ADDENDUM NO. 1

HDR Engineering, Inc.
Texas Reg. No. F-00754

Date: August 10, 2026

To: All Prime Bidders of Record

From: Anthony Allen, P.E.
HDR Engineering, Inc.
555 N. Carancahua Street, Suite 1600
Corpus Christi, TX 78401

Project: Marina Boat Ramp Parking Lot Repair
City of Port Aransas, Texas
HDR Job No. 10465344

This addendum forms a part of the Contract Documents, and modifies the original specifications, drawings, and addenda as noted below. Unaltered provisions and drawings of the Contract Documents shall remain in effect. Acknowledge receipt of this Addendum in space provided on the bid proposal. Failure to do so may subject the bidder to disqualification.

Table of Contents:

Remove and replace the Table of Contents in the Specifications in its entirety and replace with the attached **revised Table of Contents**. Updates have been made to reflect the changes issued in Addendum No. 1.

A summary of changes are as follows:

1. Update Total Page Count for Technical Specification 01025 – Measurement & Payment.
2. Update Total Page Count for Technical Specification 01410 – Testing Laboratory Services.
3. Removal of Technical Specification Section 01420 – Observation Services.
4. Addition of Technical Specification Section 02234 – Cement Stabilized Base Course.
5. Addition of Technical Specification Section 02238 – Hot Mix Asphaltic Base Course.
6. Addition of Technical Specification Section 02512 – Tack Coat.
7. Addition of Technical Specification Section 02581 – Blast Cleaning of Pavement.
8. Addition of Technical Specification Section 02582 – Thermoplastic Pavement Markings.
9. Removal of Technical Specification Section 05410 – Miscellaneous Metals.
10. Removal of Technical Specification Section 09900 – Painting.
11. Removal of Additional Technical Specifications Divider.
12. Removal of Additional Technical Specification – Cement Stabilized Base Course.
13. Addition of Appendix A – American Electric Power Utility Exhibit

Bid Form:

Remove and replace Bid Proposal Pages BP-4 and BP-5 in the Specifications with the attached **Revised Pages BP-4 and BP-5**. Updates have been made to reflect the changes issued in Addendum No. 1.

A summary of changes are as follows:

1. Added General Conditions to Bid Item #1.
2. Changed Traffic Control Bid Item to lump sum.
3. Combined SW3P Items into one lump sum bid item.
4. Combined 4" Thermoplastic Striping into one lump sum bid item.
5. Combined Crosswalk Markings into one bid item per LF.
6. Storm Sewer Repair Items – Changed to uncovering 3 joints of pipe for inspection.
7. Removed Mobilization Bid Item from Sections C and D.
8. Updated description for 8" Recycled Cement Stabilized Base Course Bid Item.
9. Section D was updated to reflect Phase 2 – Alternate 1 option (Complete Mill/Overlay).
10. Bid Item for 8" Recycled Base was replaced with 8" Base Repair (Black Base).
11. Section E was added for Phase 2 – Alternate 2 option (Asphalt Patching and Fog Seal).
12. Totals updated to reflect addition of Section E and providing total cost for Base Bid with each Phase 2 alternative.

Technical Specifications:

1. **Remove and replace Section 01025 – Measurement and Payment in its entirety. Updates were made to reflect the changes in the revised Bid Form.**

2. **Remove and replace Section 01050 – Field Surveying in its entirety. Updates were made to reflect the requirements outlined in the appropriate bid item.**

3. **Remove and replace Section 01410 – Testing Laboratory Services in its entirety. Updates were made to reflect that the City will be providing and paying for the services of the Testing Laboratory which will be scheduled by the Contractor. A material testing schedule and Contractor testing requirements were also added.**

4. **Delete Section 01420 – Observation Services in its entirety.**

5. **Insert Section 02234 – Cement Stabilized Base Course.**

6. **Insert Section 02238 – Hot Mix Asphaltic Base Course.**

7. **Insert Section 02512 – Tack Coat.**

8. **Insert Section 02581 – Blast Cleaning of Pavement.**

9. **Insert Section 02582 – Thermoplastic Pavement Markings.**

10. **Delete Section 05410 – Miscellaneous Metals in its entirety.**

11. **Delete Section 09900 – Painting in its entirety.**

12. **Delete Additional Technical Specifications Divider and Additional Technical Specification – Cement Stabilized Base Course in its entirety. This was replaced with Section 02234.**

13. **Insert Appendix A – American Electric Power Utility Exhibit. This appendix identifies the approximate locations of existing underground electrical and lighting facilities within and adjacent to the project limits. Contractor is responsible for field locating these facilities and to take care not to damage these facilities during the construction operations.**

Drawings:

Remove and replace the Plan Drawings in their entirety with the attached revised Plan Drawings.

A summary of changes are as follows:

1. Sheet G1 – Title Sheet and Index: Updated the "Call Before You Dig" information.

2. Sheet C1 – Construction Notes: Revised general construction notes, utility notes, and paving notes to reflect updated project requirements. Added notes to reflect the addition of Phase 2 Alternate 2 – Asphalt Patching and Fog Coat.

3. Sheet C2 – Paving and Striping Plan: Revised the paving and striping layout, related notes and callouts, and plan quantities to reflect updated project requirements. Added Phase 2 Alternate 2 – Asphalt Patching and Fog Coat to Legend.

4. Sheet C3 – Paving Details: Revised paving details and callouts to reflect updated project requirements.

5. Sheet C4 – Drainage Repair Details: Revised Storm Sewer Repair Detail and Notes, and added Trench Backfill for Storm Water Pipes Detail.

6. Sheet C5 – Parking, Accessibility, and Striping Details: Revised detail dimensions and callouts for clarity and consistency with updated project requirements.

7. Sheet C6 – Pollution Prevention Plan and Details: Revised line weights to improve drawing clarity and readability.

8. Sheet C9 – Detectable Warning Surface Details: Revised line weights to improve drawing clarity and readability.

Clarifications:

1. **Bidders shall refer to Section 01025 – Measurement and Payment to confirm the scope of work and items that are included in each of the bid items.**

2. **The area identified as Concrete Demolition on Drawing Sheet C2 will be replaced with asphalt paving utilizing the Asphalt Paving Reconstruction Section on Drawing Sheet C3.**

3. **Phase 2 Alternate 2 – Asphalt Patching and Fog Coat – The locations and limits of Asphalt Pavement Patching and Crack Sealing are not shown on the Plans and will be identified in the field by the Engineer during construction if this alternate is awarded. As a result, preliminary quantities have been established as allowances for these items. After completion of pavement cleaning and prior to application of pavement preservation treatments, the Engineer will mark areas requiring crack sealing or areas exhibiting severe distress for removal and replacement. Removal and replacement will include milling existing asphalt pavement, 8" black base repair, and new HMAC Type D Overlay with Tack Coat per the established bid items. Contractor will be paid based on installed quantities of work actually performed. Fog Seal will be performed on the entire identified Phase 2 area regardless of this repair work.**

4. **Pre-Bid Meeting – There is no pre-bid meeting scheduled for this project. Any questions need to be submitted directly to Anthony Allen at Anthony.Allen@hdrinc.com or posted on CivCast. The deadline to submit questions is 4:00 p.m. CST on Thursday, August 13, 2026.**

5. **The Total Opinion of Probable Construction for Base Bid Total + Phase 2 Alternative 1 is $1.3 Million. The Total Opinion of Probable Construction for Base Bid Total + Phase 2 Alternative 2 is $1.0 Million. The City may elect to award one or neither of the Phase 2 alternatives depending on the prices received. The City does not intend to award portions of the project to multiple contractors.**

END OF ADDENDUM NO. 1

TABLE OF CONTENTS

A. GENERAL ITEMS

ITEM	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION, DEMOBILIZATION, GENERAL CONDITIONS, BONDS AND INSURANCE (MAX 3% , EXCLUDING THIS ITEM)	L.S.	1	$_____	$_____
2	PRE-CONSTRUCTION TOPOGRAPHIC SURVEY, GRADE CORRECTION SUBMITTAL, AND FINAL AS-BUILT SURVEY BY TEXAS RPLS	L.S.	1	$_____	$_____
3	TRAFFIC CONTROL AND REGULATION, INCLUDING TRAFFIC CONTROL PLAN, ERECTION AND DISMANTLING, SIGNS, BARRICADES, CHANNELIZING DEVICES, PEDESTRIAN ACCESS, AND MAINTENANCE OF ACCESS	L.S.	1	$_____	$_____
4	STORM WATER POLLUTION PREVENTION MEASURES, INCLUDING SILT FENCING, INLET PROTECTION BARRIERS, ERECTION, REPAIRING, REPLACING, AND REMOVAL	L.S.	1	$_____	$_____
5	4" YELLOW PARKING STALL STRIPING, ACCESSIBLE PARKING STRIPING, AND ACCESS AISLE HATCHING, INCLUDING THERMOPLASTIC MATERIAL	L.S.	1	$_____	$_____
6	ACCESSIBLE PARKING SYMBOL AND SIGN ASSEMBLY, INCLUDING THERMOPLASTIC ACCESSIBLE PARKING SYMBOL, ACCESSIBLE PARKING SIGN, POST, FOUNDATION, AND ALL APPURTENANCES	EA.	7	$_____	$_____
7	CROSSWALK STRIPING, THERMOPLASTIC MATERIAL	L.F.	120	$_____	$_____
8	DETECTABLE WARNING SURFACE	EA.	3	$_____	$_____
9	CONCRETE WHEEL STOPS	EA.	35	$_____	$_____
10	BULKHEAD CAP REPAIR, INCLUDING SAWCUT, CONCRETE REPAIR, REBAR CLEANING, BONDING AGENT	L.S.	1	$_____	$_____
SUBTOTAL GENERAL ITEMS (A)					$_____

B. STORM SEWER REPAIR ITEMS

11	STORM SEWER REPAIR AT SINKHOLE, ALL SIZES AND DEPTHS, INCLUDING UNCOVERING THREE JOINTS OF STORM SEWER FOR INSPECTION	EA.	1	$_____	$_____
12	GRATE INLET MODIFICATION, INCLUDING NEW GRATE AND FRAME, CAST-IN-PLACE TOP, GRATE ADJUSTMENT TO PROVIDE POSITIVE DRAINAGE, AND RESET EXISTING PERMEABLE PAVERS	EA.	7	$_____	$_____
SUBTOTAL STORM SEWER REPAIR ITEMS (B)					$_____

C. PHASE 1 PAVING ITEMS (FULL DEPTH RECONSTRUCTION)

13	MILL 2" EXISTING HMAC PAVEMENT, INCLUDING HAULING AND PROPER DISPOSAL	S.Y.	10,525	$_____	$_____
14	CONCRETE PAVING DEMOLITION	S.Y.	250	$_____	$_____
15	8" RECYCLED CEMENT STABILIZED BASE COURSE, INCLUDING PULVERIZING EXISTING BASE MATERIAL, 2" CRUSHED CONCRETE, 11% PORTLAND CEMENT BY WEIGHT, COMPACTED SUBGRADE, AND MICROCRACKING	S.Y.	10,750	$_____	$_____
16	PRIME COAT	GAL	3,225	$_____	$_____
17	2" HMAC TYPE D	S.Y.	10,750	$_____	$_____
SUBTOTAL PHASE 1 PAVING ITEMS (C)					$_____

D. PHASE 2 PAVING ITEMS - ALTERNATE 1 (COMPLETE MILL/OVERLAY)

18	MILL 2" EXISTING HMAC PAVEMENT, INCLUDING HAULING AND PROPER DISPOSAL	S.Y.	11,150	$_____	$_____
19	8" BASE REPAIR (BLACK BASE)	S.Y.	165	$_____	$_____
20	TACK COAT	GAL	1,115	$_____	$_____
21	2" HMAC TYPE D	S.Y.	11,150	$_____	$_____
SUBTOTAL PHASE 2 PAVING ITEMS - ALTERNATE 1 (D)					$_____

E. PHASE 2 PAVING ITEMS - ALTERNATE 2 (ASPHALT PATCHING AND FOG SEAL)

22	MILL 2" EXISTING HMAC PAVEMENT ALLOWANCE, INCLUDING HAULING AND PROPER DISPOSAL	S.Y.	1,000	$_____	$_____
23	8" BASE REPAIR (BLACK BASE) ALLOWANCE	S.Y.	165	$_____	$_____
24	CRACK SEALANT ALLOWANCE	LF	4,500	$_____	$_____
25	FOG SEAL	SY	11,150	$_____	$_____
26	TACK COAT ALLOWANCE	GAL	100	$_____	$_____
27	2" HMAC TYPE D ALLOWANCE	S.Y.	1,000	$_____	$_____
SUBTOTAL PHASE 2 PAVING ITEMS - ALTERNATE 2 (E)					$_____

TOTAL BASE BID [A. GENERAL ITEMS + B. STORM SEWER REPAIR ITEMS + C. PHASE 1 PAVING ITEMS]	$_____

TOTAL D. PHASE 2 ALTERNATE 1 [COMPLETE MILL AND OVERLAY]	$_____

TOTAL E. PHASE 2 ALTERNATE 2 [ASPHALT PATCHING AND FOG SEAL]	$_____

TOTAL COST (BASE BID + PHASE 2 ALTERNATE 1)	$_____

TOTAL COST (BASE BID + PHASE 2 ALTERNATE 2)	$_____

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Procedures for measurement and payment plus conditions for nonconformance assessment and nonpayment for rejected products.

1.02 AUTHORITY

A. Measurement methods delineated in Specification sections are intended to complement the criteria of this section. In the event of conflict, the requirements of the Specification section shall govern.

B. Measurements and quantities submitted by the Contractor will be verified by the Engineer.

C. Contractor shall provide necessary equipment, workers, and survey personnel as required by Engineer to verify quantities.

1.03 UNIT QUANTITIES SPECIFIED

A. Quantity and measurement estimates stated in the Agreement are for contract purposes only. Quantities and measurements supplied or placed in the Work and verified by Engineer shall determine payment as stated in the General Conditions.

B. If the actual Work requires greater or lesser quantities than those quantities indicated in the Bid Form, provide the required quantities at the unit prices contracted, except as otherwise stated in the General Conditions.

1.04 MEASUREMENT OF QUANTITIES

A. Measurement by Weight: Reinforcing steel, rolled or formed steel or other metal shapes will be measured by CRSI or AISC Manual of Steel Construction weights. Welded assemblies will be measured by CRSI or AISC Manual of Steel Construction or scale weights.

B. Measurement by Volume:

1. Stockpiles: Measured by cubic dimension using mean length, width, and height or thickness.

2. Excavation and Embankment Materials: Measured by cubic dimension using the average end area method.

C. Measurement by Area: Measured by square dimension using mean length and width or radius.

D. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

E. Stipulated Price Measurement: By unit designated in the agreement.

F. Other: Items measured by weight, volume, area, or lineal means or combination, as appropriate, as a completed item or unit of the Work.

1.05 PAYMENT

A. Payment Includes: Full compensation for all required supervision, labor, products, tools, equipment, plant, transportation, services, and incidentals; and erection, application, or installation of an item of the Work; and Contractor's overhead and profit.

B. Total compensation for required Unit Price Work shall be included in Unit Price bid in Bid schedule. Claims for payment as Unit Price Work, but not specifically covered in the list of unit prices contained in Bid Schedule, will not be accepted.

C. Progress payments will be based on the Engineer's observations and evaluations of quantities incorporated in the Work multiplied by the unit price.

D. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities determined by Engineer multiplied by the unit price for Work which is incorporated in or made necessary by the Work.

1.06 NONCONFORMANCE ASSESSMENT

A. Remove and replace the Work, or portions of the Work, not conforming to the Contract Documents.

B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, the Engineer will direct one of the following remedies:

1. The nonconforming Work will remain as is, but the unit price will be adjusted to a lower price at the discretion of Engineer.

2. The nonconforming Work will be modified as authorized by the Engineer, and the unit price will be adjusted to a lower price at the discretion of Engineer, if the modified work is deemed to be less suitable than originally specified.

C. Specification sections may modify these options or may identify a specific formula or percentage price reduction.

D. The authority of Engineer to assess the nonconforming work and identify payment adjustment is final.

1.07 NONPAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable to Engineer.

2. Products determined as nonconforming before or after placement.

3. Products not completely unloaded from transporting vehicle.

4. Products placed beyond the lines and levels of the required Work.

5. Products remaining on hand after completion of the Work, unless specified otherwise.

6. Loading, hauling, and disposing of rejected products.

PART 2 U N I T P R I C E S

A. GENERAL ITEMS

1.01 MOBILIZATION, DEMOBILIZATION, GENERAL CONDITIONS, BONDS AND INSURANCE (MAX 3% , EXCLUDING THIS ITEM)

A. Measurement for Mobilization, Demobilization, General Conditions, Bonds and Insurance is based on a lump sum basis.

B. Payment shall include mobilization, demobilization, bonds, insurance, preparatory work, movement of personnel, equipment, supplies, and incidentals necessary to begin and complete the Work.

C. Payment for this item shall not exceed three percent (3%) of the contract price.

1.02 TOPOGRAPHIC SURVEY, GRADE CORRECTION SUBMITTAL, AND FINAL AS-BUILT SURVEY BY TEXAS RPLS

A. Measurement and payment for Topographic Survey, Grading Verification, and Final As-Built Survey by a Texas RPLS shall be on a lump sum basis.

B. This item shall include furnishing a pre-construction topographic survey signed and sealed by a Texas Registered Professional Land Surveyor. The survey shall include topographic shots of paving surface at minimum 15-ft intervals, define grade breaks, high spots, low spots, flow lines, top of curb, and back of curb, storm sewer box corners, grate inlet corners, RCP sizes, and flow line directions and elevations including outfalls, and all apparent and marked utilities, appurtenances and obstructions, including capturing information received from the 811 call.

C. This item shall include grading verification, preparation and submittal of updated grading information prior to placement of base or asphalt, and preparation of a final signed and sealed as-built survey by a Texas RPLS after paving is complete to compare final grades to the pre-construction grades.

D. Payment shall be full compensation for all labor, materials, survey equipment, professional survey services, signed and sealed submittals, grading verification, final survey, coordination, and incidentals required to complete the Work.

1.03 TRAFFIC CONTROL AND REGULATION, INCLUDING TRAFFIC CONTROL PLAN, ERECTION AND DISMANTLING, SIGNS, BARRICADES, CHANNELIZING DEVICES, PEDESTRIAN ACCESS, AND MAINTENANCE OF ACCESS

A. Measurement and payment for Traffic Control and Regulation will be made on a lump sum basis for the time traffic control is installed, maintained, and required for the Work.

B. This item shall include furnishing, installing, maintaining, relocating, and removing traffic control devices, including signs, barricades, channelizing devices, pedestrian access controls, temporary access provisions, and other measures necessary to protect the Work and the public.

C. Contractor shall maintain access to the marina, boat ramp, parking areas, and pedestrian routes as required by the plans and as directed by the Owner and Engineer.

D. Payment shall be full compensation for all labor, materials, equipment, maintenance, relocation, removal, coordination, and incidentals required to complete this item.

1.04 STORM WATER POLLUTION PREVENTION MEASURES

A. Measurement and payment for Storm Water Pollution Prevention measures such as Silt Fence and Inlet Protection Barrier shall be on a lump sum basis for silt fence and inlet protection barriers installed within the limits shown on the plans.

B. This item shall include preparation of a SW3P Plan in accordance with TPDES Construction General Permit TXR 150000 for Small Construction Activity, furnishing, installing, maintaining, repairing, replacing damaged sections, removing sediment deposits, removing and disposing of silt fence and inlet protection devices after final stabilization, and all incidentals required to complete the Work.

1.05 4” YELLOW PARKING STALL STRIPING, ACCESSIBLE PARKING STRIPING, AND ACCESS AISLE HATCHING INCLUDING THERMOPLASTIC MATERIAL

A. Measurement and payment for 4" Yellow Parking Stall Striping, Accessible Parking Striping, and Access Aisle Hatching shall be on a lump sum basis for striping and hatching placed within the limits shown on the plans.

B. Payment shall include layout, preliminary stenciling, surface preparation, furnishing and applying thermoplastic material, protection of markings until ready for traffic, cleanup, and all incidentals required to complete the Work.

C. Any temporary striping which may be necessary during construction are incidental to this bid item.

D. All permanent striping shall be applied by mechanical means with the proper machinery, as approved by the Engineer. Contractor shall submit proposed machinery to Engineer prior to installing striping.

1.06 ACCESSBLE PARKING SYMBOL AND SIGN ASSEMBLY, INCLUDING THERMOPLASTIC ACCESSIBLE PARKING SYMBOL, ACCESSIBLE PARKING SYMBOL PARKING SIGN, POST, FOUNDATION, AND ALL APPURTENANCES

A. Measurement and payment for Accessible Parking Symbol and Sign Assembly shall be by each assembly installed at the locations shown on the plans.

B. This item shall include layout, surface preparation, furnishing and applying thermoplastic accessible parking symbol, furnishing and installing accessible parking sign, post, foundation, hardware, alignment, protection of markings until ready for traffic, cleanup, and all incidentals required to complete the Work.

C. Any temporary markings which may be necessary during construction are incidental to this bid item.

1.07 CROSSWALK STRIPING, THERMOPLASTIC MATERIAL

A. Measurement and payment for Crosswalk Striping, Thermoplastic Material shall be on a linear foot basis for crosswalk striping placed within the limits shown on the plans.

B. This item shall include layout, surface preparation, furnishing and applying thermoplastic material, protection of markings until ready for traffic, cleanup, and all incidentals required to complete the Work.

C. Any temporary striping which may be necessary during construction are incidental to this bid item.

D. All permanent striping shall be applied by mechanical means with the proper machinery, as approved by the Engineer. Contractor shall submit proposed machinery to Engineer prior to installing striping.

1.08 DETECTABLE WARNING SURFACE

A. Measurement and payment for Detectable Warning Surface shall be by each complete warning surface installed and accepted at the locations shown on the Plans.

B. This item shall include furnishing and installing the detectable warning surface, surface preparation, cutting, fitting, anchors, adhesive, sealant, concrete repair, and restoration required for a complete installation.

C. Payment shall include all labor, materials, equipment, tools, installation, protection, cleanup, and incidentals required to complete the work.

1.09 CONCRETE WHEEL STOPS

A. Measurement and payment for Concrete Wheel Stops shall be by each wheel stop installed at the locations shown on the plans.

B. This item shall include furnishing, placing, anchoring, alignment, hardware, replacement of damaged wheel stops prior to acceptance, and all incidentals required to complete the Work.

1.10 BULKHEAD CAP REPAIR, INCLUDING SAWCUT, CONCRETE REPAIR, REBAR CLEANING, BONDING AGENT

A. Measurement and payment for Bulkhead Cap Repair shall be on a lump sum basis for the repair limits shown on the plans.

B. This item shall include saw-cutting, concrete repair, removal of loose or unsound concrete, surface preparation, rebar cleaning, bonding agent, curing, cleanup, and all incidentals required to complete the Work.

C. No payment will be made for repair limits beyond those shown on the plans unless authorized by the Engineer.

B. STORM SEWER REPAIR ITEMS

1.11 STORM SEWER REPAIR AT SINKHOLE, ALL SIZES AND DEPTHS, INCLUDING UNCOVERING THREE JOINTS OF STORM SEWER FOR INSPECTION

A. Measurement and payment for Storm Sewer Repair at Sinkhole, All Sizes and Depths, shall be by each sinkhole repair location completed.

B. This item shall include uncovering three joints of storm sewer for inspection and providing storm sewer repair per storm sewer repair detail on Sheet C4.

C. Payment shall include excavation, inspection coordination, pipe, concrete collars, reinforcement, geotextile, cement stabilized sand, bedding, backfill, compaction, dewatering, surface restoration, cleanup, and all incidentals required to complete the Work.

D. If the Engineer determines that repair beyond the limits shown on the plans is required, the additional work shall be authorized in writing and paid through an approved Contract modification.

1.12 GRATE INLET MODIFICATION, INCLUDING NEW GRATE AND FRAME, CAST-IN-PLACE TOP, GRATE ADJUSTMENT TO PROVIDE POSITIVE DRAINAGE, AND RESET EXISTING PERMEABLE PAVERS

A. Measurement and payment for Grate Inlet Modification shall be by each inlet modified at the locations shown on the plans and per detail on Sheet C4.

B. This item shall include new grate and frame, cast-in-place top, grate adjustment to provide positive drainage, reset existing permeable pavers, surface restoration, and all appurtenances required to complete the Work.

C. Payment shall include excavation, forming, concrete, grout, adjustment, cleanup, and all incidentals required to complete the inlet modification.

C. PHASE 1 PAVING ITEMS (FULL DEPTH RECONSTRUCTION)

1.13 MILL 2" EXISTING HMAC PAVEMENT, INCLUDING HAULING AND PROPER DISPOSAL

A. Measurement and payment for Mill 2" Existing HMAC Pavement shall be on a square yard basis for the area milled within the limits shown on the plans.

B. This item shall include milling existing HMAC pavement to the depth indicated in the Bid Proposal, hauling, proper disposal, cleaning of the milled surface, and all incidentals required to complete the Work.

C. No payment will be made for milling beyond the plan limits unless authorized by the Engineer.

1.14 CONCRETE PAVING DEMOLITION

A. Measurement and payment for Concrete Paving Demolition shall be on a square yard basis for the area removed within the limits shown on the plans.

B. This item shall include saw cutting, removal and disposal of existing concrete pavement, removal of underlying material as required, excavation, hauling, cleanup, and all incidentals required to complete the Work.

C. No payment will be made for concrete demolition beyond the plan limits unless authorized by the Engineer.

1.15 8" RECYCLED CEMENT STABILIZED BASE COURSE, INCLUDING PULVERIZING EXISTING BASE MATERIAL, 2" CRUSHED CONCRETE, 11% PORTLAND CEMENT BY WEIGHT, COMPACTED SUBGRADE, AND MICROCRACKING

A. Measurement and payment for 8" Recycled Cement Stabilized Base Course, including Pulverizing Existing Base Material, 2" Crushed Concrete, 11% Portland Cement by Weight, Compacted Subgrade, and Microcracking shall be on a square yard basis for the area placed within the limits shown on the plans.

B. This item shall include scarifying and pulverizing existing base material; furnishing and incorporating 2" crushed concrete; furnishing and incorporating Portland cement so that the finished base mixture contains 11% Portland cement by weight; grading, mixing, shaping, compacting subgrade, compacting the stabilized base, curing, microcracking, testing, and all incidentals required to complete the Work. No separate payment will be made for Portland cement, crushed concrete, or compacted subgrade.

C. No payment will be made for base thickness greater than the thickness indicated in the Bid Form unless authorized by the Engineer.

1.16 PRIME COAT

A. Measurement and payment for Prime Coat shall be on a gallon basis for material applied within the limits shown on the plans.

B. This item shall include surface preparation, furnishing, applying, curing, protecting the prime coat, and all incidentals required to complete the Work.

C. No payment will be made for prime coat placed outside the limits shown on the plans unless authorized by the Engineer.

1.17 2" HMAC TYPE D

A. Measurement and payment for 2" HMAC Type D shall be on a square yard basis for pavement placed within the limits shown on the plans.

B. This item shall include furnishing, placing, compacting, finishing, joints, transitions, cleanup, and all incidentals required to complete the HMAC pavement.

C. No payment will be made for pavement thickness greater than the thickness indicated in the Bid Proposal unless authorized by the Engineer.

D. PHASE 2 PAVING ITEMS – ALTERNATE 1 (COMPLETE MILL/OVERLAY)

1.18 MILL 2" EXISTING HMAC PAVEMENT, INCLUDING HAULING AND PROPER DISPOSAL

A. Measurement and payment for Mill 2" Existing HMAC Pavement shall be on a square yard basis for the area milled within the limits shown on the plans.

B. This item shall include milling existing HMAC pavement to the depth indicated in the Bid Proposal, hauling, proper disposal, cleaning of the milled surface, and all incidentals required to complete the Work.

C. No payment will be made for milling beyond the plan limits unless authorized by the Engineer.

1.19 8" BASE REPAIR (BLACK BASE)

A. Measurement and payment for 8" Base Repair (Black Base) shall be on a square yard basis for the localized base repair areas completed within the limits shown on the plans or authorized by the Engineer.

B. This item shall include saw-cutting, removal and disposal of existing pavement and unsuitable base material, subgrade preparation and compaction, and furnishing, placing, and compacting 8" of hot mix asphaltic base course in two 4" lifts in

accordance with Section 02238.

C. Payment shall include excavation, hauling, disposal, subgrade preparation and compaction, furnishing and placing hot mix asphaltic base course, testing, cleanup, and all incidentals required to complete the Work.

D. No payment will be made for base repair beyond the limits shown on the plans or authorized by the Engineer.

1.20 TACK COAT

A. Measurement and payment for Tack Coat shall be on a gallon basis for material applied within the limits shown on the plans.

B. This item shall include surface preparation, furnishing, applying, curing, protecting the tack coat, and all incidentals required to complete the Work.

C. No payment will be made for tack coat placed outside the limits shown on the plans unless authorized by the Engineer.

1.21 2" HMAC TYPE D

A. Measurement and payment for 2" HMAC Type D shall be on a square yard basis for pavement placed within the limits shown on the plans.

B. This item shall include furnishing, placing, compacting, finishing, joints, transitions, cleanup, and all incidentals required to complete the HMAC pavement.

C. No payment will be made for pavement thickness greater than the thickness indicated in the Bid Proposal unless authorized by the Engineer.

E. PHASE 2 PAVING ITEMS – ALTERNATE 2 (ASPHALT PATCHING AND FOG SEAL)

1.22 MILL 2" EXISTING HMAC PAVEMENT ALLOWANCE, INCLUDING HAULING AND PROPER DISPOSAL

A. Measurement and payment for Mill 2" Existing HMAC Pavement Allowance shall be on a square yard basis for the area milled within the limits authorized by the Engineer.

B. This item shall include milling existing HMAC pavement to the depth indicated in the Bid Form, hauling, proper disposal, cleaning of the milled surface, and all incidentals required to complete the Work.

C. No payment will be made for milling beyond the limits authorized by the Engineer.

1.23 8" BASE REPAIR (BLACK BASE) ALLOWANCE

A. Measurement and payment for 8" Base Repair (Black Base) shall be on a square yard basis for the localized base repair areas authorized by the Engineer.

B. This item shall include saw-cutting, removal and disposal of existing pavement and unsuitable base material, subgrade preparation and compaction, and furnishing, placing, and compacting 8" of hot mix asphaltic base course in two 4" lifts in accordance with Section 02238.

C. Payment shall include excavation, hauling, disposal, subgrade preparation and compaction, furnishing and placing hot mix asphaltic base course, testing, cleanup, and all incidentals required to complete the Work.

1.24 CRACK SEALANT ALLOWANCE

A. Measurement and payment for Crack Sealant Allowance shall be on a linear foot basis for cracks prepared and sealed within the limits authorized by the Engineer.

B. This item shall include cleaning and preparing cracks, routing cracks where required, furnishing and applying hot-applied rubberized asphalt crack sealant in accordance with TxDOT Item 712, protecting adjacent facilities, curing, cleanup, and all incidentals required to complete the Work.

C. No payment will be made for crack sealing beyond the limits authorized by the Engineer.

1.25 FOG SEAL

A. Measurement and payment for Fog Seal shall be on a square yard basis for material applied within the limits shown on the plans.

B. This item shall include surface preparation, furnishing and applying polymer-modified fog seal in accordance with TxDOT Item 315, protecting adjacent facilities, curing, cleanup, and all incidentals required to complete the Work.

C. No payment will be made for fog seal placed outside the limits shown on the plans unless authorized by the Engineer.

1.26 TACK COAT ALLOWANCE

A. Measurement and payment for Tack Coat shall be on a gallon basis for material applied within the limits authorized by the Engineer.

B. This item shall include surface preparation, furnishing, applying, curing, protecting the tack coat, and all incidentals required to complete the Work.

C. No payment will be made for tack coat placed outside the limits authorized by the Engineer.

1.27 2" HMAC TYPE D ALLOWANCE

A. Measurement and payment for 2" HMAC Type D shall be on a square yard basis for pavement placed within the limits authorized by the Engineer.

B. This item shall include furnishing, placing, compacting, finishing, joints, transitions, cleanup, and all incidentals required to complete the HMAC pavement.

C. No payment will be made for pavement thickness greater than the thickness indicated in the Bid Form unless authorized by the Engineer.

END OF SECTION

SECTION 01050

FIELD SURVEYING

PART 1 G E N E R A L

1.01 QUALITY CONTROL

A. The Contractor's Surveyor shall be a Texas Registered Professional Land Surveyor (RPLS). The Contractor shall submit to the Engineer the name, address, and telephone number of the selected Surveyor before starting survey work.

1.02 VERIFICATION

A. The Contractor's Surveyor shall verify the location of the right of way, baseline, existing elevations, and provided benchmarks prior to construction. Contractor shall notify the Engineer prior to the start of work of any discrepancies or conflicts that may affect the construction.

1.03 SURVEY REQUIREMENTS

A. The Contractor's Surveyor shall set Temporary Benchmarks (TBMs) adequate for construction.

B. Pre-Construction Survey:

1. The Contractor must submit a topographic survey signed and sealed by a Texas RPLS within four (4) weeks of the Notice to Proceed. The survey must contain the following criteria:

    i. Topographic shots of paving surface at minimum 15-ft intervals.

    ii. Define grade breaks, high spots, low spots, flow lines, top of curb, and back of curb.

    iii. Storm sewer box corners, grate inlet corners, RCP sizes, and flow line directions and elevations including outfalls.

    iv. All apparent and marked utilities, appurtenances and obstructions, including capturing information received from the 811 call.

2. The formal Submittal shall follow requirements of Section 01300 – Submittals and shall include a signed and sealed survey drawing in PDF format with an established benchmark system and a .csv file that includes the northing, easting, elevation and description. Vertical datum shall be in NAVD88 and horizontal datum shall be in NAD83.

3. The Contractor must use this survey as a guide to replace the existing grades and correct any low spots or problematic areas to ensure positive drainage.

4. The Contractor must submit a grading plan showing the corrected areas two (2) weeks prior to placing cement stabilized base or asphalt.

C. Post-Construction Survey:

1. The Contractor must submit a final signed and sealed survey by a Texas RPLS after paving is completed to compare the final grades to the pre-construction grades. Quantities are estimated using aerial imagery. Final paving quantities will be determined with the survey.

PART 2 P R O D U C T S – NOT USED

PART 3 E X E C U T I O N – NOT USED

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Testing Laboratory Services, Owner / Contractor responsibilities related to those services, and a materials testing schedule.

1.02 OWNER RESPONSIBILITIES

A. The Owner will provide materials testing services through the Owner's designated materials testing laboratory up to the testing quantities identified herein. The Owner will establish a separate contract with the materials testing laboratory and will pay for these services directly.

1.03 CONTRACTOR RESPONSIBILITIES

A. The Contractor shall coordinate all required testing with the Engineer and materials testing laboratory and provide adequate notice (a minimum of 24 hours) before work requiring testing is performed or covered. The Contractor shall schedule and monitor testing as required to provide timely results and to avoid delay to the Work.

B. Employment of testing laboratory by the Owner shall not relieve Contractor of the obligation to perform work in accordance with the requirements of the Contract Documents.

C. The Contractor shall monitor the budgeted amount for material testing identified herein. The City will only pay for the amount budgeted.

a. Additional testing or retesting required due to failed tests, corrective work, nonconforming construction, or Contractor-initiated changes in material or material source shall be at the Contractor's expense.

b. The Owner may deduct all time and materials charges incurred by the material testing laboratory from Contractor's periodic progress payment when operations requiring testing are canceled by the Contractor without sufficient prior notification.

c. Additional testing required due to differing existing conditions or changes directed by the Engineer shall be performed as directed by the Engineer.

d. If additional testing is required that is not a result of the items noted above,

then the Contractor shall inform the City for additional funds prior to ordering testing.

D. The Contractor shall cooperate with laboratory personnel in collecting samples to be tested or collected on site and provide access to the Work.

1.03 LABORATORY REPORTS

A. The Owner, Engineer, and Contractor will receive an electronic PDF copy of all laboratory reports from the material testing laboratory. Test results that indicate non-conformance shall be emailed immediately from the material testing laboratory to the Contractor, Engineer, and Owner.

1.04 LIMITS ON TESTING LABORATORY AUTHORITY

A. The material testing laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.

B. The material testing laboratory may not approve or accept any portion of the Work.

C. The material testing laboratory may not assume any duties of the Contractor.

D. The material testing laboratory has no authority to stop the Work.

PART 2 P R O D U C T S – NOT USED

PART 3 E X E C U T I O N

3.01 MATERIALS TESTING SCHEDULE

A. <u>Compacted Existing Subgrade</u>

a. Standard Proctor

i. **Included Testing Quantity:** 1 test total

ii. **Frequency:** Perform once at the beginning of subgrade operations using material representative of the existing subgrade.

b. Atterberg Limits / Plasticity Index

i. **Included Testing Quantity:** 1 test total

ii. **Frequency:** Perform once at the beginning of subgrade operations using material representative of the existing subgrade.

c. Field Density

i. **Included Testing Quantity:** 4 testing events

ii. **Frequency:** Perform 4 field density testing events distributed throughout the compacted existing subgrade work at locations directed by the Engineer.

d. **Testing Note:** The Contractor shall coordinate with the Engineer and material testing laboratory prior to beginning subgrade work and shall provide notice when an area is ready for testing. Field density testing shall be performed before placement of the overlying base material. Do not cover tested areas until acceptable results are obtained.

B. <u>Modified Base Material</u>

a. Plasticity Index

i. **Included Testing Quantity:** 1 test total

ii. **Frequency:** Perform once for the approved material source prior to placement.

b. Standard Proctor

i. **Included Testing Quantity:** 1 test total

ii. **Frequency:** Perform once for the approved material source prior to or at the beginning of placement.

c. Field Density

i. **Included Testing Quantity:** 5 testing events

ii. **Frequency:** Perform 5 field density testing events distributed throughout the modified base material work at locations directed by the Engineer.

d. **Testing Note:** The Contractor shall coordinate testing prior to placement.

C. <u>Cement Stabilized Base</u>

a. Modified Proctor

i. **Included Testing Quantity:** 5 tests total

ii. **Frequency:** Perform 5 tests distributed throughout the cement stabilized base work as directed by the Engineer.

b. Soil Cement Compressive Strength Cylinders

i. **Included Testing Quantity:** 15 cylinders total

ii. **Frequency:** Prepare 3 compressive strength cylinders at each testing event, for a total of 15 cylinders, distributed throughout the cement stabilized base work as directed by the Engineer.

c. Field Density

i. **Included Testing Quantity:** 5 testing events

ii. **Frequency:** Perform 5 field density testing events distributed throughout the cement stabilized base work at locations directed by the Engineer.

d. **Testing Note:** The Contractor shall coordinate with the Engineer and testing laboratory prior to each stabilization operation. Required sampling and testing shall be performed during placement and after final compaction. Do not proceed with prime coat or HMAC placement until required testing for the applicable area has been completed and acceptable results obtained.

D. HMAC Paving

a. Asphalt Production Testing

i. Sampling Bituminous Mixtures
ii. Temperature of Bituminous Mixtures
iii. Asphalt Content
iv. Sieve Analysis
v. Superpave Gyratory Specimen
vi. Theoretical Maximum Specific Gravity

vii. **Included Testing Quantity:** 4 complete testing sets

viii. **Frequency:** Perform 4 complete testing sets distributed throughout the HMAC paving work as directed by the Engineer.

b. Field Density

i. **Included Testing Quantity:** 6 testing events

ii. **Frequency:** Perform 6 field density testing events distributed throughout the HMAC paving work as directed by the Engineer.

c. Asphalt Cores

i. **Included Testing Quantity:** 20 cores total

ii. **Frequency:** Obtain 20 pavement cores distributed throughout the completed HMAC paving work at locations directed by the Engineer.

d. **Testing Note:** The Contractor shall coordinate with the Engineer and testing laboratory prior to beginning HMAC paving operations. Production and density testing shall occur during active HMAC placement. Pavement cores shall be obtained after final paving and after the pavement has sufficiently cooled.

UES

ATTACHMENT A
ESTIMATE # A26181.00430

PROJECT City of Port Aransas Parking Lot
LOCATION Port Aransas, Texas

PROJECT SETUP

ADMIN	DESCRIPTION	SPECIFICATION						
CODE	TEST DESCRIPTION	TESTING FREQUENCY	UNIT	QTY	RATE	SUBT		
PSF	Project Setup Fee		EA	1	$ 200.00	$ 200.00		
						TOTAL	$	200.00

PAVEMENT

SUBGRADE	DESCRIPTION	SPECIFICATION						
108,069 SF	COMPACTED EXISTING SUBGRADE							
CODE	TEST DESCRIPTION	TESTING FREQUENCY	UNIT	QTY	RATE	SUBT		
D698	Proctor - Standard		EA	1	$ 270.00	$ 270.00		
D4318	Atterbera Limits/Plasticity Index		EA	1	$ 75.00	$ 75.00		
TECH1	Technician I	(3hr min)	HR	15	$ 65.00	$ 975.00		
GAUGE	Nuclear Density Gauge		EA	4	$ 75.00	$ 300.00		
TRIP	Trip Charge (Vehicle)		EA	5	$ 108.00	$ 540.00		
PM	Project Manager		HR	3	$ 125.00	$ 375.00		
ADMIN	Administrative		HR	3	$ 60.00	$ 180.00		
						TOTAL	$	2,715.00

FLEX BASE	DESCRIPTION	SPECIFICATION						
108,069 SF	MODIFIED BASE MATERIAL							
CODE	TEST DESCRIPTION	TESTING FREQUENCY	UNIT	TOTAL	RATE	SUBT		
SPAG	Sample Preparation of Aggregate		EA	1	$ 80.00	$ 80.00		
TX106E	Plasticity Index Of Soils Tex-106-E		EA	1	$ 100.00	$ 100.00		
d698	Proctor - Standard		EA	1	$ 270.00	$ 270.00		
TECH1	Technician I	(3hr min)	HR	18	$ 65.00	$ 1,170.00		
GAUGE	Nuclear Density Gauge		EA	5	$ 75.00	$ 375.00		
TRIP	Trip Charge (Vehicle)		EA	6	$ 108.00	$ 648.00		
PM	Project Manager		HR	5	$ 125.00	$ 625.00		
ADMIN	Administrative		HR	5	$ 60.00	$ 300.00		
						TOTAL	$	3,568.00

FLEX BASE	DESCRIPTION	SPECIFICATION						
108,069 SF	CEMENT STABILIZED BASE							
CODE	TEST DESCRIPTION	TESTING FREQUENCY	UNIT	TOTAL	RATE	SUBT		
D1557	Proctor - Modified		EA	5	$ 325.00	$ 1,625.00		
SPAG	Sample Preparation of Aggregate		EA	5	$ 80.00	$ 400.00		
D1633	Compressive Strength Molded Soil-Cement Cylinder		EA	15	$ 30.00	$ 450.00		
TECH1	Technician I	(3hr min)	HR	30	$ 65.00	$ 1,950.00		
GAUGE	Nuclear Density Gauge		EA	5	$ 75.00	$ 375.00		
TRIP	Trip Charge (Vehicle)		EA	10	$ 108.00	$ 1,080.00		
PM	Project Manager		HR	4	$ 125.00	$ 500.00		
ADMIN	Administrative		HR	4	$ 60.00	$ 240.00		
						TOTAL	$	4,595.00

ASPHALT PAVE	DESCRIPTION	SPECIFICATION						
3,050 TONS								
CODE	TEST DESCRIPTION	TESTING FREQUENCY	UNIT	TOTAL	RATE	SUBT		
TX222F	Sampling Bituminous Mixtures		EA	4	$ 150.00	$ 600.00		
TX212F	Temperature of Bituminous Mixtures		EA	4	$ 80.00	$ 320.00		
TX236F	Determining Asphalt Content from Asphalt Paving Mixtures by the Ignition		EA	4	$ 155.00	$ 620.00		
TX200F	Sieve Analysis – Fine and Coarse Aggregates		EA	4	$ 110.00	$ 440.00		
TX241F	Compacted Bituminous Specimen using the Superpave Gyratory		EA	4	$ 105.00	$ 420.00		
TX227F	Theoretical Maximum Specific Gravity of Bituminous Mixtures		EA	4	$ 100.00	$ 400.00		
TX207F	Asphalt Cored In Place Density Tex-207-F		EA	20	$ 90.00	$ 1,800.00		
COREE	Coring Equipment Charge		EA	2	$ 100.00	$ 200.00		
GAUGE	Nuclear Density Gauge		EA	6	$ 75.00	$ 450.00		
TECH2	Technician II	(3hr min)	HR	60	$ 75.00	$ 4,500.00		
PATCHA	Patching of Asphalt Cored Holes		EA	20	$ 30.00	$ 600.00		
SPAC	Trimming of Asphalt Cores		EA	20	$ 40.00	$ 800.00		
TRIP	Trip Charge (Vehicle)		EA	6	$ 108.00	$ 648.00		
PM	Project Manager		HR	3	$ 125.00	$ 375.00		
ADMIN	Administrative		HR	3	$ 60.00	$ 180.00		
						TOTAL	$	12,353.00

GRAND TOTAL $ **23,431.00**

END OF SECTION

SECTION 02234

CEMENT STABILIZED BASE COURSE

PART 1 G E N E R A L

1.01 SCOPE

A. This specification shall govern for all work necessary to scarify and pulverize existing asphalt wearing surface and base course to a depth as required to provide (when conforming to the purposed grades) an 8" thick soil cement (Portland Cement) base course as required to complete the project.

1.02 GENERAL

A. This section includes furnishing of all equipment, plant, materials, labor and the performance of all operations required to complete a base course composed of a combination of pulverized asphalt, soil (sand) and Portland cement uniformly mixed, moistened, compacted and cured in accordance with this specification. The base course shall be shaped to conform to sections, lines and grades as shown on the drawings. It is the intent of this specification that all damaged areas (in areas designated to receive overlay) be repaired using 8" of base conforming to this specification approved by the Engineer.

PART 2 P R O D U C T S

2.01 MATERIALS

A. Portland Cement
   a. Portland cement shall comply with the latest specifications for Portland cement (ASTM C150, Type 1, CSA Standard A5, or AASHTO M85) or blended hydraulic cements (ASTM C595 or AASHTO M240, excluding slag cement Types S and SA) for the type specified.

B. Water
   a. Water shall be clean, potable, and free from oil, acids, alkali, or vegetable matter.

C. Base Material
   a. Base material shall consist of a combination of scarified and pulverized asphalt, existing base material, and soil (sand). The soil and existing base material shall be free from vegetation or other objectionable material. The Contractor shall add or remove material as required to conform to the proposed lines and grades.

D. Soil Cement Mixture

a. Both the base material and Portland cement shall be of such quality that when properly proportioned and mixed, a satisfactory base mixture will be produced. The base material and cement shall be properly proportioned such that the finished base mixture contains **11% Portland cement by weight**.

2.02 EQUIPMENT

A. General

a. Any combination of equipment may be used that will produce a uniform cement stabilized mixture, free from loose or segregated areas and of uniform density and moisture. All equipment is subject to the approval of the Engineer.

B. Scarifiers/Pulverizers:

a. Scarifier/Pulverizer shall be a self-propelled unit designed specifically for the purpose of scarify and pulverizing existing asphalt wearing surface and base course in place.

C. Mixers

a. Equipment used for mixing base material and Portland cement shall be either a single pass or multiple pass traveling mixing plant designed specifically for that purpose. **Mixing with a motor grader or similar equipment will not be allowed.**

D. Blade Graders

a. Blade graders shall have a wheel base of not less than 15 feet and a blade of not less than 10 feet and shall be self-propelled.

E. Tamping Rollers

a. Tamping Rollers, sheepsfoot type, shall consist of one or more units. Each unit shall consist of a watertight cylindrical drum not less than 60-inches in lengths, surrounded by metal studs with tamping feet projecting not less than 7-inches from the surface of the drum and spaced not less than 6-inches nor more than 10-inches apart, measured diagonally from center to center. The tamping feet shall be an approved type suitable for compacting flexible base courses. Each unit shall be equipped with a suitable device for cleaning the tamping feet. The rolling units of multiple-type tamping rollers shall be pivoted on the main frame in a manner that will permit the units to adapt themselves to uneven ground surface and to rotate independently. When fully loaded, the rollers shall produce a pressure of at least 750 pounds per square inch on the combined areas of the tamping feet in contact with the ground.

F. Three-Wheel General Purpose Rollers

a. Shall be self-propelled, weighing not less than 10 tons and having a minimum compression of 300 pounds per inch width of rear wheel. The wheels of the rollers shall be equipped with adjustable scrapers.

G. Pneumatic-Tired Rollers

a. Shall be single or double axle vibrating or non-vibrating type, equipped with tires of equal size and diameter, uniformly inflated, so that the air pressure of the several tires shall not vary more than 5 pounds per square inch. The self-propelled roller, or the power unit and towed roller shall be considered a pneumatic-tired roller unit.

i. Light Pneumatic-Tired Rollers shall have two axles on which are mounted not less than 9 pneumatic-tired wheels in such a manner that the rear group of tires will not follow in the tracks of the forward group. The axles shall be mounted in a rigid frame provided with a loading platform or body suitable for ballast loading. The roller shall develop a compression of not less than 225 pounds per inch width of the tire tread and shall be capable of being loaded to provide loads up to 300 pounds per inch of normal tire width. The rollers shall be weighed as directed.

ii. Heavy Pneumatic-Tired Rollers shall be of the vibratory or non-vibratory type with a minimum loading of 25,000 lbs. per tire. The tires shall be suitable for inflation to not less than 90 p.s.i. The loading shall be distributed equally to all wheels.

PART 3 E X E C U T I O N

3.01 CONSTRUCTION METHODS

A. General

a. The primary requirement of this specification is to secure a complete course of soil containing a uniform Portland cement mixture, free from loose or segregated areas, of uniform density and moisture content, well bound and compacted for its full depth with a smooth surface suitable for placing surface courses.

B. Preparation:

a. The existing base and surface shall be scarified and pulverized for its full width and depth and then bladed and shaped to conform to the purposed lines and grades. All bituminous material shall be broken into particles that will pass a 2" sieve and incorporated uniformly with the existing base material. Unsuitable soil material shall be removed and replaced with acceptable material. The subgrade shall be firm and able to support without displacement the construction equipment and the compaction hereinafter specified. Soft or yielding subgrade shall be stabilized before construction proceeds.

C. Pulverization

a. Before cement is applied the base material shall be pulverized so that at the completion of moist- mixing, when all non-slaking aggregate retained on the No. 4 sieve are removed, the remaining material shall meet the following requirements (when tested from the roadway in the roadway condition by Test Method Tex-101-E [part III]):

Minimum passing 1-inch sieve.....100% by dry weight
Minimum passing a No. 4 sieve .....80% by dry weight
(Exclusive of gravel stone or bituminous material retained on these sieves.)

b. The Contractor shall ensure that existing bituminous material is uniformly distributed in the cement soil base. Contractor must submit gradation results prior to placement of cement additives or crushed aggregate.

c. 2" of new aggregate shall be added to the pulverized base. Aggregate shall meet the material requirements of TxDOT Item 247, Type D (type A material or crushed concrete). Crushed concrete containing gravel will be considered Type D material. Crushed concrete must meet the requirements of Section 247.2.1.2.6., "Recycled Material," and be managed in a way to provide for uniform quality. The Engineer may require separate dedicated stockpiles to verify compliance.

D. Cement Application, Mixing and Spreading

a. General

i. Mixing of the soil material, cement and water shall be accomplished by the mixed-in-place method (using either a single pass or multiple pass traveling mixing plant). No cement or soil-cement mixture shall be spread when the soil or subgrade is frozen or when the air temperature is less than 40°F in the shade. Contractor shall perform cement and optimum moisture determination prior to the placement of the cement stabilized base. These results must be submitted to engineer 72 hours prior to placement for review. The percent of moisture in the soil material, at the time of cement application, shall not exceed the quantity that will permit uniform and intimate mixture of soil and cement during dry mixing operations. It shall not exceed the specified optimum moisture content for the soil-cement mixture. The operations of cement application, water application, mixing, hauling, spreading, compacting, and finishing shall be continuous and completed in daylight. The total elapsed time between the addition of water to the soil-cement mixture and the completion of finishing shall not exceed 4 hours. Any soil-and-cement mixture that has not been compacted and finished shall not remain undisturbed for more than 30 minutes.

b. Application of Cement:

i. Portland cement shall be spread uniformly on the soil at the rate specified herein and as approved by the Engineer. If a bulk cement spreader is used, it shall be positioned by stringlines or other approved methods during spreading to ensure a uniform distribution of cement. Cement spreading equipment shall include a shroud for cement dust control. No equipment, except that used in spreading and mixing, will be allowed to pass over the freshly spread cement until it is mixed with the soil. Cement shall be spread on the prepared base (as described above) only in that area where the mixing, compacting, and finished operations can be completed during the same working day. Cement shall

be spread by an approved spreader at a uniform rate and in such a manner to reduce to a minimum the scattering of cement by wind. The Contractor shall review the weather forecasts and schedule the cement spreading operations during a maximum wind speed of 10 mph and wind direction away from residential buildings, boats and parked vehicles. Should excessive wind conditions exist, or if excessive blowing of cement occurs, the engineer will direct the Contractor to cease operations until such time as the wind subsides, or adequate spreading equipment can be employed.

c. Single-Pass Traveling Mixing Plant Method
   i. After the cement has been applied, it shall be sufficiently dry-mixed with the soil to prevent the formation of cement balls when water is applied. Unpulverized soil lumps in the soil cement mixture immediately behind the mixer that are dry will not be allowed. Should this condition prevail, the Contractor shall "pre-wet" the raw soil as necessary to correct this condition. The mixer shall be provided with means for visibly and accurately gauging the water application. The water shall be applied uniformly through a pressure spray bar. After cement is spread, mixing operations shall proceed as follows:

   ii. The mixer shall in one continuous operation mix the air-dry soil and cement full depth, and the required moisture uniformly, thoroughly moist mix the soil, cement and water, spread the completed soil cement mixture evenly over the machine processed width of the subgrade and leave it in a loose condition ready for immediate compaction.

d. Multiple-Pass Traveling Mixing Plant
   i. After the cement has been applied, it shall be dry-mixed with the soil. Mixing shall continue until the cement has been sufficiently blended with the soil to prevent the formation of cement balls when water is applied. Immediately after the dry mixing of soil and cement is complete, water as necessary shall be uniformly applied and incorporated into the mixture. Pressurized equipment and supply provided shall be adequate to ensure continuous application of the required amount of water to sections being processed within 3 hours of application of the cement. Proper care shall be exercised to ensure proper moisture distribution at all times. After the last increment of water has been added, mixing shall continue until a thorough and uniform mix has been obtained.

e. Cement Content shall be 11% for this project. The mix design shall be performed in accordance with Test Method Tex-120-E. The cement content shall be selected so the base material, when placed as described in this Section, shall have a minimum compressive strength of 500 psi at 7 days when tested in accordance with Tex-120-E.

f. A minimum of 1 core will be taken every 1000 SY of base for compression testing. The Contractor shall fill core holes with new compacted crushed stone flex base prior to asphalt installation.

E. Unsatisfactory Methods

a. When using either type mixing plant (see 3.01.D.c or 3.01.D.d above) if any of the operation after the initial application of water to the soil-cement mixture is interrupted for more than thirty (30) minutes for any reason, or when the uncompacted soil-cement mixture is wetted by rain so that the average moisture content exceeds the tolerance given below at the time of final compaction, the entire section shall be reconstructed in accordance with this specification at the Contractor's own expense. All material along longitudinal or transverse construction joints, not properly compacted, shall be removed and replaced with properly moistened and mixed soil-cement which shall be compacted to specified density.

F. Compaction

a. At the start of compaction, the percentage of moisture in the mixture and in unpulverized soil lumps shall not be below or more than two percentage points above the specified optimum moisture content, and shall be less than that quantity which will cause the soil-cement mixture to become unstable during compaction and finishing. The specified optimum moisture content and density shall be determined in the field by a moisture-density test, AASHTO T134 or ASTM D558, on representative samples of soil-cement mixture obtained from the area being processed at the time compaction begins. Prior to compaction, the mixture shall be in a loose condition for its full depth. The compaction effort shall be applied to the full depth. The loose mixtures shall then be compacted uniformly to the specified density. During compaction operations, initial shaping may be required to obtain uniform compaction and required grade and cross section. All places inaccessible to rollers and/or finishing equipment, the mixture shall be thoroughly compacted by hand tamping and shaped and finished by hand methods. The Contractor shall schedule his work and provide equipment that will ensure that the base course is completed before the Portland cement can take its initial set. At the end of the day, or in case of unavoidable interruption of operations that would form a joint in the base course, a transverse header shall be placed in such a manner that the end of the base course can be satisfactorily compacted and shaped. On resuming operations, the header shall be removed and if the exposed edge of the base course is not approximately vertical, or if necessary to secure a satisfactory riding surface at the joint, the edge of the base course shall be cut back to leave a vertical face or as necessary to secure a satisfactory riding surface. All base course material removed shall be replaced by the Contractor at his own expense.

G. Finishing

a. When initial compaction is nearing completion, the surface of the soil-cement shall be shaped to the required lines, grades, and cross section. The moisture content of the surface material shall be maintained at not less than its specified optimum moisture content during finishing operations. If necessary, the surface

shall be lightly scarified to remove any tire imprints or smooth surfaces left by equipment. Compaction shall then be continued until uniform and adequate density is obtained. Rolling shall be supplemented by broom- dragging if required. The soil cement shall be uniformly compacted to a minimum of **95% of maximum density.** Compaction and finishing shall be done in such a manner as to produce, in no longer than 2 hours, a smooth, dense surface free of compaction planes, cracks, ridges or loose material.

H. Curing, Protection and Cover

a. After the base course has been finished as specified herein, it shall be immediately protected against rapid drying by applying an asphaltic prime coat (See Specification 02511) at the rate of 0.30 gal/per square yard, or as necessary, in the opinion of the Engineer, to completely seal the surface and fill all voids. Immediately prior to application of the asphaltic prime coat, the base course shall be wetted, by the use of water distributors, so that all voids in the soil-cement mixture are filled with water but without free water standing on the surface. The asphaltic prime coat shall be applied while the surface of the soil-cement base is wet so that undue asphaltic penetration will be avoided. The bituminous curing coat shall remain in place for the proposed additional asphalt surface treatment, unless otherwise directed by the Engineer. Any finished portion of the soil-cement base adjacent to construction, which is traveled by equipment used in constructing an adjoining section, shall be covered with at least 8 (eight) inches of earth to prevent equipment from marring the surface of the completed work.

I. Microcracking

a. Microcracking shall be performed 48 hours into the moist curing process. If during the winter months when the average daily temperatures are 60 degrees F or below, moist cure at least 96 hours before microcracking.

b. Microcracking shall be performed with the same (or equivalent tonnage) steel wheel vibrating roller used for compaction.

c. Three full passes (one pass is down and back) with the roller operating at maximum amplitude and traveling approximately 2 to 3 mph. The process must have 100% coverage.

d. If base appears to start to break up excessively at the surface, stop microcracking and use a static roller until a satisfactory surface finish is obtained.

e. After the microcracking process is completed, the base shall be moist cured for the remaining 24 hours of the 72-hour period.

J. Maintenance

a. The Contractor shall be required to maintain at his own expense the entire pavement area within the limits of his contract in good condition satisfactory to the Engineer from the time he first starts work until all work shall have been completed. Maintenance shall include immediate repairs of any defect that may occur in the base course after the cement has been applied, which work shall be done by the Contractor at his own expense and repeated as often as may be necessary to keep the area continuously intact. Repairs are to be made in a manner to ensure restoration of a uniform surface and durability of the part repaired. Faulty work shall be replaced for the full depth of treatment. Any low area shall be remedied by replacing the material for the full depth of treatment.

END OF SECTION

SECTION 02238

HOT MIX ASPHALTIC BASE COURSE

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Foundation course of compacted a mixture of coarse and fine aggregates, and asphaltic material.

1.02 UNIT PRICES

A. Refer to Section 01025 – Measurement and Payment for unit price procedures.

B. Refer to Paragraph 3.10 for unit price adjustments.

1.03 SUBMITTALS

A. Submittals shall conform to requirements of Section 01300 – Submittals.

B. Submit certificates that asphaltic materials and aggregates meet requirements of Paragraph 2.01.

C. Submit proposed design mix and test data for each type and strength of base course in Work.

D. Submit manufacturer's description and characteristics of mixing plant for approval.

E. Submit manufacturer's description and characteristics of spreading and finishing machine for approval.

PART 2 P R O D U C T S

2.01 MATERIALS

A. Coarse Aggregate: Gravel or crushed stone, or combination thereof that is retained on No. 10 sieve, uniform in quality throughout and free from dirt, organic, or other injurious matter occurring either free or as coating on aggregate. Aggregate shall conform to ASTM C33 except for gradation. Furnish rock or gravel with Los Angeles abrasion loss not to exceed 40 percent by weight when tested in accordance with ASTM C131.

B. Fine Aggregate: Sand or stone screenings, or combination thereof, passing No. 10 sieve. Aggregate shall conform to ASTM C33 except for gradation. Use sand composed of sound, durable stone particles free from loams or other injurious foreign matter. Furnish screenings of same or similar material as specified for coarse aggregate. Plasticity index of that part of fine aggregate passing No. 40

sieve shall be not more than 6 when tested by Tex-106-E. Sand equivalent shall have a minimum value of 45 when tested by Tex-203-F.

C. Composite Aggregate: Conform to the grading limits of TxDOT Item 340 for the paving type indicated on the Drawings.

D. Asphaltic Material: Moisture-free homogeneous material which will not foam when heated to 347 degrees F, meeting the following requirements:

VISCOSITY GRADE				
TEST	**AC-10**		**AC-20**	
	MIN	**MAX**	**MIN**	**MAX**
Viscosity, 140°F stokes	1000	∀200	2000	∀ 400
Viscosity, 275°F stokes	1.9	-	2.5	-
Penetration, 77°F, 100 g, 5 sec.	85	-	55	-
Flash Point, C.E.C., F.	450	-	450	-
Solubility in trichloroethylene, percent	99.0	-	99.0	-
Tests on residues from thin film oven tests:				
Viscosity, 140°F stokes	-	3000	-	6000
Ductility, 77°F, 5 cms per min., cms	70	-		
Spot tests	Negative for all grades			

1. Material shall not be cracked.

2. Engineer will designate grade of asphalt to use after design tests have been made. Use only one grade of asphalt after grade is determined by test design for project.

2.02 EQUIPMENT

A. Mixing Plant: Weight-batching or drum mix plant with capacity for producing continuously mixtures meeting specifications. Plant shall have satisfactory conveyors, power units, aggregate handling equipment, hot aggregate screens and bins, and dust collectors.

B. Provide equipment to supply materials adequately in accordance with rated capacity of plant and produce finished material within specified tolerances. Following equipment is essential:

1. Cold aggregate bins and proportioning device
2. Dryer
3. Screens
4. Aggregate weight box and batching scales

5. Mixer
6. Asphalt storage and heating devices
7. Asphalt measuring devices
8. Truck scales

C. Bins: Separate aggregate into minimum of four bins to produce consistently uniform grading and asphalt content in completed mix.

2.03 MIXES

A. Employ and pay certified testing laboratory to prepare design mixes. Test in accordance with Tex-126-E, Tex-204-F, Tex-208-F, and Tex-227-F.

B. Density and Stability Requirements:

Percent Density		Percent	HVEEM Stability Percent
Min	Max	Optimum	Not Less Than
95	99	97	35

C. Proportions for Asphaltic Material: As specified in TxDOT Item 340 for the mix type shown on the Drawings.

PART 3 E X E C U T I O N

3.01 EXAMINATION

A. Verify compacted subgrade is ready to support imposed loads.

B. Verify lines and grades are correct.

3.02 PREPARATION

A. Complete backfill of new utilities below future grade.

B. Prepare subgrade in accordance with requirements of Section 02225 – Roadway Excavation.

C. Correct subgrade deviations in excess of plus or minus 1/2 inch in cross section, or in 16-foot length by loosening, adding or removing material, reshaping and recompacting by sprinkling and rolling.

D. Prepare sufficient subgrade in advance of base course for efficient operations.

3.03 PRIME COAT

A. Conform to requirements of Section 02511 – Prime Coat.

3.04 TACK COAT

A. Conform to requirements of Section 02512 – Tack Coat.

3.05 PLACEMENT

A. Do not place asphaltic base when air temperature is below 50 degrees F and falling. Base may be placed when air temperature taken in shade and away from artificial heat is above 40 degrees F and rising.

B. Haul prepared and heated asphaltic concrete mixture to project in tight vehicles previously cleaned of foreign material. Mixture shall be at temperature between 250 degrees F and 325 degrees F when laid.

C. Spread material into place with approved mechanical spreading and finishing machine of screening or tamping type. Use track-mounted finish machine to place base course directly on earth subgrade.

D. Place base courses 4 inches or greater in thickness in two or more layers, each having compacted thickness of not greater than 4 inches. Spread all lifts. Attain smooth course of uniform density to section, line and grades as indicated on Drawings.

E. Place courses as nearly continuously as possible. Pass roller over unprotected ends of freshly laid mixture only when mixture has become cooled. When work is resumed, cut back laid material to produce slightly beveled edge for full thickness of course. Remove old material which has been cut away and lay new mix against fresh cut.

F. When new asphalt is laid against existing asphalt, existing asphalt shall be saw cut full depth to provide straight smooth joint.

G. In restricted areas where use of paver is impractical, spread and finish asphalt by mechanical compactor. Use wood or steel forms, rigidly supported to assure correct grade and cross section. Carefully place materials to avoid segregation of mix. Do not broadcast material. Remove any lumps that do not break down readily. Place asphalt courses in same sequence as if placed by machine.

3.06 COMPACTION

A. Begin rolling while pavement is still hot and as soon as it will bear roller without undue displacement or hair cracking. Keep wheels properly moistened with water to prevent adhesion of surface mixture. Do not use excessive water.

B. Compress surface thoroughly and uniformly, first with power-driven, 3-wheel, or tandem rollers weighing from 8 to 10 tons. Obtain subsequent compression by starting at side and rolling longitudinally toward center of pavement, overlapping on successive trips by at least one-half width of rear wheels. Make alternate trips

slightly different in length. Continue rolling until no further compression can be obtained and all rolling marks are eliminated. Complete all rolling before mixture temperature drops below 175 degrees F.

C. Along walls, curbs, headers and similar structures, and in all locations not accessible to rollers, compact mixture thoroughly with lightly oiled tamps.

D. Compact base course to density not less than 92 percent of maximum possible density of voidless mixture composed of same materials in like proportions.

3.07 TOLERANCES

A. Furnish templates for checking surface of finished sections. Maximum deflection of templates, when supported at center, shall not exceed 1/8 inch.

B. Completed surface, when tested with 10-foot straightedge laid parallel to center line of pavement, shall show no deviation in excess of 1/8 inch in 10 feet. Correct any surface not meeting this requirement.

3.08 FIELD QUALITY CONTROL

A. Testing will be performed under provisions of Section 01410 – Testing Laboratory Services.

B. Minimum of one core will be taken at random locations per 1000 feet per lane of roadway or 500 square yards of base to determine in-place depth and density.

C. In-place density will be determined in accordance with Tex-207-F and Tex-227-F from cores or sections of asphaltic base located near each core. Other methods of determining in place density, which correlate satisfactorily with results obtained from roadway specimens, may be used when approved by the Engineer.

D. Contractor may, at his own expense, request three additional cores in vicinity of cores indicating nonconforming in-place depths. In-place depth at these locations shall be average depth of four cores.

E. Fill cores and density test sections with new compacted asphaltic base.

3.09 NONCONFORMING PAVEMENT

A. Recompact pavement sections not meeting specified densities or replace them with new asphaltic concrete material. Patch asphalt pavement sections in accordance with procedures established by Asphalt Institute.

B. Remove and replace areas of asphaltic base found deficient in thickness by more than 10 percent. Use new asphaltic base of thickness shown on Drawings.

C. Nonconforming pavement sections shall be replaced at no additional cost to Owner.

3.10 UNIT PRICE ADJUSTMENT

A. Unit price adjustments shall be made for in-place depth determined by cores as follows:

1. Adjusted Unit Price shall be ratio of average thickness determined by cores to thickness bid upon, times unit price bid.

2. Adjustment shall apply to lower limit of 90 percent of unit price bid.

3. Average depth below 90 percent may be rejected by the Engineer.

3.11 PROTECTION

A. Do not open base to traffic until 12 hours after completion of rolling, or as shown on Drawings.

B. Maintain asphalt base in good condition until completion of Work.

C. Repair defects immediately by replacing base to full depth.

END OF SECTION

SECTION 02512

TACK COAT

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Tack coat for asphaltic concrete paving.

1.02 UNIT PRICES

A. Measurement and payment for tack coat shall be in accordance with the applicable Bid Item and Section 01025 – Measurement and Payment.

1.03 SUBMITTALS

A. Submittals shall conform to requirements of Section 01300 – Submittals.

B. Submit product data for proposed tack coat.

C. Submit report of recent calibration of distributor.

PART 2 P R O D U C T S

2.01 EMULSION

A. Provide homogeneous material which shall show no separation of asphalt after mixing and shall meet the viscosity requirements at any time within 30 days after delivery.

1. Emulsion material for tack coat: Unless otherwise shown on the plans or as approved, furnish SS-1H, CSS-1H, or a PG binder with a minimum high temperature grade of 58 and meet the material requirements outlined in Tables 7, 8, or 17 of TxDOT Item 300, “Asphalt, Oils, and Emulsions”.

2. For emulsions used for tack coats during the period of April 16 to September 15, volatile organic compound solvents (VOC) shall not exceed 12% by weight when tested in accordance with ASTM D244.

PART 3 E X E C U T I O N

3.01 EXAMINATION

A. Verify compacted base is ready to support imposed loads.

B. Verify lines and grades are correct.

3.02 PREPARATION

A. Thoroughly clean base course or concrete surface of loose material by brooming prior to application of tack coat.

3.03 APPLICATION

A. Apply tack coat uniformly by use of approved distributor at rate of 0.1 gallons of residual asphalt per square yard.

B. Paint all contact surfaces of curbs and structures, and all joints with thin uniform coat of tack coat.

C. Do not dilute emulsified asphalt at the terminal, in the field, or at any other location before use. If required, verify that emulsified asphalt proposed for use meets the minimum residual asphalt percentage specified in TxDOT Item 300, "Asphalt, Oils, and Emulsions" or above.

D. Tack coat and mixture may be placed only when the roadway surface temperature is 60°F or higher unless otherwise approved. Measure the roadway surface temperature with a handheld infrared thermometer. Place tack coat or mixtures only when the Engineer determines that general weather conditions and moisture conditions of the roadway surface are suitable. The Engineer may waive placement temperature requirements.

E. Cutback Asphalt:

1. Do not use cutback asphalt during the period of April 16 to September 15.

2. Do not place tack coat when air temperature is below 50 degrees F and falling. Materials may be placed when air temperature taken in shade and away from artificial heat is above 40 degrees F and rising.

3. Temperature of tack coat shall be between 125 degrees F and 180 degrees F when applied.

4. Do not heat tack coat above 200 degrees F at any time.

3.04 PROTECTION

A. No traffic or placing of subsequent courses shall be permitted over freshly applied tack coat until authorized by the Engineer.

END OF SECTION

SECTION 02581

BLAST CLEANING OF PAVEMENT

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Removal of existing pavement markings.

B. Preparation of pavement surfaces for new pavement markings.

1.02 UNIT PRICES

A. No separate payment will be made for blast cleaning under this section. Include payment in unit price for pavement markings.

B. Refer to Section 01025 – Measurement and Payment for unit price procedures.

1.03 SUBMITTALS

A. Submittals shall conform to requirements of Section 01300 – Submittals.

B. Submit description and characteristics of proposed blasting medium and equipment for approval.

PART 2 P R O D U C T S

2.01 MATERIALS

A. Blasting Media: Quality commercial product capable of producing specified surface cleanliness without deposition of deleterious materials on cleaned pavement surface. Do not use high silica content sand that may result in high levels of free crystalline silica dust particles as a blasting agent.

2.02 EQUIPMENT

A. Equipment shall be power driven and of sufficient capacity to clean the pavement surface to specified cleanliness. Equipment shall utilize moisture and oil traps of sufficient capacity to remove contaminants from the air and prevent deposition of moisture, oil or other contaminants on the pavement surface.

PART 3 E X E C U T I O N

3.01 REMOVAL OF EXISTING MARKINGS

A. Remove pavement markings where necessary to prevent driver confusion, or where indicated on drawings. Included are areas where it will be necessary for drivers to cross

existing markings which they would not normally cross. Remove or obliterate markings to the satisfaction of the Engineer. Do not damage pavement surface.

3.02 CLEANING FOR PLACEMENT OF MARKERS

A. Remove old pavement markings, loose material, and other contaminants deleterious to the adhesion of new pavement markings to be placed. On portland cement concrete pavement, minimize overblasting to prevent damage to pavement surface. Small particles of tightly adhering existing pavement markings may remain if complete removal will result in pavement surface damage.

B. Follow manufacturer's written instructions for proper cleaning of pavement surfaces to receive pavement marking.

END OF SECTION

SECTION 02582

THERMOPLASTIC PAVEMENT MARKING

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Thermoplastic pavement markings.

1.02 UNIT PRICES

A. Measurement for 4" yellow parking stall, accessible parking, and access aisle hatching thermoplastic striping will be on a lump sum basis for restriping the entire parking lot included in both phases.

B. Measurement for parking symbols, words, and sign assemblies is on a per each basis for each ADA Parking Stall installed.

C. Measurement for crosswalk striping is on a linear foot basis.

D. Refer to Section 01025 – Measurement and Payment for unit price procedures.

1.03 SUBMITTALS

A. Submittals shall conform to requirements of Section 01300 – Submittals.

B. Submit manufacturer's product data for each proposed class of marking material; primers, solvents, and adhesives; and installation instructions; for approval. Include certificate by manufacturer that each class of marking conforms to the requirements of this specification.

C. Submit details of manufacturer's replacement policy for each class of marking material.

1.04 DELIVERY AND STORAGE

A. Each container shall be clearly marked to indicate the color, weight, type of material, manufacturer's name and the lot/batch number.

PART 2 P R O D U C T S

2.01 THERMOPLASTIC MARKINGS

A. Pavement markings are thermoplastic type marking materials that require heating to elevated temperatures for application.

B. Materials shall conform to TxDOT Specification 666.

PART 3 E X E C U T I O N

3.01 GENERAL

A. Prepare pavement surfaces and install markings in accordance with manufacturer's recommendations.

B. Accurately locate and install approved markings to conform to classes, colors, lengths, widths, and configurations indicated on Drawings.

3.02 PREPARATION

A. Clean and repair surfaces to receive markings. Blast clean surfaces indicated on Drawings or where directed by the Engineer in accordance with requirements of Section 02581. Do not clean portland cement concrete pavements by grinding.

3.03 SURFACE INSTALLATION

A. Test pavement surface for moisture content prior to application of markings. Place an approximate 2 square foot sheet of clear plastic or tar paper on road surface and hold in place for 20 minutes. Immediately inspect the sheet for build up of condensed moisture. If sufficient moisture has condensed to cause water to drip from sheet, do not apply markings. Repeat test as necessary until adequate moisture has evaporated from pavement to allow placement.

B. Observe manufacturer's recommended pavement and ambient air temperature requirements for application. If manufacturer has no temperature recommendations, do not install markings if pavement temperature is below 60°F or above 120°F.

C. Prime pavement surface and apply markings as recommended by manufacturer.

3.04 FIELD QUALITY CONTROL

A. Pavement markings shall present a neat, uniform appearance. Markings shall be free of ragged edges and misshaped lines or contours.

B. Repair or replace improperly installed markers at Contractors expense.

3.05 CLEANING

A. Keep project site free of unnecessary traffic hazards at all times.

B. Clean area upon completion of work and remove rubbish from work site.

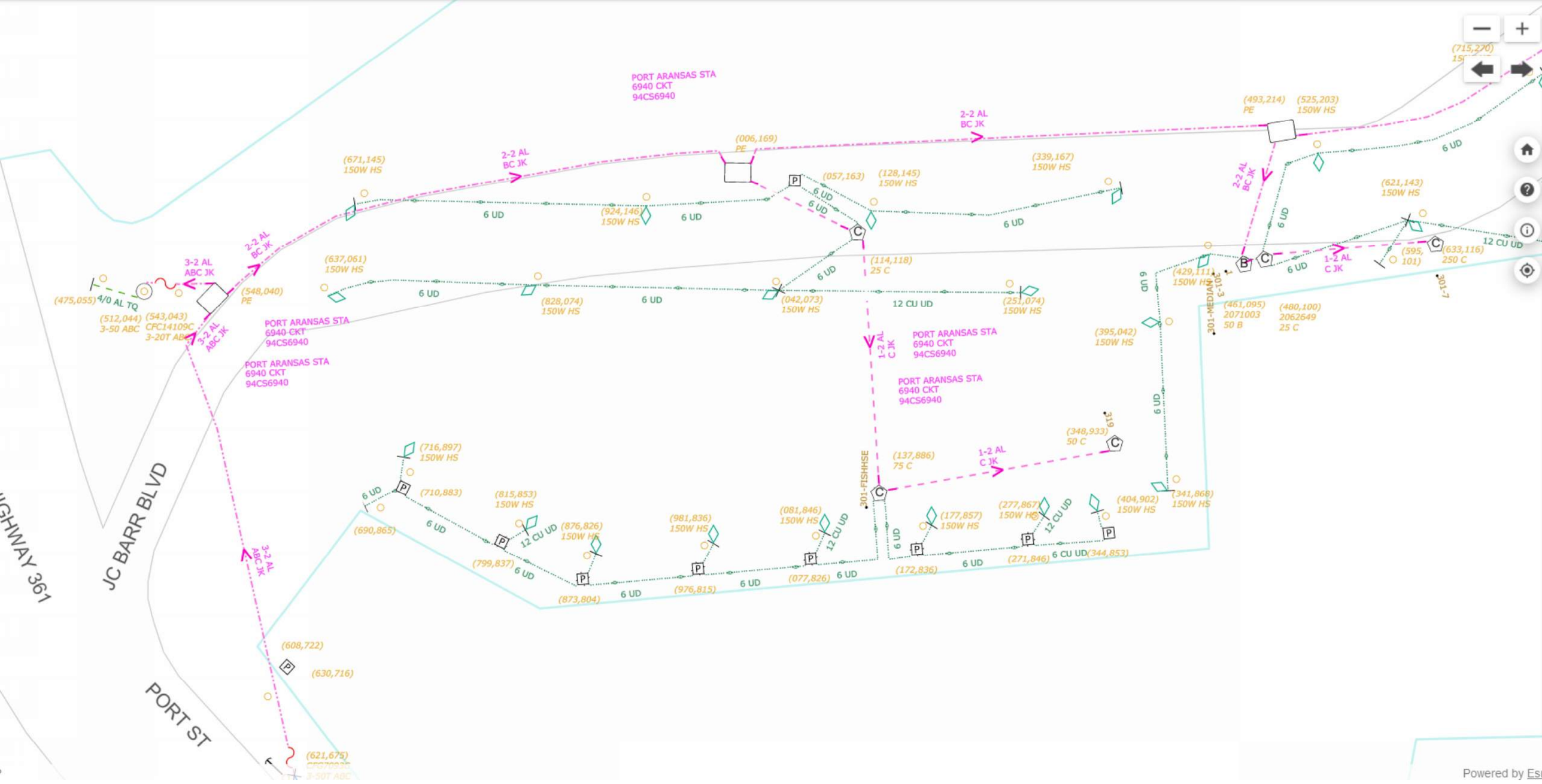
3.06 WARRANTY

A. Contractor shall warrant material and labor for a period of twelve months from date of installation of markings. Immediately upon notification, replace portions of pavement marking lines or legends that have lifted, shifted or spread, lost daytime color, or nighttime retro-reflectivity.

END OF SECTION

APPENDIX A

American Electric Power Utility Exhibit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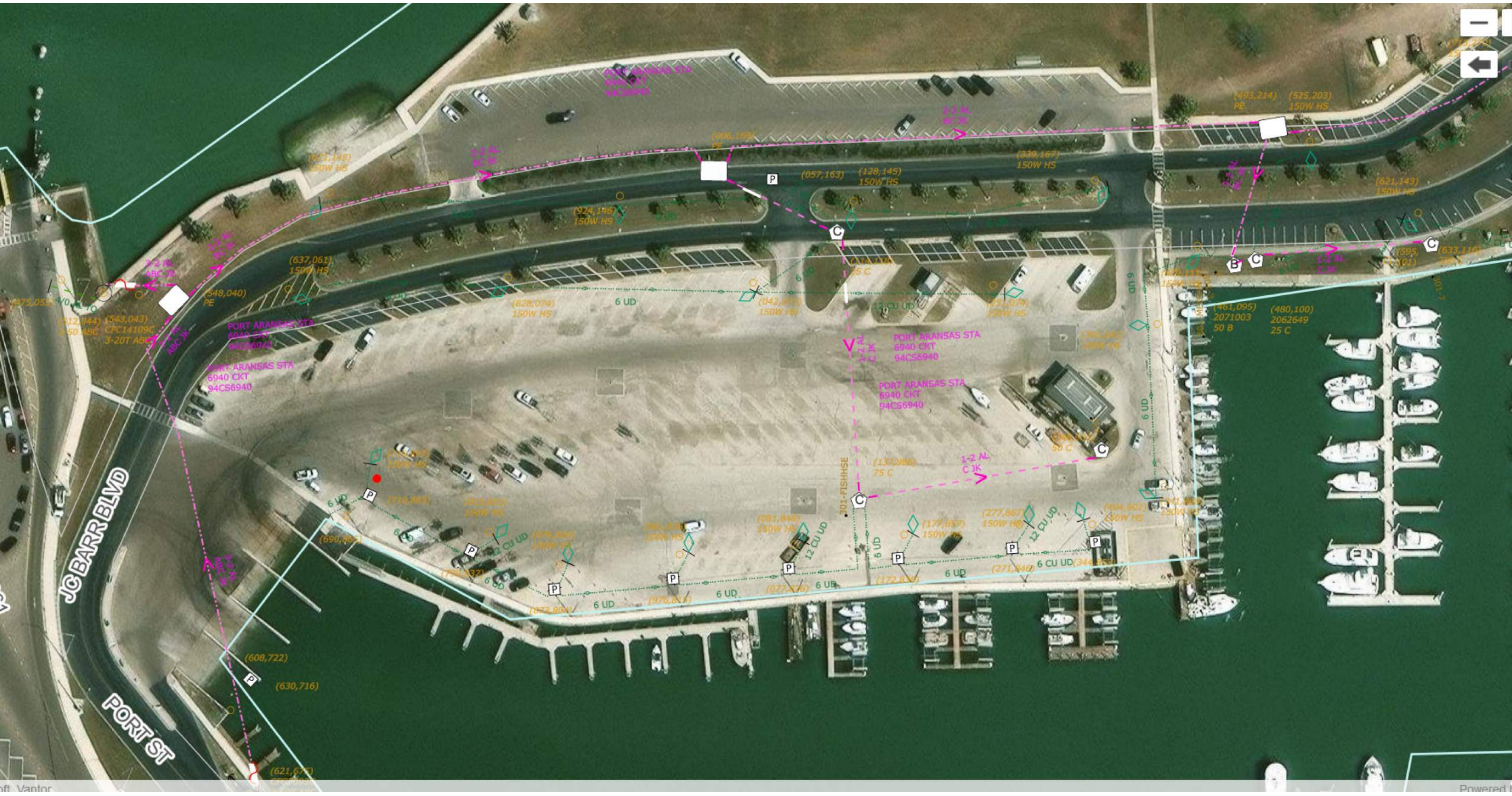

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TDLR PROJECT NO. TABS 2026025521

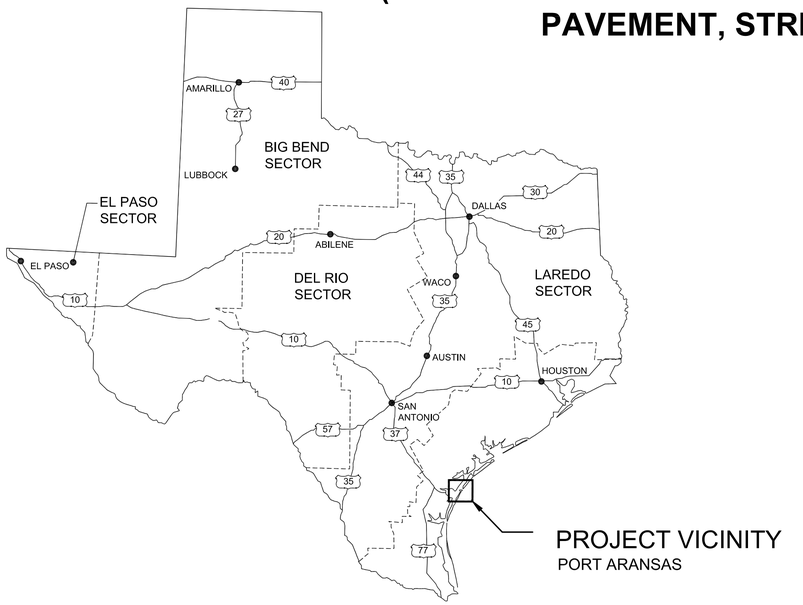
CONSTRUCTION PLANS FOR THE CITY OF PORT ARANSAS

PORT ARANSAS, TEXAS

COPA MARINA BOAT RAMP PARKING LOT REPAIR

PROJECT NO. 10465344

(REHABILITATION OF THE EXISTING MARINA BOAT RAMP FACILITY AND PARKING LOT, INCLUDING PAVEMENT, STRIPING, ACCESSIBILITY, DRAINAGE, AND CONCRETE REPAIRS)



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VICINITY MAP

NTS

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LOCATION MAP

NTS

INDEX

CALL BEFORE YOU DIG!

Texas811

PARTICIPANTS REQUEST 48 HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST - STOP AND CALL 811

PROJECT # 10465344

PREPARED BY

HDR ENGINEERING INC.

555 N. CARANCAHUA, CORPUS CHRISTI, TEXAS 78401

(361)–696–3300

THE CITY OF PORT ARANSAS

HDR

HDR Engineering, Inc.
555 N. Carancahua Street, Suite 1600
Corpus Christi, TX 78401
Certificate of Authorization No. 4213

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	ASA
DESIGNED BY	ASA
CHECKED BY	RN
DRAWN BY	JMP
PROJECT NUMBER	10465344

STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED PROFESSIONAL ENGINEER
8-7-26

COPA MARINA BOAT RAMP PARKING LOT REPAIR

RN

TITLE SHEET & INDEX

0 1" 2"

FILENAME	G1.DWG
SCALE	AS SHOWN
SHEET	G1

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL NOTIFY THE CITY OF PORT ARANSAS, HARBOR MASTER, ENGINEER, NUECES COUNTY WATER CONTROL & IMPROVEMENT DISTRICT #4 (NCWCID#4), AEP AND ANY AFFECTED UTILITY COMPANIES, A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. WORK SHALL BE CONDUCTED BETWEEN THE HOURS OF 6AM - 7PM MONDAY THROUGH SATURDAY, AND 8AM TO 5PM ON SUNDAY.
2. THERE SHALL BE NO SEPARATE PAY FOR ITEMS COVERED IN THESE NOTES UNLESS SPECIFICALLY ESTABLISHED IN THE BID PROPOSAL. INCLUDE COST IN THE CONTRACT UNIT PRICE BID FOR ITEMS OF WHICH WORK IS A COMPONENT PART OR AS INCIDENTAL TO WORK.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL PERMITS.
4. THE CONTRACTOR MUST SUBMIT A SCHEDULE AND WORK PLAN WITHIN THE FIRST 7 DAYS OF THE PROJECT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED SECURITY TO PROTECT HIS OWN PROPERTY, EQUIPMENT AND WORK IN PROGRESS. THE CONTRACTOR MUST CLEAN MUD, DIRT, OR DEBRIS TRACKED ONTO EXISTING STREETS BY ANY VEHICLE THAT EXITS SITE AT THE END OF EACH WORKING DAY. CONDITION OF ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB SHALL BE AS GOOD OR BETTER THAN PRIOR TO STARTING WORK.
6. THE CONTRACTOR'S SURVEYOR SHALL BE REGISTERED IN THE STATE OF TEXAS AND SHALL VERIFY THE LOCATION OF THE RIGHT OF WAY, BASE LINE, EXISTING ELEVATIONS, AND PROVIDED BENCHMARKS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO THE START OF WORK OF ANY DISCREPANCIES OR CONFLICTS THAT MAY AFFECT THE CONSTRUCTION.
7. THE CONTRACTOR SHALL SET TBMS ADEQUATE FOR CONSTRUCTION PER SPECIFICATION SECTION 1050 - FIELD SURVEYING.
8. THE CONTRACTOR MUST SUBMIT A TOPOGRAPHIC SURVEY SIGNED AND SEALED BY A TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR (RPLS) WITHIN 4 WEEKS OF THE NOTICE TO PROCEED. THE SURVEY MUST CONTAIN THE FOLLOWING CRITERIA:
   A. TOPOGRAPHIC SHOTS OF PAVING SURFACE AT 15 FT INTERVALS MINIMUM.
   B. DEFINE GRADE BREAKS, HIGH SPOTS, LOW SPOTS, FLOW LINES,TOP OF CURB, AND BACK OF CURB
   C. STORM SEWER BOX CORNERS, GRATE INLET CORNERS, RCP SIZES, FLOW LINES DIRECTION AND ELEVATION INCLUDING OUTFALLS.
   D. INCLUDE 811 CALL WITH AND CAPTURE ALL APPARENT AND MARKED UTILITIES, APPURTENANCES AND OBSTRUCTIONS.
   E. SUBMITTALS SHALL INCLUDE A SIGNED AND SEALED SURVEY DRAWING IN PFD FORMAT WITH AN ESTABLISHED BENCHMARK SYSTEM AND A CSV FILE THAT INCLUDES THE NORTHING, EASTING, ELEVATION AND DESCRIPTION. VERTICAL DATUM SHALL BE IN NAVD88 AND HORIZONTAL DATUM SHALL BE IN NAD83.
9. THE CONTRACTOR MUST USE THIS SURVEY AS A GUIDE TO REPLACE THE EXISTING GRADES AND CORRECT ANY LOW SPOTS OR PROBLEMATIC AREAS TO ENSURE POSITIVE DRAINAGE.
10. THE CONTRACTOR MUST SUBMIT A GRADING PLAN SHOWING THE CORRECTED AREAS 2 WEEKS PRIOR TO PLACING CEMENT STABILIZED BASE OR ASPHALT.
11. CONTRACTOR MUST SUBMIT A FINAL SIGNED AND SEALED SURVEY BY A TEXAS RPLS AFTER PAVING IS COMPLETED TO COMPARE THE FINAL GRADES TO THE PRE CONSTRUCTION GRADES. QUANTITIES ARE ESTIMATED USING AERIAL IMAGERY. FINAL PAVING QUANTITIES WILL BE DETERMINED WITH THE SURVEY.
13. CONTRACTOR SHALL ADEQUATELY PROTECT EXISTING STRUCTURES, UTILITIES, TREES, SHRUBS AND OTHER PERMANENT OBJECTS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR DELINEATING PERIMETER OF THE CONSTRUCTION AREA WITH SAFETY FENCING AT NO ADDITIONAL COST. SAFETY FENCING SHALL BE ERECTED TO CONSTRUCTION AND REMOVED UPON COMPLETION.
15. CONTRACTOR SHALL NOT USE THE CITY'S WATER. CONTRACTOR MAY PURCHASE WATER FROM THE NUECES COUNTY WATER CONTROL & IMPROVEMENT DISTRICT #4 (NCWCID #4). CONTRACTOR MUST FIRST OBTAIN A METER FROM NCWCID #4 AND PAY THE REQUIRED FEES.
16. IT MAY BE REQUIRED THAT SIGNS, BOLLARDS AND OTHER OBSTRUCTIONS BE REMOVED AND REPLACED DURING CONSTRUCTION. THIS WORK SHOULD BE INCLUDED IN THE APPROPRIATE BID ITEM.
17. ANY AREA OF GRASS WHICH IS DISTURBED OR DUG UP DURING THE CONSTRUCTION SHALL BE REPLACED WITH GRASS WHICH MATCHES THE GRASS REMOVED. CARE SHALL BE TAKEN TO MINIMIZE CONSTRUCTION DAMAGE TO YARD AREAS. THIS SHOULD BE CONSIDERED INCIDENTAL TO THE PROJECT.
18. SOME MANHOLES OR STRUCTURES MAY HAVE BEEN PAVED OVER OR OTHERWISE COVERED UP, MAY NOT EXIST, MAY NOT BE CORRECTLY SHOWN IN THE PLANS, OR MAY BE SHOWN AS A CLEANOUT OR VICE VERSA. THE COSTS TO FIELD LOCATE AND OPEN THE MANHOLE OR THE STRUCTURES SHALL BE INCIDENTAL TO THE WORK SPECIFIED.
19. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING AND SHORING.
20. ALL EXCAVATION AREAS MUST BE COMPLETELY CORDONED OFF WITH A MINIMUM OF TWO STRANDS OF PLASTIC CONSTRUCTION TAPE, OR CONSTRUCTION FENCE ACCEPTABLE TO THE CITY. THE TAPE SHALL BE SUPPORTED WITH ENOUGH INTERMEDIATE SUPPORTS TO AVOID EXCESSIVE SAGGING. THE TAPE MAY BE TIED TO TRAFFIC BARRICADES AND WOODEN LATH FOR SUPPORT. WHERE EXCAVATIONS EXTEND BEYOND THE EXISTING BACK OF CURB OR EDGE OF PAVEMENT, ADEQUATE BARRICADES WITH FLASHING YELLOW LIGHTS SHALL BE INSTALLED TO PROTECT PEDESTRIAN TRAFFIC.
21. IF ANY DAMAGE IS DONE TO EXISTING ASPHALT OR CONCRETE ROADS OR APPURTENANCES, BY EQUIPMENT, TIRES, METAL TRACKS OR OTHER CONSTRUCTION PRACTICES, DAMAGE SHALL BE SAW CUT, REMOVED AND REPLACED WITH MATERIALS EQUAL TO OR SUPERIOR TO THE EXISTING MATERIAL.
22. THE CONTRACTOR SHALL REPLACE OR REPAIR PAVEMENT, SIDEWALKS, DRIVEWAYS, CULVERTS, INLETS, CURBS, GUTTERS, SHRUBBERY, TREES, FENCES, SOD, LANDSCAPING, WALLS OR ANY OTHER STRUCTURE REMOVED OR DISTURBED TO A CONDITION EQUIVALENT TO OR BETTER THAN EXISTING CONDITION AT THE CONTRACTOR'S EXPENSE. LANDSCAPING SHALL CONSIST OF, BUT NOT BE LIMITED TO, REPLACEMENT OF TREES, SHRUBS, GRASS BERMS, MULCH, ETC.
23. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER SUCH THAT TRUCKS AND OTHER VEHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREETS, PUBLIC OR PRIVATE. CLEAN UP OF STREETS USING A MECHANICAL BROOM SHALL BE DONE DAILY AND ALL DIRT SHALL BE CLEANED FROM EQUIPMENT AND VEHICLES ENTERING AND LEAVING THE SITE.
24. REPAIRS TO CURBS, DRIVEWAYS, ROADWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH MATERIALS CONSISTENT WITH THE EXISTING AND ADJACENT MATERIAL AND ACCORDING TO THE DETAIL SHOWN IN THE PLANS AS A MINIMUM. ALL CURBS, SIDEWALKS, ROADWAYS AND DRIVEWAYS TO BE REMOVED AND REPLACED SHALL BE SAW CUT (A STRAIGHT, EVEN, CLEAN CUT) AT THE POINT OF REMOVAL SO THAT AN EVEN JOINT RESULTS BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. CONTRACTOR MUST SUBMIT ALL REQUIRED MATERIALS AND PROCESSES FOR APPROVAL PRIOR TO EXECUTING REPAIRS.
25. THE CONTRACTOR SHALL REMOVE AND REPLACE FENCE SECTIONS AS NECESSARY TO ACCOMPLISH THE CONSTRUCTION AT NO ADDITIONAL COST TO THE PROJECT. IN THE EVENT OF DAMAGE TO FENCES OR OTHER IMPROVEMENTS, STRUCTURES, PLANTS, LANDSCAPING, ETC., DUE TO CONTRACTOR'S PERFORMANCE OF WORK, THE CONTRACTOR WILL REPLACE THEM WITH AN EQUAL OR BETTER PRODUCT TO THE CITY'S SATISFACTION, AT NO ADDITIONAL COST TO THE PROJECT.
26. THE CONTRACTOR SHALL BE AWARE THAT THE WORK WILL BE PERFORMED IS IN CLOSE PROXIMITY TO STRUCTURES (BRICK WALLS, STORAGE SHEDS, BUILDINGS, SIDEWALK, BULKHEADS AND OTHER UTILITIES). THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT SUCH STRUCTURES FROM DAMAGE DUE TO THE REHABILITATION OPERATIONS. ANY DAMAGES RESULTING FROM THE CONTRACTOR'S OPERATIONS TO SUCH FACILITIES SHALL BE REPLACED OR REPAIRED TO THE CITY'S SATISFACTION AT NO ADDITIONAL COST TO THE PROJECT.
27. IT IS IMPERATIVE THAT CONSTRUCTION IN THE PROJECT AREA WILL INCONVENIENCE THE PATRONS OF THE FACILITY AS LITTLE AS POSSIBLE.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL WASTE MATERIAL GENERATED DURING CONSTRUCTION. WASTE MATERIAL MUST BE REMOVED FROM THE WORK SITE AND DISPOSED OF IN SUCH A MANNER THAT IT DOES NOT NEGATIVELY IMPACT THE OWNER OF OTHER PERSONS.
29. ALL EXCESS EXCAVATED ASPHALT, BASE MATERIAL, OR EARTH REMOVED DUE TO CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE TO A LOCATION OUTSIDE THE CITY AND WHICH IS PROVIDED BY THE CONTRACTOR.
30. REMOVE, AS SOON AS PRACTICAL, ACCUMULATED RUBBISH AND OPEN EACH PHASE FOR PUBLIC USE. USE OF ANY PORTION OF THE PROJECT SHALL NOT CONSTITUTE ACCEPTANCE OF ANY PORTION OF WORK. BACKFILL AND SHAPE TRENCHES ACROSS STREET INTERSECTIONS OR DRIVEWAYS FOR SAFE TRAFFIC AT NIGHT, THROUGH WEEKENDS, HOLIDAYS, AND DURING INCLEMENT WEATHER, OR, WHEN PERMITTED, SPAN OVER TRENCHES WITH WOODEN MATS, STEEL PLATES, OR BRIDGES TO CARRY VEHICULAR TRAFFIC SAFELY OVER OPEN TRENCH. WHEN DRIVEWAYS ARE CUT, IMMEDIATE PLACEMENT OF WOODEN MATS OR CRUSHED CONCRETE TEMPORARY DRIVEWAYS FOR INGRESS OR EGRESS OF VEHICLES WILL BE REQUIRED.
31. THE CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENTIAL AND COMMERCIAL PROPERTIES ADJACENT TO WORK AREAS AT ALL TIMES.
32. ALL PIPE, FITTINGS, EQUIPMENT, AND OTHER SERVICEABLE MATERIALS FOUND ON SITE OF WORK OR DISMANTLED BY REASON OF CONSTRUCTION, REMAIN PROPERTY OF THE OWNER. REMOVE AND DELIVER MATERIALS TO THE OWNER OR AT DESIGNATED POINTS, THE CONTRACTOR SHALL PAY FOR SALVAGEABLE, USABLE MATERIALS THAT ARE DAMAGED THROUGH NEGLIGENCE AT PREVAILING MARKET PRICE.
33. THE CONTRACTOR SHALL COORDINATE TREE PROTECTION ITEMS WITH THE CITY'S FOR THE DURATION OF THE PROJECT. TREES AND SHRUBS WITHIN THE PROJECT LIMITS SHALL NOT BE REMOVED OR DISTURBED UNLESS DIRECTED BY THE CITY. WHERE TREE ROOTS MUST BE CUT FOLLOW THE REPAIR METHOD DESCRIBED BY THE CITY.
34. ONCE THE WORK BEGINS IT SHALL BE CONSTRUCTED AND COMPLETED IN THE SHORTEST TIME POSSIBLE TO MINIMIZE INCONVENIENCE TO THE MARINA PATRONS. CONTRACTOR SHALL ALL AFFECTED PROPERTY OWNERS ARE NOTIFIED BETWEEN 72 HOURS AND 2 WEEKS BEFORE WORK. THE CONTRACTOR SHALL PROVIDE PROPERTY OWNERS THE MINIMUM FOLLOWING INFORMATION; WORK TO BE PERFORMED, STARTING AND ENDING DATES, AND NAME AND NUMBER OF CITY OFFICIAL TO BE CONTACTED FOR QUESTIONS, WRITTEN NOTICES SHALL BE APPROVED BY ENGINEER PRIOR TO DISTRIBUTION.
35. NO EQUIPMENT, MATERIAL, OR EXCAVATED MATERIAL SHALL BE STORED OR DEPOSITED ON STREETS, LAWNS, SIDEWALKS, GARDENING, OR SHRUBBERY.
36. DO NOT BLOCK DITCHES, INLETS, ETC. WHEN NECESSARY, PROVIDE TEMPORARY DRAINAGE. PIPE DRAINS DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE END OF EACH DAY'S WORK WITH POSITIVE DRAINAGE TOWARDS THE STREET OR OTHER EXISTING DRAINAGE STRUCTURE OR SWALE AT NO ADDITIONAL COST TO THE OWNER.
37. ANY FILL REQUIRED TO REGRADE SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
38. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADDITIONAL STANDBY PUMPS FOR BYPASS PUMPING IN THE EVENT OF FAILURE OF ANY PUMPS UTILIZED DURING BYPASS PUMPING. WELL POINTS AND BYPASS PUMPS ARE SPECIFIED TO BE ELECTRIC POWERED FOR NOISE CONSIDERATION. THE CONTRACTOR WILL BE ALLOWED TO USE GAS POWERED PUMPS DURING NORMAL WORKING HOURS IN THOSE AREAS ONLY IF THE CONTRACTOR CAN COMPLETE SUCH OPERATIONS DURING NORMAL WORKING HOURS. OTHERWISE, THE CONTRACTOR MUST UTILIZE ELECTRIC POWERED PUMPS AFTER NORMAL WORKING HOURS. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE PERTINENT UTILITY COMPANY. ANY DELAYS OR COSTS ASSOCIATED WITH CHANGING FROM GAS POWERED PUMPING TO ELECTRICAL POWERED PUMPING SHALL BE ABSORBED BY THE CONTRACTOR.
39. THE CONTRACTOR SHALL KEEP IN DAILY CONTACT WITH THE REPRESENTATIVE THROUGH COMPLETION OF THE PROJECT AND SHALL HAVE A SUPERINTENDENT ON THE JOB SITE WHO CAN COMMUNICATE IN ENGLISH WITH THE REPRESENTATIVE AT ALL TIMES.
40. THE CONTRACTOR IS RESPONSIBLE FOR ADDRESSING ALL COMPLAINTS FROM THE CITIZENS AND COMMERCIAL PROPERTY OWNERS CAUSED DUE TO THE PERFORMANCE OF HIS WORK. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ADDRESS ALL COMPLAINTS FROM THE CITIZEN AND COMMERCIAL PROPERTY OWNER'S TO THEIR SATISFACTION IN A TIMELY MANNER. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A LETTER FROM THE CITIZEN AND COMMERCIAL PROPERTY OWNER ACKNOWLEDGING THE COMPLAINTS HAVE BEEN ADDRESSED AND ANY REPAIR WORK NECESSARY WORK HAS BEEN COMPLETED BY THE CONTRACTOR.
41. THE CONTRACTOR SHALL ACCOMPLISH THE CONSTRUCTION BY HAND EXCAVATION WHILE WORKING IN CLOSE PROXIMITY TO UTILITIES, STRUCTURES, LANDSCAPING, TREES, SHRUBS, ETC. AND WHENEVER NECESSARY OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. ANY ADDITIONAL COSTS ASSOCIATED WITH UTILIZING HAND EXCAVATION SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT ITEM.
42. ANY DAMAGE TO MANHOLES, SUCH AS RINGS, COVERS, SEALANT, ETC., SHALL BE REPAIRED TO CITY, ENGINEER AND UTILITY OWNERS' SATISFACTION AT NO ADDITIONAL COST TO THE OWNER.
43. THE CONTRACTOR SHALL BE AWARE THAT THE SANITARY SEWER SYSTEM MAY REMAIN SURCHARGED FOR A PERIOD OF TIME AFTER A SIGNIFICANT RAINFALL EVENT. HOWEVER, THIS TIME PERIOD OF SURCHARGE MAY VARY DEPENDING ON THE NATURE OF THE RAIN EVENT AND THE LOCATION OF THE SURCHARGE WITHIN THE SYSTEM. THE CONTRACTOR SHALL ALLOW FOR SUCH SURCHARGING IN HIS CONSTRUCTION EFFORTS. NO ADDITIONAL PAYMENT WILL BE MADE FOR IMPACT ON THE CONSTRUCTION EFFORTS DUE TO SURCHARGING REGARDLESS OF THE TIME PERIOD WHICH SURCHARGING OCCURS.

UTILITIES

1. CONTRACTOR SHALL CONTACT ALL PERTINENT UTILITY COMPANIES 48 HOURS (MINIMUM) PRIOR TO EXCAVATION IN AREA. (811 "CALL BEFORE YOU DIG"). FOR WATER AND SEWER FACILITIES LOCATION, CONTRACTOR SHALL CALL THE NCWCID#4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD BEFORE COMMENCING WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPORT ANY AND ALL DISCREPANCIES AND CONFLICTS TO THE ENGINEER IN A TIMELY MANNER.
2. THE PREPARATION OF THESE PLANS REFLECTS INFORMATION PROVIDED BY OTHERS ON THE APPROXIMATE LOCATION AND EXISTENCE OF EXISTING UTILITIES AND ADJACENT PHYSICAL FEATURES; HOWEVER, THEY DO NOT IMPLY OR AFFIRM THAT ALL UTILITIES OR PHYSICAL FEATURES ARE SHOWN. GENERALLY, UTILITY SERVICE CONNECTIONS ARE NOT INDICATED ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF THE OWNER IMMEDIATELY UPON ENCOUNTERING UNFORESEEN CONFLICTS.
3. WHERE UTILITY LINES CROSS CONSTRUCTION EXCAVATIONS AND ARE TO REMAIN IN PLACE, THE CONTRACTOR SHALL TAKE NECESSARY STEPS TO PROTECT AND PROVIDE ADEQUATE SUPPORT FOR SAID UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING REPAIRS IF NECESSARY, WHICH SHALL BE EXPEDITED TO ENSURE NO LOSS OF SERVICE. THIS ITEM WILL BE CONSIDERED INCIDENTAL AND SHALL BE NO ADDITIONAL COST TO THE PROJECT.
4. THE CONTRACTOR SHALL DETERMINE THE DEPTH, LOCATION, AND PRESENCE OF ANY UTILITIES AND OTHER SUBSURFACE STRUCTURES (INCLUDING BUT NOT LIMITED TO WATER LINE, ELECTRICAL LINE, TELEPHONE LINE, CABLE LINE, GAS LINE, SEWER LINE, AND ALL OF THEIR ASSOCIATED SERVICES), USING ALL AVAILABLE SOURCES OF INFORMATION AND BY MAKING EXPLORATIONS AND EXCAVATIONS, AS MAY BE NECESSARY. THE CONTRACTOR UNDERSTANDS THAT THE DRAWINGS AND OTHER CONTRACT DOCUMENTS DO NOT SHOW UTILITIES AND SUBSURFACE STRUCTURES OR THEIR DEPTHS AND LOCATIONS, AND NO REPRESENTATION IS MADE THAT THEY DO. THE COSTS AND RISK PRESENTED BY ALL UTILITIES AND SUBSURFACE STRUCTURES (WHETHER SHOWN ON THE DRAWINGS OR NOT) ARE TO BE BORNE BY THE CONTRACTOR.
5. WHENEVER EXISTING UTILITIES, NOT INDICATED ON PLANS, PRESENT OBSTRUCTIONS TO GRADE AND ALIGNMENT OF PIPE OR ROADWAY, IMMEDIATELY NOTIFY ENGINEER AND OWNER, WHO WILL DETERMINE WHENEVER EXISTING IMPROVEMENTS ARE TO BE RELOCATED OR GRADE AND ALIGNMENT OF PIPE OR PARKING LOT LIMITS CHANGED. WHERE NECESSARY TO MOVE SERVICES, POLES, GUY WIRES, PIPELINES, OR OTHER OBSTRUCTIONS, MAKE ARRANGEMENTS WITH OWNER OF UTILITIES. THE CITY WILL NOT BE LIABLE FOR DAMAGES ON ACCOUNT OF DELAYS DUE TO CHANGES MADE BY OWNERS OF PRIVATELY OWNED UTILITIES WHICH HINDER PROGRESS OF WORK.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE ALL UTILITIES AS NECESSARY TO FUNCTION PROPERLY AND TO PROPERLY FULFILL THE INSTALLATION REQUIREMENTS OF THIS CONTRACT. THIS INCLUDES LOWERING OR ADJUSTING WATER SERVICES. THE CONTRACTOR SHALL COORDINATE WITH THE PROPER GAS COMPANY OR ELECTRIC COMPANY FOR RELOCATION OF GAS OR ELECTRIC LINES. THE CONTRACTOR SHALL CALL AMERICAN ELECTRIC POWER (AEP) TO VERIFY THE LOCATION OF EXISTING POWER LINES THAT INTERSECT THE CONSTRUCTION LIMITS AND COORDINATE WITH AEP TO FULFILL THE CONSTRUCTION REQUIREMENTS FOR THIS PROJECT. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 12" CLEARANCE BETWEEN GAS LINES AND ALL OTHER UTILITIES (EITHER NEW OR RELOCATED UTILITIES).
7. THE CONTRACTOR SHALL COORDINATE ANY UTILITY CONSTRUCTION THAT MAY DISRUPT SERVICE WITH THE CITY AND NCWCID#4. THE CONTRACTOR SHALL NOTIFY THE CITY 72 HOURS IN ADVANCE.
8. TEXAS LAW ARTICLE 1436C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN SIX FEET OF ENERGIZED OVERHEAD POWER LINES, AND FEDERAL REGULATIONS, TITLE 29, PART 1910.180(I) AND PART 1926.550(A)(15) REQUIRE A MINIMUM CLEARANCE OF TEN FEET FROM THESE FACILITIES. THE ABOVE LAWS CARRY BOTH CRIMINAL AND CIVIL LIABILITIES, WITH CONTRACTORS AND OWNERS BEING LEGALLY RESPONSIBLE FOR THE SAFETY OF WORKERS UNDER THESE LAWS. IF YOU OR YOUR COMPANY MUST WORK NEAR OVERHEAD POWER LINES, CALL THE APPROPRIATE UTILITY PROVIDER FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT YOUR EXPENSE.
9. CONTRACTOR SHALL NOT OPERATE VALVES OR CONTROLS ON EXISTING SYSTEMS. EXERCISE CARE IN PERFORMING WORK SO AS TO NOT INTERRUPT SERVICE. LOCATE AND UNCOVER EXISTING UTILITIES AHEAD OF HEAVY EXCAVATION EQUIPMENT.
10. NOTIFY THE HARBOR MASTER AT LEAST SEVENTY TWO (72) HOURS IN ADVANCE OF PENDING WATER SERVICE INTERRUPTION. RECONNECT ALL WATER SERVICE INTERRUPTION BY END OF EACH WORK DAY. DO NOT LEAVE ANY WATER SERVICE LINE UNCONNECTED FOR LONGER THAN FOUR (4) HOURS. ALL ISSUES DEALING WITH WATER INTERRUPTION OR SERVICE RECONNECTION OR OPERATION OF VALVES SHALL BE COORDINATED WITH THE CITY AND NCWCID#4.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION/REPLACEMENT OF STREET LIGHT UNDERGROUND POWER LINES, AND LONG SIDE WATER AND SANITARY SEWER LEADS CROSSING THE STREETS IF DAMAGED DURING CONSTRUCTION.
12. THE CONTRACTOR SHALL VERIFY ALL OF THE ABOVE PRIOR TO CONSTRUCTION.

PAVING

1. ADJUST ALL MANHOLES, WATER VALVES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF PAVEMENT TO FINAL TOP OF PAVEMENT GRADE. THIS COST SHALL BE INCIDENTAL AND ITS COST SHOULD BE INCLUDED IN THE APPROPRIATE BID ITEM.
2. ANY INCREASE WIDTH OF PAVEMENT, DRIVEWAY OR CURB RECONSTRUCTION OR SIDEWALK REPAIRS FROM THAT SHOWN ON THE PLANS REQUIRED DUE TO OVER EXCAVATION, UNDERMINING (DUE TO IMPROPER SHORING) OR FOR CONTRACTOR CONVENIENCE SHALL BE INCIDENTAL TO THE COST OF THE PROJECT.
3. THE CONTRACTOR SHALL PERFORM ALL TRANSITIONS TO EXISTING PAVEMENTS AND PAVEMENT SO THAT POSITIVE DRAINAGE IS MAINTAINED AND PONDING IS PREVENTED. TRANSITIONS SHALL BE PERFORMED SO THAT A SMOOTH DRIVING SURFACE IS MAINTAINED. THE CONTRACTOR SHALL TRANSITION DRIVEWAYS SO THAT VEHICLES DO NOT "BOTTOM OUT". THIS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT UNLESS A BID ITEM EXIST.
4. THE CONTRACTOR SHALL STENCIL ALL PARKING LOT STRIPING IN THE DESIGNATED LAYOUT PRIOR TO THE APPLICATION OF PERMANENT PAINT. THIS PRELIMINARY STENCILING MUST BE COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS TO ENSURE ACCURACY IN ALIGNMENT, DIMENSIONS, AND PLACEMENT. THE STENCILED LAYOUT SHALL BE PRESENTED FOR INSPECTION AND APPROVAL BY THE ENGINEERING REPRESENTATIVE BEFORE ANY PAINTING WORK PROCEEDS. NO PERMANENT STRIPING SHALL BE APPLIED UNTIL WRITTEN CONFIRMATION OF COMPLIANCE HAS BEEN RECEIVED.
5. PHASE 2 ALTERNATE 2 - ASPHALT PATCHING AND FOG COAT
   A. ASPHALT CRACK SEALING
   WORK SHALL BE PERFORMED IN ACCORDANCE WITH TXDOT ITEM 712, "CLEANING AND SEALING JOINTS AND CRACKS (ASPHALT CONCRETE)." PROVIDE HOT-APPLIED RUBBERIZED ASPHALT CRACK SEALANT MEETING TXDOT REQUIREMENTS AND SUITABLE FOR USE IN COASTAL MARINE ENVIRONMENTS SUBJECT TO SALT SPRAY, STANDING WATER, BOAT TRAILER TRAFFIC, AND ELEVATED CHLORIDE EXPOSURE. SUBMIT PRODUCT INFORMATION FOR ENGINEERS REVIEW AND COMPLIANCE VERIFICATION.

   CLEAN ALL CRACKS USING COMPRESSED AIR, HEAT LANCE, POWER BRUSHING, OR OTHER APPROVED METHODS. REMOVE ALL VEGETATION, DIRT, LOOSE AGGREGATE, MOISTURE, SALT DEPOSITS, AND OTHER FOREIGN MATERIAL PRIOR TO APPLICATION OF SEALANT. CRACKS LESS THAN 1/8-INCH WIDE NEED NOT BE SEALED UNLESS DIRECTED BY THE ENGINEER. SEAL ALL TRANSVERSE, LONGITUDINAL, EDGE, AND BLOCK CRACKS 1/8-INCH WIDE AND GREATER. CRACKS GREATER THAN 3/4-INCH WIDE SHALL BE ROUTED AND PREPARED AS DIRECTED BY THE ENGINEER BEFORE PLACEMENT OF SEALANT.

   APPLY HOT-POUR SEALANT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND TXDOT ITEM 712 REQUIREMENTS. FILL CRACKS COMPLETELY TO PREVENT INFILTRATION OF WATER AND CHLORIDES INTO THE PAVEMENT STRUCTURE. PROTECT ADJACENT PAVEMENT, MARINA FACILITIES, DRAINAGE STRUCTURES, DOCKS, BOAT RAMPS, AND WATERWAYS FROM CONTAMINATION DURING CRACK-SEALING OPERATIONS. ALLOW SEALANT TO COOL AND CURE BEFORE OPENING THE AREA TO TRAFFIC.

   COMPLETE CRACK SEALING AND ALLOW SEALANT TO CURE FOR A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO APPLICATION OF THE ASPHALT FOG COAT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
   B. ASPHALT PATCHING
   LOCATIONS AND LIMITS OF ASPHALT PAVEMENT PATCHING ARE NOT SHOWN ON THE PLANS AND WILL BE IDENTIFIED IN THE FIELD BY THE ENGINEER DURING CONSTRUCTION.AFTER COMPLETION OF PAVEMENT CLEANING AND PRIOR TO APPLICATION OF PAVEMENT PRESERVATION TREATMENTS, THE ENGINEER WILL MARK AREAS EXHIBITING SEVERE DISTRESS, INCLUDING ALLIGATOR CRACKING, BASE FAILURE, SETTLEMENT, RUTTING, POTHOLES, OR OTHER PAVEMENT FAILURES REQUIRING REMOVAL AND REPLACEMENT. CONTRACTOR SHALL REMOVE AND REPLACE ASPHALT PAVEMENT IN THE MARKED AREAS AS DIRECTED BY THE ENGINEER.
   C. FOG SEAL
   APPLY A POLYMER-MODIFIED FOG SEAL TO ALL ASPHALT PAVEMENT AREAS IDENTIFIED ON THE PLANS. THE FOG SEAL MATERIAL SHALL CONFORM TO TXDOT ITEM 315, FOG SEAL, AND ITEM 300, ASPHALTS, OILS, AND EMULSIONS. EMULSION SHALL BE POLYMER-MODIFIED CSS-1H OR APPROVED EQUIVALENT SUITABLE FOR MARINE AND COASTAL ENVIRONMENTS. SUBMIT PRODUCT INFORMATION FOR ENGINEERS REVIEW AND COMPLIANCE VERIFICATION.

   PRIOR TO APPLICATION, THOROUGHLY CLEAN PAVEMENT SURFACES AND REMOVE ALL DIRT, SAND, SALT DEPOSITS, OIL, AND LOOSE MATERIAL. APPLY MATERIAL AT A RATE OF 0.15 GALLONS PER SQUARE YARD. DO NOT APPLY FOG SEAL WHEN PAVEMENT IS DAMP, WHEN RAIN IS FORECAST WITHIN 24 HOURS, OR WHEN AMBIENT TEMPERATURE IS BELOW 60°F. PROTECT ADJACENT MARINA FACILITIES, DRAINAGE STRUCTURES, BOAT RAMPS, AND NAVIGABLE WATERS FROM OVER SPRAY AND RUNOFF.

TRAFFIC CONTROL

1. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN SIGNED AND SEALED BY A REGISTERED TEXAS PROFESSIONAL ENGINEER 2 WEEKS PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY THE CITY, NCWCID#4, AMBULANCE, POLICE, FIRE AND OTHER EMERGENCY SERVICE AGENCIES AT LEAST 48 HOURS PRIOR TO CLOSURE OF ANY STREET, INTERSECTION, OR LANE OF TRAFFIC. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO ALLOW ACCESS BY EMERGENCY VEHICLES AT ALL TIMES.
3. CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OPEN AT ALL TIMES.
4. CONTRACTOR SHALL SET AND MAINTAIN BARRICADES, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
5. CONTRACTOR SHALL USE A ONE-LANE FLAGGING OPERATION TO MAINTAIN TRAFFIC. ALTERNATE DIRECTION OF TRAVEL AS NEEDED.
6. DURING CONSTRUCTION PROCESS, CONTRACTOR SHALL ALLOW RESIDENT TRAFFIC ACCESS TO ADJACENT PROPERTIES WITH PROPER GUIDANCE, DIRECTION, AND TRAFFIC CONTROL, BUT ONLY AT SUCH TIMES THAT DAMAGE WILL NOT OCCUR TO THE CONSTRUCTION OR THE VEHICLE.

ADA / TAS

1. THE CONTRACTOR SHALL ENSURE ALL ELEMENTS OF THE NEW CONSTRUCTION COMPLY WITH THE LATEST REVISION OF THE TEXAS ACCESSIBILITY STANDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA). THIS INCLUDES BUT IS NOT LIMITED TO:
   A. CROSS SLOPE OF ADA PARKING SPACES AND ACCESSIBLE AISLES MUST BE LESS THAN 2% IN ANY DIRECTION
   B. RUNNING SLOPE OF ACCESSIBLE PATHS MUST BE LESS THAN 5%
   C. CROSS SLOPE OF ACCESSIBLE PATHS MUST BE LESS THAN 2%
   D. VERTICAL CHANGES IN ELEVATION MUST BE LESS THAN 0.25 INCHES
   E. GAPS OR VOIDS IN PATHS MUST BE LESS THAN 0.5 INCHES

PHASING NOTES

1. THE CONTRACTOR SHALL MAKE ACCOMMODATIONS AND ALLOW PEDESTRIAN ACCESS TO THE MARINA FACILITIES DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE SIDEWALK AROUND THE PARKING LOT, FISH CLEANING STATION, BATHROOM, BOATING FACILITIES (DOCKS, LIFTS, ELECTRICAL, PUMP OUT FACILITIES, APPURTENANCES ETC.)
2. THE CONTRACTOR SHALL COMPLETE PHASE 1 TO THE CITIES AND ENGINEERS SATISFACTION AND PLACE THIS PARKING LOT IN SERVICE PRIOR TO STARTING PHASE 2. THE INTENT IS TO ALLOW TRUCKS AND TRAILERS AMPLE PARKING SPACE DURING THE CONSTRUCTION OF THE PROJECT.
3. THE CONTRACTOR MUST ALLOW PUBLIC ACCESS TO 2 OF THE 4 RAMPS DURING CONSTRUCTION OF PHASE 1. THE TWO INSIDE BOAT RAMPS MUST BE COMPLETED TOGETHER AND THE TWO OUTSIDE BOAT RAMPS MUST BE COMPLETED TOGETHER.

THE CITY OF PORT ARANSAS

HDR Engineering, Inc.
555 N. Carancahua Street, Suite 1600
Corpus Christi, TX 78401
Certificate of Authorization No. 4213

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	ASA
DESIGNED BY	ASA
CHECKED BY	RN
DRAWN BY	JMP
PROJECT NUMBER	10465344

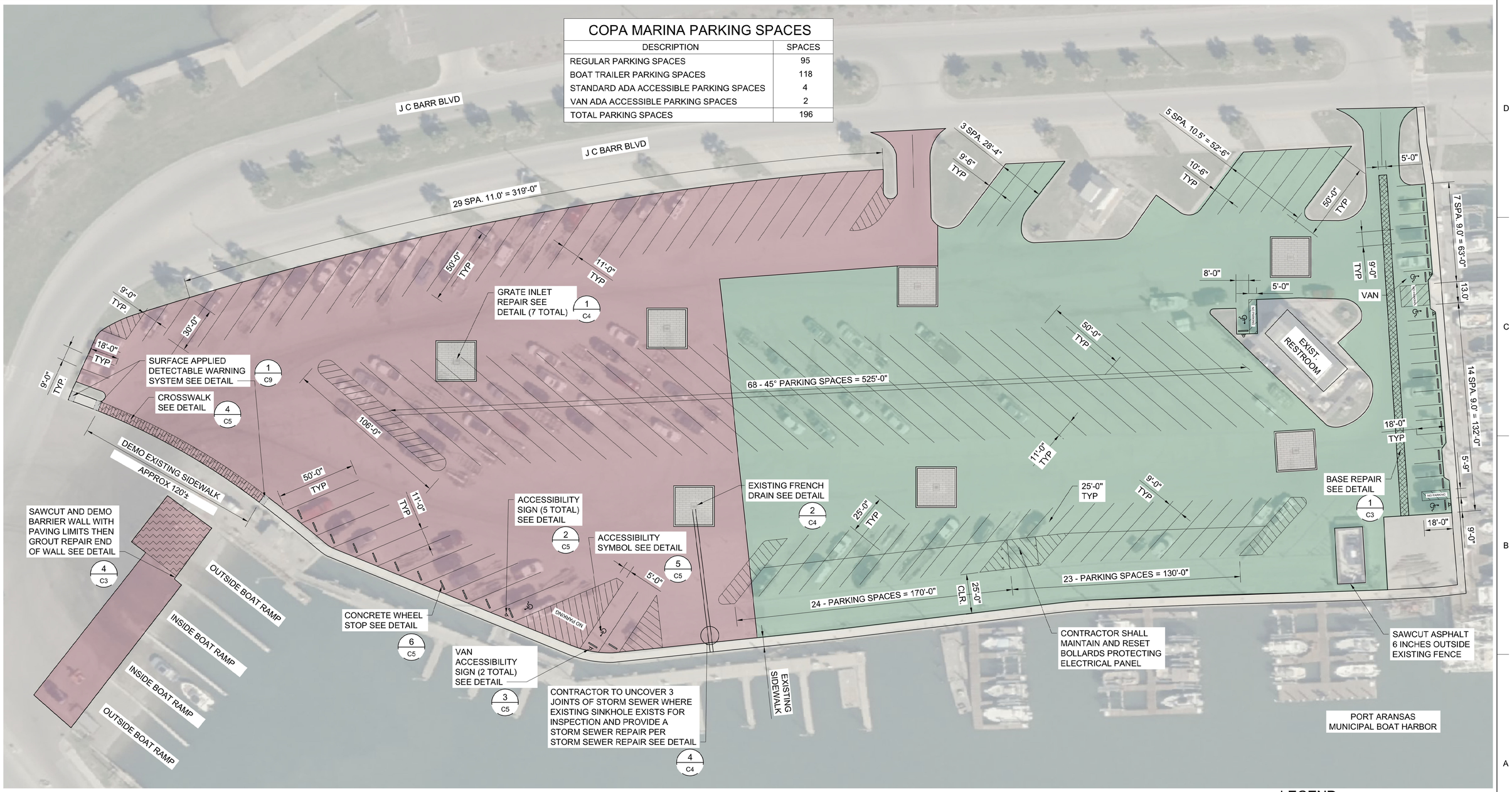
STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED
PROFESSIONAL ENGINEER
8-7-26

COPA MARINA BOAT RAMP PARKING LOT REPAIR

CONSTRUCTION NOTES

FILENAME	C01_NOTES.dwg	SHEET	C1
SCALE	NTS		

COPA MARINA PARKING SPACES	
DESCRIPTION	SPACES
REGULAR PARKING SPACES	95
BOAT TRAILER PARKING SPACES	118
STANDARD ADA ACCESSIBLE PARKING SPACES	4
VAN ADA ACCESSIBLE PARKING SPACES	2
TOTAL PARKING SPACES	196



A PAVING AND STRIPING PLAN
1"=30'-0"

LEGEND

- PHASE 1 - RECONSTRUCTION
- PHASE 2 - ALTERNATE 1 - COMPLETE MILL & OVERLAY
  PHASE 2 - ALTERNATE 2 - ASPHALT PATCHING AND FOG SEAL
- CONCRETE DEMOLITION
- BASE REPAIR

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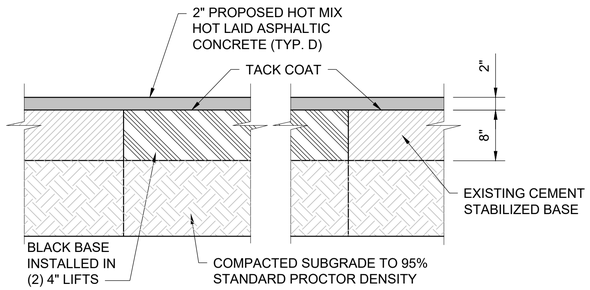
COPA MARINA BOAT RAMP PARKING LOT REPAIR

PAVING AND STRIPING PLAN

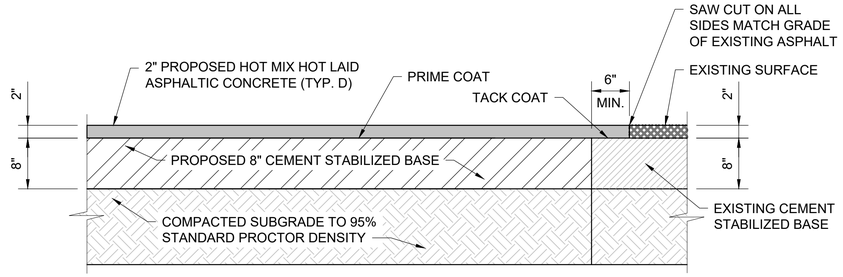
0 1" 2"

FILENAME	C2_PAVING.dwg	SHEET
SCALE	1"=30'-0"	C2



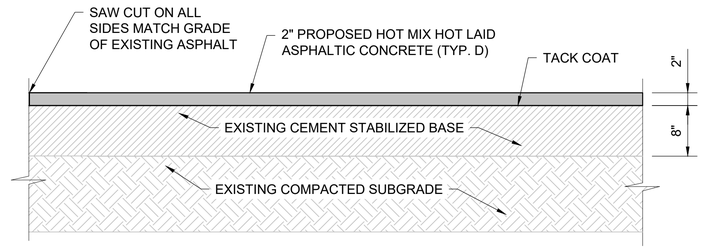
1 - BASE REPAIR DETAIL

1"=1'-0"



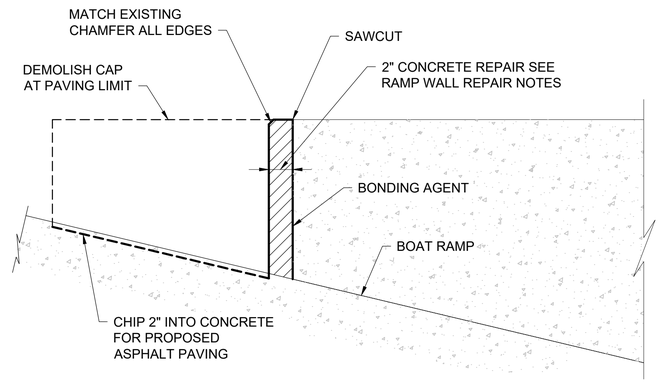
2 - ASPHALT PAVING RECONSTRUCTION SECTION

1"=1'-0"



3 - ASPHALT PAVING MILL AND OVERLAY SECTION

1"=1'-0"



4 - RAMP WALL REPAIR DETAIL

N.T.S.

RAMP WALL REPAIR NOTES:

1. REMOVE ALL LOOSE, UNSOUND, CRACKED, AND DELAMINATED CONCRETE TO SOUND CONCRETE. FIELD VERIFY REPAIR LIMITS PRIOR TO BEGINNING WORK.
2. SAWCUT THE PERIMETER OF THE REPAIR AREA AS SHOWN STRAIGHT CLEAN AND SQUARE. DO NOT FEATHER THE REPAIR MATERIAL TO ZERO THICKNESS.
3. PROVIDE SIKAQUICK VOH BY SIKA CORPORATION, OR APPROVED EQUAL LISTED AS A TXDOT DMS 4655 TYPE C VERTICAL AND OVERHEAD REPAIR MATERIAL ON THE CURRENT TXDOT MATERIAL PRODUCER LIST. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
4. PREPARE THE EXISTING CONCRETE SURFACE AND USE A BONDING AGENT ONLY WHEN REQUIRED BY THE REPAIR MATERIAL MANUFACTURER.
5. WHERE REINFORCING STEEL IS EXPOSED, REMOVE RUST AND LOOSE MATERIAL TO SOUND STEEL. NOTIFY THE ENGINEER OF SIGNIFICANT CORROSION OR SECTION LOSS PRIOR TO PLACING THE REPAIR MATERIAL.
6. RESTORE THE RAMP WALL TO THE ORIGINAL LINES, GRADES, DIMENSIONS, FINISH, AND CHAMFER. MATCH THE EXISTING ADJACENT CONCRETE.
7. PROTECT AND CURE THE COMPLETED REPAIR IN ACCORDANCE WITH THE REPAIR MATERIAL MANUFACTURER'S REQUIREMENTS.

THE CITY OF PORT ARANSAS

HDR Engineering, Inc.
555 N. Carancahua Street, Suite 1600
Corpus Christi, TX 78401
Certificate of Authorization No. 4213

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	ASA
DESIGNED BY	ASA
CHECKED BY	RN
DRAWN BY	JMP
PROJECT NUMBER	10465344

STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED
PROFESSIONAL ENGINEER
8-7-26

COPA MARINA BOAT RAMP PARKING LOT REPAIR

PAVING DETAIL SHEET

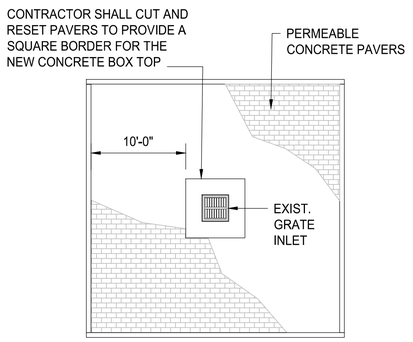
0 1" 2"

FILENAME	C3_PAVING DETAIL.dwg
SCALE	AS SHOWN

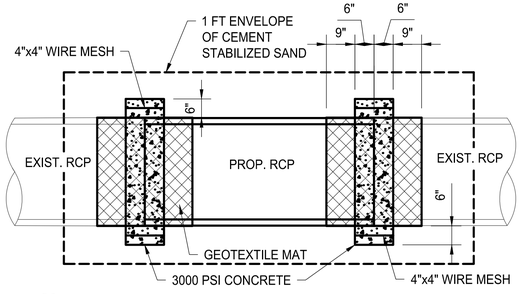
SHEET C3

EXISTING GRATE INLET MODIFICATION NOTES

1. PROVIDE INLET PROTECTION THROUGHOUT CONSTRUCTION. PREVENT ASPHALT, CONCRETE, SEDIMENT, BEDDING STONE, WASH WATER, AND OTHER DEBRIS FROM ENTERING THE STORM SEWER SYSTEM. REMOVE INLET PROTECTION AFTER FINAL CLEANING AND STABILIZATION.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING INLET DIMENSIONS, FRAME OPENING, PIPE CONFIGURATION, RIM ELEVATION, ADJACENT PAVER GRADES, AND FRENCH DRAIN CONDITIONS PRIOR TO DEMOLITION OR ORDERING MATERIALS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICT PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
3. PROVIDE EAST JORDAN IRON WORKS MODEL V5724 FRAME AND V5724 GRATE, OR APPROVED EQUAL. THE COMPLETE FRAME AND GRATE ASSEMBLY SHALL BE AASHTO H20 LOAD RATED AND HOT DIP GALVANIZED AFTER FABRICATION.
4. CONTRACTOR SHALL SUBMIT PRODUCT DATA, SHOP DRAWINGS, DIMENSIONS, LOAD RATING DOCUMENTATION, AND MANUFACTURER CERTIFICATION OF THE HOT DIP GALVANIZED FINISH TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING MATERIALS.
5. DAMAGED GALVANIZING, FIELD CUTS, AND EXPOSED METAL SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, OR LATEST VERSION.
6. SAWCUT AND DEMOLISH ONLY THE PORTION OF THE EXISTING INLET ABOVE THE LIMIT SHOWN. PROTECT THE EXISTING INLET BOX, CONNECTED STORM SEWER PIPE, FRENCH DRAIN, CONCRETE BORDER, AND ADJACENT PAVERS. DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
7. INSTALL REINFORCEMENT, EPOXY ANCHORS, FORMWORK, FRAME, AND CONCRETE IN ACCORDANCE WITH THE DETAILS AND APPLICABLE SPECIFICATIONS.
8. CONTRACTOR SHALL NOT PLACE CONCRETE UNTIL THE ENGINEER HAS REVIEWED THE FRAME ELEVATION, REINFORCEMENT, ANCHORAGE, AND FORMWORK.
9. SET THE TOP OF FRAME AND GRATE FLUSH WITH THE ADJACENT FINISHED SURFACE AND AT AN ELEVATION THAT PROVIDES POSITIVE DRAINAGE TO THE INLET. PONDING, REVERSE GRADES, ABRUPT CHANGES IN LEVEL, AND ROCKING OF THE FRAME OR GRATE WILL NOT BE ACCEPTED.
10. LIMITS OF PAVER REMOVAL AND RESET MAY VARY BASED ON EXISTING CONDITIONS. THE LIMITS SHOWN ON THE PLAN ARE APPROXIMATE.
11. SALVAGE AND RESET EXISTING PERMEABLE PAVERS WHERE PRACTICABLE. REPLACE DAMAGED PAVERS WITH MATERIAL MATCHING THE EXISTING SIZE, COLOR, THICKNESS, AND FINISH.
12. RESTORE PAVER BEDDING, BASE MATERIAL, GEOTEXTILE, STONE, AND OTHER FRENCH DRAIN COMPONENTS DISTURBED BY CONSTRUCTION. MAINTAIN AN UNOBSTRUCTED DRAINAGE PATH TO THE GRATE INLET.
13. RESET PAVERS TO PROVIDE A UNIFORM TRANSITION AND POSITIVE DRAINAGE TO THE GRATE INLET. FINISHED PAVERS SHALL BE FLUSH WITH THE GRATE FRAME AND ADJACENT CONCRETE BORDER.
14. CONTRACTOR SHALL VERIFY FINAL FRAME ELEVATION, PAVER GRADES, AND DRAINAGE PRIOR TO COMPLETING JOINT FILLING AND CLEANING. PONDING OR REVERSE GRADES WILL NOT BE ACCEPTED.
15. FILL PAVER JOINTS WITH NO. 8 BEDDING STONE. REMOVE EXCESS MATERIAL BY VACUUM OR OTHER APPROVED METHOD. DO NOT WASH SEDIMENT OR BEDDING MATERIAL INTO THE STORM SEWER SYSTEM.
16. POWER WASH THE PERMEABLE PAVERS AND CONCRETE BORDER AFTER CONSTRUCTION. COLLECT AND PROPERLY DISPOSE OF WASH WATER AND DEBRIS. DO NOT DISCHARGE WASH WATER INTO THE STORM SEWER SYSTEM.

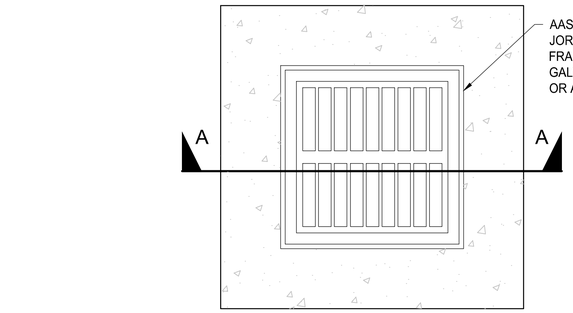


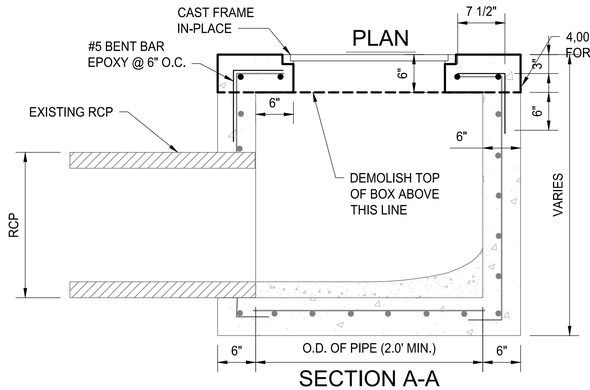
1 - GRATE INLET PLAN 3/16"=1'-0"



4 - STORM SEWER REPAIR DETAIL 1/2"=1'-0"

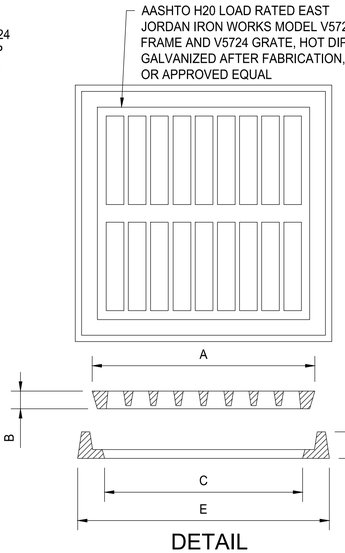
NOTE:
CONTRACTOR MUST VERIFY RCP PIPE SIZE PRIOR TO PURCHASE AND INSTALLATION





SECTION A-A

2 - EXISTING GRATE INLET MODIFICATION DETAILS N.T.S.



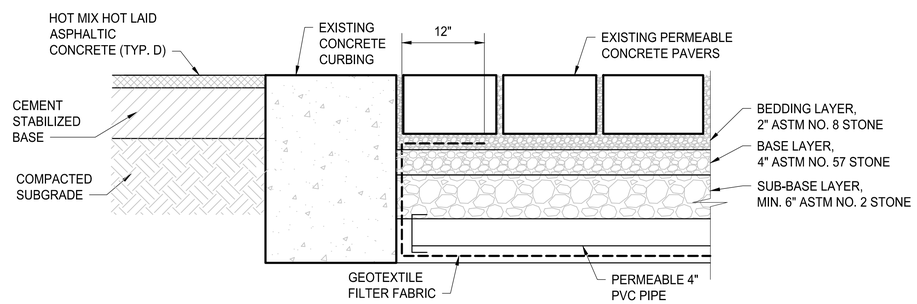
DETAIL

	MODEL No.			DIMENSIONS (INCHES)					OPEN AREA (SQ IN.)
SIZE	FRAME	GRATE	COVER	A	B	C	E	F	
2.0'x2.0'	V-5724	V-5724-4	V-6724	24	1 7/8	22 1/4	25 7/8	2 5/8	336

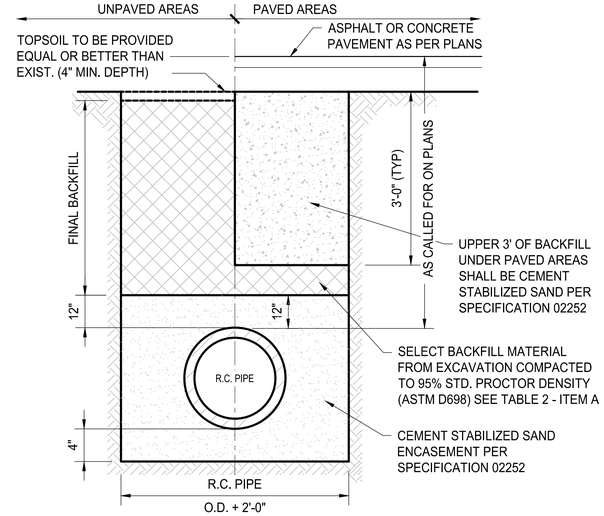
NOTE:
GRATE AND FRAME MUST BE HOT DIP GALVANIZED

STORM SEWER REPAIR NOTES:

1. CONTRACTOR SHALL EXCAVATE AND EXPOSE THE EXISTING STORM SEWER AT THE REPAIR LOCATION. FIELD VERIFY PIPE DIAMETER, MATERIAL, CLASS, INVERT, ALIGNMENT, JOINT LOCATIONS, AND EXISTING CONDITION PRIOR TO REMOVAL. CONTRACTOR SHALL TAKE MEASURES TO PROTECT THE ADJACENT SIDEWALK AND BULKHEAD. ANY DAMAGE TO THE SIDEWALK OR BULKHEAD WILL BE REPLACED AT THE CONTRACTORS EXPENSE TO THE CITY AND ENGINEERS SATISFACTION.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER THE EXISTING PIPE IS EXPOSED. FINAL REPAIR LIMITS SHALL BE CONFIRMED BY THE ENGINEER PRIOR TO REMOVING THE EXISTING PIPE.
3. PROPOSED RCP SHALL MATCH THE EXISTING PIPE DIAMETER AND SHALL BE OF EQUAL OR GREATER CLASS. JOINTS SHALL BE COMPATIBLE WITH THE EXISTING PIPE.
4. MAINTAIN A SMOOTH AND CONTINUOUS PIPE INVERT THROUGH THE REPAIR. OFFSET JOINTS, REVERSE SLOPES, AND PROJECTIONS INTO THE PIPE INTERIOR WILL NOT BE ACCEPTED.
5. PROVIDE 3000 PSI CONCRETE COLLARS, REINFORCEMENT, AND GEOTEXTILE AT EACH REPAIR JOINT AS SHOWN. CONCRETE COLLARS SHALL BE CENTERED ON THE JOINT AND PLACED CONTINUOUSLY AROUND THE PIPE.
6. CONTRACTOR SHALL KEEP THE REPAIR AREA DRY AND PROVIDE DEWATERING AS REQUIRED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. PROTECT THE EXISTING STORM SEWER FROM SEDIMENT, CONCRETE, GROUT, AND CONSTRUCTION DEBRIS DURING THE REPAIR.
8. CONTRACTOR SHALL NOT BACKFILL THE REPAIR UNTIL THE ENGINEER HAS REVIEWED THE PIPE ALIGNMENT, FLOWLINE, JOINTS, REINFORCEMENT, AND CONCRETE COLLARS. PIPE SHALL BE ENCASED WITH 1 FT ENVELOPE OF CEMENT STABILIZED SAND PER SPECIFICATION 02252.
9. BACKFILL, COMPACTION, BASE, PAVEMENT, PAVERS, AND OTHER DISTURBED SURFACES SHALL BE RESTORED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHALL MATCH THE ADJACENT EXISTING CONDITIONS.
10. CONTRACTOR SHALL MAINTAIN STORM SEWER SERVICE THROUGHOUT CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER.



3 - EXISTING FRENCH DRAIN CROSS SECTION VIEW 1"=1'-0"



5 - TRENCH BACKFILL FOR STORM WATER PIPES 1 1/2"=1'-0"

NOTE:
PIPE JOINTS FOR CONCRETE STORM WATER PIPES AND BOX SHALL BE WRAPPED WITH GEOTEXTILE MATERIAL. THE GEOTEXTILE WRAP SHALL BE AT LEAST 2 FEET WIDE AND SHALL BE CENTERED ON EACH PIPE JOINT.

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CHECKED BY	RN
DRAWN BY	JMP
PROJECT NUMBER	10465344

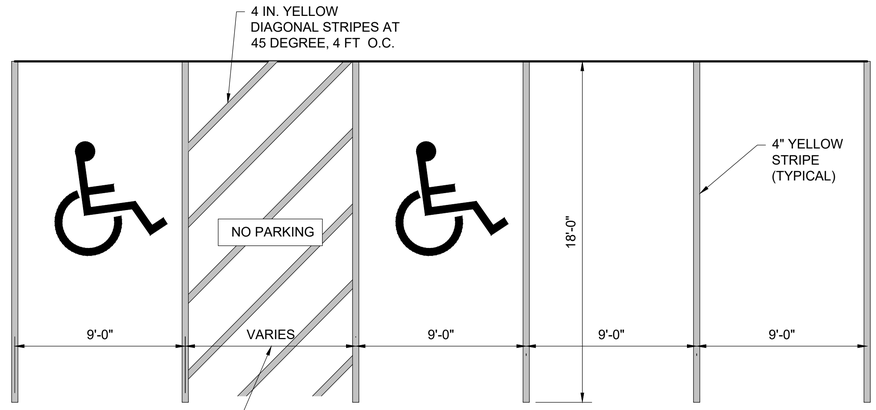
STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED
PROFESSIONAL ENGINEER
8-7-26

COPA MARINA BOAT RAMP PARKING LOT REPAIR

DRAINAGE REPAIR DETAILS

0 1" 2"

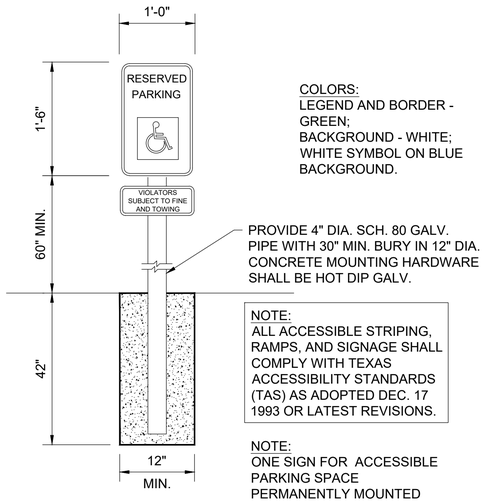
FILENAME	C4_PAVING DETAIL.dwg	SHEET
SCALE	AS SHOWN	C4



1 - PARKING STRIPING DETAIL

1/4"=1'-0"

NOTE:
ALL REQUIRED FIRE LANE RESTRICTED PARKING SHALL BE APPLIED PER FIRE DEPARTMENT REQUIREMENTS.



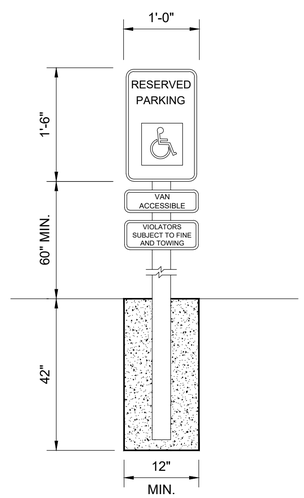
COLORS:
LEGEND AND BORDER - GREEN;
BACKGROUND - WHITE;
WHITE SYMBOL ON BLUE BACKGROUND.

NOTE:
ALL ACCESSIBLE STRIPING, RAMPS, AND SIGNAGE SHALL COMPLY WITH TEXAS ACCESSIBILITY STANDARDS (TAS) AS ADOPTED DEC. 17 1993 OR LATEST REVISIONS.

NOTE:
ONE SIGN FOR ACCESSIBLE PARKING SPACE PERMANENTLY MOUNTED ON POLE MIN. 5' HIGH.

2 - C2 ACCESSIBILITY SIGN DETAIL

1"=1'-0"

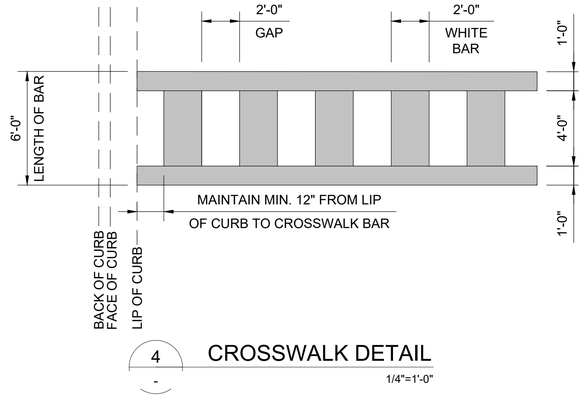


3 - C2 VAN ACCESSIBILITY SIGN DETAIL

1"=1'-0"

PARKING SPACE NOTES

1. *ALL ACCESSIBLE PARKING SPACES, ACCESS AISLES, SIGNAGE, AND PAVEMENT MARKINGS SHALL COMPLY WITH THE 2012 TEXAS ACCESSIBILITY STANDARDS AND TDLR ADMINISTRATIVE RULE 68.104, OR LATEST VERSION.*
2. *ACTUAL PARKING SPACE LAYOUT AND DIMENSIONS SHALL BE AS SHOWN ON THE PLAN. PARKING SPACE AND ACCESS AISLE WIDTHS SHALL BE MEASURED TO THE CENTERLINES OF THE STRIPING.*
3. *ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACES SERVED AND SHALL MAINTAIN THE REQUIRED MINIMUM CLEAR WIDTH FOR THEIR FULL LENGTH.*
4. *ACCESS AISLE WIDTH MAY VARY. PROVIDE 5 FT MINIMUM CLEAR WIDTH AT STANDARD ACCESSIBLE PARKING SPACES AND 8 FT MINIMUM CLEAR WIDTH AT VAN ACCESSIBLE PARKING SPACES.*
5. *ACCESS AISLES SERVING ANGLED VAN ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.*
6. *ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.*
7. *ALL PARKING SPACE STRIPING AND ACCESS AISLE HATCHING SHALL BE 4 IN. WIDE WHITE TRAFFIC PAINT UNLESS OTHERWISE SHOWN.*
8. *PAINT THE WORDS "NO PARKING" WITHIN EACH ACCESS AISLE. LETTERS SHALL BE ALL CAPITAL LETTERS, 12 IN. MINIMUM HEIGHT, 2 IN. MINIMUM STROKE WIDTH, AND CENTERED WITHIN THE ACCESS AISLE.*
9. *CONTRACTOR SHALL VERIFY PARKING SPACE DIMENSIONS, ACCESS AISLE DIMENSIONS, AND FINISHED GRADES PRIOR TO FINAL PAVING AND STRIPING. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICT PRIOR TO PROCEEDING WITH THE AFFECTED WORK.*

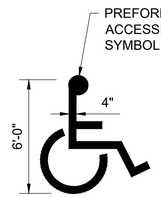


4 - CROSSWALK DETAIL

1/4"=1'-0"

CROSSWALK NOTES

1. *ALL CROSSWALK MARKINGS SHALL BE WHITE TRAFFIC PAINT.*
2. *PROVIDE 24 IN. WIDE CROSSWALK BARS WITH 24 IN. CLEAR GAPS.*
3. *MAINTAIN 12 IN. MINIMUM FROM THE LIP OF CURB TO THE NEAREST CROSSWALK BAR.*
4. *CROSSWALK MARKINGS SHALL ALIGN WITH AND MAINTAIN THE REQUIRED CLEAR WIDTH OF THE ACCESSIBLE ROUTE.*
5. *CONTRACTOR SHALL VERIFY CROSSWALK LAYOUT AND ALIGNMENT WITH THE ACCESSIBLE ROUTE PRIOR TO STRIPING.*

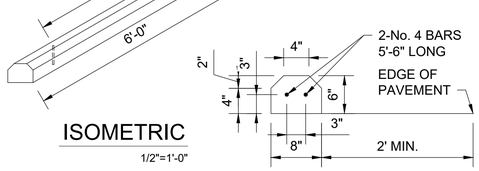


5 - C2 ACCESSIBILITY SYMBOL DETAIL

1/4"=1'-0"

ACCESSIBILITY SYMBOL NOTE

1. *PROVIDE ONE PREFORMED THERMOPLASTIC ACCESSIBILITY SYMBOL WITHIN EACH ACCESSIBLE PARKING SPACE. SYMBOL SHALL BE WHITE ON A BLUE BACKGROUND.*

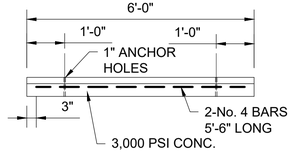


ISOMETRIC

1/2"=1'-0"

SECTION

1/2"=1'-0"



ELEVATION

1/2"=1'-0"

WHEEL STOP NOTES

1. *PROVIDE CONCRETE WHEEL STOPS ONLY WHERE SHOWN ON THE PLANS.*
2. *CENTER WHEEL STOPS WITHIN THE PARKING SPACES AND INSTALL IN ACCORDANCE WITH THE CONCRETE WHEEL STOP DETAIL.*
3. *LOCATE WHEEL STOPS SO PARKED VEHICLES DO NOT ENCROACH INTO AN ACCESS AISLE OR REDUCE THE REQUIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE.*
4. *WHEEL STOPS SHALL NOT REDUCE THE REQUIRED PARKING SPACE LENGTH.*
5. *CONTRACTOR SHALL VERIFY WHEEL STOP LOCATIONS AND CLEARANCES PRIOR TO INSTALLATION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICT PRIOR TO PROCEEDING WITH THE AFFECTED WORK.*

6 - C2 CONCRETE WHEEL STOP

1/2"=1'-0"

ACCESSIBLE ROUTE NOTES

1. *ALL ACCESSIBLE ROUTES AND PEDESTRIAN CROSSINGS SHALL COMPLY WITH THE 2012 TEXAS ACCESSIBILITY STANDARDS, OR LATEST VERSION.*
2. *ACCESSIBLE ROUTES SHALL HAVE A MINIMUM CLEAR WIDTH OF 36 IN., A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.*
3. *TRANSITIONS ALONG THE ACCESSIBLE ROUTE AND AT THE PEDESTRIAN CROSSING SHALL BE FLUSH AND FREE OF ABRUPT CHANGES IN LEVEL.*
4. *ACCESSIBLE ROUTTE AND PEDESTRIAN CROSSING SURFACES SHALL BE FIRM, STABLE, SLIP RESISTANT, AND DESIGNED TO PREVENT THE ACCUMULATION OF WATER.*
5. *MANHOLES, GRATES, SIGNS, POSTS, AND OTHER SURFACE APPURTENANCES SHALL NOT REDUCE THE REQUIRED CLEAR WIDTH OF THE ACCESSIBLE ROUTE OR CREATE AN ABRUPT CHANGE IN LEVEL.*
6. *CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, CLEAR WIDTHS, AND GRADES ALONG THE ACCESSIBLE ROUTE AND PEDESTRIAN CROSSING PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICT PRIOR TO PROCEEDING WITH THE AFFECTED WORK.*
7. *CONTRACTOR SHALL VERIFY FINAL CLEAR WIDTHS AND SLOPES PRIOR TO FINAL PAVING AND STRIPING. NONCOMPLIANT WORK SHALL BE CORRECTED PRIOR TO FINAL ACCEPTANCE.*

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8-7-26

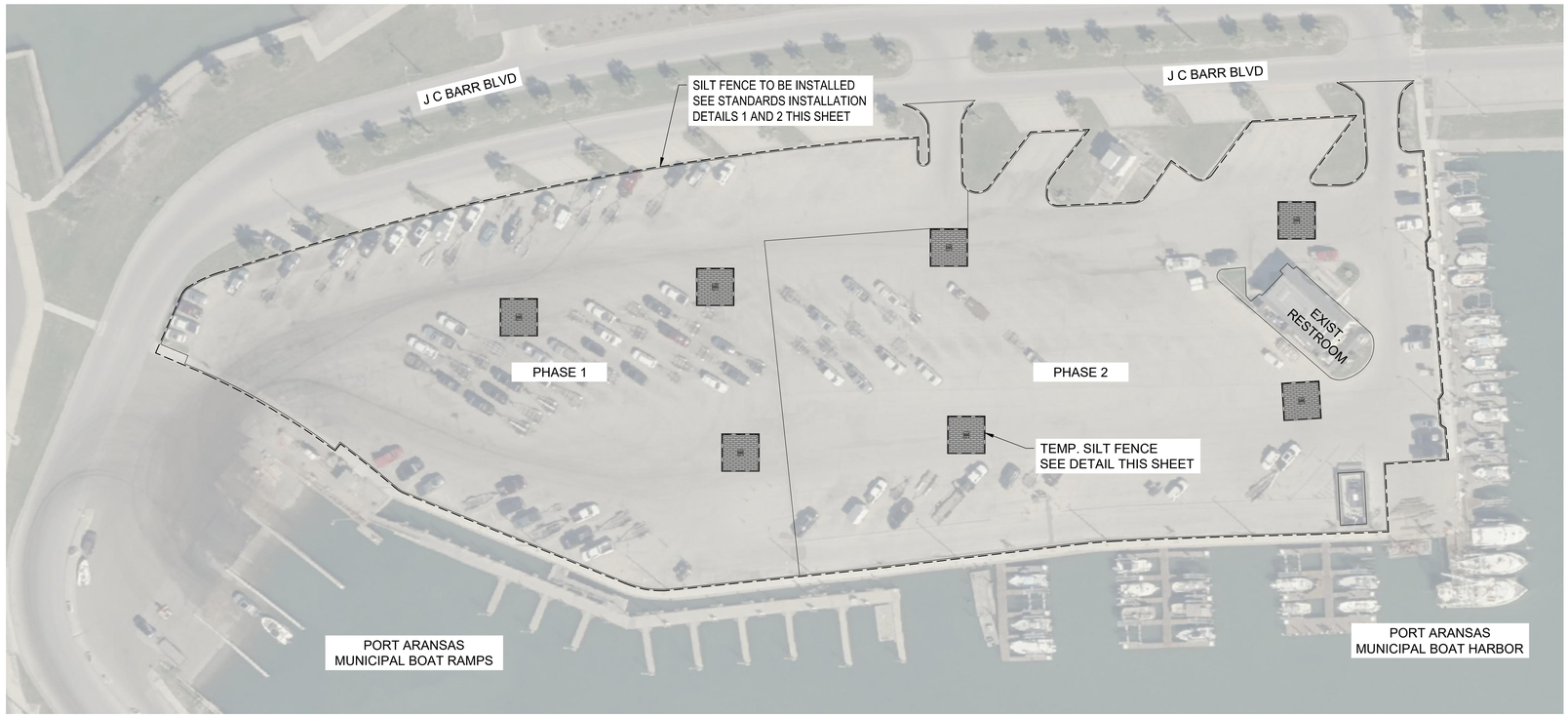
COPA MARINA BOAT RAMP PARKING LOT REPAIR

PARKING, ACCESSIBILITY AND STRIPING DETAILS

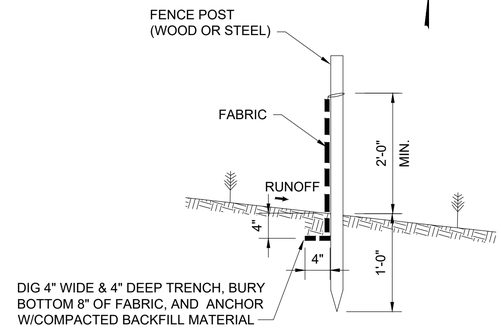
0 1" 2"

FILENAME	C5_ADA PLAN.dwg
SCALE	AS SHOWN

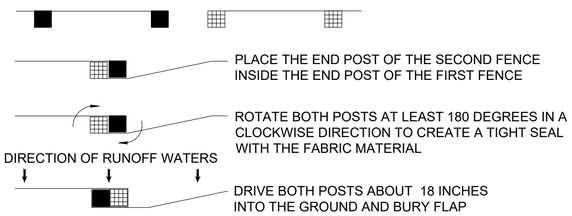
SHEET C5



A
-
POLLUTION PREVENTION PLAN
1"=50'-0"

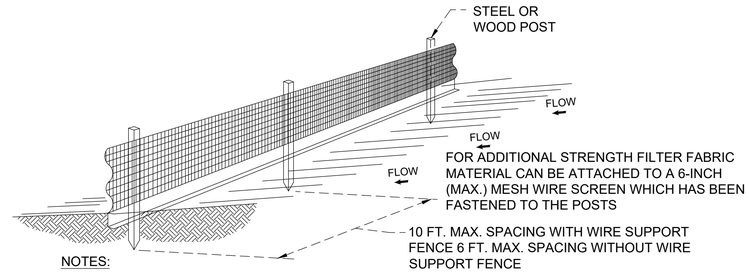


SILT FENCE SECTION
NOT TO SCALE



ATTACHING TWO SILT FENCES
NOT TO SCALE

2
-
SILT FENCE INSTALLATION DETAIL
NTS



NOTES:

THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 CM).

THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.

POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 M) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 CM). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 M).

A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10 CM) WIDE AND 4 INCHES (10 CM) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.

WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 MM) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 CM) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.

THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 CM) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGIONAL GROUND SURFACE.

THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.

ALL PROJECTS REQUIRE SUBMITTAL OF POLLUTION PREVENTION PLAN (PPP).

ALL PROJECTS 1 AC. OR MORE MUST SUBMIT NOTICE OF INTENT (NOI) TO FDEP.

1
-
SILT FENCE INSTALLATION ELEVATION
NTS

LEGEND

SILT FENCE

THE CITY OF PORT ARANSAS

HDR Engineering, Inc.
555 N. Carancahua Street, Suite 1600
Corpus Christi, TX 78401
Certificate of Authorization No. 4213

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	ASA
DESIGNED BY	ASA
CHECKED BY	SS
DRAWN BY	JMP
PROJECT NUMBER	10465344

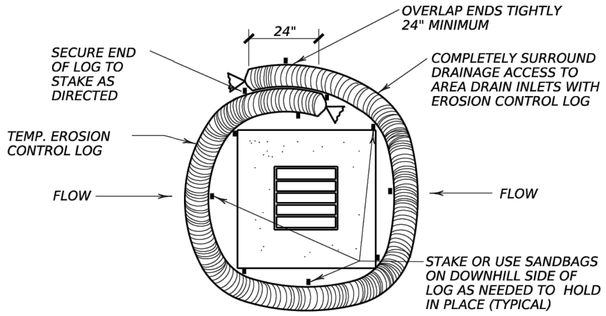
STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED
PROFESSIONAL ENGINEER
8-7-26

COPA MARINA BOAT RAMP PARKING LOT REPAIR

POLLUTION PREVENTION PLAN & DETAILS

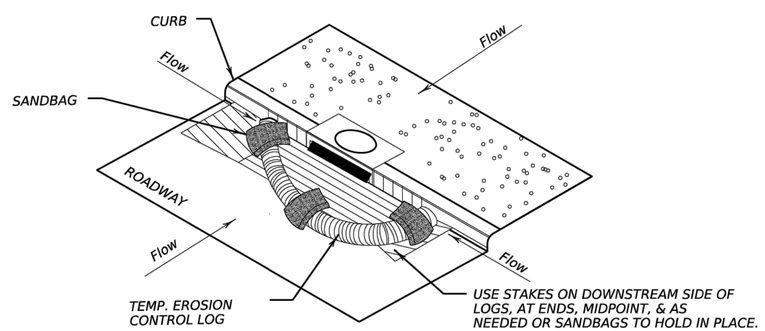
0 1" 2"

FILENAME	C6_POLLUTION PLAN.dwg	SHEET
SCALE	1"=30'-0"	C6



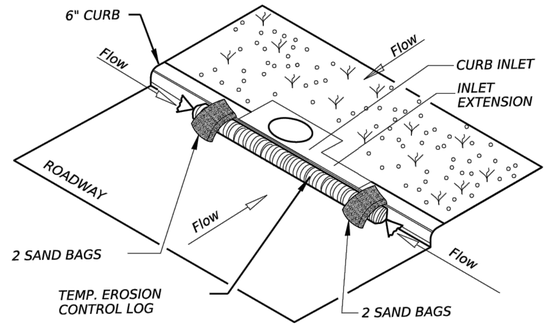
EROSION CONTROL LOG AT DROP INLET

CL-DI



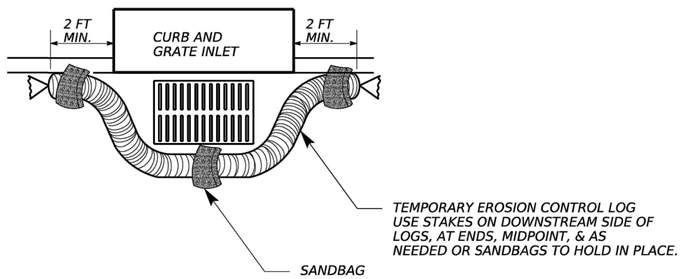
EROSION CONTROL LOG AT CURB INLET

CL-CI



EROSION CONTROL LOG AT CURB INLET

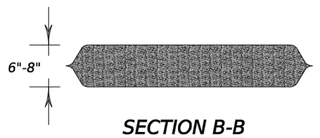
CL-CI



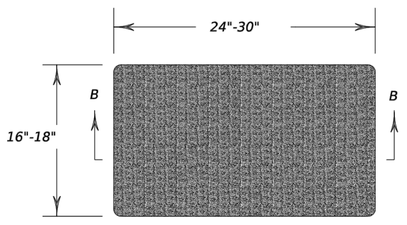
EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI

NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



SECTION B-B



SANDBAG DETAIL

STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED
PROFESSIONAL ENGINEER
8-7-26

SHEET 3 OF 3

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

FILE: ec916	DN: TxDOT	CK: KM	DW: LS/PT	CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				C7

DATE:
FILE:

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.

2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.

3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.

4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.

5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.

6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.

7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.

8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).

9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.

10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.

11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.

12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.

13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".

14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.

15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.

16. Provide a smooth transition where the curb ramps connect to the street.

17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.

18. Existing features that comply with applicalble standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.

20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.

21. Detectable warning surfaces must be firm, stable and slip resistant.

22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.

23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.

24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.

26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.

28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.

29. Street grades and cross slopes shall be as shown elsewhere in the plans.

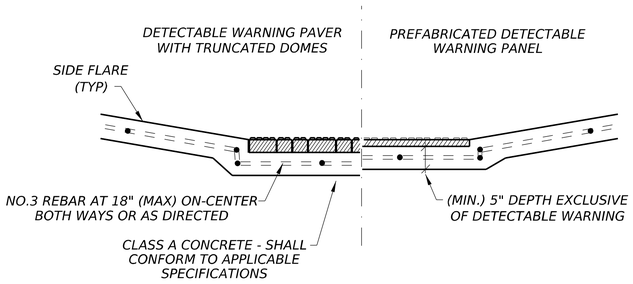
30. Changes in level greater than 1/4 inch are not permitted.

31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.

32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.

33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".

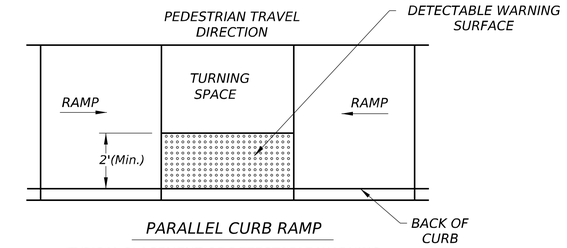
34. Sidewalk details are shown elsewhere in the plans.



SECTION VIEW DETAIL

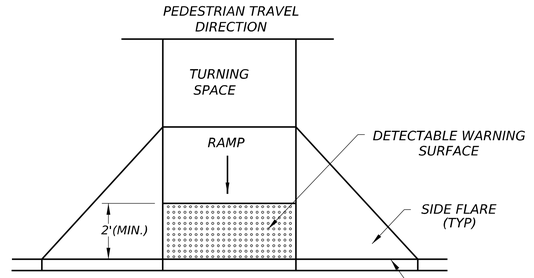
CURB RAMP AT DETECTIBLE WARNINGS

DETECTABLE WARNING SURFACE DETAILS



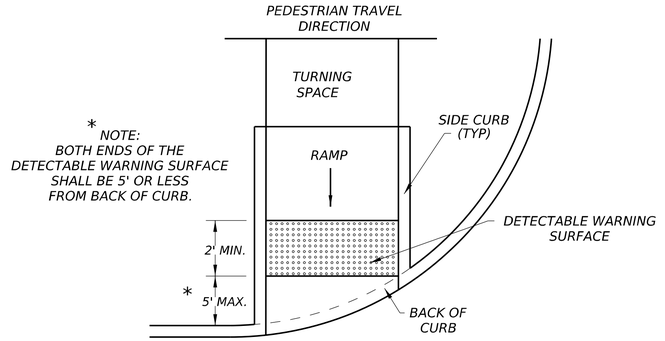
PARALLEL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DIRECTIONAL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

DATE:
FILE:

Texas Department of Transportation

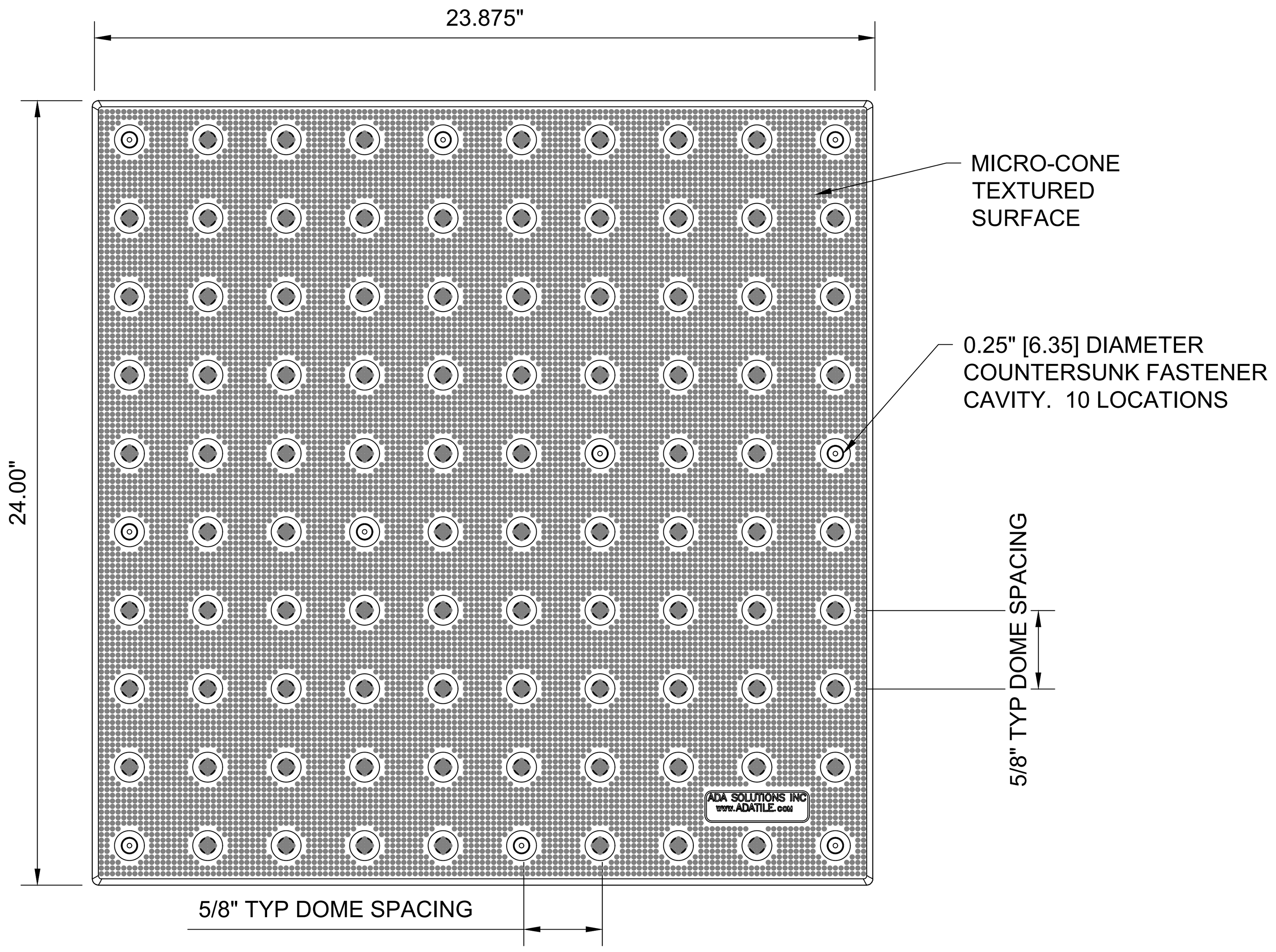
Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

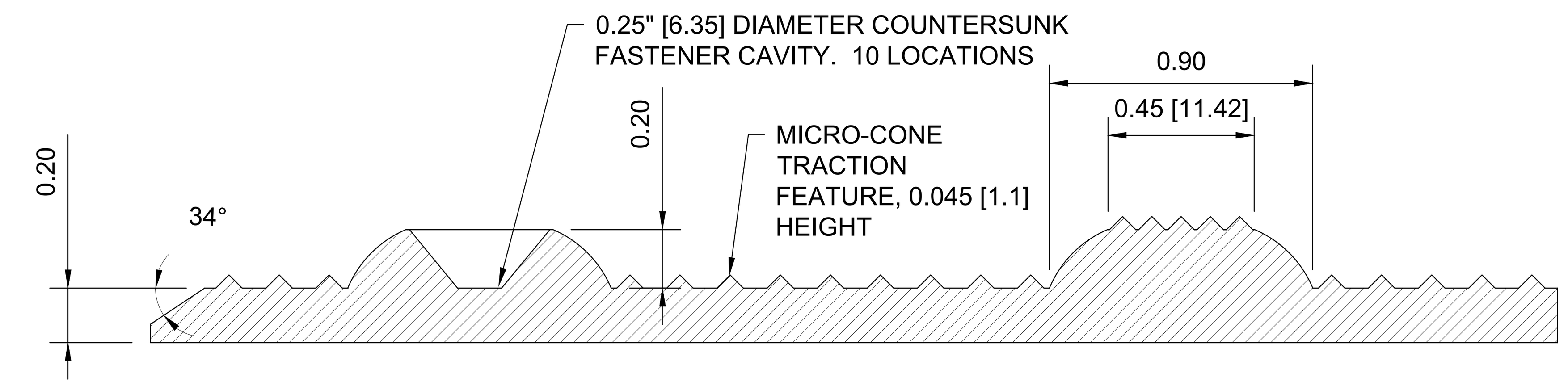
PED-18

STATE OF TEXAS
ANTHONY S. ALLEN
160151
LICENSED PROFESSIONAL ENGINEER
8-7-26

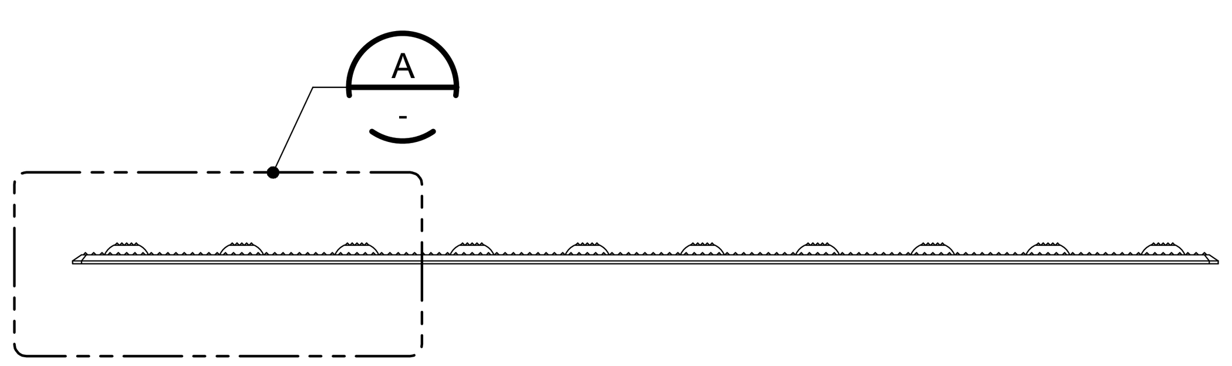
FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
REVISED 08,2005 REVISED 06,2012 REVISED 01,2018	DIST	COUNTY		SHEET NO.
				C8



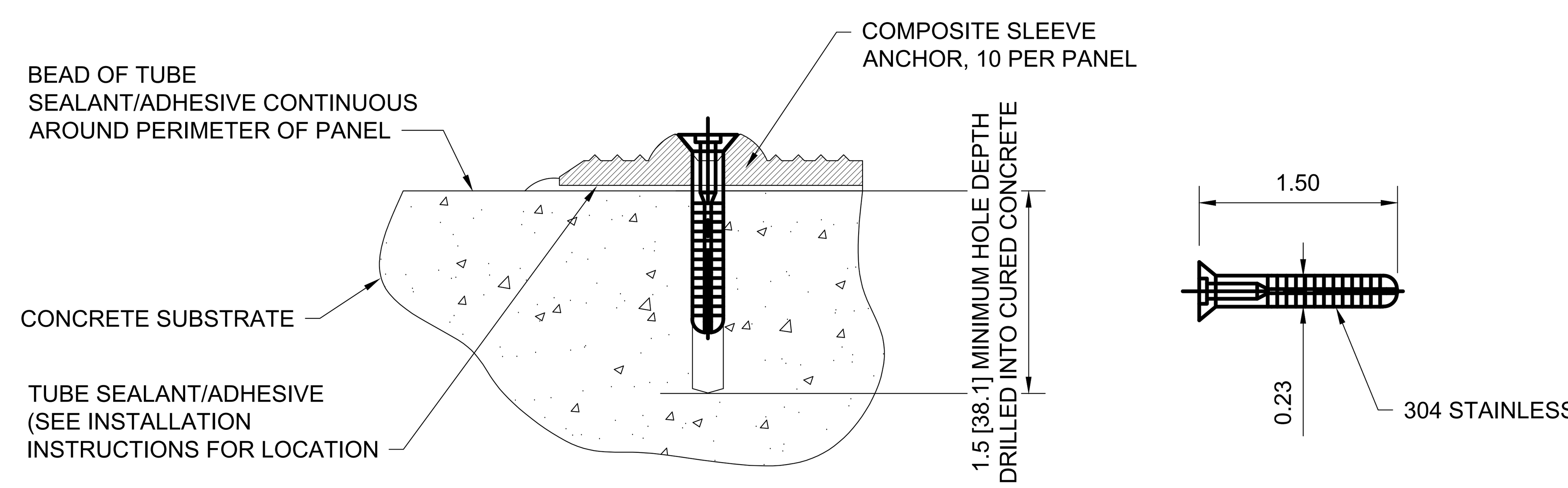
1 / - 24 IN. x 24 IN. SURFACE APPLIED PANEL



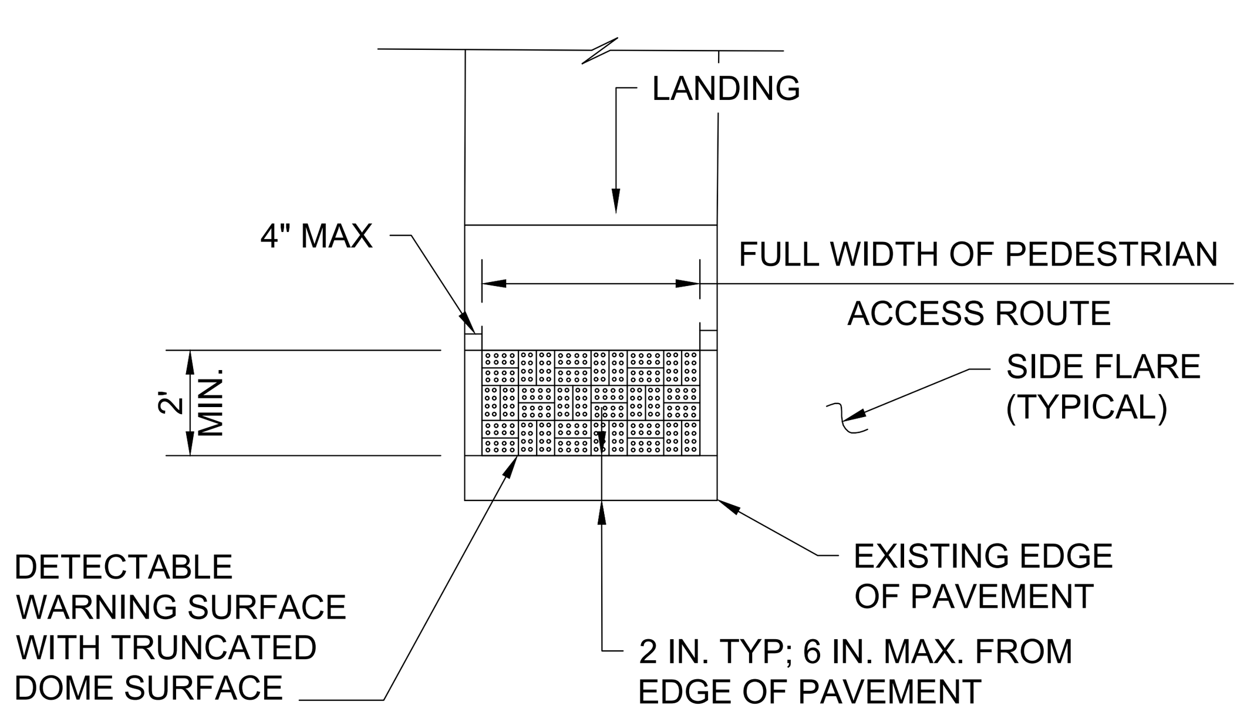
A / - TRUNCATED DOME SECTION



PANEL PROFILE



B / - PANEL ATTACHMENT DETAIL



PLAN VIEW

SURFACE APPLIED DETECTABLE WARNING
PANEL WITH TRUNCATED DOMES

SURFACE APPLIED DETECTABLE WARNING SYSTEM NOTES:

1. *FURNISH AND INSTALL SURFACE APPLIED DETECTABLE WARNING PANELS WITH IN LINE TRUNCATED DOMES IN ACCORDANCE WITH THE 2012 TEXAS ACCESSIBILITY STANDARDS, 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN, OR LATEST APPLICABLE VERSION. TRUNCATED DOME SIZE, HEIGHT, SPACING, AND VISUAL CONTRAST SHALL COMPLY WITH SECTION 705.*
2. *BASIS OF DESIGN: ADA SOLUTIONS SURFACE APPLIED DETECTABLE WARNING PANELS, NOMINAL 24 IN. X 24 IN. AND 24 IN. X 48 IN., OR APPROVED EQUAL. APPROVED EQUAL PRODUCTS SHALL MEET OR EXCEED THE MATERIAL, DOME GEOMETRY, SLIP RESISTANCE, ANCHORAGE, DURABILITY, AND WARRANTY REQUIREMENTS SHOWN.*
3.
4. *PROVIDE PANELS 24 IN. MINIMUM IN DEPTH AND CONTINUOUS FOR THE FULL WIDTH OF THE PEDESTRIAN ACCESS ROUTE AS SHOWN ON THE PLANS.*
5. *PANEL COLOR SHALL BE BRICK RED TO MATCH THE EXISTING DETECTABLE WARNING SURFACE. SUBMIT COLOR SAMPLE FOR ENGINEER APPROVAL PRIOR TO ORDERING. COLOR SHALL PROVIDE VISUAL CONTRAST WITH THE ADJACENT WALKING SURFACE.*
6. *INSTALL PANELS ON FULLY CURED, SOUND, CLEAN, DRY, AND FLAT CONCRETE ONLY. DO NOT INSTALL PANELS OVER ASPHALT. GRIND HIGH SPOTS AND REPAIR SURFACE IRREGULARITIES AS REQUIRED.*
7. *INSTALL PANELS USING MANUFACTURER SUPPLIED STRUCTURAL ADHESIVE, ALL FACTORY PROVIDED MECHANICAL ANCHORS, AND CONTINUOUS PERIMETER SEALANT.*
8. *INSTALLATION USING ADHESIVE ALONE IS NOT ACCEPTABLE.*
9. *DRILL FASTENER HOLES TO THE DEPTH REQUIRED BY THE CURRENT MANUFACTURER INSTALLATION INSTRUCTIONS. INSTALL ALL FASTENERS STRAIGHT, TRUE, AND FLUSH WITH THE TOP OF THE TRUNCATED DOME.*
10. *ORIENT DOME ROWS PARALLEL WITH THE DIRECTION OF PEDESTRIAN TRAVEL TO THE MAXIMUM EXTENT PRACTICABLE. ALIGN TRUNCATED DOMES BETWEEN ADJACENT PANELS.*
11. *PROVIDE A 1/8 IN. GAP BETWEEN ADJACENT PANELS FOR EXPANSION AND CONTRACTION UNLESS OTHERWISE REQUIRED BY THE PANEL MANUFACTURER.*
12. *MINIMIZE FIELD CUTTING. PROVIDE ADDITIONAL MECHANICAL ANCHORS AT CUT EDGES AS REQUIRED BY THE MANUFACTURER. NO CUT PANEL SHALL BE LESS THAN 9 IN. WIDE.*
13. *SUBMIT PRODUCT DATA, PANEL LAYOUT, COLOR SAMPLE, INSTALLATION INSTRUCTIONS, TESTING INFORMATION, AND WARRANTY FOR REVIEW PRIOR TO INSTALLATION.*
14. *PROTECT INSTALLED PANELS FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL THE ADHESIVE AND PERIMETER SEALANT HAVE FULLY CURED. REPLACE DAMAGED, LOOSE, OR IMPROPERLY INSTALLED PANELS BEFORE FINAL ACCEPTANCE.*
15. *CURB RAMPS, IF REQUIRED, SHALL COMPLY WITH THE TXDOT PED STANDARD DETAILS, 2012 TEXAS ACCESSIBILITY STANDARDS OR LATEST VERSION, AND THE CONTRACT DOCUMENTS. NO CURB RAMP WORK SHALL BE PERFORMED UNLESS SHOWN ON THE PLANS OR AUTHORIZED BY THE ENGINEER. .*

THE CITY OF PORT ARANSAS

HDR

HDR Engineering, Inc.
555 N. Carancahua Street, Suite 1600
Corpus Christi, TX 78401
Certificate of Authorization No. 4213

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STATE OF TEXAS
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8-7-26

COPA MARINA BOAT RAMP PARKING LOT REPAIR

DETECTABLE WARNING SURFACE DETAILS

0 1" 2"

FILENAME	C9_DETAILS.dwg
SCALE	1"=30'-0"

SHEET
C9