Agenda Item No. C-2

DATE SUBMITTED	3/27/25
SUBMITTED BY	Public Services
DATE ACTION REQUIRED	4/2/25

COUNCIL ACTION	( )
PUBLIC HEARING REQUIRED	( )
RESOLUTION	( )
ORDINANCE 1ST READING	( )
ORDINANCE 2ND READING	( )
CITY CLERK'S INITIALS	( )

IMPERIAL CITY COUNCIL
AGENDA ITEM

SUBJECT: DISCUSSION/ACTION:

1. Adopt Plans and Specifications and Authorize Public Bidding for the Shop Tank & Aten Tank Modifications and New Ventilation System Installation Project in the City of Imperial; Bid-2025-03

DEPARTMENT INVOLVED: Public Services

BACKGROUND/SUMMARY:

The 2.0 Million Gallon capacity Aten Tank is in need of rehabilitation. The proposed work includes draining the tank and assessing the condition of the interior of the tank. The existing tank mixer and cathodic protection system will be temporarily removed for the work. The top of the tank will be modified for additional tank vents and a new blower. The new vents and forced air system will allow more of the Trihalomethanes (THM) to be removed from the tank. Any areas in the tank that are found to be corroded will be repaired, and the tank recoated. The outside of the tank will be cleaned and recoated.

The Shop Tank will also be modified similar to the above scope; however it was recently recoated. The tank will be drained and inspected; any areas found with corrosion will be repaired and recoated.

The project will bid in accordance with the Public Contract Code (PCC). The project plans and specifications will be on file with the City Clerk at City Hall located at 420 S. Imperial Ave, Imperial, CA 92251.

FISCAL IMPACT: NOT TO EXCEED

Funds to cover associated costs will be expended from enterprise funds. Project is in the FY 25-26 Capital Improvement Plan.

CIP Project No. 842, Shop Tank & Aten Tank Rehab - $1,200,000

FINANCE INITIALS: VMS

STAFF RECOMMENDATION:

approve request

DEPT. INITIALS:

MANAGER'S RECOMMENDATION: approve

CITY MANAGER's INITIALS: DHM

MOTION:

SECONDED:
AYES:
NAYES:
ABSENT:

APPROVED ( ) REJECTED ( )
DISAPPROVED ( ) DEFERRED ( )

REFERRED TO:

CITY OF IMPERIAL

Shop Tank & Aten Tank Modifications and New Ventilation System Installation
Bid No. 2025-03

MARCH 2025

PREPARED BY

ALBERT A. WEBB ASSOCIATES
3788 McCRAY STREET
RIVERSIDE, CA 92506
(951) 686-1070

REGISTERED PROFESSIONAL ENGINEER
SHANE LEE BLOOMFIELD
No. C77435
CIVIL
STATE OF CALIFORNIA

PREPARED FOR

CITY OF IMPERIAL
PUBLIC WORKS DEPARTMENT
420 SOUTH IMPERIAL AVENUE
IMPERIAL, CA 92251
(760) 355-1152

BID INVITATION PACKAGE

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and New Ventilation System Installation

Bid Package Contents:

1. Notice and Invitation to Bidders;
2. Instructions to Bidders;
3. Bid Form;
4. Bid Bond;
5. List of Proposed Subcontractors;
6. Noncollusion Affidavit;
7. General Conditions;
8. Certificate Regarding Workers' Compensation;
9. Project Contract Execution Document;
10. Special Requirements
11. Detailed Specifications

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NOTICE AND INVITATION TO BIDDERS

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and
New Ventilation System Installation
BID 2025-03

NOTICE IS HEREBY GIVEN that sealed bids for the above project shall be received at the offices of the City Clerk at the City of Imperial at 420 So. Imperial Ave, Imperial, CA 92251, until **2:00 p.m.** Pacific Standard Time, on ***April 30, 2025***. Bids will be publicly opened on ***April 30, 2025,*** at **2:05 p.m.** Pacific Standard Time, or as soon thereafter as possible, at the City of Imperial located at 420 So. Imperial Ave., Imperial, CA 92251.

The Contract for the work advertised shall be awarded to lowest responsible bidder. City reserves the right to reject all bids.

A prebid site tour will not be conducted. Bidders are directed to **Appendix A and B** for record drawings of the two tanks and can coordinate with the City to arrange a site visit.

PROJECT DESCRIPTION:

Contractor shall furnish all labor, material, equipment and services to perform and complete all work required for the **Shop Tank & Aten Tank Modifications and New Ventilation System Installation** as per the Project Specifications.

The Project will generally include:

Aten Tank

- Draining of the exiting 2.0 MG Aten Tank, followed by an assessment of the existing tank to determine required structural repairs needed, along with any necessary work to rehabilitate the Tank.
- Temporary removal of the existing cathodic protection system, re-installation of the protection system and activation.
- Temporary removal of existing tank mixer system for coating work and re-installation once work is complete.
- Removal of the existing roof vent on the platform of the existing 2.0 MG Aten Tank, followed by the installation of a new air ventilation blower in place of the removed roof vent.
- Cutting and removal of portions of the existing aluminum tank roof of Aten Tank, in order to accommodate the installation of five (5) new air ventilation tank vents, including any restoration required around the newly installed vents.
- Furnish and install new interior tank coating system on all steel surfaces. Installation includes dehumidification, removal and disposal of existing coatings, surface preparation, installation of new coating system.

- Pressure washing (wet blast) of the exterior tank shell coating to remove all loose topcoat, followed by application of an epoxy tie-coat followed by a urethane topcoat.
- Provide all labor, material, and equipment to fill and disinfect the potable water storage reservoir in accordance with AWWA guidelines and Department of Public Health requirements.
- Activation of cathodic protection by a professional in accordance with NACE SP0388.

Shop Tank

- The existing Shop Tank was recoated (interior/exterior) back in 2022, but the cathodic protection system was never activated.
- Draining of the exiting 2.0 MG Shop Tank, followed by an assessment of the existing tank to determine required coating repairs, along with any necessary work to rehabilitate the Tank.
- If necessary, temporary removal of the existing cathodic protection system, re-installation of the protection system and activation.
- If necessary, temporary removal of existing tank mixer system for coating work and re-installation once work is complete.
- Cut existing steel roof plate and install a new air ventilation blower and restoration of tank coating.
- Installation of 7 perimeter roof vents and restoration of tank coating.
- Spot repair of interior tank coating system on all steel surfaces. Installation includes dehumidification, removal and disposal of existing coatings, surface preparation, installation of new coating system.
- Provide all labor, material, and equipment to fill and disinfect the potable water storage reservoir in accordance with AWWA guidelines and Department of Public Health requirements.
- Activation of cathodic protection by a professional in accordance with NACE SP0388.

Bid packages are available on the City's website, www.cityofimperial.org. Engineer's Estimate for this Project is $1,110,000.

CONTRACTOR'S LICENSE:

Contractor must have a California State Contractor's Class "C-33" for tank coating work and a Class "A" license for tank modifications. A City of Imperial business license is required prior to start of project.

A bid submitted by any contractor not properly licensed shall be considered non-responsive and will be rejected.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from

this requirement for bid purposes only under Labor Code section 1771.1 (a)]. No contractor or subcontractor may be awarded a contract for public work on a public works projects (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code 1725.5. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Any bid submitted by a contractor or subcontractor not property licensed any not registered with the Department of Industrial Relations shall be considered non-responsive and will be rejected.

APPRENTICES:

Section 1777.5 requires the Contractor or Subcontractor employing tradesmen in any apprenticeable occupation to apply to the Joint Apprenticeship Committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen to be used in the performance of the contract.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employs registered apprentices or journeymen in any apprenticeable trade and if other Contractors on the public works site are making such contributions.

Information relative to apprenticeship standards, contributions, wage schedules and other requirements may be obtained from the State Director of Industrial Relations or from the Division of Apprenticeship Standards.

PREVAILING WAGE RATES:

Not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which this contract is to be performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in Chapter 1 (commencing with Section 1720) Part 7, Division 2 of the Labor Code, shall be paid to all workers employed on this public work. Statutory provisions for penalties for failure to pay prevailing wages will be enforced. A copy of the applicable rate of per diem wages is on file in the office of the City Clerk, 420 South Imperial Avenue, Imperial, California.

BID BOND:

Each bid must be accompanied by a guaranty of cash, certified check, cashier's check or bid bond made payable to the City of Imperial for an amount equal to at least ten percent (10%) of the bid. Such guaranty to be forfeited should the bidder to whom the contract is awarded fails to enter the contract. All guaranties to be returned after the contract is awarded. In conformance with the State of California Public Contract Code Section 22300, the contractor may substitute securities for any funds withheld by the City to ensure performance under the contract.

At request and expense of the contractor, securities equivalent to the amount withheld shall be deposited with the City or with a State or Federally chartered bank as the escrow agent who shall pay such funds to the contractor upon notification by the City of contractor's satisfactory completion of contract.

The type of securities deposited and the method of release shall be approved by the City Attorney.

PAYMENT BOND:

If the successful bid is in excess of $25,000, the successful bidder shall be required to post a payment bond in the amount of the bid in accordance with California Civil Code Section §3247.

RETENTION:

The City shall retain five (5%) percent of the Contract price. The retention shall be released (with the exception of one hundred fifty percent of any disputed amount) within sixty days after the date of completion of the work. The Contractor may substitute securities in place of the retained funds withheld by the City. Alternatively, an escrow agreement, in the form prescribed under Ca. Pub. Cont. Code § 22300, may be used by Contractor.

RESOLUTION OF CLAIMS:

Claims shall be managed as set forth in Public Contracts Code Section 20104 and 9204. Where there is conflict, the provisions of 9204 shall control. In general terms, said process contemplates a meet and confer procedure and non-binding mediation as a precursor to litigation.

MISCELLANEOUS:
All inquiries regarding this project should be directed to:

City of Imperial
David Dale, PE – Public Services Director
420 South Imperial Avenue
Imperial, California 92251
760-355-3336
ddale@imperial.ca.gov
THE CITY OF IMPERIAL

By: Dennis Morita, City Manager

INSTRUCTIONS TO BIDDERS

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and New Ventilation System Installation
BID 2025-03

1. Explanations to Bidders

(a) Any explanation desired by a bidder regarding the meaning or interpretation of the Invitation for Bids, including drawings, specifications, prior approvals, etc., must be requested in writing no later than 5 calendar days before the bid deadline. Any interpretation made will be in the form of an addendum to the Invitation for Bids and will be furnished to all prospective bidders. Receipt of Addenda by the bidder must be acknowledged in the space provided on the Bid Form or by letter or transmittal received before the time set for opening of sealed bids. Verbal explanations or instructions given before the award of the contract will not be binding.

(b) All questions regarding the Invitation for Bids shall be in writing and directed to:

City of Imperial
David Dale, PE
Public Services Director
420 South Imperial Avenue
Imperial, CA 92251
760-355-3336
ddale@cityofimperial.org

Albert A. Webb Associates
Shane Bloomfield
Senior Engineer
3788 McCray Street
Riverside, CA 92506
951-248-4293
shane.bloomfield@webbassociates.com

2. Conditions Affecting the Work

(a) Before submitting a bid, each bidder must (1) examine the bid and contract documents thoroughly, (2) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the work (**Optional**), (3) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the work; and (4) study and carefully correlate bidder's observations with the bid and contract documents. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The City will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the bid or contract documents.

(b) The submission of a bid will constitute an incontrovertible representation by the Bidder that it has complied with every requirement of the request for bids and that the bid and contract documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work.

3. Bidder's Qualifications

(a) Contractor must have a California State Contractor's Class "C-33" for tank coating work and a Class "A" license for tank modifications. Any bid submitted by a contractor not properly licensed shall be considered non-responsive and will be rejected.

4. Bid Guaranty

(a) The bid guaranty shall be in the form of a bid bond, certified check, or cashier's check, payable to the order of the City of Imperial, in an amount not less than 10% of the Bid. If the bid guaranty is in the form of a bond it must be of the type included in this bid package. Any bid bond shall be executed by a corporate surety acceptable to the City and authorized to issue such surety bond in the State of California. Bid guaranties, other than bid bonds, will be returned (1) to unsuccessful Bidders as soon as practicable after the opening of bids, and (2) to the successful Bidder upon execution and delivery of all contract documents. However, the City reserves the right to retain the bid guaranty of the second lowest qualified Bidder until the lowest qualified Bidder executes and delivers all required contract documents to the City or until 60 calendar days after bid opening, whichever occurs first.

(b) Failure to furnish a bid guaranty in the proper form and amount, by the time set for the receipt of bids, shall be cause for rejection of the bid.

(c) If the successful Bidder, upon acceptance of its bid by the City fails to execute and deliver all contract documents within 10 calendar days after receipt of City's Notice of Award, the successful Bidder's bid guaranty shall be retained by the City as liquidated damages. Such failure on the Bidder's part to execute and deliver those documents will cause substantial damage to the City, including delay in its construction program, which damage is not easily reduced to monetary terms and, therefore, the full amount of the bid guaranty is properly considered to be liquidated damages.

5. Preparation of Bids

(a) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. All blank spaces shall be filled in. If erasures or other

changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Telephonic or fax bids will not be considered.

(b) Substitutions for specified materials will not be considered without prior approval.

(c) Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for receipt of bids. Telephonic or fax modifications will not be considered.

(d) Discrepancies between words and figures shall be resolved in favor of words.

(e) Discrepancies between the indicated sum of any column of figures and the correct sum thereof shall be resolved in favor of the correct sum.

6. Submission of Bids

(a) Bids must be sealed, marked, and addressed as indicated below. Failure to do so may result in a premature opening of, or a failure to open, such bid, thereby eliminating that Bidder from consideration. The sealed envelope containing the bid should be enclosed in another envelope addressed as indicated below.

(b) All bids shall be received no later than **2:00 p.m.** Pacific Standard Time, on ***April 30, 2025,*** hand-delivered or mailed, addressed to:

Aimee Osuna, Public Records Analyst
City of Imperial
420 South Imperial Avenue
Imperial, California 92251

(c) The envelope containing the original copy of the bid must be sealed, marked, and addressed as follows:

(1) Name and address of Bidder

(2) Marked in the lower left-hand corner of the envelope:

CITY OF IMPERIAL, SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION - BID NO. 2025-03

(d) The original bid shall consist of those documents listed below. The original document shall be returned with the bid.

(1) Bid Form;

(2) List of Proposed Subcontractors;

(3) Bid Bond;

(4) Noncollusion Affidavit; and

(5) Contractor's Certificate Regarding Workers' Compensation

7. Late Bid, Modification or Withdrawal of Bid by Bidder

(a) Any bid received by the City after the exact time specified for receipt will be returned unopened.

(b) Any modification or withdrawal of bids must be made in writing and is subject to the same condition as in (a) above. A bid may be withdrawn by written or transmittal request received from a Bidder prior to the time set for opening bids. A bid may also be withdrawn in person by a Bidder or the Bidder's authorized representative, provided the representative's identity is made known and the representative signs a receipt for the bid, but only if the withdrawal is made prior to the time set for opening bids.

8. City Modifications Prior to Date Set for Opening Bids

The City may revise or amend the bid or contract documents, including the specifications and drawings, prior to the date set for opening bids. Such revisions and addenda, if any, will be announced by addenda to the Invitation for Bids. If the revisions and addenda are of a nature which require material changes in the bid, the date set for opening bids may be postponed by such number of days as in the opinion of the City will enable Bidders to revise their bids. In such a case, the addendum will include an announcement of the new date and time for opening bids.

9. Public Opening of Bids

Bids will be publicly opened at the time set for opening in the Notice to Bidders. Their content will be made public for the information of Bidders and others interested, who may be present either in person or by representative.

10. Award of Contract

(a) Award of contract will be made to the low responsible Bidder whose bid, conforming to the Invitation for Bids, is most advantageous to the City, price and other factors considered.

(b) The City Council may, when in its interest, reject any or all bids.

(c) The City may accept any item or combination of items of a bid, unless precluded by the Invitation for Bids or the Bidder includes in its bid a restrictive limitation.

11. Bonds and Insurance

(a) If the successful bid is in excess of $25,000, the bidder to whom the contract is awarded shall furnish a Payment Bond on forms approved by the City, executed by a corporate surety acceptable to the City and authorized to issue such surety bonds in the State of California. The Payment Bond shall be in an amount equal to 100% of the Contract Price. The entire cost of bond shall be borne by the successful Bidder.

(b) The successful Bidder shall furnish a Performance Bond on forms approved by the City, executed by a corporate surety acceptable to the City, and authorized and admitted to issue surety bonds in California. The Performance Bond shall be in an amount equal to 100% of the Contract Price. The entire cost of the Performance Bond shall be borne by the successful Bidder.

(c) The successful Bidder shall deliver to the City certification attesting to the fact that the required policies of insurance have been obtained by the Bidder to the limits described in section 5.1.1 of the *General Conditions (pg GC-3)*.

(d) The signed contract required bonds and certificates of insurance shall be delivered to the City within 10 calendar days after receipt by Bidder of City's Notice of Award.

12. Subcontractors

(a) Each Bidder in its bid shall set forth the following:

(1) The name and location of the place of business of each subcontractor whom it intends to use to perform work or labor, or render service to the Bidder in or about construction of any work, in an amount in excess of 0.5% of the Base Bid. (California law forbids the substitution of subcontractors on public works projects, such as this project, except under very narrow and limited circumstances.)

(2) The portion of the work which will be done by each such proposed subcontractor, if the Bidder is awarded the Contract.

(b) Each Bidder shall furnish such information in substantially the form set forth in the Invitation for Bids. If no subcontractors are to be used, other than within the 0.5% limit referred to above the Bidder shall state "None" on the form.

(c) Each proposed subcontractor must complete a Subcontractor's Experience Statement, which shall be attached to the List of Proposed Subcontractors in order for the bid to be considered complete.

13. Noncollusion Affidavit

Each Bidder shall include a noncollusion affidavit with its bid in substantially the form set forth in the Invitation for Bids.

14. Permits and Fees

The Bidder's attention is called to the requirements of the General Conditions regarding the acquisition of and payment for permits, licenses and fees related to the work of this project. All such acquisitions and payments are the sole responsibility of the Contractor. It is the sole responsibility of the Bidder to contact agencies or utilities having jurisdiction over the project to ascertain the extent of permits and fees required and the cost thereof, and to include all such costs in its bid.

15. Prevailing Wage Rates

Not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which this contract is to be performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in Chapter 1 (commencing with Section 1720) Part 7, Division 2 of the Labor Code, shall be paid to all workers employed on this public work. Should the prevailing wage rate be increased, decreased, or eliminated a corresponding adjustment shall be made to the Contract Price which shall reflect the effect of that change in or elimination of the prevailing wage rate. A copy of the applicable rate of per diem wages is on file in the office of the City Clerk, 420 South Imperial Avenue, Imperial, California.

The successful Bidder must also comply with statutory requirements relating to certified copies of payroll and maintenance records, and availability for inspection of same. Successful Bidder must comply with statutory requirements relating to employment of apprentices.

16. Construction Schedule

After the Contract Documents are executed, the City will give the Contractor notice to proceed. After this notice is given, the Contractor shall substantially complete the project within **One-Hundred (*100)*** Calendar days. The Contractor will be liable for damages for any inexcusable delay beyond this period. Liquidated damages for such delay shall be $500 per calendar day for each day past the substantial

completion date.

17. Debarment of Contractors and Subcontractors

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 or the Labor Code. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

Verification of Compliance with Economic Sanctions

Per California Executive Order N-6-22, the City of Imperial is required to assure that all contractors doing business with the City of Imperial are in compliance with economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as sanctions imposed under state law, if any. Please execute this document to verify current compliance of contractor with Executive Order N-6-22 and to ensure that this project will be in compliance with Executive Order N-6-22.

NOTICE: Having conducted a good faith review, I attest that the contractor submitting this bid is in compliance with the economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as sanctions imposed under state law, if any. Further, I attest that I am aware of Executive Order N-6-22 and agree monitor the project to ensure the project remains in compliance with Executive Order N-6-22.

Contractor's Signature below:

Note that responses may be subject to disclosure under the California Public Records Act. Accordingly, it is within the discretion of the respondent to determine what information to provide. Additionally, please do not include any confidential information or disclosures that could pose security risks.

BID FORM

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and New Ventilation System Installation

BID 2025-03

To: City Of Imperial
Public Works Department
420 South Imperial Avenue
Imperial, California 92251

In response to the Invitation for Bids, the undersigned Bidder hereby proposes to furnish all labor, material, equipment and services and perform and complete all work required for the **Shop Tank & Aten Tank Modifications and New Ventilation System Installation** Project as described in the Plans and Specifications.

Performance shall include all work necessary to complete the Project in strict accordance with the Contract and for the price(s) to be specified by the Bidder below, including all applicable taxes.

Bidder certifies that it has examined and is fully familiar with all of the provisions of the Invitation for Bids and any Addenda thereto; that it is submitting this Bid in strict accordance with the Instructions to Bidders; and that it has carefully reviewed the accuracy of all statements attached to this Bid.

Bidder certifies that it has visited and examined the work site (Optional), and is satisfied with the nature and location of all work, the general and local conditions to be encountered in the performance of the work, the requirements of the Contract and all other matters which can in any way affect the work or the cost thereof. Bidder further certifies that Bidder has performed such tests deemed necessary for the preparation of this bid.

Bidder agrees that this Bid constitutes a firm offer to the City which cannot be withdrawn by Bidder for 60 calendar days from the date of actual opening of bids. If awarded the Contract, Bidder agrees to execute and deliver to the City within 10 calendar days after receipt of City's Notice of Award, the applicable Construction Contract form and the required Payment Bond, Certificates of Insurance, and any other required Contract Documents.

BIDDING SCHEDULE

SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION

CITY OF IMPERIAL

BID SCHEDULE I – ATEN TANK

Item No.	Description	Qty[1]	Unit	Unit Bid Price*	Bid Extensions*
101	Mobilization (all equipment, tools, and staff), Insurance, Bonds, Preconstruction Video, and Demobilization[2]	1	LS	$_____	$_____
102	Provide all labor, material, and equipment necessary to drain the existing Shop Tank, perform an assessment of the existing interior conditions and prepare a summary report.	1	LS	$_____	$_____
103	Furnish and install new interior tank coating system on all steel surfaces. Installation includes dehumidification, removal and disposal of existing coatings, surface preparation, installation of new coating system, complete in place, in accordance with the specifications.	1	LS	$_____	$_____
104	Temporarily relocate and protect existing cathodic protection and complete activation of cathodic protection by a professional in accordance with NACE SP0388.	1	LS	$_____	$_____
105	Furnish all labor, material, and equipment to complete necessary mechanical repairs prior to coating including the grinding and corrosion repair of 5 localized corrosion areas throughout the tank per the specifications.	1	LS	$_____	$_____
106	Furnish and install 26 cathodic handhole grommets.	26	EA	$_____	$_____

[1] Quantities (except for "Lump Sum:" item numbers) are estimated and are for the purpose of comparing bid only. Payment will be based upon actual quantities furnished, installed or constructed in accordance with the Contract Documents.

[2] Payment shall not exceed 5% of the total for Bid Schedule I.

* The above prices include any amount payable by the Owner for taxes by reason of this contract.

Item No.	Description	Qty.[1]	Unit	Unit Bid Price*	Bid Extension*
107	Furnish and install new 36-inch diameter roof vent per Detail 1 on Dwg. No. CD-1 of the Project Drawings.	5	EA	$_____	$_____
108	Furnish and install new ventilation blower, in accordance with these specifications. Installation includes removal of existing roof vent, providing new aluminum panel or modifying existing panel to accommodate new blower. City to provide electrical connection.	1	LS	$_____	$_____
109	Pressure washing (wet blast) of the exterior tank shell coating to remove all loose topcoat, followed by application of an epoxy tie-coat followed by a urethane topcoat.	1	LS	$_____	$_____
110	Provide all labor, material, and equipment to fill and disinfect the potable water storage reservoir in accordance with AWWA guidelines and Department of Public Health requirements.	1	LS	$_____	$_____
111	Temporarily remove, store, and protect existing tank mixer system for coating work to be performed and re-install once work is complete.	1	LS	$_____	$_____
112	Additional structural/coating repairs to tank shell, interior ladder connections to tank, and connections over and above those repair items listed in other bid items including, but not limited to, repair or replacement of welds, bolts, and nuts, etc. This line item is an allowance and all work will be tracked in accordance with time and materials procedures and as directed by the City.	1	T&M	Preset	$75,000

[1] Quantities (except for "Lump Sum:" item numbers) are estimated and are for the purpose of comparing bid only. Payment will be based upon actual quantities furnished, installed or constructed in accordance with the Contract Documents.

Total Bid Schedule I $_____ *

(Sum of Extension Nos. 101 thru 112) (Figures)

TOTAL BID PRICE FOR BID SCHEDULE I_____

_____

_____ DOLLARS

(DOLLAR AMOUNT IN WRITTEN FORM)

BID SCHEDULE II – SHOP TANK

Item No.	Description	Qty.[1]	Unit	Unit Bid Price*	Bid Extension*
201	Mobilization (all equipment, tools, and staff), Insurance, Bonds, Preconstruction Video, and Demobilization[2]	1	LS	$_____	$_____
202	Provide all labor, material, and equipment necessary to drain the existing Shop Tank, perform an assessment of the existing interior conditions and prepare a summary report.	1	LS	$_____	$_____
203	If necessary, temporarily remove, store, and protect existing tank mixer system and cathodic protection system for coating work to be performed and re-install once work is complete.	1	LS	$_____	$_____
204	Furnish all labor, material, and equipment for the grinding and corrosion repair of 5 localized corrosion areas throughout the tank interior per the specifications.	1	LS	$_____	$_____
205	Additional structural repairs to roof rafters, columns, and connections over and above those repair items listed in other bid items including, but not limited to, repair or replacement of welds, bolts and nuts, roof rafters, etc. This line item is an allowance and all work will be tracked in accordance with time and materials procedures and as directed by the City.	1	T&M	Preset	$50,000
206	Furnish and install new perimeter roof vents, including coating repair.	7	EA	$_____	$_____
207	Furnish and install new self-closing gate as shown on the plans.	1	EA	$_____	$_____

[1] Quantities (except for "Lump Sum:" item numbers) are estimated and are for the purpose of comparing bid only. Payment will be based upon actual quantities furnished, installed or constructed in accordance with the Contract Documents.

[2] Payment shall not exceed 5% of the total for Bid Schedule II.

* The above prices include any amount payable by the Owner for taxes by reason of this contract.

Item No.	Description	Qty.[1]	Unit	Unit Bid Price*	Bid Extension*
208	Furnish and install new ventilation blower, in accordance with these specifications. Installation includes cutting of existing steel roof plate to accommodate new blower. City to provide electrical connection.	1	LS	$_____	$_____
209	Furnish and install new exterior/interior tank coating on all affected exterior/interior surfaces impacted by the installation of new ventilation blower, perimeter vents, and any required repairs. Installation includes spot repair of existing coatings, surface preparation of steel, and installation of spot repair system, in accordance with these specifications.	1	LS	$_____	$_____
210	Activation of cathodic protection by a professional in accordance with NACE SP0388.	1	LS	$_____	$_____
211	Provide all labor, material, and equipment to fill and disinfect the potable water storage reservoir in accordance with AWWA guidelines and Department of Public Health requirements.	1	LS	$_____	$_____

Total Bid Schedule II $_____*

(Sum of Extension Nos. 201 thru 211) (Figures)

TOTAL BID PRICE FOR BID SCHEDULE II_____

_____

_____ DOLLARS

(DOLLAR AMOUNT IN WRITTEN FORM)

[1] Quantities (except for "Lump Sum:" item numbers) are estimated and are for the purpose of comparing bid only. Payment will be based upon actual quantities furnished, installed or constructed in accordance with the Contract Documents.

PROPOSAL
BIDDING SHEET SUMMARY

(to be filled in by Bidder)

TOTAL BID PRICE FOR BID SCHEDULE I (Nos. 101 thru 112) $ _____ *

TOTAL BID PRICE FOR BID SCHEDULE II (Nos. 201 thru 211) $ _____ *

TOTAL BID PRICE FOR SCHEDULES I and II $ _____ *

_____

_____

_____ DOLLARS

(DOLLAR AMOUNT IN WRITTEN FORM)

The undersigned agrees that these Proposal/Bid Forms constitute a firm offer to the Owner which cannot be withdrawn for the number of Calendar Days indicated in the Notice Inviting Bids from and after the bid opening date, or until a Contract for the Work is fully executed by the Owner and a third party, whichever is earlier. The undersigned also agrees that if there is a discrepancy between the written amount of the Bid Price and the numerical amount of the Bid Price, the written amount shall govern.

Acknowledgement of reading above statement:

By: _____ _____
Signature **Date**

* Prices include any amount payable by the City for taxes by reason of the Contract

ATTACHMENTS

Attached are the following forms which have been completed by Bidder and made a part of this bid:

1. List of Proposed Subcontractors;

2. Noncollusion Affidavit;

3. Contractor's Certificate Regarding Workers' Compensation

ADDENDA

Bidder also acknowledges receipt of the following Addenda, which Addenda have been considered by Bidder in submitting this Bid (if none, state "None"):

Addenda Nos. _____

CONTRACTOR'S LICENSE

Bidder certifies that Bidder is currently licensed under the California State Contractor's License Law as follows:

Contract License Number	Name of Licensee	Type of License	Issue and Expiration date

COMPLETION TIME

The Project, including its respective components, must be substantially completed within ***One Hundred (100) Calendar*** days after the notice to proceed. Substantial completion is defined in the Special Requirements. Bidder certifies that it can complete the Project within this time period.

Submitted by,

BIDDER'S NAME:

_____

By: _____

Title :_____

BIDDER'S BUSINESS ADDRESS:

_____

_____

BIDDER’S TELEPHONE AND FAX NUMBERS:

_____

_____

IF BIDDER IS A CORPORATION:

State and date of incorporation

_____

IF A PARTNERSHIP OR JOINT VENTURE:

Full names of all partners or joint venturers (attach additional pages if necessary)

_____

_____

DIRECTIONS FOR SUBMITTING BIDS:

1. The envelope containing the original of this Bid Form with all attachments must be sealed, marked, and addressed as follows:

   a. Marked in the lower left-hand corner of the envelope:

      The City of Imperial**, Shop Tank & Aten Tank Modifications and New Ventilation System Installation – BID NO. 2025-03**

   b. Addressed to:

      Aimee Osuna, Public Records Analyst
      City of Imperial
      420 South Imperial Avenue
      Imperial, CA 92251

LIST OF PROPOSED SUBCONTRACTORS

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and
New Ventilation System Installation
Bid 2025-03

NAME OF BIDDER: _____

If awarded the Contract, Bidder shall employ the following subcontractors who will perform work or labor, or render service to the Bidder in or about the project, in an amount in excess of 0.5% of the bid lump sum listed on the Bid Form. If no subcontract work is proposed, other than within the 0.5% limit set forth, Bidder shall so state. (Attach additional pages if necessary.)

Names and Addresses of Subcontractors	Description of Work to be Subcontracted	DIR Registration Number

Bidder _____ Date _____
Firm Name

Signed by _____ _____
Name Title

BID BOND

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and New Ventilation System Installation

(Not required if Certified Check of Cashier's Check accompanies Bid)

KNOW ALL PERSONS BY THESE PRESENTS: That we_____
as Principal, and _____
as Surety, are held and firmly bound unto the City of Imperial, in the sum of $_____
[10% OF THE TOTAL AMOUNT OF THE BID] for the payment of which sum we hereby bind ourselves, our successors, heirs, executors, and administrators, jointly and severally, firmly as set out more fully herein.

The condition of the foregoing obligation is such that, whereas the above principal is about to submit to the City of Imperial a bid for the performance of the work for the above project in compliance with the plans and specifications therefore and pursuant to a published notice inviting bids.

Now, if the bid of the principal is accepted and the work awarded to the principal by the City of Imperial, and if the principal shall fail or neglect to enter into a contract, therefore, in accordance with the provision of said bid and the accompanying Instructions to Bidders and to furnish adequate faithful performance and labor and material surety bonds and certificates of insurance to the satisfaction of the City of Imperial; then the total sum guaranteed by this bond is forfeited to the City of Imperial as liquidated damages.

In the event suit is brought by the City of Imperial and judgment is entered in its favor, the surety shall pay all costs incurred by the City in such suit, including reasonable attorneys' fees to be fixed by the Court, in addition to the above sum.

WITNESS our hands and seals this _____ day of _____, 2025.

(Seal)

By_____ Name/Title_____

(Seal)

NOTE: Signatures of those executing for the surety must be properly acknowledged.

Bond No. _____

NONCOLLUSION AFFIDAVIT

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and New Ventilation System Installation

(To Be Executed by Bidder and Submitted With Bid)

State of California) ss.
County of _____)

_____, being first duly sworn, deposes and says that he or she is _____ of _____, the party making the foregoing bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or a sham; that 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 that anyone shall refrain from bidding; that 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 of any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

Executed this ____day of _____, 2025 at _____.

Signature of:
Bidder, if the Bidder is an Individual,
Partner, if the Bidder is a Partnership,
Officer, if the Bidder is a Corporation
Name_____
Title_____

GENERAL CONDITIONS

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and New Ventilation System Installation

1.0 PARAGRAPH HEADINGS AND DEFINITIONS

1.1 Paragraph headings in this Contract are for convenience only, and are not to be construed to define, limit, expand, interpret, or amplify the provisions of this Contract. When initially capitalized in this Contract, or amendments hereto, the following words or phrases shall have the meanings specified:

1.2.1 Adjusted Contract Price - The initial Contract Price adjusted for change orders, Force Majeure, termination for convenience or any other reason permitted by this Contract.

1.2.2 Best Efforts - Those efforts which a competent, experienced, and prudent contractor would use to perform and complete the requirements of this Contract in a timely manner, exercising the degree of care, competence, and prudence customarily imposed on a contractor performing similar work in the State of California.

1.2.3 Contract - This agreement, including all referenced documents, between the City of Imperial and Contractor for the performance of the Work, and subsequent written modifications executed by the City and Contractor.

1.2.4 Contractor - The legal entity which executes this Contract with the City to perform the Work.

1.2.5 Contract Manager- The title of the person designated by the City to be its representative with authority to act for and bind the City.

1.2.6 Documentation - Drawings, plans, models, studies, surveys, specifications, reports, design analysis, data, policies, information, work product, proposals, and any other similar documents or material prepared or used in connection with the Work.

1.2.7 Final Completion Date - The date when the Work is completed in accordance with the Contract, including all Punch List Items.

1.2.8 Force Majeure - An act of God, or event beyond the control of a party, including an act or omission of government, act or omission of civil or

military authority, strike or lockout, act of a public enemy, war, blockade, insurrection, riot, epidemic, landslide, earthquake, fire, storm, lightning, flood, washout, or civil disturbance which could not have been avoided through the exercise of reasonable care and prudence.

1.2.9 Price or Contract Price - The total sum to be paid by the City to Contractor for performance of the Work.

1.2.10 Project - Contractor shall furnish all labor, material, equipment and services and perform and complete all work required as per the project specifications.

1.2.11 Project Engineer or Coordinator - The title of the person designated by the City to be its representative with authority to act for the City regarding engineering and construction matters.

1.2.12 Punch List Items - Items of work comprising a part of the Work as set out on a Punch List prepared by the City, with said items to be completed by Contractor consistent with the terms and conditions and scope of the Contract.

1.2.13 Schedule - The time frame for the construction project as established by the City and/or the Contract Documents.

1.2.14 Site - The area where Contractor shall perform the Work.

1.2.15 Work or Scope of Work - All obligations undertaken by Contractor pursuant to the Contract.

2.0 SCOPE OF WORK

Contractor shall perform and complete the Work in a safe manner, and shall supply all personnel, tools, equipment, and material to complete the Work. The scope of work is further established in the following documents: Plans and Specifications**.**

3.0 SCHEDULE

Contractor shall perform and substantially complete the Work within ***One Hundred (100) Calendar*** days after the date in the notice to proceed. After execution of this Contract, Contractor shall develop and submit for City's approval, a detailed construction schedule designed to meet City's project schedule. Any abnormal expenses such as premium time or overtime incurred by Contractor to meet the detailed schedule, unless specifically directed or approved by the City in writing, shall be borne by Contractor.

4.0 COMPENSATION AND PAYMENT

The City shall compensate Contractor through progress payments according to percentage of completion and/or milestones, as determined by the City Contract Administrator or as agreed hereafter by the parties. The City shall not be obligated to make final payment(s) until Contractor has submitted to the City written evidence that the Work has been fully completed in accordance with this Contract, and satisfactory evidence that all of Contractor's indebtedness in connection with the Work has been paid or written releases provided of all potential liens arising out of this Contract. Upon receipt of such evidence, the City will record a Notice of Completion in Imperial County. City shall retain 5% of the Contract Price. Contractor may substitute securities or provide an escrow agreement pursuant to California Public Contracts Code section 22300.

5.0 INSURANCE AND BONDS

5.1 Prior to the beginning of and throughout the duration of the Work, CONTRACTOR and its subcontractors shall maintain insurance in conformance with the requirements set forth below. CONTRACTOR will use existing coverage to comply with these requirements. If that existing coverage does not meet the requirements set forth herein, CONTRACTOR agrees to amend, supplement or endorse the existing coverage to do so.

CONTRACTOR acknowledges that the insurance coverage and policy limits set forth in this section constitute the minimum amount of coverage required. Any insurance proceeds available to CONTRACTOR or its subcontractors in excess of the limits and coverage identified in this Agreement and which is applicable to a given loss, claim or demand, will be equally available to AGENCY.

A. CONTRACTOR shall provide the following types and amounts of insurance:

Without limiting CONTRACTOR's indemnification of AGENCY, and prior to commencement of Work, CONTRACTOR shall obtain, provide and maintain at its own expense during the term of this Agreement, policies of insurance of the type and amounts described below and in a form satisfactory to AGENCY.

5.1.1 General Liability Insurance – CONTRACTOR shall commercial general liability insurance with coverage at least as broad as Insurance Services Office from CG 00 01, in an amount not less than $1,000,000 per occurrence and $2,000,000 general aggregate, for bodily injury, personal injury, and property damage, and a $2,000,000 completed operations aggregate. The policy must include contractual liability that has not been amended. Any endorsement restricting standard ISO "insured contract" language will not be accepted.

5.1.2 Automobile liability insurance. CONTRACTOR shall maintain automobile insurance at least as broad as Insurance Services Office form CA 00 01 covering bodily injury and property damage for all activities of the CONTRACTOR arising out of or in connection with Work to be performed under this Agreement, including coverage for any owned, hired, non-owned or rented vehicles, in an amount not less than $1,000,000 combined single limit for each accident.

5.1.3 Umbrella or excess liability insurance. [Optional depending on limits required] CONTRACTOR shall obtain and maintain an umbrella or excess liability insurance that will provide bodily injury, personal injury and property damage liability coverage at least as broad as the primary coverages set forth above, including commercial general liability, automobile liability, and employer's liability. Such policy or policies shall include the following terms and conditions:

- A drop-down feature requiring the policy to respond in the event that any primary insurance that would otherwise have applied proves to be uncollectable in whole or in part for any reason;
- Pay on behalf of wording as opposed to reimbursement;
- Concurrency of effective dates with primary policies;
- Policies shall "follow form" to the underlying primary policies; and
- Insureds under primary policies shall also be insureds under the umbrella or excess policies.

5.1.4 Workers' compensation insurance. CONTRACTOR shall maintain Workers' Compensation Insurance (Statutory Limits) and Employer's Liability Insurance (with limits of at least $1,000,000) for CONTRACTOR's employees in accordance with the laws of the State of California, Section 3700 of the Labor Code. In addition, CONTRACTOR shall require each subcontractor to similarly maintain Workers' Compensation Insurance and Employer's Liability Insurance in accordance with the laws of the State of California, Section 3700 for all of the subcontractor's employees.

CONTRACTOR shall submit to AGENCY, along with the certificate of insurance, a Waiver of Subrogation endorsement in favor of AGENCY, its officers, agents, employees and volunteers.

5.1.5 Pollution liability insurance. Environmental Impairment Liability Insurance shall be written on a CONTRACTOR's Pollution Liability form or other form acceptable to AGENCY providing coverage for liability arising out of sudden, accidental and gradual pollution and remediation. The policy limit shall be no less than $1,000,000 dollars per claim and in the aggregate. All activities contemplated in this Agreement shall be specifically scheduled on the policy as "covered operations." The policy shall provide

coverage for the hauling of waste from the project site to the final disposal location, including non-owned disposal sites.

5.1.6 Builder's risk insurance. Upon commencement of construction and with approval of AGENCY, CONTRACTOR shall obtain and maintain builder's risk insurance for the entire duration of the Project until only the AGENCY has an insurable interest. The Builder's Risk coverage shall include the coverages as specified below.

The named insureds shall be CONTRACTOR and AGENCY, including its officers, officials, employees, and agents. All Subcontractors (excluding those solely responsible for design Work) of any tier and suppliers shall be included as additional insureds as their interests may appear. CONTRACTOR shall not be required to maintain property insurance for any portion of the Project following transfer of control thereof to AGENCY. The policy shall contain a provision that all proceeds from the builder's risk policy shall be made payable to the AGENCY. The AGENCY will act as a fiduciary for all other interests in the Project.

Policy shall be provided for replacement value on an "all risk" basis for the completed value of the project. There shall be no coinsurance penalty or provisional limit provision in any such policy. Policy must include: (1) coverage for any ensuing loss from faulty workmanship, Nonconforming Work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project; (4) Ordinance or law coverage for contingent rebuilding, demolition, and increased costs of construction; (5) transit coverage (unless insured by the supplier or receiving contractor), with sub-limits sufficient to insure the full replacement value of any key equipment item; (6) Ocean marine cargo coverage insuring any Project materials or supplies, if applicable; (7) coverage with sub-limits sufficient to insure the full replacement value of any property or equipment stored either on or off the Site or any staging area. Such insurance shall be on a form acceptable to Agency to ensure adequacy of terms and sublimits and shall be submitted to the Agency prior to commencement of construction.

5.2 Other provisions or requirements

5.2.1 Proof of insurance. CONTRACTOR shall provide certificates of insurance to AGENCY as evidence of the insurance coverage required herein, along with a waiver of subrogation endorsement for workers' compensation. Insurance certificates and endorsements must be approved by AGENCY's risk manager prior to commencement of performance. Current certification of insurance shall be kept on file with AGENCY at all times during the term

of this contract. AGENCY reserves the right to require complete, certified copies of all required insurance policies, at any time.

5.2.2 Duration of coverage. CONTRACTOR shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the Work hereunder by CONTRACTOR, his agents, representatives, employees or subcontractors. CONTRACTOR must maintain general liability and umbrella or excess liability insurance for as long as there is a statutory exposure to completed operations claims. AGENCY and its officers, officials, employees, and agents shall continue as additional insureds under such policies.

5.2.3 Primary/noncontributing. Coverage provided by CONTRACTOR shall be primary and any insurance or self-insurance procured or maintained by AGENCY shall not be required to contribute with it. The limits of insurance required herein may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of AGENCY before the AGENCY's own insurance or self-insurance shall be called upon to protect it as a named insured.

5.2.4 Products/completed operations coverage. Products/completed operations coverage shall extend a minimum of three (3) years after project completion. Coverage shall be included on behalf of the insured for covered claims arising out of the actions of independent contractors. If the insured is using subcontractors, the Policy must include work performed "by or on behalf" of the insured. Policy shall contain no language that would invalidate or remove the insurer's duty to defend or indemnify for claims or suits expressly excluded from coverage. Policy shall specifically provide for a duty to defend on the part of the insurer. The AGENCY, its officials, officers, agents, and employees, shall be included as additional insureds under the Products and Completed Operations coverage.

5.2.5 Agency's rights of enforcement. In the event any policy of insurance required under this Agreement does not comply with these requirements or is canceled and not replaced, AGENCY has the right but not the duty to obtain the insurance it deems necessary and any premium paid by AGENCY will be promptly reimbursed by CONTRACTOR or AGENCY will withhold amounts sufficient to pay premium from CONTRACTOR payments. In the alternative, AGENCY may cancel this Agreement.

5.2.6 Acceptable insurers. All insurance policies shall be issued by an insurance company currently authorized by the Insurance Commissioner to transact business of insurance or is on the List of Approved Surplus Line Insurers

in the State of California, with an assigned policyholders' Rating of A- (or higher) and Financial Size Category Class VII (or larger) in accordance with the latest edition of Best's Key Rating Guide, unless otherwise approved by the AGENCY's risk manager.

5.2.7 Waiver of subrogation. All insurance coverage maintained or procured pursuant to this agreement shall be endorsed to waive subrogation against AGENCY, its elected or appointed officers, agents, officials, employees and volunteers or shall specifically allow CONTRACTOR or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. CONTRACTOR hereby waives its own right of recovery against AGENCY, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

5.2.8 of contract provisions (non estoppel). CONTRACTOR acknowledges and agrees that any actual or alleged failure on the part of the AGENCY to inform CONTRACTOR of non-compliance with any requirement imposes no additional obligations on the AGENCY nor does it waive any rights hereunder.

5.2.9 Requirements not limiting. Requirements of specific coverage features or limits contained in this Section are not intended as a limitation on coverage, limits or other requirements, or a waiver of any coverage normally provided by any insurance. Specific reference to a given coverage feature is for purposes of clarification only as it pertains to a given issue and is not intended by any party or insured to be all inclusive, or to the exclusion of other coverage, or a waiver of any type. If the CONTRACTOR maintains higher limits than the minimums shown above, the AGENCY requires and shall be entitled to coverage for the higher limits maintained by the CONTRACTOR. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the AGENCY.

5.2.10 Notice of cancellation. CONTRACTOR agrees to oblige its insurance agent or broker and insurers to provide to AGENCY with a thirty (30) day notice of cancellation (except for nonpayment for which a ten (10) day notice is required) or nonrenewal of coverage for each required coverage.

5.2.11 Additional insured status. General liability policies shall provide or be endorsed to provide that AGENCY and its officers, officials, employees, agents, and volunteers shall be additional insureds under such policies. This provision shall also apply to any excess/umbrella liability policies.

5.2.12 Prohibition of undisclosed coverage limitations. None of the coverages required herein will be in compliance with these requirements if they

include any limiting endorsement of any kind that has not been first submitted to AGENCY and approved of in writing.

5.2.13 Separation of insureds. A severability of interests provision must apply for all additional insureds ensuring that CONTRACTOR's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the insurer's limits of liability. The policy(ies) shall not contain any cross-liability exclusions.

5.2.14 Pass through clause. CONTRACTOR agrees to ensure that its subconsultants, subcontractors, and any other party involved with the project who is brought onto or involved in the project by CONTRACTOR, provide the same minimum insurance coverage and endorsements required of CONTRACTOR. CONTRACTOR agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. CONTRACTOR agrees that upon request, all agreements with consultants, subcontractors, and others engaged in the project will be submitted to AGENCY for review.

5.2.15 Agency's right to revise requirements. The AGENCY reserves the right at any time during the term of the contract to change the amounts and types of insurance required by giving the CONTRACTOR a ninety (90) day advance written notice of such change. If such change results in substantial additional cost to the CONTRACTOR, the AGENCY and CONTRACTOR may renegotiate CONTRACTOR's compensation.

5.2.16 Self-insured retentions. Any self-insured retentions must be declared to and approved by AGENCY. AGENCY reserves the right to require that self-insured retentions be eliminated, lowered, or replaced by a deductible. Self-insurance will not be considered to comply with these specifications unless approved by AGENCY.

5.2.17 Timely notice of claims. CONTRACTOR shall give AGENCY prompt and timely notice of claims made or suits instituted that arise out of or result from CONTRACTOR's performance under this Agreement, and that involve or may involve coverage under any of the required liability policies.

5.2.18 Additional insurance. CONTRACTOR shall also procure and maintain, at its own cost and expense, any additional kinds of insurance, which in its own judgment may be necessary for its proper protection and prosecution of the Work.

5.3 Bonds - Contractor shall furnish the following surety bond with surety acceptable to City.

5.3.1 If the successful bid is in excess of $25,000, the successful bidder shall be required to post a payment bond in the amount of the bid in accordance with California Civil Code Section §3247. This bond shall give labor and material suppliers direct right of action against the surety. Contractor shall furnish the Payment bond on a form acceptable by the City.

5.3.2 Successful Bidder shall post a Performance Bond in the amount of 100% of the Contract Price by a corporate surety authorized and admitted to issue such surety bond in the State of California.

5.4 Sureties

5.4.1 Should any surety upon any bond furnished in connection with this Contract become unacceptable to the City, or should any such surety fail to furnish reports as to its financial condition as may be requested by the City at any time while the bond is in force, Contractor shall promptly furnish such additional surety or alternate bond at Contractor's expense as may be required by the City to protect the interests of the City or of persons supplying labor or material in the performance of this Contract.

5.4.2 Contractor shall keep the sureties informed as to all material matters or changes affecting the project and this Contract.

6.0 INDEMNITY, DEFENSE AND HOLD HARMLESS AGREEMENT

CONTRACTOR shall indemnify, defend with legal counsel approved by AGENCY, and hold harmless AGENCY, its officers, officials, employees and volunteers from and against all liability, loss, damage, expense, cost (including without limitation reasonable legal counsel fees, expert fees and all other costs and fees of litigation) of every nature arising out of or in connection with CONTRACTOR's negligence, recklessness or willful misconduct in the performance of work hereunder or its failure to comply with any of its obligations contained in this Agreement, except such loss or damage which is caused by the sole or active negligence or willful misconduct of the AGENCY. Should conflict of interest principles preclude a single legal counsel from representing both AGENCY and CONTRACTOR, or should AGENCY otherwise find CONTRACTOR’s legal counsel unacceptable, then CONTRACTOR shall reimburse the AGENCY its costs of defense, including without limitation reasonable legal counsel fees, expert fees and all other costs and fees of litigation. The CONTRACTOR shall promptly pay any final judgment rendered against the AGENCY (and its officers, officials, employees and volunteers) with respect to claims determined by a trier of fact to have been the result of the CONTRACTOR’s negligent, reckless or wrongful performance. It is expressly understood and agreed that the foregoing provisions are intended to be as broad

and inclusive as is permitted by the law of the State of California and will survive termination of this Agreement.

CONTRACTOR obligations under this section apply regardless of whether such claim, charge, damage, demand, action, proceeding, loss, stop notice, cost, expense, judgment, civil fine or penalty, or liability was caused in part or contributed to by an Indemnitee. However, without affecting the rights of AGENCY under any provision of this agreement, CONTRACTOR shall not be required to indemnify and hold harmless AGENCY for liability attributable to the active negligence of AGENCY, provided such active negligence is determined by agreement between the parties or by the findings of a court of competent jurisdiction. In instances where AGENCY is shown to have been actively negligent and where AGENCY'S active negligence accounts for only a percentage of the liability involved, the obligation of CONTRACTOR will be for that entire portion or percentage of liability not attributable to the active negligence of AGENCY.

7.0 GENERAL REQUIREMENTS

7.1 Physical Site Conditions - Contractor shall satisfy itself concerning the nature and location of the Work, the general and local conditions, and other restrictions affecting the Work. The failure of Contractor to acquaint itself with any applicable conditions and restrictions shall not relieve it from the responsibility for properly estimating either the difficulties or the costs of successfully performing the Work and completing this Contract, and shall not be grounds for adjusting either the price or the schedule.

7.2 Independent Contractor - Contractor represents that it is fully experienced and properly qualified to perform the Work, is properly licensed in the state where the Work is performed, and is equipped, organized, and financed to perform such Work. The Contractor or a subcontractor of the Contractor shall act as an independent contractor and not as an agent of the City in performing the Work and duties of this Contract.

7.3 Performance Requirements

7.3.1 Best Efforts - Contractor shall use Best Efforts in the performance of this Contract. Contractor shall, to the best of its abilities, cooperate with the City to enable the successful completion of the Work according to the terms of this Contract including, but not limited to, commitment of additional resources, material and personnel, if requested by the City, to assure that the Work is properly performed on time and completed in accordance with the provisions of this Contract.

7.3.2 Quality of Equipment Supplied by Contractor - Contractor shall provide and use only such construction equipment and facilities as are capable of

producing the quality and quantity of Work required by this Contract within the time specified herein. Upon written notice from the City or its designated representative, Contractor shall promptly remove from the Site all unsatisfactory construction equipment and facilities furnished or provided by Contractor.

7.4 Precedence of Operating Facilities - Continuity of service of the operating facilities is of the essence. In the event of a conflict of interest between any and all Work and any operating facilities, the operating facilities shall have precedence.

7.5 Responsibility for Work and Material - Contractor shall be responsible for and shall bear all risk of loss of or damage to Work in progress, all Work-related material and equipment delivered to the Site or in transit under Contractor control, until completion and final acceptance of the Work.

8.0 CHANGES

8.1 General - Notwithstanding any other provisions of this Contract to the contrary, the City reserves the right for any reason, without invalidating this Contract or without notice to sureties, to make any changes in the Work including the performance of additional services. Such change shall be made in writing by a City representative, except for emergency conditions, where such change shall be confirmed in writing.

8.2 Price of Change - All change orders shall be accepted by Contractor pursuant to the terms contained in this Contract and Contractor shall promptly proceed to implement such change. Should any change result in an increase or decrease in Price or a change in Schedule, Contractor shall, within 10 calendar days following receipt of the written change order, submit to the City a written proposal which illustrates the price for Contractor to perform the change and the proposed adjustment to the Schedule. Sufficient detail shall be given in the proposal to permit a thorough analysis and evaluation. No claim shall be made by Contractor based solely on the number or volume of changes made.

8.3 Price Adjustment - The price of such change will be agreed upon by the parties. If the parties cannot agree, an adjustment will be determined by the City on the basis of Contractor's reasonable expenditures and savings, including a reasonable allowance for overhead and profit.

8.4 Delegation - Only a City officer, or the designated City representative concerning the Project, may issue and sign written change orders on behalf of the City.

8.5 Contractor Objections - In the event a change requested by the City would, in the opinion of Contractor, affect Contractor’s ability to meet its obligation under the Contract, Contractor will deliver to the City, within 5 calendar days of receipt of

the change request, written notice of the fact before accepting such change request. If the City feels such a change is warranted, an appropriate modification to the Contract shall be made before the Contractor is required to proceed.

8.6 Changes by Contractor - The Contractor may propose changes in the specifications for reasons of improved quality, delivery or economy provided such changes do not impair quality or delivery. Such changes must be approved in writing by the City prior to implementation. Approval shall be at the discretion of the City.

9.0 WARRANTY

9.1 Performance and Workmanship - Contractor warrants that the workmanship performed by Contractor and its subcontractors will be performed in accordance with Best Efforts. The warranty period shall be for a period equal to 1 year after the Final Completion Date.

10.0 RETENTION AND ACCEPTANCE OF MATERIAL AND WORKMANSHIP

10.1 Retention - The City shall retain 5% of the Contract price. The retention shall be released (with the exception of 150% of any disputed amount) within 35 days after the date of final completion of the work. Contractor may substitute securities in place of the retained funds withheld by the City. Alternatively, an escrow agreement, in the form prescribed under Ca. Pub. Cont. Code Section 22300, may be used by Contractor.

10.2 Inspection of Work - All Work and materials, both before and after installation, shall be subject to City's inspection, and any deficiencies detected by the City will be addressed by Contractor immediately. The City may take inventory and inspect the Work and witness tests thereon at all reasonable times and places during the progress of the Work. If Contractor covers all or any portion of the Work prior to any inspection or tests as required by the Scope of Work, the cost of any necessary uncovering and replacing shall be borne by Contractor.

10.3 Notice of Completion

10.3.1 When Contractor, in its opinion, has completed the performance of the Work, it shall so notify the City in writing that the Work is completed and ready for final acceptance by the City. Within 10 calendar days after receipt of such written notice, the City shall inspect the Work and advise Contractor of its concurrence.

10.3.2 If the City advises Contractor that the Work is not satisfactorily completed, the City shall at the time of such notice, submit to Contractor, a Punch List of all additions and corrections necessary for the completion of this Contract.

10.3.3 Upon receipt of the Punch List, Contractor shall commence action with respect thereto at no cost to the City. All corrections shall be made within the time period given in the Contract as established in the Project Schedule. Upon completion of such Work, Contractor shall again notify the City in writing that the Work is completed and ready for final acceptance by the City. Within 10 calendar days after receipt of such written notice, the City shall inspect the Work and advise Contractor whether it concurs. The punch List process will continue until the Work is completed to the satisfaction of the City. Contractor shall be obligated to make good, correct or modify any rejected material or workmanship prior to final acceptance of the Work by the City.

10.3.4 If the City concurs that the Work has been completed satisfactorily, the City will record a Notice of Completion with the County of Imperial which will specify the Final Completion Date. Such Notice of Completion shall not be unreasonably withheld.

11.0 FORCE MAJEURE

In the event either party by reason of a Force Majeure is rendered unable to perform its duties under this Contract, then upon the party giving written notice of the particulars and estimated duration of Force Majeure to the other party within 5 calendar days after knowledge of the occurrence of the Force Majeure, the party may have the time for performance of its duties extended for the period equal to the time performance is delayed by the Force Majeure. The effects of the Force Majeure shall be remedied with all reasonable dispatch, and the party giving notice shall use Best Efforts to eliminate and mitigate all consequences. A Force Majeure for which notice has not been given shall be an unexcused delay.

12.0 DELAYS AND EXTENSION OF TIME

Time for performance may be extended by the City because of delays such as Force Majeure, changes, or suspension. Any such extension shall not be grounds for a claim by Contractor for damages or for additional compensation, except as specifically authorized in this Contract. In the event of delay in the performance of the Work not caused by the City or its representatives, whether or not the cause thereof is within the control of Contractor, the City shall be entitled to suspend the applicable portion of the scheduled payments for the period of such delay.

13. 0 TERMINATION FOR CONVENIENCE

13.1 General - The City may, at any time, terminate the Contract or any portion of the Work not then completed by giving Contractor written notice of termination. Upon receipt of notice of termination, Contractor, unless the notice requires

otherwise, shall (1) discontinue Work on the date and to the extent specified in the notice, except Work necessary to preserve and protect the Work in progress, (2) place no further orders or subcontracts for material, services, or supplies related to terminated Work, (3) make every reasonable effort to procure termination of all orders, subcontracts, and rental agreements to the extent they relate to performance of Work terminated upon terms satisfactory to the City, and (4) otherwise minimize costs and mitigate damages to the City .

13.2 Compensation - In the event of termination under this Section, there shall be an equitable adjustment to the Contract Price taking into account, among other things (1) decreases for Work not performed, (2) the cost of any work requested by the City from the date of termination.

14.0 TERMINATION FOR CAUSE; NOTICE AND CURE OF DEFAULT

14.1 General - The City may declare this Contract canceled for default by notifying Contractor in writing, should Contractor at any time (1) materially refuse or neglect to meet the Schedule(s), (2) refuse to supply sufficient and appropriately skilled workmen or equipment to perform the Work, (3) become insolvent or unable to meet its payroll or other current obligations.

14.2 Notice of Termination - Prior to termination for cause, the City shall give Contractor written notice describing such default in reasonable detail and demand that Contractor cure such default within 30 calendar days after receipt of such notice of default. If Contractor does not cure the default within 30 calendar days after its receipt of such notice or if the default cannot be cured within such 30 calendar day period and Contractor has not initiated action or proposed a plan within such 30 calendar day period to cure the default within a reasonable period which the City reasonably agrees will cure such default, then the City shall have the right to terminate this Contract.

15.0 LAWS AND REGULATIONS

Contractor and its employees shall at all times comply with all applicable laws, including those relating to wages, hours, discrimination, and safety (including CAL/OSHA).

16.0 EMPLOYEES

16.1 Prevailing Wage Law-

16.1.1 Not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which this Contract is to be performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in Chapter 1 (commencing with

Section 1720) Part 7, Division 2 of the Labor Code, shall be paid to all workers employed on this public work.

16.1.2 Should the prevailing wage rate be increased, decreased, or eliminated a corresponding adjustment shall be made to the Contract Price which shall reflect the effect of that change in or elimination of the prevailing wage rate.

16.2 Payroll Records -

16.2.1 Contractor and its subcontractors shall keep an accurate payroll record, showing the name, address, social security number, work classification, and 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 Project.

16.2.2 The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor.

17.0 SAFETY REQUIREMENTS

17.1 General - Contractor shall implement the following general safety precautions:

17.1.1 Safe Work - Contractor shall carry out the Work in a safe manner. Contractor's site representative shall be knowledgeable of all applicable safety rules, regulations and practices that relate to the assigned work. If necessary, a qualified safety representative should be contracted to fulfill this requirement.

18.0 GOVERNING LAW AND VENUE

This Contract shall be interpreted in accordance with the substantive and procedural laws of the State of California.

19.0 AUTHORIZED REPRESENTATIVES AND NOTICES

19.1 Representatives - Prior to commencement of the Work, the City and Contractor shall each designate a representative authorized to act in behalf of each party and shall advise the other party in writing of the name, address and telephone number of such designated representative and shall inform the other party of any subsequent change in such designation.

19.2 Notice and Communications - All communications relating to the day to day activities under this Contract shall be exchanged between the representatives of the City and Contractor. All legal notices and communications required under or related to this Contract shall be in writing, and shall be delivered personally or

mailed by certified mail, postage prepaid, return receipt requested, to the representative of the City and Contractor identified below. Notice shall be effective on the date of delivery.

To the City:	To Contractor:
David Dale **Public Services Director** **City of Imperial** **420 South Imperial Ave.** **Imperial, CA 92251**	_____ _____ _____

A party may change or supplement the addresses given above, or designate additional addresses, for purposes of this Section by giving the other party written notice of the new address in the manner set forth above.

19.3 Unfair Business Practice Claims – In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the City 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. Sec. 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 the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

19.4 Resolution of Claims – Claims of $375,000.00 or less shall be addressed as set forth in California Public Contracts Code §§20104, set seq. In general terms, said process contemplates a meet and confer procedure and non-binding mediation as a precursor to litigation.

19.5 Utilities Relocation – The provisions of Government Code Section 4215 are hereby incorporated by this reference. Said section provides, among other things, that the Contractor will be compensated for costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay in completion of the Project when such delay was caused by the failure of the public agency or the owner of the utility to provide for removal or relocation of such utility facilities.

If Contractor discovers utility facilities not identified by City in the contract plans or specifications, Contractor shall immediately notify City and utility in writing.

20.0 ATTORNEYS FEES

If either party to this Contract shall bring any action, claim, appeal, or alternative dispute resolution proceedings, for any relief against the other, declaratory or otherwise, to enforce the terms of or to declare rights under this Contract (collectively, an Action), the losing party shall pay to the prevailing party a reasonable sum for attorneys' fees and costs incurred in bringing and prosecuting such Action and/or enforcing any judgment, order, ruling, or award (collectively, a Decision) granted therein. Any Decision entered in such Action shall provide for the recovery of attorneys' fees and costs incurred in enforcing such Decision. The court or arbitrator may fix the amount of reasonable attorneys' fees and costs on the request of either party. For the purposes of this paragraph, attorneys' fees shall include, without limitation, fees incurred in the following: (1) postjudgment motions and collection actions; (2) contempt proceedings; (3) garnishment, levy, and debtor and third party examinations; (4) discovery; and (5) bankruptcy litigation. "Prevailing party" within the meaning of this paragraph includes, without limitation, a party who agrees to dismiss an Action on the other party's payment of the sums allegedly due or performance of the covenants allegedly breached, or who obtains substantially the relief it seeks.

21.0 WAIVER

The failure of the City to insist upon strict performance of any of the terms and conditions of this Contract, or to exercise or delay the exercise of any rights or remedies provided by this Contract or by law, or the acceptance of Work or payment for Work shall not release Contractor from any of the responsibilities or obligations imposed by law or by this Contract and shall not be deemed a waiver of any right of the City to insist upon strict performance of this Contract. None of the provisions of the Contract shall be considered waived by either party except when such waivers are agreed upon in writing by the parties.

22.0 ASSIGNMENT

Contractor shall not assign the rights, nor delegate the duties, or otherwise dispose of any right, title, or interest in all or any part of this Contract, or assign any monies due or to become due to Contractor without the prior written consent of the City. Any such approved assignment or delegation shall be for the benefit of, and shall be binding on Contractor, assignee, and all future successors; and shall not relieve Contractor, assignee, or future successors of any duties or obligations. If the City approves any assignment of monies due or to become due to Contractor hereunder, such assignment shall not become effective until at least 30 calendar days after City’s approval.

23.0 ACCEPTANCE

The City will be deemed to have accepted Contractor's performance of the Work when the City officer or manager signing this Contract, or the designated representative of said officer or manager, records a Notice of Completion that the Work is accepted.

24.0 EXECUTION AND EFFECTIVE DATE

This Contract has been executed by the duly authorized officers of the parties and shall be effective as of the date that the **PROJECT CONTRACT EXECUTION DOCUMENT** is signed by the parties.

25.0 PRECAUTIONS ON THE JOB SITE

When the Work involves trenching of more than four feet in depth, Contractor shall promptly, and before the following conditions are disturbed, notify the City, in writing, of any:

25.1 Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, and that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

25.2 Subsurface or latent physical conditions of Site differing from those indicated.

25.3 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 in the Contract.

Upon receipt of such notice, City shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor’s cost of, or the time required for, performance of any part of the work, shall issue a change order under the procedures described in the contract.

In the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor’s cost of, or time required for, performance of any part of the Work, the 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. The Contractor shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the parties.

CERTIFICATE OF CONTRACTOR REGARDING WORKERS' COMPENSATION

The successful Bidder shall execute the following certificate:

I am 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 I will comply with such provisions before commencing the performance of the work of this Contract.

Dated: _____ Contractor

By_____

PROJECT CONTRACT EXECUTION DOCUMENT

THE CITY OF IMPERIAL
STATE OF CALIFORNIA

Shop Tank & Aten Tank Modifications and
New Ventilation System Installation
Bid 2025-03

DATE OF CONTRACT:

NAME AND ADDRESS OF CONTRACTOR:

The City of Imperial and Contractor named above hereby mutually agree to perform this Contract in strict accordance with the following designated documents which were a part of the bid or required to be submitted under the Invitation for Bids as a part of the Contract Documents and which are hereby incorporated into this Contract by reference:

CONTRACT DOCUMENTS

1. Notice to Bidders;

2. Instructions to Bidders;

3. Bid Form, with Required Attachments;

4. General Conditions;

5. Specifications;

6. All Addenda to the Contract Documents;

7. Payment and Performance Bonds Submitted by Contractor;

8. Certificates of Insurance Submitted by Contractor; and

9. Certificate Regarding Workers' Compensation.

This Contract, together with all documents and exhibits incorporated herein by reference, constitutes the entire agreement of the parties. All prior or contemporaneous verbal agreements between the parties are revoked by this Contract.

In the event any section, sentence, clause or phrase of the Contract is

adjudicated by a court of last resort, and of competent jurisdiction, to be invalid or illegal, the remainder of this Contract shall be unaffected by such adjudication, and all other provisions of this Contract shall remain in full force and effect as though the section, sentence, clause or phrase so adjudicated to be invalid had not been included herein.

PROJECT DESCRIPTION

Contractor shall furnish all labor, material, equipment, and services and perform and complete all work required for the **Shop Tank & Aten Tank Modifications and New Ventilation System Installation**.

ALTERATIONS

The following alterations were made in this contract before it was signed by the parties hereto (if no alternates, state "NONE"):

The Project must be completed as set forth in the Project Schedule. Bidder certifies that he/she can complete the Project, ignoring Delays and Changes as defined in the General Conditions as set forth in the Project Schedule.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the date entered on the first page of the contract.

THE CITY OF IMPERIAL	CONTRACTOR
Signature _____	Signature _____
Title_____	Name_____
	Title
Attest:	EMPLOYER IDENTIFICATION NO. (As used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941)
_____ Aimee Osuna, Public Records Analyst City Clerk	BID 2025-03

SPECIAL REQUIREMENTS

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OF SPECIAL REQUIREMENTS

SPECIAL REQUIREMENTS

Shop Tank & Aten Tank Modifications and New Ventilation System Installation Bid No. 2025-03

1. THE REQUIREMENT

The purpose of this specification is to evaluate two existing potable storage reservoirs:

1. The Shop Tank was recoated (interior/exterior) back in 2022, but the cathodic protection system was never activated. The tank shall be drained by the Contractor and inspected for signs of corrosion on the interior of the tank. Contractor shall provide an inspection report indicating areas of corrosion/structural that need repair. Exterior work on the tank shall be include the installation of a ventilation blower, perimeter roof vents, and a self-closing gate. Interior and Exterior coatings shall be repaired in the area of the tank improvements. Upon completion of the work, the tank disinfected, filled, and the cathodic protection system activated.

2. The Aten Tank is a 2MG potable water reservoir with a welded steel shell and an aluminum dome roof. The tank shall be drained by the Contractor and inspected for signs of corrosion on the interior of the tank. Contractor shall provide an inspection report indicating areas of corrosion/structural that need repair. Exterior work on the tank shall include the removal of the existing roof vent and installation of a new ventilation blower and installation of additional roof vents within the aluminum dome roof. Pressure washing (wet blast) of the exterior tank shell coating to remove all loose topcoat, followed by application of an epoxy tie-coat followed by a urethane topcoat.

2. CONTRACT COMPLETION SCHEDULE

All work under this project shall be completed in ***One Hundred (100)*** **calendar days** following the date the City provides written “Notice of Award” of Contract.

Completion time in calendar days includes Saturdays, Sundays, and holidays.

IF CONTRACTOR DOES NOT CONFORM TO THE ABOVE LISTED CONTRACT COMPLETION SCHEDULE FOR BID SCHEDULE I, THEN THE CONTRACTOR WILL BE LIABLE FOR DAMAGES FOR ANY INEXCUSABLE DELAY BEYOND THIS PERIOD. LIQUIDATED DAMAGES FOR SUCH DELAY SHALL BE $500 PER CALENDAR DAY FOR EACH DAY PAST THE SUBSTANTIAL COMPLETION DATE.

3. RIGHTS-OF-WAY

A. GENERAL

Construction under these Special Requirements, Basic Specifications, and Drawings is located upon the land and/or near existing interference facilities under the jurisdiction of the following organizations:

1. City of Imperial
2. County of Imperial Public Works
3. Southern California Gas Company
4. Imperial Irrigation District

B. CITY OF IMPERIAL

The City's existing water and sewer facilities are shown on the contract drawings, in accordance with the recorded locations per the City’s records.

It shall be the Contractor's responsibility to conduct all his operations within the easements provided for him as shown on the Drawings. Additional easements that may be required by the Contractor to complete the work as hereby proposed shall be obtained by the Contractor at his own expense.

C. OTHER UTILITIES AND ORGANIZATIONS

The existing underground facilities are shown on the contract drawings in accordance with recorded locations per the particular utility's atlas sheets. Refer to section titled "Permits and Fees" for additional information.

4. PERMITS AND FEES

A. GENERAL

Contractor shall secure at his own expense all permits and/or licenses necessary to the prosecution of the contract work, except for any permits and/or licenses stated herein to have been secured and paid for by the City.

Contractor shall comply with the applicable requirements of all permits and/or licenses that have been secured by the City, all at no additional cost to the City.

B. RULES AND REGULATIONS OF UTILITIES AND OTHER ORGANIZATIONS

The Contractor shall determine and comply with all the applicable rules and regulations of the utilities and organizations listed in Paragraph "A" of section titled "Rights-of-Way" of these Special Requirements. The Contractor shall contact all of the listed utilities and/or organizations prior to the start of construction so they may mark the exact location of their facilities or utilities that may be in conflict with this project.

The cost of any work necessitated for the convenience of the Contractor during construction is reimbursable to that particular utility or organization, and the Contractor shall pay such charges to said utility or organization at no additional cost to the City.

C. CITY OF IMPERIAL

Contractor shall contact the City of Imperial on the requirements of encroachment permit including but not limited to, traffic control, pavement removal and restoration, working area, staging area and working hours prior to bid the project. Contractor shall include all his own expense in the bid proposal and no additional compensation will be allowed.

The Contractor shall determine and comply with all City rules and regulations applicable to the contract work, at no additional cost to the City.

The fee for the City of Imperial will be waived for the Contractor.

The Contractor shall obtain Business Registration from the City of Imperial. The Contractor shall pay the associated fee at his own expense.

5. DATA TO BE SUBMITTED BY CONTRACTOR

Contractor shall submit to the Engineer for approval detailed shop drawings and schedule for cylinder thicknesses, etc., for straight pipe and for all specials, fittings, and connections for all mainline piping. No pipe shall be manufactured until the thickness and joint detail drawings have been approved.

City requires four (4) sets of approved plans. The City will review and return submittals within ten (10) working days. The Contractor shall email an advanced copy of all submittals in PDF format to the City's Construction Manager and Webb Associates Project Manager.

The Engineer's approval of the Contractor's submittal data shall not relieve the Contractor from having the entire responsibility for the correctness of details and dimensions. The Contractor shall assume all responsibility and risk for misfits due to any errors in the Contractor's submittal data.

Successful Bidder shall be required to submit a construction schedule within ten (10) calendar days following award of contract. The schedule shall conform to the completion schedule stated herein, and shall show dates for beginning and completing all aspects of contract work, including expected dates (both delivery and installation) for the required submittal data. Bidder shall understand that this schedule will be tentative, and subject to modification and updating by the Contractor (as approved by the City) as the contract work progresses. The schedule shall generally provide the following main items along with corresponding details:

- Submittals
- Review and approval period
- Material delivery
- Schedule of construction
  - Testing
  - Final site work and cleanup

In addition to the above, the Contractor shall submit to the Engineer for approval, manufacturer's data sheets, brochures, etc. for all materials to be used including, but not limited to coatings, thinners, solvents, inhibitors, and abrasive media. A list of the minimum required submittals is as follows:

Miscellaneous

Protective Coatings

Coating Manufacture's Testing Requirements

Immersion-grade Liner

Epoxy and Acrylic-urethane Paint

Cathodic Protection Methods

Disinfection Procedure

SWPPP

Copies of Permits Required by Contractor (NPDES, Excavation, Duplicate Permits, etc.)

(Optional) Dehumidification Equipment

Contractor shall submit updated project schedules to the City as follows:

- Once per month after Contractor receives written "Notice of Award" of contract
- Twice per month when Contractor has mobilized for construction
- Any time a change in the schedule and/or change in work has occurred
- Submitted with progress pay requests (status/completion items as shown on the schedules shall be consistent with the progress pay requests)

6. MATERIAL FURNISHED BY CONTRACTOR

The Contractor shall furnish all materials necessary to complete the contract work, all in strict accordance with the Contract Documents. The City of Imperial will provide the electrical feed for the newly installed blower.

In addition, the Contractor shall furnish all labor, skills and services required for the installation of all materials to provide the City with a complete project, in accordance with the Contract Documents.

7. CONSTRUCTION WATER

City will furnish construction water to the Contractor, free of charge, from existing water systems adjacent to portions of the work. The Contractor shall furnish and install all necessary piping, certified backflow devices, fittings, connections, pumps, gages, etc., required to provide approved facilities to deliver construction water into pipelines to be constructed herein. Contractor shall fill all pipelines with construction water and may (through hydrants, blowoffs and air valves, etc.) obtain construction water to be used in compacting trench backfill. Contractor shall develop any other sources of construction water at his own expense.

The Contractor will be required to obtain a hydrant meter from the City for any construction water utilized from the City's system.

8. CONSTRUCTION VIDEO PHOTOGRAPHY

A. DESCRIPTION

This Section covers pre-construction video photography of the work area to support proof of pre-existing pavement conditions and sign locations for visual comparison to the post-construction conditions. The requirements specified in the Condition of Contract also form part of this Section.

B. VIDEO PHOTOGRAPHY

Provide DVD (video file format to be viewable on a standard DVD player/computer and/or as approved by the City) of the site prior to placing markings of any kind on the pavement, sawcutting or removal of materials.

C. DESCRIPTION

List name of project, orientation of view, date and time of view, name and address of photographer.

D. TECHNIQUE

Provide factual presentation. Provide correct exposure and focus, high resolution and sharpness. Video construction area from a vehicle moving at a slow rate of speed to permit City to view the DVD and determine pre-existing conditions. Provide audio explanation of pavement failure areas and of other items which require special notation.

Areas of local distress shall be videoed with the camera held without moving, using zoom control to record pavement cracking and alligatoring.

E. SUBMITTALS

Contractor shall deliver the DVD(s) within three days after exposure with transmittal letter. The City will retain one of each DVD which will be the permanent record.

9. MISCELLANEOUS SPECIAL CONDITIONS

A. PROJECT MEETING

(1) ATTENDEES. Unless otherwise specified or required by the City, the meetings shall be attended by the City, the Engineer, the Inspector, and the Contractor and his Superintendent. Subcontracts may attend when involved in the matters to be discussed or resolved but only when requested by the City, Engineer, or Contractor.

(2) MEETING RECORDS. The City will record minutes of each meeting and will furnish copies to the Contractor within five (5) working days thereafter. If the Contractor does not submit written objection to the contents of such minutes within seven (7) days after presentation to him, it shall be understood and agreed that the Contractor accepts the minutes as a true and complete record of meeting.

(3) MEETING SCHEDULE. The dates, times and locations for the progress meeting shall be agreed upon and recorded at the preconstruction conference. Then after, changes to the schedule shall be by agreement between the City and Contractor, with appropriate written notice to all parties involved.

(4) PRECONSTRUCTION CONFERENCE. Prior to issuance of the Notice to Proceed, a preconstruction conference shall be held at the location, date, and time designated by the City. In addition to the attendees named herein, the meeting shall be attended by the representatives of regulatory agencies having jurisdiction of the project, Citys and Operators of affected utilities, if required, and such other persons the City may designate.

(5) EXECUTION AND SUBMITTAL OF DOCUMETNS. At the preconstruction conference, unless otherwise specified or agreed by the City and Contractor, the Contract Agreement shall be executed by the parties hereto and the Contractor shall present to the City the Bonds, certificates of insurance, progress schedule, schedule of values, written safety program, and all other preconstruction documents required of him by the Contract Documents.

(6) AGENDA. In general, the matters to be discussed or resolved and the instructions and information to be furnished to or given by the Contractor at the preconstruction conference include:

a) Progress meeting schedule.

b) Progress schedule and schedule of values submitted by Contractor.

c) Communication procedures between the parties.

d) The names and titles of all persons authorized by the Contractor to represent and execute documents for him with samples of all authorized signatures.

e) The names, addresses, and telephone numbers of all those authorized by the Contractor to act for him in emergencies.

f) Construction permit requirements, procedures, and posing.

g) Public notice of starting Work.

h) Procedures concerning the installation of Work on public or private property not owned by the City.

i) Interfaces with the Contractors or with utility owners.

j) Access and rights-of-way furnished by the City.

k) Forms and procedures for Contractor’s submittals.

l) Change Order forms and procedures.

m) Payment application forms and procedures and the revised progress schedule and reports to accompany the applications.

n) Contractor's safety and training program, and designation of the Contractor's Safety officer and his qualifications.

o) First-aid and medical facilities to be furnished by Contractor.

p) Contractor's provisions for barricades, traffic control, utilities, sanitary facilities, and other temporary facilities and controls.

q) Project sign for the City if required by the Specifications.

r) Engineer, Inspector and his duties.

s) Construction surveyor and initiation of surveying services.

t) Testing laboratory or agency, and testing procedures.

u) Methods of construction proposed by the Contractor.

v) Equipment proposed for use during construction by the Contractor.

w) Procedures for payroll and labor cost reporting by the Contractor.

x) Procedures to ensure nondiscrimination in employment on and for the Work.

y) Issuance of the Notice to Proceed.

z) Matters concerning construction within the city/county (traffic, police, fire, mail and waste collection services).

(7) PROGRESS MEETINGS. The meetings shall be held on a weekly basis in accordance with the agreed schedule. All matters bearing on the progress and performance of the Work since the preceding progress meeting shall be discussed and resolved, including without limitation any previously unresolved matters, deficiencies in the Work or the methods being employed for Work, and problems, difficulties, or delays which may be encountered.

(8) SPECIAL MEETINGS. Upon appropriate notice to the other parties, special meetings may be called by the City, Engineer, or Contractor. Special meetings will be held where and when designated by the City for the following purposes unless the matters are resolved at the preconstruction conference or at subsequent progress meetings.

(9) REGULATORY AGENCIES. When requested, the Contractor shall attend meetings held or required by the governmental regulatory agencies having jurisdiction of the Project or by various California State agencies or Owners of affected utilities.

B. PARTIAL PAYMENT REQUESTS

Contractor shall submit all invoicing and requests for payment for completed portions of the work directly to the City for approval on the City's approved form. Said invoicing shall be submitted at intervals no less than 30 calendar days and shall include an updated project schedule and updated as-built drawings for processing.

C. CONTRACTOR'S FIELD SUPERINTENDENT

The Contractor shall be required to have a field superintendent, from his organization, on the jobsite during construction activities, to manage the affairs of the Contractor and to receive directions or instruction from the City or Engineer. Contractor shall provide the City with a 24 hour emergency phone number for field superintendent prior to beginning of construction.

D. COOPERATION WITH OTHER CONTRACTORS

The Contractor shall cooperate with other Contractors that may be working within the project area, as directed by the City.

E. REQUIRED CERTIFIED PAYROLL SUBMITTALS

The City shall require the Contractor to submit Certified Payroll records per Section entitled “Prevailing Wage” of the General Provisions. The Contractor shall prepare said certified payroll records on a form acceptable to and approved by the City; and the certified payroll records shall be submitted with each partial payment request.

F. AS-BUILT DRAWINGS

The Contractor shall be responsible for maintaining one up-to-date set of as-built drawings, on the job site, available for review by the City representative. These drawings shall be clean, neat, legible and show

deviations from the original plan and profile design. This set of as-built drawings shall be submitted for review on the monthly basis and given to the City upon project completion. The Notice of Completion will not be filed until the City receives the as-built drawings.

Failure to provide acceptable up-to-date as-built drawings as required herein is considered a material breach of the Contract and shall result in withholding of progress payments and/or final payment at the sole discretion of the City. Failure to submit the final as-built drawings shall of and by itself, be grounds for assessment of liquidated damages not withstanding any other contractual action which may be taken.

Full compensation for conforming to the above requirement will be considered as included in the prices bid for various contract items of work and no additional compensation will be allowed therefore.

10. PROTECTION OF EXISTING IMPROVEMENTS, RESTORATION OF WORK SITE AND DISPOSAL OF SPOIL AND WASTE MATERIALS

Contractor shall complete operations so that existing improvements (including road and other paved surfaces adjacent to or in the vicinity of the work site) are not damaged. Contractor shall repair and restore, at Contractor's expenses, all disturbed or damaged private or public improvements which results from Contractor's operations (except that which is specifically a part of the contract work) to the satisfaction of the City, or the agency having jurisdiction over said improvements.

All work sites shall be restored to pre-job conditions and shall meet the requirements of the City, Agencies who have jurisdiction and property owner(s). The Contractor shall repair or replace at his expense the damages as directed by the City.

The City is obligated to keep visual impact of the work sites to a minimum; therefore, the Contractor is required to restore all areas altered by construction to pre-existing conditions, unless shown otherwise on the Drawings. Such areas shall include, but shall not be limited to areas used for travel, parking, and storage of vehicles, equipment and materials or adjacent areas impacted by facilities construction.

The Contractor shall be responsible for the proper disposal of all waste materials resulting from project operations, including rubbish, packaging materials, discarded

equipment parts, and damaged construction materials, in a manner and at locations suitable to the City and all health and other regulatory agencies.

11. CP HAND-HOLE GROMMETS

Cathodic protection hand-hole grommets for the Aten Tank shall be similar or equal to an NSF Certified EPDM rubber with a Shore A hardness of 60. Grommets shall be sized for a Standard NACE No. 5 hand-hole. Grommets distributed by Divecorr, Inc., Long Beach, CA (562-439-8287) are listed as a standard of quality.

12. DEHUMIDIFICATION

Dehumidification is required on this project and shall be used to control the environment in the tank 24 hours a day during blast cleaning, coating application, and coating cure.

The dehumidification equipment shall be of desiccant type as manufactured by Cargocaire Corp. or equal. It shall be a solid desiccant design having a single rotary desiccant wheel capable of fully automatic continuous operation. No liquid, granular, or loose lithium chloride drying systems will be accepted.

The tank shall be continuously dehumidified 24 hours a day, 7 days a week during blasting, coating, between coats of coating, and during the final curing period if warranted by ambient/weather conditions or recommended by coating manufacturer unless fewer hours or days are approved in writing by the City.

During the blasting operation, the dehumidification equipment shall continuously maintain a lower dew point than outside ambient. In addition, inside relative humidity shall not exceed 35% or as recommended by the coating manufacturer. To maintaining these conditions, the air change rate per hour supplied by the dehumidification system shall not be less than 1.

13. NSF CERTIFICATION

All materials in contact with potable water shall comply with the applicable provisions of California Title 22 Regulations Related to Drinking Water, including NSF 60 and 61 certifications; all at no additional cost to the District. Additionally, Contractor shall provide the City with a written “Affidavit of Compliance” with the California Drinking Water Regulations as part of the submittal approval process. The City may provide copies of the Contract Documents and related project information to the State Water Resources Control Board, Division of Drinking Water for their approval.

14. FORCED VENTILATION

During the curing of the tank coatings, forced air ventilation is required. The forced ventilation shall be provided at a minimum rate of two (2) air changes per hour. The air inlet and outlet shall be at the top and bottom of the tank, respectively. Any more stringent requirement or statute not dictated in the specification for safety or paint curing considerations shall govern.

15. DISINFECTION

A. Disinfecting of interior surfaces of tank shall be accomplished in the presence of the City, in conformance to AWWA Standard C652 Section 4.2 Chlorination Method 2 as modified herein:

1. Disinfection shall be accomplished after completion and acceptance by the City of all interior recoating and curing of coatings.

2. Prior to disinfecting, the complete interior shall be cleaned with an approved cleaner or detergent applied via high pressure hot solution method. If deemed necessary by the City, immersed areas shall be scrubbed with a brush or similar implement which will apply force and pressure to the surface to completely remove residual solvents and other surface contaminants.

   Cleaned surfaces shall then be rinsed with clean water. Residual water and contamination removed during washing process shall be thoroughly flushed from tank. Contractor shall obtain approval of City prior to draining any residual water to waste. This operation shall be accomplished after completion of interior coating work as directed by the City.

3. After completion of cleaning cycles as noted above, all interior surfaces shall jet washed with a chlorine or chloramine solution having a content of 200 PPM. Chlorine or chloramine solution which accumulates on the bottom shall be drained to waste. Contractor shall obtain approval of the City prior to draining any high strength chlorinated water to waste. Rinsing with clean water is not required unless directed by the City.

4. Once the tank has been completely filled, the tank will be isolated from the water system and the City will take a Bac-T test. Bac-T samples will need to be taken immediately after filling the tank and a second Bac-T is to be taken after 24 hours. The tank is to remain off line until the results pass California drinking water standards: Absent for coliform bacteria and E. coli, and HPCs less than 500 CFU per mL. Should the Bac-T test fail, the Contractor will be responsible for reimbursing the City for the rejected and drained water and will be required to re-chlorinate the reservoir as described above until the Bac-T tests are negative.

TECHNICAL SPECIFICATION

DIVISION 2

SITE WORK

DIVISION 2

SITE WORK

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SECTION 02050

DEMOLITION AND SALVAGE

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. This section covers the demolition of existing structures, equipment and sitework, and the salvage of existing materials and equipment as set forth herein.

B. All areas and facilities within the boundaries of the property described in the Notice Inviting Bids are to be demolished as described in Section 3, following. Contractor's work shall not create inconvenience to adjacent property owners, nor shall any adjacent property be disturbed during this contract. Blasting will not be permitted.

PART 2 - PRODUCTS

(NONE THIS SECTION)

PART 3 - EXECUTION

3.01 STRUCTURE DEMOLITION

All structures within the boundaries of City-owned property shall be demolished and the debris shall be removed from the jobsite.

3.02 PIPING AND EQUIPMENT DEMOLITION

All piping and equipment on the user's side of the respective utility purveyor's meters shall be removed and shall become the property of the Contractor. Contractor is responsible to make proper arrangements with each affected utility prior to disconnection.

3.03 SITEWORK DEMOLITION.

Sitework demolition shall include the removal of all concrete, slabs on grade, driveways, sheds, trees and shrubs within the property boundary.

3.04 SALVAGE

A. All existing materials and equipment shall be removed by the Contractor, shall become the property of the Contractor, and shall be removed from the jobsite.

B. Removal and salvage of any item of equipment or facility shall include removal and salvage of all accessories, piping, wiring, supports and all other appurtenances.

END OF SECTION 02050

DIVISION 5

METALS

DIVISION 5

METALS

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SECTION 05100

STRUCTURAL METALS

PART 1 - GENERAL

1.01 DESCRIPTION

Requirements specified in the Conditions of the Contractors Division 1 form a part of this Section. Provide structural metal work as indicated, specified, and required.

A. Work Included in This Section. Principal items are:

1. Structural steel members.

2. Plates and connections.

B. Related Work Not included in This Section.

1. Steel reinforcement.

2. Steel decking.

3. Miscellaneous metal work.

1.02 QUALITY ASSURANCE

Unless otherwise specified all work specified herein and shown on the drawings shall conform to the applicable requirements of the following specifications and codes:

A. Fabrication and Erection of Structural Steel shall be in accordance with the latest edition of the AISC "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings," and "Code of Standard Practice for Steel Buildings and Bridges."

B. Structural Metals Other than Steel shall conform to applicable "state of the art" codes.

1.03 SUBMITTALS

A. Shop Drawings. Submit shop drawings for approval before fabrication of any of the work. Show complete fabrication details with material and specification lists. Show all welds, fabrication and finish details, and shop painting. In approving shop drawings, the Owner does not assume responsibility for accuracy of the work relative to other components as constructed. Also refer to applicable requirements hereafter specified in paragraph "Substitutions."

B. Test Reports. Furnish notarized certified physical and chemical mill test reports for material used for major structural members such as beams, joists, columns, and their

connectors. Perform all tests in accordance with applicable ASTM standards.

C. Shop Painting Data. In coordinated manner with requirements for Painting and Protective Coatings specified in applicable Section 09870 and 09871, Contractors shall submit product list with product data sheets of intended shop coats which for compatibility shall be the same products and manufacturer as those of deferred field-applied systems intended to be used in work of Division 9.

PART 2 - PRODUCTS

2.01 GENERAL
Materials shall be new, sound, and of best commercial quality available.

2.02 STRUCTURAL STEEL
Fabricated from steel conforming to the latest edition of ASTM Designation for A-36.

2.03 STEEL PIPE
Where used for columns or other structural purposes, pipe shall conform to ASTM Designation A-53, Grade B, seamless.

2.04 CAST IRON
Conform to ASTM A-48 Class 40B.

2.05 BLACK
STEEL Conform to
ASTM A-569.

2.06 STAINLESS STEEL
Type 316 or, where specifically authorized, Type 304, non-magnetic.

2.07 BOLTS

A. Common. Conform to ASTM Designation A-307.

B. High Tensile. Conform to ASTM Designation A-325.

C. Stainless Steel. Type 316 stainless steel with nuts and washers of similar material.

2.08 WELDING ELECTRODES
Conform to the requirements of the American Welding Society, “Specifications for Iron and Steel Arc Welding Electrodes,” latest edition.

2.09 SHOP PRIME PAINT
To assure compatibility with deferred field-applied paint or coating system on ferrous metals, use shop prime paint product and manufacture as specified for systems intended for field application in applicable Section 09875 or 09878. Portions of work immediately adjacent to intended field welds and

portions intended for embedment shall not be shop primed.

2.10 GALVANIZING

All metal work shown or specified to be galvanized shall be zinc coated after fabrication at the rate of 1.25 oz./s.f. in conformity with "Specifications for Zinc Coatings on structural steel shapes, plates, and bars and their products," ASTM Designation A-123. Galvanized coatings marred or damaged during erection or fabrication shall be repaired by use of DRYGALV as manufactured by the American Solder and Flux Company, Galvalloy, Galvion, or equal, applied in accordance with the manufacturer's instructions.

PART 3 - EXECUTION

3.01 FABRICATION

Workmanship shall conform to AISC specifications, latest edition. Work shall conform to drawings and approved shop drawings. Work shall be performed in the shop of any approved fabricator, except field welding, when approved, shall be as specified hereinafter.

A. Connections

1. Standard AISC, latest edition, specifications shall be used in determining the connections (unless otherwise shown on the drawings), including the number of bolts and spacing required. In addition to the AISC specifications, the best shop practices shall be followed for shearing, punching, diameter of bolt holes, spacing, welding, etc.
2. Shop connections shall be welded, or bolted unless otherwise indicated.
3. Insofar as possible, fit all work and assemble in shop ready for erection.

B. Members

1. All members shall be free from twists, kinks, buckles, or open joints.
2. All members, holes, and their spacing shall be so accurately made that when assembled the parts shall come together and bolt without distortion.
3. Parts assembled with bolts shall be in close contact, except where separators are required. Where unlike metals are in contact, insulate as necessary to prevent corrosion.
4. Provide bolt holes to secure special items to structural members.
5. Bearing surfaces shall be planed to true beds. Abutting surfaces shall be closely fitted. Steel requiring accurate alignment shall be provided with slotted holes and/or washers for aligning the steel.
6. All materials shall be delivered in the order in which they will be required so as to

avoid all delay in completion of the project.

C. Welding

1. Welding in shop and field shall be done by operators who have previously qualified by tests, as prescribed in the American Welding Society, "Standard Qualification Procedure." Welding of steel shall be in accordance with latest edition of the AWS "Code for Fusion Welding and Gas Cutting in Building Construction." All welds shall exhibit characteristics required by AWS D1.1 and its current revisions.

2. Make all welds with E70-XX classification mild or low-alloy steel covered arc-welding electrodes conforming to AWA A5.1 and A5.5 specifications for filler metal, except as otherwise designated on structural drawings and except as otherwise recommended by AWS and AISC for welding high strength steel alloys other than ASTM A-36 and A-53 steels. All steel before being fabricated shall be thoroughly wire brushed, clean of all scale and rust, and thoroughly straightened by approved methods that will not injure the materials being worked on. Welding shall be continuous along the entire line of contact except where tack or intermittent welding is permitted. Where exposed, welds shall be cleaned of flux and slag and ground smooth.

3.02 ERECTION

A. Erection shall include the installation and erection of all structural steel as called for in this section. The Contractor shall verify correctness before starting erection. Erection shall be performed in conformance with the latest edition of AISC Code of Standard Practice.

B. As erection progresses, the work shall be securely bolted up to take care of all dead-load, wind, and erection stresses.

C. No final bolting or welding shall be done until each portion of the structure has been properly aligned and plumbed.

D. Bolts shall be drawn up tight and threads set so that nuts cannot become loose.

E. Damaged Members. During erection, members which are bent, twisted, or damaged shall be straightened or replaced as directed. If heating is required in straightening, a heating method shall be used which will insure uniform temperature throughout the entire member. Members, which in the opinion of the Owner are damaged to an extent impairing their appearance, strength, or serviceability, shall be removed and replaced with new members.

F. Anchor Bolts and Anchors. Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately. Embedded anchor bolts that are submerged in process water or sludge, or are in enclosed

tanks or spaces exposed to process gas or moisture, shall be Type 316 stainless steel with nuts of same material. To such stainless steel bolts apply a non-oxidizing lubricant grease before bolting using a molybdenum disulfide grease compound or a NO-OX-10 type compound.

G. Bearing Plates. Provide bearing plates under beams and columns resting on walls or footings. Bearing plates may be attached or loose and aligned on steel wedges or shims. After the supported members have been plumbed and properly positioned and the anchor nuts tightened, the entire bearing area under the plate shall be dry-packed solidly with bedding mortar. Wedges and shims shall be cut off flush with edge of bearing plate, and shall be left in place.

H. Substitutions. Unless otherwise directed, the exact sections, shapes, thicknesses, sizes, weights, and the details of construction shown for the structural steelwork shall be furnished, provided however that the Contractor, because of his stock or shop practices, may suggest changes if the net area of section is not thereby reduced, if the section properties are at least equivalent and if the overall dimensions are not exceeded. All substitutions or other deviations from drawings and/or specifications shall be specifically noted or "clouded" on the shop drawing submittals.

I. Flame Cutting. Flame cutting by the use of a gas cutting torch in the field for correcting fabrication errors will not be permitted on any major member in the structural framing. The use of as flame-cutting torch will be permitted only on minor members, when the member is not under stress, and then only after the approval of the Owner has been obtained.

J. Storage of Materials. Structural material, either plain or fabricated, shall be stored above ground upon platforms, skids, or other supports. Materials shall be kept free from dirt, grease, and other foreign matter and shall be protected from corrosion.

END OF SECTION 05100

DIVISION 9

FINISHES

DIVISION 9

FINISHES

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SECTION 09875

REPAINTING OF EXTERIOR SURFACES OF AN EXISTING WELDED STEEL TANK BASED ON 100% OR SPOT REMOVAL OF EXISTING PAINT AND REPLACEMENT WITH A NEW PAINT SYSTEM

PART 1 - GENERAL

1.01 PURPOSE

A. The purpose of this specification is to establish methods and procedures for painting and handling of hazardous and non-hazardous materials/wastes.

1.02 SCOPE OF WORK

A. Work to be accomplished includes field application of protective paints to exterior surfaces, including surface preparation, handling of hazardous and non-hazardous materials/wastes, and other work necessary to accomplish the approved end result of a totally protected and usable structure, including attachments, accessories and appurtenances. Existing paints shall either be removed entirely, or spot repaired, as specified in the Special Conditions, generally as follows:

100% Removal

1. Remove all exterior paint by abrasive blast cleaning. Removal shall be by conventional methods if no hazardous materials are present, or by conventional method with containment, vacuum blasting, or other method approved by Owner if hazardous materials are present.

2. Apply prime, intermediate, and finish coats to all blast cleaned exterior surfaces in accordance with paragraph 3.06.

3. Test, handle and dispose of any hazardous or non-hazardous wastes generated from exterior painting operations in conformance to all regulations.

Spot Removal

1. Remove all oxidation, dirt, and other contaminants from exterior surfaces via washing, as specified.

2. Remove all existing defective paint on exterior by abrasive blast cleaning. Removal shall be by conventional methods if no hazardous materials are present, or by conventional method with containment, vacuum blasting, or other method approved by Owner if hazardous materials are present.

3. Apply specified primer to all abrasively blast cleaned areas.

4. Apply intermediate and finish coats of paints to complete exterior surfaces in accordance with paragraph 3.06.

5. Test, handle and dispose of any hazardous or non-hazardous wastes generated from exterior painting operations in conformance to all regulations.

B. Surfaces not to be painted include all interior surfaces, fencing, concrete surfaces, liquid level indicator accessories, glass, plastic, nameplates, and other surfaces on which paints would not adhere or would interfere with operation or purpose of specific item.

C. If severely corroded or damaged areas are discovered during the course of abrasive blast cleaning operations, the Contractor shall notify the Owner or authorized representative. Welding and repair of severely corroded areas of tank and other mechanical repairs may be required during project.

1. The Contractor shall allow the Owner access to make tank repairs while the existing paints are being removed. The Owner reserves the option to repair the tank structure with:

a) Change order to the contract.

b) Owner employees.

c) A separate Contractor.

d) Any combination of the above.

2. A no cost time extension will be issued should structural repairs delay abrasive blast cleaning and/or paint application. Preparation work shall continue while tank repairs are being made. The time extension will assume the Contractor will be able to re-mobilize and begin painting within two weeks of notification. No additional time will be granted to permit the Contractor to complete other projects prior to this project.

3. Contractor is responsible for the cost of all testing and analyses unless specifically stated otherwise.

1.03 REFERENCE SPECIFICATIONS AND STANDARDS

A. Without limiting the general aspects or other requirements of this specification, work and equipment shall conform to applicable requirements of municipal, state and federal codes, laws and ordinances governing the work, the Owner, SSPC: The Society for Protective Coatings, and manufacturer's printed instructions, subject to Owner's approval.

B. The Contractor shall meet all the terms of the Owner's General Conditions for Major Construction and Maintenance. The terms of the General Conditions shall be referenced for contractual procedures.

C. The Owner's decision shall be final as to interpretation and/or conflict between any of the referenced codes, laws, ordinances, specifications and standards contained herein.

D. American Society for Testing and Materials (ASTM)

1. ASTM E337, Standard Test Method for Measuring Humidity with a Psychrometer

2. ASTM D1186, Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base

3. ASTM D3359, Standard Test Method for Measuring Adhesion by Tape.

4. ASTM D4138, Standard Test Method for Measurement of Dry Paint Thickness of Protective Coating Systems by Destructive Means

5. ASTM D4285, Standard Test Method for Indicating Oil or Water in Compressed Air

6. ASTM D4414, Standard Practice for Measurement of Wet Film Thickness by Notch Gages

7. ASTM D4417, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

8. ASTM D5402, Standard Test Methods for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs

E. American Water Works Association (AWWA)

1. AWWA D102, AWWA Standard for Coating Steel Water Storage Tanks

2. AWWA C652, AWWA Standard for Disinfection of Water Storage Facilities

3. AWWA M42, AWWA Manual of Water Supply Practices, Steel Water Storage Tanks

F. SSPC: Society for Protective Coatings (SSPC)

1. SSPC-SP 1, Solvent Cleaning

2. SSPC-SP 2/3, Hand/Power Tool Cleaning

3. SSPC-SP 6, Commercial Blast Cleaning

4. SSPC-SP 7, Brush-off Blast Cleaning

5. SSPC-SP 10, Near-White Blast Cleaning

6. SSPC-SP 11, Power Tool Cleaning to Bare Metal

7. SSPC-SP 15, Power Tool Cleaning to Commercial Grade Cleanliness

8 SPC-PA1, latest revision, for "Shop, Field and Maintenance Painting

9. SSPC-PA 2, Measurement of Dry Film Thickness with Magnetic Gages

10. SSPC-VIS 1, Visual Standard for Abrasive Blast Cleaned Steel

11. SSPC-VIS 3, Visual Standard for Hand and Power Tool Cleaned Steel

12. SSPC Publication No. 91-12, Coating and Lining Inspection Manual

13. SSPC-Visual Comparison Manual

14. SSPC Guide 12 - Guide for Illumination of Industrial Painting

15. SSPC's Publication 91-12 "Testing Recirculated Abrasives

G. NACE International (NACE)

1. NACE SP 0188-06, Standard Recommended Practice for Discontinuity (Holiday) Testing of Protective Coatings

2. NACE SP 0178-89, Standard Recommended Practice for fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service.

1.04 COMPLETION OF WORK

A. All surface preparation, paint application, and handling/disposing of hazardous and non-hazardous materials/wastes shall be completed within the number of calendar days consistent with the Contract Completion Schedule. If work is not completed within the number of calendar days specified, Contractor shall bear all additional expenses incurred after contract completion schedule.

1.05 CONTRACTOR

A. The contractor shall be a licensed Painting and Decorating Contractor in the State of California (C-33 Classification). He shall have a minimum of five (5) years practical experience and successful history in the application of specified products to surfaces of steel water storage tanks. Upon request, he shall substantiate this requirement by furnishing a written list of references.

1.06 DEFINITIONS

A. "Engineer" refers to the person authorized by the Owner to oversee the execution of the contract, acting either directly or through his properly authorized agents, each agent acting only within the scope of authority delegated to him.

B. “Lining” refers to protective materials used or applied to interior surfaces. "Paint" refers to protective materials used or applied on exterior surfaces.

"Coating" refers to protective materials used or applied on interior or exterior surfaces, or any protective material in general.

C. "Owner" refers to the City of Imperial.

1.07 HOURS OF WORK

A. The Contractor's activities shall be confined to an eight hour shift between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday, excluding Owner-designated holidays. Deviation from these hours will not be permitted without the prior consent of the Owner, except in emergencies involving immediate hazard to persons or property.

B. In the event of either a Contractor requested deviation or Contractor caused emergency deviation, inspection service fees for Owner personnel and any third-party inspector will be charged against the Contractor at the discretion of the Owner. The service fees will be calculated at overtime rates including benefits, overhead, and travel time. The service fees will be deducted from any amounts due the Contractor. Charges will be made for any change to extraordinary work hours, including standby time due to late crew arrival or "no-show" by crew.

C. Inspections hours made necessary as a result of the Contractor’s crew working over forty hours per week must be scheduled and approved by Owner and overtime paid for by Contractor at the prevailing rate for overtime. Inspections requested by or made necessary as a result of actions by the Contractor on Saturdays, Sundays or holidays must be scheduled and approved by Engineer and paid for by Contractor at the prevailing rate for overtime or holiday work.

1.08 PRE-BID CONFERENCE

A. Pre-Bid Conference for the project will be conducted by the Engineer as noted in the Notice Inviting Bids. The object of the Pre-Bid Conference is to acquaint bidders with existing facility and site. The conditions and requirements of the plans and specifications shall govern over any information presented at the Pre-Bid Conference, unless amended in writing by the Engineer. All bidders must attend the Pre-Bid Conference to have their bid accepted by the Owner.

1.09 PRE-CONSTRUCTION CONFERENCE

A. A Pre-Construction Conference shall be scheduled prior to start of project. The Owner, Contractor and Engineer shall be present. The sequence of work will be discussed and will be mutually agreed upon to ensure that the work is accomplished and completed as stated in the Contract, and to allow for inspection and operations flexibility by Owner. A schedule of work to be accomplished and a list of labor, material and equipment rates for additional work will be established and maintained throughout the project. Contractor shall furnish resumes of all personnel assigned to project, and a complete set of approved submittal data for use by inspection personnel. Contractor shall have a designated representative for all projects.

1.10 QUALITY ASSURANCE

A. General: Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application, and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and acceptable professional standards and are approved by the Owner.

B. The Contractor shall submit manufacturers' literature and material Safety Data Sheets (SDS) on all materials to be used in coating operations, including, but not limited to coatings, thinners, solvents, and cleaning fluids. No materials will be allowed which have been stored over 60 days, or manufacturer's recommended shelf life, whichever is less. Contractor shall maintain copies of SDS's at jobsite at all times. Copies of all invoices showing purchased dates and delivery for all material mentioned above will be required.

C. All materials furnished and all work accomplished under the Contract shall be subject to inspection by the Owner. The Contractor shall be held strictly to the true intent of the Specifications in regard to quality of materials, workmanship, and diligent execution of the Contract.

D. Work accomplished in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the Owner and used in the work thus removed, shall be borne by the Contractor, regardless of whether the work removed is found to be defective or not. Work covered up without the authority of the Engineer, shall, upon order of the Engineer, be uncovered to the extent required, and the Contractor shall similarly bear the entire cost of accomplishing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the Owner.

E. The Owner will make, or have made, such tests as it deems necessary to assure the work is being accomplished in accordance with the requirements of the Contract. Unless otherwise specified in the Special Conditions, the cost of such testing will be borne by the Owner. In the event such tests reveal non-compliance with the requirements of the Contract, the Contractor shall bear the cost of such corrective measures deemed necessary by the Owner, as well as the cost of subsequent retesting and re-inspection. It is understood and agreed the making of tests shall not constitute an acceptance of any portion of the work, nor relieve the Contractor from compliance with the terms of the Contract.

F. Warranty Inspection: Warranty inspection shall be conducted between the eleventh and eighteenth months following completion of all work and filing of the Notice of Acceptance. All personnel present at the Pre-Construction Conference should be present at this inspection. All defective work shall be repaired in strict accordance with this specification and to the satisfaction of the Owner.

1. Notification: The Owner shall establish the date for the inspection and shall notify the Contractor at least 30 days in advance.

2. Exterior Inspection: The entire exterior paint systems shall be visually inspected. All defective paint as well as damaged or rusting spots of the tank shall be satisfactorily repaired by and at the sole expense of the Contractor. Defective coating shall be any of those defined by the SSPC's Visual Comparison Manual.

3. Inspection Report: The Owner shall prepare and deliver to the Contractor an inspection report covering the first anniversary inspection, setting forth the number and type of failures observed, the percentage of the surface area where failure has occurred, and the names of the persons making the inspection.

4. Schedule: Upon completion of inspection and receipt of Inspection Report as noted herein, Owner shall establish a date for Contractor to proceed with remedial work. Any delay on part of Contractor to meet schedule Contract and Owner may proceed to have defects remedied as outlined under General Provisions.

5. Remedial Work: Any location where paint has peeled, bubbled, or cracked and any location where rusting is evident shall be considered to be a failure of the system. The Contractor shall make repairs at all points where failures are observed by removing the deteriorated paint, cleaning the surface, and reapplying the same system. If the area of failure exceeds 25 percent of a specific coated surface, the entire applied system may be required to be removed and reapplied based on the Owner's sole judgment in accordance with the original specification.

   a) Specific painted surfaces are defined as follows:

      (i) Roof
      (ii) Shell
      (iii) Attachments, accessories and appurtenances

6. Upon completion of warranty remedial repairs, Contractor shall clean site as originally specified.

7. Costs: All noted costs for Contractor's inspection and all costs for repair shall be borne by the Contractor and in figuring his bid, the Contractor shall include an appropriate amount for testing and repair as no additional allowance will be paid by the Owner for said inspection and repair.

1.11 SAFETY AND HEALTH REQUIREMENTS

A. Contractor shall fully comply with California Code of Regulations pertaining to the work including, but not limited to, the following Construction Safety Orders (CSO) or General Industry Safety Orders (GISO):

1.	Illness Injury Prevention Program 1508/3203	CSO/GISO
2.	Confined Space Plan 5156/5159	GISO

3.	Respiratory Protection 1531/5144	CSO/GISO	
4.	Hazard Communication	GISO	5194
5.	Lead-Based Paint Compliance Plan	CSO	1532.1
6.	Rolling Scaffolds	CSO	1646
7.	Employee Safety Instruction	CSO	1510
8.	Emergency Medical Service	CSO	1512
9.	Dusts, Fumes, Mists, Vapors & Gases	CSO	1528
10.	Fall Protection	CSO	
11.	Hearing Conservation Program	GISO	

B. General: Contractor assumes the responsibility to accomplish all work in a safe and prudent manner, and to conform to all applicable safety requirements, regulations and guidelines of federal, state and local regulatory agencies, as well as applicable manufacturer's printed instructions and appropriate technical bulletins and manuals. Without in any way limiting that responsibility or assuming responsibility for safety, Owner is particularly concerned that the following are strictly observed:

1. Life Saving Equipment: Contractor shall provide and require use of personal protective life saving equipment for all its personnel working in or about the project site.

2. Access Facilities: All ladders, scaffolding and rigging shall be designed for their intended uses. Ladders and scaffolding shall be erected where requested by Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Owner.

3. Ventilation: Contractor shall ensure there is proper ventilation, air eduction and exhausting of work space to reduce the concentration of lead-laden air contaminants to a level which poses no hazard to personnel at or near the job site. Air circulation and exhausting of solvent vapors shall be continued until paints have fully cured. If conventional blast cleaning is accomplished, total containment during blast cleaning and paint application operations is mandatory. The exhaust blower capacity shall be sufficient to maintain air changes within containment interior in accordance with Cal-OSHA, paint manufacturer's recommendations and local air quality management district regulations.

4. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. During abrasive blasting operations, nozzlemen shall wear U.S. Bureau of Mines approved positive pressure air-supplied helmets and all other persons who are exposed to blasting dust shall wear respiratory protection determined necessary by the exposure assessment of the Certified Industrial Hygienist.

   Positive pressure air-fed hoods and/or masks shall be supplied by an air source currently certified to produce "Class D Breathing Air". Contractor shall at all times during the work maintain onsite current documentation to substantiate the quality of the breathing air.

   Barrier creams shall be used on any exposed areas of skin.

5. Grounding: All hoses shall be grounded to prevent accumulation of charges of static electricity.

6. Illumination: Sparkproof artificial lighting shall be provided for all work in confined spaces. Light bulbs shall be guarded to prevent breakage. Lighting fixtures and flexible cords shall comply with the requirements of NFPA 70 "National Electric Code" for the atmosphere in which they will be used. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the Engineer.

7. Toxicity and Explosiveness: The maximum allowable concentration of vapor shall be kept below the maximum safe concentration for eight-hour exposure, plus Lower Explosive Limit (L.E.L.) must be strictly maintained. All regulations related to safety of personnel and handling of such materials shall be strictly followed.

   a) When exterior coatings have been determined to contain lead or other hazardous materials at any concentration, Contractor's responsibility for meeting all regulations relating to toxic and hazardous materials includes, but is not limited to, obtaining all permits and EPA numbers, having a Certified Industrial Hygienist onsite the first day of blasting to sample the air, processing paperwork, blood testing of personnel at start and finish of project, sampling and testing of wastes, paying fees, handling and packaging of wastes at site, and delivering materials to the selected Class I dumpsite using licensed hazardous materials transporters. All regulations relating to working with heavy metals or confined spaces shall be strictly enforced.

8. Protective Clothing: When handling and mixing paints, workmen shall wear gloves and eye shields. If working with lead or other heavy metals, regulations regarding handling of exposed clothing shall be strictly enforced.

9. Fire: Contractor shall provide appropriate fire abatement devices and prohibit any flames, welding and smoking during mixing and application of materials.

10. Sound Levels: Whenever the occupational noise exposure exceeds the maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protective devices.

    a) Noise suppression shall be practiced at all times to minimize disturbance to persons living or working nearby, and to the general public. Measures to be used in effecting noise suppression shall include (but not limited to) equipping all internal combustion engines with critical residential silencers (mufflers), shielding noise-producing equipment from nearest areas of human occupancy by location in such positions as to direct the greatest noise emissions away from such areas, and conducting operations in the most effective manner to minimize noise generation consistent with the prosecution of the Contract in a timely and economic manner. Whenever levels are objectionable, they shall be adjusted as directed by the Owner.

1.12 COMPLIANCE WITH ENVIRONMENTAL REGULATORY REQUIREMENTS

A. Contractor shall comply with all current federal, state, and local environmental laws and regulations, including, but not limited to the laws and regulations of the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).

PART 2 - PAINT MATERIALS

2.01 GENERAL

A. Standard products of manufacturers other than those specified on the Approved Material List provided, will be accepted when it is proved to the satisfaction of the Owner they are equal in composition, durability, usefulness and convenience for the purpose intended. Substitutions will be considered provided the following minimum conditions are met:

1. The proposed paint system shall have a dry film thickness equal to or greater than that of the specified system.

2. The proposed paint system shall employ an equal or greater number of separate coats.

3. The proposed paint system shall employ paints of the same generic type.

4. All requests for substitution shall carry full descriptive literature and directions for application, along with complete information on generic type, non-volatile content by volume and a list of 10 similar projects, all at least three years old, where the products have been applied to similar exposure.

5. Substitutions required as a result of new VOC regulations shall be endorsed in writing from the materials manufacturer that these substituted materials will provide equivalent performance as those specified.

6. The Owner requires that the Contractor provide certified laboratory data sheets showing the results of complete spectrographic and durability tests accomplished on the proposed substitute. Tests shall be accomplished by an independent testing laboratory satisfactory to the Owner and all costs incurred in the testing program shall be borne by the Contractor. In any case, the Owner shall be sole and final judge of the acceptability of any proposed substitution. Requests for substitution must be approved in writing prior to date of bid.

B. All materials shall be brought to the jobsite in the original sealed containers. They shall not be opened or used until Owner's representative has physically inspected contents and obtained necessary data from information printed on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected. Copy of invoice showing purchase and delivery dates will be required.

C. Flammability, toxicity, allergenic properties, and any other characteristic requiring field precautions shall be identified and specific safety practices shall be stipulated as required by federal, state, local manufacturer or SDS.

D. All paint materials shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable materials must be stored to conform with Owner, County, State and Federal safety codes for flammable materials. Paints shall be protected from freezing at all times.

E. Contractor shall use products of same manufacturer for all coats.

2.02 EXTERIOR PAINT MATERIALS

A. Paint materials shall conform to the regulations and applicable requirements of applicable local, State and Federal air pollution regulatory agencies. Products containing perchlorethylene (PCE), trichloroethylene (TCE), lead or chromium will not be permitted.

1. The Contractor shall provide, prior to painting any surfaces of the tank, written certifications from the coating manufacturers stating that the paint materials, thinners, solvents, and equipment cleaning fluids provided by the manufacturers do not contain PCE or TCE. The Contractor shall also certify, in writing, that no material containing PCE, TCE, lead or chromium in any form will be used for the exterior paints of the tank. This shall include all solvents, thinners, and cleaning fluids at the job site, regardless of where the materials were obtained.

2. The Owner may require all solvents, thinners and cleaning fluids be tested for TCE and PCE prior to being used at the job site. The Contractor shall provide the Engineer with samples of each material at no cost to the Owner. Unacceptable materials shall be removed from the job site.

B. All paint materials shall comply with air pollution regulations, specifically the local air quality management district or air pollution control district rules, and rules for the Owner. Please refer to www.aqmd.gov/rules/reg/reg11/r1113.pdf.

C. All paint materials shall also conform to regulations and applicable requirements of local, State and Federal health regulatory agencies.

D. Paints materials shall be in accordance with the systems specified in Part 3.06.

PART 3 - EXECUTION

3.01 GENERAL

A. All surface preparation, paint application shall conform to applicable standards of the Society for Protective Coatings, the Owner, and the manufacturer's printed instructions. Material applied prior to approval of the surface preparation by the Owner shall be removed and reapplied to the satisfaction of the Owner at the expense of the Contractor.

B. All work shall be accomplished by skilled craftsmen qualified to accomplish the required work in a manner comparable with the best standards of practice. Resumes of personnel to be used on the project shall be submitted upon Notice of Award. Continuity of personnel shall be maintained and transfers of key personnel shall be coordinated with the Owner.

C. The Contractor shall provide a supervisor to be at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make other decisions pertaining to the fulfillment of their contract.

D. Contractor shall provide approved sanitary facilities for all Contractor personnel, as no existing facilities will be available to the Contractor. Facilities shall be maintained during the project to complete standards established by Owner and shall be removed prior to Contractor's departure from the site at completion of the project.

E. Dust, dirt, oil, grease or any foreign matter which will affect the adhesion or durability of the finish must be removed by washing with clean rags dipped in an approved commercial cleaning solution, rinsed with clean water and wiped dry with clean rags.

F. The Contractor's equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Blotter test shall be accomplished at each start-up period and as deemed necessary by the Owner. Contractor's equipment shall be subject to approval of the Owner. This approval does not relieve the Contractor's responsibility for the safe operation of the equipment or its performance.

1. Cleanliness of compressed air supply shall be verified daily, and as deemed necessary by Owner, by directing a stream of air, without abrasive, from the blast nozzle onto a white blotter or cloth for twenty seconds. If oil or water appears on the blotter or cloth, all traps and separators shall be blown down until two subsequent twenty-second tests show no further oil or water.

G. Application of the first coat shall follow immediately after surface preparation and cleaning within an eight hour working day. Any cleaned areas not receiving first coat within an eight hour period shall be recleaned prior to application of first coat.

H. Because of presence of moisture and possible contaminants in atmosphere, care shall be taken to ensure previously coated or painted surfaces are protected or recleaned prior to application of subsequent coat(s). Methods of protection and recleaning shall be approved by the Owner.

1. Project is subject to intermittent shutdown if, in the opinion of the Owner, cleaning and application operations are creating a localized condition detrimental to ongoing facility activities, personnel or adjacent property.

2. In the event of emergency shutdown by the Owner, Contractor shall immediately correct deficiencies. All additional costs created by shutdown shall be borne by Contractor.

I. The Contractor shall provide, at his own expense, all necessary power required for his operations under the contract.

J. Contractor shall tightly seal any tank vents, pumps, motors, and other open areas to prevent intrusion of paint or other contaminants. The sealing system shall be designed to allow continuous operation of facilities or equipment, with no detrimental effects. If necessary, sealing system shall be removed daily at termination of work, or as directed by the Owner.

K. Overspray Control: The Contractor shall conduct all operations so as to confine abrasive blasting debris and coating overspray to within the bounds of the site. The Contractor shall take all precautions necessary to prevent adverse off-site consequences of application operations. Any complaints received by the Owner relating to any such potential off-site problems will be immediately delivered to the Contractor-assigned jobsite representative. The Contractor shall immediately halt blast cleaning or application work and shall take whatever corrective action is required to mitigate any such problems. All costs associated with protection of off-site properties and/or correction of damage to property as a result of blast cleaning or application operations shall be borne directly by the Contractor at no additional expense to the Owner.

1. Owner approval of Contractor's overspray prevention procedures and Owner's presence on project does not free Contractor from responsibility for overspray. Daily approval of procedures will be required prior to start of spray operations.

3.02 TREATMENT OF HAZARDOUS MATERIALS (WHEN PRESENT AT ANY CONCENTRATION)

A. All regulations related to safety, worker protection and handling of such materials shall be strictly followed. When exterior surfaces have been determined, by laboratory analyses, to contain varying levels of lead and other heavy metals, submittal of a written plan of action for the project shall be accomplished by Contractor prior to start of project.

B. When heavy metals are present, Contractor shall comply with requirements of the Codes and Regulations listed in Section 3.02.F. below for handling and disposing of hazardous wastes resulting from surface contamination and removed coating particles. Submittal of a written plan of action for the project shall be accomplished by Contractor prior to start of project.

C. When heavy metals are present, Owner will remove four representative samples of soil from jobsite prior to start of work. Samples will be tested under requirements listed below for determination of lead and other heavy metals to ensure soil does not contain excessive levels of lead and other heavy metals. If soils contain excessive levels of lead or other heavy metals, site remediation will be the responsibility of the Owner. Copies of laboratory analyses reports shall be forwarded to Contractor immediately upon receipt from laboratory, prior to start of any work. Any required remediation schedule will be determined by the Owner.

D. When exterior coatings have been determined to contain lead, all work must be accomplished in compliance with 29 CFR Part 1926, Lead Exposure in Construction, and Title 8, Section 1532.1. In addition, when lead is present at any concentration, Contractor shall perform the following:

1. On first day of any heavy metals based coating removal, Contractor shall have work environment tested by a Certified Industrial Hygienist (CIH) to determine levels of protection required to protect workers and the environment from lead and other heavy metal contamination. All costs related to testing by the CIH shall be borne by the Contractor.

2. Testing shall include air sampling and testing of filters removed from the workers' respirators or personal air monitors to determine the level of lead exposure. Upon completion of testing, the CIH shall file a written report on the results of the testing. Level of exposure will then determine the type respiratory protection, clothing, housekeeping, hygiene facilities, medical surveillance, medical removal protection, employee information and training, signs, record keeping, and observation of monitoring required for the project.

No work shall re-commence until the report from the CIH is filed and worker and environmental protection required is in place. Costs for the time delay shall be included in the Contractor's original bid.

E. When exterior surfaces of tank contain hazardous materials, all dust emissions, abrasive deflection and removed coating particles shall be confined to interior of containment structure where abrasive blasting is being accomplished, unless vacuum blasting or other means of cleaning are approved by the Owner.

F. All lead coating removal work shall be governed by, but not necessarily limited to, the following:

1. Health and Safety Code, Division 20, Chapters 5 and 6 (California Hazardous Waste Control Act)

2. Title 22 California Administrative Code (Minimum Standard for Management of Hazardous and Extremely Hazardous Materials)

3. Title 8, California Administrative Code

4. Code of Federal Regulations (29 CFR 1910 and 1926, applicable sections)

G. When existing coatings have been determined by laboratory analysis to be toxic or hazardous, coating and coating/abrasive residue mixture shall be tested to assure conformance with hazardous material tolerances have been met.

It shall be the responsibility of the Contractor to provide adequate containers on the jobsite to retain spent media and removed coating until tests have been completed or approval for disposal from a landfill has been obtained. Disposal of hazardous or toxic waste at other than government regulated landfills will not be permitted. Documentation of all hazardous or toxic waste disposal will be required.

H. When heavy metals are present, then upon completion and acceptance of all recoating operations, site soil will be retested by Owner, in same locations tested prior to start of work, for presence of lead or other heavy metals. Testing will be accomplished by the same laboratory as the original testing. If soils contain excessive levels of lead or other heavy metals above those levels determined by testing at start of work, Contractor shall be responsible for removal and disposal of contaminated soil, and returning the site to its original condition. Copies of laboratory analyses reports shall be forwarded to Contractor immediately upon receipt from laboratory, prior to start of any work. Any required remediation schedule will be determined by the Owner. Handling, storing, transporting and disposal of any hazardous wastes shall be in complete compliance with all regulatory requirements.

3.03 SURFACE PREPARATION, GENERAL

A. The latest revision of the following surface preparation specifications of the Society for Protective Coatings shall form a part of this specification. (Note: An element of surface area is defined as any given square inch of surface).

1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods, which involve a solvent or cleaning action.

2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale and other detrimental foreign matter present to degree specified by hand chipping, scraping, sanding and wire brushing.

3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale and other detrimental foreign matter present to degree specified by power wire brushing, power impact tools or power sanders.

4. Commercial Blast Cleaning (SSPC-SP6): Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.

5. Brush-off Blast Cleaning (SSPC-SP7): Blast cleaning to remove loose rust, loose mill scale, and other detrimental foreign matter present to the degree specified.

6. Near-White Blast Cleaning (SSPC-SP10): Blast cleaning to near-white metal cleanliness, until at least ninety-five percent of each element of surface area is free of all visible residues.

7. Power Tool Cleaning to Bare Metal (SSPC-SP11): Power tool cleaning to produce a bare metal surface and to retain or produce a surface profile of at least 1.0 mil.

8. Brush-Off Water Jet Blast (SSPC-SP12): Low pressure water jet blast at a maximum pressure of 5,000 psi to remove loose paint, and other detrimental foreign matter present.

9. Commercial Grade Powertool Cleaning (SSPC-SP15): Powertool cleaning until at least two-thirds of each element of surface area is free of all visible residue.

B. Any burrs, weld spatter, sharp edges, corners, or rough welds which would cause difficulty in achieving a defect-free paint system shall be chipped or ground smooth in conformance to NACE Standard RP0178, latest. It is not the intent to have the welds or "scars" ground "flush". The object of the grinding is to eliminate sharp edges, corners, and overlaps to provide a surface for the application of a uniform thickness of coating or paint without voids or other defects.

C. Abrasive blasting nozzles shall be equipped with "deadman" emergency shut-off nozzles. Blast nozzle pressure shall be a minimum of 95 P.S.I. and shall be verified by using an approved nozzle pressure gage at each start-up period or as directed by the Owner. Number of nozzles used during all blast cleaning operations must be sufficient to ensure timely completion of project, subject to designation and approval by Owner.

D. All blast hose connections shall be tethered and secured to prevent separation during blast cleaning operations, and shall be taped with duct tape prior to pressurizing. All taped connections shall be visually inspected for leaks within five minutes after start of blast cleaning operations and at the end of blast cleaning operations. Leaking connections shall be immediately repaired to prevent further damage.

E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Contractor is responsible for maintaining dust emissions within the legal level and that level which would not create a nuisance.

F. Particle size of abrasives used in blast cleaning shall be that which will produce a 2.0 mil surface profile or in accordance with recommendations of the manufacturer of the specified paint system to be applied, subject to approval of Owner.

G. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants which would interfere with adhesion of paints and shall not be reused unless specifically approved by the Owner. Abrasives shall be certified for unconfined dry blasting pursuant to the California Administrative Code, Section 92520 of Subchapter 6, Title 17, and shall appear on the current listing of approved abrasives. Invoices or load sheets confirming above shall be required.

H. During blast cleaning operations for "Spot Removals", caution shall be exercised to ensure existing paints are not exposed to abrasion from blast cleaning.

I. Blast cleaning from rolling scaffolds shall only be accomplished within confines of interior perimeter of scaffold. Reaching beyond limits of perimeter will be allowed only if blast nozzle is maintained in a position which will produce a profile acceptable to the Owner.

J. The Contractor shall keep the area of his work in a clean condition and shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the prosecution of the work or the operation of the existing facilities. Spent abrasives and other debris shall be removed at the Contractor's expense as directed by the Owner. When existing paints have been determined by laboratory analysis to be toxic or hazardous, handling shall be in accordance with Paragraph 3.02.G herein.

K. Blast cleaned and painted surfaces shall be cleaned prior to application of specified paints via a combination of blowing with clean dry air, brushing/brooming and/or vacuuming as directed by the Owner. Air hose for blowing shall be at least ½" in diameter and shall be equipped with a shut-off device.

L. All welds, when required, shall be neutralized with a suitable chemical compatible with the specified paint materials.

M. Brush-Off Water Jet Blast Cleaning (SSPC-SP12) shall be used only when and as directed by Owner. Pressures shall be those determined by Owner to effectively accomplish removal of loose, peeling/flaking coating or other detrimental surface contaminants.

3.04 SURFACE PREPARATION, EXTERIOR

100% Removal

A. With the exception of the underside of the tank bottom, all exterior surfaces of tank shall be abrasively blast cleaned to "Commercial Blast Cleaning" In conformance to SSPC's Surface Preparation Specification No. 6 (SSPC-SP6) and a surface profile or anchor pattern of 2 to 3 mils (.002" - .003").

1. When heavy metals are present, existing paints shall be removed by vacuum blasting, or by methods other than vacuum blasting, after approval by Owner, which accomplish the specified results while containing all paint, abrasive, etc. during cleaning operations. These include conventional blast cleaning with containment, SABAR method with containment, chemical stripping, and Cavi-Tech method with containment.

B. All sandblast sand, removed coating, and any other residual debris shall be collected, removed from the site, and disposed of at an approved legal disposal site in accordance with the approved disposal plan. Said material shall be collected and directly moved from site. When existing paints have been determined by laboratory analysis to be toxic or hazardous, handling shall be in accordance with Paragraph 3.02.G herein.

Spot Removal

A. All surfaces shall be inspected jointly by the Contractor and the Owner to determine the condition of existing paint. During said inspection, Contractor shall perform adhesion tests in accordance with ASTM-D-3359 (Adhesion Tape Test) and ASTM-D-6677 (Adhesion Knife Test). The Owner shall then designate the surface condition by marking deficient areas, and cleaning shall be accomplished as noted below. Any areas overlooked during the joint inspection shall not relieve the Contractor from completely preparing surfaces:

1. Step One: All oily or greasy surface contaminants shall be removed by wiping the contaminated area with a clean rag wetted with solvent or degreasing solution in accordance with Society for Protective Coatings Specification SSPC-SP1 (Solvent Cleaning), then rinsed with clean water, wiped clean and dried.

2. Step Two: All chalking paint or other surface contaminants shall be removed by high pressure water blasting or scrubbing the complete surface with a suitable broom or brush as approved by the Owner, wetted with a solution of trisodium phosphate, detergent and water, or other approved cleaning solution. Cleaned surfaces shall then be rinsed with clean water, wiped clean and dried. When exterior paints have been determined by laboratory analyses to contain excessive levels of lead and other heavy metals, all cleaning operations shall be conducted to insure removed paint particles or water are contained and not allowed to fall onto the site.

3. Step Three: All rusting, scaling, damaged areas and low adhesion areas shall be blast cleaned in conformance with Society for Protective Coatings Specification SSPC-SP6 (Commercial Blast Cleaning). Remaining paint shall be firmly bonded to the substrate with blast cleaned edges feathered. Extreme care should be exercised to ensure remaining paint is not damaged by cleaning operations.

   a) Cleaning methods other than blast cleaning may be used after approval by Owner, which accomplish the specified results. These include power tool cleaning to bare metal or chemical stripping. When heavy metals are present, cleaning methods other than vacuum blasting may be used, after approval by Owner, which accomplish the specified results while containing all paint, abrasive, etc. during cleaning operations. These include conventional blast cleaning with containment, SABAR method with containment, chemical stripping, and Cavi-Tech method with containment.

B. All sandblast sand, removed coating, and any other residual debris shall be collected, removed from the site, and disposed of at an approved legal disposal site in accordance with the approved disposal plan. Said material shall be collected and directly moved from site. When existing paints have been determined by laboratory analysis to be toxic or hazardous, handling shall be in accordance with Paragraph 3.02.G herein.

3.05 APPLICATION, GENERAL

A. Paint application shall conform to the requirements of the Society for Protective Coatings Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting," the Owner, the manufacturer of the paint materials printed literature, and as specified herein.

B. No coating shall be applied under the following conditions:

1. When the surrounding air temperature or the temperature of the surface to be coated or painted is below 55 degrees F for epoxy coatings, below 45 degrees F for epoxy low temperature cure coatings, or above 110 degrees F for all materials.

2. Wet or damp surfaces or in rain, fog or mist.

3. When the temperature is less than 5 degrees F above the dewpoint.

4. When it is expected the air temperature will drop below 55 degrees F for epoxy coating, below 45 degrees F for epoxy low temperature cure coatings, or less than 5 degrees F above the dewpoint within two hours after application of coatings or paints.

a) Dewpoint shall be measured by use of an instrument such as a sling psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables or equivalent. If dehumidification is used, equipment must run continuously during all phases of contract, except disinfection phase.

5. When wind speed exceeds fifteen miles per hour

If above conditions are prevalent, coating application shall be delayed or postponed until conditions are favorable. The day's application shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.

C. Thinning shall only be permitted as recommended by the manufacturer and approved by the Owner and shall not exceed limits set by applicable regulatory agencies.

1. If Contractor applies any materials which have been modified or thinned to such a degree as to cause them to exceed established VOC levels, Contractor shall be responsible for any fines, costs, remedies, or legal action and costs that may result.

D. Each application of paint shall be applied evenly, free of brush marks, sags, runs and no evidence of poor workmanship. Care should be exercised to avoid lapping on glass or hardware. Paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes as defined by SSPC's Visual Comparison Manual.

E. Protective coverings or drop cloths shall be used to protect floors, fixtures, equipment, prepared surfaces, and applied paints. Personnel walking on exterior roof of tank shall take precautions to prevent damage or contamination of painted surfaces. If required by Owner, personnel shall wear soft-soled shoes, or shoe coverings approved by Owner. Care shall be exercised to prevent paint from being spattered onto surfaces which are not to be painted. Surfaces from which such material cannot be removed satisfactorily shall be refinished as required to produce a finish satisfactory to the Owner.

F. All materials shall be applied as specified herein.

G. All welds and irregular surfaces shall receive a brush coat of the specified product prior to application of each complete coat. Paint shall be brushed in multiple directions to ensure penetration and coverage, as directed by the Owner. These areas include, but are not limited to, welds, nuts, bolts, pitted areas, etc. Care shall be exercised to ensure dry film thickness of paints does not exceed the maximum thickness allowed by the manufacturer of the specific product being applied.

H. At conclusion of each day's blast cleaning and paint operations, a 6" wide strip of blast cleaned substrate shall remain uncoated to facilitate locating point of origin for successive day's blast cleaning operations.

I. Epoxy coated surfaces or other multi-component materials exposed to excessive sunlight or an excessive time element beyond manufacturer's recommended recoat cycle, shall be scarified by Brush-Off Blast Cleaning (SSPC SP-7) or methods approved by Owner, prior to application of additional coating. Scarified coating shall have sufficient depth to assure a mechanical bond of subsequent coat.

J. All attachments, accessories, and appurtenances shall be prepared and finished in the same manner as specified for adjoining tank sections, except as specifically designated by the Owner.

K. All coating components shall be mixed in exact proportions specified by the manufacturer in the presence of the Owner. Care shall be exercised to ensure all material is removed from containers during mixing and metering operations.

L. All coatings shall be thoroughly mixed, utilizing an approved slow-speed power mixer until all components are thoroughly combined and are of a smooth consistency. Coatings shall not be applied beyond pot-life limits or recoat cycles specified by manufacturer.

M. Thinners shall be added to coating materials only as required in accordance with manufacturer's printed literature and in the presence of the Owner. Quantities of thinner shall not exceed limits set by applicable regulatory agencies.

N. Application shall be by airless spray method, except as otherwise specified. Drying time between coats shall be strictly observed as stated in manufacturer's printed instructions, except there shall be a minimum of 12 hours between coats

O. When two or more coats are specified, each coat shall contain sufficient approved color additive to act as an indicator of coverage or the coats must be of

contrasting color. A fine bristle broom and air shall be used to remove dust and other matter from each coat prior to application of any additional coats.

P. All mixing, thinning, application, and holiday detection of coatings shall be accomplished in the presence of the Owner.

Q. Care shall be exercised during spray operations to hold the spray nozzle perpendicular and sufficiently close to surfaces being coated to avoid excessive evaporation of volatile constituents and loss of material into the air or the bridging of cracks and crevices. Reaching beyond limits of scaffold perimeter will not be permitted. All dryspray or overspray shall be removed as directed by Owner and the area recoated.

3.06 APPLICATION, EXTERIOR PAINT SYSTEMS

A. 100% REMOVAL

After completion of surface preparation as specified, all surfaces shall receive a coating system as follows:

SEE SPECIFICATION 09875.1 (CUSTOM)

B. SPOT REMOVAL

After completion of surface preparation as specified, all surfaces shall receive a coating system as follows:

SEE SPECIFICATION 09875.1 (CUSTOM)

C. A minimum of 12 hours is required before additional coats may be applied.

D. Color Scheme: The Owner shall select exterior finish coat colors for the project. The Contractor shall submit a current chart of the manufacturer's available colors to the Owner's representative ten days prior to start of painting operations.

E. Coating System Identification: unless otherwise directed by the Owner, stencil the following information on the completed exterior system. Location will be selected by the Owner. Use a black urethane coating and provide lettering that is 2 to 3 inches in height.

1. Month and Year of Completion

2. Identification of Cleaning Method

3. Identification of Coating System

F. Following all paint work, apply caulking to the gap between the exterior floor plate and concrete ring wall in accordance with the manufacturer’s written recommendations, using backing rod as required to provide suitable seal. Exterior caulking shall have a smooth clean finish that is applied to clean, sharp lines. Sealant color shall be selected and approved by the Owner.

1. Sealant shall be a material as specified under shall include Sikaflex 1A, Vulkem 921, Sonolastic NP1, or approved equal.

G. Where spot priming is designated, sealed areas shall be carefully inspected to determine if paint edges have lifted or if other defects exist after priming but prior to application of intermediate coat. If necessary, repairs shall be accomplished, using procedures as specified herein to effect a smooth transition between sealer and subsequent coats.

H. Upon completion of priming operations, the primer shall be clean, dry and show no evidence of oxidation, after which all exterior surfaces shall receive the intermediate coat as specified herein.

I. Where new coating is being applied over existing coating, prior to start of intermediate coat application, Contractor and Owner shall conduct spot dry film thickness tests to determine the minimum dry film thickness of the existing paint system. A mutual agreement shall be reached as to the specific dry film thickness of the existing paint system, which shall then be used in determining if sufficient additional paint has been applied over the existing paint.

J. Total dry film thickness of the completed three-coat system shall not be less than 10.0 mils at any point in the surface where bare metal was originally exposed, or less than the existing coating thickness plus 6.0 mils where the new two-coat system was applied over existing paint.

a) Maximum dry film thickness allowed, if not specified in manufacturer's approved literature, will be as determined, in writing, by the paint manufacturer's headquarters technical representative.

3.07 QUALITY CONTROL

A. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces," SSPC-Vis 1 and as described herein. Anchor profile for prepared surfaces shall be measured by using a nondestructive instrument such as a Testex Press-0-Film System in accordance with ASTM D4417. Temperature and dewpoint requirements shall apply to all surface preparation operations, except low and high temperature limits.

B. Dry film thickness verification shall be performed by the Contractor in the presence of the Owner. Contractor shall provide all inspection equipment and scaffolding to perform the inspections. All areas not meeting the specified dry film thickness shall be recoated and repaired by Contractor as directed by Owner.

C. Film Thickness Testing: thickness of coatings and paint shall be checked with a non-destructive film thickness gauge in accordance with ASTM D1186 and/or ASTM D7091. An instrument such as Tooke Gage should be used in accordance with ASTM D4138 if a destructive tester is deemed necessary. The sampling of film thickness of flat (e.g. plate) surfaces shall be tested in accordance with SSPC-PA2. The sampling of structural members or irregular surfaces shall be tested in frequency and locations, as directed by the Owner.

D. Inspection Devices: Contractor shall furnish, until final acceptance of coating and painting, inspection devices in good working condition for measurement of dry-film thickness of coatings. They shall also furnish National Institute of Standards and Technology/National Bureau of Standards (NIST/NBS) certified thickness calibration plates to test accuracy of thickness gauges. Dry film thickness gauges shall be available at all times until final acceptance of application. Inspection devices shall be operated by, or in the presence of the Owner with location and frequency basis determined by the Owner. The Owner is not precluded from furnishing its own inspection devices and rendering decisions based solely upon their tests.

E. Acceptable Inspection Devices: acceptable devices for ferrous metal surfaces include, but are not limited to Tinker-Rasor Models AP and AP-W holiday detectors, and SSPC Type II units for dry film thickness gauging. Inspection devices shall be calibrated and operated in accordance with the manufacturer's instructions and SSPC-PA2.

3.07 CLEANUP

A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Owner. Paint and thinner containers, and excess paint and thinners, shall be disposed of in conformance to current regulations. Paint spots upon adjacent surfaces shall be removed and the entire jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the complete satisfaction of the Owner.

3.08 OMISSIONS

A. Care has been taken to delineate herein those surfaces to be coated. However, if paint requirements have been inadvertently omitted from this section or any other section of the specifications, it is intended that all metal surfaces, unless specifically exempted herein, shall receive a first-class protective system equal to that given the same type surface pursuant to these specifications.

END OF SECTION 09875

SECTION 09875.1 (CUSTOM)

REPAINTING OF EXTERIOR SURFACES OF AN EXISTING WELDED STEEL TANK BASED ON 100% OR SPOT REMOVAL OF EXISTING PAINT AND REPLACEMENT WITH A NEW PAINT SYSTEM

3.06 APPLICATION, EXTERIOR PAINT SYSTEMS

A. 100% REMOVAL COATING SYSTEM

After completion of surface preparation as specified, all surfaces shall receive three complete coats of one of one of the following systems:

1. Carboline Company

   a. Prime Coat: Carbozinc 859 VOC, Minimum Dry Film Thickness 3-5 mils
   b. Intermediate Coat: Carboguard 890 VOC, Minimum Dry Film Thickness 6-8 mils
   c. Finish Coat: Carbothane 134 MC, Minimum Dry Film Thickness 2-2.5 mils
   d. The minimum dry film thickness of the completed system shall be 10 mils (0.010").

2. Sherwin Williams Company

   a. Prime Coat: Corothane 1 GalvaPac, Minimum Dry Film Thickness 2.5 mils
   b. Intermediate Coat: Macropoxy 646-100, Minimum Dry Film Thickness 3-5 mils
   c. Finish Coat: Sher-Loxane 800 Polysiloxane, Minimum Dry Film Thickness 4-6 mils
   d. The minimum dry film thickness of the completed system shall be 10 mils (0.010").

3. Tnemec Company

   a. Prime Coat: Series 94-H2O Hydro-Zinc, Minimum Dry Film Thickness 2.5 mils
   b. Intermediate Coat: Series L69F, Minimum Dry Film Thickness 3-5 mils
   c. Finish Coat: 1095 Eudurashield, Minimum Dry Film Thickness 2-4 mils
   d. The minimum dry film thickness of the completed system shall be 10 mils (0.010").

B. SPOT REMOVAL COATING SYSTEM

After completion of surface preparation as specified, all damaged surfaces shall receive a spot prime coat on the damaged areas, and then all surfaces shall receive two complete coats of one of one of the following systems:

1. Carboline Company

    a. Spot Prime: Carboguard 890 VOC, Minimum Dry Film Thickness 4 – 6 mils
    b. Intermediate Coat: Carboguard 890 VOC, Minimum Dry Film Thickness 4 – 6 mils
    c. Finish Coat: Carbothane 134 MC, Minimum Dry Film Thickness 2.0-2.5 mils
    d. The minimum dry film thickness of the completed system shall be 10 mils (0.010").

2. Sherwin Williams Company

    a. Spot Prime: Macropoxy 646-100, Minimum Dry Film Thickness 3-5 mils
    b. Intermediate Coat: Macropoxy 646-100, Minimum Dry Film Thickness 3-5 mils
    c. Finish Coat: Sher-Loxane 800 Polysiloxane, Minimum Dry Film Thickness 4-6 mils
    d. The minimum dry film thickness of the completed system shall be 10 mils (0.010").

3. Tnemec Company

    a. Spot Prime: Series 135 Chembuild, Minimum Dry Film Thickness 3-5 mils
    b. Intermediate Coat: Series L69F, Minimum Dry Film Thickness 3-5 mils
    c. Finish Coat: 1095 Eudurashield, Minimum Dry Film Thickness 2-4 mils
    d. The minimum dry film thickness of the completed system shall be 10 mils (0.010").

END OF SECTION 09875.1

SECTION 09878

RECOATING AND DISINFECTION OF INTERIOR SURFACES OF AN EXISTING WELDED STEEL TANK BASED ON 100% REMOVAL OF EXISTING COATING AND REPLACEMENT WITH AN EPOXY COATING SYSTEM

PART 1 - GENERAL

1.01 PURPOSE

B. The purpose of this specification is to establish methods and procedures for coating, curing of coating, and handling of hazardous and non-hazardous materials/wastes.

1.02 SCOPE OF WORK

A. Work to be accomplished includes field application of protective coatings to interior surfaces, including surface preparation, handling of hazardous and non-hazardous materials/wastes, disinfection of interior surfaces and other work necessary to accomplish the approved end result of a totally protected and usable structure, including attachments, accessories and appurtenances, generally as follows:

1. Remove all interior coatings by abrasive blast cleaning.

2. Apply a complete coating system to all interior surfaces in accordance with paragraph 3.07.

3. Electrically detect coating system and repair as required.

4. Apply a flexible sealant to all circumferential shell/roof connections, roof plate lap seams, and other crevices/voids that preclude proper coating application.

5. Cure applied coatings.

6. Wash down coated surfaces and disinfect complete interior.

7. Spot clean, spot prime and spot finish any exterior paint damaged by recoating operations.

8. Test, handle and dispose of any hazardous and non-hazardous wastes generated from interior coating operations in conformance with all regulations.

B. Surfaces not to be coated include all non-damaged exterior surfaces, concrete surfaces, liquid level indicator accessories, glass, plastic, nameplates, and other surfaces on which coatings would not adhere or would interfere with operation or purpose of specific item.

C. If severely corroded or damaged areas are discovered during the course of abrasive blast cleaning operations, the Contractor shall notify the Owner or

authorized representative. Welding and repair of severely corroded areas of tank and other mechanical repairs may be required during project.

1. The Contractor shall allow the Owner access to make tank repairs while the existing coatings are being removed or repaired. The Owner reserves the option to repair the tank structure with:

   a) Change order to the contract.

   b) Owner employees.

   c) A separate Contractor.

   d) Any combination of the above.

2. A no cost time extension will be issued should structural repairs delay abrasive blast cleaning and/or coating application. Preparation work shall continue while tank repairs are being made. The time extension will assume the Contractor will be able to re-mobilize and begin coating within two weeks of notification.

D. Remove cathodic protection system if present, re-install system after coating operation completed, and replace anodes and other components as specified in the Special Conditions.

E. Contractor is responsible for the cost of all testing and analyses, unless specifically stated otherwise.

1.03 REFERENCE SPECIFICATIONS AND STANDARDS

A. Without limiting the general aspects or other requirements of this specification, work and equipment shall conform to applicable requirements of municipal, state and federal codes, laws and ordinances governing the work, the Owner, SSPC: The Society for Protective Coatings, and manufacturer's printed instructions, subject to Owner's approval.

B. The Contractor shall meet all the terms of the Owner's General Conditions for Major Construction and Maintenance. The terms of the General Conditions shall be referenced for contractual procedures.

C. The Owner's decision shall be final as to interpretation and/or conflict between any of the referenced codes, laws, ordinances, specifications, and standards contained herein.

D. American Society for Testing and Materials (ASTM)

1. ASTM E337, Standard Test Method for Measuring Humidity with a Psychrometer

2. ASTM D1186, Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base

3. ASTM D3359, Standard Test Method for Measuring Adhesion by Tape.

4. ASTM D4138, Standard Test Method for Measurement of Dry Paint Thickness of Protective Coating Systems by Destructive Means

5. ASTM D4285, Standard Test Method for Indicating Oil or Water in Compressed Air

6. ASTM D4414, Standard Practice for Measurement of Wet Film Thickness by Notch Gages

7. ASTM D4417, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

8. ASTM D5402, Standard Test Methods for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs

E. American Water Works Association (AWWA)

1. AWWA D102, AWWA Standard for Coating Steel Water Storage Tanks

2. AWWA C652, AWWA Standard for Disinfection of Water Storage Facilities

3. AWWA M42, AWWA Manual of Water Supply Practices, Steel Water Storage Tanks

F. SSPC: Society for Protective Coatings (SSPC)

1. SSPC-SP 1, Solvent Cleaning

2. SSPC-SP 2/3, Hand/Power Tool Cleaning

3. SSPC-SP 6, Commercial Blast Cleaning

4. SSPC-SP 7, Brush-off Blast Cleaning

5. SSPC-SP 10, Near-White Blast Cleaning

6. SSPC-SP 11, Power Tool Cleaning to Bare Metal

7. SSPC-SP 15, Power Tool Cleaning to Commercial Grade Cleanliness

8 SPC-PA1, latest revision, for "Shop, Field and Maintenance Painting

9. SSPC-PA 2, Measurement of Dry Film Thickness with Magnetic Gages

10. SSPC-VIS 1, Visual Standard for Abrasive Blast Cleaned Steel

11. SSPC-VIS 3, Visual Standard for Hand and Power Tool Cleaned Steel

12. SSPC Publication No. 91-12, Coating and Lining Inspection Manual

13. SSPC-Visual Comparison Manual

14. SSPC Guide 12 - Guide for Illumination of Industrial Painting

15. SSPC's Publication 91-12 "Testing Recirculated Abrasives

G. NACE International (NACE)

1. NACE SP 0188-06, Standard Recommended Practice for Discontinuity (Holiday) Testing of Protective Coatings

2. NACE SP 0178-89, Standard Recommended Practice for fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service.

1.04 COMPLETION OF WORK

A. All surface preparation, coating application, curing of coating and handling/disposing of hazardous and non-hazardous materials/wastes shall be completed within the number of calendar days consistent with the Contract Completion Schedule. If work is not completed within the number of calendar days specified, Contractor shall bear all additional expenses incurred after contract completion schedule.

1.05 CONTRACTOR

A. The contractor shall be a licensed Painting and Decorating Contractor in the State of California (C-33 Classification).

B. The Contractor shall have a minimum of five (5) years practical experience and successful history in the application of specified products to surfaces of steel water storage tanks. The Contractor shall substantiate this requirement by furnishing a written list of references.

1.06 DEFINITIONS

A. "Engineer" refers to the person authorized by the Owner to oversee the execution of the contract, acting either directly or through his properly authorized agents, each agent acting only within the scope of authority delegated to him.

B. “Lining” refers to protective materials used or applied to interior surfaces. "Paint" refers to protective materials used or applied on exterior surfaces. "Coating" refers to protective materials used or applied on interior or exterior surfaces, or any protective material in general.

C. "Owner" refers to the City of Imperial.

1.07 HOURS OF WORK

A. The Contractor's activities shall be confined to an eight-hour shift between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday, excluding Owner-designated holidays. Deviation from these hours will not be permitted without the prior consent of the Owner, except in emergencies involving immediate hazard to persons or property.

B. In the event of either a Contractor requested deviation or Contractor caused emergency deviation, inspection service fees for Owner personnel and any third-party inspector will be charged against the Contractor at the discretion of the Owner. The service fees will be calculated at overtime rates including benefits, overhead, and travel time. The service fees will be deducted from any amounts due the Contractor. Charges will be made for any change to extraordinary work hours, including standby time due to late crew arrival or "no-show" by crew.

C. Inspection hours made necessary as a result of the Contractor's crew working over forty hours per week must be scheduled and approved by Owner and overtime paid for by Contractor at the prevailing rate for overtime. Inspections requested by or made necessary as a result of actions by the Contractor on Saturdays, Sundays or holidays must be scheduled and approved by Owner and paid for by Contractor at the prevailing rate for overtime or holiday work.

1.08 PRE-BID CONFERENCE

A. Pre-Bid Conference for the project will be conducted by the Engineer as noted in the Notice Inviting Bids.
The object of the Pre-Bid Conference is to acquaint bidders with the existing facility and site. The conditions and requirements of the plans and specifications shall govern over any information presented at the Pre-Bid Conference, unless amended in writing by the Engineer.

1.09 PRE-CONSTRUCTION CONFERENCE

A. Pre-Construction Conference shall be scheduled prior to start of project. The Owner, Contractor, and Engineer shall be present. The sequence of work will be discussed and will be mutually agreed upon to ensure that the work is accomplished and completed as stated in the Contract, and to allow for inspection and operations flexibility by Owner. A schedule of work to be accomplished and a list of labor, material, and equipment rates for additional work will be established and maintained throughout the project. Contractor shall furnish resumes of all personnel assigned to project, and a complete set of approved submittal data for use by inspection personnel. Contractor shall have a designated representative for all projects.

1.10 QUALITY ASSURANCE

A. General: Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application, and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and acceptable professional standards and are approved by the Owner.

B. The Contractor shall submit manufacturers' literature and material Safety Data Sheets (SDS) on all materials to be used in coating operations, including, but not limited to coatings, thinners, solvents, and cleaning fluids. No materials will be allowed which have been stored over 60 days, or manufacturer's recommended shelf life, whichever is less. Contractor shall maintain copies of SDS's at jobsite at all times. Copies of all invoices showing purchased dates and delivery for all material mentioned above will be required.

C. All materials furnished and all work accomplished under the Contract shall be subject to inspection by the Owner. The Contractor shall be held strictly to the true intent of the Specifications in regard to quality of materials, workmanship, and diligent execution of the Contract.

D. Work accomplished in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the Owner and used in the work thus removed, shall be borne by the Contractor, regardless of whether the work removed is found to be defective or not.

Work covered up without the authority of the Owner, shall, upon order of the Owner, be uncovered to the extent required, and the Contractor shall similarly bear the entire cost of accomplishing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the Owner.

E. The Owner will make, or have made, such tests as it deems necessary to assure the work is being accomplished in accordance with the requirements of the Contract. Unless otherwise specified in the Special Conditions, the cost of such testing will be borne by the Owner. In the event such tests reveal non-compliance with the requirements of the Contract, the Contractor shall bear the cost of such corrective measures deemed necessary by the Owner, as well as the cost of subsequent retesting and re-inspection. It is understood and agreed the making of tests shall not constitute an acceptance of any portion of the work, nor relieve the Contractor from compliance with the terms of the Contract.

F. Warranty Inspection: Warranty inspection shall be conducted between the eleventh and eighteenth months following completion of all work and filing of the Notice of Acceptance. The inspection will be accomplished when there will be minimum inconvenience to the Owner. All personnel present at the Pre-Job Conference should be present at this inspection. All defective work shall be repaired in strict accordance with this specification and to the satisfaction of the Owner.

1. Notification: The Owner shall establish the date for the inspection and shall notify the Contractor at least 30 days in advance. The Owner will drain the tank and Contractor shall provide, at his own expense, suitable lighting, scaffolding and ventilation for the inspection. At the Owner's option, warranty inspection for interior surfaces may be accomplished by diving operations with tank in service.

2. Interior Inspection: The entire interior coating systems shall be visually inspected. All defective coating as well as damaged or rusting spots of the tank shall be satisfactorily repaired by and at the sole expense of the Contractor. All repaired areas shall then be electrically tested as specified in the above-mentioned section and repair/electrical testing procedure repeated until surface is acceptable to the Owner. Defective coating shall be any of those defined by SSPC's Visual Comparison Manual.

3. Inspection Report: The Owner shall prepare and deliver to the Contractor an inspection report covering the first anniversary inspection, setting forth the number and type of failures observed, the percentage of the surface area where failure has occurred, and the names of the persons making the inspection.

4. Schedule: Upon completion of inspection and receipt of Inspection Report as noted herein, Owner shall establish a date for Contractor to proceed with remedial work. Any delay on part of Contractor to meet schedule Contract and Owner may proceed to have defects remedied as outlined under General Provisions.

5. Remedial Work: Any location where coating has peeled, bubbled, or cracked and any location where rusting is evident shall be considered to be a failure of the system. The Contractor shall make repairs at all points where failures are observed by removing the deteriorated coating, cleaning the surface, and reapplying the same system. If the area of failure exceeds 25 percent of a specific coated surface, the entire applied system may be required to be removed and reapplied based on the Owner's sole judgment in accordance with the original specification.

   a) Specific coated surfaces are defined as follows:

      (i) Underside of roof and entire roof support structure

      (ii) Interior shell wall

      (iii) Floor

      (iv) Attachments, accessories and appurtenances

6. Upon completion of warranty remedial repairs, Contractor shall disinfect tank as originally specified.

7. Costs: All noted costs for Contractor's inspection and all costs for repair shall be borne by the Contractor and in figuring his bid, the Contractor shall include an appropriate amount for testing and repair as no additional allowance will be paid by the Owner for said inspection and repair.

1.11 SAFETY AND HEALTH REQUIREMENTS

A. Contractor shall fully comply with California Code of Regulations pertaining to the work including, but not limited to, the following Construction Safety Orders (CSO) or General Industry Safety Orders (GISO):

1.	Illness Injury Prevention Program	CSO/GISO 1508/3203
2.	Confined Space Plan	GISO 5156/5159

3.	Respiratory Protection	CSO/GISO 1531/5144
4.	Hazard Communication	GISO 5194
5.	Lead-Based Paint Compliance Plan	CSO 1532.1
6.	Rolling Scaffolds	CSO 1646
7.	Employee Safety Instruction	CSO 1510
8.	Emergency Medical Service	CSO 1512
9.	Dusts, Fumes, Mists, Vapors & Gases	CSO 1528
10.	Fall Protection	CSO
11.	Hearing Conservation	GISO

B. General: Contractor assumes the responsibility to accomplish all work in a safe and prudent manner, and to conform to all applicable safety requirements, regulations and guidelines of federal, state and local regulatory agencies, as well as applicable manufacturer's printed instructions and appropriate technical bulletins and manuals. Without in any way limiting that responsibility or assuming responsibility for safety, Owner is particularly concerned that the following are strictly observed:

1. Life Saving Equipment: Contractor shall provide and require use of personal protective life saving equipment for all its personnel working in or about the project site.

2. Access Facilities: All ladders, scaffolding and rigging shall be designed for their intended uses. Ladders and scaffolding shall be erected where requested by Owner to facilitate inspection and be moved by the Contractor to locations requested by the Owner.

3. Ventilation: Contractor shall ensure there is proper ventilation, air eduction and exhausting of solvent vapors to reduce the concentration of air contaminants to a level which poses no hazard to personnel at or near the job site. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured. Forced air eduction during blast cleaning and coating application operations is mandatory. The exhaust blower capacity shall be sufficient to maintain air changes within tank interior in accordance with Cal-OSHA, coating manufacturer's recommendations, and local air quality management district regulations.

    a) If dehumidification is not used, exhaust blower shall exhaust into a Owner-approved structure which precludes the exhausting of lead-laden or non-hazardous coating chips or particulate matter onto the site or into the atmosphere.

4. Dehumidification: Dehumidification equipment or other alternate ventilation systems must be approved by the Owner. Equipment must be operated on a continuous basis during all blasting, coating and curing operations, including shifts during which no work is being accomplished. Requirement for exhausting of dust, etc. from tank interior noted in Part 1.11B.3.a above applies to all dehumidification operations.

5. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. During abrasive blasting operations, nozzlemen shall wear U.S. Bureau of Mines approved positive pressure air-supplied helmets and all other persons who are exposed to blasting dust shall wear respiratory protection determined necessary by the exposure assessment of the Certified Industrial Hygienist.

    Positive pressure air-fed hoods and/or masks shall be supplied by an air source currently certified to produce "Class D Breathing Air". Contractor shall at all times during the work maintain onsite current documentation to substantiate the quality of the breathing air.

    Barrier creams shall be used on any exposed areas of skin.

6. Grounding: All hoses shall be grounded to prevent accumulation of charges of static electricity.

7. Illumination: Sparkproof artificial lighting shall be provided for all work in confined spaces. Light bulbs shall be guarded to prevent breakage. Lighting fixtures and flexible cords shall comply with the requirements of NFPA 70 "National Electric Code" for the atmosphere in which they will be used. Whenever required by the Owner, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the Owner.

8. Toxicity and Explosiveness: The maximum allowable concentration of vapor shall be kept below the maximum safe concentration for eight-hour exposure, plus Lower Explosive Limit (L.E.L.) must be strictly maintained. All regulations related to safety of personnel and handling

of such materials shall be strictly followed. Cost of handling and disposing of such materials will be borne by the Contractor.

a) When interior coatings have been determined to contain lead or other hazardous materials at any concentration, Contractor's responsibility for meeting all regulations relating to toxic and hazardous materials includes, but is not limited to, obtaining all permits and EPA numbers, having a Certified Industrial Hygienist onsite the first day of blasting to sample the air, processing paperwork, blood testing of personnel at start and finish of project, sampling and testing of wastes, paying fees, handling and packaging of wastes at site, and delivering materials to the selected Class I dumpsite using licensed hazardous materials transporters. All regulations relating to working with heavy metals or confined spaces shall be strictly enforced.

9. Protective Clothing: When handling and mixing coatings, workmen shall wear gloves and eye shields. If working with lead or other heavy metals, regulations regarding handling of exposed clothing shall be strictly enforced.

10. Fire: Contractor shall provide appropriate fire abatement devices and prohibit any flames, welding and smoking during mixing and application of materials.

11. Sound Levels: Whenever the occupational noise exposure exceeds the maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protective devices.

a) Noise suppression shall be practiced at all times to minimize disturbance to persons living or working nearby, and to the general public. Measures to be used in effecting noise suppression shall include (but not limited to) equipping all internal combustion engines with critical residential silencers (mufflers), shielding noise-producing equipment from nearest areas of human occupancy by location in such positions as to direct the greatest noise emissions away from such areas, and conducting operations in the most effective manner to minimize noise generation consistent with the prosecution of the Contract in a timely and economic manner. Whenever levels are objectionable, they shall be adjusted as directed by the Owner.

1.12 COMPLIANCE WITH ENVIRONMENTAL REGULATORY REQUIREMENTS

A. Contractor shall comply with all current federal, state, and local environmental laws and regulations, including, but not limited to the laws and regulations of the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).

PART 2 - COATING AND DISINFECTION MATERIALS

2.01 GENERAL

A. Standard products of manufacturers other than those specified on the Approved Material List provided, will be accepted when it is proved to the satisfaction of the Owner they are equal in composition, durability, usefulness and convenience for the purpose intended. Substitutions will be considered provided the following minimum conditions are met:

1. The proposed coating system shall have a dry film thickness equal to or greater than that of the specified system.

2. The proposed coating system shall employ an equal or greater number of separate coats.
3. The proposed coating system shall employ coatings of the same generic type.

4. All requests for substitution shall carry full descriptive literature and directions for application, along with complete information on generic type, non-volatile content by volume and a list of 10 similar projects, all at least three years old, where the products have been applied to similar exposure.

5. The Owner requires that the Contractor provide certified laboratory data sheets showing the results of complete spectrographic and durability tests accomplished on the proposed substitute. Tests shall be accomplished by an independent testing laboratory satisfactory to the Owner and all costs incurred in the testing program shall be borne by the Contractor. In any case, the Owner shall be sole and final judge of the acceptability of any proposed substitution. Requests for substitution must be approved in writing prior to date of bid.

B. All materials shall be brought to the jobsite in the original sealed containers. They shall not be opened or used until Owner's representative has physically inspected contents and obtained necessary data from information printed on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected. Copy of invoice showing purchase and delivery dates will be required.

C. Flammability, toxicity, allergenic properties, and any other characteristic requiring field precautions shall be identified and specific safety practices shall be stipulated as required by federal, state, local manufacturer, or SDS.

D. All coating materials shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable materials must be stored to conform with Owner, County, State and Federal safety codes for flammable materials. Coatings shall be protected from freezing at all times.

E. Contractor shall use products of same manufacturer for all coats.

2.02 INTERIOR COATING MATERIALS

A. All coating materials for interior surfaces of tank must appear on the Standard 61 of the National Sanitation Foundation (NSF) or Standard 61 of the Underwriters' Laboratory, latest. Products containing perchloroethylene (PCE), trichloroethylene (TCE), lead, or chromium will not be permitted.

1. The Contractor shall provide, prior to coating any surfaces of the reservoirs, written certifications from the coating manufacturers stating that the coating materials, thinners, solvents, and equipment cleaning fluids provided by the manufacturers do not contain PCE or TCE. The Contractor shall also certify, in writing, that no material containing PCE, TCE, lead, or chromium in any form will be used for the interior coatings of the reservoir. This shall include all solvents, thinners, and cleaning fluids at the job site, regardless of where the materials were obtained.

2. The Owner may require all solvents, thinners and cleaning fluids be tested for TCE and PCE prior to being used at the job site. The Contractor shall provide the Owner with samples of each material at no cost to the Owner. Unacceptable materials shall be removed from the job site.

B. All coating materials shall comply with air pollution regulations, specifically the local air quality management district or air pollution control district rules, and rules for the Owner. Please refer to www.aqmd.gov/rules/reg/reg11/r1113.pdf.

C. All interior coating materials shall also conform to regulations and applicable requirements of local, State and Federal health regulatory agencies, and must appear on the current National Sanitation Foundation (ANSI/NSF) Standard 61, latest.

D. Coatings shall be in accordance with the systems specified in Part 3.07.

E. Joint sealant shall be an NSF-61 certified approved flexible polyurethane or polysulfide product, meeting Federal Specification TT-S-230.

2.03 DISINFECTION MATERIALS

A. Disinfection materials shall conform to all requirements of AWWA Standard C652, latest revision.

B. Cleaner for pre-disinfection cleaning of interior surfaces shall be Gre-Sa-Way or approved equal.

PART 3 - EXECUTION

3.01 GENERAL

A. All surface preparation, coating application shall conform to applicable standards of the Society for Protective Coatings, the Owner and the manufacturer's printed instructions. Material applied prior to approval of the surface preparation by the Owner shall be removed and reapplied to the satisfaction of the Owner at the expense of the Contractor.

B. All work shall be accomplished by skilled craftsmen qualified to accomplish the required work in a manner comparable with the best standards of practice. Resumes of personnel to be used on the project shall be submitted upon Notice of Award. Continuity of personnel shall be maintained and transfers of key personnel shall be coordinated with the Owner.

C. The Contractor shall provide a supervisor to be at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make other decisions pertaining to the fulfillment of their contract.

D. Contractor shall provide approved sanitary facilities for all Contractor personnel, as no existing facilities will be available to the Contractor. Facilities shall be maintained during the project to complete standards established by Owner and shall be removed prior to Contractor's departure from the site at completion of the project.

E. Dust, dirt, oil, grease or any foreign matter which will affect the adhesion or durability of the finish must be removed by washing with clean rags dipped in an approved commercial cleaning solution, rinsed with clean water and wiped dry with clean rags.

F. The Contractor's equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Blotter test shall be accomplished at each start-up period and as deemed necessary by the Owner. Contractor's equipment shall be subject to approval of the Owner. This approval does not relieve the Contractor's responsibility for the safe operation of the equipment or its performance.

    1. Cleanliness of compressed air supply shall be verified daily, and as deemed necessary by Owner, by directing a stream of air, without abrasive, from the blast nozzle onto a white blotter or cloth for twenty seconds. If oil or water appears on the blotter or cloth, all traps and separators shall be blown down until two subsequent twenty-second tests show no further oil or water.

G. Application of the first coat shall follow immediately after surface preparation and cleaning within an eight-hour working day. Any cleaned areas not receiving first coat within an eight-hour period shall be recleaned prior to application of first coat. If dehumidification equipment is used, cleaned areas may have first coat applied at last shift of the week, provided dehumidification equipment has run continuously during the complete week, and surfaces meet all requirements of the specification. Monitoring devices approved by the Owner shall be used to ensure continuous operation.

H. Because of presence of moisture and possible contaminants in atmosphere, care shall be taken to ensure previously coated or painted surfaces are protected or recleaned prior to application of subsequent coat(s). Methods of protection and recleaning shall be approved by the Owner.

    1. Project is subject to intermittent shutdown if, in the opinion of the Owner, cleaning and application operations are creating a localized

condition detrimental to ongoing facility activities, personnel or adjacent property.

2. In the event of emergency shutdown by the Owner, Contractor shall immediately correct deficiencies. All additional costs created by shutdown shall be borne by Contractor.

I. The Contractor shall provide, at his own expense, all necessary power required for his operations under the contract.

J. Contractor shall tightly seal any tank vents, pumps, motors, and other open areas to prevent intrusion of coating or other contaminants. The sealing system shall be designed to allow continuous operation of facilities or equipment, with no detrimental effects. If necessary, sealing system shall be removed daily at termination of work, or as directed by the Owner.

K. Overspray Control: The Contractor shall conduct all operations so as to confine abrasive blasting debris and coating overspray to within the bounds of the site. The Contractor shall take all precautions necessary to prevent adverse off-site consequences of application operations. Any complaints received by the Owner relating to any such potential off-site problems will be immediately delivered to the Contractor-assigned jobsite representative. The Contractor shall immediately halt blast cleaning or application work and shall take whatever corrective action is required to mitigate any such problems. All costs associated with protection of off-site properties and/or correction of damage to property as a result of blast cleaning or application operations shall be borne directly by the Contractor at no additional expense to the Owner.

1. Owner approval of Contractor's overspray prevention procedures and Owner's presence on project does not free Contractor from responsibility for overspray. Daily approval of procedures will be required prior to start of spray operations.

3.02 REMOVE AND REINSTALL EXISTING CATHODIC EQUIPMENT

A. When the tank has an existing cathodic protection system installed, the Contract Price shall include, but not be limited to, all labor, materials, and equipment to perform the following work:

1. Disconnect wiring to cathodic equipment, anodes, and reference cells.

2. Remove all existing header wires, control boxes, mounting hardware, anodes and reference cell. Protect equipment during the surface preparation and coating processes.

3. Upon completion of all coating refurbishment work, re-install header wires, control boxes, mounting hardware, anodes and reference cell, and attendant wiring. Contractor shall replace all components specified in the Special Conditions. Test and verify to the satisfaction of the Owner Representative that the cathodic equipment is fully functional. Once the cathodic protection system is accepted as fully functional, it shall be disconnected for the duration of the 18-month coating warranty period.

4. Any cathodic protection components inadvertently damaged during the removal and re-installation process shall be replaced with new components to the satisfaction of the Owner Representative.

5. Where new anodes are required as detailed in the Special Conditions, anode materials and installation shall be as follows:

   MAGNESIUM ANODES (20', Standard Potential)

   a. Anodes shall be extruded magnesium alloy rods in accordance with ASTM B107 with a steel wire core. The standard potential magnesium alloy shall have a theoretical energy capacity of 1000 ampere-hours per pound and have a nominal useful capacity of 500 ampere-hours per pound.

   b. The chemical composition shall be as follows:

Aluminum	2.5 to 3.5%
Manganese	0.20% Min.
Zinc	0.7 to 1.3%
Silicon	0.05% Max.
Copper	0.01% Max.
Nickel	0.001% Max.
Iron	0.002% Max.
Other (each)	0.05% Max.
Other (total)	0.30% Max.
Magnesium	Remainder

   The open circuit potential of the anode shall be between 1.40 and 1.50 volts versus a copper/copper-sulfate reference electrode.

   c. Anodes shall have an outside diameter of 2.024-inch and a nominal weight of 2.5 pounds per linear foot. Lengths are 20 feet or as shown on the Drawings. The steel wire core shall be 3/16-inch diameter.

   d. The anode lead cable shall be attached to the steel wire anode core with suitable brass crimp connector. The connection shall be silver soldered or brazed as shown in the Drawings. The connection shall be insulated with a heat shrink, mastic filled sleeve. The sleeved connection and 2 inches of the anode shall be fully encapsulated with a PVC cap filled with potting epoxy as shown in the Drawings.

6. Where new reference cell is required as detailed in the Special Conditions, reference cell materials and installation shall be as follows:

   COPPER SULFATE REFERENCE ELECTRODE (PERMANENT)

   a. General Requirements: Copper sulfate reference electrodes (or cells) shall be constructed with an ion trap to prevent

contamination. The reference electrode shall have a design life of 15 years and a stability of +/-5 millivolts under a 3.0-microampere load.

b. Reference Electrode Wires: Provide each reference electrode with a No. 14 AWG THWN lead wire. The cells shall have red insulation. For reference cells installed inside tank, each lead wire shall be long enough to extend from the electrode to the anode resistor box without any splices. For buried reference cells installed inside tank, each lead wire shall be long enough to extend from the pipe trench to the test box without any splices.

c. Type: Use STAPERM Model CU-2-FW, or approved equal.

3.03 TREATMENT OF HAZARDOUS MATERIALS (WHEN PRESENT AT ANY CONCENTRATION)

A. All regulations related to safety, worker protection and handling of such materials shall be strictly followed. When interior surfaces have been determined, by laboratory analyses, to contain varying levels of lead and other heavy metals, submittal of a written plan of action for the project shall be accomplished by Contractor prior to start of project.

B. When heavy metals are present, Contractor shall comply with requirements of the Codes and Regulations listed in Section 3.03.F. below for handling and disposing of hazardous wastes resulting from surface contamination and removed coating particles. Submittal of a written plan of action for the project shall be accomplished by Contractor prior to start of project.

C. When heavy metals are present, Owner will remove four representative samples of soil from jobsite prior to start of work. Samples will be tested under requirements listed below for determination of lead and other heavy metals to ensure soil does not contain excessive levels of lead and other heavy metals. If soils contain excessive levels of lead or other heavy metals, site remediation will be the responsibility of the Owner. Copies of laboratory analyses reports shall be forwarded to Contractor immediately upon receipt from laboratory, prior to start of any work. Any required remediation schedule will be determined by the Owner.

D. When interior coatings have been determined to contain lead, all work must be accomplished in compliance with 29 CFR Part 1926, Lead Exposure in Construction, and Title 8, Section 1532.1. In addition, when lead is present at any concentration, Contractor shall perform the following:

1. On first day of any heavy metals based coating removal, work environment must be tested by a Certified Industrial Hygienist (CIH) to determine levels of protection required to protect workers and the environment from lead and other heavy metal contamination. All costs related to testing by the CIH shall be borne by the Contractor.

2. Testing will include air sampling and testing of filters removed from the workers' respirators or personal air monitors to determine the level of lead exposure. Upon completion of testing, the CIH shall file a written report on the results of the testing. Level of exposure will then determine the type respiratory protection, clothing, housekeeping, hygiene facilities, medical surveillance, medical removal protection, employee information and training, signs, record keeping, and observation of monitoring required for the project.

   No work shall re-commence until the report from the CIH is filed and worker and environmental protection required is in place. Costs for the time delay shall be included in the Contractor's original bid.

E. When interior surfaces of tank contain hazardous materials, dust emissions, abrasive deflection, and removed coating particles shall be confined to interior of containment structure where abrasive blasting is being accomplished.

F. All lead coating removal work shall be governed by, but not necessarily limited to, the following:

1. Health and Safety Code, Division 20, Chapters 5 and 6 (California Hazardous Waste Control Act)

2. Title 22 California Administrative Code (Minimum Standard for Management of Hazardous and Extremely Hazardous Materials)
3. Title 8, California Administrative Code

4. Code of Federal Regulations (29 CFR 1910 and 1926, applicable sections)

G. When existing coatings have been determined by laboratory analysis to be toxic or hazardous, coating and coating/abrasive residue mixture shall be tested to assure conformance with hazardous material tolerances have been met. It shall be the responsibility of the Contractor to provide adequate containers on the jobsite to retain spent media and removed coating until tests have been completed or approval for disposal from a landfill has been obtained. Disposal of hazardous or toxic waste at other than government regulated landfills will not be permitted. Documentation of all hazardous or toxic waste disposal will be required.

H. When heavy metals are present, then upon completion and acceptance of all recoating operations, site soil will be retested by Owner, in same locations tested prior to start of work, for presence of lead or other heavy metals. Testing will be accomplished by the same laboratory as the original testing. If soils contain excessive levels of lead or other heavy metals above those levels determined by testing at start of work, Contractor shall be responsible for removal and disposal of contaminated soil, and returning the site to its original condition. Copies of laboratory analyses reports shall be forwarded to Contractor immediately upon receipt from laboratory, prior to start of any work. Any required remediation schedule will be determined by the Owner. Handling, storing, transporting and disposal of any hazardous wastes shall be in complete compliance with all regulatory requirements.

3.04 SURFACE PREPARATION, GENERAL

A. The latest revision of the following surface preparation specifications of the Society for Protective Coatings shall form a part of this specification. (Note: An element of surface area is defined as any given square inch of surface).

1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods, which involve a solvent or cleaning action.

2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale and other detrimental foreign matter present to degree specified by hand chipping, scraping, sanding and wire brushing.

3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale and other detrimental foreign matter present to degree specified by power wire brushing, power impact tools or power sanders.

4. Commercial Blast Cleaning (SSPC-SP6): Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.

5. Brush-off Blast Cleaning (SSPC-SP7): Blast cleaning to remove loose rust, loose mill scale, and other detrimental foreign matter present to the degree specified.

6. Near-White Blast Cleaning (SSPC-SP10): Blast cleaning to near-white metal cleanliness, until at least ninety-five percent of each element of surface area is free of all visible residues.

7. Power Tool Cleaning to Bare Metal (SSPC-SP11): Power tool cleaning to produce a bare metal surface and to retain or produce a surface profile of at least 1.0 mil.

8. Brush-Off Water Jet Blast (SSPC-SP12): Low pressure water jet blast at a maximum pressure of 5,000 psi to remove loose rust, loose paint, and other detrimental foreign matter present.

B. Any burrs, weld spatter, sharp edges, corners, or rough welds which would cause difficulty in achieving a defect-free paint system shall be chipped or ground smooth in conformance to NACE Standard RP0178, latest. It is not the intent to have the welds or "scars" ground "flush". The object of the grinding is to eliminate sharp edges, corners, and overlaps to provide a surface for the application of a uniform thickness of coating or paint without voids or other defects.

C. Abrasive blasting nozzles shall be equipped with "deadman" emergency shut-off nozzles. Blast nozzle pressure shall be a minimum of 95 P.S.I. and shall be verified by using an approved nozzle pressure gage at each start-up period or as directed by the Owner. Number of nozzles used during all blast cleaning operations must be sufficient to ensure timely completion of project, subject to designation and approval by Owner.

D. All blast hose connections shall be tethered and secured to prevent separation during blast cleaning operations, and shall be taped with duct tape prior to pressurizing. All taped connections shall be visually inspected for leaks within five minutes after start of blast cleaning operations and at the end of blast cleaning operations. Leaking connections shall be immediately repaired to prevent further damage.

E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Contractor is responsible for maintaining dust emissions within the legal level and that level which would not create a nuisance.

F. Particle size of abrasives used in blast cleaning shall be that which will produce a 2.0 mil surface profile or in accordance with recommendations of the manufacturer of the specified coating system to be applied, subject to approval of Owner.

G. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants which would interfere with adhesion of coatings and shall not be reused unless specifically approved by the Owner. Abrasives shall be certified for unconfined dry blasting pursuant to the California Administrative Code, Section 92520 of Subchapter 6, Title 17, and shall appear on the current listing of approved abrasives. Invoices or load sheets confirming above shall be required.

H. During blast cleaning operations, caution shall be exercised to ensure existing paints are not exposed to abrasion from blast cleaning.

I. Blast cleaning from rolling scaffolds shall only be accomplished within confines of interior perimeter of scaffold. Reaching beyond limits of perimeter will be allowed only if blast nozzle is maintained in a position which will produce a profile acceptable to the Owner.

J. The interior surfaces of the outlet nozzle and that portion of the inlet nozzle permanently attached to the tank shall be cleaned of all old coating and rust by blast cleaning or other approved methods. Precautions shall be taken so as to prevent any damage to the existing gate or butterfly valves at the inlet and outlet nozzles. All exposed surfaces of the valves shall be masked prior to blast cleaning the nozzles.

K. During blast cleaning operations, inlet, outlet, overflow and bottom drain openings shall be covered with plywood bulkheads, or other approved barriers, to prevent entry of spent abrasive, removed coating or other foreign materials.

L. The Contractor shall keep the area of his work in a clean condition and shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the prosecution of the work or the operation of the existing facilities. Spent abrasives and other debris shall be removed at the Contractor's expense as directed by the Owner. When existing paints have been determined by laboratory analysis to be toxic or hazardous, handling shall be in accordance with Paragraph 3.03.G herein.

M. Blast cleaned and coated surfaces shall be cleaned prior to application of specified coatings via a combination of blowing with clean dry air, brushing/brooming and/or vacuuming as directed by the Owner. Air hose for

blowing shall be at least ½" in diameter and shall be equipped with a shut-off device.

N. All welds, when required, shall be neutralized with a suitable chemical compatible with the specified coating materials.

O. Brush-Off Water Jet Blast Cleaning (SSPC-SP12) shall be used only when and as directed by Owner. Pressures shall be those determined by Owner to effectively accomplish removal of loose, peeling/flaking coating or other detrimental surface contaminants.

3.05 SURFACE PREPARATION, INTERIOR

A. All surfaces shall be blast cleaned, in conformance to Society for Protective Coatings Specification SSPC-SP10 (Blast Cleaning to Near-White Metal).

1. Bottom surfaces are to be blast cleaned at beginning of project before any other surfaces are blast cleaned.

B. Wooden wedges shall be placed between roof plates and rafters. Wedges shall be positioned to provide a 1" minimum gap between roof plates and rafters.
Roof plates shall not be bent or deformed while inserting wedges. Wedges shall be repositioned during blasting operations to ensure that all areas are blasted.

C. All sandblast sand, removed coating, and any other residual debris shall be collected, removed from the site, and disposed of at an approved legal disposal site. Said material shall be collected and directly moved from site. Said materials shall not be stockpiled outside the reservoir prior to removal and disposal.

3.06 APPLICATION, GENERAL

A. Coating application shall conform to the requirements of the Society for Protective Coatings Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting," the Owner, the manufacturer of the coating materials printed literature and as specified herein.

B. No coating shall be applied under the following conditions:

1. When the surrounding air temperature or the temperature of the surface to be coated or painted is below 55 degrees F for epoxy coatings, below 45 degrees F for epoxy low temperature cure coatings, or above 110 degrees F for all materials.

2. Wet or damp surfaces or in rain, fog or mist.

3. When the temperature is less than 5 degrees F above the dewpoint.

4. When it is expected the air temperature will drop below 55 degrees F for epoxy coating, below 45 degrees F for epoxy low temperature cure coatings, or less than 5 degrees F above the dewpoint within two hours after application of coatings or paints.

    a) Dewpoint shall be measured by use of an instrument such as a sling psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables or equivalent. If dehumidification is used, equipment must run continuously during all phases of contract, except disinfection phase.

If above conditions are prevalent, coating application shall be delayed or postponed until conditions are favorable. The day's application shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.

C. Thinning shall only be permitted as recommended by the manufacturer and approved by the Owner and shall not exceed limits set by applicable regulatory agencies.

1. If Contractor applies any materials which have been modified or thinned to such a degree as to cause them to exceed established VOC levels, Contractor shall be responsible for any fines, costs, remedies, or legal action and costs that may result.

D. Each application of coating shall be applied evenly, free of brush marks, sags, runs and no evidence of poor workmanship. Care should be exercised to avoid lapping on glass or hardware. Coatings shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes as defined by SSPC's Visual Comparison Manual.

E. Protective coverings or drop cloths shall be used to protect floors, fixtures, equipment, prepared surface and applied coatings. Personnel entering tank or walking on exterior roof of tank shall take precautions to prevent damage or contamination of coated or painted surfaces. If required by Owner, personnel shall wear soft-soled shoes, or shoe coverings approved by Owner. Care shall be exercised to prevent coating from being spattered onto surfaces which are not to be coated. Surfaces from which such material cannot be removed satisfactorily shall be refinished as required to produce a finish satisfactory to the Owner.

F. All materials shall be applied as specified herein.

G. All welds and irregular surfaces shall receive a brush coat of the specified product prior to application of each complete coat. Coating shall be brushed in multiple directions to ensure penetration and coverage, as directed by the Owner. These areas include, but are not limited to, welds, nuts, bolts, roof lap seams, pitted areas, ends and flanges of rafters and girders, etc. Care shall be exercised to ensure dry film thickness of coatings does not exceed the maximum thickness allowed by the manufacturer of the specific product being applied.

H. At conclusion of each day's blast cleaning and coating operations, a 6" wide strip of blast cleaned substrate shall remain uncoated to facilitate locating point of origin for successive day's blast cleaning operations.

I. Epoxy coated surfaces or other multi-component materials exposed to excessive sunlight or an excessive time element beyond manufacturer's recommended recoat cycle, shall be scarified by Brush-Off Blast Cleaning (SSPC SP-7) or methods approved by Owner, prior to application of additional coating. Scarified coating shall have sufficient depth to assure a mechanical bond of subsequent coat.

J. All attachments, accessories, and appurtenances shall be prepared and finished in the same manner as specified for adjoining tank sections, except as specifically designated by the Owner.

K. All coating components shall be mixed in exact proportions specified by the manufacturer. Care shall be exercised to ensure all material is removed from containers during mixing and metering operations.

L. All coatings shall be thoroughly mixed, utilizing an approved slow-speed power mixer until all components are thoroughly combined and are of a smooth consistency. Coatings shall not be applied beyond pot-life limits or recoat cycles specified by manufacturer.

M. Thinners shall be added to coating materials only as required in accordance with manufacturer's printed literature and in the presence of the Owner. Quantities of thinner shall not exceed limits set by applicable regulatory agencies.

N. Application shall be by airless spray method, except as otherwise specified. Drying time between coats shall be strictly observed as stated in manufacturer's printed instructions, except there shall be a minimum of 24 hours between coats

O. When two or more coats are specified, each coat shall contain sufficient approved color additive to act as an indicator of coverage or the coats must be of contrasting color. A fine bristle broom and air shall be used to remove dust and other matter from each coat prior to application of any additional coats.

P. Care shall be exercised during spray operations to hold the spray nozzle perpendicular and sufficiently close to surfaces being coated, to avoid excessive evaporation of volatile constituents and loss of material into the air or the bridging of cracks and crevices. Reaching beyond limits of scaffold perimeter will not be permitted. All overspray identified by the Owner shall be removed by hand or pole sanding prior to application of subsequent coat.

Q. All mixing, thinning, application and holiday detection of coatings shall be accomplished in the presence of the Owner.

R. A time element equivalent to 7 days curing time at 70 degrees F and 50% relative humidity shall be allowed before placing the epoxy coating into service, as determined in Part 3.09 "DEHUMIDIFICATION".

S. Paint shall not be applied when wind speeds exceeds fifteen miles per hour.

T. Care shall be exercised during spray operations to hold the spray nozzle perpendicular and sufficiently close to surfaces being coated to avoid excessive evaporation of volatile constituents and loss of material into the air or the bridging of cracks and crevices. Reaching beyond limits of scaffold perimeter will not be permitted. All dryspray or overspray shall be removed as directed by Engineer and the area recoated.

3.07 APPLICATION, INTERIOR COATING SYSTEMS

A. After completion of surface preparation as specified, all surfaces shall receive a coating system as follows:

SEE SECTION 09878.1 (CUSTOM)

B. Shell/roof junction, roof plate lap seams, and designated void areas:

1. After completion of coating application, as specified, all void areas shall be filled with a joint sealant as specified. Joint sealant may be applied by caulking gun, trowel or other approved method. Sealant shall be pressed firmly into voids to insure 100% filling/sealing.

3.08 QUALITY CONTROL, INTERIOR COATING SYSTEMS

A. Surface Preparation: surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces," SSPC-Vis 1 and as described herein. Anchor profile for prepared surfaces shall be measured by using a nondestructive instrument such as a Testex Press-0-Film System in accordance with ASTM D4417. Temperature and dewpoint requirements shall apply to all surface preparation operations, except low and high temperature limits.

B. Dry film thickness verification and holiday inspection shall be performed by the Contractor in the presence of the Owner. Contractor shall provide all inspection equipment and a minimum of two of his personnel at the top of each scaffold to perform the inspections. Owner will provide one inspector for each scaffold being used by Contractor to witness Contractor's performance. Contractor shall check every square inch of the interior coating, including nuts, bolts, ends of rafters, mating surfaces, etc. and shall mark and repair all holidays as specified herein. All areas not meeting the specified dry film thickness and all areas with holidays shall be recoated and repaired by Contractor as directed by Owner.

C. Film Thickness Testing: thickness of coatings and paint shall be checked with a non-destructive film thickness gauge in accordance with ASTM D1186 and/or ASTM D7091. An instrument such as Tooke Gage should be used in accordance with ASTM D4138 if a destructive tester is deemed necessary. The sampling of film thickness of flat (e.g. plate) surfaces shall be tested in accordance with SSPC-PA2. The sampling of structural members or irregular surfaces shall be tested in frequency and locations, as directed by the Owner.

D. Holiday Detection: coating integrity of all interior coated surfaces shall be tested with an approved inspection device in accordance with NACE SP 0188.

All pinholes shall be marked, repaired in accordance with the manufacturer's

printed recommendations, and retested. No pinholes or other irregularities will be permitted in the final coating.

E. Inspection Devices: Contractor shall furnish, until final acceptance of coating and painting, inspection devices in good working condition for detection of holidays and measurement of dry-film thickness of coatings. They shall also furnish National Institute of Standards and Technology/National Bureau of Standards (NIST/NBS) certified thickness calibration plates to test accuracy of thickness gauges. Dry film thickness gauges and holiday detectors shall be available at all times until final acceptance of application. Inspection devices shall be operated by, or in the presence of the Owner with location and frequency basis determined by the Owner. The Owner is not precluded from furnishing its own inspection devices and rendering decisions based solely upon their tests.

F. Acceptable Inspection Devices: acceptable devices for ferrous metal surfaces include, but are not limited to Tinker-Rasor Models AP and AP-W holiday detectors, and SSPC, Type II units for dry film thickness gauging. Inspection devices shall be calibrated and operated in accordance with the manufacturer's instructions and SSPC-PA2.

G. Upon completion of the interior coating operations and after the required curing intervals, holiday detection shall be accomplished on all coated surfaces. A thorough visual holiday detection shall be completed on all surfaces above the overflow with any suspected holidays verified by high-voltage detection, as noted. The instrument shall be set at 2,000 volts, include a wire brush electrode, and be properly grounded. Repairs shall be retested. The contractor shall obtain a letter from the coating manufacturer approving this test procedure, prior to any testing. Should the manufacturer not approve of the use of a high-voltage testing device, a 67.5 volt device such as a Tinker and Rasor M-1 tester shall be used.

H. Upon completion of epoxy application to shell surfaces and abrasive blast cleaning of floor plates, and before application of epoxy to bottom surfaces, surfaces of completed epoxy coating on lower shell which may have been subjected to damage from abrasive blast cleaning of floor areas, shall be holiday detected again and repaired as specified herein.

I. All holiday detection of coatings shall be performed in the presence of the Owner.

J. Whenever and wherever required by Inspector, Contractor shall furnish illumination (level of illumination as determined by Owner) and scaffolding (level of scaffolding as determined by Owner) to permit inspection prior to acceptance of work. Contractor shall move lights and scaffolding as directed by Inspector to enable him to inspect all surfaces, inside and out.

3.09 DEHUMIDIFICATION

A. Dehumidification shall be used to control the environment within the tank space 24 hours a day during blast cleaning and coating application. The system shall be similar or equal to the following requirements

B. Operation Criteria:

1. The tank shall be continuously dehumidified 24 hours per day, 7 days per week during blasting, coating, between applications of coating, and until the system application is complete, until unless approved otherwise in writing by the Engineer. The equipment shall provide a relative humidity within the work space that does not exceed 35 percent 24 hours per day.

2. Maintain the dehumidification system at all times. Only ventilation equipment, not dehumidification equipment is required throughout final cure period.

3. Dehumidification equipment shall also provide the necessary ventilation for the removal of solvent vapors during the coating. At all times, maintain the concentration of solvent vapors in all parts of the tank at 10-percent below the lower explosive limit (LEL).

4. Ducting shall be a minimum of 18 inches in diameter, airtight and reinforced with spirally-wound wire to prevent collapse. Size of ducting shall be larger if deemed necessary by the Contractor in order to comply with these specifications or any local, state, or federal safety regulations. Sizing of the ducting, ventilation, and dehumidification equipment shall be the sole responsibility of the Contractor. Provide an appropriate connecting device between the 18-inch duct and designated opening. All bends in duct work shall have a minimum radius of 2 X ID of the ducting (i.e. 18” ID = 36” minimum radius).

5. The Contractor shall design and submit for review a dehumidification and ventilation plan, which provides for a minimum cross-draft velocity of 100 feet per minute in the vicinity of the work area. The cross-draft velocities shall be obtained with the use of a portable blower or fans.

6. The areas adjacent to the surface that are to be blasted and coated shall not be exposed to a relative humidity over thirty-five percent. Furthermore, these areas shall not have a surface temperature that is less than 15 degrees F above dew point at any time during cleaning and coating phases.

C. Equipment:

1. The dehumidification equipment shall be a solid desiccant (not liquid, granular, or loose lithium chloride) design having a single rotary desiccant bed capable of continuous operation, fully automatic, with drip-proof automatic electrical controller.

2. The equipment shall be capable of making two complete air changes every sixty minutes unless the 100 feet per minute cross-draft velocity requirement requires a larger volume.

3. The processed air from the dehumidification unit must maintain a relative humidity of fifteen percent or less.

4. During the coating phase, dehumidification units shall have auxiliary heaters capable of maintaining a constant air temperature inside the tank.

5. Air heaters are not acceptable as substitutes for dehumidification units.

6. Air chillers, heaters, or air conditioners may be used downstream of the dehumidifiers if they are approved for use by the manufacturer of the dehumidification equipment and the Engineer.

D. Dehumidification equipment shall be operating continuously, 24 hours a day, seven days per week from the time abrasive blasting begins, through to completion of all lining application. Equipment shall be turned off only for regular servicing or fueling of climate control equipment or generator(s). Equipment can be turned off during periods when there is no demand for dehumidification only if automatic controls are installed that perform the following:

1. Activates and deactivates the equipment by determining the difference between the coldest surface temperature and the dew point temperature in the tank.

2. Measures and logs surface temperature, inside air temperature, inside dew point temperature and equipment run time at 1-minute intervals. Copies of this data will be delivered to the Owner's representative.

3.10 FINAL CURING OF EPOXY COATINGS

A. Upon completion and acceptance of applied coating system, Contractor shall furnish an approved exhaust fan or blower of sufficient capacity to insure removal of solvent vapors during curing process. The fan or blower, after approval by Owner, shall be installed as approved by the Owner and shall remain in continuous operation until coating is completely cured as determined by the manufacturer of the coating system. Operation and maintenance of blower during curing operations shall be the responsibility of the Contractor.

1. If dehumidification is being used, the equipment shall remain in-place and run continuously during all curing operations.

B. After completion of curing cycle as required by the coating manufacturer, the Contractor shall test the applied coating with a solvent rub test performed in accordance with ASTM D 5402 to verify adequate curing has been attained.

1. If final cure has not been attained, based on above tests, ventilation shall be continued until applied coating passes the "acetone" or "hardness test".

C. After final cure is approved by the Owner, Contractor shall remove fan or blower.

3.11 REPAIR OF DAMAGED EXTERIOR PAINT SYSTEM

A. If Contractor's interior recoating operations damage exterior painted surfaces, damaged areas must be prepared and repainted to the satisfaction of the Owner. Method of preparation and application procedures/materials will be determined by the Owner, as required by the Owner's standard specifications for repainting of exterior surfaces of steel tanks. All repair of damaged areas will be at no cost to the Owner.

3.12 DISINFECTION

A. Disinfecting of interior surfaces of tank shall be accomplished in the presence of the Owner, in conformance to AWWA Standard C652 Section 4.2 Chlorination Method 2 as modified herein:

1. Disinfection shall be accomplished after completion and acceptance by Owner of all interior recoating and curing of coating as required in Part 3.10 "FINAL CURING OF EPOXY COATINGS".

2. Prior to disinfecting, the complete interior shall be cleaned with an approved cleaner or detergent applied via high pressure hot solution method. If deemed necessary by the Owner, immersed areas shall be scrubbed with a brush or similar implement which will apply force and pressure to the surface to completely remove residual solvents and other surface contaminants.

   Cleaned surfaces shall then be rinsed with clean water. Residual water and contamination removed during washing process shall be thoroughly flushed from tank. Contractor shall obtain approval of Owner prior to draining any residual water to waste. This operation shall be accomplished after completion of interior coating work as directed by the Owner.

3. After completion of cleaning cycles as noted above, all interior surfaces shall jet washed with a chlorine or chloramine solution having a content of 200 PPM. Chlorine or chloramine solution which accumulates on the bottom shall be drained to waste. Contractor shall obtain approval of Owner prior to draining any high strength chlorinated water to waste. Rinsing with clean water is not required unless directed by Owner.

4. Once the tank has been completely filled, the tank will be isolated from the water system and the Owner will take a Bac-T test. Bac-T samples will need to be taken immediately after filling the tank and a second Bac-T is to be taken after 24 hours. The tank is to remain off line until the results pass California drinking water standards: Absent for coliform bacteria and E. coli, and HPCs less than 500 CFU per mL. Should the Bac-T test fail, the Contractor will be responsible for reimbursing the Owner for the rejected and drained water and will be required to rechlorinate the reservoir as described above until the Bac-T tests are negative.

3.13 TESTING FOR VOLATILE ORGANIC COMPOUNDS (VOC'S) AND ODOR

A. VOC samples are to be taken for information only as a precautionary measure, as long as the coatings are NSF 61 approved, to be sure that there are no high levels of VOCs leaching into the tank. To monitor the presence of VOC's leached into the water from the coating process, the following procedure shall be utilized:

1. After satisfactory curing, the tank shall be filled by Owner in accordance with standard filling procedure. Water shall then be retained for a period of 5 days.

2. On the sixth day following completion of filling of tank, samples of water shall be removed by Owner, in accordance with latest Health Department memoranda. Samples shall then be forwarded, by Owner, to an approved test laboratory for testing to determine presence of VOC's.

3. After testing of samples, results must show levels of leached organics to be in accordance with levels established by the Health Department for various VOC's. Results will be verified by Health Department and tank will then be placed into operating service.

4. If levels of leached organics exceed those acceptable to the Health Department, the tank shall be drained, flushed, refilled and retested at the Contractor's expense. Failure of the tank to attain levels acceptable to the Health Department shall be the responsibility of the Contractor and remedial measures to attain such levels shall be at his sole expense.

5. If leached organics produce any taste and odor objectionable to consumers of the water from the tank, the tank shall be drained, recleaned, flushed, refilled and retested at the Contractor's expense. Failure of the tank to be taste and odor-free shall be the responsibility of the Contractor and remedial measures to attain such a condition shall be at his sole expense.

B. A physical sample will be taken and sent to lab for odor analysis. A passing odor of 3 TON or less will indicate consumer acceptance.

3.14 CLEANUP

A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Owner. Coating and thinner containers, and excess coating and thinners, shall be disposed of in conformance to current regulations. Coating spots upon adjacent surfaces shall be removed and the entire jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the complete satisfaction of the Owner at no cost to the Owner.

3.15 OMISSIONS

A. Care has been taken to delineate herein those surfaces to be coated. However, if coating requirements have been inadvertently omitted from this section or any other section of the specifications, it is intended that all metal surfaces, unless

specifically exempted herein, shall receive a first-class protective system equal to that given the same type surface pursuant to these specifications.

END OF SECTION 09878

SECTION 09878.1 (CUSTOM)

RECOATING AND DISINFECTION OF INTERIOR SURFACES OF AN EXISTING WELDED STEEL TANK BASED ON 100% REMOVAL OF EXISTING COATING AND REPLACEMENT WITH AN EPOXY COATING SYSTEM

3.07 APPLICATION, INTERIOR COATING SYSTEMS

A. After completion of surface preparation as specified, tank floor and bottom one-half foot of shell shall receive a 100% solids epoxy system, and all other surfaces shall receive a three coat epoxy system. All coating materials shall appear on the current ANSI/NSF/CAN 600 Standard. Topcoat shall be white. The total system shall be one of the following systems:

1. Carboline Company:

a. Floor and Bottom one-half foot of shell

i) Prime Coat: Phenoline Tank Shield FP or equal (must be NSF 61 certified),
Minimum Dry Film Thickness 3 – 5 mils
ii) Top Coat: Phenoline Tank Shield, Minimum Dry Film Thickness 30 mils
iii) The minimum dry film thickness of the completed system shall be 33 mils (0.033").

b. Shell and Roof

i) Prime Coat: Carboguard 891 VOC), Minimum Dry Film Thickness 4 – 6 mils
ii) First Intermediate Coat: Carboguard 891 VOC, Minimum Dry Film Thickness 4-6- mils
iii) Second Intermediate Coat: Carboguard 891 VOC, Minimum Dry Film Thickness 4-6- mils
iv) Topcoat: Carboguard 891 VOC, Minimum Dry Film Thickness 4-6 mils
v) The minimum dry film thickness of the completed system shall be 17 mils (0.017"). Note: Total maximum dry film thickness of competed system shall not be more than 20 mils.

2. Sherwin Williams Company:

a. Floor and Bottom one-half foot of shell

i) Prime Coat: Corothane 1 GalvaPac, Minimum Dry Film Thickness 2.5 mils
ii) Top Coat: SherPlate PW Epoxy, Minimum Dry Film Thickness 30 mils
iii) The minimum dry film thickness of the completed system shall be 32 mils (0.032").

b. Shell and Roof

i) Prime Coat: Corothane 1 GalvaPac, Minimum Dry Film Thickness 2.5 mils
ii) First Intermediate Coat: Macropoxy 5500, Minimum Dry Film Thickness 4-6 mils
iii) Second Intermediate Coat: Macropoxy 5500, Minimum Dry Film Thickness 4-6 mils
iv) Topcoat: Macropoxy 5500, Minimum Dry Film Thickness 4-6 mils
v) The minimum dry film thickness of the completed system shall be 17 mils (0.017").

3. Tnemec Company:

a. Floor and Bottom one-half foot of shell

i) Prime Coat: Series 94-H2O Hydro-Zinc, Minimum Dry Film Thickness 2.5 mils
ii) Top Coat: Series 22 Epoxoline, Minimum Dry Film Thickness 30 mils
iii) The minimum dry film thickness of the completed system shall be 32 mils (0.032").

b. Shell and Roof

i) Prime Coat: Series 94-H2O Hydro-Zinc, Minimum Dry Film Thickness 2.5 mils
ii) First Intermediate Coat: Series L140F Pota-Pox Plus, Minimum Dry Film Thickness 4-6 mils
iii) Second Intermediate Coat: Series L140F Pota-Pox Plus, Minimum Dry Film Thickness 4-6 mils
iv) Topcoat: Series L140F Pota-Pox Plus, Minimum Dry Film Thickness 4-6 mils
v) The minimum dry film thickness of the completed system shall be 17 mils (0.017").

END OF SECTION 09878.1

DIVISION 15

MECHANICAL

DIVISION 15

MECHANICAL

TABLE OF CONTENTS

SECTION 15800

VENTILATION BLOWER

PART 1 – GENERAL

1.1 SCOPE

A. This section covers reservoir ventilation systems up to 0.75 HP in size intended for continuous use while installed on top of potable water storage tank. Blower will operate 24 hours a day, 7 days per week. Each blower shall consist of a continuous duty A/C motor coupled to a composite fan blade, and a non-submersible control center that houses all controller electronics. Belt driven blowers shall not be acceptable.

1.2 THE REQUIREMENT

A. CONTRACTOR shall furnish blower, with a control center, and install blower together with control center and accessories necessary for operable system.
B. OWNER shall furnish electrical conduit with either 120VAC single phase voltage based on, a safety disconnect switch and a 20amp circuit breaker up to the point of installation of the blower system control center.
C. CONTRACTOR shall also provide conduit from control center to blower

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. NEMA Type, 4X and 12
B. CSA Type, 4X and 12

1.4 CONTRACTOR SUBMITTALS

A. Installation, O&M's shall be obtained from the equipment manufacturer
    1. General equipment specifications and data sheets
    2. Installation, start-up, operation, and maintenance instructions
    3. Factory-recommended maintenance schedule
    4. Wiring diagram

1.5 QUALITY ASSURANCE

A. Each blower shall be tested prior to shipment.

1.6 WARRANTY

A. For the period beginning with shipment to buyer and ending at the time frame listed below, the reservoir mixer is warranted to be free from shortcomings in material and workmanship and to coincide to manufacturers specifications.
    1. One (1) year on all supplied parts

PART 2 – PRODUCTS

2.1 PERFORMANCE

A. Reservoir blower system shall be designed to completely exchange the tank headspace at a minimum of 40 times during a 24-hour operational cycle at the tank low water operating level.
B. Blower to shall output 3,740 CFM

2.2 GENERAL

A. Blower shall utilize a control center with motor starter to control the blower turning on/off.
B. Blower shall utilize a sealed bearing motor and composite fan blade
C. Blower housing shall be constructed of HDPE and can be field assembled
D. Belt driven blowers shall not be acceptable.
E. Power for blower shall be 120VAC single phase grid power.

2.3 CONSTRUCTION

A. Blower shall be mounted to a 30” OD x 18” ID square hatch with ½” SST Fasteners.
B. Blower weight shall not exceed 250 lbs.
C. Each blower shall include a gasket to be used between the tank blower and tank flange
D. Blower intake screens shall be 304 SST construction, market grade Wire mesh. Polypropylene construction is also accepted.
   1. Wire diameter: 0.016”
   2. Standard: ASTM A555-79
   3. Weave Type: Plain weave
   4. Opening size: 0.034”; 863.6 Microns

E. Components – dry-side: Each 120VAC control center shall consist of the following components:
   1. Enclosure
      Type (NEMA 4X) lockable
      Weather resistant
      Overall weight of control center not to exceed 40 lbs.
      Green and Red LED Indicator lights show motor status
      Cooling fan
      Power Switch located inside of panel
   2. Motor Controller/
      Motor Starter
      Operating temperature range -4 ºF to 131 ºF (-20 ºC to 55 ºC)
      Start/stop switch mounted internally
      Built in high amperage motor protection
      SCADA outputs included:
         Digital output signal indicating motor running

3. Branch Circuit Protection
   Panel equipped with a 120VAC 20-Amp main breaker

2.4 CONTROLS

A. Each unit shall be equipped with all necessary controls, inter-wired, to provide the following minimum functions:
   1. On/Off switch to control power to blower
   2. Alarm dry contact to indicate blower running.

2.5 ACCEPTABLE MANUFACTURERS:

A. Big Wave Water Technologies Hurricane 200 Active Ventilation System or pre-approved equal. To be approved as an equal, manufacturer must submit equipment data to engineer 10 days prior to bid date and state all deviations from this specification.

PART 3 – EXECUTION

3.1 INSTALLATION

A. The CONTRACTOR shall furnish the services of a factory-trained installation contractor or crew having experience with installation procedures, operations, and maintenance requirements for the type of equipment installed under these specifications.
B. Installation of the outside-of-tank components may be performed by:
   1. Third party representatives or CONTRACTORS according to the manual provided.
   2. Independent safety disconnect provided by others
C. The blower and control center shall be installed in accordance with the approved procedures submitted and as shown, unless otherwise approved in writing.

3.2 TRAINING

A. Blower manufacturer personnel (or representative) will direct designated personnel in the correct operation of the reservoir blower. This instruction will cite the operations manual provided with equipment and show how to check for correct operation of the equipment.

END OF SECTION 15800

APPENDIX A

SHOP TANK - RECORD DRAWINGS

CITY OF IMPERIAL

PLANS FOR

CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK

AND

INSTALLATION OF PUMPING FACILITIES

EDA AWARD NO. 07-01-03293

LEGEND

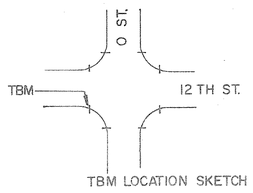
- RAILWAY TRACK
- CITY BOUNDARY
- (55) EXISTING CONTOUR
- CHAIN LINK FENCE

ABBREVIATIONS

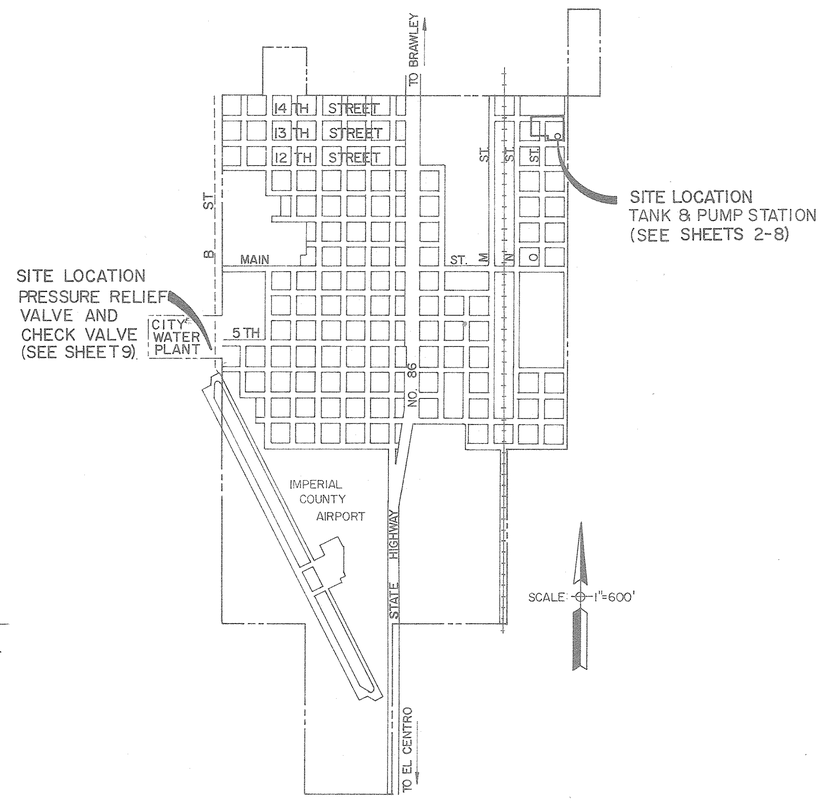
A.B.	AGGREGATE BASE
A.C.	ASPHALT CONCRETE
A.C.P.	ASBESTOS CEMENT PIPE
A.P.I.	AMERICAN PETROLEUM INSTITUTE
B.F.V.	BUTTERFLY VALVE
C.I.	CAST IRON
CL.	CLEAR
C.L.F.	CHAIN LINK FENCE
DIA.	DIAMETER
E.W.	EACH WAY
F.L.	FLOW LINE
FLG.	FLANGE
FTG.	FOOTING
GALV.	GALVANIZED
INST.	INSTALL
INV.	INVERT
M.C.L.	MAXIMUM CONTAMINANT LEVEL
MIN.	MINIMUM
O.C.	ON CENTER
PV.C.	POLY VINYL CHLORIDE
STL.	STEEL
STR.	STRAIGHT
T.C.	TOP OF CURB
TYP.	TYPICAL
N.I.C.	NOT IN CONTRACT
I.E.	INVERT ELEVATION
T.B.M.	TEMPORARY BENCH MARK
F.S.	FINISHED SURFACE
T.G.	TOP OF GRATE

BENCHMARK

T.B.M. LOCATED AT SOUTHWEST CORNER OF 12TH ST. AND "O" ST. FLOW LINE ELEVATION CURB RETURN ON 12 TH ST. (SEE SKETCH BELOW).
ASSUMED ELEVATION = 32.31 BASED ON CITY OF IMPERIAL DATUM.



TBM LOCATION SKETCH



LOCATION MAP

INDEX OF DRAWING

GENERAL NOTES

1. REINFORCED CONCRETE DES WITH ACI 318
2. SPECIFIED 28 DAY COMPRE GTH OF CONCR
   SHALL BE 3,000 PSI.
3. DEFORMED BARS USED AS REINFORCEMENT
   GRADE 60, WITH A SPECIF RENGTH OF
4. ALL CONCRETE SHALL R X SULFATE
   RESISTING CONCRETE.
5. CONTRACTOR SHALL NOTI OUND SERV
   START OF CONSTRUCTIO 1133.
6. A GEOTECHNICAL REPOR PREPARE
   PROJECT BY SOUTHLAN AL (PR
   DATED MARCH 1990.

GSI CONSULTANTS, INC.
Consultants to Governmental Agencies
16880 West Bernardo Drive • San Diego, California 92127
(619) 451-6100 FAX: (619) 451-1694

REVISIONS				
NUMBER	DATE	INITIALS		APP'VD

REFERENCES	

PREPARED UNDER THE SUPERVISION OF		DATE
GARY J. HOBSON RCE NO. 40779		4-18-92
DRAWN BY	TPF	
CHECKED	DAA	
RECOMMENDED		
APPROVED DEPARTMENT OF PUBLIC WORKS		7-10-92 DATE:

CONSTRUCTION OF
INSTALLATION

EXISTING SEWER PLANT AND FACILITIES

GATE

OLEANDER HEDGES

32.34

33.48

14 TH STREET

WEST GATE

EAST GATE

33.57

34

34.42

114

(A.K.A. CLARK ROAD)

"N" STREET

"P" STREET

CITY LIMITS

SCALE 1"=30'

GRADING NOTES

1. ALL AREAS TO BE CONSTRUCTED UPON SHALL BE OVER-EXCAVATED TO A MINIMUM DEPTH OF THREE (3) FEET, OR GREATER AS NECESSARY TO REMOVE ALL BURIED RUBBLE.
2. THE BOTTOM OF ALL EXCAVATION SHALL BE SCARIFIED TO THE DEPTH OF SIX (6) INCHES, AND COMPACTED AT A MOISTURE CONTENT OF 3 % ABOVE OPTIMUM TO A MINIMUM OF 90 % OF ASTM D1557 MAXIMUM DENSITY.
3. ALL EXCAVATED AREAS SHALL EXTEND TO A MINIMUM OF FIVE (5) FEET BEYOND THE PERIMETER OF THE TANK AND APURTENANT STRUCTURES.
4. EXCAVATED AREAS SHALL BE BROUGHT TO FINISH GRADE WITH ENGINEERED FILL.
5. ENGINEERED FILL SHALL BE PLACED IN EIGHT (8) INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO 95 % OF ASTM D1557 MAXIMUM DENSITY WITHIN 2 % OF OPTIMUM MOISTURE.
6. THE PROPOSED SOURCE OF ENGINEERED FILL SHALL BE SUBMITTED TO A GEOTECNICAL ENGINEER TO VERIFY CONFORMANCE WITH THE FOLLOWING REQUIREMENTS:
   - LIQUID LIMIT - LESS THAN 35 %
   - PLASTICITY INDEX - LESS THAN OR EQUAL TO 5%
   - % PASSING # 200 SIEVE - LESS THAN 25 %
   - MAX. PARTICLE DIMENSION - LESS THAN 3 INCHES.

PROPOSED STEEL TANK (SEE SHEET 3 FOR DETAILS)

EXIST. BLDG.

60'

35.29

35.39

35

R=20'

16'

R=20'

34.91

40'

60'

CONCRETE RIBBON GUTTER

210'

12'

52.5°

34.51

35.34

110' DIA

181'

APPROXIMATE LOCATION OF BURIED SUMP

35.02

35

33.10

PUMP STATION SEE SHT. 7 FOR DETAILS

32'

R=35'

SEE SHEET 3 FOR FINISHED GRADES.

R=12'

R=12'

SOUTH GATE

33.05

33.04

ASPHALT ROADWAY 3"AC/6"AB

33.13

33

32.77

34.27

34.29

FILL SLOPE 3:1

3/31/95

Sep. 6/20/91

EDA AWARD NO. 07-0 293

REVISIONS				
NUMBER	DATE	INITIALS		APP'D

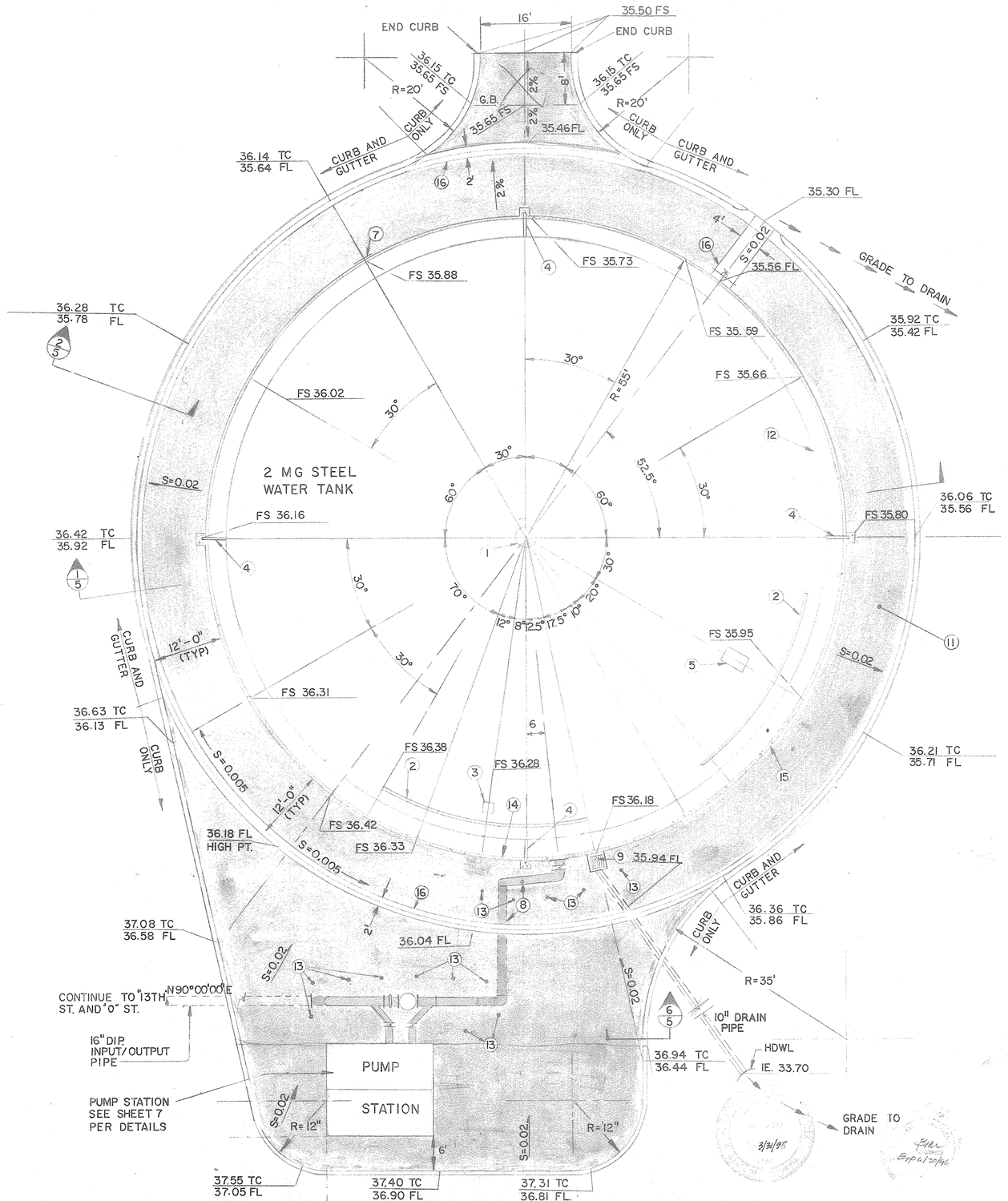
REFERENCES	

PREPARED UNDER THE SUPERVISION OF		DATE
GARY J. HOBSON R.C.E. NO. 40779		1-10-91
DRAWN BY	TPF	
CHECKED	DAA	
RECOMMENDED		
APPROVED DEPARTMENT OF PUBLIC WORKS		7-10-92 DATE:

SITE PLAN

CONSTRUCTION OF A 2.0 M.G. STEEL TANK AND INSTALLATION OF PUMPING FACILITIES

PER



LIST OF MATERIALS

ITEM	SIZE	DESCRIPTION	QUANTITY
①	30" Ø	LOW PROFILE REMOVABLE GRAVITY ROOF VENT PER AWWA D-100 — 84 WITH 42" Ø HOOD	1
②	—	RAILING (PER CAL OSHA)	30 LF
③	36"X36"	HINGED ROOF HATCH WITH LIFT BAR, LOCKING HASP	1
④	3" Ø	ROOF DRAIN, SEE DETAIL 4/4	1
⑤	4'X3'	HINGED ROOF WITH LIFT BAR, LOCKING HASP AND INTERIOR LADDER WITH SAFETY CLIMB (CAL OSHA)	1
⑥	36"X48"	RESERVOIR CLEANOUT MANHOLE, SEE DETAIL 4/6	1
⑦	36" Ø	SHELL MANHOLE-℄ 42" ABOVE TANK BOTTOM	1
⑧	16" Ø	INLET/OUTLET PIPING. SEE DETAIL 1/6	1
⑨	10" Ø	OVERFLOW DRAIN, SEE DETAIL 5/5	1
⑩	10" Ø	CLASS 200 PVC PIPE. SEE SHT. 5	—
⑪	—	ACCESS ROAD, SEE DETAIL 2/5	—
⑫	4"X 1/4"	CONTINUOUS DRIP RAIL	—
⑬	3'-6"	CRASH POST, SEE DETAIL 4/5	14
⑭	1-1/2"	SENSING LINE, SEE DETAIL 3/6	1
⑮	2" Ø	SAMPLE TAP, SEE DETAIL 2/6	1
⑯	—	CONCRETE RIBBON GUTTER, SEE DETAIL 3/5	—

NOTES:

1. CONCRETE CRASH POSTS SHALL BE PLACED A MAXIMUM DISTANCE APART OF SIX (6) FEET,
2. CONCRETE CRASH POST SHALL MAINTAIN A CLEAR DISTANCE FROM ALL ADJACENT PIPING AND FITTINGS OF 3'-6"

BSI CONSULTANTS, INC.
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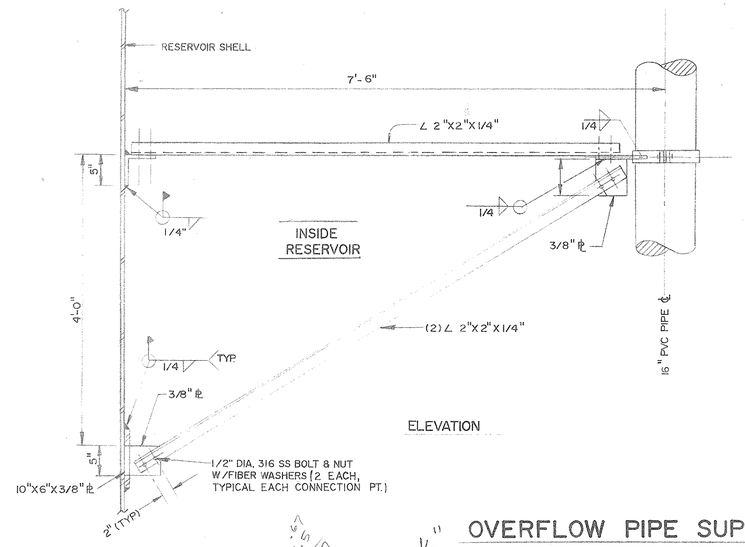
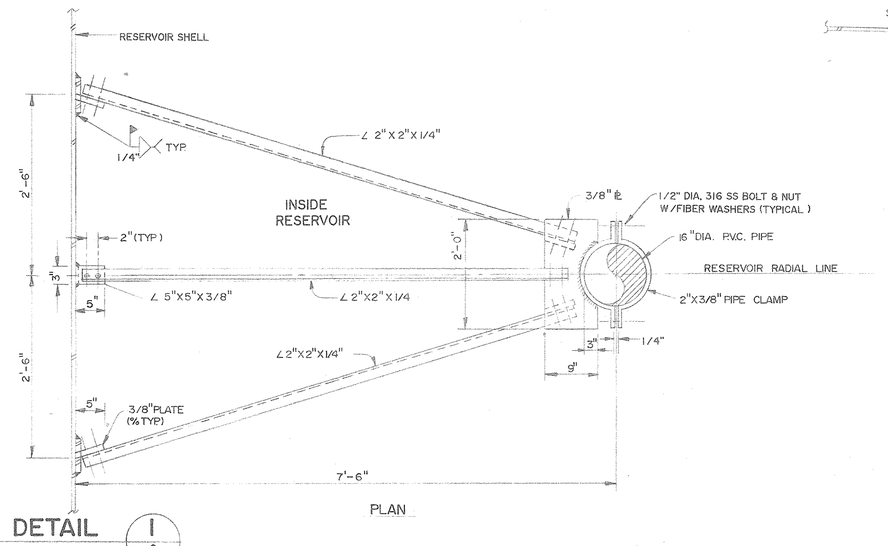
16880 West Bernardo Drive • San Diego, California 92127
(619) 451-6100 FAX: (619) 451-1694

EDA AWARD NO. 07-01-03293

REVISIONS					REFERENCES		PREPARED UNDER THE SUPERVISION OF	DATE	STEEL TANK LAYOUT
NUMBER	DATE	INITIALS		APP'D			GARY J. HOBSON RCE 40779	4-15-91	CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK AND INSTALLATION OF PUMPING FACILITIES
							DRAWN BY T.R		
							CHECKED D.A.A.		CITY OF IMPERIAL
							RECOMMENDED		
							APPROVED	7-10-92 DATE:	



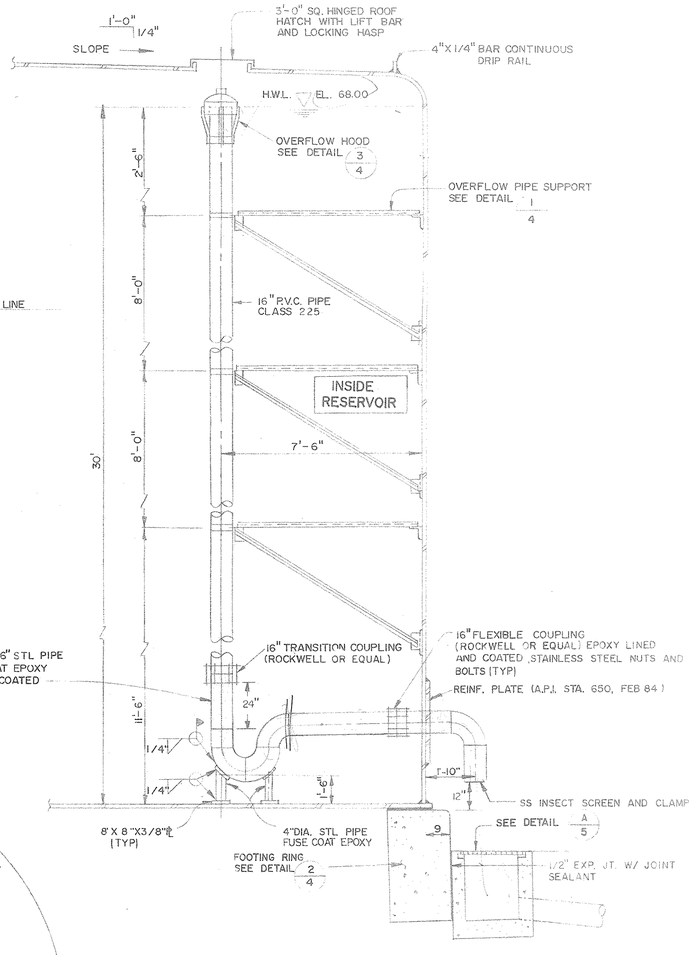
ELEVATION



PLAN

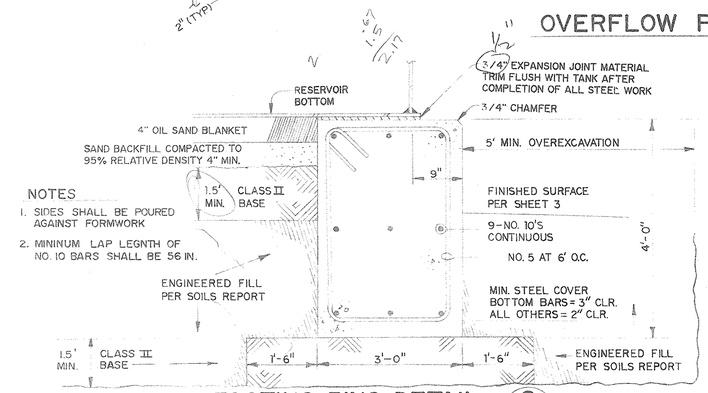
OVERFLOW PIPE SUPPORT DETAIL 1/4

SCALE 1"=1'-0"



OVERFLOW DRAIN DETAIL 5/3

SCALE : 3/8"=1'-0'

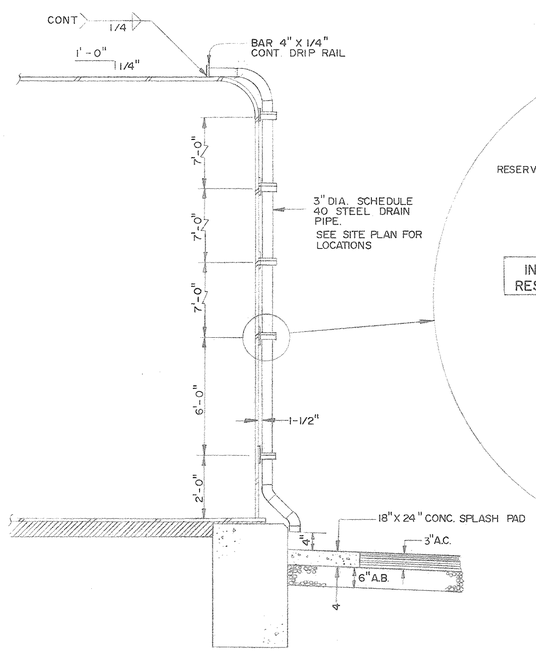


NOTES

1. SIDES SHALL BE POURED AGAINST FORMWORK
2. MININUM LAP LEGNTH OF NO. 10 BARS SHALL BE 56 IN.

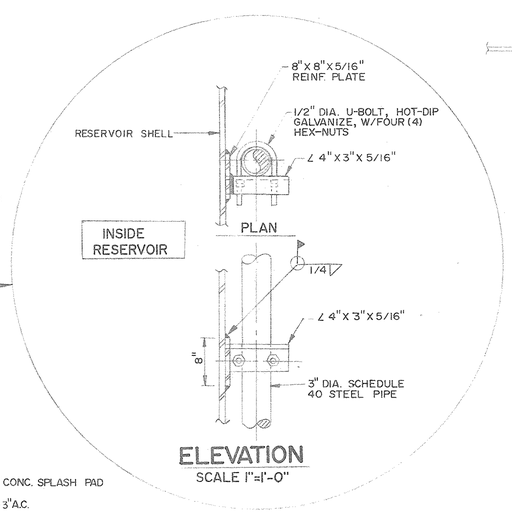
FOOTING RING DETAIL 2/4

NOT TO SCALE



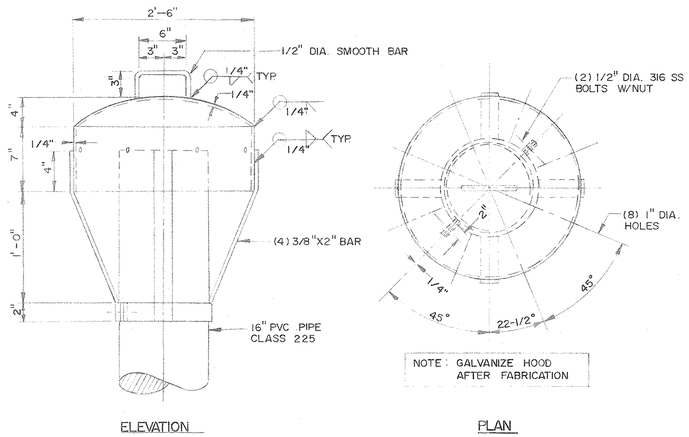
ROOF DRAIN DETAIL 4/3

NOT TO SCALE



ELEVATION

SCALE 1"=1'-0"



NOTE : GALVANIZE HOOD AFTER FABRICATION

ELEVATION PLAN

OVERFLOW HOOD DETAIL 3/4

NOT TO SCALE

NOTE :

ALL BRACKETS, ANGLES, APPURTENANCES SHALL BE WELDED IN PLACE PRIOR TO PAINTING AND COATING.

3/31/95

Exp. 6/30/96

EDA AWARD NO. 07-01-03293

REVISIONS

NUMBER	DATE	INITIALS		APP'D

REFERENCES

PREPARED UNDER THE SUPERVISION OF
GARY J. HOBSON R.C.E. 40779 — DATE 4-18-91

DRAWN BY	TPF
CHECKED	DAA
RECOMMENDED	
APPROVED, DEPARTMENT OF PUBLIC WORKS	DATE: 7-10-92

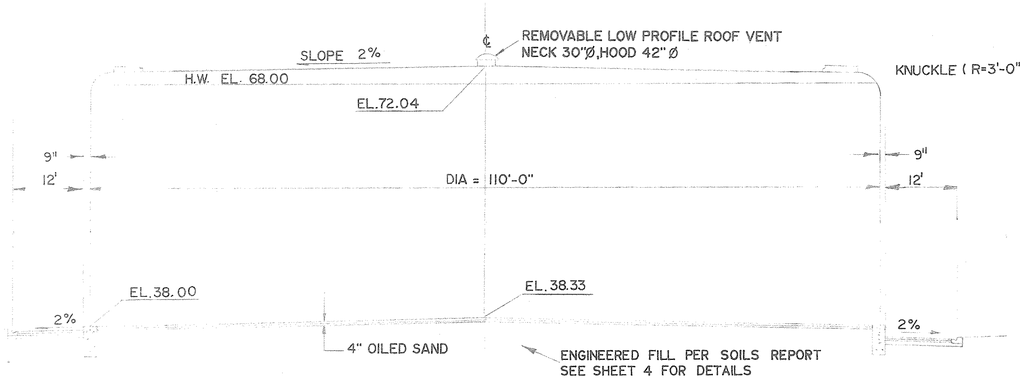
OVERFLOW DRAIN, ROOF DRAIN AND FOOTING RING DETAILS

CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK AND INSTALLATION OF PUMPING FACILITIES

CITY OF IMPERIAL

4

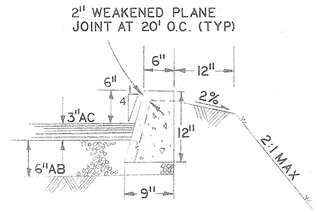
124641



RESERVOIR CROSS SECTION

SCALE 1" = 10'-0"

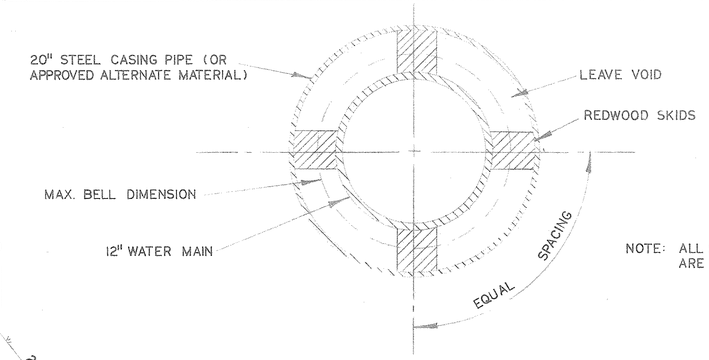
1/3



CONCRETE CURB DETAIL

N.T.S.

6/3



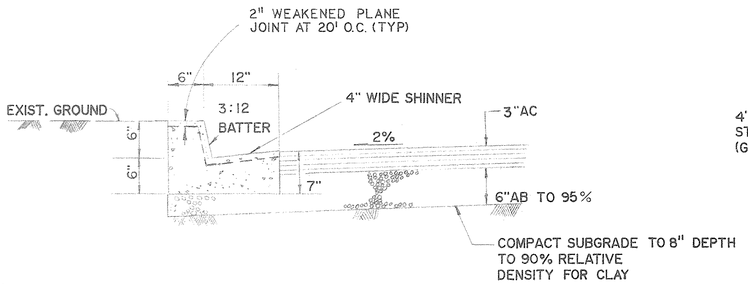
NOTE: ALL STEEL CASING PIPES ARE TO BE NEW.

1. ALL STEEL CASING PIPE FIELD JOINTS SHALL BE WELDED FULL CIRCUMFERENCE.
2. CASING MAY BE LUBRICATED WITH "DRILLING MUD" OR "FLAXSOAP". DO NOT USE PETROLEUM PRODUCTS.
3. THE ENDS OF CASING SHALL BE PLUGGED WITH 8" OF CONCRETE OR BRICK AND MORTAR.
4. REDWOOD SKIDS SHALL BE 4" IN WIDTH AND OF SUFFICIENT HEIGHT TO PROVIDE A MINIMUM OF 2" CLEARANCE AT THE BELL AND A MAXIMUM OF 2" CLEARANCE BETWEEN SKID AND INSIDE TOP OF CASING. ALL SKIDS SHALL BE OF EQUAL DIMENSIONS AND POSITIONED UNIFORMLY.
5. SKIDS SHALL BE STRAPPED IN PLACE 3' FROM EACH END OF EACH LENGTH OF PIPE. BOTH ENDS OF ALL SKIDS SHALL BE BEVELED. SKIDS SHALL BE NOTCHED TO SEAT STRAPPING.
6. CONTRACTOR SHALL USE STAINLESS STEEL BANDS AND CLAMPS TO SKIDS TO CARRIER PIPE.
7. SKID SPACING AND LENGTH SHALL BE AS FOLLOWS: NUMBER OF SKIDS-4, LENGTH OF SKID- 3' MINIMUM. 2 SETS OF SKIDS WILL BE REQUIRED PER EACH LENGTH OF PIPE.

PIPE CASING CROSS-SECTION

SEE PLAN-SHEET 8, PROFILE-SHEET 6

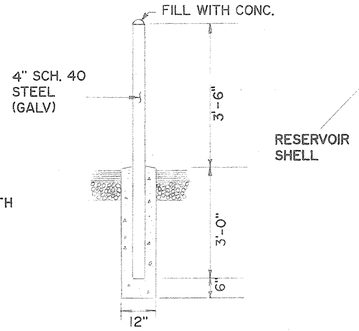
7/8



CONCRETE CURB AND GUTTER DETAIL

SCALE 1" = 1'-0"

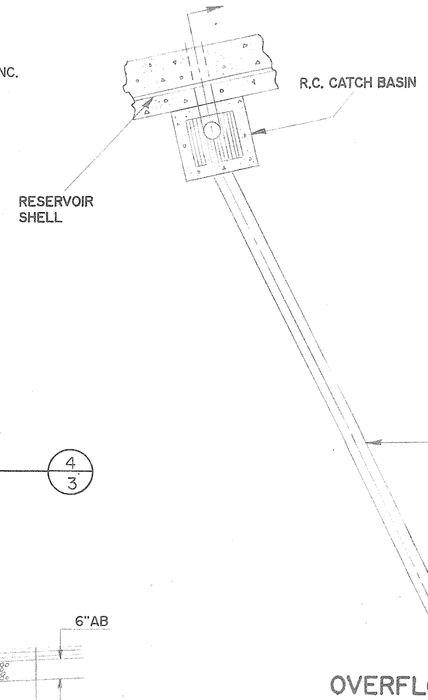
2/3



CRASH POST

SCALE 1/2" = 1'-0"

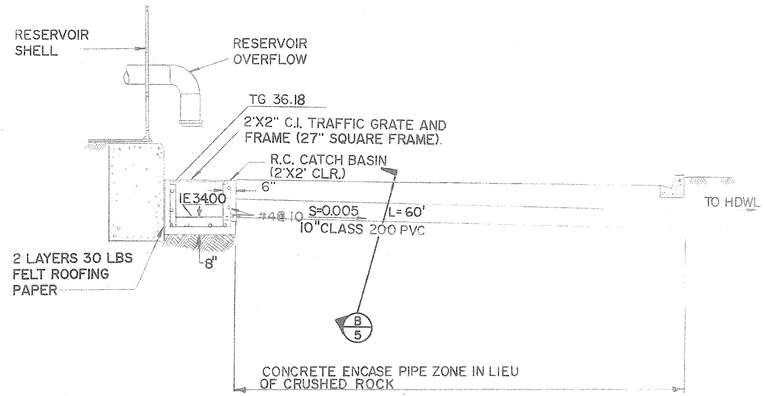
4/3



OVERFLOW DRAIN

SCALE 1/4" = 1'-0"

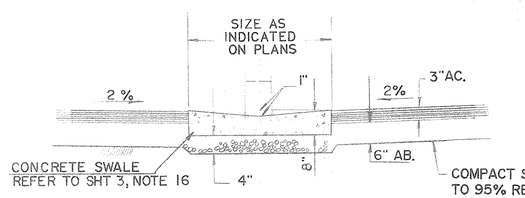
5/3



SECTION

SCALE 1/4" = 1'-0"

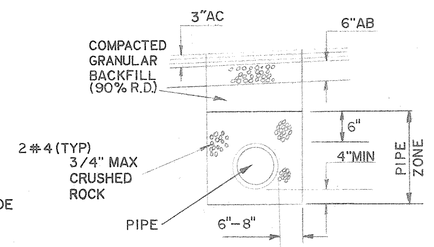
A/5



CONCRETE RIBBON GUTTER DETAIL

N.T.S.

3/3



PIPE BEDDING

N.T.S.

B/5

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Consultants to Governmental Agencies
16880 West Bernardo Drive • San Diego, California 92127
(619) 451-6100 FAX: (619) 451-1694

3/24/92

Exp 6/30/96

EDA AWARD NO. 07-01-03293

REVISIONS				
NUMBER	DATE	INITIALS		APP'VD

REFERENCES	

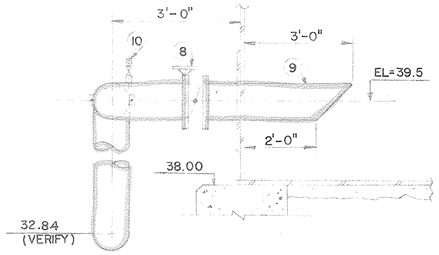
PREPARED UNDER THE SUPERVISION OF GARY J. HOBSON RCE NO.40779		DATE 4-18-91
DRAWN BY	T.R.	
CHECKED	D.A.A.	
RECOMMENDED		
APPROVED Gary J. Hobson DEPARTMENT OF PUBLIC WORKS		DATE: 7-10-92

RESERVOIR CROSS SECTION, ACCESS ROAD AND MISCELLANEOUS DETAILS

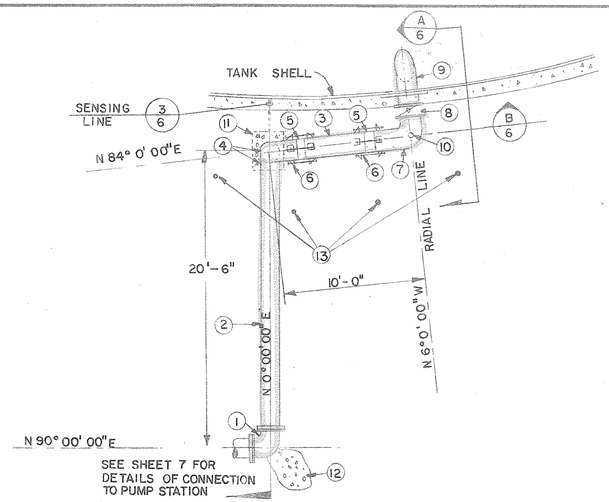
CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK AND INSTALLATION OF PUMPING FACILITIES

CITY OF IMPERIAL

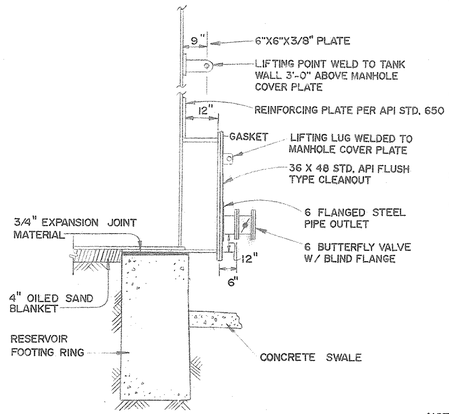
5



SECTION (A/6)
NOT TO SCALE



RESERVOIR INLET / OUTLET LINE (1/3)
SCALE : 1"=5'-0"

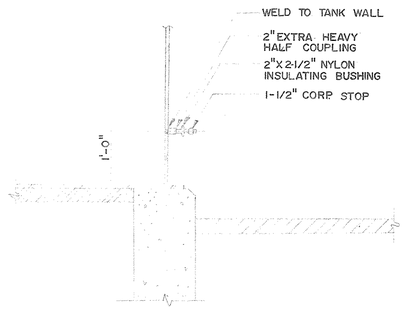


BILL OF MATERIALS

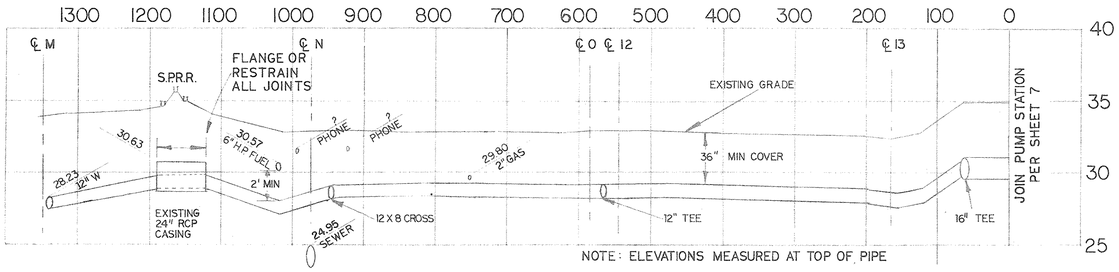
ITEM	SIZE	DESCRIPTION	QUANTITY
1	16"O	90° FLG. SHORT RADIUS STD. WT. STL. ELL, CML&C	1
2	16"O	FLG. X P.E. SPOOL	1
3	16"O	STD. WT. P.E. SPOOL, CML	2
4	16"O	90° P.E. LONG RADIUS STD. STL., CML&C	2
5	16"O	DRESSER STYLE 38 FLEX CLPG EPOXY LINED & PAINTED.	2
6	—	DRESSER JOINT HARNESS (4 x 5/8" TIE BOLTS & LUGS	2
7	16"O	90° FLG. X P.E. LONG RADIUS ELL, CML	1
8	16"O	M & H STYLE 4500 BUTTERFLY VALVE WITH HAND WHEEL OPERATOR	1
9	16"O	STD. WT. STL. INLET/ OUTLET NOZZLE	1
10	1-1/2"	HALF COUPLING WITH GATE VALVE & HOSE COUPLING	1
11	4'X3'X6'	CONC. BLOCK	1
12	—	THRUST BLOCK	1
13	—	CRASH POST SEE DETAIL (4/5)	SEE SHT. 3

CLEANOUT MANHOLE DETAIL (4/—)
SCALE : 1/2"=1'-0"

NOTE: ALL STL. PIPE BELOW GROUND SHALL BE CML&C. ABOVE GROUND STL. PIPE SHALL BE CML & PAINTED

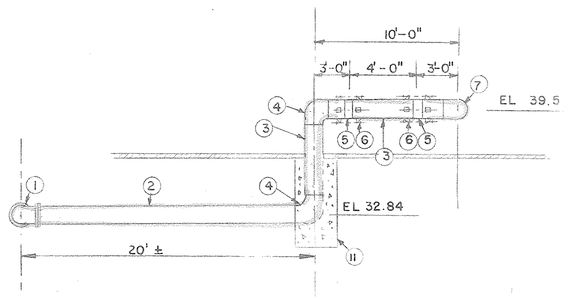


SAMPLE TAP DETAIL (2/—)
NOT TO SCALE

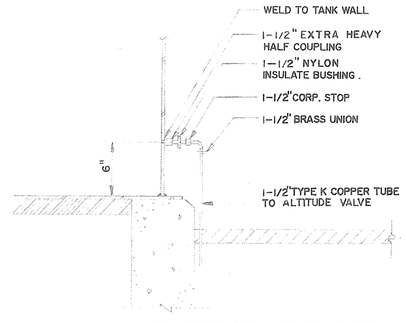


NOTE: ELEVATIONS MEASURED AT TOP OF PIPE

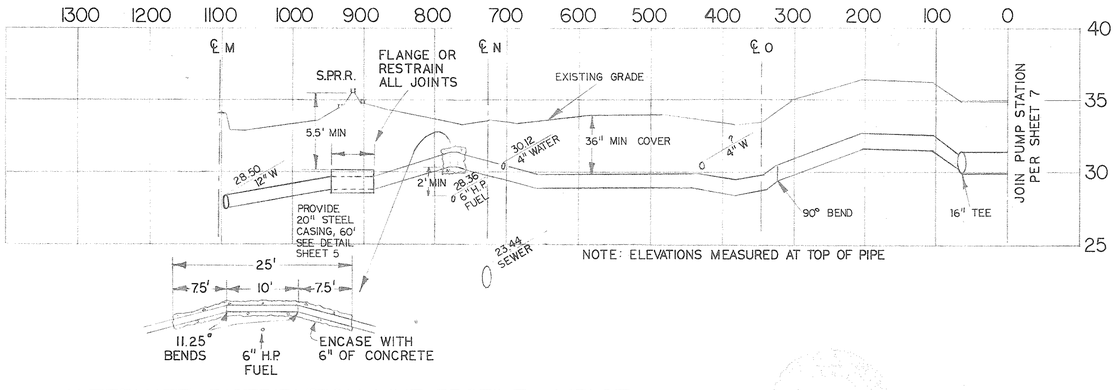
MAIN DISTRIBUTION LINE PROFILE - 12TH ST
SEE PLAN SHEET 8 SCALE: HOR-1"=100' VER-1"=5'



SECTION (B/6)
SCALE : 1"=5'-0"



SENSING LINE DETAIL (3/—)
NOT TO SCALE



NOTE: ELEVATIONS MEASURED AT TOP OF PIPE

ALTERNATE DISTRIBUTION LINE PROFILE - 14TH ST
SEE PLAN SHEET 8 SCALE: HOR-1"=100' VER-1"=5'

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16880 West Bernardo Drive • San Diego, California 92127
(619) 451-6100 FAX: (619) 451-1694

3/31/95
Exp 6/30/96

EDA AWARD NO. 07-01-03293

REVISIONS				
NUMBER	DATE	INITIALS		APP'V'D

REFERENCES

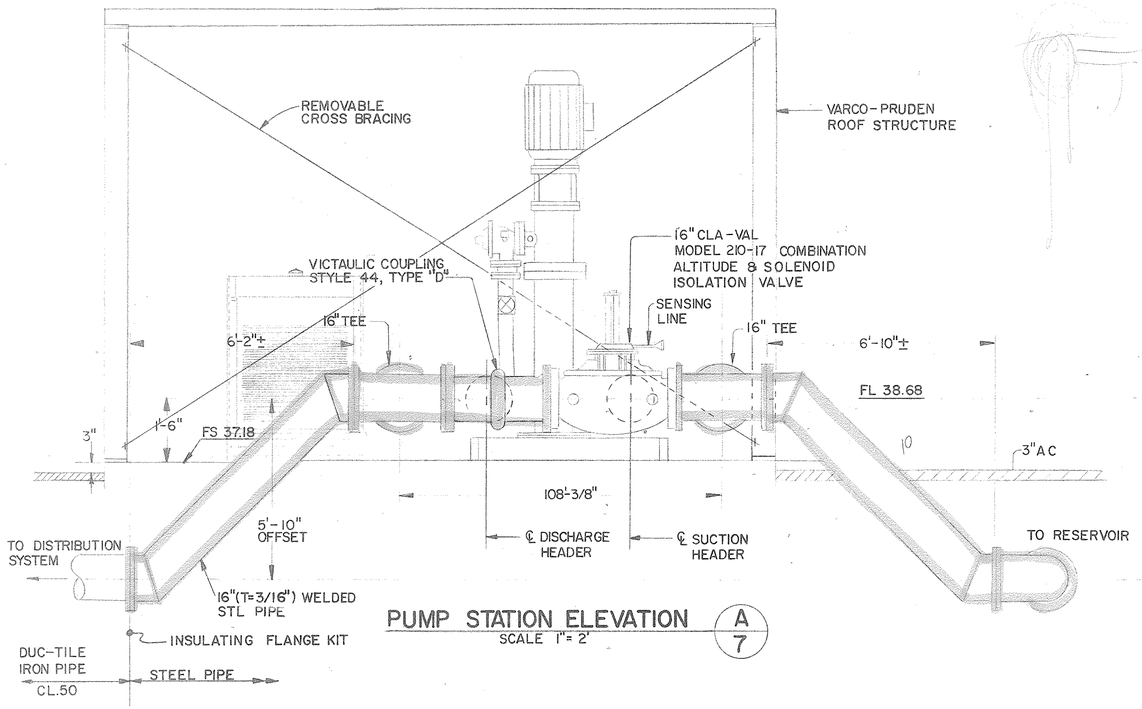
PREPARED UNDER THE SUPERVISION OF		DATE
GARY J. HOBSON R.C.E. 40779		4-18-91
DRAWN BY	T.P.F.	
CHECKED	D.A.A.	
RECOMMENDED		
APPROVED DEPARTMENT OF PUBLIC WORKS		7-10-92 DATE:

INLET/OUTLET LINE, CLEANOUT MANHOLE, FOOTING NOTCH, SAMPLE TAP & SENSING LINE DETAILS

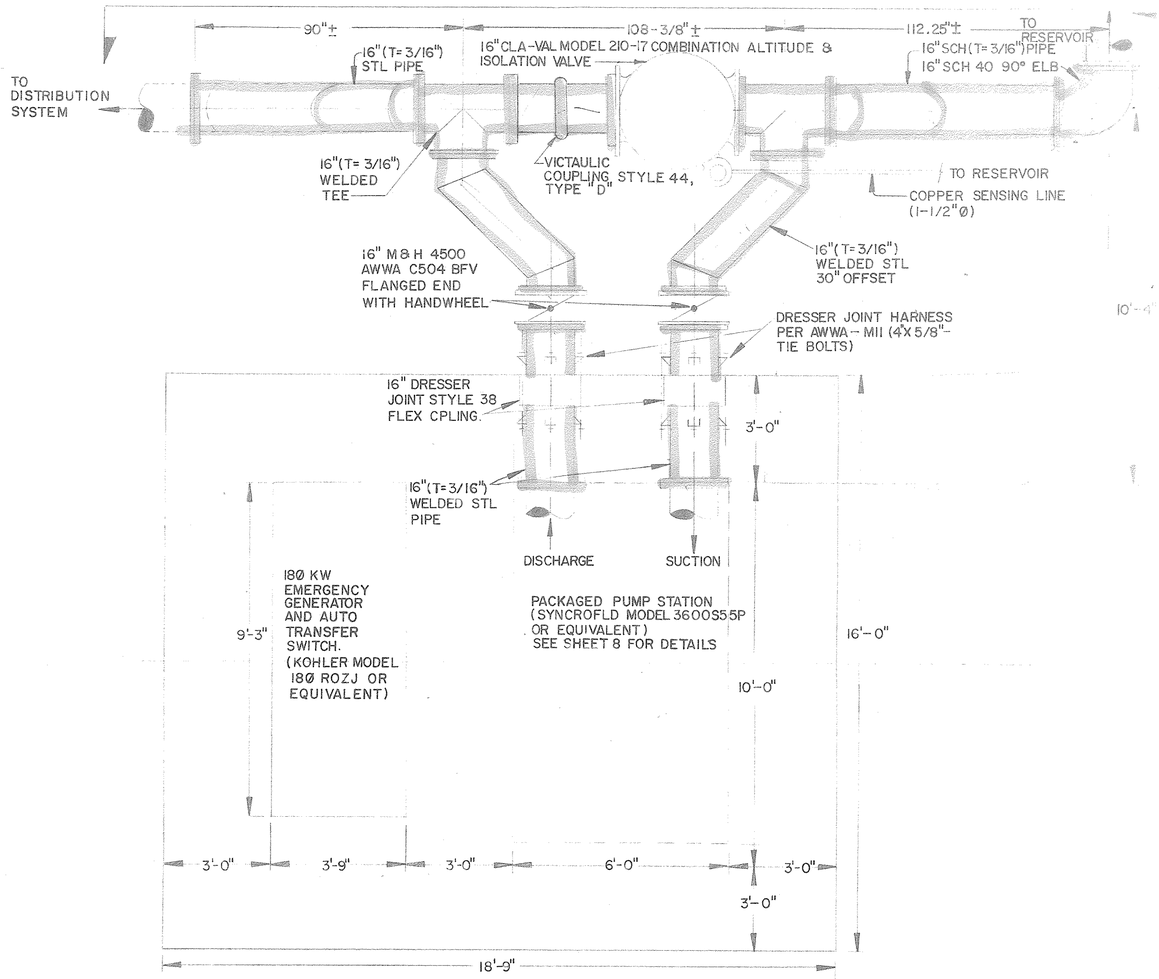
CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK AND INSTALLATION OF PUMPING FACILITIES

CITY OF IMPERIAL

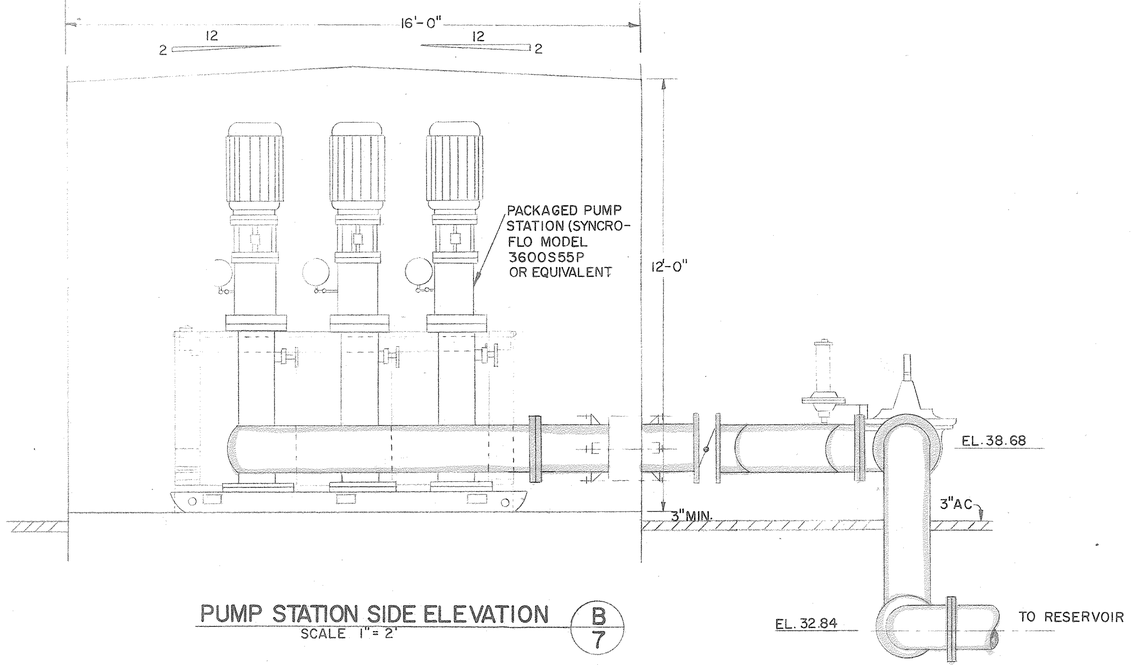
6



PUMP STATION ELEVATION (A/7)
SCALE 1"= 2'



PUMP STATION PLAN
SCALE 1"= 2'



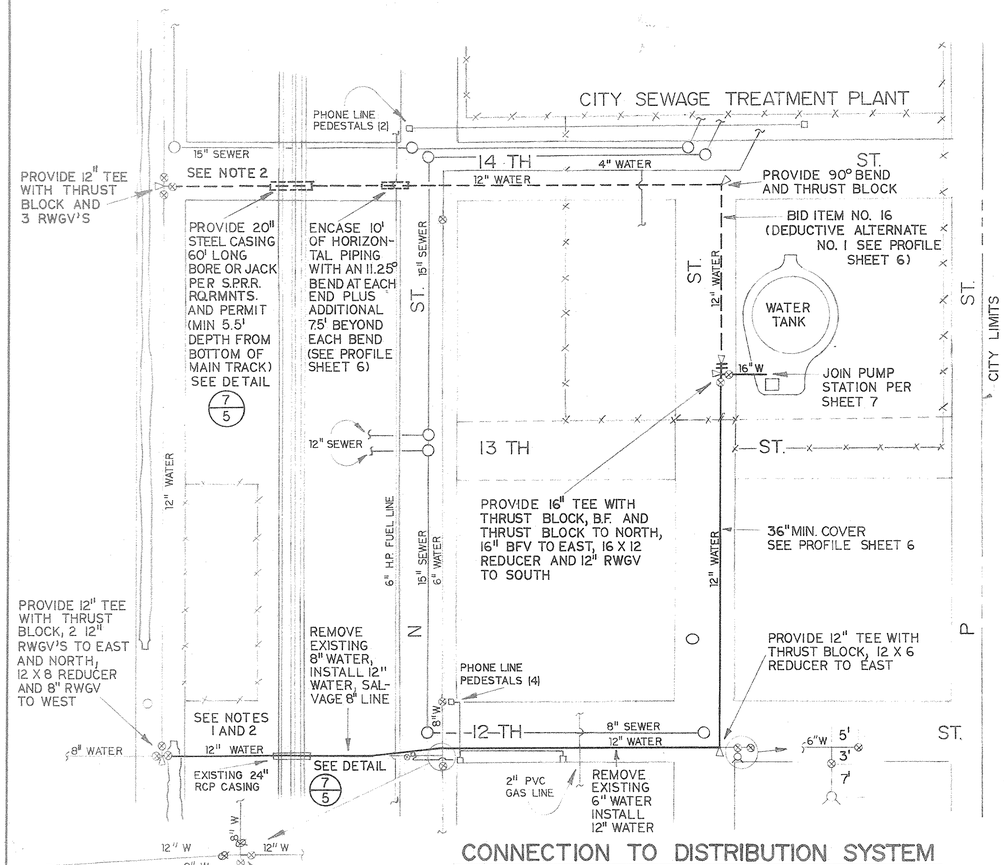
PUMP STATION SIDE ELEVATION (B/7)
SCALE 1"= 2'

NOTES:

1. ALL STL WELDE SHALL BE EPOXY
2. ABOVE GROUND S WELDED PIPING S PAINTED, (TWO C
3. BELOW GROUND SHALL BE CEMEN COATED.

EDA AWARD NO. 07-01-03293

REVISIONS					REFERENCES		PREPARED UNDER THE SUPERVISION OF	DATE	PUMP STATION
NUMBER	DATE	INITIALS		APP'D			GARY J. HOBSON RCE 40779	4-18-91	CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK
							DRAWN BY TR		INSTALLATION OF PUMPING FACILITIES
							CHECKED DAA		
							RECOMMENDED		CITY OF IMPERIAL
							APPROVED DEPARTMENT OF PUBLIC WORKS	7-16-92 DATE	

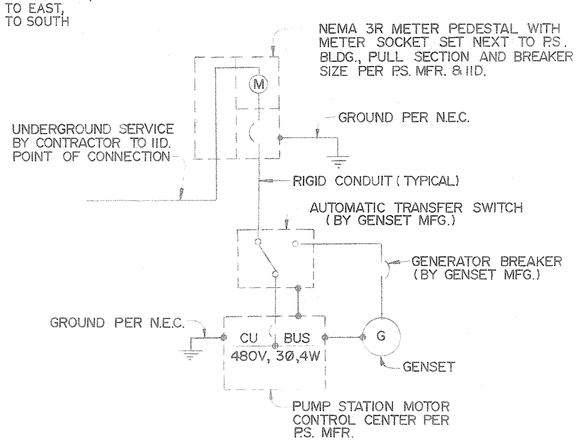


CONNECTION TO DISTRIBUTION SYSTEM

SCALE : 1"=100' SEE PROFILE SHEET 6

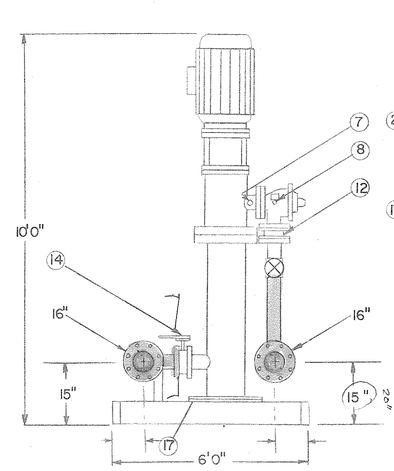
NOTES:

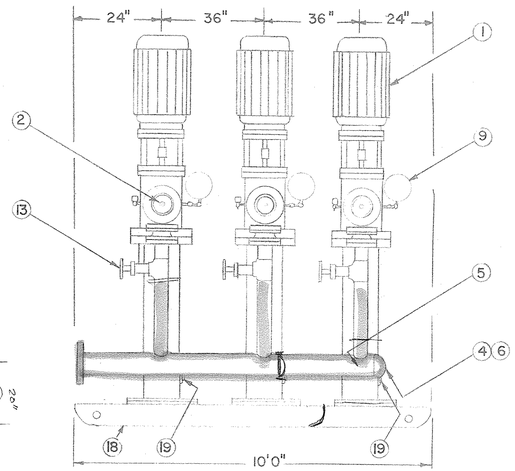
1. REMOVE EXISTING HIO MIX VERMICULITE CONCRETE CASING PLUG.
2. PROVIDE BRICK AND MORTAR PLUG.



SINGLE LINE ELECTRICAL DIAGRAM

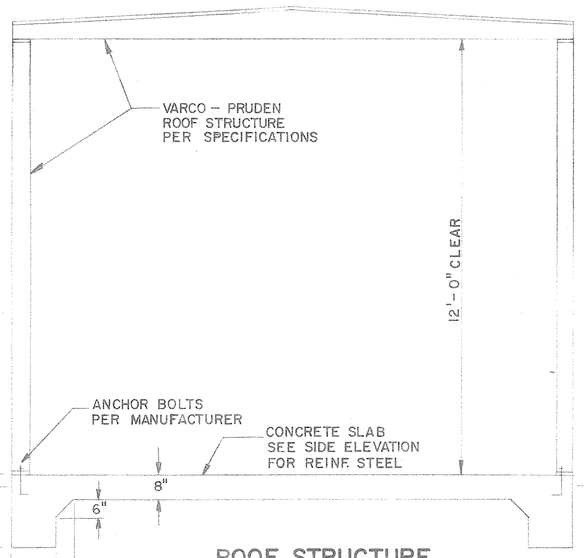
NOTES : 1. WIRE SIZE PER N.E.C. REQUIREMENTS
2. USE CU WIRE WITH THWN INSULATION
3. PROVIDE SERVICE PER IID REQUIREMENTS
4. PROVIDE SHOP DWG. FOR COMPLETE INSULATION





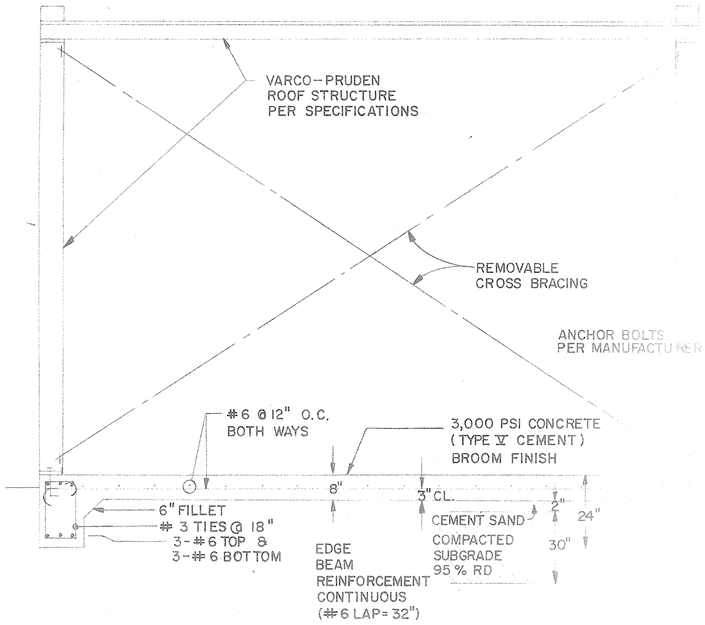
7'

1. VERTICAL MULTI-STAGE DIFFUSER PUMP MODEL WITH 60 HP 30/ / 460 V MOTOR
2. PRESSURE REGULATING CHECK VALVE
3. FLOW SWITCH NO. 2 PUMP CONTROL
4. PRESSURE SWITCH CONNECTION (LOW-SYSTEM)
5. PRESSURE SWITCH CONNECTION (LOW-SUCTION)
6. PRESSURE SWITCH CONNECTION (HIGH-SYSTEM)
7. TEMPERATURE PROBE
8. PURGE VALVE 3/8"
9. PRESSURE GAUGE (PUMP DISCHARGE) 0-100 PSIG
10. PRESSURE GAUGE (SYSTEM) 0-100 PSIG
11. PRESSURE GAUGE (SUCTION) 30-100 PSIG
12. FLEXIBLE CONNECTOR 50 PSIG
13. DISCHARGE VALVE
14. SUCTION VALVE
15. SUCTION HEADER
16. DISCHARGE HEADER
17. ANTI-VIBRATION PADS
18. SKID BASE
19. DRAIN AND CLEAN OUT OPENING
20. POWER AND CONTROL PANEL



ROOF STRUCTURE END ELEVATION

SCALE 1"= 2'



ROOF STRUCTURE SIDE ELEVATION

SCALE 1"= 2'

OSI CONSULTANTS, INC.
Consultants to Governmental Agencies
16880 West Bernardo Dr. · San Diego, CA 92127
(619) 451-6100

EDA AWARD NO. 07-01-03293

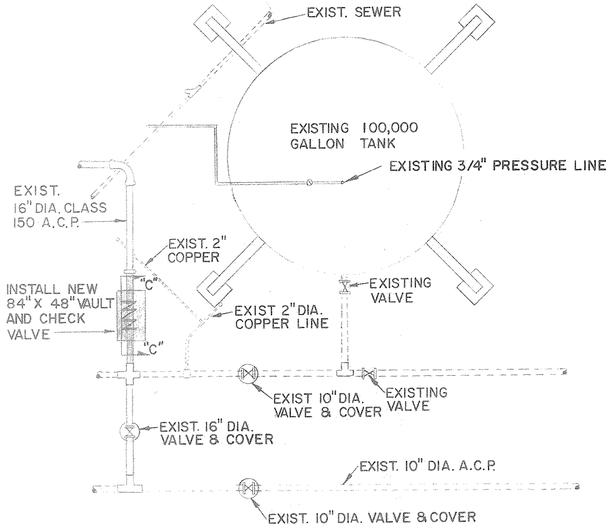
REVISIONS				REFERENCES	
NUMBER	DATE	INITIALS	APPVD		

PREPARED UNDER THE SUPERVISION OF
GARY J. HOBSON RCE 40779 — DATE 4-13-91
DRAWN BY T.R
CHECKED D.A.A.
RECOMMENDED
APPROVED DEPARTMENT OF PUBLIC WORKS — DATE 7-10-92

PUMP STATION DETAILS

CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK AND INSTALLATION OF PUMPING FACILITIES

CITY OF IMPERIAL

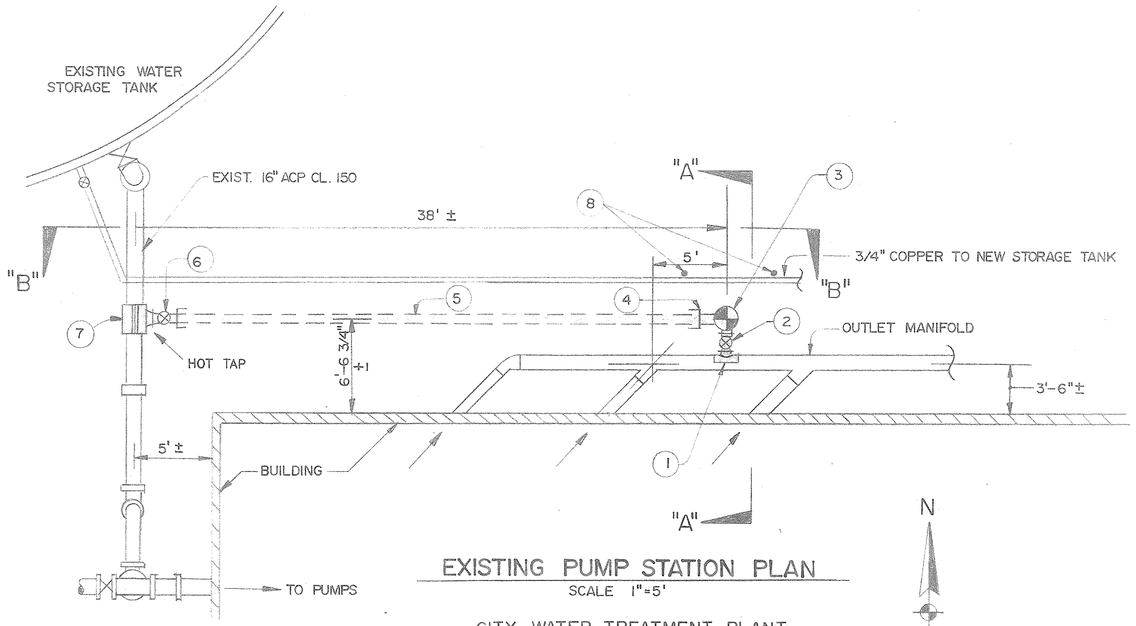


SITE PLAN AT EXISTING ELEVATED TANK

SCALE 1"= 5'

LEGEND

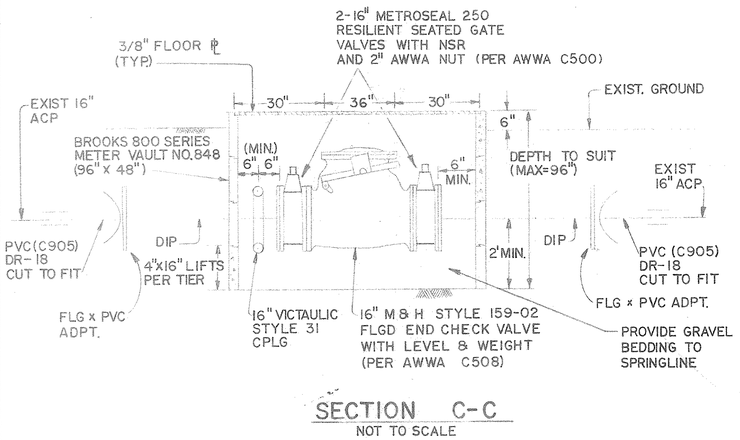
1. TAP EXIST. 12" STL. HEADER
2. 8" RESILENT SEAT GATE VALVE
3. 8" ANGLE PRESSURE RELIEF VALVE
4. 8" FLG. X FLG. SPOOL 90° BEND FLG. X MJ
5. 8" PVC CL. 150 (AWWA C-900)
6. 8" RESILIENT SEAT TAPPING GATE VALVE
7. 16" X 8" MECHANICAL JOINT TAPPING SLEEVE
8. CRASH POST, SEE DETAIL (A/5)



EXISTING PUMP STATION PLAN

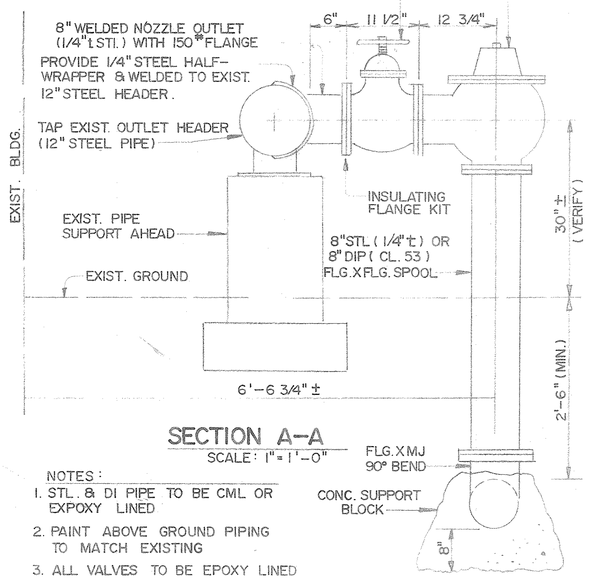
SCALE 1"=5'

CITY WATER TREATMENT PLANT
AT 5TH & B STREETS



SECTION C-C

NOT TO SCALE

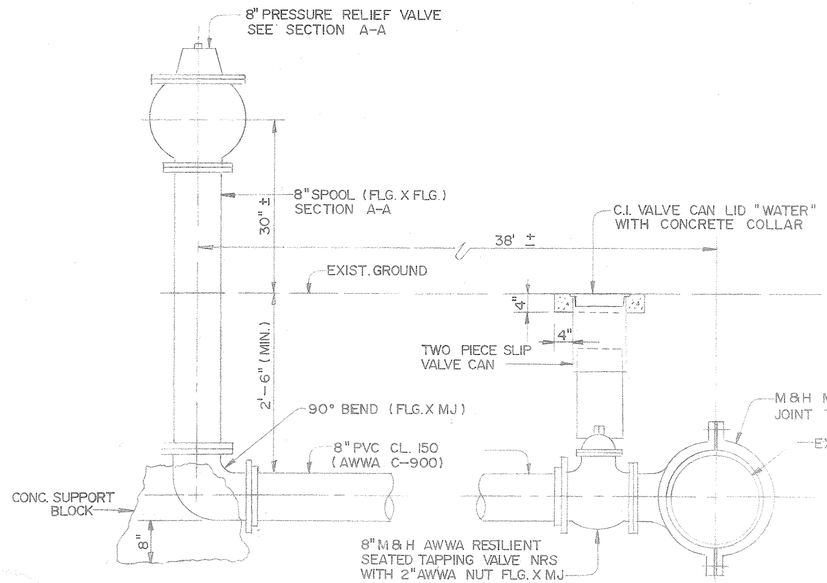


SECTION A-A

SCALE: 1"= 1'-0"

NOTES:

1. STL. & DI PIPE TO BE CML OR EXPOXY LINED
2. PAINT ABOVE GROUND PIPING TO MATCH EXISTING
3. ALL VALVES TO BE EPOXY LINED



SECTION B-B

SCALE 1"= 1'-0"

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Consultants to Governmental Agencies
16880 West Bernardo Dr. · San Diego, CA 92127
(619) 451-6100

3/31/92

Exp. 6/30/92

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REVISIONS		REFERENCES		PREPARED UNDER THE SUPERVISION OF	DATE
	APP'VD			GARY J. HOBSON RCE 40779	4-18-91
				DRAWN BY TPF	
				CHECKED DAA	
				RECOMMENDED	
				APPROVED DEPARTMENT OF PUBLIC WORKS	7-10-92 DATE:

PRESSURE RELIEF AND CHECK VALVE
CONSTRUCTION OF A 2.0 M.G. STEEL WATER TANK AT
INSTALLATION OF PUMPING FACILITIES
CITY OF IMPERIAL

APPENDIX B

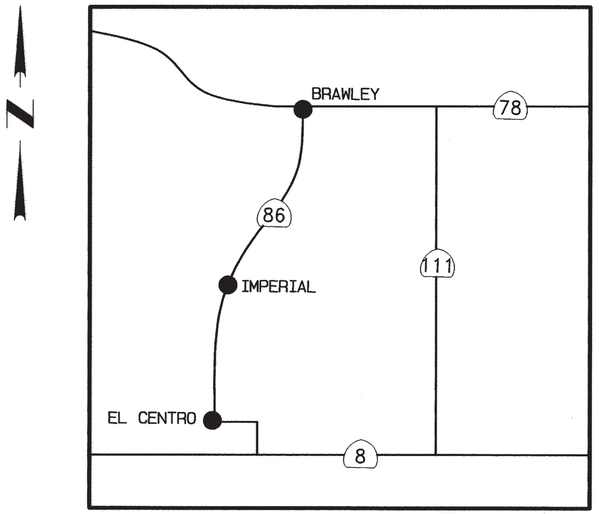
ATEN TANK - RECORD DRAWINGS

VICTORIA PLACE, LLC
ATEN ROAD TANK PLAN
CITY OF IMPERIAL, CA
2.0 MG WELDED STEEL RESERVOIR

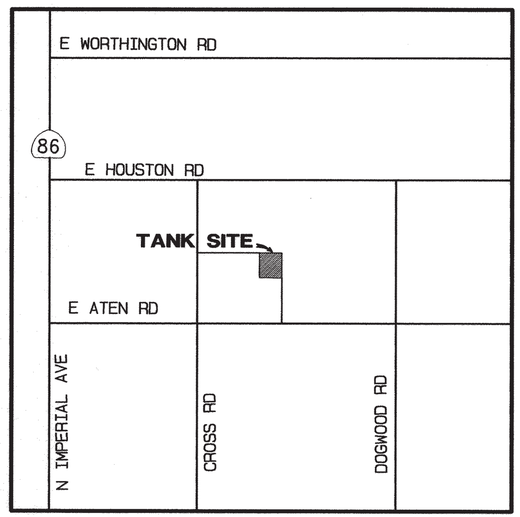
OWNER

VICTORIA PLACE, LLC
2154 JOE ACUNA CT.
CALEXICO, CA 92231

SHEET INDEX:



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

ENGINEER'S NOTICE

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
3. QUANTITIES SHOWN HEREON ARE PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTORS SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES PRIOR TO BIDDING FOR CONSTRUCTION.

NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. NO CERTIFICATION IS MADE AS TO THE ACCURACY OR THOROUGHNESS OF THIS PLAN BY VICTORIA PLACE LLC. APPROVAL OF THIS PLAN BY THE CITY OF IMPERIAL DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF LOCATION OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE. THE CONTRACTOR SHALL TAKE ALL DUE PRECAUTIONARY MEANS TO PROTECT ALL LINES AND STRUCTURES REGARDLESS IF SHOWN OR NOT ON THE DRAWINGS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES OR STRUCTURES CROSSING THE PROPOSED IMPROVEMENTS.

FOR CONSTRUCTION 12-1-05

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

DATE	BY	MARK	REVISIONS
12/1/05	BPK	1	ISSUED FOR CONSTRUCTION

DESIGNED BY: BPK/CAB DRAWN BY: CAB CHECKED BY: BPK

BENCHMARK:

SEAL
REGISTERED PROFESSIONAL ENGINEER
BRIAN P. KNOLL
NO. 65690
EXP. 9-30-07
CIVIL
STATE OF CALIFORNIA

APPROVED BY
CITY ENGINEER DATE 2-23-06

APPROVED BY DATE: 2/22/06
R.C.E. NO. 65690 EXP. DATE 9/30/07

SCALE: NTS
DATE: 12/1/05

ALBERT A. WEBB ASSOCIATES
CIVIL ENGINEERS
3788 McCRAY ST. RIVERSIDE, CA. 92506
PH. (951) 686-1070

VICTORIA PLACE, LLC
ATEN ROAD
2.0 MG WELDED STEEL RESERVOIR
TITLE SHEET
FOR: CITY OF IMPERIAL W.O. 04-79

SHEET 1 OF 6 SHEETS
DWG. NO. 04-79R

G:\2004\04-0079\Drawing\2MG RES. WITH FOUDATION NOTES.pro 2/22/2006 8:27AM

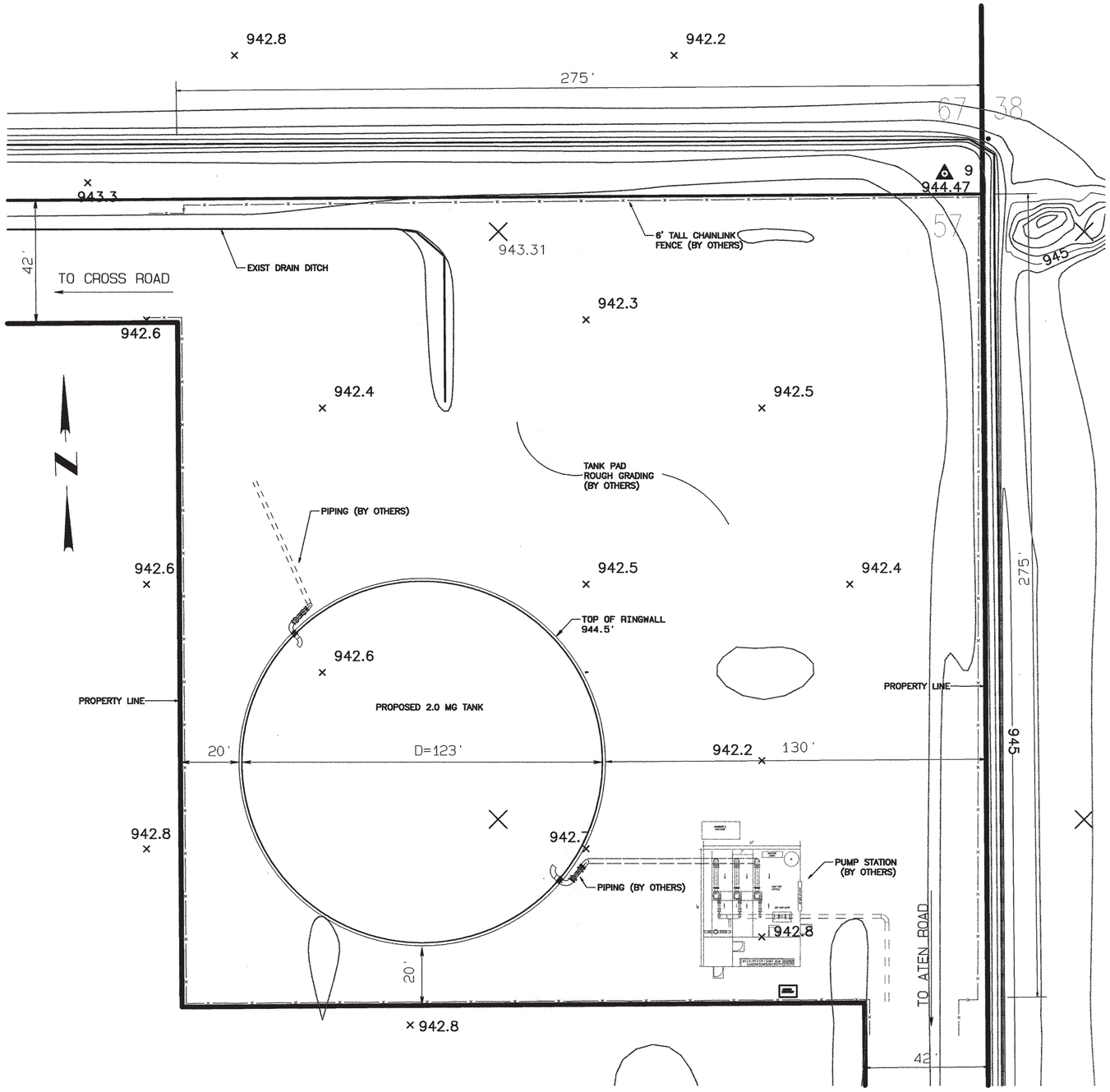
2004-0079
15509

GENERAL NOTES:

1. ALL CONSTRUCTION UNDER THIS CONTRACT SHALL CONFORM WITH ALL PROVISIONS OF THE BASIC SPECIFICATIONS, AND CONSTRUCTION DRAWINGS, ALL INCLUSIVE UNDER THIS CONTRACT.
2. CONSTRUCTION, MATERIALS, TESTING AND INSPECTION SHALL COMPLY WITH THE CITY OF IMPERIAL REQUIREMENTS AND PROJECT SPECIFICATIONS, AND MEET OR EXCEED THE REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND THE AMERICAN SOCIETY FOR TESTING AND MATERIAL (A.S.T.M.) STANDARDS. FAILURE TO MEET THE ABOVE REQUIREMENTS WILL BE CAUSE FOR REJECTION.
3. MAIN LINE VALVES ARE TO BE OPERATED ONLY BY A CITY EMPLOYEE.
4. CONTRACTOR SHALL SUBMIT TO OWNER MATERIAL SUBMITTALS PRIOR TO THE PRE-CONSTRUCTION CONFERENCE. ONLY APPROVED MATERIALS CAN BE USED IN ACCORDANCE WITH THE SPECIFICATIONS.
5. ALL CONSTRUCTION AND OPERATIONS BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH CAL-OSHA REQUIREMENTS.
6. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF ANY CONSTRUCTION CHANGES AND SHALL MAKE INFORMATION AVAILABLE TO THE ENGINEER FOR PREPARATION OF "AS BUILT" DRAWINGS. THE "AS BUILT" DRAWINGS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
7. SURFACE IMPROVEMENTS DAMAGED OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RECONSTRUCTED BY THE CONTRACTOR TO THE LOCAL GOVERNING AGENCY'S REQUIREMENTS.
8. ANY REVISION TO THESE DRAWINGS MUST BE APPROVED IN WRITING BY THE OWNER AND THE ENGINEER.
9. THE CONTRACTOR/SUB-CONTRACTOR SHALL EXAMINE CAREFULLY THE SITE OF THE WORK CONTEMPLATED. ALSO THE PLANS AND SPECIFICATIONS. THE SUBMISSION OF A BID SHALL BE CONCLUSIVE EVIDENCE THAT THE CONTRACTOR /SUB-CONTRACTOR HAS INVESTIGATED THE PROJECT SITE AND IS SATISFIED AS TO THE CONDITIONS TO BE ENCOUNTERED, AS TO THE QUANTITIES OF MATERIAL TO BE FURNISHED, AND AS TO THE REQUIREMENTS OF THE PROPOSAL, PLANS AND BASIC SPECIFICATIONS.
10. FINISHED SURFACE (F.S.) IS THE TOP OF PROPOSED GRADING (BY OTHERS).
11. ANY/ALL EXCESS MATERIAL GENERATED FROM SITE EXCAVATION AND/OR COMPACTION SHALL BE KEPT ON SITE FOR GRADING PURPOSE.
12. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE SOIL REPORTS DATED SEPTEMBER 2005, PREPARED BY LANDMARK GEOTECHNICAL INC.

FOUNDATION NOTES:

1. ALL EXCAVATION AND COMPACTION UNDER THIS CONTRACT SHALL CONFORM WITH THE SOILS REPORT BY LANDMARK CONSULTANTS, INC. DATED SEPTEMBER 2005 AND THE CONTRACT PLANS AND SPECIFICATIONS.
2. THE SITE IS IN SEISMIC ZONE 4 WITH A NEAR SOURCE FACTOR Na = 1.31 AND Nv = 1.75.
3. THE SOIL IS CLASS D WITH AN EXPANSION INDEX OF 50-90. THE DESIGN BEARING CAPACITY OF THE FOUNDATION IS 1,133 PSF.
4. THE SOILS REPORT RECOMMENDS THAT THE TANK AREA BE EXCAVATED 30" BELOW THE GROUND SUFACE EXTENDING 5' BEYOND THE PERIMETER OF THE TANK.THE AREA SHOULD THEN BE BROUGHT TO FINISHED GRADE WITH ENGINEERED FILL CONSISTING OF 24" OF CRUSHED AGGREGATE BASE AND 8" OF CUSHED ROCK IN MAXIMUM 8" LIFTS. FOR DESIGN FOUNDATION SEE DETAIL 2 ON SHEET 5.
5. PER THE SOILS REPORT THE MINIMUM FOOTING WIDTH SHALL BE 12".
6. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE FOUNDATION EXCAVATIONS AND FILL, UTILITY TRENCHES, AND BUILDING PADS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER IN ACCORDANCE WITH THE SOILS REPORT.



TANK NOTES:

1. TANK DESIGN, FABRICATIONS AND ERECTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS.
2. CONTRACTOR SHALL SUBMIT ALL DESIGN CALCULATIONS AND FABRICATION DRAWINGS TO THE OWNER FOR APPROVAL.
3. CONTRACTOR SHALL SUBMIT COLOR CHARTS FOR TANK EXTERIOR. EXTERIOR PAINT COLOR SHALL BE SELECTED AND APPROVED BY THE OWNER PRIOR TO CONTRACTOR PLACING HIS ORDER FOR SAID PAINT.
4. MILL REPORTS PER SUBSECTION 11.1 OF AWWA D-100 ARE REQUIRED.
5. CONTRACTOR SHALL FURNISH WRITTEN REPORT PER SUBSECTION 11.2.1, AWWA D-100 (LATEST EDITION) OR SECTION 14.4 AWWA D-100 "APPENDIX C" (LATEST EDITION), WHICHEVER APPLIES.

SPECIAL NOTES:

1. THE FOLLOWING WORK IS IN PROCESS OF BEING COMPLETED BY OTHERS: ROUGH GRADING (INCLUDING ACCESS ROADS), DRAINAGE, FENCE ERECTION. CONTRACTOR SHALL REPLACE ALL DISTURBED OR REMOVED SOIL TO SUBGRADE.
2. CONTRACTOR SHALL CONSTRUCT REINFORCED CONCRETE RINGWALL WITH 3" OF OIL SAND OVER 24" MIN. THICK CLASS 2 BASE WITHIN RINGWALL, AND EXTENDING 5' BEYOND RINGWALL PER THE SPECIFICATIONS.
3. PRIOR TO CONNECTION TO EXISTING WATER SYSTEM, CONTRACTOR SHALL SUBMIT TO THE OWNER AND OBTAIN APPROVAL OF TESTING PLAN FOR CLEANING AND DISINFECTING PROPOSED TANK AND INLET/OUTLET PIPELINE. CONTRACTOR SHALL APPLY A CHLORINE REDUCING AGENT TO ALL CHLORINATED WATER PRIOR TO DISCHARGING WATER THROUGH THE OVERFLOW AND DRAIN LINE. THE MAXIMUM CHLORINE RESIDUAL OF DISCHARGED WATER SHALL BE 0.3 PPM.

PERMITS:

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DESIGN CRITERIA:

TYPE: .....WELDED STEEL TANK
VOLUME: .....2.0 MILLION GALLONS
INSIDE DIAMETER: .....123.0'
HIGH WATER ELEVATION: .....966.50'
INLET PIPE DIAMETER: .....16"
OUTLET PIPE DIAMETER: .....20"
OVERFLOW PIPE DIAMETER: .....16"
DRAIN PIPE DIAMETER: .....6"

REQUIRED SPECIAL INSPECTIONS

ITEM	REQUIRED	REMARKS
SOILS COMPLIANCE PRIOR TO FOUNDATION INSPECTION	YES	
STRUCTURAL CONCRETE OVER 2500PSI	YES	
FIELD WELDING	YES	
HIGH-STRENGTH BOLTS	NO	
DESIGNER-SPECIFIED OTHER	NO	

GRAPHIC SCALE 1"=20'
0 20 40 60

FOR CONSTRUCTION 12-1-05

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
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227-2600
TWO WORKING DAYS BEFORE YOU DIG

G:\2004\04-0079\Drawing\2MG RES. WITH FOUNDATION NOTES.pro 2/22/2006 8:16AM

DATE	BY	MARK	REVISIONS
12/1/05	BPK	1	ISSUED FOR CONSTRUCTION

DESIGNED BY: BPK/CAB DRAWN BY: CAB CHECKED BY: BPK

BENCHMARK:
TARGET AT NE CORNER OF SITE
ELEV. = 944.47'

SEAL
REGISTERED PROFESSIONAL ENGINEER BRIAN P. KNELL NO. 65690 EXP. 9-30-07 CIVIL STATE OF CALIFORNIA

APPROVED BY
CITY ENGINEER 2-23-06 DATE

APPROVED BY
DATE: 2/22/06
R.C.E. NO. 65690 EXP. DATE 9/30/07

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY ST. RIVERSIDE, CA. 92506
PH. (951) 686-1070

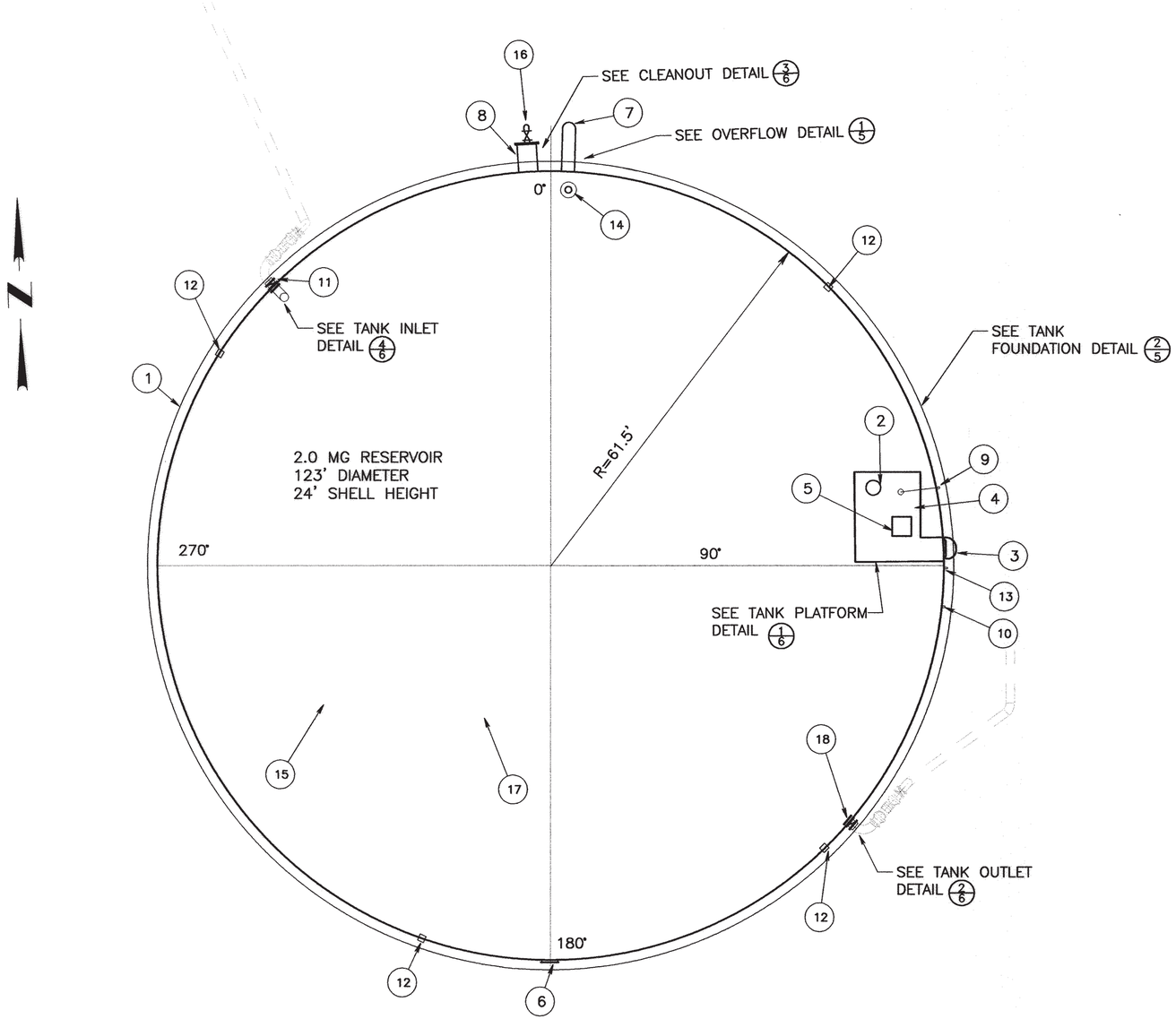
SCALE: 1"= 20'
DATE: 12/1/05

VICTORIA PLACE, LLC

ATEN ROAD
2.0 MG WELDED STEEL RESERVOIR
OVERALL SITE PLAN

FOR: CITY OF IMPERIAL W.O. 04-79

SHEET 2 OF 6 SHEETS
DWG. NO. 04-79R



TANK LAYOUT

1"= 10'

GRAPHIC SCALE 1"=10'

0 10 20 30

BILL OF MATERIALS

1. RESERVOIR FOUNDATION, SEE DETAIL ON SHEET 6.
2. SCREENED ROOF VENT DESIGNED FOR 75 LBS./SQ. FT.
3. OUTSIDE LADDER WITH CAGE AND EXPANDED METAL MESH ON LOWER 6 FEET. SAF-T-CLIMB FALL PREVENTION SYSTEM, AND SECURITY DOOR, PAINTED TO MATCH TANK. SEE DETAIL ON SHEET 6.
4. NON-SLIP SURFACE AND HANDRAIL, 42" HIGH, SEE DETAIL ON SHEET 6.
5. 36"x36" ROOF ACCESS HATCH WITH LOCKING MECHANISM AND STAINLESS STEEL INTERIOR LADDER WITH SAF-T-CLIMB FALL PREVENTION SYSTEM.
6. 30" ø BOLTED SHELL MANWAY.
7. 16" DIA. OVERFLOW, SEE DETAIL ON SHEET 5.
8. 36" x 48" FLUSH TYPE CLEANOUT, SEE DETAIL ON SHEET 6.
9. VAREC 6700 SERIES HALF SCALE WATER LEVEL INDICATOR OR EQUAL WITH INSULATED WIRE.
10. 2" HALF CPLG. PER API STD. 650, WITH 2"X1/2" REDUCER BUSHING, 1/2" NIPPLE, 1/2" BALL VALVE, AT 12" FROM BOTTOM, FOR LEVEL TRANSMITTER (TRANSMITTER BY OTHERS).
11. 16" INLET PIPING INCLUDING BUTTERFLY VALVE WITH TEMPORARY BLIND FLANGE AND INTERNAL RISER PIPE WITH SUPPORTS.
12. 1 1/2 " DIA. I.P.T. EXTRA STRONG STEEL WITH HEAVY DUTY CORP STOP (4 TOTAL)
13. 1 1/4" DIA. 3000# FULL COUPLING WELDED TO THE SHELL INCLUDING SAMPLING NOZZLE
14. 12" DIA OVERFLOW INSPECTION HATCH
15. CATHODIC PROTECTION SYSTEM PER SPECIFICATIONS
16. 6" DIA. SIDE OUTLET DRAIN IN CLEANOUT WITH EXTERIOR G.V.
17. ALUMINUM DOME ROOF PER SPECIFICATIONS, BY TEMCOR
18. 20" OUTLET WITH BUTTERFLY VALVE AND TEMPORARY BLIND FLANGE

TANK APPURTENANCES TABLE OF BEARINGS	
DESCRIPTION	ORIENTATION ANGLE
16" INLET	315°
20" OUTLET	135°
30" MANWAY	180°
EXTERIOR LADDER	88°
ROOF HATCH	85°
LEVEL INDICATOR	80°
OVERFLOW INSPECTION	3°
OVERFLOW	3°
36" X 48" CLEANOUT	357°

GENERAL NOTES:

1. ALL ABOVE GRADE STEEL PIPING WHICH IS NOT WELDED TO OR LOCATED INSIDE THE TANK SHALL BE FUSION BONDED EPOXY LINED AND OUTSIDE PAINTED. STEEL PIPE BEING WELDED TO THE TANK OR LOCATED INSIDE THE TANK SHALL RECEIVE EQUAL COATING AS THE TANK. ALL BURIED STEEL PIPING SHALL BE CEMENT LINED AND COATED. ALL ABOVE GROUND PIPING SHALL BE PAINTED WITH ONE FULL COAT OF INDUSTRIAL GRADE METAL PRIMER AND ONE FINISH COAT OF OIL BASE INDUSTRIAL GRADE ENAMEL. THE PRIMER AND FINISH COAT MATERIALS SHALL BE FROM THE SAME MANUFACTURER. SURFACE PREPARATION AND APPLICATION SHALL BE PERFORMED IN COMPLIANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE FINISH COLOR SHALL BE PROVIDED BY THE OWNER.
2. ALL STEEL PIPING SHALL BE 0.25" WALL THICKNESS UNLESS NOTED OTHERWISE.

FOR CONSTRUCTION 12-1-05

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1·800
227·2600
TWO WORKING DAYS BEFORE YOU DIG

DATE	BY	MARK	REVISIONS
12/1/05	BPK	1	ISSUED FOR CONSTRUCTION

ENGINEER

DESIGNED BY: BPK/CAB DRAWN BY: CAB CHECKED BY: BPK

SEAL: REGISTERED PROFESSIONAL ENGINEER BRIAN P. KNOLL NO. 65690 EXP. 9-30-07 CIVIL STATE OF CALIFORNIA

APPROVED BY
CITY ENGINEER 2-23-06 DATE

APPROVED BY DATE: 2/22/06
R.C.E. NO. 65690 EXP. DATE 9/30/07

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY ST. RIVERSIDE, CA. 92506
PH. (951) 686-1070

SCALE: 1"= 10'
DATE: 12/1/05

VICTORIA PLACE, LLC

ATEN ROAD
2.0 MG WELDED STEEL RESERVOIR
RESERVOIR PLAN

FOR: CITY OF IMPERIAL W.O. 04-79

SHEET 3 OF 6 SHEETS
DWG. NO. 04-79R

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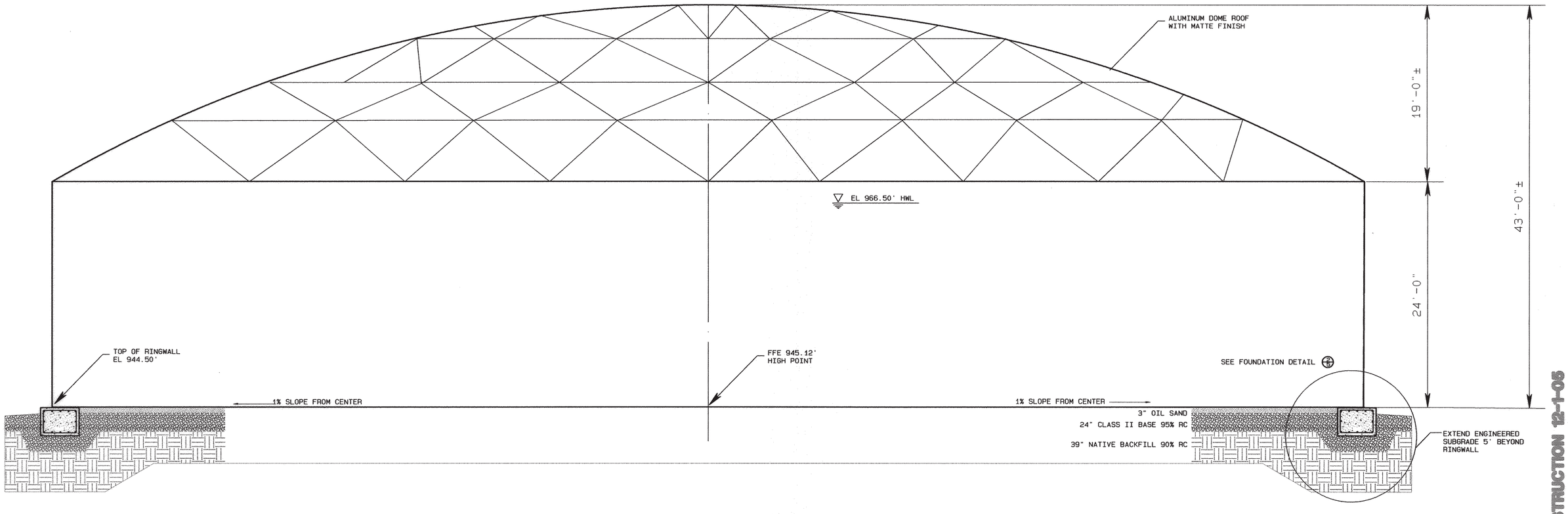
NOTE

ALUMINUM DOME ROOF SHALL BE MANUFACTURED PER SPECIFICATIONS AND INSTALLED PER THE MANUFACTURERS INSTRUCTIONS. APPROVED MANUFACTURER IS TEMCOR.



TANK ELEVATION

1" = 5'

FOR CONSTRUCTION 12-1-05

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227-2600
TWO WORKING DAYS BEFORE YOU DIG

DATE	BY	MARK	REVISIONS
12/1/05	BPK	1	ISSUED FOR CONSTRUCTION

ENGINEER

DESIGNED BY: BPK/CAB DRAWN BY: CAB CHECKED BY: BPK

SEAL

REGISTERED PROFESSIONAL ENGINEER
BRIAN P. KNOLL
NO. 65690
EXP. 9-30-07
CIVIL
STATE OF CALIFORNIA

APPROVED BY
CITY ENGINEER DATE 2-22-06

APPROVED BY
DATE: 2/22/06

R.C.E. NO. 65690 EXP. DATE 9/30/07

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS

ALBERT A. WEBB ASSOCIATES
CIVIL ENGINEERS
3788 McCRAY ST. RIVERSIDE, CA. 92506
PH. (951) 686-1070

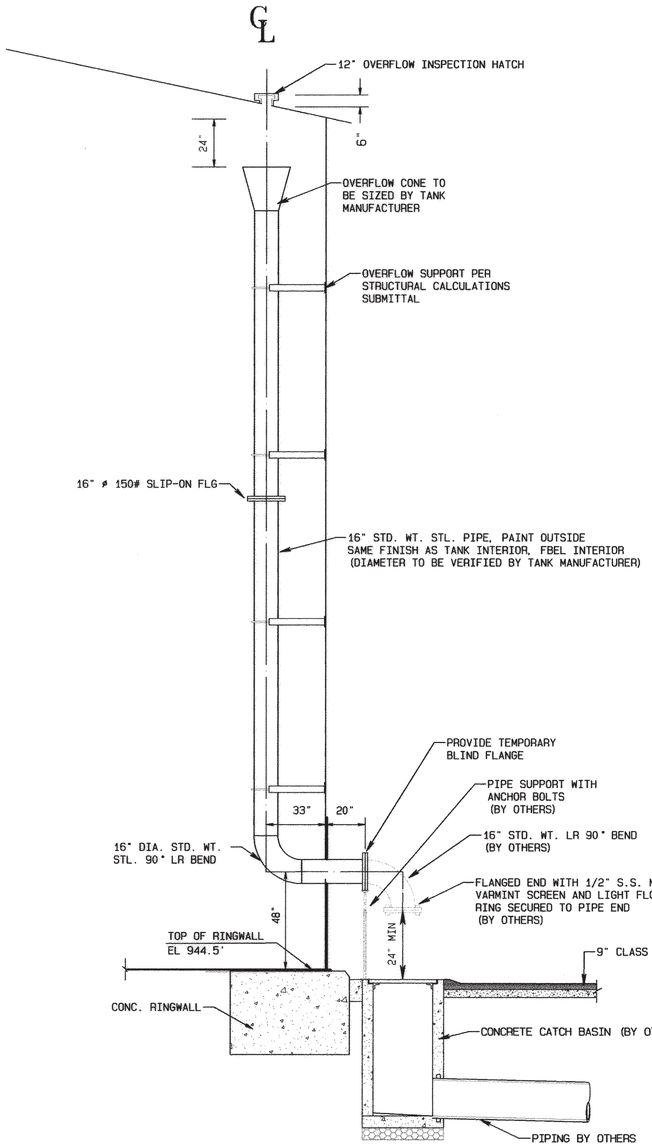
SCALE: PER PLAN
DATE: 12/1/05

VICTORIA PLACE, LLC

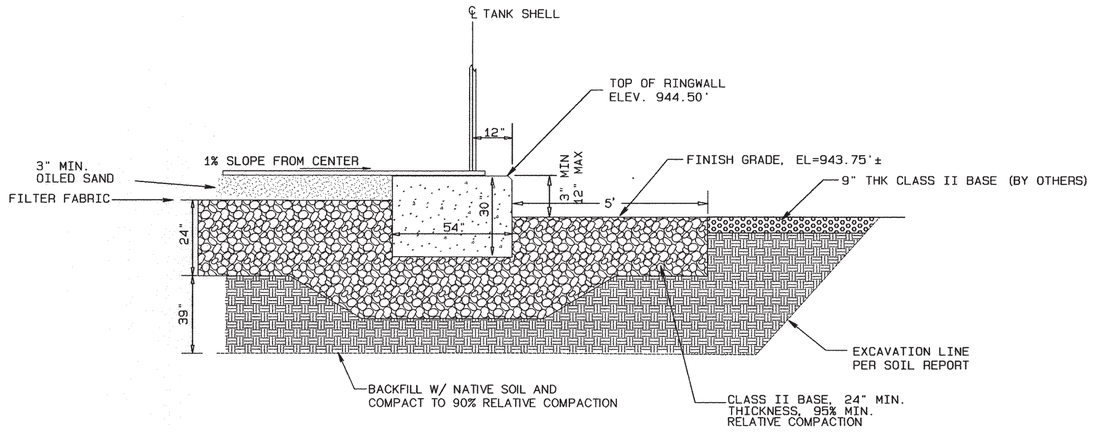
ATEN ROAD
2.0 MG WELDED STEEL RESERVOIR
RESERVOIR SECTION

FOR: CITY OF IMPERIAL W.O. 04-79

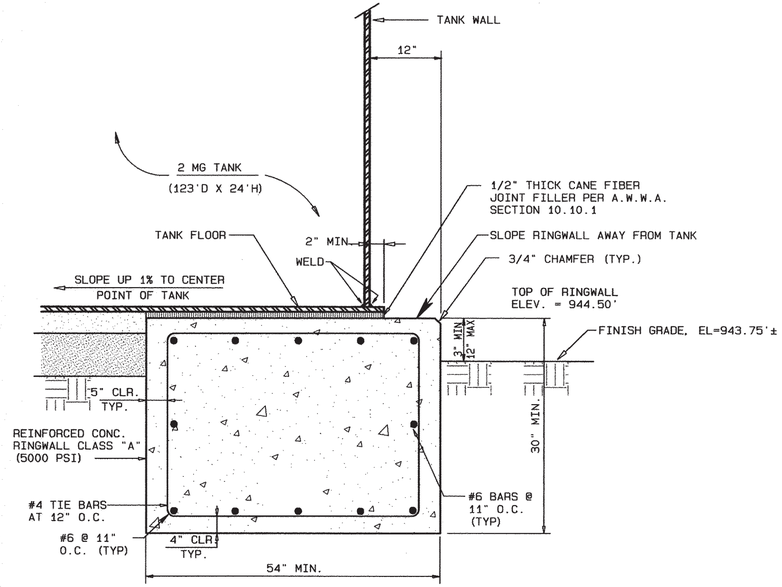
SHEET 4 OF 6 SHEETS
DWG. NO. 04-79R



1/5 OVERFLOW DETAIL
NTS



2/5 FOUNDATION DETAIL
NTS



3/5 RINGWALL DETAIL
NTS

UNDERGROUND SERVICE ALERT
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227-2600
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FOR CONSTRUCTION 12-1-05

DATE	BY	MARK	REVISIONS
12/1/05	BPK	1	ISSUED FOR CONSTRUCTION

ENGINEER

DESIGNED BY: BPK/CAB DRAWN BY: CAB CHECKED BY: BPK

SEAL: REGISTERED PROFESSIONAL ENGINEER, BRIAN P. KNOLL, NO. 65690, EXP. 9-30-07, CIVIL, STATE OF CALIFORNIA

APPROVED BY
CITY ENGINEER 2-23-06 DATE

APPROVED BY DATE: 2/22/06
R.C.E. NO. 65690 EXP. DATE 9/30/07

SCALE: NTS
DATE: 12/1/05

ALBERT A. WEBB ASSOCIATES
CIVIL ENGINEERS
3788 McCRAY ST. RIVERSIDE, CA. 92506
PH. (951) 686-1070

VICTORIA PLACE, LLC

ATEN ROAD
2.0 MG WELDED STEEL RESERVOIR

MISC. DETAILS

FOR: CITY OF IMPERIAL W.O. 04-79

SHEET 5 OF 6 SHEETS
DWG. NO. 04-79R

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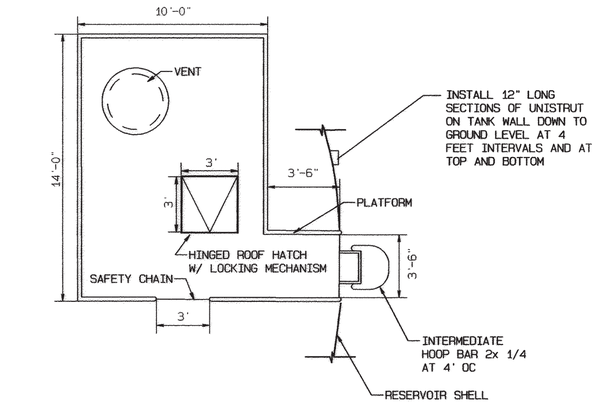
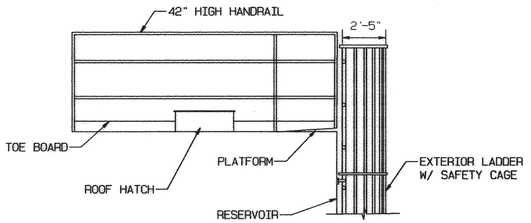
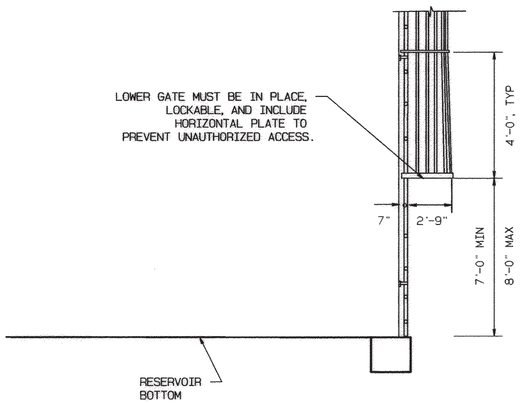
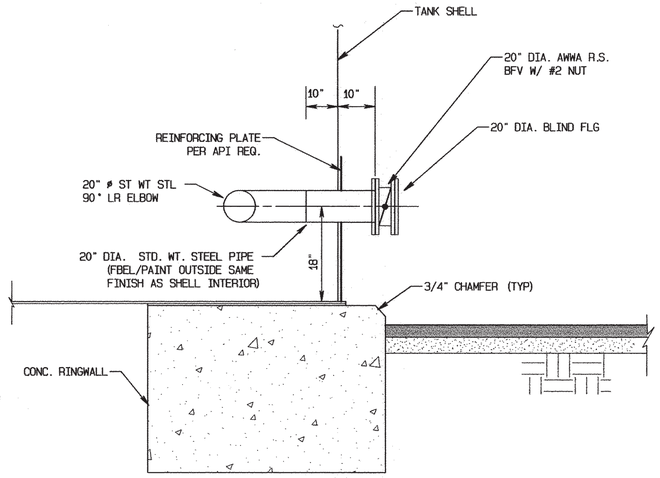


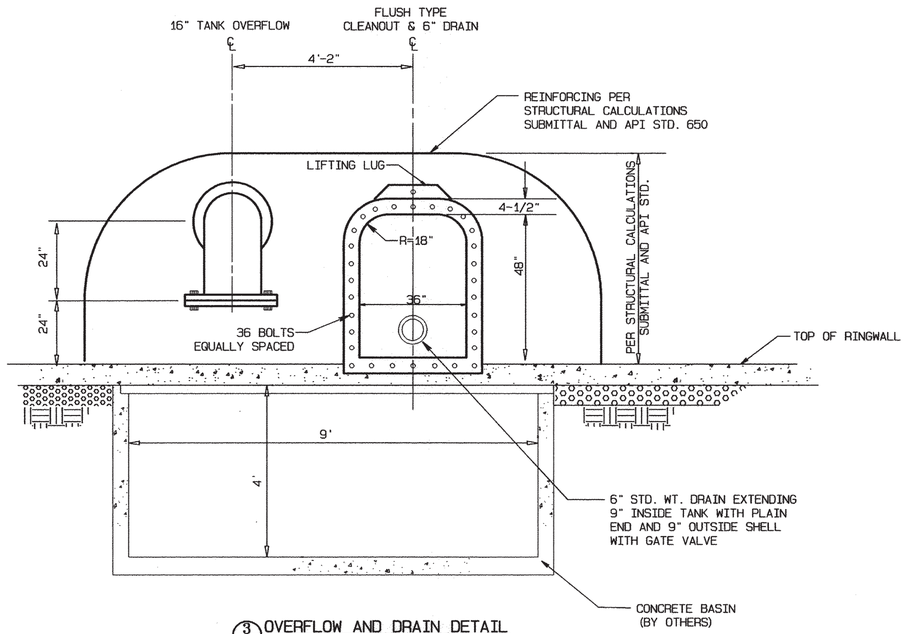




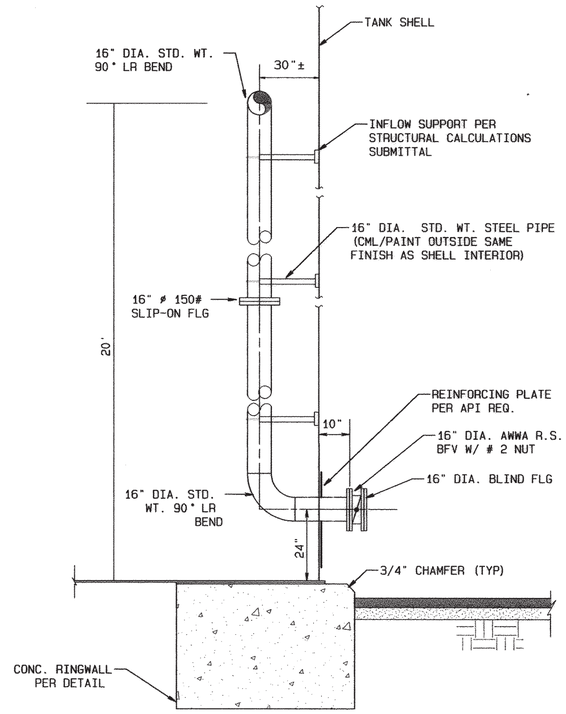
1/6 PLATFORM AND LADDER
NTS



2/6 OUTLET DETAIL
NTS



3/6 OVERFLOW AND DRAIN DETAIL
NTS



4/6 INLET DETAIL
NTS

FOR CONSTRUCTION 12-1-05

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DATE	BY	MARK	REVISIONS
12/1/05	BPK	1	ISSUED FOR CONSTRUCTION

ENGINEER

DESIGNED BY: BPK/CAB DRAWN BY: CAB CHECKED BY: BPK

SEAL
REGISTERED PROFESSIONAL ENGINEER
BRIAN P. KNOLL
NO. 65690
EXP. 9-30-07
CIVIL
STATE OF CALIFORNIA

APPROVED BY _____ DATE 2-22-06
CITY ENGINEER

APPROVED BY _____ DATE: 2/22/06

R.C.E. NO. 65690 EXP. DATE 9/30/07

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS

ALBERT A. WEBB ASSOCIATES
CIVIL ENGINEERS
3788 McCRAY ST. RIVERSIDE, CA. 92506
PH. (951) 686-1070

SCALE: NTS
DATE: 12/1/05

VICTORIA PLACE, LLC
ATEN ROAD
2.0 MG WELDED STEEL RESERVOIR
MISC. DETAILS
FOR: CITY OF IMPERIAL W.O. 04-79

SHEET 6 OF 6 SHEETS
DWG. NO. 04-79R

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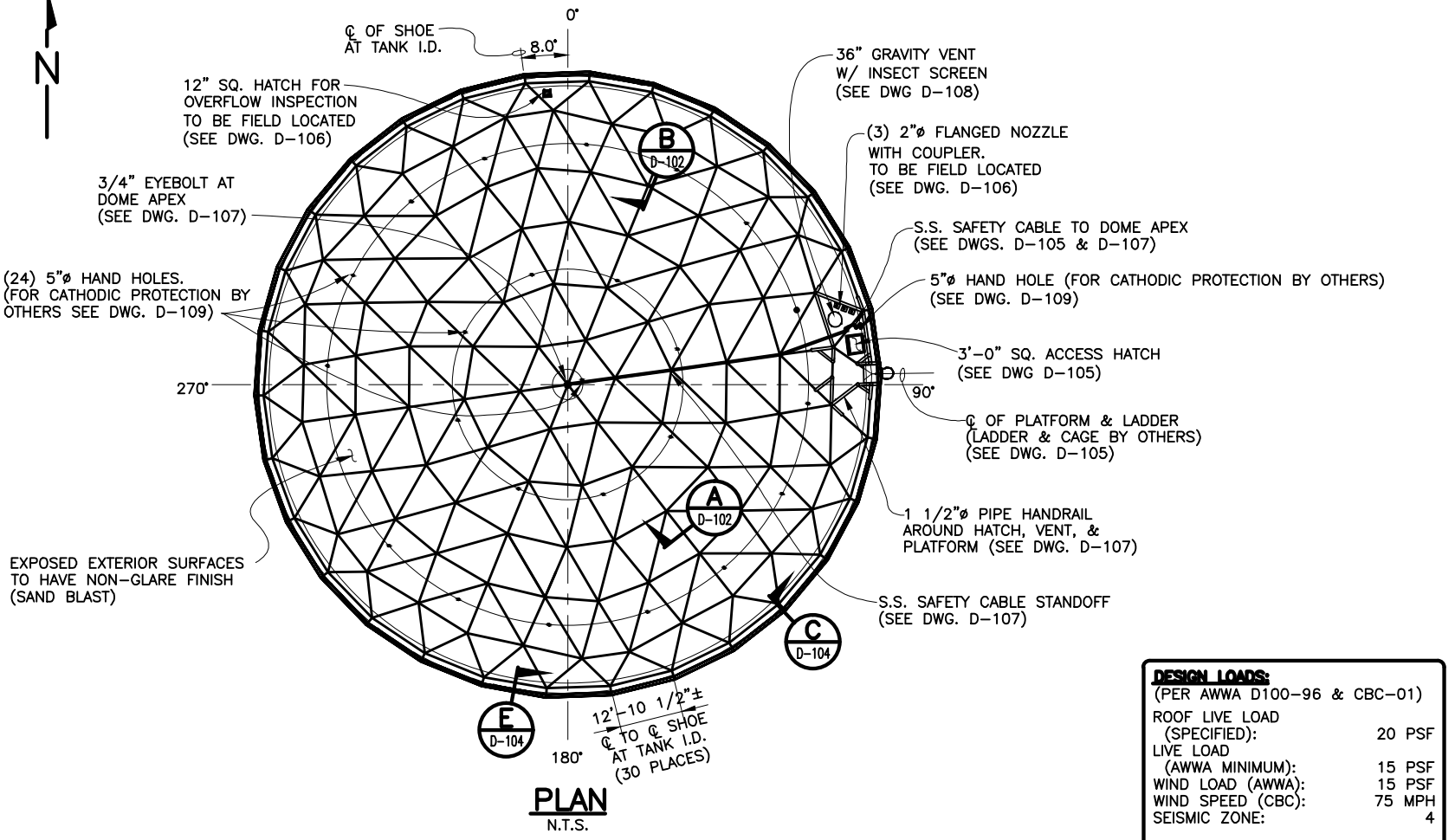
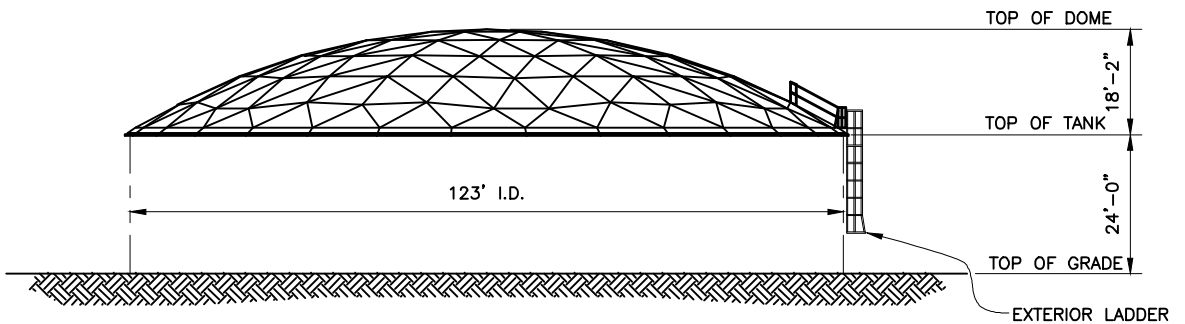


PLAN
N.T.S.

DESIGN LOADS:
(PER AWWA D100–96 & CBC–01)

ROOF LIVE LOAD (SPECIFIED):	20 PSF
LIVE LOAD (AWWA MINIMUM):	15 PSF
WIND LOAD (AWWA):	15 PSF
WIND SPEED (CBC):	75 MPH
SEISMIC ZONE:	4



ELEVATION
N.T.S.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

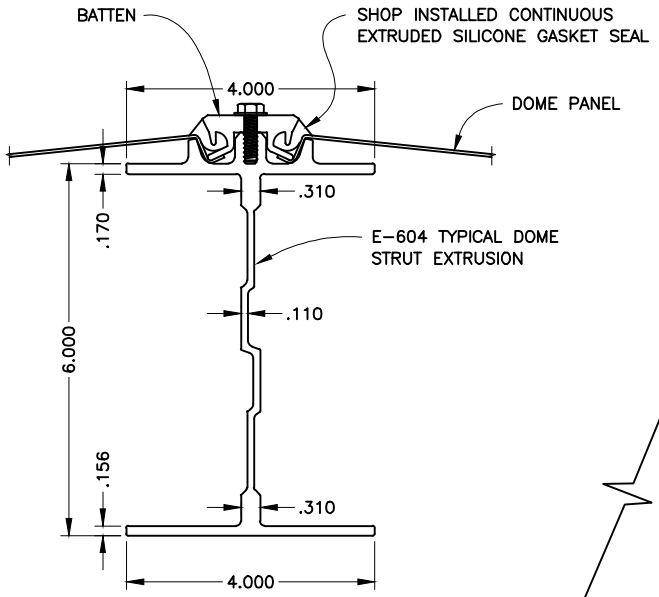
DWG. TITLE: DOME PLAN AND ELEVATION

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL , CA

JOB NO.: 645301

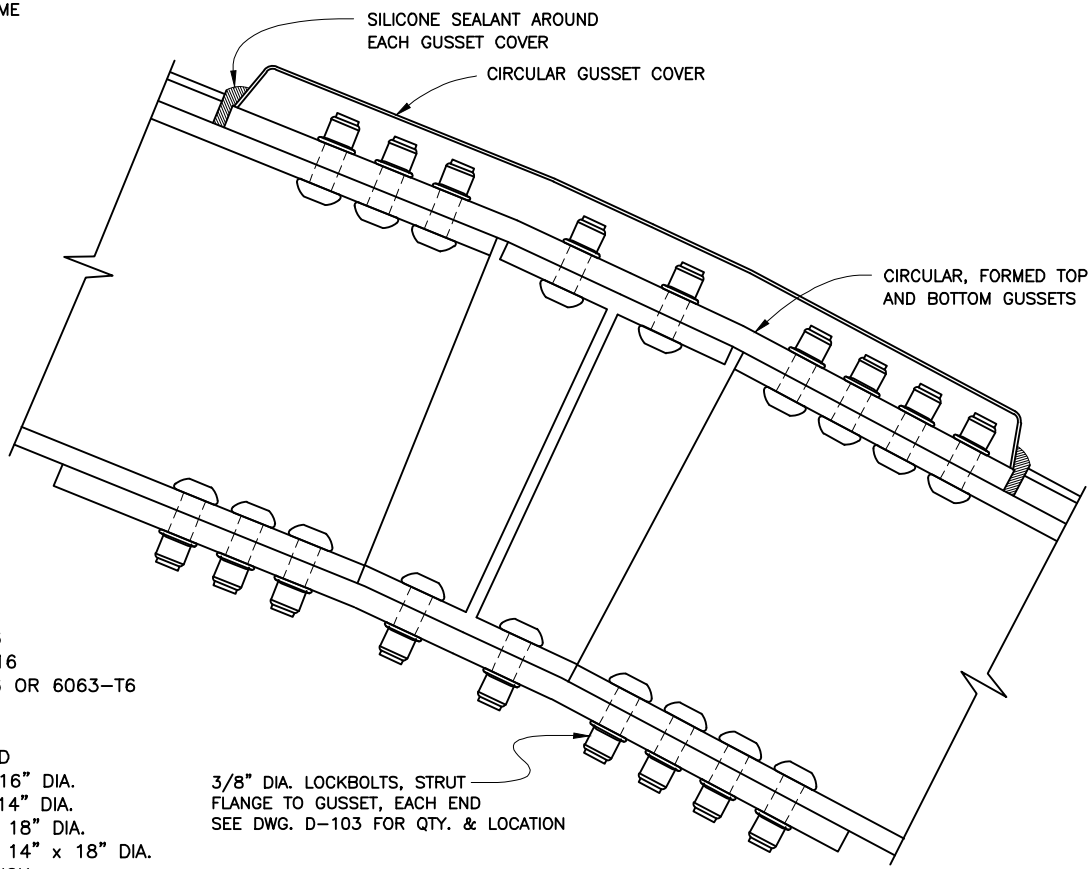
DRAWING NO.: D–101

REVISION: 0



TYPICAL DOME STRUT (A D-101)

N.T.S.



TYPICAL GUSSET JOINT (B D-101)

N.T.S.

NOTES:

1. ALL MATERIAL EXCEPT AS OTHERWISE NOTED IS MILL FINISH ALUMINUM AS FOLLOWS:

STRUTS, GUSSETS AND PLATES	6061-T6
PANELS, FLASHING, AND GUSSET COVERS	3003-H16
BATTENS	6061-T6 OR 6063-T6

2. MATERIAL SIZE:

STRUT	AS NOTED
TYPICAL TOP GUSSET	3/8" x 16" DIA.
TYPICAL BOTTOM GUSSET	3/8" x 14" DIA.
SHOE TOP GUSSET	7/16" x 18" DIA.
SHOE BOTTOM GUSSET	7/16" x 14" x 18" DIA.
PANEL AND FLASHING	0.05" THICK

3. FASTENERS:
LOCKBOLTS – ALUMINUM (7075-T73) OR S.S. (300 SERIES) AS NOTED. (AL. LOCKBOLTS CLEAR ANODIZED 204)
LOCKBOLT COLLARS – ALUMINUM (6061 HEAT TREATED)
SHOE SUPPORT PLATE BOLTS – S.S. (304)
BATTEN SCREWS – #14 DIA. S.S. (302)

4. SEALANT
PECORA SILICONE SEALANT MEETING FEDERAL SPEC TT-S-001543A AND TT-S-00230C.

5. ALL DIMENSIONS SHOWN ARE NOMINAL AND IN INCHES, UNLESS NOTED OTHERWISE.

6. FINISH
EXPOSED EXTERIOR SURFACES (PANELS, FLASHING, VENT, HATCH, & GUSSET COVERS) TO HAVE NON-GLARE GRIT BLAST FINISH.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

DWG. TITLE: TYPICAL STRUT & GUSSET JOINT DETAIL

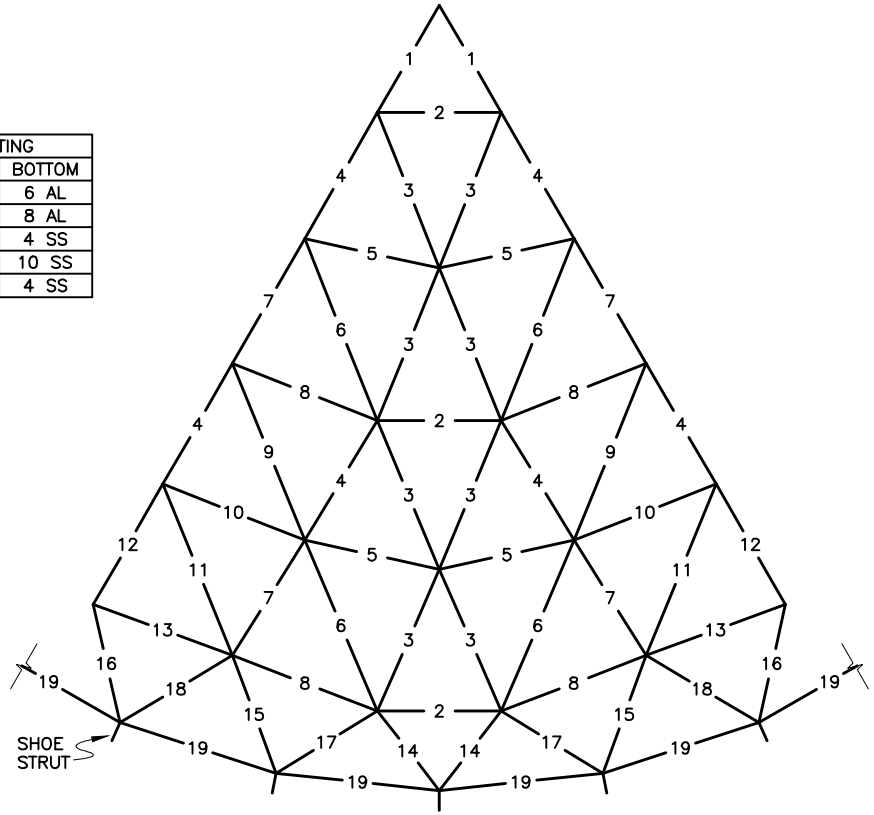
PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK
IMPERIAL , CA

JOB NO.: 645301

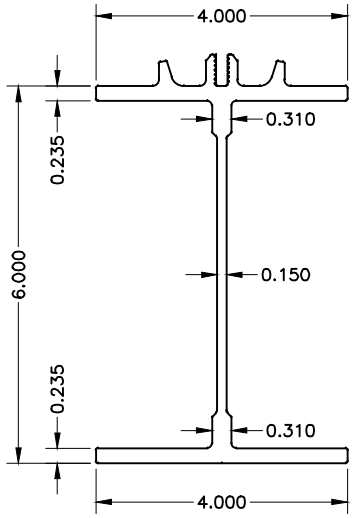
DRAWING NO.: D-102

REVISION: 0

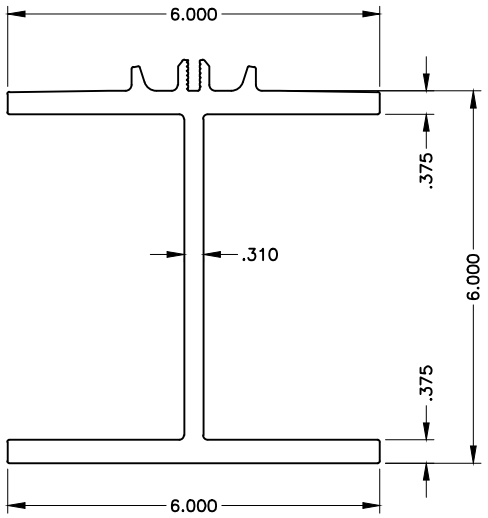
STRUT		BOLTING	
NO.	TYPE	TOP	BOTTOM
1–6	E–604	6 AL	6 AL
7–13	E–604	8 AL	8 AL
14–18	E–636	8 SS	4 SS
19	E–673	10 SS	10 SS
Shoe	E–673	6 SS	4 SS



DOME SECTOR PLAN
N.T.S.



E–636 STRUT
N.T.S.



E–673 STRUT
N.T.S.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

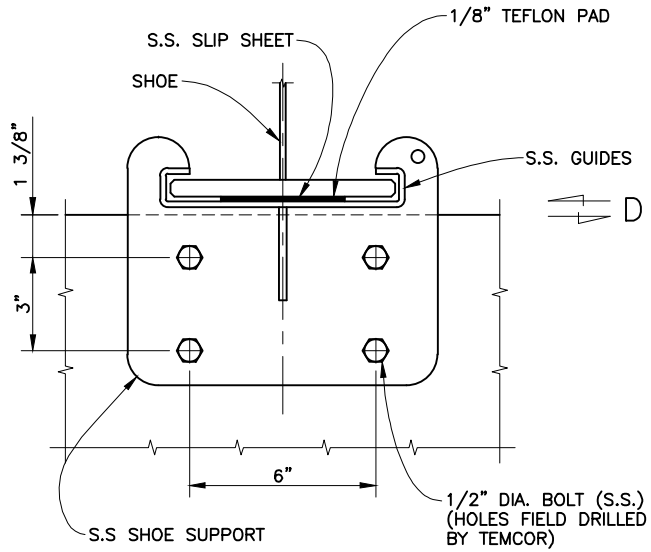
DWG. TITLE: DOME SECTOR PLAN & STRUT DETAILS

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK
IMPERIAL , CA

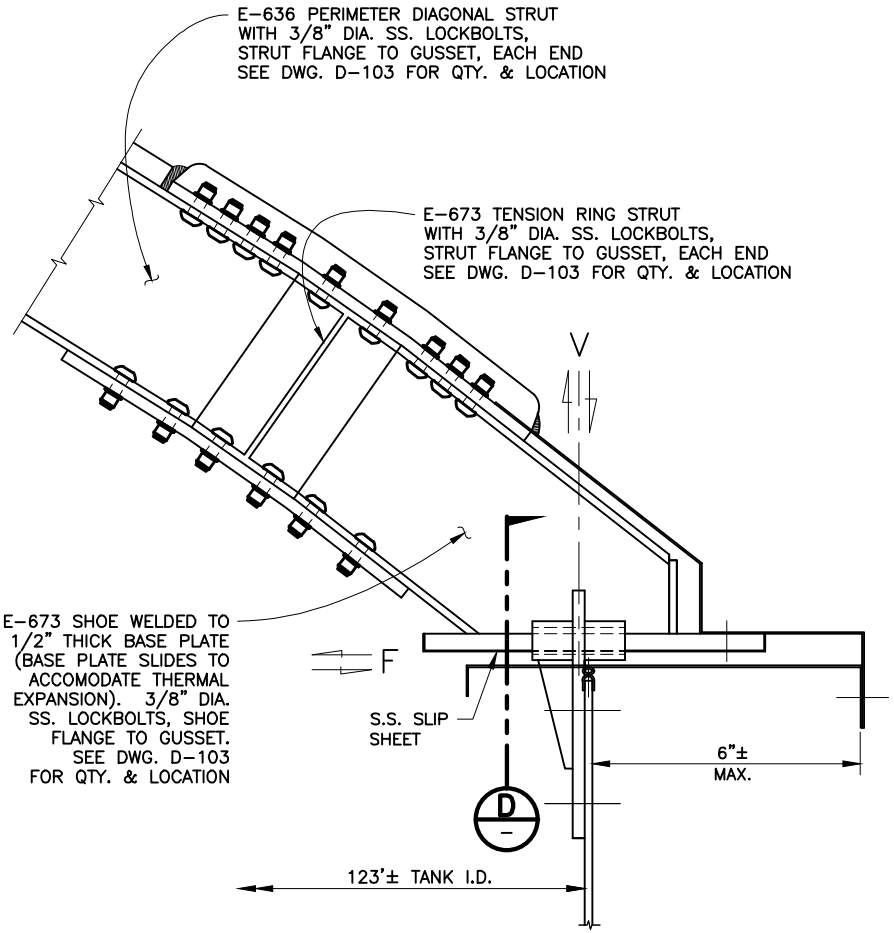
JOB NO.: 645301

DRAWING NO.: D–103

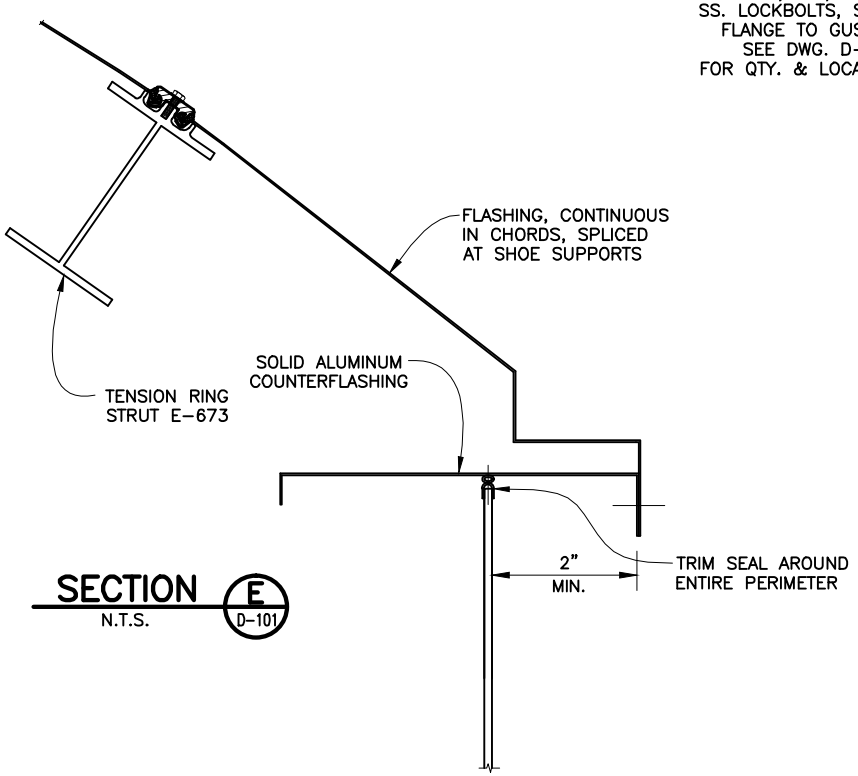
REVISION: 0



SECTION D
N.T.S.



SECTION C
N.T.S.
D-101



SECTION E
N.T.S.
D-101

NOTE:
FLASHING OVERHANG DIMENSIONS BASED ON NOMINAL TANK DIAMETER WITH NO VARIANCE. ACTUAL MAX & MIN TO VARY BASED ON ACTUAL TANK DIMENSIONS.

DOME FORCES AT SHOE :

LIVE/SNOW LOAD	V	= 8.7 KIPS
WIND LOAD	V	= 4.9 KIPS
WIND DRAG	D	= 1.6 KIPS
RADIAL FRICTION	F	= 0.5 KIPS

(NOTE: ALL LOADS INCLUDE DOME DEAD WEIGHT)

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO. 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

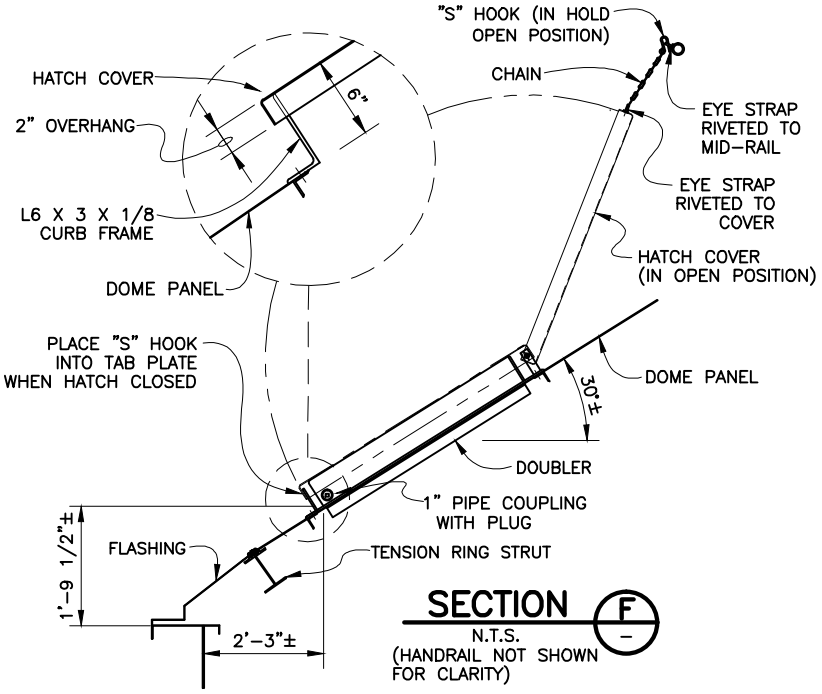
DWG. TITLE: SHOE, TENSION RING & FLASHING

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL, CA

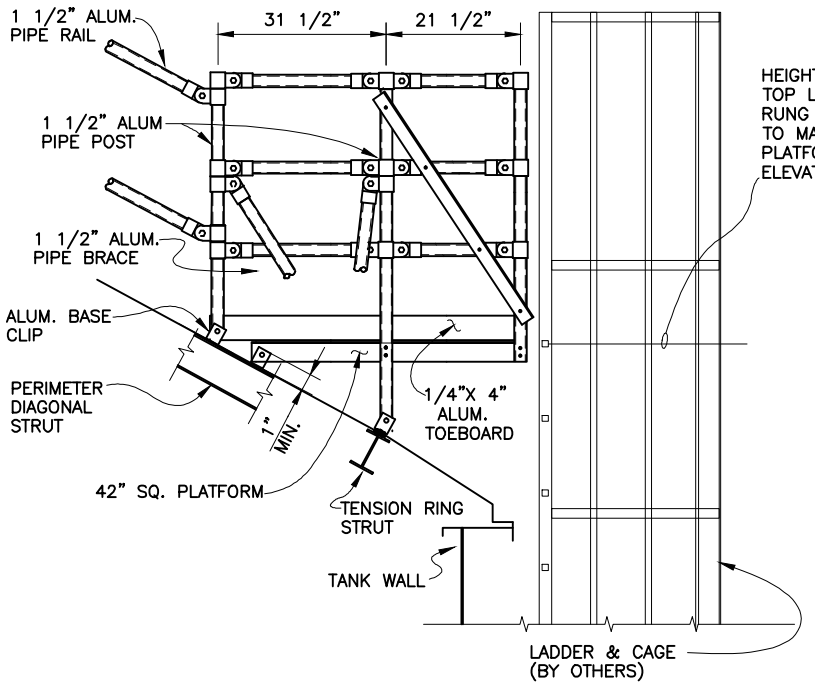
JOB NO. 645301

DRAWING NO. D-104

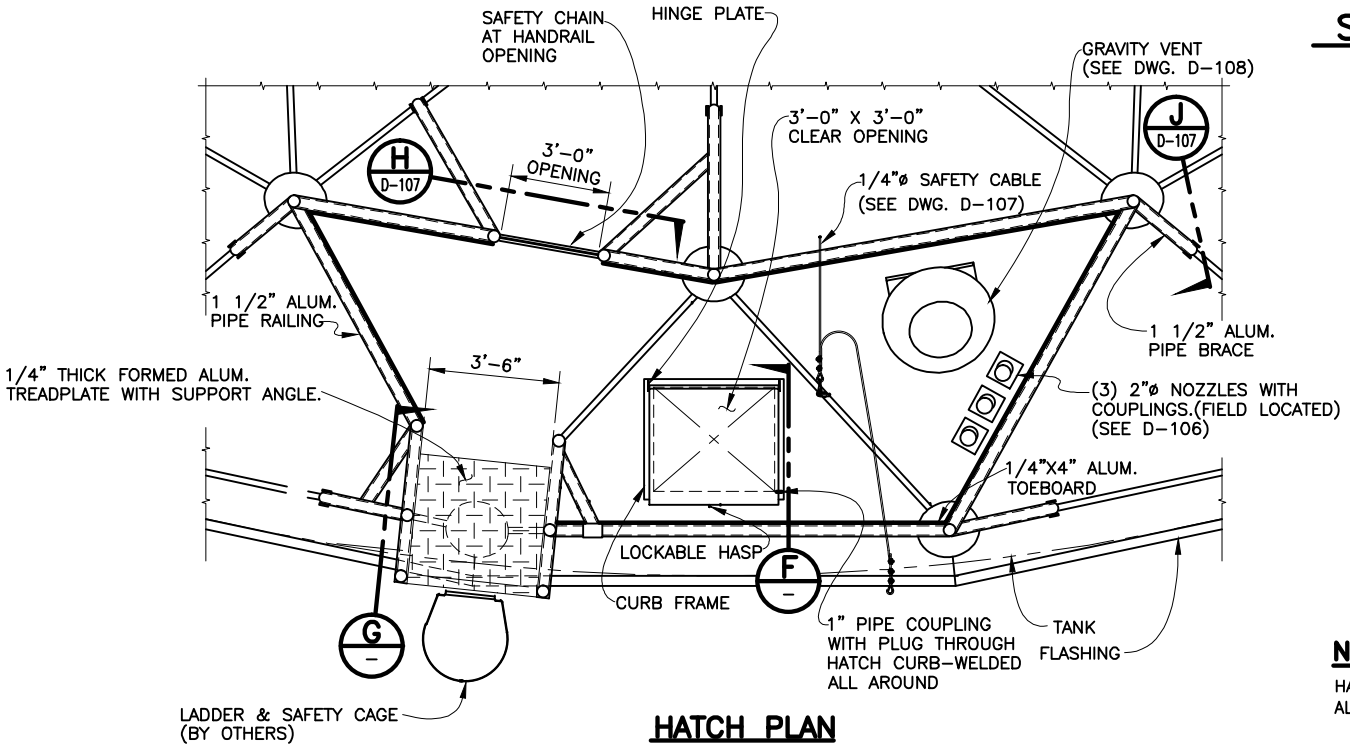
REVISION 0



SECTION F
N.T.S.
(HANDRAIL NOT SHOWN FOR CLARITY)



SECTION G
N.T.S.



HATCH PLAN
N.T.S.

NOTE:
HATCH, PLATFORM, & RAILING ARE ALL ALUMINUM CONSTRUCTION.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

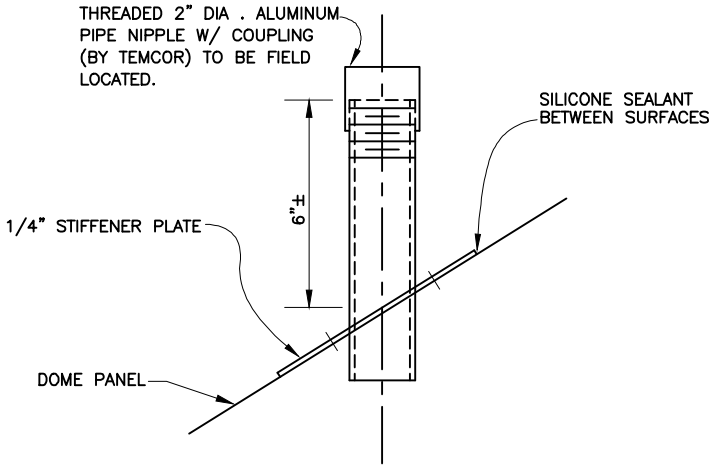
DWG. TITLE: ACCESS HATCH DETAIL

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL, CA

JOB NO.: 645301

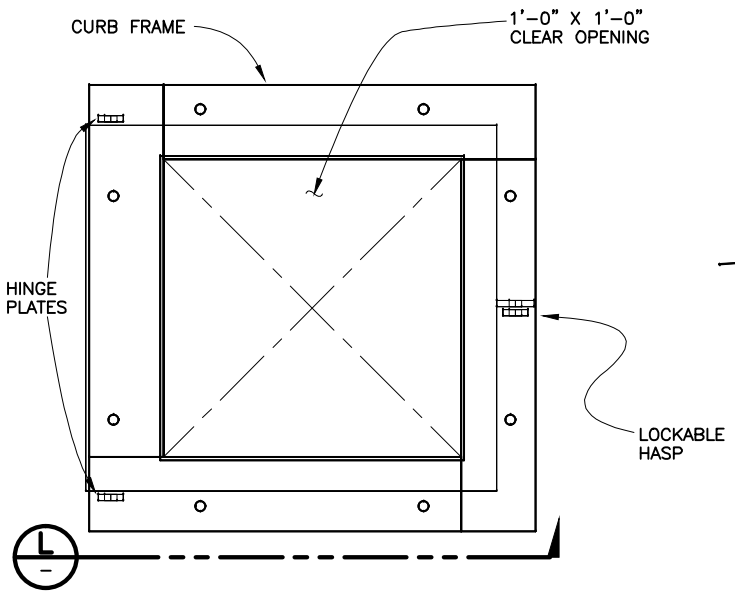
DRAWING NO.: D-105

REVISION: 0



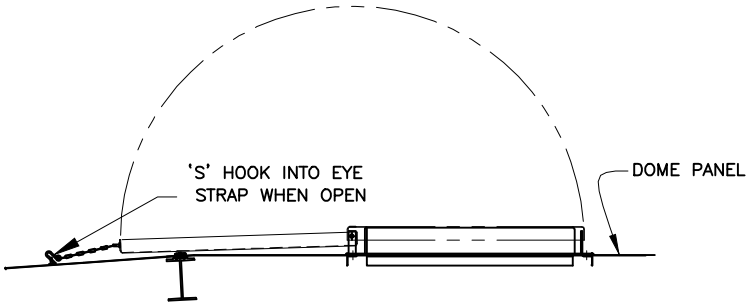
2"ø NOZZLE WITH COUPLER DETAIL

TYPICAL OF (3) TO BE FIELD LOCATED
N.T.S.



12" HATCH DETAIL

N.T.S.



SECTION

N.T.S.

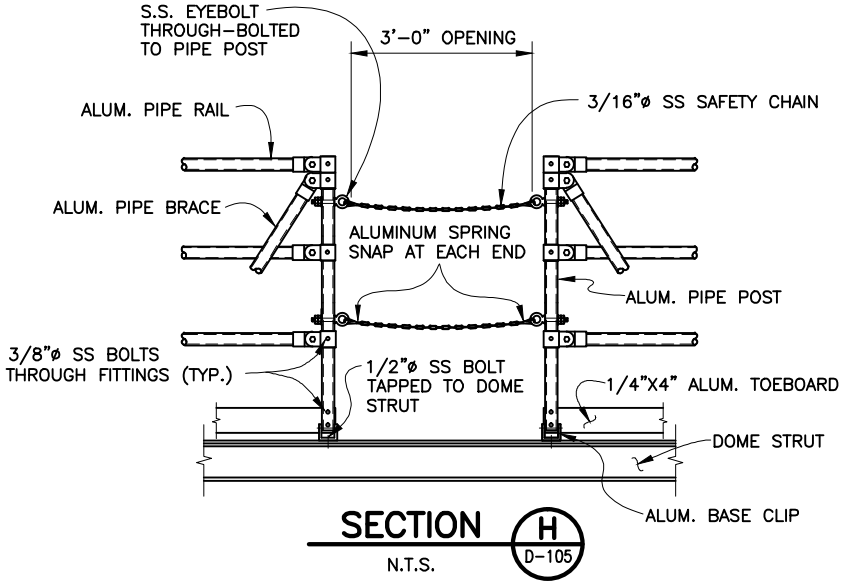
NOTE:
HATCH, NOZZLE & COUPLING ARE ALUMINUM CONSTRUCTION.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

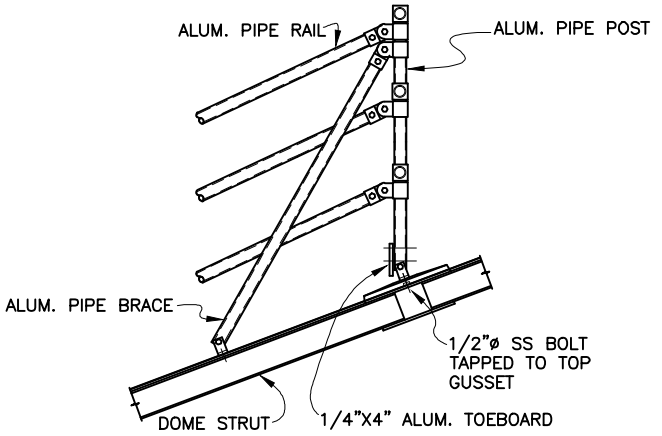
CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

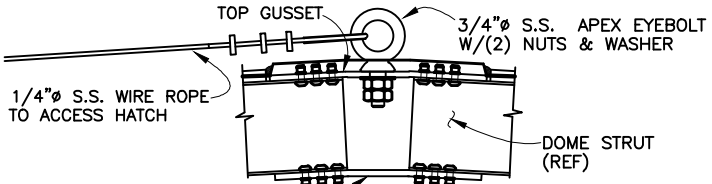
DWG. TITLE: 12' HATCH & 2" NOZZLE WITH COUPLER DETAILS
PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL, CA
JOB NO.: 645301
DRAWING NO.: D-106
REVISION: 0



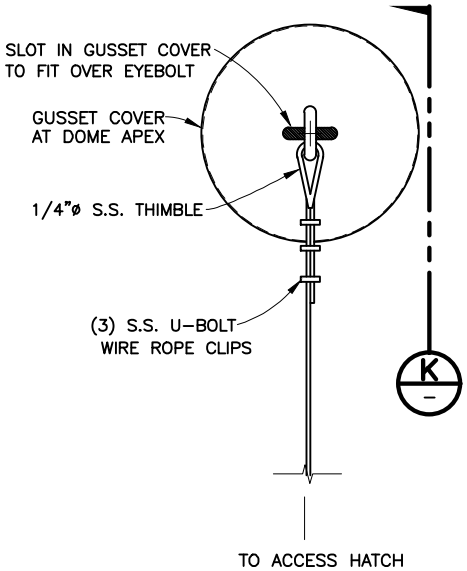
SECTION H (D-105)
N.T.S.



SECTION J (D-105)
N.T.S.

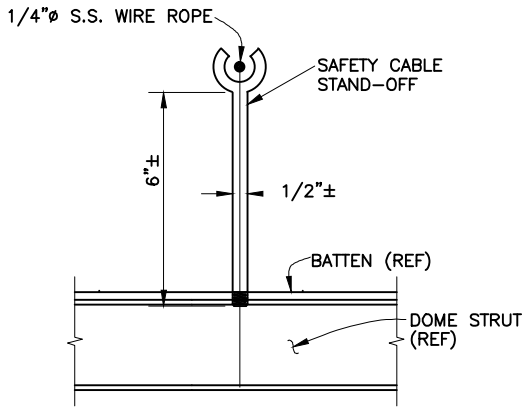


SECTION K (–)
N.T.S.



CABLE AND EYEBOLT AT DOME APEX
N.T.S.

NOTE:
EYEBOLT FOR DOME ACCESS MAINTENANCE ONLY BY QUALIFIED PERSONNEL. EYEBOLT RATED FOR OSHA FALL PROTECTION – MUST BE INSPECTED OR REPLACED AFTER FALL OR OTHER SHOCK LOADING.



SAFETY CABLE STANDOFF
N.T.S.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

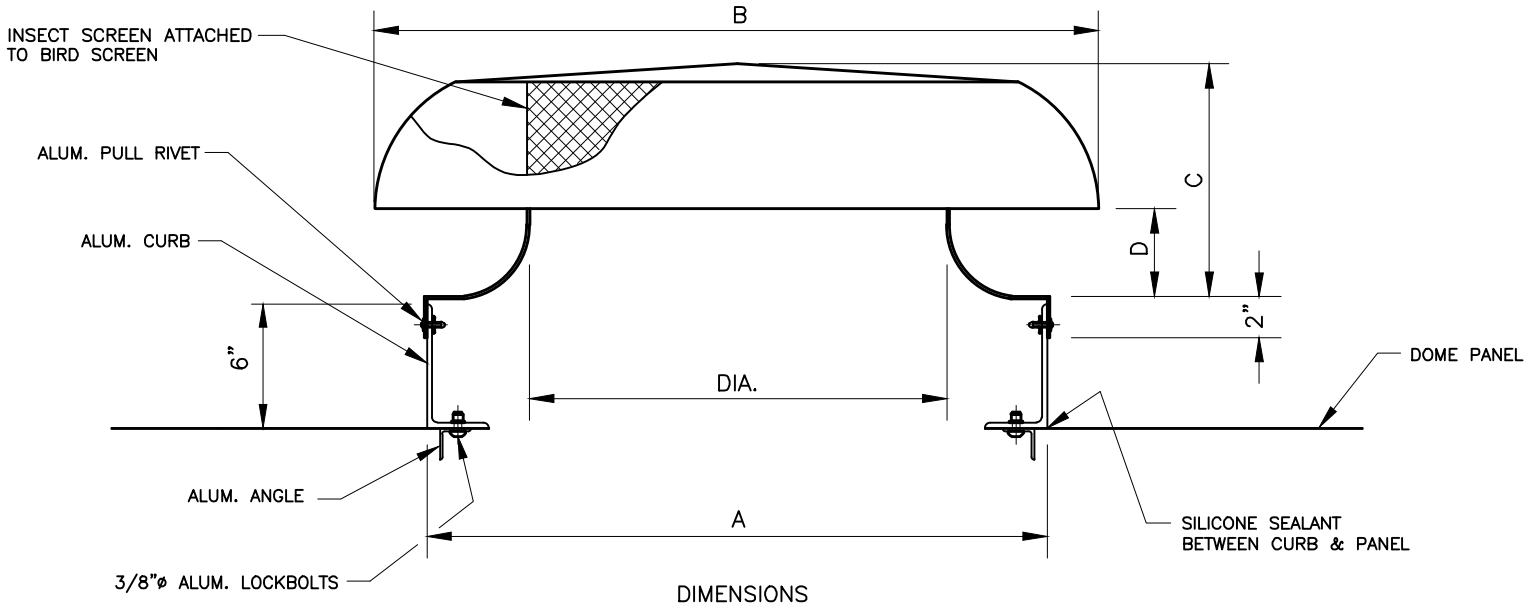
CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

DWG. TITLE: HANDRAIL & SAFETY LINE DETAILS

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL, CA

JOB NO.: 645301
DRAWING NO.: D-107
REVISION: 0



DIMENSIONS

SIZE	A	B	C	D	DIA.	DAMPER SIZE	CURB MATERIAL	SHROUD MATERIAL	HOOD MATERIAL
36"	44 1/2"	56"	15 1/4"	6 1/4"	36 1/2"	36" X 36"	.064"	.080"	.064"

RELIEF PERFORMANCE CAPACITIES (CFM)

SIZE	THROAT AREA(Ft.)^2	.04PD	.06PD	.08PD	.10PD	.125PD	.187PD	.250PD	.300PD	.350PD
36"	7.291	2990	3820	4515	5075	5670	6990	8140	9005	9820

INTAKE PERFORMANCE CAPACITIES (CFM)

SIZE	THROAT AREA(Ft.)^2	.04PD	.06PD	.08PD	.10PD	.125PD	.187PD	.250PD	.300PD	.350PD
36"	7.291	2567	3420	4127	4739	5330	6475	7430	8006	8436

NOTE: CAPACITIES ARE MINIMUMS.
DIMENSIONS ARE NOMINAL.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.
CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

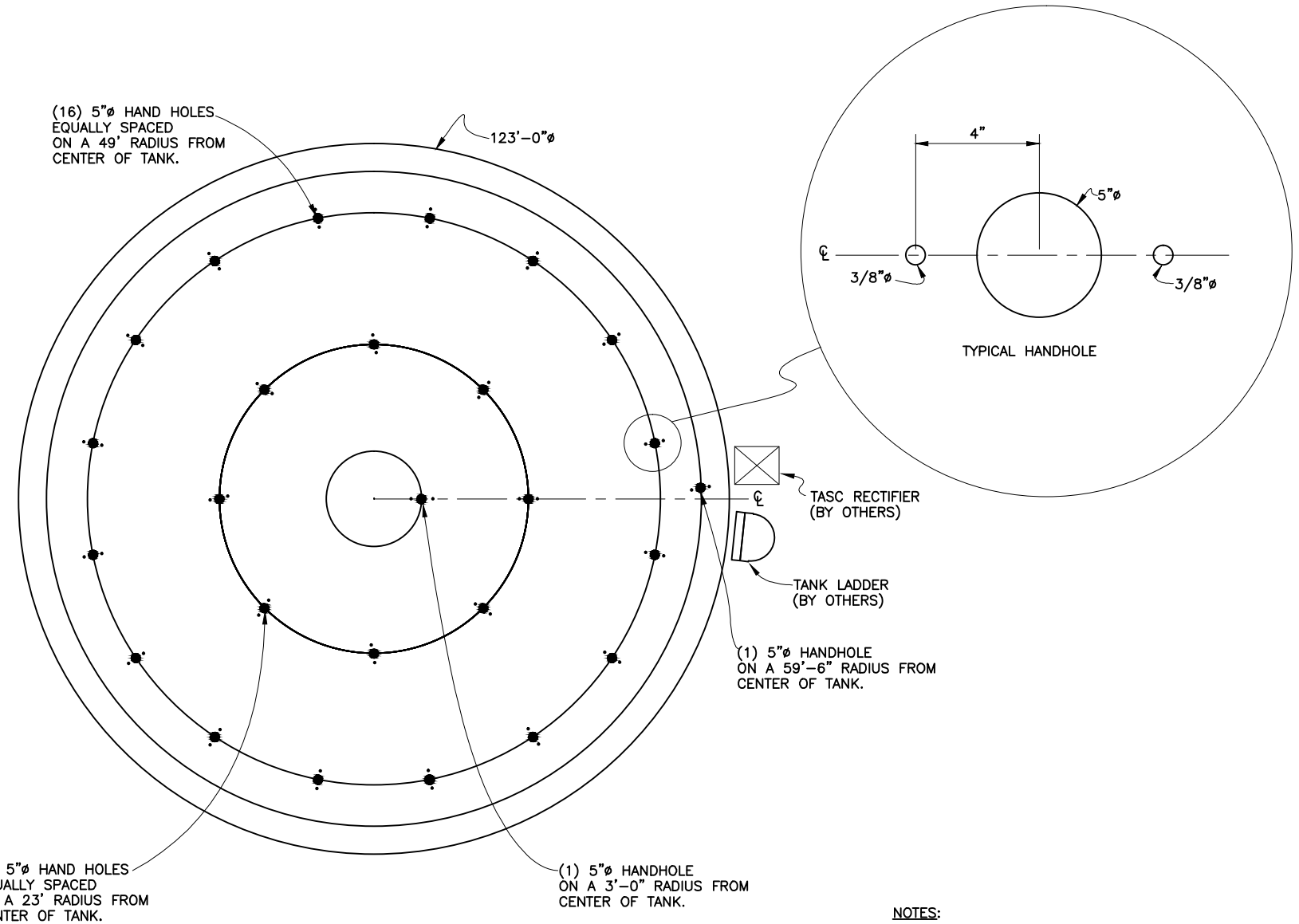
DWG. TITLE: VENTILATOR DETAILS

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL, CA

JOB NO.: 645301

DRAWING NO.: D-108

REVISION: 0



NOTES:

1. ALL 5"ø HANDHOLES TO BE SHOP LOCATED AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE SPECIFIED BY THE APPROVAL CHECKER(S).

2. 3/8"ø HOLES TO BE FIELD LOCATED.

3. HANDHOLES MUST BE LOCATED AT POINTS ON THE SPECIFIED RADIUS THAT WILL KEEP THE HANDHOLES A MINIMUM OF 10" FROM DOME STRUTS.

REV.	DATE	DWN. BY	CHKD. BY	DESCRIPTION
0	01/25/06	MAA	TRS	FOR APPROVAL

CUSTOMER: SPIESS CONSTRUCTION CO.

CUST. CONTR. NO.: 2531

TEMCOR
150 W. WALNUT ST, SUITE 150
GARDENA, CALIF. 90248

DWG. TITLE: HANDHOLE LAYOUT DETAIL

PROJECT DESCRIPTION: (1) ALUM. DOME FOR 123'±I.D. STORAGE TANK IMPERIAL, CA

JOB NO.: 645301

DRAWING NO.: D-109

REVISION: 0

CITY OF IMPERIAL, CA

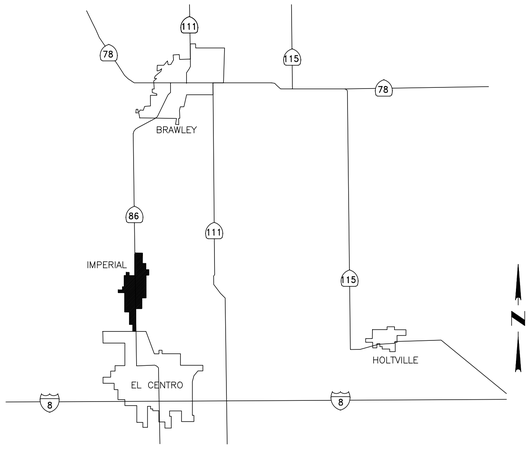
SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION BID NO. 2025-03

GENERAL NOTES

1. ALL CONSTRUCTION UNDER THIS CONTRACT SHALL CONFORM WITH ALL PROVISIONS OF THE BASIC SPECIFICATIONS, AND CONSTRUCTION DRAWINGS, ALL INCLUSIVE UNDER THIS CONTRACT.
2. CONSTRUCTION, MATERIALS, TESTING AND INSPECTION SHALL COMPLY WITH THE CITY OF IMPERIAL REQUIREMENTS AND PROJECT SPECIFICATIONS, AND MEET OR EXCEED THE REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND THE AMERICAN SOCIETY FOR TESTING AND MATERIAL (A.S.T.M.) STANDARDS. FAILURE TO MEET THE ABOVE REQUIREMENTS WILL BE CAUSE FOR REJECTION.
3. MAIN LINE VALVES AND EX. TANK VALVES ARE TO BE OPERATED ONLY BY A CITY EMPLOYEE OR UNDER DIRECT INSPECTION BY THE OWNER.
4. TWO (2) WEEK ADVANCE NOTICE SHALL BE PROVIDED BY THE CONTRACTOR TO THE CITY IN ADVANCE OF PROPOSED TANK DRAINING OPERATIONS. TANK DRAINING SHALL COMPLY WITH ALL PERMIT REQUIREMENTS FOR DISCHARGE OF TANK EFFLUENT. APPROPRIATE MEASURES SHOULD BE TAKEN TO ENSURE FLOWS ARE MANAGED WITH MINIMAL IMPACTS TO ADJACENT EXISTING FACILITIES AND PROPERTY. A BEST MANAGEMENT PRACTICE (BMP) PLAN SHALL BE SUBMITTED BY THE CONTRACTOR A MINIMUM OF 30 DAYS PRIOR TO TANK DEWATERING.
5. TANK INSPECTION SHALL OCCUR FOLLOWING TANK DEWATERING BY THE CONTRACTOR. A RECORD OF INSPECTION SHALL BE DESCRIBED IN A REPORT SUBMITTED BY THE CONTRACTOR TO THE CITY OF IMPERIAL, WHICH SUMMARIZES THE FINDINGS AND RECOMMENDATIONS FOR ANY REPAIRS, IF NECESSARY. REPAIRS SUBSEQUENTLY TO BE MADE SHALL BE AT THE SOLE DISCRETION OF THE CITY OF IMPERIAL.
6. CONTRACTOR SHALL SUBMIT TO OWNER MATERIAL SUBMITTALS PRIOR TO THE PRE-CONSTRUCTION CONFERENCE. ONLY APPROVED MATERIALS CAN BE USED IN ACCORDANCE WITH THE SPECIFICATIONS.
7. ALL CONSTRUCTION AND OPERATIONS BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH CAL-OSHA AND CITY OF IMPERIAL REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
8. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF ANY CONSTRUCTION CHANGES AND SHALL MAKE INFORMATION AVAILABLE TO THE ENGINEER FOR PREPARATION OF "AS BUILT" DRAWINGS. THE "AS BUILT" DRAWINGS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
9. SURFACE IMPROVEMENTS DAMAGED OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RECONSTRUCTED BY THE CONTRACTOR TO THE LOCAL GOVERNING AGENCY'S REQUIREMENTS.
10. ANY REVISION TO THESE DRAWINGS MUST BE APPROVED IN WRITING BY THE OWNER AND THE ENGINEER.
11. THE CONTRACTOR/SUB-CONTRACTOR SHALL EXAMINE CAREFULLY THE SITE OF THE WORK CONTEMPLATED. ALSO THE PLANS AND SPECIFICATIONS. THE SUBMISSION OF A BID SHALL BE CONCLUSIVE EVIDENCE THAT THE CONTRACTOR /SUB-CONTRACTOR HAS INVESTIGATED THE PROJECT SITE AND IS SATISFIED AS TO THE CONDITIONS TO BE ENCOUNTERED, AS TO THE QUANTITIES OF MATERIAL TO BE FURNISHED, AND AS TO THE REQUIREMENTS OF THE PROPOSAL, PLANS AND BASIC SPECIFICATIONS.
12. ELECTRICAL CONNECTIONS FOR THE PROPOSED VENTILATION BLOWERS SHALL BE MADE BY THE CITY OF IMPERIAL OPERATIONS.

ENGINEER'S NOTICE

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
3. QUANTITIES SHOWN HEREON ARE PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTORS SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES PRIOR TO BIDDING FOR CONSTRUCTION.
4. ALL PERMITS REQUIRED BY LAW SHALL BE OBTAINED BY THE CONTRACTOR UNLESS SPECIFICALLY STATED TO BE OBTAINED BY THE OWNER.



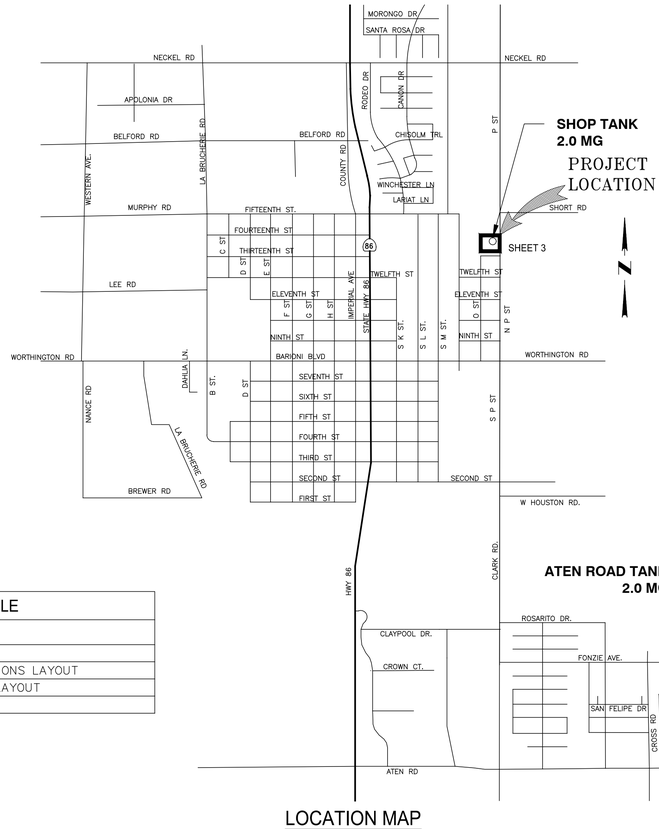
VICINITY MAP
BASED ON IMPERIAL COUNTY GIS DATA
NOT TO SCALE

SHEET LIST TABLE	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ATEN ROAD TANK MODIFICATIONS LAYOUT
3	SHOP TANK MODIFICATIONS LAYOUT
4	MISC. TANK DETAILS

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF IMPERIAL IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

BY: _____ DATE: 03/27/2025
SHANE L. BLOOMFIELD
P.E. NO. C77435



LOCATION MAP
BASED ON IMPERIAL COUNTY GIS DATA
NOT TO SCALE

ISSUED FOR BID

UNDERGROUND SERVICE ALERT

CALL: TOLL FREE
1·800
227·2600
TWO WORKING DAYS BEFORE YOU DIG

UTILITIES

FO/TELE	VERIZON COMMUNICATION	(909)748-6640
WATER	CITY OF IMPERIAL	(760)355-4371
SEWER	CITY OF IMPERIAL	(760)355-4371
GAS	SOUTHERN CALIFORNIA GAS CO.	(909)355-7550
ELECTRICAL	IMPERIAL IRRIGATION DISTRICT	(760)398-5816
CATV/FO/TELE	FRONTIER COMMUNICATIONS	(760)778-3620

CONTACT INFORMATION

CITY OF IMPERIAL	DAVID DALE, P.E.	(760) 355-3336
ALBERT A. WEBB ASSOCIATES	SHANE BLOOMFIELD, P.E.	(951) 686-1070

811 Know what's below. Call 811 before you dig.

REVISIONS

NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE

DESIGNED BY: DRAWN BY: CHECKED BY:

CITY OF IMPERIAL, CALIF. 1904

CITY OF IMPERIAL

CITY ENGINEER DATE

REFERENCES

ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER
SHANE L. BLOOMFIELD
NO. C77435
CIVIL
STATE OF CALIFORNIA

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

PLANS PREPARED UNDER THE SUPERVISION OF:
SHANE L. BLOOMFIELD
REGISTERED CIVIL ENGINEER NO. C77435
3/27/25
DATE

		DATE
DESIGNED:	SLB	
DRAWN:	KIG	
TRACED:		
CHECKED:	SLB	
SUBMITTED:		
SCALE:		

CITY OF IMPERIAL
IMPERIAL COUNTY, CALIFORNIA

SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION

TITLE SHEET

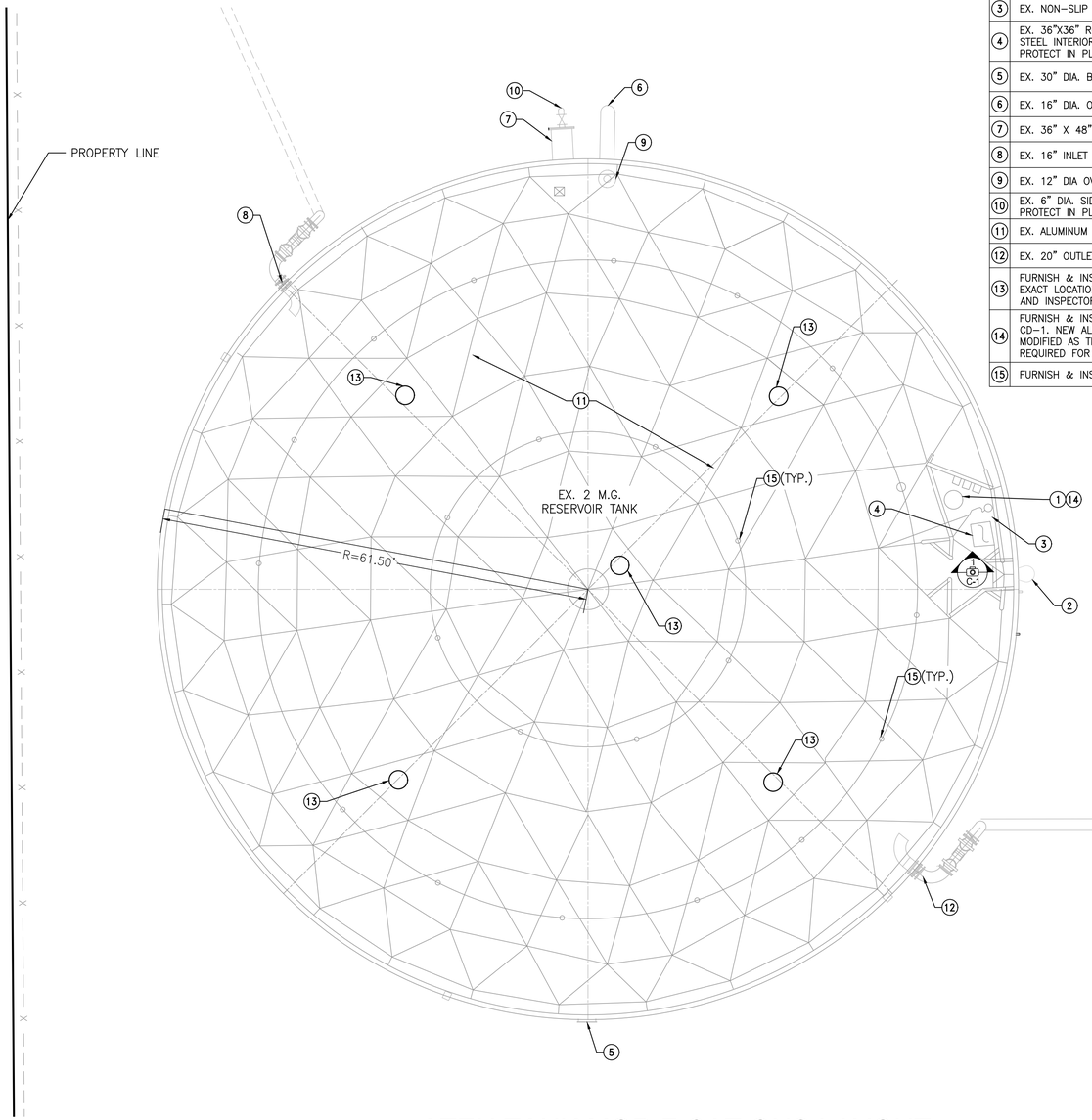
BID NO. 2025-03

SHEET 1 OF 4

DWG. NO. G-1

H:\2023\23-3230\DRAWINGS\PLAN SHEETS\23-3230-C-03-WTR.DWG

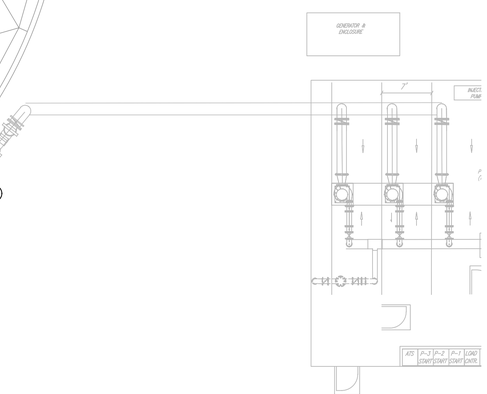
NOTE:
PAINT ALL NEW EXTERIOR APPURTENANCES AND DAMAGED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS, COLOR TO MATCH EXISTING TANK.



ATEN TANK MODIFICATIONS LAYOUT

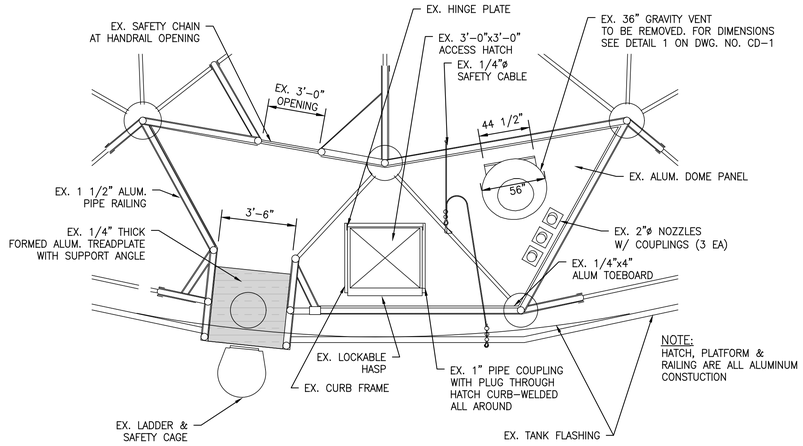
1" = 10'

CONSTRUCTION NOTES	
1	EX. SCREENED ROOF VENT DESIGNED FOR 75 LBS./SQ. FT. TO BE REMOVED AND REUTILIZED AT A NEW LOCATION AS INDICATED IN NOTE 13.
2	EX. OUTSIDE LADDER WITH CAGE AND EXPANDED METAL MESH. PROTECT IN PLACE
3	EX. NON-SLIP SURFACE AND HANDRAIL, 42" HIGH. PROTECT IN PLACE
4	EX. 36"X36" ROOF ACCESS HATCH WITH LOCKING MECHANISM AND STAINLESS STEEL INTERIOR LADDER WITH SAF-T-CLIMB FALL PREVENTION SYSTEM. PROTECT IN PLACE
5	EX. 30" DIA. BOLTED SHELL MANWAY. PROTECT IN PLACE
6	EX. 16" DIA. OVERFLOW. PROTECT IN PLACE
7	EX. 36" X 48" FLUSH TYPE CLEANOUT. PROTECT IN PLACE
8	EX. 16" INLET PIPING. PROTECT IN PLACE
9	EX. 12" DIA OVERFLOW INSPECTION HATCH. PROTECT IN PLACE
10	EX. 6" DIA. SIDE OUTLET DRAIN IN CLEANOUT WITH EXTERIOR GATE VALVE. PROTECT IN PLACE
11	EX. ALUMINUM DOME ROOF BY TEMCOR
12	EX. 20" OUTLET PIPING. PROTECT IN PLACE
13	FURNISH & INSTALL NEW 36" DIA. ROOF VENT PER DETAIL 1 ON DWG. CD-1. EXACT LOCATION OF THE NEW VENT SHALL BE COORDINATED WITH THE CITY AND INSPECTOR.
14	FURNISH & INSTALL NEW VENTILATION BLOWER PER DETAILS 2 & 3 ON DWG. CD-1. NEW ALUMINUM ROOF PANEL WILL BE REQUIRED OR EX. TO BE MODIFIED AS THE EX. HOLE IN THE EX. ROOF PANEL IS LARGER THAN REQUIRED FOR THE BLOWER.
15	FURNISH & INSTALL 26 CATHODIC HANDHOLE GROMMETS



GRAPHIC SCALE 1"=10'
0 10 20 30

N W WEBB E S



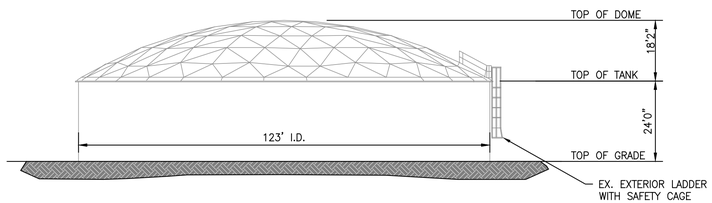
ATEN ROAD TANK PLATFORM (PLAN)

NOT TO SCALE

ATEN ROAD TANK EXISTING PLATFORM

VIEW NORTH FROM ATOP PLATFORM OF EX. ATEN ROAD TANK

1 / C-1



ATEN TANK ELEVATION LAYOUT

NOT TO SCALE

ISSUED FOR BID

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
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227·2600
TWO WORKING DAYS BEFORE YOU DIG

811 Know what's below. Call 811 before you dig.

REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION	APPROVED/DATE
DESIGNED BY:		DRAWN BY:	CHECKED BY:	

CITY OF IMPERIAL, CALIF. 1904

CITY OF IMPERIAL

CITY ENGINEER DATE

REFERENCES

ENGINEER'S SEAL
REGISTERED PROFESSIONAL ENGINEER
SHANE L. BLOOMFIELD
NO. C77435
CIVIL
STATE OF CALIFORNIA

ALBERT A. WEBB ASSOCIATES
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3788 McCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

PLANS PREPARED UNDER THE SUPERVISION OF:
SHANE L. BLOOMFIELD
REGISTERED CIVIL ENGINEER NO. C77435
3/27/25 DATE

		DATE
DESIGNED:	SLB	
DRAWN:	KIG	
TRACED:		
CHECKED:	SLB	
SUBMITTED:		
SCALE:		

CITY OF IMPERIAL
IMPERIAL COUNTY, CALIFORNIA

SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION

ATEN ROAD TANK MODIFICATIONS LAYOUT

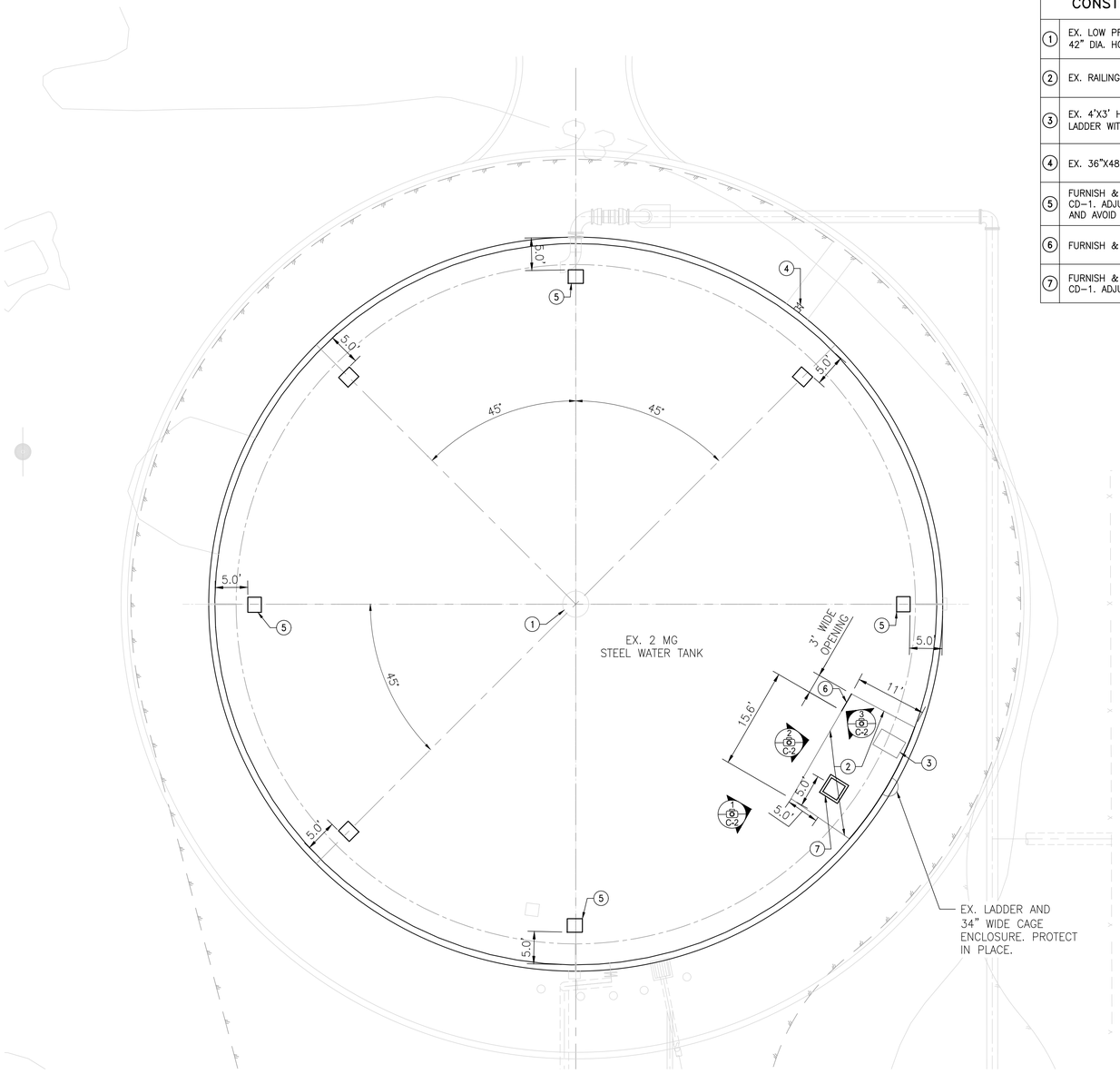
DWG. NO. C-1

BID NO. 2025-03

SHEET 2 OF 4

H:\2023\23-3230\DRAWINGS\PLAN SHEETS\23-3230-C-03-WTR.DWG

NOTE:
PAINT ALL NEW EXTERIOR APPURTENANCES AND DAMAGED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS, COLOR TO MATCH EXISTING TANK.



SHOP TANK MODIFICATIONS LAYOUT

1" = 10'

CONSTRUCTION NOTES	
1	EX. LOW PROFILE REMOVABLE GRAVITY ROOF VENT PER AWWA D-100-04 WITH 42" DIA. HOOD, PROTECT IN PLACE
2	EX. RAILING (PER CAL OSHA). PROTECT IN PLACE
3	EX. 4'X3' HINGED ROOF HATCH WITH LIFT BAR, LOCKING HASP, AND INTERIOR LADDER WITH SAFETY CLIMB (PER CAL OSHA). PROTECT IN PLACE
4	EX. 36"X48" RESERVOIR CLEANOUT MANHOLE. PROTECT IN PLACE
5	FURNISH & INSTALL NEW PERIMETER ROOF VENT PER DETAIL 4 ON DWG. CD-1. ADJUST VENT LOCATION TO CENTER BETWEEN EXISTING ROOF RAFTERS AND AVOID OBSTRUCTIONS.
6	FURNISH & INSTALL NEW 3' WIDE SELF-CLOSING GATE.
7	FURNISH & INSTALL NEW VENTILATION BLOWER PER DETAILS 2 & 3 ON DWG. CD-1. ADJUST FAN LOCATION AS NEEDED TO AVOID EXISTING ROOF RAFTERS

GRAPHIC SCALE 1"=10'
0 10 20 30

N W WEBB E S

EXISTING ENCLOSURE, ACCESS LADDER AND EX. HINGED ROOF HATCH. PROTECT IN PLACE

FURNISH AND INSTALL NEW VENTILATION BLOWER PER PROJECT SPECIFICATIONS AND DETAILS 2 & 3 ON DWG. CD-1

1 / C-2

SHOP TANK ENCLOSURE LAYOUT

VIEW ATOP THE EX. SHOP TANK

EXISTING 4'X3' HINGED ROOF HATCH WITH LIFT BAR, LOCKING HASP AND INTERIOR LADDER WITH SAFETY CLIMB. PROTECT IN PLACE

2 / C-2

SHOP TANK ENCLOSURE LAYOUT

VIEW EAST ATOP THE EX. 2 MG SHOP TANK

EX. CENTER ROOF VENT, PROTECT IN PLACE

FURNISH AND INSTALL NEW 3' WIDE STEEL SELF-CLOSING GATE

3 / C-2

SHOP TANK ENCLOSURE LAYOUT

VIEW WEST ATOP THE EX. 2 MG SHOP TANK

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SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION

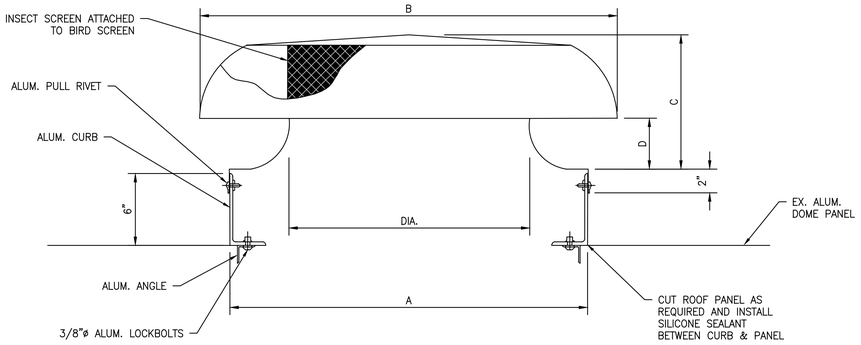
SHOP TANK MODIFICATIONS LAYOUT

BID NO. 2025-03

SHEET 3 OF 4

DWG. NO. C-2

H:\2023\23-3230\DRAWINGS\PLAN SHEETS\23-3230-C-03-WTR.DWG



DIMENSIONS

SIZE	A	B	C	D	DIA.	DAMPER SIZE	CURB MATERIAL	SHROUD MATERIAL	HOOD MATERIAL
36"	44 1/2"	56"	15 1/4"	6 1/4"	36 1/2"	36" x 36"	.064"	.080"	.064"

RELIEF PERFORMANCE CAPACITIES (CFM)

SIZE	THROAT AREA (FT²)	.04PD	.06PD	.08PD	.10PD	.125PD	.187PD	.250PD	.300PD	.350PD
36"	7.291	2990	3820	4515	5075	5670	6990	8140	9005	9820

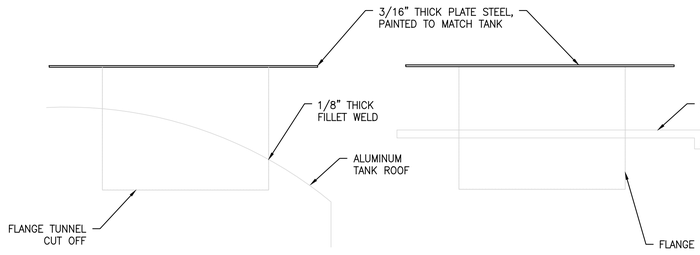
NOTE: CAPACITIES ARE MINIMUMS. DIMENSIONS ARE NOMINAL.

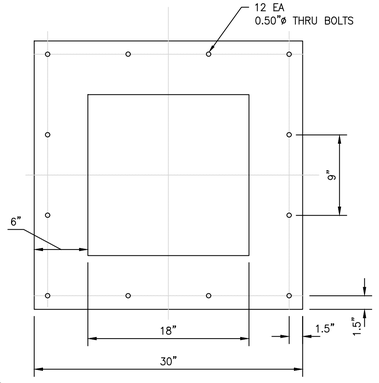
DETAIL 1 - ATEN ROAD TANK ROOF VENT CONNECTION DETAIL

NOT TO SCALE

NOTE:
1. EXISTING TANK SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED OR AS NECESSARY.
2. BOTTOM OF FLANGE CAN BE NO CLOSER THAN 4" TO TANK SURFACE AND MUST BE LEVEL.
3. OPTION FOR BOLT ON FLANGE IS TANK SPECIFIC AND REQUIRES CUSTOMIZATION BASED ON THE SLOPE OF TANK.
4. BOLTED STEEL FLANGE TO STEEL TANK CONNECTION IS ONLY PERMITTED UPON APPROVAL FROM TANK DESIGNER.
5. ALL HARDWARE SHALL BE HOT DIP GALVANIZED OR STAINLESS-STEEL, UNLESS OTHERWISE NOTED.

INSTRUCTIONS:
1. FLANGE MUST BE MADE OF 3/16" THICK PLATE STEEL.
2. FLANGE MUST BE PAINTED WITH TANK COATING PER PROJECT SPECIFICATIONS.
3. CUT OPENING 18" SQUARE FOR FLANGE TUNNEL.
4. MINIMUM 1/8" THICK FILLET WELD REQUIRED.
5. TANK COATING MUST NOT INTERFERE WITH 1/2" THROUGH BOLT HOLES.
6. 1/2" STAINLESS BOLT HARDWARE IS SUPPLIED BY MANUFACTURER FOR FLANGE.
7. FLANGE TUNNEL CAN BE CUT OFF INSIDE TANK IF DESIRED.
8. FLANGE TUNNEL IS WELDED 3/16" THICK PLATE ALSO PAINTED WITH TANK COATING.
9. A BOLT-ON FLANGE IS AVAILABLE IN LIEU OF TANK FLANGE/TUNNEL. IF USED, SECURE THE BOLT-ON FLANGE TO TANK VIA 1/2" THRU BOLTS, LOCK NUT, AND GASKET.
10. BOTTOM PLAN VIEW OF THE FLANGE IS THE SAME AS THE TOP VIEW OF BLOWER FLANGE SHOWN IN DRAWING.

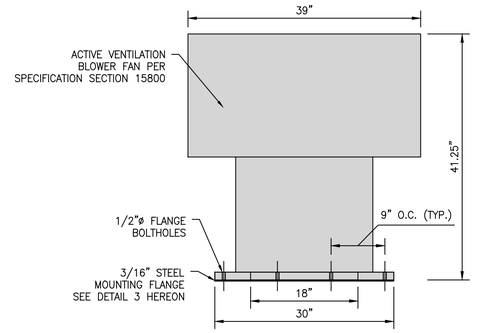




PLAN VIEW
FLANGE MOUNTING PLATE

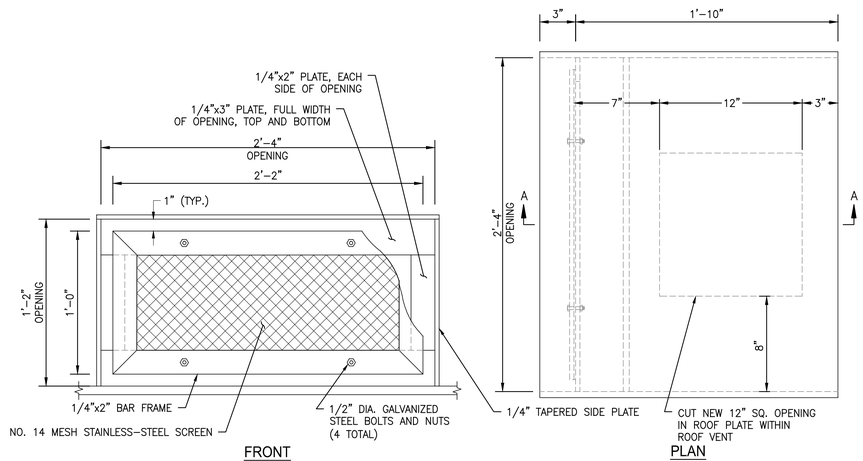
DETAIL 3 - BLOWER MOUNTING FLANGE TANK ROOF CONNECTION DETAIL

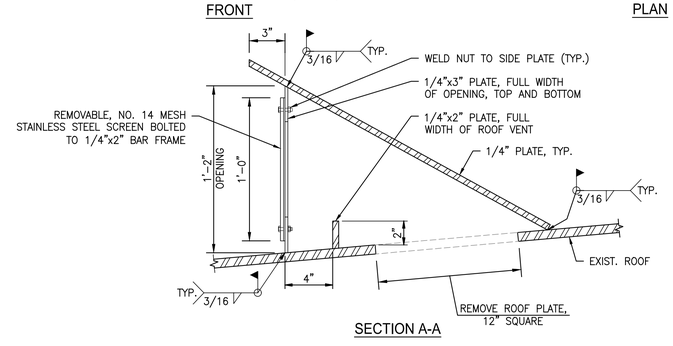
NOT TO SCALE



DETAIL 2 - BLOWER DIMENSIONS DETAIL

NOT TO SCALE





SECTION A-A

DETAIL 4 - PERIMETER ROOF VENT DETAIL

NOT TO SCALE

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SHOP TANK & ATEN TANK MODIFICATIONS AND NEW VENTILATION SYSTEM INSTALLATION

MISC. TANK DETAILS

DWG. NO. CD-1

BID NO. 2025-03

SHEET 4 OF 4

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