Addendum #1

Port of Port Arthur
Truck Queuing Area and Laydown Yard
Rider 37 Project 1 – CSJ 0920-38-288

Addendum Date: August 21, 2025

A. This Addendum shall be considered part of the bid documents for the above-mentioned project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original bid documents, this Addendum shall govern and take precedence. BIDDERS MUST ACKNOWLEDGE THE ADDENDUM ON THEIR BID.

B. Bidders are hereby notified that they shall make any necessary adjustments in their estimates as a result of this Addendum. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

Addendum No. 1 consists of the following:

Bid Due Date and Time Change:

The Bid Due Date and Time has changed from Wednesday, August 27, 2025 to Friday, August 29, 2025. Bids will be accepted until **1:00PM on Friday, August 29, 2025**.

Instructions to Bidders:

- Replace existing bid form with the current attached bid form.
- Replace existing Plan Set Sheets with the current attached Plan Set Sheets.
- Add attached specification, Section 4200 – Railroad Construction, to the contract documents Section Q – Specifications.

Additions

1. Bid items added (Demolition, Railroad Items, Traffic Control, etc.)
2. Steel casing around storm lines below rails, A36 standard wall thickness, smallest size necessary, no spacers. (30” steel on 24” hp, 24” steel on 18” hp) (sheet 8).
3. Rail work added to scope, remove and replace rails and ties (sheet 9).
4. Curb detail (sheet 13).

Clarifications

1. Demolition Plan updated to note buildings removed by port (sheet 4).
2. Turn Lane clarified as concrete paving with no asphalt (sheet 5).
3. Clarify trench details for CCTV (sheet 10).
4. Fencing details modified, top rail and bracing clarified, no bottom rail. Tension

wire clarified (sheet 12).

Submitted Questions

1. **Q:** Will specific permits be required for work underneath tracks? (paraphrased)
   A: No. This section of the rail is owned by the port, no CPKC permitting or representation is needed.

2. **Q:** Will a railroad company representative be required on site for work near tracks? (paraphrased)
   A: No. This section of the rail is owned by the port, no CPKC permitting or representation is needed.

3. **Q:** Is there a place where we can access any other questions that were asked and answered?
   A: Questions asked and answered will be included in any addendums issued.

4. **Q:** Can a lump sum bid item for all the railroad work be added, with contractor providing a schedule of values for railroad work after award?
   A: Yes. This item has been added to the updated bid form.

5. **Q:** On bid item #13 for the curb and gutter it calls for HES (high early strength), is this correct?
   A: No, no high early is required. The bid item has been modified (note that bid item numbers have changed).

6. **Q:** Sheet 12, General Notes #7 calls for 1" mesh but Chain Link Details drawing calls for 2" mesh, please clarify.
   A: 2" mesh is specified, notes have been updated. (general note numbers have changed).

7. **Q:** Sheet 12, General Notes #8 calls for top middle and bottom rails but Chain Link detail calls for 7ga bottom wire, please clarify.
   A: Chain Link detail drawing has been updated, top rail is required, no bottom rails, tension wire spec updated, cross bracing requirements added (general note numbers have changed).

8. **Q:** For the underground PVC conduits for Entergy (4- 6" & 3- 4") do we need to have galvanized 90's or can they be PVC?
   A: They should be PVC.

Please remember to acknowledge this addendum on your Bid Form.

End of Addendum

8/21/25
Date

Jeremy J. Mitchell, P.E.

PORT OF PORT ARTHUR
TRUCK QUEUING AREA AND LAYDOWN YARD PROJECT

Item No.	Approx. QTY	UNITS	DESCRIPTION OF ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	TOTAL AMOUNT
1	1	L.S.	MOBILIZATIONS (LIMIT TO 5% OF BID) @ _____ Lump Sum	$ _____	$ _____
2	10530	S.Y.	8" SUB-GRADE LIME TREATEMENT FOR LAYDOWN YARD, COMPACTED TO 95% STD PROCTOR (ASTM D698), COMPLETE IN PLACE @ _____ Per Square Yard	$ _____	$ _____
3	10150	S.Y.	CONCRETE PAVEMENT AND DRIVES FOR LAYDOWN YARD (CLASS P) (8"), COMPLETE IN PLACE @ _____ Per Square Yard	$ _____	$ _____
4	200	S.Y.	8" SUB-GRADE LIME TREATEMENT FOR TURN LANE, COMPACTED TO 95% STD PROCTOR (ASTM D698), COMPLETE IN PLACE @ _____ Per Square Yard	$ _____	$ _____
5	190	S.Y.	CONCRETE PAVEMENT ROAD BASE FOR TURN LANE (CLASS P) (8"), COMPLETE IN PLACE @ _____ Per Square Yard	$ _____	$ _____
6	1	E.A.	ADJUSTING MANHOLES PER TXDOT ITEM 479 @ _____ Per Each	$ _____	$ _____

7	2	E.A.	STORM SEWER JUCTION BOX INLET, COMPLETE IN PLACE (LAKESHORE DRIVE) @ _____ Per Each	$ _____	$ _____
8	7	E.A.	STORM SEWER JUCTION BOX W/GRATE INLET, COMPLETE IN PLACE @ _____ Per Each	$ _____	$ _____
9	3	E.A.	REMOVE AND REPLACE EXIST. STORM SEWER JUCTION BOX W/GRATE INLET, COMPLETE IN PLACE @ _____ Per Each	$ _____	$ _____
10	2	E.A.	REPLACE EXISTING PULLBOX, 24"X36" H-20 TRAFFIC RATED (PORT FIBER CONDUIT). @ _____ Per Each	$ _____	$ _____
11	528	L.F.	24" HP STORM, COMPLETE IN PLACE @ _____ Per Linear Foot	$ _____	$ _____
12	300	L.F.	18" HP STORM, COMPLETE IN PLACE @ _____ Per Linear Foot	$ _____	$ _____

13	1	L.S.	STEEL CASING ON STORM LINE BELOW RAIL, A36 STANDARD WALL THICKNESS, NO SPACERS. 20 LF 30" (ON 24" HP LINE) & 20 LF 24" (ON 18" HP LINE) INCLUDES RIP-RAP END TREATMENT, COMPLETE IN PLACE @ _____ Lump Sum	$ _____	$ _____
14	260	L.F.	CONCRETE CURB AND GUTTER (TXDOT CLASS P), C.I.P., PER TXDOT ITEM 529 @ _____ Per Linear Foot	$ _____	$ _____
15	1,040	L.F.	8FT. CHAINLINK FENCE W/3 STRAND BARBED WIRE, COMPLETE IN PLACE @ _____ Per Linear Foot	$ _____	$ _____
16	1	L.S.	ELECTRICAL CONSTRUCTION, INCLUDES CONDUIT (APPROX. 720 LF), CONDUCTORS, ENCLOSURES, DISCONNECTS, PANELS, LIGHT POLES (INCL. FOUNDATIONS AND FIXTURES), EXCLUDES CONDUIT FOR CCTV, ENTERGY & COMMUNICATIONS. COMPLETE IN PLACE. @ _____ Per Lump Sum	$ _____	$ _____
17	1	EA.	FURNISH AND INSTALL ENTERGY VAULT, AMORCAST MODEL A6004896TAFENT2 (OR EQUAL), COMPLETE IN PLACE. @ _____ Per Each	$ _____	$ _____

18	1	L.S.	FURNISH AND INSTALL FOUR (4) 6-INCH SCH 40 PVC CONDUIT IN TRENCH OR VIA HDD, ONE PAIR STACKED ON TOP OF THE OTHER WITH 12-INCH VERTICAL SEPARATION, APPROX 800 LF, COMPLETE IN PLACE (ENTERGY CONDUIT).		
			@ _____	$ _____	$ _____
			_____ Per Lump Sum		
19	1	L.S.	FURNISH AND INSTALL THREE (3) 4-INCH SCH 40 PVC CONDUIT IN TRENCH OR VIA HDD, APPROX 790 LF, COMPLETE IN PLACE (COMMUNICATION CONDUIT).		
			@ _____	$ _____	$ _____
			_____ Per Lump Sum		
20	1	L.S.	FURNISH AND INSTALL TWO (2) 1.5-INCH HDPE SDR 11 CONDUIT IN TRENCH OR VIA HDD, APPROX 650 LF TRENCH/HDD, COMPLETE IN PLACE (CCTV CONDUIT). CAN BE INSTALLED IN SAME TRENCH AS LIGHT POLE POWER.		
			@ _____	$ _____	$ _____
			_____ Per Lump Sum		
21	4	EA.	FURNISH AND INSTALL QUAZITE TIER 22 PULLBOX , 24"X30" OR APPROVED EQUAL (CCTV CONDUIT).		
			@ _____	$ _____	$ _____
			_____ Per Each		
22	2	EA.	FURNISH AND INSTALL PULLBOX, 24"X36" H-20 TRAFFIC RATED (DATA/COMMUNICATION CONDUIT).		
			@ _____	$ _____	$ _____
			_____ Per Each		

23	1	L.S.	LAKESHORE DRIVE STORM SEWER CROSSING REPAIR. 10" REINFORCED CONCRETE PAVING, 3" DENSE-GRADED HOT-MIX ASPHALT OVERLAY TYPE C, 45 LF CROSS SECTION. (EXIST. CROSS SECTION IS 10" ASPH. OVER 5" CONC.)		
			@ _____ Per Lump Sum	$ _____	$ _____
24	315	L.F.	REMOVE AND REPLACE RAILROAD TRACK AND WOOD CROSS TIE, INCLUDING 4" SCH. 40 PEFORATED PVC BALLAST DRAIN LINE, PLATES, ANCHORS, BALLAST, AND RELATED MATERIALS AS NECESSARY. COMPLETE IN PLACE. (CONTRACTOR RESPONSIBLE FOR DISPOSAL OF EXISTING CROSS TIES, RAILS, AND RELATED MATERIALS.)		
			@ _____ Per Linear Foot	$ _____	$ _____
25	315	L.F.	RAILROAD GRADE CROSSING PANELS, 9' LAGTYPE CROSSING, (CENTURY GROUP OR APPROVED EQUAL) COMPLETE IN PLACE. (CONTRACTOR RESPONSIBLE FOR DISPOSAL OF EXISTING GRADE CROSSING PANELS, 36LF +/-.)		
			@ _____ Per Linear Foot	$ _____	$ _____
26	1	L.S.	DEMOLITION PER PLAN SHEET 4. INCLUDING BUT NO LIMITED TO; CONCRETE PAVING AREAS, BUILDING FOUNDATIONS, UTILITIES, SALVAGE ITEMS, ETC.		
			@ _____ Per Lump Sum	$ _____	$ _____

27	1	L.S.	EROSION CONTROL, COMPLETE IN PLACE		
			@ _____	$ _____	$ _____
			_____		
			Per Lump Sum		
28	1	L.S.	FURNISH, INSTALL, AND MAINTAIN TEMPORARY TRAFFIC CONTROL MEASURES PER TXDOT ITEM 502		
			@ _____	$ _____	$ _____
			_____		
			Per Lump Sum		

TOTAL AMOUNT OF **BASE BID** ..... $ _____

_____

(TOTAL AMOUNT BASE BID WRITTEN IN WORDS)

_____

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions. The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Amounts are to be shown in both words and figures. Discrepancies in the multiplication of units of work and unit prices shall be resolved in favor of the correct total. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

Bidder understands that the Owner reserves the rights to reject any and all bids and to waive any informalities in the bidding. Bidder acknowledges that quantities are not guaranteed and final payment will be based on actual quantities determined as provided in the Contract Documents and Specifications, if applicable.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

If the contract is to be awarded, it will be awarded to the Best Bid, the Lowest Bidder or the Bidder whose evaluation by the OWNER or whose Bid indicates to the OWNER that the award will be in the best interest of the Project.

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Port of PORT ARTHUR

CONSTRUCTION PLANS
TRUCK QUEUING AREA AND LAYDOWN YARD PROJECT
(CSJ 0920-38-288)
PORT ARTHUR, TEXAS
JUNE 2025

CONTACT LIST

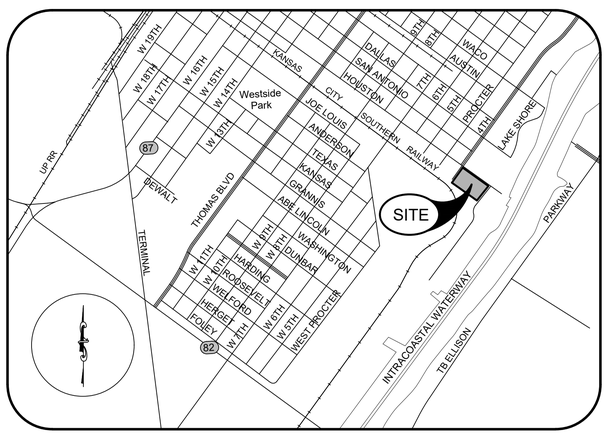
PORT OF PORT ARTHUR DIRECTOR OF ENGINEERING	ED LONG, PE 409-983-2011
PORT OF PORT ARTHUR CONSTRUCTION & MAINTENANCE COORDINATOR	MICHAEL GREEN 409-242-8934
JEFFERSON COUNTY DRAINAGE DISTRICT NO. 7	GARRETT BOUDOIN 409-548-3802
TEXAS GAS SERVICE	CODY BICKERSTAFF 806-275-0915
ENTERGY (BEAUMONT, PORT ARTHUR, MID COUNTY)	JAMES ELLIS 409-988-3250
AT&T (PORT ARTHUR, GROVES)	RAY HILLIN 409-291-9757
SPECTRUM	MICHAEL WARD 409-720-5509
TEXAS ONE CALLS FOR UTILITY LOCATES	811

PORT COMMISSIONERS

PRESIDENT:	RANDY T. MARTIN
VICE PRESIDENT:	LINDA TURNER SPEARS
SECRETARY/TREASURER	MARY WYCOFF
COMMISSIONER:	JOHN COMEAUX
COMMISSIONER:	FRED OWENS
EXECUTIVE PORT DIRECTOR/CEO	LARRY KELLEY

PORT OF PORT ARTHUR APPROVAL

BY: _____
DIRECTOR OF ENGINEERING



SHEET	DESCRIPTION
1	COVER PAGE
2	GENERAL NOTES
3	TOPOGRAPHIC SURVEY
4	DEMOLITION PLAN
5	SITE PLAN
6	JOINT PLAN
7	GRADING PLAN
8	DRAINAGE PLAN
9	RAIL CROSSING PLAN & FENCING PLAN
10	UTILITY PLAN
11	EROSION CONTROL PLAN
12-13	DETAILS
14	DETAILS & EPIC NOTES
15	RAILROAD CROSSING PANEL DETAIL (CENTURY)
E1-E2	ELECTRICAL PLANS & DETAILS

STATE OF TEXAS
JEREMY J. MITCHELL
116941
LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEREMY J. MITCHELL, P.E. 116941

7/31/2025 FIRM # 5755

REVISED: 8/20/2025

SOUTEX SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 * T.X.L.S. FIRM #101238
3737 Doctors Drive
Port Arthur, Texas 77642
Tel. 409.983.2004
Fax. 409.983.2005
soutexsurveyors.com

PROJECT NO. 23-0350

NOTES:

Item 110 Excavation

Do not windrow or stockpile material. Move excess material from the project daily.

Item 164 Seeding for Erosion Control

Eliminate seeding in areas of natural growth determined by the Owner to have sufficient cover.

Subsidiary, No separate payment for this item.

Item 166 Fertilizer

Fertilize all the seeded or sodded areas of project. There is no separate pay for this item. It is subsidiary to seeding.

Item 168 Vegetative Watering

Water all seeded areas of the project. Consider this work to be subsidiary to the various bid items of the contract.

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TEXAS ONE CALLS FOR UTILITY LOCATES	811

Utility Notes

1. Utility locations shown on the plans are for informational purposes only and are not exact. The engineer and the Owner assume no responsibility for variation in location and grades. Contractor shall verify location and elevation of existing utilities prior to construction of proposed facilities. Discrepancies between the two shall be immediately reported to the owner or engineer.
2. Contractor will be responsible for contacting all utility companies with existing facilities in the areas of construction 48 hours prior to construction in areas of possible underground utilities which may or not be shown on drawing. Contractor is responsible for making the Texas One Call and following all requirements set forth through that agency. Contractor is responsible for keeping police and fire departments informed of construction activities.
3. The Contractor shall be responsible for locating and protecting all utility lines during construction. The Contractor shall be responsible for any damage to existing utilities and shall promptly repair same or make arrangements for such repair with the Owner of the utility involved.
4. In all cases the Contractor shall inform and coordinate work with the Owners of the various utilities sufficiently in advance of the contractor's operation to enable such utility Owners, in advance of any work which might damage, interfere with or require adjustments to utilities along or adjacent to the work, to reroute, provide temporary detours, or to make other adjustments to utilities in order that the contractor may proceed with his work with a minimum amount of delay and expense.
5. The contractor shall cooperate with all utility owners concerned in effecting any utility adjustments necessary and shall not hold the Owner or Engineer liable for any expenses due to delay or additional work because of conflicts. The Contractor shall allow utility and/or pipeline companies to enter this project to accomplish such work as required for placement or protection of their services and as may be deemed necessary by the Engineer.
6. All utility adjustments shall be the responsibility of the Owners of the utilities and if, in the opinion of the Engineer, adjustment is required, the Contractor will be responsible for notifying the respective owner.
7. The contractor shall be responsible for confirming the exact location of utility lines and of any others which may exist. It shall be the contractor's responsibility to notify the utility involved in case of conflict or damage and the contractor shall be held responsible for any damage that occurs. Where the contractor encounters abandoned lines that interfere with the construction of this project, such lines shall be removed and disposed of by the contractor. There will be no direct payment for this work and it shall be considered subsidiary to the various bid items in the contract.
8. Before excavating near existing utilities, contact the utility companies or the utility coordinating committee for exact locations to prevent damage or interference with present facilities. Notify the utility coordinating committee and the Texas 811 System. The Port of Port Arthur has existing private fiber optic cables within the project area that are not located by the Texas 811 system. Contractor shall contact the Port 5 working days in advance of excavation to allow marking of the fiber optic line(s).
9. This action does not relieve the Contractor of the responsibilities under the terms of the contract or the plans and specifications. Damage caused by the Contractor's operations shall be repaired and restored to service in a timely manner at no expense to the City or Port or Port Arthur.
10. If overhead or underground power lines need to be de-energized, contact the electrical service provider to perform this work. Costs associated with de-energizing the power lines or other protective measures required are at no expense to the Port of Port Arthur.
11. If working near power lines, comply with the appropriate sections of Texas State Law and Federal Regulations relating to the type of work involved.
12. Contractor shall be responsible for protecting all public utilities in the construction of this project. All manholes, clean-outs, valve boxes, fire hydrants, etc. must be adjusted to proper line and grade by the contractor prior to and after the placing of permanent paving. Utilities must be maintained to proper line and grade during construction of the paving for this development.
13. Contractor shall protect all manholes covers, valve covers, vault lids, fire hydrants, power poles, guy wires, and telephone boxes that are to remain in place and undisturbed during construction.

Work Scheduling

1. Contractor shall provide a written schedule describing the sequencing and routes of work.
2. Contractor shall notify Owner no later that 48 hours prior to the commencement of work.
3. Unless otherwise shown on the plans or otherwise directed, commence work after sunrise and ensure construction equipment is off the road by sunset.
4. Contractor shall schedule work in a manner that will cause minimum interference with traffic and to the general public.
5. Ingress and egress to adjacent property shall be maintained by the contractor at all times.
6. Existing parking area shall remain open for parking at all times. Contractor shall coordinate its work area with the Port to minimize amount of area used by the contractor.

Surveying

1. Contractor shall provide all onsite general construction surveying, layout, and any other surveying requirements necessary for the construction of the project. Owner will provide initial control points.
2. Existing monuments or property corners shall not be disturbed. The Contractor will replace and accurately relocate all reference points and construction stakes lost, destroyed, or moved solely at his expense.

General Construction Notes

1. Contractor's bid shall include all labor, material and equipment and overhead costs to perform work described in these plans. Any other work necessary for the intended work as described in these plans not specifically detailed in the unit price description of the bid shall be made subsidiary to the bid items provided.
2. References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar material from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved, except for roadway illumination, electrical, and traffic signal items.
3. All materials and construction shall conform to Port of Port Arthur standards, except as noted herein and approved by the engineer.
4. Any permits or fees required by the City or any other entity shall be paid for by the Contractor.
5. Ingress and egress adjacent to the project shall be maintained by the Contractor at all times. The Contractor will be responsible for keeping mud and debris off existing public streets adjacent to the site.
6. Contractor shall keep one complete set of plans and specifications in good condition on the job site at all times.
7. Upon completion of all project improvements and inspections, and Owner acceptance of these improvements, the Contractor shall be required to furnish an Affidavit of Warranty to Owner for a one (1) year period on all work.
8. All areas disturbed by construction activity shall be restored to an equal or better condition at the expense of the contractor.
9. All culverts shall be protected from damage during construction operations. Culverts damaged as a result of contractor's negligence shall be replaced at contractor's expense.
10. Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work site. When used during periods of darkness, such barricades, warning signs and hazard markings shall be suitably illuminated. All traffic control devices and their placement shall be in accordance with the latest Texas Manual on Uniform Traffic Control Devices. No payment will be made for barricades, signs, and traffic handling, but it will be considered subsidiary to the various bid items.
11. The Port of Port Arthur shall pay for all required testing, including but not limited to required densities for subgrade, base and asphalt, and associated moisture-density relationships. The engineer will sample all concrete and make and test all beams and cylinders in accordance with the test methods provided for under the appropriate standard specifications for the various items.
12. Port of Port Arthur forces will maintain the existing section of streets and its appurtenances not a part of this project except that those sections damaged by the contractor's forces shall be repaired by the contractor at his entire expense.
13. The contractor shall maintain adequate drainage throughout the limits of the project during all construction phases.
14. The contractor shall allow Port of Port Arthur forces to enter this project to accomplish such work as shown in the plans and as may be deemed necessary by the engineer.
15. All drainage structures within the project limits shall be cleaned and unobstructed at the time of acceptance by the Port of Port Arthur.
16. All materials, labor and incidentals required for the contractor to provide for traffic across the streets and for temporary ingress and egress to private property shall be furnished by the contractor at no additional cost to the Port of Port Arthur and shall be considered as incidental to the various bid items in this project.
17. Any storm water permit and associated fees required for construction of this project shall be at the contractor's expense. Also, any temporary erosion, sediment and water control measures required shall be in accordance with the details show in the plans and all work and materials required shall be paid for under the item “Temporary Erosion, Sedimentation & Environmental Controls”.
18. Cement stabilized sand for backfill shall be considered subsidiary to any storm sewer, inlets, and junction boxes.
19. Erosion control logs shall be installed in accordance with the manufacturer's recommendations, or as directed by the engineer. Logs shall be placed around all storm sewer inlets and pipe openings and shall be maintained as needed.
20. All concrete shall be TXDOT Class P 4000 psi @ 28 days strength.
21. Seal Joints with BASF MasterSeal SL 1 Elastomeric Polyurethane.

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

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7/31/2025 FIRM # 5755

NO.	REVISION NOTES	DATE

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SOUTEX SURVEYORS & ENGINEERS

T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

3737 Doctors Drive
Port Arthur, Texas 77642
Tel. 409.983.2004
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soutexsurveyors.com

SHEET TITLE
GENERAL NOTES

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1” = 30’
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM

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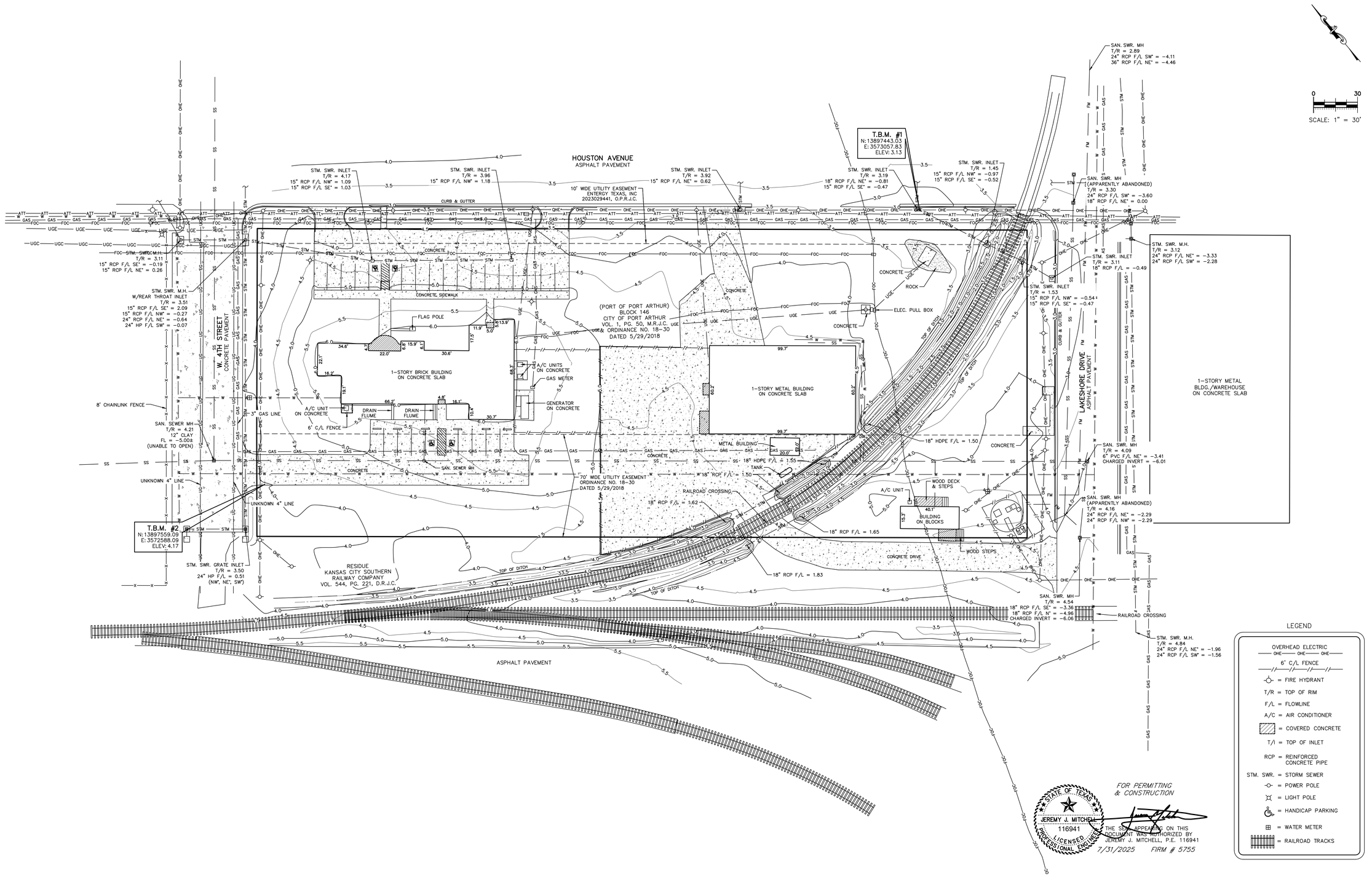

LEGEND

- OVERHEAD ELECTRIC (OHE)
- 6' C/L FENCE
- = FIRE HYDRANT
- T/R = TOP OF RIM
- F/L = FLOWLINE
- A/C = AIR CONDITIONER
- = COVERED CONCRETE
- T/I = TOP OF INLET
- RCP = REINFORCED CONCRETE PIPE
- STM. SWR. = STORM SEWER
- = POWER POLE
- = LIGHT POLE
- = HANDICAP PARKING
- = WATER METER
- = RAILROAD TRACKS

FOR PERMITTING & CONSTRUCTION

STATE OF TEXAS — JEREMY J. MITCHELL — 116941 — LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEREMY J. MITCHELL, P.E. 116941

7/31/2025 FIRM # 5755

"PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT" (RELEASE DATE: 10/20/23)

JEREMY J. MITCHELL
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6700

SURVEYORS NOTES

1. COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, SOUTH CENTRAL ZONE, U.S. SURVEY FEET AND ARE REFERENCED TO SMARTNET, NORTH AMERICA.
2. THE LOCATIONS OF UNDERGROUND AND OTHER NON-VISIBLE UTILITIES SHOWN HEREON HAVE BEEN PLOTTED BASED UPON DATA EITHER FURNISHED BY THE AGENCIES CONTROLLING SUCH DATA AND/OR OBTAINED FROM RECORDS MADE AVAILABLE TO US BY THE AGENCIES CONTROLLING SUCH RECORDS. WHERE FOUND, THE SURFACE FEATURES OF UTILITIES ARE SHOWN. THE ACTUAL NON-VISIBLE LOCATIONS MAY VARY FROM THOSE SHOWN HEREON. EACH AGENCY SHOULD BE CONTACTED RELATIVE TO THE PRECISE LOCATION OF ITS UNDERGROUND INSTALLATIONS PRIOR TO ANY RELIANCE UPON THE ACCURACY OF SUCH LOCATIONS SHOWN HEREON. PRIOR TO EXCAVATION AND DIGGING CALL TEXAS 811.
3. ELEVATIONS SHOWN HEREON ARE NAVD88 ORTHOMETRIC HEIGHTS DERIVED USING GEOID 18

SOUTEX
SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

3737 Doctors Drive
Port Arthur, Texas 77642
Tel. 409.983.2004
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SHEET TITLE
TOPOGRAPHIC SURVEY

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: TC, NJ
CHECKED BY: JM
APPROVED BY: JM
SHEET 3 OF 12

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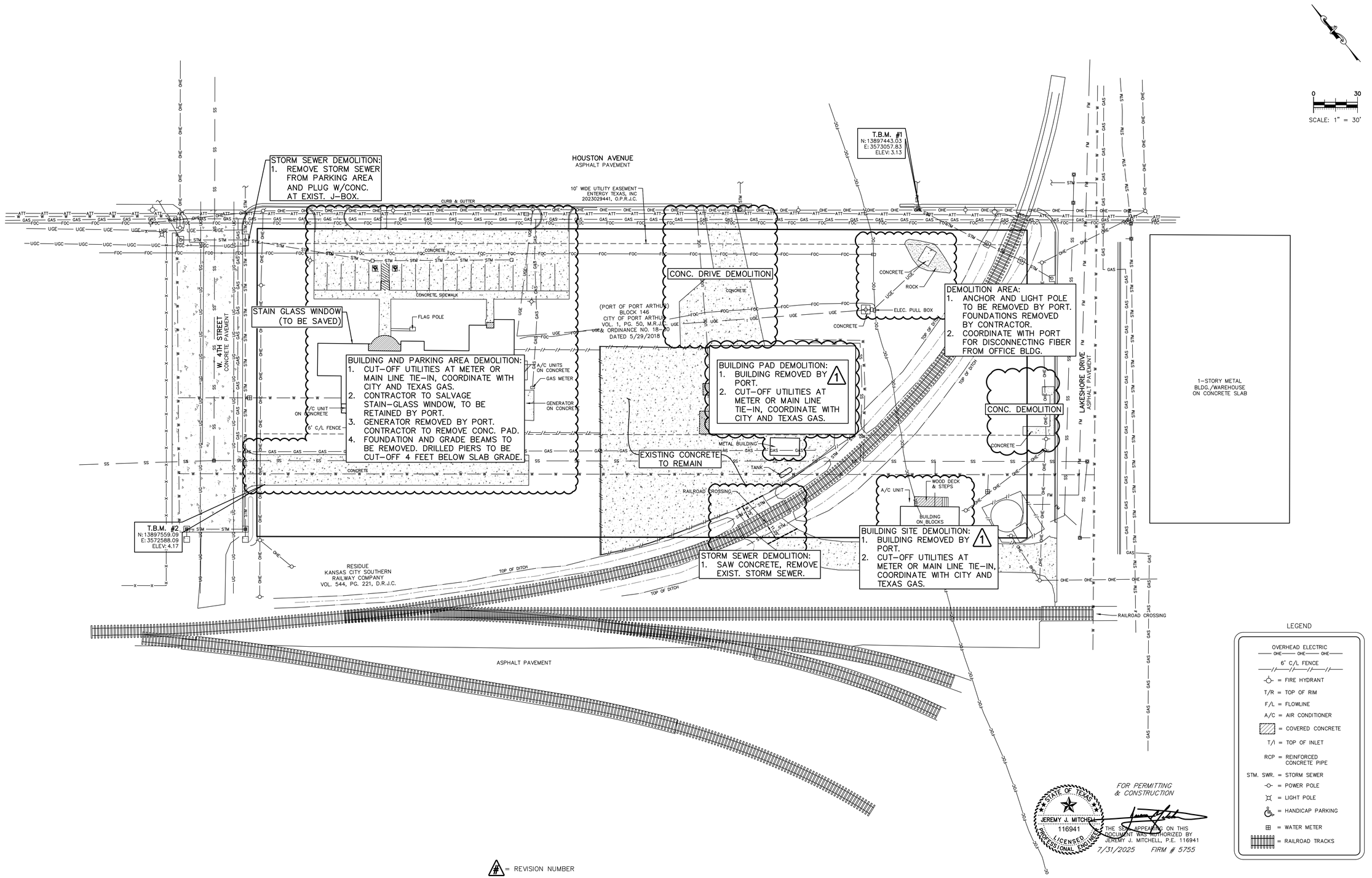


= REVISION NUMBER

NO.	REVISION NOTES	DATE
1	DEMOLITION AREA CLARIFICATION	8/20/2025

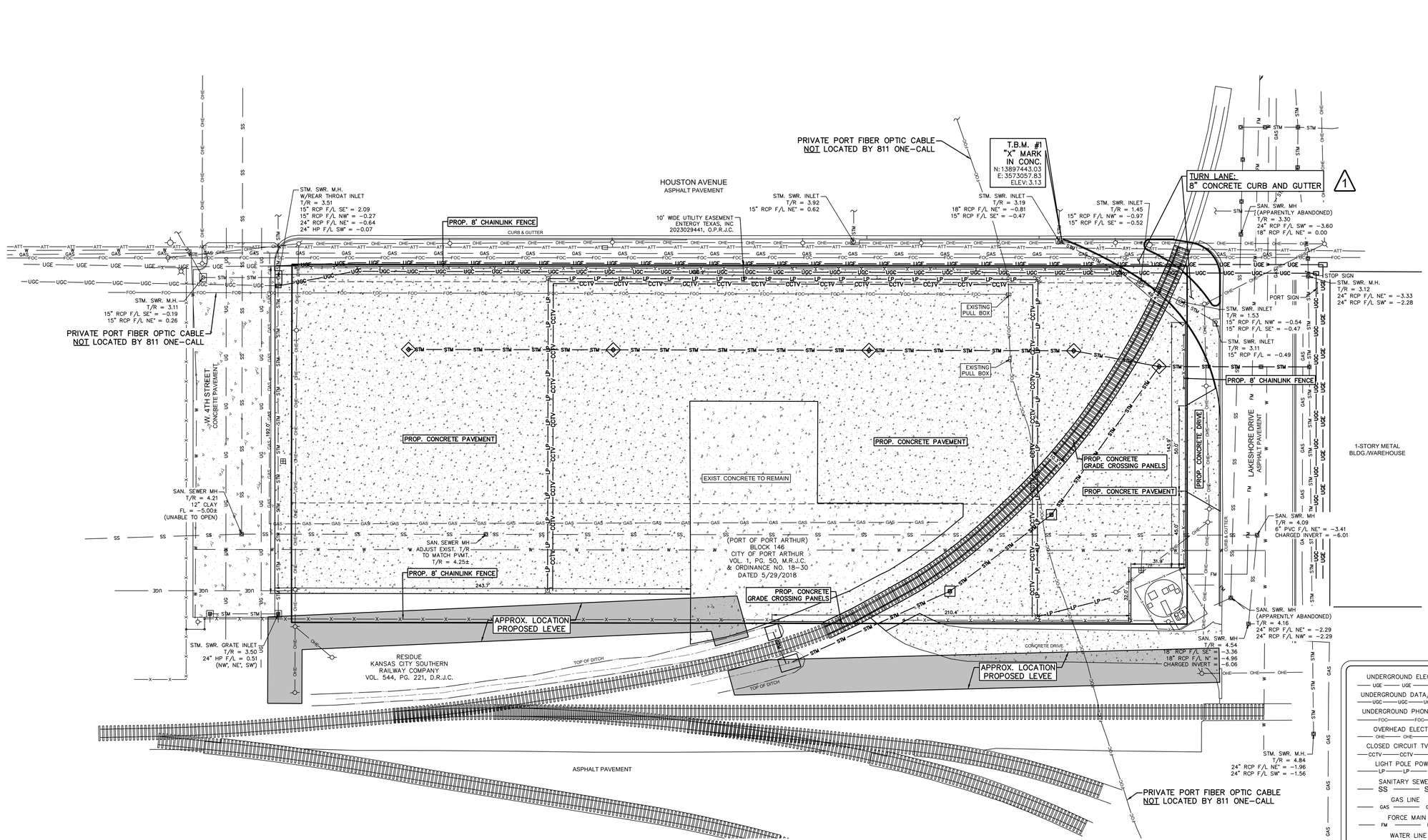
SOUTEX
SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 * T.X.L.S. FIRM #10123800

3737 Doctors Drive
Port Arthur, Texas 77642
Tel. 409.983.2004
Fax. 409.983.2005
soutexsurveyors.com

SHEET TITLE
DEMOLITION PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: TC, NJ
CHECKED BY: JM
APPROVED BY: JM



FOR PERMITTING & CONSTRUCTION

STATE OF TEXAS — JEREMY J. MITCHELL — 116941 — LICENSED PROFESSIONAL ENGINEER

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7/31/2025 FIRM # 5755

#= REVISION NUMBER

NO.	REVISION NOTES	DATE
1	CLARIFY TURN LANE COMPOSITION	8/20/2025

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T.B.P.E. FIRM #5755 * T.X.L.S. FIRM #10123800

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Port Arthur, Texas 77642
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SHEET TITLE
DIMENSIONAL SITE PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM

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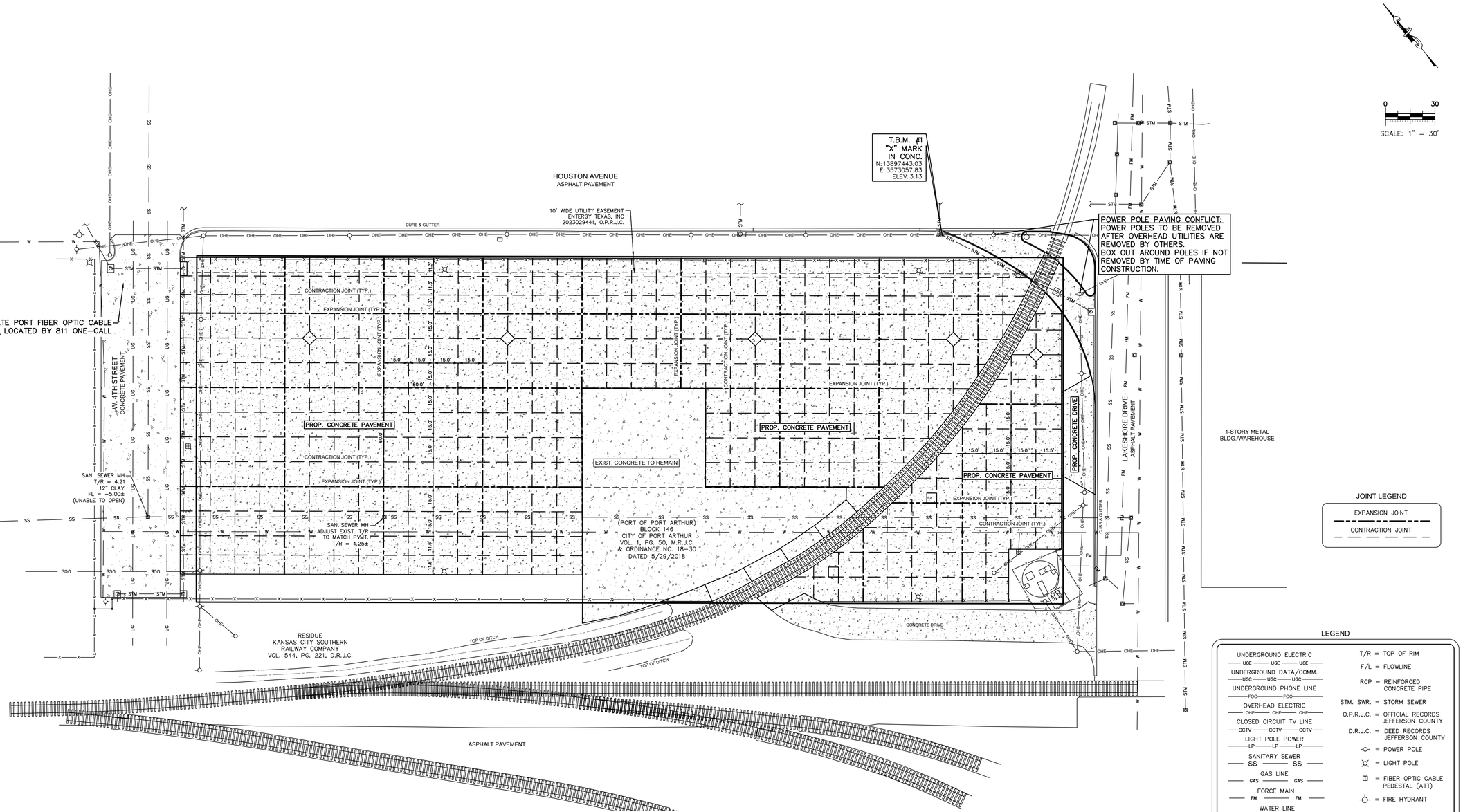

JOINT LEGEND

- EXPANSION JOINT
- CONTRACTION JOINT

LEGEND

UNDERGROUND ELECTRIC (UGE)	T/R = TOP OF RIM
UNDERGROUND DATA/COMM. (UGC)	F/L = FLOWLINE
UNDERGROUND PHONE LINE (FOC)	RCP = REINFORCED CONCRETE PIPE
OVERHEAD ELECTRIC (OHE)	STM. SWR. = STORM SEWER
CLOSED CIRCUIT TV LINE (CCTV)	O.P.R.J.C. = OFFICIAL RECORDS JEFFERSON COUNTY
LIGHT POLE POWER (LP)	D.R.J.C. = DEED RECORDS JEFFERSON COUNTY
SANITARY SEWER (SS)	= POWER POLE
GAS LINE (GAS)	= LIGHT POLE
FORCE MAIN (FM)	= FIBER OPTIC CABLE PEDESTAL (ATT)
WATER LINE (W)	= FIRE HYDRANT
STORM SEWER (STM)	= WATER METER
CHAINLINK SECURITY FENCE	= RAILROAD TRACKS

STATE OF TEXAS
JEREMY J. MITCHELL
116941
LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

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7/31/2025 *FIRM # 5755*

NO.	REVISION NOTES	DATE

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3737 Doctors Drive
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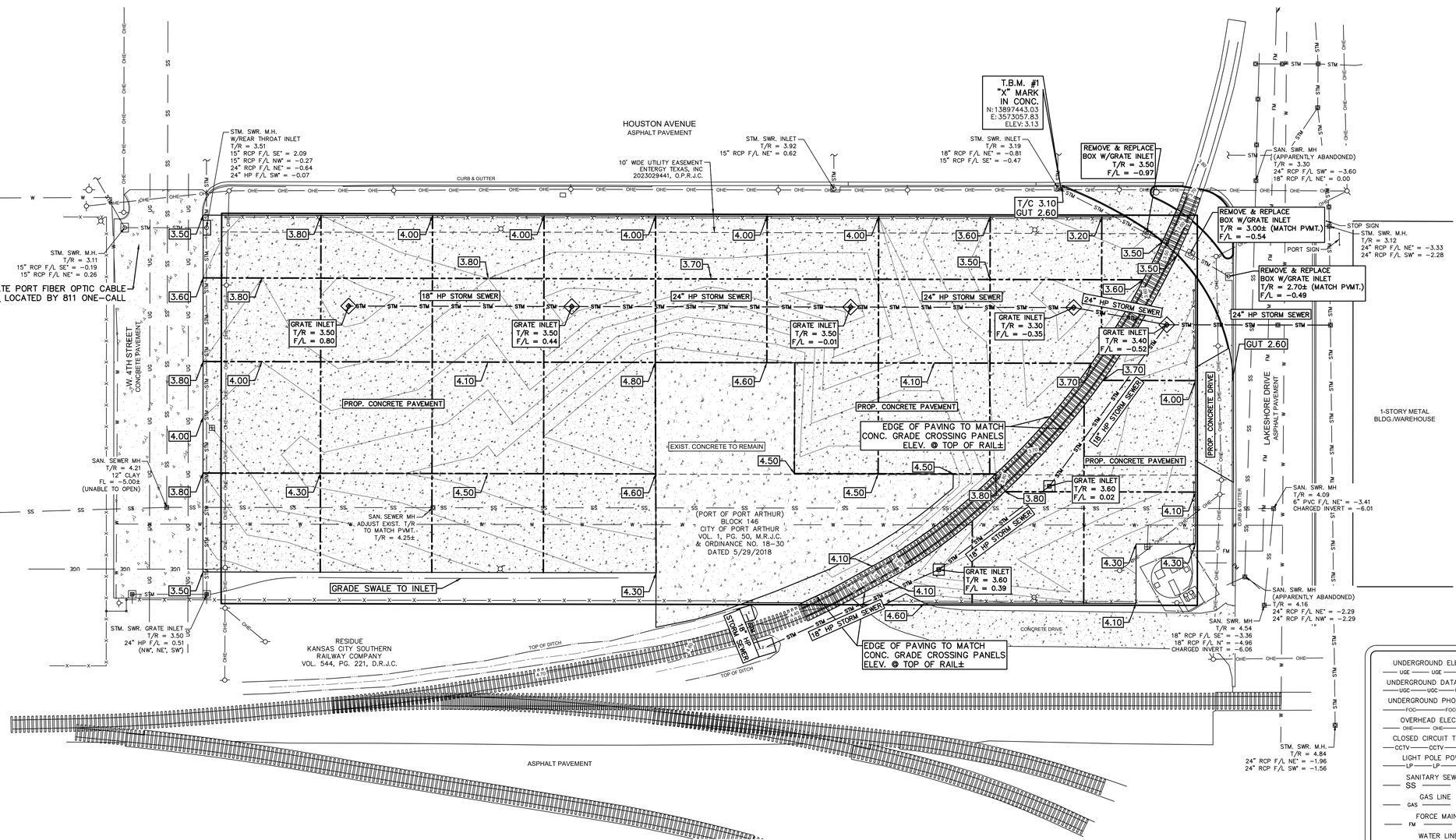
SHEET TITLE
JOINT PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM



LEGEND

UNDERGROUND ELECTRIC (UGE)	T/R = TOP OF RIM
UNDERGROUND DATA/COMM. (UGC)	F/L = FLOWLINE
UNDERGROUND PHONE LINE (FOC)	RCP = REINFORCED CONCRETE PIPE
OVERHEAD ELECTRIC (OHE)	STM. SWR. = STORM SEWER
CLOSED CIRCUIT TV LINE (CCTV)	O.P.R.J.C. = OFFICIAL RECORDS JEFFERSON COUNTY
LIGHT POLE POWER (LP)	D.R.J.C. = DEED RECORDS JEFFERSON COUNTY
SANITARY SEWER (SS)	= POWER POLE
GAS LINE (GAS)	= LIGHT POLE
FORCE MAIN (FM)	= FIBER OPTIC CABLE PEDESTAL (ATT)
WATER LINE (W)	= FIRE HYDRANT
STORM SEWER (STM)	= WATER METER
CHAINLINK SECURITY FENCE (X)	= RAILROAD TRACKS

STATE OF TEXAS
JEREMY J. MITCHELL
116941
LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEREMY J. MITCHELL, P.E. 116941

7/31/2025 FIRM # 5755

NO.	REVISION NOTES	DATE

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SHEET TITLE
GRADING PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM
SHEET 7 OF 14

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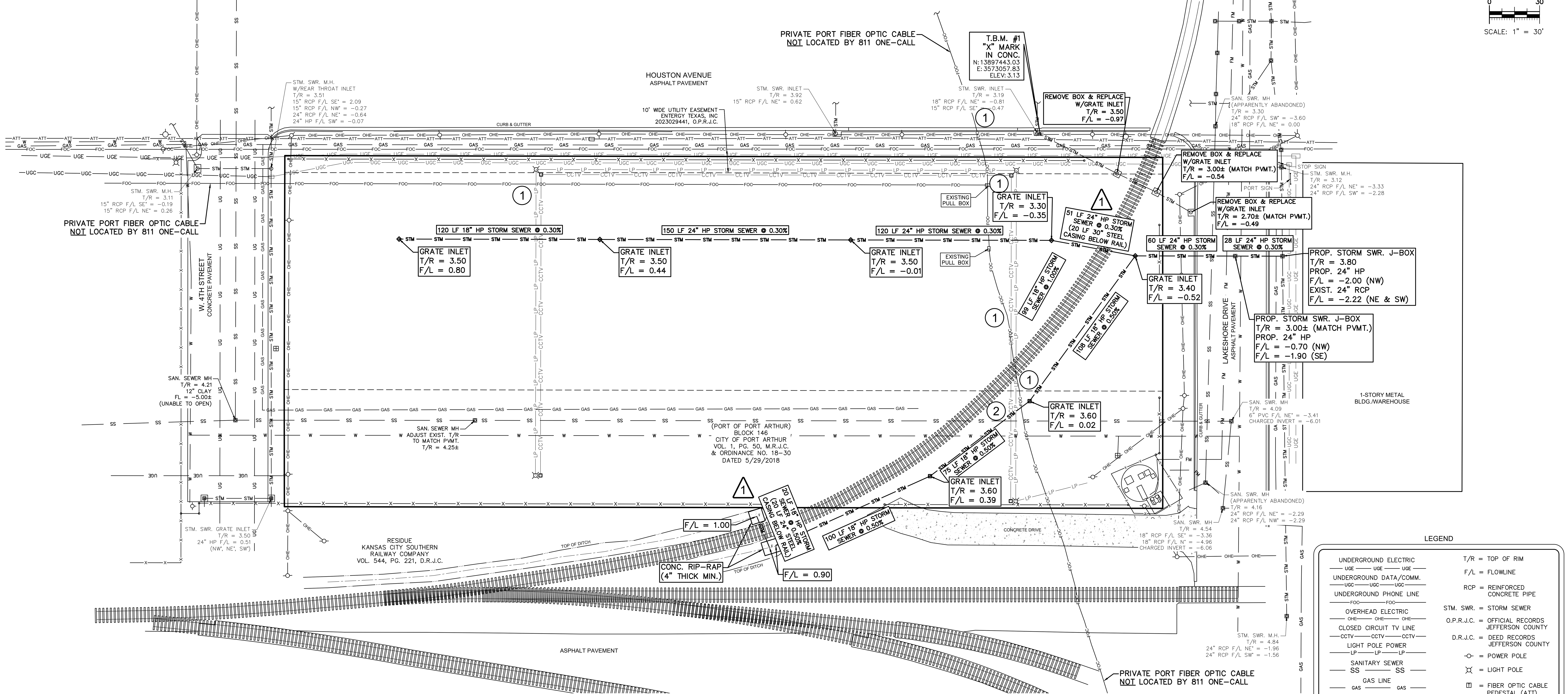
UTILITY CONFLICT NOTES

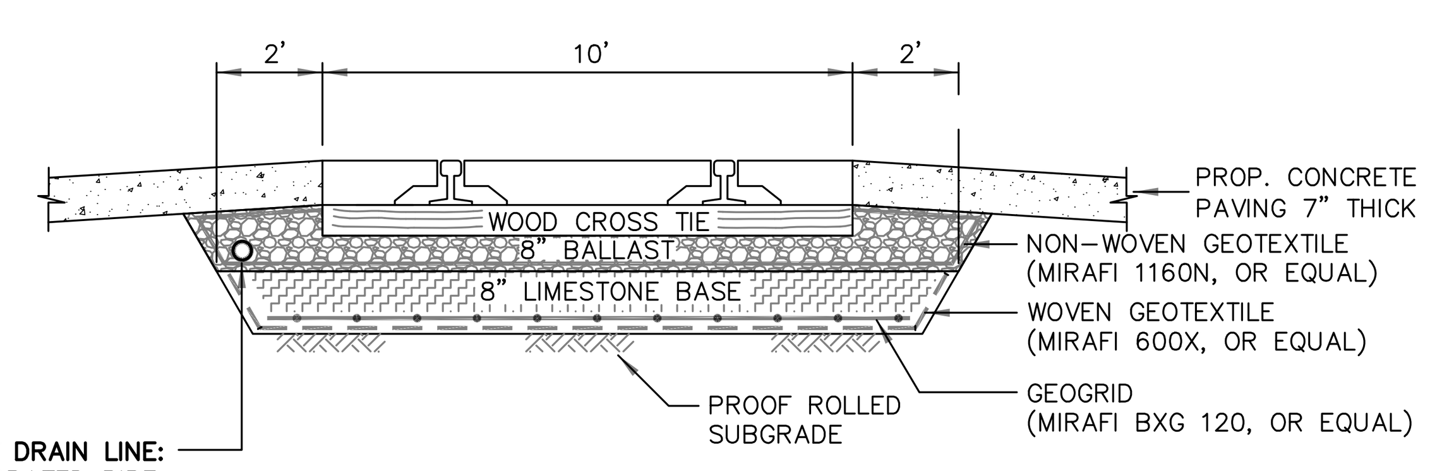
1. VERIFY FIBER OPTIC LINE DEPTH, COORDINATE WITH PORT AUTHORITIES
2. VERIFY WATER, SEWER, AND GAS LINE DEPTH, COORDINATE WITH UTILITY OPERATORS



SCALE: 1" = 30'
PRIVATE PORT FIBER OPTIC CABLE NOT LOCATED BY 811 ONE-CALL
T.B.M. #1 "X" MARK IN CONC. N: 13897443.03 E: 3573057.83 ELEV: 3.13
HOUSTON AVENUE ASPHALT PAVEMENT
10' WIDE UTILITY EASEMENT ENTERGY TEXAS, INC 2023029441, O.P.R.J.C.
STM. SWR. M.H. W/REAR THROAT INLET T/R = 3.51 15" RCP F/L SE" = 2.09 15" RCP F/L NW" = -0.27 24" RCP F/L NE" = -0.64 24" HP F/L SW" = -0.07
STM. SWR. INLET T/R = 3.92 15" RCP F/L NE" = 0.62
STM. SWR. INLET T/R = 3.19 18" RCP F/L NE" = -0.81 15" RCP F/L SE" = 0.47
REMOVE BOX & REPLACE W/GRATE INLET T/R = 3.50 F/L = -0.97
REMOVE BOX & REPLACE W/GRATE INLET T/R = 3.00± (MATCH PVMT.) F/L = -0.54
REMOVE BOX & REPLACE W/GRATE INLET T/R = 2.70± (MATCH PVMT.) F/L = -0.49
STM. SWR. M.H. T/R = 3.11 15" RCP F/L SE" = -0.19 15" RCP F/L NE" = 0.26
120 LF 18" HP STORM SEWER @ 0.30%
150 LF 24" HP STORM SEWER @ 0.30%
120 LF 24" HP STORM SEWER @ 0.30%
GRATE INLET T/R = 3.50 F/L = 0.80
GRATE INLET T/R = 3.50 F/L = 0.44
GRATE INLET T/R = 3.50 F/L = -0.01
GRATE INLET T/R = 3.30 F/L = -0.35
51 LF 24" HP STORM SEWER @ 0.30% (20 LF 30" STEEL CASING BELOW RAIL)
60 LF 24" HP STORM SEWER @ 0.30%
28 LF 24" HP STORM SEWER @ 0.30%
GRATE INLET T/R = 3.40 F/L = -0.52
PROP. STORM SWR. J-BOX T/R = 3.80 PROP. 24" HP F/L = -2.00 (NW) EXIST. 24" RCP F/L = -2.22 (NE & SW)
PROP. STORM SWR. J-BOX T/R = 3.00± (MATCH PVMT.) PROP. 24" HP F/L = -0.70 (NW) F/L = -1.90 (SE)
STM. SWR. M.H. T/R = 3.12 24" RCP F/L NE" = -3.33 24" RCP F/L SW" = -2.28
SAN. SWR MH (APPARENTLY ABANDONED) T/R = 3.30 24" RCP F/L SW" = -3.60 18" RCP F/L SE" = 0.00
99 LF 18" HP STORM SEWER @ 1.00%
108 LF 18" HP STORM SEWER @ 0.50%
W. 4TH STREET CONCRETE PAVEMENT
LAKESHORE DRIVE ASPHALT PAVEMENT
1-STORY METAL BLDG./WAREHOUSE
SAN. SEWER MH T/R = 4.21 12" CLAY FL = -5.00± (UNABLE TO OPEN)
SAN. SEWER MH ADJUST EXIST. T/R TO MATCH PVMT. T/R = 4.25±
(PORT OF PORT ARTHUR) BLOCK 146 CITY OF PORT ARTHUR VOL. 1, PG. 50, M.R.J.C. & ORDINANCE NO. 18-30 DATED 5/29/2018
GRATE INLET T/R = 3.60 F/L = 0.02
GRATE INLET T/R = 3.60 F/L = 0.39
75 LF 18" HP STORM SEWER @ 0.50%
20 LF 18" HP STORM SEWER @ 0.50% (20 LF 24" STEEL CASING BELOW RAIL)
100 LF 18" HP STORM SEWER @ 0.50%
F/L = 1.00
F/L = 0.90
CONC. RIP-RAP (4" THICK MIN.)
SAN. SWR. MH T/R = 4.09 6" PVC F/L NE" = -3.41 CHARGED INVERT = -6.01
SAN. SWR. MH (APPARENTLY ABANDONED) T/R = 4.16 24" RCP F/L NE" = -2.29 24" RCP F/L NW" = -2.29
SAN. SWR. MH T/R = 4.54 18" RCP F/L SE" = -3.36 18" RCP F/L N" = -4.96 CHARGED INVERT = -6.06
STM. SWR. GRATE INLET T/R = 3.50 24" HP F/L = 0.51 (NW", NE", SW")
RESIDUE KANSAS CITY SOUTHERN RAILWAY COMPANY VOL. 544, PG. 221, D.R.J.C.
STM. SWR. M.H. T/R = 4.84 24" RCP F/L NE" = -1.96 24" RCP F/L SW" = -1.56
ASPHALT PAVEMENT
PRIVATE PORT FIBER OPTIC CABLE NOT LOCATED BY 811 ONE-CALL

LEGEND

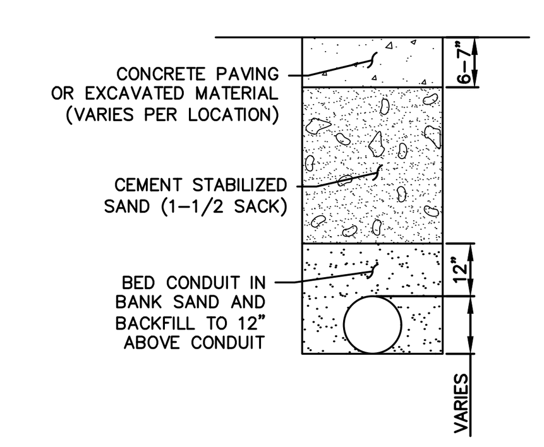
- UNDERGROUND ELECTRIC — UGE
- UNDERGROUND DATA/COMM. — UGC
- UNDERGROUND PHONE LINE — FOC
- OVERHEAD ELECTRIC — OHE
- CLOSED CIRCUIT TV LINE — CCTV
- LIGHT POLE POWER — LP
- SANITARY SEWER — SS
- GAS LINE — GAS
- FORCE MAIN — FM
- WATER LINE — W
- STORM SEWER — STM
- CHAINLINK SECURITY FENCE — X
- T/R = TOP OF RIM
- F/L = FLOWLINE
- RCP = REINFORCED CONCRETE PIPE
- STM. SWR. = STORM SEWER
- O.P.R.J.C. = OFFICIAL RECORDS JEFFERSON COUNTY
- D.R.J.C. = DEED RECORDS JEFFERSON COUNTY
- POWER POLE
- LIGHT POLE
- FIBER OPTIC CABLE PEDESTAL (ATT)
- FIRE HYDRANT
- WATER METER
- RAILROAD TRACKS



INSTALL 4" BALLAST DRAIN LINE: SCH. 40 PVC PERFORATED PIPE, PERFORATIONS DOWN. WRAP WITH NON-WOVEN GEOTEXTILE FABRIC. DRAIN TO NEAREST ADJACENT STORM SEWER J-BOX AS SHOWN.

TYPICAL RAIL CROSS-SECTION DETAIL

(NOT TO SCALE)



TYPICAL TRENCH BACKFILL DETAIL

(NOT TO SCALE)

FOR PERMITTING & CONSTRUCTION

STATE OF TEXAS — JEREMY J. MITCHELL — 116941 — LICENSED PROFESSIONAL ENGINEER

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= REVISION NUMBER

NO.	REVISION NOTES	DATE
1	ADDED STEEL CASING BELOW RAIL	8/20/2025

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SOUTEX SURVEYORS & ENGINEERS

T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

3737 Doctors Drive
Port Arthur, Texas 77642
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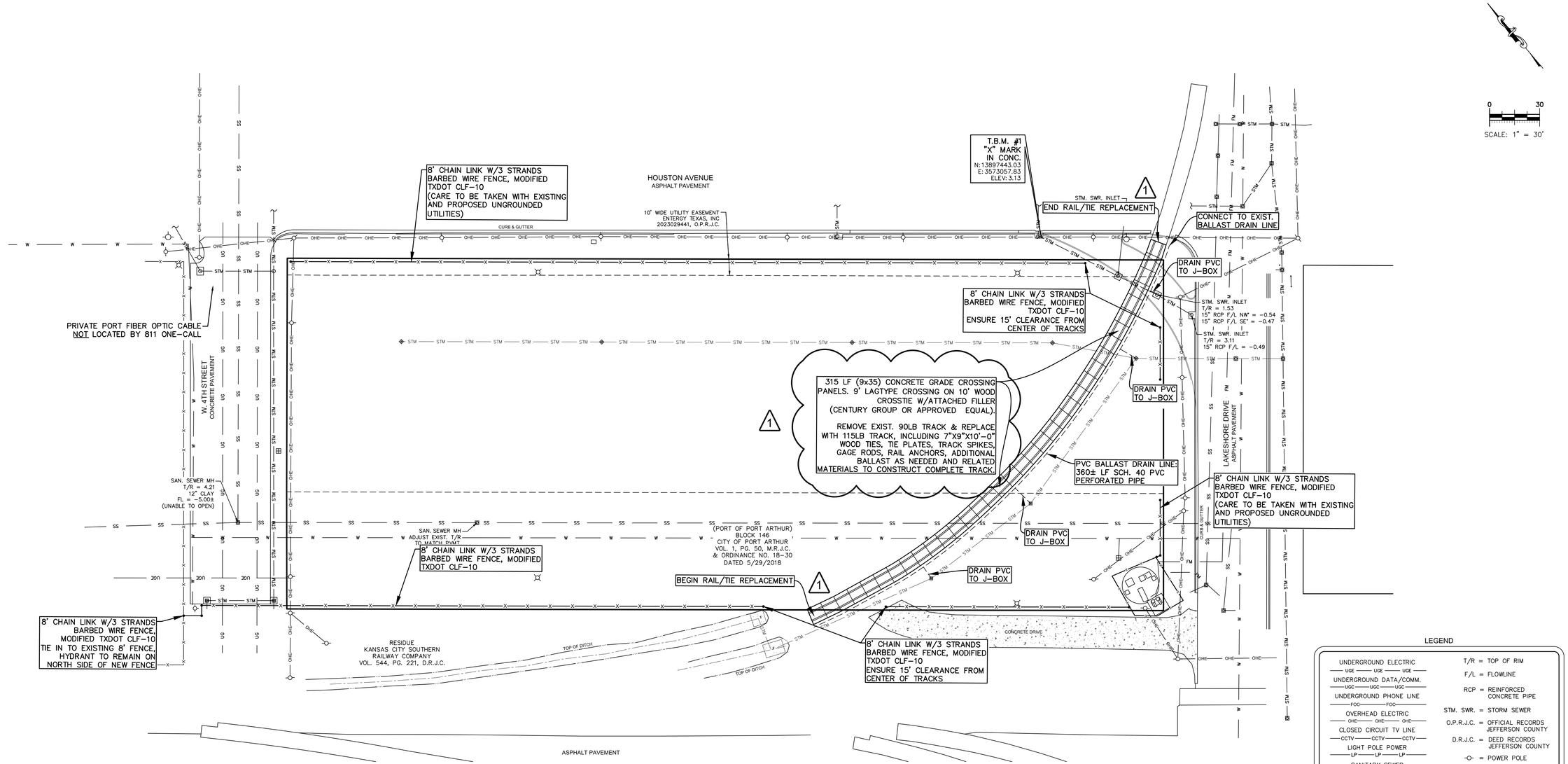
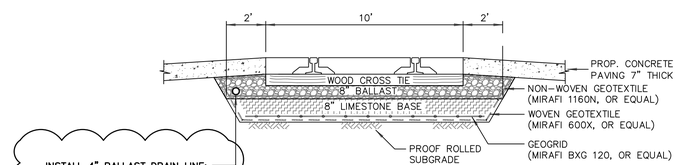
soutexsurveyors.com

SHEET TITLE: DRAINAGE PLAN

PROJECT: RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD, 221 HOUSTON AVENUE, PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM





TYPICAL RAIL CROSS-SECTION DETAIL
(NOT TO SCALE)

INSTALL 4" BALLAST DRAIN LINE:
SCH. 40 PVC PERFORATED PIPE, PERFORATIONS DOWN. WRAP WITH NON-WOVEN GEOTEXTILE FABRIC. DRAIN TO NEAREST ADJACENT STORM SEWER J-BOX AS SHOWN.

LEGEND

UNDERGROUND ELECTRIC (UGE)	T/R = TOP OF RIM
UNDERGROUND DATA/COMM. (UGC)	F/L = FLOWLINE
UNDERGROUND PHONE LINE (FOC)	RCP = REINFORCED CONCRETE PIPE
OVERHEAD ELECTRIC (OHE)	STM. SWR. = STORM SEWER
CLOSED CIRCUIT TV LINE (CCTV)	O.P.R.J.C. = OFFICIAL RECORDS JEFFERSON COUNTY
LIGHT POLE POWER (LP)	D.R.J.C. = DEED RECORDS JEFFERSON COUNTY
SANITARY SEWER (SS)	= POWER POLE
GAS LINE (GAS)	= LIGHT POLE
FORCE MAIN (FM)	= FIBER OPTIC CABLE PEDESTAL (ATT)
WATER LINE (W)	= FIRE HYDRANT
STORM SEWER (STM)	= WATER METER
CHAINLINK SECURITY FENCE (X)	= RAILROAD TRACKS

STATE OF TEXAS
JEREMY J. MITCHELL
116941
LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

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7/31/2025 FIRM # 5755

= REVISION NUMBER

NO.	REVISION NOTES	DATE
1	ADDED TO SCOPE OF RAIL WORK	8/20/2025

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SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

3737 Doctors Drive
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Tel. 409.983.2004
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soutexsurveyors.com

SHEET TITLE
RAIL PLAN/GRADE CROSSING PANELS & FENCING PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM
SHEET 9 OF 14

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UTILITY CONFLICT NOTES

1. VERIFY FIBER OPTIC LINE DEPTH, COORDINATE WITH PORT AUTHORITIES
2. VERIFY WATER, SEWER, AND GAS LINE DEPTH, COORDINATE WITH UTILITY OPERATORS

SCALE: 1" = 30'

POWER: BEGIN 4-6" PVC (TIE TO EXIST. PLUGGED LINE)

STM. SWR. M.H. W/REAR THROAT INLET T/R = 3.51 15" RCP F/L SE" = 2.09 15" RCP F/L NW" = -0.27 24" RCP F/L NE" = -0.64 24" HP F/L SW" = -0.07

POWER: 4-6" CONDUIT (TYPICAL)

HOUSTON AVENUE ASPHALT PAVEMENT

10' WIDE UTILITY EASEMENT ENTERGY TEXAS, INC 2023029441, O.P.R.J.C.

CURB & GUTTER

STM. SWR. INLET T/R = 3.92 15" RCP F/L NE" = 0.62

PRIVATE PORT FIBER OPTIC CABLE NOT LOCATED BY 811 ONE-CALL

REPLACE EXIST. PULL BOX W/ 24"X36" H-20 TRAFFIC RATED BOX (X2)

T.B.M. #1 "X" MARK IN CONC. N: 13897443.03 E: 3573057.83 ELEV: 3.13

STM. SWR. INLET T/R = 3.19 15" RCP F/L NE" = -0.81 15" RCP F/L SE" = -0.47

UNDERGROUND UTILITY BORING: DIRECTIONAL DRILL OR HORIZONTAL BORE CONDUIT UNDER RAILROAD AND LAKESHORE DRIVE, 150 LF±

STM. SWR. INLET T/R = 1.45 15" RCP F/L NW" = -0.97 15" RCP F/L SE" = -0.52

SAN. SWR. MH (APPARENTLY ABANDONED) T/R = 3.30 24" RCP F/L SW" = -3.60 18" RCP F/L NE" = 0.00

FURNISH AND INSTALL: ELECTRICAL PULL BOX (A60048961AFENT OR APPROVED EQUAL)

STM. SWR. M.H. T/R = 3.11 15" RCP F/L SE" = -0.19 15" RCP F/L NE" = 0.26

PRIVATE PORT FIBER OPTIC CABLE NOT LOCATED BY 811 ONE-CALL

DATA/COMM.: BEGIN 3-4" PVC FURNISH AND INSTALL 26"X36" PULL BOX (H-20 TRAFFIC RATED)

DATA/COMM.: 3-4" CONDUIT (TYPICAL)

CCTV PULL BOX

CCTV 2-1&1/2" CONDUIT (TYPICAL) (CAN BE INSTALLED IN SAME TRENCH AS LP)

REF. ELECTRICAL PLANS SHEETS E1-2

CCTV PULL BOX

EXISTING PULL BOX

EXISTING PULL BOX

CCTV PULL BOX

PORT SIGN

STM. SWR. M.H. T/R = 3.12 24" RCP F/L NE" = -3.33 24" RCP F/L SW" = -2.28

DATA/COMM.: FURNISH AND INSTALL 26"X36" PULL BOX (H-20 TRAFFIC RATED)

STM. SWR. INLET T/R = 1.53 15" RCP F/L NW" = -0.54 15" RCP F/L SE" = -0.47

STM. SWR. INLET T/R = 3.11 15" RCP F/L = -0.49

W. 4TH STREET CONCRETE PAVEMENT

LAKESHORE DRIVE ASPHALT PAVEMENT

1-STORY METAL BLDG./WAREHOUSE

SAN. SEWER MH T/R = 4.21 12" CLAY FL = -5.00± (UNABLE TO OPEN)

SAN. SEWER MH ADJUST EXIST. T/R TO MATCH PVMT. T/R = 4.25±

(PORT OF PORT ARTHUR) BLOCK 146 CITY OF PORT ARTHUR VOL. 1, PG. 50, M.R.J.C. & ORDINANCE NO. 18-30 DATED 5/29/2018

REF. ELECTRICAL PLANS SHEETS E1-2

CCTV 2-1&1/2" CONDUIT (TYPICAL) (CAN BE INSTALLED IN SAME TRENCH AS LP)

CCTV PULL BOX

CCTV PULL BOX

ELECTRICAL PANEL RACK

SAN. SWR. MH T/R = 4.54 18" RCP F/L SE" = -3.36 18" RCP F/L N" = -4.96 CHARGED INVERT = -6.06

SAN. SWR. MH T/R = 4.09 6" PVC F/L NE" = -3.41 CHARGED INVERT = -6.01

SAN. SWR. MH (APPARENTLY ABANDONED) T/R = 4.16 24" RCP F/L NE" = -2.29 24" RCP F/L NW" = -2.29

POWER: END 4-6" PVC PLUGS.

DATA/COMM.: END 3-4" PVC PLUGS.

STM. SWR. GRATE INLET T/R = 3.50 24" HP F/L = 0.51 (NW, NE, SW)

RESIDUE KANSAS CITY SOUTHERN RAILWAY COMPANY VOL. 544, PG. 221, D.R.J.C.

TOP OF DITCH

TOP OF DITCH

ASPHALT PAVEMENT

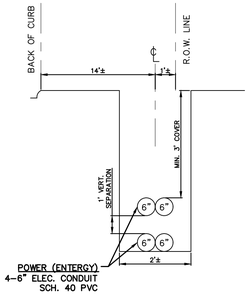
STM. SWR. M.H. T/R = 4.84 24" RCP F/L NE" = -1.96 24" RCP F/L SW" = -1.56

PRIVATE PORT FIBER OPTIC CABLE NOT LOCATED BY 811 ONE-CALL

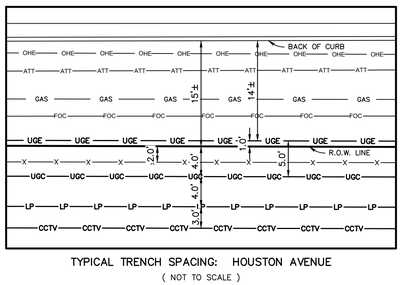
LEGEND

UNDERGROUND ELECTRIC	T/R = TOP OF RIM
UNDERGROUND DATA/COMM.	F/L = FLOWLINE
UNDERGROUND PHONE LINE	RCP = REINFORCED CONCRETE PIPE
OVERHEAD ELECTRIC	STM. SWR. = STORM SEWER
CLOSED CIRCUIT TV LINE	O.P.R.J.C. = OFFICIAL RECORDS JEFFERSON COUNTY
LIGHT POLE POWER	D.R.J.C. = DEED RECORDS JEFFERSON COUNTY
SANITARY SEWER	= POWER POLE
GAS LINE	= LIGHT POLE
FORCE MAIN	= FIBER OPTIC CABLE PEDESTAL (ATT)
WATER LINE	= FIRE HYDRANT
STORM SEWER	= WATER METER
CHAINLINK SECURITY FENCE	= RAILROAD TRACKS

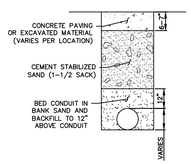
NOTE:
CONTRACTOR SHALL INSTALL A PULL TAPE IN EACH CONDUIT, FOR THE FULL LENGTH OF THE CONDUIT, AND TIED OFF TO EACH END OF THE CONDUIT. PULL TAPE SHALL BE 5/8" WIDE WITH A MINIMUM TENSILE STRENGTH OF 1,250 POUNDS.



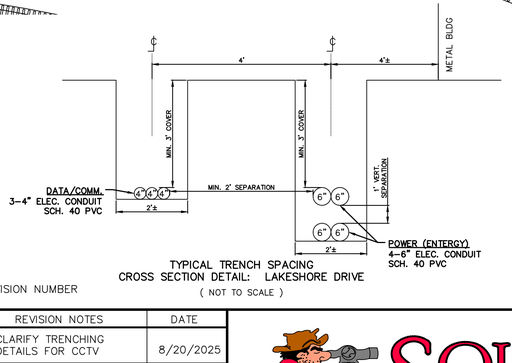
TYPICAL POWER (ENTERGY) TRENCH CROSS SECTION DETAIL: HOUSTON AVENUE
(NOT TO SCALE)



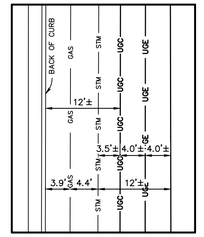
TYPICAL TRENCH SPACING: HOUSTON AVENUE
(NOT TO SCALE)



TYPICAL TRENCH BACKFILL DETAIL
(NOT TO SCALE)



TYPICAL TRENCH SPACING CROSS SECTION DETAIL: LAKESHORE DRIVE
(NOT TO SCALE)



TYPICAL TRENCH SPACING ALONG LAKESHORE DRIVE
(NOT TO SCALE)

#= REVISION NUMBER

NO.	REVISION NOTES	DATE
1	CLARIFY TRENCHING DETAILS FOR CCTV	8/20/2025

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SOUTEX SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

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STATE OF TEXAS JEREMY J. MITCHELL 116941 LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEREMY J. MITCHELL, P.E. 116941

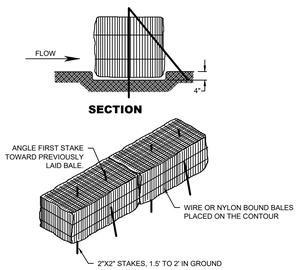
7/31/2025 FIRM # 5755

SHEET TITLE: UTILITY PLAN

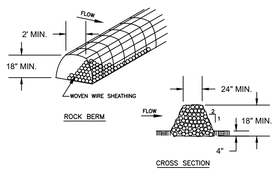
PROJECT: RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23-0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM
SHEET 10 OF 14

\\192.168.0.250\SoutexServer\Jobs\Y2023\23-0350 Port of PA-Rider 37\DWG\23-0350-PLAN SHEETS-13.dwg Aug 20, 2025-5:07pm

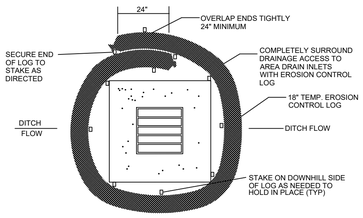


TEMPORARY HAY BALE BARRIER



ROCK BERM
N.T.S.

INSTALL AS NECESSARY TO PREVENT WASH OUT OF SILT FENCE.

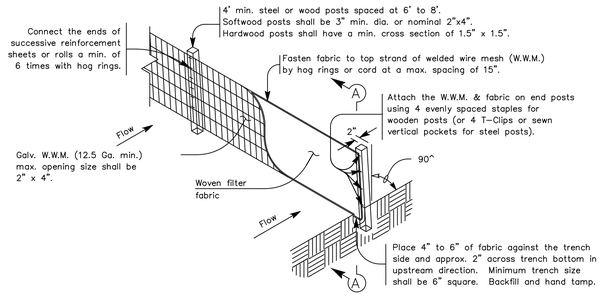


LOGS PLACED AT AREA DRAIN INLETS
N.T.S.

TEMPORARY EROSION CONTROL LOGS

EROSION CONTROL LOG NOTES

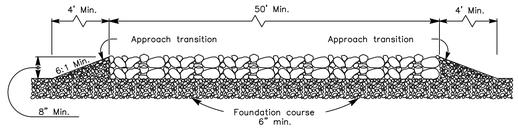
1. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED. MAXIMUM LENGTH OF LOGS SHALL BE 60' FOR 18" DIAMETER OR 30' FOR 12" DIAMETER LOGS.
2. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
3. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION.
4. STAKES SHALL BE 2" x 2" WOOD OR #3 REBAR, 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED.
5. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.



TEMPORARY SEDIMENT CONTROL FENCE
N.T.S.

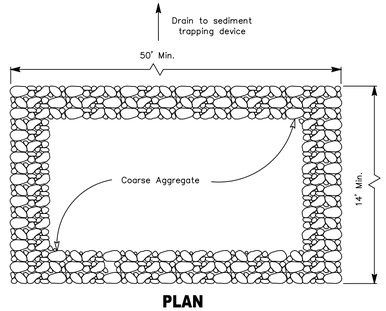
NOTES:

1. USE ONLY OPEN GRADED ROCK (4 to 8") DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK (3 to 5") DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM (1") OPENING AND MINIMUM WIRE DIAMETER OF (20 GAUGE). ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF (6 ") WITH T-POSTS OR WITH (#5 OR #6) REBAR, WITH MAXIMUM SPACING APART OF (48") ON CENTER.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR (6"), WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE-SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES (6").
6. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

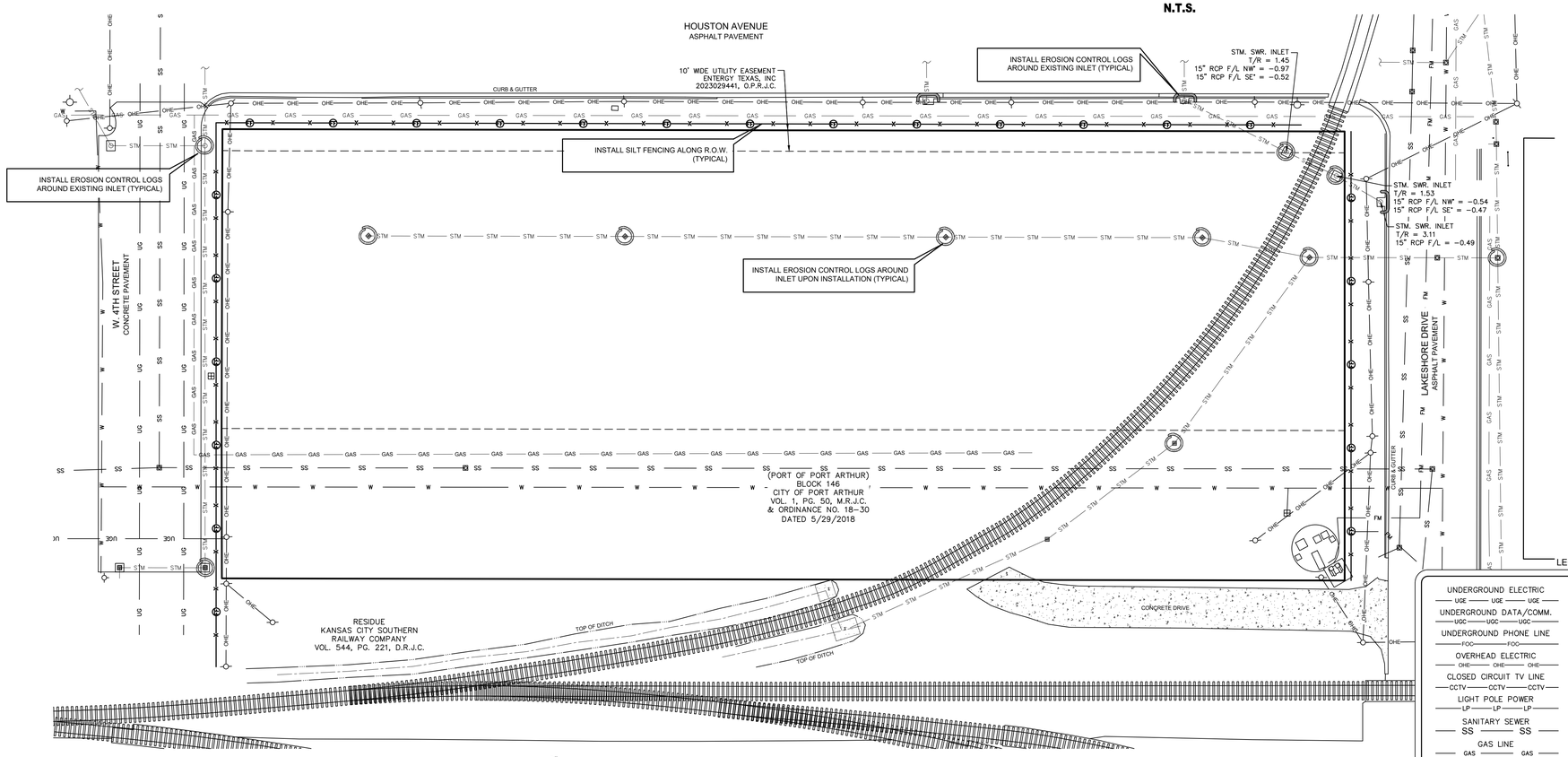


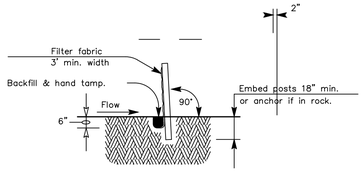
PROFILE

CONSTRUCTION EXIT (TYPE 1)
N.T.S.



PLAN
N.T.S.





SECTION A-A
N.T.S.

NOTES:

1. CONTRACTOR TO TAKE EXTRA CARE TO KEEP EAST LUCAS CLEAN AND FREE OF DEBRIS. ANY MUD, DEBRIS, ETC. ON THESE ROADS CAUSED BY THIS CONSTRUCTION IS TO BE CLEANED UP AT ONCE.

2. EROSION CONTROL MEASURES TO BE MAINTAINED UNTIL VEGETATION ESTABLISHED @ 75% COVERAGE.

NOTES:

1. CONTRACTOR TO TAKE EXTRA CARE TO KEEP STREETS CLEAN AND FREE OF DEBRIS. ANY MUD, DEBRIS, ETC. ON THESE ROADS CAUSED BY THIS CONSTRUCTION IS TO BE CLEANED UP AT ONCE.

2. EROSION CONTROL MEASURES TO BE MAINTAINED UNTIL VEGETATION ESTABLISHED @ 75% COVERAGE.

CONCRETE WASHOUT AREA

1. MINIMUM AREA IS 10' x 10' WITH 2' DEPTH.
2. PIT TO BE LINED WITH 10 MIL PLASTIC SHEETING.
3. PROVIDE A SIGN NOTING THE CONCRETE WASHOUT AREA.
4. THE WASHOUT AREA TO BE CLEANED OUT WHEN 75% OF THE CAPACITY IS REACHED.
5. WHEN AREA IS NO LONGER NEEDED THE MATERIAL IS TO BE REMOVED AND HAULED TO A CONCRETE CRUSHING FACILITY OR PERMITTED LANDFILL.

STATE OF TEXAS
JEREMY J. MITCHELL
116941
LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEREMY J. MITCHELL, P.E. 116941

7/31/2025 FIRM # 5755

NO.	REVISION NOTES	DATE

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T.B.P.E. FIRM #5755 * T.X.L.S. FIRM #10123800

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SHEET TITLE
EROSION CONTROL PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
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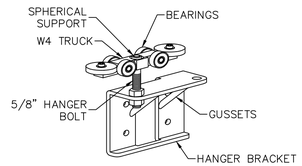
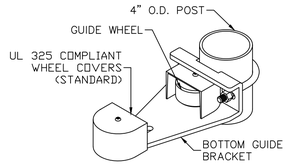
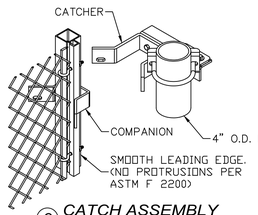


7 GATE HANGER ASSEMBLY
Scale: None



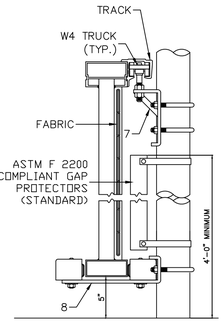
8 BOTTOM GUIDE
Scale: None



9 CATCH ASSEMBLY
Scale: None

CRITICAL DIMENSION CHART			
MARK	DESCRIPTION	FORMULA	DIM.
A	CLEAR OPENING	A	"
B	COUNTERBALANCE POST SPACING C/C	(A/2)-11"	"
C	OVERALL GATE LENGTH	A x 1.5	"
D	COUNTERBALANCE LENGTH	A x 0.5	"
E	NOMINAL GATE HEIGHT	E	"
F	POST HEIGHT (W BARB ARMS)	E + 1'-6"	"
G	FABRIC HEIGHT	E - 1'-0"	"

NOTES:
1. ALL FITTINGS STANDARD PROVIDED FOR 4" O.D. POSTS. OTHER SIZES AVAILABLE UPON REQUEST.
2. BARB ARMS (FOR BARBED WIRE) OPTIONAL.



ENLARGED SECTION
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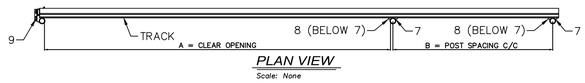

PLAN VIEW
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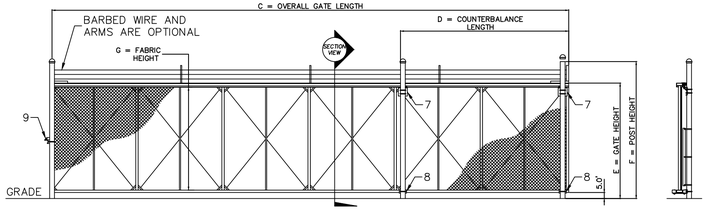
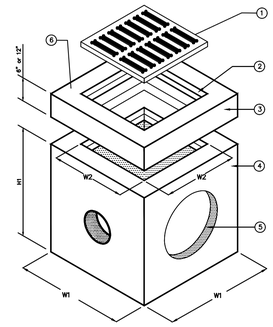


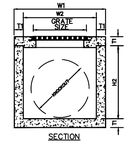
ELEVATION
Scale: None

SECTION
Scale: None

HEAVY DUTY CANTILEVER SLIDE GATE



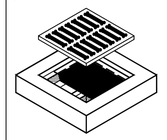
NOTE: KNOCKOUTS–STD, PENETRATIONS–OPTIONAL



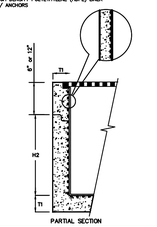
KEYED NOTES		
MARK	QTY	DESCRIPTION
1	1	GRATE OR COVER AS REQUESTED, SEE OPTIONS
2	1	CAST–IN STEEL FRAME
3	1	OPTIONAL TOP/EXTENSION 6" TO 18"
4	1	PRECAST CONCRETE BASIN SECTION
5	4	KNOCKOUTS (STD) AND PENETRATIONS (OPT) AS REQUIRED, SEE KO DIMENSION FOR MAXIMUM SIZE O.D.'s
6	1	NAMEPLATE INDICATING: MFG: PARKUSA BBB–611–PARK WWW.PARKUSA.COM MODEL: CB–01 RATE MANUFACTURED

ADDITIONAL OPTIONS

REMOVABLE DEBRIS SCREEN w/ (2) LIFT HANDLES, 304 STAINLESS STEEL, ¾" HOLES @ ¾" C/C. (50% FREE OPEN AREA)

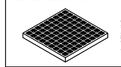


HIGH DENSITY POLYETHYLENE (HDPE) LINER W/ ANCHORS



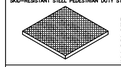
COVER OPTIONS

ADD RESISTANT FRP GRATING, w/ STAINLESS STEEL FRAME (PEDESTRIAN DUTY)



GRATING: GRATING SHALL BE FABRICATED FROM PULTRUDED GRATING W/ STAINLESS STEEL ANGLE FRAME.

SKID–RESISTANT STEEL PEDESTRIAN DUTY STD.

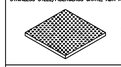


D.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536, AASHTO M306, & AASHTO M105 STANDARDS.

TRAFFIC DUTY CAST IRON GRATE

D.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536, AASHTO M306, & AASHTO M105 STANDARDS.

STAINLESS STEEL/FIBERGLASS GRATE, ADA APPROVED



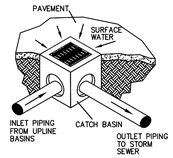
ACCESS COVER: GRATE TO BE FURNISHED WITH 316 STAINLESS STEEL BOLTS AND HINGES.

CAST IRON FRAME & GRATE V5600–SERIES

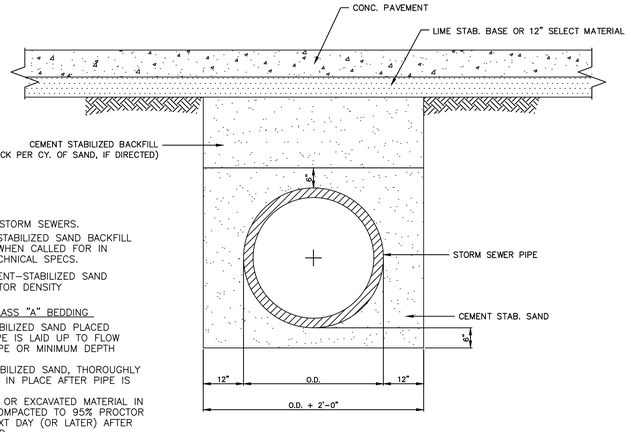
D.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536, AASHTO M306, & AASHTO M105 STANDARDS.

MODEL	W1	W2	H1	H2	T1	T2	KO	GRATE SIZE	OPEN AREA	WEIGHT LBS
CB–12	15"	10"	21"	18"	3"	2"	10"	12"x12"x1"	90	180
CB–14	20"	12"	28"	24"	4"	4"	12"	14"x14"x1⅛"	120	600
CB–18	24"	16"	34"	30"	4"	4"	15"	18"x18"x1⅝"	168	1,000
CB–20	28"	18"	34"	30"	4"	4"	17"	20"x20"x1⅝"	170	1,335
CB–24	33"	22"	41"	36"	5"	5"	22"	24"x24"x2"	268	2,245
CB–27	37"	25"	42"	36"	6"	6"	24"	27"x27"x2"	350	2,875
CB–30	43"	30"	42"	36"	6"	6"	30"	32"x32"x2"	490	3,675
CB–36	48"	36"	42"	36"	6"	6"	32"	38"x38"x2"	693	4,585
CB–48	60"	48"	54"	48"	6"	6"	48"	38"x38"x2"	693	7,250
*CB–60	72"	60"	66"	60"	6"	6"	60"	38"x38"x2"	693	10,500
*CB–72	84"	72"	78"	72"	6"	6"	72"	38"x38"x2"	693	15,350
*CB–84	96"	84"	78"	72"	6"	6"	72"	38"x38"x2"	693	19,500

*KNOCKOUTS NOT AVAILABLE

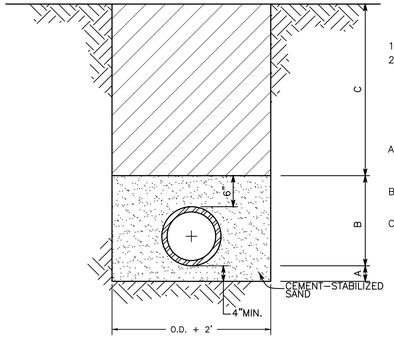


PARK USA
www.parkusa.com 888–611–PAR
CATCH BASIN
MODEL CB – 12" THRU 84"



TYPICAL STORM SEWER BACKFILL UNDER PAVEMENT

N.T.S.



NOTE
1. USE FOR ALL STORM SEWERS.
2. USE CEMENT–STABILIZED SAND BACKFILL IN AREA "C" WHEN CALLED FOR IN PLANS OR TECHNICAL SPECS.

COMPACT CEMENT–STABILIZED SAND TO 90% PROCTOR DENSITY

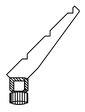
NOTES FOR CLASS "A" BEDDING
A – CEMENT–STABILIZED SAND PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE OR MINIMUM DEPTH OF 4"
B – CEMENT–STABILIZED SAND, THOROUGHLY COMPACTED IN PLACE AFTER PIPE IS LAID.
C – SELECT FILL OR EXCAVATED MATERIAL IN 8" LIFTS COMPACTED TO 95% PROCTOR PLACED NEXT DAY (OR LATER) AFTER PIPE IS LAID.

CLASS "A" BEDDING

(FOR USE WITH STORM SEWER PIPE)

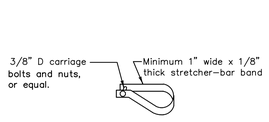
GENERAL NOTES

1. Items hereon shall conform to Item 550, "Chain Link Fence."
2. Typical installation plan may vary as shown elsewhere on the plans or as directed by the Engineer. Location of gates shown elsewhere on plans.
3. Gate–frame members shall be welded at frame corners.
4. Brace between corner, end, and gate posts and pull posts.
5. All cable connections are to be made with two ⅜" cable clamps.
6. One end of each turnbuckle may be attached directly to fittings with a clevis.
7. Concrete footings are to be crowned at the top to shed water.
8. Steel chain link fabric: 2 in. mesh, 9 gauge, top selvage twist, bottom selvage knuckle, class 1 zinc coating (1.2 oz/sf) per ASTM A392.
9. Round steel pipe and rail–hot dipped galvanized per ASTM F1083
   A. End, Corner, Pull Post: 2.875" min. O.D., Sch 40
   B. Line Post: 2.375" min. O.D., Sch 40
   C. Gate Post: 8" Sch 40
   D. Top, Brace, and Intermediate Rail: 1.660" min O.D., Sch 40
10. Metallic Coated Steel Tension Wire: 7 gauge, type II zinc–coated, class 5 – 2.00 oz/sf, min. tensile strength of 75,000 psi. (ASTM A824)
11. Metallic Coated Steel Barbed Wire: double 12.5 gauge twisted strand wire, 4 point 12.5 gauge round barbs spaced 5 inches on center, class III zinc coated (domestic)
12. Tension and brace brands, terminal post caps, truss rods, tension bars, barbed wire arms, tie wire and hog rings shall have a minimum zinc coating of 1.2 oz/sf.
13. Concrete for footing shall have a 28 day compressive strength of 3,000 PSI.
14. For cantilever gates see Heavy Duty Cantilever Slide Gate detail.

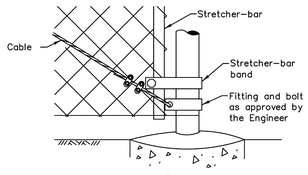


3 WIRE 45° BARBED WIRE ARM

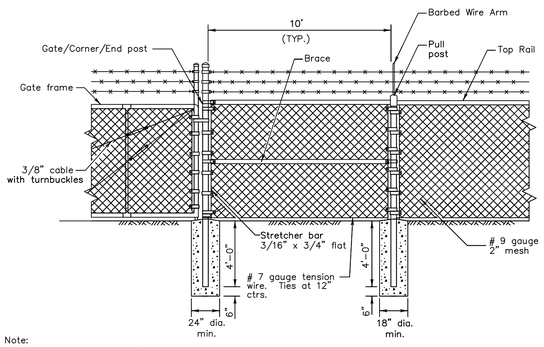
Barbed wire arm related items shall conform to Item 550, "Chain Link Fence."



TYPICAL STRETCHER–BAR BAND



PULL POST DETAIL



Note:
All concrete footings shall be crowned a minimum 1" above the existing ground.

CHAIN LINK BARRIER FENCE (8 FT.)

1

CHAIN LINK FENCE DETAILS

TxDOT CLF–10 (MODIFIED)

#= REVISION NUMBER

NO.	REVISION NOTES	DATE
1	MODIFIED FENCE DETAILS	8/20/2025

SOUTEX SURVEYORS & ENGINEERS
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3737 Doctors Drive
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Tel. 409.983.2004
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FOR PERMITTING & CONSTRUCTION

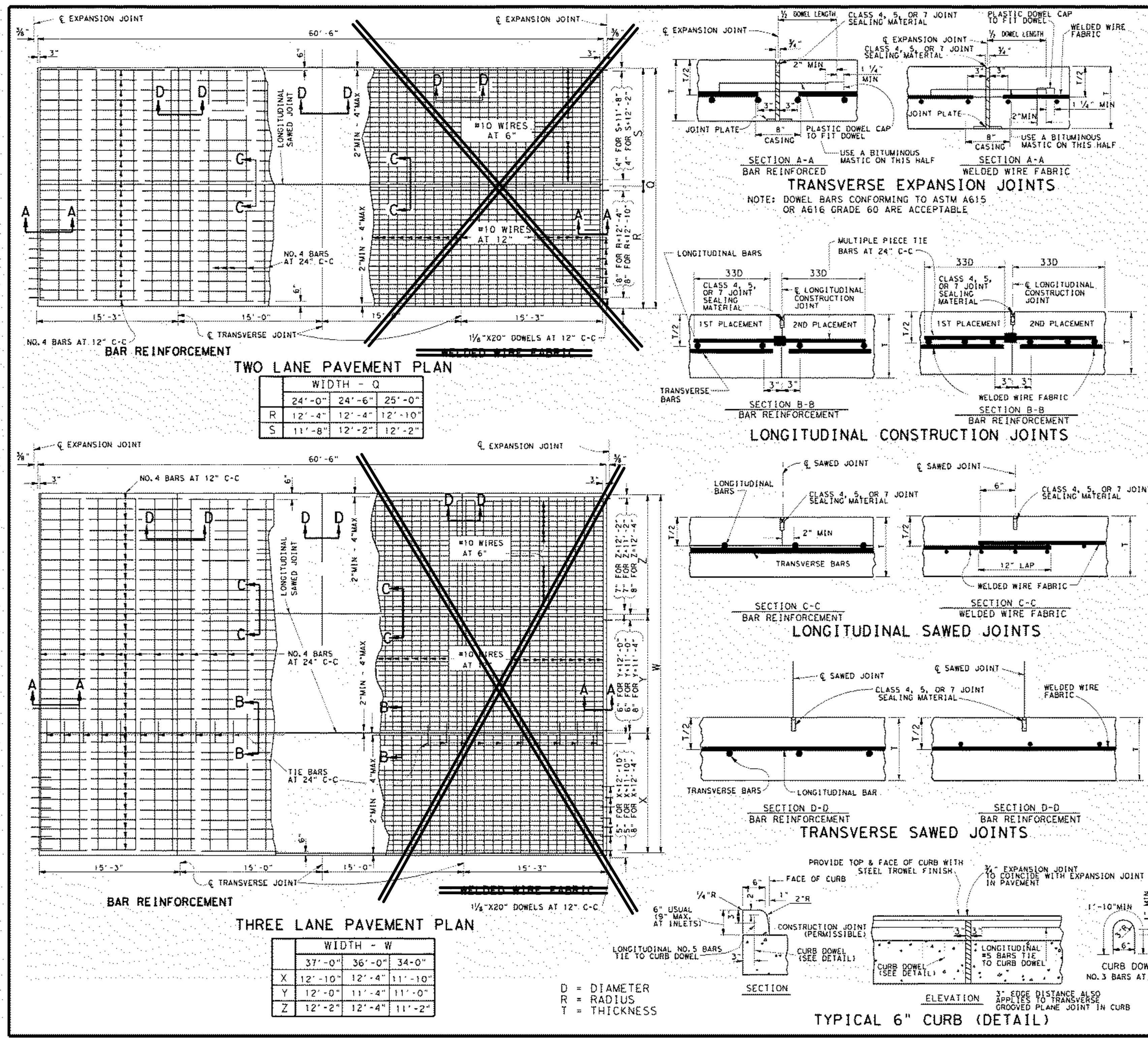
STATE OF TEXAS
JEREMY J. MITCHELL
116941
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEREMY J. MITCHELL, P.E. 116941

7/31/2025 FIRM # 5755

SHEET TITLE: DETAILS
PROJECT: RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23–0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM
SHEET 12 OF 14



GENERAL NOTES

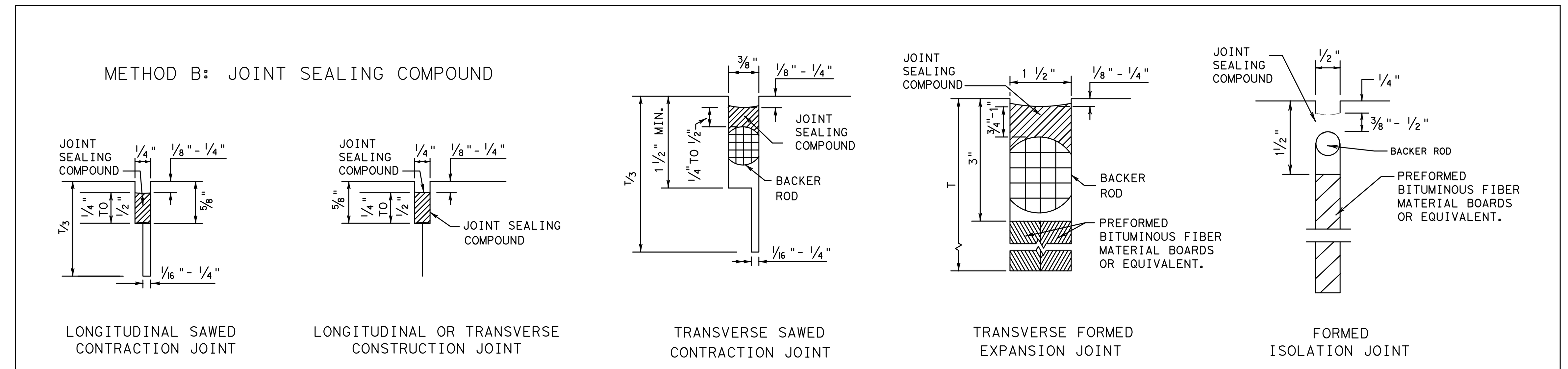
1. MULTIPLE PIECE TIE BARS ARE REQUIRED AT LONGITUDINAL CONSTRUCTION JOINTS. USE MULTIPLE PIECE TIE BAR ASSEMBLIES WITH STOP TYPE COUPLINGS AND WITH THREADS ON THE BARS. ENSURE THE MULTIPLE PIECE TIE BAR ASSEMBLIES DEVELOP A MINIMUM ULTIMATE TENSILE STRENGTH EQUAL TO 1.25 TIMES THE YIELD STRENGTH OF THE TRANSVERSE BARS BEING JOINED. USE DEFORMED REINFORCING BARS FOR TIE BARS. TIE BAR ASSEMBLIES MADE FROM STEELS OTHER THAN ASTM GRADE 60 AND WITH DEFORMATIONS OTHER THAN ASTM STANDARD MAY BE USED IF IT CAN BE PROVEN TO THE ENGINEER THAT THEY ARE IN EVERY RESPECT THE EQUAL OF THE ASSEMBLIES SPECIFIED. LABORATORY TESTING OF THE PROPOSED ASSEMBLIES, AT THE CONTRACTOR'S EXPENSE, MAY BE REQUIRED.
2. FORM CONSTRUCTION JOINTS WITH METAL OR WOOD FORMS EQUAL IN DEPTH TO THE NOMINAL DEPTH OF THE PAVEMENT OR BY OTHER MEANS APPROVED PRIOR TO THEIR USE.
3. SAW LONGITUDINAL AND TRANSVERSE JOINTS AS SOON AS SAWING CAN BE ACCOMPLISHED WITHOUT DAMAGE TO THE PAVEMENT AND BEFORE 24 HOURS AFTER PLACING THE CONCRETE. THE EXACT TIME WILL BE APPROVED BY THE ENGINEER. PREFORMED JOINT WITH ASPHALT STRIP IS NOT ACCEPTABLE.
4. LONGITUDINAL JOINTS ARE SHOWN OFFSET FOUR INCHES FROM THE THEORETICAL LANE LINE AND MAY BE OFFSET TO EITHER SIDE IF THE WIDTH OF THE WIRE FABRIC IS PROPERLY ADJUSTED.
5. ONE OF THE LONGITUDINAL JOINTS OF PAVEMENT SLABS WIDER THAN TWO LANES MAY BE A CONSTRUCTION JOINT. FOR PAVEMENT SLABS WIDER THAN 15 FT. PROVIDE A LONGITUDINAL SAWED JOINT UNLESS OTHERWISE DIRECTED.
6. FORM THE JOINT SEAL SPACE AT TRANSVERSE EXPANSION JOINTS BY USING A STRAIGHT FORM PLACED BEHIND THE LONGITUDINAL FLOAT. LOOSEN THE FORM AS SOON AS THE CONCRETE WILL RETAIN ITS SHAPE AND EDGE WITH AN APPROVED EDGING TOOL. TOOL BOTH EDGES OF LONGITUDINAL CONSTRUCTION JOINTS TO A 1/8 IN. RADIUS AT THE PAVEMENT SURFACE.
7. DO NOT DISCHARGE CONCRETE FROM THE MIXER DIRECTLY ON TOP OF OR ON THE SIDES OF THE EXPANSION JOINT ASSEMBLIES.
8. LAP TRANSVERSE EDGES OF SHEETS OF WELDED WIRE FABRIC 12 INCHES EXCEPT AT TRANSVERSE EXPANSION JOINTS. LAP LONGITUDINAL EDGES 6 INCHES EXCEPT AT LONGITUDINAL CONSTRUCTION JOINTS.
9. DOWEL BARS MAY BE COATED WITH STAINLESS STEEL, MONEL METAL, OR IN ACCORDANCE WITH THE ITEM "REINFORCING STEEL" SECTION ON EPOXY COATING; WITH A WELDED DOWEL ASSEMBLY SUPPORT, AS APPROVED. ENSURE THE CASING CONFORMS TO THE REQUIREMENTS OF ONE OF THE GRADES OF ASTM A167-70 OR A176-71 AND IS NOT LESS THAN 0.010 INCH THICK. PROVIDE A CASING AT LEAST 8 INCHES LONG AND THAT COVERS THE MIDDLE 8 INCHES OF THE DOWEL.
10. SECURE DOWELS PARALLEL TO THE PAVEMENT SURFACE AND PERPENDICULAR TO THE JOINT WITH THE AID OF APPROVED WELDED WIRE BASKET ARRANGEMENTS. ENSURE WELDED WIRE BASKET ARRANGEMENTS DO NOT CROSS THE EXPANSION JOINT. UNIFORMLY COAT DOWELS WITH A BITUMINOUS MASTIC ON THE END WITH THE DOWEL CAP.
11. DO NOT BEND TIE BARS AND DOWEL BARS. TO PREVENT DISPLACEMENT OF WIRE FABRIC BY CONCRETE PLACEMENT, TIE THE FABRIC PANEL TOGETHER AND TIE THE INITIAL FABRIC PANELS OF EACH SLAB TO THE DOWEL BASKET OR AS DIRECTED.
12. TOOL PAVEMENT EDGES TO A RADIUS OF 1/8 IN. WITH AN APPROVED EDGING TOOL.
13. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS, AND CROWN-SLOPE ARE ELSEWHERE SHOWN ON THE PLANS.
14. THE CONTRACTOR HAS THE OPTION OF USING WELDED WIRE FABRIC OR BAR REINFORCEMENT. LOCATE THE LONGITUDINAL STEEL AT THE CENTER OF THE SLAB. TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE FINAL POSITION OF STEEL IS WITHIN 1/2 IN. OF THE SLAB CENTER. ENSURE THE LONGITUDINAL AND TRANSVERSE STEEL SPACING DOES NOT VARY MORE THAN ONE-TWELFTH OF SPACING SHOWN.
15. LONGITUDINAL STEEL MAY BE SPLICED WITH 33 TIMES BAR DIAMETER LAPS.
16. FOR LANE WIDTHS NOT SHOWN OR FOR VARIABLE PANEL LENGTHS AND WIDTHS, SPACE REINFORCING STEEL AND DOWELS AS DIRECTED.
17. USE APPROVED BAR MAT CHAIRS. DO NOT EXCEED CHAIR SPACING OF 30 IN. C-C (TRANSVERSE) AND 48 IN. C-C (LONGITUDINAL). GALVANIZING THE CHAIRS IS NOT REQUIRED.
18. OBTAIN BOARDS FOR EXPANSION JOINT FILLER FROM REDWOOD TIMBER.
19. PROVIDE AND CONSTRUCT THE JOINT PLATE AS APPROVED.
20. WHEN CURB IS PLACED SEPARATELY FROM THE CONCRETE PAVEMENT, PROVIDE THE REINFORCING STEEL AS SHOWN IN THE CURB DETAIL. THE CURB REINFORCING STEEL MAY BE OMITTED WHEN THE CURB IS PLACED MONOLITHICALLY.

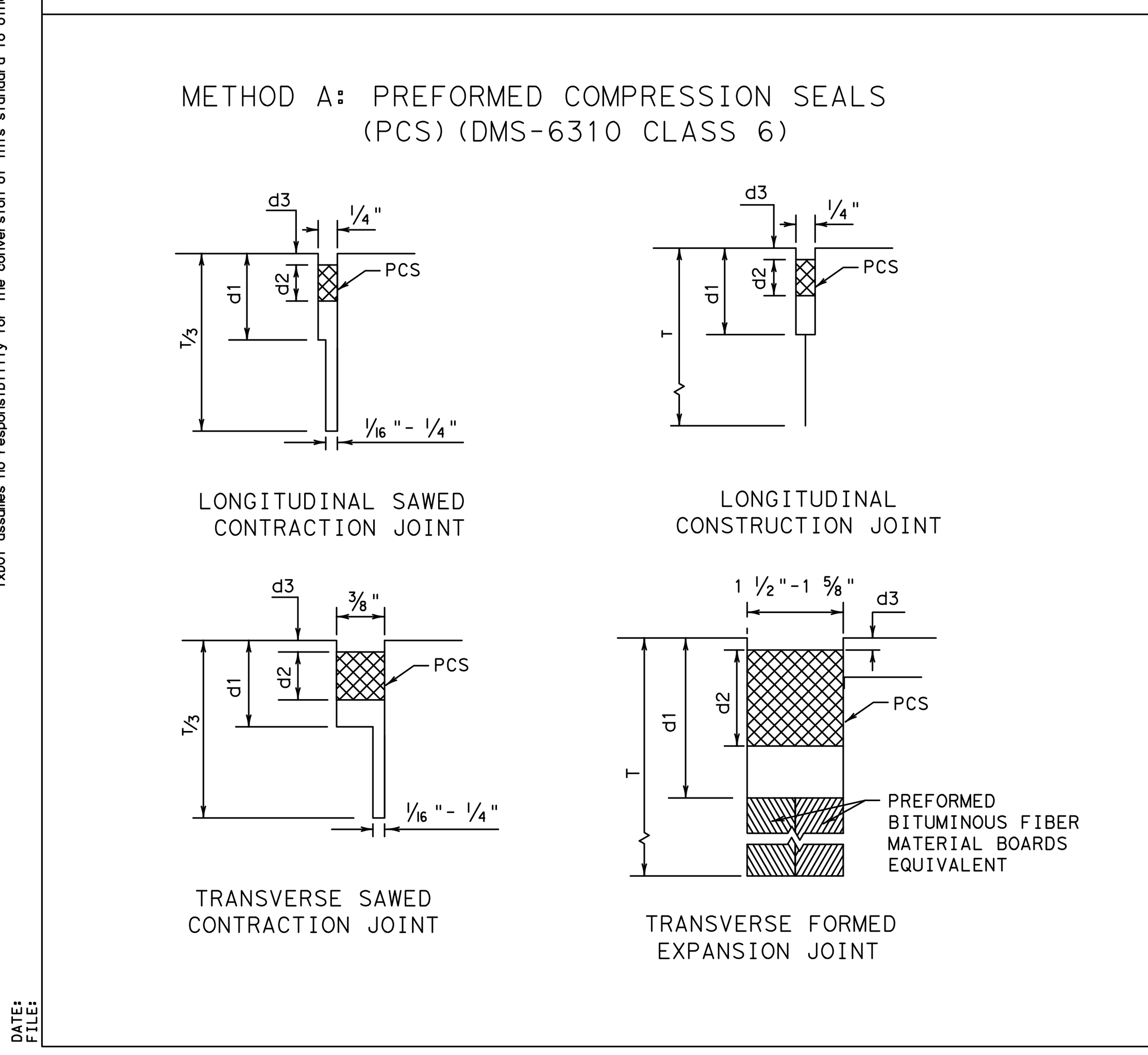
(GENERAL NOTES CONTINUED ON SHEET 2 OF 2)

Texas Department of Transportation
Houston District

JOINTED REINFORCED CONCRETE PAVEMENT DETAILS
(FOR PAVEMENT THICKNESS 10 INCHES OR LESS)

JRCP SHEET 1 OF 2



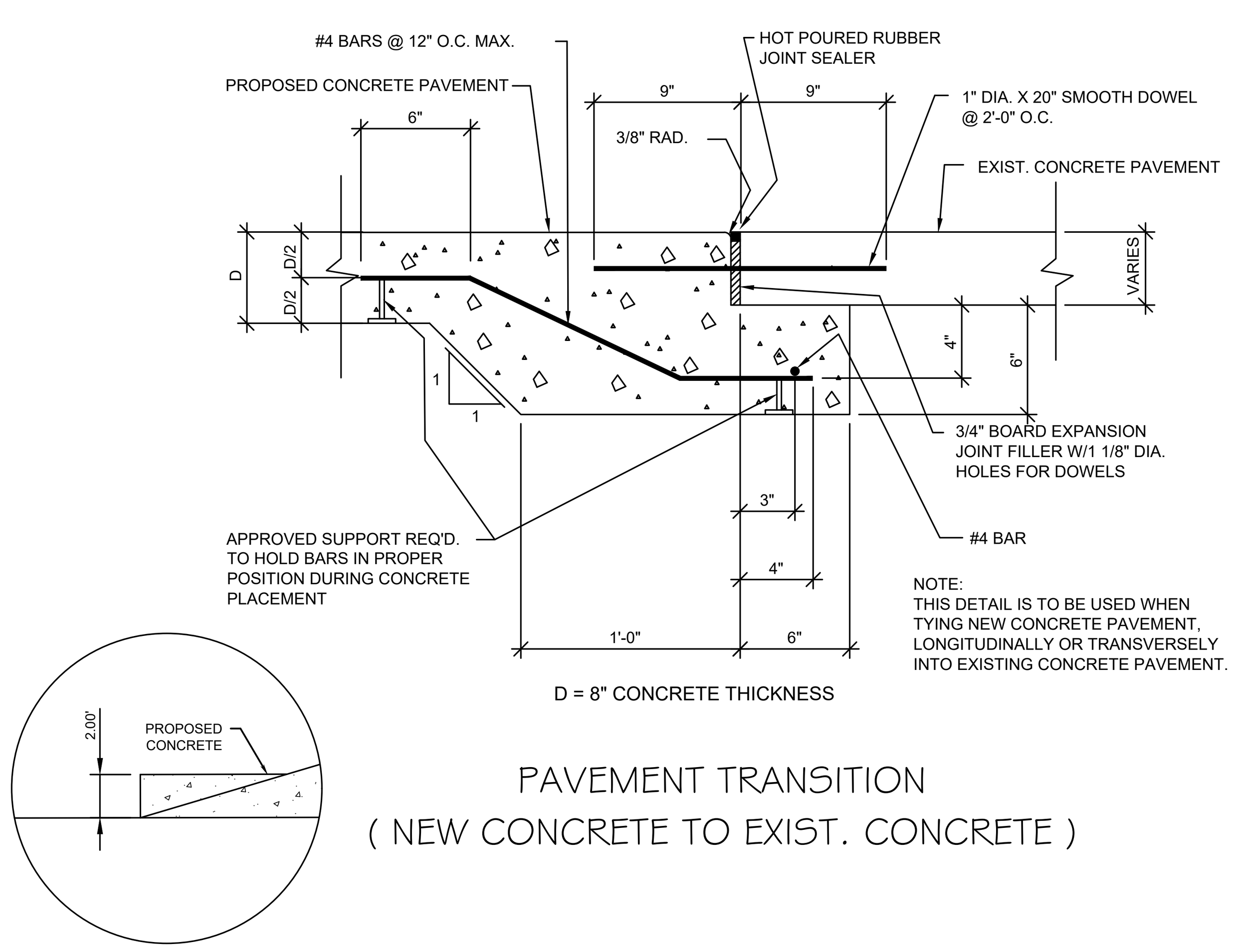


GENERAL NOTES

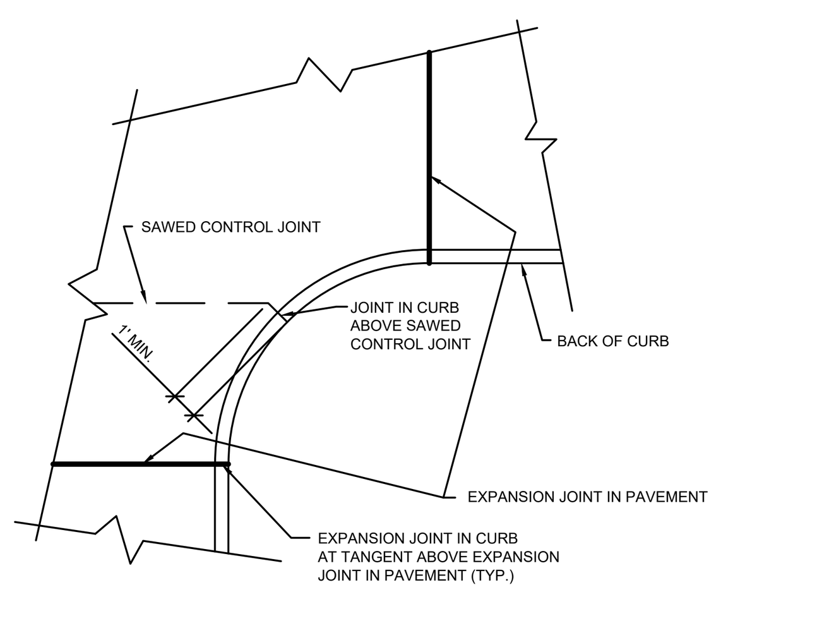
1. UNLESS OTHERWISE SHOWN IN THE PLANS, EITHER METHOD "A" OR METHOD "B" MAY BE USED.
2. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
3. THE JOINT RESERVOIR FOR SEALANT OR PCS SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS AND THE SAWED JOINTS.
4. DIMENSIONS d1, d2, AND d3 SHOWN IN METHOD A SHALL BE IN ACCORDANCE WITH THE PREFORMED COMPRESSION SEAL MANUFACTURER'S RECOMMENDATION.
5. REFER TO DMS-6310 "JOINT SEALANTS AND FILLERS" FOR THE CLASSIFICATIONS.
6. FOR SAWED LONGITUDINAL JOINT, LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT, USE JOINT SEALANT CLASS 5 OR 8 UNLESS OTHERWISE SHOWN ON THE PLAN OR APPROVED.
7. FOR TRANSVERSE SAWED CONTRACTION, TRANSVERSE FORMED EXPANSION JOINT, AND ISOLATION JOINT USE JOINT SEALANT CLASS 5 OR 8 AT NEW JOINTS. USE JOINT SEALANT CLASS 4,5,7,OR 8 FOR MAINTAINING EXISTING JOINTS.
8. THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE ITEM 438 "CLEANING AND SEALING JOINTS" OR ITEM 713 "CLEANING AND SEALING JOINTS AND CRACKS (CONCRETE PAVEMENT)".
9. ISOLATION JOINTS ACCOMMODATE HORIZONTAL AND VERTICAL MOVEMENTS THAT OCCUR BETWEEN A PAVEMENT AND A STRUCTURE. ISOLATION JOINTS MAY BE USED FOR BRIDGE ABUTMENTS, INTERSECTIONS, CURB AND GUTTER, OLD AND NEW PAVEMENTS, OR AROUND DRAINAGE INLETS, MANHOLES, FOOTINGS AND LIGHTING STRUCTURES.

Texas Department of Transportation — Design Division Standard

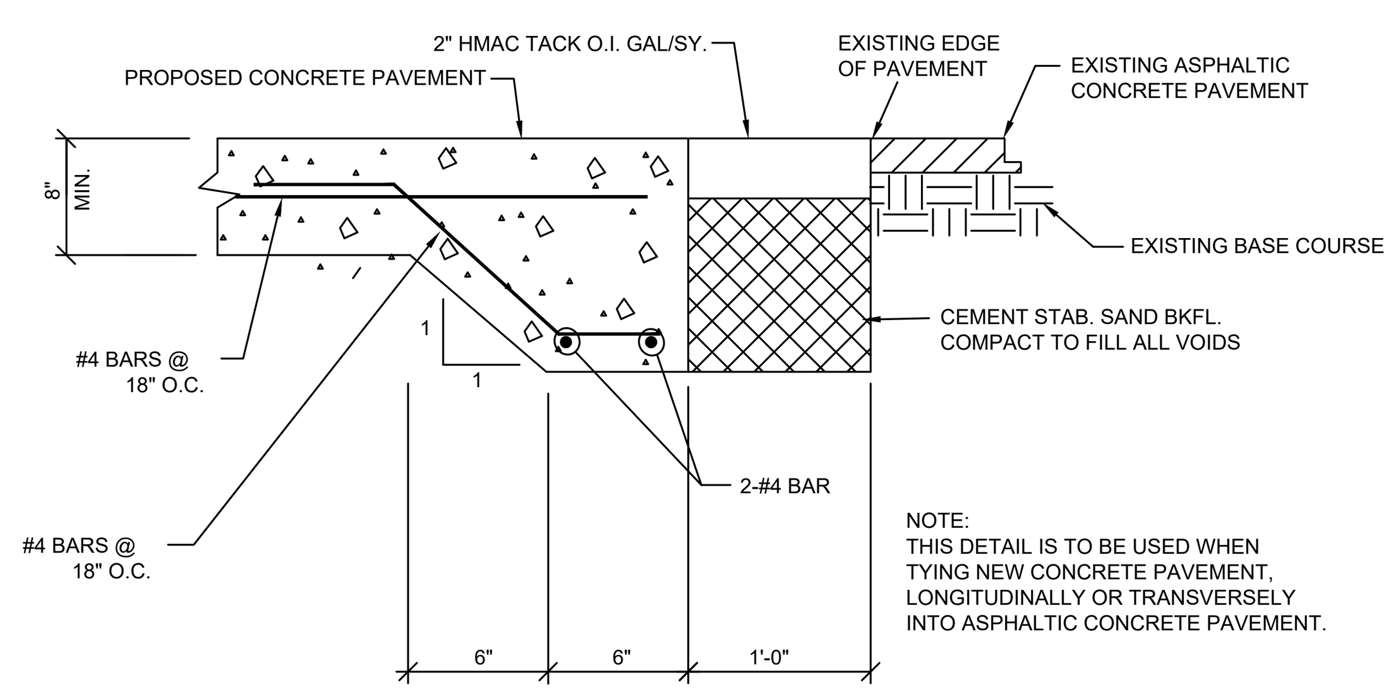
CONCRETE PAVING DETAILS
JOINT SEALS
JS-14



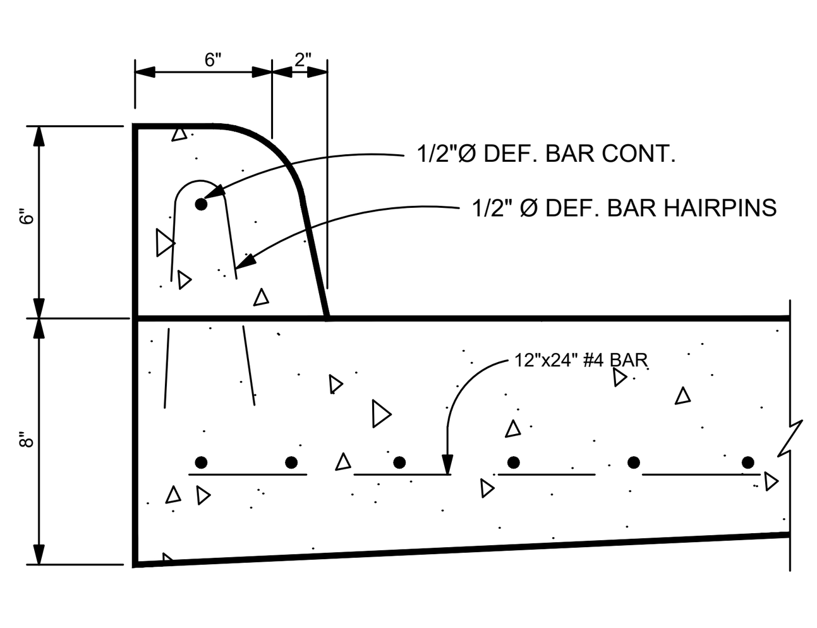
PAVEMENT TRANSITION
(NEW CONCRETE TO EXIST. CONCRETE)



SAWED JOINT TERMINATION AT RADIUS



PAVEMENT TRANSITION
(NEW CONCRETE TO EXIST. ASPHALT)



WHERE NECESSARY TO FIT EXISTING CONSTRUCTION AND/OR PROVIDE PROPER DRAINAGE, THE HEIGHT OF THE TOP OF CURB ABOVE THE GUTTER MAY BE VARIED BY THE ENGINEER.

UPRIGHT CONCRETE CURB (1)

(#) = REVISION NUMBER

STANDARD SPECIFICATIONS

REFERENCED FROM THE TEXAS DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MAINTENANCE MANUAL 2014

100 ITEMS EARTHWORK AND LANDSCAPE

- 100 Preparing Right of Way
- 110 Excavation
- 132 Embankment
- 162 Sodding for Erosion Control
- 164 Seeding for Erosion Control
- 166 Fertilizer

200 ITEMS SUBGRADE TREATMENTS AND BASE

- 210 Rolling
- 216 Proof Rolling
- 247 Flexible Base
- 260 Lime Treatment (Road-Mixed)

300 ITEMS SURFACE COURSES AND PAVEMENTS

- 300 Asphalts, Oils, and Emulsions
- 340 Dense-Graded Hot-Mix Asphalt
- 360 Concrete Pavement

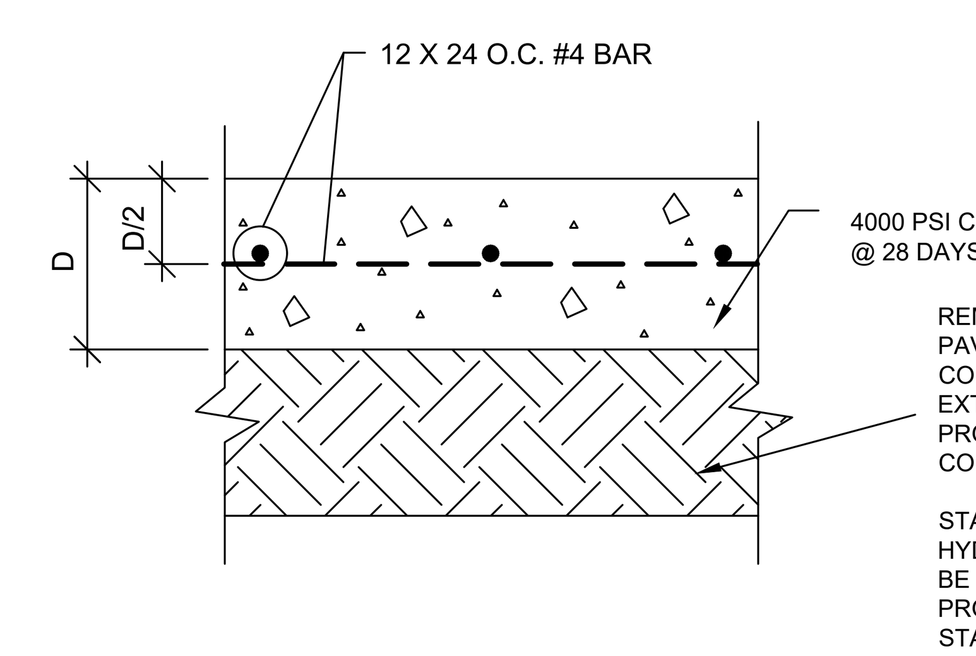
400 ITEMS STRUCTURES

- 400 Excavation and Backfill for Structures
- 401 Flowable Backfill
- 402 Trench Excavation Protection
- 420 Concrete Substructures
- 421 Hydraulic Cement Concrete
- 427 Surface Finishes for Concrete
- 432 Riprap
- 438 Cleaning and Sealing Joints
- 440 Reinforcement for Concrete
- 462 Concrete Box Culverts and Drains
- 464 Reinforced Concrete Pipe
- 465 Junction Boxes, Manholes, and Inlets
- 466 Headwalls and Wingwalls
- 467 Safety End Treatment
- 471 Frames, Grates, Rings, and Covers

500 ITEMS MISCELLANEOUS CONSTRUCTION

- 500 Mobilization
- 502 Barricades, Signs, and Traffic Handling
- 506 Temporary Erosion, Sedimentation, and Environmental Controls
- 529 Concrete Curb, Gutter, and Combined Curb and Gutter
- 530 Intersections, Driveways, and Turnouts
- 531 Sidewalks

BASED ON SOILS REPORT DATED MAY 2009
PREPARED BY SCIENCE ENGINEERING, LTD.
REPORT NO. 09182
PHONE NO. 1-409-982-0686



REMOVE EXISTING FILL MATERIALS AND PAVING AND ANY UNDERLYING COHESIONLESS FILL MATERIALS. 2' PAST EXTENTS OF PROPOSED CONCRETE. PROOFROLL TO DETECT AREAS OF WEAK OR COMPRESSIBLE SOILS.

STABILIZED 8" IN DEPTH WITH 6% TO 8% HYDRATED LIME BY DRY UNIT WEIGHT THEN BE COMPACTED TO 95% STANDARD PROCTOR. ACTUAL LIME QUALITY NEEDED TO STABILIZE ON-SITE CLAYS TO BE DETERMINED PRIOR TO CONSTRUCTION.

D = 8" CONCRETE THICKNESS

GENERAL NOTES:
1. ALL CONCRETE TO BE 4000 PSI @ 28 DAY STRENGTH.
2. MAKE 3 TEST CYLINDERS EVERY 50 CY. BREAK AT 7 DAY, 14 DAY, AND 28 DAY PLUS SPARE. CONTRACTOR SHALL COORDINATE SCHEDULING WITH PORT'S TESTING LABORATORY.
3. CURING COMPOUND TO BE USED AND FOLLOW MANUFACTURES DIRECTIONS.
4. BROOM FINISH FOR NON SLIP SURFACE.
5. REINFORCING BAR TO BE 60,000 PSI OR APPROVED EQUAL.
6. USED TREATED WOOD FOR EXPANSION JOINTS OR REDWOOD
7. SEAL JOINTS WITH BASF CONCRETE JOINT SEALER

CONCRETE PAVEMENT DETAIL

STATE OF TEXAS — JEREMY J. MITCHELL — 116941 — LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

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7/31/2025 FIRM # 5755

NO.	REVISION NOTES	DATE
1	ADDED CURB DETAIL	8/20/2025

SOUTEX SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

3737 Doctors Drive
Port Arthur, Texas 77642
Tel. 409.983.2004
Fax. 409.983.2005
soutexsurveyors.com

SHEET TITLE: DETAILS

PROJECT: RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23–0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM

- Rubbish found near waterways and ponds should be removed and disposed of properly to minimize the risk of pollution. Rubbish does not include brush piles or snags.

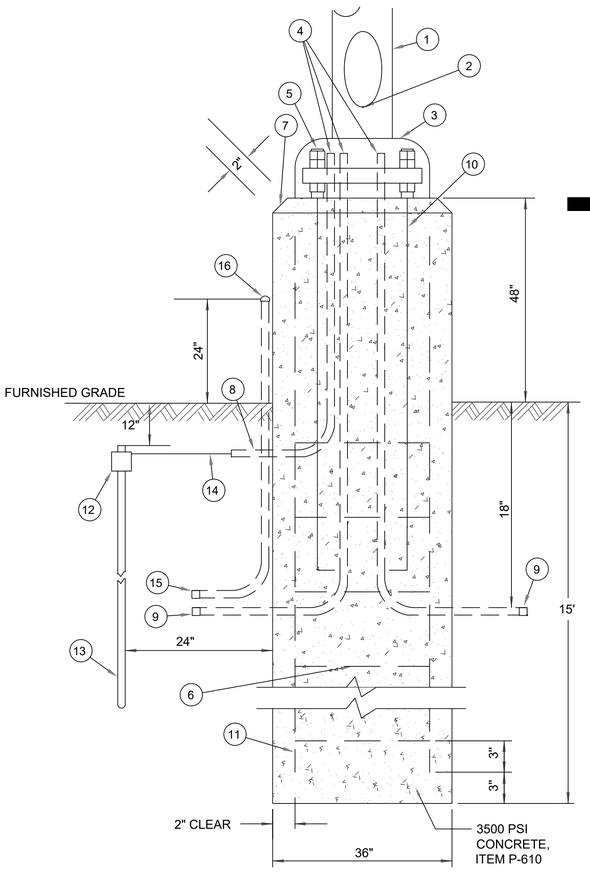
Bird BMPs

- Not disturbing, destroying, or removing active nests, including ground nesting birds, during the nesting season;
- Avoiding the removal of unoccupied, inactive nests, as practicable;
- Preventing the establishment of active nests during the nesting season of Port facilities and structures proposed for replacement or repair;
- Not collecting, capturing, relocating, or transporting birds, eggs, young, or active nests without a permit.

Species of Concern:

- Bald Eagle
- Golden Eagle
- West Indian Manatee
- Eastern Black Rail
- Piping Plover
- Red Know
- Whooping Crane
- Green Sea Turtle
- Hawksbill Sea Turtle
- Kemp's Ridley Sea Turtle
- Leatherback Sea Turtle
- Loggerhead Sea Turtle
- Monarch Butterfly

If any listed species of concern are observed, work will cease in the area, no species or habitat will be disturbed, and the Project Engineer/Inspector will be notified immediately.



POLE BASE NOTES

1. LIGHT POLE. REFER TO LIGHT FIXTURE SCHEDULE FOR MORE INFORMATION.
2. WIRING ACCESS. PROVIDE INTERIOR GROUNDING LUG ACCESSIBLE FROM OPENING. PROVIDE STAINLESS STEEL COVER WITH STAINLESS STEEL SCREWS.
3. FULL BASE COVER. MATCH MATERIAL OF POLE, EXCEPT WHERE POLE IS CONCRETE, BASE COVER SHALL BE STAINLESS STEEL.
4. CONNECT CONDUITS TO GROUNDING LUG AND GROUNDING CONDUCTOR TO GROUND ROD.
5. PROVIDE BOTTOM NUT FOR LEVELING AND DOUBLE NUTS ON TOP.
6. NO. 4 STEEL REINFORCING TIES ON 12" CENTERS.
7. CHAMFER EDGES ON BASE.
8. 1" RIGID GALVANIZED CONDUIT
9. RIGID GALVANIZED STEEL 2" CONDUIT 12" PAST EDGE OF CONCRETE BASE. PROVIDE CONDUIT TO PVC DUCT ADAPTER. SEE PLANS FOR NUMBER REQUIRED.
10. GALVANIZED STEEL ANCHOR BOLTS. AS REQUIRED BY MANUFACTURER FURNISHING POLE. ANCHOR BOLTS SHALL BE SET VERTICAL.
11. EIGHT NO. 4 STEEL REINFORCING RODS.
12. THERMOWELD CONNECTOR.
13. 3/4" X 10'-0" COPPER CLAD STEEL GROUND ROD.
14. NO. 6 BARE STRANDED COPPER GROUND WIRE. CONNECT TO GROUND ROD, CONDUITS AND GROUNDING LUG.
15. RIGID GALVANIZED STEEL 1" CONDUIT 12" PAST EDGE OF CONCRETE BASE. PROVIDE CONDUIT TO PVC DUCT ADAPTER. SEE PLANS FOR NUMBER REQUIRED.
16. RIGID GALVANIZED STEEL 1" CONDUIT 24" ABOVE FINISHED GRADE AND CAPPED FOR FUTURE USE. SEE EL1.01 FOR LOCATION OF POLES TO INCLUDE THIS ITEM.

1 / E-3.02 LIGHT POLE BASE DETAIL

SCALE: N.T.S.

EPIC: Environmental Permits Issues and Commitments

Executive Order 13112 for Invasive Species:

- The project will conform with Executive Order 13112 on Invasive Species. Seed with TxDOT approved seeding specifications that, to the extent practicable, is in compliance with EO 13112 and would be done where possible. Abutting grasses within the right-of-way are expected to re-establish throughout the project length. Soil disturbance would be minimized to ensure that invasive species would not establish within the right-of-way.

Executive Order 13186 for Protection of Migratory Birds:

- The project will conform with Executive Order 13186 for Protection of Migratory Birds. The intent of EO 13186 is to support the conservation of habitats, restore and enhance habitats, prevent /abate the pollution or detrimental alteration of migratory bird habitats as practical, and other associated items as published in associated Memorandums of Understanding (by applicable federal agencies).

Executive Memorandum on Beneficial Landscaping:

- The project will conform to the Executive Memorandum on Beneficial Landscaping. Seeding and re-vegetation of disturbed areas will be accomplished according to TxDOT Standards and Specifications. Regionally native, habitat appropriate species should be utilized and water efficient practices such as mulching and erosion control should be implemented.

Bald and Golden Eagle Protection Act

- Bald eagles are known to occur in Jefferson County. If eagle nests are observed near the project area, contact the Project inspector immediately.
- The bald eagle (Haliaeetus leucocephalus) is protected by the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). The MBTA and the Eagle Act protect bald eagles from a variety of harmful actions and impacts. The U.S. Fish and Wildlife Service (Service) developed the National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provision of the Eagle Act may apply to their activities. A variety of human activities can potentially interfere with bald eagles, affecting their ability to forage, nest, roost, breed, or raise young. The Guidelines are intended to help people minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the Eagle Act.
- The National Bald Eagle Management Guidelines can be found in their entirety at http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf

The following Best Management Practice (BMPs) must be implemented:

Water Quality BMPs

- Once construction is complete in an area, the disturbed areas shall immediately be permanently seeded. Once disturbed areas have been revegetated, remove silt fence and accumulated sediment to reduce wildlife barriers and hazards.

STATE OF TEXAS — JEREMY J. MITCHELL — 116941 — LICENSED PROFESSIONAL ENGINEER

FOR PERMITTING & CONSTRUCTION

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7/31/2025 FIRM # 5755

NO.	REVISION NOTES	DATE

BEFORE YOU DIG TEXAS811.com

SOUTEX SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

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SHEET TITLE: DETAILS – EPIC NOTES

PROJECT: RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
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PROJ. NO: 23-0350
SCALE: 1" = 30'
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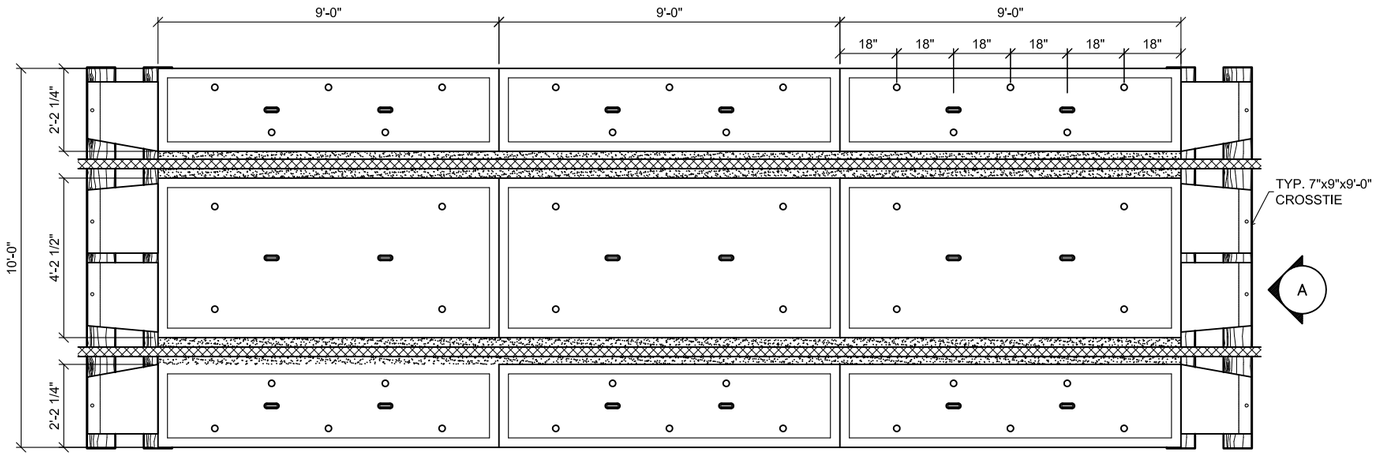
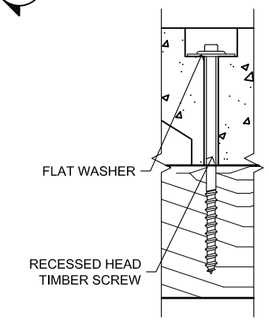


NOTE: ALL DIMENSIONS TYPICAL

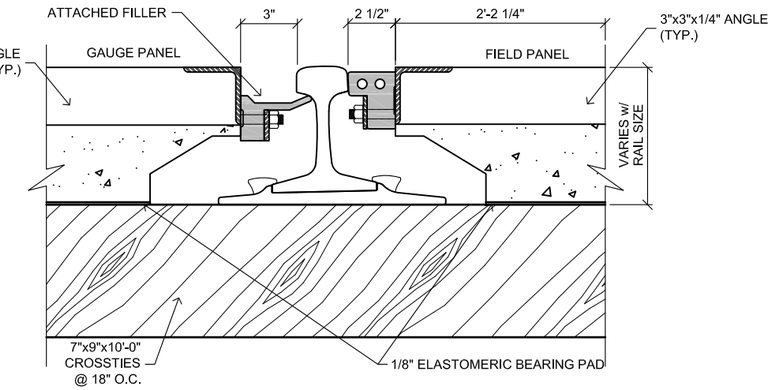
PLAN VIEW OF CROSSING PANELS - DEPICTING 27'-0" GRADE CROSSING

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



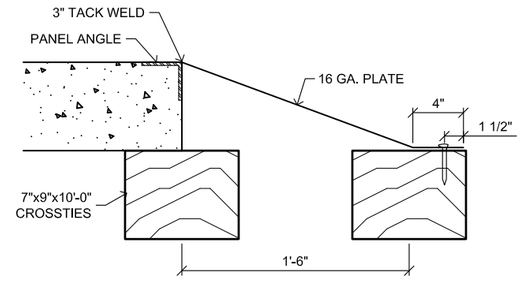
SCREW DETAIL

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



ELEVATION "A"

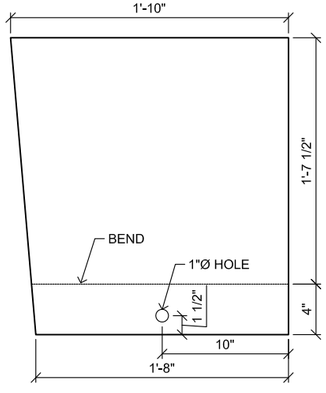
SCALE: 1-1/2" = 1'-0"



INSTALLATION NOTES

TO INSTALL END DEFLECTOR SHIELDS MAKE TWO 3" TACK WELDS AT CORNERS OF SHIELD TO TOP CORNER OF CROSSING PANEL ANGLE.

SPIKE BOTTOMS OF DEFLECTOR SHIELD TO CROSSTIES.

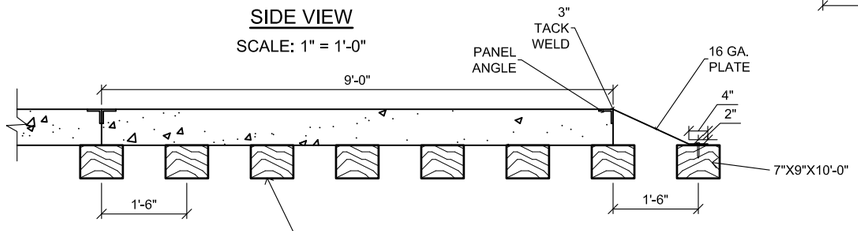


PLAN VIEW

SCALE: 1" = 1'-0"

SIDE VIEW

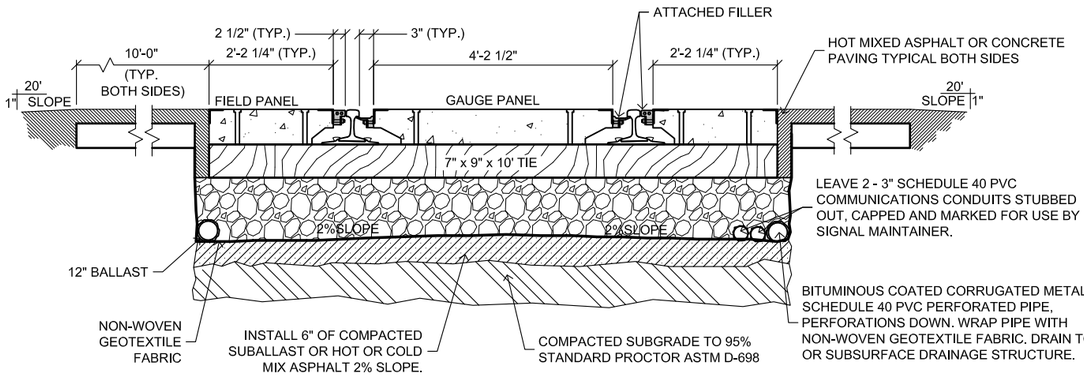
SCALE: 1" = 1'-0"



SECTION VIEW

SCALE: 3/8" = 1'-0"

STANDARD TIE SPACING IN TANGENT TRACK 18" CENTER TO CENTER. TIE CENTERS IN CURVED TRACK SHALL VARY WITH DEGREE OF CURVE. TIE CENTERS IN CURVED TRACK SHALL BE SUPPLIED BY MANUFACTURER. ALL PANELS SHALL BE MANUFACTURED TO FIT RADIUS OF TRACK. CUSTOM PANELS SHALL BE MANUFACTURED FOR TRACKS WITH A CURVE OF 4° OR GREATER.



GRADE CROSSING SECTION VIEW

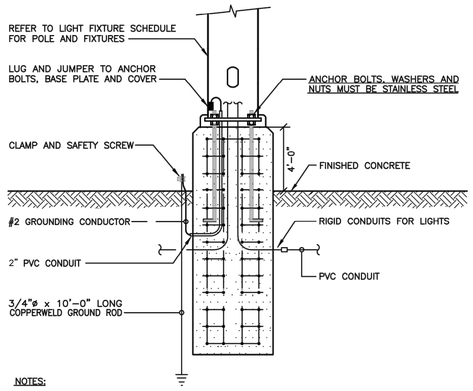
SCALE: 3/8" = 1'-0"

NOTE:
THE ABOVE CROSS SECTION SHOULD ONLY SERVE AS A GUIDE TO MINIMUM SPECIFICATIONS. OWNER AND/OR ENGINEER SHALL BE RESPONSIBLE FOR FINAL DESIGN OF TRACK STRUCTURE, SUBGRADE AND ROADWAY APPROACHES. THE CENTURY GROUP DOES NOT ASSUME ANY TRACK STRUCTURE DESIGN RESPONSIBILITY.

STANDARD PANEL LENGTH	9'-0"
GAUGE PANEL WIDTH	4'-2 1/2"
FIELD PANEL WIDTH	2'-2 1/4"
HEIGHT DETERMINED BY RAIL SIZE	6" TO 7 3/4"
DIMENSION TOLERANCE	+/- 1/4"
CROSSTIE CENTERS REQUIRED	18"
CROSSTIE LENGTH REQUIRED	10'-0"
CONCRETE	6000 lbs. PSI. 28 DAYS
STEEL REINFORCEMENT	AMERICAN GRADE 72
LIFTING EYES	4000 lbs. CAPACITY EA.
MEETS HS20-44 LOADING SPEC.	
WEIGHT	115# 136#
GAUGE PANEL WEIGHTS	3300 3500
FIELD PANEL WEIGHTS	1750 1900
WEIGHT (9' SECTION)	6800 7300

CENTURY GROUP
PO BOX 228 - SULPHUR, LA. 70664 - PHONE (800) 527-5232 EXT. 147 - FAX (318) 527-8028
Sulphur LA. - Muskogee OK. - Lebanon TN. - Greenville AL. - Raleigh NC.

DATE DRAWN: 03-22-01	CENTURY GROUP, INC.
DATE REVISED: 01-26-09	CENTURY 9-0" LAGTYPE CROSSING ON 10'-0" WOOD CROSSTIE w/ ATTACHED FILLER "FB" DESIGN
DWG ID: CPW00281	
SCALE: AS NOTED	
SHEET #: 1	



NOTES:

1. LIGHT POLE FOUNDATION BY OTHERS.

2 LIGHT POLE FOUNDATION

SCALE: NOT TO SCALE

LIGHT FIXTURE SCHEDULE

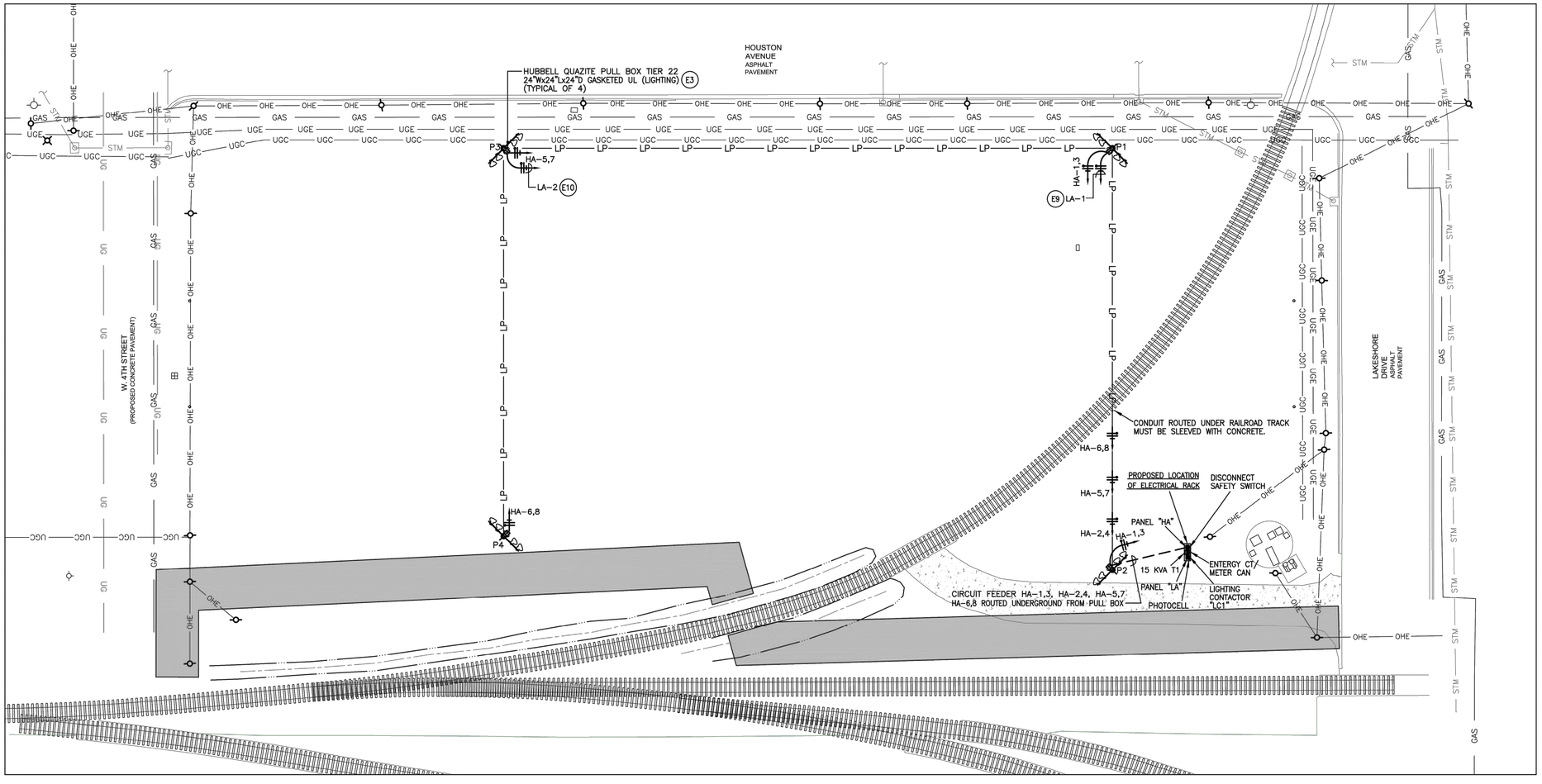
MARK	MANUFACTURER	MODEL NO.	LAMPS	VOLTAGE	REMARKS
P1–P4	COOPER–LUMARK KW	(5)–NFFLD–L–C150–D–480V–66 –S–CB–7050–TS2HW/NFFLD–CB RTSP35–14.0–7–G–1GSS5 WITH CXA5180–30–DM–G–GMT ANCHOR BOLT: 1.50x54x6 BOLT CIRCLE: 20 RATED 145 MPH	(5)–316W LED (INPUT WATTS = 1,580 EACH POLE)	480	SOLID STATE LED FLOODLIGHT WITH HEAVY–DUTY DIE–CAST ALUMINUM HOUSING, VACUUM METALIZED REFLECTOR, INTEGRAL LED DRIVER, TOP AND SIDE VISORS, SLIPFITTER MOUNTING, CARBON BRONZE FINISHED, FIVE–YEAR WARRANTY AND UL LISTED FOR WET LOCATIONS. 35 FT. GALVANIZED ROUND TAPERED STEEL POLE WITH BASE PLATE, ANCHOR BOLTS & GASKETED HANDHOLE AND HOT–DIP GALVANIZED CROSSARM. ENGINEER CERTIFIED FOUNDATION BY OTHERS.

NOTES:

1. FIELD CONFIRM EXACT LOCATION OF POLE #1 TO POLE #4 WITH POLE FOUNDATION PRIOR TO MAKE FINAL INSTALLATION OF ELECTRICAL SYSTEMS.

ELECTRICAL NOTES

- (E1) COORDINATE EXACT LOCATION OF POLES/LIGHT FIXTURES WITH ACTUAL PLACEMENT OF POLE FOUNDATION INSTALLED BY OTHERS. FIELD CONFIRM EXACT LOCATION OF QUAZITE PULL BOXES, ROUTING OF CONDUIT/CONDUCTORS AND SECURITY CAMERA LOCATION AND REQUIREMENTS WITH OWNER PRIOR TO SUBMIT BIDDING/MAKE FINAL INSTALLATION.
- (E2) INSTALL INTERMATIC PHOTO ELECTRIC CONTROL SERIES LED4536SC WITH COMPLETE OF ACCESSORIES AND ADJUSTABLE STEM TO CONTROL HA–1 TO HA–8 THROUGH 12 POLES, 30 AMP, 277V, NEMA 1, MECHANICALLY HELD LIGHTING CONTACTOR "LC1" WITH CONTROL RELAY.
- (E3) FURNISH AND INSTALL HUBBELL QUAZITE PULL BOX TIER 22 U.L. LISTED WITH CLOSED BOTTOM, KNOCKOUTS, STAINLESS STEEL BOLTS/SCREWS, CEMENT GRAY COLOR, GASKETED COVER AND COVER LOGOS "ELECTRIC". ALL CONDUIT PENETRATIONS TO PULL BOX MUST BE WATERTIGHT. FIELD COORDINATE AND CONFIRM EXACT PLACEMENT AND ELEVATION OF PULL BOX PRIOR TO MAKE FINAL INSTALLATION.
- (E4) THE CONTRACT SHALL DO ALL CUTTING & PATCHING OF THE EXISTING CONSTRUCTION WORK WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF THE ELECTRICAL WORK. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH FINISH AS, AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK.
- (E5) NOTIFY THE ENGINEER OF ANY & ALL CONFLICTS IN AMPLE TIME TO AVOID UNWARRANTED CHANGES IN ANY WORK.
- (E6) OBTAIN ALL APPLICABLE PERMITS AND PAY ALL FEES CHARGED BY CITY OF PORT ARTHUR.
- (E7) PRIOR TO SUBMITTING A PROPOSAL, VISIT THE JOB SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND EQUIPMENT FOR THE WORK TO BE ACCOMPLISHED.
- (E8) THE ELECTRICAL SYSTEMS IN THEIR ENTIRETY SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70, 2023 NATIONAL ELECTRICAL CODE AND ALL OTHER GOVERNING CODES AND AUTHORITIES.
- (E9) INSTALL STAINLESS STEEL JUNCTION BOX WITH POWER CIRCUIT INDICATED AND MOUNT ON LIGHT POLE "P1" FOR FIELD DISTRIBUTION BOX (FDB) THAT FEED THE CCTV. FIELD COORDINATE AND CONFIRM WITH OWNER'S CCTV SYSTEM INSTALLER EXACT MOUNTING HEIGHT AND REQUIREMENTS PRIOR TO MAKE FINAL INSTALLATION.
- (E10) INSTALL STAINLESS STEEL JUNCTION BOX WITH POWER CIRCUIT INDICATED AND MOUNT ON LIGHT POLE "P3" FOR FIELD DISTRIBUTION BOX (FDB) THAT FEED THE CCTV. FIELD COORDINATE AND CONFIRM WITH OWNER'S CCTV SYSTEM INSTALLER EXACT MOUNTING HEIGHT AND REQUIREMENTS PRIOR TO MAKE FINAL INSTALLATION.



1 ELECTRICAL SITE PLAN

SCALE: 1" = 30'–0"

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SOUTEX
SURVEYORS & ENGINEERS
T.B.P.E. FIRM #5755 • T.X.L.S. FIRM #10123800

SHEET TITLE
ELECTRICAL PLAN

PROJECT
RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23–0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM

SHEET E1

\\192.168.0.250\SoutexServer\Data\1 SoutexProjects\2023\23–0350 Port of PA–Rider 37\DWG\23–0350–PLAN SHEETS1–13.dwg Aug 20, 2025–5:07pm Nathan.Jordan

PANEL "HA" SCHEDULE

MOUNTING: SURFACE – RACK	TYPE: SQUARE D	FAULT CURRENT: 6,340 A	MAIN: MLO BUS: 100 A FEED: SIDE
VOLTS: 480Y/277 Vac BOLT–On	ENCLOSURE: NEMA 4X WITH GROUND BAR	FAULT BRACING: 42K AIC SC FULLY RATED	MAIN SIZE BREAKER: NONE BUS: COPPER
PHASE: 3 WIRE: 4 Hz.: 60	ISOLATED GROUND: NONE	TVSS/SPD: NONE	LOCATION: ELECTRICAL RACK ON SITE

DESCRIPTION	CONDUIT SIZE	WIRE & IG/GROUND SIZE	LOAD (kVA) øA	LOAD (kVA) øB	LOAD (kVA) øC	BREAKER	CIRCUIT	CIRCUIT	BREAKER	LOAD (kVA) øA	LOAD (kVA) øB	LOAD (kVA) øC	WIRE & IG/GROUND SIZE	CONDUIT SIZE	DESCRIPTION
FLOODLIGHTS, P1 RIDER 37	2"	(2)–#8, (1)–#10	0.790			20/2	1	2	20/2	0.790			(2)–#8, (1)–#10	2"	FLOODLIGHTS, P2, RIDER 37
"	–	–		0.790		–	3	4	–		0.790		–	–	"
FLOODLIGHTS, P3, RIDER 37	2"	(2)–#8, (1)–#10			0.790	20/2	5	6	20/2			0.790	(2)–#8, (1)–#10	2"	FLOODLIGHTS, P4, RIDER 37
"	–	–	0.790			–	7	8	–	0.790			–	–	"
LIGHTING CONTACTOR "LC1" & PHOTOCELL	3/4"	(2)–#12, (1)–#12		0.100		20/1	9	10	20/1						SPARE
SPARE						20/1	11	12	20/1						"
"						20/1	13	14	20/1						"
"						20/1	15	16	20/1						"
"						20/1	17	18	20/1						"
"						20/1	19	20	25/3	0.800			(3)–#10, (1)–#10	1 1/4"	15 KVA TRANSFORMER "T1"
"						20/1	21	22	–		0.800		–	–	"
"						20/1	23	24	–			0.800	–	–	"
"															

TOTAL kVA øA = 3.960 | TOTAL kVA øB = 2.480 | TOTAL kVA øC = 2.380

TOTAL CONNECTED LOAD = 8.820 kVA

10.6 AMPS

TOTAL DEMAND LOAD = 10.425 kVA

12.5 AMPS

2023 NEC ARTICLE 215.3 ARTICLE 220 II & III

NOTES:

1. ALL PANELS TO BE IDENTIFIED WITH ENGRAVED PHENOLIC RESIN PLACARDS.
2. PANEL CIRCUIT SCHEDULES TO BE TYPED, NOT HANDWRITTEN, ON PANEL MANUFACTURERS SUPPLIED TEMPLATE.

PANEL "LA" SCHEDULE

MOUNTING: SURFACE	TYPE: SQUARE D	FAULT CURRENT: 3,520 A	MAIN: MCB BUS: 100 A FEED: BOTTOM
VOLTS: 208Y/120 Vac BOLT–On	ENCLOSURE: NEMA 4X WITH GROUND BAR	FAULT BRACING: 10K AIC SC FULLY RATED	MAIN SIZE BREAKER: 60 A BUS: COPPER
PHASE: 3 WIRE: 4 Hz.: 60	ISOLATED GROUND: NONE	TVSS/SPD: NONE	LOCATION: ELECTRICAL RACK ON SITE

DESCRIPTION	CONDUIT SIZE	WIRE & IG/GROUND SIZE	LOAD (kVA) øA	LOAD (kVA) øB	LOAD (kVA) øC	BREAKER	CIRCUIT	CIRCUIT	BREAKER	LOAD (kVA) øA	LOAD (kVA) øB	LOAD (kVA) øC	WIRE & IG/GROUND SIZE	CONDUIT SIZE	DESCRIPTION
FIELD DISTRIBUTION BOX (FDB) CCTV, P1	2"	(2)–#4, (1)–#8	1.200			30/1	1	2	30/1	1.200			(2)–#4, (1)–#8	2"	FIELD DISTRIBUTION BOX (FDB) CCTV, P3
SPARE						20/1	3	4	20/1						SPARE
"						20/1	5	6	20/1						"
SPACE						20/1	7	8	20/1						SPACE
"						20/1	9	10	20/1						"
"						20/1	11	12	20/1						"
						20/1	13	14	20/1						"
"						20/1	15	16	20/1						"
"						20/1	17	18	20/1						"
"						20/1	19	20	20/1						"
"						20/1	21	22	20/1						"
"						20/1	23	24	20/1						"

TOTAL kVA øA = 2.400 | TOTAL kVA øB = 0.000 | TOTAL kVA øC = 0.000

TOTAL CONNECTED LOAD = 2.400 kVA

6.7 AMPS

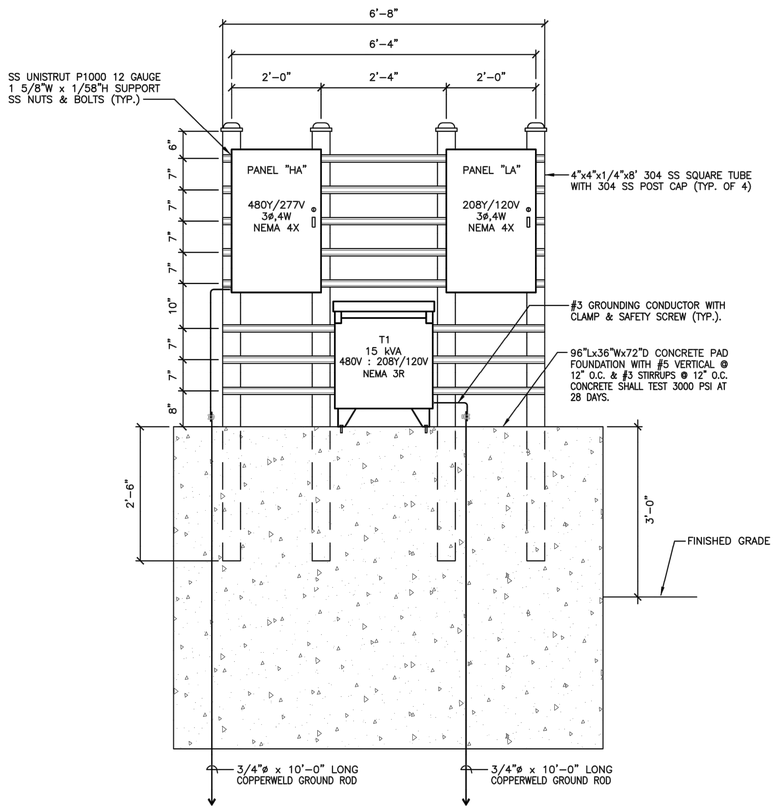
TOTAL DEMAND LOAD = 2.400 kVA

6.7 AMPS

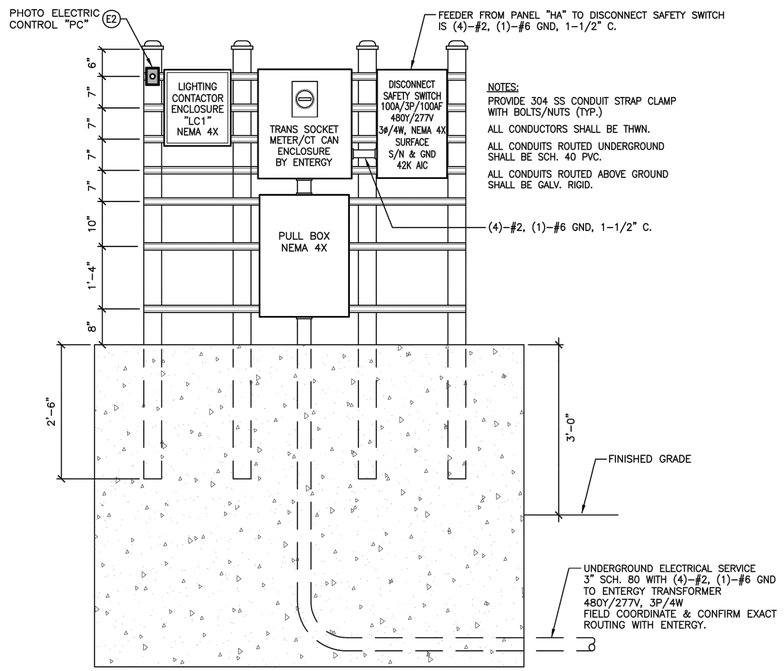
2023 NEC ARTICLE 215.3 ARTICLE 220 II & III

NOTES:

1. ALL PANELS TO BE IDENTIFIED WITH ENGRAVED PHENOLIC RESIN PLACARDS.
2. PANEL CIRCUIT SCHEDULES TO BE TYPED, NOT HANDWRITTEN, ON PANEL MANUFACTURERS SUPPLIED TEMPLATE.
3. FEEDER FROM TRANSFORMER "T1" TO PANEL "LA" IS (4)–#6, (1)–#8 GND, 1–1/4" C. RIGID GALV.



FRONT ELEVATION



BACK ELEVATION

1 ELECTRICAL PANEL RACK

SCALE: NOT TO SCALE

LOAD ANALYSIS

LOADS: VOLT–AMPERES (VA)	VA
LIGHTING LOADS (NEC 2014 ARTICLE 220.12) LIGHTING LOADS: 6,420 x 1.25 = 8,025 VA	8,025
RECEPTACL LOADS (NEC 2023 ARTICLE 220.14 (K)) RECEPTACLE LOADS: 2,400 x 1.00 VA/SF = 2,400 VA	2,400
TOTAL DEMAND LOAD	10,425

REMARKS:

TOTAL CALCULATED DEMAND LOAD IN AMPS (SERVICE VOLTAGE IS 480Y/277VAC 3P/4W) = 10,425/(480 x 1.732) = 12.5 AMPS. THEREFORE, 100 AMPS SERVICE IS SELECTED.

ELECTRICAL RISER NOTES

ER1 COORDINATE AND CONFIRM THE EXACT LOCATION OF ELECTRICAL PANELS RACK WITH OWNER AND/OR GENERAL CONTRACTOR.

ER2 FIELD VERIFY AND COORDINATE THE EXACT ROUTING OF ALL CONDUITS WITH ALL TRADES PRIOR TO MAKE FINAL INSTALLATION.

ER3 USE AND BOND TOGETHER GROUNDING ELECTRODES SUCH AS METAL UNDERGROUND WATER PIPE, METAL FRAME OF THE BUILDING OR STRUCTURE AND CONCRETE ENCASED ELECTRODE PER ARTICLE 250.52(A)(1) THROUGH (A)(3) OF NEC 2023. PROVIDE GROUNDING ELECTRODE CONDUCTOR TO FORM THE GROUNDING ELECTRODE SYSTEM REQUIRED BY ARTICLE 250.52.

ER4 CONTACT ENTERGY AT 1–800–ENTERGY FOR THE UTILITY COMPANY REQUIREMENTS RELATING TO THE NEW UNDERGROUND ELECTRICAL SERVICE. OWNER WILL PAY ANY FEES PAYABLE TO ENTERGY. FIELD CONFIRM EXACT LOCATION OF ENTERGY POWER POLE.

SHORT–CIRCUIT CURRENTS NOTES:

CALCULATION OF SHORT–CIRCUIT CURRENTS: POINT–TO–POINT METHOD PER NEC 2023 ARTICLE 110.9, 110.10 & 240.1.

WORKING CLEARANCES:

SYSTEMS OPERATING AT 600 VOLTS OR LESS TO GROUND, THE WORKING CLEARANCE SHALL NOT BE LESS THAN INDICATED IN TABLE 110.26 (A)(1) IN ADDITION TO THE DIMENSION SHOWN IN TABLE 110.26(A)(1), THE WORKING SPACE SHALL NOT BE LESS THAN 30 IN. WIDE IN FRONT OF THE ELECTRIC EQUIPMENT, THIS SPACE SHALL BE CLEAR FROM THE FLOOR TO THE HEIGHT REQUIRED BY THIS SECTION, CHECK ACCESS, ENTRANCE AND ILLUMINATION TO BE IN COMPLIANCE, ARTICLE 110.26 NEC.

AVAILABLE FAULT CURRENT LABELING:

IN LIEU OF THE MAXIMUM AVAILABLE FAULT CURRENT MARKING AS REQUIRED BY 110.24, A PERMANENT AFFIXED LABEL SHALL BE APPLIED WITH THE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2"x3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDED THE DATE OF THE CALCULATION (6/30/2025).

ARC–FLASH HAZARD WARNING PER 2023 NEC ARTICLE 110.16:

THE MARKING SHALL MEET THE REQUIREMENTS IN 110.21(B) AND SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

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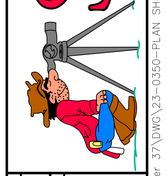

SHEET TITLE: ELECTRICAL PLAN

PROJECT: RIDER 37 – PORT OF PORT ARTHUR TRUCK QUEUING AREA AND LAYDOWN YARD
221 HOUSTON AVENUE
PORT ARTHUR, TEXAS 77641

PROJ. NO: 23–0350
SCALE: 1" = 30'
PRINT DATE: 8/20/2025
DRAWN BY: NJ
CHECKED BY: JM
APPROVED BY: JM

SHEET E2

SECTION 4200 – RAILROAD CONSTRUCTION

PART 1 GENERAL

1.1 DESCRIPTION

A. This item shall govern the Construction of new railroad tracks including other appurtenances and rehabilitation of existing track, in accordance with this specification, and with Volume 1, “Track,” of the 2004 American Railway Engineering and Maintenance-of-Way Association's (AREMA) Manual for Railway Engineering, and as shown on the plans.

1.2 MATERIALS

A. **General.** For material not designated as secondhand, provide new material conforming to this specification. Material designated as secondhand may be either new or secondhand. Provide straight and true secondhand material, in good condition, and free from excess rust, pits, or wear. Test secondhand rail for head wear, corrosion, base wear, sweeps, kinks, cracking, delamination, or any other defect including internal metal defects. Ensure the material meets the appropriate specifications indicated below.
Provide new material in an unblemished condition, free from defects, rust, or damage.

B. **Rail and Other Track Material.** Provide rail meeting the requirements of AREMA Manual Chapter 4, “Rail”, for 115 RE, or heavier, with properties including Brinell hardness as noted in Chapter 4, Table 2-2, and Table 2-3. Provide new standard carbon rail for tangent tracks and tracks on curves of 3-degrees or less. Provide head-hardened rail for tracks on curves greater than 3-degrees. In the event any rail should break during tie removal, installation, surfacing, or any other portion of the project; the Engineer will determine whether the rail should be replaced or spliced by installation of joint bars. The Contractor will furnish replacement rail or the necessary joint bars and bolts of the same rail section size as the break.

Furnish reports of the chemical and mechanical test results to the Engineer.

Furnish rail for industry leads in lengths of 39 ft. with 11% shorts varying by one-foot increments from 38 ft. down to 25 ft. in length.

C. **Ties.**

1. Track crossties shall conform to the current AREMA Specifications, Chapter 30, “Ties”. The track crossties shall be new Oak and acceptable mixed hardwood consisting of Elm, Gum, Hickory, and Walnut wood ties with a minimum of 50% oak. Ties shall be 7-inches x 9-inches x 10-feet 0-inches minimum AREMA 7-inch Grade 5.

2. Crossties shall be treated according to the American Wood Preservers Association Standards, based on 50 percent creosote and 50 percent coal tar solution with a minimum preservative retention of 8 pounds per cubic foot of Wood.

3. Crossties shall be seasoned and dimensioned prior to treatment and treated in accordance with AWPA Standard C6 “Crossties and Switch Ties - Preservative Treatment by Pressure Processes”, or ASTM D 1760 “Standard Specification for Pressure Treatment of Timber Products”. All ties shall be fitted with anti-splitting devices, regardless of their tendency to split.

4. Ties shall be inspected and certified by an approved commercial testing laboratory stating that the ties to be used meet the specifications in accordance with AWPA Standard M2 “Standard for Inspection of Treated Wood Products”. Results of test and inspections shall be furnished to the Engineer. The Contractor shall provide these inspections.

CI. **Grade Crossings.** Provide concrete panels for grade crossings as specified herein.

CII. **Tie Plates.** Hot worked, high carbon, double shoulder, flat bottom tie plates shall be 8-inches x 14-inches with 1:40 cant and conform to the AREMA specifications, Chapter 5, “Track”, with punched A-8 square spike holes.

F. **Track Spikes and Coach Screws**. Supply new high carbon steel track spikes conforming to the requirements of AREMA Chapter 5 “Track”. Deliver track spikes to the Job Site in Engineer-approved containers (kegs). Install in accordance with Federal Railroad Administration (FRA) Standards.

G. **Joint Bars, Compromise Joint Bars and Track Bolts**. Use joint bars, compromise joint bars, and track bolts conforming to the requirements of AREMA Chapter 4, Part 2, Section 2.8, “Specifications for Quenched Carbon-Steel Joint Bars, Micro alloyed Joint Bars, and Forged Compromise Joint Bars”. Compromise joint bars must be new and of the size, shape, and punch necessary to fit the rail sizes and sections being joined. Only factory designed and produced (forged or cast) compromise joint bars may be used to join rails of different sizes and/or sections.

H. **Rail Anchors**. Use Grip type rail anchors conforming to the requirements of AREMA Chapter 5, Section 7 “Rail Anchors.”

I. **Concrete Panels**. Provide Track Standard Drawings for Concrete Panels. Welded rail is required at all road crossings.

J. **Ballast**.

1. Supplement existing ballast as necessary, usint crushed stone ballast that is hard, dense, of angular particle structure providing sharp corners and cubical fragments, free of deleterious materials. Provide ballast material that has a high resistance to temperature changes, chemical attack, high electrical resistance, low absorption properties and free of cementing characteristics. Submit Certificates of Compliance for all ballast materials furnished under this contract for review and approval by the Engineer prior to transporting ballast to the Job Site.

2. Ballast Classifications. Ballast shall be main line quality, AREMA Standard 4A Gradation. A variety of materials may be processed into railroad ballast. The following general classifications and the accompanying definitions list the most common materials. Detailed examination of the individual materials will be made to determine the specific mineralogical composition. No crushed gravel is allowed.

    a. **Granite**. Granite is a plutonic rock having an even texture and consisting primarily of feldspar and quartz.

    b. **Trap Rock**. Trap rock is any dark-colored, fine-grained non-granitic hypabyssal or extrusive rock.

    c. **Quartzite**. Quartzite is a granoblastic, metamorphic rock consisting mainly of quartz and formed by recrystallization

or sandstone or chert by either regional or thermal metamorphism. Quartzite may also be very hard but unmetamorphosed sandstone consisting chiefly of quartz grains with secondary silica that the rock breaks across or through the grains rather than around them.

d. **Carbonate Rocks**. Carbonate rocks are sedimentary rocks consisting primarily of carbonite materials such as limestone and dolomite.

e. **Slag**. Slag is materials formed during the metal-making process by fusion flux stones, coke, and other metallic particles.

3. Property Requirements.

a. Physical Analysis.

(1) Method of Sampling. Secure field samples in accordance with ASTM D-75. Reduce test samples from field samples in accordance with ASTM C 702.

(2) Sieve Analysis. Perform sieve analysis in accordance with ASTM C 136. All sieve analyses require wet sieving.

(3) Material Finer than No. 200 Sieve. Test material finer than a No. 200 Sieve in accordance with ASTM C 117.

(4) Bulk Specific Gravity and Absorption. Determine bulk specific gravity and percentage of absorption in accordance with ASTM C 127. Specific gravity shall conform to AREMA standards at 2.6 minimum.

(5) Percentage of Clay Lumps and Friable Particles. Determine percentage of clay lumps and friable particles in accordance with ASTM C 142.

(6) Resistance to Degradation. Determine the resistance to degradation in accordance with ASTM C 131 or C 535 as follows: test materials having gradations containing particles retained on the 1” sieve by ASTM C 535, test materials having gradations of 100 percent passing the 1” sieve by ASTM C 131.

(7) Sodium Sulfate Soundness. Sodium sulfate soundness tests shall be made in accordance with

ASTM C 88.

(8) Unit Weight. The weight per cubic foot shall be determined in accordance with ASTM C 29.

(9) Percentage of Flat and/or Elongated Particles. Percent of flat and/or elongated particles shall be determined in accordance with U.S. Army Corps of Engineers Test CRD-C-119.

(10) Plasticity Index. The plastic limit, liquid limit and plasticity index shall be determined in accordance with ASTM D 423 and D 424. Each sample shall be tested in two ways; one test shall test the fines generated by the Los Angeles Machine, and the other test shall test the fines contained in the total sample. The portions of these samples generated by the Los Angeles Machine, and passing the #40 sieve shall be non-plastic (NP). The portion of the total sample passing the #40 sieve shall have a liquid limit of not more than 25, and plasticity index of not more than 6.

b. Chemical Analysis.

(1) No specific chemical analysis is considered essential for the evaluation of granite, trap rock, or quartzite-type materials, provided the materials are defined by applicable method. For carbonate materials, dolomitic limestone is defined as having a magnesium carbonate content of 28 to 36 percent. Those carbonate materials indicating magnesium carbonate values above 36 percent shall be defined dolomite. Carbonate material indicating magnesium carbonate values below 28 percent shall be defined as limestone. Chemical analysis will be used in selecting or evaluating plant sites. Magnesium carbonate content of carbonate materials shall be tested and defined in accordance with ASTM C 25.

(2) The blending, stockpiling and other production handling operations shall be managed by the producer to minimize segregation of the finished product. Stockpiling operations shall minimize, as practical, breakage or excessive fall in stockpiling operations and movement of wheeled or tracked machines over stockpile material shall be limited. Processed ballast shall be washed and/or rescreened as necessary to remove fine particle contamination as defined by the specification.

(3) The manufacturer shall ensure the fitness of the cars for loading of prepared materials, arranging to clean cars of deleterious materials, plug leaks, close doors, and other like operations as necessary.

(4) Owner or its representative reserve the right to visit the producer's facility during usual business hours unscheduled for the following purpose of examining the production facility and methods.

(5) Prior to installation, the supplier shall provide the Engineer with certified results of ballast quality and gradation as conducted by a testing laboratory acceptable to the Engineer. The supplier shall receive approval from the Engineer for the testing laboratory prior to performing tests.

e. Switch Stands

(1) New enclosed, parallel grounded switch stands conforming to the Racor model 336-EC or approved equal, for use in an embedded location. Only one type of switch stand shall be used throughout the project. Switch shall include a hinged cover to completely enclose the top of the stand, contain an adjustable crank for ease of throw, rigid connection rods and contain a box to enclose connecting and switch rods.

(2) Existing switch stands being removed and replaced with embedded pavement switch stands shall be turned over to the Owner. Owner will designate a storage location inside the Port.

L. End of Track Bumping Post

1. End of track bumping posts shall be installed to restrain rail cars at stub-ended storage tracks. End of track bumping posts shall be the Western-Cullen Hayes bumping post with shock-free head "Type WA" or approved equal.

1.3 Construction.

A. General Requirements.

1. Before starting work, the Contractor shall fully inform the Engineer of the construction methods they propose to use, the adequacy of which shall be subject to the approval of the Engineer.

2. Concurrence on the part of the Engineer of any proposed construction methods or approval of equipment does not relieve the Contractor of the responsibility for the safety or correctness of the methods, the adequacy of their equipment or from carrying out the work in full accordance with the contract.

3. The following codes, regulations, reference standards, and specifications apply to work included in this section:

    a. AREMA, Manual for Railway Engineering, Chapter 1 “Roadway and Ballast”, Chapter 4 “Rail” and Chapter 5 “Track”.

    b. American Welding Society (AWS) D1.1

    c. Applicable referenced ASTM Specifications

    d. Track Safety Standards of the Federal Railroad Administration (FRA).

    e. Standard drawings provided by the Engineer.

4. Any Items not covered specifically herein shall be in accordance with AREMA Standards and recommended practices subject to the approval of the Engineer. Construction must adhere to all State Standard Plans and FRA requirements.

5. The following review/approval milestones will be monitored during the project:

   a. **Grading**. Reviewed and approved prior to placement of sub-ballast.

   b. **Ballasted Trackwork**. Review, approve and coordinate the track construction to assure compliance with Owner requirements.

   c. **Welding**. All welds, including compromise welds shall conform to the requirements of AREMA Chapter 4 “Rail”, Part 2.3 “Specification for the Quality Assurance of Electric-Flash Butt Welding of Rail” and/or Part 2.5 “Specification for the Quality Assurance of Thermite Welding of Rail.”

6. All workers employed in the project or supervising the project shall have been certified according to Federal Railroad Administration regulations contained in 49 CFR 214, Subpart C, Roadway Worker Protection.

7. When the Contractor desires to occupy any space above the top of rail within the horizontal distance of 10 ft. either side of the centerline of any track, measured at right angles to the track centerline, it will be necessary that they obtain authority from POPA with at least 24 hr. advance notice. The authority will be requested and granted according to POPA operating rules, and the Contractor will fully comply with all instructions issued by POPA regarding occupancy of the track. Flaggers will not be needed on Port Owned rail. Upon request by the Contractor, the Port will install a derail on the rail running through the project area.

8. The Contractor shall require their employees, agents, or subcontractors to comply with all instructions or warnings of the flaggers as to clearance for the passage of trains.

9. All scaffolding, materials, and equipment used in the Contractor’s operations shall, at all times, be maintained at a clearance from the tracks as approved by the Engineer, except when working within the limits of authority granted to

occupy the tracks.

10. Owner's acceptance of trackage and its appurtenances which have been built shall be based on the Engineer's written statement that construction and construction materials have met all required standards.

11. Unless otherwise specified, all removed materials shall become the property of the Contractor. All removed materials and debris must be removed from the Owner's property and disposed of in a manner approved by the Engineer.

B. **Track Work.**

1. All ties shall be spaced uniformly at 19.5 inches center-to-center of ties (24 crossties per 39 feet of rail), and laid with heart side down, except when ties are not true.

2. Ties shall be placed and maintained square to the line of rail on straight track and radially on curves. The right-hand end of ties (direction determined by facing away from initial point of the line) shall be lined parallel with the rail.

3. Tie hooks, tongs or tie crane shall be used in handling ties, to avoid damage to the ties. New treated ties must not be adzed without authority from the Engineer. If adzing is authorized, an approved preservative shall be applied to the adzed surface.

4. Tie plates must set squarely on the tie and shall be of the dimensions to fit the base of rail used. All track shall be fully tie plated and spiked in accordance with proper criteria. Tie plates shall be centered and have full bearing on ties. Rail shall be properly seated in the tie plates and not riding on the shoulder of the tie plate. Tie plates and rail shall be cleaned before being laid. Tie plates must be placed with slope of plate towards center of track.

5. All rail shall be gauged when laid. The standard gauge is 4 feet 8-1/2 inches between points 5/8-inch below the top of rail on the two inside edges of the rail. All gauges used by the Contractor will be checked by the Engineer. If found to be more than 1/16-inch in variance from the master gauge, those gauges shall immediately be adjusted.

6. Track bolts, with nuts, which have wrench turn fittings, shall be used where required. Spring washers shall be the correct size to fit the bolt. All bolts will be tightened with an approved bolt machine or torque wrench to a torque of 650 foot-pounds. Bolting shall be started with the center bolts working toward the ends and all nuts shall be turned up tight with bolt heads staggered inside and outside of the rail alternately.

7. All track spikes are to be the proper size. Care shall be taken to make sure that the base of rail is not riding on the shoulder of the tie plate when spikes are driven. Spikes shall be started, driven vertically, and square when driven into the spike holes of the tie plate. Crooked or bent spikes shall be removed and replaced. Straightening with maul of spikes started crooked will not be permitted. When spikes are pulled, the hole shall be plugged with a standard treated tie plug. In driving the spikes, the last few blows of the hammers shall be such that the spike head will not be bent or broken, and the hammer shall not be permitted to strike directly upon the rail.

8. All rail shall be spiked to ties with not less than four spikes per tie, one spike in contact with gauge side and one in contact with field side of each rail. Spikes shall be staggered so that the outside spikes shall be on the same side of the tie and the inside spikes on the opposite side. Ties shall be spiked through the tie plates with two rail holding spikes in each tie plate on tangent track; the rail gauge side and rail field side spikes in each tie plate being driven diagonally across from each other.

9. Rail shall not be struck with maul or heavy tool when spiking, gauging, or lining.

10. Immediately after completion of track surfacing, spikes shall be settled in place with the underside of the head of the spike contacting the top of base of rail with a minimum of pressure.

11. Tie plugs, where required, shall fill holes from which spikes are drawn. The plugs shall conform to the current AREMA Specifications for Tie Plugs and are to be treated with a Creosote oil solution.

12. Grip type rail anchors shall be applied by an approved rail anchor applicator machine and in the approved manner for the anchor furnished. Rail anchors shall be installed after the ballast operation and the track is raised, lined, and ties re-spaced. Under no circumstances shall rail anchors be installed on ties under or immediately adjacent to rail joints, nor shall anchors be installed on one side of the tie under one rail and on the opposite side of the tie under the other rail.

13. Care shall be taken to avoid overdriving or damaging anchors. Anchors shall not be driven along the rail. Sufficient rail anchors shall be applied and maintained to effectively control longitudinal rail movement. Anchors shall be installed on the same side(s) of the tie on both rails. Anchors must not be applied to one rail only but must be applied to both rails in a uniform pattern. For continuously welded rail (CWR), anchors must not be applied on the opposite rail directly

across from the joints or straps.

14. Track shall be box-anchored every other tie. Box-anchoring is defined as; installing opposing anchors to bear against each side of the tie on each rail for a total of four anchors per cross tie.

15. When laying rail in tangent track, the right-hand rail (direction determined by facing away from initial point of line), shall be laid first and lined to the staked track alignment. After each right-hand rail is lined and spiked, the left-hand rail shall be laid to accurate gauge and spiked to gauge every third tie with gauge spikes fully driven (except through joint areas) before the track gauges are removed. The left handrail shall be laid into the track, and rail joint bolts installed (if used) before spiking to gauge, and before gauge spikes are driven. The left-hand rail shall be held in place snugly against the track gauges with lining bars.

16. When laying up to existing track tie-in locations, a combination of rails less than standard length may be used to avoid cutting, if practical. Rail saws shall be used when necessary to cut rail. The use of a torch or track chisel will not be permitted. All necessary new bolt holes shall be marked, using an approved rail drilling template and the drilling operation shall be carefully performed. Both cutting and drilling shall utilize proper lubrication. Cut rails shall be drilled and fully bolted. There shall be no extra holes in the rail. The burred edges on bolt holes drilled in the field shall be carefully removed by grinding. When necessary to cut secondhand rail, the cut end shall be beveled. When necessary to cut new standard carbon rail, the cut end shall be end hardened and beveled in accordance with Railroad Specifications.

C. **Rail Joints.**

1. Rail not in CWR locations shall be staggered according to the direction of the Engineer, except when balancing the joints for switch leads, road crossings, bridge ends and signal circuits, as well as in secondary tracks where use of prefabricated track panels is authorized. To reduce the resonant reaction, rail joints shall be staggered 12 feet from the nearest joint on the opposite rail. To avoid unnecessary rail cutting in providing staggered joints, a two-foot tolerance will be permitted in either direction. When laying rail, joints must not be in road crossings, bridge decks, or on ends of bridges.

2. At the time rail is being laid, joint bars shall be applied, placing one bolt at each end of rail in the joint bar. Before the bolts are tightened, and after the track has been surfaced and lined, the joint bars shall be removed and the joint bars as well as the rail ends within the limits of the joint bar area

shall be thoroughly cleaned with a wire brush to remove all rust, dirt and mill scale. The contact surface of the joint bars shall then be lubricated using a liberal amount of lubricant as approved by the Engineer. After application of lubricant, the joint bars are to be reapplied; taking care to see that no dirt, gravel, or other foreign material is permitted to get into the lubricated area.

3. Rail expansion shims must be used to establish the proper opening between rails. Expansion shims must not be used at the ends of strings when laying CWR.

4. At joints, the opening between rail ends must be as shown in the following table:

For 39 ft Rail:

Rail Temperature	Opening
Below 25° F	1/2"
25° F to 50° F	3/8"
51° F to 75° F	1/8"
Above 75° F	1/8" every other joint

For 78 ft Rail:

Rail Temperature	Opening
Below 25° F	1/2"
25° F to 50° F	3/8"
51° F to 75° F	1/4"
76° F to 100° F	1/8"
Above 75° F	1/8" every other joint

5. Rail thermometers of the approved type must be used to determine the rail temperature.

6. The application of lubricants and general maintenance of rail joints in jointed-rail territory are necessary to ensure that the rail is working properly to accommodate rail expansion and contraction resulting from temperature variations, and prevent the occurrence of track buckles, sun kinks and pull-aparts. Joint bars and rail ends must be cleaned and lubricated with an approved joint lubricant when installing joint bars.

7. When laying new or secondhand jointed rail, or constructing new track using jointed rail, the contact surface of the rail ends, and joint bars shall be lubricated using a liberal amount of approved lubricant.

8. To maintain free rail movement in existing joint rail territory, joint area must be thoroughly lubricated along all marring surfaces and into the interior of the bars, using a Hudson sprayer or equivalent. Frozen joint conditions shall be corrected by loosening the bolts and breaking the bars free from the rail to permit proper oiling and ensure free rail movement within the joint.

9. Where joint bars are required, the joint bars must be installed with the full number of bolts and the nuts tightened to the proper tension. Joint bars shall be either 4-hole, 24 in. or 6-hole, 36 in. joint bars fully bolted with lock washers; elliptically punched for oval necked bolts. Bolts shall be inserted into the joint bars from alternating sides of the rail, seated in the elliptical bolt holes, so that bolt heads are located next to the nut of the bolt in the adjoining bolt hole. Rail joints shall be applied so that bars are not cocked between base and head of rail. Bars are to be properly seated in rail.

10. Where the running surface of rails at joints are mismatched by more than one eighth (1/8) inch, the Contractor shall build up, grind and profile the rail according to the Engineer's instructions. A rail of more section shall not be ground down to match the lesser, but the lesser built up.

D. Compromise Joints.

1. At permanent connections of different rail sections, compromise joints or compromise welds shall be used, and where practical they shall not be in crossings, main track curves, on open-deck bridges, or in turnouts.

2. Compromise Joints are required at all locations between the ends of rail of different weights or cross section. The Contractor shall install all compromise joints as directed by the Engineer. Installation of compromise joints shall be considered incidental to track laying and no separate payment will be made. Compromise joints shall not be placed within the limits of turnouts.

DI. Ballasting and Surfacing.

1. Furnishing, delivery and unloading of ballast to project site is the Contractor's responsibility. Care must be taken to ensure that track and walkways are safe for movement.

2. Haul and place ballast material in such a way that damage to adjacent areas is avoided.

3. Ballast shall be uniformly distributed, and the track raised, lined, surfaced, and tamped, with the finished surface of the ballast dressed in accordance with the approved drawings or the Engineer's instructions.

4. The track shall be laid and connected before ballast is spread and raised. It will not be permissible to operate over long stretches of track before it has been raised and surfaced unless approved by the Engineer. Immediately prior to unloading ballast for the final raise, the track shall be lined as close as practical to the stakes and all ties straightened and and re-spaced as necessary. Ballast shall then be spread evenly and leveled to the required section, taking

care to assure that subgrade material is not intermixed with the ballast.

5. Ballast shall be spread, and the track raised in a series of lifts to the approved elevation. No single lift shall be higher than 4 inches. In raising track, if jacks or mechanical tampers are used, they shall be so regulated as to avoid the binding or straining of joints. Sufficient sets of track jacks, if used, shall be simultaneously used, and properly spaced to avoid sharp breaks or bends in the rail when the track is raised. Both rails shall be raised simultaneously and to proper cross level by utilizing standard track level boards with each set of track raising jacks (minimum three insertions).

6. Tamping is to be done by machines approved by the Engineer, in a manner that will produce uniform compaction. Tamping must not disturb subgrade/sub-ballast. Thorough tamping under the rail set is required, and joint ties shall be tamped especially firm.

7. Tamping will not be permitted at the middle of a tie. Both ends of a tie shall be tamped simultaneously and tamping inside and outside the rail shall be done at the same time. All ties that are pulled loose in the track raising operation shall be placed in their proper position, properly tie-plated and fully spiked before tamping. The track shall be true to line and grade as staked with tangent track level transversely.

8. During each track raise, the track is to be tamped in such a manner that it will be uniform. During the raising and tamping operations, sufficient spot boards, track level boards or other approved surfacing devices shall be constantly used to ensure the correct surface and cross level in the track after tamping work is completed.

9. After ballasting is completed and the track is in correct gauge, surfaced and lined according to the stakes, the ballast shall be trimmed neatly to the section shown on the drawings, and any surplus material shall be spread evenly along the slopes of the ballast section. Dressing of the ballast by placing earth higher than the ballast toe and thus preventing proper drainage will not be permitted.

10. Bring the initial layer of compacted ballast to an elevation that will establish the track surface no higher than 2-inches below final base of rail grade. Refer to plans and cross sections for ballast depth and base of rail grades.

11. Ballast shall be inserted under ties in minimum 2-1/2 inch, maximum 4-inch lifts. Cribs shall be filled with ballast to the top of tie.

12. Do not perform track surfacing unless the cribs are filled with ballast.

13. Special care must be taken when surfacing during hot weather to avoid track buckles.

14. Perform track surfacing by an approved method, which prevents undue bending of the rail or straining of the joints.

15. Both rails shall be raised at one time and as uniformly as possible.

16. Ties that have been pulled loose shall be replaced to proper position and shall be fully tamped to proper elevation.

17. Ballast shall be kept clean and free of segregation during handling and placing operations.

18. Ballast to be thoroughly tamped from each tie end to 15-inches outside and inside of rail. Centers are to be filled but not tamped.

19. Tamping tools shall be inserted simultaneously on opposite sides of the same tie to prevent the tie from cocking, to ensure that the ballast under the tie is completely compacted and that the rail is firmly seated on the tie plate.

20. When using power tampers in tandem, the machines should be of the same type and have identical tamping heads to produce uniform compaction.

21. Track shall be constructed to the alignment and grade prescribed by the plans. Deviation from established gauge and cross level shall not exceed ¼-inch; deviation from profile grade and horizontal alignment shall not exceed ¾-inch in 62 feet. All work shall be acceptable to the Engineer.

22. Tangent track shall be cross level.

23. No humps or sags will be accepted nor will irregularities in alignment, either on tangent or curved track that exceed previously defined deviations.

24. Maximum allowable adjustment in line after final resurfacing is 2-inches.

25. Top of track ballast shall be dressed parallel with top of ties, extending 9-inches beyond the end of tie, then on three to one slope to sub-ballast. Not less than three insertions of tamping tools shall be made.

26. Before final acceptance, all track shall be surfaced and accurately lined to remove all irregularities of cross level, surface or line caused by settlement or compaction of ballast following traffic loading. Any ties not giving full support to rails shall be re-tamped. Bolts shall be retightened, if necessary, to bring to full tension and spikes set down to full rail contact.

27. Owner's acceptance of trackage and its appurtenances which have been built shall be based on the Engineer's written statement that construction and construction materials have met the required standards.

G. **Vehicular Grade Crossing.**

1. Construct grade crossings to the lines and grades indicated in the plans.

2. Verify that the track has been installed in accordance with the specifications and approved for alignment and profile by the Engineer.

3. Verify that crossties are of correct length, position and spacing to satisfy the requirements of the concrete crossing panels and fasteners. Correct any deficiencies prior to proceeding with grade crossing installation.

4. When required by the plans, install filter fabric and perforated pipe extending to the indicated limits shown in accordance with the manufacturer's instructions. Filter fabric shall meet the requirements of Departmental Material Specification DMS-6200 "Filter Fabric".

5. Protect filter fabrics from puncture throughout construction.

6. The approaches for private roadways shall be supplied with stop signs and installed as directed by the Engineer.

7. All welds within the crossing surface shall be ground flush on all sides of the rail except on the bottom of the base. The track must be properly lined, tamped, compacted, spiked, broomed and anchored before any crossing material is installed. All joints within 15-feet of crossing shall be welded.

8. Crossing width shall be prescribed on the plans.

9. For all road crossings reflective cross buck signs shall be placed as per requirements.

H. **Panel Fabrication.**

1. Manufacture panels to meet HS20-44 loading in accordance with AASHTO Standard Specifications for Highway Bridges with a 30% impact factor. Supply design calculations certified by a Registered Professional Engineer for review. Receive approval from the Port of Port Arthur before fabricating. Manufacture panels to be compatible with rail fastening hardware, rail anchors, and to the correct height for AREMA Rail as specified in this specification. Follow production procedures for manufacturing precast slabs and prestressed slabs in accordance with the Prestressed Concrete Institute's Manual MNL 116-77 for "Quality Control" and in accordance with AREMA Manual, Chapter 8.

2. For the end of the prestressed tendons, burn off and recess to a depth of 1 in. Fill and finish recesses and minor concrete spalls to the plan dimensions using an approved epoxy bonding compound and grout. Submit copies of the concrete design mix to the Engineer for approval before starting any casting operations. Standard nominal panel lengths are 10 ft., 15 ft., and 20 ft. Provide crossties on 18 in. centers for 9 ft. panels and on 20 in. centers for 10 ft. panels. Other lengths may be fabricated, if required, provided they comply with this specification and the details on the plans. Provide each gauge and field panel at the end of the grade crossing with a tapered steel deflector plate cast into the panel. Ensure the deflector plate is the full width of the panel and tied back to the angle. Provide a rubber flangeway filler, made of SBR compound, at each crossing to insure a positive seal between the rail and concrete panels. Use a flangeway filler meeting ASTM D-2000, 2AA708 F-17 G21 that is reusable in the event maintenance and surfacing is required. Stamp the piece mark and year of fabrication into the steel frame angle at locations shown on the plans. Use a numeral and letter size of 1-1/2 in. (1+ in.).

3. Perform any welding of structural steel using the process in accordance with current AWS DL.1. Ensure recessed lifting devices as shown on the plans are installed by the fabricator. Optional design of lifting devices is permissible and must include a maximum factor of safety of 4. Submit details and design calculations for optional designs to the Engineer for review and approval before beginning fabrication. Place a 1/8-in. elastomeric bearing pad between the top of the crosstie and the bottom of the concrete panels. Provide the driving surface with a light broom finish. Adding water to the surface during finishing is not permitted. If the track is in a curve greater than 3-degrees, custom manufacture the panel to fit radius. Use of filler plates is not allowed.

4. Construct grade crossings to the lines and grades indicated in the plans.

5. Verify that the track has been installed in accordance with the specifications and approved for alignment and profile by the Engineer.

6. Verify that crossties are of correct length, position and spacing to satisfy the requirements of the concrete crossing panels and fasteners. Correct any deficiencies prior to proceeding with grade crossing installation.

7. When required by the plans, install filter fabric and perforated pipe extending to the indicated limits shown in accordance with the manufacturer's instructions.

8. Protect filter fabrics from puncture throughout construction.

9. The approaches for private roadways shall be supplied with stop signs and installed as directed by the Engineer.

10. All welds within the crossing surface shall be ground flush on all sides of the rail except on the bottom of the base. The track must be properly lined, tamped, compacted, spiked, broomed and anchored before any crossing material is installed. All joints within 15-feet of crossing shall be welded.

I. **Clearing, Grading, and Ditching.** Perform clearing, grading,

excavating, and placing the embankment for the preparation of the railroad subgrade in accordance with Item 110-6001 “Excavation (Roadway)” and Item 132-6008 “Embankment (Final)(Density Control)(Type C).

J. **Removing Existing Pavement and Base.** Remove existing base material required to install grade crossings in accordance with the plans.

K. **Underdrain System.** Install in accordance with Item 556, “Pipe Underdrains,” except as modified herein, to the lines and grades shown on the plans.

L. **Cement Concrete Paving.** Place, compact, and cure cement treated base in accordance with the applicable bid item for which it is bid, to the lines, grades, and thickness shown on the drawings.

M. **Soil Stabilization of Subgrade.** Place the soil stabilization fabric at grade crossing construction on finished, compacted base and around drains and filter material as shown on the drawings for roadway crossings to be constructed under this contract. Carefully place the fabric without wrinkles, pull flat, and lap at least 2 ft. or sew where two widths of fabric are joined. Carefully place sub-ballast on the fabric in a manner to leave the fabric flat, not wrinkled, or folded, and with no holes punched in the fabric.

N. **Sub-Ballast.** Provide sub-ballast conforming to and placed in accordance with Item 276-6181 “Cement Treated (Plant Mix)(Class L)(Type D)(Grade 1-2)(6”)”. Place sub-ballast to the lines, grades, and thickness shown on the drawings.

O. **Panel Installation (If shown on Plans).** Handle and support precast and prestressed panels at specified lifting device locations. Properly size lifting equipment and connection devices to handle the lengths of panels being installed. Provide a uniform track grade through the crossing. Adonize and treat ties as necessary to provide an absolute level surface. Ensure tie spacing is accurate enough to support the ends of the crossing panels on the centerline of the tie. Supply, install, and spike rail and ties. Weld the rail to produce one continuous section of rail through the crossing. Ensure panels butt up to one another, flush and tight with no gaps. Use of filler plate is not allowed. Ensure the manufacturer provides shop drawings detailing crosstie spacing and placement before installation. Provide, place, and tamp ballast. Tamp the entire tie within the limits of the crossing panels.

4. **Measurement.**

A. Remove and replace Railroad Track and Ties, will be measured on a track foot basis for a pair of new rails, including wood ties, tie plates, track spikes gage rods, rail anchors, supplemental ballast and 4" perforated drain lines and related materials and labor to construct a complete track. This item shall include the disposal of all rail and crossties.

B. Concrete Grade Crossing Panels shall be measured by the track foot of the type/size shown on plans and include a center gauge panel, two field panels, flangeway filler, bearing pads, and all necessary hardware and labor for complete installation.

C. There is no separate measurement for Grade adjustment of existing track and installation of new ballast.

5. **Payment.**

A. Payment for "Remove and Replace Railroad Track and Wood Cross Ties" will be made at the unit price bid for "Remove and Replace Railroad Track and Wood Cross Ties". This price shall be full compensation for; transportation, storage, installation of materials including all welding, securement, track work at vehicular grade crossings; placing ballast, for raising track to final grade and alignment, for the removal of all materials used in Ballasted Track Construction and for all other materials, tools, equipment and incidentals necessary to complete the work.

B. Payment for "Railroad Grade Crossing Panels" will be made at the unit price bid for "Railroad Grade Crossing Panels". This price shall be full compensation for; relocation, transportation, storage, installation of materials including all welding, securement, track work at vehicular grade crossings, placing ballast, for raising track to final grade and alignment, for the removal of all materials used in the relocation of the existing track, removal and disposal of existing wood ties and furnishing new wood ties
(including switch ties) and for all other materials, tools, equipment and incidentals necessary to complete the work.

C. There will be no separate payment for grade adjustment of existing track. Include the cost in the bid item for which this is a component part.

END OF SECTION