

Contract No.:



U S DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

EASTERN FEDERAL LANDS HIGHWAY DIVISION

**PROJECT PRA-BLRI 2P14
BLUE RIDGE PARKWAY**

PMIS: 54310

SOLICITATION

RFP: DTFH71-08-R-00014

**This Contract Cites
Standard Specifications FP-96
English Units**

**CONTRACTOR:
ADDRESS:**

STATE: NORTH CAROLINA

COUNTIES: YANCEY & BUNCOMBE

PARK / REFUGE / NF: BLUE RIDGE PARKWAY

ROADWAYS:	MILEPOSTS	MILES
Schedule A – Blue Ridge Parkway	369.0 to 375.1	6.1
Option 1 – Blue Ridge Parkway	364.4 to 369.0	4.6
Option 2 - Blue Ridge Parkway	359.7 to 364.4	4.7
Option 3 - Craggy Gardens Picnic Road and Picnic Area	0.0 to 1.2 N/A	1.2
Option 4 – Craggy Dome Overlook Parking Area	N/A	

PROJECT LENGTH TOTAL: 16.6

TYPE OF IMPROVEMENT:

Resurfacing and rehabilitating the parkway, pull-offs, and parking areas; milling and overlay; full depth pavement reclamation; and other miscellaneous work.

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***BOLD FACED ITEMS ARE TO BE INCLUDED WITH THE BID SUBMITTAL PACKAGE**

NOTICE TO OFFERORS

CONTRACT FORMAT: Offerors should note that the format of this contract is in accordance with Federal Acquisition Regulations (FAR), promulgated by the General Services Administration (GSA), effective April 1, 1984, including all applicable revisions. Applicable FAR provisions and clauses are incorporated in this contract by reference or full text as indicated in the INDEX before the D-page in this booklet. FAR provisions and clauses incorporated by reference can be accessed on the Internet on the GSA website at www.arnet.gov/far/. Offerors are encouraged to review the documents thoroughly before submitting proposal.

PROPOSAL BOOKLET AND OFFER SUBMITTAL:

It is the responsibility of the Offeror to verify that this proposal is complete as listed in the Table of Contents. The Offeror is responsible for submitting all required forms and documents with the offer. Offerors should use the Checklist for Offer Submittal included in this booklet to check that their proposals are complete. **New Questionnaire Form on Calendar Days with required signature.**

CONSTRUCTION CONTRACTS:

As stated in FAR Clause 52.236-1, the **Contractor shall perform on the site, and with its own organization, work equivalent to at least 50%**. Additional guidance is given in FAR Subpart 35.005 where the majority of the project work is complex and specialized such as restoration work, bridge painting, and proprietary construction techniques (i.e. proprietary Cintec arch strengthening.) There are exceptions and they will be reviewed on a case-by-case basis.

HAZARDOUS MATERIALS IDENTIFICATION AND MATERIAL SAFETY DATA:

As required by FAR Clause 52.223-3, Hazardous Materials Identification and Safety Data, the apparent low Offeror must submit prior to award a Material Safety Data Sheet (MSDS's) for all hazardous materials that the Offeror identifies in paragraph (b) of this clause in the D-pages of this booklet. Failure to submit MSDS's may render the Offeror ineligible for award of contract.

ATTENTION LARGE BUSINESSES - UTILIZATION OF SMALL BUSINESS CONCERNS:

Large business Offerors should note their responsibilities in the awarding of subcontracts in accordance with FAR Clause 52.219-8, Utilization of Small Business Concerns. The offeror, if a large business concern, should note its responsibility to establish and conduct a Subcontracting Plan in accordance with FAR Clause 52.219-9, Alternate II, Small Business Subcontracting Plan. If the apparent Low Offeror is a LARGE BUSINESS it will be required to submit a Subcontracting Plan with proposal. If the apparent low offeror fails to submit a subcontracting plan acceptable to the Contracting Officer at proposal time, the offeror may be ineligible for award of the contract. PLEASE NOTE: A sample plan is included in this solicitation package download documents for your use.

FINANCING ASSISTANCE: Minority, Women-owned, and Disadvantaged Business Enterprises (DBE's). The Department of Transportation (DOT) offers working capital financing assistance for transportation related contracts. DOT's Short-Term Lending Program (STLP) offers lines of credit to finance accounts receivable. Maximum line of credit is \$750,000 with interest at the prime rate. For further information, call (800) 532-1169. Internet address: <http://osdbuweb.dot.gov>.

INTERNET BASED DATA BASES - REQUIRED INPUT: According to the FAR Subpart 4.1102 contractors **MUST** be registered in Central Contractor Registration (CCR) **prior** to the award of any contract. Access the following web site to register: www.ccr.gov

According to the FAR Subpart 4.1201 contractors **MUST** complete their Online Annual Representations and Certifications Application (ORCA) **prior** to the closing date of the RFP on line at <http://orca.bpn.gov/>.

According to the FAR Subpart 22.1302 (b) contractors and sub-contractors **MUST** complete the required Annual Vets-100 Form in order to be eligible for a contract award. It can be completed on-line at <http://vets100.cudenver.edu/>.

NOTICE TO OFFERORS - (CONT'D.)

This should be completed before submitting a bid package.

PAYMENT:

Offerors are advised to review the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP), subsection 109.05, concerning **direct** and **indirect** payment included under a pay item in the bid schedule.

PROGRESS PAYMENTS:

ALL payments will be made via Electronic Funds Transfer (EFT) as such; the payment information in the CCR must be accurate in order for contractors' invoices to be considered proper invoices for the purpose of prompt payment under DOT contracts. Contractors must input and maintain (update as necessary) their EFT information in the CCR database. Offerors are advised that under FAR Clause 52.232-5, Payments Under Fixed Price Construction Contracts, upon request, progress payments will include premiums paid by the Contractor to obtain performance and payment bonds as required under this contract. These payments shall not be made in addition to the contract price. As specified in the FP, "Section 151 - MOBILIZATION", payments for performance and payment bond premiums shall be included in mobilization.

WELFARE-TO-WORK INITIATIVE:

The President's Welfare Reform Bill was initiated to assist welfare recipients and hopefully aid welfare recipients to find gainful employment. In support of this bill, Contractors are encouraged to hire welfare recipients whenever possible and to use welfare recipients in performance of duties on Government contracts.

INCREASING SEAT BELT USE IN THE UNITED STATES:

The President's Executive Order 13043 dated April 16, 1997, was issued to increase the use of seat belts in the United States. In support of this Order, contractors and subcontractors are encouraged to adopt and enforce on-the-job seat belt policies for their employees when operating company-owned, rented, or personally owned vehicles.

OBTAINING PROPOSAL DOCUMENTS:

RFP documents **will not be** mailed. All documents are available for direct download from the Federal Business Opportunities (FBO) website:

<https://www.fbo.gov/index?s=opportunity&mode=list&tab=list&cck=1&au=&ck=>

Type **DTFH71** in Keywords/Sol. # Block then click on **GO**, or the Eastern Federal Lands Highway Division website: <http://www.efl.fhwa.dot.gov/contracting/Documents.aspx>

Contractors are encouraged to register on the FBO website (for this specific project) in order to receive Email Notifications automatically when a document is added or updated for this specific project. All questions about this construction project must be emailed to the following address:

eflhd.contracts@fhwa.dot.gov.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MONITORING THE WEB PAGES NOTED ABOVE FOR ALL CHANGES TO THE SOLICITATION AND ACTING ON SAID CHANGES.

CHECKLIST FOR OFFERORS SUBMISSION

1. Bid Envelope:

- a. Addressed as shown in Block 8 of Page A-1
- b. In lower left corner, indicate Solicitation No., Project Name & Number, time for Receipt of Offers and send to Room 105.

2. Standard Form 1442: Solicitation, Offer and Award (Pages A-1 and A-2)

- a. Block 14: Name and Address of Offeror.
- b. Block 15: Telephone Number of Offeror.
- c. Block 16: Remittance Address if different from Block 14.
- d. Block 19: **All** Amendments Acknowledged, with dates of Amendments.
- e. Block 20: Bid is signed and dated.

3. Bid Schedule - (Pages B-1 through B-31)

- a. Unit proposal price and proposal amount provided for each pay item in numbers.
- b. Corrections initialed.
- c. Price Evaluation eligibility is indicated on the Proposal Summary page.

4. Standard Form 24, Bid Bond (Pages C-1 through C-2) (Required if bid guarantee is bid bond)

- a. Date executed
- b. Legal name and address of Offeror.
- c. Type of organization.
- d. State of incorporation (if applicable).
- e. Name and business address of Treasury approved surety.
- f. Penal sum of bond (not less than 20% of proposal total).
- g. Proposal identification.
- h. Signature of Offeror
- i. Seal, if corporation
- j. Signature of Surety
- k. Seal, if corporation

PROPOSALS RECEIVED WITHOUT A VALID BID BOND WILL BE REJECTED.

5. Power of Attorney.

- a. Dated on or before execution date of bond
- b. Power has original signature of surety, or is embossed with surety's seal in the certification section

PROPOSALS RECEIVED WITHOUT A VALID POWER OF ATTORNEY WILL BE REJECTED.

6. Fill In's. The following full text Clauses and/or Provision numbers shall be checked or filled in and return with the proposal package:

- a. 52.219-4 – HubZone ONLY - See Section F, Clause 52-219-4, paragraph "C",

CHECKLIST FOR OFFERORS SUBMISSION

check block if wavier is applicable.

7. Offeror's Qualifications form (provided separately as part of the proposal Documents Package). Form completed, signed and submitted with proposal

8. Offeror's Questionnaire on Calendar Days signature required (if not completed proposal shall be found non-responsive).

9. Sub-Contracting Plan - Large Businesses Only: Submittal with the proposal is mandatory.

THE FOLLOWING THREE ITEMS ARE NOT TO BE SUBMITTED WITH THE BID; BUT FAILURE TO COMPLETE THE REQUIREMENTS WILL BE CAUSE TO REJECT THE PROPOSAL.

10. Central Contractor Registration (CCR): The Contractor is currently registered in the Internet-Based CCR database at <http://www.ccr.gov>.

11. Online Representations and Certifications Application (ORCA): The Contractor's Representations and Certifications have been input online via the Internet-Based ORCA electronic database at <http://orca.bpn.gov>.

12. Vets100 Reporting: The Contractor has completed the annual Internet-Based reporting requirement online at <http://vets100>.

NOTE: THE CONTRACTOR IS FULLY RESPONSIBLE TO VERIFY THAT ALL DATA IN THE THREE DATABASES IS CORRECT EACH TIME A PROPOSAL PACKAGE IS SUBMITTED. FAILURE PROPERLY INPUT AND/OR UPDATE YOUR DATA MAY CAUSE THE PROPOSAL TO BE REJECTED.

Offerors Qualification questionnaire regarding the preparation of the proposal for time:

- 1) Does the proposal for time include the impact of normal weather conditions on the work of the Contract?
- 2) Does the proposal for time include the impact of the terms of the Contract Specifications regarding work restrictions - including all identified delays, suspensions, and shut-downs?
- 3) Does the proposal for time include sufficient time to allow that all contract work can be completed within contract time without the imposition of liquidated damages?
- 4) Does the proposal for time include time for the review and approval process for all submittals required by the Contract?
- 5) Does the proposal for time include time for the review and approval process for required drawings submitted under Subsection 104.03 of the Specifications?
- 6) Does the proposal for time include the lead time required for the procurement, manufacture, and delivery of materials that are to be incorporated into the Contract work?
- 7) Does the proposal for time include sufficient time to accommodate the fact that the date of Notice to Proceed is conditional upon the Government awarding the contract up to 60 days after the proposal opening?
- 8) Does the proposal for time include the 14 days after the award of the Contract that the Contractor has to provide Performance and Payment bonds?
- 9) Does the proposal for time include sufficient time to accommodate the fact that the Contracting Officer has up to 30 days after receipt of acceptable Performance and Payment bonds to issue the Notice to Proceed?

I hereby certify that the answer to each and every one of the questions listed above is yes.

Signature of Authorized Representative

Title

Date

Note: If the questionnaire is not signed the proposal shall be found non-responsive and rejected.

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>	1. Solicitation No. DTFH71-08-R-00014	2. Type of Solicitation <input type="checkbox"/> Sealed Bid (<i>IFB</i>) <input checked="" type="checkbox"/> Negotiated (<i>RFP</i>)	3. Date Issued 07/29/08	Page of Pages 1 OF 4
	IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.			

4. Contract No.	5. Requisition/Purchase Request No.	6. Project No. PRA-BLRI 2P14
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7. Issued By: Federal Highway Administration Eastern Federal Lands Highway Division Loudoun Tech Center, Room 105 21400 Ridgetop Circle Sterling, Virginia 20166-6511	CODE: N/A:	8. Address Offer To: See Block 7
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9. FOR INFORMATION See Blocks 9A & 9B	A. Name: Peggy Schaad	B. Telephone No. (Include area code) (NO COLLECT CALLS) Email All Questions/Inquiries To: eflhd.contracts@fhwa.dot.gov
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SOLICITATION

See Continuation of SF 1442

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"

10. The Government requires performance of the work described in these documents (title, identifying no., date):
This Request for Proposal is for the Blue Ridge Parkway 2P14, located in Yancey and Buncombe Counties, North Carolina in strict accordance with the Solicitation/Contract instructions, notices, clauses, provisions, *items listed below, and for the quantities of work actually performed at the unit prices as bid in the Bid Schedule, including all applicable Federal, State, and local taxes.

- * FP - Standard Specification for Construction of Roads & Bridges on Federal Highway Projects.
- * Bid Schedule, Section B - pages B-1 through B-31.
- * Special Contract Requirements, Section J - pages J-1 through J-100.
- * Plans (Drawings), Sheets 1 through 166.
- * Soils and Foundation Report, Parts 1, 2, and 3, Pages 1 through 302.
- * Hydraulics Data, Pages 1 through 553.

11. The Contractor shall begin performance within **10** calendar days and complete it within calendar days after receiving
 Award, Notice to Proceed. This performance period is mandatory, negotiable. (See *Continuation Sheet)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12B.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO SEE SUBSECTION 102.06 OF FP.	12B. CALENDAR DAYS Within 14 calendar days after Notice of Award
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13. ADDITIONAL SOLICITATION REQUIREMENTS:

- a. Offers in original and **0** copies to perform the work required are due at the place specified in Item 8 by **2:00 PM** local time **08/28/08**. If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.
- b. An offer guarantee **is**, is not required.
- c. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.
- d. Offers providing less than **60** calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER (Must be fully completed by offeror)

14. Name and Address of Offeror (Include ZIP code)	15. Telephone No. (Include area code)
	16. Remittance Address (Include only if different than Item 14)
CODE	FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation if this offer is accepted by the Government in writing within ___ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.

AMOUNTS ➡ See Bid Schedule - Section "B" Pages

18. The offeror agrees to furnish any required performance and payment bonds.
19. ACKNOWLEDGEMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.								
DATE								

20a. Name and title of person authorized to sign offer (Type or print)	20B. Signature	20C. Offer Date
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AWARD (To be completed by Government)

21. Items Accepted:

22. Amount	23. Accounting and appropriation data
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24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM See Block 26	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 15 USC 637(a)) <input type="checkbox"/> 41 USC 253(c) ()
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26. ADMINISTERED BY Federal Highway Administration Eastern Federal Lands Highway Division 21400 Ridgetop Circle Sterling, Virginia 20166-6511	27. PAYMENT WILL BE MADE BY: Federal Highway Administration Eastern Federal Lands Highway Division Finance Division, Room 357 21400 Ridgetop Circle Sterling, Virginia 20166-6511
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CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

<input type="checkbox"/> 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return ___ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	<input type="checkbox"/> 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.
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30a. Name and Title of Contractor or Person Authorized to Sign (Type or print)	31a. Name of Contracting Officer (Type or print)
30b. Signature	30C. Date
	31b. United States of America BY
	31C. Date

CONTINUATION OF SF 1442

Block 2:

This project is **UN-RESTRICTED** - Proposals will be accepted from **ALL** eligible business concerns.

This procurement is made pursuant to Public Law 100-656 Title VII, which established the Small Business Competitiveness Demonstration Program. This procurement falls under North American Industry Classification System (NAICS) code 237310 - Highway, Street, and Bridge Construction (see FAR Subpart 19.10)

The award of this project is subject to a 10% price evaluation preference for eligible HubZone Small Business Concerns (must be on the SBA listing) (see FAR Clause 52.219-4).

Facsimile and electronic proposals will not be accepted.

PHYSICAL DATA AVAILABLE FOR REVIEW

1. Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 Edition, published by the Federal Highway Administration. <http://mutcd.fhwa.dot.gov>.
2. National Park Service Sign Manual, revised - January 1988, United States Department of the Interior. <http://www.nps.gov/npsigns>.
3. Soils and Foundation Report
4. Hydraulics Data

Block 9:

In accordance with FAR Provision 52.236-27, Site Visit, a Government representative can be available to show the project to prospective bidders. **All requests** for site visits see Section E of the solicitation and e-mail all questions concerning this construction project to the following e-mail address eflhd.contracts@fhwa.dot.gov. Interested parties must provide the Solicitation Number and the relevant project name with all requests and questions.

*Block 11:

The maximum time for **Schedule A is 253 Calendar Days, Option 1 is 73 Calendar Days, Option 2 is 135 Calendar Days, Option 3 is 68 Calendar Days and Option 4 is 27 Calendar Days shall not exceed 556 Total Calendar days.**

Contract Award/NTP is subject to receipt of permits

Work restrictions can be found in SCR Sections 108 and 156.

The work requires contractor design or construction experience per Sections 304 and 419 of the FP and SCR's.

The completion time for the contract will be the time offered by the successful bidder, **not to exceed** the maximum time above.

Notice to Proceed, or date specified in the Notice to Proceed will be issued within 30 days

CONTINUATION OF SF 1442

following receipt of acceptable performance and payment bonds.

Block 12A:

Furnish performance and payment bonds in accordance with FAR Clause 52.228-15.

Block 13:

A bid guarantee in the amount of not less than 20 percent of the bid price or \$3 million, whichever is less, is required with this bid. If the bidder fails to provide the required bid guarantee, such failure may require rejection of the bid. Reference FAR Provision 52.228-1, Bid Guarantee.

Other:

The estimated price is expected to fall within the price range of greater than **\$10,000,000**.

Award will be made to an offeror whose technical submittal and price proposal contain the combination of the technical qualifications (past performance of same type of projects) and price that offers the best value to the Government. Offerors are reminded that while the Government may elect to consider data obtained from other sources, the burden of proof of acceptability rests with the offeror.

Responsibility of bidders shall be evaluated in accordance with the information provided on the Bidder's Qualification Form, which can be downloaded from FHWA web site. FP-96 version can be downloaded at the FHWA web site. FHWA web site is <http://www.efl.fhwa.dot.gov/contracting/Documents.aspx>.

Subcontracting Goals

Required from all other than Small business when the requirement is expected to exceed \$500,000 [FAR 19.702]. The Contracting Officer, along review and advisory comments from the Office of Small Disadvantaged Business Utilization (OSDBU), is responsible for approving a reasonable and realistic plan [FAR 19.705-4] [TAM 1219.201(e)(6)]. The legislated subcontracting goals are as shown below. A copy of each subcontracting plan (or contractor statement that no subcontracts are to be awarded) must be provided to OSDBU prior to close of negotiations [TAM 1219.705-5 and - 6].

Legislated subcontracting goals: (15 USC 644 (g)(1))

- 5% Small Disadvantaged Businesses (SDB)
- 5% Small Woman Owned Business Entities (SWBE)
- 3% Service-Disabled Veteran-Owned Small Businesses (SDVOSB)

BID SCHEDULE INSTRUCTIONS

PROJECT: PRA-BLRI 2P14

BIDDERS PLEASE NOTE: Before preparing the bid, carefully read the Instructions to Bidders. While preparing the bid, comply with the following:

COMPLETING THE BID SCHEDULE

Complete the Bid Schedule(s) by handwriting in ink or typing. Specify a Unit Bid Price, in figures with cents to only two decimal places, for each pay item in the Unit Bid Price column for which a quantity is given. Do not enter or tender a Unit Bid Price for any pay item for which no estimated quantity appears in the Bid Schedule. Determine the products of the respective unit prices and quantities, and show them, in figures, in the Amount Bid column. If a Unit Bid Price and Amount Bid have been inserted by the Government for a pay item, do not change the Unit Bid Price and Amount Bid for the pay item. Determine the Bid Total by adding the amounts of the several items, and show in the block provided on **Page B-6 for Schedule A, Page B-12 for Schedule B, Page B-18 for Schedule C, Page B-24 for Schedule D, and Page B-29 for Schedule E**. In case of multiplication errors, the Amount Bid for the item will be based on the Unit Bid Price.

To be eligible for award, bidders must submit prices for each pay item.

Review Subsection 109.05 of the FP regarding scope of payment for direct and indirect payment work.

SCHEDULES OF WORK

The Bid Schedule is comprised of the following separate schedules and options of work:

Work includes resurfacing and rehabilitation of the Blue Ridge Parkway, pull-offs, and parking areas; milling and overlay; full depth pavement reclamation; and other miscellaneous work. The locations are as follows:

Schedule A (Base Contract) – Blue Ridge Parkway, milepost 369.0 to 375.1

Schedule B (Government Option 1) – Blue Ridge Parkway, milepost 364.4 to 369.0

Schedule C (Government Option 2) – Blue Ridge Parkway, milepost 359.7 to 364.4

Schedule D (Government Option 3) – Craggy Garden Picnic Road, milepost 0.0 to 1.2

Schedule E (Government Option 4) – Craggy Dome Overlook

The Government will award the project as a Base Contract (Schedule A) with the option to

award any, all, or no combinations of the Government Option(s) (Schedules B, C, D, and E); see FAR Clauses 52.217-4 and 52.217-5.

The purpose of the multiple schedules and options is to give the Government maximum flexibility in completing the project in a timely manner and at a cost-effective price, by proper utilization of available funds and upon receipt of all required funding. **If complete funding is in place at the time of award of the Base Contract (Schedule A), the Government may award all or any combination of the Government Option(s) (Schedules B, C, D, and E) at that time. If funding for the Government Option(s) is received after award of the Base Contract, the Government has the right to exercise the Government Option(s) at the unit prices bid no later than 250 calendar days from the Notice To Proceed.**

BIDDING OF CALENDAR DAYS

For each schedule or option of work shown on the **Bid Summary** page(s), determine the number of calendar days necessary to complete that schedule or option of work from Notice To Proceed of that schedule or option of work to the completion of that schedule or option of work. **Specify the number of calendar days (NOT to exceed the maximum number of calendar days shown in Block 11 of the SF-1442) in the space provided on the Bid Summary page(s).** Failure to specify a number of calendar days for contract completion indicates the bidder accepts the maximum contract time provided in Block 11 of the SF-1442.

In developing a construction schedule to determine the number of calendar days included in their bid, bidders should include the work limitations shown in the Special Contract Requirements (SCR's). Specific work limitations may be (but are not limited to): holidays, weekends; rush hours; night work; no work periods; work or traffic control phasing. Bidders are advised to consider those work items that are weather sensitive and when those work items will be performed. Specific work items are (but not limited to): those that require a minimum ambient air temperature (asphalt paving and surface treatment, pavement striping, stone masonry); those that require maintaining a minimum surface temperature (concrete pavement, structural concrete, painting); and those that have specific planting seasons (turf establishment, sod, trees and plants). Bidders are also advised to consider time required for preparing material and drawing submittals, and the allowable Government review times for those submittals (Subsection 104.03 of the FP and SCR's). The total calendar days bid should also include any work limitations and any delay days or contractor winter shutdowns required due to weather sensitive work items.

When evaluating the bids, the Government will consider the Contract Administrative Cost for the project to be \$2,700 per calendar day bid. The Contract Administrative Cost is only used to determine the Evaluation Total Price of Project.

Add the **Bid Total(s)** and the **Contract Administrative Cost(s)** for each schedule or option of work as directed on the **Bid Summary** page(s). Show the **Evaluation Total Price of Project** in the space provided on the **Bid Summary** page(s).

BASIS FOR AWARD

The contract will be awarded to the responsive, responsible offeror price that offers the Best Value **Evaluation Total Price of Project**, which is defined as:

**Bid Total of Base Contract (Schedule A) +
Contract Administrative Cost of Base Contract (Schedule A) +
Bid Total of Government Option 1 (Schedules B) +
Contract Administrative Cost of Government Option 1 (Schedules B) +
Bid Total of Government Option 2 (Schedules C) +
Contract Administrative Cost of Government Option 2 (Schedules C) +
Bid Total of Government Option 3 (Schedules D) +
Contract Administrative Cost of Government Option 3 (Schedules D) +
Bid Total of Government Option 4 (Schedules E) +
Contract Administrative Cost of Government Option 4 (Schedules E).**

The number of calendar days specified by the successful bidder for the completion of the awarded combination of Base Contract and Government Option(s) will become the performance period for the contract.

If the Government Option(s) are exercised after the award of the Base Contract, the number of calendar days specified by the successful bidder for that Government Option(s) will become the performance period for that Government Option(s).

NOTE: Contract Administration Cost is used for evaluation and ranking purposes only.

Bid Schedule

Project: PRA-BLRI 2P14
 SCHEDULE A: BLUE RIDGE PARKWAY MP 369 TO MP 375.1

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15101	MOBILIZATION ALL	Lump Sum	\$ _____
15201	CONSTRUCTION SURVEY AND STAKING ALL	Lump Sum	\$ _____
15401	CONTRACTOR TESTING ALL	Lump Sum	\$ _____
15702	TEMPORARY TURF ESTABLISHMENT 5 ACRE	\$ _____	\$ _____
15703	SILT FENCE 52,800 LNFT	\$ _____	\$ _____
15713	PLASTIC LINING 400 SQYD	\$ _____	\$ _____
15716	INLET PROTECTION 38 EACH	\$ _____	\$ _____
15719C	TEMPORARY MULCH 5 TON	\$ _____	\$ _____
20103	CLEARING AND GRUBBING 650 SQYD	\$ _____	\$ _____
20303QA	REMOVAL OF ASPHALT SIDEWALK 210 SQYD	\$ _____	\$ _____
20303UD	REMOVAL OF STONE PAVED WATERWAY 660 SQYD	\$ _____	\$ _____

Bid Schedule A

Project: PRA-BLRI 2P14
 SCHEDULE A: BLUE RIDGE PARKWAY MP 369 TO MP 375.1

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
20304Y	REMOVAL OF STONE MASONRY ALL	Lump Sum	\$ _____
30305B	DITCH RECONDITIONING 1,000 LNFT	\$ _____	\$ _____
30404	PORTLAND CEMENT 1,550 TON	\$ _____	\$ _____
30405AS	CEMENT AGGREGATE STABILIZATION, IN PLACE AGGREGATE, 10-INCH DEPTH 65,500 SQYD	\$ _____	\$ _____
30501	AGGREGATE-TOPSOIL COURSE 2,550 TON	\$ _____	\$ _____
40101	HOT ASPHALT CONCRETE PAVEMENT 20 TON	\$ _____	\$ _____
40201	MINOR HOT ASPHALT CONCRETE 2 TON	\$ _____	\$ _____
41301B	ASPHALT PAVEMENT MILLING, 1-INCH DEPTH 1,900 SQYD	\$ _____	\$ _____
41301F	ASPHALT PAVEMENT MILLING, 2-INCH DEPTH 13,600 SQYD	\$ _____	\$ _____
41801BAD	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 ESAL, TYPE 4 PAVEMENT SMOOTHNESS 160 TON	\$ _____	\$ _____
41801BBB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, TYPE 2 PAVEMENT SMOOTHNESS 9,800 TON	\$ _____	\$ _____

Bid Schedule A

Project: PRA-BLRI 2P14

SCHEDULE A: BLUE RIDGE PARKWAY MP 369 TO MP 375.1

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
41801BBC	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, TYPE 3 PAVEMENT SMOOTHNESS 1,200 TON	\$ _____	\$ _____
41801CB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/4-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL 2,140 TON	\$ _____	\$ _____
41802AB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, WEDGE AND LEVELING 3,800 TON	\$ _____	\$ _____
41902A	ASPHALT PAVEMENT, SHALLOW DEPTH PATCH, TYPE 1 1,200 SQFT	\$ _____	\$ _____
60503	GEOCOMPOSITE UNDERDRAIN SYSTEM (18" Multi-flow drainage tubing) 450 LNFT	\$ _____	\$ _____
60507F	6-INCH OUTLET PIPE (SCHEDULE 40 PVC) 25 LNFT	\$ _____	\$ _____
60509	SAND 180 CUYD	\$ _____	\$ _____
60703A	RECONDITIONING CULVERTS IN PLACE 2,770 LNFT	\$ _____	\$ _____
60704	RECONDITIONING DRAINAGE STRUCTURES 33 EACH	\$ _____	\$ _____
60706	CONCRETE PIPE JOINT REPAIR 4 EACH	\$ _____	\$ _____
60801B	PAVED WATERWAY, TYPE 2 670 SQYD	\$ _____	\$ _____

Bid Schedule A

Project: PRA-BLRI 2P14

SCHEDULE A: BLUE RIDGE PARKWAY MP 369 TO MP 375.1

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60809B	RECONDITION PAVED WATERWAY, TYPE 2 2,360 SQYD	\$ _____	\$ _____
60906	RESET CURB 660 LNFT	\$ _____	\$ _____
61501A	ASPHALT CONCRETE SIDEWALK 250 SQYD	\$ _____	\$ _____
62004	REPOINT STONE MASONRY 430 LNFT	\$ _____	\$ _____
62011	RESET STONE MASONRY (REPAIR) 3 CUYD	\$ _____	\$ _____
62016	RESET STONE MASONRY (MEDIAN) 15 SQYD	\$ _____	\$ _____
62403	FURNISHING AND PLACING TOPSOIL 240 CUYD	\$ _____	\$ _____
62509	TURF ESTABLISHMENT 6.0 ACRE	\$ _____	\$ _____
63304CC	SIGNS, ALUMINUM PANELS, TYPE 3 SHEETING 160 SQFT	\$ _____	\$ _____
63401LA	PAVEMENT MARKINGS, TYPE POLYUREA, SOLID 64,800 LNFT	\$ _____	\$ _____
63401LB	PAVEMENT MARKINGS, TYPE POLYUREA, BROKEN 970 LNFT	\$ _____	\$ _____
63501	TEMPORARY TRAFFIC CONTROL (FLOOD LIGHTS) ALL	Lump Sum	\$ _____
63505C	BARRICADE, TYPE 3 2 EACH	\$ _____	\$ _____

Bid Schedule A

Project: PRA-BLRI 2P14

SCHEDULE A: BLUE RIDGE PARKWAY MP 369 TO MP 375.1

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63506A	CONE, TYPE A 380 EACH	\$ _____	\$ _____
63507	CONSTRUCTION SIGN 1,968 SQFT	\$ _____	\$ _____
63508B	DRUM, TYPE B 380 EACH	\$ _____	\$ _____
63509	FLAGGER 1,800 HOUR	\$12.00	\$21,600.00
63510	PILOT CAR 300 HOUR	\$ _____	\$ _____
63515	TEMPORARY PAVEMENT MARKINGS 20 MILE	\$ _____	\$ _____
63521A	WARNING LIGHT, TYPE A 380 EACH	\$ _____	\$ _____
63521B	WARNING LIGHT, TYPE B 35 EACH	\$ _____	\$ _____
63521C	WARNING LIGHT, TYPE C 380 EACH	\$ _____	\$ _____
63529	TEMPORARY TRAFFIC SIGNAL SYSTEM 2 EACH	\$ _____	\$ _____
63530	RELOCATING TEMPORARY TRAFFIC SIGNAL SYSTEM 6 EACH	\$ _____	\$ _____

Bid Schedule A

Project: PRA-BLRI 2P14

SCHEDULE A: BLUE RIDGE PARKWAY MP 369 TO MP 375.1

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63701	FIELD OFFICE 1 EACH	\$ _____	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

Bid Schedule

Project: PRA-BLRI 2P14
 OPTION 1: BLUE RIDGE PARKWAY FROM MP 364.4 TO MP 369

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15201	CONSTRUCTION SURVEY AND STAKING ALL	Lump Sum	\$ _____
15401	CONTRACTOR TESTING ALL	Lump Sum	\$ _____
15702	TEMPORARY TURF ESTABLISHMENT 4 ACRE	\$ _____	\$ _____
15703	SILT FENCE 15,800 LNFT	\$ _____	\$ _____
15713	PLASTIC LINING 300 SQYD	\$ _____	\$ _____
15716	INLET PROTECTION 17 EACH	\$ _____	\$ _____
15719C	TEMPORARY MULCH 5 TON	\$ _____	\$ _____
20301AE	REMOVAL OF FRAME AND GRATE 2 EACH	\$ _____	\$ _____
20301AT	REMOVAL OF RAISED PAVEMENT MARKER 30 EACH	\$ _____	\$ _____
20303PA	REMOVAL OF ASPHALT PAVEMENT 6,270 SQYD	\$ _____	\$ _____
20303QA	REMOVAL OF ASPHALT SIDEWALK 560 SQYD	\$ _____	\$ _____

Bid Option 1 (B)

Project: PRA-BLRI 2P14
 OPTION 1: BLUE RIDGE PARKWAY FROM MP 364.4 TO MP 369

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
20303UA	REMOVAL OF ASPHALT PAVED WATERWAY 2,250 SQYD	\$ _____	\$ _____
20303UD	REMOVAL OF STONE PAVED WATERWAY 420 SQYD	\$ _____	\$ _____
30305B	DITCH RECONDITIONING 1,600 LNFT	\$ _____	\$ _____
30404	PORTLAND CEMENT 660 TON	\$ _____	\$ _____
30405AS	CEMENT AGGREGATE STABILIZATION, IN PLACE AGGREGATE, 10-INCH DEPTH 26,300 SQYD	\$ _____	\$ _____
30501	AGGREGATE-TOPSOIL COURSE 2,170 TON	\$ _____	\$ _____
40201	MINOR HOT ASPHALT CONCRETE 40 TON	\$ _____	\$ _____
41301F	ASPHALT PAVEMENT MILLING, 2-INCH DEPTH 28,500 SQYD	\$ _____	\$ _____
41801BAD	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 ESAL, TYPE 4 PAVEMENT SMOOTHNESS 530 TON	\$ _____	\$ _____
41801BBB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, TYPE 2 PAVEMENT SMOOTHNESS 3,950 TON	\$ _____	\$ _____
41801BBC	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, TYPE 3 PAVEMENT SMOOTHNESS		

Bid Option 1 (B)

Project: PRA-BLRI 2P14

OPTION 1: BLUE RIDGE PARKWAY FROM MP 364.4 TO MP 369

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
	2,500 TON	\$ _____	\$ _____
41801CB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/4-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL		
	4,200 TON	\$ _____	\$ _____
41802AB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, WEDGE AND LEVELING		
	2,100 TON	\$ _____	\$ _____
41901B	ASPHALT PAVEMENT, FULL DEPTH PATCH, TYPE 2		
	370 SQFT	\$ _____	\$ _____
41902A	ASPHALT PAVEMENT, SHALLOW DEPTH PATCH, TYPE 1		
	2,800 SQFT	\$ _____	\$ _____
60201E	4-INCH PIPE CULVERT		
	4 LNFT	\$ _____	\$ _____
60409FA	METAL FRAME AND GRATE, TYPE 6A		
	2 EACH	\$ _____	\$ _____
60501	UNDERDRAIN SYSTEM		
	150 LNFT	\$ _____	\$ _____
60703A	RECONDITIONING CULVERTS IN PLACE		
	900 LNFT	\$ _____	\$ _____
60704	RECONDITIONING DRAINAGE STRUCTURES		
	32 EACH	\$ _____	\$ _____
60705J	LINING 15-INCH PIPE CULVERT		
	50 LNFT	\$ _____	\$ _____
60705M	LINING 24-INCH PIPE CULVERT		
	100 LNFT	\$ _____	\$ _____

Bid Option 1 (B)

Project: PRA-BLRI 2P14

OPTION 1: BLUE RIDGE PARKWAY FROM MP 364.4 TO MP 369

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60706	CONCRETE PIPE JOINT REPAIR 2 EACH	\$ _____	\$ _____
60801B	PAVED WATERWAY, TYPE 2 810 SQYD	\$ _____	\$ _____
60801E	PAVED WATERWAY, TYPE 5 2,300 SQYD	\$ _____	\$ _____
60809B	RECONDITION PAVED WATERWAY, TYPE 2 1,740 SQYD	\$ _____	\$ _____
60906	RESET CURB 900 LNFT	\$ _____	\$ _____
61401	LEAN CONCRETE BACKFILL 1 CUYD	\$ _____	\$ _____
61501A	ASPHALT CONCRETE SIDEWALK 555 SQYD	\$ _____	\$ _____
61505A	ASPHALT WHEELCHAIR RAMP 65 SQYD	\$ _____	\$ _____
62004	REPOINT STONE MASONRY 2,735 LNFT	\$ _____	\$ _____
62011	RESET STONE MASONRY (REPAIR) 27 CUYD	\$ _____	\$ _____
62509	TURF ESTABLISHMENT 5.0 ACRE	\$ _____	\$ _____
62901D	EROSION CONTROL MAT TYPE 4 6 SQYD	\$ _____	\$ _____

Bid Option 1 (B)

Project: PRA-BLRI 2P14

OPTION 1: BLUE RIDGE PARKWAY FROM MP 364.4 TO MP 369

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63401HA	PAVEMENT MARKINGS, TYPE H, SOLID 1,310 LNFT	\$ _____	\$ _____
63401JA	PAVEMENT MARKINGS, TYPE J, SOLID 150 LNFT	\$ _____	\$ _____
63401LA	PAVEMENT MARKINGS, TYPE POLYUREA, SOLID 48,800 LNFT	\$ _____	\$ _____
63401LB	PAVEMENT MARKINGS, TYPE POLYUREA, BROKEN 530 LNFT	\$ _____	\$ _____
63405D	RAISED PAVEMENT MARKERS, TYPE D 9 EACH	\$ _____	\$ _____
63405E	RAISED PAVEMENT MARKERS, TYPE E 20 EACH	\$ _____	\$ _____
63406JH	PAVEMENT MARKINGS, TYPE J, HANDICAP SYMBOL 4 EACH	\$ _____	\$ _____
63501	TEMPORARY TRAFFIC CONTROL (FLOOD LIGHTS) ALL	Lump Sum	\$ _____
63505C	BARRICADE, TYPE 3 2 EACH	\$ _____	\$ _____
63506A	CONE, TYPE A 360 EACH	\$ _____	\$ _____
63508B	DRUM, TYPE B 360 EACH	\$ _____	\$ _____
63509	FLAGGER 600 HOUR	\$12.00	\$7,200.00
63510	PILOT CAR 200 HOUR	\$ _____	\$ _____

Bid Option 1 (B)

Project: PRA-BLRI 2P14

OPTION 1: BLUE RIDGE PARKWAY FROM MP 364.4 TO MP 369

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63515	TEMPORARY PAVEMENT MARKINGS 13 MILE	\$ _____	\$ _____
63521A	WARNING LIGHT, TYPE A 360 EACH	\$ _____	\$ _____
63521B	WARNING LIGHT, TYPE B 30 EACH	\$ _____	\$ _____
63521C	WARNING LIGHT, TYPE C 360 EACH	\$ _____	\$ _____
63529	TEMPORARY TRAFFIC SIGNAL SYSTEM 1 EACH	\$ _____	\$ _____
63530	RELOCATING TEMPORARY TRAFFIC SIGNAL SYSTEM 1 EACH	\$ _____	\$ _____
63803	LOCATE UTILITIES (TEST PITS) ALL	Lump Sum	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

Bid Schedule

Project: PRA-BLRI 2P14
 OPTION 2: BLUE RIDGE PARKWAY MP 359.7 TO MP 364.4

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15201	CONSTRUCTION SURVEY AND STAKING ALL	Lump Sum	\$ _____
15401	CONTRACTOR TESTING ALL	Lump Sum	\$ _____
15702	TEMPORARY TURF ESTABLISHMENT 4 ACRE	\$ _____	\$ _____
15703	SILT FENCE 10,800 LNFT	\$ _____	\$ _____
15713	PLASTIC LINING 300 SQYD	\$ _____	\$ _____
15716	INLET PROTECTION 2 EACH	\$ _____	\$ _____
15719C	TEMPORARY MULCH 4 TON	\$ _____	\$ _____
20301AE	REMOVAL OF FRAME AND GRATE 1 EACH	\$ _____	\$ _____
20301AT	REMOVAL OF RAISED PAVEMENT MARKER 15 EACH	\$ _____	\$ _____
20302H	REMOVAL OF PIPE CULVERTS 60 LNFT	\$ _____	\$ _____
20303PA	REMOVAL OF ASPHALT PAVEMENT 1,370 SQYD	\$ _____	\$ _____

Bid Option 2 (C)

Project: PRA-BLRI 2P14
 OPTION 2: BLUE RIDGE PARKWAY MP 359.7 TO MP 364.4

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
20303QA	REMOVAL OF ASPHALT SIDEWALK 140 SQYD	\$ _____	\$ _____
20303UA	REMOVAL OF ASPHALT PAVED WATERWAY 250 SQYD	\$ _____	\$ _____
20401	ROADWAY EXCAVATION 490 CUYD	\$ _____	\$ _____
20402	SUBEXCAVATION 1,690 CUYD	\$ _____	\$ _____
20405	SELECT BORROW 2,300 CUYD	\$ _____	\$ _____
20701CB	EARTHWORK GEOTEXTILE, TYPE III-B 1,260 SQYD	\$ _____	\$ _____
30101Z	AGGREGATE BASE, GRADING C OR D 490 TON	\$ _____	\$ _____
30305B	DITCH RECONDITIONING 4,300 LNFT	\$ _____	\$ _____
30501	AGGREGATE-TOPSOIL COURSE 1,650 TON	\$ _____	\$ _____
40201	MINOR HOT ASPHALT CONCRETE 158 TON	\$ _____	\$ _____
41301B	ASPHALT PAVEMENT MILLING, 1-INCH DEPTH 2,600 SQYD	\$ _____	\$ _____
41301F	ASPHALT PAVEMENT MILLING, 2-INCH DEPTH 53,900 SQYD	\$ _____	\$ _____

Bid Option 2 (C)

Project: PRA-BLRI 2P14

OPTION 2: BLUE RIDGE PARKWAY MP 359.7 TO MP 364.4

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
41301H	ASPHALT PAVEMENT MILLING, 3-INCH DEPTH 600 SQYD	\$ _____	\$ _____
41801BAD	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 ESAL, TYPE 4 PAVEMENT SMOOTHNESS 220 TON	\$ _____	\$ _____
41801BBC	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, TYPE 3 PAVEMENT SMOOTHNESS 4,700 TON	\$ _____	\$ _____
41801CB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/4-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL 8,200 TON	\$ _____	\$ _____
41802AB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, WEDGE AND LEVELING 400 TON	\$ _____	\$ _____
41902A	ASPHALT PAVEMENT, SHALLOW DEPTH PATCH, TYPE 1 420 SQFT	\$ _____	\$ _____
60201K	18-INCH PIPE CULVERT 50 LNFT	\$ _____	\$ _____
60409D	METAL FRAME AND GRATE, TYPE 4 1 EACH	\$ _____	\$ _____
60703A	RECONDITIONING CULVERTS IN PLACE 1,185 LNFT	\$ _____	\$ _____
60704	RECONDITIONING DRAINAGE STRUCTURES 46 EACH	\$ _____	\$ _____
60706	CONCRETE PIPE JOINT REPAIR 2 EACH	\$ _____	\$ _____

Bid Option 2 (C)

Project: PRA-BLRI 2P14

OPTION 2: BLUE RIDGE PARKWAY MP 359.7 TO MP 364.4

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60801B	PAVED WATERWAY, TYPE 2 100 SQYD	\$ _____	\$ _____
60906	RESET CURB 870 LNFT	\$ _____	\$ _____
61501A	ASPHALT CONCRETE SIDEWALK 145 SQYD	\$ _____	\$ _____
61703	REMOVING AND RESETTING GUARDRAIL 330 LNFT	\$ _____	\$ _____
62004	REPOINT STONE MASONRY 30 LNFT	\$ _____	\$ _____
62006	REMOVE AND RESET STONE MASONRY HEADWALL 2 EACH	\$ _____	\$ _____
62011	RESET STONE MASONRY (REPAIR) 2 CUYD	\$ _____	\$ _____
62403	FURNISHING AND PLACING TOPSOIL 160 CUYD	\$ _____	\$ _____
62509	TURF ESTABLISHMENT 4.0 ACRE	\$ _____	\$ _____
63401JA	PAVEMENT MARKINGS, TYPE J, SOLID 150 LNFT	\$ _____	\$ _____
63401LA	PAVEMENT MARKINGS, TYPE POLYUREA, SOLID 47,500 LNFT	\$ _____	\$ _____
63401LB	PAVEMENT MARKINGS, TYPE POLYUREA, BROKEN 3,400 LNFT	\$ _____	\$ _____

Bid Option 2 (C)

Project: PRA-BLRI 2P14

OPTION 2: BLUE RIDGE PARKWAY MP 359.7 TO MP 364.4

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63405D	RAISED PAVEMENT MARKERS, TYPE D 6 EACH	\$ _____	\$ _____
63405E	RAISED PAVEMENT MARKERS, TYPE E 10 EACH	\$ _____	\$ _____
63501	TEMPORARY TRAFFIC CONTROL (FLOOD LIGHTS) ALL	Lump Sum	\$ _____
63505C	BARRICADE, TYPE 3 2 EACH	\$ _____	\$ _____
63506A	CONE, TYPE A 360 EACH	\$ _____	\$ _____
63508B	DRUM, TYPE B 360 EACH	\$ _____	\$ _____
63509	FLAGGER 600 HOUR	\$12.00	\$7,200.00
63510	PILOT CAR 200 HOUR	\$ _____	\$ _____
63515	TEMPORARY PAVEMENT MARKINGS 13 MILE	\$ _____	\$ _____
63521A	WARNING LIGHT, TYPE A 360 EACH	\$ _____	\$ _____
63521B	WARNING LIGHT, TYPE B 30 EACH	\$ _____	\$ _____
63521C	WARNING LIGHT, TYPE C 360 EACH	\$ _____	\$ _____
63529	TEMPORARY TRAFFIC SIGNAL SYSTEM 1 EACH	\$ _____	\$ _____

Bid Option 2 (C)

Project: PRA-BLRI 2P14

OPTION 2: BLUE RIDGE PARKWAY MP 359.7 TO MP 364.4

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63530	RELOCATING TEMPORARY TRAFFIC SIGNAL SYSTEM 1 EACH	\$ _____	\$ _____
63803	LOCATE UTILITIES ALL	Lump Sum	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

Bid Schedule

Project: PRA-BLRI 2P14
 OPTION 3: CRAGGY GARDEN ACCESS ROAD AND PICNIC AREA

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15201	CONSTRUCTION SURVEY AND STAKING ALL	Lump Sum	\$ _____
15401	CONTRACTOR TESTING ALL	Lump Sum	\$ _____
15702	TEMPORARY TURF ESTABLISHMENT 1 ACRE	\$ _____	\$ _____
15703	SILT FENCE 1,500 LNFT	\$ _____	\$ _____
15716	INLET PROTECTION 6 EACH	\$ _____	\$ _____
15719C	TEMPORARY MULCH 1 TON	\$ _____	\$ _____
20301AE	REMOVAL OF FRAME AND GRATE 2 EACH	\$ _____	\$ _____
20301E	REMOVAL OF HEADWALLS 1 EACH	\$ _____	\$ _____
20302H	REMOVAL OF PIPE CULVERTS 420 LNFT	\$ _____	\$ _____
20302RB	REMOVAL OF PORTLAND CEMENT CONCRETE CURB (includes asphalt curb) 2,220 LNFT	\$ _____	\$ _____

Bid Option 3 (D)

Project: PRA-BLRI 2P14
 OPTION 3: CRAGGY GARDEN ACCESS ROAD AND PICNIC AREA

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
20302W	REMOVAL OF GUARDRAIL 510 LNFT	\$ _____	\$ _____
20303QA	REMOVAL OF ASPHALT SIDEWALK 1,190 SQYD	\$ _____	\$ _____
20303UD	REMOVAL OF STONE PAVED WATERWAY 170 SQYD	\$ _____	\$ _____
20401	ROADWAY EXCAVATION 5 CUYD	\$ _____	\$ _____
20701CB	EARTHWORK GEOTEXTILE, TYPE III-B 10 SQYD	\$ _____	\$ _____
25101C	PLACED RIPRAP, CLASS 3 30 CUYD	\$ _____	\$ _____
25101D	PLACED RIPRAP, CLASS 4 150 CUYD	\$ _____	\$ _____
30305B	DITCH RECONDITIONING 110 LNFT	\$ _____	\$ _____
30404	PORTLAND CEMENT 160 TON	\$ _____	\$ _____
30405AN	CEMENT AGGREGATE STABILIZATION, IN PLACE AGGREGATE, 6-INCH DEPTH 6,270 SQYD	\$ _____	\$ _____
30405AS	CEMENT AGGREGATE STABILIZATION, IN PLACE AGGREGATE, 10-INCH DEPTH 1,200 SQYD	\$ _____	\$ _____
30501	AGGREGATE-TOPSOIL COURSE 680 TON	\$ _____	\$ _____

Bid Option 3 (D)

Project: PRA-BLRI 2P14

OPTION 3: CRAGGY GARDEN ACCESS ROAD AND PICNIC AREA

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
41301F	ASPHALT PAVEMENT MILLING, 2-INCH DEPTH 8,300 SQYD	\$ _____	\$ _____
41801BAD	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 ESAL, TYPE 4 PAVEMENT SMOOTHNESS 1,080 TON	\$ _____	\$ _____
41801BBC	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, TYPE 3 PAVEMENT SMOOTHNESS 1,300 TON	\$ _____	\$ _____
41801CB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/4-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL 1,700 TON	\$ _____	\$ _____
41802AB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL, WEDGE AND LEVELING 3,700 TON	\$ _____	\$ _____
41901B	ASPHALT PAVEMENT, FULL DEPTH PATCH, TYPE 2 80 SQFT	\$ _____	\$ _____
41902A	ASPHALT PAVEMENT, SHALLOW DEPTH PATCH, TYPE 1 380 SQFT	\$ _____	\$ _____
60104AK	CONCRETE, HEADWALL FOR 18-INCH PIPE CULVERT 2 EACH	\$ _____	\$ _____
60104AM	CONCRETE, HEADWALL FOR 24-INCH PIPE CULVERT 1 EACH	\$ _____	\$ _____
60201K	18-INCH PIPE CULVERT 140 LNFT	\$ _____	\$ _____
60201M	24-INCH PIPE CULVERT 120 LNFT	\$ _____	\$ _____

Bid Option 3 (D)

Project: PRA-BLRI 2P14

OPTION 3: CRAGGY GARDEN ACCESS ROAD AND PICNIC AREA

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60203P	36-INCH EQUIVALENT DIAMETER, ARCH OR ELLIPTICAL CULVERT PIPE 40 LNFT	\$ _____	\$ _____
60409FA	METAL FRAME AND GRATE, TYPE 6A 2 EACH	\$ _____	\$ _____
60703A	RECONDITIONING CULVERTS IN PLACE 140 LNFT	\$ _____	\$ _____
60704	RECONDITIONING DRAINAGE STRUCTURES 4 EACH	\$ _____	\$ _____
60706	CONCRETE PIPE JOINT REPAIR 1 EACH	\$ _____	\$ _____
60801B	PAVED WATERWAY, TYPE 2 220 SQYD	\$ _____	\$ _____
60906	RESET CURB 2,560 LNFT	\$ _____	\$ _____
60915A	WHEELSTOP, CONCRETE 10 LNFT	\$ _____	\$ _____
61501A	ASPHALT CONCRETE SIDEWALK 1,230 SQYD	\$ _____	\$ _____
61505A	ASPHALT WHEELCHAIR RAMP 50 SQYD	\$ _____	\$ _____
61701H	GUARDRAIL SYSTEM SBTB 510 LNFT	\$ _____	\$ _____
62003	REMOVE AND RESET STONE MASONRY (DRAINAGE STRUCTURE) 1 CUYD	\$ _____	\$ _____

Bid Option 3 (D)

Project: PRA-BLRI 2P14

OPTION 3: CRAGGY GARDEN ACCESS ROAD AND PICNIC AREA

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
62006	REMOVE AND RESET STONE MASONRY HEADWALL 3 EACH	\$ _____	\$ _____
62007AM	STONE MASONRY HEADWALL FOR 24-INCH PIPE CULVERT 1 EACH	\$ _____	\$ _____
62007AP	STONE MASONRY HEADWALL FOR 36-INCH PIPE CULVERT (36-INCH EQUIVALENT) 2 EACH	\$ _____	\$ _____
62403	FURNISHING AND PLACING TOPSOIL 10 CUYD	\$ _____	\$ _____
62509	TURF ESTABLISHMENT 1.0 ACRE	\$ _____	\$ _____
63401HA	PAVEMENT MARKINGS, TYPE H, SOLID 3,090 LNFT	\$ _____	\$ _____
63401LA	PAVEMENT MARKINGS, TYPE POLYUREA, SOLID 12,900 LNFT	\$ _____	\$ _____
63406JH	PAVEMENT MARKINGS, TYPE J, HANDICAP SYMBOL 5 EACH	\$ _____	\$ _____
63501	TEMPORARY TRAFFIC CONTROL (FLOOD LIGHTS) ALL	Lump Sum	\$ _____
63504C	BARRICADE, TYPE 3 4 LNFT	\$ _____	\$ _____
63507	CONSTRUCTION SIGN 50 SQFT	\$ _____	\$ _____
63508B	DRUM, TYPE B 20 EACH	\$ _____	\$ _____

Bid Option 3 (D)

Project: PRA-BLRI 2P14

OPTION 3: CRAGGY GARDEN ACCESS ROAD AND PICNIC AREA

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63521A	WARNING LIGHT, TYPE A 20 EACH	\$ _____	\$ _____
63521B	WARNING LIGHT, TYPE B 1 EACH	\$ _____	\$ _____
63521C	WARNING LIGHT, TYPE C 20 EACH	\$ _____	\$ _____
63803	LOCATE UTILITIES (TEST PITS) ALL	Lump Sum	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

Bid Schedule

Project: PRA-BLRI 2P14
 OPTION 4: CRAGGY DOME PARKING LOT

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15201	CONSTRUCTION SURVEY AND STAKING ALL	Lump Sum	\$ _____
15401	CONTRACTOR TESTING ALL	Lump Sum	\$ _____
15702	TEMPORARY TURF ESTABLISHMENT 1 ACRE	\$ _____	\$ _____
15703	SILT FENCE 800 LNFT	\$ _____	\$ _____
15716	INLET PROTECTION 7 EACH	\$ _____	\$ _____
15719C	TEMPORARY MULCH 1 TON	\$ _____	\$ _____
20301AE	REMOVAL OF FRAME AND GRATE 4 EACH	\$ _____	\$ _____
20302H	REMOVAL OF PIPE CULVERTS 120 LNFT	\$ _____	\$ _____
20302RB	REMOVAL OF PORTLAND CEMENT CONCRETE CURB 80 LNFT	\$ _____	\$ _____
20303AB	REMOVAL OF CONCRETE 1 SQYD	\$ _____	\$ _____
20303PA	REMOVAL OF ASPHALT PAVEMENT 410 SQYD	\$ _____	\$ _____

Bid Option 4 (E)

Project: PRA-BLRI 2P14
 OPTION 4: CRAGGY DOME PARKING LOT

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
20303QA	REMOVAL OF ASPHALT SIDEWALK 300 SQYD	\$ _____	\$ _____
20401	ROADWAY EXCAVATION 110 CUYD	\$ _____	\$ _____
20402	SUBEXCAVATION 710 CUYD	\$ _____	\$ _____
20701CB	EARTHWORK GEOTEXTILE, TYPE III-B 330 SQYD	\$ _____	\$ _____
25101C	PLACED RIPRAP, CLASS 3 10 CUYD	\$ _____	\$ _____
30101Z	AGGREGATE BASE, GRADING C OR D 130 TON	\$ _____	\$ _____
30305B	DITCH RECONDITIONING 390 LNFT	\$ _____	\$ _____
30404	PORTLAND CEMENT 60 TON	\$ _____	\$ _____
30405AN	CEMENT AGGREGATE STABILIZATION, IN PLACE AGGREGATE, 6-INCH DEPTH 3,030 SQYD	\$ _____	\$ _____
30501	AGGREGATE-TOPSOIL COURSE 40 TON	\$ _____	\$ _____
41801BAD	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 ESAL, TYPE 4 PAVEMENT SMOOTHNESS 560 TON	\$ _____	\$ _____

Bid Option 4 (E)

Project: PRA-BLRI 2P14

OPTION 4: CRAGGY DOME PARKING LOT

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
41801CB	SUPERPAVE ASPHALT CONCRETE PAVEMENT, 3/4-INCH NOMINAL MAXIMUM SIZE AGGREGATE, 0.3 - <3 ESAL		
	60 TON	\$ _____	\$ _____
60101	CONCRETE		
	10 CUYD	\$ _____	\$ _____
60201K	18-INCH PIPE CULVERT		
	110 LNFT	\$ _____	\$ _____
60201M	24-INCH PIPE CULVERT		
	80 LNFT	\$ _____	\$ _____
60409D	METAL FRAME AND GRATE, TYPE 4		
	1 EACH	\$ _____	\$ _____
60409FA	METAL FRAME AND GRATE, TYPE 6A		
	3 EACH	\$ _____	\$ _____
60506F	6-INCH COLLECTOR PIPE		
	70 LNFT	\$ _____	\$ _____
60703A	RECONDITIONING CULVERTS IN PLACE		
	55 LNFT	\$ _____	\$ _____
60704	RECONDITIONING DRAINAGE STRUCTURES		
	4 EACH	\$ _____	\$ _____
60705K	LINING 18-INCH PIPE CULVERT		
	20 LNFT	\$ _____	\$ _____
60706	CONCRETE PIPE JOINT REPAIR		
	1 EACH	\$ _____	\$ _____
60903AX	STONE CURB, TYPE 1, 16-INCH DEPTH		
	100 LNFT	\$ _____	\$ _____

Bid Option 4 (E)

Project: PRA-BLRI 2P14

OPTION 4: CRAGGY DOME PARKING LOT

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60906	RESET CURB 500 LNFT	\$ _____	\$ _____
61501A	ASPHALT CONCRETE SIDEWALK 320 SQYD	\$ _____	\$ _____
61505A	ASPHALT WHEELCHAIR RAMP 25 SQYD	\$ _____	\$ _____
62003	REMOVE AND RESET STONE MASONRY (RETAINING WALL) 21 CUYD	\$ _____	\$ _____
62004	REPOINT STONE MASONRY 105 LNFT	\$ _____	\$ _____
62007AM	STONE MASONRY HEADWALL FOR 24-INCH PIPE CULVERT 1 EACH	\$ _____	\$ _____
62008	CLEAN STONE MASONRY SURFACES 65 SQYD	\$ _____	\$ _____
62011	RESET STONE MASONRY 8 CUYD	\$ _____	\$ _____
62509	TURF ESTABLISHMENT 1.0 ACRE	\$ _____	\$ _____
63401HA	PAVEMENT MARKINGS, TYPE H, SOLID 1,300 LNFT	\$ _____	\$ _____
63406JH	PAVEMENT MARKINGS, TYPE J, HANDICAP SYMBOL 4 EACH	\$ _____	\$ _____
63501	TEMPORARY TRAFFIC CONTROL (FLOOD LIGHTS) ALL	Lump Sum	\$ _____
63505C	BARRICADE, TYPE 3 2 EACH	\$ _____	\$ _____

Bid Option 4 (E)

Project: PRA-BLRI 2P14

OPTION 4: CRAGGY DOME PARKING LOT

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
63507	CONSTRUCTION SIGN 40 SQFT	\$ _____	\$ _____
63508B	DRUM, TYPE B 20 EACH	\$ _____	\$ _____
63521A	WARNING LIGHT, TYPE A 20 EACH	\$ _____	\$ _____
63521B	WARNING LIGHT, TYPE B 1 EACH	\$ _____	\$ _____
63521C	WARNING LIGHT, TYPE C 20 EACH	\$ _____	\$ _____
63803	LOCATE UTILITIES (TEST PITS) ALL	Lump Sum	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

BID SUMMARY
Project PRA-BLRI 2P14
(Complete for Pages B-1 through B-29)

(1) Base Contract (Schedule A) Bid Total (from Page B-6)	\$ _____
Contract Administrative Cost for Base Contract (Schedule A)	
Number of calendar days necessary to complete all Base Contract (Schedule A) work from Notice to Proceed (or date specified in the Notice to Proceed) to completion of Schedule A.	
(2) _____ calendar days x \$2,700 per calendar day =	\$ _____

(3) Government Option 1 (Schedule B) Bid Total (from Page B-12)	\$ _____
Contract Administrative Cost for Gov't Option 1 (Schedule B)	
Number of calendar days necessary to complete all Gov't Option 1 (Schedule B) work from Notice to Proceed for Schedule B (or date specified in the Notice to Proceed) to completion of Schedule B.	
(4) _____ calendar days x \$2,700 per calendar day =	\$ _____

(5) Government Option 2 (Schedule C) Bid Total (from Page B-18)	\$ _____
Contract Administrative Cost for Gov't Option 2 (Schedule C)	
Number of calendar days necessary to complete all Gov't Option 2 (Schedule C) work from Notice to Proceed for Schedule C (or date specified in the Notice to Proceed) to completion of Schedule C.	
(6) _____ calendar days x \$2,700 per calendar day =	\$ _____

(7) Government Option 3 (Schedule D) Bid Total (from Page B-24)	\$ _____
Contract Administrative Cost for Gov't Option 3 (Schedule D)	
Number of calendar days necessary to complete all Gov't Option 3 (Schedule D) work from Notice to Proceed for Schedule D (or date specified in the Notice to Proceed) to completion of Schedule D.	
(8) _____ calendar days x \$2,700 per calendar day =	\$ _____

(9) Government Option 4 (Schedule E) Bid Total (from Page B-29)	\$ _____
Contract Administrative Cost for Gov't Option 3 (Schedule E)	
Number of calendar days necessary to complete all Gov't Option 3 (Schedule E) work from Notice to Proceed for Schedule E (or date specified in the Notice to Proceed) to completion of Schedule E.	
(10) _____ calendar days x \$2,700 per calendar day =	\$ _____

(continued)

BID SUMMARY
Project PRA-BLRI 2P14
(Complete for Pages B-1 through B-29)

Total Price of Project (for evaluation purposes only)

(1) Bid Total for Base Contract (Schedule A)	(1)	\$	_____
+ (2) Contract Administrative Cost for Base Contract (Schedule A)	(2)	\$	_____
+ (3) Bid Total for Gov't Option 1 (Schedule B)	(3)	\$	_____
+ (4) Contract Administrative Cost for Gov't Option 1 (Schedule B)	(4)	\$	_____
+ (5) Bid Total for Gov't Option 2 (Schedule C)	(5)	\$	_____
+ (6) Contract Administrative Cost for Gov't Option 2 (Schedule C)	(6)	\$	_____
+ (7) Bid Total for Gov't Option 3 (Schedule D)	(7)	\$	_____
+ (8) Contract Administrative Cost for Gov't Option 3 (Schedule D)	(8)	\$	_____
+ (9) Bid Total for Gov't Option 4 (Schedule E)	(9)	\$	_____
+ (10) Contract Administrative Cost for Gov't Option 4 (Schedule E)	(10)	\$	_____
= EVALUATION TOTAL PRICE OF PROJECT		\$	_____

Does the Bidder claim the Price Evaluation Preference for HUBZone Small Business Concerns as defined in FAR Clause 52.219-4?

Yes

No

BID BOND <i>(See instruction on reverse)</i>	DATE BOND EXECUTED <i>(Must not be later than bid opening date)</i>	OMB NO.: 9000-0045
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Public reporting burden for this collection of information is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (MVR), Federal Acquisition Policy Division, GSA, Washington, DC 20405.

PRINCIPAL <i>(Legal name and business address)</i>	TYPE OF ORGANIZATION <i>("X" one)</i> <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> CORPORATION STATE OF INCORPORATION
--	--

SURETY(IES) *(Name and business address)*

PENAL SUM OF BOND					BID IDENTIFICATION	
PERCENT OF BID PRICE	AMOUNT NOT TO EXCEED				BID DATE	INVITATION NO.
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS		
					FOR <i>(Construction, Supplies, or Services)</i>	

OBLIGATION:

We, the Principal and Surety(ies) are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

CONDITIONS:

The Principal has submitted the bid identified above.

THEREFORE:

The above obligation is void if the Principal - (a) upon acceptance by the Government of the bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), executes the further contractual documents and gives the bond(s) required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by the principal; or (b) in the event of failure to execute such further contractual documents and give such bonds, pays the Government for any cost of procuring the work which exceeds the amount of the bid.

Each Surety executing this instrument agrees that its obligation is not impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government. Notice to the surety(ies) of extension(s) are waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

WITNESS:

The Principal and Surety(ies) executed this bid bond and affixed their seals on the above date.

PRINCIPAL				
SIGNATURE(S)	1.	2.	3.	<i>Corporate Seal</i>
	<i>(Seal)</i>	<i>(Seal)</i>	<i>(Seal)</i>	
NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.	3.	

INDIVIDUAL SURETY(IES)		
SIGNATURE(S)	1.	2.
	<i>(Seal)</i>	<i>(Seal)</i>
NAME(S) <i>(Typed)</i>	1.	2.

CORPORATE SURETY(IES)				
SURETY A	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)
	SIGNATURE(S)	1.	2.	<i>Corporate Seal</i>
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.	

SURETY B	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY C	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY D	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY E	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY F	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY G	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		

INSTRUCTIONS

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.
2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., (e.g., 20% of the bid price but the amount not to exceed _____ dollars).
4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitation listed therein. where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." In the space designed "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.
5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.
6. Type the name and title of each person signing this bond in the space provided.
7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

CONTRACT CLAUSES INDEX

FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)

(Updated thru FAC 2005-26 on 06/12/2008)

52.252-2 Clauses Incorporated By Reference (Feb 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address: www.arnet.gov/far/

(End of Clause)

FAR & TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
52.202-01	DEFINITIONS	Jul-04	
52.203-03	GRATUITIES	Apr-84	
52.203-05	COVENANT AGAINST CONTINGENT FEES	Apr-84	
52.203-07	ANTI-KICKBACK PROCEDURES	Jul-95	
52.203-8	CANCEL. & RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	Jan-97	
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	Jan-97	
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	Sep-07	
52.204-04	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER	Aug-00	
52.204-07	CENTRAL CONTRACTOR REGISTRATION	Aug-08	Contractor Mandatory Internet Data Input
52.209-06	PROTECTING GOV. INTEREST WHEN SUBCONTRACTING W/ CONT. DEB. SUSP. OR PROP. FOR DEB.	Sep-06	
52.214-26	AUDIT AND RECORDS--SEALED BIDDING	Oct-97	
52.214-27	PRICE REDUCTION FOR DEFECT. COST OR PRICING DATA-MODIFICATIONS -SEALED BIDDING	Oct-97	
52.214-28	SUBCONTRACTOR COST OR PRICING DATA--MODIFICATIONS--SEALED BIDDING	Oct-97	
52.219-08	UTILIZATION OF SMALL BUSINESS CONCERNS	May-04	
52.219-09 ALT 1	SMALL BUSINESS SUBCONTRACTING PLAN (ALT 1 - (Oct 01))	Apr-08	Large Business Mandatory Submittal Requirement
52.219-14	LIMITATIONS ON SUBCONTRACTING	Dec-96	
52.219-16	LIQUIDATED DAMAGES - SUBCONTRACTING PLAN	Jan-99	
52.222-03	CONVICT LABOR	Jun-03	
52.222-04	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION	Jul-05	
52.222-06	DAVIS-BACON ACT	Jul-05	Contractor Mandatory Wage Rates Posting
52.222-07	WITHHOLDING OF FUNDS	Feb-88	
52.222-08	PAYROLLS AND BASIC RECORDS	Feb-88	Contractor Weekly Payroll Submittals
52.222-09	APPRENTICES AND TRAINEES	Jul-05	
52.222-10	COMPLIANCE WITH COPELAND ACT REQUIREMENTS	Feb-88	
52.222-11	SUBCONTRACTS (LABOR STANDARDS)	Jul-05	
52.222-12	CONTRACT TERMINATION--DEBARMENT	Feb-88	
52.222-13	COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS	Feb-88	
52.222-14	DISPUTES CONCERNING LABOR STANDARDS	Feb-88	
52.222-15	CERTIFICATION OF ELIGIBILITY	Feb-88	
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	Feb-99	
52.222-26	EQUAL OPPORTUNITY	Mar-07	
52.222-27	AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION	Feb-99	
52.222-35	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, & OTHER ELIGIBLE VETERANS.	Sep-06	

CONTRACT CLAUSES INDEX

FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)

(Updated thru FAC 2005-26 on 06/12/2008)

FAR & TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	Jun-98	
52.222-37	EMPLOYMENT. REPORTS ON SPECIAL DISABLED VETS, VETS OF THE VIETNAM ERA, ETAL.	Sep-06	Contractor Annual Mandatory Reporting Requirement
52.222-39	NOTIFICATION OF EMPLOYEE RIGHTS CONCERNING PAYMENT OF UNION DUES OR FEES	Dec-04	Contractor Mandatory Postings
52.223-05	POLLUTION PREVENTION AND RIGHT TO KNOW INFORMATION	Aug-03	
52.223-06	DRUG-FREE WORKPLACE	May-01	
52.223-14	TOXIC CHEMICAL RELEASE REPORTING	Aug-03	Contractor Annual Contractor Reporting Requirement
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	Jun-08	
52.227-01	AUTHORIZATION AND CONSENT	Dec-07	
52.227-02	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	Dec-07	
52.227-04	PATENT INDEMNITY-CONSTRUCTION CONTRACTS	Dec-07	
52.228-02	ADDITIONAL BOND SECURITY	Oct-97	
52.228-5	INSURANCE - WORK ON A GOVERNMENT INSTALLATION	Jan-97	Contractor Submittal Requirement
52.228-11	PLEDGES OF ASSETS	Feb-92	
52.228-12	PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS	Oct-95	
52.228-14	IRREVOCABLE LETTER OF CREDIT	Dec-99	
52.228-15	PERFORMANCE AND PAYMENT BONDS - CONSTRUCTION	Nov-06	Contractor Submittal Requirement
52.229-03	FEDERAL, STATE, AND LOCAL TAXES	Apr-03	
52.232-05	PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS	Sep-02	Contractor Submittal Requirement
52.232-17	INTEREST	Jun-96	
52.232-23	ASSIGNMENT OF CLAIMS	Jan-86	
52.232-27	PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS	Sep-05	
52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER - CENTRAL CONTRACTOR REGISTRATION	Oct-03	
52.233-01 ALT I	DISPUTES (Alt-I, Dec-91)	Jul-02	
52.233-03	PROTEST AFTER AWARD	Aug-96	
52.233-04	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	Oct-04	
52.236-02	DIFFERING SITE CONDITIONS	Apr-84	
52.236-03	SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK	Apr-84	
52.236-05	MATERIAL AND WORKMANSHIP	Apr-84	
52.236-06	SUPERINTENDENCE BY THE CONTRACTOR	Apr-84	
52.236-07	PERMITS AND RESPONSIBILITIES	Nov-91	
52.236-08	OTHER CONTRACTS	Apr-84	
52.236-09	PROTECTION OF EXIST. VEGETATION., STRUCTURES., EQUIPMENT., UTILITIES, & IMPROVEMENTS	Apr-84	
52.236-10	OPERATIONS AND STORAGE AREAS	Apr-84	
52.236-11	USE AND POSSESSION PRIOR TO COMPLETION	Apr-84	
52.236-12	CLEANING UP	Apr-84	
52.236-13	ACCIDENT PREVENTION	Nov-91	

CONTRACT CLAUSES INDEX
FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)
(Updated thru FAC 2005-26 on 06/12/2008)

FAR & TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
52.236-15	SCHEDULES FOR CONSTRUCTION CONTRACTS	Apr-84	Contractor Submittal Requirement
52.236-17	LAYOUT OF WORK	Apr-84	
52.236-21	SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION	Feb-97	
52.236-26	PRECONSTRUCTION CONFERENCE	Feb-95	
52.242-13	BANKRUPTCY	Jul-95	
52.242-14	SUSPENSION OF WORK	Apr-84	
52.243-04	CHANGES	Jun-07	
52.244-06	SUBCONTRACTS FOR COMMERCIAL ITEMS	Mar-07	
52.245-02	GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS)	Jun -07	
52.246-12	INSPECTION OF CONSTRUCTION	Aug-96	
52.248-03 ALT I	VALUE ENGINEERING-CONSTRUCTION (Alt-I, Apr-84)	Sep-06	
52.249-01	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED PRICE)(SHORT FORM)	Apr-84	
52.249-02 ALT I	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED PRICE) (Alt-I, Sep-96)	May-04	
52.249-10	DEFAULT (FIXED PRICE CONSTRUCTION)	Apr-84	
52.253-01	COMPUTER GENERATED FORMS	Jan-91	

TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
1252.211-70	INDEX FOR SPECIFICATIONS	Apr-05	
1252.242-73	CONTRACTING OFFICERS TECHNICAL REPRESENTATIVE	Oct-94	

FAR & TAR PROVISIONS INCORPORATED BY REFERENCE

PROVISION	TITLE	DATE	REMARKS
52.217-03	EVALUATION EXCLUSIVE OF OPTION	Apr-84	
52.217-04	EVALUATION OF OPTIONS EXERCISED AT TIME OF CONTRACT AWARD	Jun-88	
52.217-05	EVALUATION OF OPTIONS	Jul-90	

CONTRACT CLAUSES INDEX

FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)

(Updated thru FAC 2005-26 on 06/12/2008)

FAR & TAR CLAUSES INCORPORATED BY FULL TEXT

CLAUSE	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
52.211-10	COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK	Apr-84	H	CONSTR. CONTRACT REQS.	Government Fill In
52.211-12	LIQUIDATED DAMAGES-CONSTRUCTION	Sep-00	H	CONSTR. CONTRACT REQS.	Government Fill In
52.211-18	VARIATION IN ESTIMATED QUANTITY	Apr-84	H	CONSTR. CONTRACT REQS.	
52.219-4	NOTICE OF PRICE EVALUATION. PREFERENCE FOR HUBZONE SB CONCERNS	Jul-05	F	SOCIOECON PROG REQS	Contractor Fill-In
52.222-23	NOTICE OF REQ. FOR AFFIRMATIVE ACTION TO ENSURE E.E.O.	Feb-99	F	SOCIOECON PROG REQS	Contractor Reporting Requirements
52.223-03 ALT I	HAZARDOUS MAT. IDENT. & MATERIAL SAFETY DATA (Alt-I, Jul-95)	Jan-97	G	GEN'L CONTRACT REQS.	Contractor Submittal Requirements
52.223-09	EST. OF % OF REC. MAT. CONTENT FOR EPA DESIGN. PRODUCTS	May 08	G	GEN'L CONTRACT REQS	Contractor Reporting Requirement
52.225-09	BUY AMERICAN ACT-CONSTRUCTION MATERIALS	Jan 05	F	SOCIOECON PROG REQS	Government & Contractor Fill In's
52-236-01	PERFORMANCE OF WORK BY THE CONTRACTOR	Apr -84	H	CONSTR. CONTRACT REQS	Government Fill In
52.236-04	PHYSICAL DATA	Apr-84	H	CONSTR. CONTRACT REQS.	Government Fill In

TAR CLAUSES INCORPORATED BY FULL TEXT

CLAUSE	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
FAR PT 22.9	NONDISCRIMINATION BECAUSE OF AGE POLICY	Feb-64	F	SOCIOECON PROG REQS	Policy Statement - Not A Clause

(End of Clauses Index)

CONTRACT PROVISIONS INDEX
FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)
(Updated thru FAC 2005-26 on 06/12/2008)

52.252-1 Solicitation Provisions Incorporated by Reference
(Feb 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this address: www.arnet.gov/far/

(End of Clause)

FAR & TAR PROVISIONS INCORPORATED BY REFERENCE

PROVISION	TITLE	DATE	REMARKS
52.211-06	BRAND NAME OR EQUAL	Aug-99	
52.214-03	AMENDMENTS TO INVITATIONS FOR BIDS	Dec-89	
52.214-04	FALSE STATEMENTS IN BIDS	Apr-84	
52.214-05	SUBMISSION OF BIDS	Mar-97	
52.214-06	EXPLANATION TO PROSPECTIVE BIDDERS	Apr-84	
52.214-07	LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS	Nov-99	
52.214-18	PREPARATION OF BIDS--CONSTRUCTION	Apr-84	
52.214-19	CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION	Aug-96	
52.225-10	NOTICE OF BUY AMERICAN ACT REQUIREMENT - CONSTRUCTION MATERIAL.	May-02	

TAR PROVISIONS INCORPORATED BY REFERENCE

PROVISION	TITLE	DATE	REMARKS
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CONTRACT PROVISIONS INDEX
FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)
(Updated thru FAC 2005-26 on 06/12/2008)

FAR PROVISIONS INCORPORATED BY FULL TEXT					
PROVISION	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
52.204-08	ANNUAL REPRESENTATIONS AND CERTIFICATIONS	Jan 06	D	REPS. & CERTIFICATIONS	Mandatory Contractor On-Line Input
52.211-04	AVAILABILITY FOR EXAM. OF SPECS NOT LISTED IN GSA INDEX OF FED SPECS/STANDARDS & COM. ITEM DESCRIPTION	Jun-88	E	INSTRUCTIONS TO BIDDERS	Government Fill In.
52.216-01	TYPE OF CONTRACT	Apr-84	E	INSTRUCTIONS TO BIDDERS	Government Fill In.
52.228-01	BID GUARANTEE	Sep-96	E	INSTRUCTIONS TO BIDDERS	Contractor Submittal Requirement
52.233-02	SERVICE OF PROTEST	Aug-96	E	INSTRUCTIONS TO BIDDERS	Government Fill In.
52.236-27	SITE VISIT (CONSTRUCTION)	Feb-95	E	CONSTR. CONTRACT REQS.	Government Fill In.
OTHER PROVISIONS INCORPORATED BY FULL TEXT					
PROVISION	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
NONE					

(End of Provisions Index)

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION PROVISIONS

REPRESENTATIONS AND CERTIFICATIONS

Annual Representations and Certifications. Prospective contractors shall complete electronic annual representations and certifications on-line at this web address: <http://orca.bpn.gov> (See FAR 4.1201) in conjunction with required registration in the Central Contractor Registration (CCR) database (see FAR 4.1102).

Vets100 Form must also be filled-in online at <http://vets100.cudenver.edu/> in accordance with FAR Clause 52.222-37.

Contractors are not eligible for award without completing these requirements.

4.1201); except for the changes identified below [*offeror to insert changes, identifying change by clause number, title, date*]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.
(End of Provision)

52.204-8

52.204-8 – Annual Representations and Certifications.

As prescribed in 4.1202, insert the following provision:
Annual Representations and Certifications (Jan 2006)

- (a)
 - (1) The North American Industry classification System (NAICS) code for this acquisition is 237310.
 - (2) The small business size standard is **\$31,000,000**.
 - (3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.
- (b)
 - (1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (c) of this provision applies.
 - (2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (c) of this provision instead of completing the corresponding individual representations and certification in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:
 - (i) Paragraph (c) applies.
 - (ii) Paragraph (c) does not apply and the offeror has completed the individual representations and certifications in the solicitation.
- (c) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov> . After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR

(End of Section D)

FEDERAL ACQUISITION REGULATION & TRANSPORTATION ACQUISITION REGULATION PROVISIONS

INSTRUCTIONS TO BIDDERS

52.211-4

AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (JUN 1988)

The specifications cited in this solicitation are not available for distribution. However, they may be examined at the following location(s):

**FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
21400 RIDGETOP CIRCLE
STERLING, VIRGINIA 20166-6511**

Send an email to the following address to make an appointment: eflhd.contracts@fhwa.dot.gov

TIME(S) FOR VIEWING: 8 A.M. TO 4 P.M.

All documents are available for direct download from the following website:
www.efl.fhwa.dot.gov/procurement/procurement.htm

(End of Provision)

52.216-1

TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a **firm-fixed-price** contract resulting from this solicitation.

(End of Provision)

52.233-2

SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

**FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
21400 RIDGETOP CIRCLE
STERLING, VIRGINIA 20166-6511**

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of Provision)

52.236-27

Site Visit (Construction). (Feb 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

Name: Mr. Larry Hultquist, Project Manager,
NPS-Blue Ridge Parkway

Address: 199 Hemphill Knob Road,
Asheville, NC 28803-8686

Telephone: (828) 271-4779 x247,
Larry_Hultquist@nps.gov

(End of Provision)

**Site visit point of contact
is not available for
answering any questions.**

Please send all questions concerning construction projects to eflhd.contracts@fhwa.dot.gov. Include the solicitation number, project name, number, requesting firm, address, a point of contact and telephone number.

(End of Section E)

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

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52.219-4

Notice of Price Evaluation Preference for HUBZone Small Business Concerns.

(Oct 2004)

(a) *Definition.* HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) *Evaluation preference.*

(1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except—

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer. These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) *Waiver of evaluation preference.* A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

Offer elects to waive the evaluation preference.

(d) *Agreement.* A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a non-manufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants;

(f) A HUBZone small business concern non-manufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

FAR SUBPART 22.9

NONDISCRIMINATION BECAUSE OF AGE (FEB 96)

22.901 Policy. Executive Order 11141, February 12, 1964 (29 CFR 2477), states that the Government policy is as follows:

(a) Contractors and subcontractors shall not, in connection with employment, advancement, or discharge of employees, or the terms, conditions, or privileges of their employment, discriminate against persons because of their age except upon the basis of a bona fide occupational qualification, retirement plan, or statutory requirement.

(b) Contractors and subcontractors, or persons acting on their behalf, shall not specify in solicitations or advertisements for employees to work on Government contracts, a maximum age limit for employment unless the specified maximum age limit is based upon a bona fide occupational qualification, retirement plan, or statutory requirement.

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(c) Agencies will bring this policy to the attention of contractors. The use of contract clauses is not required.

(End of Policy Statement)

52.222-23

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity for Construction (Feb 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade	Goals for Female Participation for Each Trade
8.5%	6.9%

Buncombe County, North Carolina

Goals for Minority Participation for Each Trade	Goals for Female Participation for Each Trade
6.3%	6.9%

Yancy County, North Carolina

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the *Federal Register* in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on

- (1) its implementation of the Equal Opportunity clause,
- (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and
- (3) its efforts to meet the goals.

The hours of minority and female employment and training

must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is as follows:

(End of Provision)

52.225-9

Buy American Act-Construction Materials. (Jan 2005)

(a) *Definitions.* As used in this clause-

"Component" means an article, material, or supply incorporated directly into a construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site pre-assembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction

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material.

“Cost of components” means-

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

“Domestic construction material” means-

(1) An un-manufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which non-availability determinations have been made are treated as domestic.

“Foreign construction material” means a construction material other than a domestic construction material.

“United States” means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference.

(1) This clause implements the Buy American Act (41 U.S.C. 10a - 10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

NONE

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that-

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)

(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including-

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

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(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data*. To permit evaluation of requests under paragraph 2 of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison			
Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1:			
Foreign construction material			
Domestic construction material			
Item 2:			
Foreign construction material			
Domestic construction material			
[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.] [Include other applicable supporting information.] [* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]			

(End of Clause)

52.225-10 -- Notice of Buy American Act Requirement— Construction Materials.

As prescribed in [25.1102\(b\)\(1\)](#), insert the following provision:

Notice of Buy American Act Requirement--Construction Materials (May 2002)

(a) *Definitions*. “Construction material,” “domestic construction material,” and “foreign construction material,” as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act--Construction Materials” (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) *Requests for determinations of inapplicability*. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) *Evaluation of offers*.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) *Alternate offers*.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested—

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

Alternate I (May 2002). As prescribed in [25.1102\(b\)\(2\)](#), substitute the following paragraph (b) for paragraph (b) of the basic provision:

(b) *Requests for determinations of inapplicability*. An offeror requesting a determination regarding the inapplicability of the Buy American Act shall submit the request with its offer, including the information and applicable supporting data

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required by paragraphs (c) and (d) of the clause at FAR 52.225-9.

“Designated country” means any of the following countries:

52.225-11

Buy American Act—Construction Materials under Trade Agreements.

(Nov 2006)

(a) *Definitions.* As used in this clause--

“Caribbean Basin country construction material” means a construction material that--

(1) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a Caribbean Basin country into a new and different construction material distinct from the materials from which it was transformed.

“Component” means an article, material, or supply incorporated directly into a construction material.

“Construction material” means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

“Cost of components” means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

(1) A World Trade Organization Government Procurement Agreement country (Aruba, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, or United Kingdom);

(2) A Free Trade Agreement country (Australia, Bahrain, Canada, Chile, El Salvador, Guatemala, Honduras, Mexico, Morocco, Nicaragua, or Singapore);

(3) A least developed country (Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, East Timor, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Laos, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Tanzania, Togo, Tuvalu, Uganda, Vanuatu, Yemen, or Zambia); or

(4) A Caribbean Basin country (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Costa Rica, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Montserrat, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, or Trinidad and Tobago).

“Designated country construction material” means a construction material that is a WTO GPA country construction material, an FTA country construction material, a least developed country construction material, or a Caribbean Basin country construction material.

“Domestic construction material” means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

“Free Trade Agreement country construction material means” a construction material that--

(1) Is wholly the growth, product, or manufacture of a Free Trade Agreement (FTA) country; or

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(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a FTA country into a new and different construction material distinct from the materials from which it was transformed.

“Foreign construction material” means a construction material other than a domestic construction material.

“Least developed country construction material” means a construction material that--

(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

“United States” means the 50 States, the District of Columbia, and outlying areas.

“WTO GPA country construction material” means a construction material that--

(1) Is wholly the growth, product, or manufacture of a WTO GPA country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country into a new and different construction material distinct from the materials from which it was transformed.

(b) *Construction materials.*

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the WTO GPA and Free Trade Agreements (FTAs) apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country construction materials.

(2) The Contractor shall use only domestic or designated country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows: **NONE**.

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)

(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier;
and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

SOCIOECONOMIC PROGRAM REQUIREMENTS

not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(End of clause)

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data.* To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) *
<i>Item 1</i>			
Foreign construction material			
Domestic construction material			
<i>Item 2</i>			
Foreign construction material			
Domestic construction material			

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]

Alternate 1 (Nov 2006). As prescribed in [25.1102\(c\)\(3\)](#), add the following definitions of “Bahrainian construction material” and “Mexican construction material” to paragraph (a) of the basic clause, and substitute the following paragraphs (b)(1) and (b)(2) for paragraphs (b)(1) and (b)(2) of the basic clause:

“Bahrainian construction material” means a construction material that—

(1) Is wholly the growth, product, or manufacture of Bahrain; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in Bahrain into a new and different construction material distinct from the materials from which it was transformed.

“Mexican construction material” means a construction material that—

(1) Is wholly the growth, product, or manufacture of Mexico; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in Mexico into a new and different construction material distinct from the materials from which it was transformed.

(b) *Construction materials.*

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the WTO GPA and all the Free Trade Agreements except NAFTA apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country construction materials other than Bahrainian or Mexican construction materials.

(2) The Contractor shall use only domestic, or designated country construction material other than Bahrainian or Mexican construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

52.225-12

Notice of Buy American Act Requirement—Construction Materials Under Trade Agreements.

(Jan 2005)

(a) *Definitions.* “Construction material,” “designated country construction material,” “domestic construction material,” and

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

SOCIOECONOMIC PROGRAM REQUIREMENTS

“foreign construction material,” as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act--Construction Materials Under Trade Agreements” (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material, other than designated country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material, and the offeror shall be required to furnish such domestic or designated country construction material. An offer based on

use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

Alternate II (Nov 2006). As prescribed in [25.1102\(d\)\(3\)](#), add the definitions of “Bahrainian construction material” and “Mexican construction material” to paragraph (a) and substitute the following paragraph (d) for paragraph (d) of the basic provision:

(d) Alternate offers.

(1) When an offer includes foreign construction material, except foreign construction material from a designated country other than Bahrain or Mexico, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material other than Bahrainian or Mexican construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material other than Bahrainian or Mexican construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of Section F)

MINIMUM WAGE SCHEDULE

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

GENERAL DECISION: NC20080011 07/25/2008 NC11

Date: July 25, 2008

General Decision Number: **NC20080011** 07/25/2008

Superseded General Decision Number: NC20070011

State: North Carolina

Construction Type: Highway

Counties: Alamance, Alexander, Buncombe, Burke, Cabarrus, Catawba, Cumberland, Davidson, Davie, Durham, Forsyth, Franklin, Gaston, Guilford, Lincoln, Mecklenburg, New Hanover, Onslow, Orange, Randolph, Rowan, Stokes, Union, Wake and Yadkin Counties in North Carolina.

HIGHWAY CONSTRUCTION PROJECTS (does not include tunnels, building structures in rest area projects, railroad construction, and bascule, suspension and spandrel arch bridges, bridges designed for commercial navigation, and bridges involving marine construction, and other major bridges).

Modification Number	Publication Date
0	02/08/2008
1	07/25/2008

* SUNC1990-014 02/12/1990

	Rates	Fringes
CARPENTER.....	\$ 7.63	
Concrete Finisher.....	\$ 7.52	
ELECTRICIAN.....	\$ 10.26	
IRONWORKER, REINFORCING.....	\$ 9.76	
Laborers:		
Asphalt Lay Down Man.....	\$ 6.55	
Asphalt Raker.....	\$ 6.55	
Common.....	\$ 6.55	
Form Setter (Road).....	\$ 8.57	
Mason (Brick, Block, Stone).\$	7.44	
Pipelayer.....	\$ 6.55	
Power Tool Operator.....	\$ 8.28	

Power equipment operators:

Asphalt Distributor.....	\$ 6.78
Asphalt Paver.....	\$ 7.47
Bulldozer (Utility).....	\$ 6.72
Bulldozer.....	\$ 7.33
Concrete Curb Machine.....	\$ 7.09
Concrete Finishing Machine..	\$ 7.85
Concrete Paver.....	\$ 6.90
Crane, Backhoe, Shovel, & Dragline:	
1 yd. & under.....	\$ 6.95
over 1 yd.....	\$ 8.16
Drill Operator.....	\$ 7.34
Grade Checker.....	\$ 6.55
Gradeall.....	\$ 8.38
Greaseman.....	\$ 6.55
Loader.....	\$ 7.09
Mechanic.....	\$ 8.47
Motor Grader (Fine Grade)...	\$ 8.04
Motor Grader (Rough Grade)..	\$ 7.68
Oiler.....	\$ 6.55
Roller (Finisher).....	\$ 6.70
Roller (Rough).....	\$ 6.55
Scraper.....	\$ 6.63
Screed Asphalt.....	\$ 7.09
Stone Spreader.....	\$ 6.55
Stripping Machine Operator..	\$ 6.55
Subgrade Machine.....	\$ 7.13
Sweeper.....	\$ 6.55
Tractor (Utility).....	\$ 6.55

Truck drivers:

Heavy Duty.....	\$ 9.47
Multi Rear Axle.....	\$ 6.55
Single Rear Axle.....	\$ 6.55

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====
Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates
listed under the identifier do not reflect collectively
bargained wage and fringe benefit rates. Other designations
indicate unions whose rates have been determined to be
prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION
=====

GENERAL DECISION: NC20080010 07/25/2008 NC10

Date: July 25, 2008

General Decision Number: **NC20080010** 07/25/2008

Superseded General Decision Number: NC20070010

State: North Carolina

Construction Type: Highway

Counties: Alleghany, Anson, Ashe, Avery, Beaufort, Bertie, Bladen, Brunswick, Caldwell, Camden, Carteret, Caswell, Chatham, Cherokee, Chowan, Clay, Cleveland, Columbus, Craven, Currituck, Dare, Duplin, Edgecombe, Gates, Graham, Granville, Greene, Halifax, Harnett, Haywood, Henderson, Hertford, Hoke, Hyde, Iredell, Jackson, Johnston, Jones, Lee, Lenoir, Macon, Madison, Martin, McDowell, Mitchell, Montgomery, Moore, Nash, Northampton, Pamlico, Pasquotank, Pender, Perquimans, Person, Pitt, Polk, Richmond, Robeson, Rockingham, Rutherford, Sampson, Scotland, Stanly, Surry, Swain, Transylvania, Tyrrell, Vance, Warren, Washington, Watauga, Wayne, Wilkes, Wilson and Yancey Counties in North Carolina.

HIGHWAY CONSTRUCTION PROJECTS (does not include Tunnels, Building Structures in rest area projects, Railroad Construction, and Bascule/Suspension/Spandrel Arch Bridges, Bridges designed for Commercial Navigation, and Bridges involving marine construction, and other major bridges).

Modification Number	Publication Date
0	02/08/2008
1	07/25/2008

* SUNC1990-002 02/12/1990

	Rates	Fringes
CARPENTER.....	\$ 7.71	
Concrete Finisher.....	\$ 7.64	
IRONWORKER, REINFORCING.....	\$ 9.27	
Laborers:		
Asphalt Raker.....	\$ 6.55	
Comman.....	\$ 6.55	
Form Setter (Road).....	\$ 6.90	
Mason (Brick, Block, Stone).....	\$ 7.76	
Pipe Layer.....	\$ 6.55	
Power Tool Operator.....	\$ 6.55	
Power equipment operators:		
Asphalt Distributor.....	\$ 6.57	
Asphalt Paver.....	\$ 7.00	
Bulldozer (utility).....	\$ 6.55	

Bulldozer.....	\$ 7.21
Concrete Finishing Machine..	\$ 9.48
Concrete Grinder.....	\$ 8.13
Crane, Backhoe, Shovel, & Dragline	
1 yd. & under.....	\$ 6.91
Over 1 yd.....	\$ 8.53
Drill Operator.....	\$ 7.65
Grade Checker.....	\$ 6.55
Greaseman.....	\$ 6.55
Hydroseeder.....	\$ 7.00
Loader.....	\$ 6.85
Mechanic.....	\$ 8.27
Milling Machine.....	\$ 8.00
Motor Grader (Fine Grade)..	\$ 8.01
Motor Grader (Rough Grade)..	\$ 7.42
Oiler.....	\$ 6.55
Piledriver.....	\$ 11.00
Roller (Finish).....	\$ 6.55
Roller (Rough).....	\$ 6.55
Scraper.....	\$ 6.55
Screed Asphalt.....	\$ 6.55
Stone Spreader.....	\$ 6.55
Stripping Machine Operator..	\$ 6.55
Subgrade Machine.....	\$ 9.00
Sweeper.....	\$ 6.55
Tractor (utility).....	\$ 6.55

Truck drivers:

Heavy Duty trucks.....	\$ 6.55
Multi Rear Axle Trucks.....	\$ 6.55
Single Rear Axle Trucks.....	\$ 6.55
Welder.....	\$ 9.07

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====
Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates
listed under the identifier do not reflect collectively
bargained wage and fringe benefit rates. Other designations
indicate unions whose rates have been determined to be
prevailing.

WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
- * an existing published wage determination
 - * a survey underlying a wage determination
 - * a Wage and Hour Division letter setting forth a position on a wage determination matter

* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.
=====

END OF GENERAL DECISION

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

GENERAL CONTRACT REQUIREMENTS

52.223-3

Hazardous Material Identification and Material Safety Data. (Jan 1997) Alt I (Jul 1995)

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No.
None	

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered non-responsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations

(including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to-

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with paragraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (i)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document, which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.

(End of Clause)

52.223-9

**Estimate of Percentage of Recovered Material Content
for EPA-Designated Products.
(MAY 2008)**

(a) *Definitions.* As used in this clause—

“Post consumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Post consumer material is a part of the broader category of “recovered material.”

“Recovered material” means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall—

(1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post consumer material content; and

(2) Submit this estimate to:

**Contracting Officer
Eastern Federal Lands Highway Division
21400 Ridgetop Circle
Sterling, VA 20166.**

(End of Clause)

52.228-15

**Performance and Payment Bonds -- Construction
(Nov 2006)**

(a) *Definitions.* As used in this clause --

“Original contract price” means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) *Amount of required bonds.* Unless the resulting contract price is \$100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) *Performance Bonds (Standard Form 25).* The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) *Payment Bonds (Standard Form 25-A).* The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) *Additional bond protection.*

(i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) *Furnishing executed bonds.* The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) *Surety or other security for bonds.* The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier’s check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the *Federal Register* or may be obtained from the:

U.S. Department of Treasury
Financial Management Service
Surety Bond Branch
3700 East West Highway, Room 6F01
Hyattsville, MD 20782
Or via the internet at
<http://www.fms.treas.gov/c570/>.

(e) *Notice of subcontractor waiver of protection (40 U.S.C. 3133(c)).* Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of Clause)

52.248-3

**Value Engineering – Construction.
(Feb 2000)**

(a) *General.* The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP’s) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP’s, in accordance with paragraph (f) below.

(b) *Definitions.* “Collateral costs,” as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

“Collateral savings,” as used in this clause, means those measurable net reductions resulting from a VECP in the agency’s overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

“Contractor’s development and implementation costs,” as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

“Government costs,” as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

“Instant contract savings,” as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor’s development and implementation costs, including subcontractors’ development and implementation costs (see paragraph (h) below).

“Value engineering change proposal (VECP)” means a proposal that --

- (1) Requires a change to this, the instant contract, to implement; and
- (2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change-
 - (i) In deliverable end item quantities only; or
 - (ii) To the contract type only.

(c) *VECP preparation.* As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (c)(1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

- (1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item’s function or characteristics are being altered, and the effect of the change on the end item’s performance.
- (2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.
- (3) A separate, detailed cost estimate for

- (i) the affected portions of the existing contract requirement and

- (ii) the VECP.

The cost reduction associated with the VECP shall take into account the Contractor’s allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

- (4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

- (5) A prediction of any effects the proposed change would have on collateral costs to the agency.

- (6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

- (7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) *Submission.* The Contractor shall submit VECP’s to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) *Government action.*

- (1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP’s expeditiously; however, it will not be liable for any delay in acting upon a VECP.

- (2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

- (3) Any VECP may be accepted, in whole or in part, by the Contracting Officer’s award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral

decision made solely at the discretion of the Contracting Officer.

(f) *Sharing* --

(1) *Rates*. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by --

- (i) 45 percent for fixed-price contracts; or
- (ii) 75 percent for cost-reimbursement contracts.

(2) *Payment*. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to --

- (i) Accept the VECP;
- (ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and
- (iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) *Collateral savings*. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or \$100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) *Subcontracts*. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; *provided*, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) *Data*. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

These data, furnished under the Value Engineering -- Construction clause of contract DTFH71-08-C-000XX, shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information

contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations.

(End of Section G)

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

CONSTRUCTION CONTRACT REQUIREMENTS

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within (**SEE SF 1442, BLOCK 11 FOR NUMBER OF DAYS**) calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than (**THE TIME INDICATED IN THE CONTINUATION OF THE SF 1442, BLOCK 11**). The time stated for completion shall include final cleanup of the premises. **(End of Clause)**.

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEPT 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of (**SEE SUBSECTION 108.04 OF THE FP-96/FP-03 AND/OR SPECIAL CONTRACT REQUIREMENTS FOR AMOUNT**) for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause. **(End of Clause)**

52.211-18 -- Variation in Estimated Quantity.

As prescribed in [11.703\(c\)](#), insert the following clause in solicitations and contracts when a fixed-price construction contract is contemplated that authorizes a variation in the estimated quantity of unit-priced items:

Variation in Estimated Quantity (Apr 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an

extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified. **(End of Clause)**

52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR. (Apr 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least **50** percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of Clause)

52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations (**SEE CONTINUATION OF SF 1442, BLOCK 9**).

(b) Weather conditions: **CONTACT LOCAL OFFICE OF NATIONAL WEATHER SERVICE, U.S. DEPARTMENT OF COMMERCE.**

(c) Transportation facilities: **N/A**

(d) Other Information: **SEE CONTINUATION OF SF 1442, BLOCK 9.**

(End of Clause)

(End of Section H)

FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
SPECIAL CONTRACT REQUIREMENTS

Project PRA-BLRI 2P14
Blue Ridge Parkway

The following Special Contract Requirements amend and supplement the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-96, (English Units), U.S. Department of Transportation, Federal Highway Administration, Federal Lands Highway.

Section 101.--TERMS, FORMAT, AND DEFINITIONS

101.01. Delete the last paragraph.

101.02. Delete the third and fourth paragraphs and substitute the following:

Division 150 consists of project contract requirements that are applicable to all contracts. Work under Division 150 is paid for directly or indirectly according to Subsection 109.05 and the Section ordering the work. When there is no pay item in the bid schedule, no direct payment is made.

Divisions 200 through 600 consist of construction contract requirements for specific items of work. Work under these Divisions is paid for directly or indirectly according to Subsection 109.05 and the Section ordering the work.

101.04. Add the following:

Smoothness Type – Smoothness/Roughness Type

Section 102.--BID, AWARD, AND EXECUTION OF CONTRACT

102.03 (a) Delete the first sentence and substitute the following:

Submit a bid guarantee of 20 percent of the amount of the bid or \$3 million, whichever is less.

102.04. Add the following:

Furnish documentary evidence as to the ownership and value of the assets pledged in support of the bond and details of the security interest in the assets by the individual sureties for the apparent low bidder within 14 business days after the opening of bids. Failure to submit evidence within the time required will be grounds for declaring the surety unacceptable.

In addition, the CO may, after reviewing the Affidavit of Individual Surety and documentary information on the security interest and the assets pledged, by certified mail to the surety's business or residence address (as shown on the bond), request the surety to provide further information and/or documents with respect to any of the documents provided. The CO may require such information to be furnished under oath. Failure of the surety to accept such mail, or failure of the surety to respond with the requested information or documents within 7 business days of receipt of the request, will be cause for rejection of the surety.

102.06. Delete the first paragraph including lines (a), (b), and (c), and substitute the following:

102.06 Performance and Payment Bonds. FAR Clause 52.228-15 - Performance and Payment Bonds — Construction is supplemented as follows.

Furnish a performance bond and a payment bond in the penal amounts of 100 percent of the original contract price.

102.06. Add the following after the last paragraph:

Submit the documentary evidence for individual sureties at the same time as the Affidavit of Individual Surety and security interest in assets pledged. A Contractor submitting an unacceptable individual surety in satisfaction of a performance or payment bond before the issuance of the Notice to Proceed will be permitted one opportunity to substitute an acceptable surety or sureties within 7 business days of receipt of notification that the surety is unacceptable.

The Government's right to direct the substitution of sureties to ensure the continuing acceptability of the bonds during the performance of the Contract according to FAR Clause 52.228-2, Additional Bond Security, is not restricted.

Section 103.— SCOPE OF WORK

103.03. Delete the second paragraph and substitute the following:

Before undertaking significant expenditures, provide the CO with a written description of the value engineering change proposal (VECP) concept. Within 14 days, the CO will inform the Contractor as to whether the concept appears to be viable or if the concept is unacceptable. If the CO indicates that the concept appears to be viable, prepare and submit the formal VECP proposal.

103.05. Delete the last sentence of the fourth paragraph and substitute the following:

The Government's share will not exceed \$5,000.

Section 104.--CONTROL OF WORK

104.03 Specifications and Drawings. Delete the entire subsection and substitute the following:

104.03 Specifications and Drawings. FAR Clause 52.236-21 – Specifications and Drawings for Construction is supplemented as follows:

- (a) **General.** Prepare drawings as necessary to adequately construct the work. Drawings include, but are not limited to, layouts that show the relative position (vertical and horizontal, as appropriate) of work to be performed, fabrication details for manufactured items and assemblies, installation and erection procedures, details of post-tensioning and other systems, detailed trench and excavation procedures that conform to OSHA requirements, traffic control implementation drawings, and methods for performing work near existing structures or other areas to be protected. Show all the drawing dimensions in English units.

Limit drawings to a maximum size of 24 by 36 inches. Include on each drawing and calculation sheet, the project number, name, and other identification as shown in the contract.

Furnish 5 sets of drawings and supporting calculations for acceptance before performing work covered by the drawings. If drawings are returned for revision, correct and resubmit for acceptance. Allow 40 days per submission for railroad structures and 30 days per submission for all other structures. If drawings must be resubmitted, the time for acceptance starts over. Obtain prior written approval for changes or deviations from accepted drawings.

(b) Specific requirements for concrete and miscellaneous structures. Drawings will be reviewed in the order they are received. The review time as specified in (a) above is applied separately to each drawing submitted. The CO may request additional specific drawings for unique situations in order to clarify layout, construction details, or methodology.

Furnish drawings for the following:

- (a) Site-specific layouts for all wall types and gabion installations.
- (b) Forms and falsework for reinforced concrete box culverts less than or equal to 6 feet in height.
- (c) Fabrication and installation drawings for precast items

(c) As-built working drawings. Furnish 2 sets of as-built working drawings. The Government will provide 2 sets of contract drawings to be used exclusively for recording the as-built details of the project.

Keep the as-built working drawings current on a weekly basis and have at least 1 set available on the jobsite at all times. Accurately and neatly record changes from the contract plans, which are made in the work, or additional information, which might be uncovered in the course of construction, as they occur by means of details and notes. Maintain a log of all changes made to the as-built working drawings, and monthly, at the estimate cutoff date, make the as-built working drawings and log available for review by the CO.

Note all additions or revisions to the location, character, and dimensions of the prescribed work shown on the contract drawings. Line out all details shown that are not applicable to the completed work. Use the red-line process (red pencil or red ink) to record on the as-built working drawings and final as-built drawings, as a minimum, but not limited to, the information described below:

(1) Typical section(s)

- (a) Revisions in dimensions; and
- (b) Revisions in materials.

(2) Plan and profile

(a) Plan

- (1)* Revisions to the alignment;
- (2)* Changes in the construction limits;
- (3)* Revisions in location, type, and grade of road approaches;
- (4)* Location and type of utilities;
- (5)* Location, size, and type of underdrains;
- (6)* Skew of culverts;
- (7)* Channel changes;
- (8)* Location of monuments and permanent references;
- (9)* Elevations for all aerial and underground crossings of utilities; and
- (10)* Location, length, and type of fencing.

(b) Profile

- (1)* Revisions to grades, elevations, and stationing of intersection PIs;
- (2)* Equations;
- (3)* Culvert diameter, length, type, and stationing;
- (4)* Length of culvert extension, and length of existing culvert;
- (5)* Location, length, stationing, and type of retaining walls; and
- (6)* Location, length, stationing, and end treatment of guardrail.

(3) Bridge

- (a)* Stationing of bridge ends;
- (b)* Elevations including footing, bearing pads, deck, and top of walls;
- (c)* Pile driving record with pile length, size, type, and tip elevation;
- (d)* Post-tensioning records including stressing sequence, jacking force, and duct size

and layout;

(e) Construction and concrete placement sequences;

(f) Bearing details with orientation;

(g) Expansion joints including actual clearance with atmospheric temperature; and

(h) Any changes in plan or dimensions including any major changes in reinforcing.

(4) Miscellaneous

(a) Revisions to parking areas or turnouts;

(b) Final location, type and length of curbs, sidewalks, etc.;

(c) Fencing type and limits; and

(d) Landscaping and planting.

(5) Special Contract Procedures

(a) Method of excavation, concrete placement, girder erection, structure repairs, etc.

Prepare final as-built drawings after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The as-built working drawings and final as-built drawings will be jointly reviewed for accuracy and completeness by the CO and the Contractor prior to submission of each monthly pay estimate.

If the monthly review finds that the Contractor is not maintaining the as-built working drawings, payment of the Contractor's invoice will be withheld until the as-built working drawings are brought up to date.

Furnish the as-built working drawings to the CO before the final inspection. Correct all details found during the final inspection that are not shown on the as-built working drawings and return to the CO within 5 working days for approval.

Once final as-built working drawings have been approved by the CO, provide final as-built drawings in the latest version of Adobe Acrobat (PDF) format (at the time of submission) on two sets of CD-R or DVD-R. Include the latest version Adobe Acrobat reader on the CD-R or DVD-R. Provide the final as-built drawings with a resolution quality such that the redlined drawings and notations are clearly discernable. Final payment per Subsection 109.09 will not be made until the CD-R or DVD-R of the final as-built drawings have been reviewed and approved by the CO.

No direct payment will be made for maintaining and furnishing as-built working drawings.

104.05. Add the following:

When hauling on National Park Service roads, do not exceed the following load restrictions:

<u>Single Units</u>	<u>Gross Vehicle Weight - lb</u>
2 axles	40,000
3 axles	48,000
4 or more axles	52,000
<u>Combination Units</u>	
3 axles	57,000
4 axles	62,000
5 or more axles	66,000

Where the ground is saturated with water or during periods of freezing and thawing, the CO may impose further load restrictions or suspend hauling.

Operate loaded vehicles hauling material at speeds not exceeding 40 mph and spaced at 500 feet minimum intervals. Do not exceed 25 mph or operate more than one loaded hauling vehicle at one time on a bridge.

Section 105.--CONTROL OF MATERIAL

105.01. Add the following:

If any material is to be excavated from any material source outside the construction limits, other than commercially operated sites, before work begins provide a certification from the State Historic Preservation Officer stating (1) that a cultural resource survey (a survey for historical sites and archeological remains) has been performed at the proposed site, and (2) that no significant cultural resources exist in the area that will be disturbed by the Contractor.

Section 106.--ACCEPTANCE OF WORK

106.01. Delete the fourth sentence of the fifth paragraph and substitute the following:

If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance.

106.03 Certification. Add the following after the first paragraph:

Other than references in, or to the FAR or Federal Law, when this contract references certifications; certificates; or certified document, equipment or individuals; these references are not certifications within the meaning of Section 4301 of Public Law 104-106, the National Defense Authorization Act for Fiscal Year 1996. These references simply refer to documentation of peripheral contract requirements, which is required to be validated by an individual or organization having unique knowledge or qualifications to perform such validation.

106.03(a) Production certification. Delete items (2) through (5) and substitute the following:

(2) Lot number or other means of cross-referencing to the manufacturers's inspection and testing system

(3) Substantiating evidence that the material conforms to the contract quality requirements as required by FAR 46.105(a)(4), including all of the following:

(a) Test results on material from the same lot and documentation of the inspection and testing system

(b) Manufacturer's statement that the material complies with all contract requirements

(c) Manufacturer's signature or other means of demonstrating accountability for the certification

Section 107.--LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01. Add the following:

Permits such as the following may be required for this project:

1. Water Quality Permit
2. Disposal Permit or Agreement

This list of permits may not be all inclusive of those required for construction. No time or damages, including impact damages, will be allowed for failure to obtain necessary permits or agreements. Provide copies of these permits and agreements upon request.

107.02. Add the following after the third paragraph:

For the full duration of construction, protect the existing trees that are tagged by the CO in the following manner:

- (a) Install and maintain a 4 feet high orange construction fence with steel posts around the perimeter of the root protection area. The root protection area is defined as an area equal to 10 feet outside the dripline.
- (b) All construction which takes place within the root protection area must be approved by the CO. Do not store or locate construction materials, vehicles, staging areas, topsoil, disposal areas, or trailers within the root protection area. Protect the area from potentially harmful materials from run-off or spillage, flooding, erosion, and sedimentation.
- (c) Remove all tree protection prior to final acceptance.
- (d) Make restitution for the introduction of any exotic vegetation introduced into the park through careless use of unclean turf establishment equipment. The amount of restitution will be based on the number of man hours required to remove the vegetation at \$20.00 per man hour.

107.02. Add the following after the sixth paragraph:

Notify the CO in writing at least 48 hours in advance of any scheduled utility shutdown.

107.05. Add the following after the second paragraph:

Submit all claims to the insurance company for investigation, regardless of deductible. Provide the results of any investigations and subsequent actions to the CO within 1 week of receipt from the insurance company.

107.10. Add the following:

Store all temporary inorganic or construction and demolition materials in a gathered or piled manner that will readily accommodate removal, and will not create fluid or additional waste removal problems. Store temporary waste material to make a full truckload/container, in a designated temporary storage site approved by the CO. Remove extensive construction and demolition waste material at the time of generation, or at such time that is prudent and practical, in order to prevent large build-up of waste material.

Limit disturbance to existing open areas, or previously disturbed areas, including road shoulders, as approved by the CO. Follow existing trails and openings for any disturbance corridors, where possible, including roadway shoulders. Locate the waterline between Craggy Garden's Visitor Center and the Craggy Dome parking area prior to work in order to avoid disturbance or conflict.

Place portable toilets, store fuel or other equipment liquids, and only allow long term equipment parking, outside the limits of the Asheville Watershed (watershed limits include plan stations 359/39+00 to 370/15+00). Use extra caution if equipment is refueled within the watershed. Provide a Hazmat Spill Kit for availability at all times within the limits of the Asheville Watershed. Maintain sanitation facilities regularly and properly secure them to prevent turnover.

Pay particular attention to erosion control design and construction and inclusion of work restrictions in the specification because much of this project is within the Asheville Watershed. This project is located in the Asheville Watershed, plan stations 359/39+00 to 370/15+00. Prevent construction generated sediment runoff or debris to leave the job site.

Section 108.--PROSECUTION AND PROGRESS

108.01. Delete the first sentence of the second paragraph and substitute the following:

A preconstruction conference will be held after the contract is awarded and before beginning work.

108.01. Add the following:

Construction activities at the project site cannot begin any earlier than May 26, 2009. Contract time will start on May 26, 2009. However, the Contractor may perform any preconstruction activities (i.e. submitting shop drawings, material mix design, etc) to prepare for the start of construction once the contract is awarded and the notice to proceed has been issued

Construction operations are limited as follows:

Perform pavement milling, patching, reclamation, and placement on the Blue Ridge Parkway, only during the period from April 1st to October 1st.

Construct headwalls and repoint stone masonry on any portion of the project, only during the period from April 1st to December 1st.

Stagger overlook construction work so that no two adjacent overlooks are closed at the same time.

No work will be allowed on National legal holidays. Complete no Parkway work during fall foliage (the entire month of October). Complete work on pull-offs and parking areas during fall foliage with approval from the CO. Close the Craggy Garden's Picnic Area Access Road at Sta. 19+15, between November 1st and May 20th, if needed during the construction of improvements to this roadway. Open the Access Road and Picnic Parking Area to the public for weekend use (Friday 3:00 PM through Monday 6:00 AM) between May 21st and July 15th. Complete Access Road and Picnic Parking Area construction activities by July 15th.

Complete work at MP 361/40+00±, MP 362/41+00±, and MP 363/21+50±, between Monday 6:00 AM and Friday 12:00 (noon), through the installation of the initial SACP surface course. Construct only one of these areas at a time.

Remove or reclaim only an amount of pavement that can be replaced in a work day unless the CO has approved a temporary traffic signal. Provide temporary traffic signals for situations where initial SACP surface course has not been placed for reclamation areas. Place the initial

surface or binder course within two days of exposing an area to pavement removal or reclamation. Remove pavement on days when rain is not in the forecast.

Complete all parking area stone work prior to pavement work on any parking areas.

Complete construction activities on the Craggy Garden's Picnic Area Access and the Craggy Garden's Picnic Parking Area during daylight hours only (no night time construction activities due to the presence of an endangered species). Complete night time construction on the Blue Ridge Parkway, if needed, except for placing the final SACP wearing course.

Locate the Contractor project trailer outside the limits of the Blue Ridge Parkway right-of-way.

Establish staging areas and parking areas for personal vehicles in parking overlooks. Access the project area from Craven Gap, Bull Gap, Route 70, and Route 80. Stockpile all unused stone from stone replacement at the NPS Oteen Maintenance Area at MP 382.2. Stage materials and vehicles at overlooks and parking areas approved by the CO.

Haul directly from the nearest point of public access to the work site. Minimize hauling on National Park Service roads. Minimize hauling over completed pavement. Enter the Blue Ridge Parkway at the point of access nearest the work site.

Repair damage to the roadway or other government property to the satisfaction of the CO at no cost to the government.

Locate Contractor and EFLHD project trailer outside of Blue Ridge Parkway ROW. Use overlooks and parking areas for staging of materials, as approved by the CO.

Place the final SACP wearing surface course on the Blue Ridge Parkway, only after all base courses have been placed for the entire length of the project for all awarded schedules and options. Minimize hauling over completed pavement.

Begin paving operations at the furthest location from the asphalt plant and proceed towards the plant.

Limitations of operations for temporary traffic control are specified in Subsection 156.06.

Section 109.--MEASUREMENT AND PAYMENT

109.01. Add the following after the third paragraph:

Submit measurement notes to the CO within 24 hours of performing the work. For on-going work, submit measurement notes weekly. When work is not complete, identify the measurement as being an interim measurement. Submit the final measurement when the installation is completed. Measurement notes form the basis of the Government's receiving report (see

Subsection 109.08(d)). For lump sum items, submit documentation to support invoiced progress payment on a monthly basis.

Use an acceptable format for measurement records. As a minimum, include the following information in all records of measurement:

- (a) Project name and number
- (b) Contract item number
- (c) Date the work was performed
- (d) Location of the work
- (e) Measured quantity
- (f) Calculations made to arrive at the quantity
- (g) Supporting sketch and/or details as needed to clearly define the work performed and the quantity measured
- (h) Names of persons measuring the work
- (i) Identification as to whether the measurement is interim or final
- (j) Signed certification statement by the persons taking the measurements, performing the calculations, and submitting them for payment that the measurement and calculations are correct to the best of their knowledge and that the quantity being measured is subject to direct payment for the identified item under the contract

109.06(a)(3) Cost or pricing data. Delete the third paragraph and substitute the following:

Submit with the cost or pricing data a written proposal for pricing the work according to (1) above. See Table 15-2 following FAR Subpart 15.4 for guidance.

109.06 Pricing of Adjustments. Add the following:

ASPHALT CEMENT PRICE ADJUSTMENT PROVISION

GENERAL The Asphalt Cement Price Adjustment Provision contained herein provides for a price adjustment in the form of payment to the Contractor or a rebate to the Government for fluctuations in the cost of asphalt cement consumed in the performance of applicable construction work. The price adjustment provisions are applicable only to the asphalt cement, as defined in Section 702.01, and incorporated in the following eligible contract pay items:

- 41801 Superpave pavement
- 41802 Superpave pavement, wedge and leveling course

The price adjustment provisions are also applicable to these eligible pay items when the Government adds extra work to the Contract.

The provision will remain in effect throughout the duration of the contract. Enactment of the Asphalt Cement Price Adjustment Provision will only be considered when the **increase or decrease** in the price of asphalt cement as defined herein exceeds 10 percent.

The Asphalt Cement Price Adjustment Provision is intended to reduce but not eliminate the cost effects of price uncertainty to the Contractor and the Government for asphalt cement used in the construction of this contract. It provides for sharing by the Government in a portion of the Contractor's risk, which could result from unusual price fluctuations. The provision is not intended to compensate the Contractor for normal day-to-day fluctuations and seasonal changes or to serve as a guarantee of full compensation for asphalt cement price fluctuations.

PRICE INDEXES The Government will generate a monthly performance price index which may be obtained from the CO for asphalt cement using price data obtained from Poten and Partners, Inc. (PPI), which publishes a weekly report (Asphalt Weekly Monitor) on high and low selling prices for states in five regions throughout the United States including the East Coast/Northeast, the Mid-Continent/Midwest, the Gulf Coast/Mid South, the Rocky Mountains and the West Coast/Northwest. Weekly high and low selling price data reported for North Carolina in the East Coast/Northeast Region will be averaged and used to establish a base price index, BPI, for this project and a monthly performance price index, MPPI, for the duration of the contract. These indexes are defined as follows:

- **BASE PRICE INDEX** The base price index, BPI, is the price index posted by the Government as determined by arithmetic average, as specified above, shown in the four weekly publications immediately preceding the bid opening. It is as follows:

BASE PRICE INDEX (BPI) FOR ASPHALT CEMENT
PER SHORT TON (TON) = \$ _____

- **MONTHLY PERFORMANCE PRICE INDEX** The monthly performance price index, MPPI, is the monthly price index at the time of performance of applicable work as determined by arithmetic average, as specified above, shown in the four weekly publications issued prior to the last Wednesday of the month (i.e. the monthly performance price index during which asphalt cement is used in the performance of applicable construction work).

PRICE ADJUSTMENTS Price adjustments are calculated by the Government for average conditions and are not intended to reflect the Contractor's actual purchase price. The ratio of the monthly performance price index and the base price index (MPPI/BPI) is calculated and used to determine price adjustments as follows:

- **No Price Adjustment** – When the ratio MPPI/BPI falls within the range of 0.90 to 1.10, no price adjustment will be made for any asphalt cement used in construction work performed during the relevant month.
- **Government Rebate** – When the ratio MPPI/BPI is calculated to be less than 0.90, the Government is due a rebate determined in accordance with the following formula:

$$\text{Government Rebate} = [0.90 - (\text{MPPI/BPI})] (\text{BPI}) (Q)$$

- **Contractor Payment** - When the ratio MPPI/BPI is calculated to be greater than 1.10, the Contractor is due additional payment determined in accordance with the following formula:

$$\text{Contractor Payment} = [(\text{MPPI}/\text{BPI}) - 1.10] (\text{BPI}) (Q)$$

The following definitions are applicable to both the Government Rebate and the Contractor Payment formulas:

MPPI = Monthly Performance Price Index for the month during which asphalt cement is used in the performance of applicable construction work.

BPI = Base Price Index that is established immediately preceding the bid opening.

Q = Quantity in metric tons of asphalt cement for eligible pay items that were used on the project during the progress payment period. The quantity will be calculated using the asphalt content of the approved mix design and the following formula:

$$Q = \text{Asphalt Concrete Pavement metric tons placed} \times (\% \text{ Asphalt}/100)$$

PRICE ADJUSTMENT COMPENSATION Monthly adjustments will be accrued. The final price adjustment will be paid, or rebated, after completion of all work for eligible pay items. The Contractor may request in writing a partial price adjustment payment once every 12 months, or when the unpaid accrued increase exceeds \$10,000. The Government will take a rebate when the deductive accrual exceeds \$10,000.

No price adjustments will be made for work performed beyond the Government-approved Contract completion date.

The maximum allowable monthly and final price adjustment to the Contractor or rebate to the Government is limited to a (MPPI/BPI) ratio of 1.6 and 0.4, respectively.

109.06 Pricing of Adjustments Add the following

FUEL PRICE ADJUSTMENT PROVISION

GENERAL The Fuel Price Adjustment Provision provides for a price adjustment in the form of payment to the Contractor or a rebate to the Government for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work. The price adjustment provisions are applicable only to those contract items listed as eligible pay items in Table 1 below, if gasoline and/or diesel are used as the primary fuel in the production of the affected items. The price adjustment provisions are also applicable to these eligible pay items when the Government adds extra work to the Contract.

The provision will remain in effect throughout the duration of the contract. Enactment of the Fuel Price Adjustment Provision will only be considered when the **increase or decrease** in the price of motor fuel as defined herein exceeds 10 percent.

PRICE INDEXES The Government will generate a monthly performance price index which may be obtained from the CO for Low Sulfur, No. 2 Diesel Fuel using price data obtained from the Oil Price Information Service (OPIS), which publishes a weekly report on gasoline and distillate reseller prices for major cities in five regions throughout the United States including the East Coast (PADD 1), the Midwest (PADD 2), the Gulf Coast (PADD 3), the Rockies (PADD 4) and the West Coast (PADD 5). Weekly average rack price data reported for Charlotte, NC in the East Coast Region will be averaged and used to establish a base price index, BPI, for this project and a monthly performance price index, MPPI, for the duration of the contract. These indexes are defined as follows:

- **BASE PRICE INDEX** The base price index, BPI, is the price index posted by the Government as determined by arithmetic average, as specified above, shown in the four weekly publications immediately preceding the bid opening. It is as follows:

BASE PRICE INDEX (BPI) FOR LOW SULFUR, NO. 2 DIESEL FUEL
PER GALLON = \$_____

- **MONTHLY PERFORMANCE PRICE INDEX** The monthly performance price index, MPPI, is the monthly price index at the time of performance of applicable work as determined by arithmetic average, as specified above, shown in the four weekly publications issued prior to the last Wednesday of the month (i.e. the monthly performance price index during which motor fuel is consumed in the performance of applicable construction work).

PRICE ADJUSTMENTS Price adjustments are calculated by the Government for average conditions and are not intended to reflect the Contractor's actual purchase price. The ratio of the monthly performance price index and the base price index (MPPI/BPI) is calculated and used to determine price adjustments for eligible pay items as follows:

- **No Price Adjustment** – When the ratio MPPI/BPI falls within the range of 0.90 to 1.10, no price adjustment will be made for any motor fuel consumed in construction work performed during the relevant month.
- **Government Rebate** – When the ratio MPPI/BPI is calculated to be less than 0.90, the Government is due a rebate determined in accordance with the following formula:

Government Rebate = $[0.90 - (MPPI/BPI)] (BPI) (Q) (FUF)$

- **Contractor Payment** - When the ratio MPPI/BPI is calculated to be greater than 1.10, the Contractor is due additional payment determined in accordance with the following formula:

$$\text{Contractor Payment} = [(\text{MPPI}/\text{BPI}) - 1.10] (\text{BPI}) (\text{Q}) (\text{FUF})$$

The following definitions are applicable to both the Government Rebate and the Contractor Payment formulas:

MPPI = Monthly Performance Price Index for the month during which motor fuel is consumed in the performance of applicable construction work.

BPI = Base Price Index that is established immediately preceding the bid opening.

Q = Quantity of work on the project during the progress payment period for eligible pay items shown in Table 1 below. The Government, to agree with the units associated with the applicable Fuel Usage Factor, will convert work quantities, as necessary.

FUF = Fuel Usage Factor shown in Table 1 below applicable to both diesel and gasoline.

Table 1 – Eligible Pay Items For Price Adjustments and Associated Fuel Usage Factors		
Eligible Pay Items	Fuel Usage Factor U.S. Customary Units	Fuel Usage Factor Metric Units
Earthwork:		
Section 204 – Excavation and Embankment 20401 Roadway excavation 20402 Subexcavation 20405 Select borrow	0.30 gallons per cubic yard	0.39 gallons per cubic meter
Aggregate Courses:		
Section 301 – Untreated Aggregate Courses 30101 Aggregate base	0.70 gallons per ton	0.77 gallons per metric ton
Section 304 – Aggregate Stabilization 30405 Aggregate stabilization in-place aggregate*	0.70 gallons per ton	0.77 gallons per metric ton
Asphalt Pavements:		
Section 418 – Superpave Hot Asphalt Concrete Pavement 41801 Superpave pavement 41802 Superpave pavement wedge and leveling Course	2.40 gallons per ton	2.65 gallons per metric ton
* The Government, to agree with the units associated with the applicable Fuel Usage Factor, will convert work quantities, as necessary.		

PRICE ADJUSTMENT COMPENSATION Monthly adjustments will be accrued. The final price adjustment will be paid, or rebated, after completion of all work for eligible pay items. The Contractor may request in writing a partial price adjustment payment once every 12 months, or when the unpaid accrued increase exceed \$10,000. The Government will take a rebate when the deductive accrual exceeds \$10,000.

No price adjustments will be made for work performed beyond the Government-approved Contract completion date.

The maximum allowable monthly and final price adjustment to the Contractor or rebate to the Government is limited to a (MPPI/BPI) ratio of 1.6 and 0.4, respectively.

109.07. Delete the last sentence of the last paragraph.

109.08. Delete the text of this Subsection and substitute the following:

109.08 Progress Payments. FAR Clauses 52.232-5 - Payments under Fixed-Price Construction Contracts and 52.232-27 - Prompt Payment for Construction Contracts are supplemented as follows.

(a) **General.** Only invoice payments will be made under this contract. Invoice payments include progress payments made monthly as work is accomplished and the final payment made upon final acceptance. Only one progress payment will be made each month. No progress payment will be made in a month when the work accomplished results in a net payment of less than \$1,000. Full or partial progress payment will be withheld until a construction schedule or schedule update is submitted to and accepted by the CO.

(b) **Closing date and invoice submittal date.** The closing date for progress payments will be designated by the CO. Include work performed after the closing date in the following month's invoice. Submit invoices to the designated billing office by the 7th day after the closing date. Invoices received by the designated billing office after the 16th day following the closing date will not be accepted for payment processing that month. Include late, unprocessed invoice submittals in the following month's invoice.

(c) **Invoice requirements.** Submit the invoice to the government's designated billing office.

The designated billing office is:

Federal Highway Administration
 Eastern Federal Lands Highway Division
 Loudoun Tech Center
 21400 Ridgetop Circle
 Room 200
 Sterling, Virginia 20166-6511

Include the following items in the invoice:

(1) The information required in FAR Clause 52.232-27(a)(2)(i) through (a)(2)(x).

(2) A tabulation of total quantities and unit prices of work accomplished or completed on each pay item as of the monthly closing date. Do not include any quantities unless field note documentation for those quantities was submitted by the closing date. Do not include any work involving material for which test reports required under Sections 153 or 154 or certifications required by Subsection 106.03 are past due as of the closing date.

- (3) The certification required by FAR Clause 52.232-5(c) and, if applicable, the notice required by FAR Clause 52.232-5(d). Provide an original signature on the certification. Facsimiles are not acceptable.
- (4) If applicable, a copy of the notices that are required by FAR Clause 52.232-27(e)(5) and (g).
- (5) The amount included for work performed by each subcontractor under the contract.
- (6) The total amount of each subcontract under the contract.
- (7) The amounts previously paid to each subcontractor under the contract.
- (8) Adjustments to the proposed total payment which relate to the quantity and quality of individual items of work. Adjustments for the following may be made by the Government after validation of the invoice:
- (a) Retent resulting from a failure to maintain acceptable progress.
 - (b) Retent resulting from violations of the labor provisions.
 - (c) Retent pending completion of incomplete work, other "no pay" work, and verification of final quantities.
 - (d) Obligations to the Government such as excess testing cost or the cost of corrective work pursuant to FAR Clause 52.246-12(g).
 - (e) Liquidated damages for failure to complete work on time.
- (d) Government's receiving report.** The Government's receiving report will be developed using the measurement notes received and accepted by the CO. Within 4 days after the closing date, the CO will be available by appointment at the Government's designated billing office to advise the Contractor of quantities and unit prices appearing on the Government's receiving report.
- (e) Processing progress payment requests.** No payment will be made for work unless field note documentation for the work was provided by the closing date.
- (1) Invoices received by the 7th day following the closing date.**
- (a) *Proper invoices.* If the invoice meets the requirements of Subsection 109.08(c), and the quantities and unit prices shown on the contractor's invoice agree with the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be paid.

(b) Defective invoices. If the invoice does not meet the requirements of Subsection 109.08(c), or if any of the quantities or unit prices shown on the contractor's invoice exceed the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be deemed defective and the Contractor so notified according to FAR Clause 52.232-27(a)(2). Defective invoices will not be corrected by the Government and will be returned to the contractor within 7 days after the Government's designated billing office receives the invoice.

Revise and resubmit returned invoices by the 18th day following the closing date. The CO will evaluate the revised invoice. If the invoice still does not meet the requirements of Subsection 109.08(c), the contractor will be so notified according to FAR Clause 52.232-27(a)(2), and no progress payment will be made that month. Correct the deficiencies and resubmit the invoice the following month.

If the revised invoice meets the requirements of Subsection 109.08(c), but still has quantities or unit prices exceeding the corresponding quantities and unit prices shown on the Government's receiving report, the Government's data for that item of work will be used. The contractor's invoice, as revised by the Government's receiving report, will be forwarded for processing by the 23rd day following the closing date. The contractor will be notified by the 23rd day following the closing date of the reasons for any changes to the invoice.

(2) Invoices received between the 8th and 16th day following the closing date.

(a) Proper invoices. If the invoice meets the requirements of Subsection 109.08(c), and the quantities and unit prices shown on the Contractor's invoice agree with the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be deemed proper and forwarded for processing within 7 days of receipt.

(b) Defective invoices. If the invoice does not meet the requirements of Subsection 109.08(c), the invoice will be deemed defective, the Contractor so notified according to FAR Clause 52.232-27(a)(2), and no progress payment will be made that month. Correct the deficiencies and resubmit the invoice the following month.

If the invoice meets the requirements of Subsection 109.08(c), but has quantities or unit prices exceeding the corresponding quantities and unit prices shown on the Government's receiving report, the Government's data for that item of work will be used. The contractor's invoice, as revised by the Government's receiving report, will be forwarded for processing within 7 days after receiving the invoice. The contractor will be notified, within 7 days of the Government's receipt of the invoice, of the reasons for any changes to the invoice.

(f) Partial payments. Progress payments may include partial payment for material to be incorporated in the work, provided the material meets the requirements of the contract and is delivered on or in the vicinity of the project site or stored in acceptable storage places.

Partial payment for material does not constitute acceptance of such material for use in completing items of work. Partial payments will not be made for living or perishable material until incorporated into the project.

Partial payments for material will not exceed the lesser of:

- (a) 80 percent of the contract bid price for the item, or
- (b) 100 percent of amount supported by copies of invoices submitted.

The quantity paid will not exceed the corresponding quantity estimated in the contract.

109.09. Delete the first sentence and substitute the following:

FAR Clause 52.232-5—Payment under Fixed-Price Construction Contracts and FAR Clause 52.232-27—Prompt Payment for Construction Contracts are supplemented as follows.

Section 152.--CONSTRUCTION SURVEY AND STAKING

152.02. Add the following:

Furnish a practicable schedule of staking activities with the construction schedule submitted according to Section 155. Include the dates and sequence of each staking activity.

Survey and perform field verification of location and stationing of paved waterway repairs and installations, and drainage schedule items, and submit to CO for approval.

152.03. Delete the text of paragraphs (a), (c), (d), (e), (h), (j), (k), and (m).

152.03(b). Delete this paragraph and substitute the following:

Roadway cross-sections. Take roadway cross-sections normal to centerline. When the centerline curve radius is less than or equal to 500 feet, take cross-sections at a maximum centerline spacing of 25 feet. When the centerline curve radius is greater than 500 feet, take cross-sections at a maximum centerline spacing of 50 feet. Take additional cross-sections at significant breaks in topography and at changes in the typical section. Measure and record points along each cross-section at breaks in topography, but no further apart than 15 feet. Measure and record points to at least the anticipated reconstruction of pavement limits and reference locations. Reduce all cross-section distances to horizontal distances from the centerline and provide cross slope grades between centerline and edge of pavement for each station. Obtain cross-section information necessary to establish the existing superelevation, cross-section and profile grade in order to re-establish the

superelevation, cross-section and profile grade for the new pavement section. All cross sections shall reference the existing centerline, edge of pavement, shoulder breaks, etc. Provide information regarding any roadway deficiencies, i.e. dips and humps, identified in the existing roadway and make proposals for correcting such deficiencies.

Correct deficient cross-slopes in areas of mill and overlay operations with a wedge and level binder and surface course as directed by the CO.

152.03(e). Delete the text of this paragraph and substitute the following:

Centerline reestablishment. Reestablish the centerline from instrument control points and stakes set offset from edge of pavement during the survey performed under subsection 152.03(b). The maximum spacing between centerline points is 25 feet when centerline curve radius is less than or equal to 500 feet. When the centerline curve radius is greater than 500 feet, the maximum distance between centerline points is 50 feet. Reestablish centerline as many times as necessary to construct the work. Obtain the necessary information in order to re-establish the existing alignment and proposed vertical alignment with the new pavement section.

The remarking of project stations prior to construction will be performed by the FHWA EFLHD.

152.03(f). Delete the third paragraph and substitute the following:

The maximum longitudinal spacing between stakes is 25 feet when the centerline curve radius is less than or equal to 500 feet. When the centerline curve radius is greater than 500 feet, the maximum longitudinal spacing between stakes is 50 feet. The maximum transverse spacing between stakes is 25 feet. Reset grade finishing stakes as many times as necessary to reclaim the subgrade and construct each asphalt course. Use brushes or guard stakes at each stake.

Set finish grade stakes to the top of existing asphalt prior to beginning pavement reclamation or removal. Submit centerline, both edges of pavement, and stake grades along with offsets prior to beginning pavement removal. Verify with CO if adjustments to grades will be required. Submit all data to CO for approval prior to beginning construction work.

152.03(i). Add the following:

(6) Traffic control (both permanent and temporary) signs, signals, markings, delineators, etc.

(7) Paved waterway, curb, and sidewalk.

Section 153.— CONTRACTOR QUALITY CONTROL

153.04. Add the following to the second paragraph:

Detail inspection results including deficiencies observed and corrective actions taken.

Section 154.--CONTRACTOR SAMPLING AND TESTING

154.02. **Sampling.** Delete the last three sentences of the second paragraph and substitute the following:

Deliver the Government's portion of the split sample in a container suitable for shipment. Label all samples with the following information:

- (a) Project number
- (b) Source of material
- (c) Item number
- (d) Sample number
- (e) Date sampled
- (f) Time sampled
- (g) Location sample taken
- (h) Name of person sampling
- (i) Name of person witnessing sampling
- (j) Type of test required on sample

154.03. Add the following:

Furnish test results to the CO immediately after completing the test. The requirements for furnishing test results do not include sample aging or curing time; therefore, reporting times will be extended accordingly.

Submit proposals for using alternate AASHTO or State approved test methods in writing for approval. Alternate methods may be allowed based on documented equivalence to the method specified.

154.04. Add the following:

Report test results on forms containing all sample information required by Subsection 154.02. Label clearly all interim measurements used to determine the results. Attach work sheets used to determine test values to the test result forms when submitted.

On a weekly basis, submit a copy of all current Contractor test results and pay factor calculations based on those tests for items accepted under Subsection 106.05. When large quantities are produced, calculate pay factors as soon as possible. Use this information to make any necessary adjustments to operations to achieve acceptable pay factors. The Government may use the

Contractor's test results to determine final pay factors for acceptance according to Subsection 154.05.

Section 155.--SCHEDULES FOR CONSTRUCTION CONTRACTS

155.02. Add the following after the third paragraph:

Weather Delays.

(a) Definitions.

- (1) Reasonably Predictable Weather is defined as the number of workdays that can be expected to be lost in any month due to rainfall based on ten year historical weather data.
- (2) A Rain Day is defined as a potentially lost workday on which rainfall is equal to or greater than 0.10 inch.
- (3) A Drying Day is defined as a work day(s) immediately following a rainfall equal to or greater than 1.00 inch which is potentially lost because of wet ground conditions.
- (4) A Workday is a day not excluded from work by Section 108 of the SCR.

(b) Reasonably Predictable Weather. The Contractor shall determine Reasonably Predictable Weather for this contract by completing Table R1. Data for Table R1 shall be calculated as follows:

- (1) Using the last ten (10) years of historical weather data from the nearest NOAA weather data collection station, compute the average number of workdays lost (rain days plus drying days) for each month and the standard deviation from the average. Add the average number of workdays lost to the standard deviation.
- (2) The Total number of Lost Days (Average Workdays Lost plus one Standard Deviation, rounded to whole days) will be considered normal for each month.
- (3) Submit a completed Table R1 with the initial construction schedule.

(c) Unusually Severe Weather Under FAR Clause 52.249-10, Default (Fixed-Price Construction), the Contractor can request time for a delay due to Unusually Severe Weather. For this contract, Unusually Severe Weather due to rainfall is defined as when the number of Actual Workdays Lost is greater than the calculated Total Lost Days for the month in question.

The number of Actual Workdays Lost is calculated by first totaling the actual Rain Days plus the actual Drying Days occurring in the month in question. From this total, deduct any workdays meeting the following conditions:

- (1) The Rain Day or Drying Day occurred on a non-work weekday such as a holiday.

- (2) Rainfall occurred at a time when no weather dependent work was in progress or occurred during planned or unplanned shutdowns due to other circumstances such as equipment failure, strikes, material supplies, delays, etc.
- (3) The Contractor was still working or able to work on weather dependent activities to the extent that less than 50% of the workday was lost due to weather.

If the net number of Actual Workdays Lost is greater than the Total Lost Days, than Unusually Severe Weather will have occurred in the month in question.

- (d) **Time Adjustments for Rain Delays** If the net number of Actual Workdays Lost to rain is less than the Total Lost Days for the month in question, no time adjustments will be made. If the net number of Actual Workdays Lost is more, then an excusable time extension may be granted. The Contractor must submit a Weather Time Impact Analysis supporting any alleged delays due to Unusually Severe Weather.
- (e) **Delays Due To Other Weather Conditions** Delays due to other unusually severe weather conditions (snow, extreme cold or heat, high winds, etc.) must be supported with a Weather Time Impact Analysis using historical weather data.

155.02. Add the following to the fourth paragraph:

No progress payment will be made for any work until a construction schedule is submitted to the CO and accepted by the CO.

155.02. Delete the last paragraph and substitute the following:

The Construction Contract Time shown on the construction schedule for contract completion or for any interim completion dates shall be the calendar dates established in the contract.

155.04. Add to the first paragraph:

For a computer-generated CPM, use Primavera software or software that is file-compatible with Primavera.

155.06. Add the following:

No progress payment will be made for any work until an updated construction schedule has been submitted to and accepted by the CO.

155.09. Add the following:

See Subsection 109.08.

TABLE R1

Project Number _____

Location of NOAA Data Collection Station _____

Data Years (10 year history): 19__ through 20__

REASONABLY PREDICTABLE WEATHER

MONTH	AVERAGE WORKDAYS LOST	STANDARD DEVIATION	TOTAL LOST DAYS
JANUARY			
FEBRUARY			
MARCH			
APRIL			
MAY			
JUNE			
JULY			
AUGUST			
SEPTEMBER			
OCTOBER			
NOVEMBER			
DECEMBER			

Section 156.--PUBLIC TRAFFIC

156.03. Add the following to the first paragraph:

Notify the CO at least 3 weeks prior to beginning lane closure operations.

156.04(c). Delete and substitute the following:

(c) Snow removal to facilitate the work is the Contractor's responsibility. Snow removal to provide public access is the responsibility of the maintaining agency and will be performed at the maintaining agency's discretion. Allow the maintaining agency access to perform snow removal.

156.04. Add the following:

- (f) Ensure that all drains and inlets within the project limits are fully functional throughout the duration of the project.

156.05. Delete the second sentence and substitute the following:

Snow removal to provide public access is the responsibility of the maintaining agency.

156.06(e). Add the following:

Use an existing parking area within the project limits for a staging area, as designated by the CO at the Preconstruction Conference. Stage equipment and materials outside the limits of the Blue Ridge Parkway from MP 359.7 to MP 370.3 (no staging will be allowed from MP 359.7 to MP 370.3). Limit construction equipment and personal vehicle parking to designated areas along the Parkway, and any parking and pull-off areas designated by the CO. Park or operate construction equipment or personal vehicles outside the limits of the roadway travel lanes (outside the edge of pavement).

Clean and restore any overlooks, pull-offs, or parking areas, including mill and overlay of the parking surface, and repair of any stone curb and sidewalk, at the completion of the project, if damaged by the Contractor's staging operations, at no cost to the Government.

156.06(h). Add the following:

Provide the maximum allowable length of lane closure as controlled by flaggers and pilot cars, in accordance with the MUTCD, current edition.

156.06. Add the following paragraph after paragraph (j):

- (k) Maintain existing guardrails until removal is necessary for construction. Use a temporary barrier, or other appropriate shielding or warning device while the guardrails are absent. Install new guardrails as soon as possible to minimize risk to the public.
- (l) Maintain reduced traffic speeds of 25 mph in construction zones.
- (m) Provide a maximum of 4 separate traffic control operations (ie. one lane closures with flaggers and shoulder closures) at any one time. Provide a minimum distance between concurrent traffic control operations of 5000 feet.
- (n) Complete pavement milling (use fine milling heads) throughout the week, but the length of this construction operation is limited to what can be paved by 12:00 (noon) on Friday. Pavement reconstruction work limits are restricted by the weather and by the length of a pavement section that the contractor can reconstruct within two days. Remove pavement on days when rain is not in the forecast.

156.07. Add the following:

Night time operations on the Parkway mainline are permitted except for placing the final SACP wearing course. Night time is defined as sunset to sunrise.

156.08. Delete the second sentence of the first paragraph and add the following:

The traffic safety supervisor may be the superintendent.

Section 157.-- SOIL EROSION CONTROL

157.04 Controls and Limitations on Work. Delete paragraphs (c) and (d) and substitute the following:

(c) Unless a specific seeding season is identified in the contract, apply permanent turf establishment to the finished slopes and ditches within 14 days according to Sections 624 and 625.

(d) Apply temporary turf establishment or other approved measures on disturbed areas within 14 days after last disturbance, except where the area will be redisturbed within 21 days after last disturbance or when initial stabilization is precluded by snow cover or by seasonal arid conditions in arid or semi-arid areas (average annual rainfall of 20 in or less).

(g) Construct inlet protection at all inlets downstream of land disturbing activity, or as directed by the CO, prior to the work.

157.15. Add the following:

Measure inlet protection by the each.

Measure mulch by the ton.

157.16. Add the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
15716 Inlet Protection, type _____	Each
15719C Temporary Mulch	Ton

Section 203.—REMOVAL OF STRUCTURES AND OBSTRUCTIONS

203.01. Add the following:

This work also consists of plugging retained pipe culverts affixed to drainage structures and/or pipe culverts to be removed.

203.03. Add the following:

Pipe Plugging. Plug all designated pipes shown in the plans or as directed by the CO, with concrete conforming to Section 601. Provide a minimum 12 inch deep plug in order to prevent water infiltration into remaining pipe. Use a non-shrinking concrete or grout that will provide an impermeable barrier against water infiltration upon curing.

203.05. Add the following after the first sentence:

Dispose of construction and other debris according to Superintendent's Order #6 – Solid Waste Disposal, dated July 16, 2003.

203.05(b). Delete the text and substitute the following:

Burning is prohibited. Dispose of material according to Subsection 203.05(a).

203.07. Add the following:

Measure removal of asphalt by the square yard exclusive of depth and including sawcutting of pavement.

Do not measure pipe plugs.

Section 204.-EXCAVATION AND EMBANKMENT

204.17. Add the following:

A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision
A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision

Section 251.—RIPRAP

Delete the entire Section and substitute the following:

Section 251.—RIPRAP

Description

251.01 This work consists of furnishing and placing riprap for bank protection, slope protection, drainage structures, and erosion control.

Riprap classes are designated as shown in Table 705-1.

Material

251.02 Conform to the following Subsections:

Geotextile type IV	714.01
Grout	725.22(e)
Riprap rock	705.02

Construction Requirements

251.03 General. Perform the work under Section 209. Dress the slope to produce a smooth surface. If earthwork geotextile is required, place according to Section 207.

251.04 Placed Riprap. Placed riprap is rock placed on a prepared surface to form a well-graded mass.

Place riprap to its full thickness in one operation to avoid displacing the underlying material. Do not place riprap material by methods that cause segregation or damage to the prepared surface. Place or rearrange individual rocks by mechanical or hand methods to obtain a dense uniform blanket with a reasonable smooth surface.

251.07 Acceptance. Rock for riprap will be evaluated under Subsections 106.02 and 106.03.

Rock placement for riprap will be evaluated under Subsections 106.02 and 106.04.

Measurement

251.08 Measure riprap by the ton or by the cubic yard in place.

Payment

251.09 The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment will be made under:

Pay Item	Pay Unit
25101 Placed riprap class _____	Cubic yard

**Table 251-1
Sampling and Testing**

Material or Product	Property or Characteristic	Test Methods or Specifications	Frequency	Sampling Point
Mortar	Making test specimens	AASHTO T 23 AASHTO T 22	1 sample per installation (1)	Job site
	Compressive strength (2)			

- (1) Sample consists of 2 test specimens.
- (2) The compressive strength will be the average of two test specimens

Section 301.--UNTREATED AGGREGATE COURSES

301.02. Add the following:

Notify the CO in writing, if an alternate State gradation is produced as provided in Subsection 703.05. The target values with respect to the State gradation will be the midpoint of the allowable State specification band. The allowable deviation (D) will be one-half the State specification band width, and the maximum allowable pay factor under subsection 301.08 will be 1.0.

301.03. Add the following after the second paragraph:

Submit the representative 300 pound sample to the EFLHD Central Laboratory in Sevierville, Tennessee.

301.05. Add to the end of the third paragraph:

Add additional aggregate as required and compact stone.

301.06. Add the following:

Add additional aggregate as required in reconstruction areas to eliminate dips and provide uniform cross-slope prior to placement of pavement.

301.08. Add the following:

The aggregate will be tested for acceptance on samples taken from its final location immediately prior to compaction.

301.08(a). Add the following:

When all the test results are completed and evaluated for a lot, the contractor may optimize the final pay factor for the lot by changing the originally established target values for the lot. The target values, as changed, must be within the designated range for the grading selected.

301.08. Delete Table 301-1 and substitute the following:

Table 301-1
Sampling and Testing

Material or Product	Property or Characteristic	Category	Test Methods or Specifications	Frequency	Sampling Point
Subbase and Base courses	Gradation ⁽¹⁾ . Specified sieves	II	AASHTO T 11 and AASHTO T 27	1 sample per 1000 t	From the windrow or roadbed after processing
	Liquid limit	—	AASHTO T 89	1 sample per 3000 t	From the windrow or roadbed after processing
	Moisture-Density (maximum density)	—	AASHTO T 180 method D	1 for each aggregate grading produced	Production output or stockpile
	Inplace density and moisture content	—	AASHTO T 238 and AASHTO T 239 or other approved procedures	1 for each 500 t	Inplace completed compacted layer
Surface course aggregate	Gradation ⁽¹⁾ . No. 4	I	AASHTO T 11 and AASHTO T 27	1 sample per 1000 t	From the windrow or roadbed after processing
	No. 40	I			
	No. 200	I			
	Other specified sieves	II			
	Plasticity index	I	AASHTO T 90	1 sample per 1000 t	From the windrow or roadbed after processing
	Liquid limit	—	AASHTO T 89	1 sample per 1000 t	From the windrow or roadbed after processing
	Moisture-Density (maximum density)	—	AASHTO T 180 method D	1 for each aggregate grading produced	Production output or stockpile
	Inplace density and moisture content	—	AASHTO T 238 and AASHTO T 239 or other approved procedures	1 for each 500 t	Inplace completed compacted layer

(1) Use only sieves indicated for the specified gradation.

301.10. Add the following:

A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision

Section 303.--ROAD RECONDITIONING

303.01. Add the following:

This work also includes regrading pipe culvert outlets at locations shown in plans as *grade to drain*.

303.03. Delete the paragraph and substitute the following:

Remove all pavement materials, any slide material, vegetation, and other debris down to the roadbed within the reconstructed roadway areas. Minimize disturbance to the road bed in all roadway areas designated for reconstruction. Dispose of all materials in accordance with Section 203.05.

303.04. Delete the second paragraph and substitute the following:

Roll and compact the exposed roadbed in accordance with Section 301.05. Roll the exposed roadbed a minimum of four passes with a 20 ton compression type roller. Excavate areas of the exposed roadbed that appear soft or yielding, or otherwise unacceptable to the CO, a depth of 6 inches and replace excavated material with aggregate material meeting the requirements of Section 703.05.

303.07(a). Add the following:

Verify that the finished and compacted roadbed profile and cross slopes will accommodate the binder and surface asphalt layers and also meet the required top of pavement profile and cross slopes through survey cross sections.

303.10. Delete the first paragraph and substitute the following:

Measure reconstructed areas within the exposed roadbed for payment by the square yard for a 6 inch depth. Measurement for payment will apply only to those areas approved by the CO.

Measure ditch reconditioning by the linear foot, measured along the edge of pavement at the roadway stationing.

Measure grade to drain locations as ditch reconditioning by the linear foot along the flow line of the regraded area.

303.11. Add the following:

<u>Pay Item</u>	<u>Pay Unit</u>
30305 Ditch Reconditioning	Linear foot

Section 304. — AGGREGATE STABILIZATION

304. Delete the Section and substitute the following:

Description

304.01. This work consists of the Full Depth Reclamation (FDR) process of pulverizing and mixing the existing asphalt pavement together with base, subbase, and/or subgrade materials, and with Portland cement and water to produce a uniform mixture meeting density requirements to serve as a base course for the asphalt pavement.

Material

304.02. Conform to the following Subsections:

Portland cement	701.01(a)
Water	725.01

Contractor Requirements

304.03. A minimum of 5 years of experience in the completion of Full Depth Reclamation (FDR) projects; of similar scope of work to this project.

Construction Requirements

304.04. General. Mix cement-stabilized base only when the weather permits the course to be finished without interruption in the time specified. Do not begin application or mixing operations when the atmospheric temperature is expected to fall below 40 °F within 48 hours. Adhere to seasonal restrictions as defined under Subsection 108.01D.

(a) In-place pavement and base. Pulverize the existing pavement and underlying base to the gradation shown in Table 304-1 to the widths and depths specified in the plans. Control the depth of pulverizing to insure that the finished thickness will be within the required tolerance limits. Accomplish the pulverizing and mixing in one or more passes subject to meeting the pulverization and uniformity requirements of these specifications. Spread cement after scarification of the existing asphalt pavement and prior to the pulverization and mixing for the entire thickness of the stabilized course. Maintain moisture content at a point that allows

compaction to the required density. Mix the in-situ material with Portland cement and water to produce a durable base.

Table 304-1
In-Place Aggregate or
In-Place Pavement and Base Gradation

Sieve Designation	Percent Passing
1 ½ inch	100
¾ inch	85 – 100
No. 4	55

304.05. Proportioning. Submit a mix design 30 days before production.

(a) Portland cement mixtures. Design and use a mixture that meets the requirements of Table 304-2. Design the cement mixture by estimating the median cement content required for maximum density of the mixture and select cement contents by mass at 2 percentage points above and 2 percentage points below the estimated median cement content in accordance with ASTM D 558.

At the 3 cement contents:

- (1) Determine the 7-day unconfined compressive strength according to ASTM D 1633, method A.
- (2) Determine the loss in mass according to ASTM D 559 and ASTM 560.

At the optimum cement content determine the maximum density and optimum moisture content according to AASHTO T 180 Method D using a minimum of 5 points. The values will be used for in-place density and moisture content of aggregate or aggregate asphalt mixtures according to Subsection 304.08.

**Table 304-2
Aggregate Cement Mix Design Parameters**

Material or Property	Requirement
Aggregate	90 - 96 % ⁽¹⁾
Portland cement	4 - 10 % ⁽¹⁾
Loss in mass, ASTM D 559 & D 560 (12 cycles) A-1, A-2-4, A-2-5, & A-3 A-2-6, A-2-7, A-4, & A-5 A-6 & A-7	14% max. 10% max. 7% max.
7-day unconfined compressive strength, ASTM D-1633, method A ⁽²⁾	
Average compressive strength:	300 - 700 psi
Single compressive strength:	250 psi min.

⁽¹⁾ By mass of total dry mix.

⁽²⁾ Prepared per ASTM D 558

(b) Job-mix formula.

(1) Submit the following for each job-mix formula:

- (a) Source of each component;
- (b) Results of applicable tests; and
- (c) Target values for:
 - (1) Each aggregate sieve size specified as applicable.

(2) At the request of the CO, submit the following:

- (a) 25-pound sample of Portland cement

Furnish a new mix design if there is a change in a material source. Begin production only after the mix design is approved.

304.06. Adding and Mixing of components. The amount of Portland cement to be added will be based on the percent of the approved mix design. Perform initial dry mixing of the cement with the existing roadbed materials or inject moisture into the mixing chamber of the mixing/pulverizing equipment during the first mixing. Adding water by a spray bar from a water truck directly onto the unmixed cement spread is not allowed. Mix cement thoroughly with the pulverized roadbed materials to provide a uniform distribution of the cement throughout the mixture.

Replace cement that has been displaced before mixing is started. Prevent excessive dusting, displacement, or altering the uniform distribution of cement throughout the section from the time of cement placement until the cement is thoroughly mixed throughout the depth of stabilization.

Allow only the equipment that is used in spreading and mixing to pass over the spread cement before it is mixed into the existing materials.

Pneumatic application through a slotted pipe will not be permitted. When a central plant is used, transport the mixture in vehicles that maintain moisture content, prevent segregation and loss of the fine material.

(a) Portland cement mixtures. If moisture was not injected into the mixing chamber of the pulverizer/mixer during the first mixing, then blend water into the mixture of cement and pulverized roadbed materials using the pulverizer/mixer. Complete the mixing in one or more continuous pass(es) of the mixing unit. The mixture of the water, cement and pulverized roadbed materials shall be within the tolerance limits of optimum moisture content and shall be in a condition suitable for immediate compaction without further mixing or grading.

Provide a gage or gages to allow the continuous monitoring of the amount of water that is applied to mixing units that inject moisture into the mixing chamber. Complete the mixing within 2 hours of cement application. The mixture shall not remain undisturbed after mixing and before compaction for more than 30 minutes.

When the uncompacted mixture is made too wet by the addition of too much water, or by rain, and the moisture content exceeds the specified tolerance for compaction; remix the entire affected section at the Contractor's expense, in an effort to dry the mixture through aeration. Following the appropriate aeration and drying of the mixture, reapply the Portland cement to the pulverized roadbed materials, within the tolerance limits of the optimum moisture content, and within a condition suitable for immediate compaction; according to Subsection 304.08.

304.07. Production Start-Up Procedures. At least two weeks prior to the start of stabilizing operations, arrange for a pre-production conference. Coordinate attendance with CO and any application subcontractors. Discuss and submit the following:

(a) Discuss approved mix design and proposed schedule of stabilizing operations.

(b) List of all equipment (excavation-compaction equipment, laydown, haul, etc., and personnel used in the production and construction of the work. Conduct pulverizing and mixing operation with one or more machines that produce the required degree of pulverization and uniformity. Other pieces of equipment that may be required are as follows: motorized grader, cement spreading unit, water truck, and compaction equipment. Furnish equipment that will produce a base course mixture meeting the requirements of these specifications. Approval of specific equipment for this work, prior to its use on the project, will not be provided by the CO.

(c) Proposed Traffic Control Plan for moving operations, and the proposed method of dealing with emergencies. Show in detail how traffic will be maintained through the project in the event of equipment breakdown, sudden weather changes, or other unexpected events. Include in the plan how sufficient roadway width for safe passage of traveling public will be maintained.

(d) Discuss Section 153, Contractor Quality Control, and minimum frequency schedule for process control sampling and testing and Section 154, Contractor Sampling and Testing.

(e) Discuss construction of test strip.

(f) Discuss Subsections 106.02, 106.03, and 106.04 and 304.12, Acceptance.

(g) Proposed plan for maintaining the finished surface before placement of next layer.

On the first day of production, stabilize a 1000-foot long test strip, one-lane wide, at the designated thickness and mix design proportions. Construct the test strip on the project at an approved location.

Construct the test strip using construction procedures intended for the entire project. Cease production after construction of the test strip until the stabilized base course and the test strip are evaluated by the contractor's laboratory and accepted by the CO.

(1) Mixture properties. Take at least three control strip samples and evaluate according to Table 304-3. The mix is acceptable if all test results are above the minimum specifications shown in Subsection 304.05 and within the design tolerances of the following:

Maintain the accuracy of the amounts of cement and water (based on the total dry mass) within the following tolerances:

Portland cement	$\pm 0.5\%$ by mass
Water	$\pm 2.0\%$ by mass

(2) Compaction. Take nuclear density readings behind each roller pass to determine the roller pattern necessary to achieve specifications without damaging the mix.

Repeat the test strip process until an acceptable test strip is produced. See Subsection 106.01 for the disposition of material in unacceptable test strips. Accepted test strips may remain in place and will be accepted and measured as a part of the stabilized base course. Tests results used for the test strip will not be included in the evaluation for payment according to Subsection 106.04. When a test strip is accepted, full production may begin.

Use these start-up procedures when a change in construction procedures occurs or when resuming production after a termination of production due to unsatisfactory quality according to Subsection 106.04.

304.08. Placing, Compacting, and Finishing. While placing and spreading the mixture, maintain the moisture content within 2 percent of optimum. Do not leave uncompacted aggregate cement mixtures undisturbed for more than 30 minutes, and complete their compaction and finishing within 1 hour from the time water is added. Additional time may be permitted if a retarder is used.

Compact the mixture to at least 97 percent of the maximum density as determined by AASHTO T-99, standard proctor. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures.

Reclaim only the amount of roadbed at any one time that can be completely pulverized, mixed, compacted, and protected against damage within the same working day. Adhere to the construction restrictions as defined under Subsection 108.01D.

Protect completed sections in such a manner as to prevent equipment from marring or damaging completed work. If the stabilized aggregate loses stability, density, or finish, reprocess, re-compact, and add additives as necessary to restore the strength of the damaged material.

Keep finished surface moist until placement of the initial asphalt wearing course.

304.09. Construction Joints. Place a vertical construction joint in the old work, normal to the center-line of the roadway; prior to joining a previous day's work, or work that is more than two hours old. Moisten the construction joint, if dry. Continue additional processing after approval of the construction joint by the CO. Construct vertical longitudinal joints, if required, parallel to the centerline by cutting into the existing edge for a sufficient distance to provide a vertical face for the depth of the course. The preference is that no longitudinal joints be incorporated into the work, and that the full pavement width section be constructed monolithically. Dispose of the material cut away by spreading in a thin layer on the adjacent lane to be constructed, or otherwise disposing of it in a satisfactory manner. Moisten cut joints, if dry, immediately in advance of placing fresh mixture adjacent to them.

304.10. Traffic.

(a) Traffic. Completed portions; following placement of the initial asphalt wearing course, may be opened immediately to low-speed local traffic and to construction equipment provided the moisture curing operations are not impaired and provided the mixtures is sufficiently stable to withstand marring or permanent deformation. Place traffic on the roadway as directed by the CO.

304.11. Acceptance. See Table 304-3 for sampling and testing requirements.

Material for hydraulic cement, and water will be evaluated under Subsections 106.02 and 106.03.

Stabilized imported and in-place aggregate courses will be evaluated under Subsections 106.02 and 106.04.

Reconditioning of the aggregate course for in-place aggregate will be evaluated under Section 303.

Measurement

304.12. Measure the Section 304 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

Measure Full Depth Reclamation (FDR) as cement aggregate stabilization, in-place aggregate, 6-inch and 10-inch depth by the square yard width horizontally to include the top of aggregate. Measure the square yard length along the centerline of the roadway. Measure this work only one

time, regardless of the number of passes required to meet the grading specified and achieve uniform mixture.

Deduct unauthorized wastage or usage of any materials, unused materials remaining in stockpiles, and additional materials required for reconstruction of unacceptable work; from measured quantities. Determination of quantities to be deducted will be made by the method that the CO considers to be most practicable and equitable, and the CO's decision as to the method used shall be final.

Measure Portland cement by the ton.

Water will not be measured for payment.

Measure removal and disposal of unsuitable materials under Section 203 or 204.

Payment

304.13. The accepted quantities measured as provided in Subsection 109.02, will be paid at the contract price per unit of measurement for the Section 304 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
30404 Portland cement.	Ton
30405AN Cement aggregate stabilization, in-place aggregate, 6-inch depth	Square Yard
30405AS Cement aggregate stabilization, in-place aggregate, 10-inch depth	Square yard

A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision
 A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision

**Table 304-3
Sampling, Testing and Requirements**

Material or Property	Type of Acceptance (subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Portland Cement Mixtures Mix design (304.03 and Table 304-2)	Measured and tested for conformance (106.04)	Compressive strength	---	ASTM D 1633, method A	1 for each mixture or change in material	Processed material before incorporating in work	Yes, when requested	Before using in work
		Moisture - density		AASHTO T 180, method D ⁽¹⁾				
		Loss in mass		ASTM D 559 and D 560				

⁽¹⁾ Minimum 5 points per proctor.

Section 305.—AGGREGATE-TOPSOIL COURSE

305.04 Mixing, Placing, and Compacting. Delete the third paragraph and substitute the following:

Uniformly compact the mixture so that it does not exhibit heaving, pumping, rutting, or shearing. Dry seed the surface at a rate of 75 pounds per acre before compaction. Blade off shoulders prior to placing aggregate topsoil.

305.05 Acceptance. Delete the second paragraph and substitute the following:

Construction of aggregate-topsoil course will be evaluated under Subsection 106.02.

305.05 Acceptance. Delete the Material or Product, Aggregate-topsoil mixture, from Table 305-1.

Section 401.--HOT ASPHALT CONCRETE PAVEMENT

401.03. Delete the first paragraph and substitute the following:

Composition of Mix (Job-Mix Formula). Reclaimed asphalt pavement (RAP) material may be used in combination with new aggregate, asphalt cement, and/or recycling agents in the construction of hot asphalt concrete pavement. Up to 15 percent RAP material may be used in the mix without adjustment to the asphalt. For percentages of RAP greater than 15 percent, the contractor must submit test data demonstrating that the mix will meet the requirements of this section and submit a quality control plan showing sufficient control of the RAP. In no case shall the maximum percent of RAP exceed 35 percent.

Aggregate and mineral filler.

- 1) Target value for percent passing each sieve size for the aggregate blend. Designate target values within the gradation band in the specified grading. Designate target values outside the restricted zone of Table 703-17, 703-15 or 703-16 for the appropriate nominal maximum size aggregate.
- 2) Source and percentage of each aggregate stockpile to be used.
- 3) Average gradation of each aggregate stockpile.
- 4) Representative samples for each aggregate stockpile:
 - (a) 250 pounds of each coarse aggregate
 - (b) 150 pounds of each intermediate and fine aggregate
 - (c) 20 pounds of mineral filler such as limestone or filler earth if proposed to improve gradation characteristics or mix performance.

(d) 20 pounds of bag house fines if proposed for the mix. See Subsection 401.04.

Aggregate samples when combined according to the Contractor's recommended stockpile percentages shall be within the gradation band defined by the target values plus or minus the allowable deviation for each sieve or the samples will not be considered representative.

5) Results of aggregate quality test.

401.13. Add the following after the fifth paragraph:

In curve widened areas, place the surface pavement joint midway between the pavement edges.

401.16 Pavement Smoothness/Roughness. Measure the smoothness/roughness of the final paved surface course after final rolling, within 14 days of completing roadway paving, before placing a surface treatment, and according to the designated type below. In addition, construct all pavement surfaces to meet the requirements of (b) below.

(a) International Roughness Index (IRI). Furnish an inertial profiler conforming to AASHTO MP 11 and capable of meeting certification requirements of AASHTO PP 49. Provide a trained and qualified operator to operate the inertial profiler equipment. All equipment will be validated against a government profiler at the time of use. A cross correlation value will be determined for at least one random segment of at least 528 feet in length. Contractor and Government profilers will be cross correlated on the same day prior to the start of paving operations. Coordinate the profile verification date through the CO. At the preconstruction conference, provide the CO with a list of three or more possible dates in three or more different weeks that the profiler and operator will be available for cross correlation verification. The CO will determine the cross correlation segments. The minimum acceptable cross correlation value is 0.90. Equipment failing to obtain a cross correlation value of at least 0.90 shall not be used. Operate the inertial profiler in accordance with manufacturer's recommendations and AASHTO PP 50. Provide a lead-in distance, after reaching the testing speed, of at least 150 feet. Furnish personnel to provide flagging operations as may be required.

For all pavement roughness types measure the pavement profile in both wheel paths and use an average IRI value. Immediately after obtaining the profile measurements provide the CO with an electronic file containing the profile data. The file shall be in an ERD format per AASHTO PP 50. Analysis of the profile data will be made using the latest version of the Profile Viewer and Analysis (ProVAL) software. The most current version can be downloaded at www.roadprofile.com.

Areas of localized roughness will be identified using a report of continuous IRI with a base length of 25 feet. This will yield the IRI of every possible 25-foot segment. Any area for which the continuous report exceeds an IRI of 140 inches/mile will be considered a defective area requiring correction in accordance with 401.16(d).

A report of continuous IRI is defined as the roughness profile from “Profiles from Roughness”, TRR 1260, by M.W. Sayers. Its use for detection of localized roughness, as required here, is demonstrated in “Using a Ride Quality Index for Construction Smoothness Specifications”, TRR 1861, by M. Swan and S. Karamihas.

An IRI value will be determined for each 0.1-lane mile of traveled way. Cattle guards, bridges, driveways, parking areas, and turning or passing lanes, side roads and ramps less than 350 feet in length will be excluded from the calculation of IRI and determination of localized roughness. Straightedge excluded areas according to 401.16(c)

(1) Type 2 pavement smoothness/roughness (IRI measurements for full depth reclamation and reconstructed and new roads). Measure the roughness of the final paved surface course. Defective areas are 0.1-mile segments with IRI values greater than 95 inches per mile or areas of localized roughness.

The pay adjustment factor for each 0.1-mile segment will be determined from Table 401-7.

Table 401-7 Type 2 Pavement Smoothness/Roughness

IRI (inches per mile)	Pay Factor for Roughness (PF_{IRI})
Less than 30.0	PF _{IRI} = 1.05
30.0 to 59.9	PF _{IRI} = 1.0902 – 0.00134(<i>IRI</i>)
60.0	PF _{IRI} = 1.00
60.1 to 95.0	PF _{IRI} = 1.4035 – 0.00688(<i>IRI</i>)
Greater than 95.0	Defective Area

Where:

PF_{IRI} = Pay factor for roughness.

IRI = International Roughness Index.

(2) Type 3 pavement smoothness/roughness (IRI measurements for overlay, recycle with overlay, or milling with overlay projects) Measure the roughness of the existing surface no more than 30-days prior to the start of construction. The existing surface is the original surface before overlaying, recycling, or milling. The existing IRI will be used to determine the percent improvement for each 0.1-lane mile segment. Measure the roughness of the final paved surface course. Defective areas are areas of localized roughness, 0.1-lane mile segments having IRI values greater than the defective limits in Table 401-8, and 0.1-mile segments having a pay factor of less than 0.75.

**Table 401-8
Pavement Roughness**

Pavement Smoothness/Roughness Type	IRI – inches/mile	
	Upper Specification Limit	Defective Limit
3	70	100

The pay factor for roughness will be determined for each 0.1-mile segment length according to the following formula:

$$PF_{IRI} = -0.00625(IRI) + (0.00625(USL) + 1.0) \leq 1.05$$

Where:

PF_{IRI} = Pay factor for roughness.
 IRI = International Roughness Index.
 USL = Upper Specification Limit.

The maximum pay factor for roughness for any 0.1-lane mile segment will be 1.05. For overlay, recycle with overlay and milling with overlay projects determine the percent improvement. The percent improvement in IRI for each 0.1-lane mile segment length will be determined according to the following formula:

$$\text{Percent Improvement} = [(Original\ IRI - Final\ IRI) / Original\ IRI] \times 100$$

If the percent improvement for a 0.1-lane mile segment is less than zero then the maximum pay factor for roughness will be 1.0. When only one lift of asphalt concrete pavement is placed, if the percent improvement for a 0.1-lane mile segment is 25 percent or greater then the minimum pay factor for roughness for that segment will be 1.0. When multiple lifts of asphalt concrete pavement is placed, if the percent improvement for a 0.1-lane mile segment is 35 percent or greater then the minimum pay factor for roughness for that segment will be 1.0.

- (b) Type 4 pavement smoothness/roughness (straightedge measurement).** Use a 10-foot metal straight edge to measure at right angles and parallel to the centerline. Defective areas are surface deviations in excess of 1/4 inch in 10 feet between any two contacts of the straightedge with the surface.
- (c) Defective area correction.** Correct defective areas from (a), (b), and (c) above. Obtain approval for the proposed method of correction. If no corrections are allowed, then bumps as defined by 401.16(a) and areas of localized roughness as defined by 401.16(b) will be assessed an additional deduction of \$500 per incident. For areas of localized roughness and bumps within 25-feet of each other longitudinally and in the same lane, only one deduction of \$500 will be assessed. If corrections of the defective areas defined in 401.16(b) are not allowed, then the pay factor will be 0.75. No other adjustments or

deductions will be made if corrections are not allowed.

Re-measure corrected areas according to the specified type of pavement smoothness/roughness. The smoothness/roughness value obtained will replace the original value obtained will replace the original.

Section 402.--MINOR ASPHALT CONCRETE

402.02. Add the following:

Use the North Carolina Department of Transportation (NCDOT) HACP I-1 or I-2 mixes as approved by the CO. Use an asphalt content that is 1/2% higher than that submitted in the asphalt concrete mixture if that mixture design is for roadway paving.

402.10. Add the following:

Do not measure cleaning or crack sealing of paved waterways, type 5.

Section 412.--ASPHALT TACK COAT

412.01. Add the following:

Tack coat rapid-curing cut-back asphalt grade is designated as shown in AASHTO M 81.

412.02. Add the following material:

Cut-back asphalt

702.02

Section 413.--ASPHALT PAVEMENT MILLING

413.02. Add the following:

(i) Use fine milling heads only.

413.03. Delete the first sentence of the third paragraph and substitute the following:

Transition between different depths of cut at a uniform rate of 1 inch of depth per 20 feet of length.

Section 414.--ASPHALT PAVEMENT CRACK AND JOINT SEALING

414.01. Add the following:

In pavement sections requiring mill and overlay, clean and seal cracks that are greater than 0.10 inches in width, or as directed by the CO, prior to applying the asphalt overlay.

Section 418. -- SUPERPAVE ASPHALT CONCRETE PAVEMENT

Description

418.01 This work consists of constructing one or more courses of Superpave asphalt concrete pavement.

Superpave asphalt concrete pavement ESALs, nominal maximum aggregate size, voids in mineral aggregate (VMA), voids filled with asphalt (VFA), and smoothness/roughness type are designated in the specifications.

Material

418.02 Conform to the following Subsections:

Aggregate	703.17
Antistrip additive	702.08
Asphalt binder, AASHTO MP 1	702.01
Mineral filler	725.05

Furnish asphalt binder of performance grade PG 58-22

Construction Requirements

418.03 Composition of Mix (Job-Mix Formula). Compact specimens with the gyratory compactive effort specified in Table 418-1 for the corresponding traffic. Furnish aggregate, asphalt, and additives that meet applicable gradation and material requirements in Subsection 703.17 and the appropriate design parameters in Table 418-1. Furnish nominal maximum size aggregate that meet the applicable aggregate gradation in tables 703.11 and 703.12 for the mix class shown in the bid schedule. Recycled asphalt pavement (RAP) is not allowed in riding surface course. For all but the surface course, Recycled Asphalt Pavement may be used but not exceed 15% by weight.

Table 418-1
Standard Specification for SUPERPAVE™
HMA Design Requirements
AASHTO MP2-00

Design ESAL (Million)	Gyratory Compaction Level (% Theoretical Maximum Specific Gravity, Gmm)		Minimum Voids-in-the-Mineral Aggregate Voids Filled with Asphalt (% VFA) ⁽⁵⁾⁽⁶⁾				Dust-to-Binder Ratio ⁽¹⁾	Minimum Tensile Strength Ratio ⁽²⁾ , AASHTO T 283 ⁽²⁾
	N _{Initial}	N _{Design}	N _{Max}	Nominal Maximum Size Aggregate, in ⁽³⁾				
< 0.3	6 (≥91.5%)	50 (96%)	115 (≤98%)	1.0- inch	3/8- inch	1/2- inch	3/8- inch	70-80
				12.0	13.0	14.0	15.0	
				65-78				
0.3 to < 3	7 (≥90.5%)	75 (96%)	115 (≤98%)	12.0	13.0	14.0	15.0	0.8-1.6
				15.0	16.0	17.0	18.0	
				65-75				
3 to < 30	8 (≥89%)	100 (96%)	160 (≤98%)	12.0	13.0	14.0	15.0	80 %
				15.0	16.0	17.0	18.0	
				65-75				
> 30	9 (≥89%)	125 (96%)	205 (≤98%)	12.0	13.0	14.0	15.0	0.8-1.6
				15.0	16.0	17.0	18.0	
				65-75				

(1) Hydrated lime, baghouse fines, and other mineral matter added to the mixture is included.
(2) Specimens shall be 6-inch in diameter and 3.75 inches in height prepared in accordance with PP 28.
(3) The nominal maximum size is one size greater than the first sieve to retain more than 10 percent of the combined aggregate.
(4) When mineral filler or lime is used, include in the calculation for compliance with the VMA.
(5) 3/8 inch Nominal Maximum Sieve Size mixtures, the specified VFA range shall be 73-76% for design traffic levels >3 million ESALS.
(6) 1.0 inch Nominal Maximum Sieve Size mixtures, the specified lower limit of the VFA shall be 67% for design traffic levels < 0.3 million ESALS.
(7) For coarse graded Superpave mixtures, the VMA is restricted to 2 percent above the minimum value.

Submit the written job-mix formula for approval at least 28 days before production. The 28 day period will start upon receipt of all materials and information at the EFLHD Central Laboratory in Sevierville, Tennessee. For the job-mix formula, submit the following:

(a) Aggregate and mineral filler.

(1) Provide Target Values

- (a) Target value for percent passing each sieve size for the aggregate blend.
- (b) Designate target values within the gradation band specified for the nominal maximum size aggregate grading in Table 703-12.
- (c) Designate target values outside the restricted zone of Table 703-12 for the appropriate nominal maximum size aggregate.

(2) Source and percentage of each aggregate stockpile to be used.

(3) Average gradation of each aggregate stockpile.

(4) Representative samples for each aggregate stockpile:

- (a) A total of 550 pounds of aggregates with the weight of each of the stockpile samples based on that stockpile's proportion.
- (b) 20 pounds of mineral filler such as lime stone or filler earth if proposed to improve gradation characteristics or mix performance.
- (c) 20 pounds of bag house fines if proposed for the mix. See Subsection 418.04.

Aggregate samples when combined according to the Contractor's recommended stockpile percentages shall be within the gradation defined by the target values plus or minus the allowable deviation for each sieve or the samples will not be considered representative.

(5) Results of aggregate quality tests that are dated not more than one year before the date of intended use.

(b) Asphalt binder.

(1) Five 1 gallon samples of the asphalt binder to be used in the mix.

(2) Recent test results from the manufacturer of the asphalt binder including a temperature-viscosity curve.

(3) Material safety data sheets.

(4) Mixing temperature range and minimum compaction temperature for the performance grade asphalt to be used in the mix.

(c) Antistrip additives. When an antistrip additive is needed to meet the mix requirements, furnish the following:

- (1) Sample
 - (a) 1 pint of liquid heat-stable antistrip additive or
 - (b) 10 pounds of dry antistrip additive such as lime or hydraulic cement
- (2) Name of product and certification
- (3) Manufacturer
- (4) Material safety data sheet

(d) Asphalt mixes.

- (a) The location of all commercial mixing plants to be used. (A job-mix formula is required for each plant)
- (b) Mixture design values
 - (a) Target value for asphalt binder content.
 - (b) Theoretical maximum specific gravity (density) according to AASHTO T 209.
 - (c) Percent of theoretical maximum specific gravity at N_{initial} , N_{Design} , and N_{Max} .
 - (d) Percent VMA and VFA
 - (e) Dust-to-Binder Ratio
 - (f) Minimum Tensile Strength Ratio according to AASHTO T 283.

The CO will evaluate the suitability of the material and the proposed job-mix formula.

If a job-mix formula is rejected, submit a new job-mix formula as described above.

Changes to an approved job-mix formula require approval before production. Up to 14 days may be required to evaluate a change. Approved changes in target values will not be applied retroactively for payment.

The CO will deduct all job-mix formula evaluation costs incurred as a result of any of the following:

- (1) Contractor-requested changes to the approved job-mix formula
- (2) Contractor requests for additional job-mix formula evaluations
- (3) Additional testing necessary due to the failure of a submitted job-mix formula

Costs for additional job-mix evaluations will be charged to the Contractor by making an adjustment on the monthly Government's receiving report. The adjustment will be the total cost of performing all verification tests as determined from the EFLHD's published laboratory price list.

At the option of the contractor, a State Highway Department coarse graded Superpave Asphalt Concrete Mixture may be submitted which has the same nominal maximum aggregate size, traffic level (design ESAL), and asphalt binder grade. Submit a job-mix formula that is currently approved and has been tested by the State within a year of the date of intended use. Include documentation from a State highway official certifying that it is an approved State mix.

Coarse graded Superpave mixtures are mixture gradations plotted on the 0.45 Power Chart that fall below the restricted zone on the sieves smaller than No. 4.

418.04 Mixing Plant. Conform to Subsection 401.04.

418.05 Pavers. Conform to Subsection 401.05.

418.06 Surface Preparation. Conform to Subsection 401.06

418.07 Weather Limitations. Conform to Subsection 401.07

418.08 Asphalt Preparation. Uniformly heat the asphalt cement to provide a continuous supply of the heated asphalt cement from storage to the mixer. Do not heat asphalt cement above 365° F.

If the job-mix formula requires a liquid heat stable antistrip additive, meter it into the asphalt cement transfer lines at a bulk terminal or mixing plant. Inject the additive for at least 80 percent of the transfer of mixing to obtain uniformity.

418.09 Aggregate Preparation. Conform to Subsection 401.09.

418.10 Mixing. Conform to Subsection 401.10.

418.11 Hauling. Conform to Subsection 401.11.

418.12 Production Start-Up Procedures. Provide 7 days notice before beginning production of an asphalt concrete mix.

On the first day of production, produce sufficient mix to construct a 1,000-foot long control strip, one-lane wide, and at the designated lift thickness. Construct the control strip on the project at an approved location.

At least two weeks prior to the start of paving operations, arrange for a pre-paving conference. Coordinate attendance with CO and any application subcontractors. Discuss and submit the following:

1. Proposed schedule of paving operations.
2. List of all equipment (excavation-compaction equipment, laydown, haul, pugmill, etc., and personnel used in the production and construction of the work.
3. Proposed Traffic Control Plan for moving operations.
4. Discuss Section 153, Contractor Quality Control, minimum frequency schedule for process control sampling and testing.
5. Discuss Subsections 418.12, Production Start-Up Procedures (control strip); 418.13, Placing and Finishing; 418.14, Compacting; and 418.16, Pavement Smoothness/Roughness.
6. Discuss Subsections 106.05, Statistical Evaluation of Materials for Acceptance, and 418.17, Acceptance.

Construct the control strip using mix production, lay-down, and compaction procedures intended for the entire mix. Cease production after construction of the control strip until the asphalt concrete mix and the control strip are evaluated and accepted.

(a) Asphalt content and aggregate gradation. Take at least five control strip asphalt concrete mix samples and evaluate according to Subsection 418.17. The mix is acceptable if all test results are within specification limits for asphalt content, VMA, and VFA; and the calculated pay factor for asphalt content, gradation, and VMA is 0.90 or greater.

(b) Compaction. Take nuclear density readings behind each roller pass to determine the roller pattern necessary to achieve required density.

At a minimum of five locations within the control strip, take nuclear gauge readings and cut and test core samples according to Subsection 418.17. Density is acceptable if all tests are above the specification limit or the calculated pay factor is 0.90 or greater. Furnish the CO with the nuclear gauge readings and correlations of the readings to the core specific gravities.

Repeat the control strip process until an acceptable control strip is produced. See Subsection 106.01 for the disposition of material in unacceptable control strips. Accepted control strips may remain in place and will be accepted and measured as a part of the completed pavement. Tests used for the control strip will not be included in the evaluation for payment according to Subsection 106.05. When a control strip is accepted, full production may begin.

Use these start-up procedures when producing material from a different plant or when resuming production after a termination of production due to unsatisfactory quality according to Subsection 106.05.

418.13 Placing and Finishing. Conform to Subsection 401.13.

418.14 Compacting. Provide rollers in good mechanical condition of sufficient number and weight to satisfactorily compact the mixture while it is still in a workable condition. Operate rollers according to the recommendation of the manufacturer.

Thoroughly and uniformly compact the asphalt surface by rolling. Do not cause undue displacement, cracking, or shoving. Continue rolling until all roller marks are eliminated and the required density is obtained. Do not roll the mix after the surface cools below 175° F.

Monitor the compaction process with nuclear density gauges calibrated to the control strip compaction test results. Compact the Superpave fine graded mixtures to no less than 90 percent of the maximum specific gravity (density) determined according to AASHTO T 209. Compact Superpave coarse graded mixtures to no less than 92 percent of the maximum specific gravity (density) according to AASHTO T 209.

Along forms, curbs, headers, walls, and other places not accessible to the rollers, compact the mix with alternate equipment to obtain the required compaction.

418.15 Joints, Trimming Edges, and Cleanup. Conform to Subsection 401.15.

418.16 Pavement Smoothness/Roughness. Conform to Subsection 401.16.

418.17 Acceptance. Mineral filler and antistripping additive will be evaluated under Subsections 106.02 and 106.03.

Asphalt will be evaluated under Subsections 106.04 and 702.09.

Construction of the Superpave hot asphalt concrete pavement course will be evaluated under Subsections 106.02 and 106.04.

For pay items with a bid schedule quantity > 4000 tons, asphalt content, VMA, gradation, core density, and pavement smoothness/roughness will be evaluated under Subsection 106.05. For pay items with a bid schedule quantity < 4000 tons, asphalt content, VMA, gradation, core density, and pavement smoothness/roughness will be evaluated under Subsection 106.04. VFA will be evaluated under Subsection 106.04. Other aggregate quality properties will be evaluated

under Subsection 106.02 and 106.04. See Table 418-2 for minimum sampling and testing requirements.

(a) Asphalt content. The upper and lower specification limits are the approved job-mix formula target value ± 0.5 percent. See Table 418-2 for the acceptance quality characteristic category.

(b) Aggregate gradation. The upper and lower specification limits are the approved job-mix formula target values plus or minus the allowable deviations shown in Table 703-11. See Table 418-2 for the acceptance quality characteristic categories.

(c) VMA. The lower specification limits are shown in Table 418-1. See Table 418-2 for the acceptance quality characteristic categories.

(d) Density. The lower specification limit is 90 percent for fine graded Superpave mixtures and 92 percent for coarse graded Superpave mixtures of the maximum specific gravity (density) determined according to AASHTO T 209 as part of the job-mix formula evaluation specified in Subsection 418.03. See Table 418-2 for the acceptance quality characteristic category.

(e) Pavement smoothness/roughness. The evaluation will be made after all defective areas are corrected. See Subsection 401.16.

Measurement

418.18 Measure Superpave asphalt concrete pavement, asphalt cement, and antistripping additive by the ton.

Payment

418.19

When the bid schedule contains a pay item for Superpave hot asphalt concrete pavement type 2 or 3 pavement smoothness/roughness, a separate adjustment will be made for pavement roughness according to the following formula:

$$A2 = 40,000(PF_{AVE} - 1.00)(L)$$

Where:

A2 = Adjustment to contract payment in dollars for pavement roughness.

L = Total project length in lane miles of traveled way minus excluded areas. Measure the project length to 3 decimal places.

PF_{AVE} = Average Pay Factor for 0.1-mile roughness segments determined

according to Subsection 401.16(b) after completion of corrective work. The formula for PF_{AVE} is as follows:

$$PF_{AVE} = (PF_{IRI1} + PF_{IRI2} + PF_{IRI3} + \dots + PF_{IRIn})/n$$

Where:

$PF_{IRI\#}$ = Pay Factor for roughness for each 0.1-lane mile segment determined according to Subsection 401.16(b).

n = Number of 0.1-lane mile segments tested.

Payment will be made under:

	Pay Item	Pay Unit
41801	Superpave asphalt concrete pavement, __" nominal maximum size aggregate, __ ESALs, type __ pavement smoothness	Ton
41802	Superpave asphalt concrete pavement, __" nominal maximum size aggregate, __ ESALs, type __ pavement smoothness Wedge and leveling course	Ton

A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision
 A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision

**Table 418-2
Acceptance Sampling and Testing Frequency**

Material or Product	Property or Characteristic	Category	Test Methods or Specifications	Frequency	Sampling Point
Asphalt Binder	Performance Grade	N/A	AASHTO MP 1	1 per 2,500 T	Sampled at the mixing plant
Superpave hot asphalt concrete pavement	Asphalt content	I	AASHTO T 308	1 per 500 T	Behind laydown machine before rolling
	VMA	I	AASHTO PP28	1 per 500 T	Behind laydown machine before rolling
	Gradation ⁽³⁾ 3/8 inch No. 4 No. 200 Other specified sieves	I	AASHTO T 30	1 per 500 T	Behind laydown machine before rolling
		I			
		I			
		II			
	Core density ⁽¹⁾	I	AASHTO T 166 and AASHTO T 209 ⁽⁴⁾	1 per 500 T	In place after compaction
Smoothness/roughness ⁽²⁾	I	Roughness AASHTO PP 50, PP 51, and PP52	See Subsection 418.16	See Subsection 418.16	
VFA		AASHTO PP28	1 per 500 T	Behind laydown machine before rolling	

(1) Cut core samples from the compacted pavement according to AASHTO T 230 method B. Fill and compact the sample holes with asphalt concrete mixture.

(2) Applies only to an item used as a final surface course constructed under the contract.

(3) Use only sieves indicated for the specified gradation.

(4) AASHTO T 209 on loose mix will be required only for the first five and then one per day thereafter.

Section 419.--ASPHALT CONCRETE PAVEMENT RESTORATION

419.01. Delete Section and substitute the following:

Description

419.01. This work consists of the restoration of asphalt concrete pavement by milling and patching.

Material

419.02. Material shall conform to the following Sections and Subsections:

Superpave Hot Asphalt Concrete Pavement	418
Aggregate base, Grading, C or D	301
Bituminous Materials	702

Underdrain	605
Geotextile, Type II	714.01(b)
Geogrid	714.01(j)

Construction Requirements

419.03. General. Place asphalt concrete pavement in accordance with Section 401 and place granular backfill material in accordance with Section 301. Remove all material not suitable for use on the project and dispose of legally off of Government property. Place the appropriate thickness of SACP binder prior to beginning work on the next asphalt pavement restoration area upon the completion of each asphalt pavement restoration area. Complete and open a restoration area to traffic prior to beginning work on the next section.

419.04. Personnel. Accomplish asphalt pavement restoration with personnel experienced in this type of work. The experience shall be relevant to anticipated conditions and special techniques required. Demonstrate to the satisfaction of the CO, the techniques and equipment to be used and submit documentation of projects on which this type of work has been performed.

419.05. Equipment. Use equipment and tools designed and built to perform the work and obtain approval from the CO for their use.

419.06. Asphalt pavement full depth patch, Type 2. This work consists of repairing distressed pavement areas by removing and replacing the pavement and 6 inches of the underlying material. Incorporate earthwork geotextile fabric and geogrid reinforcement into patch as indicated in the plans and described herein.

(a) Patch Areas. Extend the repair area one foot beyond the distressed area. Extend the patch limit to the pavement edge if patch cuts are within two feet of the pavement edge. Construct the minimum width of the patch to be ½ of a travel lane (5 feet) and construct the minimum length dimension of the patch to be 3 feet.

(b) Pavement Removal. Make a neat saw cut completely through the pavement thickness, with one pass, around the perimeter of the patch area to the limits shown on the plans or as outlined on the pavement surface. Make saw cuts a minimum depth of 4 inches and perpendicular to the roadway surface and at right angles to each other. Remove the pavement to expose subbase and/or subgrade.

(c) Undercut. Remove a minimum of 6 inches of material.

(d) Patching. Place geotextile fabric and geogrid material at the locations and depths indicated in the plans before placing aggregate base. Overlap geotextile fabric a minimum of 3 feet at seams and overlap geogrid material a minimum of 1 foot. Use metal pins or hooks as necessary to retain the position of geotextile and geogrid material. Tension the geotextile and geogrid materials by hand during placement and take care to prevent damage during backfilling. Replace geotextile or geogrid material damaged during placement at no cost to the Government.

Place and compact aggregate base in 3 inch to 6 inch lifts. Apply a tack coat to asphalt concrete surfaces within patch area in accordance with Section 412. Place asphalt concrete to bring the patched area to surrounding grade. Seal all surface joints of patch with AC-10 asphalt. Place a minimum asphalt concrete thickness of 2.5 inches in the patch.

419.07. Asphalt pavement shallow patch, Type 1. This work consists of repairing asphalt concrete pavement by removing and replacing the existing asphalt concrete pavement.

- (a) Patch Areas. Extend the repair area 1 foot beyond the distressed area. Extend the patch limit to the pavement edge if patch cuts are within 2 feet of the pavement edge. Construct the minimum width of the patch to be $\frac{1}{2}$ of a travel lane (5 feet) and construct the minimum length dimension of the patch to be 3 feet.
- (b) Pavement Removal. Make a neat saw cut completely through the pavement thickness, with one pass, around the perimeter of the patch area to the limits shown in the plans or as outlined on the pavement surface. Make saw cuts a minimum depth of 4 inches and perpendicular to the roadway surface and at right angles to each other. Remove the pavement to expose subbase or subgrade. If existing asphalt thickness is less than 2.5 inches, remove subbase to a minimum of 2.5 inches below the existing pavement surface.
- (c) Patching. Apply tack coat to asphalt concrete surfaces within patch area in accordance with Section 412. Place a minimum of 2.5 inches of asphalt concrete to bring the patched area to the surrounding grade. Seal all surface joints of the patch with AC-10 asphalt.

419.08. Acceptance Procedures. When not otherwise specified, acceptance of material will be by certification in accordance with Subsection 106.07.

Measurement

419.09. Measure asphalt pavement full depth patch, Type 2 and asphalt pavement shallow patch, Type 1 by the square foot of the patch face area complete in place and accepted.

Do not measure removal and disposal of asphalt pavement, pavement milling, excavation, sawcutting, obliteration, geotextile type II, geogrid, aggregate base, grading, tack coat and/or asphalt patch, class C, for payment.

Measure additional excavation required to remove unsuitable material for the full depth patches as subexcavation in accordance with Section 204 and backfilled with aggregate base material. The aggregate base material will not be measured separately for payment but the cost shall be included in the subexcavation pay item.

Measure subexcavation under Section 204.

Measure underdrain under Section 605.

Payment

419.10. The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the bid schedule. Payment will be full compensation for the work prescribed in this Section.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
41901 Asphalt pavement full depth patch, type __	Square foot
41902 Asphalt pavement shallow patch, type __	Square foot

Section 601.--MINOR CONCRETE STRUCTURES

601.02. Add the following material:

Concrete coloring agents

601.03. Add the following after (h):

Construct all concrete to be dark gray in color as approved by the CO. Submit preliminary samples of the colored concrete to the CO for approval. Prepare a 3-feet by 3-feet by 4-inch panel for each acceptable mix that is to be colored. Finish and cure the panels in the same manner as the concrete will be finished and cured on the project.

601.03. Delete the first sentence and substitute the following:

Conform to Table 601-1 or furnish a concrete mix used locally by either a Federal or State agency for the construction of minor concrete structures. Require the mix to meet the minimum 28-day compressive strength requirement of Table 601-1.

Section 602.--CULVERTS AND DRAINS

602.01. Add the following:

This work also consists of any drilling required to install poly vinyl chloride (PVC) pipe culverts and the use of grout to secure installed PVC pipe culverts.

602.03 General. Delete this subsection and substitute the following:

602.03 General. Furnish culvert pipe with a wall thickness not less than that shown on the plans or determined from the fill-height tables included in the plans. Use the same material and

coating on all contiguous pipe sections and special sections, such as elbows and branch connections. For culvert extensions, furnish the same material as the existing culvert.

The plans show the size and approximate location and length of culverts. Determine final location, skew, length, elevations, and grade according to Subsection 152.03(g). Do not order culvert material until the CO has accepted the final structure size, length, and alignment.

Perform excavation and backfill work under Section 209.

Use reinforced concrete or smooth wall high density polyethylene (HDPE) pipe for all drainage pipe installations for this project.

602.03. Add the following:

Furnish culvert pipe from the following groups:

- Reinforced concrete pipe, Class 3 and Class 4.
- Plastic pipe, HDPE, smooth interior, Type S.

602.06 Laying Plastic Pipe. Add the following:

Provide soil-tight bell and spigot joints for plastic pipe culverts.

If plastic end sections are used, reinforce and stiffen them such that inward buckling during construction is less than 0.4 inch with 100 pounds per foot force.

602.09. Add the following:

Do not measure drilling required to install PVC pipe culverts.

Do not measure materials required to secure PVC pipe culverts.

Section 604.--MANHOLES, INLETS, AND CATCH BASINS

604.04. Add the following at the end of the first paragraph:

Construct all exposed concrete to be dark gray as approved by the CO.

604.09. Add the following:

Measure concrete inlet tops by the each.

Measure removing and resetting existing concrete inlet tops under Section 607.

604.10. Add the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
60414 Metal grate, type ____	Each

**Section 605.--UNDERDRAINS, SHEET DRAINS, AND
PAVEMENT EDGE DRAINS**

605.02. Add the following:

Furnish pipe for perforated or non-perforated underdrains from the following groups:

- (1) Metallic coated corrugated steel pipe for underdrains, Type III, 0.05 in (18 gage) minimum.
- (2) Aluminum alloy corrugated pipe for underdrains, Type III, 0.05 in (18 gage) minimum.
- (3) Concrete pipe, Type 1 or 2.
- (4) Plastic pipe.

Furnish steel pipe with a protective coating of polymeric material.

Furnish steel pipe with a protective coating of asphalt material.

605.02. Add the following:

Multi-Flow Drainage System:

Install geocomposite prefabricated drainage tubing, 18-inch size, manufactured by Varicore Technologies. Assemble the Multi-Flow components according to the manufacturer's recommendations and model specifications.

Do not install drain system until the CO has accepted the final location and length.

Wrap the collection system with a non-woven geotextile fabric consisting of long-chain polymeric fibers composed of polypropylene, polyethylene or polyamide. Provide geotextile wrap with fibers oriented into a multi-directional stable network whereby they retain their positions relative to each other and allow the passage of water as specified. Provide geotextile fabric that is free of any chemical treatment or coating, which reduces permeability, and that is also inert to chemicals commonly found in soil.

The geotextile wrap shall conform to the following minimum average roll values:

Weight	ASTM D-3776	4.0
Tensile Strength	ASTM D-4632	100
Elongation %	ASTM D-4632	50
Puncture, lb	ASTM D-751	50
Mullen Burst, psi	ASTM D-3786	200
Trapezoidal Tear, lb	ASTM D-4533	42
Coefficient of Permeability	ASTM D-4491	0.1 cm/sec
Flow Rate, gpm/ft ²	ASTM D-4491	100
Permittivity, 1/sec	ASTM D-4491	1.8
Apparent Opening Size	ASTM D-4751	70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No growth

Use fittings with the collection system that are of a "snap together" design. Do not join any components without the use of the manufacturer's connector designed specifically for the purpose. Install fittings in accordance with the manufacturer's recommendations.

Do not excavate more trench length at any time that will exceed the amount of drainage tubing that can be set and backfilled completely in one working day.

Perform excavation and backfill work under Section 209.

Measure Multi-Flow Drainage Tubing with Geotextile Wrap by the linear foot.

Do not measure geotextile wrap, couplers, wyes, tees, elbows, or other connectors used to install the Multi-Flow drainage system.

<u>Pay Item</u>		<u>Pay Unit</u>
60506F	18-inch Multi-Flow Drainage Tubing with Geotextile Wrap	Linear Feet

Section 607.--CLEANING, RECONDITIONING, AND REPAIRING EXISTING DRAINAGE STRUCTURES

607.01. Add the following:

This work also includes plugging existing pipe culverts.

This work also consists of lining existing pipe culverts with a formed-in-place pipe (FIPP), cured in place pipe liner (CIPP) or segmented pipe liner (PVC or CAP relining). Work for lining of

pipe culverts will include bypass pumping, pipe cleaning, closed circuit television (CCTV), inspection of pipes to be lined, installation of liner, final closed circuit television (CCTV) inspection, and all other related work.

Submit manufactures data sheets for all products used in pipe lining for review and approval by the CO prior to use.

607.01. Add the following after Subsection 607.01:

607.01A. Materials. Conform to the following Sections and Subsections:

Coarse aggregate	703.02
Concrete coloring agents	711.05
Curing material	711.01
Fine aggregate	703.01
Fly ash	725.04
Reinforcing steel	709.01
Water	725.01
Grout	725.22

607.01B Furnish a pipe liner that does not reduce hydraulic capacity and conforming to the following:

- (a) **Formed-in Place Pipe (FIPP).** The liner shall be manufactured from a high-density polyethylene pipe (HDPE) compound which conforms to specification ASTM D-3350, PE 3408, minimum cell classification 345436C or E.

Pipe made from this material shall have a long-term hydrostatic design basis rating of 1600 psi or greater, when tested in accordance with ASTM D-2837.

Environmental Stress Crack Resistance (ESCR) - The pipe shall withstand not less than 192 hours in 100% solution Igepal CO-630 at 100°F before reaching a 20% failure point (F20), when tested in accordance with ASTM D-1693, condition C.

- (1) Installation and material tests of formed-in-place pipe (FIPP) shall meet the minimum requirements demonstrated in the following ASTM standards:

ASTM F-1533	Standard Specification for Deformed Polyethylene (PE) Liner
ASTM F-1606	Standard Practice for Rehabilitation of Existing Sewers and Conduits with Deformed Polyethylene (PE) Liner
ASTM D-2122	Method for Determining Dimensions of Thermoplastic Pipe and Fittings
ASTM D-2657	Practice for Heat-Joining Polyolefin Pipe and Fittings
ASTM D-3350	Specification for Polyethylene Plastic Pipe

and Fittings Material

- (2) The HDPE (FIPP) Liner pipe shall conform to the minimum structural standards, as listed below:

ASTM D- 638	Test method for Tensile Properties of Plastics	
	Tensile Strength	3,000 psi
	Tensile Modulus	113,000 psi
ASTM D-790	Test Method of Flexural Properties of Plastics	
	Flexural Modulus	136,000 psi

- (b) **Cured in Place Pipe Liner (CIPP).** This method of lining provides for rehabilitating pipelines by the insertion of a flexible polyester felt liner. The polyester felt tubing, including the polyurethane or polyvinyl chloride covered felt and the thermosetting resin shall meet the liner manufacturer's standards. The lining material shall be a polyester fiber felt tubing, lined on one side with polyurethane and fully impregnated with a liquid thermosetting resin as specified.

The finished liner shall incorporate thermosetting materials which will withstand the corrosive effects of the normal existing effluents, liquids or gases, and shall meet the chemical resistance requirements of ASTM 1216, Appendix X2.

The length of liner shall be that deemed necessary by the contractor to effectively carry out the inspection and seal the liner at the inlet and outlet points. It will not be permissible to terminate the liner within the pipe. The contractor shall verify the lengths in the field before cutting the lining to length.

- (1) Installation and material tests of cured-in-place pipe (CIPP) shall meet the minimum requirements demonstrated in the following ASTM standards which are considered part of this specification:

ASTM D-543	Standard Test Methods for Resistance of Plastics to Chemical Reagents
ASTM D-638	Standard Test Methods for Tensile Properties of Plastics
ASTM D-790	Standard Test Methods for Flexural Properties of Un-reinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM F-1216	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
ASTM F-1743	Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)

Note: The contractor may substitute an alternative method other than by inversion to install the liner, as approved by the CO. The CO may accept winched-in application provided that the liner tube and resin conform to the materials and curing sections of ASTM F 1216 and this section.

- (2) The cured-in-place (CIPP) liner pipe shall conform to the minimum structural standards, as listed below:

Test Method	Characteristic	Cured Liner
ASTM D-790	Flexural Stress	4,500 psi
ASTM D-790	Modulus of Elasticity	250,000 psi

The required structural CIPP wall thickness shall be in accordance with the design equations in the appendix of ASTM F 1216 and design parameters for each site. The hydraulic profile shall be maintained as large as possible.

- (3) The CIPP shall be designed as per ASTM F 1216, Appendix XI. The CIPP design shall assume no bonding to the original pipe wall.
- (4) The layers of the cured tubes shall have a uniform thickness that when compressed at installation pressures will equal the specified nominal tube thickness.
- (5) The tube shall be fabricated to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowances shall be made for circumferential stretching during inversion.
- (6) The outside layer of the tube (before inversion) shall be plastic coated with a translucent flexible material that clearly allows inspection of the resin impregnation (wetout) procedure. The plastic coating shall not be subject to delamination after curing of the CIPP.
- (7) The tube shall lie homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No materials shall be included in the tube that are subject to delamination in the cured CIPP.
- (8) The resin system shall meet the requirements of ASTM F 1216.
- (9) The CIPP shall be uniformly bonded.

607.06A. Pipe Lining. Remove and dispose all silt, sand, debris, detritus, or other sedimentation or foreign material from within pipe to be lined, and from inlet and outlet areas. Remove all dirt, rust, tubercles, scale, loose or deteriorated remnants of old lining materials, accumulated water, and all other foreign materials from the interior surface of the pipe before lining. After cleaning, the interior of the pipe shall present a surface free of all foreign material except nondeteriorated original coating.

Install pipe lining according to the manufacturer's recommendations. Hand-place cement mortar lining only at sharp bends and special locations where machine placing is impracticable.

Patch holes in the existing pipe with cement mortar before the application of the lining.

607.06. Add the following after Subsection 607.06:

607.06B. Installation of FIPP Liner. The formed-in-place pipe shall be supplied to an outside diameter and minimum wall thickness, based on the individual project parameters and the condition of the existing conduit. Prior to installation of the liner, design calculations shall be submitted to and approved by the CO to determine the minimum thickness (SDR) of the liner to be installed. The pipe design shall have sufficient strength to structurally enhance the existing conduit.

Unless otherwise specified, the Contractor shall determine the minimum and maximum length of pipe to effectively span the distance from the inlet to the outlet of the culvert.

Installation of the pipe liner shall be performed as follows:

- (1) It shall be the responsibility of the Contractor to locate and designate all access points open and accessible for the work and to have these locations and methods of access approved by the CO prior to the commencement of lining operations. The Contractor shall also provide water to the site for cleaning, processing and other work items requiring water.
- (2) **Safety** - The Contractor shall carry out his operations in strict accordance with all OSHA and manufacturers' safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.
- (3) **Cleaning** - Culverts shall be cleaned of all debris, roots and other materials that would block proper installation of the formed-in-place pipe. Utilizing high-pressure jet cleaning equipment to assure all debris is removed from the pipe.
- (4) **CCTV Inspection** - Culverts shall be CCTV inspected providing both a video recording and log which identify all service connections and openings. Utilizing a color video inspection system with data recording capabilities, entire pipe sections shall be recorded on VHS tape.
- (5) **Insertion of FIPP** - The deformed HDPE pipe shall be positioned near the insertion point. A cable should be strung through the existing conduit and attached to the deformed pipe. The deformed pipe should be

pulled (with a power winch and cable) directly through the insertion point to the termination point. This should be done in a manner to protect the liner and the host pipe from damage during insertion.

After the insertion is complete, the tension from the winch should be relieved and the deformed pipe should be cut off at the insertion point.

(6) Processing/Reforming of FIPP - A mobile steam-generating unit shall be on site ready to process the liner. The steam generator shall contain instrumentation, control gauges and other auxiliary equipment necessary for correctly processing the deformed HDPE liner. The equipment shall be positioned next to the insertion point with minimum obstruction to the other site activities and shall be operated by trained personnel only.

Thermocouples shall be placed at the top, and if possible the bottom, interface of the end of the liner for monitoring temperatures during the reforming cycle.

Steam and air pressure are applied through an inlet manifold at the manufacturers recommended temperature and pressure to reform and conform the HDPE liner to the existing pipe wall. Once the desired outside temperature has been reached, as recorded on the thermocouples, the reforming pressure should be maintained for a designated period of time, in compliance with the manufacturers' recommendations, to ensure the complete expansion of the pipe and to allow for dimpling at the side connections.

The reforming cycle will be dictated by the installer's on-site supervisor with consideration of the actual field conditions and shall be per the manufacture's recommendations.

(7) FIPP Cool Down - Once the pipe has been reformed, air or water shall be introduced to cool the FIPP pipe. During the cool down period, it is important to hold the maximum internal pressure in the FIPP pipe until it has reached ambient temperature.

The cool down process will also be affected by actual field conditions, and may have to be modified in cases of severe weather conditions or below normal ground temperatures.

For all pipes to be lined which discharge within 200 feet of an active (flowing) waterway, retain the cool down water in the culvert for a period of not less than 12 hours. Once this 12 hour retention period has elapsed, discharge the cool down water from the culvert over an additional 12 hour period. Or, the contractor may evacuate the cool down water from the culvert and discharge it into a pre-approved facility which is greater than 200 feet from an active waterway.

(8) Termination at Outlets - Termination of the formed-in-place pipe at the ends of the culvert is completed by trimming the reformed HDPE pipe end back to within approximately 5 inches of the outlet. Restraining devices, such as electro-fusion saddles, or stainless steel bolted mechanical restraints, will be installed and finished with concrete grout, as appropriate.

(9) Final Inspection and Acceptance - Upon completion of installation, the lines shall be CCTV inspected. Both a video recording and a log, identifying all service connections and openings, shall be provided. Size irregularities, anomalies and cross-sectional reductions in the host pipe, such as offset joints, reduced nominal size of the host pipe, miss-sized repairs and the like, may cause the HDPE pipe to not completely reform, leaving a visible fold in the liner for a short distance. These folds, if they occur, are cosmetic in nature, non-structural, and will not be construed as defects. . The entire pipe section rehabilitated shall be recorded on VHS tape and the tape and written logs presented to the CO.

607.06C. Installation of CIPP Liner.

The following installation procedures shall be adhered to unless otherwise approved by the CO:

(1) For lining pipes with diameters of 48" or larger the Contractor must have had as least 5 years active experience in the commercial installation of the product. In addition, the contractor must have successfully installed at least 10,000 feet of 48" or larger CIPP installations. Acceptable documentation of these minimum installations must be submitted to the CO.

(2) It shall be the responsibility of the Contractor to locate and designate all access points open and accessible for the work and to have these locations and methods of access approved by the CO prior to the commencement of lining operations. The Contractor shall also provide water to the site for cleaning, processing and other work items requiring water. Process and/or cool down water must be disposed of legally off of government property.

(3) Safety - The Contractor shall carry out his operations in strict accordance with all OSHA and manufacturers' safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.

(4) Cleaning - Culverts shall be cleaned of all debris, roots and other materials that would block proper installation of the cured-in-place pipe.

Utilizing high-pressure jet cleaning equipment to assure all debris is removed from the pipe.

(5) Inspection – Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by CCTV. The interior of the pipeline shall be carefully inspected to determine the location and extent of any structural failures. The location of any conditions which may prevent proper installation of lining materials into the pipelines shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept for later reference by the CO.

(6) Bypassing Flow - The contractor, when required, shall provide for the transfer of flow around the section or sections of pipe that are to be lined. The bypass shall be made by diversion or the flow at an existing upstream access point and pumping the flow into a downstream access point or adjacent proposed bypassing system shall be as approved in advance by the CO. The approval of the bypassing system in advance by the CO shall in no way relieve the contractor of his responsibility and/or public liability.

(7) CIPP Installation – The contractor shall designate a location where the uncured resin in the original containers and the un-impregnated liner will be vacuum impregnated prior to installation. The contractor shall allow the CO to inspect the materials and “wetout” procedure. A resin and catalyst system compatible with the requirement of this method shall be used. The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used. A roller system shall be used to uniformly distribute the resin throughout the tube.

The “wetout” liner material shall be inserted through the approved access point by means of an inversion process and the application of a hydrostatic head sufficient to fully extend the liner to the next designated access point. The impregnated liner material shall be inserted into the inversion tubes with the impermeable plastic membrane side out. At the lower end of the inversion tube, the liner tube shall be turned inside out and attached to the inversion tube so that a leak-proof seal is created. The inversion head will be adjusted to be of sufficient height to invert the liner to the next access point designated and to hold the liner snug to the pipe wall and to produce dimples at side connections and flared ends at the entrance and exit access points. The use of a lubricant is recommended and if used, such lubricant shall be as approved by the liner manufacturer’s standards. The liner manufacturer’s standards shall be closely followed during the elevated

curing temperature so as not to over stress the felt fiber and cause damage or failure of the liner prior to cure.

CIPP Liner Curing – After inversion is completed, the contractor shall supply a suitable heat source and water re-circulation equipment. The equipment shall be capable of delivering hot water to the far end of the liner through a hose, which has been perforated per the liner manufacturer's recommendations, to uniformly raise the water temperature in the entire liner above the temperature required to effect a cure of the resin. This temperature shall be determined by the resin/catalyst system employed.

The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing heat exchanger circulating water. Thermocouples shall be placed between the liner and the invert at near and far access to determine the temperature of the liner and time of exotherm. Water temperature in the line during the cure period shall not be less than 150 degrees F or more than 200 degrees F as measured at the heat exchanger return line.

Initial cure shall be deemed to be completed when inspection of the exposed portions of the liner appears to be hard and sound and the thermocouples indicate that an exotherm has occurred. The cure period shall be of the duration recommended by the resin manufacturer, as modified for the inversion lining process, during which time the recirculation of the water and cycling of the heat exchanger to maintain the temperature in the liner continues.

CIPP Cool Down – The contractor shall cool the hardened liner to ambient temperature before relieving the static head in the inversion tube. Cool-down may be accomplished by the introduction of cool water into the inversion tube to replace water being drained from a small hose made in the end of the liner at the downstream end. Care shall be taken in the release of the static head such that a vacuum will not develop that could damage the newly installed liner.

Process and/or cool down water must be disposed of legally off of government property.

(8) Final Inspection and Acceptance - Upon completion of installation, the lines shall be CCTV inspected. Both a video recording and a log, identifying all service connections and openings, shall be provided. If the lining fails to make a tight seal at the endpoints, the contractor shall apply a seal at that point. The seal shall be of a resin mixture compatible with the liner. Size irregularities, anomalies and cross-sectional reductions in the host pipe, such as offset joints, reduced nominal size of the host pipe, miss-sized repairs and the like, may cause the pipe to not completely reform, leaving a visible fold in the liner for a short distance.

These folds, if they occur, are cosmetic in nature, non-structural, and will not be construed as defects. The entire pipe section rehabilitated shall be recorded on VHS tape and the tape and written logs presented to the CO.

607.06. Invert Lining. Add the following:

This work consists of installing a concrete lined invert to existing CMP's in accordance with the plan detail. This work includes removing and cleaning the existing bitumius liner and rust. Fill cavities beneath badly deteriorated inverts with concrete. Concrete shall be in accordance with Section 601 and have a 28-day compressive strength of 3000 pounds per square inch minimum.

The contractor, when required, shall provide for the transfer of flow around the section or sections of pipe that are to be lined. The bypass shall be made by diversion or the flow at an existing upstream access point and pumping the flow into a downstream access point or adjacent proposed bypassing system shall be as approved in advance by the CO. The approval of the bypassing system in advance by the CO shall in no way relieve the contractor of his responsibility and/or public liability.

607.07. Add the following:

Lining materials will be evaluated under Subsection 106.03. Lining construction will be evaluated under Subsection 106.04. After curing, drill holes (1 per 50 feet) to verify lining thickness at random locations selected by the CO. Patch the hole after thickness verification.

607.08. Add the following:

Cleaning of culverts that require pipe lining will not be directly measured for pay.

Measure pipe lining by the linear foot in place.

Measure reconditioning of pipe culverts by the linear foot.

No payment will be made for any waste associated with the lining process.

Do not measure pipe plugs.

Do not measure removal and replacement of the existing inlet tops as part of this work.

607.09. Add the following pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
60705 Lining __-inch pipe culvert	Linear foot
60703A Reconditioning pipe culverts	Linear foot

Section 608.--PAVED WATERWAYS

608.01. This work also includes crack sealing and patching paved waterways and repointing paved waterway joints where shown in the plans or as directed by the CO.

608.03. Add the following:

Repoint paved waterway in accordance with Section 620.05.

Clean all debris in the paved waterway in order to expose the waterway for inspection to determine the need for repair or overlay.

Construct paved waterways, type 2 or type 5, including reshaping of subgrade and/or base. Extend width of waterway to the base of the rock cut where a type 2 waterway is constructed parallel to a rock cut. Reconstruct waterways following existing waterway alignment. Construct new waterways following existing drainage alignment. Use a minimum bend radius of 10 feet.

Patch and/or seal cracks in existing paved waterways, as designated by the CO, prior to overlay of paved waterways. Remove all loose, and/or damaged asphalt to existing subgrade and/or base by sawcut, as directed by the CO. Replace, regrade, and recompact the existing bed course as directed by the CO. Replace the removed pavement with new asphalt, matching the lines and grade of the surrounding pavement.

Regrade and recompact the subgrade or base prior to overlay of reconstructed paved shoulders. Provide additional aggregate material where required. Overlay the area only after it is inspected and approved by the CO.

Remove only a section of paved waterway equal in length to a section of paved waterway that can be reconstructed the same work day during work that involves the removal and reconstruction of a paved waterway. Use plastic sheeting to protect the exposed section of a waterway when the construction of a paved waterway cannot be completed before the end of the work day due to unforeseen circumstances. Use plastic sheeting on slopes between 2% and 6%. Contractor must not leave a removed waterway exposed for more than three calendar days.

608.05. Add the following:

Perform initial cleaning of paved waterways, identified in the plans or as designated by the CO, prior to any final repairs and overlays. Begin paved waterway cleaning at its discharge point and proceed upstream to determine its limits. Clean the entire area of the existing paved waterway of all sediment and vegetation. Perform initial cleaning to the extent that an overlay or repair can be performed without further cleaning.

Recondition paved waterways, type 5, including a bituminous overlay in accordance with Section 402. Recondition mortared rubble paved waterways including the repair and repointing of any missing, loose, or deteriorated stone and joints. Recondition areas designated by the CO after initial cleaning is performed. Remove loose stones, clean of mortar, and salvage. Repair

and regrade crushed aggregate bed course. Reset salvaged stones and approved new stones and apply mortar.

Provide new stone and mortar for mortared rubble paved waterways that have a color, appearance and texture type, that matches the mortar and stones that are in the project area, all subject to the approval of the CO.

608.11. Add to the end of the paragraph:

Measure plastic sheeting under Section 157.

Measure reconditioning of paved waterway, type 2, by the square yard. Measure square yard width horizontally to include the total width. Measure the length parallel to the flow line for the areas repaired. Measure the minimum area for payment to be 3 feet in length times the waterway width.

Measure reconditioning of paved waterway, type 5, under Section 402.

Do not measure cleaning, crack sealing or patching of paved waterway, type 5.

Do not measure cleaning of waterways for reconditioning or overlay.

Do not measure repointing of paved waterways, type 2.

608.12. Add the following pay item:

Measure drainage chutes as paved waterway, type 2, by the square yard.

<u>Pay Item</u>	<u>Pay Unit</u>
60809 Recondition paved waterway, type __	Square yard

Section 609.--CURB AND GUTTER

609.02. Add the following:

Precast concrete wheelstops	725.06
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Add the following after Subsection 609.04:

Remove and stockpile stone curb for use as replacement stone for areas requiring additional stone in remove and reset curb work. Replace the designated parking area curb stone with stone obtained from an Elberton, Georgia quarry.

Section 615.--SIDEWALKS, DRIVE PADS, AND PAVED MEDIANS

615.07. Add the following after the last paragraph:

Construct all concrete to be dark gray in color, as approved by the CO.

615.09. Add the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
61505A Asphalt wheelchair ramp	Square yard

Section 617.--GUARDRAIL

617.01 Delete Subsection (d) and substitute the following:

(d) Terminal section types are designated as follows:

FAT-40	Flared anchor terminal, 40 feet long
SBT-BAT	Back slope anchor terminal

617.03 Posts. Delete this subsection and substitute the following:

617.03 Posts. Set posts before placing the pavement where pavement is within 3 feet of the guardrail.

Increase the post length to 8 feet where it is not possible to maintain a 2 feet minimum distance between the back of the guardrail post and the top of a slope 2:1 or steeper.

Use a short post where an impenetrable object is encountered. Treat field cuts for wood posts with two coats of preservative treatment applied with a brush or a sprayer. Anchor short posts in concrete. Backfill and compact the remaining hole with acceptable material.

Do not use long or short posts in terminal sections.

Drive posts into pilot holes that are punched or drilled. The dimensions of the pilot hole shall not exceed the dimensions of the post by more than ½ inch. Set posts plumb, backfill, and compact.

Set pilot holes prior to driving posts directly into the shoulder.

Place final SACP surfaces only after all guardrail installations have been completed.

617.04(b) Timber rail. Add the following after the second paragraph:

Field drill holes in the steel backing on curved sections or where required to correspond to the field cut wood rails at joints. Do not use a torch to cut holes.

Section 620.--STONE MASONRY

620.01. Add the following:

Provide Class B masonry with a 2.0 - 4.0 RF finish for stone masonry headwalls, as approved by CO.

620.02. Delete the mortar reference and substitute the following:

Mortar

712.05(a)

620.03 Add the following after the second paragraph:

Include all additional stone in the cost of removal and resetting stone masonry.

620.04 Placing Stone. Delete the second sentence of the first paragraph and substitute the following:

Do not place stone masonry when the ambient temperature is below 40° F. Maintain completed masonry at a temperature above 40° F for 48 hours after construction.

620.04 Placing Stone. Add the following after the first paragraph:

When removing and resetting stone masonry, use hand tools to clean the exposed faces of the stones of all mortar before resetting.

Set each stone on a full mortar base that matches the color of existing joints. Provide the CO with a sample of the mortar for approval, prior to all mortar work.

602.05. Add the following:

Repoint joints with mortar that matches the color of existing joints. Provide the CO with a sample of the mortar for approval, prior to any repointing work.

620.11. Add the following:

Measure stone masonry headwalls, (new or removed and reset) by the each complete in place. Include all excavation, aggregate placement, and berm construction associated with stone masonry work, in the measurement of stone masonry headwall.

Do not measure replacement of existing stone masonry with new stone masonry as part of remove and reset stone masonry work.

Measure reset stone masonry by the cubic yard complete in place.

Measure reset stone masonry in medians by the square yard complete in place.

620.12. Add the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
62006 Remove and reset stone masonry headwall	Each
62007 Stone Masonry headwall for ___-inch pipe culvert	Each
62008 Clean stone masonry surfaces	Square foot
62011 Reset stone masonry (repair)	Cubic yard
62016 Reset stone masonry (median)	Square yard

Section 624.--TOPSOIL

624.04. Add the following after the second paragraph:

Where topsoil will be placed on slopes on which the character of the subsoil will not blend with the topsoil, work the topsoil into the subsoil to eliminate any slip-plane between the two materials and leave a sufficient cover of topsoil to ensure germination of the seed.

Excavate soil from borrow sites 18-inches below surface, below root structure of existing vegetation. Determine the requirements for fertilizer and other additives with a soils test, prior to disking in fertilizer and other additives. Obtain written approval from the CO for all sources of furnished topsoil.

Conserve suitable soil excavated from onsite to use as topsoil.

Section 625.--TURF ESTABLISHMENT

625.01. Add the following:

Seeding and mulching methods are also designated as hydro-type.

625.01. Add the following:

The work does not include areas previously protected by soil erosion control measures according to Section 157, and upon which permanent suitable vegetation has started growth.

Use wood fiber mulch.

625.03 through 625.08. Supplement as follows:

625.03. Add the following:

Seed in early spring between April 1 and May 31; or when weather conditions are favorable for turf establishment.

Clean thoroughly all equipment used for seeding prior to use on this project. This equipment will be subject to inspection at the CO's discretion. This is to preclude the introduction of exotic vegetation into the park. Make restitution for the removal of the exotic vegetation as described in Section 107.

Deliver seed, fertilizer, and lime in acceptable condition in original, unopened containers.

Do not use Exotic plants and/or seeds.

625.04. Delete the second paragraph and add the following:

Spread fertilizer and limestone evenly and incorporate into the top 2 – 4 inches of loose soil. Rate per 1,000 square feet as follows:

Limestone--Agricultural limestone containing a minimum of 85% calcium carbonate or equivalent, meeting the following graduations:

100% passing a 10-mesh sieve,

98% passing a 20-mesh sieve,

55% passing a 60-mesh sieve, and

40% passing a 100-mesh sieve.

Rate per 1,000 square feet is 125 pounds.

Fertilizer--Analysis 7-2-3 at 500 pounds per acre.

Make two (2) applications at right angles to each other either by hand or mechanical spreader. Lightly roll immediately after sowing.

Optimal planting times for elevations above 2,500 feet are March 20 through April 20 and July 20 through August 15.

625.05. Delete the first sentence and add the following:

If easily accessible, water with mist spray soaking ground to a minimum depth of two (2) inches. Water should be clean, fresh and free from harmful substances. Water seeded areas two to three times per week until germination, or until completion of the project.

625.06. Add the following:

Submit manufacture specifications for fertilizer.

Apply limestone and fertilizer at the following rates per acre:

<u>Item</u>	<u>Rate</u>
Agricultural Limestone (85% CaCO ₃)	500 lb
Fertilizer (7-2-3, organic, slow release)	500 lb

For existing and furnished soil, submit a soil analysis report from the State University Agricultural Extension Service or other approved soil testing laboratory. Include in the report, the soil textural classification (percentage of sand, silt, clay and organic matter) and additive recommendations. Amend soil in accordance to recommendations provided in the soil analysis report.

625.07. Add the following:

Submit 1 pound sample, and grower's figures on pure live seed ratio for each type of grass to be seeded.

(c) **Hydro seeding.** Perform the hydro-seeding using a two step method:

1. **Step 1.** Apply the seed mix in a two-step hydro-seeding operation (seed applied first, then cellulose material), if possible. This will allow more soil contact by seeds, thus better establishment of grass. Use hydro-type equipment capable of providing a uniform application using water as the carrying agent. Add 400 lbs. per acre of hydro-mulch consisting of either wood or grass cellulose fiber mulch as a tracer material to the water. Add seed to the water no more than 30 minutes before application. Direct high-pressure spray upward, allowing mixture to fall in a uniform spray without missing or overlapping areas. Seed applied by spray method need not be raked. Seed by hand those areas inaccessible to seeding equipment. Do not use seed that has become wet, moldy, or otherwise contaminated or damaged. All work shall comply with section 107.11.

Step 2. Using the same equipment, make a second pass, applying mulch only, at a rate of 1500 lbs. per acre.

Seed: Broadcast the following native herbaceous plants and grass seeds for this project.

Broadcast seed to areas that are inaccessible to hydroseeding at a rate of 1½ times the hydroseed rate. Seed any other areas to be broadcast seeded, at the same rate. Sow seed with a mechanical device that spreads evenly over a given area at the specified rate of coverage per square foot or acre.

Seed Mix Design: Seed design mixes for various elevations and season of seeding along the Blue Ridge Parkway

March 1 to September 31

For Elevations Above 2,500 Feet				
Name of Seed	Shoulders/Ditches		Slopes	
	Lbs/Acre	Lbs/1000 SqFt	Lbs/Acre	Lbs/1000 SqFt
Summer Annual Rye	65	1-1/2	65	1-1/2
Fescue, chewings	110	2-1/2	110	2-1/2
Fescue, K31	87	2	87	2
Red Top	22	1/2	22	1/2

October 1 to March 1

For Elevations Above 2,500 Feet				
Name of Seed	Shoulders/Ditches		Slopes	
	Lbs/Acre	Lbs/1000 SqFt	Lbs/Acre	Lbs/1000 SqFt
Fescue, chewings	65	1-1/2	38	7/8
Fescue, K31	27	5/8	76	1-3/4
Winter rye grain (Dec. 1-Feb. 15)	44	1	44	1

625.08. Add the following:

Use wood fiber mulch.

Apply mulch at the following rate (per acre):

<u>Mulch</u>	<u>Rate</u>	<u>Mixture</u>
Wood fiber mulch	1,500 lbs	50 lbs/100 gal.

Apply mulch using the hydraulic method. Apply the mulch in a manner so as to preclude the application of mulch on tree trunks, signs and sign posts, guardrail, guardwalls, headwalls, etc. Remove the mulch and clean the above items accordingly.

625.10. Add the following:

Acceptance will not be granted until the permanent seeding has properly germinated, a minimum turf coverage of 95% has been obtained on all areas seeded, and the turf has reached a minimum overall height of 3 inches as approved by the CO. Furnish vendor signed copies certification that each lot of seed has been tested by a recognized laboratory of seed testing within 12 months of delivery date.

For 12 months from date work is certified as complete, remove deficient turf and replace as originally specified.

625.11. Delete the fourth paragraph and substitute the following:

Measure turf establishment by the square yard on the ground surface.

625.12. Add the following:

Payment for turf establishment will be at the rate of 50% upon application and the remaining 50% at acceptance.

Section 634.--PERMANENT PAVEMENT MARKINGS

634.01 Add the following:

Type L Polyurea markings

634.02 Add the following:

Polyurea markings 718.24

634.03. Add the following after the sixth paragraph:

Place traffic markings before a winter suspension of paving operations.

634.03 General. Remove the last sentence of the first paragraph and add the following:

Apply pavement markings to match existing pavement markings, except as directed by the CO. Remove all conflicting pavement markings according to subsection 635.13. Place permanent markings only after all other related road work has been completed.

Add the following:

634.12 Polyurea markings (Type L). Install the polyurea pavement markings when the air and road surface temperature is 40 degrees F or higher. Apply at application rates specified for 20-mil thickness for polyurea and 16-20 pounds per gallon for glass beads.

634.13. Add the following:

(c) Measure dotted lines as broken lines.

634.14. Add the following pay items:

Pay Item

Pay Unit

63401HA	Pavement markings, paint, solid, type _____	Linear foot
63401LA	Pavement markings, Polyurea, solid, type _____	Linear foot
63401LB	Pavement markings, Polyurea, broken, type _____	Linear foot

Section 635.--TEMPORARY TRAFFIC CONTROL

635.03 General. Add the following after paragraph (h):

(i) Furnish temporary traffic control devices that meet the NCHRP Report 350, Recommended Procedures for Safety Performance and Evaluation of the Highway Features, crashworthiness standards.

635.05, 635.06, 635.07, 635.08, 635.14, and 635.19. Add the following:

For all traffic control devices, submit a certification that the devices have been successfully crash tested to meet the requirements of NCHRP 350 and/or have been accepted by the FHWA.

635.05. Add the following after the first sentence:

Use fluorescent orange color with type III retroreflective sheeting or higher for all signs and other devices requiring orange color. Use aluminum panels with a thickness of 0.125 inches.

635.05 Barricades. Delete the second sentence and substitute the following:

Use type III sheeting.

635.07 Construction Signs. Delete the first sentence and substitute the following:

Use type III, VII, VIII, or IX retroreflective sheeting.

635.07. Add the following:

Furnish black on white speed limit signs for temporary traffic control.

Furnish 16 inches by 16 inches flags for high level warning devices that are orange or fluorescent red orange in color.

635.08 Drums. Delete the third sentence and substitute the following:

Use type III retroreflective sheeting.

635.09. Delete the first sentence and substitute the following:

Furnish flaggers capable of speaking and understanding the English language and certified by ATSSA, the National Safety Council, the International Municipal Signal Association or a state agency.

635.13 Temporary Pavement Markings and Delineation. Delete the entire subsection and substitute the following:

635.13 Temporary Pavement Markings and Delineation. Before opening a pavement surface to traffic, remove all conflicting pavement markings by sandblasting or other methods that do not damage the surface or texture of the pavement. Make the removal pattern uneven so it does not perpetuate the outline of the removed pavement markings. Lightly coat sandblasted or removal areas on asphalt surfaces with emulsified asphalt.

Provide acceptable pavement markings or delineation and signing according to Section 156 and the MUTCD. Install and maintain temporary pavement markings that are neat, crack free, true, straight, and unbroken. For temporary pavement markings, use preformed retroreflective tape, traffic paint, or temporary raised pavement markers as follows:

(a) Preformed retroreflective tape. Apply according to the manufacturer's instructions. Remove all loose temporary preformed retroreflective tape before placing additional pavement layers.

(b) Traffic paint. Do not apply temporary traffic paint to the final surface. Apply traffic paint as the temporary pavement marking if no work will be performed on the project for at least 30 consecutive days. Apply temporary traffic paint at a 0.02-inch minimum wet film thickness (0.01 gallons per square foot). Immediately apply type 1 glass beads on the paint at a minimum rate of 6 lb per gallon of paint.

(c) Raised pavement markers. Do not use raised pavement markers during seasonal suspensions. When chip seals, slurry seals, or tack coats are used after marker placement, protect the markers with an approved protective cover, which is removed after the asphalt material is sprayed. Temporary raised pavement markers may be used as temporary pavement markings as follows:

(1) 10 foot broken line. Four pavement markers spaced 3 feet apart followed by a 30 foot gap.

(2) 3 foot broken line. Three pavement markers spaced 2 feet apart followed by a 36 foot gap.

(3) 2 foot broken line. Two pavement markers spaced 2 feet apart followed by a 18 foot gap.

(4) Solid line. Pavement markers on 5 foot centers.

Remove all temporary raised pavement markers before placing additional pavement layers.

Remove all temporary pavement markings from the surface course before placing permanent pavement markings.

635.20. Add the following:

Time the temporary signal system in accordance with the operating modes listed in Subsection 636.04.

Section 636.—SIGNAL, LIGHTING, AND ELECTRICAL SYSTEMS

636.04. Add the following:

Design and place the temporary signal system according to the MUTCD, Part IV (latest edition).

Furnish a signal controller capable of operating in the following 4 modes to allow one lane of traffic through each signalized traffic control zone:

	Signal Facing Northbound Traffic	Southbound Traffic
1.	solid GREEN	solid RED
2.	Yellow/ Red	solid RED
3.	solid RED	solid GREEN
4.	solid RED	Yellow/ Red

Under computer applied models, the following 1-2-3-4 timing cycles provided acceptable results for allowing traffic through the signalized traffic control zone:

- A 500-foot work space required a 35-30-35-30 second timing cycle.
- A 1000-foot work space required a 45-45-45-45 second timing cycle.
- A 1250-foot work space required a 45-55-45-55 second timing cycle.

A work space is defined as the variable roadway distance, measured along the centerline, in which the actual work operation is being performed. This distance does not include the distance required for traffic control devices leading up to the work operation. See Detail E635-A for a pictorial description.

Using the example timing cycles given as reference, provide a signalized traffic control zone test section to determine an acceptable work space length that allows traffic to pass through the signalized traffic control zone according to Subsection 156.06(j).

Provide system that automatically sets to flashing red under signal control failure.

Commercial electricity is not available at the project site. Furnish a power source to operate the signal system.

Section 637.--FACILITIES AND SERVICES

637.02. Add the following:

Locate the Government field office where high-speed Internet access, as described in Subsection 637.03(a)(7), is available. For urban projects locate the field office within 5 miles of the project site. For rural projects locate the field office within 15 miles of the project site. In remote locations where high-speed Internet service is not available, the field office distance range may be extended or waived by the CO. All field office locations are subject to approval by the CO.

637.03. Delete the third and fourth sentences of the first paragraph and substitute the following:

Provide local and long distance telephone services. The Government will be responsible for the cost of long distance calls made by Government employees for Government business and charged against this phone service. Bill the Government separately for these charges.

637.03(a). Add the following:

Divide the field office into 3 areas by permanent walls with hinged doors. If window air conditioning is provided, provide a separate unit for each room.

Clean the field office weekly to the approval of the CO.

Supply the following equipment in the field office:

(1) Copy machine. One self-feeding plain paper photo copying machine with the following minimum capabilities:

(a) Automatic document feeder capable of making at least 8 copies per minute;

(b) Reproducing copies at standard sizes up to and including 11 x 17 inches; and

(c) Reducing 11 x 17 inches plan sheets to 8 ½ x 14 inches legal size and to 8 ½ x 11 inches letter size.

Furnish all necessary supplies, except paper. Paper will be supplied by the Government.

(2) Printer. One plain paper printing machine with printing capabilities of standard sizes up to and including 11 x 17 inches. The printer must be capable of printing from direct personal computer (PC) and local area network (LAN) hookups. The printer may be one machine in combination with the copy machine. Furnish all necessary supplies, except paper. Paper will be supplied by the Government.

(3) Facsimile (FAX) machine. One FAX machine with the following minimum capabilities:

- (a) Automatic document feeder with a minimum capacity of 20 pages;
- (b) Sending standard size documents up to and including 11 x 17 inches;
- (c) Printing on plain paper; and
- (d) Automatic dial/redial.

The FAX machine may be one machine in combination with the copy machine. Furnish all necessary supplies, except paper. Paper will be supplied by the Government.

(4) Telephone. Two dual line telephones (touch tone, hold button, intercom, and conference calling capabilities) with 2 separate lines, for the exclusive use of the CO.

(5) Answering machine. One digital answering device capable of answering, recording, storing, and playing back messages at least 30 minutes in length.

(6) Cellular telephone. Provide one durable, hand held digital/cellular wireless telephone(s), manufactured by Motorola/Nextel, or approved equal, for the use of the CO. Furnish cellular telephone(s) that are similar or compatible with the Contractor's key field personnel (Project Superintendent, and Traffic Control Supervisor) to enable the direct communication between the CO and the Contractor's key field personnel. Furnish each cellular telephone(s) with the following minimum capabilities:

- (a) Direct Connect feature, or equivalent, to communicate onsite with Contractor's key field personnel;
- (b) Voicemail capable of answering, recording, storing, and playing back messages at least 30 minutes in length;
- (c) Hands free device that can be used safely and effectively while driving, and is acceptable by the local law enforcement agencies;
- (d) Customized communication configuration, independent of the other units, so that the CO may limit any features if necessary;
- (e) Carrying case that can be worn on the belt and is appropriate for use on construction projects; and
- (f) Other necessary cellular telephone accessories including a cigarette lighter power adapter/charger.

The cellular telephone plan shall provide the necessary amount of monthly Direct Connect airtime and monthly Digital/Cellular airtime for use on the project. Ensure that each unit has unlimited Direct Connect capabilities and each unit is equipped with unlimited airtime, roaming and long distance per month of local and long distance airtime for official business only. Provide phones that work properly at the project site and the field office location.

(7) High-speed Internet access. Provide, install, and maintain high-speed Internet access service having at least 768kbps download and 256kbps upload speed. The high-speed Internet access service can be provided via DSL, FIOS, a dedicated T1 line, or cable. Alternate Internet access service options may be submitted to the CO for approval. The system must include a modem and a router with a firewall or a router and a firewall appliance. The system must have the capability to support simultaneous Internet access of at least 3 workstations connected by Category 6 RJ45 LAN office drop cables. If the router supports wireless Internet access, this feature must be disabled. Wireless Internet access does not meet U.S. DOT security requirements and is not acceptable. The firewall configuration must be submitted to the CO for approval and cannot be changed after it is approved, unless a change request is submitted and approved in advance. Only U.S. DOT equipment is to be connected to the system.

If any equipment supplied becomes defective, is stolen, or for any other reason does not function as intended, replace the equipment with an equal or better unit at no additional cost to the Government. Replace any defective equipment within eight hours after being notified by the CO.

The Contractor will retain ownership of all equipment supplied by the Contractor. The CO will notify the Contractor when the equipment is no longer needed and request its removal.

Section 638.--LOCATING UTILITIES

Description

638.01 This work consists of locating existing utilities by excavating test pits to uncover the utility in question where a physical conflict with proposed construction is suspected and the test pit is ordered by the CO.

Material

638.02 Materials for restoring the test pit area to its original condition shall be replacement of the materials excavated or their equivalent in newly furnished materials meeting the various applicable sections of this specification.

Construction Requirements

638.03 General. Notify North Carolina One-Call Center 48 hours prior to any excavation, at 1-800-632-4949 or 366-855-7799 to have the utilities marked in the field.

Exercise special care and extreme caution in order to protect and avoid damage to any utility company facilities. Existing utilities have been generally located and shown on the plans as they are believed to exist. Utility information shown in the plans in the vicinity of Craggy Garden's Picnic Area and Craggy Dome Parking Overlook were located based on visual inspection and verbal information provided by NPS. The Government assumes no responsibility for the accuracy of locations shown on the plans. The Contractor is responsible for locating all existing utilities and the safety of same. He shall repair at his own expense, any damage resulting from his operation.

Locate by test pit any utility that may be in conflict with the proposed work. If a conflict appears to exist, then notify the CO in writing immediately and provide information on the location and elevation of the utility so that the CO can adjust the proposed work.

Locating Utility. Use electromagnetic devices to establish alignment of utilities where applicable. It may be necessary to thread a metal rod through non-metallic utility pipes to locate them. Where neither method is feasible, it may be necessary to locate the utility by perpendicular trench or trial pits.

Excavation. Excavate carefully so as not to disturb utility at it's assumed depth. When excavating within roadway pavements where traffic is being maintained, excavate by air-vacuum methods or equivalent, keeping the area of disturbance to a minimum. Uncover the utility sufficiently to make accurate measurements.

Record. Describe the utility found (size, material, function), determine the elevation of the top of utility, and prepare a field sketch of the pit. Indicate the date and the station and offset of the utility, noting whether the baseline or the centerline of proposed facility is being referenced.

Restoration. Backfill with original material, thoroughly compacting the material with a mechanical tamper. Restore aggregate base courses and pavement using equivalent materials and thicknesses. For portland cement concrete pavements, use fast setting concrete. For asphalt concrete pavements, cold patch, resurfacing of pit will be permitted so long as, in the opinion of the CO, it is thoroughly compacted.

638.04 Acceptance. Locating utilities will be evaluated under Subsection 106.02.

Measurement

638.05 Measure locating utilities by the each.

Payment

638.06 The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay item listed below. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
63803 Locate Utilities (Test pits)	LPSM

Section 702.--ASPHALT MATERIAL

702.01. Delete the first sentence and substitute the following:

Asphalt binders, including those with antistripping additives and binder blends with hot recycled mixtures, shall conform to AASHTO M 226, Table 2, for viscosity graded binders and AASHTO MP 1 for performance graded binders.

702.04 Delete **Table 702-1**, and substitute the following:

Table 702-1
Application Temperatures - Range °F

Type and Grade of Asphalt	Temperature Ranges Minimum - Maximum	
	Spraying Temperatures	Mixing Temperatures ⁽¹⁾
Cut-back asphalt -		
MC-30	85 - ⁽²⁾	-
RC or MC-70	120 - ⁽²⁾	-
RC or MC-250	165 - ⁽²⁾	140 - 175 ⁽³⁾
RC or MC-800	200 - ⁽²⁾	165 - 210 ⁽³⁾
RC or MC-3000	230 - ⁽²⁾	175 - 240 ⁽³⁾
Emulsified asphalt -		
RS-1	70 - 140	-
RS-2	120 - 185	-
MS-1	70 - 160	70 - 160
MS-2, MS-2h	-	70 - 160
HFMS-1, 2, 2h, 2s	70 - 160	50 - 160
SS-1, 1h, CSS-1, 1h	70 - 160 ⁽⁴⁾	70 - 160
CRS-1	120 - 185	-
CRS-2	140 - 185	-
CMS-2, CMS-2h	105 - 160	120 - 140
Asphalt cement -		
All grades	350 max.	350 max.
PG grades	365 max.	365 max.

(1) Temperature of mix immediately after discharge.

(2) The maximum temperature at which fogging or foaming does not occur.

(3) Temperature may be above flash point. Take precautions to prevent fire or explosion.

(4) For fog seals and tack coats.

Section 703.--AGGREGATE

703.02. Add the following:

Gravel will not be permitted.

703.05(a). Delete items (3) and (4).

703.05(a)(5) Delete and substitute the following:

(5) Fractured faces, ASTM D 5821

50% min.

703.05(b). Add the following:

(3) Plasticity Index, AASHTO T90 3 Max

703.05(b). Add the following:

Material shall have a minimum California Bearing Ratio of 70% as determined by AASHTO T 193 at 95% of maximum dry density in accordance with AASHTO T 180 (Method D).

703.05(b). Delete Table 703-2 and substitute the following:

**Table 703-2
Target Value Range for Subbase and Base Gradation**

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)				
	Grading Designation				
	A (Subbase)	B (Subbase)	C (Base)	D (Base)	E (Base)
2 ½ in.	100 ⁽¹⁾				
2 in.	97-100 ⁽¹⁾	100 ⁽¹⁾	100 ⁽¹⁾		
1 ½ in.		97-100 ⁽¹⁾			
1 ¼ in.					
1 in.	65-79 (6)		80-100 (6)	100 ⁽¹⁾	
¾ in.			64-94 (6)	86-100 (6)	100 ⁽¹⁾
½ in.	45-59 (7)				
3/8 in.			40-69 (6)	51-82 (6)	62-90 (6)
No. 4	28-42 (6)	40-60 (8)	31-54 (6)	36-64 (6)	36-74 (6)
No. 40	9-17 (4)			12-26 (4)	12-26 (4)
No. 200	4.0-8.0 (3)	4.0-12.0 (4)	4.0-7.0 (3)	4.0-7.0 (3)	4.0-7.0 (3)

⁽¹⁾ Statistical procedures do not apply.

() Allowable deviations (+/-) from the target values.

703.05(b)(1) Add the following:

At the option of the Contractor, the gradation only of the aggregate base may conform to the requirements of:

SECTION 1010.-AGGREGATE FOR NON-ASPHALT FLEXIBLE TYPE BASES,
Table 1010-1, Type A Aggregate Base Course, as specified in the July 1995 Edition of the Standard Specifications for Roads and Structures of the North Carolina Department of Transportation, which are as follows:

<u>Sieve Designation</u>	<u>Percentage by Weight Passing</u>
1 ½ in.	100
1 in.	75-97
½ in.	55-80
No. 4	35-55
No. 10	25-45
No. 40	14-30
No. 200	4-12
<u>Material Passing the 2.00 mm sieve</u>	
No. 40	40-84
No. 200	11-35

703.17 Superpave Asphalt Concrete Pavement Aggregate. Delete (a) thru (h) and substitute the following:

- (a) Los Angeles abrasion, AASHTO T 96 35% max.
- (b) Sodium sulfate soundness loss of coarse and fine aggregate (5 cycles), AASHTO T 104 12% max.
- (c) Coarse aggregate angularity, ASTM D 5821 Table 703-10
- (d) Fine aggregate angularity, AASHTO TP33 method A Table 703-10
- (e) Flat and elongated particles, 3 to 1 ratio, ASTM D 4791 10% max.
- (f) Sand equivalent value, AASHTO T 176, referee method Table 703-10
- (g) Gradation. Size, grade, and combine the aggregate fractions in mix proportions that result in a composite blend between the control points for the appropriate nominal maximum size is one sieve size greater than the first sieve to retain more than 10 percent of the combined aggregate. It is not recommended to produce mixes for a nominal maximum size aggregate that fall in restricted zone shown in Table 703-12 as appropriate. Test according to AASHTO T 11 and AASHTO T 27.

Table 703-10, 703-11, 703-12, 703-13. Delete the tables and substitute the following:

**Table 703 -10
Superpave Aggregate Requirements**

Design ESALs (million)	Coarse Aggregate Angularity (Percent), minimum		Uncompacted Void Content of Fine Aggregate (Percent), minimum		Sand Equivalent minimum	Flat and Elongated (Percent), maximum 3:1 Ratio
	#4 in	> 4 in.	#4 in.	> 4in.		
< 0.3	55/-	-/-	--	--	40	--
0.3 to < 3	75/-	50/-	40	40	40	10
3 to < 10	85/80	60/-	45	40	45	
10 to <30	95/90	80/75	45	40	45	
> 30	100/100	100/100	45	45	50	

Note: "85/80" denotes that 85 % of the coarse aggregate has one fractured face and 80% has two or more fractured faces.

Table 703-14, 703-15, 703-16 & Figures 703-1, 703-2, 703-3. Delete the tables and figures and substitute the following:

**TABLE 703-11
SUPERPAVE AGGREGATE GRADATION**

	Nominal Maximum Aggregate Size - Percent Passing										
	Grading Designation										
	A		B		C		D				
	1 in.		¾ in.		½ in.		3/8 in.				
Sieve Size	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Target Values	Allowable Deviation	
1 ½ in.	100	--	--	--	--	--	--	--	--		
1 in.	90	100	100	--	--	--	--	--	*		
¾ in.	--	90	90	100	100	--	--	--	*		
½ in.	--	--	--	90	90	100	100	--	*		
3/8 in.	--	--	--	--	--	90	90	100	*		
No. 4	--	--	--	--	--	--	--	90	*	(6)	
No. 8	19	45	23	49	28	58	32	67	*	(6)	
No. 30	--	--	--	--	--	--	--	--	*	(4)	
No. 50	--	--	--	--	--	--	--	--	*	(3)	
No. 200	1	7	2	8	2	10	2	10	*	(2)	

* Contractor specified target values.

() Allowable deviations (±) from the target values.

TABLE 703-12
SUPERPAVE AGGREGATE GRADATION
RESTRICTION ZONES

Sieve Size Within Restricted Zone	Minimum and Maximum Boundaries of Sieve Size for Nominal Maximum Aggregate Size (Minimum and Maximum Percent Passing)							
	1 in.		¾ in.		½ in.		3/8 in.	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
No. 50	11.4	11.4	13.7	13.7	15.5	15.5	18.7	18.7
No. 30	13.6	17.6	16.7	20.7	19.1	23.1	23.5	27.5
No. 16	18.1	24.1	22.3	28.3	25.6	31.6	31.6	37.6
No. 8	26.8	30.8	34.6	34.6	39.1	39.1	47.2	47.2
No. 4	39.5	39.5	--	--	--	--	--	--

Section 704. SOIL

704.04. Delete lines (a), (b), and (c) and substitute the following:

Sieve Size	Percentage by Weight Passing (1)	Allowable Deviations
1 ½ in.	100	-
1 in.	95-100	-
¾ in.	-	-
½ in.	25-65	±7
3/8 in.	-	-
No. 4	0-10	±5
No. 8	0-5	±3
No. 16	-	-
No. 200	0-2	±1

(1) AASHTO T 27 and AASHTO T 11

704.10 Select Granular Backfill. Delete this subsection, but retain Table 704-4, and substitute the following:

704.10 Select Granular Backfill. Furnish sound, durable, granular material free from organic matter or other deleterious material. Conform to the following:

(a) Quality requirements.

(1) Gradation	Table 704-4
(2) Angle of internal friction on the portion passing the 2-mm sieve, AASHTO T 236	34° min.

Note: Compact samples for AASHTO T 236 to 95 percent of the maximum density determined according to AASHTO T 99 method C or D and corrected for oversized material according to AASHTO T 99, Note 7.

(3) Sodium sulfate soundness loss (5 cycles), AASHTO T 104	15% max.
(4) Liquid limit, AASHTO T 89	30 max.

(b) Electrochemical requirements for MSE walls.

(1) Resistivity, AASHTO T 288	3000 Ω ·cm min.
(2) pH, AASHTO T 289	5.0 to 10.0
(3) Sulfate content, AASHTO T 290	200 ppm max.
(4) Chloride content, AASHTO T 291	100 ppm max.

Note: Tests for sulfate and chloride content are not required when resistivity is greater than 5000 ohm centimeters.

Section 705.--ROCK

705.02 Riprap Rock. Delete the text and substitute the following:

705.02 Riprap Rock. Furnish hard, durable, angular rock that is resistant to weathering and water action and free of organic or other unsuitable material. Do not use shale, rock with shale seams, or other fissile or fissured rock that may break into smaller pieces in the process of handling and placing. Conform to the following:

(a) Apparent specific gravity, AASHTO T 85	2.50 min.
(b) Absorption, AASHTO T 85	4.2% max.
(c) Coarse durability index, AASHTO T 210	50 min.
(d) Gradation for the class specified	Table 705-1

Provide riprap that matches the color of the surrounding rock outcrops or rock cuts, as approved by the CO.

705.03. Add the following:

Furnish Grandfather Mountain granite stone from a quarry located in the vicinity of Linville, North Carolina for the stone curb at the Craggy Dome Parking Area and other areas as required and as approved by the CO.

705.03(a). Delete the text and substitute the following:

Do not use rock with depressions or projections that might weaken it or prevent it from being properly embedded.

In the wall face, no stone shall be less than 2 inches in vertical dimension, 6 inches in horizontal dimension, or 4 inches in depth dimension.

On the top of the wall, no stone shall be less than 4 inches in least dimension.

Submit stone samples representing every color to be used on the project to the CO for approval.

705.06(a). Delete the second paragraph and add the following:

Furnish 16-inch curbstone from Elberton, Georgia quarries in parking areas having existing curb replaced. Furnish 16-inch curbstone that is similar in type, color and texture to existing stone in the project area. Replace stone curb that is to be replaced as part of remove and reset stone curb, with granite stone obtained from Grandfather Mountain quarry. Remove all the stone in one parking area, as directed by CO, if Grandfather Mountain granite stone is not available. Remove and stockpile stone curb for use as replacement stone for areas requiring additional stone in remove and reset curb work. Replace the designated parking area curb stone with stone obtained from an Elberton, Georgia quarry.

Section 709.--REINFORCING STEEL AND WIRE ROPE

709.01(b) Reinforcing bars. Delete the text of this subsection and substitute the following:

Furnish deformed, grade 420 bars conforming to AASHTO M 31, M 42, or M 53.

709.01(c) Epoxy coated reinforcing bars. Delete the first paragraph of text of this subsection and substitute the following:

Furnish bars conforming to Subsection 709.01(b). Conform to AASHTO M 284.

709.01(d) Tie bars. Delete the text of this subsection and substitute the following:

Furnish deformed, grade 420 bars conforming to AASHTO M 31 or M 42, except do not use AASHTO M 42 steel for tie bars bent and reststraightened during construction.

709.01(e) Hook bolts. Delete the first sentence of text in this subsection and substitute the following:

Furnish plain, grade 420 bars conforming to AASHTO M 31 or M 42 with M14 rolled threads or M16 cut threads.

709.01 Add the following after 709.01(l):

(m) Spiral Reinforcement. Conform to AASHTO M32, or to the strength and elongation requirements of AASHTO M31, Grade 420.

Section 710.--FENCE AND GUARDRAIL

710.08. Delete the text in the first and second paragraphs and substitute the following:

710.08 Steel-Backed Timber Rail. Furnish timber conforming to AASHTO M 168. Fabricate the 6 by 10-inch timber rail and the posts from dry, well seasoned, and dressed rough sawn Douglas fir, southern pine, or other species having a stress grade of at least 1450 psi. Treat the timber rail and posts according to AASHTO M 133.

710.08. Add the following:

Rough sawn timber tolerance shall apply only to the timber cross section and post length.

710.09. Guardrail Posts. Conform to AASHTO-AGC-ARTBA “A Guide to Standardized Highway Barrier Hardware”, 1995 edition.

Do not use a wood guardrail post that has a through check, shake, or en slit in the same plane as, or a plane parallel to the bolt hole and extending from the top of the post to within 3 inches of the bolt hole.

For steel-backed timber rail posts, furnish 10 by 12-inch posts conforming to Subsection 710.08.

Furnish treated Southern Pine or Douglas Fir wood posts for guardrail conforming to AASHTO M 168.

Section 712 - JOINT MATERIAL

712.05. Delete the text and substitute the following:

712.05 Mortar for Masonry Beds and Joints.

(a) Material.

(1) Hydraulic cement.

(a) Portland cement

(b) Blended hydraulic cement

Subsection 701

Table 701-1, type I, IA, II, IIA, III, or IIIA

Table 701-1, type IS, IS-A, IP, IP-A, I(PM) or (PM)-A

- (c) *Masonry cement* Table 701-1
- (2) Fine aggregate Subsection 703.01 or AASHTO M 45
 - (3) Lime ASTM C 207, type S or SA. Type N or NA, if tests show it not to be detrimental to mortar soundness.
 - (4) Water Subsection 725.01
 - (5) Air entraining admixture Subsection 711.02
- (b) Composition.** Conform to the proportions for one of the mixes in Table 712-3. Uniformly mix with water to a spreading consistency.
- (c) Compressive strength,** AASHTO T 106 2030 psi, 28-day min.

Table 712-3 Mortar Proportions by Volume

Mortar	Portland Cement	Blended Hydraulic Cement	Masonry Cement	Lime	Aggregate	Air (%)*
Cement - Lime	1	-	-	1/4 to 1/2	Not less than 2-1/4 and not more than 3 times total volume of cementous material	8 - 12
Masonry Cement	-	-	1	-		8 - 12
Blended Hydraulic Cement	-	1	-	1/4 to 1/2		8 - 12

* When air is required, determine air content per ASTM C 91 except use the same material and proportions used in construction.

Section 713.--ROADSIDE IMPROVEMENT MATERIAL

713.01. Add the following:

For furnished topsoil, submit a soil analysis report from the State University Agricultural Extension Service or other approved soil testing laboratory. Include in the report the soil textural classification (percentage of sand, silt, clay and organic matter) and additive recommendations.

Furnish topsoil that is subsurface soil, clean and free of exotic weeds. Seek a source of topsoil where it is possible to get below the root zone of any established vegetation.

Source is to be approved by the CO, after inspection by the National park Service (NPS). Provide the NPS with 14 days advance notification for inspecting the source. If the source is found unsuitable, locate another source and provide the NPS the same number of days to inspect the new source. Stockpiled material in Contractor’s yard area is considered unsuitable. Do not excavate material prior to approval of the source.

Furnish topsoil for aggregate-topsoil course from Contractor sources, as approved by the CO.

713.02. Add the following:

Use limestone at the rate recommended by the approved soil analysis to adjust any acidic condition.

713.03. Add the following:

Furnish Biosol fertilizer containing the following minimum available nutrients:

Total nitrogen	7.0%
Nitrogen (water soluble)	0.5%
Available phosphoric acid	2.0%
Soluble Potash (K ₂ O)	3.0%
Carbon/Nitrogen Ratio	5:1

713.04. Delete the first sentence of the first paragraph and substitute the following:

Conform to the Federal Seed Act, the Federal Noxious Weed Act, and applicable State and local seed and noxious weed laws.

713.05 Mulch. (b) Hay. Delete this Subsection.

713.05 (c) Add the following:

Provide hydromulch that is 100 percent virgin wood fiber with preblended tackifier. Use a tackifier that is plant-based such as guar or alpha plantago or chemical-based such as polyacrylamide or polymers.

Do not use paper-based hydromulch.

Use American Excelsior Excel or approved equal.

713.16. Delete the text and substitute the following:

713.16 Silt Fence. Conform to AASHTO M 288.

Section 718.--TRAFFIC SIGNING AND MARKING MATERIAL

718.24A. Add the following:

718.24 Polyurea pavement markings. Conform to the Polyurea application of 3M Stamark Liquid Pavement Marking Series 1000.

Provide any remaining necessary information recommended by the manufacturer for the placement of Polyurea pavement markings.

Use only Polyurea pavement markings that have been pre-approved by CO prior to application. Use both incorporated glass beads and drop-on glass beads according to the manufacturer's recommendations in order to meet the retroreflectivity requirements as measured by a LTL 2000, LTL-X, or the CO approved 30m mobile retroreflectometer.

Furnish a Type 3 Material Certification and Type 4 Material Certification.

Do not use handliners or any other non-truck mounted pavement marking machine to install Polyurea pavement markings on long-line applications.

Apply Polyurea pavement marking lines that have a minimum dry thickness of 20 mils when placed on concrete and asphalt pavements.

Apply the pavement materials simultaneously using the Polyurea application equipment. Apply the Polyurea resin, mixed at the proper ratio according to the manufacturer's recommendations, to the pavement surfaces within the proper application temperatures as determined by the material manufacturer. Inject reflective glass beads into the molten (liquid) Polyurea pavement markings.

Apply glass beads according to manufacturer's recommendations. Provide in-place marking with the minimum reflectance values shown below, as obtained with a LTL 2000, LTL-X, or the CO approved 30m mobile retroreflectometer, at the time of installation. Maintain the retroreflectance values shown below for a minimum of 30 days from the time of placement of marking material.

WHITE: 375 mcd/lux/m²

YELLOW: 250 mcd/lux/m²

Produce marking, which upon cooling, is uniformly reflectorized and has the ability to resist deformation caused by traffic throughout its entire length.

Provide Contractor certification to place the Polyurea pavement markings, as obtained from the manufacturer of the Polyurea material. Provide at least one member of each crew that completed this training. Furnish the CO with written confirmation of the training from the material manufacturer prior to the beginning of work. Provide a manufacturer's technical representative to be onsite during the entire installation of the product.

Provide a manufacturer's technical representative that is knowledgeable and familiar with the Contractor's application equipment prior to the installation of the Polyurea pavement markings.

Thermoplastic, epoxy, and Polyurea pavement markings are subject to a 180 day observation period.

Provide Polyurea pavement marking materials that maintain minimum retroreflectance values throughout the 180 day observation period as follows:

WHITE: 325 mcd/lux/m²

YELLOW: 200 mcd/lux/m²

These measurements will be taken by the CO within 30 days prior to the end of the Observation Period. The reflectance values shall be taken with an LTL 2000, LTL-X, or Department approved 30m mobile retroreflectometer.

Section 1205-3(I) Removal of Pavement Markings:

Do not apply Polyurea pavement marking over existing pavement marking materials having less adherence than Polyurea. Remove existing lines according to the manufacturer's recommendations.