

SAN ANTONIO WATER SYSTEM PURCHASING DEPARTMENT

Issued By: D. Anthony Rubin
BID NO.: 18-18004

Date Issued: January 26, 2018

FORMAL INVITATION FOR BIDS
EMERGENCY CONTRACT FOR CLEANING DIGESTERS AT THE DOS RIOS WRC
ADDENDUM NO. 1

Sealed bids addressed to the Purchasing Director, San Antonio Water System, 2800 US Hwy 281 North, Administration Bldg., 5th Floor, San Antonio, TX 78212 will be received until **3:00 p.m., February 5, 2018** and then publicly opened and read aloud for furnishing materials or services as described herein below,

The San Antonio Water System Purchasing Department is willing to assist any bidder(s) in the interpretation of bid provisions or explanation of how bid forms are to be completed. Assistance may be received by visiting the Purchasing Office in the SAWS Main Office, 2800 US Hwy 281 North, San Antonio, TX 78212, or by calling (210) 233-3819.

(Contractor's Insurance Requirements Attached)
(Bid Bond, Performance Bond & Payment Bond Required)

This invitation includes the following:

Invitation for Bids
Terms and Conditions of Invitation for Bids

Specifications and General Requirements
Price Schedule

The undersigned, by his/her signature, represents that he/she is authorized to bind the Bidder to fully comply with the Specifications and General Requirements for the amount(s) shown on the accompanying bid sheet(s). By signing below, Bidder has read the entire document and agreed to the terms therein.

Signer's Name: _____ Firm Name: _____
(Please Print or Type)

Address: _____

Signature of Person Authorized to Sign Bid _____ City, State, Zip Code: _____

Email Address: _____ Telephone No.: _____

Fax No.: _____

Please complete the following:

Prompt Payment Discount: _____% _____days. (If no discount is offered, Net 30 will apply.)

Please check the following blanks which apply to your company:

Ownership of firm (51% or more):

___ Non-minority ___ Hispanic ___ African-American ___ Other Minority (specify) _____

___ Female Owned ___ Handicapped Owned ___ Small Business (less than \$1 million annual receipts or 100 employees)

Indicate Status: ___ Partnership ___ Corporation ___ Sole Proprietorship ___ Other (specify) _____

Tax Identification Number: _____

To report suspected ethics violations impacting the San Antonio Water System, please call 1-800-687-1918.

This **Addendum no. 1** is being issued to revise the Price Schedule to reflect lump sum pricing, modify the specification and to provide response to the question submitted.

The following change is made to the Award criteria paragraph 8 of the standard requirements:

Read:

8. Award will be made to the **overall lowest responsible bidder** whose price has been determined to be fair and reasonable.

Changed to Read:

8. Award will be made to the **overall lowest responsible bidder** for Item 1 of the price schedule. If in the best interest SAWS chose to award the Alternate Item 2, award will be made to the **overall lowest responsible bidder for both items** whose price has been determined to be fair and reasonable.

PRICE SCHEDULE

Item	Description	QTY	Unit of Measure	Extended Price
1	Digester Cleaning for 1 Digester - The total amount for furnishing all labor, materials, tools, equipment, dewatering, transportation, disposal and incidentals required for the cleaning of digesters in accordance with the contract documents, complete in place.	1	Lump Sum	\$
2	ADD ALTERNATE Digester Cleaning for 1 Digester - The total amount for furnishing all labor, materials, tools, equipment, dewatering, transportation, disposal and incidentals required for the cleaning of digesters in accordance with the contract documents, complete in place.	1	Lump Sum	\$
TOTAL ITEM 1 & 2				\$

IT IS NECESSARY TO RETURN THIS ADDENDUM TOGETHER WITH YOUR BID.

Removed the following sections:

1.8 SAFETY REQUIREMENTS

4. Gas safety measures shall be taken which may include purging lines with inert gas prior to cutting in valves.
5. During venting of digester, monitor methane content in atmosphere near digester.
 - a. No work shall occur during venting of digester except for connection of valves. CONTRACTOR shall minimize the venting and provide safety equipment to avoid collection of the gas in the explosive limits in the area.
 - b. After venting to atmosphere is ceased, continue to monitor atmosphere and not begin work until gas levels are below allowable limits.
7. Temporary blind flanges shall be installed to biosolids/gas piping to prevent backflow of digester gas during the digester cleaning and shall be removed upon completion of the digester cleaning.

3.4 BIOSOLIDS Sampling

- C. The Contractor may be required to have up to ten (10) additional laboratory analysis (“spot checks”) performed for each digester by the third party laboratory approved by the Owner as required in the Cleaning Plan. The timing and location of these samples will be determined by the Owner’s Construction Inspector.

3.12 INSPECTION OF DIGESTER and sludge holding tank

5. CONTRACTOR shall also install scaffolding or provide mechanical lifting devices to allow ENGINEER and OWNER to inspect the interior of the digester dome and walls.
 - a. Scaffolding shall allow inspection full height and perimeter of digester.
 - b. Scaffolding used for epoxy injection may also be used to facilitate inspection.
 - c. Scaffolding shall have steps with handrails for climbing safety.

Added the following sections:

1.8 SAFETY REQUIREMENTS

8. CONTRACTOR will have an onsite designated safety representative(s) and will provide their contact information to the OWNER.

1.9 sequencing and scheduling

- C. The CONTRACTOR is allowed to work on the plant between the hours of 6:00 AM to 6:00 PM, seven days a week. Any work outside of these hours by the CONTRACTOR will require a written request from the CONTRACTOR and the OWNER’s approval.

Modified the following sections:

3.6 DISPOSAL OF THE REMOVED MATERIALS

- A. Comply with all Local, State and Federal Regulations concerning the removal, hauling, and disposal of the removed materials specified. Disposal shall be at a registered or permitted co-disposal landfill (Type 1).

RESPONSE TO QUESTION SUBMITTED:

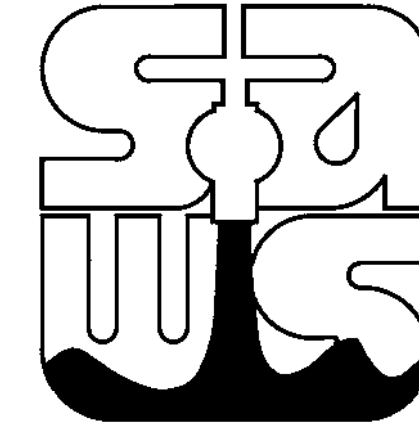
1. Will San Antonio Water consider pricing the digester cleaning by the dry ton vs. lump sum? **Answer:** No, this is a firm fix price contract. Bidder will need to take all cost factor into consideration for bid proposes.
2. Bidder requests that fuel escalation charges may be applied on a monthly basis. Is this correct? **Answer:** No, this is a firm fix price contract. Bidder will need to take all cost factor into consideration for bid proposes.
3. Bidder assumes that if a change in Federal, State, or Local law or ordinance take effect after the contract is executed, resulting in increased costs to perform the work, that both parties will negotiate a price modification. Is this correct? **Answer:** No, this is a firm fix price contract. Bidder will need to take all cost factor into consideration for bid proposes.
4. Bidder requests a waiver of any consequential damages. Is this acceptable? **Answer:** No
5. Bidder requests a definitive start date be provided? **Answer:** The tentative start date is the end of February.
6. Bidder requests to include the following language to the indemnification provision: Indemnification will be provided to the extent Contractor is responsible for the cause of the indemnified action(s), and Contractor will not provide indemnification for damages caused by the negligence or misconduct of the Authority? **Answer:** The indemnification language is as lenient as allow for a municipality.
7. Bidder assumes that if a force majeure event occurs, that neither party will be responsible for delays in the performance of the work (payment terms notwithstanding). The affected party shall notify the other in writing, and the Agreement can be terminated if the force majeure event lasts longer than 90 days. Is this correct? **Answer:** There is no language in this bid/contract that reference force majeure. In the event of a force majeure occurrence it would have to be address at that time.
8. Please confirm the volume that will be inside of the digester when it is turned over to the contractor for cleaning. What will the sidewall depth of the remaining material be after it is drawn down? **Answer:** The digester will be drained to leave approximately 1/3 of the total digester volume for the contractor to remove.
9. Please confirm that scaffolding is not required? **Answer:** Correct, Section 3.12.B will removed from the cleaning specification in the addendum.
10. Per page 22 of the specs, it is stated that the tank must be pressure washed at 3000 PSI within 5 ft from the surface. At the prebid meeting, it was mentioned that firehose clean would be acceptable. Please confirm that firehose clean is acceptable? **Answer:** Correct, Section 3.12.B will be removed from the cleaning specification in the addendum. The contractor will only need to wash down the digester to completely remove foreign materials from concrete surfaces after the removal of the contents.
11. Would a price submitted as a dry ton rate or gallon rate and a mobilization fee be acceptable to the owner in lieu of lump sum pricing? **Answer:** No, this is a firm fix price contract. Bidder will need to take all cost factor into consideration for bid proposes.
12. If the alternate bid for digester #4 is also awarded, what is the estimated down time between digester cleanings? **Answer:** It is expected that the down time between digester cleaning will be approximately 4 weeks, however the down time could be shorter.
13. Please provide drawings of the mixing system in digester #4? **Answer:** This will be posted along with the addendum.
14. Lump sum pricing is requested. It is assumed that it should be assumed that the digester would be one third full at the start of the work which would mean the tank would be 10' full on the sidewall. Is this correct?

Answer: Yes, the digester will be drained to leave approximately 1/3 of the total digester volume for the contractor to remove.

15. Please confirm that that the scaffolding and power washing requirements will be taken out of the specifications? **Answer:** Yes, Section 3.12.B will be removed in the addendum.
16. Working hours may start at 6am and end at 6pm if desired, correct? **Answer:** Yes, the contractor is allowed to work on the plant between the hours of 6:00 AM to 6:00 PM, seven days a week. Any work outside of these hours by the contractor will require a written request from the contractor and the owner's approval.
17. What polymer does the WWTP use for operating the WWTP belt filter presses? **Answer:** Polydyne C6254
18. How will low bid be determined? Based on the bid for Digester #6 or based on Digester #6 plus the alternate digester bid item? **Answer:** Low bid is based on the bid for Digester #6, however if based on funding, it is determined that both Digester #6 and the alternate digester will be cleaned - it will be based on the combined total low bid for both Digester #6 and the alternate low bid.
19. Please clarify the bid form. Says digester and sludge storage tank in each bid item? **Answer:** This will be revised in the addendum to state only digester.
20. Is it correct to assume that less than 4 weeks will occur between digesters? **Answer:** Yes, it is expected that there will be approximately 4 weeks between the cleaning of Digester #6 and the alternate digester, however the down time could possibly be shorter.
21. Will there be any charge for water used? **Answer:** No, but a water meter will be required per the specifications.
22. Will the digesters and or sludge holding tanks be available back to back? **Answer:** It is expected there will be approximately 4 weeks between the cleaning of Digester #6 and the alternate digester if the alternate digester is cleaned, however the down time could possibly be shorter.
23. If not will there be a delay between them? **Answer:** See answer to Question #22.
24. If there is a delay how long will that be? This affects the demobilization and remobilization of personnel and equipment for the second digester or sludge holding tank? **Answer::** See the response to Question #22.
25. We would request a modification to the lump sum pricing structure to a mobilization and demobilization price with a dry ton unit rate for whatever is removed from the digesters? **Answer:** See the response to Question #1
26. With this pricing structure the city will not over pay if there is a smaller volume than estimated by the contractor and the contractor will not be under-paid if there is a larger volume than estimated. This would allow the contractor to tighten our numbers being paid for only the material removed instead of guessing of the amount? **Answer:** See the response to Question #1
27. With the damage to the digester, how stable is the roof to for personnel access to lower pumping equipment into the digester? **Answer:** After discussions with a structural engineer, the roof is presumed to be stable for access for standard cleaning operations, however no heavy equipment and no more than two people should be on the roof during the cleaning operations.
28. What is the weight limit on the digester roof? **Answer:** the weight limit is not known by the owner, but it is assumed stable for standard cleaning operations (see the response to Question #27).
29. With the damage to the top of the digester sidewall, what safety precautions are being taken by the owner to insure there will not be a collapse? **Answer:** there are no special safety precautions being taken by the owner and the digester is assumed to be stable for standard cleaning operations.
30. Who would be deemed responsible should something happen outside the control of the contractor? **Answer:** See the response to Question #7.

31. In Scope of Work, section 11382 Digester and Sludge Holding Tank Cleaning Part 1.1.3 submittals; is this list of information required with the contractors bid or after award? **Answer:** the submittals will be required after award except for the list of references which could be requested before award.
32. What hours can a contractor work? Seven day a week; Twelve hours a day if necessary? **Answer:** See the response to Question #18.
33. Is there a cost for plant water or fire hydrant water? **Answer:** See the response to Question #21.
34. Will digester #6 be pulled down to the ten-foot level or 1/3 by the time contractor arrives? **Answer:** Yes.
35. If digester is above the 1/3 level when the contractor arrives on site, will the contractor be compensated for the work above that level? If so how? Or can you let everyone know what the level is when you finished pumping? **Answer:** No, the contractor will not be compensated for any variation in the digester level. The digester is currently at approximately 1/3 full and ready for cleaning.
36. Can the contractor take a monthly draw on the project? **Answer:** No, the contract will be paid in full on completion and acceptance in accordance with payment terms. Refer to paragraph 11 INVOICING, PAYMENT AND DISCOUNTS on page 5.
37. Is it still a requirement to provide 3000 PSI pressure washing services to clean tank and/or provide scaffolding/lift for tank inspection? **Answer:** No, see Answer #10.
38. Will this be a lump sum bid as discussed in the pre-bid meeting? **Answer:** See response to Question #1.

SAN ANTONIO WATER SYSTEM



DOS RIOS WATER RECYCLING CENTER (DRWRC) DIGESTER MIXING AND SYSTEM ENHANCEMENTS PHASE 1

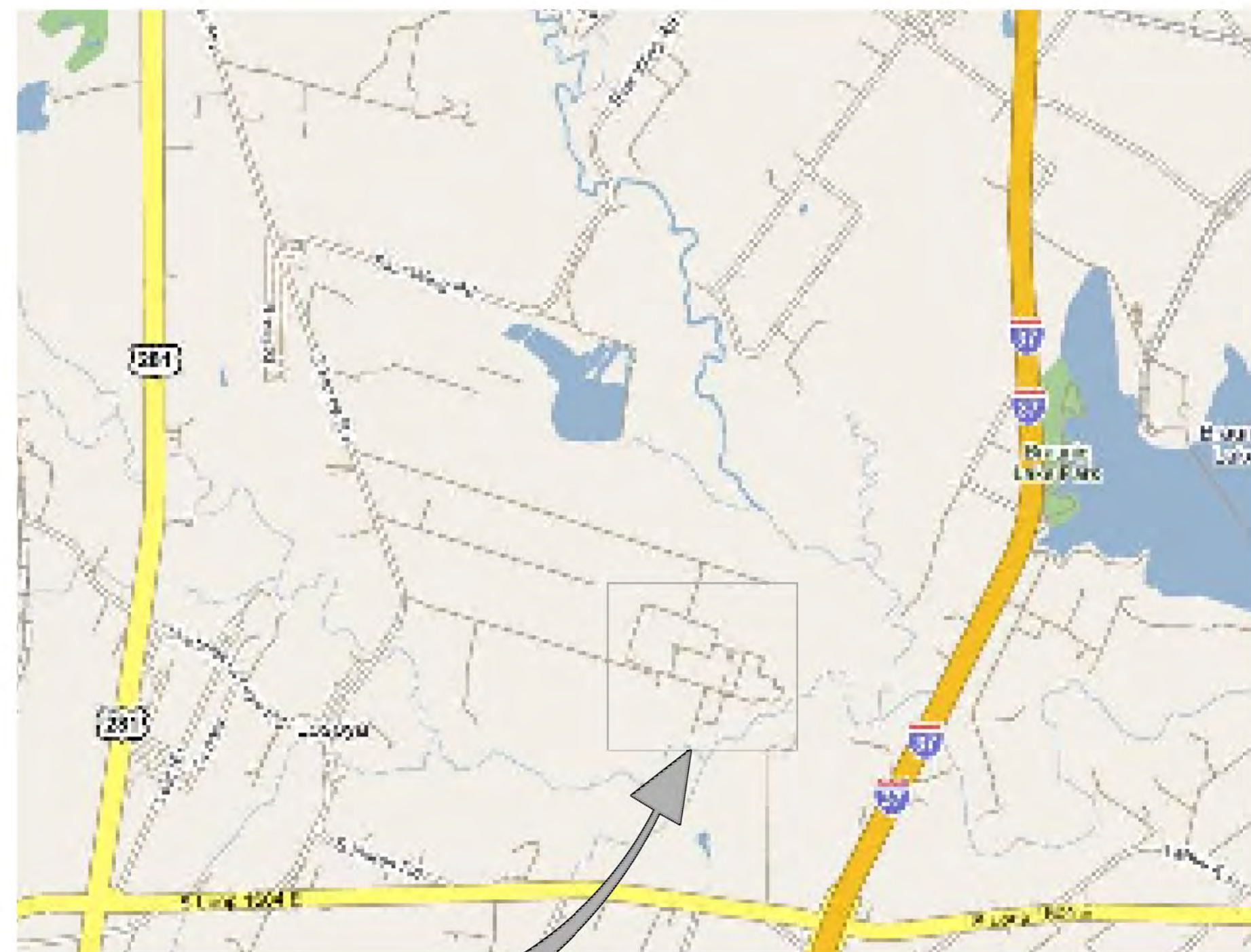
SAWS JOB No: 07-6500
SAWS SOLICITATION NO: B-10-031-MF

VOLUME 2 OF 2



TBPE No. F-882

8918 Tesoro Drive, Suite 400
San Antonio, Texas 78217
Phone: 210-829-5612



LOCATION MAP

VICINITY MAP
NTS



DOS RIOS WATER RECYCLING CENTER
3495 VALLEY RD
SAN ANTONIO, TX 78221



LOCATION MAP
NTS



ORIGINAL
STAMPED BY
R.E. KILIAN
06-25-10
94203

RECORD DRAWINGS
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED
IN PART ON INFORMATION PROVIDED BY OTHERS

THIS DRAWING SET WAS PREPARED ONLY FOR THE
PROJECT AND SITE SPECIFICALLY IDENTIFIED
HEREON AND IS NOT TO BE USED ELSEWHERE

Date: 06/16/2015

By: [Signature]

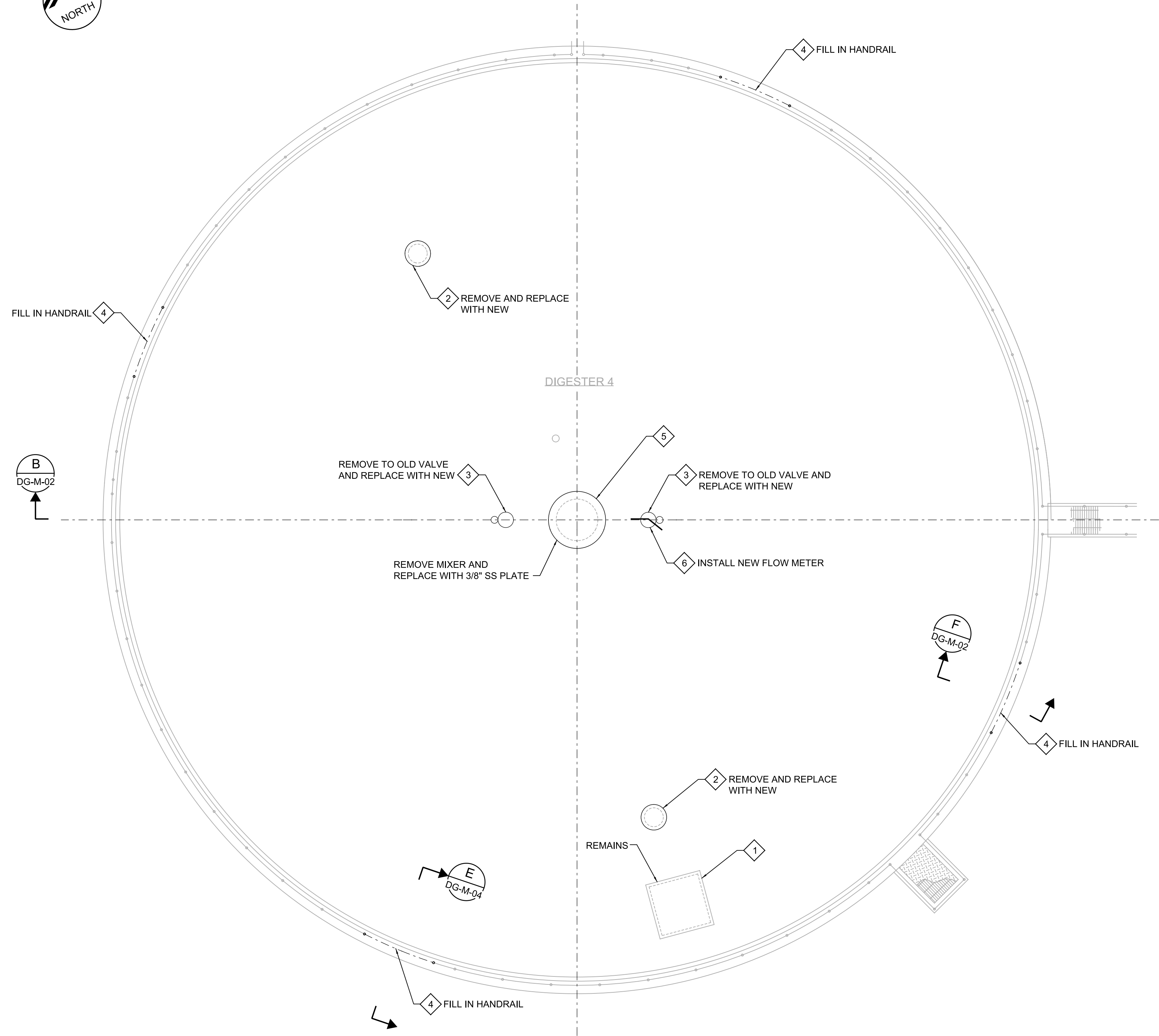
SAWS JOB NO. 07-6500
DOS RIOS DIGESTER
MIXING AND SYSTEM
ENHANCEMENTS PHASE 1



TBPE FIRM NO. F-366
801 NAVIGATION, SUITE 300
CORPUS CHRISTI, TEXAS 78408
PH. (361) 883-1984
FAX (361) 883-1986
WWW.LNVINC.COM



TBPE FIRM NO. F-2408
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
305 EAST HUNTLAND DRIVE
AUSTIN, TEXAS
SUITE 500
78752



A PLAN
 SCALE: 1/8" = 1'-0"
 FILE: DR-07-650-DM-050-100

GENERAL NOTES

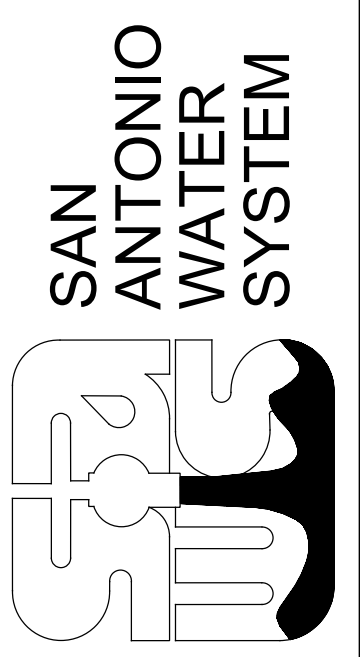
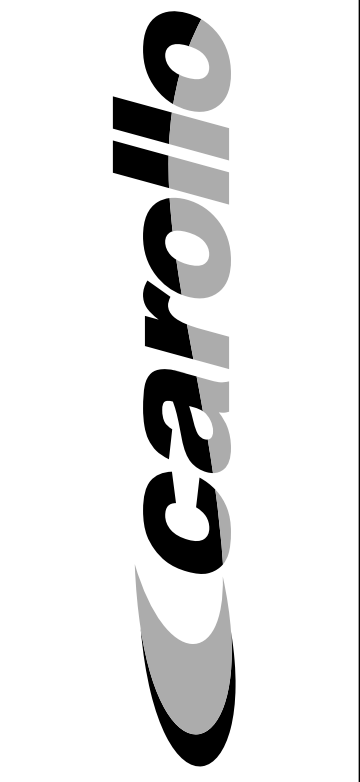
- NOTES IN DRAWINGS 00-G-03 AND 00-G-04 APPLY TO ALL DRAWINGS.
- DIGESTERS ARE PRESTRESSED CONCRETE TANKS, CONTRACTOR SHALL NOT MAKE ANY PENETRATIONS TO DIGESTERS UNDER ANY CIRCUMSTANCES.
- HAZARDOUS AREAS. ALL INSTALLATION SHALL MEET NEC500.
 CLASS 1, DIV 1 - TANK INTERIOR.
 AREAS ABOVE AND AROUND THE DIGESTER COVER ENVELOP 10 FT ABOVE THE HIGHEST POINT OF THE COVER AND 5 FT FROM ANY WALL.
 CLASS 1, DIV 2 - ENVELOP 15 FT ABOVE THE DIV 1 AREA OVER THE COVER AND 5 FT BEYOND THE DIV 1 AREA AROUND THE TANK WALL.
- CONTRACTOR SHALL REVIEW DIGESTER CONSTRUCTION SHOP DRAWINGS AND NOT EXCEED RECOMMENDED LOADING FOR DOME.
- CONTRACTOR SHALL COMPLETELY CLEAN DIGESTER OF ALL CONTENTS BEFORE PERFORMING ANY DEMOLITION WORK. SEE SPECIFICATION SECTION 11382.

KEY NOTES

- 1 EXISTING PLATE TO REMAIN.
- 2 REPLACE 30" DIA HATCH (TYP OF 2) SEE DETAIL 1 DG-M-02.
- 3 NEW PRESSURE / VACUUM RELIEF VALVE AND FLAME ARRESTER ASSEMBLIES (TYP OF 2) SEE DETAIL B DG-M-02.
- 4 ADD NEW HANDRAIL PER TYPICAL A341 TYP EXTEND TO NEAREST SUPPORT BOTH SIDES AND CONNECT TO EXISTING (TYP OF 4).
- 5 INSTALL 3/8" THICK 316 ST STL PLATE SEE DETAIL B DG-M-02.
- 6 DG PIPING NOT SHOWN FOR CLARITY. SEE SECTION B DG-M-02.

RECORD DRAWING

No.	DATE	REVISIONS	APP.

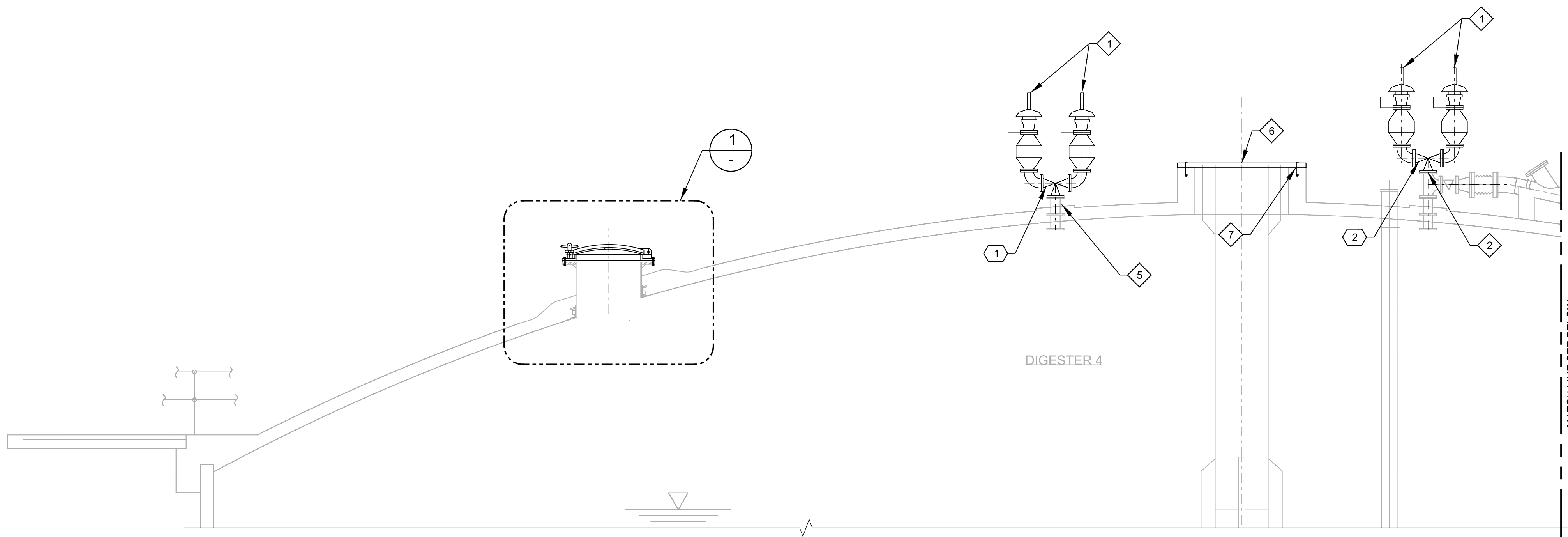


ORIGINAL
 STAMPED BY
 R.E. KILIAN
 08-25-10
 94203

SAWS JOB No. 07-6500
 DRWRC Digester Mixing and
 System Enhancements - Phase I
 DIGESTER 4 GAS APPURTENANCES
 MECHANICAL PLAN

Designed by: LAK
 Drawn by: KHB
 Checked by: REK

Drawing **DG-M-01**



B SECTION
 DG-M-01 SCALE: 1/4" = 1'-0"
 FILE: DT-07-650-DG-050-300

GENERAL NOTES

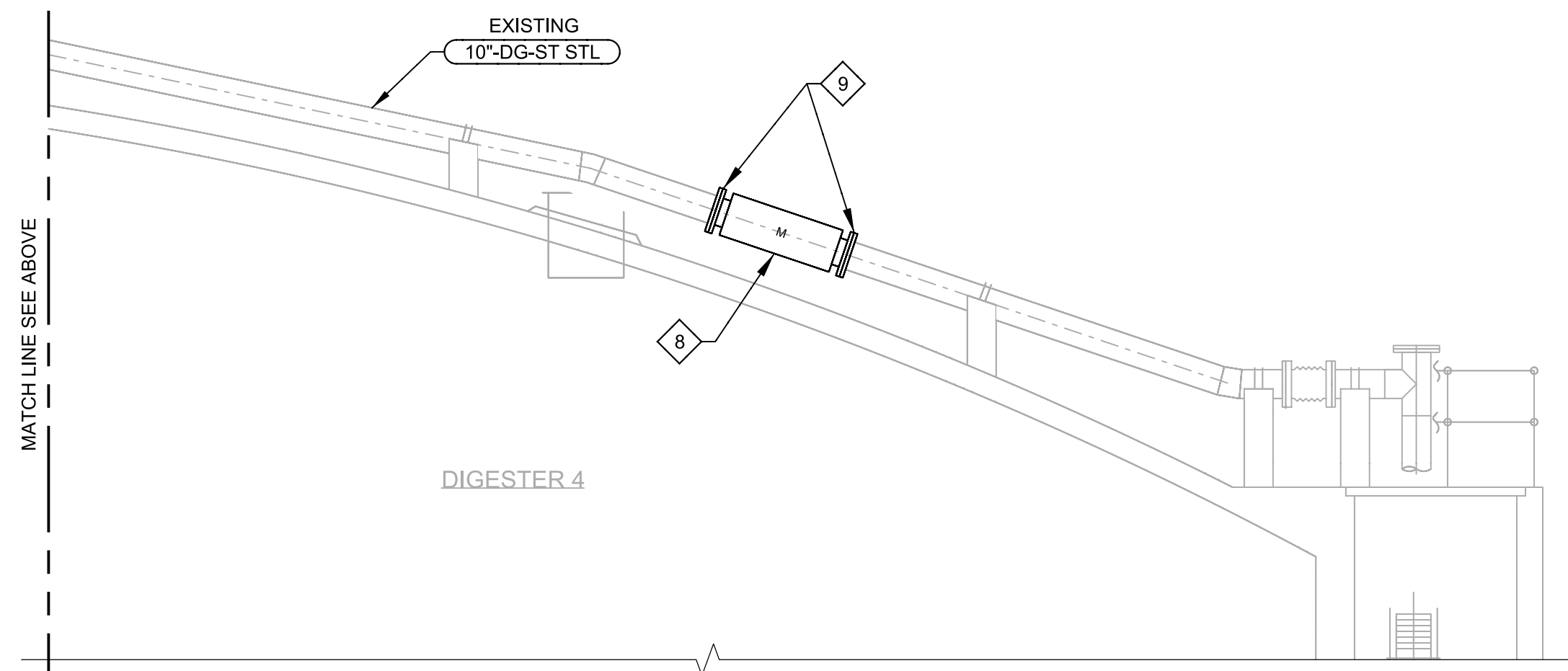
- NOTES IN DRAWINGS 00-G-03 AND 00-G-04 APPLY TO ALL DRAWINGS.
 - DIGESTERS ARE PRESTRESSED CONCRETE TANKS. CONTRACTOR SHALL NOT MAKE ANY PENETRATIONS TO DIGESTERS UNDER ANY CIRCUMSTANCES.
 - HAZARDOUS AREAS. ALL INSTALLATION SHALL MEET NEC500.
- CLASS 1, DIV 1 - TANK INTERIOR.
 AREAS ABOVE AND AROUND THE DIGESTER COVER ENVELOP 10 FT ABOVE THE HIGHEST POINT OF THE COVER AND 5 FT FROM ANY WALL.
- CLASS 1, DIV 2 - ENVELOP 15 FT ABOVE THE DIV 1 AREA OVER THE COVER AND 5 FT BEYOND THE DIV 1 AREA AROUND THE TANK WALL.
- CONTRACTOR SHALL REVIEW DIGESTER CONSTRUCTION SHOP DRAWINGS AND NOT EXCEED RECOMMENDED LOADING FOR DOME.
 - CONTRACTOR SHALL COMPLETELY CLEAN DIGESTER OF ALL CONTENTS BEFORE PERFORMING ANY DEMOLITION WORK. SEE SPECIFICATION SECTION 11382.

KEY NOTES

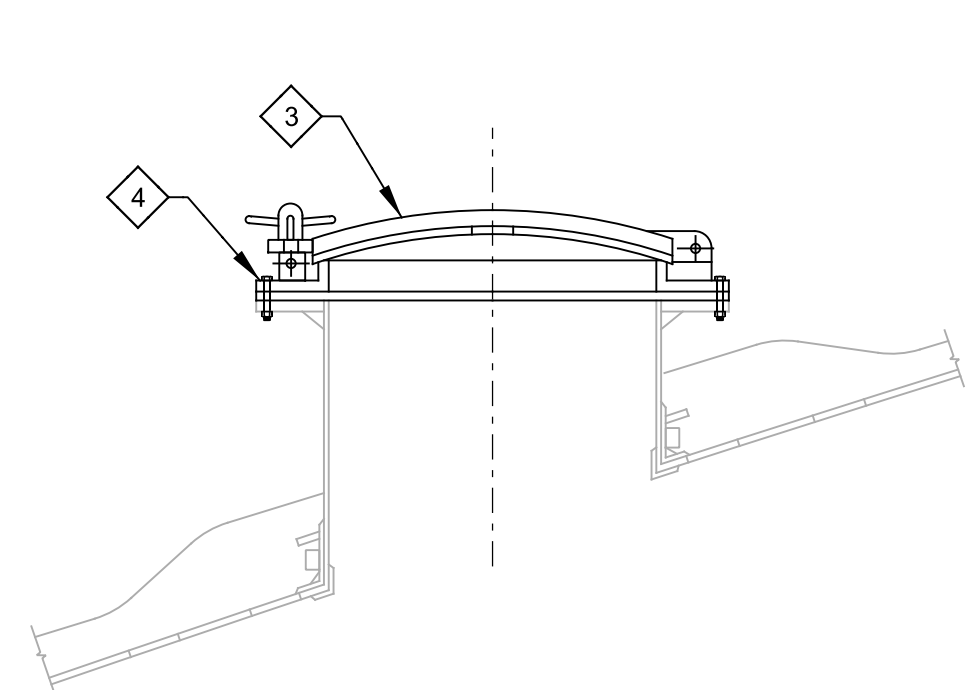
- 1 NEW PRESSURE / VACUUM RELIEF VALVE, FLAME ARRESTER, AND 3-WAY VALVE ASSEMBLIES.
- 2 CONNECT NEW DG EQUIPMENT TO EXISTING 6" TEE.
- 3 NEW NONSPARKING GAS-TIGHT 30" DIA MANHOLE COVER
- 4 NEW 1/4" FULL FACE NEOPRENE GASKET WITH NEW 316 ST STL HARDWARE.
- 5 CONNECT NEW DG EQUIPMENT TO EXISTING DG FLANGE.
- 6 PROVIDE 3/8" 316 ST STL PLATE W/ STIFFENER PLATES PER DETAIL 7 (TYP). MATCH EXISTING BOLT OPENINGS AND MOUNT OVER EXISTING MIXER TUBE MOUNTING FLANGE.
- 7 GAS TIGHT 3/8" x 1'-0" WIDE CONTINUOUS NEOPRENE PAD.
- 8 ULTRASONIC TRANSIT TIME GAS FLOW METER.
- 9 CONTRACTOR TO CUT EXISTING PIPING AND WELD NEW FLANGES PER SPECIFICATION SECTION 15255 FOR CONNECTION TO THE NEW FLOW METER.

KEY TAGS:

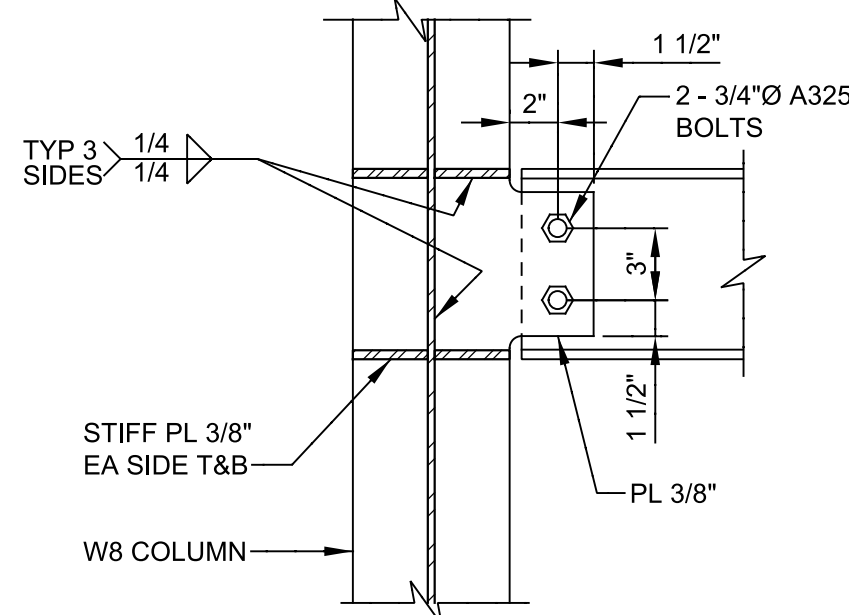
- 1 DR-D-DG-V-041
- 2 DR-D-DG-V-042



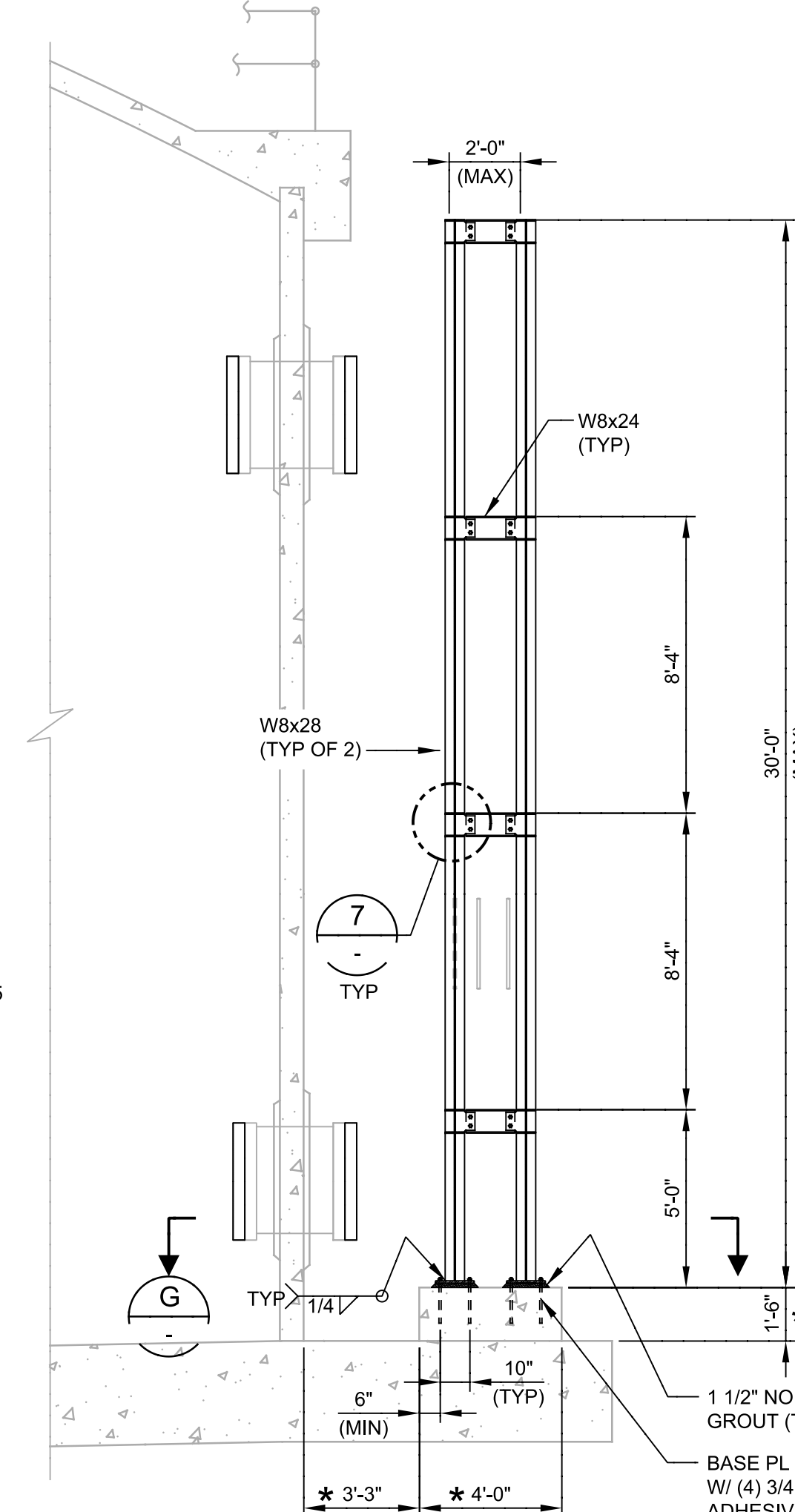
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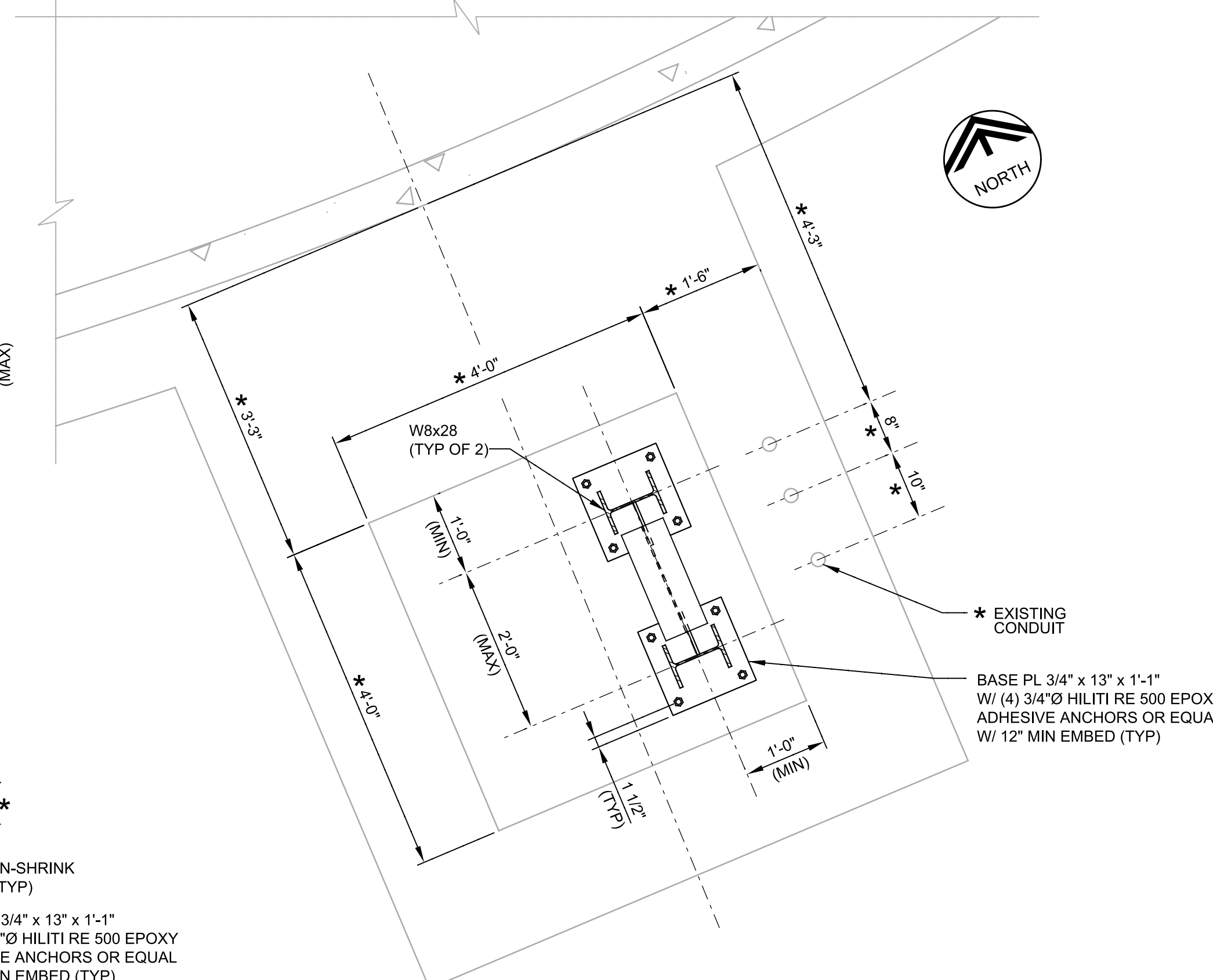
1 30" DIA MANWAY DETAIL
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7 DETAIL
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 FILE: DR-07-650-DG-040-300



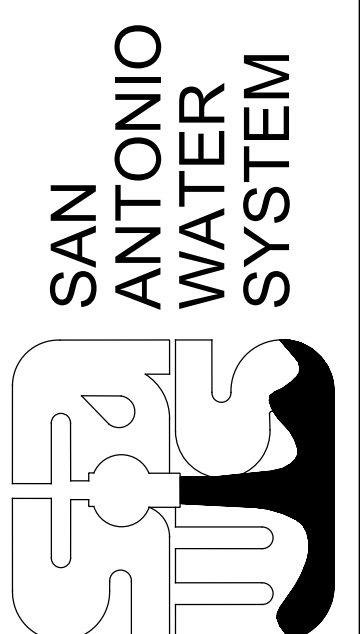
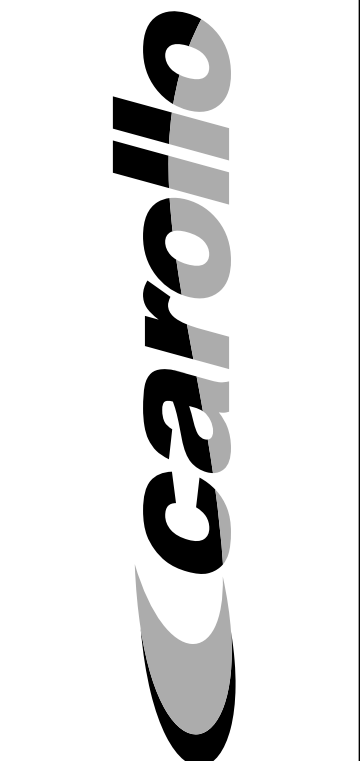
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G SECTION
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= FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO CONSTRUCTION

RECORD DRAWING	APP.
	REVISIONS
	DATE
No.	

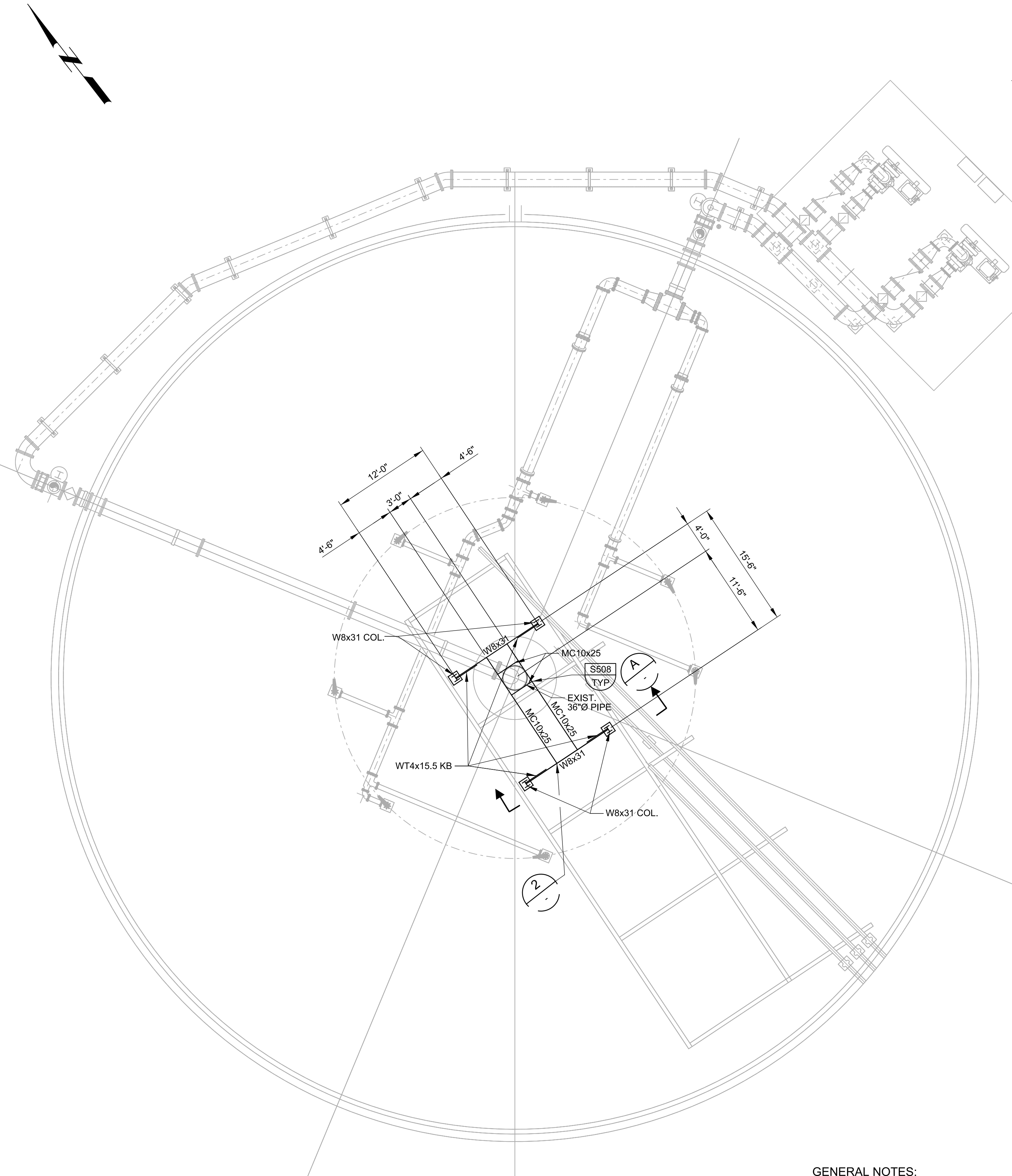


ORIGINAL STAMPED BY
 R.E. KILIAN
 08-25-10
 94203

SAWS JOB No. 07-6500
 DRWRC Digester Mixing and System Enhancements - Phase I
 DIGESTER 4 GAS APPURTENANCES MECHANICAL SECTIONS AND DETAILS

Designed by: LAK
 Drawn by: KHB
 Checked by: REK

Drawing **DG-M-02**

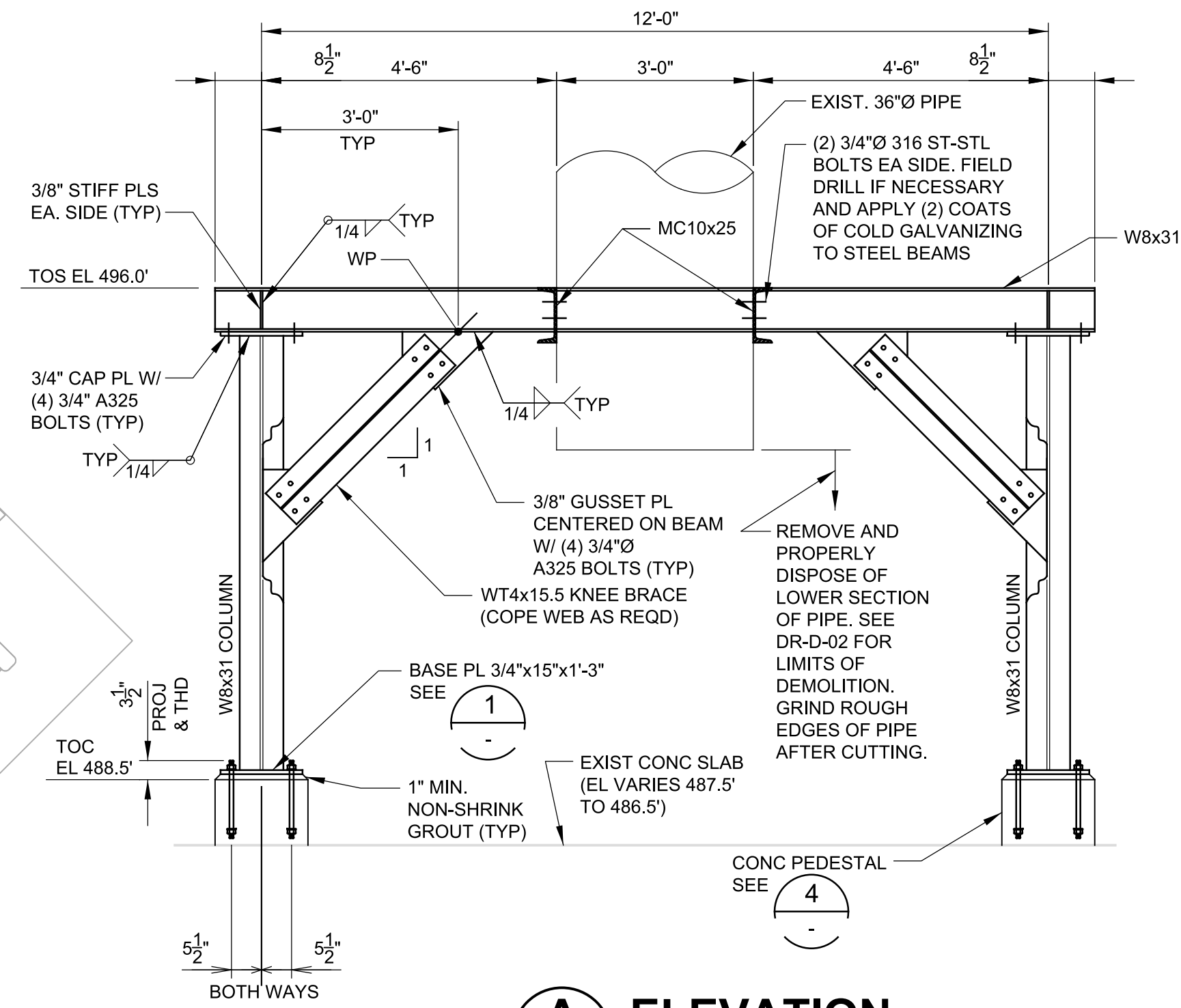


DIGESTER 4 PLAN

SCALE: 1/8" = 1'-0"
FILE:

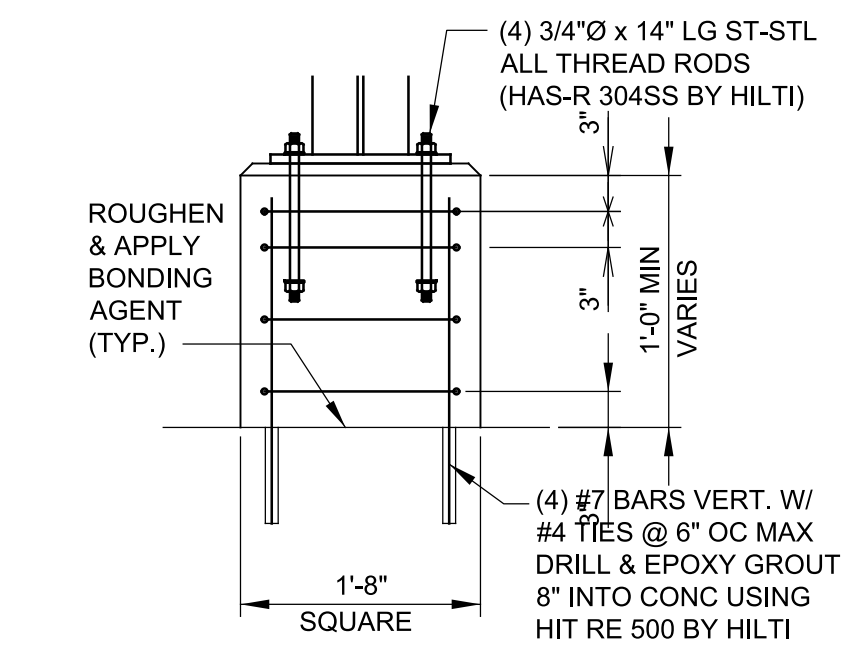
GENERAL NOTES:

- NOTES ON DRAWINGS 00-G-03 AND 00-G-04 APPLY TO THESE SHEETS.
- ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.



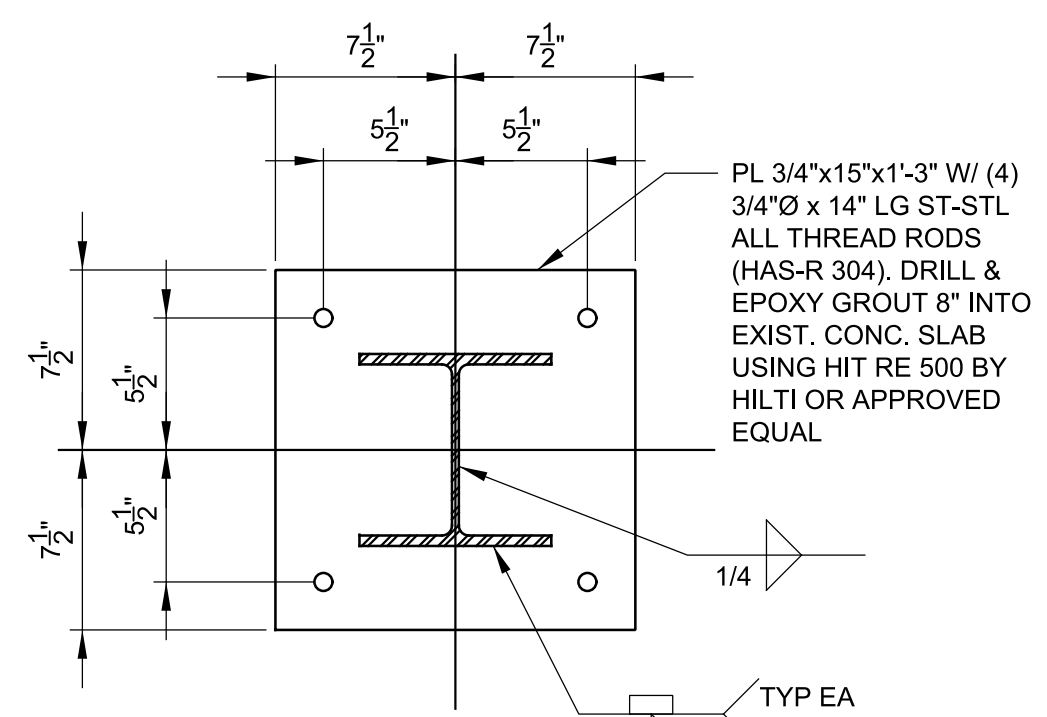
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FILE:



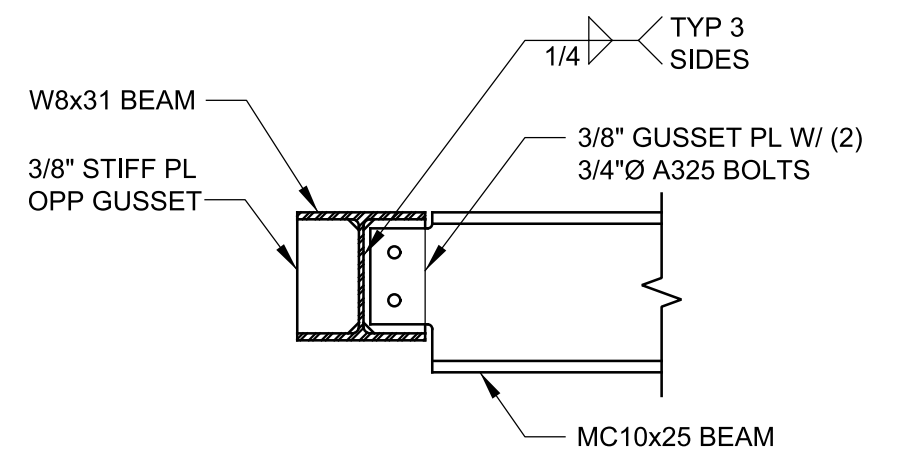
4 CONC PEDESTAL

SCALE: 3/4" = 1'-0"
FILE:



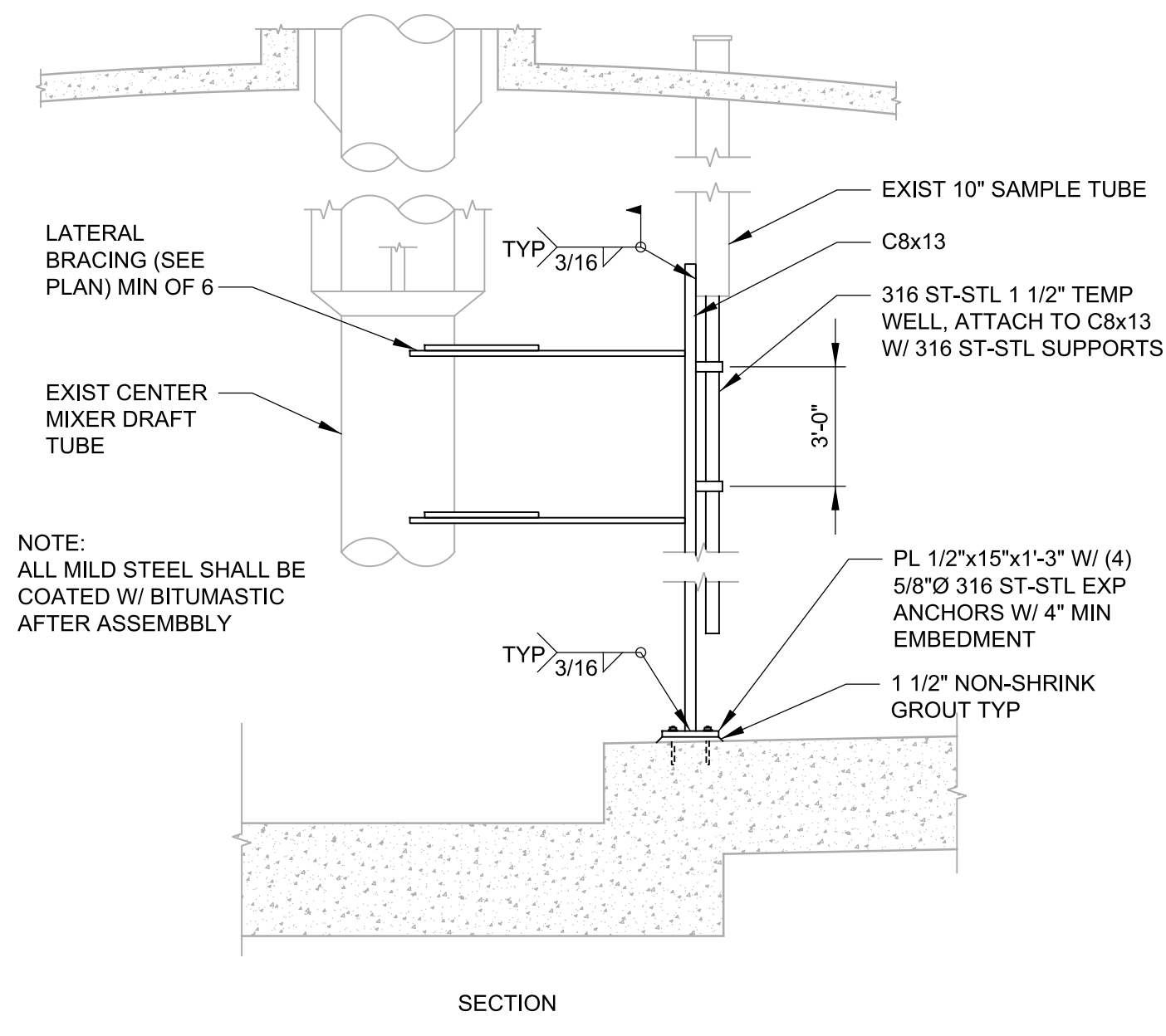
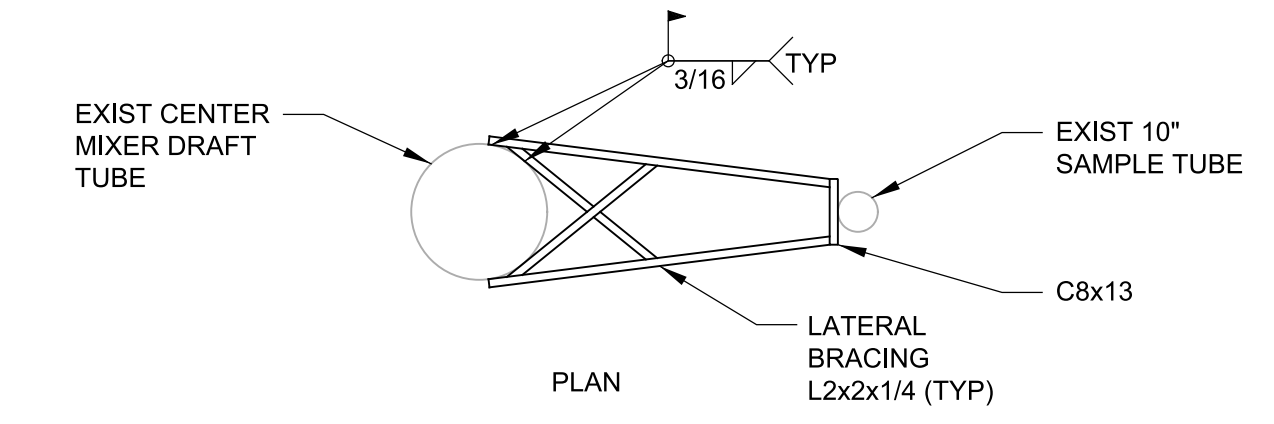
1 BASE PLATE DETAIL

SCALE: 1 1/2" = 1'-0"
FILE:



2 CONNECTION DETAIL

SCALE: 1" = 1'-0"
FILE:



3 CONNECTION DETAIL

SCALE: NTS
FILE:

RECORD DRAWING

No.	DATE	REVISIONS	APP.

LNV engineers | architects | contractors
801 NAVIGATION, SUITE 300
CORPUS CHRISTI, TEXAS 78408
PH: (361) 885-1984
FAX: (361) 885-1986
WWW.LNVINC.COM

carollo

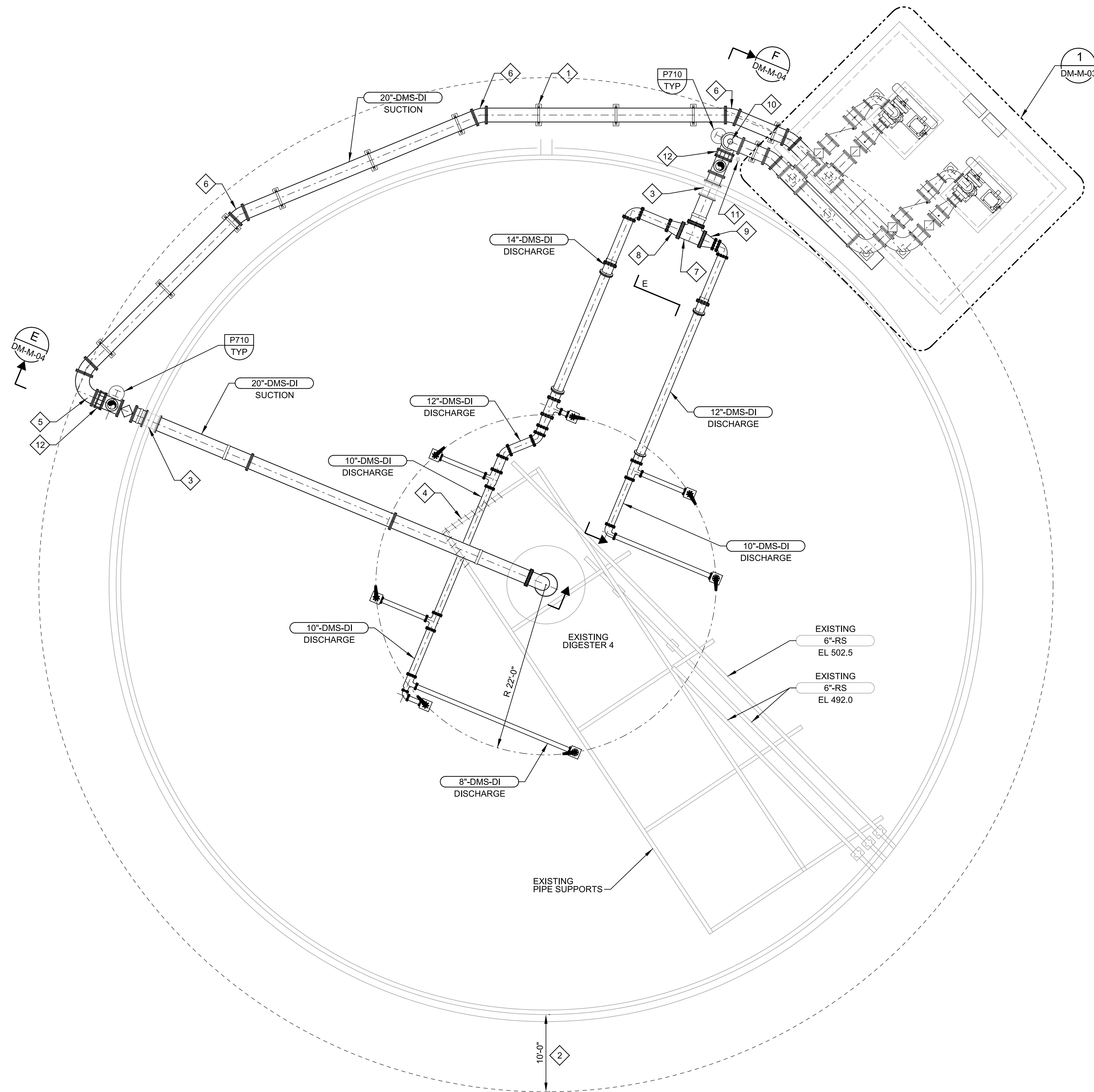
SAN ANTONIO WATER SYSTEM

ORIGINAL STAMPED BY
RAMIRO MUNOZ III
06-25-10
100346

SAWS JOB No. 07-6500
DRWRC Digester Mixing and System Enhancements - Phase I
DIGESTER 4 STRUCTURAL PLAN, SECTION AND DETAILS

Designed by: RM III
Drawn by: MH
Checked by: RM III

Drawing **DM-S-04**



A DIGESTER 4 PLAN
 SCALE: 1/8" = 1'-0"
 FILE: DR-07-650-DM-050-110

GENERAL NOTES:

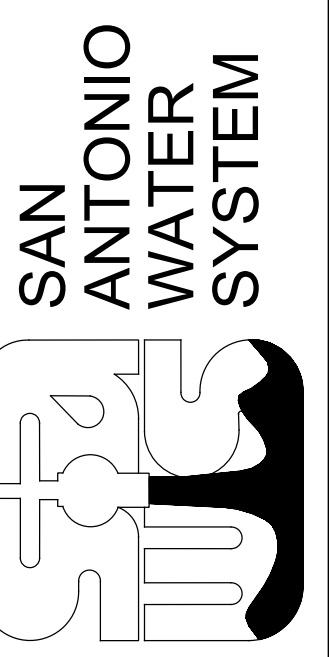
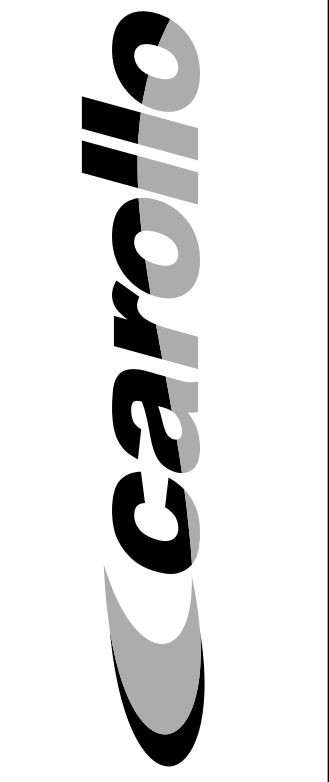
- NOTES ON DRAWINGS 00-G-03 AND 00-G-04 APPLY TO ALL DRAWINGS.
- ALL EXISTING DIMENSIONS AND ELEVATIONS ARE APPROXIMATE BASED ON AVAILABLE INFORMATION. CONTRACTOR TO VERIFY.
- MIXING NOZZLES SUPPLIED BY MIXING SYSTEM MANUFACTURER (TYP OF 8). NOZZLES AND MIXING SYSTEM LAYOUT PER MANUFACTURER'S INSTRUCTIONS AND SPECIFICATION 11226.

KEY NOTES:

- 1 PIPE SUPPORT PER P625 AND EM202 (TYP).
- 2 HAZARDOUS AREAS. ALL INSTALLATION SHALL MEET NEC500.
 CLASS 1, DIV 1 - TANK INTERIOR AREAS ABOVE AND AROUND THE DIGESTER COVER ENVELOP 10 FT ABOVE THE HIGHEST POINT OF THE COVER AND 5 FT FROM ANY WALL.
 CLASS 1, DIV 2 - ENVELOP 15 FT ABOVE THE DIV 1 AREA OVER THE COVER AND 5 FT BEYOND THE DIV 1 AREA AROUND THE TANK WALL.
- 3 USE EXISTING MIXER TANK HIGH AND LOW PENETRATIONS AS SHOWN IN SECTION VIEWS. SEE 2 FOR CONNECTION DETAILS DM-M-03
- 4 DEMO PORTION OF EXISTING PIPE SUPPORT NOT USED TO ALLOW STRAIGHT 20"-DMS-DI RUN.
- 5 90° LONG RADIUS BEND
- 6 22.5° RADIUS BEND
- 7 20° TEE
- 8 20"x14" REDUCER
- 9 20"x12" REDUCER
- 10 SEWAGE COMBINATION AIR VALVE. ROUTE TO GRAVEL DRAIN PER P205 (TYP)
- 11 GRAVEL DRAIN SEE 2 VP-C-03
- 12 FLANGED COUPLING ADAPTER

RECORD DRAWING	
No.	DATE

APP.	
REVISIONS	

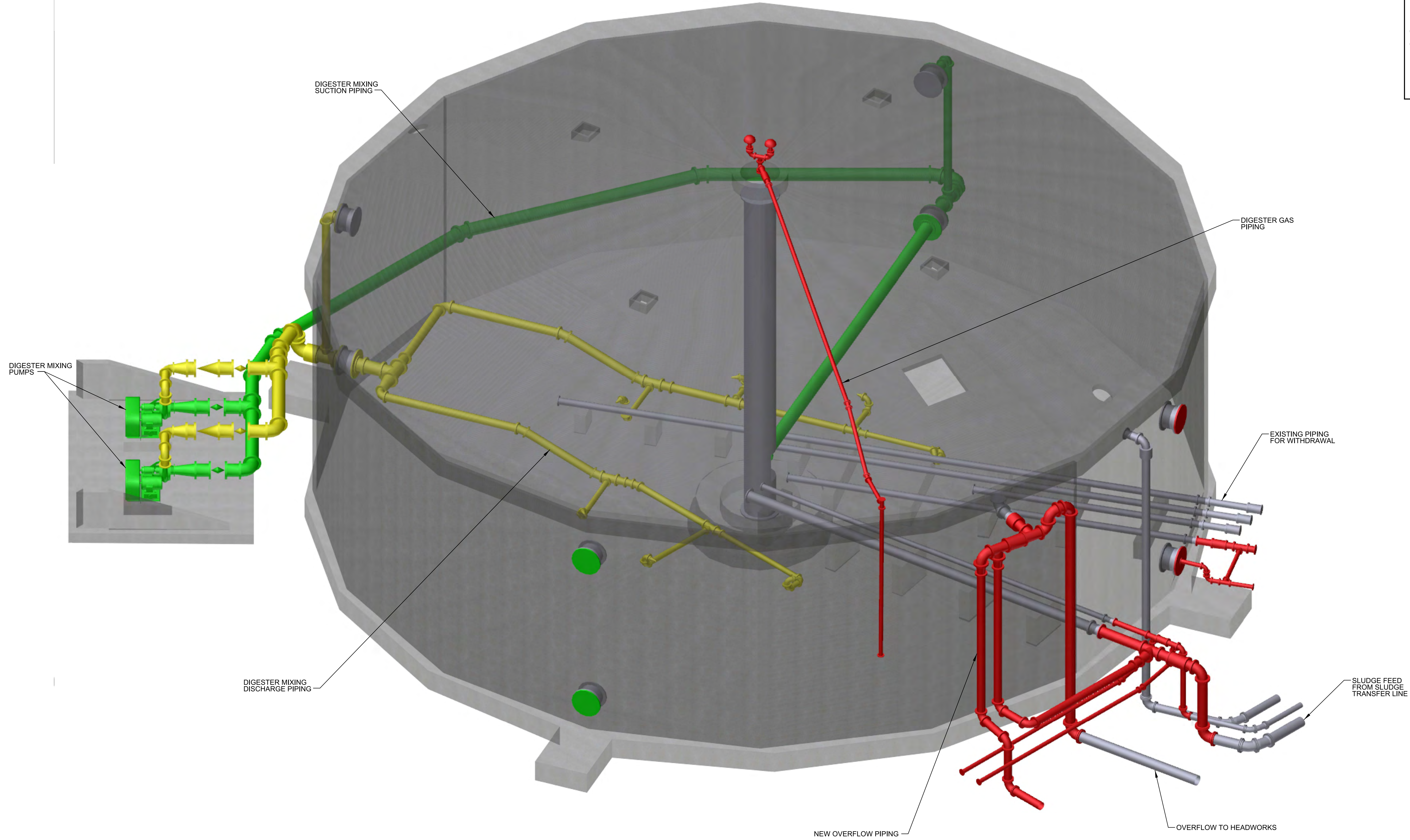


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 DRWRC Digester Mixing and System Enhancements - Phase I
 DIGESTER 4 MIXING MECHANICAL PLAN

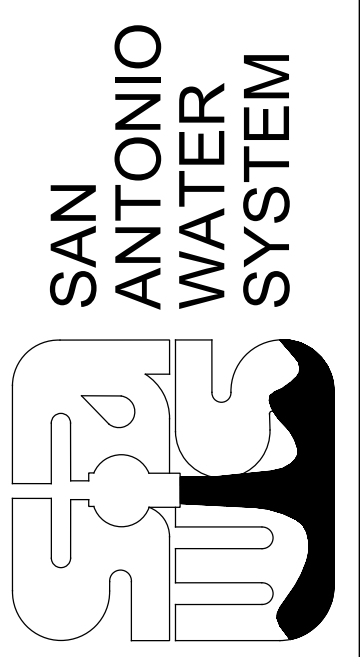
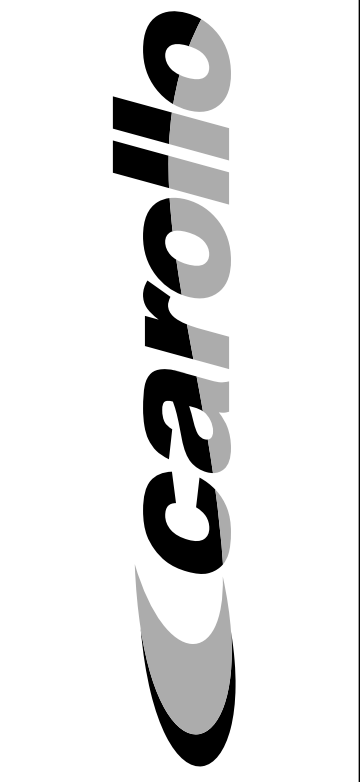
Designed by: LAR
 Drawn by: KHB
 Checked by: REK

Drawing DM-M-01



Z DIGESTER 10 3D PLAN
 SCALE: NTS
 FILE: DR-07-650-DM-050-9100

RECORD DRAWING			
No.	DATE	REVISIONS	APP.

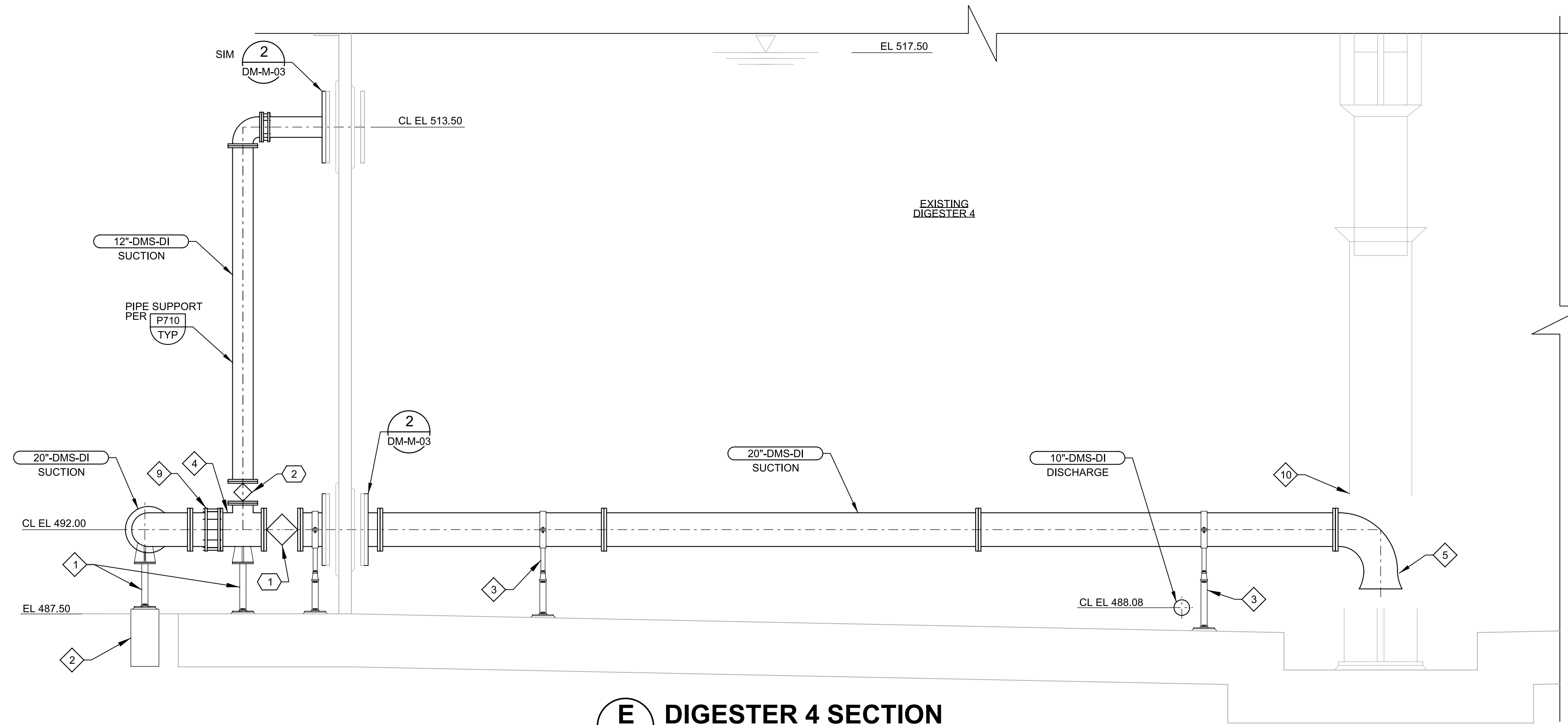


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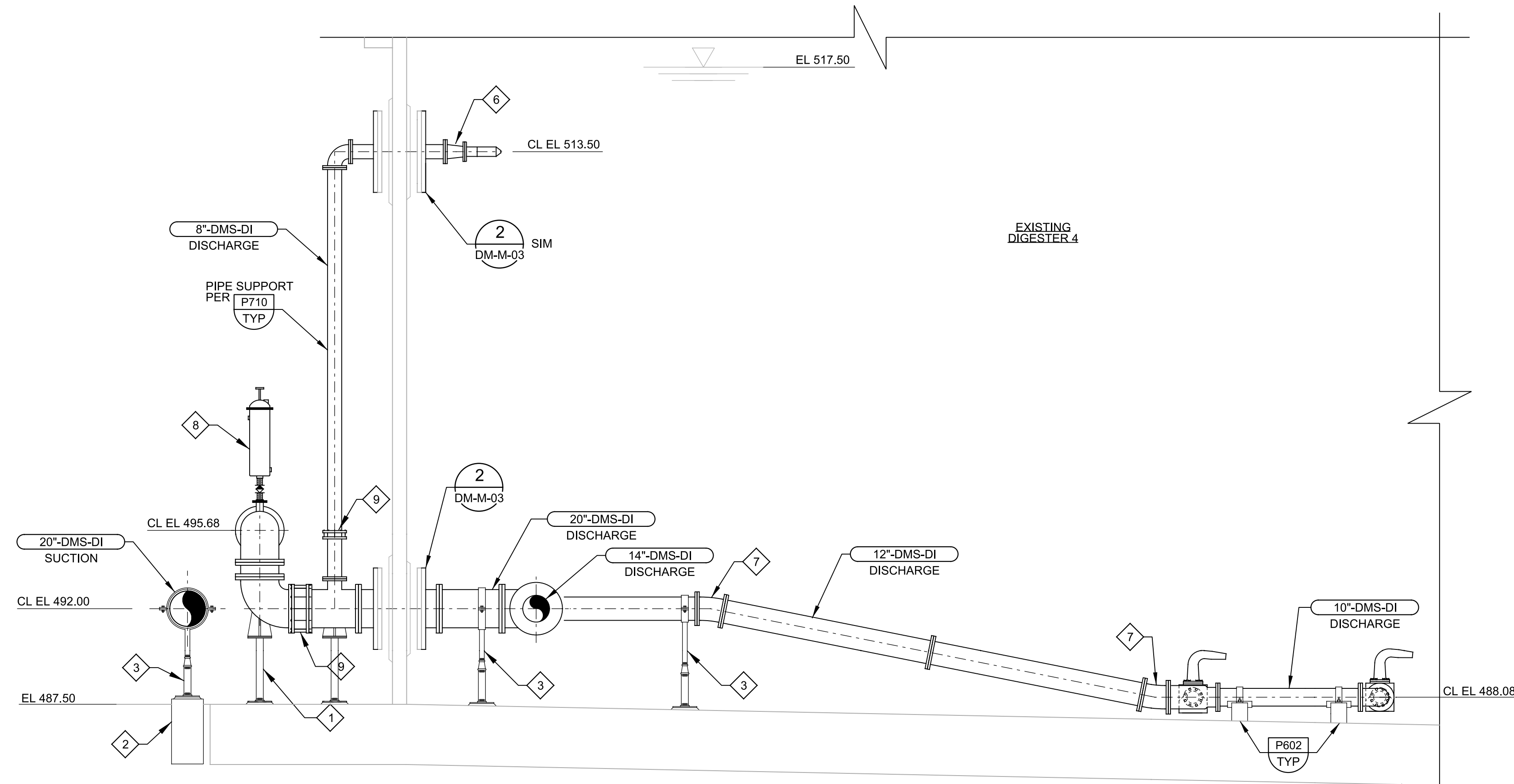
SAWS JOB No. 07-6500
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 System Enhancements - Phase I
 DIGESTER 10
 3D PLAN

Designed by: LAK
 Drawn by: KHB
 Checked by: REK

Drawing DM-M-02A



E DIGESTER 4 SECTION
 DM-M-01 SCALE: 1/4" = 1'-0"
 FILE: DR-07-650-DM-050-300



F DIGESTER 4 SECTION
 DM-M-01 SCALE: 1/4" = 1'-0"
 FILE: DR-07-650-DM-050-300

GENERAL NOTES:

- NOTES ON DRAWINGS 00-G-03 AND 00-G-04 APPLY TO ALL DRAWINGS.
- MIXING NOZZLES SUPPLIED BY MIXING SYSTEM MANUFACTURER (TYP OF 8). NOZZLES AND MIXING SYSTEM LAYOUT PER MANUFACTURER'S INSTRUCTIONS AND SPECIFICATION 11226.
- PROVIDE BENDS AS NECESSARY TO ADJUST FOR EXISTING PIPE AND PIPE SUPPORTS. COORDINATE WITH MIXING SYSTEM MANUFACTURER FOR NOZZLE ELEVATIONS.

KEY NOTES:

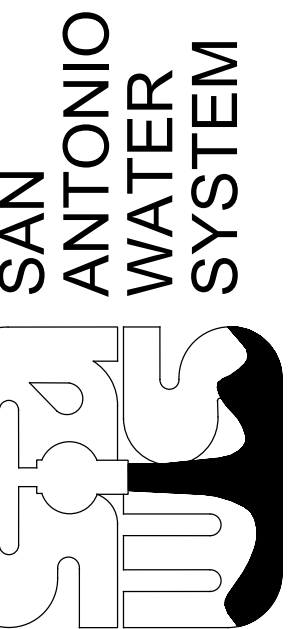
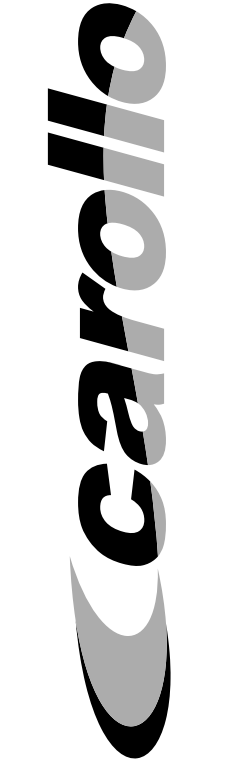
- 1 PIPE SUPPORT PER P621 TYP
- 2 PIPE SUPPORT PER EM202 TYP
- 3 PIPE SUPPORT PER P625 TYP
- 4 20"x20"x12" TEE
- 5 20" PIPE LONG RADIUS FLARE
- 6 8"x6" REDUCER
- 7 22.5° RADIUS BEND
- 8 SEWAGE COMBINATION AIR VALVE PER P205 TYP
- 9 FLANGED COUPLING ADAPTOR
- 10 REFER TO STRUCTURAL DRAWINGS FOR CUT INTO EXISTING PIPE.

KEY TAGS:

- 1 DR-D-DM-V-007
- 2 DR-D-DM-V-008

RECORD DRAWING

No.	DATE	REVISIONS	APP.



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SAWS JOB No. 07-6500
 DRWRC Digester Mixing and
 System Enhancements - Phase I
 DIGESTER 4 MIXING
 MECHANICAL SECTIONS

Designed by: LAK
 Drawn by: DE
 Checked by: REK

Drawing DM-M-04