

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 12/28/2011

Control	2102-01-065
Project	STP 2012(157)
Highway	RM 2244
County	TRAVIS

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: STP 2012(157)

CONTROL: 2102-01-065

COUNTY: TRAVIS

LETTING: 01/04/2012

REFERENCE NO: 1222

PROPOSAL ADDENDUMS

_ PROPOSAL COVER

X BID INSERTS (SH. NO.: 1-3, 3-3)

X GENERAL NOTES (SH. NO.: A)

X SPEC LIST (SH. NO.: 2-2)

_ SPECIAL PROVISIONS:

ADDED:

DELETED:

X SPECIAL SPECIFICATIONS:

ADDED: 3233

DELETED:

X OTHER: ESTIMATE AND PLAN SHEETS 2, 3, 5 AND 6

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

BID INSERTS AND ESTIMATE

1-3 - DESIGNATED 316-2707 AND 316-2719 AS BASE BID ALT 1.

3-3 - ADDED 3233-2001 AS ALT GROUP 1A 81360 GAL.

SPECIFICATION DATA

A - ADDED 3233 DATA TO BASIS OF ESTIMATE TABLE.

SPECIFICATION LIST

2-2 - ADDED 3233 WITH REFERENCE ITEM 320

PLANS

SHEET 2 - MODIFIED GENERAL NOTES SHEET AS INDICATED ABOVE.

SHEET 3 - REPLACED E&Q SHEET TO INCLUDE CHANGES NOTED ABOVE.

SHEETS 5 AND 6 - ADDED INFORMATION REGARDING ALTERNATE 3233.

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
1	316	2707	016	ASPH (TIER III) and DOLLARS CENTS	GAL	104,142.000	1
1	316	2719	016	AGGR (TIER III) and DOLLARS CENTS	CY	2,712.000	2
	500	2001	005	MOBILIZATION and DOLLARS CENTS	LS	1.000	3
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HAN- DLING and DOLLARS CENTS	MO	2.000	4
	506	2034	010	TEMPORARY SEDIMENT CONTROL FENCE and DOLLARS CENTS	LF	100.000	5
	662	2113		WK ZN PAV MRK SHT TERM (TAB) TY W and DOLLARS CENTS	EA	5,150.000	6
	662	2115		WK ZN PAV MRK SHT TERM (TAB) TY Y-2 and DOLLARS CENTS	EA	8,409.000	7
	666	2002		REFL PAV MRK TY I (W) 4" (BRK)(090MIL) and DOLLARS CENTS	LF	16,924.000	8
	666	2011		REFL PAV MRK TY I (W) 4" (SLD)(090MIL) and DOLLARS CENTS	LF	67,352.000	9
	666	2035		REFL PAV MRK TY I (W) 8" (SLD)(090MIL) and DOLLARS CENTS	LF	1,966.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	2047		REFL PAV MRK TY I (W) 24"(SLD)(090MIL) DOLLARS and CENTS	LF	417.000	11
	666	2053		REFL PAV MRK TY I (W) (ARROW) (090MIL) DOLLARS and CENTS	EA	13.000	12
	666	2104		REFL PAV MRK TY I (Y) 4" (BRK)(090MIL) DOLLARS and CENTS	LF	14,633.000	13
	666	2110		REFL PAV MRK TY I (Y) 4" (SLD)(090MIL) DOLLARS and CENTS	LF	66,954.000	14
	666	2122		REFL PAV MRK TY I (Y) 8" (SLD)(090MIL) DOLLARS and CENTS	LF	72.000	15
	666	2142		REF PAV MRK TY II (W) 4" (BRK) DOLLARS and CENTS	LF	16,924.000	16
	666	2145		REF PAV MRK TY II (W) 4" (SLD) DOLLARS and CENTS	LF	67,352.000	17
	666	2153		REF PAV MRK TY II (W) 8" (SLD) DOLLARS and CENTS	LF	1,966.000	18
	666	2157		REF PAV MRK TY II (W) 24" (SLD) DOLLARS and CENTS	LF	417.000	19
	666	2160		REF PAV MRK TY II (W) (ARROW) DOLLARS and CENTS	EA	13.000	20
	666	2176		REF PAV MRK TY II (Y) 4" (BRK) DOLLARS and CENTS	LF	14,633.000	21

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	2178		REF PAV MRK TY II (Y) 4" (SLD) DOLLARS and CENTS	LF	66,954.000	22
	666	2183		REF PAV MRK TY II (Y) 12" (SLD) DOLLARS and CENTS	LF	72.000	23
	672	2012	034	REFL PAV MRKR TY I-C DOLLARS and CENTS	EA	945.000	24
	672	2015	034	REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	1,674.000	25
	3239	2001		TOM (ASPHALT) PG 76-22 DOLLARS and CENTS	TON	1,286.000	26
	3239	2004		TOM (AGGREGATE) SAC B DOLLARS and CENTS	TON	16,614.000	27
	6834	2001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	46.000	28
				ALTERNATE NO. 1A DOLLARS and CENTS			
	3233	2001		MEMBRANE UNDERSEAL DOLLARS and CENTS	GAL	81,360.000	29

GENERAL NOTES:

Basis of Estimate

Item	Description	**Rate	Basis	Quantity
316	Surface Treatments Seal Coat: (TIER III) Asphalt Aggregate	<u>Total</u> 0.32 GAL/SY 1 CY/120 SY	325,445 SY 325,445 SY	104,142 GAL 2,712 CY
3233 Alternate	Membrane Underseal	.25 GAL/SY	325,445 SY	81,360 GAL
3239	Thin Overlay Mixture(TOM)(QC/QA) Aggregate SAC B Asphalt PG 76-22	102.1 LBS/SY/IN 7.9 LBS/SY/IN	325,445 SY 325,445 SY	16,614 TON 1,286 TON

** For Informational Purposes Only

GENERAL

References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar materials from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved.

Do not place surface treatments or pavement when in the Engineer's professional judgment, the apparent general weather conditions are unsuitable for Overlay operations.

Remove and replace, at the Contractor's expense, and as directed, all defective work, which was caused by the Contractor's workforce, materials, or equipment.

Perform work during good weather unless otherwise directed. If work is performed at Contractor's option, when inclement weather is impending, and the work is damaged by subsequent precipitation, the Contractor is responsible for all costs associated with replacing the work, if required.

Accrue contract time charges through the Contractor's completion of the final punchlist.

Meet weekly with the Engineer to notify him of planned work for the upcoming week. Provide a three-week "look ahead," as well as all work performed over the past week.

Blade the side slopes to remove all grass from the area of construction before placing flexible base on that portion of the roadway to be widened, leveled-up, seal coated/surfaced treated, or Hot Mix Asphaltic Concrete Pavement (HMACP) overlaid. Blade the sod back onto the side slopes after the proposed items of work have been completed. Consider subsidiary to pertinent Items.

Equip all construction equipment used in roadway work with a permanently mounted 360° revolving or strobe warning light with amber lens. Light will have a minimum lens height and diameter of 5 inches and mounting height of not less than 6 feet above the roadway surface and be visible from all sides. Attach at each side of the rear end of the construction equipment an approved orange warning flag mounted not less than 6 feet above the roadway surface.

Project Number: STP 2012(157)
County: TRAVIS
Highway: RM 2244

Sheet:
Control: 2102-01-065

Overhead and underground utilities may exist in the vicinity of the project. The exact location of underground utilities is not known.

If working near power lines, comply with the appropriate sections of Local Legal Requirements, Texas State Law, and Federal Regulations relating to the type of work involved.

In the event of unforeseen utility adjustment, the Contractor will prosecute their work in such a manner and sequence as to facilitate the adjustments to be made.

Superelevate all curves to conform to the slope(s) of the existing curves, as directed. Consider subsidiary to the pertinent Items.

Match existing cross slopes, as directed. Consider subsidiary to the pertinent Items.

Provide a smooth, clean sawcut along the existing asphalt pavement structure, as directed. Consider subsidiary to the pertinent Items.

Remove all construction debris and surplus material generated by the construction work within the project limits. Perform this work as directed. Consider subsidiary to the pertinent Items.

Trim vegetation around signs and other obstructions. Consider subsidiary to pertinent Items.

Supply litter barrels in enough numbers at locations as directed to control litter within the project. Consider subsidiary to pertinent Items.

Use a self-contained vacuum broom to sweep the roadway and keep it free of sediment due to the Construction of the Roadway, as directed. Consider subsidiary to pertinent Items.

Protect all areas of the right of way, which are not included in the actual limits of the proposed construction areas, from destruction. Exercise care to prevent damage to trees, vegetation, and other natural surroundings. Areas not to be disturbed will be as directed. Restore any area disturbed because of the Contractor's operations to a condition as good as, or better than, before the beginning of work.

Damage to existing pipes and SET's due to Contractor operations shall be repaired at Contractor's expense.

All locations used for storing construction equipment, materials, and stockpiles of any type, within the right of way, will be as directed. Use of right of way for these purposes will be restricted to those locations where driver sight distance to businesses and side street intersections is not obstructed and at other locations where an unsightly appearance will not exist. The Contractor will not have exclusive use of right of way but will cooperate in the use of the right of way with the city/county and various public utility companies as required.

Project Number: STP 2012(157)

County: TRAVIS

Highway: RM 2244

Sheet:

Control: 2102-01-065

The Project Superintendent will be capable of speaking English and will be available to contact at all times when work is being performed, including subcontractor work. The Superintendent will be available and on-call 24 hours a day.

During evacuation periods for Hurricane events the Contractor will cooperate with Department requirements for the restricting of Lane Closures and arranging for Traffic Control to facilitate Coastal Evacuation Efforts. In addition, the Contractor's assistance may be requested outside of the Project Limits.

When directed, designate an official backer/spotter or "dump-man" who shall wear specially marked clothing and a specially marked hard hat which specifically identifies them as the backer/spotter and identifies that they are the person who is directing the backing operations. They shall be identified to all project personnel, Contractor and TxDOT, when dumping the various project materials, throughout the course of the project.

Transport any soils contaminated during construction off of the proposed project, away from the site, and properly dispose of off-site.

Collect wastewater generated on-site by chemical toilets, transport and dispose of off-site, in a proper manner.

Suspend all activities near any significant recharge features, such as sinkholes, caves, or any other subterranean openings that are discovered during construction or core sampling. Do not proceed until the designated Geologist or TCEQ representative is present to evaluate and approve remedial action.

Locate aboveground storage tanks kept on-site for construction purposes over bermed impervious liners as to not allow any leakage into underlying soils. Additionally, the containment will be sized to capture 150% of the total volume of fluids stored on-site within the storage area.

No blasting will be allowed.

Keep on hand Synthetic Absorbent Booms (Petroleum Sorbent Booms, Petroleum Socks, Absorbant Socks, etc.) and Absorbent Pads (Eversoak Sorbents, Industrial Absorbent Pads, Calicorp Absorbent Pads, etc.), both types, for spilled petroleum products, in enough quantity to mitigate a petroleum-type spill due to Contract work.

ITEM 4 – SCOPE OF WORK

Final clean up will include the removal of excess material considered detrimental to vegetation growth along the front slope of the ditch. Materials such as surface aggregates and other materials, as specified by the Engineer, will be removed at the Contractor's expense.

ITEM 5 – CONTROL OF THE WORK

Mark and maintain 100-foot station intervals for the duration of the project. Consider subsidiary to pertinent Items.

ITEM 6 - CONTROL OF MATERIALS

Article 6.5. Give a minimum of 24 hours notice for materials, which require inspection at the plant.

ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES

Do not park equipment or make stockpiles where driver sight distance to businesses and side street intersections is obstructed, especially after work hours. If it is necessary to park where drivers' views are blocked, make every effort to flag traffic accordingly. Give the travelling public first priority.

Maintain positive drainage for permanent, as well as, temporary drainage for the duration of the project. This work is the sole responsibility of the Contractor. Construct temporary and permanent drainage systems prior to the placement of temporary pavement, when possible, but absolutely prior to the placement of permanent pavement. Be responsible for any items associated with the temporary/interim drainage and all related maintenance. No direct payment will be made for this work. The Engineer will have the final authority in determining/approving the adequacy of any temporary/permanent drainage features installed.

ITEM 8 – PROSECUTION AND PROGRESS

Article 8.3C. Work is allowed to be performed during the nighttime, with prior approval.

Before starting work, provide a sequence of work and estimated progress schedule meeting the requirements of Section 8.2.B, "Construction Contracts."

Failure to complete work within the seal coat season established by the plans will result in liquidated damages as described in Section 8.5, "Failure to Complete Work on Time." This includes any surface treatment work carried over to the next year.

The Engineer may consider extending working days beyond the end of the seal coat season.

ITEM 9 – MEASUREMENT AND PAYMENT

Provide full-time, off-duty, uniformed, certified peace officers in officially marked vehicles, as part of traffic control operations, as directed.

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

No payment will be made for peace officers unless the Contractor completes the proper Department tracking form. Submit invoices that agree with the tracking form for payment at the end of each month, when approved services were provided. Request the tracking form from the Department.

No payment for officers used for moving equipment without prior written approval.

Project Number: STP 2012(157)
County: TRAVIS
Highway: RM 2244

Sheet:
Control: 2102-01-065

Cancel "Off-Duty" Peace Officers and their Motor Vehicle Units when the Scheduled lane closures are canceled. Failure to cancel the Off Duty Officers and their respective Motor Vehicle Units will not be cause for payment, by TxDOT, for "Show Up" time.

ITEM 300 – ASPHALTS, OILS, AND EMULSIONS

Asphalt season starts May 1 and ends September 15.

ITEM 302 – AGGREGATES FOR SURFACE TREATMENTS

Previously tested aggregates delivered to the project, which are found to contain excessive quantities of dust (more than 0.5 percent passing the no. 40 sieve) during pre-coating, stockpiling or hauling operations, will be rejected, unless otherwise directed. Use test method Tex-200-F, Part II, for testing.

Article 302.2. Materials, Section A. Aggregate. Table 3 Los Angeles abrasion, % max, is revised with the following requirement:

Table 3
Aggregate Quality Requirements

Property	Test Method	Requirement	Requirement
Los Angeles abrasion, %, max	Tex-410-A	30	All aggregates

Furnish TY D or TY E aggregate for TIER III underseal.

When TY E is provided, furnish coarse fractionated recycled asphalt pavement (CF-RAP). CF-RAP aggregate stockpiles must be approved on a stockpile-by-stockpile basis, unless approved by the Engineer. Do not exceed stockpiles greater than 2000 tons.

Furnish CF-RAP meeting the following aggregate quality requirements:

Property	Test Method	Requirement	Remarks
Deleterious Material, % max.	Tex-217-F, Part 1	2.0	
Decantation, % max.	Tex-406-A	1.5	

Furnish CF-RAP meeting the following gradation requirements, after ignition burn off of pre-existing asphalt, unless otherwise approved:

Sieve	Cumulative % Retained
5/8"	0
1/2"	10-25
3/8"	60-80
#4	85-100
#8	90-100

Project Number: STP 2012(157)
County: TRAVIS
Highway: RM 2244

Sheet:
Control: 2102-01-065

ITEM 316 & 3239

Perform work during good weather unless otherwise directed. If work is performed at Contractor's option, when inclement weather is impending, and the work is damaged by subsequent precipitation, the Contractor is responsible for all costs associated with replacing the work, if required.

ITEM 316 – SURFACE TREATMENTS

Do not apply asphalt within 1½ hours of sunset, or later, unless otherwise directed.

Ensure the accuracy of the Distance Measuring Instrument (DMI) with the Engineer, prior to marking the Asphalt and Rock Land shots.

Ensure that all Surface Treatment/Seal Coat Operations are covered by HMAACP before the workers leave the project, for that particular day's work, as directed.

Ensure the minimum aggregate surface classification is class B.

Surface all transitions, tapers, climbing lanes and intersections to the limits as directed.

Keep all traffic, including construction traffic, off freshly placed surface treatment, as directed.

Distribution to each control section will be proportioned to the volumetric quantity as shown on the "daily road report."

Any oil or asphaltic material being paid for on the project shall use tank strap method as shown in TXDOT Seal Coat and Surface Treatment Manual 2004-1.

All transports will have a seal affixed at the point of origin. The Engineer will be present when the seal is broken on the Transport and will accept the shipping tickets and make distribution to the Contractor.

Be diligent about sweeping excess aggregate from seal coat projects one to two weeks after completing the work, and performing additional sweeping of shoulders if necessary to remove loose aggregate or debris after the job is completed.

ITEM 3239 (HMAACP Testing)

The Contractor must sample asphalt binder, in accordance to the applicable item. Label the sample can with the corresponding CSJ, lot, and subplot numbers.

Samples must be stored in a common area where they are readily available to the TxDOT representative at the plant. The Contractor will be responsible for supplying storage for all samples. Retain all asphalt samples until directed otherwise.

When directed, the Contractor is responsible for disposal of all asphalt binder samples, in accordance to Local, State, and Federal regulations.

Project Number: STP 2012(157)

County: TRAVIS

Highway: RM 2244

Sheet:

Control: 2102-01-065

[Hot Mix Asphaltic Conc (HMAC) Core Holes]

Refill and compact all HMAC core holes to the same elevation as the adjacent roadway. Use Instant Roadway Repair® manufactured by International Roadway Research, 14702 Marine Road, Humble, TX 77396, phone # 1-800-837-4806, or equivalent, as directed. Consider this work subsidiary to the pertinent Items.

ITEM 3239 – THIN OVERLAY MIXTURE (TOM)

Provide mixture using PG PG 76-22.

Place mixture at the compacted lift thickness of one (1) inch.

Use aggregate meeting a Surface Aggregate Classification (SAC) requirement of “B” for surface course mixtures.

Lime or an approved anti-stripping agent must be used when crushed gravel is utilized to meet a SAC “A” requirement.

A Warm Mix Asphalt additive is required with a discharge temperature greater than 300° F when the haul distance from the plant to the project is greater than 40 miles or the ambient temperature is between 60°-70° F, unless otherwise directed. WMA processes, such as water or foaming processes, are not allowed under these circumstances.

Tack coat or underseal is required for the use of this overlay mixture.

Use of pneumatic-tire rollers is prohibited

Water flow rate should exceed 30 seconds tested in accordance to Tex-246-F. The Engineer will require the Contractor to perform water flow rate testing at least once per lot.

Transition from the new ACP to the existing surface tie-in by utilizing a required milled transition to a vertical butt joint. Make the transition a minimum of 50 feet H: 1 inch V slope ratio of newly placed ACP. Make the temporary joint, at the tie-in, a minimum of a “3-paper-taper” longitudinally and covering the entire width. Sawcut existing pavement as directed. Prior to milling, core the existing pavement to determine its thickness. Do not proceed with milling until directed. Consider this work subsidiary to the pertinent Items.

ITEM 502 - BARRICADES, SIGNS, AND TRAFFIC HANDLING

Nighttime lane closures will be allowed from 8:00 PM to 5:00 AM, unless otherwise shown on the plans.

No Daytime Lane Closures will be allowed, unless otherwise shown on the plans or as directed by the Area Engineer (AE).

The AE is the authority to approve additional lane closures, prior to any work.

Maintain a written record of documentation of “The Additional Approved Lane Closures.”

Project Number: STP 2012(157)
County: TRAVIS
Highway: RM 2244

Sheet:
Control: 2102-01-065

One (1) lane will remain open, in each direction, at all times, unless otherwise shown on the plans or as approved by the AE.

Notify the Inspector so that they can notify Combined Transportation, Emergency, and Communications Center (CTECC) Public Affairs Office, prior to implementing any "Approved Lane Closure" for a State Highway or Roadway. Provide notice no later than 2:00 PM (Central Time) and at least 24 hours prior to the closure.

Provide Advance Notice of the Actual Lane Closure(s), on the Day (Night) of the Closure(s), to the TxDOT Inspector so that they can notify CTECC. Also, immediately upon removal of the Closure(s) provide notice to the TxDOT Inspector for them to notify CTECC.

Submit and secure concurrence, prior to the publication of any notices or placement of any traffic control devices for implementation of the traffic control plan, hereinafter called a Lane Closure Notice (LCN).

Present to TxDOT, an LCN for traffic control, which is proposed for implementation, a minimum of four (4) full working days preceding any proposed implementation date. Indicate the estimated date, time, duration, and location for the proposed work. As a part of the LCN submit a written description of the lane closure(s) depicting the proposed traffic control devices used, based on the appropriate plan sheet, TxDOT or TMUTCD standards, and an operational description of the work to be performed.

Present to TxDOT, LCN's proposed for night work, a minimum of seven (7) full calendar days preceding any proposed implementation date.

Receive concurrence prior to LCN implementation.

Meet with the Engineer prior to roadway and lane closures to ensure that sufficient equipment, materials, devices, and workers will be used. Discuss contingency plans at that time. Consider inclement weather prior to implementing the lane closures.

Submit a cancellation of any lane closures, no later than noon on the day preceding the proposed work.

Coordinate Main Lane closures with adjacent projects.

Obtain prior approval for any Lane Closures of the mainlanes, which occur during peak hours. Maintain a minimum of one (1) lane open, in each direction, at all times. This includes 'full' closures of the Roadway, unless otherwise directed.

Take immediate action to modify Closures / Traffic Control, if at any time backup (roadway queuing) becomes unreasonable (greater than 20 minutes). Have in place, a contingency plan of how this will occur.

Project Number: STP 2012(157)

County: TRAVIS

Highway: RM 2244

Sheet:

Control: 2102-01-065

Utilize Shadow Vehicle with Truck Mounted Attenuator for setup and removal of each lane closure.

Do not set up any Lane Closure / TCP when the pavement is wet prior to the "setup," unless otherwise directed. Revise Traffic Control, when inclement weather is imminent, as directed.

Incorporate and maintain a 3H: 1V safety wedge into the proposed construction for any roadway edge of 2 inches or greater adjacent to a roadway under traffic.

Within the limits of the project, provide standard barricades, warning signs, delineators, lights, 28-inch cones, and flaggers in enough numbers and combinations, as directed.

Use a minimum of 2 flaggers, 2 advance warning flashing arrow panels (TY C), 2 of each signs CW20-5R or CW20-5L with appropriate distance plaques and CW9-2R or CW9-2L and 28-in. cones at each location in which milling or paving operations are in progress. Maintain at least 1 lane of traffic in each direction during paving or milling operations. Maintain at least the minimum numbers of lanes as directed.

Use night-work and same-night remove-and-replace operations.

No closures will be allowed on the weekends, which include the following holidays: January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 25, Easter weekend, and the working day prior to or immediately after any of the aforementioned holidays. Unless otherwise approved, no closures will be allowed on the weekends of special events that could be impacted by the construction. Ensure all equipment, vehicles, workers, etc., associated with these closures are off the roadways and all lanes re-opened, at least, by noon of the Friday before these holidays and special events.

Maintain all through lanes in each direction, during the daylight hours, as directed.

Place two (2) "Electronic" Portable Changeable Message Signs (EPCMS) at locations requiring lane closures for one-week prior to the closures, or as directed. Obtain approval for the actual message that will appear on the boards. If more than two phases of a message are required per board, provide additional EPCMS's to meet the two-phases-per-board requirement.

Use advance warning flashing arrow panels for the closing of traffic lanes. Furnish one stand-by unit, in good working condition at the jobsite, ready for immediate use.

Maintain access to all streets and driveways at all times, unless otherwise approved. Consider subsidiary to the pertinent Items.

Furnish advisory speed signs in enough numbers as directed.

Maintain enough workers to revise traffic control as directed.

Project Number: STP 2012(157)
County: TRAVIS
Highway: RM 2244

Sheet:
Control: 2102-01-065

For each Lane Closure Set-up, provide a “Buffer Space” and Shadow Vehicle with Truck Mounted Attenuator (TMA), as directed.

Provide a “Downstream” Buffer Space ($\approx 100'$ per lane with devices spaced at $\approx 20'$) for each lane closure setup, as directed.

Maintain construction-warning signs, which are needed for longer periods than what is shown on the traffic control plan or as directed. Consider subsidiary to the pertinent Items.

Cover or remove any existing sign(s), which conflict with temporary traffic control operations. Install all permanent signs, delineation, and object markers necessary for the operation of any roadway before opening that section of roadway to traffic, regardless of the phase during which the roadway construction occurs. Erect the signs on temporary mounts until the permanent mounts are installed. Consider any costs associated with the temporary mounts subsidiary. Repair or replace any signs, which are damaged by the Contractor’s operations during construction or which are deemed not sufficient. The Engineer will be the sole judge of the adequacy of the sign(s). Consider this work subsidiary to the pertinent Items.

Provide three (3) “Electronic” Portable Changeable Message Sign(s) (EPCMS) as part of the traffic control operations and provide another one that is available to utilize when a backup is needed. Consider the one designated for backup as subsidiary to the various Items of the project. All EPCMS will be exclusive to this project, unless otherwise approved. Placement location and message as directed.

Maintain Sandbags that are used for ballast, as directed. Consider subsidiary to the pertinent Items.

ITEM 504 - FIELD OFFICE AND LABORATORY

Asphaltic Material Testing Facility

Furnish a Type D structure for the asphalt-mix control laboratory for the Engineer’s exclusive use. Ensure the floor has enough strength to support the testing equipment and has an impervious covering.

Ensure the Type D structure has adequate air conditioning and is furnished with a minimum of one desk, three chairs, one file cabinet, a telephone, and one built-in equipment storage cabinet for the storage of nuclear equipment. Make the cabinet a minimum of 3-feet wide by 2-feet deep by 3-feet high and make provisions for locking securely. Provide the structure with a 240-volt electrical service entrance. Provide a minimum of four 120-volt circuits with 20-amp breakers and at most two grounded convenience outlets per circuit and provisions for a minimum of two 220-volt ovens with vents to the outside. Provide a minimum of two convenience outlets per wall and a utility sink with an adequate clean potable water supply for testing. Space heaters for heating the structure are unacceptable. Provide support blocks and tie down portable structures for stability.

Provide an ignition oven for the use of Department to determine asphalt content in accordance to Tex-236-F. Provide other laboratory equipment as directed.

Project Number: STP 2012(157)
County: TRAVIS
Highway: RM 2244

Sheet:
Control: 2102-01-065

Provide to the Department and their representative a computer meeting the minimum specification requirements in DMS 10101 "Computer Equipment." Provide a color printer no older than 2 years old. The operation system must be Microsoft XP-SP2, unless directed otherwise. Provide DSL or better internet service. Computer must have at least two front USB ports. Consider subsidiary to pertinent Items.

Provide a permanent, fully equipped, indoor restroom, with toilet and running water as a part of the Type D structure, unless approved otherwise. Provide a monthly drinking water cooler with hot & cold taps and a monthly drinking water service, unless approved otherwise. Consider subsidiary to the pertinent Items.

Equivalent structures may be substituted for those specified under this Item, as agreed. The agreement must be in writing.

Maintain and repair any structure or equipment contained herein. Consider subsidiary to the pertinent Items.

ITEM 506 - TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

Obtain the Engineer's approval for proposed methods used for erosion control before starting each phase of construction.

Consider the SW3P for this project to consist of the following Items, as directed:

Temporary Sediment Control Fence

ITEM 585 - RIDE QUALITY FOR PAVEMENT SURFACES

Use Surface Test Type A to evaluate ride quality of travel lanes in accordance with Item 585, "Ride Quality for Pavement Surfaces."

ITEM 662, 666, & 672

Notify the Engineer at least 24 hours in advance of removing existing striping and placing pavement markings & markers.

Apply markings during good weather unless otherwise directed. If markings are placed at Contractor's option, when inclement weather is impending, and the markings are damaged by subsequent precipitation, the Contractor is responsible for all costs associated with replacing the markings if required.

Unless the new striping design differs from the existing striping location, place the new striping to match existing striping.

Project Number: STP 2012(157)

County: TRAVIS

Highway: RM 2244

Sheet:

Control: 2102-01-065

ITEM 662 - WORK ZONE PAVEMENT MARKINGS

Place temporary pavement markings each night, as directed. Temporary flexible-reflective tabs will not be allowed as temporary pavement marking on the various roadways, unless otherwise approved.

If Temporary Flexible Reflective Tabs are allowed replace any missing tabs daily. If tabs are used, replace tabs at the Contractor's expense.

Remove work zone pavement markings within 48 hours after permanent striping has been completed.

Foil backed pavement markings will not be allowed.

ITEM 666 - REFLECTORIZED PAVEMENT MARKINGS

Apply Type I ReflectORIZED Pavement Markings no sooner than 14 days after applying the final course of HMA CP, unless otherwise directed.

Reference existing channel islands, gores, and lane striping before commencing work. Provide referencing that will include a sketch of the layout to the Engineer. Obtain approval for placement of guidemarks from the Engineer before installing any permanent pavement markings. Consider subsidiary to the pertinent Items.

Ensure that Type II pavement markings have been applied to final course HMA CP before the workers leave the project, for that particular day's work, as directed.

If TY II material is used (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.

Furnish double drop of TY II & TY III glass beads for all TY I markings.

ITEM 672 - RAISED PAVEMENT MARKERS

Place the bituminous adhesive at a temperature range of 380°F to 390°F. Place the pavement marker on the bituminous adhesive approximately 20 seconds after the adhesive is placed on the pavement. Ensure the pavement marker rests solely on the adhesive and not the pavement surface. Ensure that a minimum of 1/8 in. layer of bituminous adhesive remains between the pavement marker and the pavement surface.

ITEM 677 - ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS

Remove and dispose of, off the right of way, any existing raised pavement markings before beginning surfacing operations. Remove the existing traffic buttons and pavement markers, daily, as work progresses and as directed. Consider subsidiary to the pertinent Items.

Grinding is not an acceptable method of stripe removal.

Black paint will not be allowed, unless otherwise directed. Acceptable methods will be sand blasting (Blasting Method) or strip sealing (Surface Treatment Method).

CONTROL : 2102-01-065
PROJECT : STP 2012(157)
HIGHWAY : RM 2244
COUNTY : TRAVIS

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 JUNE 1, 2004.
STANDARD SPECIFICATIONS ARE INCORPORATED
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 316 SURFACE TREATMENTS (210)(300)(302)(520)
ITEM 500 MOBILIZATION
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING
ITEM 504 FIELD OFFICE AND LABORATORY
ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL
CONTROLS
ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
ITEM 666 REFLECTORIZED PAVEMENT MARKINGS (316)(318)(662)(677)(678)
ITEM 672 RAISED PAVEMENT MARKERS (677)(678)

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, MARCH, 1994)

WAGE RATES

SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000--2332)
SPECIAL PROVISION "NOTICE OF CHANGES TO U.S. DEPARTMENT OF LABOR
REQUIRED PAYROLL INFORMATION" (000--1483)
SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO
ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)
SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL-AID
CONSTRUCTION" (000--1966)
SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS" (000---006)
SPECIAL PROVISION "DEPARTMENT DIVISION MAILING AND PHYSICAL ADDRESS"

(000---011)

SPECIAL PROVISION "PARTNERING" (000--2329)

SPECIAL PROVISION "ON THE JOB TRAINING PROGRAM" (000--1676)

SPECIAL PROVISION "NOTICE TO ALL BIDDERS" (000---003)

SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN
EMPLOYMENT" (000---009)

SPECIAL PROVISION TO ITEM 1 (001---015)

SPECIAL PROVISION TO ITEM 2 (002---017)

SPECIAL PROVISION TO ITEM 3 (003---033)

SPECIAL PROVISION TO ITEM 4 (004---017)

SPECIAL PROVISION TO ITEM 5 (005---004)

SPECIAL PROVISION TO ITEM 6 (006---030)

SPECIAL PROVISION TO ITEM 7 (007---918)

SPECIAL PROVISION TO ITEM 8 (008---119)

SPECIAL PROVISIONS TO ITEM 9 (009---009)(009---015)

SPECIAL PROVISIONS TO ITEM 300 (300---008)(300---016)(300---039)

SPECIAL PROVISION TO ITEM 302 (302---010)

SPECIAL PROVISION TO ITEM 316 (316---016)

SPECIAL PROVISION TO ITEM 318 (318---010)

SPECIAL PROVISION TO ITEM 500 (500---005)

SPECIAL PROVISION TO ITEM 502 (502---033)

SPECIAL PROVISION TO ITEM 506 (506---010)

SPECIAL PROVISION TO ITEM 672 (672---034)

SPECIAL SPECIFICATIONS:

ITEM 3233 SPRAY APPLIED UNDERSEAL MEMBRANE (320)

ITEM 3239 THIN OVERLAY MIXTURE (TOM) (300)(301)(320)(520)(585)

ITEM 6834 PORTABLE CHANGEABLE MESSAGE SIGN

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.

SPECIAL SPECIFICATION**3233****Spray Applied Underseal Membrane**

Description. Construct an underseal membrane composed of a warm spray-applied polymer modified emulsion meeting the requirements of Table 1. The membrane is applied through a spray-paver and is covered immediately with a mixture of aggregate, asphalt binder, and additives mixed hot in a mixing plant.

Table 1
Polymer Modified Emulsions Requirements

Test on Emulsion	Test Method	Min	Max
Viscosity @ 77°F, SSF	Tex-513-C	20	100
Storage Stability ¹ , %	Tex-521-C		1
Demulsibility ² Anionic emulsions — 35 ml of 0.02 N CaCl ₂ , % Cationic emulsions — 35 ml 0.8% sodium dioctyl sulfosuccinate, %	Tex-521-C	55	
Sieve Test ³ , %	Tex-521-C		0.05
Distillation Test ⁴ Residue by distillation, % by wt. Oil portion of distillate, % by vol.	Tex-521-C	63	0.5
Test on Residue from Distillation	Test Method	Min	Max
Elastic Recovery @ 50°F, 50 mm/min, %	Tex-539-C	60	
Penetration @ 77°F, 100 g, 5 sec, 0.1 mm	Tex-502-C	100	150

1. After standing undisturbed for 24 hours, the surface must be smooth, must not exhibit a white or milky colored substance, and must be a homogeneous color throughout.

2. Material must meet demulsibility test for emulsions.

3. May be required by the Engineer only when the emulsion cannot be easily applied in the field.

4. The temperature on the lower thermometer should be brought slowly to 350°F ± 10°F and maintained at this temperature for 20 minutes. The total distillation should be complete in 60 ± 5 minutes from the first application of heat.

1. Equipment.

- A. Spray Paver.** In addition to the requirements of Item 320, furnish a spray paver that will spray the membrane and apply the type and grade of mix shown on the plans and level the surface of the pavement layer in a single pass. Configure the spray paver so that the mixture is placed no more than 5 seconds after the membrane is applied.
- B. Membrane Storage Tank and Distribution System.** Equip the spray paver with an insulated storage tank having a minimum capacity of 900 gallons, unless otherwise approved by the Engineer. Provide a metered mechanical pressure sprayer on the spray paver to apply the membrane at the specified rate. Locate the spray bar on the spray

paver so that the membrane is applied immediately in front of the screed unit. Provide a read out device on the spray paver to monitor the membrane application rate.

Unless otherwise directed, furnish a volumetric calibration and strap stick for the tank in accordance with Tex-922-K, Part I. Calibrate the tank within the previous 5 years of the date first used on the project. The Engineer may verify calibration accuracy in accordance with Tex-922-K, Part II.

2. Construction Methods.

- A. Surface Preparation.** Remove existing raised pavement markers. Repair any damage incurred by removal as directed. Remove dirt, dust, or other harmful material before sealing. When shown on the plans, remove vegetation and blade pavement edges.
- B. Membrane Placement.** Unless otherwise directed by the Engineer, uniformly apply the membrane at a rate between 0.15 and 0.25 gallons per square yard. The Engineer may adjust the application rate, taking into consideration the existing pavement surface conditions. Spray the membrane using a metered mechanical pressure spray bar at a temperature between 140°F to 180°F. Monitor the membrane application rate and adjust the rate when needed or when directed. If required, verify that the spray bar is capable of applying the membrane at a uniform rate across the entire paving width as directed. Do not let the wheels or other parts of the paving machine contact the freshly applied membrane. Apply a uniform membrane coat to all contact surfaces and all joints as shown on the plans. Prevent splattering of the membrane when placed adjacent to curb, gutter, and other structures.
- C. Quality Control.** Perform the quality control tests listed in Table 2. If operational tolerances in Table 2 are exceeded, adjust processes or cease production when directed by the Engineer. The Engineer may perform independent tests to confirm contractor compliance and may require testing differences or failing results to be resolved before resuming production.
- D. Membrane Sampling.** Obtain a 1-qt. sample of the polymer modified emulsion for each lot of mixture produced. The Engineer will witness the sampling of polymer modified emulsion. Take the sample from the emulsion tank located on the paving machine, but not from the emulsion spraybar. Obtain the sample at approximately the same time the mixture random sample is obtained. Take all samples in accordance with Tex-500-C, Part III. Label the can with the corresponding lot and subplot numbers, and immediately deliver the sample to the Engineer. The Engineer will randomly choose at least 1 sample per project and test it to verify compliance with Table 1.

Table 2
Operational Tolerance and Minimum Testing Frequency

Test Description	Test Method	Minimum Testing Frequency	Operational Tolerance
Membrane Application Rate	Tex-247-F	1 per day	± 0.02
Emulsion Membrane Sampling ¹	Tex-500-C	1 per day (sample only)	Table 1

1. The Engineer may reduce or waive the sampling and testing requirements based on a satisfactory history.

3. Measurement. Unless otherwise noted on the plans, underseal membrane material will be measured by one of the following methods:

A. Volume. Underseal membrane material will be measured at the applied temperature by strapping the tank before and after road application and determining the net volume in gallons from the distributor's calibrated strap stick. The Engineer will witness all strapping operations for volume determination.

If the meter and readout device is accurate within 1.5% of the strapped asphalt volume, the Engineer may allow use of the meter and readout to determine asphalt volume used and application rate.

The Engineer may require redetermination of meter readout at any time and will require volume determinations by strapping if the meter is not accurate to within 1.5% of strapped volume.

B. Weight. Underseal membrane material will be measured in tons using certified scales meeting the requirements of Item 320, unless otherwise approved. The transporting truck must have a seal attached to the driving device and other openings. The Engineer may require random checking on public scales, at the contractor's expense, to verify weight accuracy.

Upon completion or temporary suspension, any remaining membrane material will be weighed by a certified public weigher or measured by volume in a calibrated tank, and the quantity converted to tons at the measured temperature. The quantity to be measured will be the number of tons received, minus the number of tons remaining after all directed work is complete, and minus the amount used for other items.

4. Payment. The work performed and materials furnished in accordance with this item and measured as provided above will be paid for at the unit price for "Membrane Underseal". These prices are full compensation for all materials, equipment, labor, tools, and incidentals necessary to complete the work.

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