

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 7/23/2010

Control	0902-48-497
Project	BR 2002(227)
Highway	CS
County	TARRANT

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: BR 2002(227)

CONTROL: 0902-48-497

COUNTY: TARRANT

LETTING: 08/11/2010

REFERENCE NO: 0723

PROPOSAL ADDENDUMS

- PROPOSAL COVER
- BID INSERTS (SH. NO.:
- GENERAL NOTES (SH. NO.: L AND M

- SPEC LIST (SH. NO.:
- SPECIAL PROVISIONS:
- ADDED:

DELETED:

- SPECIAL SPECIFICATIONS:
- ADDED:

DELETED:

- OTHER: PLAN SHEETS

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

GENERAL NOTES: SHEET L: ADDED NOTE TO ITEM 420.
ABOVE CHANGED CAUSED NOTES TO SHIFT ON SHEET M

PLAN SHEETS: THE FOLLOWING SHEETS HAVE BEEN REVISED: 7F AND 7G

Project Number: BR 2002 (227)

Sheet :

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**** Specification Data ****

Basis of Estimate

Item	Description	Rate	Unit
166	Fert (16-8-8)	600 lb/acre**	Ton
168	Vegetative Watering	169,400 gal/acre	MG
310	Asph Mat'l (AE-P)(Subgr)(Priming)	0.2 gal/SY*	Gal
340	Hot Mix (All Types)	115 lb/SY/in	Ton

* Based On 50% Asphalt Residue.

** Non-Pay, for Contractor's Information Only.

Compaction Requirements for Base Courses:

(Percent Of Density As Determined By Compaction Ratio Test TEX-113-E)

ITEM	MATERIAL	COURSE	MIN DENSITY
247	Foundation Course	All	95 %
247	Flex Base	All	100 %

Special Notes:

Calculating, Recording and Reporting Test Data - Use appropriate TxDOT Excel templates to calculate and record all test data. These forms are available on the TxDOT website at www.txdot.gov/txdot_library/consultants_contractors/forms/site_manager.htm under the "SiteManager" heading. Submit test results within 24 hours of test completion by email or CD.

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

Peak Hours		Off-Peak Hours	
6 to 9 AM Monday through Friday	3 to 7 PM Monday through Friday	9AM to 3PM and 7 PM to 6 AM Monday through Friday	All day Saturday and Sunday

Work that requires closure of multiple travel lanes in the same direction, except as otherwise shown in the plans, will be performed at night between the hours of 9:00 pm and 6:00 am.

Existing storm sewers and utilities are shown from the best available information. Verify the location of all underground facilities prior to starting work.

For dimensions of R.O.W. not shown on the plans, see R.O.W. map on file at Lake Worth City Hall.

All fence work will be considered subsidiary to prep ROW.

Provide all-weather surface for temporary ingress and egress to adjacent property, as directed. Materials, labor, equipment and incidentals necessary to provide temporary ingress and egress will not be paid for directly, but will be subsidiary to the various bid items.

In those instances where necessary, the governing slopes indicated herein may be varied from the limits shown, to the extent approved.

All driveway openings will be determined by the Engineer and shall conform with Texas Department of Transportation "Regulations for Access Driveways to State Highways" adopted September 1953, and revised June 2004.

Locations and lengths of all private entrances are approximate only. The actual locations, lengths, lines, and grades are to be established in the field.

Take care that existing curb and curb and gutter is not discolored or damaged during construction operations. In the event of discoloration or damage, clean or repair as directed.

Remove the grass from the crown of shoulders or pavement edges by blading or other approved methods. Payment for this work will not be made directly but shall be considered subsidiary to the various items of the contract.

Locations shown for drainage structures refer to the control points of structures as follows:

- 1) Manholes, Inlets, and Junction Boxes -- Locations are at the centroid of the structure; when two structure types are specified, location is at the centroid of the top structure. Bottom structure may be positioned as required to align with top structure, storm drain pipes and other adjacent structures.
- 2) Street Inlets -- Locations are at the face of curb at a distance of L/2 from the end of the inlet.
- 3) Headwalls -- Locations are to the outside face of the headwall at the centerline of the pipe or box structure. For pipe headwalls with Type "P" or "C" safety end treatment, locations are on the centerline of the pipe structure at the limit of payment for pipe.

Plugging of pipes or culverts will not be paid for directly, but shall be considered subsidiary to the various bid items, unless otherwise shown on the plans.

Provide temporary drain openings at all low points or other drainage structures, as required, at the Contractor's expense.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.

Install all required concrete riprap flumes immediately following the construction of ditches in which they are to be placed. In addition, apply all erosion control measures as shown on the plans or as directed, immediately following construction of channels to their required line, grade and section.

Item 5. Control of the Work

When supplementary bridge plans, shop drawings, shop details, erection drawings, working drawings, forming plans or other drawings, are required, the drawings shall be prepared and submitted on sheets 8 1/2 by 11 inches, 11 by 17 inches, or full size drawings reduced to half scale if completely legible. If, in the opinion of the Engineer, the drawings are not completely legible, they shall be prepared and submitted on sheets 22 by 34 inches, with a one and one-half inch left margin, and a one-half inch top, right, and bottom margin.

All sheets submitted shall have a title in the lower right hand corner. The title shall include the sheet index data shown on the lower right corner of the project plans, name of the structure or element or stream, sheet numbering for the shop drawings, name of the fabricator and the name of the Contractor.

Prior to contract letting, bidders may obtain a free computer diskette or a computerized transfer of files (from the Engineer's office) that contains the earthwork information in ASCII format, plain text files. If copies of the actual cross-sections are requested, in addition to, or instead of,

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the diskette, they will be available at the Engineers office for borrowing by copying companies for the purpose of making copies for the bidder, at the bidder's expense.

Item 7. Legal Relations and Responsibilities

Do not initiate activities in a project specific location (PSL) associated with a U.S. Army Corps of Engineers (USACE) permit area that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. "Associated" as defined here means materials are delivered to or from the PSL. The permit area includes all waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. The contractor shall be responsible for any and all consultations with the USACE regarding activities, including project specific locations (PSLs) that have not been previously evaluated by the USACE. Provide the Department with a copy of all consultation(s) or approval(s) from the USACE prior to initiating activities.

The Contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self determination has been made that the PSL is non-jurisdictional or proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The contractor is solely responsible for documenting any determination(s) that their activities do not affect a USACE permit area. Maintain copies of their determination(s) for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, prior to any excavation hauled from or embankment hauled into a USACE permit area by either (1) or (2) below.

- (1) Restricted Use of Materials for Previously Evaluated Permit Areas.** Document both the project specific location (PSL) and its authorization. Maintain copies for review by the Department or any regulatory agency. When an area within the project limits has been evaluated by the USACE as part of the permit process for this project:

 - a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in Item 110 is used for permanent or temporary fill (Item 132, Embankment) within a USACE permit area;
 - b. Suitable embankment (Item 132) from within the USACE permit area is used as fill within a USACE evaluated area; and,
 - c. Unsuitable excavation or excess excavation ["Waste"] (Item 110) that is disposed of at a location approved by the Engineer within a USACE evaluated area.
- (2) Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of all USACE coordination or approval(s) prior to initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off right of way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow and disposal sites:

- a. Item 132, Embankment, used for temporary or permanent fill within a USACE permit area; and,
- b. Unsuitable excavation or excess excavation ["Waste"] (Item 110, Excavation) that is disposed of outside a USACE evaluated area.

The total area disturbed for this project is .60 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract 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. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer and to the local government that operates a separate storm sewer system.

Item 8. Prosecution and Progress

Working days will be computed and charged in accordance with Article 8.3.A.1 Five-Day Workweek.

Item 100. Preparing Right of Way

Measurement for this item shall be along the centerline of the project with the limits of measurements as shown on the plans.

Burning of brush will not be permitted.

Removal of objectionable material from the right of way maybe required by hand. This work will be considered subsidiary to this Item.

Item 104. Removing Concrete

When associated with a structure to be removed, removal of riprap as required, approach slabs and shoulder drains are to be included in the unit price bid for Item 496, 'Removing Structures'.

Item 105. Removing Stabilized Base and Asphalt Pavement

Cement, lime, and/or lime fly-ash stabilized base material to be removed on this project shall become the property of the Contractor.

Item 110. Excavation

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Cross sections for pay quantity determination of earthwork may be developed photogrammetrically.

Review proposed waste sites to determine if any site is located in a "Base Floodplain" or "Floodway" as defined by the Federal Emergency Management Agency (FEMA).

If waste material from this project is placed in a base floodplain as defined by FEMA, a permit will have to be obtained from the local community responsible for enforcing National Flood Insurance Program (NFIP) regulations. The Contractor is responsible for ensuring that the owner of the property receiving the waste has obtained the necessary permit.

Items 110 and 132. Excavation and Embankment

Sulfate-laden subgrade material that is to be treated with either lime or cement, including material up to one foot outside the proposed treatment limits, is susceptible to sulfate heave. It has been determined that an excessive concentration of sulfate in the soils (>3,000 PPM by dry weight of the soil) exists for given areas of excavation and/or proposed treated subgrade within the project limits. The areas of moderate to high concentrations are as follows:

Areas of subgrade to be treated (3,001 – 7,000 PPM –moderate concentration)

no areas identified

Areas of excavation (>7,000 PPM – high concentration)

no areas identified

Moderate sulfate levels are those defined from 3,001 PPM to 7,000 PPM. Treat these soils with lime at the full 150 lb/CY rate or cement at the full 125 lb/CY rate. Do not split the rates to ensure complete reaction and mitigation of sulfate heaves. Allow the mixture to mellow for 7 days to provide for complete reaction.

High sulfate levels are not allowed within the treatment and surrounding areas as defined above.

Test soils for soluble sulfates in accordance with Test Method TEX-145 and TEX-146-E.

Treat moderate sulfate or excavate high sulfate areas identified above and other subgrade areas that may be identified during construction as having moderate to high sulfate concentrations to a depth of one foot below and laterally to one foot outside the proposed treatment limits. Treatment of the moderate level material shall be paid for under Item 260 or Item 275. Removal of the high level material shall be measured and paid for in accordance with Item 110 and replacement with suitable material shall be measured and paid for in accordance with Item 132.

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Any excavated sulfate-laden material will be acceptable for use in fill areas. Do not place within previously specified section boundaries of subgrade to be treated with either lime or cement.

Off-Site Borrow Sources. In addition to meeting pertinent specification requirements, test off-site borrow sources for sulfate content. Test soils for soluble sulfates in accordance with Test Method TEX 145 and TEX-146-E and provide documentation that supports compliance with previously stated requirements. The Engineer will perform additional testing for sulfates of this material upon delivery to the project. Only material that is placed within one foot vertically or laterally of subgrade treatment will require testing for sulfates. Remove and replace failing material (sulfate concentrations >7,000 PPM by dry weight).

Item 132. Embankment

Do not provide Type B embankment material with a Plasticity Index (PI) higher than 35.

When embankment is placed as a bridge header bank, test each lift for compliance with density requirements, near the center of each travel lane at the following locations:

1. At the “beginning of bridge” or “end of bridge” station (if abutment is on retaining wall, location may be adjusted by not more than 5 feet.)
2. At 25-foot intervals for a distance of 150 feet in advance of the “beginning of bridge” station.
3. At 25-foot intervals for a distance of 150 feet after the “end of bridge” station.

Density tests shall be conducted by a department-certified independent testing laboratory. Results of tests shall be furnished to TxDOT within 24 hours after testing; a final copy of all test reports shall be signed and sealed by a Professional Engineer in the State of Texas and furnished within five (5) working days after testing. Areas which do not meet minimum density requirements shall be removed, re-compacted, and re-tested for compliance at the contractor’s entire expense. Testing and reporting of test results will not be paid for directly, but will be considered subsidiary to this item.

Construct embankments for bridge header banks to final subgrade elevation prior to excavation for abutment caps and placement of foundation course at approach slabs. Payment for structural excavation and/or excavation for placement of foundation course will not be paid for directly, but will be considered subsidiary to the pertinent bid items.

At all locations where guardrail is shown to flare, widen the embankment as necessary to accommodate the guardrail.

All embankment slopes left idle for more than 14 days will be tracked to prevent erosion. Tracking consists of operating a tracked vehicle or equipment up and down the slope leaving

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track marks perpendicular to the direction of the slope. Tracking slopes to prevent erosion will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Item 160. Topsoil

Place approximately 4 inches of topsoil on areas shown or directed.

Excavation for topsoil shall not exceed 3 feet in depth unless otherwise directed.

Item 164. Seeding for Erosion Control

Apply seeding required between December 1 and January 31 using seed types and mixtures as shown in Item 164.2.A, Table 3. If, in the opinion of the Engineer, this does not provide an effective vegetative cover, apply "straw or hay mulch" as specified in Item 164.3.E as soon as possible. After February 1 apply warm season seeding in order to establish a permanent protective vegetative cover.

Seeding limits shall conform to the limits shown in the plans, and any other areas which are disturbed.

Item 166. Fertilizer

Fertilize all areas of project to be seeded or sodded.

Fertilizer shall be subsidiary to other items.

Item 168. Vegetative Watering

Furnish and install an approved rain gauge at the project site, as directed. Furnishing and installation of the rain gauge will not be paid for directly, but will be considered subsidiary to Item 168.

Apply vegetative watering for an establishment period of thirteen weeks following application of seed or installation of sod, at a rate of ½" of water depth per week (approximately 13,030 gallons per acre). During the first four weeks after seeding, apply watering twice per week, on non-consecutive days, each at half the weekly application rate. For the remainder of the establishment period, apply vegetative watering once per week during the months of January through June or September through December, at the weekly application rate; apply watering twice per week, on non-consecutive days during the months of July and August, each at one-half the weekly application rate.

Average weekly rainfall rates for the District are as follows:

January – 0.39”	April – 0.86”	July – 0.48”	October – 0.68”
February – 0.46”	May – 1.00”	August – 0.47”	November – 0.46”
March – 0.48”	June – 0.63”	September – 0.74”	December – 0.37”

Item 247. Flexible Base

(TY A, GR 4) Furnish crushed stone, gravel, or crushed gravel aggregate conforming to the following requirements:

Gradation:

<u>Retained on</u> <u>Sieve Size</u>	<u>Percent (%)</u> <u>by Weight</u>
1-3/4 in.	0 – 5
7/8 in.	5 – 35
No. 4	40 – 75
No. 40	65 – 85

Plasticity Index (PI)	12 max., 4 min.
Liquid Limit	45 max.
Wet Ball Mill	50 max.
Wet Ball Mill, %	20 max.
Increase Passing the No. 40	

Place material in two or more equal lifts unless otherwise directed.

Do not add field sand to modify the final material to meet the requirements.

(TY E, GR 4) Use this item for the foundation course under the approach slabs and other locations shown on the plans. Furnish aggregate conforming to the following requirements:

Gradation:

<u>Retained on</u> <u>Sieve Size</u>	<u>Percent (%)</u> <u>by Weight</u>
1-3/4 in.	0 – 5
No. 4	30 – 75
No. 40	65 – 85

Plasticity Index (PI)	15 max.
Liquid Limit	45 max.
Wet Ball Mill	50 max.
Wet Ball Mill, %	20 max.
Increase Passing the No. 40	

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Place material in two or more equal lifts unless otherwise directed.

Do not add field sand to modify the final material to meet the requirements

Cement treat in accordance with Item 275.

Item 310. Prime Coat

Provide an MC-30 or AE-P for this Item. Apply AE-P as specified in Item 314.

Emulsified asphalt material shall be used during the base finishing process. The amount used shall be within the percentile limits determined and approved by the Engineer and shall not be less than two percent of the total mixture.

Emulsified asphalt material shall be a mixture of approximately five percent (SS-1 or AE-P) and ninety-five percent water. Water will not be paid for separately, but is subsidiary. An application rate of 0.20 gal/sy shall be used unless otherwise directed.

Do not perform this work when the weather, as indicated by the national oceanic and atmospheric administration (NOAA) states a chance of rain of 40% or greater.

Item 340. Dense-Graded Hot Mix Asphalt (Method)

RAP aggregate must meet the requirements of Table 1.

Dilution of tack coat is not allowed.

Provide aggregate with a Surface Aggregate Classification value of B for the surface course of the travel lanes.

Provide PG70-22 asphalt for surface course when using fractionated RAP.

Provide a PG70-22 asphalt for the surface course.

Provide the PG70-22 asphalt with any of the following modification alternatives:

- *PG64-22 modified with SBS at the refinery

- *PG64-22 modified with SBR Latex at the Hot Mix Plant.

- *AC-10 modified with SBR Latex at the Hot Mix Plant.

- *PG64-22 modified with Crumb Rubber and Vestenamer (TOR) at the Hot Mix Plant.

When modified at the Hot Mix Plant, provide the PG 64-22 or AC-10 refinery certification.

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Provide a PG64-22 asphalt for the base course.

Furnish a CSS-1P with greater than 50% asphalt residue for the tack coat on this project.

If the Contractor elects to use Warm Mix Asphalt (WMA) use the following notes.

Notify the District Pavement Engineer.

Use an Evotherm DAT Warm Mix Asphalt (WMA), a SASOBIT WMA, a Rediset WMX WMA, or an Advera WMA product additive for all mix applications. Delivery temperature shall be a maximum of 235° F. Delivery and roll out temperatures will be modified by the supplier and accepted by the engineer. All work related to WMA product additives is subsidiary to this item.

To produce an Evotherm WMA, the mix production facility will receive Evotherm DAT Concentrate from the concentrate supplier or via an authorized representative of either supplier. Evotherm DAT Concentrate, a chemical solution, is metered into the asphalt line at a rate of 5.26% by asphalt weight. Evotherm DAT Concentrate contains approximately 15% Evotherm chemistry and 85% water. The Evotherm DAT supplier will provide the delivery pump, if necessary.

To produce a SASOBIT WMA, the mix production facility will receive SASOBIT from the solution supplier. SASOBIT is metered into the asphalt line at a rate of 1.5% by weight of total binder content.

To produce a Rediset WMX WMA, preblend with the asphalt or dose into the mixing drum via the RAP belt or port. Use 1.5% or 2.0% by weight of asphalt dependent upon the mix type.

To produce an Advera WMA, the mix production facility will receive Advera from the solution supplier. Advera is added into the mixing drum at a rate of 0.25% by weight of mix to create a foaming effect in the binder. Advera WMA is a synthetic zeolite (hydrated aluminosilicate, containing 18-21% water).

An authorized representative of the WMA product additive supplier shall be present onsite during the first day of asphalt placement.

Use the boil test, test method TEX-530-C, and provide only mixes that produce zero percent (0%) stripping for design verification and during production.

Include the approved mix design number on each delivery ticket.

Place mixture when the roadway surface temperature is equal to or higher than the temperatures listed in Table 10 unless otherwise approved or shown on the plans. Measure the roadway

surface temperature with a handheld infrared thermometer. The Engineer may allow mixture placement to begin prior to the roadway surface reaching the required temperature requirements if conditions are such that the roadway surface will reach the required temperature within 2 hrs. of beginning placement operations. Unless otherwise shown on the plans, place mixtures only when weather conditions and moisture conditions of the roadway surface are suitable in the opinion of the Engineer.

**Table 10
Minimum Pavement Surface Temperatures**

High Temperature Binder Grade	Minimum Pavement Surface Temperatures in Degrees Fahrenheit	
	Subsurface Layers or Night Paving Operations	Surface Layers Placed in Daylight Operations
PG 64	45	50
PG 70	55 ¹	60 ¹
PG 76	60 ¹	60 ¹
PG 76	65 ¹	70 ¹
Asphalt Rubber (A-R)	65 ¹	70 ¹

Note 1: Contractors may pave at temperatures 10°F lower than the values shown in Table 11A when utilizing a paving process or equipment that eliminates thermal segregation. In which cases, the contractor must use either an infrared bar attached to the paver, or a hand held thermal camera, or a hand held infrared thermometer operated in accordance with Test Method 244-F to demonstrate to the satisfaction of the engineer that the uncompacted mat has no more than 10°F of thermal segregation.

Trimming of a core sample will be performed at the request of TxDOT only and is for the purpose of removing underlying material or removing an uneven bottom portion of the core to the extent that the new surface is suitable for testing. Trimming of core samples will be limited to ¼ ". Notify TxDOT prior to trimming cores so that a TxDOT representative may be present if so desired. Cores that have been trimmed without providing proper notification will not be accepted for testing. Trimming of a core sample where the resulting thickness is less than the plan thickness requirements for the HMAC layer that the core was taken from will not be accepted for testing.

Item 420. Concrete Structures

Provide weepholes at bridge ends in the wingwalls as directed.

Saw-cut grooves are not required.

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Concrete for "Interior Bents" will be paid for as a plan quantity.

Item 421. Hydraulic Cement Concrete

For concrete plants equipped with 2 aggregate bins and/or no calibrated metering system, blend manufactured and natural sand at the aggregate source only. For concrete plants equipped with a minimum of 3 bins and a calibrated metering system, blending of the separate sands on-site is permitted to meet gradation and AIR requirements.

The strength testing equipment for concrete will be capable of producing an electronic printout of the test results.

Air entrainment requirements are waived for all classes of concrete except all Class S and all Class P Concrete.

Concrete will not be rejected for low air content. Adjustment to the dosage of air entrainment will be as directed or allowed by the Engineer.

Include the approved mix design number on each delivery ticket.

The Engineer may allow the use of local commercial laboratories under contract to provide these services. The previous requirements are required from the Commercial Laboratory prior to any work being performed.

Do not place concrete for paving, approach slabs, or bridge slabs when anticipated weather conditions will result in a predicted evaporation rate above $0.3 \text{ ft}^2/\text{hr}$ as determined using the Portland Cement Association publication Design and Control of Concrete Mixtures, Figure 13-8.

Design all concrete with an Optimized Aggregate Gradation in accordance with Special Provision 421---013. Use Test Method Tex-470-A to determine the optimized aggregate gradation. This work is subsidiary to this item.

Design and analyze all concrete for pavement and structures using the Concrete Works Program Version 2.0.6 (Beta) for acceptance by TxDOT. Use Test Method Tex-426-A to develop input for the Concrete Works Program. This work is subsidiary to this item.

Optimized graded aggregate concrete will maximize coarse aggregate content and minimize fine aggregate content while maintaining workability. Coarse aggregate factors or packing factors will be re-established to maximize coarse aggregate content.

Item 427. Surface Finishes for Concrete

Unless otherwise noted, provide a surface area **II** with a rub finish on the bridge(s).

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Item 428. Concrete Surface Treatment

Provide a Class II surface treatment Type II to the roadway slab, sidewalk, curb, inside face of rail and any other areas shown on the detail sheets.

Item 440. Reinforcing Steel

All slab reinforcing steel shall be epoxy coated.

Item 464. Reinforced Concrete Pipe

All bends and connections in pipe shall be prefabricated.

Bedding shall be Class "B" as shown in figure 1, item 400. All circular reinforced concrete pipes shall be in accordance with ASTM C76 Class III, unless shown otherwise on the plans.

Either cold applied plastic asphalt joint compound or cold applied plastic gaskets shall be used for all joints.

Water ponding of cohesionless material will not be allowed.

Item 496. Removing Structures

Remove all sidewalk, superstructure, and substructure elements including foundations.

Notify the Texas Department of State Health Services (DSHS) prior to demolition or renovation of bridges or other structures, using DSHS Form APB#5, "Demolition/Renovation Notification Form". The form and instructions may be found on the DSHS Asbestos Programs Branch web page at <http://www.dshs.state.tx.us/asbestos/notification.shtm>. The DSHS notification form must be hand-delivered or mailed to (received at) the DSHS Austin office at least ten working days (10) days prior to commencing demolition or renovation. Fax or e-mail notifications will not be accepted. For projects with multiple bridges, a single notification, with a listing of all bridges or structures to be demolished or renovated and the expected start dates of their demolition or renovation (the start date is defined as the first date of visible demolition activities). Notify the DSHS Regional or Local inspector of all start date changes. The expected project completion date may be used as the "end" date.

Removal of riprap as required, approach slabs and shoulder drains to be included in the unit price bid.

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When required by the plans, partial or complete removal of a structure for staged construction shall be accomplished in a manner which does not cause damage to the remainder of the structure or its supporting members. Submit the procedure for removal of superstructure or substructure in writing or plan drawing for approval prior to implementation.

The structure(s) to be removed have surface coatings which may contain hazardous materials. Provide for the safety and health of employees and abide by all OSHA standards and regulations.

To allow for disassembly, the Department will remove paint containing hazardous materials off the steel during the Contract in accordance with the following:

- For simple steel I-beam spans less than 80' in length, a four inch wide strip around the perimeter of the diaphragm member or members at each attachment location to the beams.
- For continuous I-beam units or simple spans more than 80' in length, a six inch wide strip around the perimeter of the beam cross-section for each beam at each cut location. A four inch wide strip around the perimeter of the diaphragm member or members at each attachment location to the beams.
- A four inch wide strip around bearing attachments and at the anchor bolts.
- As requested elsewhere and approved by the Engineer. Paint removal requested beyond that listed herein will be at the Contractor's expense.

Provide to the Engineer a detailed plan of the locations of paint removal at least 60 days prior to start of steel structure removal.

Item 502. Barricades, Signs, and Traffic Handling

Maintenance of roadways, not paid as "constructing detours", and designated in the traffic control plan to carry traffic, will be the responsibility of the Contractor and will be paid for by "Contractor Force Account or Agreed Unit Price".

Permanent signs may be installed when construction in an area is complete and they will not be in conflict with the traffic control plan for the remainder of the job.

Existing signs are to remain as long as they do not interfere with construction and they do not conflict with the traffic control plan.

Any sign not detailed in the plans but called for in the layout shall be as shown in the current "Standard Highway Sign Designs for Texas".

When traffic is obstructed, arrange warning devices in accordance with arrangements indicated in the latest edition of the "Texas Manual on Uniform Traffic Control Devices".

Cover or remove any work zone signs when work or condition referenced is not occurring.

In addition to the traffic control plans and the latest BC standard plan sheets, provide within the limits of the project, standard barricades, warning signs, delineators, lights, 28" cones, and flaggers in sufficient numbers and any combination as considered necessary by the engineer.

Place one TY III barricade (8 feet) at each stockpile of material that is placed on the right-of-way and is located within 30 feet of the traveled way.

Furnish advisory speed signs in sufficient number as determined by the engineer.

Furnish sufficient personnel available to revise traffic control as directed by the engineer.

Provide the engineer a letter certifying that all truck-mounted attenuators (TMA) used on this project that were purchased on or after October 1, 1998, have been found to be crash worthy using the criteria outlined in NCHRP reports 230 or 350.

After completion of the project the contractor shall fill any holes left by the barricades or sign supports and restore the area in which the signs were removed to its original condition.

Ensure all permanent signs and pavement markings are installed before opening that section of roadway to traffic. Consider subsidiary to the pertinent items. Repair or replace any signs which are damaged during construction, or which are deemed insufficient by the engineer.

Secure a 28-inch cone on top of any foundations that have protruding studs during construction.

Repair barricades within 48 hours after barricade report has been delivered.

Item 506. Temporary Erosion, Sedimentation, and Environmental Controls

The SW3P for this project shall consist of using the following items as directed:

- a. Temporary rock filter dams
- e. Temporary sediment control fence
- f. Construction exits

Remove accumulated sediment and/or replace SW3P controls when the capacity has been reduced by 50% or when the depth of sediment at the control structure exceeds one foot.

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

After temporary erosion control devices are no longer required, cleanup and reshaping of those areas will be required. Consider incidental to pertinent items.

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Clean asphalt equipment in such a manner that will not leave any petroleum contaminants in the right of way. No construction waste materials will be buried within the right of way.

Collect wastewater generated on-site by chemical toilets and dispose of properly.

Install “storm inlet sediment traps” and “silt fence” at the earliest time possible, as directed.

Periodically inspect and maintain all sediment traps and silt fence to ensure proper function. The sediment traps and silt fence shall remain in place until vegetation is established as determined solely by the Engineer.

Items 530 And 531. Intersections, Driveways and Turnouts, and Sidewalks

The furnishing and installation of the sand cushion in the proposed sidewalks, sidewalk ramps and driveways will not be paid for directly but shall be considered subsidiary to this bid item.

Item 644. Small Roadside Sign Supports and Assemblies

All small signs not detailed in the plans shall be built in accordance with the latest edition of the “Standard Highway Sign Designs for Texas”. Where a sign size or particular legend is shown and such sign size or legend is not shown in the publications, the contractor shall furnish the sign as detailed in the plans.

Stake all sign support locations and obtain the engineer’s approval prior to installation of sign supports.

Item 658. Delineators and Object Markers

Only Recycled Rubber posts will be accepted on this project.

Item 666. Reflectorized Pavement Markings

Type I reflectorized pavement markings shall be placed no sooner than 14 days after placing the final course of HMA/CP.

Mark proposed locations (or offset) prior to placement of pavement markings. Pavement surface preparation shall be in accordance with item 678 except all surface preparation shall be considered incidental to pertinent bid items.

Item 672. Raised Pavement Markings

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Sheet :

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Bituminous adhesive shall be used to bond all raised pavement markers to the HMA pavement.

Use epoxy to bond all raised pavement markers to concrete pavement.

Place bituminous adhesive at a temperature range of 380 to 390 degrees Fahrenheit. Place the pavement marker on the bituminous adhesive approximately twenty (20) seconds after the adhesive is placed on the pavement. The pavement marker shall rest solely on the adhesive and not the pavement surface.

There shall be at least a one eighth (1/8) inch layer of bituminous adhesive between the pavement marker and the pavement surface.

Raised pavement markers shall be placed no sooner than 14 days after placing the final course of HMA.