

# White County, Georgia

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**ADDENDUM # 1**

**05/23/18**

## **Bridge Rehabilitation for 311-5002-0, and 311-5003-0 in White County, GA**

**White Co. Contract ID: CP335-009-N (2018)-311-5002-0  
CP335-009-S (2018)-311-5003-0**

**Proposal Closing Date: Thursday, June 14, 2018 Time: 10:30 AM**

**\*This addendum will correct a typographical error for the Pre-bid meeting date for these bridge rehab projects referenced on page 7 of the contract. Meeting date is Tuesday, June 5, 2018 at 10:30am at the White County Road Dept. Office, 675 Truelove Rd., Cleveland, GA 30528.**

**Bid pricing item sheets are also changed and included in this addendum. An option has been added to handle work if the bridge decks are very un-level after milling. Please place your bid pricing on the new sheets and attach this addendum to the original and one copy when you turn in your bid.**

Bids not signed shall be declared as “Non-Responsive” and may not be considered for award.

**APPENDIX D-1**  
**BID PRICING CP335-009-N(2018)-311-5002-0**  
**New Bridge Rd. – Bridge ID: 311-5002-0**  
**Project begins & ends: New Bridge Rd. @White Creek**

ITEM	ROADWAY	UNITS	QUANTITY	UNIT PRICE	DOLLAR AMOUNT
150-1000	TRAFFIC CONTROL	LS	1		
207-0203	FOUND BK FILL MAT'L, TP II	CY	25		
310-5100	GR AGGR BASE CRS, 10 INCH INCL MAT'L	TN	385		
402-3121	25MM SUPERPAVE GP1 OR 2 INCL BITUM & HLIME 440LBS SQ. YD.	TN	130		
402-3190	19MM SUPERPAVE GP1 OR 2 INCL BITUM & HLIME 220LBS SQ. YD.	TN	65		
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MAT'L & H-LIME	TN	30		
402-3101	ASPH CONC 9.5 MM SUPERPAVE, TYPE I, BLEND 1, INCL BITUM MAT'L 165lb sy	TN	60		
413-1000	BITUM TACK COAT – CRS2H (.05gl sy)	GL	120		
432-5010	MILL ASPH. CONC. PVM T, VARIABLE DEPTH (AT BRIDGE)	SY	405		
432-5010	MILL ASPH. CONC. PVM T, VARIABLE DEPTH (AT ROAD) 100FT EACH SIDE	SY	585		
449-1620	LOW DENSITY, CLOSED CELL, X-LINKED, ETHYLENE VINYL ACETATE, POLYETHYLENE COPOLYMER, NITROGEN BLOWN SEAL, BR-2	LF	105		
461-2000	RESEALING BRIDGE JOINTS TP-0	LF	70		
500-3101	CLASS A CONCRETE	CY	20		
519-0515	SURFACE PREP FOR POLYMER BRIDGE DECK OVERLAY	SY	406		
519-0530	TWO PART POLYMER BRIDGE DECK OVERLAY	SY	406		
521-1000	PATCHING CONCRETE BRIDGE DECK	SF	12		
600-0001	FLOWABLE FILL	CY	10		

603-2024	STN DUMPED RIPRAP, TP1, 24 IN	SY	115		
603-7000	PLASTIC FILTER FABRIC	SY	115		
652-5451	5 IN SOLID PAINT STRIPING, WHITE STANDARD TRAFFIC PAINT/25 GL TO THE LINE MILE	LF	1415		
652-5452	5 IN SOLID PAINT STRIPING, YELLOW STANDARD TRAFFIC PAINT/25 GL TO THE LINE MILE	LF	1415		
163-0240	MULCH	TN	10		
163-0527	CONSTRUCT AND REMOVE RIP-RAP CHECK DAMS, STONE PLAIN RIP RAP /SAND BAGS	LF	400		
163-0528	CONSTRUCT & REMOVE FABRIC CHECK DAMS -TYP C SILT FENCE	LF	400		
163-0529	CONSTRUCT & REMOVE SEDIMENT BARRIER OR BALE STRAW CHECK DAM	LF	500		
201-1500	CLEARING AND GRUBBING	LS	1		
700-6910	PERMANENT GRASSING	AC	1.0		
<b>TOTAL</b>	<b>CP335-009-N(2017)-311-5002-0</b>				

IF after milling, bridge deck surface is un-level, Proj. Mgr. may opt to omit Items 519-0515 & 519-0530 and replace them with the following hydro-demolition & overlay work. Please give unit pricing for IF this occurs and re-add your total price above with the new substituted line items below to show a Grand Total price for the project if this option replaces the original polymer bridge deck overlay. The new overlay will be grooved.

ITEM	ROADWAY	UNITS	QUANTITY	UNIT PRICE	DOLLAR AMOUNT
519-0225	CONCRETE OVERLAY, LATEX MODIFIED 2 INCHES THICK MINIMUM	SY	406		
519-0700	UN SOUND CONCRETE REMOVAL & REPLACEMENT	SF	100		
500-0100	GROOVED CONCRETE	SY	372		
<b>TOTAL</b>	<b>CP335-009N(2017)-311-5002-0</b>				

Bid submitted by: \_\_\_\_\_  
 Company Name

**NAME & TITLE OF PERSON AUTHORIZED TO SIGN**

\_\_\_\_\_  
 Name (Print)

\_\_\_\_\_  
 SIGNATURE

\_\_\_\_\_  
 TITLE

**Bids not signed shall be declared as “Non-Responsive” and may not be considered for award.**

**APPENDIX D-2  
 BID PRICING CP335-009-S(2018)-311-5003-0  
 New Bridge Rd. – Bridge ID: 311-5003-0  
 Project begins & ends: New Bridge Rd. @Dean Creek**

150-1000	TRAFFIC CONTROL	LS	1		
207-0203	FOUND BKFILL MAT'L, TP II	CY	25		
310-5100	GR AGGR BASE CRS, 10 INCH INCL MAT'L	TN	385		
402-3121	25MM SUPERPAVE GP1 OR 2 INCL BITUM & HLIME 440LBS SQ. YD.	TN	130		
402-3190	19MM SUPERPAVE GP1 OR 2 INCL BITUM & HLIME 220LBS SQ. YD.	TN	65		
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H-LIME	TN	30		
402-3101	ASPH CONC 9.5 MM SUPERPAVE, TYPE I, BLEND 1, INCL BITUM MAT'L @165lbs SY	TN	60		
413-1000	BITUM TACK COAT – CRS2H (.05gl sy)	GL	120		
432-5010	MILL ASPH. CONC. PVMT, VARIABLE DEPTH (AT BRIDGE)	SY	430		
432-5010	MILL ASPH. CONC. PVMT, VARIABLE DEPTH (AT ROAD) 100FT EACH SIDE	SY	585		

449-1620	LOW DENSITY, CLOSED CELL, X-LINKED, ETHYLENE VINYL ACETATE, POLYETHYLENE COPOLYMER, NITROGEN BLOWN SEAL, BR-3	LF	91		
461-2000	RESEALING BRIDGE JOINTS TP-0	LF	61		
500-3101	CLASS A CONCRETE	CY	20		
519-0515	SURFACE PREP FOR POLYMER BRIDGE DECK OVERLAY	SY	427		
519-0530	TWO PART POLYMER BRIDGE DECK OVERLAY	SY	427		
521-1000	PATCHING CONCRETE BRIDGE DECK	SF	12		
600-0001	FLOWABLE FILL	CY	10		
603-2024	STN DUMPED RIPRAP, TP1, 24 IN	SY	100		
603-7000	PLASTIC FILTER FABRIC	SY	100		
652-5451	5 IN SOLID PAINT STRIPING, WHITE STANDARD TRAFFIC PAINT/25 GL TO THE LINE MILE	LF	1450		
652-5452	5 IN SOLID PAINT STRIPING, YELLOW STANDARD TRAFFIC PAINT/25 GL TO THE LINE MILE	LF	1450		
163-0240	MULCH	TN	10		
163-0527	CONSTRUCT AND REMOVE RIP-RAP CHECK DAMS, STONE PLAIN RIP RAP /SAND BAGS	LF	400		
163-0528	CONSTRUCT & REMOVE FABRIC CHECK DAMS -TYP C SILT FENCE	LF	400		
163-0529	CONSTRUCT & REMOVE SEDIMENT BARRIER OR BALE STRAW CHECK DAM	LF	500		
201-1500	CLEARING AND GRUBBING	LS	1		
700-6910	PERMANENT GRASSING	AC	1.0		
<b>TOTAL</b>	<b>CP335-009-S(2017)-311-5003-0</b>				

IF after milling, bridge deck surface is un-level, Proj. Mgr. may opt to omit Items 519-0515 & 519-0530 and replace them with the following hydro-demolition & overlay work. Please give unit pricing for IF this occurs and re-add your total price above with the new substituted line items below to show a Grand Total price for the project if this option replaces the original polymer bridge deck overlay. The new overlay will be grooved.

ITEM	ROADWAY	UNITS	QUANTITY	UNIT PRICE	DOLLAR AMOUNT
519-0225	CONCRETE OVERLAY, LATEX MODIFIED 2 INCHES THICK MINIMUM	SY	427		
519-0700	UN SOUND CONCRETE REMOVAL & REPLACEMENT	SF	100		
500-0100	GROOVED CONCRETE	SY	391		
<b>TOTAL</b>	<b>CP335-009N(2017)-311-5003-0</b>				

Bid submitted by: \_\_\_\_\_  
Company Name

**NAME & TITLE OF PERSON AUTHORIZED TO SIGN**

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
TITLE

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SPECIAL PROVISION**

**Project No: 311-5003-0 WHITE COUNTY**

**Section 519 –Concrete Bridge Deck Overlay**

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*Add the following:*

**519.1 General Description**

This work consists of the construction of a Latex Modified Concrete (LMC) bridge deck overlay of an existing concrete bridge deck including the partial depth removal of the existing concrete bridge deck using hydrodemolition. This work also includes the removal and replacement of any unsound concrete and furnishing of all material, labor and equipment necessary to perform the work in accordance with the Specifications and Plan details.

**519.1.01 Definitions**

General Provisions 101 through 150.

**519.1.02 Related References**

**A. Related Specifications**

[Section 449](#)

[Section 500](#)

[Section 510](#)

[Section 528](#)

**B. Related Documents**

ASSHTO T22

ASTM C192

ASTM C685

ACI 308

**519.1.03 Submittals**

Submit a mix design for approval to the Office of Materials. Include the material sources, actual quantity of each ingredient, slump, air, concrete temperature and laboratory results demonstrating the ability of the design to meet the requirements shown in Table 1–Concrete Mix Requirements.

Prepare and test at least 8 cylinders according to ASTM C192 and AASHTO T22 to ensure the demonstrated laboratory compressive strength at 24 hours exceeds the minimum acceptance strength (X). Make the specimens from two or more separate batches with an equal number of cylinders made from each batch. The minimum acceptance strength is:

$$X = f'c + 500 \text{ psi} \quad (X = f'c + 3.4 \text{ MPa})$$

Where,  $f'c$  is the required minimum compressive strength at 24 hours as shown in Table 1–Concrete Mix Requirements.

## 519.2 Materials

Meet the requirements of the Standard Specifications for all materials.

<b>Table 1—Concrete Mix Requirements</b>	
<b>Materials</b>	<b>Requirement</b>
Type I <sup>1</sup> or Type III Portland Cement, minimum	750 lbs/cubic yard (445 kg/ cubic meter)
Coarse Aggregate Size No.	7
Water/Cement Ratio, maximum	0.40
Slump Limits (Jobsite), maximum	7 in. (180 mm)
Air Acceptance Limits (Jobsite)	3.5 to 7.5%
Latex Admixture <sup>2</sup> , maximum	24.5 gals/ cubic yard (121.2 L/ cubic meter)
Compressive Strength (Jobsite) @ 24 hours, minimum	3000 psi (20 MPa)

1. An additional 10 percent cement is required when using Type I cement.  
2. The latex admixture shall contain a minimum of 46% solids. All non-solids in the Latex admixture are considered part of the total water.

Manufacture concrete for LMC overlays in accordance with Section 500 of the Specifications and as specified herein.

### 519.2.01 Delivery, Storage and Handling

Store all materials to prevent damage from the elements and to insure the preservation of its quality and fitness for the work.

Do not use materials exposed to flame.

Inspect all stored materials prior to their use in the work. Ensure all stored materials meet Contract requirements at the time of use, regardless of acceptance before storage.

Remove any rejected material from the worksite immediately upon discovery. Replace all rejected material at no additional cost to the Department.

## 519.3 Construction Requirements

### 519.3.01 Personnel

General Provision 101 through 150.

Utilize a latex manufacturer who will provide an on-site technical representative during the proportioning, mixing, placing and finishing of the overlay. Obtain, maintain, and cooperate with the latex manufacturer's on-site technical assistant during the proportioning, mixing, placing and finishing of the overlay.

### 519.3.02 Equipment

General Provisions 101 through 150.

#### A. Hydrodemolition Equipment

Use high-pressure water blasting (hydrodemolition) equipment designed specifically for concrete removal to remove concrete from the existing deck to be overlaid. Ensure hydrodemolition equipments meets the following:

1. The hydrodemolishing equipment consists of filtering and pumping units operating in conjunction with a remote-controlled robotics device.
2. The equipment operates at a noise level of less than 90 decibels at a distance of 66 ft. (20 m) from either the powerpac unit or the remote robot.



3. The equipment is capable of working 24 hours per day.

Provide an external water source for use in the hydrodemolition operations. Do not draw water from any waterway for use in construction. During the hydro-demolition operations, furnish protective platforms in accordance with Section 510 of the Specifications to prevent material and debris from falling into the waterway or roadway. Furnish, install and maintain erosion control measures, approved by the Engineer, to contain and filter run-off from hydrodemolition operations. Prevent all debris, runoff or other materials from entering any waterway.

## **B. Mixer**

The proportioning and mixing equipment shall be self-contained, mobile, continuous mixer capable of meeting Subsection 500.3.02.B, "Volumetric Proportioning Equipment", ASTM C 685 and the following requirements:

1. Provide a self-propelled mixer having the capability to carry sufficient unmixed dry bulk cement, fine aggregate, coarse aggregate, admixtures, latex emulsion and water in separate compartments, and to produce no less than 6 cubic yards (4.6 m<sup>3</sup>) of concrete on site. The mixer shall be equipped so the cement, fine aggregate, coarse aggregate, latex emulsion and water can be fixed at calibration of the mixer, and thereafter shall not be changed without approval by the Engineer.
2. Provide a mixer capable of measuring cement introduced into the mix. A recording meter, visible at all times and equipped with a ticket printout. The metering device shall be readily accessible and accurate to within  $\pm 1$  percent.
3. The mixer shall provide control of the flow of water and latex emulsion into the mixer chamber. The latex admixture supply portion of the mixer shall be equipped with a cumulative-type meter which can be read to the nearest 0.1 gal (0.4 L) or 1 lb (0.5 kg). The water supply portion of the mixer shall be equipped with a flow meter or suitable device for calibrating the water supply, and a cumulative-type water meter which can be read to the nearest 0.1 gal (0.4 L) or 1 lb (0.4 kg). The latex and water meters shall be readily accessible and accurate to within  $\pm 1$  percent. The mixer shall be capable of continuously calculating or mechanically agitating the latex emulsion and shall have a flow through screen between the storage tank and discharge. The screen shall be the type that can be cleaned.
4. Provide an approved method for adding the air-entraining admixture and the water-reducing admixture. Keep the admixtures separated when adding.
5. Provide a mixer having a scalping screen over the fine aggregate bin to screen out mud balls, cemented or conglomerated lumps, or any other oversize materials which could interrupt the flow of fine aggregate during proportioning.
6. Have the Office of Materials calibrate the mixer prior to the start of Work. Recalibrate the mixer thereafter at least once during each 50 yd<sup>3</sup> (38 m<sup>3</sup>) production if yield checks indicate recalibration is necessary and at any other times the Engineer deems necessary to ensure proper proportioning of the ingredients. The mixer shall be capable of being calibrated to automatically proportion and blend all components on a continuous or intermittent basis as required by the finishing operation, and shall discharge mixed material through a conventional chute directly in front of the finishing machine.

Keep the mixer clean and free of partially dried or hardened materials at all times. Mixer shall consistently produce a uniform, thoroughly blended mixture within the specified air content and slump limits. Malfunctioning mixers will be immediately repaired and recalibrated or replaced with acceptable units.

## **C. Placing and Finishing**

Include hand tools for placement and brushing-in freshly mixed latex modified concrete and for distributing it to approximately the correct level for strike-off with the screed.

Provide an approved finishing machine for finishing large areas of work meeting the following requirements:

1. Provide a self-propelled finishing machine capable of forward and reverse movement under positive control. Make provisions for raising all screeds to clear the screeded surface for traveling in reverse.
2. Provide a self-propelled finishing machine equipped with one or more rotating rollers, augers and 1500 to 2500 vpm vibratory pans may be used.

3. A suitable portable lightweight or wheeled work bridge shall be required and used behind the finishing operation.

### **519.3.03 Preparation**

#### **Removal of Existing Concrete**

Remove concrete to a depth of 1 ½ in. (38 mm) below the existing concrete surface or as shown on plans. Remove concrete by the use of high pressure water blasting equipment designed specifically for this purpose. Provide equipment capable of providing a rough and bondable surface while removing deteriorated or non-deteriorated concrete, and cleaning any exposed reinforcing steel of all rust and corrosion by use of high velocity water jets acting under continuous automatic control.

Take all steps necessary to prevent cutting or otherwise damaging reinforcing steel, including any vertical stirrups, structural steel, and welded shear connectors projecting into the slab and designated to remain in place. If any such bars or shear connectors are damaged during removal operations, replace with members of equal strength, size and spacing as the existing, to the satisfaction of the Engineer at no additional cost to the Department.

Remove concrete in areas of the deck not accessible or otherwise convenient to hydrodemolition operations using conventional (jackhammer) removal methods. Perform such removal by power chipping or hand tools. Pneumatic hammers heavier than 15 lbs class (6.8 kg) [nominal], {(30 lbs) [13.6 kg] maximum} are not permitted. Do not operate pneumatic hammers and chipping tools at an angle exceeding 60 degrees relative to the surface of the deck slab.

Remove concrete debris by hand or by mechanical means immediately following the hydrodemolition process to prevent the debris from re-setting or re-adhering to the surface or remaining sound concrete. Exercise care to avoid any damage to the remaining sound concrete,

### **519.3.04 Operations of Equipment:**

#### **A. General Operations**

Provide qualified personnel to supervise and operate the hydrodemolition equipment. Avoid removal of sound concrete outside the limits and below the depth indicated on the plans.

Provide lighting as required to allow for the safe conduct of night time removal operations. Position lighting to avoid hazardous glare in the direction of oncoming traffic. Obtain the Engineer's approval for lighting placement and configuration. Store and maintain, on the job site, an inventory of common wear parts and replacement accessories for the equipment adequate to assure routine maintenance tasks can be performed readily without undue project delay.

#### **B. Run-off Water**

Until its removal, contain all water runoff and residue caused by the hydrodemolition operation within the limits of the bridge deck. Submit to the Engineer for approval, a plan detailing containment and removal of the run-off water and slurry prior to beginning work. If satisfactory containment and removal of the runoff water or slurry is not being accomplished, discontinue operations until adequate containment and disposal methods are approved and employed during removal operations to the satisfaction of the Engineer.

Provide for the disposal of runoff water and residue generated by the hydrodemolition operation. Obtain any required permits and comply with applicable regulations concerning such water and residue disposal. Make provision for the safe handling of runoff water insofar as it may constitute a hazard on the adjacent or underlying traveled roadway surface. Repair all existing slopes and berm areas damaged by scouring water jet, runoff water, or other operations at no additional expense to the Department.

Provide protective platforms over areas of vehicular traffic when under portions of bridges where hydrodemolition takes place. See the Plans and Specifications for additional requirements.

#### **C. Calibration**

Prior to the commencement of the removal operation with hydrodemolition, calibrate the equipment on an area of sound concrete as designated by the Engineer. After calibration, move the equipment to an area of unsound concrete as designated by the Engineer to demonstrate the equipment can remove all unsound concrete and provide a highly rough and bondable surface by the established recorded settings.

Provide to the Engineer the following settings for verification:

1. Water pressure gauge
2. Machine staging control (step)
3. Nozzle size
4. Nozzle speed (travel)

Begin hydrodemolition surface preparation production after the Engineer has approved the second calibration and the above settings.

Stop the surface preparation operation if it is determined that sound concrete is being removed or unsatisfactory results are being obtained, as determined by the Engineer. Perform the appropriate recalibration or changes in equipment and methods prior to resuming the operation.

### **519.3.05 Construction**

The minimum overlay thickness is to be 1 ½ in (38 mm) or as specified in the plans.

#### **A. Surface Preparation Prior to Overlay Placement**

Prior to placing the overlay, blast clean all surfaces to which the overlay is to bond, including exposed reinforcing and structural steel, the work face of previously placed overlay, and the faces of curbs and barriers up to a height of at least 1 in (25 mm) above the proposed overlay surface.

Clean exposed reinforcing and structural steel to remove all loose and built-up rust, asphalt residue, and all other contaminants detrimental to achieving adequate bond. Clean pockets of rust (corrosion cells) on exposed reinforcing steel of all corrosion products. Inspect areas of steel where original hydroblasting was applied to assure cleanliness requirements are met.

Suitable blast methods may include high pressure water blasting, water blasting with abrasives in the water, abrasive blasting with containment, or vacuum abrasive blasting. The listed concrete surfaces shall be made free of spalls, laitance, and all contaminants detrimental to achieving bond.

If present, clean all bridge scuppers of all foreign matter and plugged prior to placement of overlay.

Vehicles other than approved construction equipment are not permitted on those sections of the deck where hydrodemolition has begun. Prevent contamination of the deck by construction equipment or from any other source.

#### **B. Mixing**

Mix the concrete at the work site in accordance with the specified requirement for the equipment used. The maximum time between completion of mixing and placement shall not exceed 20 minutes. Mixing capability shall be such that finishing operations can proceed at a steady pace with final finishing completed before the formation of the plastic surface film.

#### **C. Placing, Consolidating and Finishing**

Clean with compressed air, wet, and keep wet for at least one hour immediately prior to placing the overlay, the deck surface which will contact the overlay. Remove any standing water prior to placement of the overlay.

Pass the finishing machine or approved screeding device over the existing deck prior to placing the concrete overlay so measurements can be made to insure proper overlay thickness and steel cover is achieved. Equip screeds as outlined in Subsection 519.3.02.C with surface vibrators sufficient to thoroughly consolidate the overlay full depth, unless other methods are approved by the Engineer. Perform consolidation using hand-held vibrators when placing the mixture around steel reinforcement or structural members.

Satisfy the surface tolerances for the overlay as found in Section 500.3.06.E of the Specifications except as noted on the Plans. After finishing, texture the surface in accordance with the requirements of Section 500.3.05.T.9.c or as required by the Plans and Proposal. Do not begin surface grooving until the curing period specified herein has expired.

#### **D. Construction Joints**

If required, construct longitudinal joints between lanes vertical and at actual lane lines.

Minimize the number of longitudinal and transverse construction joints. Thoroughly clean both types of joints by blast cleaning. Coat the hardened sides of the joints with an approved bonding agent before fresh concrete is placed. When necessary, form longitudinal construction joints vertical by use of a header secured to the deck. After removal of the longitudinal header and transition, saw the overlay 3 in (75 mm) or more inside the construction joints and the overlay outside the saw cut removed before the adjacent overlay is placed. The volume of the overlay removed is not included in the volume measured for payment.

#### **E. Curing**

Cure the concrete overlay for a minimum of 24 hours.

1. Cover the overlay promptly with a single layer of clean, wet burlap. Sprinkle occasionally, if necessary, to keep burlap moist. Be sure to pre-saturate the burlap with water, overlapped a minimum of 6 in (150 mm), and place as soon as the surface will support it without deformation.
2. Keep burlap wet by a continuous flow of water through soaker hoses and covered with a 4-mil (100  $\mu\text{m}$ ) minimum thickness, white opaque polyethylene film or a wet burlap-white opaque polyethylene sheet. Lap adjacent sheet of curing covers a minimum of 6 in (150 mm).
3. Immediately replace torn, broken or damaged sheeting materials.

#### **F. Limitations**

Place no overlay concrete when it is raining, when the ambient air temperature is below 45 °F (7 °C) or when it is predicted to fall below 45 °F (7 °C) for the duration of the curing period.

Place overlays only when the overlay surface evaporation rate, as affected by ambient air temperature, concrete temperature, deck temperature, relative humidity and wind velocity is 0.1 lb/ft<sup>2</sup>/hr (0.5 kg/m<sup>2</sup>/h) or less.

Determine and document the atmospheric conditions, subject to verification by the Engineer. Place no overlay if the ambient air temperature is 85 °F (29 °C) during the overlay placement regardless of the surface evaporation rate. Use Figure 4.1 in ACI 308R-01 to determine graphically the loss of surface moisture for the overlay. In no case shall the temperature of the overlay concrete exceed 85 °F (29 °C) during placement.

Measure the weather parameters within 10 ft (3 m) of the placement area.

During delays in the overlay concrete's placement operations of more than 10 minutes and/or when a plastic surface film develops on a LMC overlay, temporarily cover the work face of the overlay with wet burlap. If an excessive delay is anticipated, install a bulkhead at the work face and the overlay placement operation terminated.

#### **G. Repair of Cracks**

Repair cracks occurring in the concrete deck overlay surface in accordance with Section 528 of the Specifications prior to grooving of the deck surface.

#### **H. Expansion Joints**

If required, after the curing process for the overlay is completed, install new expansion joint sealing systems according to Section 449 of the Specifications.

### **519.4 Measurement**

Measurement for the concrete overlay is by the square yard of existing deck surface to be overlaid, complete in place and accepted.

Unsound concrete removal and replacement is measured by the square foot of unsound concrete removed for each removal category completed and accepted.

### **519.5 Payment**

Payment for the concrete overlay as specified above is paid for at the Contract Unit price bid per square yard. Such payment is full compensation for furnishing all equipment, labor and materials and performing the work in accordance with the Plans and Specifications.

Removal of unsound concrete is paid for at the specified rate of payment per square foot for each removal category completed and accepted. Such payment is full compensation for furnishing all equipment, materials and labor to perform the work as directed by the Engineer, including the cost for the quantity of concrete required to replace removed unsound concrete and formwork necessary to replace the existing deck.

Category (1) Unsound concrete removal to full depth of deck for slabs over metal deck forms.  
 Removal and Replacement ..... \$5.00 per square foot (\$54.00 per square meter)

Category (2) Unsound concrete removal to full depth of deck for slabs without metal deck forms.  
 Removal and Replacement ..... \$20.00 per square foot (\$215.00 per square meter)

Payment will be made under:

Item No. 519	Concrete Overlay, Latex Modified ,_____ in (mm) thick	Per square yard (meter)
Item No. 519	Unsound Concrete Removal and Replacement	Per square foot (meter)

Office of Materials

**Questions & Answers are as follow:**

On all bridge projects, will you please provide more detail on where the Class A Concrete will be utilized? I cannot find it in the plans so have no ability to price accordingly.

*Class A concrete is included for spillways or incidental items that may arise as work progresses.*

The line item 310-5100 Graded Aggr. Base Crs., 10 Inch, Including Material shows up on the White Creek and Dean Creek Bridges. What is the intent of this item? Where is it to be installed? My understanding is that the existing approaches are only being milled and are not to be removed. Therefore, this item would not be necessary.

*The intent is to provide material to tie in to existing roadway IF needed.*

There is a General Note on the Bridge Plans for White and Dean Creek that states, “ Surface Leveling – Riding Surface Needs Leveling, Cost to be Included in the Overall Bid Submitted” . You have asphalt leveling set up in the contract to cover 100 lf of asphalt at the ends of the Bridge, so I am assuming this note is referencing the actual Bridge Deck. What type of leveling will be required on the Bridge Deck, outside of possible concrete patching?

*Asphalt leveling line item is intended to be used for Asphalt to tie from approach slab to existing roadway if needed after milling is complete. Sastry & Associates says: 521-1000 – Patching concrete bridge deck – Quantities may be increased to allow for sufficient material as needed to level bridge deck rather than simply patching the deck.*

**Note: A signed acknowledgement of this addendum must be received by the White Co. Road Dept. and attached to your bid response. This addendum is part of the contract.**

Vendor Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Email: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Printed): \_\_\_\_\_ Title: \_\_\_\_\_

*End of Addendum #1.*