NOTICE TO BIDDERS

Advertisement for Bids for TxDOT US Highway 87 Water Line Relocation, Oak Park Road to CR 356 for East Central Special Utility District.

East Central SUD will receive sealed bids until 10:00 A.M. on October 14, 2025, at East Central SUD, 12452 E US Highway 87, Adkins, Texas 78101, at which time bids will be publicly opened and read aloud.

Copies of plans and specifications may be examined without charge at the office of East Central SUD. Or an electric copy may be obtained from the Engineer, Gallegos Engineering, Inc.

Bids must be submitted on the proposal form furnished by the Engineer. The envelope containing any proposal shall be endorsed "TxDOT US Highway 87 Water Line Relocation, Oak Park Road to CR 356 for East Central Special Utility District". Each bid shall be accompanied by a proposal guarantee in the form of a certified check, cashier's check, or bid bond in the amount of five percent (5%) of the total bid price. Any bid received after closing time will be returned unopened.

The successful bidder will be required to furnish a one hundred percent (100%) Performance Bond and one hundred percent (100%) Payment Bond.

East Central SUD reserves the right to reject any or all bids, to award the contract in what it deems its best interest and to waive any informality or technicality in the proposal and agrees to take action within thirty (30) days.

Paul Bricker, Board President
East Central Special Utility District

ADDENDUM NO. 1

ECSUD

TXDOT US HIGHWAY 87 WATER LINE RELOCATION
OAK PARK ROAD TO CR 356

ADKINS, TEXAS

October 1, 2025

TO: ALL DOCUMENT HOLDERS OF RECORD

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated September 2025, as noted below. All Bidders shall acknowledge receipt of this Addendum on the outside of their sealed bid envelope. Failure to do so may subject Bidder to disqualification.

1.0 SPECIFICATIONS

A. NOTICE

Delete Page 1 in the specifications and replace with Page 1 A1 attached. The Bid opening has been moved from October 7, 2025 to October 14, 2025. Location and time are to remain the same, ECSUD Office at 10 am.

B. PROPOSAL

Delete Pages 2a-2a (7 pages) in the specifications and replace with Pages 2a**(Addendum 1)**-2a **(Addendum 1)** (7 pages) attached. Increased steel casing size from 16" to 20" for item 02445.1, 762 LF, Bore and Casing.

2.0 CONSTRUCTION PLANS

A. CONSTRUCTION PLAN SET

Updated quantities on the cover sheet to match Base Bid quantities, specifically the 16" steel casing via Bore is now a 20" steel casing via bore. The plan set dated September 30, 2025 on all plan sheets is considered Addendum 1 plan set and has said modification shown, attached.

Issued by:

Richard M. Gallegos, President
Gallegos Engineering, Inc.

Gallegos Engineering, Inc., P.O. Box 690067, San Antonio, Texas 78269, Ph 210-641-0812

PROPOSAL
TxDOT US Highway 87 Water Relocation for East Central Special Utility District for East Central SUD

PROPOSAL ADDENDUM 1

TO: EAST CENTRAL SPECIAL UTILITY DISTRICT

FOR: US HIGHWAY 87 WATER MAIN REPLACEMENT

The undersigned bidder declares that the only person or parties interested in this proposal as principals are those named herein, that this proposal has been prepared without collusion with any other person, firm, or corporation; that he has carefully examined the Plans and Specifications and the site of the proposed work, and therefore agrees that he will provide all the necessary machinery, tools, apparatus, and other means of construction and will do all the work and furnish all the materials called for in the Plans and Specifications in the manner prescribed therein, and according to the requirements of the Engineer as herein set forth, for the following price:

BASE BID

Item	Quantity	Unit	Description and Unit Price Bid (**Written in Words**)	Total Amount Unit Price x Qty. (**In Figures**)
02005	1	LS	MOBILIZATION AND BONDS _____Dollars _____Cents Per Unit	$_____
02050	1	LS	PREPARING THE RIGHT OF WAY _____Dollars _____Cents Per Unit	$_____
02270	815	LF	SILT FENCE _____Dollars _____Cents Per Unit	$_____
02445.1	762	LF	BORE AND CASING, 20" *BUY AMERICAN STANDARDS _____Dollars _____Cents Per Unit	$_____

02445.1 321 LF BORE AND CASING, 24" *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02445.4 566 LF SLICK BORE HDPE, 12” ID

_____Dollars

_____Cents Per Unit $_____

02510.1 9,506 LF PVC (C-909 DR 18) PIPE, 8"

_____Dollars

_____Cents Per Unit $_____

02510.1 5,084 LF PVC (C-909 DR 18) PIPE, 12"

_____Dollars

_____Cents Per Unit $_____

02510.4 2 EA 4”x12” TIE-IN

_____Dollars

_____Cents Per Unit $_____

02510.4 1 EA 12”x 6”x4” TIE-IN

_____Dollars

_____Cents Per Unit $_____

02511.1 5,700 LF REMOVAL EXISTING 4" PVC PIPE

_____Dollars

_____Cents Per Unit $_____

02511.1 7,300 LF REMOVAL EXISTING 6" PVC PIPE

_____Dollars

_____Cents Per Unit $_____

02519.1 15 EA RESTRAINED FIRE HYDRANT ASSEMBLY, *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02523.1 2 EA GATE VALVE AND BOX, 4" *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02523.1 1 EA GATE VALVE AND BOX, 6" *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02523.1 24 EA GATE VALVE AND BOX, 8" *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02523.1 12 EA GATE VALVE AND BOX, 12" *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02525 2.5 TON DUCTILE IRON FITTINGS *BUY AMERICAN STANDARDS

_____Dollars

_____Cents Per Unit $_____

02540.3 35 EA RELOCATE EXISTING SERVICE, LONG

_____Dollars

_____Cents Per Unit $_____

02540.3 10 EA RELOCATE EXISTING SERVICE, SHORT

_____Dollars

_____Cents Per Unit $_____

TOTAL BASE BID: $_____

STATEMENT OF MATERIALS AND OTHER CHARGES: For the purpose of complying with the Texas Tax Code, this contract shall be a separate contract. The Owner shall pay the Contractor for the proper performance of the contract, subject to additions and deductions provided therein, the Contract sum of:

Materials: _____ Dollars ($_____)

Services: _____ Dollars ($_____)

Total:_____ Dollars ($_____)

It is further agreed that the quantities of work to be done and material to be furnished may be increased and diminished as may be considered necessary in the opinion of the Engineer, to complete the work fully as planned and contemplated, and that all quantities of work, whether increased or diminished, shall be performed at the unit prices set forth herein. The work to be done shall be accepted when fully completed in a manner entirely satisfactory to the Engineer and Owner.

PROPOSAL (contd)
TxDOT US Highway 87 Water Relocation for East Central Special Utility District for East Central SUD

Accompanying this proposal is a certified check/cashier's check/bid bond in the amount of _____(_____) payable unconditionally to East Central Special Utility District.

The undersigned bidder further agrees to complete the work within __90__ consecutive calendar days from the date of the Notice to Proceed and certifies that he has carefully checked the bid prices contained in the proposal and is entirely satisfied that they are correct and final.

BIDDER _____

By _____

Address _____

_____

Phone _____

Fax _____

ADDITIVE ALTERNATE BID ADDENDUM 1

Item	Quantity	Unit	Description and Unit Price Bid (**Written in Words**)	Total Amount Unit Price x Qty. (**In Figures**)
02050	1	LS	PREPARING THE RIGHT OF WAY _____Dollars _____Cents Per Unit	$_____
02510.1	714	LF	PVC (C-909 DR 18) PIPE, 8" _____Dollars _____Cents Per Unit	$_____
02510.4	1	EA	8” TIE-IN _____Dollars _____Cents Per Unit	$_____
02519.1	1	EA	RESTRAINED FIRE HYDRANT ASSEMBLY, *BUY AMERICAN STANDARDS _____Dollars _____Cents Per Unit	$_____
02523.1	2	EA	GATE VALVE AND BOX, 8” *BUY AMERICAN STANDARDS _____Dollars _____Cents Per Unit	$_____

TOTAL ALTERNATE BID: $_____

STATEMENT OF MATERIALS AND OTHER CHARGES: For the purpose of complying with the Texas Tax Code, this contract shall be a separate contract. The Owner shall pay the Contractor for the proper performance of the contract, subject to additions and deductions provided therein, the Contract sum of:

Materials: _____ Dollars ($_____)

Services: _____ Dollars ($_____)

Total:_____ Dollars ($_____)

It is further agreed that the quantities of work to be done and material to be furnished may be increased and diminished as may be considered necessary in the opinion of the Engineer, to complete the work fully as planned and contemplated, and that all quantities of work, whether increased or diminished, shall be performed at the unit prices set forth herein. The work to be done shall be accepted when fully completed in a manner entirely satisfactory to the Engineer and Owner.

Accompanying this proposal is a certified check/cashier's check/bid bond in the amount of _____(_____) payable unconditionally to East Central Special Utility District.

The undersigned bidder further agrees to complete the work within __90__ consecutive calendar days from the date of the Notice to Proceed and certifies that he has carefully checked the bid prices contained in the proposal and is entirely satisfied that they are correct and final.

BIDDER _____

By _____

Address _____

_____

Phone _____

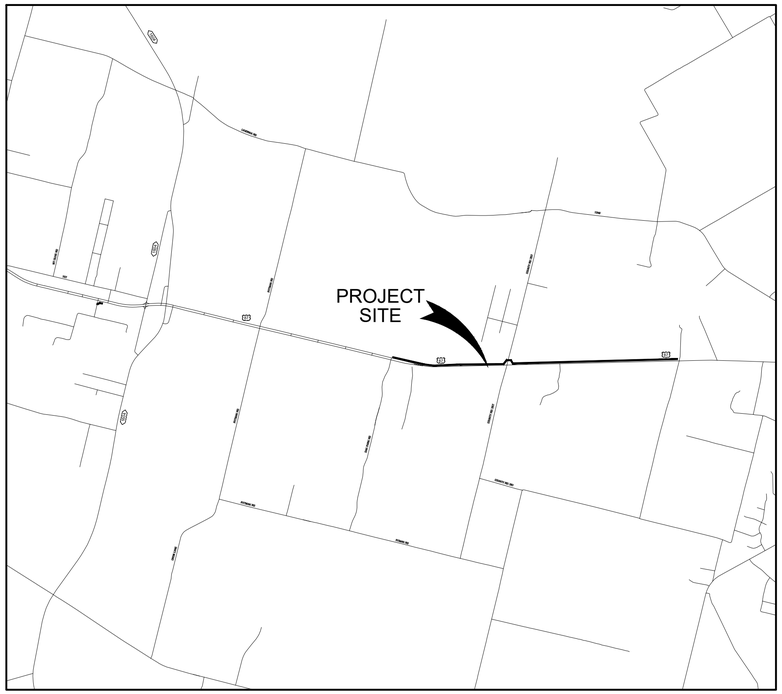
Fax _____

EAST CENTRAL SPECIAL UTILITY DISTRICT

CONSTRUCTION PLANS

U.S. HIGHWAY 87 TX-DOT ROW EXPANSION
12-INCH PVC WATER MAIN
BEXAR COUNTY, TX

SEPTEMBER 2025



LOCATION MAP

TABLE OF CONTENTS

BASE BID
PROJECTED QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
02005	MOBILIZATION AND BOND	LS	1
02050	PREPARING THE RIGHT OF WAY	LS	1
02270	TEMPORARY SEDIMENT CONTROL FENCE	LF	815
02445.1	BORE 20" STEEL ENCASEMENT PIPE	LF	762
02445.1	BORE 24" STEEL ENCASEMENT PIPE	LF	321
02445.4	BORE HDPE DIRECTIONAL 12" I.D.	LF	566
02510.1	PVC PIPE (C909)–8", WITH SAND BEDDING & TRACER WIRE	LF	9,506
02510.1	PVC PIPE (C909)–12", WITH SAND BEDDING & TRACER WIRE	LF	5,084
02510.4	12"x4" TIE–IN	EA	2
02510.4	12"x6"x4" TIE–IN	EA	1
02511.1	REMOVAL EXISTING 4" PIPE	LF	5,700
02511.1	REMOVAL EXISTING 6" PIPE	LF	7,300
02519.1	RESTRAINED FIRE HYDRANT ASSEMBLY	EA	15
02523.1	GATE VALVE WITH BOX –4"	EA	2
02523.1	GATE VALVE WITH BOX –6"	EA	1
02523.1	GATE VALVE WITH BOX –8"	EA	24
02523.1	GATE VALVE WITH BOX –12"	EA	12
02525	DUCTILE IRON M.J. FITTINGS	TON	2.5
02540.3	RELOCATE EXISTING SERVICE, LONG (WATER METER)	EA	35
02540.3	RELOCATE EXISTING SERVICE, SHORT (WATER METER)	EA	10

ALTERNATE BID QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
02050	PREPARING THE RIGHT–OF–WAY	LS	1
02510.1	PVC PIPE (C909)–8", WITH SAND BEDDING & TRACER WIRE	LF	714
02510.4	8" TIE–IN	EA	1
02519.1	RESTRAINED FIRE HYDRANT ASSEMBLY	EA	1
02523.1	GATE VALVE WITH BOX –8"	EA	2

GALLEGOS ENGINEERING, INC.

STATE OF TEXAS
RICHARD M. GALLEGOS
86916
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RICHARD M. GALLEGOS, P.E. 86916 SEPTEMBER 30, 2025
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812
FIRM REGISTRATION # F-003084

GENERAL NOTES

1. ALL VALVES SHALL REMAIN CLOSED UNTIL MAINS HAVE BEEN DISINFECTED, FLUSHED, AND RELEASED FOR PUBLIC USE BY THE ENGINEER.

2. EXISTING UTILITIES SHOWN ARE TAKEN FROM VARIOUS UTILITY COMPANY RECORDS. CONTRACTORS SHALL VERIFY THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO BEGINNING CONSTRUCTION. CONTRACTORS SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES AND DRAINAGE STRUCTURES DURING CONSTRUCTION.

3. ALL EXCAVATION SHALL BE UNCLASSIFIED REGARDLESS OF MATERIAL ENCOUNTERED.

4. BIDDERS ARE NOTIFIED TO MAKE SUBSURFACE INVESTIGATIONS AS THEY DEEM NECESSARY. NO ADDITIONAL PAYMENT WILL BE MADE FOR WATER, SAND, GRAVEL OR OTHER UNSTABLE CONDITIONS ENCOUNTERED IN EXCAVATIONS.

5. DETOUR OF TRAFFIC AROUND WORK ACTIVITIES, MAINTENANCE OF TRAFFIC CONTROL SIGNS, AND FLAGMEN ARE THE CONTRACTOR'S RESPONSIBILITY. NO SEPARATE PAYMENT WILL BE MADE.

6. THE CONTRACTOR SHALL PROTECT ALL OPEN EXCAVATIONS AND EQUIPMENT FROM CHILDREN, PEDESTRIANS, AND VEHICLES IN THE AREA.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL FENCES IN THE WORK AREA TO THEIR ORIGINAL CONDITION PRIOR TO COMPLETION OF THE CONTRACT. THIS SHALL APPLY TO ALL FENCES IN THE WORK AREA WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.

8. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. ANY CONSTRUCTION STAKES, MARKS, ETC., DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR SHALL CONFER WITH EACH INDIVIDUAL PROPERTY OWNER AS TO THE LOCATION OF EACH INDIVIDUAL METER BOX.

10. CONTRACTOR SHALL DISINFECT ALL NEW WATER MAINS BEFORE TYING INTO EXISTING WATER MAINS.

11. ALL VALVES SHALL BE PERMANENTLY MARKED BY THE USE OF A VALVE MARKER. NO SEPARATE PAY ITEM.

12. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

13. CONTRACTOR SHALL MAINTAIN FENCING FOR THE CONTAINMENT OF LIVESTOCK DURING CONSTRUCTION. ALL FENCES REMOVED FOR CONSTRUCTION SHALL BE REPLACED. ALL REQUIRED FENCING SHALL BE INCIDENTAL TO CONSTRUCTION AND NOT A SEPARATE PAY ITEM.

14. ALL DRIVEWAYS, INCLUDING DRAIN PIPES, CULVERTS AND HEADWALLS, DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO EQUAL OR BETTER THAN PRECONSTRUCTION CONDITION. ASPHALT DRIVES ARE NOT ALLOWED TO BE CUT WITHOUT OWNERS PERMISSION. INSTALLATION OF WATER MAINS CROSSING CONCRETE DRIVES WILL BE BORED. ALL DRAIN PIPE, CULVERT AND HEADWALL REPAIR SHALL BE INCIDENTAL TO CONSTRUCTION AND NOT A SEPARATE PAY ITEM. DRIVEWAY PAVEMENT REPAIR SHALL BE PAID FOR AS PER ITEM NO. 02950, "CUTTING AND PATCHING ASPHALT PAVEMENT, ASPHALT DRIVES, CONCRETE DRIVES, OR GRAVEL ROADS AND DRIVES". PAYMENT FOR BORES UNDER CONCRETE DRIVES DRIVES SHALL BE PAID FOR AS PER ITEM 02445 "BORING AND CASING PIPE UNDER HIGHWAYS, RAILROADS, OR OTHER AREAS".

15. LOCATIONS OF COMBINATION AIR VALVES WHERE SHOWN ON PLANS ARE APPROXIMATE. FINAL LOCATIONS TO BE ADJUSTED IN FIELD AT TIME OF CONSTRUCTION AT THE DIRECTION OF THE ENGINEER.

16. ALL WORK SHALL BE SCHEDULED TO TAKE PLACE ON MONDAY THROUGH FRIDAY, DURING NORMAL WORK HOURS. CONTRACTOR SHALL NOTIFY MWSC 48 HOURS PRIOR TO SERVICE SHUT OFF AFFECTING CUSTOMERS. SERVICE SHALL NOT BE SHUT OFF FOR MORE THAN EIGHT (8) HOURS AT A TIME.

17. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PROPERTY, INCLUDING, BUT NOT LIMITED TO, FENCES, PAVEMENT, DRIVEWAYS, LAWNS, CULVERTS, AND TREES, AT NO COST TO THE OWNER.

18. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL AT ALL CULVERT, STREAM AND DRAINAGE SWALES CROSSINGS. EROSION CONTROL MEASURES SHALL INCLUDE AS A MINIMUM SILT FENCES. SILT FENCES SHALL BE INSTALLED PRIOR TO DISTURBANCE OF THE WORK AREAS AND SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE DISTURBED AREAS UPSTREAM. EROSION CONTROL SHALL BE COORDINATED WITH THE ENGINEER.

19. THE CONTRACTOR SHALL REMOVE AND REPLACE ANY MAILBOXES, TRAFFIC OR ROAD SIGNS ENCOUNTERED. NO SEPARATE PAY ITEM.

20. CONTRACTOR SHALL SUBMIT TO ENGINEER PROPOSED CONSTRUCTION SEQUENCE PRIOR TO BEGINNING CONSTRUCTION.

21. ALL FITTINGS ARE TO BE DUCTILE IRON, MECHANICAL JOINT TYPE, UNLESS OTHERWISE NOTED ON PLANS.

22. ALL THRUST BLOCKS SHALL BE INSPECTED BY OWNER AND/OR ENGINEER PRIOR TO BACKFILLING.

23. ALL EXISTING VALVES SHOWN ON PLANS TO BE ABANDONED, SHALL HAVE BOXES REMOVED AND SHALL BE BACKFILLED ACCORDING TO SPECIFICATIONS. NO SEPARATE PAY ITEM.

24. CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION AND STAGING WITHIN EXISTING UTILITY EASEMENTS, UNLESS OTHER ARRANGEMENTS ARE MADE WITH OWNER AND/OR TxDOT.

25. WHERE THE NEW WATER MAIN SHOWN ON THE PLANS REQUIRES CROSSING AN EXISTING WATER MAIN OR OTHER UTILITY, THE CONTRACTOR SHALL VERTICALLY DEFLECT THE PROPOSED WATER MAIN. DEFLECTION SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURE'S RECOMMENDATIONS. FITTINGS ARE NOT PERMISSIBLE, UNLESS OTHERWISE SHOWN ON THE PLANS. NO SEPARATE PAY ITEM.

26. WATER MAINS SHALL BE INSTALLED WITH 48" MINIMUM COVER OVER THE TOP OF THE PIPE AND A MAXIMUM DEPTH OF BURY OF 60", UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER.

27. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL CONCRETE FOUNDATIONS, VAULT BOXES AND OVERFLOW BOXES THROUGHOUT THE PROJECT SITE.

28. BUY AMERICAN STANDARDS SHALL BE ADHERED TO CONCERNING ALL STEEL OR IRON BASED MATERIALS.

29. ALL GATE VALVES SHALL "OPEN RIGHT".

30. AN AIR RELEASE VALVE SHALL BE INSTALLED AT THE HIGHEST ELEVATION POINT(S) OF THE WATER DISTRIBUTION SYSTEM LOCATED WITHIN A DEVELOPMENT. THE EXACT LOCATION SHALL BE COORDINATED IN THE FIELD AND VERIFIED AGAINST THE FINAL GRADING PLAN. INSTALLATION SHALL BE IN ACCORDANCE WITH THE ECSUD STANDARDS AND THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE A VALVE BOX OR APPROVED ENCLOSURE FOR ACCESS AND MAINTENANCE.

31. A MINIMUM OF ONE (1) WATER SAMPLE STATION SHALL BE INSTALLED WITHIN A DEVELOPMENT TO ALLOW FOR ROUTINE WATER QUALITY MONITORING. THE SAMPLE STATION SHALL BE LOCATED NEAR THE SUBDIVISION ENTRANCE OFF A WATER MAIN IN A PUBLICLY ACCESSIBLE AREA, OR AT A REPRESENTATIVE LOCATION APPROVED BY ECSUD. THE STATION SHALL BE INSTALLED PER ECSUD STANDARDS, MANUFACTURER'S SPECIFICATIONS AND IN COMPLIANCE WITH ALL APPLICABLE HEALTH AND SAFETY REGULATIONS. COORDINATE FINAL LOCATION WITH ECSUD PRIOR TO INSTALLATION. ALL COMPONENTS SHALL BE SUITABLE FOR POTABLE WATER USE, AND THE STATION SHALL BE PROTECTED FROM FREEZING, TAMPERING, AND OTHER ENVIRONMENTAL FACTORS.

32. WHEN INSTALLING A CUT-IN TEE TO TIE INTO AN EXISTING WATER MAIN, MECHANICAL BELL JOINT RESTRAINTS SHALL BE PROVIDED ON ALL ADJACENT EXISTING PIPE JOINTS TO PREVENT SEPARATION DUE TO THRUST FORCES. RESTRAINTS SHALL BE INSTALLED ON A MINIMUM OF ONE FULL LENGTH OF PIPE ON EACH SIDE OF THE NEW TEE, OR AS REQUIRED BY ECSUD STANDARDS. ALL RESTRAINT DEVICES SHALL BE COMPATIBLE WITH THE EXISTING PIPE MATERIAL AND PRESSURE CLASS, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. COORDINATE WITH ECSUD FOR FINAL APPROVAL OF RESTRAINT TYPE AND EXTENT.

33. ALL CONNECTIONS TO EXISTING WATER MAINS SHALL BE PERFORMED USING THE HIGH TEST HYPOCHLORITE (HTH) METHOD IN ACCORDANCE WITH AWWA C651 DISINFECTION PROCEDURES. THE HTH METHOD SHALL INVOLVE THE APPLICATION OF A CHLORINE SOLUTION DIRECTLY TO ALL INTERIOR SURFACES OF THE NEW FITTINGS, PIPE, AND APPURTENANCES IMMEDIATELY PRIOR TO INSTALLATION. THIS INCLUDES SWABBING OR SPRAYING WITH A MINIMUM 1% CHLORINE SOLUTION. NO OTHER DISINFECTION METHOD WILL BE ACCEPTED FOR TIE-INS. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF ECSUD AND IN COMPLIANCE WITH THEIR STANDARDS. PROPER FLUSHING AND BACTERIOLOGICAL TESTING SHALL FOLLOW PRIOR TO PLACING THE MAIN INTO SERVICE.

LEGEND

	POLE W/GUY		WOODEN FENCE
WV	EXIST WATER VALVE		CHAIN LINK FENCE
WM	EXIST WATER METER	X	WIRE FENCE
MB	MAIL BOX		PIPE FENCE
	TREE		EXIST EDGE OF PVMT
	BUSH		PROP WATER VALVE
PED	TELEPHONE PEDESTAL		PROP FLUSHING VALVE
	SIGN		PROP SINGLE WATER METER
W	WATER	SVC	SERVICE LINE
EXIST	EXISTING	CMP	CORR. METAL PIPE
PROP	PROPOSED	RCP	REINF. CONC. PIPE
N.S.P.I.	NO SEPARATE PAY ITEM	W	EXIST WATER MAIN
	PROPERTY LINE		PROP WATER MAIN
	EASEMENT LINE		

REVISIONS						
NO.	DATE	DESCRIPTION	BY			

PROJ. #	DATE:	DSN. BY:	DWN. BY:	CHKD. BY:
17-21-04	09-30-25	S.G.	S.G.	R.M.G.

FIRM REGISTRATION # F-003884

GALLEGOS ENGINEERING, INC.

SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812

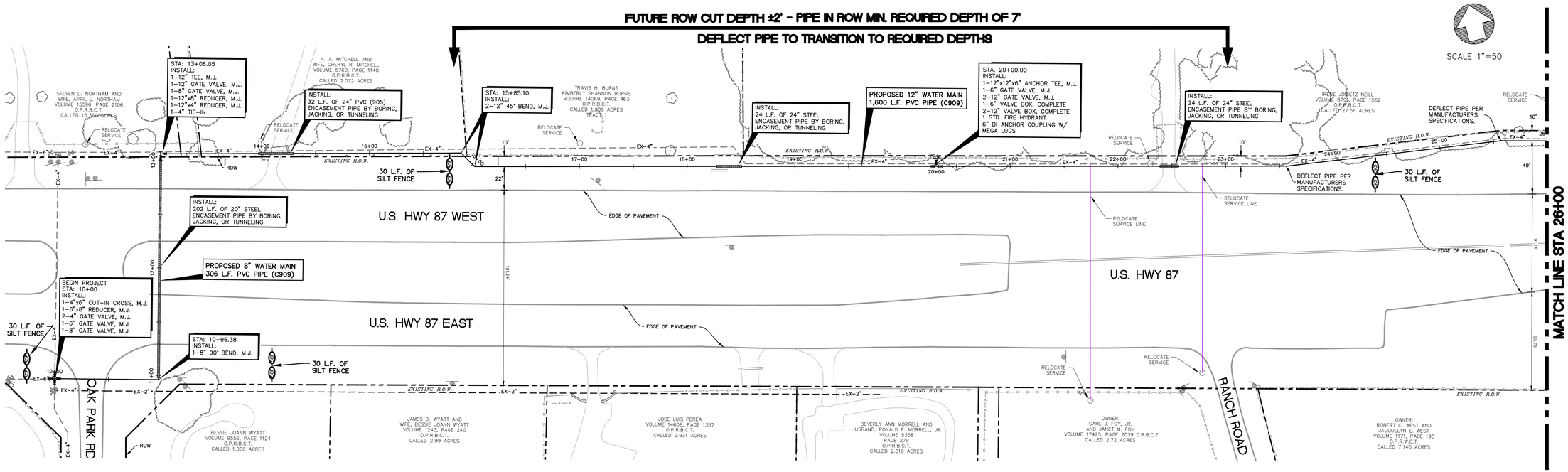
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
RICHARD M. GALLEGOS, P.E. 86916
SEPTEMBER 30, 2025
ALTERATIONS OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

STATE OF TEXAS
RICHARD M. GALLEGOS
86916
PROFESSIONAL ENGINEER

EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION

12" PVC WATER MAIN
GENERAL NOTES

SHEET 02
OF 10



GENERAL NOTES

1. All materials and construction procedures within the scope of this contract shall be approved by ECSUD, city and county authorities and comply with the following as applicable.
   - A. Current Texas Commission on Environmental Quality Design Criteria for Public Water Systems [30 TAC 243.43, 30 TAC 243.44, and 30 TAC 243.45].
   - B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage."
   - C. Current "Utilities Standard Specifications for Construction."
   - D. Current "Standard Specifications for Public Works Construction."
2. The Contractor/Foreman is to notify and make arrangements with ECSUD or the City's Inspection Division and involve adjacent residents and/or property owners within 48 hours prior to excavation.
3. The existence and location of underground utilities indicated on the plans are taken from the best records available and are not guaranteed to be accurate. The Contractor/Foreman is responsible for maintaining, supporting, and protecting the integrity of underground utilities and power poles during construction, and is required to call the following numbers 48 hours before beginning any excavation.

   Texas State Wide One Call Locator 800-545-6005
4. If damaged, the Contractor/Foreman shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping, structures, etc. to its original or better condition.(No Separate Pay Item)
5. Trench excavation protection shall be accomplished as required by the provisions of Part 1926, Subpart P-Excavation, Trenching, and Sharing of The Occupational Safety and Health Standards and Interpretations.

NOTE:
CONTRACTOR TO FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITY LINES, VALVES, AND APPURTENANCES.
(NO SEPARATE PAY ITEM)

NOTE:
CONTRACTOR SHALL PROVIDE NECESSARY PIPING, FITTINGS, COUPLINGS AND OTHER APPURTENANCES NECESSARY TO MAKE TIE-INS.

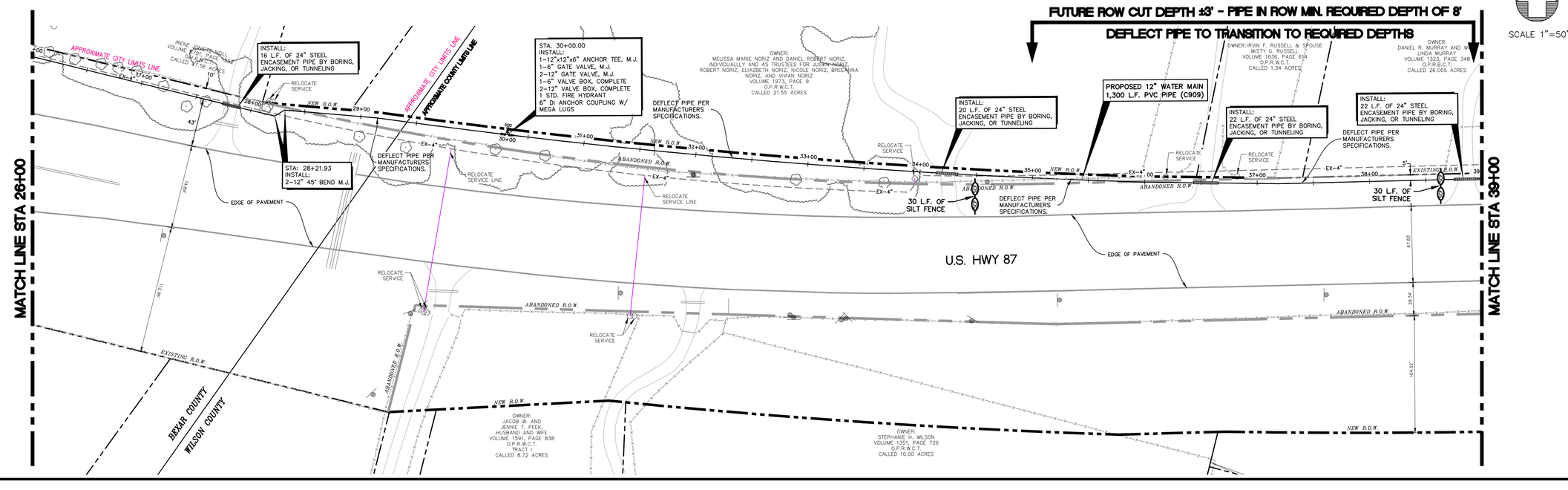
(NO SEPARATE PAY ITEM)

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement contractor's trench excavation safety protection system, programs and/or procedures shall provide for adequate trench excavation safety protection that comply with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

Plan Notes:

1. PROPOSED WATER MAIN TO BE INSTALLED A MINIMUM OF FOUR (4) FEET BELOW EXISTING GROUND SURFACE.
2. A MINIMUM TWO (2) FOOT VERTICAL CLEARANCE SHALL BE MAINTAINED UNDER EXISTING DRAINAGE CHANNELS, UTILITY CONDUITS AND MAINS.
3. CONTRACTOR TO INSTALL DIRECT BURIAL ELECTRICALLY CONTINUOUS TRACER WIRE WITH ACCESS POINTS, ADJACENT TO ALL WATER MAINS. N.S.P.I.



NO.	DATE	REVISIONS DESCRIPTION	DRN. BY:	DWN. BY:	CHKD. BY:
PROJ. #:	17-21-04	DATE: 09-30-25	S.G.	S.G.	R.M.G.

FIRM REGISTRATION # F-002884

GALLEGOS ENGINEERING, INC.

SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812

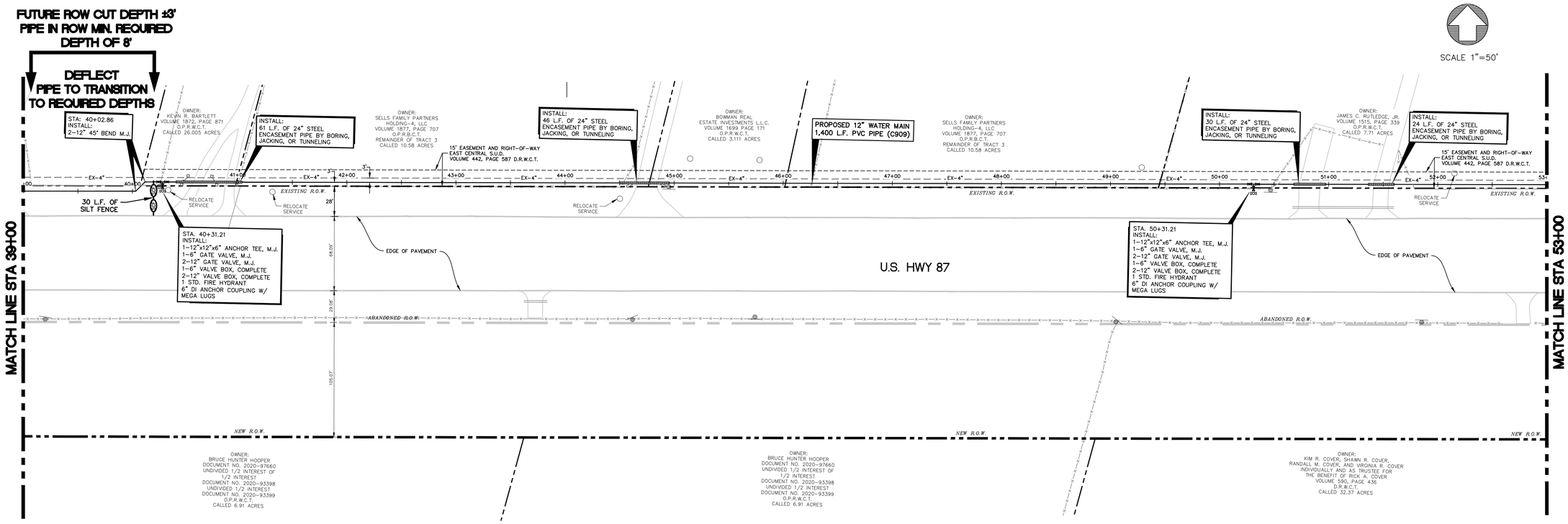
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RICHARD M. GALLEGOS, P.E. 86916 SEPTEMBER 30, 2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT

STATE OF TEXAS — RICHARD M. GALLEGOS — 86916 — LICENSED PROFESSIONAL ENGINEER

EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION

12" PVC WATER MAIN
STA: 10+00 - STA: 39+00

SHEET 03
OF 10



SCALE 1"=50'

GENERAL NOTES

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NOTE:
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(NO SEPARATE PAY ITEM)

NOTE:
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(NO SEPARATE PAY ITEM)

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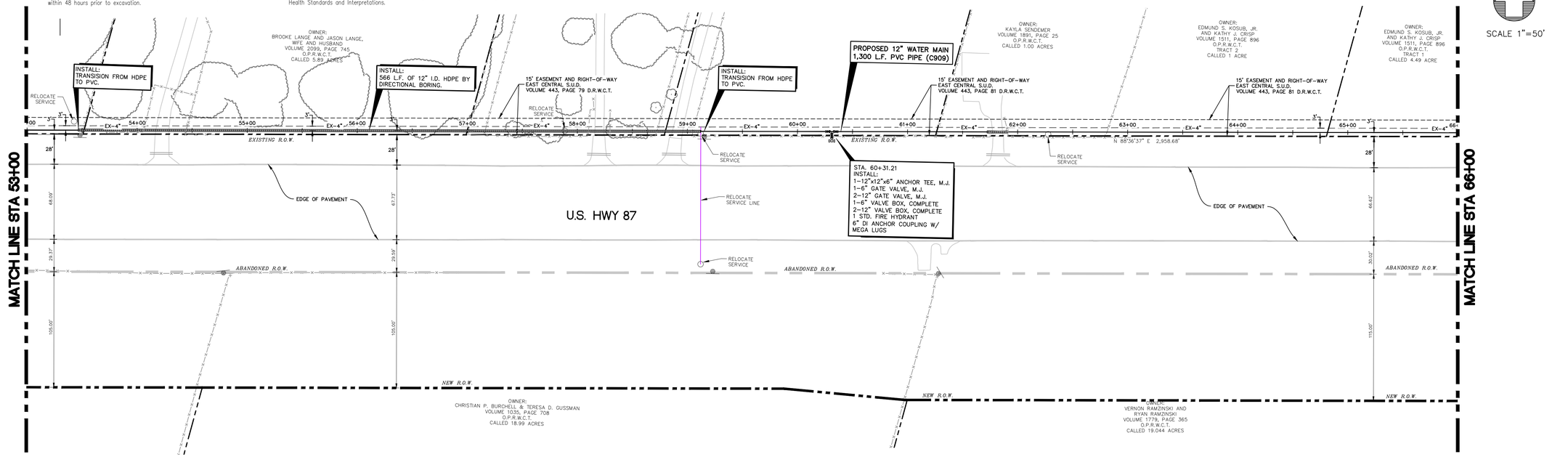

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NO.	DATE	REVISIONS DESCRIPTION	BY
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FIRM REGISTRATION # F-003884
GALLEGOS ENGINEERING, INC.
SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812

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SEPTEMBER 30, 2025
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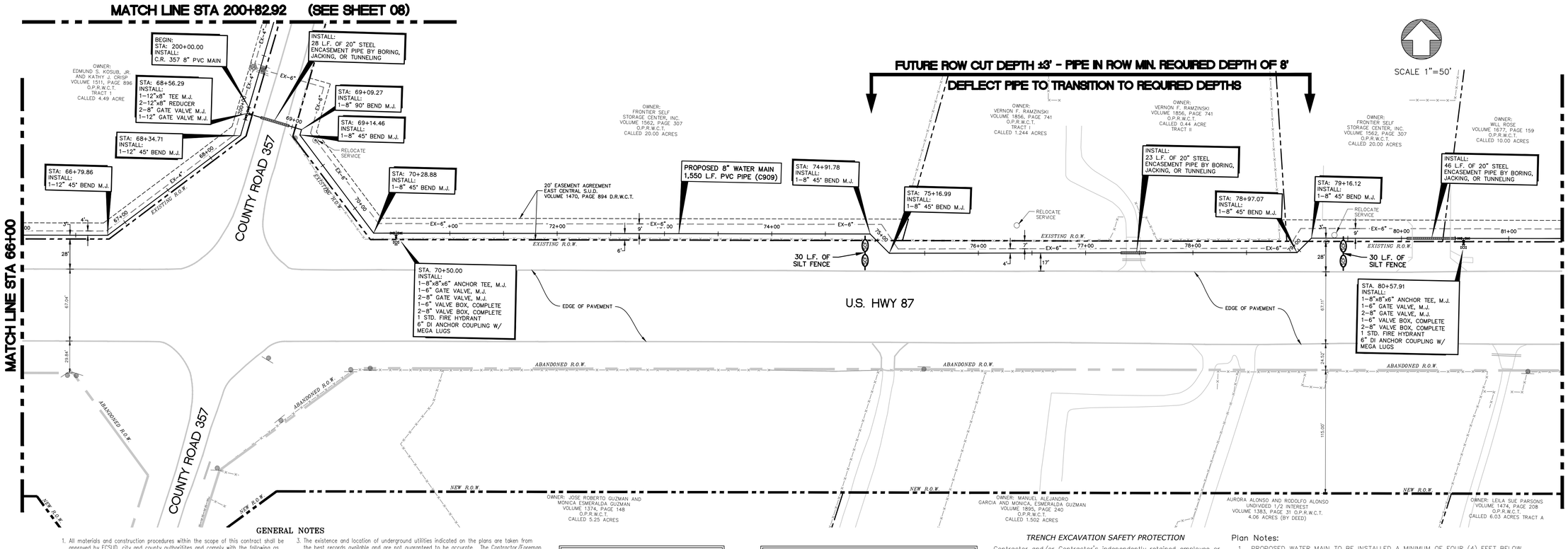
STATE OF TEXAS · RICHARD M. GALLEGOS · 86916 · LICENSED PROFESSIONAL ENGINEER

EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION

12" PVC WATER MAIN
STA: 39+00 – STA: 66+00

SHEET 04
OF 10



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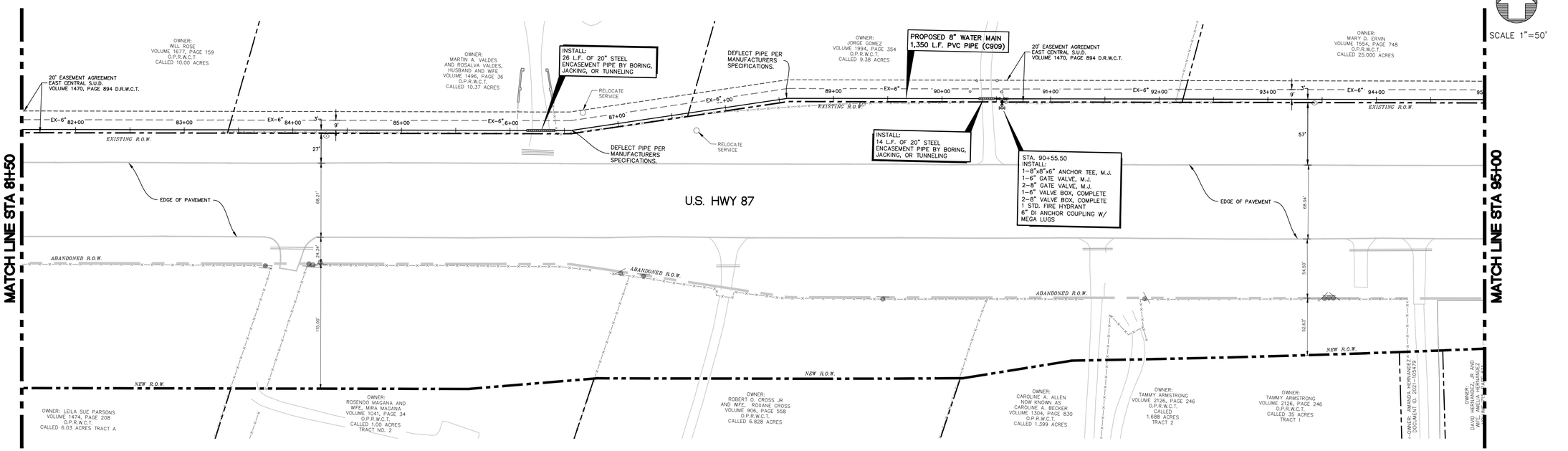

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FIRM REGISTRATION # F-803884

GALLEGOS ENGINEERING, INC.

SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812

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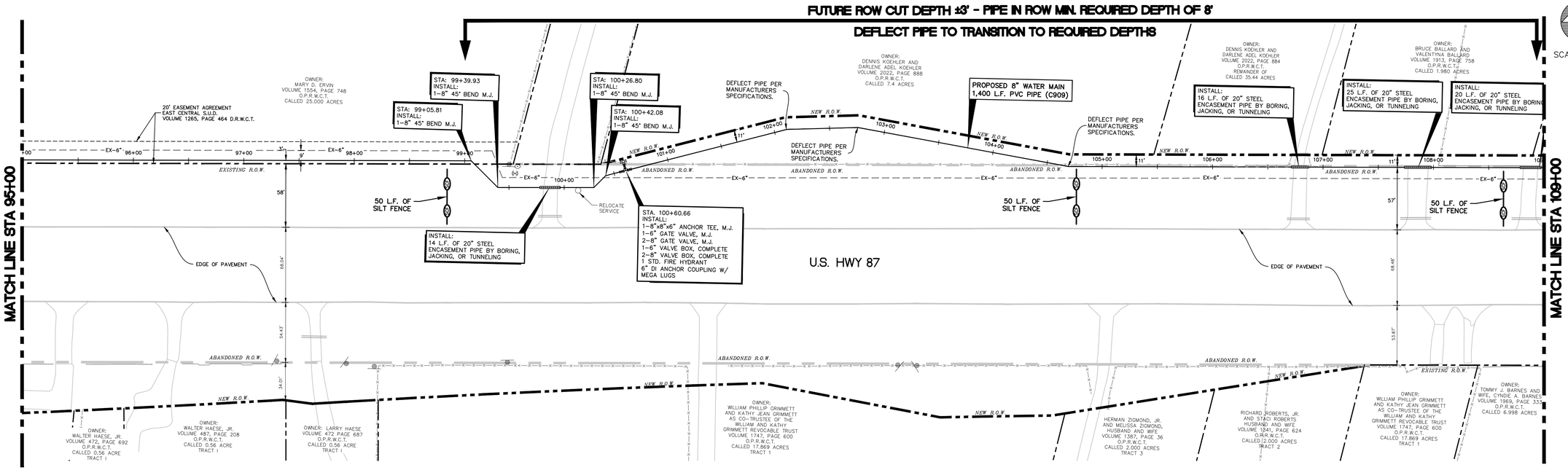
STATE OF TEXAS
RICHARD M. GALLEGOS
86916
REGISTERED
PROFESSIONAL
ENGINEER

EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION
12" PVC WATER MAIN
STA: 66+00 - STA: 95+00 AND STA: 200+00.00

SHEET 05
OF 10



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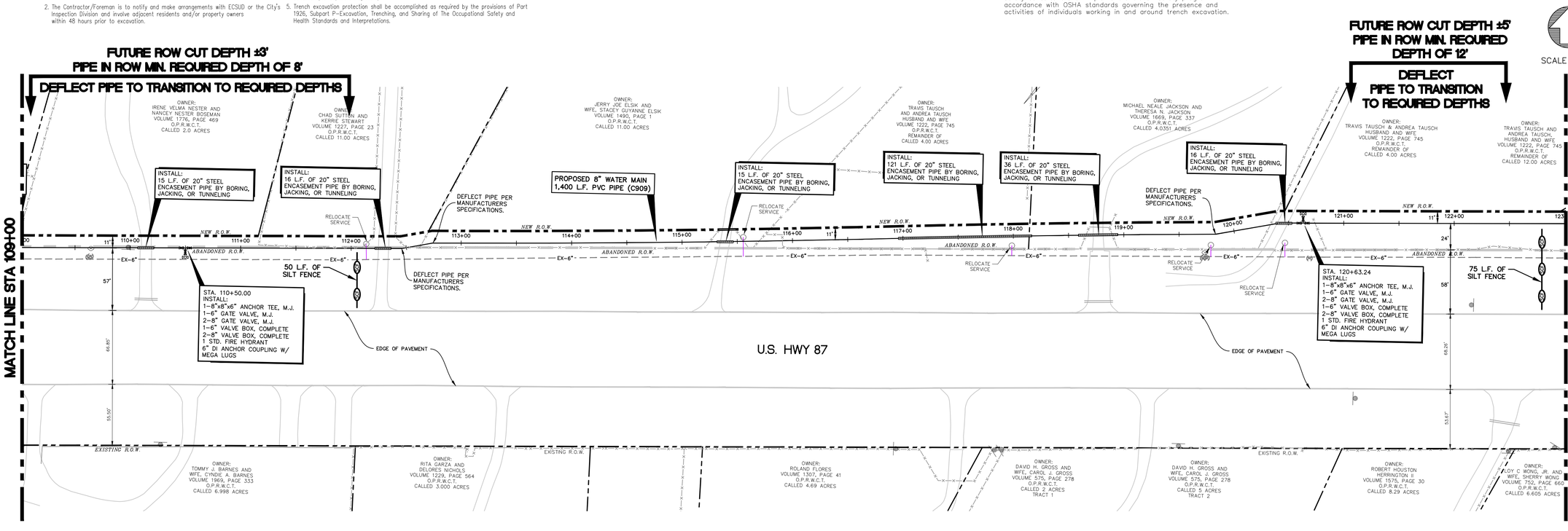

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PROJ. # 17-21-04	DATE: 09-30-25		S.G.	S.G.	R.M.G.

FIRM REGISTRATION # F-#00384

GALLEGOS ENGINEERING, INC.

SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812

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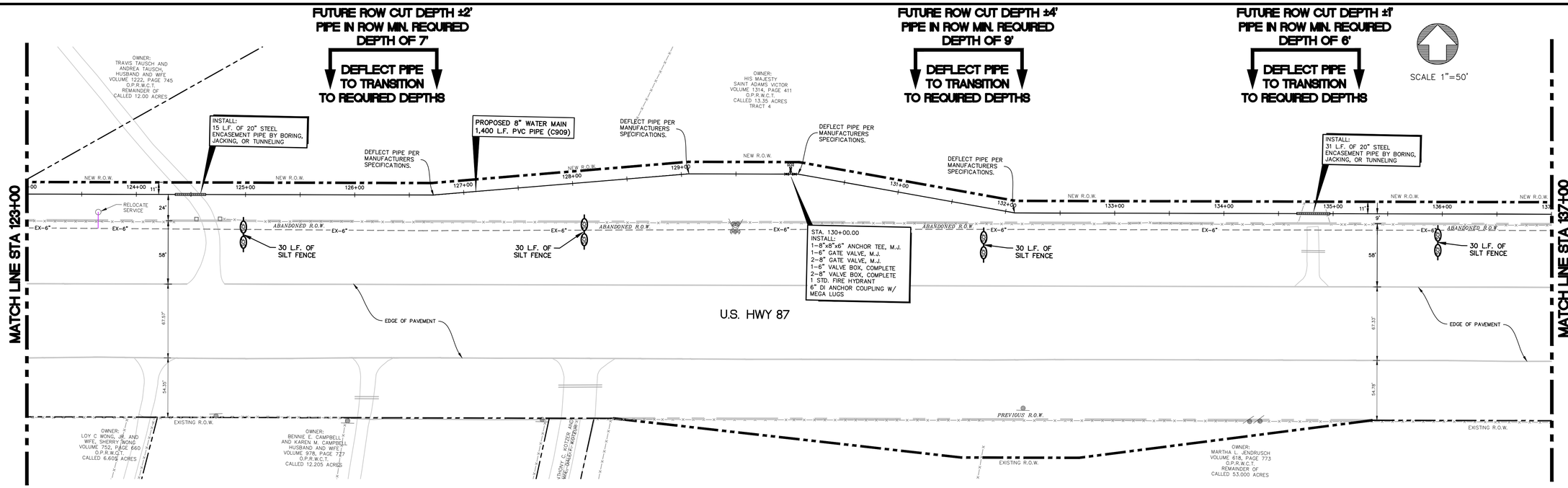
STATE OF TEXAS 86916 LICENSED PROFESSIONAL ENGINEER RICHARD M. GALLEGOS

EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION
12" PVC WATER MAIN
STA: 95+00 - STA: 123+00

SHEET 06
OF 10



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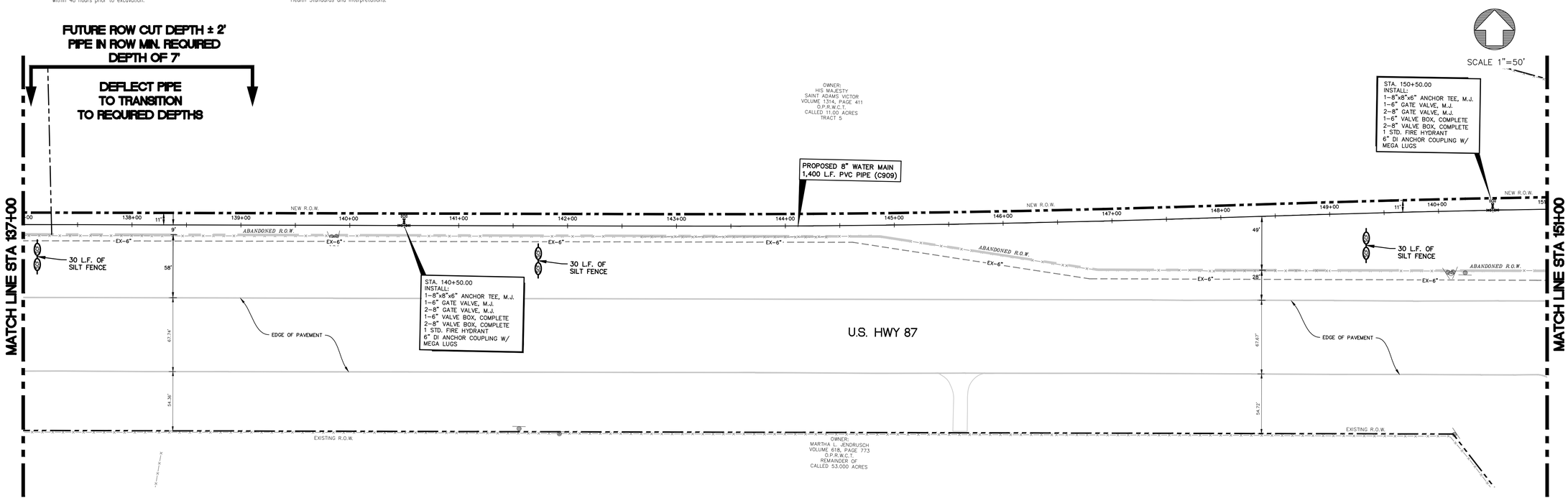

REVISIONS

NO.	DESCRIPTION	DATE	DSN. BY:	DWN. BY:	CHKD. BY:
PROJ. #: 17-21-04		DATE: 09-30-25	S.G.	S.G.	R.M.G.

FIRM REGISTRATION # F-003884

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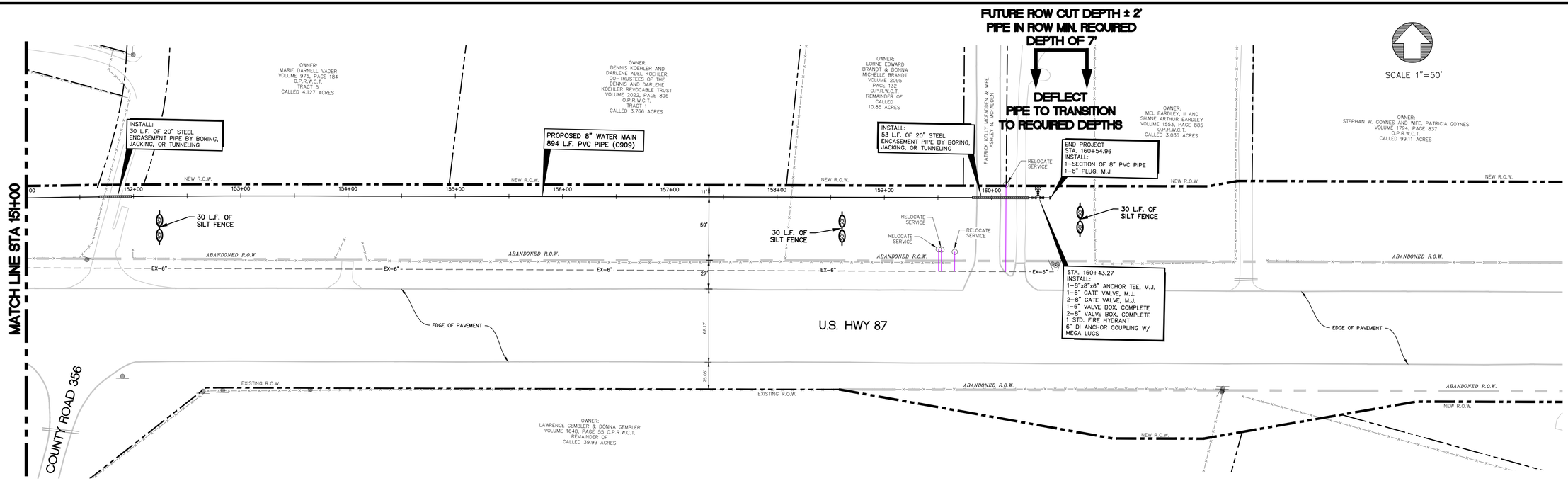
EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION
12" PVC WATER MAIN
STA: 123+00 - STA: 151+00

SHEET 07
OF 10



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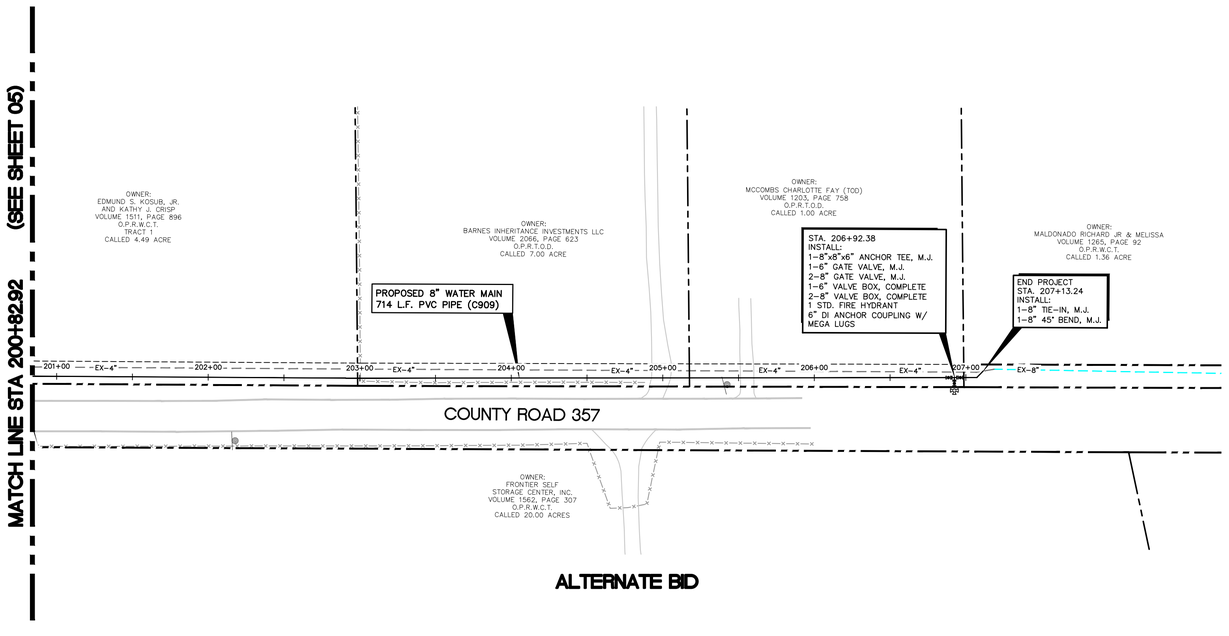

ALTERNATE BID

REVISIONS

NO.	DATE	DESCRIPTION	BY
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FIRM REGISTRATION # F-003084

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U.S. HIGHWAY 87 TXDOT ROW EXPANSION
12" PVC WATER MAIN
STA: 151+00 - STA: 160+54.96 AND STA: 200+82.92 TO 207+19.20

SHEET 08
OF 10

TESTING OF PRESSURE PIPELINES

1.0 DESCRIPTION

This item shall govern the furnishing of all labor, materials, tools, equipment and related items required to perform hydrostatic testing of Ductile Iron and Polyvinyl Chloride (PVC) pressure pipelines for integrity and leakage.

2.0 MATERIALS

Not applicable.

3.0 CONSTRUCTION METHODS

A. For Ductile Iron Pipe, make hydrostatic pressure and leakage tests on entire pipeline in accordance with AWWA Standard C600-99, Section 5.2.

B. For PVC Pipe, make hydrostatic pressure and leakage tests on entire pipeline in accordance with AWWA Standard C605-94, Section 7.3.

C. Furnish all labor equipment, including test pump with regulated by-pass meters and gauges required for conducting pipeline tests. Furnish equipment and necessary piping as required to transport water used in testing from source to test location.

D. Schedule time and sequence of testing, subject to observation and approval by the Owner or Owner's Representative. Provide adequate labor, tools and equipment to operate valves and to locate and repair leaks discovered during the initial filling of the pipeline prior to actual testing or during the course of the tests.

E. After the pipe has been laid and backfilled and the backfill has been jetted or otherwise consolidated, subject all newly laid pipe or valved section thereof to the hydrostatic pressure specified below for the particular type of pipe. The duration of each pressure test shall be at least four hours, unless otherwise specified or noted on the plans. Disconnect all meters, fixtures, devices or appliances which are connected to the pipeline system and which might be damaged if subjected to the specified test pressure. Cap or plug the ends of the branch lines during the testing procedures.

F. Fill each valved (capped or pluggedl) section of pipe slowly with water and expel all air. If permanent air vents are not located at all high points, install corporation or blow-of cocks at such points so that the air can be expelled as filling takes place. After verification that all air has been expelled, close the cocks and keep the pipe filled until tested. Examine unexposed pipe, fittings, valves, hydrants and joints while under test pressure. Visible leaks shall be stopped. Remove and replace cracked or defective pipe, fittings, valves or hydrants discovered during testing. Replacement shall be with sound material. Repeat the test until specified requirements are achieved.

G. Where any section of a pipeline is proved with concrete thrust blocking, do not make hydrostatic pressure test until at least five days have elapsed after installation of the blocking.

H. Pressure/Leakage Tests

1. The duration of the hydrostatic test shall be a minimum of four (4) hours.
2. The pipeline shall be tested so that the pressure at the highest point in the test section is not less than 200 psi.
3. The maximum allowable leakage is the number of gallons per hour as determined by the following formulas.

a. For Ductile Iron Pipe:

$$L = \frac{SD\sqrt{P}}{133,200}$$

Where:
L = allowable leakage, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = 200, in psig

b. For PVC Pipe:

$$L = \frac{ND\sqrt{P}}{7,400}$$

Where:
L = allowable leakage, in gallons per hour
N= number of joints in the length of pipeline tested
D = nominal diameter of the pipe, in inches
P = 200, in psig

H. Final Acceptance

1. No pipe installation will be accepted until known leaks have been repaired, whether or not leakage is within allowable limits. Locate and repair leaks at no additional cost to the Owner.
2. The Contractor will certify that all required pressure and leakage tests have been successfully completed before the pipeline is accepted.

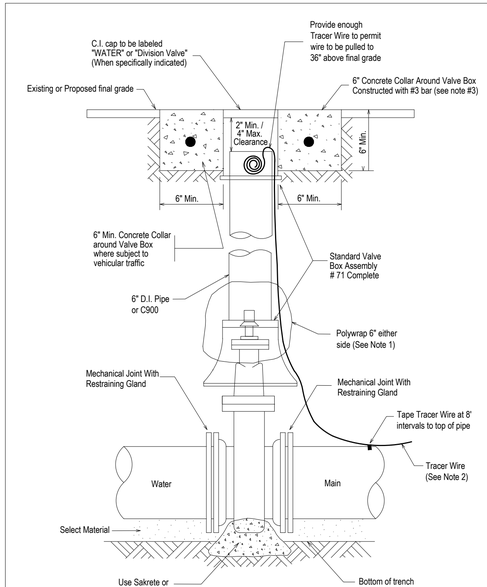
I. Special Project Requirements

Water Source. Obtaining water for testing purposes shall be the responsibility of the Contractor. The Contractor shall provide all equipment and labor required to transport water from the source to the test point.

4.0 MEASUREMENT AND PAYMENT

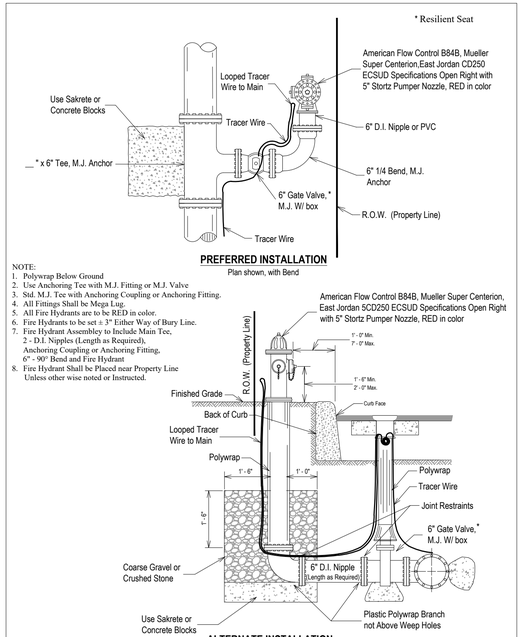
No direct measurement or payment will be made for the work to be done or the equipment to be furnished under this item, but shall be considered subsidiary to the particular items of work for which unit prices are required in the proposal.

East Central SUD	TESTING FOR PRESSURE PIPELINES	APPROVED	REVISED
		JULY 2022	
		DET-100-Ø1	SHEET 1 OF 1



NOTE:
1. Polywrap C-900 or D.I. Pipe to Boot 6" on Either Side.
2. Tracer Wire to be Outside the Pipe Till Valve Box Top Section.
3. Min. 18" Concrete Form Tube Centered Around Valve Box for Concrete Collar W/ #3 Bar.

East Central SUD	INSTALLATION OF NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION	APPROVED	REVISED
		JULY 2022	
		DET-828-Ø1	SHEET 1 OF 1

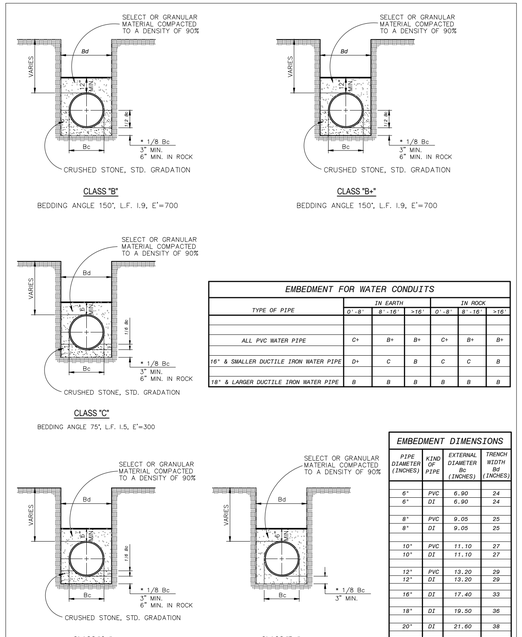


PREFERRED INSTALLATION
Plan shown, with Bend

NOTE:
1. Polywrap Below Ground
2. Use Anchoring Tee with M.J. Fitting or M.J. Valve
3. Std. M.J. Tee with Anchoring Coupling or Anchoring Fitting.
4. All Fittings Shall be Mega Lug.
5. All Fire Hydrants are to be RED in color.
6. Fire Hydrants to be set ± 3" Either Way of Bury Line.
7. Fire Hydrant Assembley to Include Main Tee, 2 - D.I. Nipples (Length as Required), Anchoring Coupling or Anchoring Fitting, 6" - 90° Bend and Fire Hydrant
8. Fire Hydrant Shall be Placed near Property Line Unless other wise noted or Instructed.

ALTERNATE INSTALLATION
Profile shown, without Horizontal Bend

East Central SUD	FIRE HYDRANT INSTALLATION	APPROVED	REVISED
		AUGUST 2025	
		DET-834-Ø1	SHEET 1 OF 1



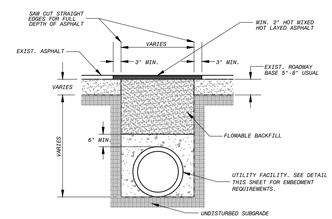
EMBEDMENT FOR WATER CONDUITS

TYPE OF PIPE	IN EARTH			IN ROCK		
	0'-8'	8'-16'	>16'	0'-8'	8'-16'	>16'
ALL PVC WATER PIPE	C+	B+	B+	C+	B+	B+
16" & SMALLER DUCTILE IRON WATER PIPE	D+	C	B	C	C	B
18" & LARGER DUCTILE IRON WATER PIPE	B	B	B	B	B	B

EMBEDMENT DIMENSIONS

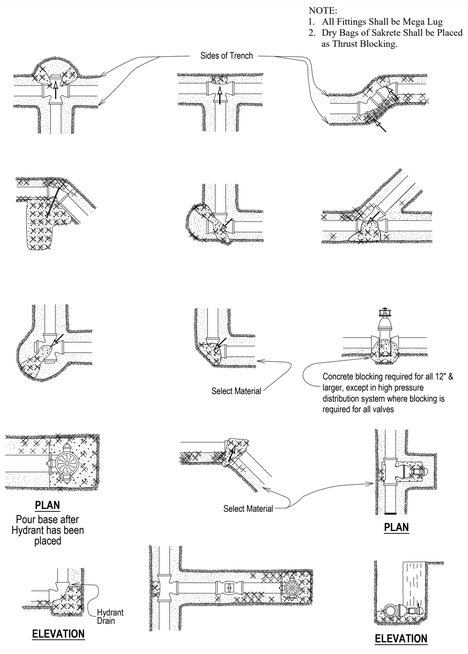
PIPE DIAMETER (INCHES)	KIND OF PIPE	EXTERNAL DIAMETER Bc (INCHES)	TRENCH WIDTH Bd (INCHES)
6"	PVC	6.90	24
6"	DI	6.90	24
8"	PVC	9.05	25
8"	DI	9.05	25
10"	PVC	11.10	27
10"	DI	11.10	27
12"	PVC	13.20	29
12"	DI	13.20	29
16"	DI	17.40	33
18"	DI	19.50	36
20"	DI	21.60	38

East Central SUD	EMBEDMENT DETAILS	APPROVED	REVISED
		JULY 2025	
		DET-837-Ø1	SHEET 1 OF 1

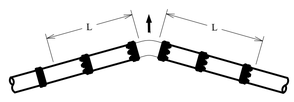


East Central SUD	BACKFILL AND ASPHALT PAVEMENT DETAIL	APPROVED	REVISED
		JULY 2025	
		DET-838-Ø1	SHEET 1 OF 1

NOTE:
1. All Fittings Shall be Mega Lug
2. Dry Bags of Sakrete Shall be Placed as Thrust Blocking.



East Central SUD	THRUST BLOCKS FOR FITTINGS (WATER ONLY)	APPROVED	REVISED
		FEBRUARY 2025	
		DET-839-Ø1	SHEET 1 OF 1



L = Length to be Restrained on Both Sides of Fitting

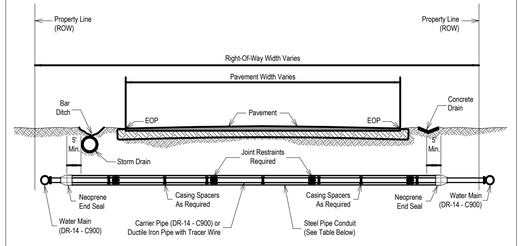
PIPE SIZE (Inch)	BEND ANGLE (deg)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi
6	90	23
6	45	9
6	22.5	5
6	11.25	2
8	90	30
8	45	12
8	22.5	6
8	11.25	3
12	90	43
12	45	18
12	22.5	8
12	11.25	4
16	90	59
16	45	25
16	22.5	12
16	11.25	6
24	90	86
24	45	36
24	22.5	17
24	11.25	9

RESTRAINED LENGTH DESIGN

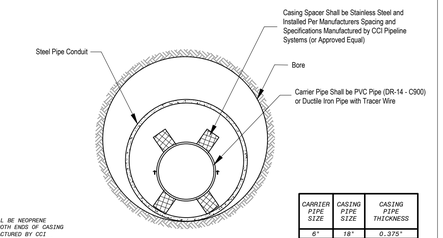
Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet Min. and 5 feet Max.

NOTE:
1. These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
2. All joints within the calculated length must be restrained.
3. If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.
4. When a valve is added see DET-893-03 for restrained length from a valve.

East Central SUD	RESTRAINED LENGTHS FOR HORIZONTAL BENDS ON 6" THRU 24" MAINS	APPROVED	REVISED
		FEBRUARY 2025	
		DET-839-06	SHEET 1 OF 1



BORE DEPTH SHALL MEET CITY, COUNTY OR STATE PERMIT REQUIREMENTS FOR THE APPROPRIATE MUNICIPALITY FOR THE PROJECT.



END SEALS SHALL BE NEOPRENE INSTALLED ON BOTH ENDS OF CASING PIPE AS MANUFACTURED BY CCI PIPELINE SYSTEMS (OR APPROVED EQUAL) SIZE AND SPACING SHALL BE DETERMINED BY MANUFACTURER

SECTION THROUGH PIPE IN CONDUIT

CARRIER PIPE SIZE	CASING PIPE SIZE	CASING PIPE THICKNESS
6"	18"	0.375"
8"	20"	0.375"
12"	24"	0.375"
16"	30"	0.375"
20"	36"	0.438"
24"	42"	0.438"
30"	48"	1/2"
36"	54"	9/16"

East Central SUD	TYPICAL BORE CROSSING UNDER ROAD	APPROVED	REVISED
		SEPTEMBER 2025	
		DET-847-Ø1	SHEET 1 OF 4

NO.	DATE	REVISIONS DESCRIPTION	BY
PROJ. #: 17-21-04	DATE: 09-30-25	DSN. BY: S.G.	DWN. BY: S.G.
			CHKD. BY: R.M.G.

FIRM REGISTRATION # F-00384

GALLEGOS ENGINEERING, INC.

SAN ANTONIO, TEXAS www.gallegoseng.com PH: 210.641.0812

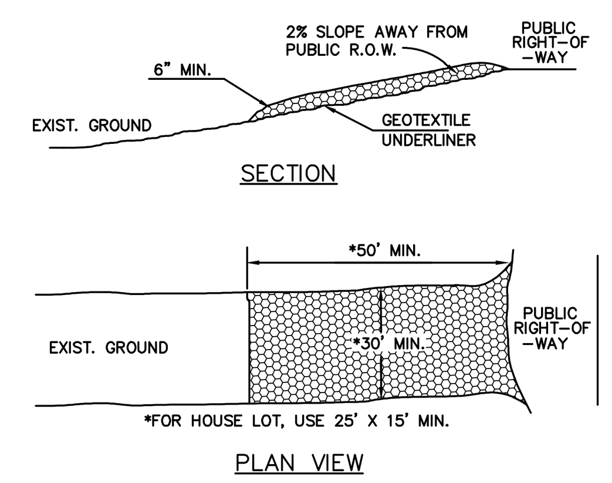
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RICHARD M. GALLEGOS, P.E. 86916 SEPTEMBER 30, 2025 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT

STATE OF TEXAS RICHARD M. GALLEGOS 86916 PROFESSIONAL ENGINEER

EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION

12" PVC WATER MAIN
WATER DETAILS

SHEET 09
OF 10



STABILIZED CONSTRUCTION ENTRANCE/EXIT

WITHOUT WHEEL WASHING
N.T.S.

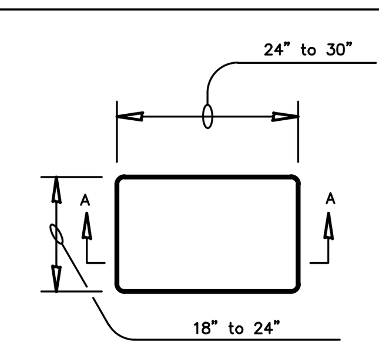
GENERAL NOTES:

- Clear all vegetation, roots and all other obstructions in preparation for grading.
- Prior to placing geotextile (filter fabric) make sure that the entrance is properly graded and compacted.
- To reduce maintenance and loss of aggregate place geotextile fabric (filter cloth) over the existing ground before placing the stone for the entrance.
- Stone should be placed to a depth of 6-inches or greater for the entire width and length.
- Width should be not less than full width of all points of ingress or egress. Flare the entrance where it meets existing road to provide a turning radius.
- Periodic maintenance will be required to prevent tracking onto public right-of-way or any roadway. All sediment spilled, dropped, or tracked onto any public right-of-way must be removed immediately.

MATERIALS:

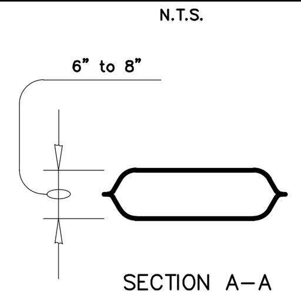
- Crushed stone 4-inches – 8-inches in diameter.
- Geotextile (filter fabric) with the properties listed below.

Physical Property	Requirements
Grab Tensile Strength	220 lbs. (ASTM D4632)
Elongation Failure	60% (ASTM D4632)
Mullen Burst Strength	430 lbs. (ASTM D3786)
Puncture Strength	125 lbs. (ASTM D4833)
Equivalent Opening	Size 40-80 (US Std Sieve)(ASTM D4751)



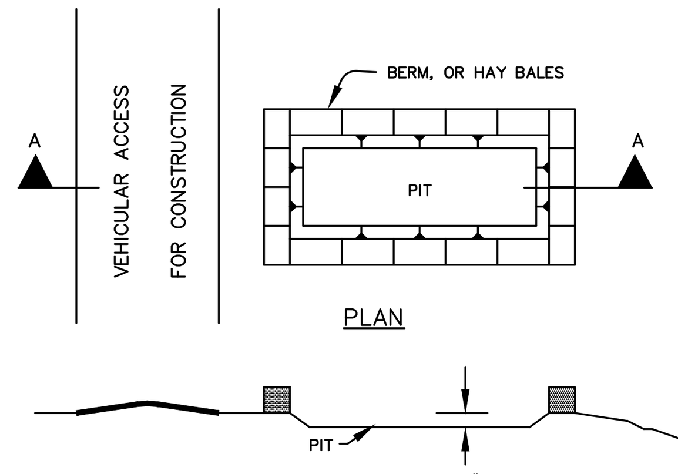
GRAVEL FILTER BAG DETAIL

N.T.S.



SECTION A-A

1. The filter bag material shall be made of polypropylene, polyethylene or polyamide woven fabric, min. unit weight of 4 ounces/SY, Mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70%.
2. The filter bag shall be filled with clean, medium to coarse gravel (0.31 to 0.75 inch diameter).



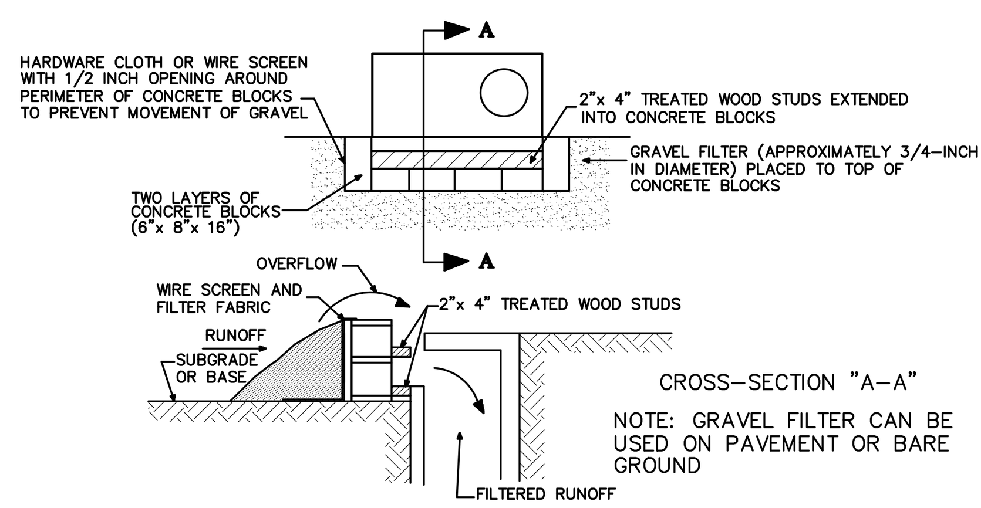
SECTION A-A

CONCRETE TRUCK WASHOUT PIT

N.T.S.

GENERAL NOTES:

- Detail above illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.
- If hay bales are used, they shall be placed in accordance with details shown on Exhibit for hay bales.
- Washout pit shall be located in an area easily accessible to construction traffic.
- Washout pit shall not be located in areas subject to inundation from storm water runoff.

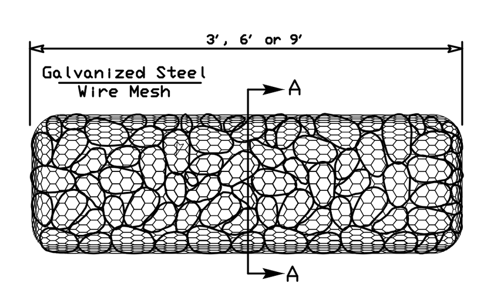


CURB INLET GRAVEL FILTER

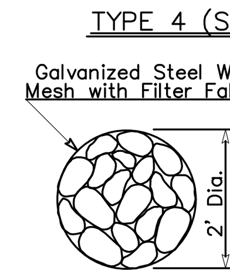
N.T.S.

GENERAL NOTES:

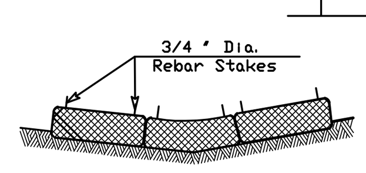
- All storm drainage systems inlets should filter runoff before the water is discharged into streams or onto adjacent properties, unless treatment is provided elsewhere.
- If no additional downstream treatment exists, the maximum drainage area tributary to and area drain installed with a gravel filter should be one acre.
- Curb inlet gravel filters should be constructed with a combination of concrete blocks, 1/2-inch wire screen, coarse (approximately 3/4-inch diameter) gravel and a 2"x 4" wood stud for support. Concrete blocks (6"x 8" x 16") may be placed either on their sides or stood on their ends depending on the area being served.
- Gravel filters can be used if the immediate and adjacent area to the drain consists of soil or pavement. However, only gravel filters should be installed on top of pavement.
- All curb inlet gravel filters should be inspected and repaired after each runoff event. Sediment should be removed when material is within three inches if the top of the concrete blocks. Periodically, the gravel should be raked to increase infiltration and filtering of runoff waters.
- Gravel can be placed in porous sacks which will allow water to flow through gravel and help prevent downstream migration of gravel.



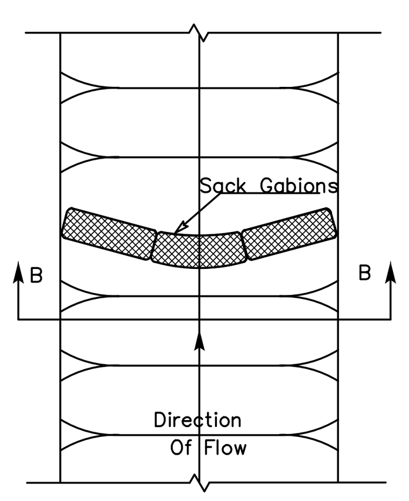
TYPE 4 (SACK GABIONS)



SECTION A-A



SECTION B-B



PLAN VIEW

GENERAL NOTES:

- The top of the sack gabions should be level and oriented perpendicular to the direction of flow.
- Filter fabric material shall be fastened to woven wire support.
- Filter fabric material should meet the following specifications: Resistant to ultraviolet light, Fabric should be non-woven geotextile with minimum weight of 3.5 ounces per square yard, minimum mullen burst strength of 200 pounds per square inch and a flow through rate of 120 gallons per minute per square foot of frontal area.
- Stone size: ±4"-8" open graded crushed limestone.
- Inspect weekly or after each rainfall event and repair or replace as needed
- When silt reaches a depth of 6 inches or more above natural ground, silt shall be removed and disposed in an approved manner that will not contribute to resiltation. Contaminated sediment must be removed and disposed of off-site in accordance with applicable regulations.
- Remove sack gabions after construction site is completely stabilized.

INSTALLATION:

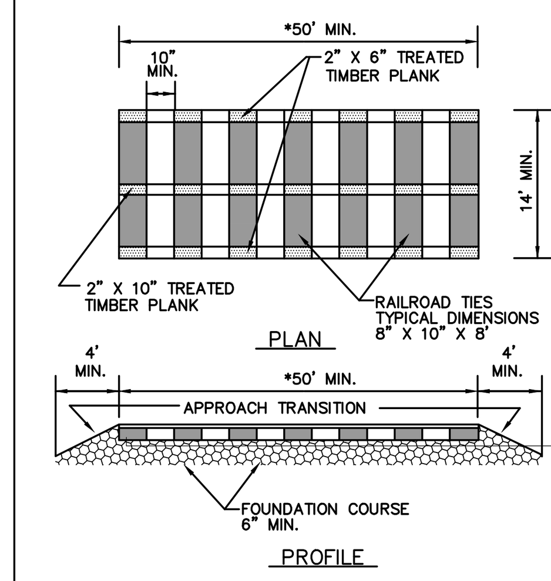
- Layout the perpendicular to flow direction.
- Clear the area of debris, rocks or plants that will interfere with installation.
- Place wire mesh and filter fabric on the ground along the proposed installation with enough overlap to completely encircle the finished size of the berm.
- Place the rock along the center of the woven wire mesh taking care not to damage the filter fabric.
- Wrap the structure with the previously placed woven wire mesh secure enough so that when walked across the structure retains it's shape.
- Secure with tie wire.

MATERIALS:

- Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 70% strength retained after 500 hours.
- Burlap of 10 ounces per square yard of fabric may also be used.
- The filter fabric should be purchased in continuous rolls to minimize joints.
- Woven wire support sheathing shall be a minimum 20 gauge with 1 inch openings.

MAINTENANCE:

- Inspect regularly and after every storm. Make any repairs necessary to ensure the sack gabions are in good working order.
- Sediment should be removed and the structure restored to its original dimensions when sediment has accumulated to a depth of 6".
- Clean or remove and replace the stone filter or filter fabric if they become clogged.
- Sack Gabions should remain in place and operational until the drainage area is stabilized.

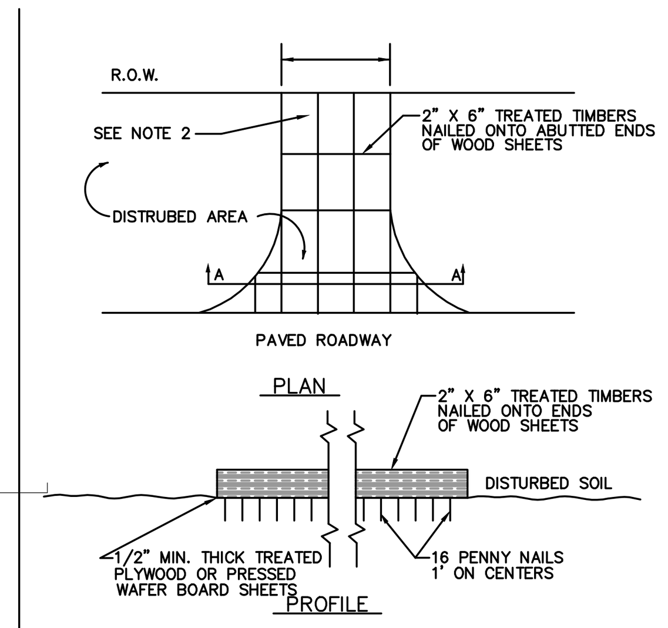


CONSTRUCTION EXIT (TYPE 2)

N.T.S.

GENERAL NOTES:

- The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50 ft.
- The treated timber planks shall be attached to the railroad ties with 1/2" x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
- The treated timber planks shall be #2 grade min. and should be free of large loose knots.
- The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
- The construction exit foundation course shall be flexible base, bituminous concrete, Portland cement concrete or other material as approved by the Engineer.
- The construction exit should be graded to allow drainage to a sediment trapping device.

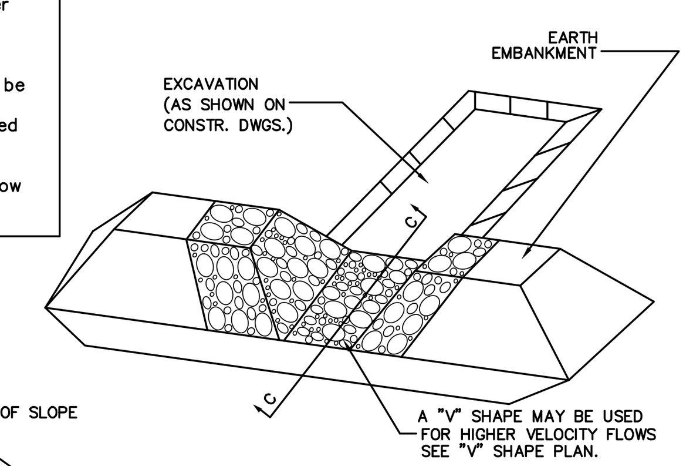


CONSTRUCTION EXIT (TYPE 3)

N.T.S.

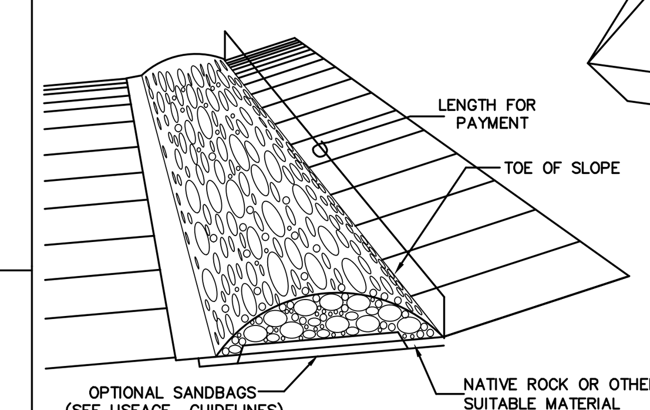
GENERAL NOTES:

- The length of the type 3 construction exit shall be as indicated on the plans or by directed by the Engineer.
- The type 3 construction exit may be constructed from open graded crushed with a size of two to four inches of spread, a minimum of 4" thick to the limits shown on the plans.
- The treated timber planks shall be #2 grade min. and should be free of large loose knots.



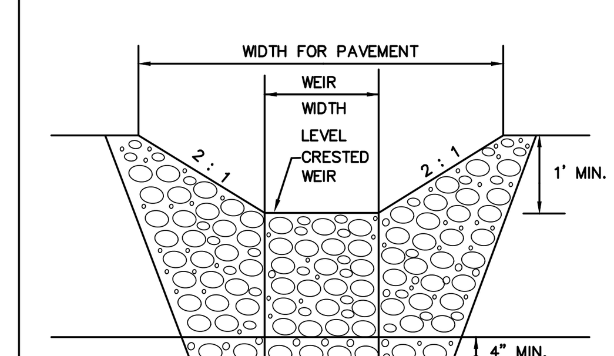
FILTER DAM AT SEDIMENT TRAP

N.T.S.

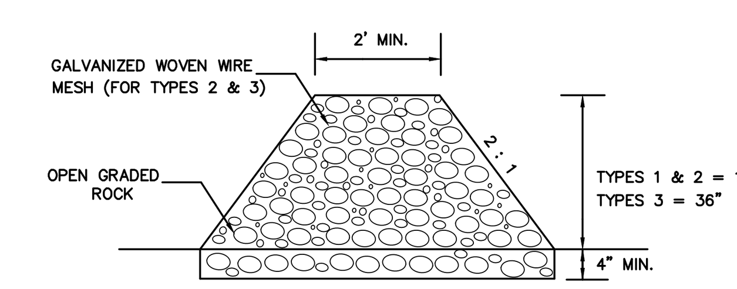


FILTER DAM AT TOE OF SLOPE

N.T.S.



PROFILE



SECTION C-C

GENERAL NOTES:

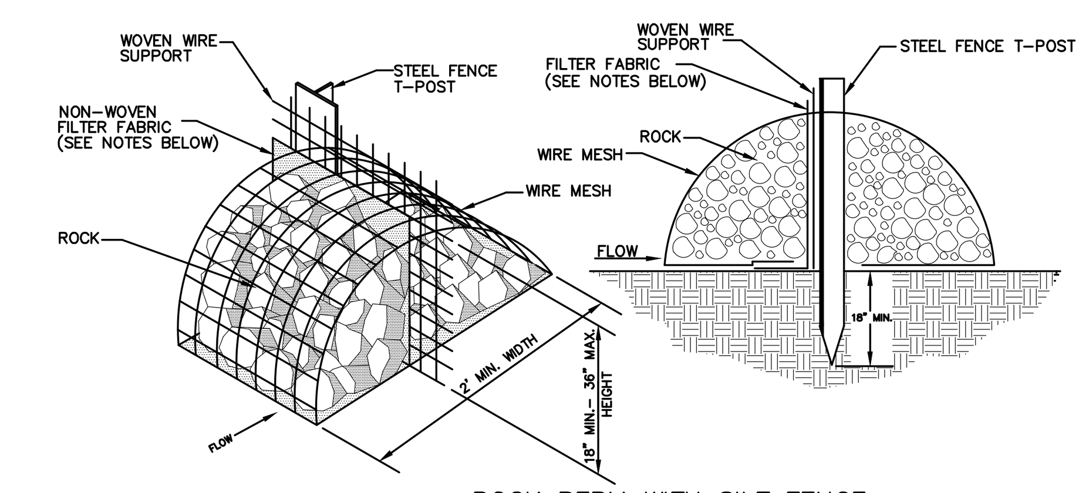
- If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
- Materials (aggregate, wire mesh, sandbags, etc.,) shall be as indicated by specification for rock filter dams for erosion and sediment control.
- Throck filter dimensions shall be as indicated on the SW3P plans.
- Side slopes should be 2:1 or flatter. Dams within the safety zone shall have side slopes of 6:1 or flatter.
- Maintain a minimum of 1 ft. between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
- Filter dams should be embedded a minimum of 4 inches into existing ground.
- The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
- Rock filter dams types 2 & 3 shall be secure with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the heights and slopes and specified. The aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. The mesh should be secured or staked to the stream bed prior to aggregate placement.
- Sack gabions should be staked down with 3/4" dia. rebar stakes.
- Flow outlet should be onto a stabilized area (vegetation, rock, etc.)

ROCK FILTER DAM USAGE GUIDELINES

- Rock filter dams should be constructed downstream from the disturbed area to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter maximum flow through rate of 60 GPM/SF of cross section area. A two year frequency storm may be used to calculate the flow rate.
- Type 1 (18" high with wire mesh)
  Type 1 may be used at the toe of the slopes, around inlets in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated, high velocity flows (approx. 8 fps or more) in which aggregate erosion may occur. Sandbags may be used at embedded foundation (4" deep min.) for better filtering efficiency of low flows id called for on the plans or directed by the Engineer.
- Type 2 (18" high with wire mesh)
  Type 2 may be used in ditches or swale outlets.
- Type 3 (36" high with wire mesh)
  Type 3 may be used in stream flow and should be secured in the stream bed.
- Type 4 (Sack Gabions)
  Type 4 may be used in ditches and in smaller channels to form and erosion control dam.

GENERAL NOTES

1. Do not disturb vegetated areas (trees, grass, weeds, brush, etc.) any more than necessary for construction.
2. Construction entrance/exit location and concrete washout pit to be determined in the field.
3. Storm Water Pollution Prevention Controls may need to be modified in the field to accomplish the desired effect.
4. Restrict entry/exit to the project site to designated locations by use of adequate fencing, if necessary.
5. All Storm Water Pollution Prevention Controls are to be maintained and in working conditions at all times.
6. Storm water pollution prevention structures should be constructed within the site boundaries.
7. As soon as practical, all disturbed soil that will not be covered by impervious cover such as house slab, sidewalks, and driveway will be stabilized.
8. This is a performance based plan. Actual field conditions may require different placement of erosion control measures. Contractor will be responsible for proper placement of erosion control devices to prevent contamination from leaving the construction site.



ROCK BERM WITH SILT FENCE

GENERAL NOTES:

- The top of the rock berm should be level and oriented perpendicular to the direction of flow.
- Steel fence T-posts should be embedded a minimum of 18 inches.
- Woven wire support shall be fastened to steel fence posts.
- Filter fabric material shall be fastened to woven wire support.
- Filter fabric material should meet the following specifications: Resistant to ultraviolet light, Fabric should be non-woven geotextile with minimum weight of 3.5 ounces per square yard, minimum mullen burst strength of 200 pounds per square inch and a flow through rate of 120 gallons per minute per square foot of frontal area.
- Stone size: ±3"-5" open graded crushed limestone.
- Inspect weekly or after each rainfall event and repair or replace as needed
- When silt reaches a depth of 6 inches or more above natural ground, silt shall be removed and disposed in an approved manner that will not contribute to resiltation. Uncontaminated sediment deposits remaining in place after the filter fence has been removed should be dressed to conform with the existing grade and stabilized. Contaminated sediment must be removed and disposed of off-site in accordance with applicable regulations.
- Remove silt fence/rock berm after construction site is completely stabilized.

INSTALLATION:

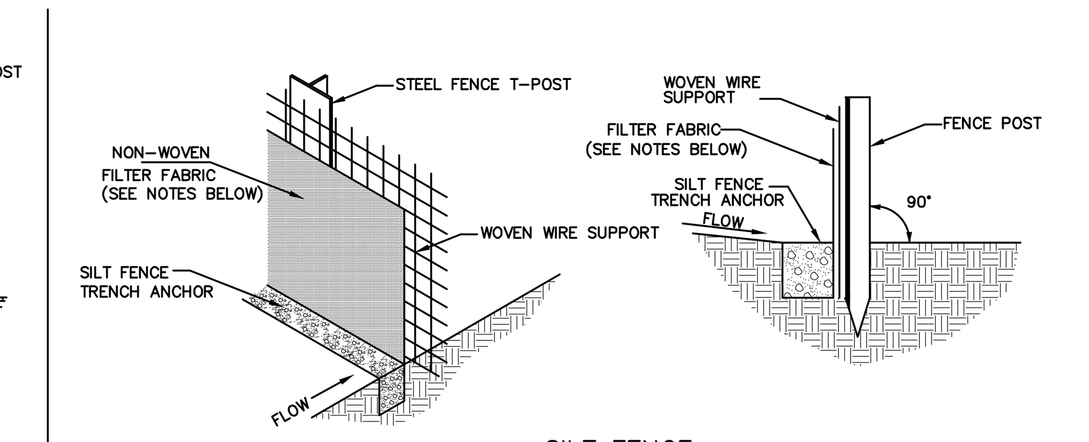
- Layout the rock berm following the contour as closely as possible.
- Clear the area of debris, rocks or plants that will interfere with installation.
- Place wire mesh on the ground along the proposed installation with enough overlap to completely encircle the finished size of the berm.
- Install the silt fence (steel-t posts, woven wire support, and filter fabric) along the center of the proposed berm placement.
- Place the rock along the center of the woven wire mesh on both sides of the silt fence to the designated height.
- Wrap the structure with the previously placed woven wire mesh secure enough so that when walked across the structure retains it's shape.
- Secure with tie wire.

MATERIALS:

- Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 70% strength retained after 500 hours.
- Burlap of 10 ounces per square yard of fabric may also be used.
- The filter fabric should be purchased in continuous rolls to minimize joints.
- Woven wire support sheathing shall be a minimum 20 gauge with 1 inch openings.

MAINTENANCE:

- Inspect regularly and after every storm. Make any repairs necessary to ensure the rock berm is in good working order.
- Sediment should be removed and the structure restored to its original dimensions when sediment has accumulated to a depth of 6".
- Clean or remove and replace the stone filter or filter fabric if they become clogged.
- Rock berm should remain in place and operational until the drainage area is stabilized.



SILT FENCE

GENERAL NOTES:

- The maximum height of the filter fabric should range between 18 and 36 inches above the ground surface (depending on the amount of upslope ponding expected).
- Posts should be spaced 8 to 10 feet apart when a woven wire support fence is used and not more than 6 feet apart when extra strength filter fabric (without a woven wire support fence) is used. The posts should be embedded a minimum of 18 inches.
- A trench should be excavated 4 to 8 inches wide and 4 to 12 inches deep along the upslope side of the line of posts.
- If standard strength filter fabric is to be used, the optional woven wire support fence should be fastened to the upslope side of the posts. Extend the woven wire support to the bottom of the trench. The filter fabric should be fastened using 4 evenly spaced staples or T-clips to the woven wire support fence, and 8 to 20 inches of the fabric should extend into the trench.
- Extra strength filter fabric does not require a woven wire support fence. Fastened the filter fabric directly to the posts and extend 8 to 20 inches of the fabric into the trench.
- Where joints in the filter fabric are required, the filter fabric should be spliced together only at a support post, with a minimum 6-inch overlap and securely sealed.
- Do not attach filter fabric to trees.
- Backfill the anchor trench with compacted soil or 0.75 inch minimum diameter gravel placed over the filter fabric.
- Remove silt fence when the construction site is completely stabilized.
- Inspect silt fences daily during periods of prolonged rainfall, immediately after each rainfall event, and weekly during periods of no rainfall. Make any required repairs immediately.
- Sediment must be removed when it reaches a depth of 6". Take care to avoid damaging the fence during cleanout.
- Silt fences should not be removed until the upslope area has been permanently stabilized. Contaminated sediment deposits must be removed and disposed of off-site in accordance with applicable regulations. Uncontaminated sediment deposits remaining in place after the silt fence has been removed should be dressed to conform with the existing grade, and stabilized.
- Place silt fence along a line of uniform elevation, perpendicular to the direction of flow.

MATERIALS:

- Fence posts ma be either 4' min. steel or wood posts spaced at 6' to 8'. Softwood shall be 3" min. dia. or nominal 2" x 4". Hard wood posts shall have a min. cross section 1.5" x 1.5".
- Synthetic filter fabric should be a pervious sheet of polypropylene, nylon, polyester, or polyethylene yarn conforming to the requirements below:

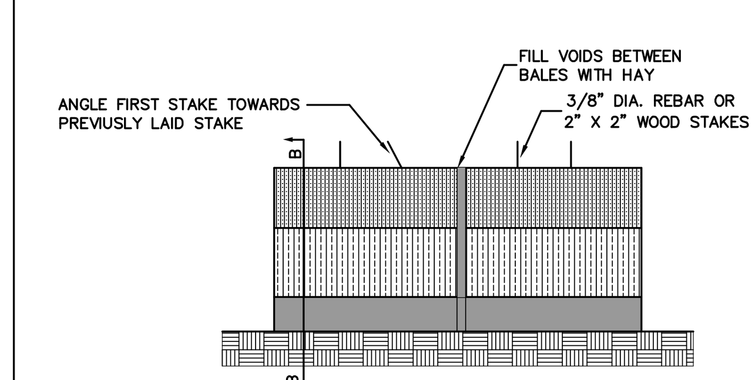
SYNTHETIC FILTER FABRIC REQUIREMENTS

Physical Property	Requirements
Minimum Weight	3.5 ounces per square yard (ASTM 3776-84)
Min. Mullen Burst Strength	200 lbs per square inch (ASTM 3786-87)
Maximum flow through rate	100 GPM/SF of frontal area (ASTM 4491-85)

- Burlap of 10 ounces per square yard of fabric can also be used.
- The filter fabric should be purchased in continuous rolls to minimize joints.

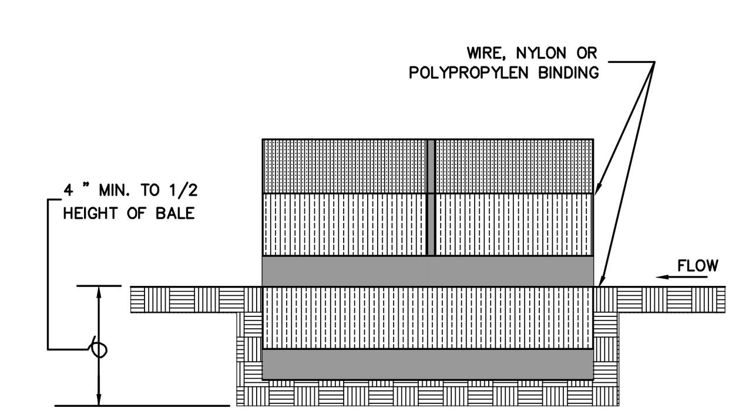
MAINTENANCE:

- Inspect regularly and after every storm. Make any repairs necessary to ensure the measure is in good working order.
- Sediment should be removed and the structure restored to its original dimensions when sediment has accumulated to a depth of 6".
- Clean or remove and replace the stone filter or filter fabric if they become clogged.
- Inlet protection should remain in place and operational until the drainage area is stabilized.

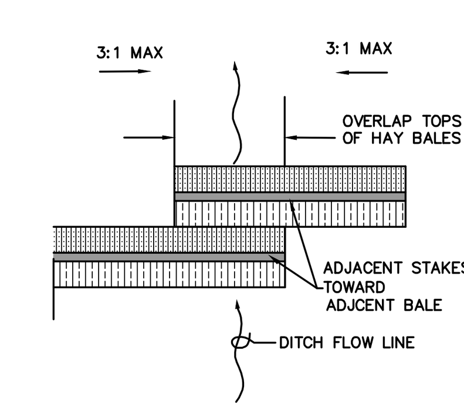


BALED HAY FOR EROSION CONTROL

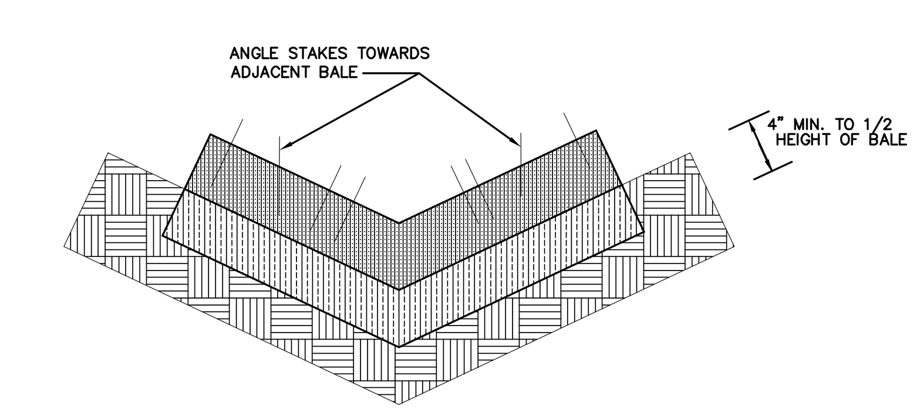
N.T.S.



SECTION B-B



PLAN VIEW



PROFILE VIEW

GENERAL NOTES:

- Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 pounds.
- Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetable matter.
- Hay bales shall be embedded in soil a minimum of 4" and where possible 1/2 the height of the bale.
- Hay bales shall be placed in a row with ends tightly abutting adjacent bales. The bales shall be placed with bindings parallel to the ground.
- Hay bales shall be securely anchored in placed with 3/8" dia. rebar or 2" x 2" wood stakes driven throught the bales. The first stake shall be sngled towards the previously laid bale to fence the bales together.

BALED HAY USAGE GUIDELINES

- A baled hay installation may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A two year storm frequency may be used to calculate the flow rate to be filtered. The installation should be sized to filter the maximum flow thru rate of 5 GPM/sf of cross sectional area. Baled hay may be used in the following locations.
- Where the runoff approaching the baled hay the slope of the disturbed soil shall not exceed 10% and the length of the slope upstream of the hay bale should be less than 50'.
- Where the installation will be required for less than three months.
- Where the contributing drainage area is less than 1/2 acre.
- For baled hay installations in small ditches, the additional following considerations apply:
- The ditch side slopes shall be graded as flow as possible to maximize the drainage flow rate thru the hay.
- The ditch shall be graded large enough to contain overlapping drainage when sediment has filled to the top of the bailed hay.
- Bales should be replaced usually every 2 monthes or more often durning wet weather when loss of sturctural integrity is accerated.

NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. #:	DATE:	DGN. BY:	DWN. BY:	CHKD. BY:
17-21-04	09-30-25	S.G.	S.G.	R.M.G.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RICHARD M. GALLEGOS, P.E. 86916 SEPTEMBER 30, 2025
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EAST CENTRAL SPECIAL UTILITY DISTRICT
U.S. HIGHWAY 87 TXDOT ROW EXPANSION

12" PVC WATER MAIN
SWPPP DETAILS