

# NOTIFICATION OF ADDENDUM

## ADDENDUM NO. 1

**DATED 7/27/2021**

<b>Control</b>	<b>0024-07-063</b>
<b>Project</b>	<b>F 2021(778)</b>
<b>Highway</b>	<b>US 90</b>
<b>County</b>	<b>BEXAR</b>

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: F 2021(778)

CONTROL: 0024-07-063

COUNTY: BEXAR

LETTING: 08/05/2021

REFERENCE NO: 0725

**PROPOSAL ADDENDUMS**

- 
- PROPOSAL COVER
- BID INSERTS (SH. NO.: )
- GENERAL NOTES (SH. NO.: ALL )
  
- SPEC LIST (SH. NO.: 1 )
- SPECIAL PROVISIONS:
- ADDED:
  
- DELETED:
  
- SPECIAL SPECIFICATIONS:
- ADDED:
  
- DELETED:
  
- OTHER: PLAN SHEETS AND OTHER CHANGES

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

\*\*\*\*\* GENERAL NOTES \*\*\*\*\*

SHEET H: REVISED ITEM 161 NOTE.

SHEET I: REMOVED ITEM 314 NOTE.

SHEET K: ADDED ITEM 351 NOTE.

SHEET N: ADDED ITEM 427 NOTE.

SHEET P: ADDED ITEM 504 NOTES.

\*\*\*\*\* SPEC LIST \*\*\*\*\*

SHEET 1: ADDED STANDARD SPECIFICATION ITEM 504.

\*\*\*\*\* PLAN SHEETS \*\*\*\*\*

SHEET 2 (INDEX): ADDED SHEETS 98A, 98B, 98C.

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

SHEETS 6, 6A-6M: REVISED GENERAL NOTES.

SHEET 68: ADDED CALLOUT.

SHEETS 87 & 89: REVISED GENERAL NOTE.

SHEET 96: REVISED GENERAL NOTE & CALLOUT.

SHEET 98A, 98B & 98C: ADDED SHEETS.

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\*\*\*\*\*GENERAL NOTES\*\*\*\*\*  
2014 Specification Book

===== Basis of Estimate =====

## 0168-6001 VEGETATIVE WATERING

Location	Area	Weekly Rate	# of Weeks	Rate	Quantity
US 90	4,964 SY	1.30 GAL/SY	12	15.60 GAL/SY	78 MG
	<i>Total Area</i>	<i>4,964 SY</i>		<i>Total Quantity</i>	<i>78 MG</i>

## 3076-6066 TACK COAT

Location	Area	Rate	Quantity
US 90	6,228 SY	0.10 GAL/SY	623 GAL
	<i>Total Area</i>	<i>6,228 SY</i>	<i>Total Quantity</i>
			<i>623 GAL</i>

===== Asphalt Concrete Pavement =====

## 3077-6033 SUPERPAVE MIXTURES SP-C SAC-A PG76-22

Location	Area	Depth	Rate	Quantity
US 90	29,349 SY	2.00 inches	230.00 LB/SY	3,376 TON
	<i>Total Area</i>	<i>29,349 SY</i>	<i>Total Quantity</i>	<i>3,376 TON</i>

## 3076-6001 D-GR HMA TY-B PG64-22

Location	Area	Depth	Rate	Quantity
US 90	6,228 SY	8.00 inches	880.00 LB/SY	2,741 TON
	<i>Total Area</i>	<i>6,228 SY</i>	<i>Total Quantity</i>	<i>2,741 TON</i>

===== Surface Treatment Data =====

## 0310-6027 PRIME COAT (MC-30 OR AE-P)

Location	Area	Rate	Quantity
US 90	6,228 SY	0.20 GAL/SY	1,246 GAL
	<i>Total Area</i>	<i>6,228 SY</i>	<i>Total Quantity</i>
			<i>1,246 GAL</i>

## 3085-6001 UNDERSEAL COURSE

Location	Area	Rate	Quantity
US 90	29,349 SY	0.20 GAL/SY	5,870 GAL
	<i>Total Area</i>	<i>29,349 SY</i>	<i>Total Quantity</i>
			<i>5,870 GAL</i>

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**--General--**

Contact the Engineer or the City when construction operations are within 400 feet of a signalized intersection to determine/verify the location of loop detectors, conduit, ground-boxes, etc. Repair or replace any signal equipment damaged by construction operations. The method of repair or replacement shall be pre-approved and inspected. Depending on the type and extent of the damage, the Engineer reserves the right to perform the repair or replacement work and the Contractor will be billed for this work.

City of San Antonio: (210) 207-8642  
City of New Braunfels: (830) 221-4049

Remove existing raised pavement markings as the work progresses or as approved. This work is subsidiary to the various bid items. Properly dispose materials removed.

To better fit field conditions, the cross sections may be varied when approved.

If there are waste areas or material source areas, follow the Texas Aggregate Quarry and Pit Safety Act requirements.

Any materials removed and not reused and determined to be salvageable shall be stored within the project limits at an approved location or delivered undamaged to the storage yard as directed. Properly dispose unsalvageable materials in accordance with local, state, and federal regulations. Deface traffic signs so that they will not reappear in public as signs.

Any sign panels that are adjusted or removed and replaced, shall be done the same workday unless otherwise approved. This work shall be considered subsidiary to Item 502.

Notify the Engineer at least two weeks prior to a proposed traffic pattern change(s) that will require a revision to traffic signals.

Locate and reference all manholes and valves within the construction area with station and offset. Each manhole and valve shall be identified by its owner (SAWS, CPS, etc.). No roadwork will begin until this list has been submitted. All valves and manhole covers have to be accessible at all times, therefore; temp. CTB, material stock piles, etc. cannot be placed over these valves or covers.

Adjust or construct all manholes and valves to final pavement elevations prior to the final mat of ACP. If, between the final elevation adjustment and the final mat of ACP, the manholes and valves are going to be exposed to traffic, place temporary asphalt around the manhole and valve to provide a +/- 50:1 taper. The cost of elevation adjustment and the concrete apron around the manhole and valve will be part of the manhole and valve work. The asphalt tapers are part of the ACP work.

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### Hurricane Evacuation

Hurricane Season is from June 1 thru November 30. As the closest metropolitan city inland from the Texas Coast, the City of San Antonio is a major shelter destination during mandatory hurricane evacuations. As such, planned work zone lane or road closures may be restricted and/or suspended during mandatory hurricane evacuation operations. The District will coordinate these restrictions at a minimum H-120 from any projected impact to the Texas Coast.

No time charges will be made if the Engineer determines that work on the project was impacted by the hurricane.

The Engineer may order changes in the Traffic Control Plan to accommodate evacuation traffic, and may suspend the work, all or in part, to ensure timely completion of this work. All work to implement changes in the Traffic Control Plan will be paid through existing bid prices or through Item 9.5, Force Account. However, the Department will not entertain any request for delay damages, loss of efficiency that may be attributed to the restriction or suspension of road or lane closures, or to changes in the Traffic Control Plan.

The Contractor should be aware that the "City Public Service" (CPS) will be consulted by the Engineer in matters concerning the execution of the work, materials and testing related to the CPS work. As such; a CPS employee may be observing the construction and related operations as they progress.

If a sanitary sewer overflow (SSO) occurs:

1. Attempt to eliminate the source of the SSO.
2. Contain sewage from the SSO to the extent possible to prevent contamination of waterways.
3. Call SAWS at (210) 233-2015.

Submit locate request for SAWS water and sewer to [TXDOTlocates@saws.org](mailto:TXDOTlocates@saws.org).

Contractor questions on this project are to be addressed to the following individual(s):

Area Engineer, Sergio Garcia, P.E.

Sergio.Garcia@txdot.gov

Assistant Area Engineer, Danny Gallegos, P.E.

Danny.Gallegos@txdot.gov

Contractor questions will be accepted through email, phone, and in person by the above individuals.

All contractor questions will be reviewed by the Engineer. Once a response is developed, it will be posted to TxDOT's Public FTP at the following Address:

<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting Responses/>

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All questions submitted that generate a response will be posted through this site. The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name.

The Contractor must measure the vertical clearance at each structure after the final surface of the roadway is completed and provide the vertical clearance measurement to the Engineer.

**--Item 5--**

Reference all existing striping and other pavement markings to allow these markings to be re-established. Ensure the markings (lane lines, edge lines, ramp gores, etc.) are in line with signs, TMS arrows, etc. located on overhead sign supports.

Taper ACP placed at curb inlets, traffic inlets and slotted drains.

When a bridge deck is milled, seal coated and overlaid, remove excess material. Do not just broom to the sides of the bridge, under guardrail, etc. Cover or protect all sealed expansion joints and rails on bridges and all railroad tracks encountered as approved. Clean all of these features if they weren't properly protected. This work is subsidiary work to applicable bid items.

Prior to letting, bidders may obtain a free computer diskette or a computerized transfer of files (from the Engineer's office) that contains the earthwork information. If copies of the cross-sections in addition to, or instead of, the CD are requested, they will be available at the Engineer's office for borrowing by copying companies at the bidder's expense.

When working near aerial electrical lines or utility poles, comply with Federal, State and local regulations. A horizontal boom or equivalent equipment is required for construction in the vicinity of the CPS Energy electric lines in order to provide vertical clearance of equipment during construction. Contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of pole bracing. The estimated duration for pole bracing is 6 to 10 weeks (or longer if temporary construction easements are required) after invoice is paid. For de-energizing or sleeving of the overhead electrical lines depicted on the plans, please contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of needed de-energization. The estimated duration for de-energizing is approximately 4 to 6 weeks (after invoice is paid) but could vary on system scenario and backfeed requirements. De-energizing may not be possible in all instances or may be restricted during specific periods of time due to load demand. Contractor will be reimbursed for the invoice cost for pole bracing and/or de-energizing or sleeving through force account.

**Prevention of Migratory Bird Nesting**

It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 15 through October 1. When practicable, schedule construction

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operations outside of the preferred nesting season. Otherwise, nests containing migratory birds must be avoided and no work will be performed in the nesting areas until the young birds have fledged.

#### Structures

Bridge and culvert construction operations cannot begin until swallow nesting prevention is implemented, until after October 1 if it's determined that swallow nesting is actively occurring, or until it's determined swallow nests have been abandoned. If the State installed nesting deterrent on the bridges and culverts, maintain the existing nesting deterrent to prevent swallow nesting until October 1 or completion of the bridge and culvert work, whichever occurs earlier. If new nests are built and occupied after the beginning of the work, do not perform work that can interfere with or discourage swallows from returning to their nests. Prevention of swallow nesting can be performed by one of the following methods:

1. By February 15 begin the removal of any existing mud nests and all other mud placed by swallows for the construction of nests on any portion of the bridge and culverts. The Engineer will inspect the bridges and culverts for nest building activity. If swallows begin nest building, scrape or wash down all nest sites. Perform these activities daily unless the Engineer determines the need to do this work more frequently. Remove nests and mud through October 1 or until bridge and culvert construction operations are completed.
2. By February 15 place a nesting deterrent (which prevents access to the bridge and culvert by swallows) on the entire bridge (except deck and railing) and culverts.

No extension of time or compensation payment will be granted for a delay or suspension of work caused by nesting swallows. This work is subsidiary to the various bid items.

Provide a non-intrusive back-up alarm system on all heavy equipment used in close proximity to residential areas. This item is subsidiary to various bid items.

When a precast or cast-in-place concrete element is included in the plans, a precast concrete alternate may be submitted in accordance with "Standard Operating Procedure for Alternate Precast Proposal Submission" found online at <https://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/bridge.html#design>. Acceptance or denial of an alternate is at the sole discretion of the Engineer. Impacts to the project schedule and any additional costs resulting from the use of alternates are the sole responsibility of the Contractor.

#### --Item 6--

Show the stockpile lot and/or sub lot numbers on all tickets for all materials.

Steel Wrapped or Asbestos Utility Lines:



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Existing steel wrapped natural gas and/or asbestos cement (AC) water lines that will no longer be in service are usually abandoned in place (AIP). However, if any of these lines have to be removed for whatever reason (in the way of other construction, to make tie-ins, etc.), comply with Item 6.

If removal of AC water lines is included in the construction contract, then notify the Engineer of proposed dates of removal of the AC water lines in accordance to Item 6. Excavate to the top of the AC water line to allow a separate contractor hired by the State to remove the AC water line. The excavation for the AC water line removal is subsidiary to the work that created the need for the removal (excavation for structures, roadway, a new line, tie-ins, etc.).

**--Item 7--**

The project's total disturbed area is 2.1 acres. The disturbed area in all project locations and Contractor project specific locations (PSL's), within 1/4 mile of the project limits, will further establish the authorization requirements for storm water discharges. The department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. Obtain any required authorization from the TCEQ for any PSL's on or off the ROW. When the total area disturbed on the project and PSL's within 1/4 mile of the project exceeds 5 acres, provide a copy of the Contractor NOI for PSL's to the Engineer (to the appropriate MS4 operator when the project is on an off-state system route).

Notify the Engineer of the disturbed acreage within one (1) mile of the project limits. Obtain authorization from the TCEQ for Contractor PSL's for construction support activities on or off ROW.

Roadway closures during the following key dates and/or special event are prohibited. See the TCP Narrative for these dates.

**--Item 8--**

Working days will be computed and charged in accordance with Article 8.3.1.4.: Standard Workweek.

Create and maintain a CPM schedule.

The CPM schedule shall be created and maintained using software fully compatible with version 6.1 of Primavera Project Planner.

Provide a Project Schedule Summary Report.

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**--Item 9--**

When approved, provide uniformed, off-duty law enforcement officers with marked vehicles during work that requires a lane closure. The officer in marked vehicles shall be located as approved to monitor or direct traffic during the closure. The method used to direct traffic at signalized intersections shall be as approved. Additional officers and vehicles may be provided when approved or directed.

Complete the daily tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Show proof of certification by the Texas Commission on Law Enforcement Standards.

All law enforcement personnel used in Work Zone Traffic Control shall be trained for performing duties in work zones and are required to take "Safe and Effective Use of Law Enforcement Personnel in Work Zones" (Course #133119) which can be found online at the following site: [www.nhi.fhwa.dot.gov](http://www.nhi.fhwa.dot.gov)

Certificates of completion should be available to all who finish the course. These should be kept by the officers in order to substantiate completion when reporting to the work site.

Minimums, scheduling fees, etc. will not be paid; TxDOT will consider paying cancellation fees on a case by case basis.

**--Item 100--**

Begin clearing operations after trees and other areas of vegetation to be protected have been identified and approved. Install fencing around features to be protected as shown in the plans or directed. Coordinate all right of way clearing operations with the SW3P.

Trim and remove brush and trees within the stations noted in the plans and as needed for construction operations. Unless shown otherwise in the plans or a designated non-mow area, perform trimming or removal for areas to the ROW limits. Trim or remove to provide minimum of 5 ft. of horizontal clearance and 7 ft. of vertical clearance for the following: sidewalks, paths, guard fence, rails, signs, object markers, and structures. Trim to provide a minimum of 12 ft. vertical clearance under all trees. This work is subsidiary.

Obtain approval for proposed method of tree and brush trimming and removal. Vertical flailing equipment is not allowed. Treat damaged or cut branches, roots and/or stumps of all oak trees with a commercial tree wound dressing. Disinfect all pruning tools with a solution of 70% alcohol before moving from one tree to another. Unless otherwise approved remove all resulting vegetative debris from the ROW within 24 hours. The Engineer can stop all construction operations if the dressing, cut and removal requirements are not followed.

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**--Item 110--**

Where excavation extends beyond a right of way fence, remove and replace the fence to a comparable condition. This work shall be considered subsidiary to the bid item.

**--Item 132--**

At no time shall the retaining wall backfill material exceed the adjacent embankment operation by more than one embankment lift. At no time will the embankment adjacent to the retaining wall backfill exceed the wall backfill by any elevation.

EMBANKMENT (DENS CONT)(TY C)(SELECT FILL) shall meet the following specifications:

Description	Percent Retained					LL	PI	PI
	1 3/4"	7/8"	3/8"	#4	#40	MAX	MAX	MIN
Embankment (TY C)	0-10	-	-	45-75	60-85	45	20	6

**--Item 161--**

Approximately 250 CY of existing topsoil may be salvaged and windrowed or stockpiled (as approved) for later use as Compost Manufactured Topsoil (CMT). Place erosion control measures for the stockpile and/or windrow.

**--Item 162--**

Furnish and place 4,964 SY grass sod.

**--Item 164--**

Drill seeding of permanent grasses requires the use of approved grass seeding equipment capable of properly storing and metering the release of small seeds (such as Bermuda grass) separately from fluffy type seeds (such as bluestems). Equipment manufactured for planting grain crops is acceptable for planting temporary cool season seeds, but not for planting the permanent seed mix.

If performing a permanent seeding in an area with established temporary grass cover and mowing is performed instead of tilling, seed and fertilizer may be distributed simultaneously during "Broadcast Seeding" operations, provided each component is applied at the specified rate.

**--Item 166--**

Use a fertilizer with an analysis of 13-13-13 (50% of the total N must be sulfur coated urea) to apply 60 lbs of actual N per acre. This requires 460 lbs of 13-13-13 per acre or .095 lbs per SY of area.

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**--Item 168--**

Apply vegetative watering as needed to supplement natural rainfall during the vegetation establishment period. Plan quantity of irrigation water is based on the application of a total of 1.3 gal of water each week for each sq. yd. of area that is sodded or seeded. Establishment time is estimated to be 12 weeks for both sod and permanent seed mixes. Temporary seeding will require less time for establishment. Provide a schedule and coordinate watering cycles and rates per cycle with the Engineer. Obtain approval if the quantity of water to be applied is expected to exceed the plan quantity. Adjust the amount of water applied with each cycle and the number of cycles each wk. according to actual site conditions. Drought or other conditions, as determined by the Engineer, may require the application of supplemental irrigation during hours other than normal working hours.

**--Item 247--**

There is no minimum PI requirement for this project.

**--Item 302--**

Previously tested aggregates found to contain excessive quantities of dust (more than 0.5 percent passing the No. 40 sieve) during precoating, stockpiling or hauling operations, may be rejected. Use Test Method Tex-200-F, Part I for testing.

Precoated Aggregate Type PE shall consist of crushed slag, crushed stone or natural limestone rock asphalt.

The Engineer will utilize the Ignition Oven Method (Tex 236-F) for aggregate gradation, with the option of utilizing belt or vacuum extraction gradation in the event the ignition oven malfunctions.

**--Item 305--**

All reclaimable asphalt pavement (RAP) material will be retained by the Contractor.

**--Item 310--**

Refinish material that does not receive prime coat within one working day following acceptance of flexible base.

**--Item 316--**

When using latex asphalt, avoid drifting of asphalt onto traffic and adjacent properties.

Asphalt season will be year around, but meet sections 316.4.4.1. through 316.4.4.3.

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Ensure that the asphalt for precoating the aggregate and the asphalt used for the surface treatment will not result in a reaction that may adversely affect the bonding of the aggregate and asphalt during the surface treatment operation.

Do not add bag house fines in the production of precoated material.

Clean all concrete curbs, islands, medians, etc. that get coated with asphalt.

**--Item 320--**

Construct all longitudinal ACP joints adjacent to a travel lane with a joint maker device that will create a 3:1 to 6:1 taper. For placement of 2 inches or more, the device shall provide a maximum ½ inch vertical edge. Taper outside edges (next to the grass) or backfill (shoulder-up) the same day.

Provide a material transfer device capable of providing a continuous flow of material to the paver. The material transfer device will consist of a windrow elevator or better.

When placing Item 346 mixtures, Use a self-propelled wheel mounted MTV capable of receiving mix from the haul trucks, separate from the paver. It shall have a minimum storage capacity of approximately 25 tons. It shall be equipped with a pivoting discharge conveyor and shall completely and thoroughly remix the material prior to placement. The effectiveness of the MTV's remixing ability is subject to the approval of the Engineer. In addition, the paver shall have a surge storage insert with a minimum capacity of 20 tons.

**--Item 330--**

The asphalt plant shall have truck scales as defined in Item 520. Give three weight tickets bearing the date, the truck number, and the gross, net & tare weights to the truck driver, for the State inspector at the spreading and finishing operation. Trucks may be required to weigh on public scales or portable platform scales to verify the weight of the ticket.

Use trap rock or crushed slag as the special aggregate for LRA.

If LRA is stockpiled where it might get contaminated with foreign materials, the bottom of the stockpile can not be used. A set of standard truck scales will be used to determine the quantity of contaminated material that will be deducted. Unless approved, do not stockpile LRA more than 10 days prior to lay-down operations.

The fluxing material shall be either an emulsified combination of asphalt and softening agent added individually (the softening agent may also be an emulsion), or a material meeting the requirements of Item "Asphalt's, Oils and Emulsions". The material(s) selected shall be approved.

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**--Item 340, 342, 347, 348, 3076, & 3077--**

Table 10, in Item 340, Table 10 in Item 3076 and Table 11 in Item 3077, Hamburg Wheel Test Requirements tested in accordance with Tex-242-F are changed for PG 64-22 or lower and PG 70-22. Minimum number of passes at 12.55 mm Rut Depth, Tested at 50 degrees C will be 5,000 and 10,000 respectively.

The asphalt plant shall have truck scales as defined in Item 520. Give three weight tickets bearing the date, ticket number, the truck number, the gross, net & tare weights to the truck driver for the State inspector at the spreading and finishing operation. Trucks may be required to weigh on public scales or portable platform scales to verify the weight of the ticket.

Submit a copy of the Tex 233-F production charts on a weekly basis. At the end of the ACP work, provide all originals.

Crushing of aggregate for hot mix and immediate use for production of the mix is not allowed. Stockpile the aggregate until enough material is available for five days of production unless prior approval is provided

Hold a pre-placement meeting one month prior to the placement of the hot mix.

Do not use diesel or solvents as asphalt release agents in production, transportation, or construction. A list of approved asphalt release agents is available from the District Laboratory.

No more than one hot mix lot will be open for any specific type of hot mix, unless authorized. After a lot is open and the Contractor gets approval to change plants, the previous lot will be closed and a new lot will be opened. The numbering for the lots produced at the new plant will start with No. 1. If allowed to switch back to the original or previous plant, the next lot from that plant will resume numbering sequentially from the last lot produced by that plant.

**--Item340--**

Binder substitution is not allowed for surface mixtures.

Reference Table 14A and 14B in Item 3076 for Minimum Surface Temperatures.

**--Item 342, 347 & 348--**

Aggregate soundness values shall not vary by more than 8 percent between Surface Aggregate Class (SAC) A and B.

**--Item 351--**

The locations for this item will be determined by the engineer during construction.

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**--Item 354--**

Retain planed material.

Take precaution to avoid damage to existing bridge decks and armor joints. Repair any damage to the bridge decks and/or armor joints as approved. This work will not be paid directly, but will be performed at the Contractor's expense.

**--Item 401--**

A shrinkage compensator is not required for when used for backfilling pipes. Strength of the Flowable Backfill will be verified by the District Laboratory. Field testing is not required, unless deemed necessary.

**--Item 403--**

The Contractor and/or Contractor's Engineer who selects and designs the temporary shoring is responsible for the overall (global) stability calculations as well as internal stability and sliding calculations (including mat and soil nail pullout) as per the TxDOT Bridge Division Geotechnical Manual. If the Contractor chooses a Temporary Earth Retaining Wall for Temporary Shoring, then the Contractor and/or Contractor's Engineer is required also to provide wire struts as shown on these plans. Designs for any type of Retaining Wall used for Temporary Special Shoring shall conform to the TXDOT Geotechnical Manual Chapter 6: Retaining Walls.

The Contractor is responsible for maintaining positive drainage during construction of temp shoring operations and permanent wall structures.

**--Item 420--**

Mass concrete will be measured in place.

Restrict large aggregate size to ¾" maximum for class "C" concrete used in aesthetic details requiring form liners.

Pier and Bent Concrete will be paid for as "Plans Quantity".

**--Item 421--**

Use an automated ticket that contains the same information as TxDOT's ticket. Submit the ticket for approval prior to use. The concrete producer will contact the District Laboratory or the Engineer's Office (outside the San Antonio area) to inform TxDOT of scheduled structural concrete batching. Structural concrete includes bridge drill shafts, columns, caps, abutments, deck or top slabs of direct traffic culverts.

Entrained air is allowed for Class P and Class HES concrete only. Air content testing is waived for all classes of concrete.

The curing facilities and strength testing equipment is required for this project.

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Poly-fiber reinforced concrete may be used as an option, with the approval by the Engineer, for riprap, sidewalk, curb/gutter, and mow strip. Use a TxDOT approved manufacturer or producer for the poly-fiber. The poly-fibers shall be combined with the concrete in proportions as recommended by the manufacturer. A concrete mix design must be approved by the Engineer.

**--Item 422--**

For construction of approach slabs, longitudinal joints shall be placed on lane lines. Joints may be either a saw-cut crack control joint or a construction joint. Saw cut joints shall terminate 1'-0" before reaching the edge of the slab, must be saw cut as soon as possible after placement of concrete, and will be cut within 12 hours of concrete placement. Once sawing begins, it should be a continuous operation and should only be stopped if raveling occurs. Saw cut will be to a depth of 1.5" and filled with approved joint sealant.

The bridge approach slab will be poured simultaneously with the bridge deck.

**--Item 423--**

The backfill material for pre cast retaining walls shall be approved before placement. Build stockpile(s) in lifts not to exceed 2 feet and a minimum working face of not less than 10 feet, but not more than 20 feet.

Use the approved Concrete Block Retaining wall systems listed at:

<http://www.txdot.gov/business/resources/approved-systems/retaining-system.html>

Use the approved Mechanically Stabilized Earth (MSE) wall systems listed at:

<http://www.txdot.gov/business/resources/approved-systems/mse-wall.html>

TxDOT does not allow the use of experimental systems on projects with over 50,000 square feet walls over 25 ft. tall, or walls supporting or immediately adjacent to interstate highways.

When proprietary wall systems are used, a qualified representative of the retaining wall manufacturer must be available upon request during wall construction. As requested or required the manufacturer's representative must be on site to assist with the initial stages of wall construction, provide training to the Contractor wall crew and ensure proper interpretation of MSE wall shop drawings and details. Specific attention must be given to nonstandard wall installation details. The Contractor's wall crew foreman must be on site for the duration of wall construction. Any change to the wall crew foreman may require additional training by the wall supplier. The Contractor will ensure that the retaining walls are installed per the details presented in the construction drawings and as per the proprietary wall system requirements. The Engineer reserves the right to suspend wall construction activities due to any construction issue encountered.



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Horizontal and vertical nail spacing on temporary or permanent soil nail walls shall not exceed 4 ft.

Type DS material will be required on MSE walls in the area of the reinforcement mats.

**--Item 425--**

Vertical clearance over roadway at the following location(s) is(are) less than or equal to 20 feet. Provide Bars C and CH for the full length of the girder per the IGD standard.

**--Item 427--**

Apply Opaque Sealer to Surface Area I. See sheets 98A and 98B for additional information.

**--Item 432--**

In all riprap slopes, provide 3 inch diameter weep holes at 10 foot maximum spacing and backed with loose graded gravel or crushed stone and galvanized hardware cloth.

In areas where guard fence posts are to be placed in riprap, the riprap shall have an 18 inch +/- blocked out area (round or square). After the posts are installed, the blocked out area shall be topped off with 4 inches of low strength grout/mortar consisting of about 1 sack of cement per cubic yard of mix.

Match the slope of the Riprap (Mow Strip) to the slope of the adjacent roadway.

**--Item 449--**

The pipe joint compound used to coat the threads of anchor bolts prior to installation of nuts when erecting a high mast pole shall be an electrically conducting protective thread lubricant compound (Crouse-Hinds TL-2, 0z/Gedney STL, Thomas & Betts Kopr-Shield).

**--Item 465--**

Concrete Class B invert shaping is required at all inlets, manholes and junction boxes in order to insure positive flow. The material and work performed for the placement of the inverts shall be considered subsidiary to this item.

**--Item 500--**

"Materials on Hand" payments will not be considered in determining percentages for mobilization payments.

**--Item 502--**

Place standard markings no later than 14 days after surface treatment operations are completed.

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When advanced warning flashing arrow panels and/or changeable message sign is specified, have one standby unit in good condition at the job site. Standby time shall be considered subsidiary to the bid item.

Treat the pavement drop-offs as shown in the TCP.

After written notification, the time frame is provided on the Form 599 to provide properly maintained signs and barricades before considered in non-compliance. Failure to make corrections as noted may result in payment for this item being withheld.

There are traffic signals at the intersection of US 90 and Montgomery Rd. Keep the signals in operation at all times except when necessary for specific installation operations, including any modifications to existing signal heads to maintain clear visibility at all times. Adjustment of any signal head will be subsidiary to Item 502. When it is necessary for a signal to be turned off, hire off duty police officers to control the traffic until the signals are back in satisfactory condition.

Moving an existing sign to a temporary location is subsidiary to this Item. Installations with permanent supports at permanent locations will be paid for under the applicable bid item (s).

Mount temporary mailboxes on plastic drum in accordance with Compliant Work Zone Traffic Control Devices, Section K. Mounting and moving the mailbox as needed for the various construction phases is subsidiary to this Item.

Notify the Engineer in writing 10 business days in advance of any temporary or permanent lane, ramp, connector, etc. closures/detours, restrictions to lane widths, alterations to vertical clearances, or modifications to radii. Any other modifications to the roadway that may adversely affect the mobility of oversized/overweight trucks also require 10 business days advance written notice to the Engineer. Unless shown in the TCP, no lane, ramp, connector, etc. closures are allowed during special events. At least one lane has to remain open at all times. Lane closures will not be allowed if this reporting requirement is not met.

For closures not listed in the TCP; the lane closures are limited to between the hours of 9 PM to 5 AM, and at least one lane has to remain open at all times.

Avoid placing stockpiles within the roadway's horizontal clear zone. If a stockpile is placed within the clear zone, address in accordance with the TMUTCD.

Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets.

In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee available to respond on the project for emergencies and for taking

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corrective measures within 2 hours or within a reasonable time frame as specified by the Engineer.

Temporary Rumble Strips are to be used according to WZ (RS)-16.

If Nighttime work is required and work is not behind positive barrier then full TY 3 reflective gear is required to be worn by all workers, hard hat halos are required to be worn by the flaggers at flagging stations, TY III barricades are required to be spaced at 500 ft, and a mandatory night work meeting is required.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Moving or adjustment of traffic signal heads, VIVDS, and radar detection for the purpose of alignment with the shifting of lanes in conjunction with the traffic control plan will be subsidiary to various bid items.

**--Item 504--**

Furnish one field office type B.

Enclose the field office and the parking area as shown in 504.2.1.1. and provide security lighting.

Provide internet connectivity and a laser jet printer/scanner/copier as directed.

**--Item 506--**

An Inspector will perform a regularly scheduled SWP3 inspection every 7 calendar days.

Failure to address items noted on the SW3P inspection report within two report cycles may result in the Department stopping all construction operations, exclusive of time charges, or withholding that month's estimate until the SW3P deficiencies are corrected unless the Engineer determines that the area is too wet to correct SW3P deficiencies.

Failure to correctly maintain daily monitoring reports and submitting to TxDOT on a daily/weekly basis may result in the monthly estimate being withheld.

**--Item 512--**

Portable traffic barrier manufactured after December 31, 2019 must have been successfully tested to the 2016 edition of MASH and will be manufactured in accordance with the Standard

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Sheets in the plans. Portable traffic barrier manufactured on or before this date, and successfully tested to NCHRP Report 350 or the 2009 edition of MASH may continue to be used throughout their normal service lives, but must be the same shape type as shown in the plans.

Only Single Slope shape CTB may be furnished on the inside shoulder/inside median of the Interstate or Freeway Main Lanes.

More than one shape type of CTB may be furnished on a project, although no mixing of CTB shape types will be permitted along a continuous segment of CTB.

**--Item 514--**

The Type 3 CTB taper from the Type 2 at obstructions (OSB's, bridge, columns, etc.) shall be 40:1. If gravel is used between the barriers as shown by the Standard Sheet, the top six inches shall be CL A concrete.

Any permanent CTB requiring conduit for illumination must be cast in place or slip formed.

**--Item 529--**

Class "C" concrete is required for machine extruded curb.

Curb inlets and extensions are based on an exposed curb height of 7 inches. The roadway curb height and shape will be transitioned to the inlet's curb with a 40: 1 taper.

**--Item 531--**

The curb ramp locations shown in the plans have taken into account the geometric features of the intersection, traffic signals, and the pavement markings. If anything changes during construction, the location of curb ramps must be adjusted to ensure they meet TAS requirements.

**--Item 540--**

MBGF posts shall be round with domed tops, and not painted. If 10 or less timber posts are needed, they may be purchased locally and will be accepted by visual inspection.

Guard fence posts placed in proposed and/or existing areas of riprap, sidewalks or other concrete shall have an 18 inch +/- (square or round) block out in the concrete. After the posts are installed, the blocked out area shall be topped off with 4 inches of low strength grout/mortar consisting of about 1 sack of cement per cubic yard of mix.

When connecting a Thrie-Beam to a concrete wingwall, bridge rail, CTB, etc., drill the holes for bolt placement using rotary or core type equipment. Use a core type drill when reinforcing steel is encountered. Do not use percussion or impact drilling. Repair damage to the concrete and spalls exceeding 1/2" from the edge of the hole.

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**--Item 542--**

Salvage all undamaged/acceptable radius guardrail and deliver to the TxDOT maintenance section yard.

**--Item 545--**

See the Crash Cushion Summary Sheet.

**--Item 556--**

Coarse Aggregate Grade 3 meeting requirements of Item 421, Table 4, is acceptable for Filter Material.

**--Item 585--**

Use Surface Test Type B, pay adjustment schedule 1 to evaluate ride quality of travel lanes.

**--Item 610--**

Fabricate steel roadway illumination poles in accordance with the RIP standards. Poles fabricated according to RIP require no shop drawings. Alternate designs or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

For instructions on submitting shop drawings electronically go to:

<http://www.txdot.gov/business/resources/specifications/shop-drawings.html> File is titled: Guide to Electronic Shop Drawing Submittal.

Provide lamps from the pre-qualified Materials Producers List, Category is "Roadway Illumination and Electrical Supplies" located on the Construction Divisions (CST) web site.

Ballast/capacitors removed from the light assembly, will remain the property of the State. Assume all ballast/capacitors contain Polychlorinated Biphenyl (PCB), unless a notation appears on the outside of the unit that specifies it does not contain PCB's. All ballast/capacitors with PCB's shall be placed in 55 gallon open top drum in accordance with Department of Transportation (DOT) specifications. Place six (6) inches of sawdust or other absorbent material in the bottom of the drum. Furnish and place a DOT approved PCB warning label on the outside of the drum. Do not fill a drum more than  $\frac{3}{4}$  of capacity. Avoid rupturing the ballast/capacitor(s). If a ballast/capacitor is ruptured, use proper procedures, specialist trained staff and personal protective equipment for the clean-up operations.

The lamps in light fixtures may contain hazardous levels of mercury, halide, and sodium vapors. Observe and comply with all federal, state and local laws, ordinances and regulations regarding the management of these lamps. Prevent the breakage of the lamps. At a minimum, package all lamps removed from the light fixture(s) in a container that minimizes the breakage of the lamps. Broken lamps shall be collected in a sealed plastic bag (i.e. Ziploc). Broken lamps shall be stored in separate containers from unbroken lamps. Furnish a suitable container and attach a label stating, "Universal Waste Lamps" on the container. Write the date the first lamp was placed in

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the container on the “Universal Waste Lamp” label. Within one (1) week after the first lamp is placed in a container, notify the Engineer. The lamps and PCB containing ballast/capacitors, placed in properly labeled containers, will remain the property of the State. Place the container in an area where it is protected from damage and the elements. The Engineer will make arrangements to collect, transport, and dispose/recycle the container. The ballast/capacitor and lamp’s removal and storage is subsidiary to this item.

Stencil each illumination assembly with the circuit, light and relay numbers in black paint on the roadway side of the pole at a 45 degree angle. The numbers shall be in 3” tall and begin 6’ from the top of the foundation. This work will be considered subsidiary to this item.

Provide and install steel, locking, theft-deterrent doors on transformer bases to protect against copper theft. Return standard t-base doors to TxDOT.

**--Item 613--**

Use an electrically conducting protective thread lubricant compound (Crouse-Hinds TL-2, 0Z/Gedney STL, Thomas & Betts Kopr-Shield) for the pipe joint compound to coat the threads of the anchor bolts, prior to installation of nuts.

**--Item 614--**

Fabricate high mast ring assemblies in accordance with shop drawings approved by the Department. Submit shop drawings for each project, or use pre-approved standard shop drawings.

For project specific shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, “Steel Structures”. Deliver shop drawings to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11<sup>th</sup> Street, Austin, Texas 78701-2483.

To be eligible to use pre-approved standard shop drawings, the shop drawing must be submitted and approved by the Department prior to use on the project. Deviation from the pre-approved standard shop drawing will require resubmission of the shop drawings. The Engineer may approve, in writing, the use of updated standard drawings in cases where the standard drawings have been updated and the updated version has been approved by the Department.

For pre-approval and updates to previously approved standard shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, “Steel Structures” to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11<sup>th</sup> Street, Austin, Texas 78701-2483.

Copies of the standard shop drawings are on file with Traffic Operations Division, Bridge Division, and the Materials Section of Construction Division. Additional shop drawings for high mast illumination assemblies built in accordance with these drawings are not required. Pre-

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approved shop drawing manufacturers and assembly model numbers can be found on the Materials Produce list of the Construction Divisions (CST) web site.

Category is roadway illumination and electrical supplies.

**--Item 618--**

It might be necessary to cut concrete for placement of conduit. Saw cut existing concrete, remove the concrete from the steel reinforcement (bars or fabric) and bend the steel to install the conduit. After the conduit has been placed, bend the steel back to its original position and back-fill the trench with an approved concrete. This work is subsidiary to this Item.

The conduit depth for illumination under the City of San Antonio streets is 36 inches.

Use materials from Material Producers list as shown on the Construction Division’s (CST) web site. Category is “Roadway Illumination and Electrical Supplies.”

**--Item 620--**

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Construction Division’s (CST) materials producers list Category is “Roadway Illumination and Electrical Supplies.” Fuse holder is shown on list under Items 610 & 620.

Provide 10 amp time delay fuses.

**--Item 628--**

Make all arrangements for electrical service, and compliance with local standards and practices for proper installations.

**--Item 644--**

The wedge anchor system shown on State Standard Sheet SMD (TWT) is not allowed.

The set screw type for Triangular Slipbase Systems is not allowed. Use the following products for the Triangular Slipbase System.

Triangular Slip Base Systems  
(For use with 10 BWG and Schedule 80 Round Posts)

Southern Plains Fabrication	SPF Triangular Slipbase Housing	<a href="mailto:Info@SouthernPlainsFabrication.com">Info@SouthernPlainsFabrication.com</a> <a href="http://SouthernPlainsFabrication.com">http://SouthernPlainsFabrication.com</a> (806) 241-0060
Structural and Steel Products	Triangular Slipbase Breakaway Support	<a href="mailto:CustServ@s-steel.com">CustServ@s-steel.com</a> <a href="http://s-steel.com">http://s-steel.com</a> (800) 782-5804

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**--Item 658--**

CTB reflectors will not be paid for directly but will be considered subsidiary to the barrier.

**--Item 662--**

Raised reflective pavement markings are required when using work zone reflective pavement markings for lane lines as shown in the standards. The raised reflective pavement markings must be placed during the same operation for installation of the work zone reflective pavement markings and placed before the roadway is open to traffic. These raised reflective pavement markings will be subsidiary to work zone pavement markings.

**--Item 666--**

Use TY II material (vs. an acrylic or epoxy) as the sealer for the TY I markings, place the TY II a minimum of 14 calendar days (to provide adequate curing) before placing the TY I markings.

Failure to provide the retroreflectometer testing data within the time specified in the specifications will result in non-payment of the bid item.

**--Item 672--**

Place all adhesive material directly from the heated dispenser to the pavement. Do not use portable or non-heated containers. Use adhesive of sufficient thickness so that when the marker is pressed into the adhesive, 1/8" or more adhesive will remain under 100% of the marker. The adhesive should extend not less than 1/2" but not more than 1 1/2" beyond the perimeter of the marker.

**--Item 677--**

Obtain approval before using the mechanical method for the elimination of existing thermoplastic pavement markings.

**--Item 680--**

Furnish and install all required materials and equipment necessary for the complete and operating traffic signal installation at the following intersections:

- US 90 at Montgomery Road

All workers installing electrical materials, including conduit in trenches, service poles and all other system electrical apparatus, will be directly supervised by persons who have completed a TxDOT approved course in electrical underground installations. Furnish evidence of satisfactory completion of the underground electrical installation for roadway illumination and signal control course for all personnel responsible for direct supervision of electrical installation work.

The locations shown on the plans for signal pole foundations, controller foundations, conduit and other items may be adjusted to better fit field conditions as approved.



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Furnish and install a new Henke Enterprises or Mobotrex eight-phase NEMA TS2 Type 2 controller and cabinet, meeting the requirements of Departmental Materials Specifications DMS-11170. Provide detector panel toggle switches that additionally permit the user to disconnect the detector. For both ground and pole-mount cabinets, provide cabinet configuration with 16 position load bay.

Deliver TS type 2 controller cabinet and assembly to the TxDOT San Antonio district signal shop for programming and testing two weeks in advance prior to contractor installing equipment in the field. Coordinate drop off and pick up with Craig Williams (210) 731-5143.

Connect all field wiring to the controller assembly into the polyphaser. The Signal Shop representative will assist in determining how the detection cables are to be connected, and will also program the controller for operation, hook up the malfunction management unit (MMU) or conflict monitor, detector units, and other equipment, and turn on the controller. Have a qualified technician on the project site to place the traffic signals in operation.

Once final punch list is complete, contractor is allowed to begin flashing signal operations. Signal shall flash for a minimum of 7 days prior to full operation, unless otherwise approved by the Engineer.

Use LED lamps from the prequalified material producer lists as shown on the Texas Department of Transportation (TxDOT) – Construction Division’s (CST) material producer list. Category is “Roadway Illumination and Electrical Supplies.” under item 610. No substitutions will be allowed for materials found on this list.

Demonstrate that the field wiring is properly installed, install the controller assembly, connect the wiring and turn on the controller.

The following wiring sequence shall be used when connecting signal sections to the cabinet:

<b>Conductor No.</b>	<b>Base Color</b>	<b>Tracer Color</b>	<b>Signal Face</b>
1	Black		Yellow Ball
2	White		Neutral
3	Red		Red Ball
4	Green		Green Ball
5	Orange		Yellow Arrow
6	Blue		Green Arrow
7	White	Black	Spare

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All existing signal equipment with the exception of the signal controller and related equipment become the property of the Contractor. Deliver the controller and related equipment to the Signal shop, located at 4615 NW Loop 410 (corner of IH 410 and Callaghan Road) in San Antonio, Texas or to the Area Office as directed.

Use qualified personnel to respond to and diagnose all trouble calls during the thirty-day test period. Repair any malfunction to Contractor-supplied signal equipment. Provide to the Engineer a local telephone number, not subject to frequent changes and available on a 24-hour basis, for reporting trouble calls. Response time to reported calls must be less than 2 hours. Make appropriate repairs within 24 hours. Place a logbook in the controller cabinet and keep a record of each trouble call reported. Notify the Engineer of each trouble call. Do not clear the error log in the conflict monitor or MMU during the thirty-day test period without approval.

Integrate the proposed traffic signal(s) into the existing Advanced Traffic Management System (ATMS) as shown on the plans. Centrac's ATMS software, which utilizes Econolite controllers, is currently in use in the San Antonio District. Provide controllers on this project that fully communicate with the existing ATMS software. For use when signal controller is furnished by contractor.

This project includes the installation of at least one cellular modem at the location(s) specified in the plans. Cellular modem(s) and power supply(s) will be furnished by the department. Provide all materials not supplied by the department necessary for the cellular modem installation. All materials provided by the contractor must be new unless otherwise shown on the plans. Equipment provided by the department shall be stored by the department for pick up at the TxDOT San Antonio district office, 4615 NW Loop 410 San Antonio, TX 78229. Prevent damage to all cellular modem components supplied by the department. Replace any component that is damaged or lost during transportation or installation at the contractor's expense. Verify operation of the cellular modem(s) together with operation of its links; demonstrate that data can be transmitted at a satisfactory rate from the field location to the central location. Demonstrate that the cellular modem(s) data packets are being received at the central site via a networked computer. Transportation, installation and incidentals for installation of the cellular modem(s) shall be considered subsidiary to item 680. For use when a cellular communication link will be established to Transguide.

Provide a submittal compliance matrix with all traffic signal submittals.

Contractor shall be responsible for field verifying the depths of the drill shafts to meet the minimum clearances specified in the plans before ordering materials.

Damage to existing facilities such as traffic signal equipment, conduit, cables, etc. caused by the contractor during construction will be replaced by the contractor at no cost to TxDOT with equipment as approved by the engineer. Replace all pavements, sidewalk, curb, rip-rap or any item damaged during construction subsidiary to various bid items with no direct payment. Any

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damage that was not caused by the contractor during operations will be reimbursed for repair of damage caused by: motor vehicle, watercraft, aircraft, or railroad-train incident, vandalism or acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature.

Ensure that all TMS (Traffic Management System) equipment furnished and installed is completely compatible with the existing hardware and software located within the Transguide operations center (i.e. Transguide central software). The contractor shall contact the traffic management engineer for details on the system network architecture.

Contractor shall be responsible for integrating and testing all new TMS equipment and any existing TMS equipment that is relocated into the existing network management system, subsidiary to the various bid items.

Security against theft and vandalism of all traffic signal equipment is the full responsibility of the contractor until the date of final acceptance of the project by the engineer.

Maintenance of all TMS equipment furnished and installed on this project is the full responsibility of the contractor until date of final acceptance of this project by the engineer. All required documentation must be turned in before TxDOT will accept project for maintenance.

Perform all electrical work in accordance with the National Electrical Code and Texas Department of Transportation Specifications.

In accordance with the Underground Facility Damage Prevention Act (One Call Bill) the phone number for a utility locator is 1-800-545-6005. It is the Contractor's responsibility to make arrangements for utility locators as needed.

Underground utilities owned by the Texas Department of Transportation may be present within the Right-Of-Way. Call the TxDOT offices listed below for locates a minimum of 48 hours in advance of excavation. If city or town owned irrigation facilities are present, call the appropriate department of the local city or town a minimum of 48 hours in advance of excavation. The Contractor is liable for all damages incurred to the above mentioned utilities when working without having the utilities located prior to excavation.

**--Item 682--**

Provide all signal heads from the same manufacturer. Pedestrian signals may be by a different manufacturer than the vehicle signal heads.

Cover all signal faces until placed in operation.

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All pedestrian signal faces shall be single section LED Type. Die cast polycarbonate is acceptable in lieu of die cast aluminum. All mounting attachments shall be constructed of steel pipe and mounted as shown on the plans.

For all proposed mast arm pole assemblies, use mounting bracket assembly Option "C" as shown on the State Standard Sheet(s) "Single Mast Arm Assemblies".

**--Item 684--**

Provide an extra 10' for each cable terminating in the controller cabinet. All cables shall be continuous without splices from terminal point to terminal point. All proposed signal cable shall be #12 AWG stranded copper.

**--Item 686 & 687--**

Provide all signal poles from the same manufacturer. Pedestrian poles may be from a different manufacturer.

**--Item 688--**

The sealant used for vehicle loop wire must be approved.

The force to activate the control shall be no greater than 5 lb/f. The button placement has to be coordinated with the concrete pad to access the button and if any mounting modifications are needed (extensions, brackets, etc.) to meet ADA and TDLR requirements the adjustment will be subsidiary to Item 688. The concrete pad (if required) shall be paid separately.

The pedestrian push button shall be wired with a 2/C#14 loop detector cable in lieu of a #12 A.W.G. XHHW wire.

Furnish and install new Polara Enterprises accessible pedestrian signals (APS) push buttons or approved equivalent.

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**--Item 3085--**

The minimum application rates are listed in Table UC. The Engineer may adjust the application rates taking into consideration the existing pavement surface conditions.

Table UC

Material	Minimum Application Rate (gal. per square yard)
TRAIL – Hot Asphalt	0.15
Spray Applied Underseal Membrane	0.20
Seal Coat – Emulsion (CHFRS-2P, CRS-2P)	0.25
Seal Coat – Asphalt (AC-15P, AC-20-5TR, AC-20XP, AC10-2TR)	0.23
Aggregate for Seal Coat Options TY PB GR 4(AC) or TY B GR 4(Emulsion)	1 CY:120 SY

**--Item 4001--**

For Asphalt-Plug Expansion Joints, the following suppliers are approved:

FlexAble Bridge Joint System  
 Deery American Corporation.  
 PO Box 4099  
 Grand Junction, CO 81502  
 Attn: San Kearn 800-227-4059

Matrix 502 Asphalt Plug  
 D.S. Brown Co.  
 300 E. Cherry St.  
 North Baltimore, OH 45872  
 419-257-3561

Thorma-Joint  
 Dynamic Surface Applications, Ltd.  
 373 Village Road  
 Pennsdale, PA 17756  
 Attn: Mike Stachowicz 800-491-5663 Ext. 1

Wabo-Expandex  
 BASF  
 3011 Heatherpark Drive  
 Kingwood, TX 77345  
 Attn: Mark Huff 713-392-4833

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**--Item 4171--**

Install bridge identification numbers shown below for each of the following listed bridges in accordance to the special specification and San Antonio District Standard. Install the bridge identification number on two locations as shown on the plans, or as directed. For bridges in a two-way condition, install the bridge identification number on each outside beam on the upstream side of traffic. For bridges in a one-way condition, install the bridge identification number on each side, opposite corners on each outside beam. For culverts less than 5 ft. in height, install the bridge identification number on the headwall on upstream and downstream location. For culverts greater than 5 ft. in height, install the bridge identification number inside the first barrel on the upstream side of traffic and inside the last barrel on the opposite corner in the direction of traffic.

**--Item 6185--**

One shadow vehicles with TMA will be required for this project. The TMA's will be measured and paid for by the DAY for each TMA/TA set up and operational on the worksite. The contractor will be responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMA's needed for the project. See TMA and TA Summary sheet in the plans.

**--Item 6292--**

Radar presence detection device must utilize true-presence detection. Systems using locking algorithms to attempt presence detection will not be accepted. In addition, radar systems will not be allowed to use extensions/delays or place the controller on locking detection to aid in presence detection.

Radar presence detection device must be able to detect up to 10 lanes with a minimum offset of 6' and have at least 16 zones and channels per unit.

Radar presence detection device must be mounted on the same side of the intersection as the lanes it is set to detect.

Final placement of radar devices shall be approved by the engineer.

Furnish and install new Wavetronix SmartSensor Matrix, or approved equivalent, for radar presence detectors and Wavetronix SmartSensor Advance, or approved equivalent, for radar advanced detection devices.

CONTROL : 0024-07-063  
PROJECT : F 2021(778)  
HIGHWAY : US 90  
COUNTY : BEXAR

TEXAS DEPARTMENT OF TRANSPORTATION

**GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS**

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF  
----- TRANSPORTATION NOVEMBER 1, 2014.  
STANDARD SPECIFICATIONS ARE INCORPORATED  
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS  
ITEM 104 REMOVING CONCRETE  
ITEM 105 REMOVING TREATED AND UNTREATED BASE AND ASPHALT PAVEMENT  
ITEM 110 EXCAVATION (132)  
ITEM 132 EMBANKMENT (100) (160) (204) (210) (216) (260) (400)  
ITEM 161 COMPOST (160)  
ITEM 162 SODDING FOR EROSION CONTROL (166) (168)  
ITEM 168 VEGETATIVE WATERING  
ITEM 247 FLEXIBLE BASE (105) (204) (210) (216) (520)  
ITEM 310 PRIME COAT (300) (316)  
ITEM 351 FLEXIBLE PAVEMENT STRUCTURE REPAIR (132) (204) (247) (260)  
(263) (275) (276) (292) (310) (316) (330) (334) (340)  
ITEM 354 PLANING AND TEXTURING PAVEMENT  
ITEM 400 EXCAVATION AND BACKFILL FOR STRUCTURES (110) (132) (401)  
(402) (403) (416) (420) (421) (423)  
ITEM 416 DRILLED SHAFT FOUNDATIONS (405) (420) (421) (423) (440) (448)  
ITEM 420 CONCRETE SUBSTRUCTURES (400) (404) (421) (422) (426) (427)  
(440) (441) (448)  
ITEM 422 CONCRETE SUPERSTRUCTURES (420) (421) (424) (438) (440) (448)  
(454) (780)  
ITEM 425 PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS (409)  
(420) (421) (424) (426) (427) (434) (440) (442) (445)  
ITEM 432 RIPRAP (247) (420) (421) (431) (440)  
ITEM 450 RAILING (420) (421) (422) (424) (440) (441) (442) (445) (446)  
(448)  
ITEM 454 BRIDGE EXPANSION JOINTS (429) (442) (785)  
ITEM 500 MOBILIZATION  
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING  
ITEM 504 FIELD OFFICE AND LABORATORY  
ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL

CONTROLS (161) (432) (556)

ITEM 512 PORTABLE TRAFFIC BARRIER (420) (421) (424) (440) (442)

ITEM 529 CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER (360)  
(420) (421) (440)

ITEM 540 METAL BEAM GUARD FENCE (421) (441) (445) (529)

ITEM 542 REMOVING METAL BEAM GUARD FENCE

ITEM 544 GUARDRAIL END TREATMENTS

ITEM 545 CRASH CUSHION ATTENUATORS (421)

ITEM 610 ROADWAY ILLUMINATION ASSEMBLIES (416) (421) (432) (441) (442)  
(445) (449) (614) (616) (618) (620) (622) (624) (628)

ITEM 618 CONDUIT (400) (476)

ITEM 620 ELECTRICAL CONDUCTORS (610) (628)

ITEM 624 GROUND BOXES (420) (421) (432) (440) (618) (620)

ITEM 644 SMALL ROADSIDE SIGN ASSEMBLIES (421) (440) (441) (442) (445)  
(636) (643) (656)

ITEM 658 DELINEATOR AND OBJECT MARKER ASSEMBLIES (445)

ITEM 662 WORK ZONE PAVEMENT MARKINGS (666) (668) (672) (677)

ITEM 666 RETROREFLECTORIZED PAVEMENT MARKINGS (316) (502) (662) (677)  
(678) (6291)

ITEM 672 RAISED PAVEMENT MARKERS (677) (678)

ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300)  
(302) (316)

ITEM 681 TEMPORARY TRAFFIC SIGNALS (416) (610) (618) (620) (621) (622)  
(624) (625) (627) (628) (636) (656) (680) (682) (684) (686) (687)  
(688)

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE  
 ----- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED  
 HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS  
 (FORM FHWA 1273, MAY, 2012)

WAGE RATES

SPECIAL PROVISION "NONDISCRIMINATION" (000---002)

SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT"  
 (000---003)

SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO  
 ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE  
 ORDER 11246" (000---004)

SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY  
 CONSTRUCTION CONTRACT SPECIFICATIONS" (000---005)

SPECIAL PROVISION "ONTHEJOB TRAINING PROGRAM" (000---006)

SPECIAL PROVISION "CERTIFICATE OF INTERESTED PARTIES (FORM 1295)"  
 (000--1019)

SPECIAL PROVISION "CARGO PREFERENCE ACT REQUIREMENTS IN FEDERAL AID  
 CONTRACTS" (000---241)

SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL AID  
 CONTRACTS" (000---394)

SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000---658)

SPECIAL PROVISION "NOTICE OF CONTRACTOR PERFORMANCE EVALUATIONS"  
 (000---659)

SPECIAL PROVISIONS TO ITEM 2 (002---009) (002---011) (002---013)



SPECIAL PROVISIONS TO ITEM 3 (003---011) (003---013)  
 SPECIAL PROVISIONS TO ITEM 5 (005---002) (005---003)  
 SPECIAL PROVISIONS TO ITEM 6 (006---001) (006---012)  
 SPECIAL PROVISIONS TO ITEM 7 (007---004) (007---008) (007---010)  
 (007---011)  
 SPECIAL PROVISIONS TO ITEM 8 (008---030) (008---033)  
 SPECIAL PROVISIONS TO ITEM 9 (009---010) (009---011)  
 SPECIAL PROVISION TO ITEM 247 (247---003)  
 SPECIAL PROVISION TO ITEM 300 (300---017)  
 SPECIAL PROVISION TO ITEM 302 (302---003)  
 SPECIAL PROVISION TO ITEM 316 (316---002)  
 SPECIAL PROVISION TO ITEM 340 (340---003)  
 SPECIAL PROVISION TO ITEM 342 (342---004)  
 SPECIAL PROVISION TO ITEM 347 (347---002)  
 SPECIAL PROVISION TO ITEM 348 (348---003)  
 SPECIAL PROVISION TO ITEM 421 (421---009)  
 SPECIAL PROVISION TO ITEM 426 (426---003)  
 SPECIAL PROVISION TO ITEM 427 (427---003)  
 SPECIAL PROVISION TO ITEM 440 (440---004)  
 SPECIAL PROVISION TO ITEM 441 (441---003)  
 SPECIAL PROVISION TO ITEM 442 (442---001)  
 SPECIAL PROVISION TO ITEM 446 (446---005)  
 SPECIAL PROVISION TO ITEM 449 (449---002)  
 SPECIAL PROVISION TO ITEM 502 (502---008)  
 SPECIAL PROVISION TO ITEM 506 (506---005)  
 SPECIAL PROVISION TO ITEM 520 (520---002)  
 SPECIAL PROVISION TO ITEM 540 (540---001)  
 SPECIAL PROVISION TO ITEM 636 (636---001)  
 SPECIAL PROVISION TO ITEM 643 (643---001)  
 SPECIAL PROVISION TO ITEM 666 (666---007)  
 SPECIAL PROVISION TO ITEM 680 (680---006)

SPECIAL SPECIFICATIONS:

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ITEM 3002 SPRAY APPLIED UNDERSEAL MEMBRANE (320)  
 ITEM 3076 DENSE-GRADED HOT-MIX ASPHALT (300) (316) (320) (342) (347)  
 (348) (520) (585)  
 ITEM 3077 SUPERPAVE MIXTURES (300) (316) (320) (342) (347) (348) (520)  
 (585)  
 ITEM 3085 UNDERSEAL COURSE (316) (3002)  
 ITEM 4171 INSTALL BRIDGE IDENTIFICATION NUMBERS  
 ITEM 6001 PORTABLE CHANGEABLE MESSAGE SIGN  
 ITEM 6291 MOBILE RETROREFLECTIVITY DATA COLLECTION FOR PAVEMENT  
 MARKINGS

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH  
 ----- PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER  
 PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-  
 LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL  
 PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFI-  
 CATIONS FOR THIS PROJECT.

