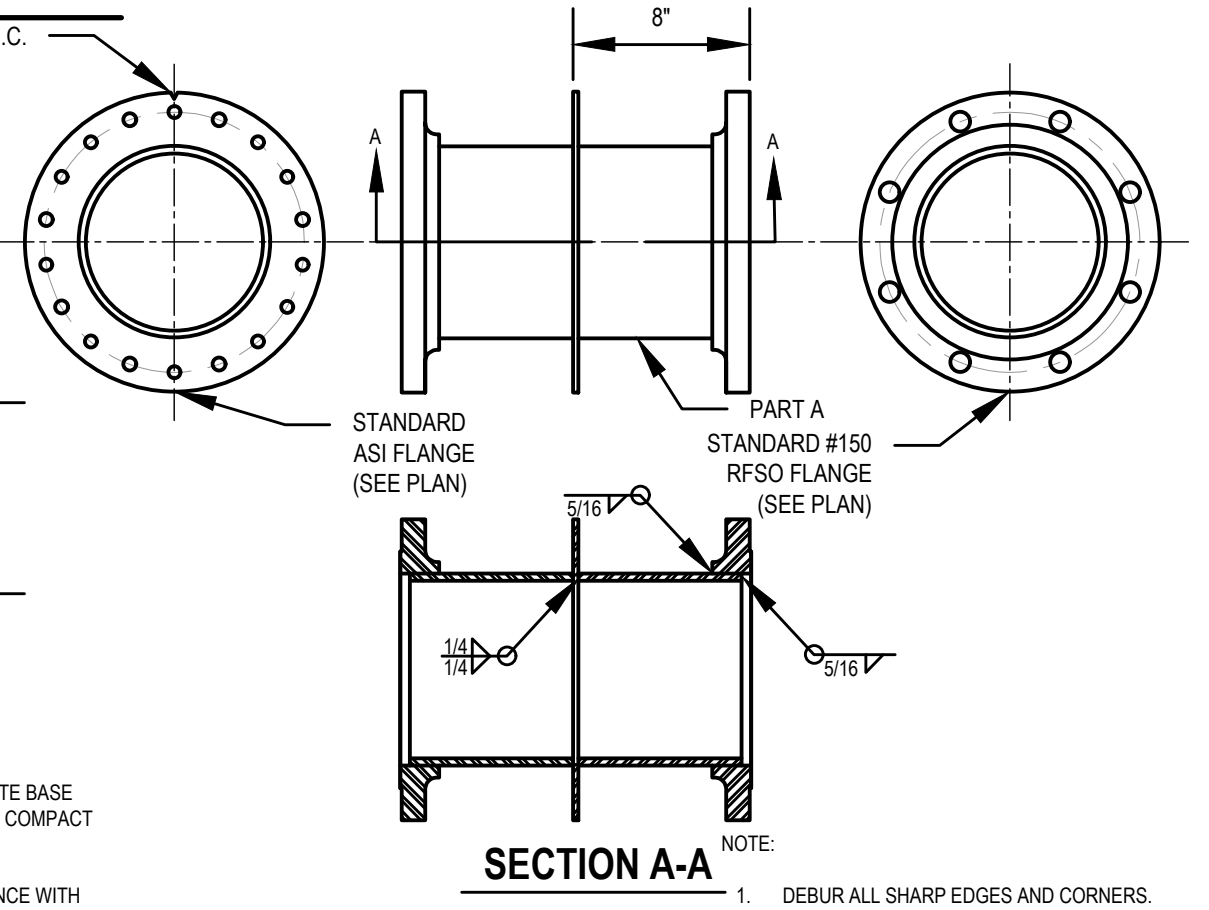
**SIDE VIEW**

SUMMARY OF MATERIALS			
ITEM	DESCRIPTION	QUANTITY	SPECIFICATION
1	PL 1/4" x 11 3/16" x 3'-9 7/8"	8	A36
2	PL 1/4" x 3'-4 5/8" x 3'-4 5/8"	2	SST
3	RUBBER BUMBERS	4	A36
4	FB 1/4 x 2 x STANDARD HINGE	6	SST
5	FB 1/4 x 2 x STANDARD HINGE	4	A36
6	RB 3/4" Ø x 1'-1 1/4" x SK	4	SST
7	BOLT 1/2" - 13 UNC x 1" HVY EX HD WHVY HEX NUT	4	S304
8	INSULATION KIT	4	NYLON
9	FB 1/4 x 2 x STANDARD HASP	2	A36
10	STANDARD LOCK ENCLOSURE	2	SST

**8 ROOF HATCH DETAIL**  
SCALE: 1" = 15'-0"



**9 STAIR BOTTOM LANDING**  
NTS

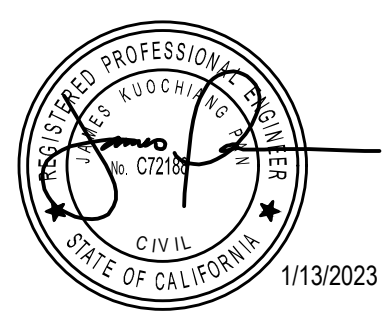


**10 FLANGE PIPE WALL PENETRATION**  
NTS

No.	Issue	Checked	Approved	Date	
Author	DRG	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet



**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

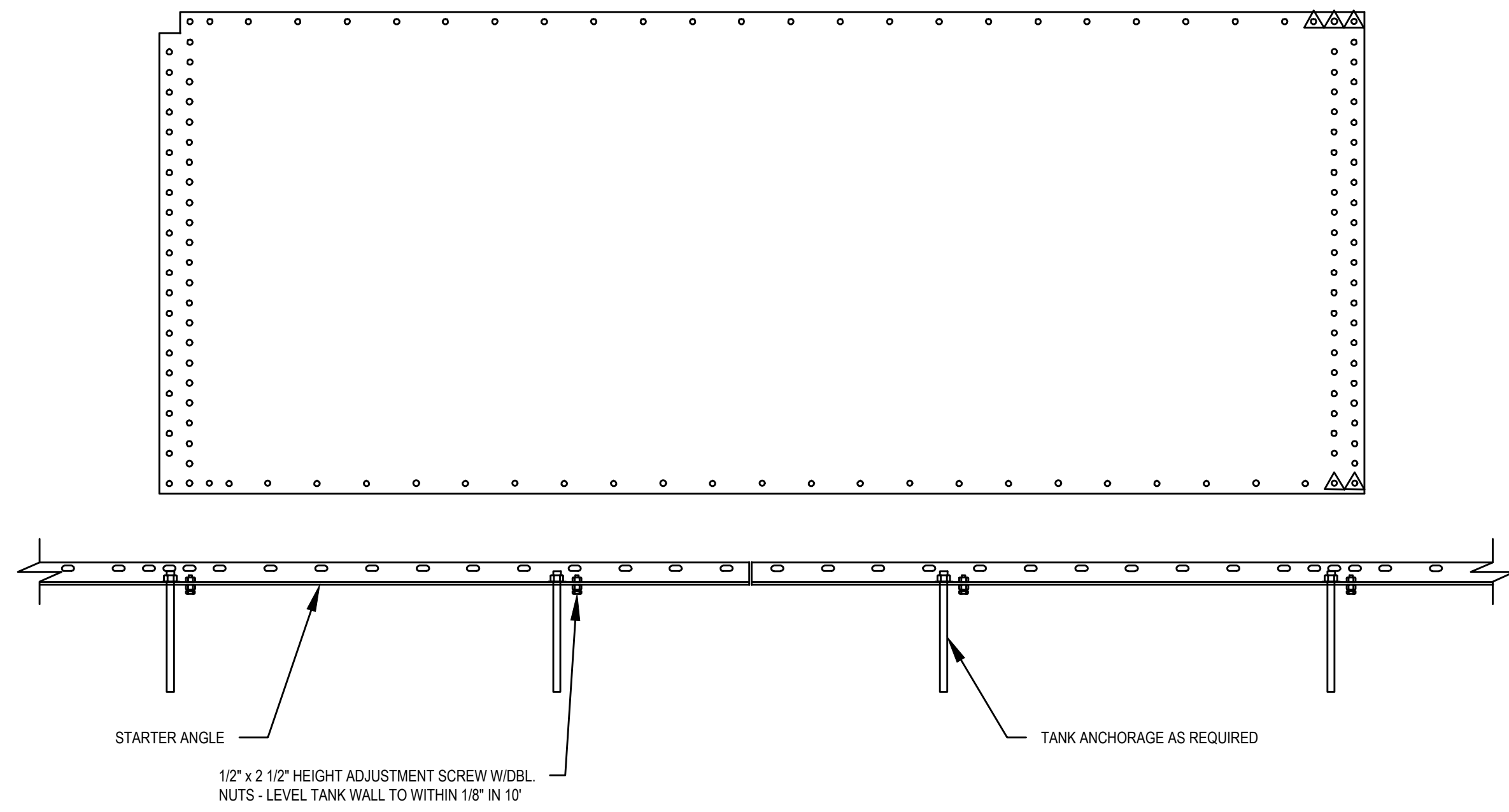
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

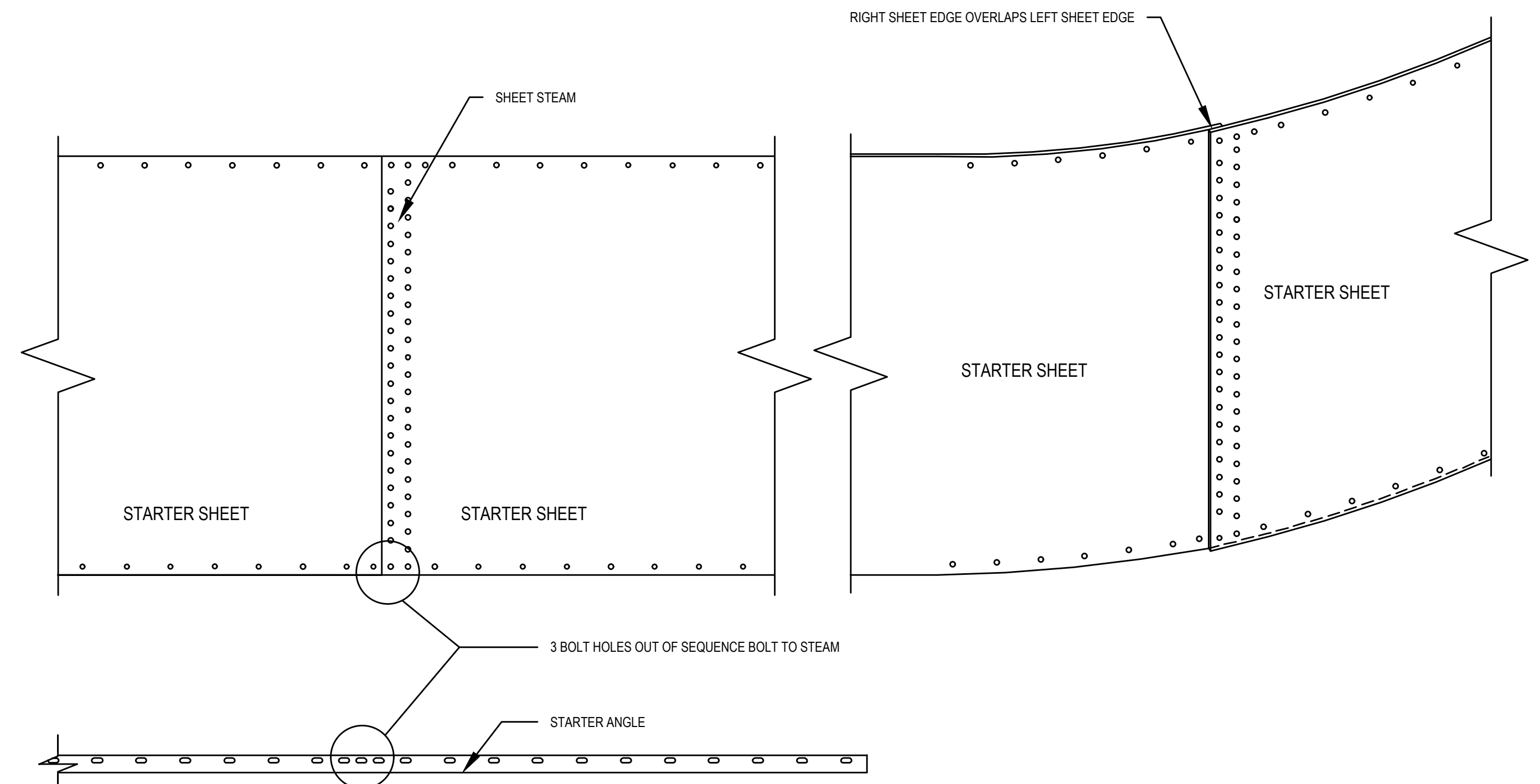
Title **STRUCTURAL DETAILS 1**  
Drawing No. **S-501**  
Sheet No. **34 of 48**





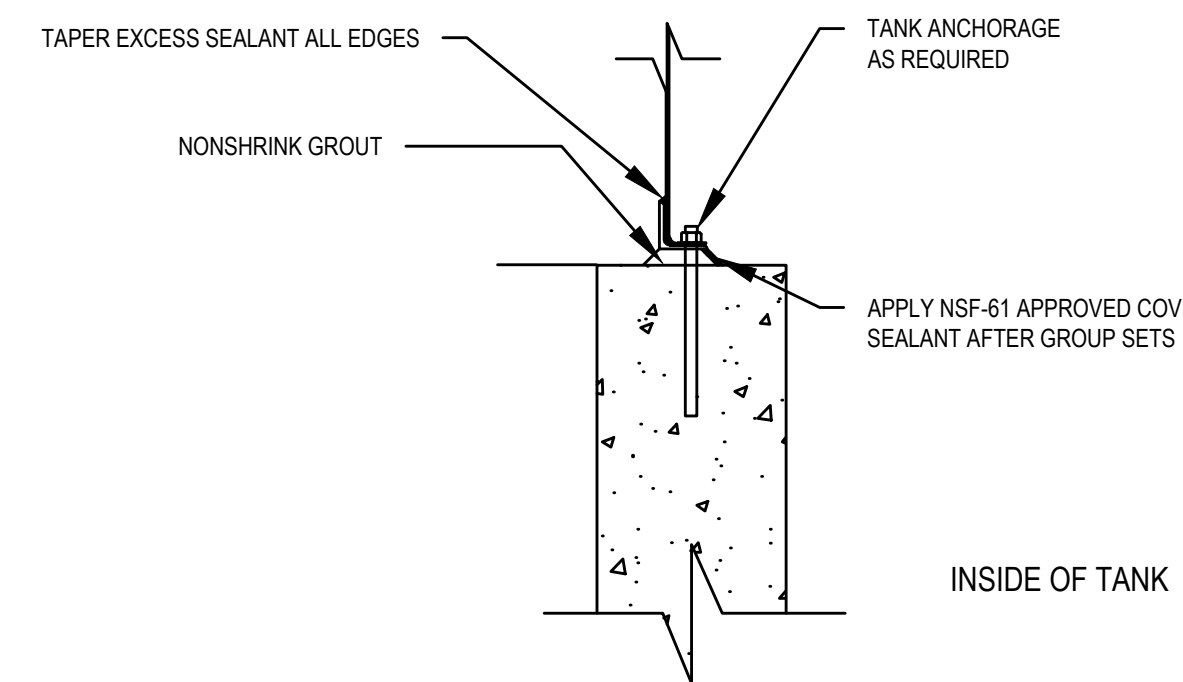
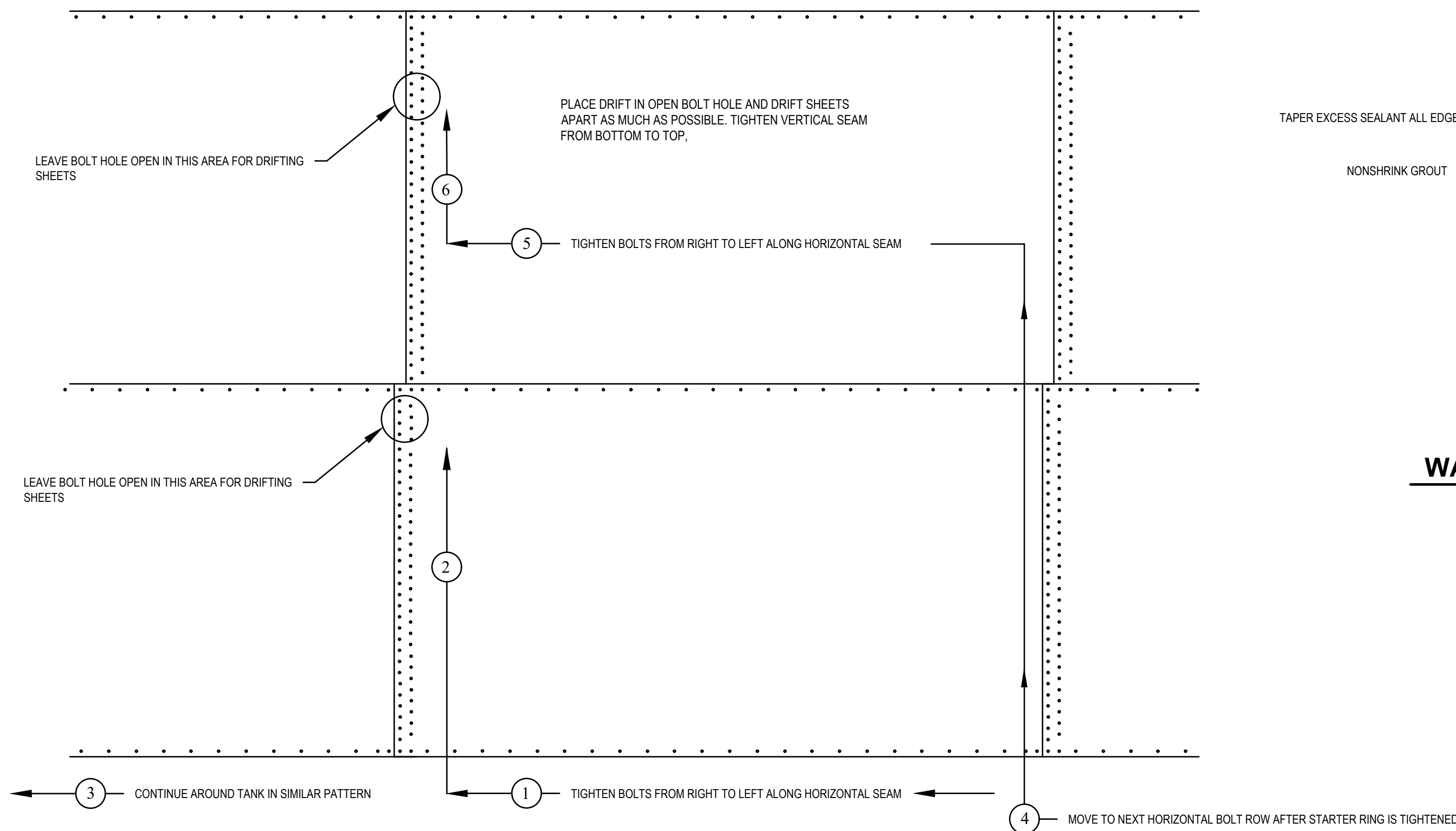
**STARTER SHEET AS VIEWED FROM FROM THE INSIDE OF THE TANK FACING CENTER**

NOT TO SCALE



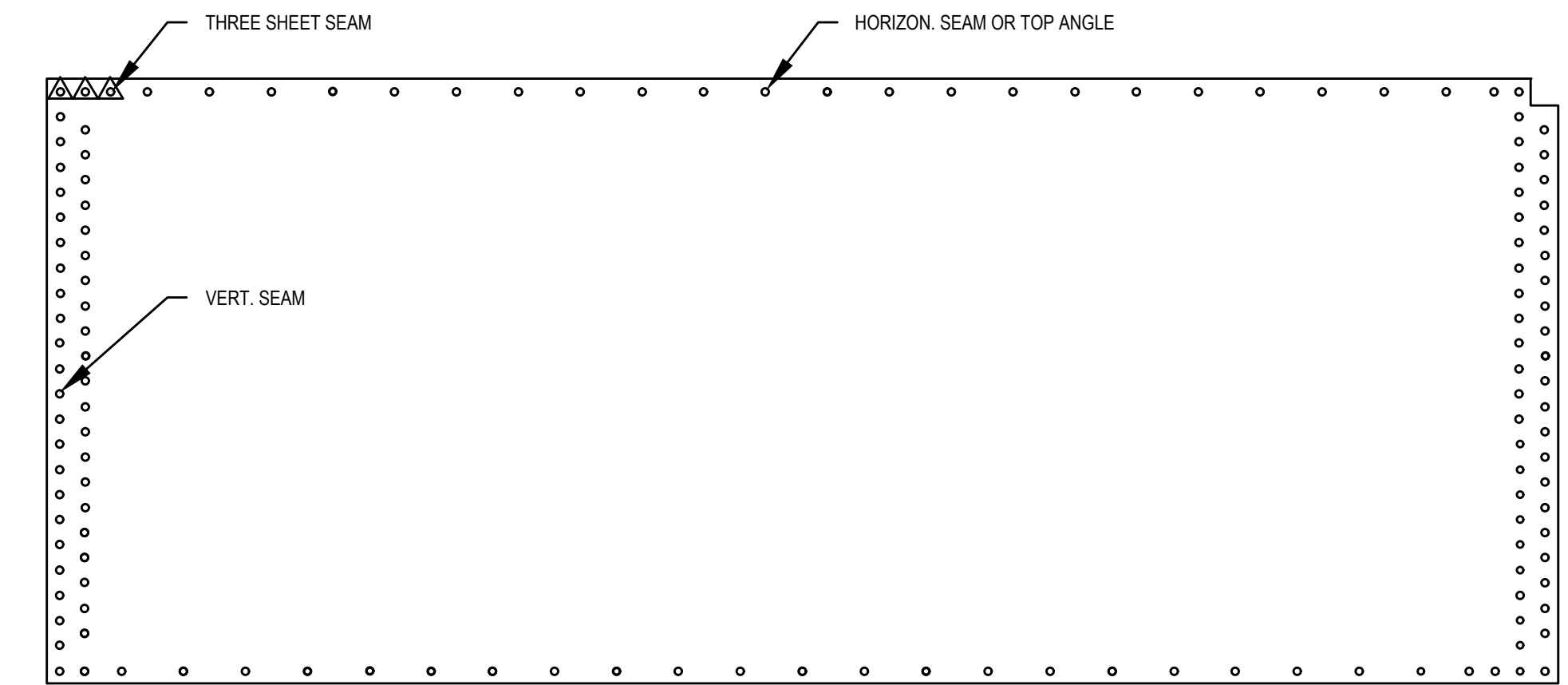
**STARTER SHEET AS VIEWED FROM THE OUTSIDE OF THE TANK**

LAP RIGHT OVER LEFT  
NOT TO SCALE



**WALL ATTACHMENT DETAIL**

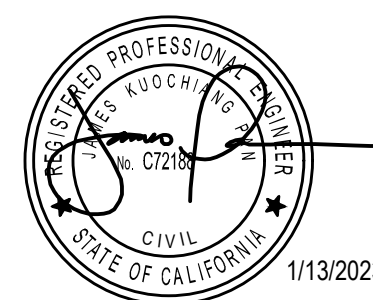
NOT TO SCALE



No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



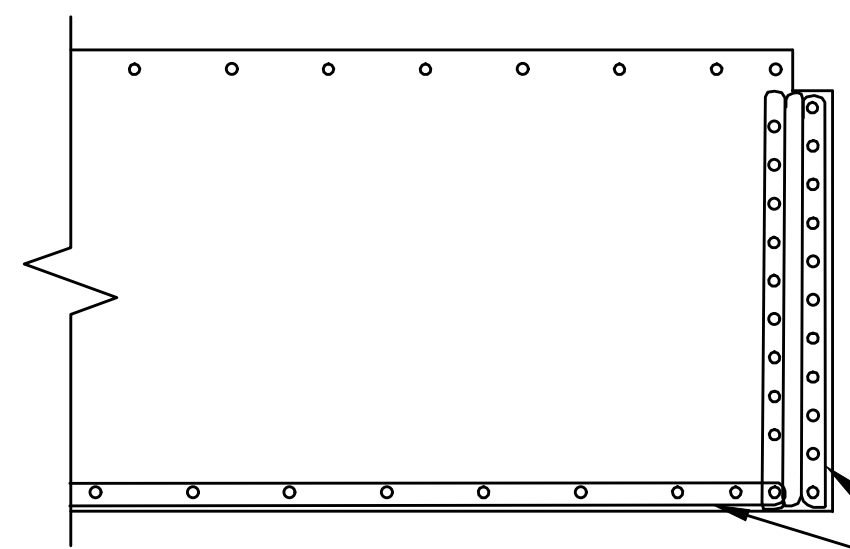
**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client	COUNTY OF SONOMA	Title	STRUCTURAL DETAILS 2
Project	LEACHATE TANK REPLACEMENT	Project No.	12558724
Date	1/13/2023	Scale	AS SHOWN

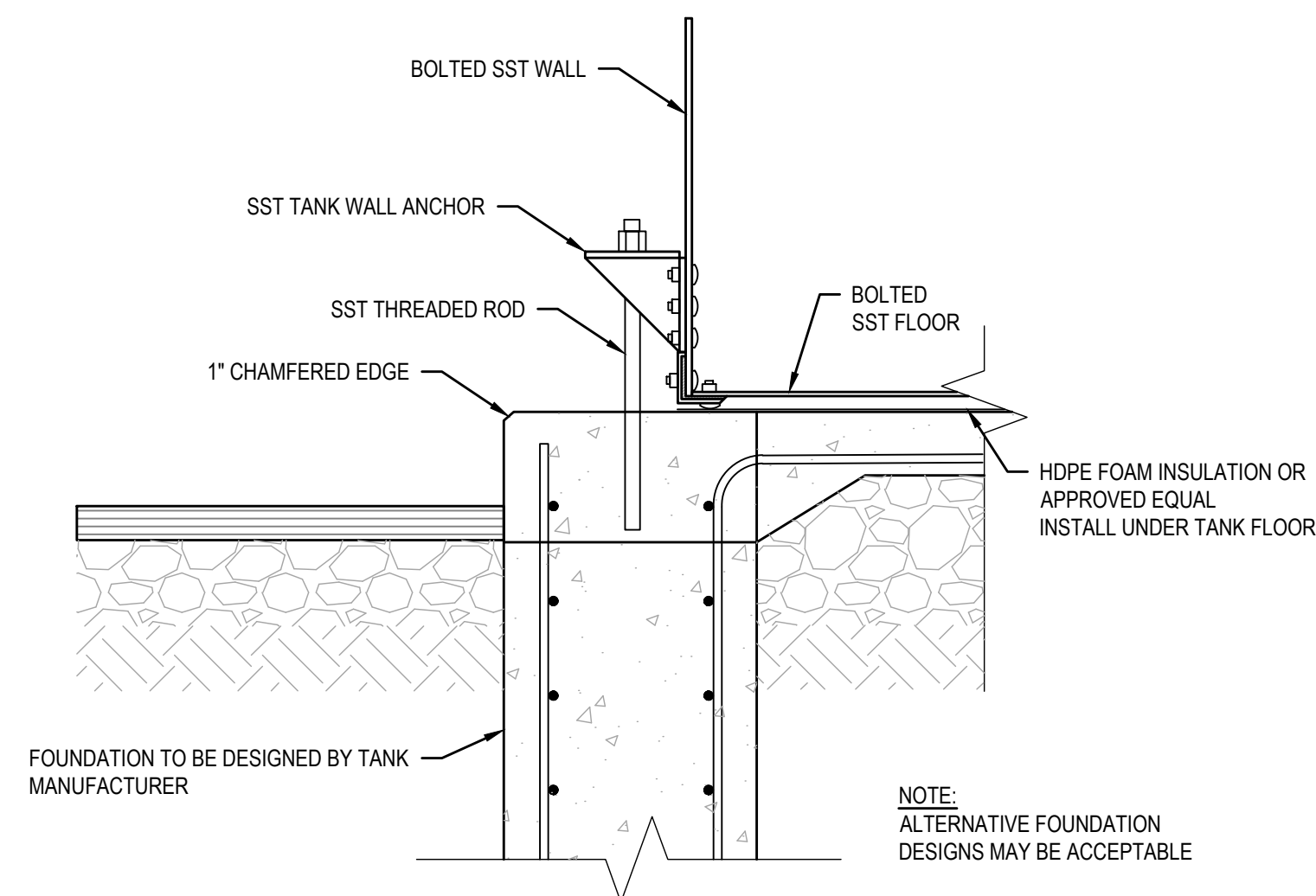
Size  
ANSI D  
Drawing No.  
S-502  
Sheet No.  
35 of 48



**SIDEWALL SHEET**

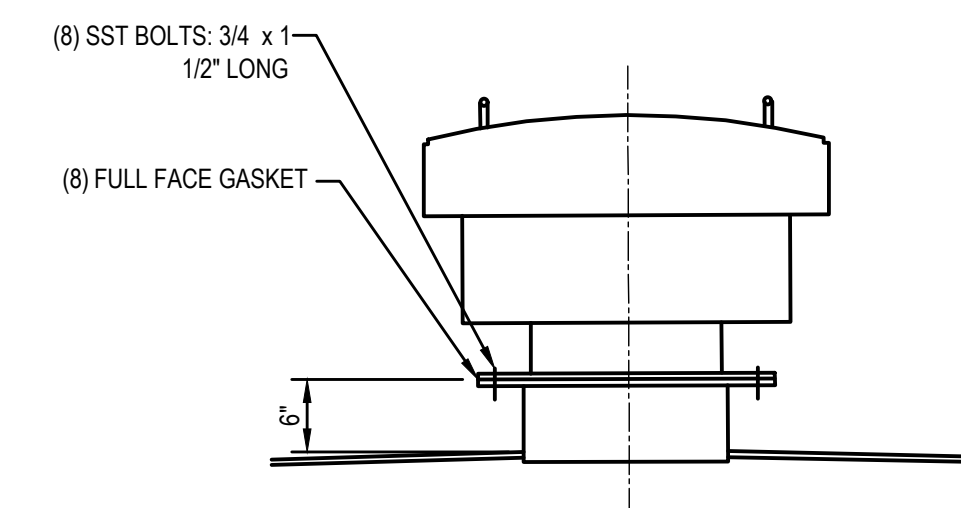
NOT TO SCALE

GENEROUS BEAD OF NSF-61 APPROVED SEALANT ON EACH SIDE OF HOLE (TYP) HOLES SHOULD BE COVERED BY SEALANT. MAKE SURE CORNERS AND EDGES ARE COMPLETELY COVERED WITH SEALANT.

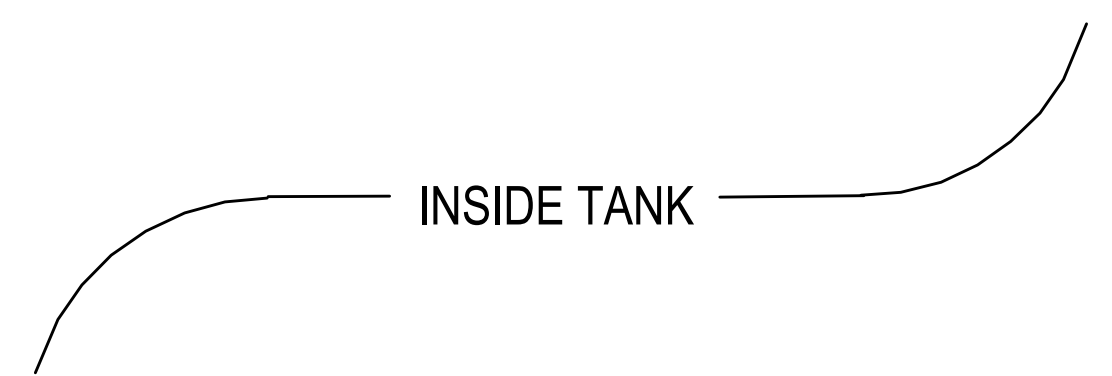


**2 TANK FOUNDATION ANCHORAGE**

NOTE:  
ALTERNATIVE FOUNDATION  
DESIGNS MAY BE ACCEPTABLE

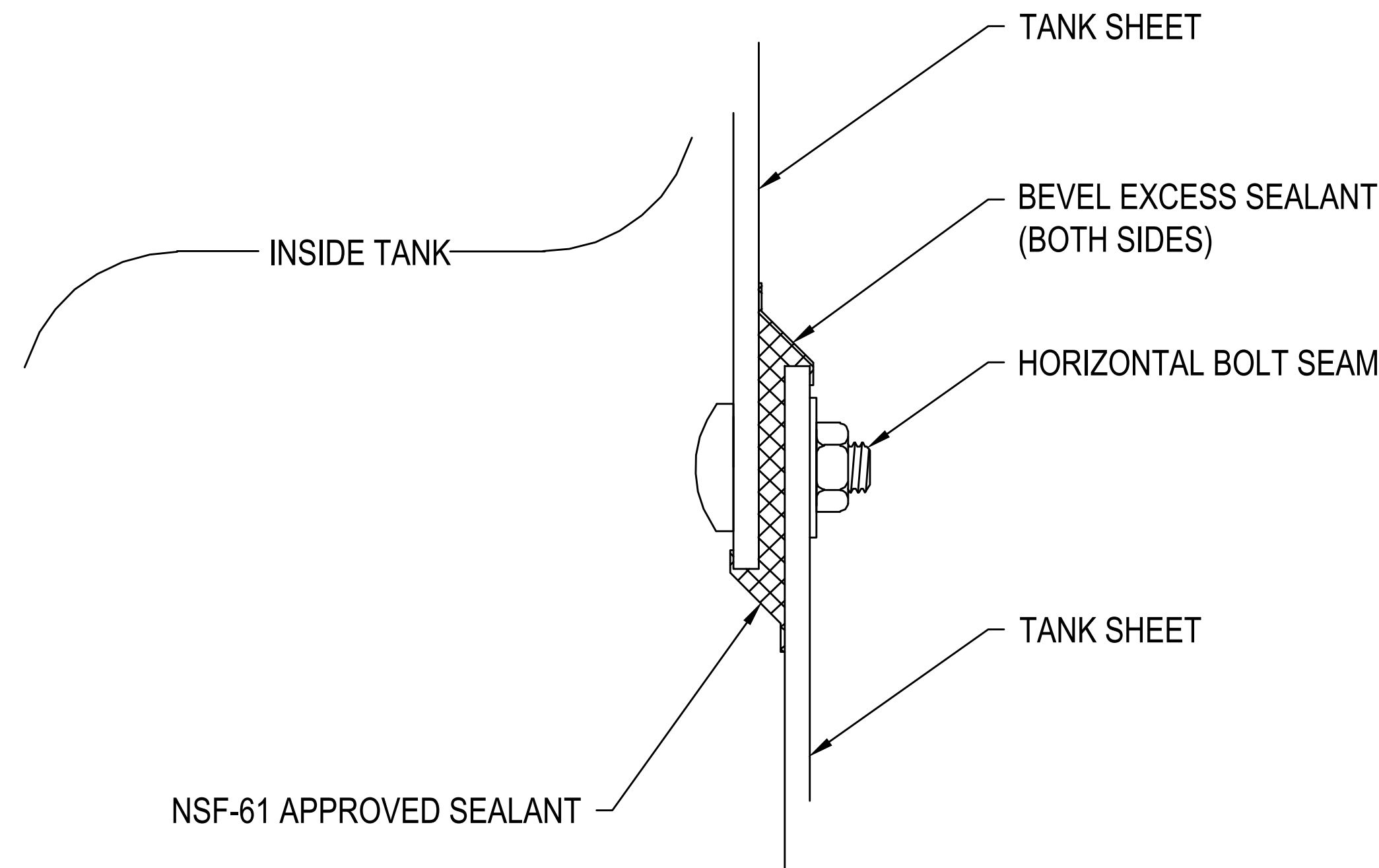


**3 ROOF VENT DETAIL**



**VERTICAL SEAM**

NOT TO SCALE



**HORIZONTAL SEAM**

NOT TO SCALE

NSF-61 APPROVED SEALANT

INSIDE TANK

INSIDE TANK

BEVEL EXCESS SEALANT ALONG SHEET EDGE (EACH SIDE)

NSF-61 APPROVED SEALANT

TANK SHEET

BEVEL EXCESS SEALANT (BOTH SIDES)

HORIZONTAL BOLT SEAM

TANK SHEET

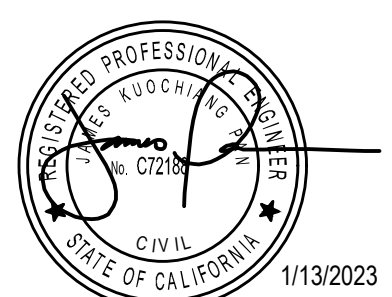
**1 SEALANT APPLICATION LOCATIONS**

NOT TO SCALE

No.	Issue	Checked	Approved	Date
Author	DRA	Drafting Check	MGK	Project Manager
Designer	MGK	Design Check	MGK	Project Director
				M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

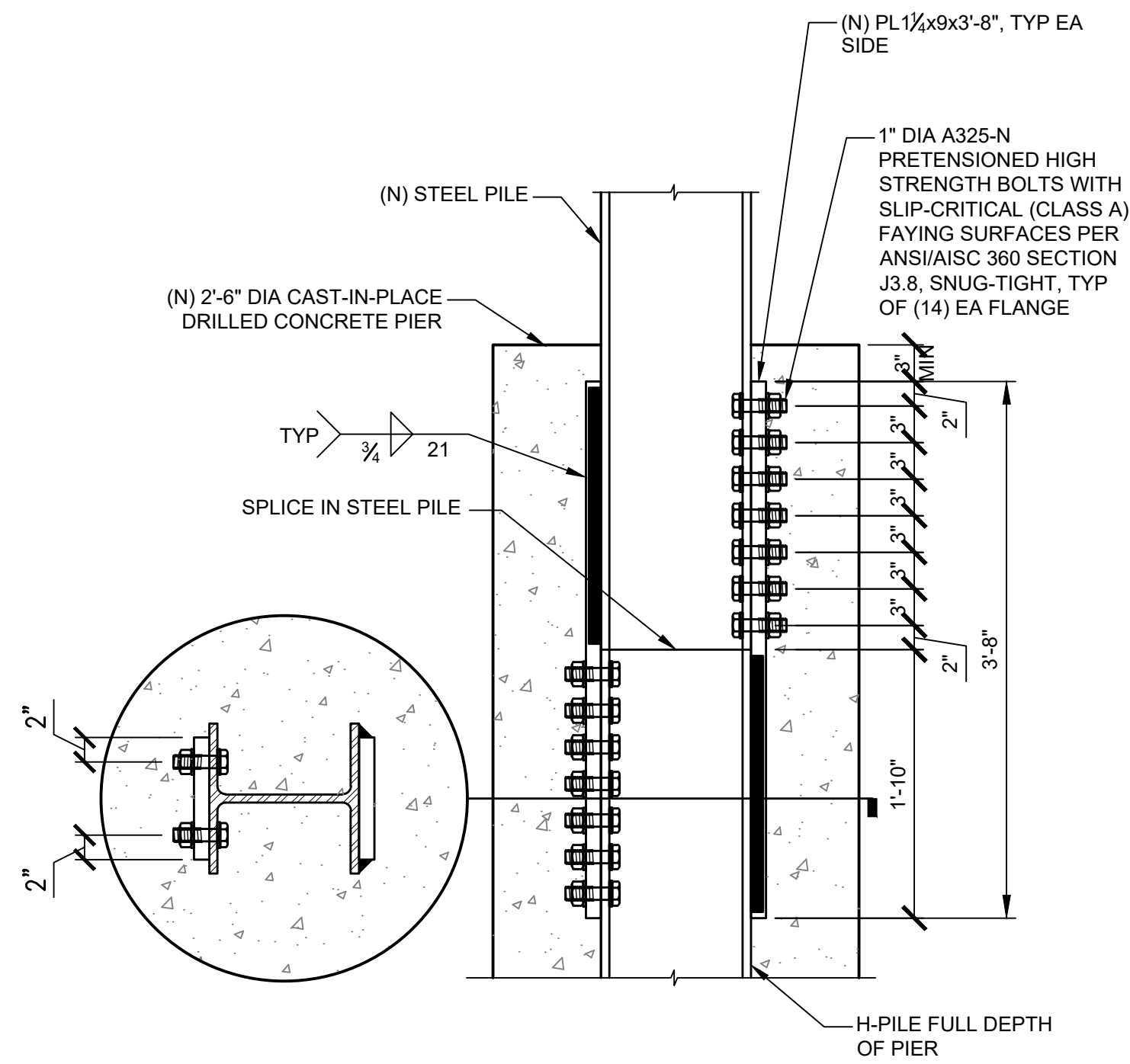
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



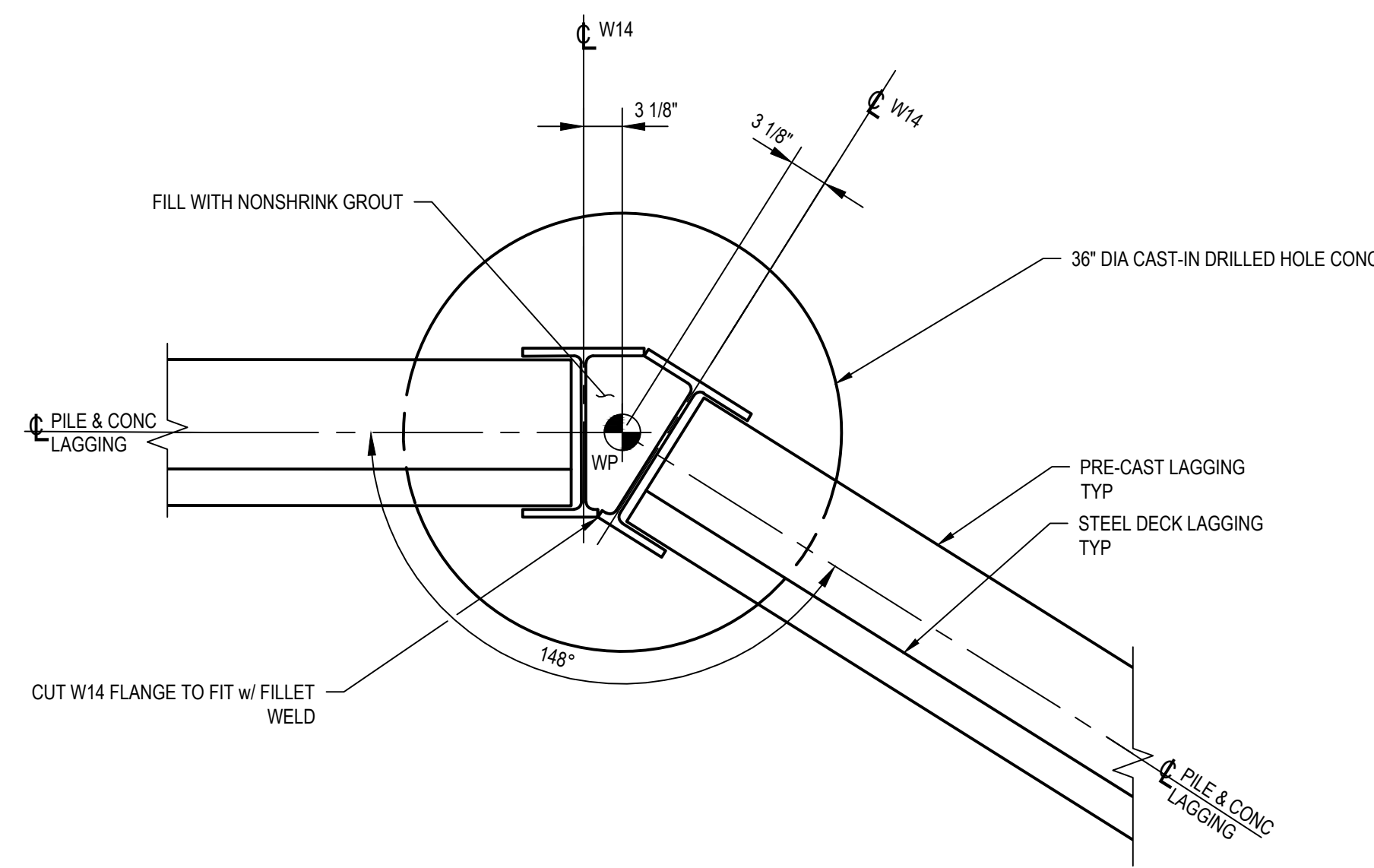
Client	COUNTY OF SONOMA
Project	LEACHATE TANK REPLACEMENT
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	STRUCTURAL DETAILS 3
Size	ANSI D
Drawing No.	S-503
Sheet No.	36 of 48

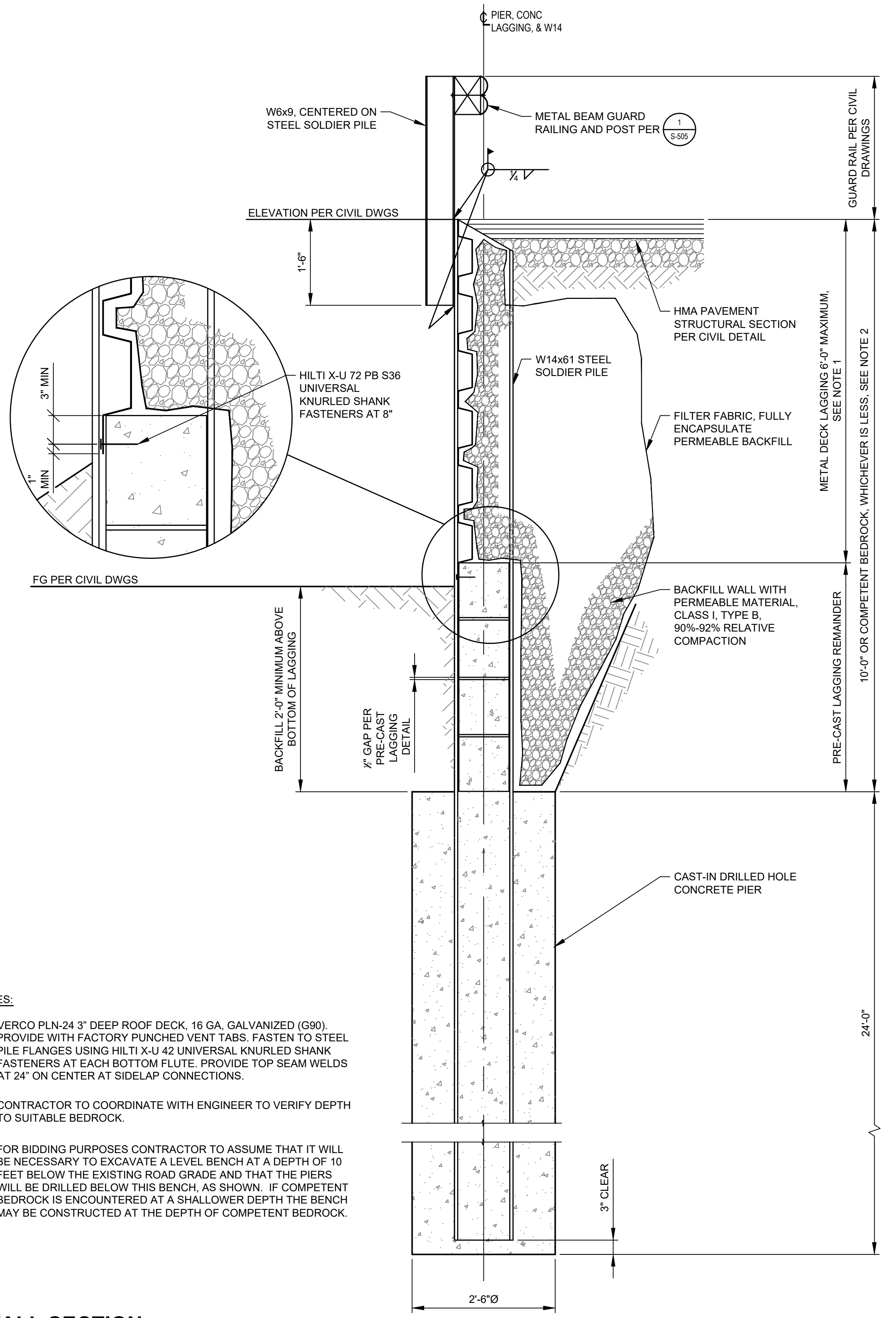




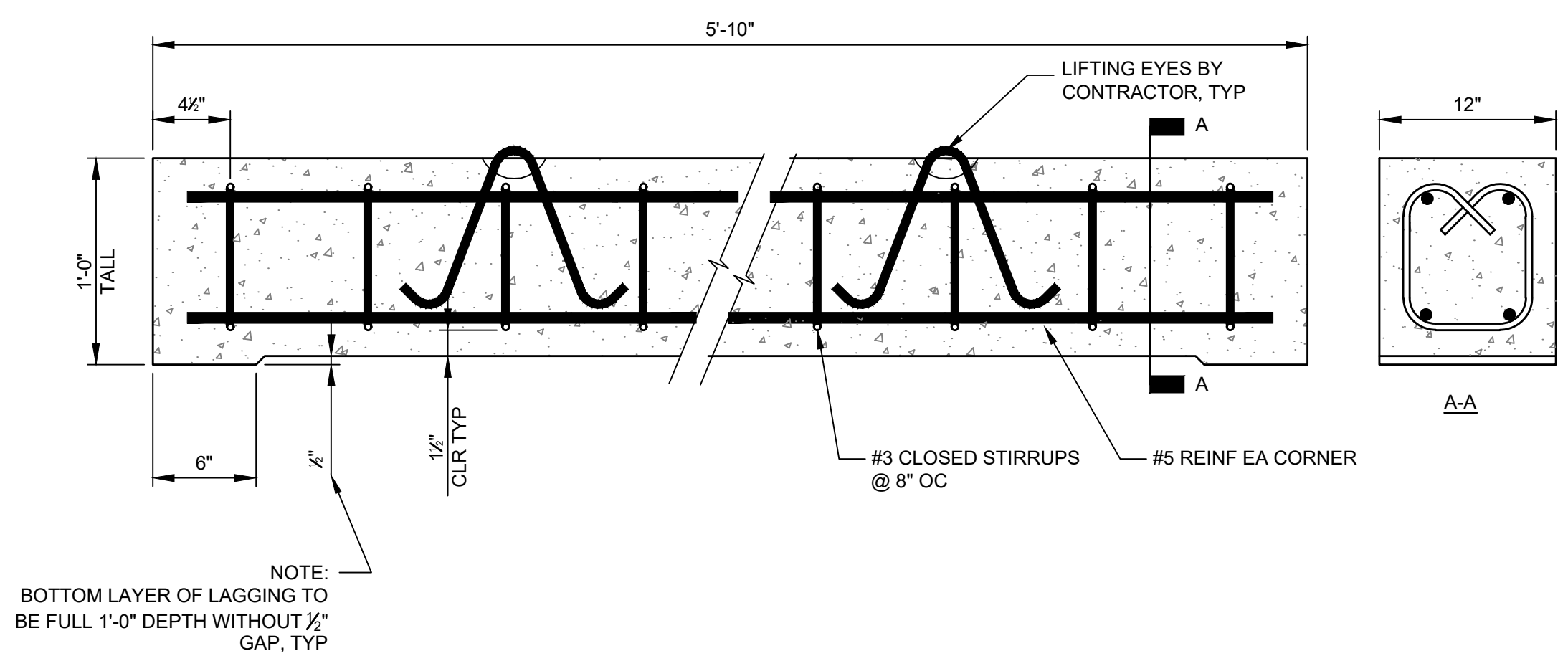
**1** OPTIONAL PILE SPLICE  
NOT TO SCALE



**2** CORNER TRANSITION DETAIL  
NOT TO SCALE



**3** WALL SECTION  
NOT TO SCALE



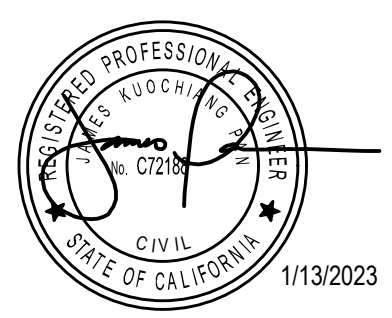
**4** PRE-CAST LAGGING  
NOT TO SCALE

- NOTES:**
- VERCO PLN-24 3" DEEP ROOF DECK, 16 GA. GALVANIZED (G90). PROVIDE WITH FACTORY PUNCHED VENT TABS. FASTEN TO STEEL PILE FLANGES USING HILTI X-U 42 UNIVERSAL KNURLED SHANK FASTENERS AT EACH BOTTOM FLUTE. PROVIDE TOP SEAM WELDS AT 24" ON CENTER AT SIDELAP CONNECTIONS.
  - CONTRACTOR TO COORDINATE WITH ENGINEER TO VERIFY DEPTH TO SUITABLE BEDROCK.
  - FOR BIDDING PURPOSES CONTRACTOR TO ASSUME THAT IT WILL BE NECESSARY TO EXCAVATE A LEVEL BENCH AT A DEPTH OF 10 FEET BELOW THE EXISTING ROAD GRADE AND THAT THE PIERS WILL BE DRILLED BELOW THIS BENCH, AS SHOWN. IF COMPETENT BEDROCK IS ENCOUNTERED AT A SHALLOWER DEPTH THE BENCH MAY BE CONSTRUCTED AT THE DEPTH OF COMPETENT BEDROCK.

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"

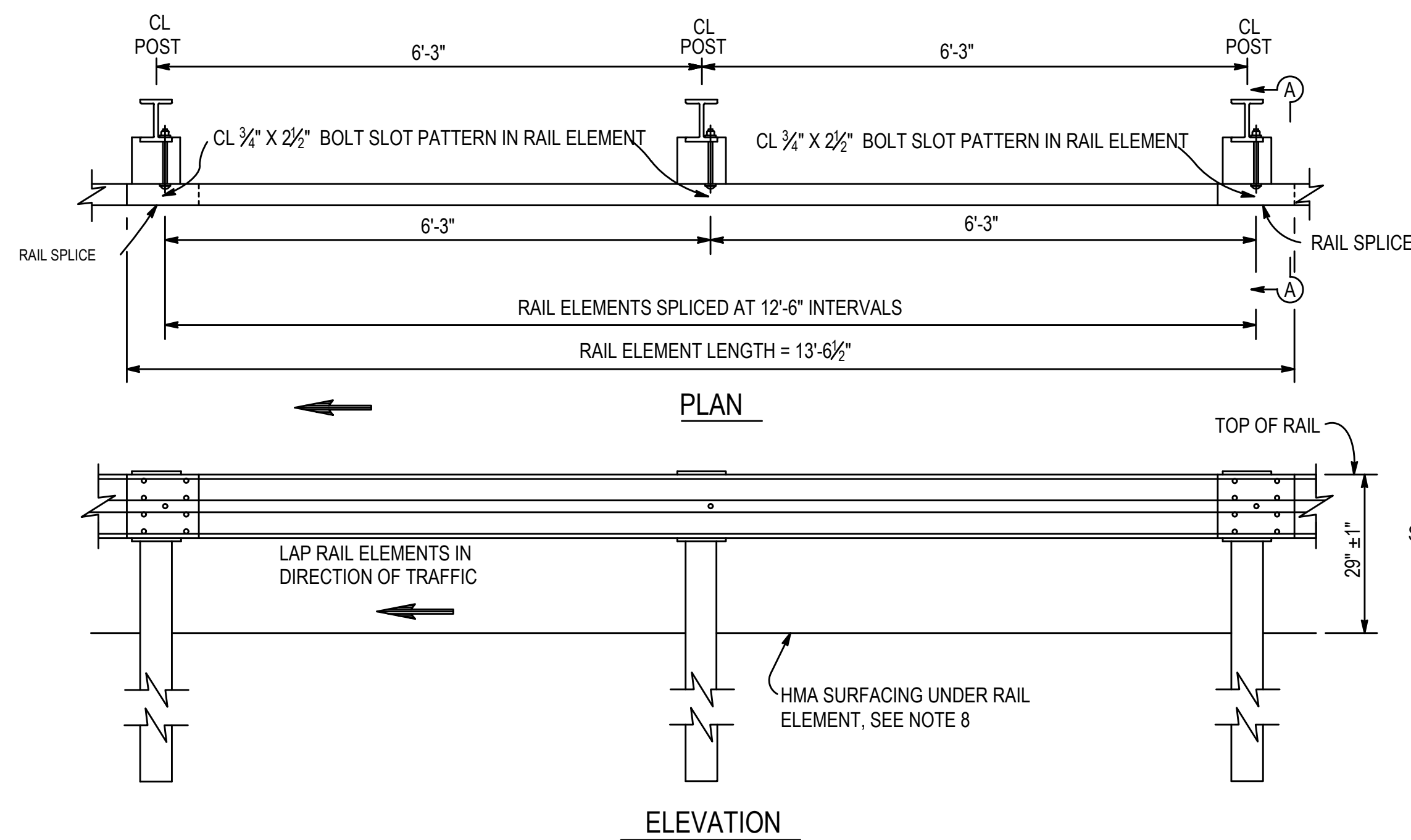


**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

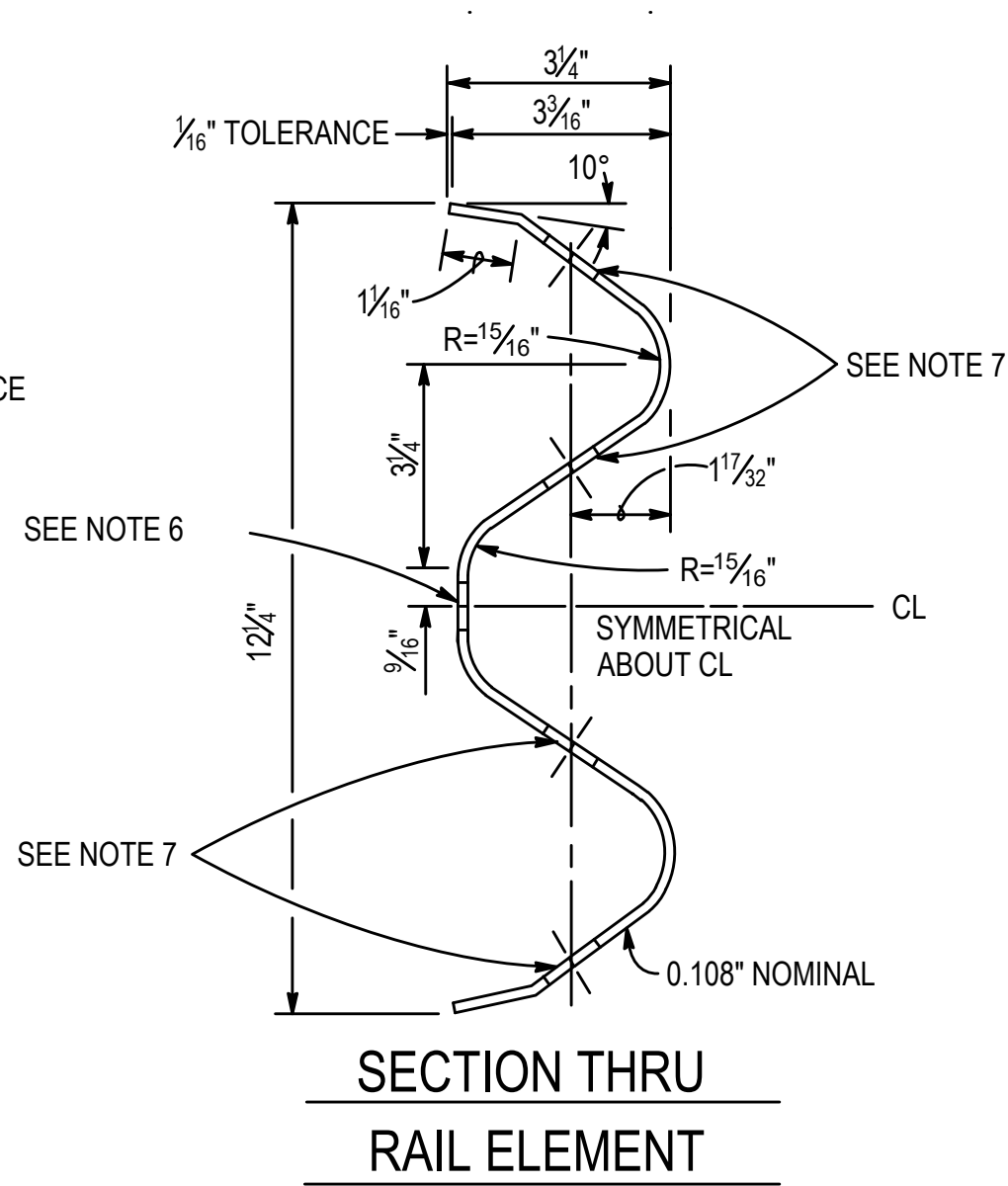
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

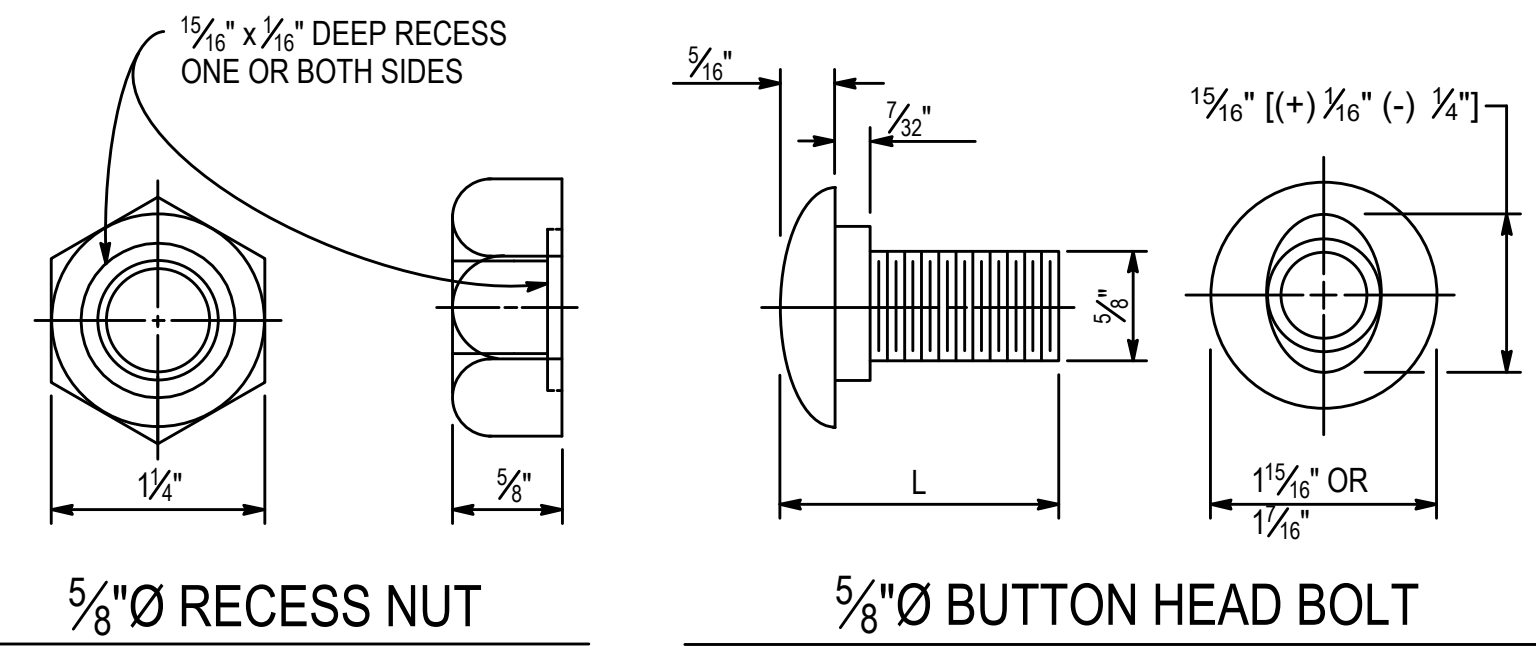
Title **STRUCTURAL DETAILS 4**  
Size **ANSI D**  
Drawing No. **S-504**  
Sheet No. **37 of 48**



**METAL BEAM GUARD RAILING WITH STEEL POSTS  
AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS**



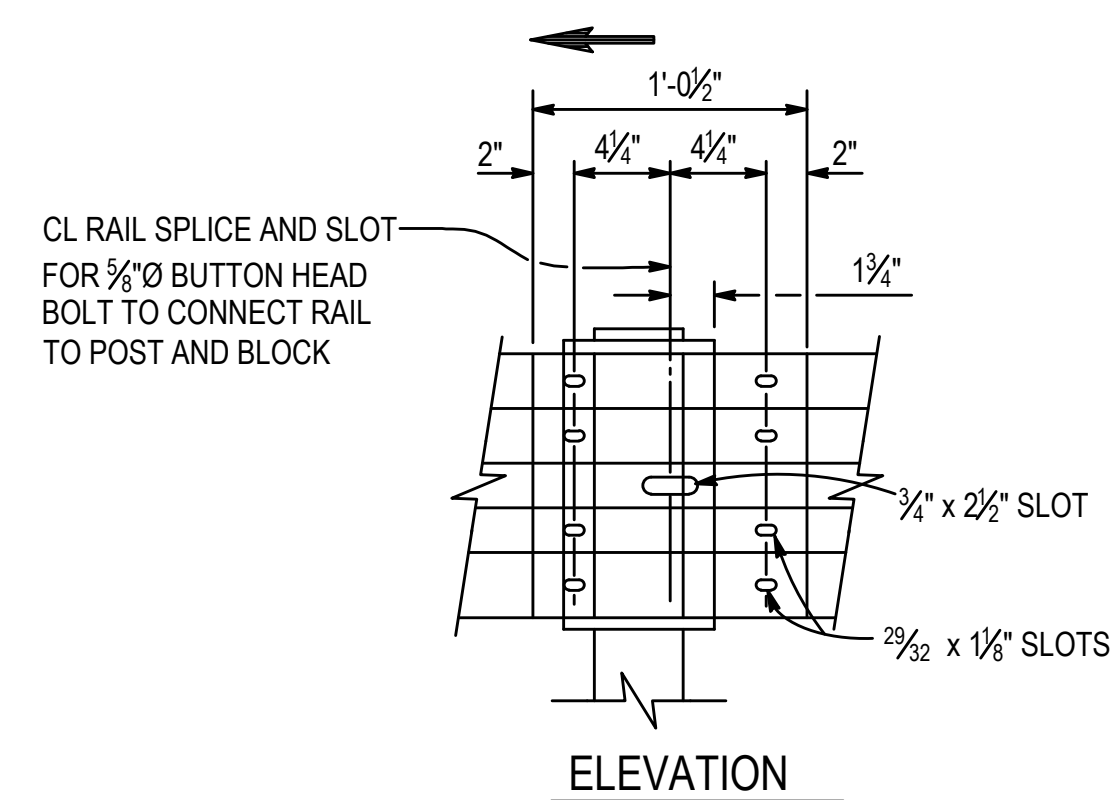
**SECTION THRU  
RAIL ELEMENT**



L	THREAD LENGTH
1 1/2"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" MIN THREAD LENGTH
18"	4" MIN THREAD LENGTH
20"	4" MIN THREAD LENGTH
22"	4" MIN THREAD LENGTH
** 2 3/4"	2" MIN THREAD LENGTH
** 19"	4" MIN THREAD LENGTH

\*\* FOR NESTED RAIL APPLICATIONS

**2 METAL BEAM GUARD RAILING HARDWARE  
N.T.S.**



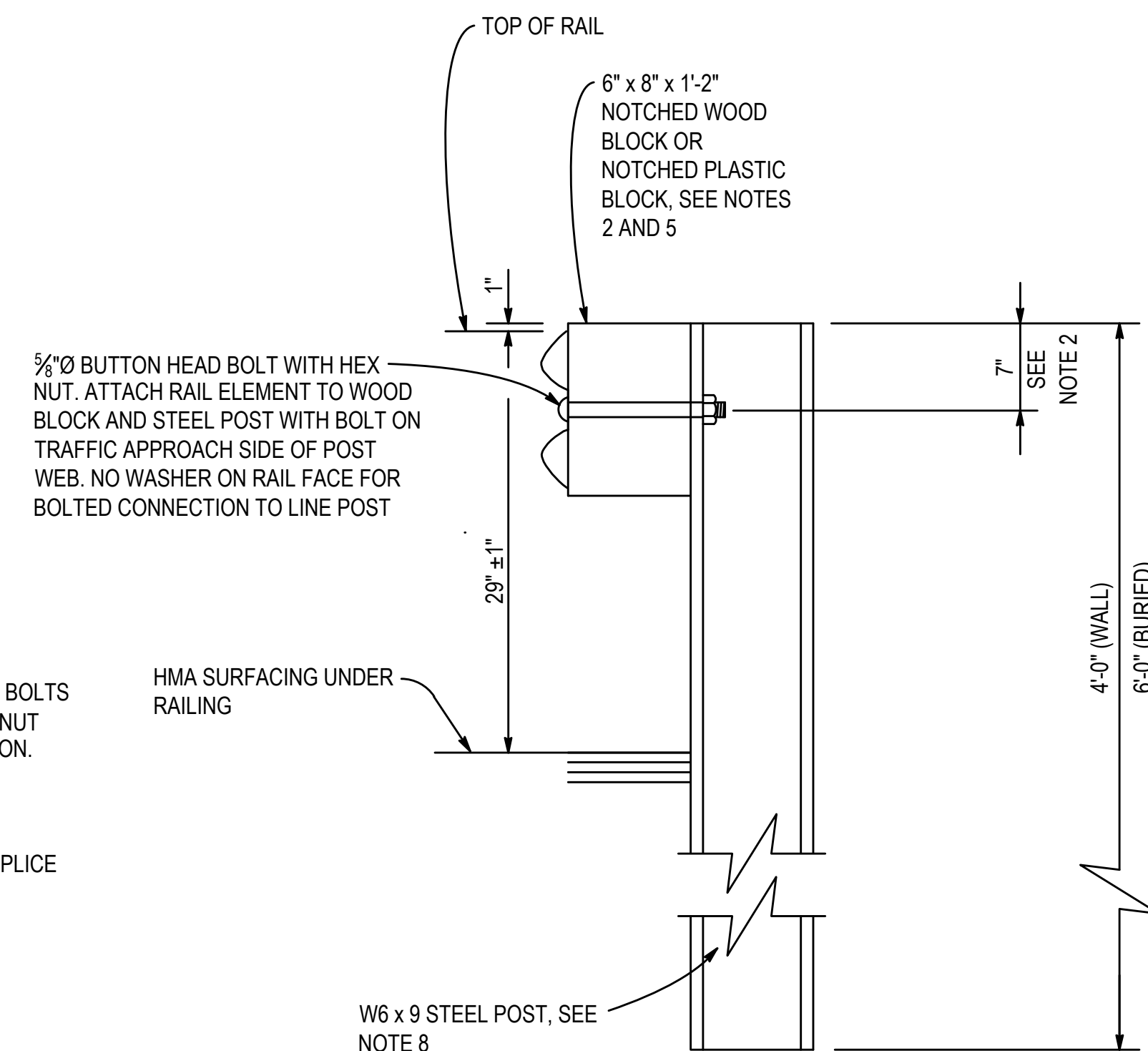
**RAIL ELEMENT SPLICE DETAIL**

- CONNECT THE OVER LAPPED END OF THE RAIL ELEMENTS WITH 5/8"Ø X 1 1/8" BUTTON HEAD OVAL SHOULDER SPLICE BOLTS INSERTED INTO THE 29/32" X 1 1/8" SLOTS AND BOLTED TOGETHER WITH 5/8"Ø RECESSED HEX NUTS. RECESS OF HEX NUT POINTS TOWARD RAIL ELEMENT. A TOTAL OF 8 BOLTS AND NUTS ARE TO BE USED AT EACH RAIL SPLICE CONNECTION.
- THE ENDS OF THE RAIL ELEMENTS ARE TO BE OVERLAPPED IN THE DIRECTION OF TRAFFIC (SEE DETAILS)
- WHERE END CAP IS TO BE ATTACHED TO THE END OF A RAIL ELEMENT, A TOTAL OF 4 OF THE ABOVE DESCRIBED SPLICE BOLTS AND NUTS ARE TO BE USED

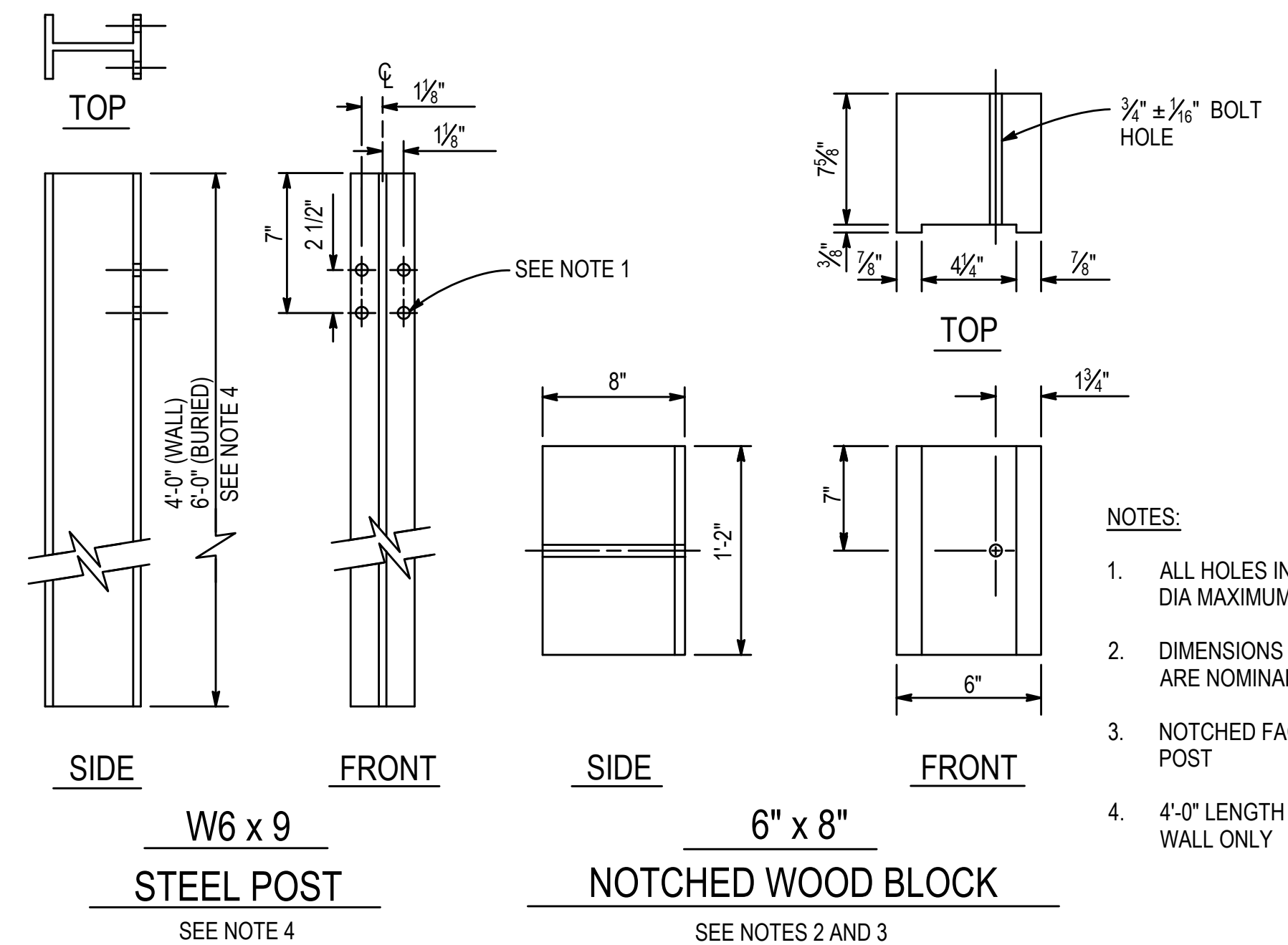
**NOTES:**

- FOR DETAILS OF STANDARD HARDWARE USED TO CONSTRUCT GUARD RAILING, SEE DETAIL 2
- FOR DETAILS OF STEEL POSTS AND NOTCHED WOOD BLOCKS USED TO 3. CONSTRUCT GUARD RAILING, SEE DETAIL 3
- GUARD RAILING POST SPACING TO BE 6'-0" CENTER TO CENTER, EXCEPT AS OTHERWISE NOTED
- NOTCHED FACE OF BLOCK FACES STEEL POST
- SLOTTED HOLE FOR BOLTED CONNECTION OF RAIL ELEMENT TO BLOCK AND POST. SEE "SECTION THRU RAIL ELEMENT"
- SLOTTED HOLES FOR SPLICE BOLTS TO OVERLAP ENDS OF RAIL ELEMENT. SEE "SECTION THRU RAIL ELEMENT"

**1 METAL BEAM GUARD RAILING  
VAR N.T.S.**



**SECTION A-A  
TYPICAL STEEL LINE  
POST INSTALLATION**



**NOTES:**

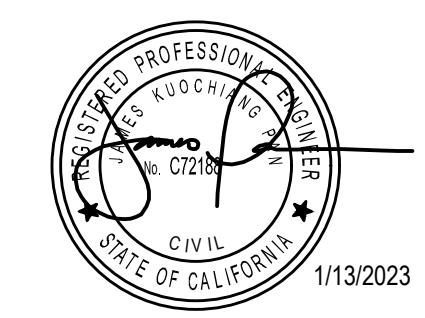
- ALL HOLES IN STEEL POST TO BE 1 3/16" DIA MAXIMUM
- DIMENSIONS SHOWN FOR WOOD BLOCK ARE NOMINAL
- NOTCHED FACE OF BLOCK FACES STEEL POST
- 4'-0" LENGTH POSTS TO BE USED ON WALL ONLY

**3 METAL BEAM GUARD RAILING STEEL POST AND NOTCHED WOOD BLOCK  
N.T.S.**

No.	Issue	Checked	Approved	Date	
Author	DRA	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	MGK	Design Check	MGK	Project Director	M. KENNEDY

**100% SUBMITTAL**

Bar is one inch on original size sheet  
0 1"



**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

Title **STRUCTURAL DETAILS 5**  
Drawing No. **S-505**  
Sheet No. **38 of 48**



ABBREVIATIONS			
(D)	DEMOLISH		
(E)	EXISTING		
(F)	FUTURE		
(N)	NEW		
A	AMPERES	KAIC	KILO-AMPS INTERRUPTING CAPACITY
AF	ALTERNATING CURRENT	KVA	KILOVOLT-AMP
AF	AMP FRAME	KW	KILOWATT
AFG	ABOVE FINISHED FLOOR	KWH	KILOWATT-HOUR
AFG	ABOVE FINISHED GRADE	LSH	LEVEL SWITCH - HIGH
AHU	AIR HANDLING UNIT	LSHH	LEVEL SWITCH - HIGH-HIGH
AIC	AMPS INTERRUPTING CAPACITY	LSL	LEVEL SWITCH - LOW
ANN	ANNUNCIATOR	LSLL	LEVEL SWITCH - LOW-LOW
ATS	AUTOMATIC TRANSFER SWITCH	LV	LOW VOLTAGE
AWG	AMERICAN WIRE GAUGE	MCB	MAIN CIRCUIT BREAKER
BAT	BATTERY	MCC	MOTOR CONTROL CENTER
BFG	BELOW FINISH GRADE	MCP	MOTOR CIRCUIT PROTECTOR
		MFR	MANUFACTURER
		MLO	MAIN LUGS ONLY
CATV	CABLE TELEVISION	NIC	NOT IN CONTRACT
C	CONDUIT	NTS	NOT TO SCALE
CB	CIRCUIT BREAKER		
CCTV	CLOSED CIRCUIT TELEVISION	OC	ON CENTER
CO	CONDUIT ONLY		
CPT	CONTROL POWER TRANSFORMER	PA	PUBLIC ADDRESS
CT	CURRENT TRANSFORMER	PT	POTENTIAL TRANSFORMER
CU	COPPER	PV	PHOTOVOLTAIC
		PVC	POLYVINYL CHLORIDE
DC	DIRECT CURRENT	PB	PULL BOX, ELECTRICAL
		PLC	PROGRAMMABLE LOGIC CONTROLLER
EGU	ENGINE GENERATOR UNIT		
EM	EMERGENCY	RECP	RECEPTACLE, OUTLET
EMT	ELECTRICAL METALLIC TUBING	RGS	RIGID GALVANIZED STEEL (CONDUIT)
ENT	ELECTRICAL NON-METALLIC TUBING	RVSS	REDUCED VOLTAGE SOFT START
EP	EXPLOSION PROOF	RTU	REMOTE TERMINAL UNIT
FA	FIRE ALARM	SPD	SURGE PROTECTION DEVICE
FACP	FIRE ALARM CONTROL PA	SSRV	SOLID STATE REDUCE VOLTAGE
FU	FUSE	SSTL	STAINLESS STEEL
		SR	RECEPTACLE
GND	GROUND	STC	STANDARD TEST CONDITIONS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TV	TELEVISION MONITOR (SET)
GFI	GROUND FAULT INTERRUPTER		
GFR	GROUND FAULT RELAY	UF	UNDER FLOOR
		UG	UNDERGROUND
HID	HIGH INTENSITY DISCHARGE	UON	UNLESS OTHERWISE NOTED
HOA	"HAND-OFF-AUTO" SWITCH	UPS	UNINTERRUPTIBLE POWER SUPPLY
HP	HORSEPOWER		
HPS	HIGH PRESSURE SODIUM	V	VOLT
HMI	HUMAN-MACHINE INTERFACE	VA	VOLT-AMP
HVAC	HEATING, VENTILATION & AIR-CONDITIONING	VFD	VARIABLE FREQUENCY DRIVE
		WP	WEATHERPROOF
IG	ISOLATED GROUND	WPI	WEATHERPROOF IN USE
INST	INSTRUMENTATION	XFMR	TRANSFORMER
JB	JUNCTION BOX		

ANNOTATION	
	KEYNOTE
	RACEWAY, FEEDER OR CIRCUIT DESIGNATION (SEE SCHEDULE)
	DETAIL INDICATOR
	SECTION INDICATOR
	MECHANICAL EQUIPMENT DESIGNATION (SEE SCHEDULE)

OBJECT LINES	
	NEW OBJECTS (HEAVY CONTINUOUS LINES, UNDERGROUND CONDUIT HEAVY DASHED LINES)
	EXISTING OBJECTS TO REMAIN, MAY INCLUDE NEW CIRCUITING ETC. (FINE CONTINUOUS LINES, UNDERGROUND CONDUIT FINE DASHED LINES)
	EXISTING OBJECTS TO BE DEMOLISHED (EXTRA FINE DASHED LINES, SCREENED)

DIAGRAM	
	ALARM, INDICATING LIGHT, SIGNAL LIGHT OR STROBE
	CIRCUIT BREAKER - SIZE AND TYPE AS INDICATED
	CIRCUIT BREAKER IN NEMA ENCLOSURE SIZE AND TYPE AS INDICATED
	THERMAL OVERLOAD RELAY
	COMBINATION MOTOR CONTROLLER, STARTER, CIRCUIT BREAKER TYPE
	SHUNT TRIP
	DRAW-OUT TYPE CONNECTION
	DISCONNECT SWITCH WITH FUSE
	FUSE - SIZE AS INDICATED
	INTERLOCK, ELECTRICAL
	METER, ELECTRICAL
	MOTOR - SIZE AS INDICATED
	TRANSFER SWITCH, ATS: AUTOMATIC, MTS: MANUAL
	GENERATOR UNIT - RATED AS INDICATED
	TRANSFORMER, PAD MOUNT
	TRANSFORMER, DRY TYPE
	POTENTIAL TRANSFORMER WITH FUSE
	CURRENT TRANSFORMER
	SURGE ARRESTOR - LIGHTING
	GROUNDING ELECTRODE OR CONNECTION

ELECTRICAL SYMBOLS LEGEND	
POWER	
	DUPLEX RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON
	↑ DENOTES HEIGHT IN INCHES AFF (INTERIOR) AFG (EXTERIOR)
	DUPLEX RECEPTACLE - SPLIT WIRED, SWITCHED
	DUPLEX RECEPTACLE - EMERGENCY POWER
	DUPLEX RECEPTACLE - CEILING MOUNTED
	FLOOR RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, FLUSH TYPE UON
	DOUBLE DUPLEX RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON
	SINGLE RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON
	SPECIAL PURPOSE RECEPTACLE AS DESIGNATED SEE 'SPECIAL SYMBOLS' ON EACH SHEET
	DUAL SERVICE RECESSED FLOOR BOX WITH DUPLEX AND DATA RECEPTACLES
	JUNCTION BOX, CODE SIZED UON
	FLOOR JUNCTION BOX
	DISCONNECT SWITCH - FUSED WHERE APPLICABLE
	MOTOR STARTER, COMBINATION WITH DISCONNECT SWITCH
	MOTOR STARTER OR CONTROLLER
	MOTOR CONNECTION
	CEILING EXHAUST FAN
	WATER HEATER
	POWER POLE: P=POWER, T=TELEPHONE, D=DATA, C=COMBINATION
	TEST PORT
	GROUND ROD
	GUY WIRE AND ANCHOR
	THERMOSTAT (SEE MECHANICAL DRAWINGS) COORDINATE MOUNTING HEIGHT
	DOOR CONTACT/INTRUSION SWITCH

CONDUIT	
	CONDUIT INSTALLED ABOVE GRADE
	CONDUIT INSTALLED UNDERGROUND OR UNDER SLAB
	CONDUIT STUB-OUT WITH CAP
	FLEXIBLE CONDUIT WHIP TO LIGHT FIXTURE OR EQUIPMENT
	INDICATES CIRCUIT BREAKER I.D. CONDUIT HOME RUN TO DESIGNATED PANEL, TERMINAL, OR CONTROL CABINET
	EXAMPLES: L1-4, L1-6,8, L1-10/12
	COMMA INDICATES MULTIPLE SINGLE POLE CIRCUITS
	SLASH INDICATES MULTI-POLE CIRCUIT
	NOTE FOR CONDUIT: THE TIC MARKS INDICATE THE QUANTITY OF #12 AWG WIRES OR, IF INDICATED, THE QUANTITY OF OTHER SIZE WIRE OR CABLES.
	SEE THE SINGLE LINE DIAGRAM FOR FEEDER SIZES.
	EXAMPLES: #12 = (3) #12, #10 = (2) #10, F1 = (1) TYPE F1 CABLE. SEE CABLE SCHEDULE.

SCHEMATIC	
	BATTERY CHARGER
	COIL RELAY
	CONTACT - NORMALLY CLOSED
	CONTACT - NORMALLY OPEN
	DC BATTERY
	ELAPSED TIME METER
	FLOAT OR LEVEL SWITCH - NORMALLY CLOSED
	FLOAT OR LEVEL SWITCH - NORMALLY OPEN
	LIMIT SWITCH - NORMALLY CLOSED
	LIMIT SWITCH, NORMALLY OPEN
	PILOT LIGHT, LED TYPE - COLOR AS INDICATED
	PRESSURE SWITCH - CLOSED ON INCREASE
	PRESSURE SWITCH - OPEN ON INCREASE
	PUSH BUTTON, MOMENTARY - NORMALLY CLOSED
	PUSH BUTTON, MOMENTARY - NORMALLY OPEN
	RECTIFIER
	SELECTOR SWITCH - HAND-OFF-AUTO
	SWITCH - NORMALLY CLOSED
	SWITCH - NORMALLY OPEN
	TEMPERATURE SWITCH - NORMALLY CLOSED
	TEMPERATURE SWITCH - NORMALLY OPEN
	TIMER SWITCH - NORMALLY CLOSED
	TIMER SWITCH - NORMALLY OPEN

GENERAL ELECTRICAL NOTES	
1.	ALL WORK SHALL CONFORM TO THE LATEST ADOPTED VERSION OF THE CALIFORNIA ELECTRICAL CODE (CEC), AND ALL RECOGNIZED CODES OF THE AUTHORITY HAVING JURISDICTION.
2.	THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORK PERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED TO MAINTAIN SAFETY.
3.	PRIOR TO COMMENCING WORK ON EXISTING SYSTEMS OR WHERE EXISTING SYSTEMS REQUIRE TEMPORARY SHUT DOWNS, COORDINATE WITH OWNERS REPRESENTATIVE. WHERE DISCONNECTING, MODIFYING OR WORKING ON EXISTING EQUIPMENT OR SYSTEMS, PROVIDE A WRITTEN METHOD OF PROCEDURE OUTLINING DATES, TIMES, DURATION AND DESCRIPTION OF PROPOSED WORK FOR APPROVAL PRIOR TO COMMENCING WORK. WORK ON EXISTING EQUIPMENT SHALL NOT COMMENCE UNTIL WRITTEN AUTHORIZATION IS GIVEN BY THE OWNERS REPRESENTATIVE.
4.	ALL EQUIPMENT SHALL BE LISTED AND LABELED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURERS INSTRUCTIONS.
5.	ALL EQUIPMENT SHALL BE GROUNDED PER THE REQUIREMENTS OF CEC ARTICLE 250. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL POWER SYSTEM RACEWAYS.
6.	CONTRACTOR RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS PRIOR TO CONSTRUCTION. DRAWINGS INDICATE THE REQUIRED EQUIPMENT, DEVICES, FIXTURES, ETC. AND THEIR RELATED CIRCUITING REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE DEVICE LOCATIONS WITH ALL DISCIPLINES.
7.	UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT INDICATED SHALL BE CONSIDERED NEW AND PROVIDED BY THE CONTRACTOR COMPLETE, INSTALLED, TESTED AND FUNCTIONING.
8.	MAINTAIN AS BUILT CONDITIONS OF THE INSTALLATION DURING CONSTRUCTION AND SUBMIT THE FINAL CONSTRUCTED CONDITIONS TO THE OWNER/ARCHITECT FOR THEIR RECORDS.

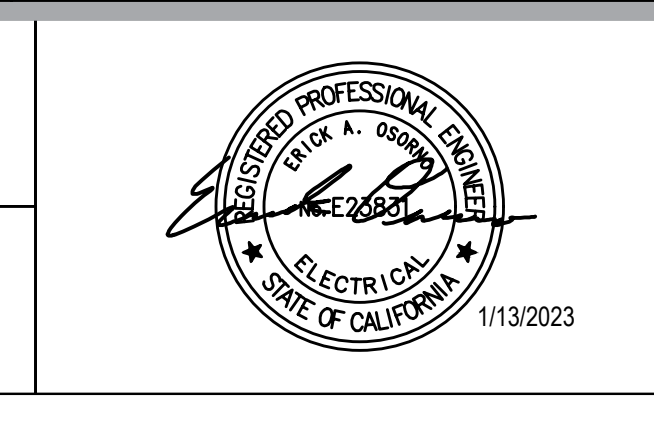
SHEET INDEX	
DRAWING NO.	DRAWING TITLE
E-001	ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES
E-101	ELECTRICAL DEMOLITION SITE PLAN - GUERNEVILLE SITE
E-102	ELECTRICAL SITE PLAN - GUERNEVILLE SITE
E-103	ELECTRICAL DEMOLITION SITE PLAN - ROBLAR SITE
E-104	ELECTRICAL SITE PLAN - ROBLAR SITE
E-105	ELECTRICAL DEMOLITION SITE PLAN - SONOMA SITE
E-106	ELECTRICAL SITE PLAN - SONOMA SITE
E-501	ELECTRICAL DETAILS
E-601	ELECTRICAL RISER DIAGRAMS
E-602	ELECTRICAL SCHEDULES

No.	Issue	Checked	Approved	Date	
Author	EAO	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	EAO	Design Check	RPG	Project Director	M. KENNEDY

<b>100% SUBMITTAL</b>
-----------------------

Bar is one inch on original size sheet

0 1"



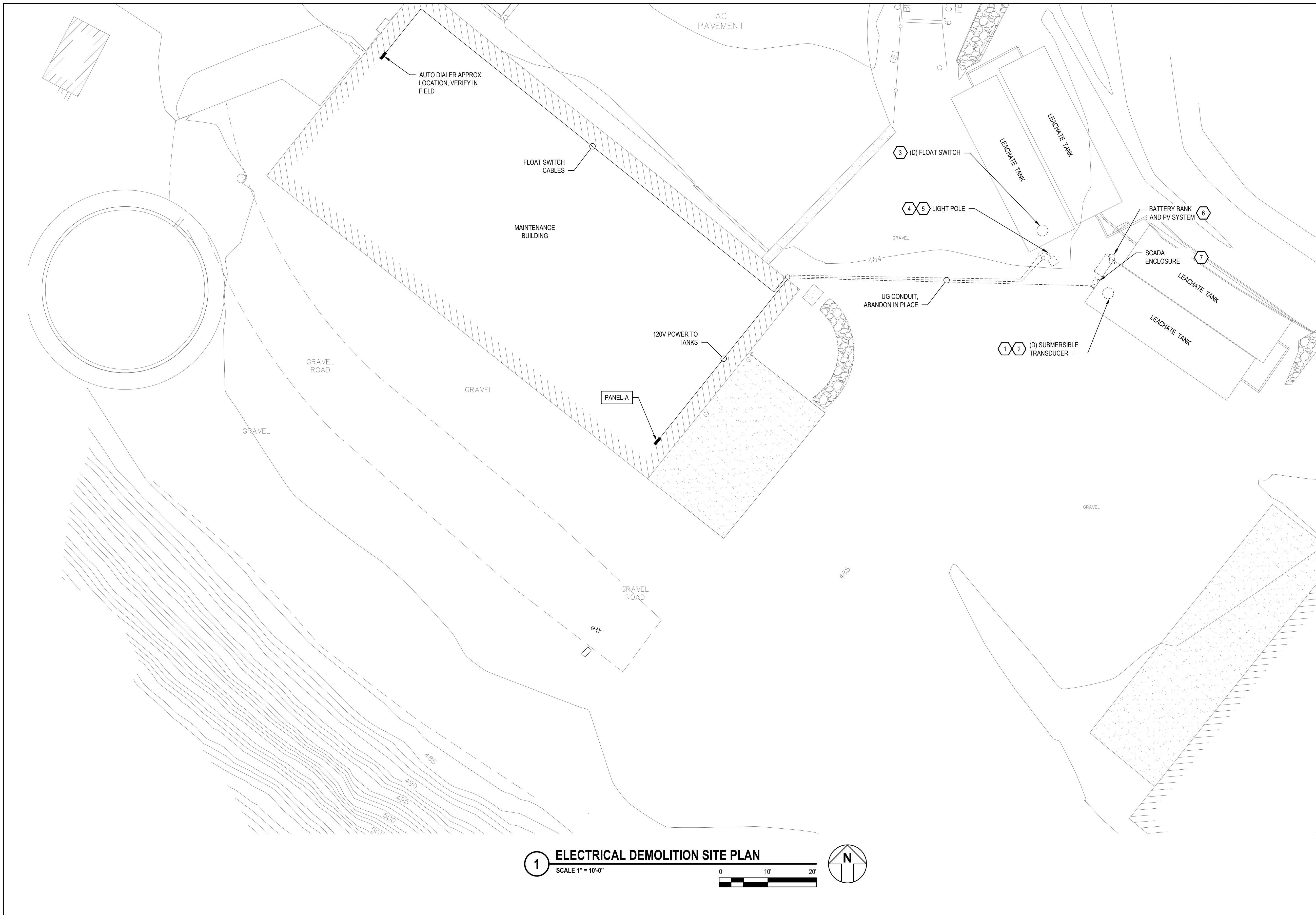
**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed to use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	<b>COUNTY OF SONOMA</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>
Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>
Scale	<b>AS SHOWN</b>

Title	<b>ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES</b>
Size	<b>ANSI D</b>
Drawing No.	<b>E-001</b>
Sheet No.	<b>39 of 48</b>





**GENERAL NOTES**

1. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. SCADA AND ASSOCIATED ELECTRICAL EQUIPMENT TO BE REMOVED BY COUNTY PRIOR TO DEMOLITION OF TANKS.
3. DEMOLITION AND RELOCATION OF EXISTING ELECTRICAL EQUIPMENT AND DEVICES SHALL BE DONE IN ACCORDANCE WITH SITE RELOCATION PLAN ON SHEET C-102.

**KEYNOTES**

1. DISCONNECT AND REMOVE SUBMERSIBLE LEVEL TRANSDUCER AND CABLES BACK TO SOURCE. TURN OVER TO COUNTY.
2. REMOVE SURFACE MOUNTED TRANSDUCER CONDUITS AND FITTING MOUNTED ON TANK.
3. DISCONNECT AND REMOVE LEVEL FLOAT SWITCH, TURN OVER TO COUNTY. DISCONNECT CABLES AND PULL BACK TO SOURCE. PRESERVE CABLES AND PREPARE TO REUSE.
4. REMOVE SURFACE MOUNTED FLOAT SWITCH CONDUITS AND FITTING ON WOODEN POLE. CUT CONDUIT FLUSH WITH GROUND, CAP AND ABANDON UNDERGROUND SECTION IN PLACE.
5. DISCONNECT AND REMOVE POWER LIGHTING CIRCUIT TO LIGHT FIXTURE. REMOVAL OF LIGHT FIXTURE AND POLE BY COUNTY.
6. COORDINATE REMOVAL OF BATTERY BANK, PV SYSTEM AND ASSOCIATED EQUIPMENT WITH COUNTY. EQUIPMENT TO BE RELOCATED BY COUNTY.
7. COORDINATE REMOVAL OF SCADA EQUIPMENT AND ASSOCIATED EQUIPMENT WITH COUNTY. SCADA EQUIPMENT TO BE RELOCATED BY COUNTY.

**1 ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE 1" = 10'-0"  
 0 10' 20'

No.	Issue	Checked	Approved	Date
Author	EAO	Drafting Check	MGK	Project Manager
Designer	EAO	Design Check	RPG	Project Director
			G. TOMASINO	
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
 0 1"



**GHD** Inc.  
 2235 Mercury Way Suite 150  
 Santa Rosa California 95407 USA  
 T 1 707 523 1010 F 1 707 527 8679  
 www.ghd.com



Client **COUNTY OF SONOMA**  
 Project **LEACHATE TANK REPLACEMENT**

Title **ELECTRICAL DEMOLITION SITE PLAN - GUERNEVILLE SITE**

Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

Drawing No. **E-101** Sheet No. **40 of 48**

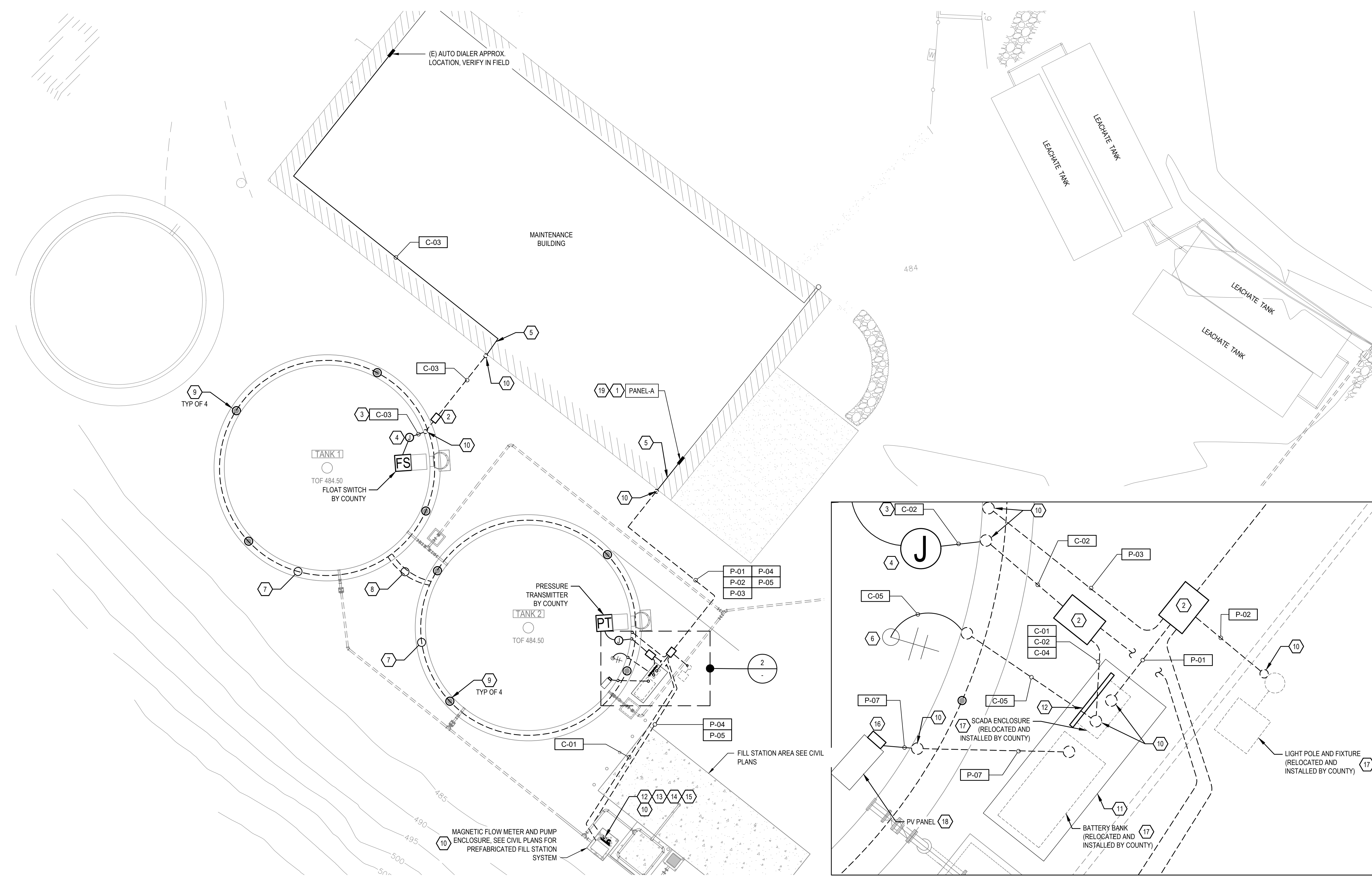


**GENERAL NOTES**

1. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. SCADA AND PV SYSTEM TO BE RELOCATED BY COUNTY.
3. REFER TO INSTRUMENTATION RISER DIAGRAM 1 ON SHEET E-601 FOR ADDITIONAL CONDUIT AND CABLE REQUIREMENTS NOT SHOWN ON THIS SHEET.
4. PROVIDE UG CONDUITS IN TRENCH PER DETAIL 2 ON SHEET E-501. PROVIDE DRAINAGE ANTI SEEP COLLAR EVERY 20FT BETWEEN FITTINGS PER MANUFACTURER INSTRUCTIONS.
5. PROVIDE CONDUIT AND CABLE PER CONDUIT AND CABLE SCHEDULE ON SHEET E-602.

**KEYNOTES**

1. PROVIDE CIRCUIT BREAKERS IN PANEL WITH RATINGS AS SHOWN ON PANEL SCHEDULE. SEE E-602.
2. PROVIDE 11" X 17" TRAFFIC RATED PULL BOX. SEE DETAIL 3 ON SHEET E-501.
3. SEE DETAIL 5 ON SHEET E-501 FOR CONDUIT MOUNTING ON TANK WALL.
4. PROVIDE STAINLESS STEEL JUNCTION BOX WITH TERMINAL STRIP AT TOP OF TANK TO TRANSITION BETWEEN DEVICE MANUFACTURER CABLES AND FIELD CABLE.
5. PROVIDE WEATHER PROOF WALL PENETRATION.
6. PROVIDE ANTENNA MOUNTING KIT AND MOUNT TO TOP OF TANK RAILING. MOUNT EXISTING ANTENNA TO MAST.
7. PROVIDE #4/0 AWG BARE COPPER GROUNDING RING, IN TANK CONCRETE FOOTING.
8. PROVIDE (2) #4/0 GROUND JUMPERS BETWEEN TANK 1 AND TANK 2 GROUNDING RINGS.
9. PROVIDE TANK GROUNDING AT 4 PLACES. CONNECT GROUNDING CABLES TO A #4/0 AWG BARE COPPER GROUNDING RING EMBEDDED IN THE TANK'S CONCRETE FOOTING. REFER TO DETAIL 4 ON SHEET E-501 FOR GROUNDING CONNECTION TO TANK.
10. PROVIDE CONDUIT STUB UP. SEE DETAIL 1 ON SHEET E-501.
11. PROVIDE MINIMUM 8'X3' CONCRETE EQUIPMENT PAD. VERIFY DIMENSIONS IN FIELD WITH EQUIPMENT. SEE DETAIL 9 ON SHEET S-501.
12. PROVIDE UNISTRUT MOUNTING FRAME. SEE DETAIL 6 ON SHEET E-501.
13. PROVIDE COMBINATION STARTER IN NEMA 3R ENCLOSURE OR APPROVED EQUAL FILL STATION PUMP CONTROL PANEL.
14. PROVIDE TWIST LOCK RECEPTACLE WITH WEATHER PROTECTED SPRING COVER.
15. PROVIDE MOTOR STARTER START/STOP PUSH BUTTON HAND SWITCH AND 20FT MIN SO CORD.
16. PROVIDE COMBINER BOX NEAR PANELS. TRANSITION FROM MANUFACTURER CABLES TO BATTERY CHARGER CABLES.
17. AFTER COUNTY RELOCATES INDICATED EQUIPMENT AND ASSOCIATED DEVICES, PROVIDE BUSHINGS, FITTINGS AND CONDUITS TO MATCH ORIGINAL CONNECTIONS.
18. MOUNT EXISTING PV PANEL AND MOUNTING RACK AT TOP OF TANK. MOUNTING RACK SHALL ATTACHED VIA TANK PANEL BOLTS ON ROOF.
19. PROVIDE JUNCTION BOX SIZED FOR INCOMING CONDUITS. PROVIDE UNISTRUT AND FITTING TO MOUNT ON WALL. ADJACENT TO PANEL-A. PROVIDE 2" CONDUIT AND FITTINGS. CONNECT TO PANEL-A.



**1 ELECTRICAL SITE PLAN**  
SCALE 1" = 10'-0"  
0 10' 20'

**2 ENLARGED ELECTRICAL SITE PLAN**  
SCALE 1" = 2'-0"  
0 2' 4'

No.	Issue	Checked	Approved	Date
Author	EAO	Drafting Check	MGK	Project Manager
Designer	EAO	Design Check	RPG	Project Director
			G. TOMASINO	
			M. KENNEDY	

100% SUBMITTAL

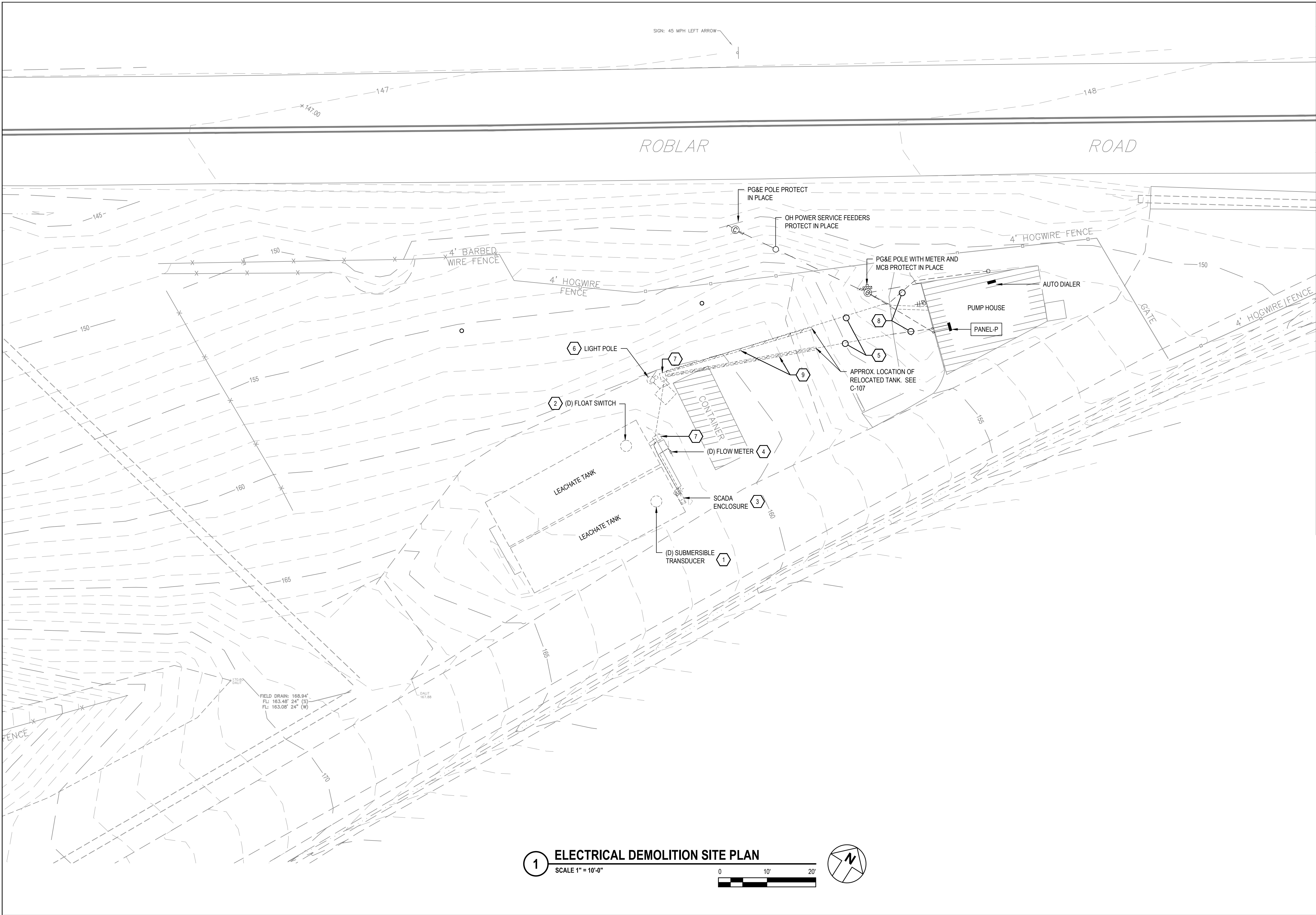
Bar is one inch on original size sheet  
0 1'



Client	COUNTY OF SONOMA
Project	LEACHATE TANK REPLACEMENT
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	ELECTRICAL SITE PLAN - GUERNEVILLE SITE
Size	ANSI D
Drawing No.	E-102
Sheet No.	41 of 48





**GENERAL NOTES**

1. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. COORDINATE WITH COUNTY FOR REMOVAL AND STORAGE ELECTRICAL EQUIPMENT AND INSTRUMENTATION.
3. COORDINATE WITH COUNTY FOR REMOVAL AND STORAGE OF SCADA EQUIPMENT.
4. DEMOLITION AND RELOCATION OF EXISTING ELECTRICAL EQUIPMENT AND DEVICES SHALL BE DONE IN ACCORDANCE WITH SITE RELOCATION PLAN ON SHEET C-107.

**KEYNOTES**

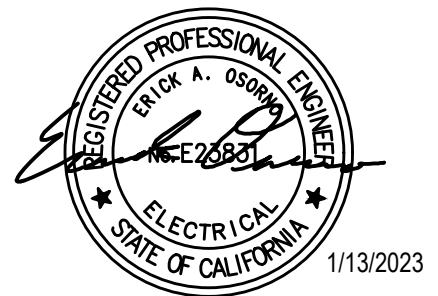
1. LEVEL TRANSDUCER TO REMAIN ON TANK FOR TEMPORARY RELOCATION OF TANK. AFTER CONSTRUCTION OF TANK 1 REMOVE TRANSDUCER AND WIRES FROM (E) TANK BACK TO SOURCE. TURN OVER TO COUNTY.
2. COORDINATE RELOCATION OF FLOAT SWITCH TO TEMPORARILY RELOCATED TANK. AFTER CONSTRUCTION OF TANK 1 REMOVE FLOAT SWITCH AND CABLES BACK TO SOURCE. TURN OVER FLOAT SWITCH BACK TO COUNTY.
3. SCADA EQUIPMENT TO REMAIN ON TANK FOR TEMPORARY RELOCATION OF TANK. AFTER CONSTRUCTION OF TANK 1, COORDINATE REMOVAL OF SCADA AND ASSOCIATED ELECTRICAL EQUIPMENT WITH COUNTY. REMOVAL OF EQUIPMENT BY OTHERS.
4. FLOW METER TO BE RELOCATED WITH TANK. AFTER CONSTRUCTION OF (N) TANK 1 REMOVE FLOW METER AND WIRES FROM (E) TANK BACK TO SOURCE AND TURN OVER TO COUNTY.
5. PRESERVE ELECTRICAL CONDUITS TO RELOCATED TANK FOR TEMPORARY POWER/SIGNAL TO SCADA. CONNECTIONS TO SCADA AND INSTRUMENTATION BY OTHERS.
6. DISCONNECT AND REMOVE POWER LIGHTING CIRCUIT TO LIGHT FIXTURE. REMOVAL OF LIGHT FIXTURE AND POLE BY COUNTY.
7. DEMOLISH PULL BOX.
8. PRESERVE PORTION OF UG CONDUIT AND PREPARE TO REUSE.
9. REMOVE SECTION OF UG CONDUIT. AREA WILL BE CUT TO A LOWER GRADE.

**1 ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE 1" = 10'-0"  
 0 10' 20'

No.	Issue	Checked	Approved	Date
Author	EAO	Drafting Check	MGK	Project Manager
Designer	EAO	Design Check	RPG	Project Director
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
 0 1"



**GHD** GHD Inc.  
 2235 Mercury Way Suite 150  
 Santa Rosa California 95407 USA  
 T 1 707 523 1010 F 1 707 527 8679



Client **COUNTY OF SONOMA**  
 Project **LEACHATE TANK REPLACEMENT**  
 Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

Title **ELECTRICAL DEMOLITION SITE PLAN - ROBLAR SITE**  
 Drawing No. **E-103** Sheet No. **42 of 48**

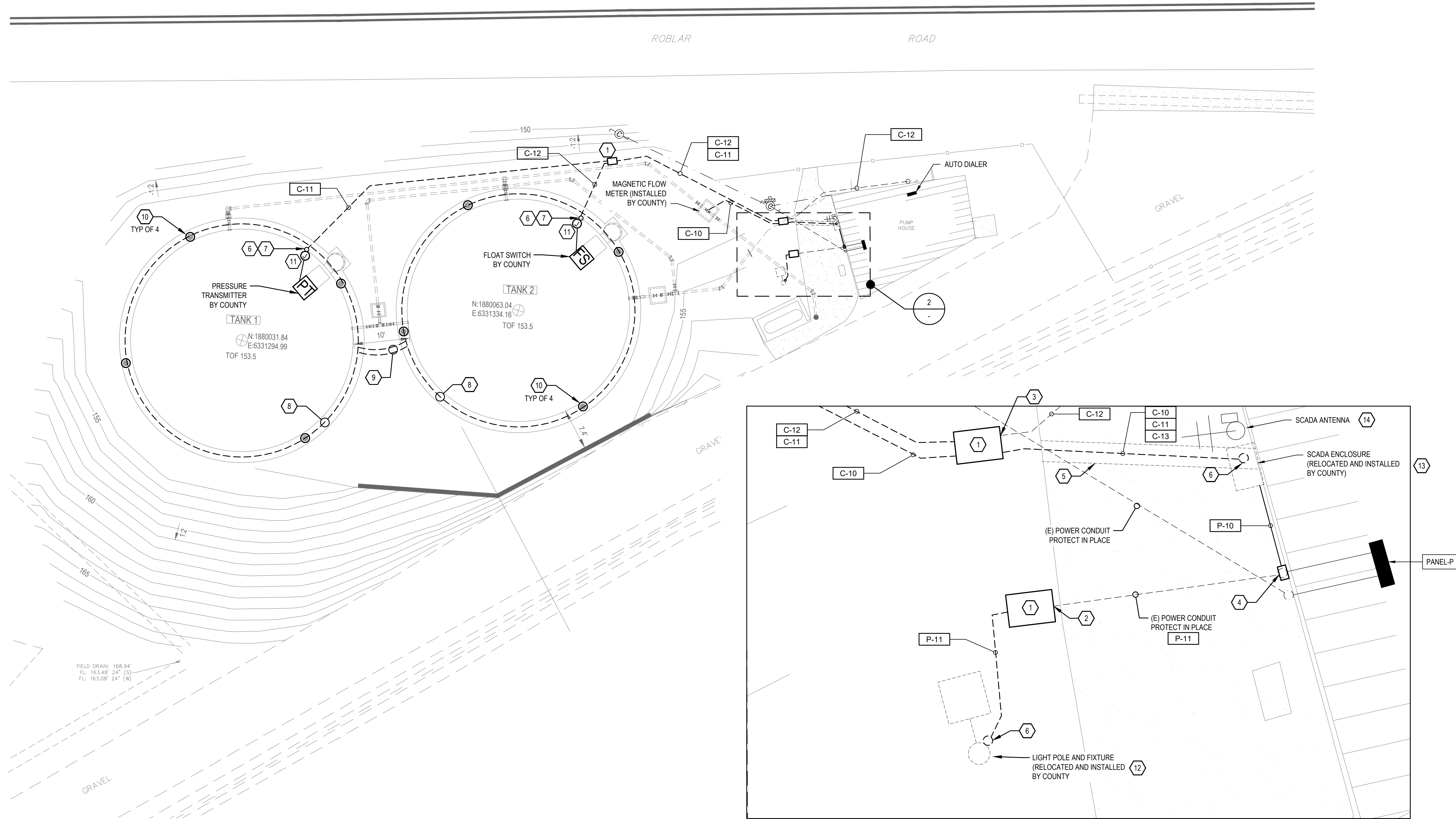


**GENERAL NOTES**

1. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. SCADA AND PV SYSTEM TO BE RELOCATED BY COUNTY.
3. REFER TO INSTRUMENTATION RISER DIAGRAM 2 ON SHEET E-601 FOR ADDITIONAL CONDUIT AND CABLE REQUIREMENTS NOT SHOWN ON THIS SHEET.
4. PROVIDE UG CONDUITS IN TRENCH PER DETAIL 2 ON SHEET E-501.
5. PROVIDE CONDUIT AND CABLE PER CONDUIT AND CABLE SCHEDULE ON SHEET E-602.

**KEYNOTES**

1. PROVIDE 11" X 17" TRAFFIC RATED PULL BOX. SEE DETAIL 3 ON SHEET E-501.
2. INTERCEPT (E) UG POWER CONDUIT FROM PANEL P AND CONNECT TO POWER PULL BOX.
3. INTERCEPT (E) UG SIGNAL CONDUIT FROM AUTO DIALER AND CONNECT TO SIGNAL PULL BOX.
4. PROVIDE 6"x6"x4" NEMA 3R JUNCTION BOX AND INTERCEPT EXISTING PANEL-P BRANCH CIRCUIT POWER CONDUIT ON EXTERIOR WALL OF PUMP HOUSE.
5. PROVIDE SAW CUT FOR (N) CONDUIT. PATCH AFTER CONDUIT INSTALLATION TO MATCH EXISTING CONDITIONS.
6. PROVIDE CONDUIT STUB UP. SEE DETAIL 1 ON SHEET E-501.
7. SEE DETAIL 5 ON SHEET E-501 FOR CONDUIT MOUNTING ON TANK WALL.
8. PROVIDE #4/0 AWG BARE COPPER GROUNDING RING, IN TANK CONCRETE FOOTING.
9. PROVIDE (2) #4/0 GROUND JUMPERS BETWEEN TANK 1 AND TANK 2 GROUNDING RINGS.
10. PROVIDE TANK GROUNDING AT 4 PLACES. CONNECT GROUNDING CABLES TO A #4/0 AWG BARE COPPER GROUNDING RING EMBEDDED IN THE TANK'S CONCRETE FOOTING. REFER TO DETAIL 4 ON SHEET E-501 FOR GROUNDING CONNECTION TO TANK.
11. PROVIDE STAINLESS STEEL JUNCTION BOX WITH TERMINAL STRIP AT TOP OF TANK TO TRANSITION BETWEEN DEVICE MANUFACTURER CABLES AND FIELD CABLE.
12. AFTER COUNTY RELOCATES INDICATED EQUIPMENT AND ASSOCIATED DEVICES, PROVIDE BUSHINGS, FITTINGS AND CONDUITS TO MATCH ORIGINAL CONNECTIONS.
13. PROVIDE UNISTRUT MOUNTING FOR SCADA ENCLOSURE AND ANCHOR TO WALL.
14. PROVIDE ANTENNA MAST AND UNISTRUT TO SECURE TO WALL. MOUNT EXISTING ANTENNA TO MAST. FINAL CONNECTIONS TO SCADA BY OTHERS.



**1 ELECTRICAL SITE PLAN**  
SCALE 1" = 10'-0"

**2 ENLARGED ELECTRICAL SITE PLAN**  
SCALE 1" = 2'-0"

No.	Issue	Checked	Approved	Date	
Author	EAO	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	EAO	Design Check	RPG	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



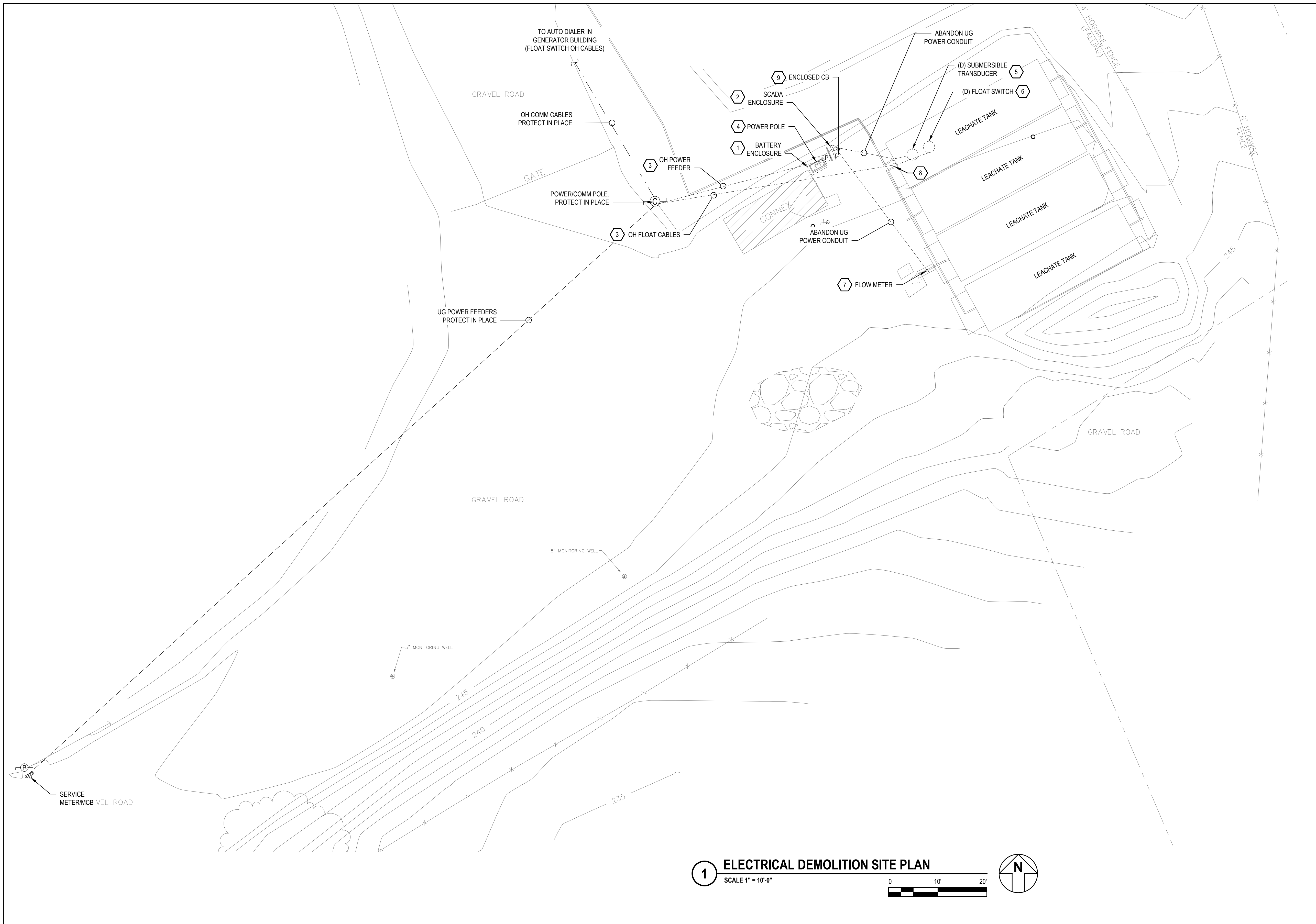
**GHD** Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com



Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**  
Project No. **12558724**  
Date **1/13/2023**  
Scale **AS SHOWN**

Title **ELECTRICAL SITE PLAN - ROBLAR SITE**  
Drawing No. **E-104**  
Sheet No. **43 of 48**





- ### GENERAL NOTES
1. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
  2. COORDINATE WITH COUNTY FOR REMOVAL AND STORAGE ELECTRICAL EQUIPMENT AND INSTRUMENTATION.
  3. COORDINATE WITH COUNTY FOR REMOVAL AND STORAGE OF SCADA EQUIPMENT.
  4. DEMOLITION AND RELOCATION OF EXISTING ELECTRICAL EQUIPMENT AND DEVICES SHALL BE DONE IN ACCORDANCE WITH SITE RELOCATION PLAN ON SHEET C-112.

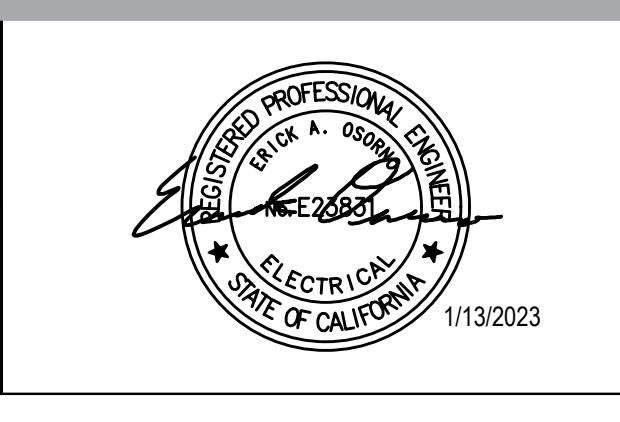
- ### KEYNOTES
1. COORDINATE REMOVAL OF BATTERY BANK AND ASSOCIATED EQUIPMENT WITH COUNTY. EQUIPMENT TO BE RELOCATED BY COUNTY.
  2. COORDINATE REMOVAL OF SCADA EQUIPMENT AND ASSOCIATED ELECTRICAL EQUIPMENT WITH COUNTY. SCADA EQUIPMENT TO BE RELOCATED BY COUNTY.
  3. DISCONNECT OH WIRES, PRESERVE AND PREPARE TO REUSE.
  4. COORDINATE REMOVAL OF POWER POLE AND ASSOCIATED POWER EQUIPMENT WITH COUNTY.
  5. LEVEL TRANSDUCER TO REMAIN ON TANK FOR TEMPORARY RELOCATION OF TANK. AFTER CONSTRUCTION OF TANK 1 REMOVE TRANSDUCER AND WIRES FROM (E) TANK BACK TO SOURCE.
  6. COORDINATE RELOCATION OF FLOAT SWITCH TO TEMPORARILY RELOCATED TANK. AFTER CONSTRUCTION OF TANK 1 REMOVE FLOAT SWITCH. TURN OVER TO COUNTY. PRESERVE FLOAT SWITCH CABLE FROM AUTO DIALER AND PREPARE TO REUSE.
  7. FLOW METER TO BE RELOCATED WITH TANK. AFTER CONSTRUCTION OF (N) TANK 1 REMOVE FLOW METER AND WIRES FROM (E) TANK BACK TO SOURCE AND TURN OVER TO COUNTY.
  8. OH CABLE MAST AND WEATHER HEAD TO REMAIN ON TANK. REROUTE AND RECONNECT FLOAT SWITCH CABLES AFTER TEMPORARY TANK RELOCATION. REUSE AND EXTEND TRANSDUCER AND FLOW METER CABLES TO RELOCATED SCADA EQUIPMENT. ROUTE CABLES OH ACROSS GRAVEL ROAD VIA (E) POWER POLE AND WEATHER HEAD ON TANK. COORDINATE TEMPORARY CONNECTIONS WITH COUNTY.
  9. DISCONNECT AND REMOVE ENCLOSED BREAKER.

**1 ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE 1" = 10'-0"  
 0 10' 20'

No.	Issue	Checked	Approved	Date
Author	EAO	Drafting Check	MGK	Project Manager
Designer	EAO	Design Check	RPG	Project Director
			G. TOMASINO	
			M. KENNEDY	

**100% SUBMITTAL**

Bar is one inch on original size sheet  
 0 1"



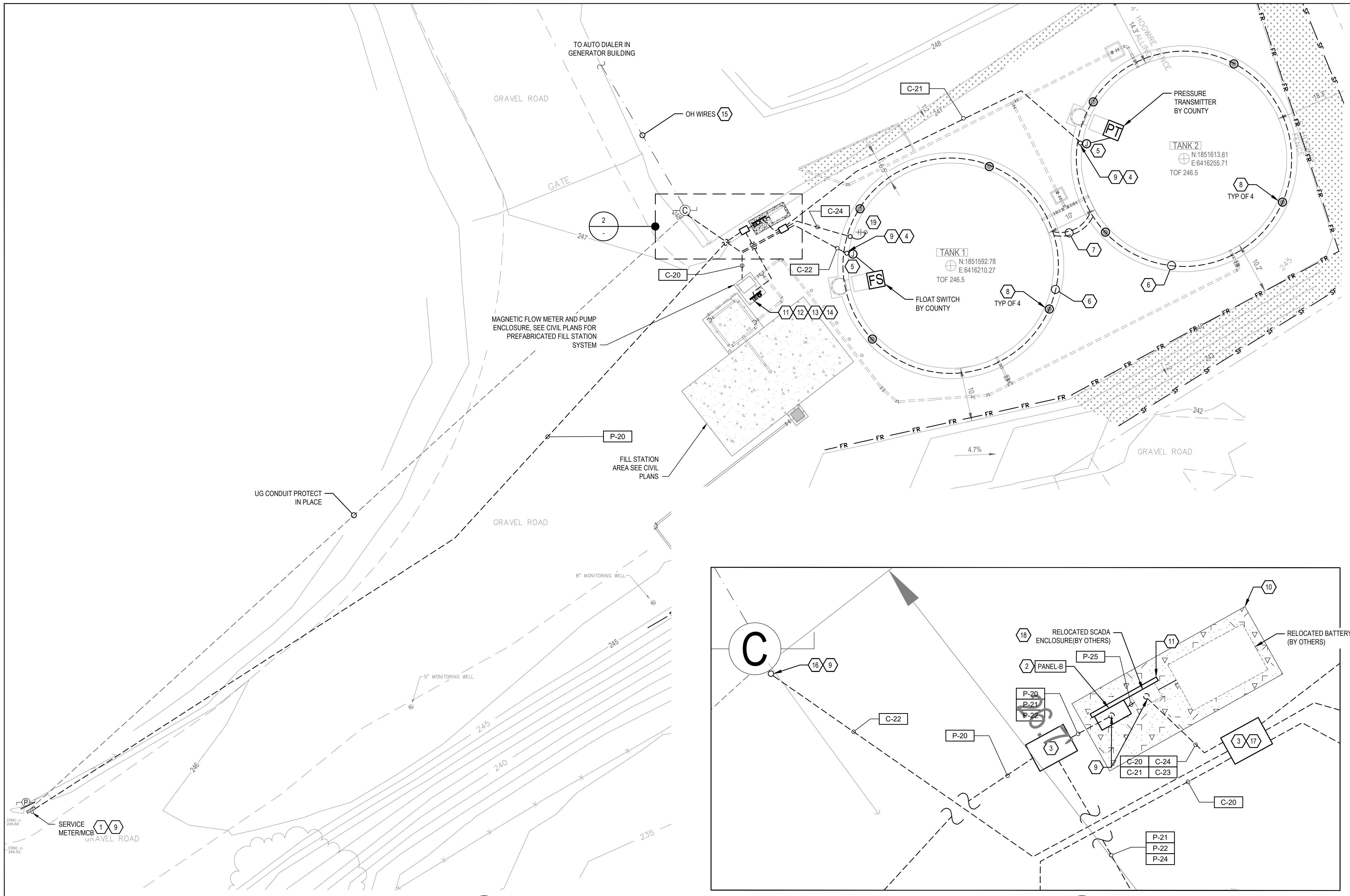
GHD Inc.  
 2235 Mercury Way Suite 150  
 Santa Rosa California 95407 USA  
 T 1 707 523 1010 F 1 707 527 8679  
 www.ghd.com

Conditions of Use  
 This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	<b>COUNTY OF SONOMA</b>		
Project	<b>LEACHATE TANK REPLACEMENT</b>		
Project No.	Date	Scale	
12558724	1/13/2023	AS SHOWN	

Title	<b>ELECTRICAL DEMOLITION SITE PLAN - SONOMA SITE</b>	Size	ANSI D
Drawing No.	<b>E-105</b>	Sheet No.	44 of 48





**1 ELECTRICAL SITE PLAN**  
SCALE 1" = 10'-0"

**2 ENLARGED ELECTRICAL SITE PLAN**  
SCALE 1" = 2'-0"

**GENERAL NOTES**

1. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. SCADA TO BE RELOCATED BY COUNTY.
3. REFER TO INSTRUMENTATION RISER DIAGRAM 3 ON SHEET E-601 FOR ADDITIONAL CONDUIT AND CABLE REQUIREMENTS NOT SHOWN ON THIS SHEET.
4. PROVIDE UG CONDUITS IN TRENCH PER DETAIL 2 ON SHEET E-501. PROVIDE DRAINAGE ANTI SEEP COLLAR EVERY 20FT BETWEEN FITTINGS PER MANUFACTURER INSTRUCTIONS.
5. PROVIDE CONDUIT AND CABLE PER CONDUIT AND CABLE SCHEDULE ON SHEET E-602.

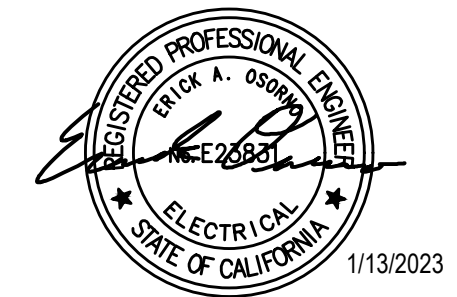
**KEYNOTES**

1. PROVIDE 100A 2P BREAKER IN METER/MAIN PANEL.
2. PROVIDE BRANCH PANEL-B IN NEMA 3R ENCLOSURE WITH CIRCUIT BREAKERS AND PANEL FEATURES AS SHOWN ON PANEL SCHEDULE. SEE SCHEDULE ON E-602.
3. PROVIDE 11" X 17" TRAFFIC RATED PULL BOX. SEE DETAIL 3 ON SHEET E-501.
4. SEE DETAIL 5 ON SHEET E-501 FOR CONDUIT MOUNTING ON TANK WALL.
5. PROVIDE STAINLESS STEEL JUNCTION BOX WITH TERMINAL STRIP AT TOP OF TANK TO TRANSITION BETWEEN DEVICE MANUFACTURER CABLES AND FIELD CABLE.
6. PROVIDE #4/0 AWG BARE COPPER GROUNDING RING, IN TANK CONCRETE FOOTING.
7. PROVIDE (2) #4/0 GROUND JUMPERS BETWEEN TANK 1 AND TANK 2 GROUNDING RINGS.
8. PROVIDE TANK GROUNDING AT 4 PLACES. CONNECT GROUNDING CABLES TO A #4/0 AWG BARE COPPER GROUNDING RING EMBEDDED IN THE TANK'S CONCRETE FOOTING. REFER TO DETAIL 4 ON SHEET E-501 FOR GROUNDING CONNECTION TO TANK.
9. PROVIDE CONDUIT STUB UP. SEE DETAIL 1 ON SHEET E-501.
10. PROVIDE MINIMUM 8'X3' CONCRETE EQUIPMENT PAD. VERIFY DIMENSIONS IN FIELD WITH EQUIPMENT. SEE DETAIL 9 ON SHEET S-501.
11. PROVIDE UNISTRUT MOUNTING FRAME. SEE DETAIL 6 ON SHEET E-501.
12. PROVIDE COMBINATION STARTER IN NEMA 3R ENCLOSURE OR APPROVED EQUAL FILL STATION PUMP CONTROL PANEL.
13. PROVIDE TWIST LOCK RECEPTACLE WITH WEATHER PROTECTED SPRING COVER.
14. PROVIDE MOTOR STARTER START/STOP PUSH BUTTON HAND SWITCH AND 20FT MIN SO CORD.
15. FIELD VERIFY LOCATION OF FLOAT SIGNAL CABLES AND PREPARE TO INTERCEPT.
16. PROVIDE SIGNAL RISER AT POWER POLE. TRANSITION TO UG CONDUIT AND TERMINATE AT SIGNAL PULL BOX.
17. INTERCEPT FLOAT CABLES AND ROUTE TO PULL BOX. PROVIDE SPLICE TO MATCH EXISTING CABLES AND EXTEND TO FLOAT SWITCH.
18. AFTER COUNTY RELOCATES INDICATED EQUIPMENT AND ASSOCIATED DEVICES, PROVIDE BUSHINGS, FITTINGS AND CONDUITS TO MATCH ORIGINAL CONNECTIONS.
19. PROVIDE ANTENNA MOUNTING KIT AND MOUNT TO TOP OF TANK RAILING. MOUNT EXISTING ANTENNA TO MAST.

1 REVISION 1			
No.	Issue	Checked	Approved
Author	EAO	Drafting Check	MGK
Designer	EAO	Design Check	RPG
Project Manager	G. TOMASINO		
Project Director	M. KENNEDY		

**100% SUBMITTAL**

Bar is one inch on original size sheet



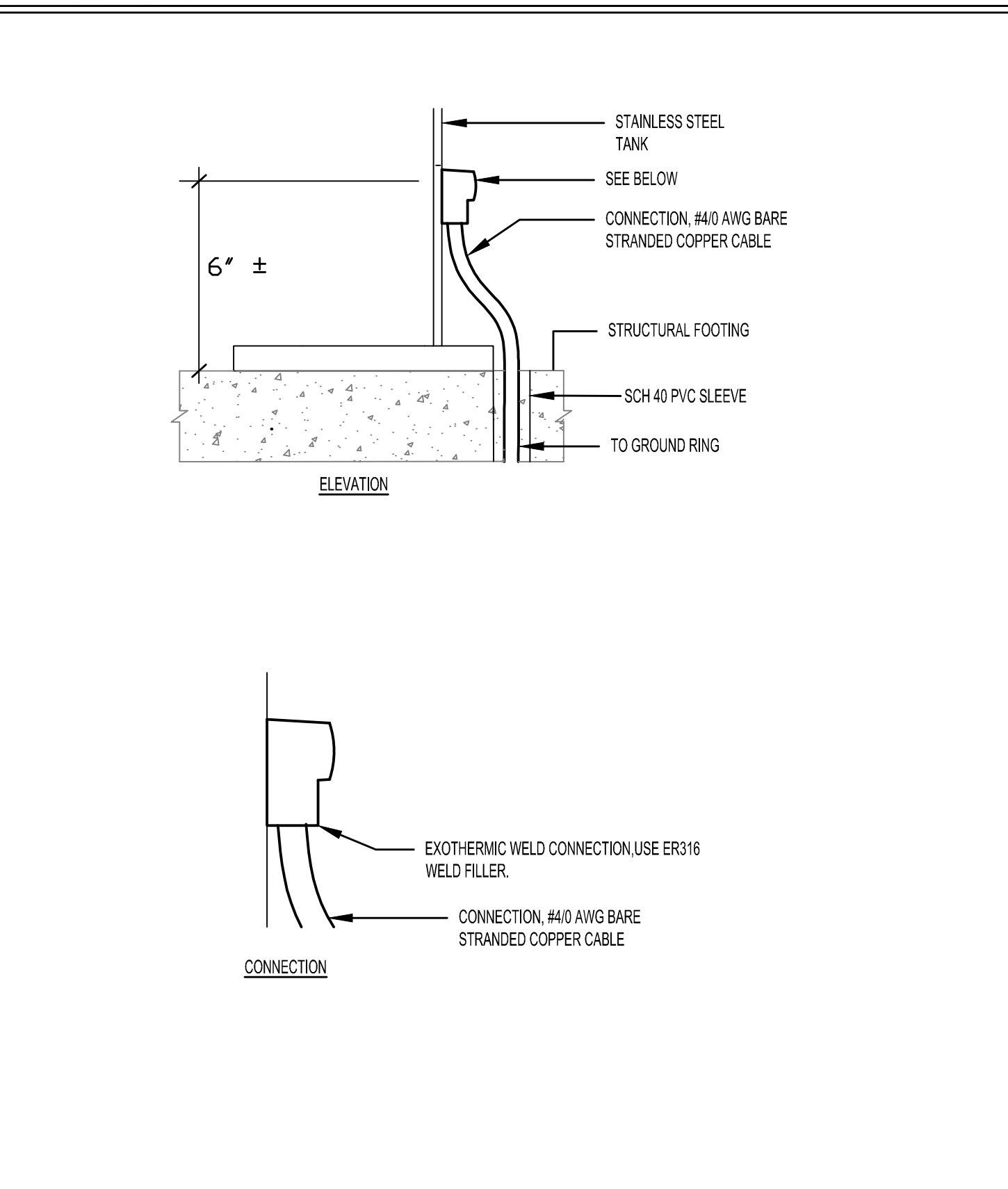
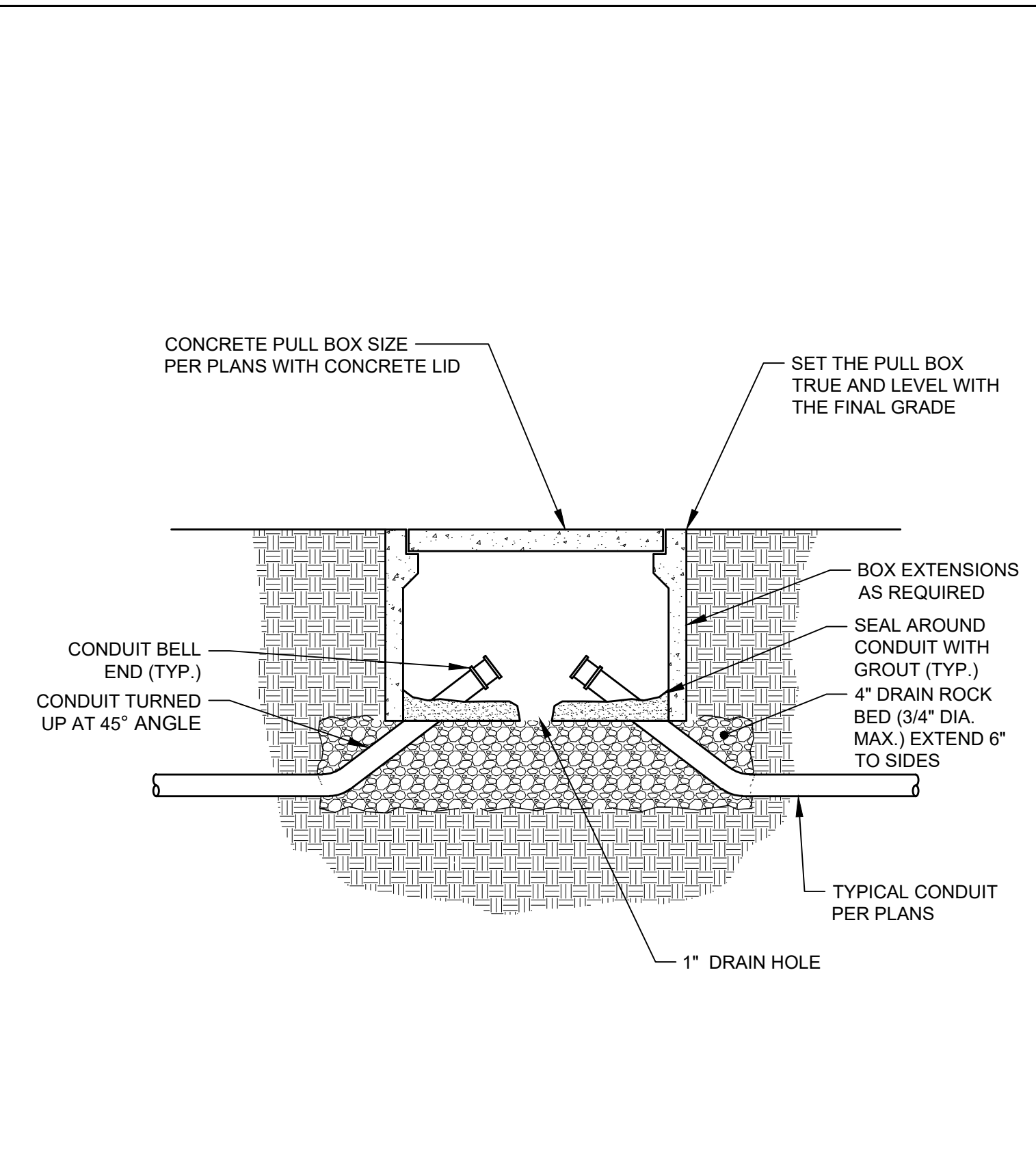
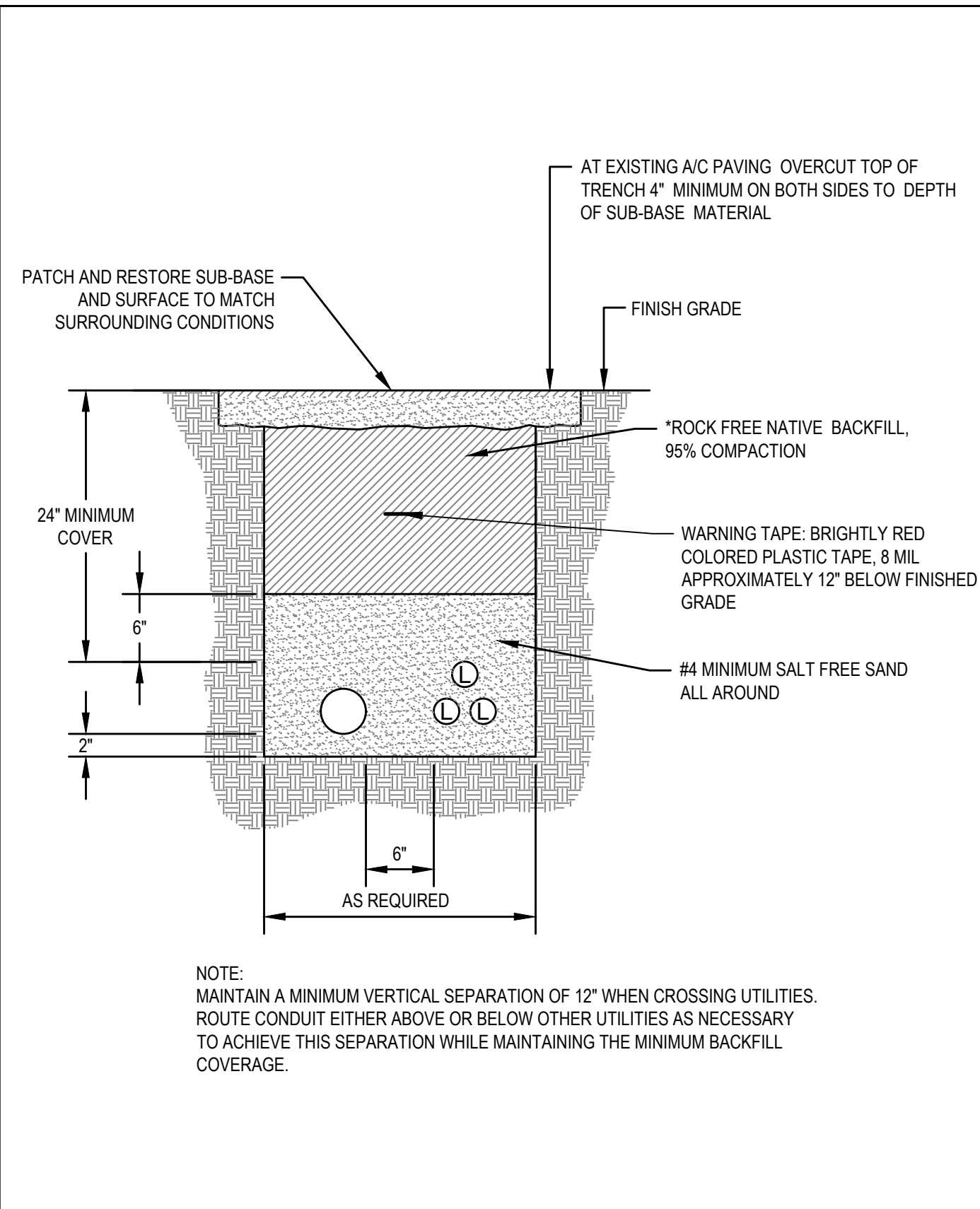
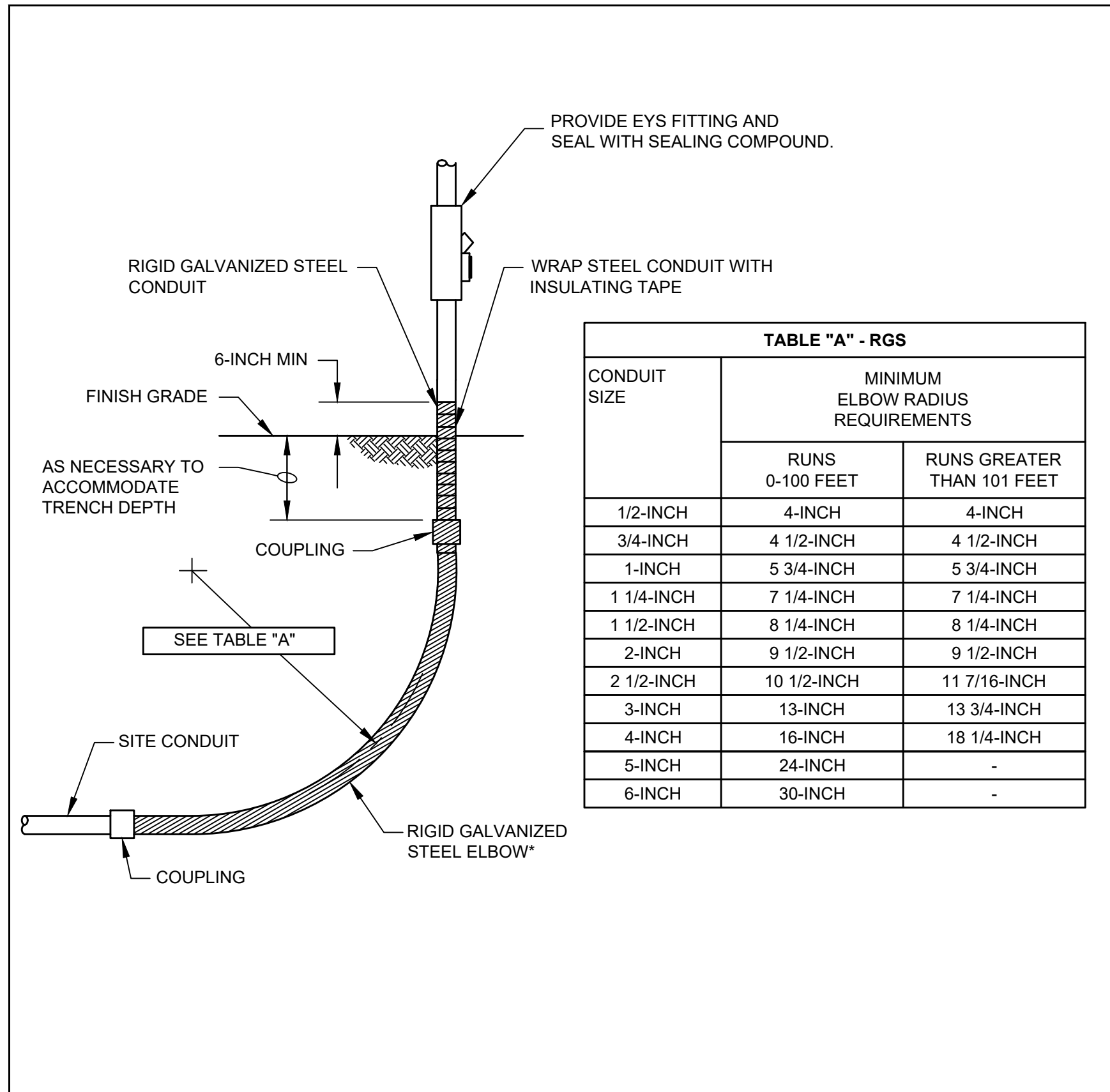
Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Client	COUNTY OF SONOMA	
Project	LEACHATE TANK REPLACEMENT	
Project No.	12558724	Date
		1/13/2023
Scale	AS SHOWN	

Title	ELECTRICAL SITE PLAN - SONOMA SITE	
Drawing No.	E-106	Sheet No.
	45	of 48



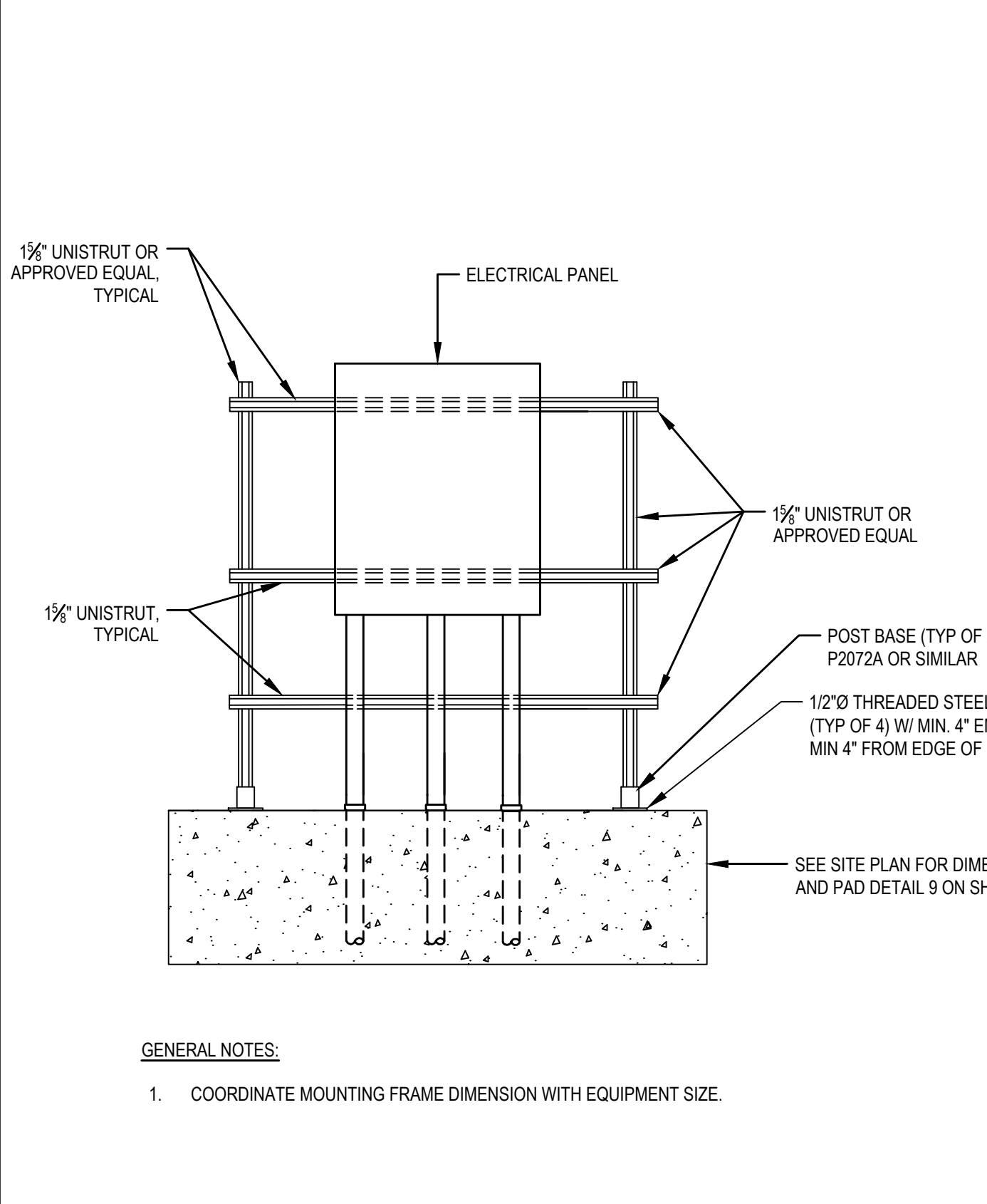
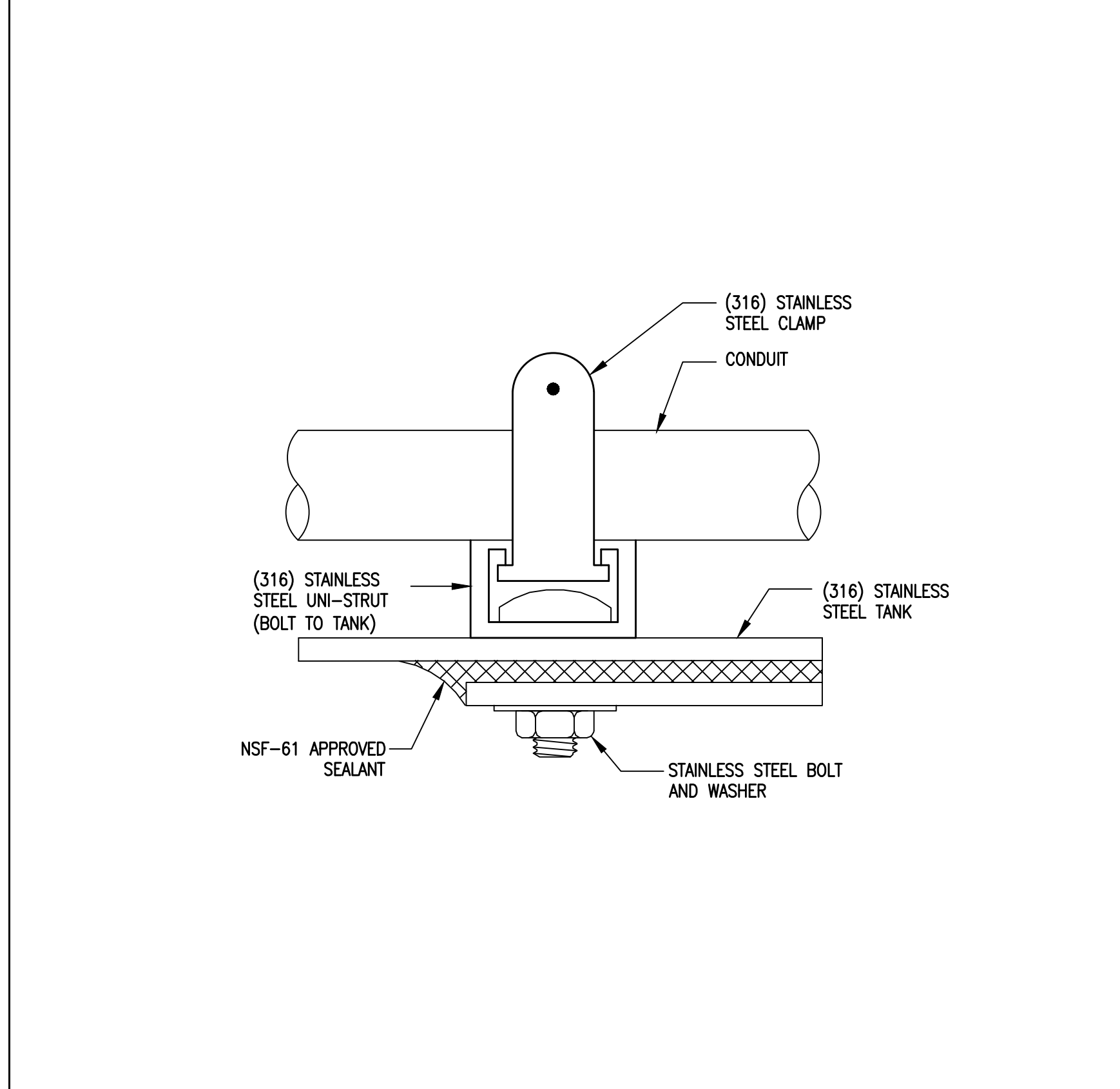


1 TYPICAL CONDUIT STUB-UP NOT TO SCALE

2 TYPICAL ELECTRICAL TRENCH NOT TO SCALE

3 TYP. PULL BOX - TELE OR LOW VOLTAGE POWER NOT TO SCALE

4 METHOD FOR GROUNDING STEEL TANK NOT TO SCALE

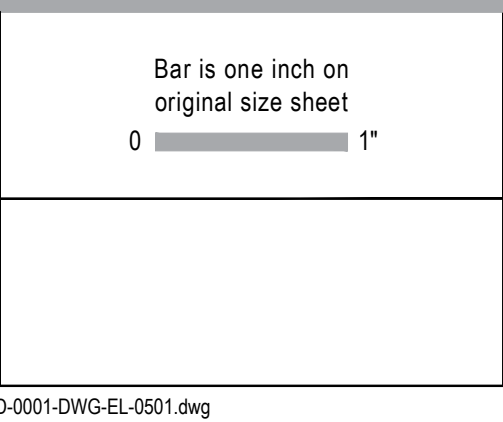


5 CONDUIT MOUNTING ON TANK NOT TO SCALE

6 TYPICAL UNISTRUT EQUIPMENT MOUNTING NOT TO SCALE

No.	Issue	Checked	Approved	Date
Author	EAO	Drafting Check	MGK	Project Manager
Designer	EAO	Design Check	RPG	Project Director
			M. KENNEDY	

100% SUBMITTAL



**GHD** GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679  
www.ghd.com

Conditions of Use  
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client **COUNTY OF SONOMA**  
Project **LEACHATE TANK REPLACEMENT**

Project No. **12558724** Date **1/13/2023** Scale **AS SHOWN**

Title **ELECTRICAL DETAILS** Size **ANSI D**

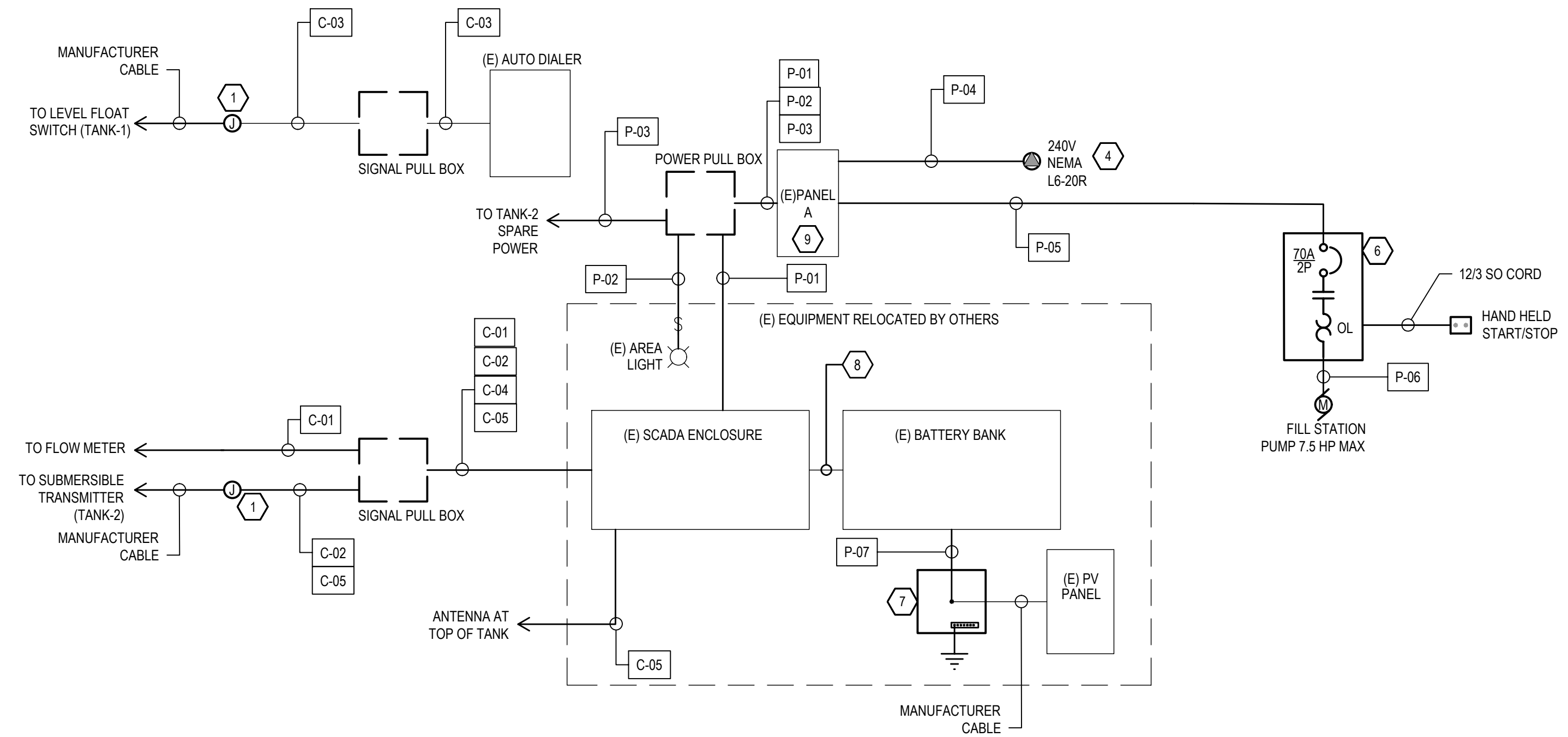
Drawing No. **E-501** Sheet No. **46 of 48**

**GENERAL NOTES**

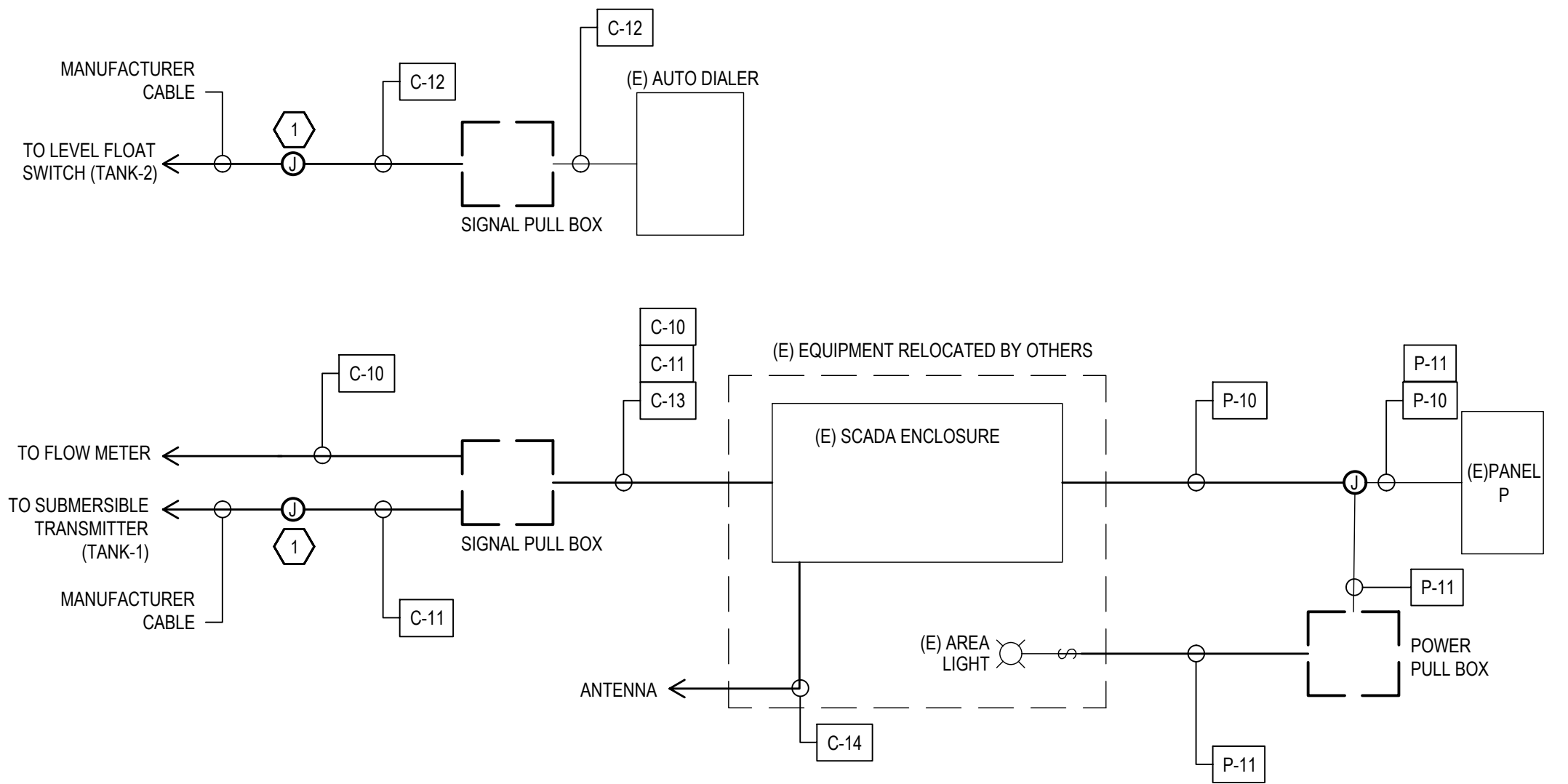
1. SCADA SYSTEM, BATTERY BANK, SOLAR EQUIPMENT AND ASSOCIATED EQUIPMENT TO BE RELOCATED BY COUNTY.
2. FINAL CONNECTIONS TO SCADA EQUIPMENT BY COUNTY.

**KEYNOTES**

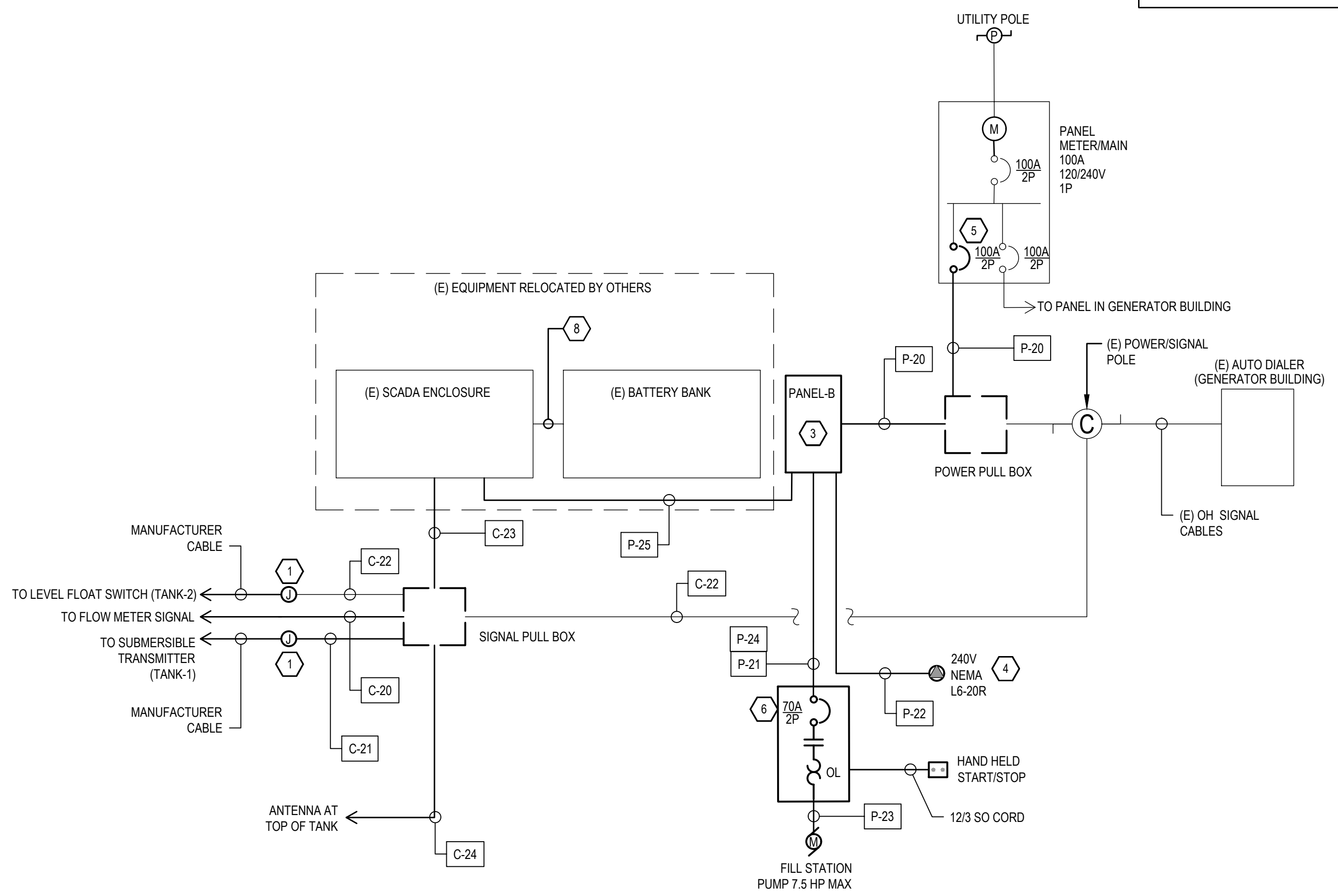
1. TERMINATE FIELD WIRING AT JUNCTION BOX TERMINAL STRIP.
2. PROVIDE 100A/2P BREAKER IN METER/MAIN PANEL.
3. PROVIDE (N) NEMA 3R 100-AMP 240/120-V SINGLE PHASE 12 CIRCUIT PANEL COMPLETE WITH CIRCUIT BREAKERS AS INDICATED IN PANEL SCHEDULE FOR NEW AND EXISTING LOADS. SEE SHEET E-602.
4. PROVIDE TWIST LOCK RECEPTACLE.
5. PROVIDE BREAKER WITH RATING AS SHOWN.
6. PROVIDE COMBINATION NEMA 2 STARTER. WITH BREAKER IN NEMA 3R ENCLOSURE. PROVIDE HAND HELD START STOP PUSHBUTTON AS INDICATED ON PLANS. COORDINATE WITH FILL STATION PUMP REQUIREMENTS PRIOR TO ORDERING. FILL STATION PUMP CONTROLS CAN BE SUBSTITUTED WITH APPROVED EQUAL FILL STATION MANUFACTURER PUMP CONTROL PANEL.
7. PROVIDE COMBINER BOX 8"x8"x4" NEMA 4X COMBINER BOX WITH BACKPANEL, TERMINAL BLOCKS AND GROUNDING BUS.
8. AFTER RELOCATION OF SCADA EQUIPMENT BY COUNTY, PROVIDE CONDUIT AND FITTINGS TO MATCH ORIGINAL SIZES. WIRES AND FINAL CONNECTIONS BY COUNTY.
9. PROVIDE CIRCUIT BREAKERS WITH RATINGS AS SHOWN ON PANEL SCHEDULE FOR NEW LOADS. SEE SHEET E-602



**1 LEACHATE TANK INSTRUMENTATION AND ELECTRICAL RISER DIAGRAM GUERNEVILLE SITE**  
SCALE: NONE



**2 LEACHATE TANK INSTRUMENTATION AND ELECTRICAL RISER DIAGRAM ROBLAR SITE**  
SCALE: NONE



**3 LEACHATE TANK INSTRUMENTATION AND ELECTRICAL RISER DIAGRAM SONOMA SITE**  
SCALE: NONE

No.	Issue	Checked	Approved	Date	
Author	EAO	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	EAO	Design Check	RPG	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



Client	COUNTY OF SONOMA
Project	LEACHATE TANK REPLACEMENT
Project No.	12558724
Date	1/13/2023
Scale	AS SHOWN

Title	ELECTRICAL RISER DIAGRAM AND SCHEDULES
Size	ANSI D
Drawing No.	E-601
Sheet No.	47 of 48



EXISTING PANEL-GUERNEVILLE SITE																				
PANEL NAME: A		VOLTAGE: 240/120		NEMA RATING: 3R		MOUNTING: SURFACE		NOTES: EXISTING LOADS SHOWN IN ITALIC, NEW LOADS ARE SHOWN BOLD.												
MAINS RATING: MLO		PHASE: 1		AIC RATING:		LOCATION: GURNEVILLE SITE														
BUS RATING: 200		WIRE: 3		DEMAND FACTOR: STD																
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.		
1		UNMARKED LOAD	15/1						A						80/2	UNMARKED LOAD		2		
3		UNMARKED LOAD	20/1						B						80/2	UNMARKED LOAD		4		
5		LIGHTS	15/1						A						20/1	UNMARKED LOAD		6		
7		UNMARKED LOAD	70/2						B						30/2	COMP		8		
9		UNMARKED LOAD	70/2						A						30/2	COMP		10		
11	M	FILL STATION PUMP	70/2	4.79	39.92	4	150	1.47	B						20/1	SCADA/STREET LIGHTS		12		
13	M	FILL STATION PUMP	70/2	4.79	39.92	4	150	1.47	A						20/1	SCADA/STREET LIGHTS		14		
15	M	FILL STATION SUMP PUMP RECEPTACLE	20/1	1.00	8.33	10	150	2.19	B						20/1	SCADA/STREET LIGHTS		16		
17	L	AREA LIGHTING	20/1						A						20/1	SCADA/STREET LIGHTS		18		
19		SPACE	20/1						B						20/1	SCADA/STREET LIGHTS		20		
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND									VOLTAGE DROP CALCULATION		
PHASE A: 4.8			6.0			49.9			LOAD TYPE									VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2011 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF))) * L WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2011 NEC CHAPTER 9 TABLE 9.		
PHASE B: 5.8			7.0			58.2			ASSUMED PF									ASSUMPTIONS: POWER FACTOR VARIED BY LOAD TYPE CONDUIT TYPE RGS WIRE MATERIAL CU		
STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA																				

NEW PANEL-SONOMA SITE																				
PANEL NAME: B		VOLTAGE: 240/120		NEMA RATING: 3R		MOUNTING: SURFACE		NOTES: EXISTING LOADS SHOWN IN ITALIC, NEW LOADS ARE SHOWN BOLD.												
MAINS RATING: 100		PHASE: 1		AIC RATING: 10000		LOCATION: SONOMA SITE														
BUS RATING: 100		WIRE: 3		DEMAND FACTOR: STD																
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.		
1	O	EXISTING SCADA	15/1	1.00	8.33				A						20/1	SPARE		2		
3	O	AREA LIGHTING	15/1	1.00	8.33				B						20/1	SPARE		4		
5	M	FILL STATION PUMP	70/2	4.79	39.92	4	20	0.20	A						20/1	SPARE		6		
7	M	FILL STATION PUMP	70/2	4.79	39.92	4	20	0.20	B						20/1	SPARE		8		
9	M	FILL STATION SUMP PUMP RECEPTACLE	20/1	1.00	8.33	12	20	0.48	A						20/1	SPARE		10		
11		SPARE	20/1						B						20/1	SPARE		12		
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND									VOLTAGE DROP CALCULATION		
PHASE A: 6.8			8.0			66.6			LOAD TYPE									VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2011 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF))) * L WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2011 NEC CHAPTER 9 TABLE 9.		
PHASE B: 5.8			7.0			58.2			ASSUMED PF									ASSUMPTIONS: POWER FACTOR VARIED BY LOAD TYPE CONDUIT TYPE RGS WIRE MATERIAL CU		
STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA																				

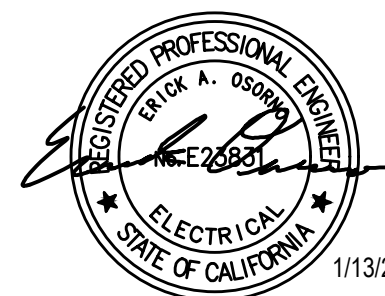
CONDUIT AND CABLE SCHEDULE LEACHATE TANKS							
CKT #	DESCRIPTION	FROM	TO	CONDUIT TYPE	CONDUIT SIZE	CABLE SIZE	REMARKS
<b>GUERNEVILLE</b>							
P-01	SCADA POWER	PANEL-A	SCADA ENCLOSURE	PVC	1 INCH	MATCH EXISTING	PROVIDE CONDUCTORS SIZED TO MATCH EXISTING. PROVIDE 3/4" RGS INSIDE BUILDING. FINAL CONNECTIONS TO SCADA BY COUNTY.
P-02	LIGHT FIXTURE	PANEL-A	LIGHT POLE	PVC	1 INCH	2-#12 AWG, #12 GND	POLE AND FIXTURE INSTALLED BY COUNTY. FINAL CONNECTIONS TO FIXTURE BY COUNTY
P-03	SPARE	PANEL-A	TANK 2	PVC	2 INCH	PULL STRING	
P-04	FILL STATION SUMP PUMP	PANEL-A	FILL STATION RECEIPT	PVC	1 INCH	3- #10 AWG, #10 GND	
P-05	FILL STATION PANEL	PANEL-A	STARTER PANEL	PVC	2 INCH	3- #4 AWG, #8 GND	
P-06	FILL STATION PUMP	STARTER PANEL	FILL STATION PUMP	PVC	1 INCH	MANUFACTURE CABLE	
P-07	SOLAR PANEL	COMBINER BOX	SCADA ENCLOSURE	PVC	1 INCH	MATCH EXISTING	PROVIDE CONDUCTORS SIZED TO MATCH EXISTING.
C-01	FLOW METER SIGNAL	FLOW METER	SCADA ENCLOSURE	PVC	1 INCH	3- #12 AWG	PROVIDE 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
C-02	TANK PRESSURE SIGNAL	PRESSURE TRANSMITTER (JUNCTION BOX)	SCADA ENCLOSURE	PVC	1 INCH	3- #12 AWG	PROVIDE 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
C-03	LEVEL FLOAT SWITCH	FLOAT SWITCH (JUNCTION BOX)	AUTODIALER	PVC	1 INCH	MATCH EXISTING	PROVIDE 3/4" SS CONDUIT AT TANK AND 3/4" RGS INSIDE BUILDING. PROVIDE CONDUCTORS SIZED TO MATCH EXISTING.
C-04	SPARE	PULL BOX	SCADA ENCLOSURE	PVC	2 INCH	PULL STRING	
C-05	ANTENNA	SCADA ENCLOSURE	ANTENNA	PVC	1 INCH	MATCH EXISTING	PROVIDE ANTENNA CABLE WITH 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
<b>ROBLAR</b>							
P-10	SCADA POWER	PANEL-P	SCADA ENCLOSURE	PVC	1 INCH	MATCH EXISTING	PROVIDE CONDUCTORS SIZED TO MATCH EXISTING. FINAL CONNECTIONS TO SCADA BY COUNTY.
P-11	SITE LIGHTING	PANEL-P	LIGHT POLE	PVC	1 INCH	2-#12 AWG, #12 GND	POLE AND FIXTURE INSTALLED BY COUNTY. FINAL CONNECTIONS TO FIXTURE BY COUNTY
C-10	FLOW METER SIGNAL	FLOW METER	SCADA ENCLOSURE	PVC	1 INCH	3- #12 AWG	PROVIDE 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
C-11	TANK PRESSURE SIGNAL	PRESSURE TRANSMITTER (JUNCTION BOX)	SCADA ENCLOSURE	PVC	1 INCH	3- #12 AWG	PROVIDE 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
C-12	LEVEL FLOAT SWITCH	FLOAT SWITCH (JUNCTION BOX)	AUTODIALER	PVC	1 INCH	EXISTING	PROVIDE 3/4" SS CONDUIT AT TANK. SPLICE AND EXTEND CABLES AS NEEDED.
C-13	SPARE	PULL BOX	SCADA ENCLOSURE	PVC	2 INCH	PULL STRING	
C-14	ANTENNA	SCADA ENCLOSURE	ANTENNA	PVC	1 INCH	MATCH EXISTING	PROVIDE ANTENNA CABLE WITH 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
<b>SONOMA</b>							
P-20	100A FEEDER	METER/MAIN PANEL	PANEL-B	PVC	2 INCH	3- #4 AWG, #8 GND	
P-21	FILL STATION PANEL	PANEL-B	STARTER PANEL	PVC	2 INCH	3- #4 AWG, #8 GND	
P-22	FILL STATION SUMP PUMP	PANEL-B	FILL STATION RECEIPT	PVC	1 INCH	3- #10 AWG, #10 GND	
P-23	FILL STATION PUMP	STARTER PANEL	FILL STATION PUMP	PVC	1 INCH	MANUFACTURE CABLE	
P-24	SPARE	PANEL-B	FILL STATION	PVC	1 INCH	PULL STRING	PROVIDE STUB UP AND CAP BELOW STARTER PANEL.
P-25	SCADA POWER	PANEL-B	SCADA ENCLOSURE	RGS	1 INCH	MATCH EXISTING	PROVIDE POWER CONDUCTORS TO MATCH EXISTING. FINAL CONNECTION TO SCADA BY COUNTY.
C-20	FLOW METER SIGNAL	FLOW METER	SCADA ENCLOSURE	PVC	1 INCH	3- #12 AWG	PROVIDE 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
C-21	TANK PRESSURE SIGNAL	PRESSURE TRANSMITTER (JUNCTION BOX)	SCADA ENCLOSURE	PVC	1 INCH	3- #12 AWG	PROVIDE 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.
C-22	LEVEL FLOAT SWITCH	FLOAT SWITCHES (JUNCTION BOX)	AUTODIALER	PVC	3/4 INCH	EXISTING	PROVIDE 3/4" SS CONDUIT AT TANK. SPLICE AND EXTEND AS NEEDED.
C-23	SPARE	PULL BOX A	SCADA ENCLOSURE	PVC	2 INCH	PULL STRING	
C-24	ANTENNA	SCADA ENCLOSURE	ANTENNA	PVC	1 INCH	MATCH EXISTING	PROVIDE ANTENNA CABLE WITH 6FT OF EXTRA CABLE AT PULL BOX. SCADA CONNECTION BY OTHERS. PROVIDE 3/4" SS CONDUIT AT TANK.

NOTE: WIRING TYPE SHALL BE PER SPECIFICATION SECTION 260519.

No.	Issue	Checked	Approved	Date	
Author	EAO	Drafting Check	MGK	Project Manager	G. TOMASINO
Designer	EAO	Design Check	RPG	Project Director	M. KENNEDY

100% SUBMITTAL

Bar is one inch on original size sheet  
0 1"



1/13/2023

**GHD**  
GHD Inc.  
2235 Mercury Way Suite 150  
Santa Rosa California 95407 USA  
T 1 707 523 1010 F 1 707 527 8679

Conditions of Use

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



www.ghd.com

Client	<b>COUNTY OF SONOMA</b>		Title	<b>ELECTRICAL SCHEDULES</b>
Project	<b>LEACHATE TANK REPLACEMENT</b>		Project No.	<b>12558724</b>
Date	<b>1/13/2023</b>		Scale	<b>AS SHOWN</b>
Drawing No.	<b>E-602</b>		Sheet No.	<b>48 of 48</b>

Size  
ANSI D