SPECIAL PROVISIONS
ROUTE 202 OVER PASSAIC RIVER
FROM M.P. 38.96 TO M.P. 39.12
CONTRACT NO. 039083030
BRIDGE REPLACEMENT
TOWNSHIP OF BERNARDS, SOMERSET COUNTY
TOWNSHIP OF HARDING, MORRIS COUNTY
FEDERAL PROJECT NO. BR-0351(101)

AUTHORIZATION OF CONTRACT

The Contract is authorized by the provisions of Title 27 of the Revised Statutes of New Jersey and supplements thereto, and Title 23 of the United States Code - Highways.

SPECIFICATIONS TO BE USED

The 2007 Standard Specifications for Road and Bridge Construction, of the New Jersey Department of Transportation as amended herein will govern the construction of this Project and the execution of the Contract.

These Special Provisions consist of the following:

Pages 1 to 79 inclusive.

General wage determinations issued under Davis-Bacon and related acts, published by US Department of Labor, may be obtained from the Davis-Bacon web site at http://www.gpo.gov/davisbacon/NJ.html under the appropriate county, select the construction type heading: HIGHWAY.

Pay the prevailing wage rates determined by the United States Secretary of Labor and the New Jersey Department of Labor. If the prevailing wage rate prescribed for any craft by the United States Secretary of Labor is not the same as the prevailing wage rate prescribed for that craft by the New Jersey Department of Labor, pay the higher rate.

State wage rates may be obtained from the New Jersey Department of Labor & Workforce Development (Telephone: 609-292-2259) or by accessing the Department of Labor & Workforce Development's web site at http://lwd.dol.state.nj.us/labor/wagehour/wagehour_index.html The State wage rates in effect at the time of award are part of this Contract, pursuant to Chapter 150, Laws of 1963 (NJSA 34:11-56.25, et seq.).

If an employee of the Contractor or subcontractor has been paid a rate of wages less than the prevailing wage, the Department may suspend the Work, and declare the Contractor in default.
The following FHWA funded project Attachments that are located at the end of these Special Provisions:"

1. Required Contract Provisions, Federal-Aid Construction Contracts (Form FHWA-1273).
2. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).
3. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246).
4. State of New Jersey Equal Employment Opportunity for Contracts Funded by FHWA.
5. Emerging Small Business Enterprise Utilization Attachment, FHWA Funded Contracts.
6. Equal Employment Opportunity Special Provisions.
7. Special Contract Provisions for Investigating, Reporting, and Resolving Employment Discrimination and Sexual Harassment Complaints.

DIVISION 100 – GENERAL PROVISIONS

SECTION 101 – GENERAL INFORMATION

101.01 INTRODUCTION

101.03 TERMS

THE FOLLOWING TERMS ARE CHANGED.

Completion.
(3) IS CHANGED TO:

3. the Contractor has satisfactorily executed and delivered to the RE all documents, including federal form FHWA-47 "Contractor's Statement of Materials and Labor" according to 23CFR 635, certifications, and proofs of compliance required by the Contract Documents, it being understood that the satisfactory execution and delivery of documents, certificates, and proofs of compliance is a requirement of the Contract.

pavement structure. The combination of pavement, base courses, and when specified, a subbase course, placed on a subgrade to support the traffic load and distribute it to the roadbed (see Figure 101-1). These various courses are defined as follows:

1. **pavement.** One or more layers of specified material of designed thickness at the top of the pavement structure.
2. **base course.** One or more layers of specified material of designed thickness placed on the subgrade or subbase.
3. **subbase.** One or more layers of specified material of designed thickness placed on the subgrade.

101.04 INQUIRIES REGARDING THE PROJECT

1. Before Award of Contract.

THE FIRST PARAGRAPH IS CHANGED TO:

Submit inquiries and/or view other questions/answers by following the format prescribed on the project's electronic bidding web page.

2. After Award of Contract.

Central Region
Mr. Kiran Patel, Acting Regional Construction Engineer
Telephone: 732-625-4207

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.02 BIDDER REGISTRATION AND DOWNLOADING OF THE PROPOSAL DOCUMENTS
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Bidder shall not alter or in any way change the software.

102.03 REVISIONS BEFORE SUBMITTING A BID
THE SECOND PARAGRAPH IS CHANGED TO:

The Bidder shall acknowledge all addenda posted through the Department's website. The addenda acknowledgement folder is included in the Department's electronic bidding file. The Department has the right to reject the bid if the Bidder has not acknowledged all addenda posted.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION: Route 202 Over Passaic River

DRILLER: TRC Engineers Inc.

INSPECTOR: Christopher Bacchus

COUNTY/TOWNSHIP: Counties of Morris and Somerset / Townships of Harding and Bernards

DATE STARTED: 2/20/09 DATE COMPLETED: 2/23/09

CORE NUMBER	1	2	3	4	
ROUTE	202	202	202	202	
DIRECTION (N, E, S, W)	S	N	N	N	
MILE POST (MP or **Station**)	110+12	109+01	109+08	109+94	
LANE NO. (Left to Right)	1	1	1	1	
SHOULDER (Inside or Outside)	-	-	-	-	
CORE DIAMETER (Inches)	4	4	4	4	
TOTAL CORE DEPTH (Inches)	18	10	16.75	19.5	
CORE DRILLED TO	Subgrade	Subgrade	Subgrade	Subgrade	
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	
AC THICKNESS (Inches)	8.75	2.75	4.75	7.75	
PC THICKNESS (Inches)	9.25	7.25	12	11.75	

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was obtained for State design and estimate purposes. It is made available to the authorized users only that they may have access to the same information available to the State. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

3. Existing Plans and As-Builts.

Existing Plans and As-builts used are as follows:

a. Route 16 (Route 32 Rev 1927) Section 6A, Bernardsville to Passaic River, Showing Existing Right of Way and Parcels to be Acquired, dated January 1933.
b. Bridge No. 74, M.P. 32.22; Route 16, Station 109+57.5, dated November 1923
c. As –Built Plan and Profile of Route 16, Section 6-A, Bernardsville to Passaic River, dated November 1923.
d. Termporary Bridge for Bridge No. 74, Route 16, Station 0+32- 0+32.2, dated November 3, 1920

SECTION 104 – SCOPE OF WORK

104.03.04 Contractual Notice
THE SECOND PARAGRAPH IS CHANGED TO:

Immediately provide written notice to the RE of a circumstance that is believed to be a change to the Contract. If notice is not provided on Contractual Notice (Form DC-161), include the following in the initial written notice:

1. A statement that this is a notice of a change.
2. The date when the circumstances believed to be a change were discovered.
3. A detailed and specific statement describing the nature and circumstances of the change.
4. If the change will or could affect costs to the Department.
5. If the change will or could affect Contract Time as specified in 108.11.01.C.

In addition to the hard copy of the notice, email the notice to the RE. It is not necessary to attach listed documents to the email.

104.03.09 Delay Damages

1. Non-Productive Activity.

e. Equipment.
THE FIRST SENTENCE IS CHANGED TO:

If as the result of the delay, equipment cannot be used for any active work, and is directed by the RE to remain on the work site during the delay, the Department will make payment as specified in 104.03.08.7.a.5.

SECTION 105 – CONTROL OF WORK

105.05 WORKING DRAWINGS
THE SECOND PARAGRAPH IS CHANGED TO:

Ensure that working drawing submissions also conform to the Department design manuals and other Department standards for the proposed work. Ensure that working drawings are signed and sealed by a Professional Engineer. After Award, the Department will provide additional formatting information, the number of copies required, and the address of the receiving designated design unit.

1. Certified Working Drawings.
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will require 5 days for review and certification or rejection and return of certified working drawings.

2. Approved Working Drawings.

THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will require 5 days for review and approval or rejection and return of working drawings.

105.07.01 Working in the Vicinity of Utilities

A. Initial Notice.

Telephone

Frank Antisell
Manager
Verizon – NJ, Inc.
6000 Hadley Road
South Plainfield, NJ 07080
(908) 412-6160
frank.t.antisell@verizon.com

Tim Fitzpatrick
Teleport Communications Group
(representing AT&T)
175 West Main Street
Freehold, NJ 07728
Cell Phone: (908) 670-6925
tfitzpatrick@joemaxtelecom.com

Electric

Frank J. Mercadante
Regional Engineering Supervisor
Jersey Central Power & Light
300 Madison Avenue
PO Box 1911
Morristown, NJ 07962
(973) 401-8521
fmercadante@firstenergycorp.com

Cable

Sal Dimaggio
Construction Supervisor
Comcast
50 Randolph Road
Somerset, NJ 08873
(732) 652-2720
salvatore_dimaggio@cable.Comcast.com

Floyd Light
Cablevision
1111 Stewart Avenue
Bethpage, NY 11714

Gas

Len Pannucci
Program Manager
PSE & G
744 Broad Street, 13th Floor
Newark, N.J. 07102
(973) 430-5135
len.pannucci@pseg.com

Water

Mike Wolan
NJ American Water
P.O. Box 1207
120 Raider Boulevard
Hillsborough, NJ 08844
(908) 431-3225
mike.wolan@amwater.com

Sewer and Water

Paul Fox
Township Engineer
Apgar Associates (representing the Township of Harding)
13 Demun Place
Far Hills, NJ 07931
(908) 234-0416
pfox@apgarassociates.com

B. Locating Existing Facilities.

2.

Bureau of Traffic Operations, North Region (TOCN)
670 River Drive
Elmwood Park, NJ 07407-1347
Telephone: 201-797-3575

Bureau of Electrical Maintenance, North Region
200 Stierli Court
Mt. Arlington, NJ 07856-1322
Telephone: 973-770-5065

C. Protection of Utilities.

THE SECOND PARAGRAPH IS CHANGED TO:

Protect and support existing Department electrical and ITS facilities and ensure that there is no interruption of service. Use hand tools only while working within two feet of the fiber optic network. At least 30 days before beginning the work, submit a plan to the RE for approval showing the method of support and protection.

105.07.02 Work Performed by Utilities

Company Name & Address	Contact Person	Number of Days Advance Notice
Verizon Communications - NJ **6000 Hadley Road** **South Plainfield, NJ 07080**	**Frank Antiselli**	**42 days**
Comcast **50 Randolph Road** **Somerset, NJ 08873**	**Sal Dimaggio**	**7 days**
Jersey Central Power & Light **300 Madison Avenue** **PO Box 1911** **Morristown, NJ 07962**	**Frank J. Mercadante**	**21 days**

General Notes for All Utilities

1. The State's Contractor will provide the utility with notices called for in the schedules.
2. The State's Contractor will provide the utility with survey control. The State's Contractor and the utility shall jointly verify the location of the facilities prior to performing the work.
3. The State's Contractor is responsible for utility layout of JCP&L's facilities.
4. Utility schedules are estimated time frames for each utility owner and do not include work performed by other utility owners sharing joint facilities.
5. Utility schedules are based on the project traffic control and staging plan for each utility mobilization. Utility service demands, field and weather conditions may alter these schedules. State (Contractor) changes to the traffic control and staging plan require re-establishing utility schedules.
6. Existing facilities can only be taken out of service after the relocated facilities have been installed and are in operation.
7. Distances, stations, offsets, lengths or units on the utility plan are approximate (plus or minus).
8. All work on JCP&L's facilities are to be performed by the State's Contractor using a subcontractor approved by JCP&L as listed in Section 654 of these specifications.

9. All work on Verizon's and Comcast's facilities are to be performed by them.
10. All materials for JCP&L's facilities are to be supplied directly by JCP&L. The State's Contractor is responsible for pick-up and delivery of materials to the job site.
11. Where joint facilities are proposed, the utility shall coordinate its work with the joint owners.

Verizon Communications – NJ – Telephone

General Notes (Verizon Communications – NJ):

1. No Betterment.

Existing Facilities:

Coaxial and fiber optic aerial cables along Shalebrook Drive.

Work to be Performed by Verizon:

1. Route 202: Station 111+75±, 22'± right to Shalebrook Drive: Station 201+38±, 24'± left.
   a. Construct three 40-foot permanent poles at Route 202 STA 111+75±, 22'± right, Shalebrook Drive STA 200+68±, 19±' right and Shalebrook Drive STA 201+12±, 24' ±left.
   b. Install guy wires and ground anchors at permanent poles at Route 202 STA 111+75±, 22'± right, and Shalebrook Drive STA 201+12±, 24' ±left.
   c. Construct permanent coaxial and fiber optic cables between permanent poles at Route 202 STA 111+75±, 22'± right, Shalebrook Drive STA 200+68±, 19±' right, Shalebrook Drive STA 201+12±, 24' ±left and existing pole at Shalebrook Drive STA 201+38, 24' left (Pole #BT842HD).
   d. Remove existing aerial coaxial and fiber optic cables between existing pole #BT842HD at Shalebrook Drive STA 201+38, 24' left and existing pole #70001HD at Route 202 STA 110+57, 23' right.

Schedule:

For Item 1, the utility requires 6 weeks Notice to Proceed and 8 weeks to complete construction. This work is to be completed by February 13, 2012.

Comcast – Cable

General Notes (Comcast):

1. No Betterment.

Existing Facilities:

Coaxial aerial cables along Shalebrook Drive.

Work to be Performed by Comcast:

1. Route 202: Station 111+75±, 22'± right to Shalebrook Drive: Station 201+38±, 24'± left.

   a. Construct permanent coaxial cables between permanent poles (to be installed by Verizon) at Route 202 STA 111+75±, 22'± right, Shalebrook Drive STA 200+68±, 19'± right, Shalebrook Drive STA 201+12±, 24' ±left and existing pole #BT842HD at Shalebrook Drive STA 201+38, 24' left.
   b. Remove existing aerial coaxial cables between existing pole #BT842HD at Shalebrook Drive STA 201+38, 24' left and existing pole #70001HD at Route 202 STA 110+57, 23' right.

Schedule:

For Item 1, the utility requires 1 week Notice to Proceed and 1 week to complete construction. This work to be completed by February 13, 2012.

JCP&L/ A First Energy Company – Electric

General Notes (JCP&L):

1. No Betterment.
2. Before bridge construction begins, the subcontractor approved by JCP&L shall provide written notification to the State's contractor and the State's Resident Engineer that electric power to its primaries within the project limits has been transferred to the temporary facilities.
3. Electric power supplied to the temporary facilities shall remain in effect until the completion of the bridge project as per the instructions of the State's Resident Engineer.
4. After the bridge replacement is completed, upon written approval by the State's Resident Engineer, electric power may be restored to the existing aerial alignment. All temporary electric facilities must then be removed.
5. No aerial facilities are to be mounted to the temporary poles other than JCP&L primary cables.
6. All clearing and thinning of vegetative materials shall be within a maximum 10-foot radius of the proposed poles, cables and guys; and be within the public right-of-way.

Existing Facilities:

Three-phase 12.5 kV aerial primary cables along Route 202 on existing pole,
7.2 kV aerial primary cables along Shalebrook Drive and aerial guy across Route 202 south of Passaic River.

Work to be Performed by State Contractor:

1. Route 202: Station 108+54±, 23'± right to Station 111+56±. 22'± right.

    a. Construct five 45-foot temporary poles as follows:
    Proposed Pole Route 202 STA 108+54±, 23'± right.
    Proposed Pole with guy Route 202 STA 108+54±, 31'± right.
    Proposed Pole Route 202 STA 110+37±, 31'± right.
    Proposed Pole Route 202 STA 111+56±, 22'± right.
    Proposed Pole with guy Route 202 STA 111+56±, 31'± right.
    b. Replace Pole #70296BS at Route 202 STA 108+74, 22' right.
    c. Construct 12.5 kV 3-phase temporary primaries between Proposed Pole Route 202 STA 108+54±, 31'± right, Proposed Pole Route 202 STA 110+37±, 31'± right and Proposed Pole Route 202 STA 111+56±, 31' ±right.
    d. Construct 3-phase temporary slack lines from:
    Proposed Pole Route 202 STA 108+54±, 23'± right to Proposed Pole Route 202 Route STA 108+54±, 31'± right and from Proposed Pole Route 202 STA 111+56±, 22'± right to Proposed Pole Route 202 STA 111+56±, 31'± right.
    e. Construct switches and ground primary for de-energizing the existing 3-phase 12.5 kV primaries on replaced pole # 70296BS at Route 202 STA 108+74, 22'right.
    f. Install dead-ends and ground primary at proposed pole 111+56±, 22'right.
    g. Transfer existing capacitors from:
    Existing Pole #70296BS Route 202 STA 108+74, 22' right to Proposed Pole Route 202 STA 108+54±, 23'± right.
    h. After the bridge replacement is completed, transfer capacitors supported on temporary pole Route 202 Station 108+54±, 23'± right back to replaced Pole #70296BS at Route 202 Station 108+74, 22' right.

2. Construct 7.2 kV permanent aerial primary cables as shown between permanent pole at Route 202 STA 111+75±, 22'± right (to be installed by Verizon) and existing pole #BT842HD at Shalebrook Drive STA 201+38, 24' left.

3. Remove existing 7.2 kV aerial primary cables between existing pole #BT842HD at Shalebrook Drive STA 201+38, 24' left and existing pole #70001HD at Route 202 STA 110+57, 23' right.

4. Route 202: Station 107+78±, 23'± right to Station 108+28±, 18'± left.

    a. Install temporary guy and ground anchor at STA 107+89, 13.5' right for existing pole #70287BS.
    b. Temporarily remove existing aerial guy between existing pole #70287BS at STA 107+78, 23' right and existing pole #NJ2489BV at STA 108+28, 18' left.
    c. Upon written approval by the State's Resident Engineer, reinstall the existing aerial guy wire and remove the temporary guy and ground anchor. Restore pavement as required.

Schedule:

For Items 1 through 4, the utility requires 3 weeks Notice to Proceed. This work will be completed during Stage 1 by March 16, 2012, by the State's Contractor.

SECTION 106 – CONTROL OF MATERIAL

106.03 FOREIGN MATERIALS
THE FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH:

For steel and iron products incorporated into the Project, provide a certification from the manufacturer stating the country where the steel or iron product was melted and manufactured including application of coatings which protect or enhance the value of the material. Ensure that 4 copies of the manufacturer's certification are provided with each delivery of steel and iron products. Retain 1 copy and submit 3 copies to the RE. Ensure that the certification includes, materials description, quantity of material represented by the certification, country of manufacture, and notarized signature of a person having legal authority to bind the supplier. If a Certification of Compliance as specified in 106.07 contains a statement regarding the country of manufacture, a separate certification is not necessary.

106.04 MATERIALS QUESTIONNAIRE

106.09 SUBSTITUTES FOR PROPRIETARY ITEMS

SECTION 107 – LEGAL RELATIONS

107.04 NEW JERSEY CONTRACTUAL LIABILITY ACT
THE FOURTH PARAGRAPH IS CHANGED TO:

For purposes of determining the date of "completion of the contract" pursuant to N.J.S.A. 59:13-5, "completion of the contract" occurs on the date that the Contractor provides written notice to the Department of Acceptance or conditional Acceptance of the Proposed Final Certificate or the 30th day after the Department issues the Proposed Final Certificate, whichever event occurs first.

107.09 INDEPENDENT CONTRACTOR
THE ENTIRE SUBSECTION IS CHANGED TO:

The relationship of the Contractor to the State is that of an independent contractor. Conduct business consistent with such status. Do not hold out or claim to be an officer or employee of the Department by reason hereof. Do not make a claim, demand, or application to or for the rights or privileges applicable to an officer or employee of the Department, including, but not limited to, Workers Compensation Insurance, unemployment insurance benefits, social security coverage, or retirement membership or credit.

107.11 RISKS ASSUMED BY THE CONTRACTOR

107.12.01 Satisfying the Notice Requirements
THE FOLLOWING IS ADDED TO THE SECOND PARAGRAPH:

Upon request, provide the RE with 3 copies of all documentation submitted in support of the claim.

107.12.02 Steps

3. Step III, Claims Committee.
THE SECOND PARAGRAPH IS CHANGED TO:

The Claims Committee will not review a claim or combination of claims valued less than $250,000 until after the receipt of conditional release as specified in 109.11. If the Contract is 75 percent complete or greater as measured by Contract Time or Total Adjusted Contract Price, the Claims Committee will not review a claim or combination of claims valued more than $250,000 until after receipt of conditional release as specified in 109.11. If the Claims Committee does not review a claim or combination of claims before Completion, the Claims Committee will review the claim or combination of claims at a single session of the Claims Committee after the receipt of the conditional release as specified in 109.11 and all claims have been reviewed at Steps I and II of the Claims Resolution Process. When reviewing a combination of claims, the Claims Committee will not review any individual claim valued less than $20,000.

THE FOLLOWING SUBSECTION IS ADDED

107.17 COMMUNICATION WITH THE NEWS MEDIA

Do not communicate with the news media or issue a news release without obtaining a prior written approval from the Department.

SECTION 108 – PROSECUTION AND COMPLETION

108.01 SUBCONTRACTING

1. Values and Quantities.
THE FOLLOWING IS ADDED TO FIRST PARAGRAPH

1.

Specialty Items are as listed below:

Electrical wire items.

Vibration Monitoring

THE THIRD PARAGRAPH IS CHANGED TO:

If a partial quantity of work for a unit price Item is subcontracted, the Department will determine the value of the work subcontracted by multiplying the price of the Item by the quantity of units to be performed by the subcontractor.

THE FOURTH PARAGRAPH IS CHANGED TO:

If only a portion of work of an Item is subcontracted, the Department will determine the value of work subcontracted based on the value of the work subcontracted as indicated in the subcontract agreement and as shown in a breakdown of cost submitted by the Contractor.

108.02 COMMENCEMENT OF WORK

THE SUBPART 4 IN THE FIRST PARAGRAPH IS CHANGED TO:

4. Progress schedule as specified in 153.03

108.06 NIGHT OPERATIONS

2. Visibility Requirements for Workers and Equipment.

THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that workers wear a 360° high-visibility retroreflective safety garment meeting ANSI/ISEA Class 3, Level 2 standards.

108.08 LANE OCCUPANCY CHARGES

THE SECOND PARAGRAPH IS CHANGED TO:

The RE will keep record of each occurrence as well as the cumulative amount of time that a lane is kept closed beyond the lane closure schedule and provide the record to the Contractor. The Department will calculate the lane occupancy charge by multiplying the length of time of the delayed opening, in minutes, by the rate of $10 per minute per lane, unless otherwise specified in the Special Provisions.

THE FOLLOWING IS ADDED:

The rate to calculate the Lane Occupancy Charge is as follows:

Overrun Of Time Limit During:	Rate Schedule
Alternating Traffic Pattern	$10/minute /lane
Overnight Full Road Closure	$20/minute/lane

108.09 MAINTENANCE WITHIN THE PROJECT LIMITS

108.10 CONTRACT TIME

A. Complete all work required for Stage 3 in 168 hours.

B. Complete all work required for Substantial Completion on or before September 20, 2012.

C. Achieve Completion on or before November 19, 2012.

108.11.01 Extensions to Contract Time

B. Types of Delays.

1. Non-Excusable Delays.

THE FOLLOWING IS ADDED:

For work performed by Utilities, delays up to 30 percent of the estimated duration specified in 105.07.02 are considered non-excusable. The duration includes both the advance notice and the completion of the work by the Utility.

2. Excusable, Non-Compensable Delays.

b. Utilities.

THE LAST PARAGRAPH IS CHANGED TO:

If approved excusable, non-compensable delays exceed a total of 90 days, the time in excess of 90 days will become excusable and compensable as specified in 108.11.01.B.3.

c. Extreme Weather.

THE FOLLOWING IS ADDED:

The Department will only extend contract time for Weather delays during Construction Stage 3 if the RE determines that construction activities being completed at the time of inclement weather cannot be completed properly according to contract documents. Time lost for delays will be determined hourly in 4 hour periods according to the daily schedule below:

Consecutive Time lost for Delay	Stage 3 Time Extension
1 - 4 hours	6 hours
4 - 8 hours	10 hours
8 - 12 hours	14 hours
12 - 16 hours	18 hours
16 - 20 hours	22 hours
20 - 24 hours	26 hours

108.14 DEFAULT AND TERMINATION OF CONTRACTOR'S RIGHT TO PROCEED

108.19 COMPLETION AND ACCEPTANCE

THE FOLLOWING IS ADDED:

No Incentive Payment for Early Completion is specified for this project.

108.20 LIQUIDATED DAMAGES

Liquidated damages are as follows:

A. For each hour that the Contractor fails to complete the work as specified in Subpart A of Subsection 108.10 of these Special Provisions, for completion of Stage 3, the Department will assess liquidated damages in the amount of $1,250.

B. For each day that the Contractor fails to complete the work as specified in Subpart B of Subsection 108.10 of these Special Provisions, for Substantial Completion, the Department will assess liquidated damages in the amount of $2,900.

C. For each day that the Contractor fails to achieve Completion as specified in Subpart C of Subsection 108.10 of these Special Provisions, the Department will assess liquidated damages in the amount of $1,000.

THE FOLLOWING IS ADDED:

When the Contractor may be subjected to more than one rate of liquidated damages established in this Section, the Department will assess liquidated damages at the higher rate.

SECTION 109 – MEASUREMENT AND PAYMENT

109.01 MEASUREMENT OF QUANTITIES
THE SECOND PARAGRAPH IS CHANGED TO:

The Department will designate Items as Measured Items or as Proposal Items by having a suffix of M or P in the Item number respectively. The Department will measure quantities of Measured Items for payment.

109.02 SCOPE OF PAYMENT
THE THIRD SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will not make additional or separate payment for work or portion of work unless specifically provided for in the "Measurement and Payment" Subsection.

109.07 BONDS POSTED IN LIEU OF RETAINAGES
THE FIRST PARAGRAPH IS CHANGED TO:

The Contractor may deposit negotiable bonds of the State or any of its political subdivisions, which have been approved by the Department, in an escrow account to secure release of all or a portion of the retainage withheld as specified in 109.05. Establish the account under the provisions of an escrow agreement to be entered into between the Contractor, the Department, and a bank located in the State that is an authorized depository with a trust department. Pay the charges of the bank for services rendered according to the terms and conditions of the escrow agreement.

DIVISION 150 – CONTRACT REQUIREMENTS

SECTION 152 – INSURANCE

152.03.01 Owner's and Contractor's Protective Liability Insurance

A. Policy Requirements.

THE FOURTH SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that policies are underwritten by companies with a current A.M. Best rating of A- with a Financial Size Category of VII or better.

B. Types

1. Comprehensive General Liability Insurance.

THE FOLLOWING IS ADDED:

Ensure the policy names JCP&L, its officers, employees and agents as additional insured.

2. Comprehensive Automobile Liability Insurance.

THE FOLLOWING IS ADDED:

Ensure the policy names JCP&L, its officers, employees and agents as additional insured.

3. Owner's and Contractor's Protective Liability Insurance.

THE ENTIRE TEXT IS CHANGED TO:

Procure a separate Owner's and Contractor's Protective Liability Insurance Policy with a minimum limit of liability in the amount of $4,000,000 per occurrence as a combined single limit for bodily injury and property damage. Ensure the policy is endorsed to include Severability of Interest/Separation of Insureds clause. Ensure the policy names the State, its officers, employees, and agents as additional insured. Provide documentation from the insurance company that indicates the cost of the Owner's and Contractor's Protective Liability Insurance Policy.

Ensure the policy is endorsed to include per project aggregate.

5. Excess Liability Insurance.

THE FOLLOWING IS ADDED:

Ensure the policy names JCP&L, its officers, employees and agents as additional insured.

6. Marine Liability Insurance.

SUBPART 8 IS ADDED:

8. Per project aggregate.

THE FOLLOWING IS ADDED:

Ensure the policy names JCP&L, its officers, employees and agents as additional insured.

152.03.03 Pollution Liability Insurance

SUBPART 9 IS ADDED: TO THIRD PARAGRAPH

9. Per project aggregate.

152.04 MEASUREMENT AND PAYMENT
THE LAST PARAGRAPH IS CHANGED TO:

The Department will make initial payment for OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE, RAILROAD PROTECTIVE LIABILITY INSURANCE, and POLLUTION LIABILITY INSURANCE at the lesser of the bid amount, or actual costs as documented from paid invoices. If the Bid amount is greater than the amount indicated on the documented paid invoices, the Department will make payment for any remainder, up to the Bid amount, with the final monthly Estimate.

SECTION 153 – PROGRESS SCHEDULE

153.03.01 CPM PROGRESS SCHEDULE
THE THIRD PARAGRAPH IS CHANGED TO:

The Contractor may propose alternate staging. Ensure that proposed alternate staging does not interfere with work done by Others without written concurrence from the affected Others. The Department may reject the proposed alternate staging if it causes an increase to the cost of work done by Others. The Contractor is responsible for the cost of changes or additional work required as a result of completing the work according to the proposed alternate staging.

1. Preliminary Schedule Submission.
THE SECOND PARAGRAPH IS CHANGED TO:

The RE may require 3 color paper copies of the preliminary schedule, Gantt Chart, as specified in 153.03.02.2.e, and a network diagram (PERT) printed on 36 × 22-inch plans detailing the activity relationships.

2. Baseline Schedule Submission.
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The RE may require the Contractor to submit 3 color paper copies of the baseline schedule.

THE SECOND PARAGRAPH PART 3 IS CHANGED TO:

3. The RE may require 3 color paper copies of the tabular reports, as specified in 153.03.02.2, and a printed network diagram (PERT) on 36 × 22-inch sheets detailing the activity relationships.

153.03.02 CPM Progress Schedule Updates
THE LAST PARAGRAPH IS CHANGED TO:

If the project falls behind schedule for nonexcusable delays, so that the schedule indicates that the Work will not be completed by the Completion date, as specified in 108.10, take the necessary steps to improve progress. Under such circumstances, the RE may direct the Contractor to increase the number of shifts, begin overtime operations, work extra days including weekends and holidays, and supplement its construction plant. Furthermore, the RE may require the Contractor to submit for approval a recovery schedule showing how the Contractor proposes to meet the directed acceleration.

2. Tabular Reports.
THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The RE may require 3 color paper copies of the longest path sort, total float sort, responsibility sort, area sort, and Gantt chart.

153.04 MEASUREMENT AND PAYMENT
THE THIRD PARAGRAPH IS CHANGED TO:

If the Contractor's CPM Progress Schedule update is not approved by the date of the progress meeting for the following update, the Department will assess liquidated damages to recover the Department's increased administrative costs. The Department will assess damages for each delinquent update as follows:

SECTION 155 – CONSTRUCTION FIELD OFFICE

155.03.01 Field Office

4. Communication Equipment.

a. Telephones. Provide 2 cordless phones with auto-switching.

c. Cell Phones. Provide 3 cellular phones. Ensure the cellular phone plan provides for unlimited mobile to mobile in-network usage, unlimited push-to-talk/ walkie-talkie usage and an anticipated monthly usage of 900 any-time minutes for each phone. Ensure the phones are on the same plan. Ensure the cellular phone plan has a home rate with no roaming charges within the state. Ensure each cellular phone has the following features:

1. Push to Talk / Walkie-Talkie capable
2. Camera with 1 megapixel picture capability
3. Battery life capable of 180 minutes of continuous use and 72 hours of standby use
4. Equipped with a hands-free headset
5. Base charger and car charger

d. Computer System. Provide a computer system meeting the following requirements:

3 computer configurations each meeting the following:

1. Equipped with an Intel Pentium IV processor with Hyper Threading technology having a clock speed of 3.5 GHz or faster, 4 GB RAM, 512 MB Video RAM, 200 Gigabyte hard drive designated as drive C, one DVD (+/-) Writer Drive, one CD-R Recordable Drive. Ensure the system is USB 2.0 compatible and has at least two front USB ports. Include Keyboard, optical mouse and 2 piece desktop speakers.
2. Wired Router with appropriate number of ports and cables and a print server. Ensure there is at least one wired Ethernet switch.
3. High-speed broad band connection and service with a minimum speed of 3 Megabytes per second (mbps) with dynamic IP address for the duration of the project.
4. 19 inch or larger Flat Screen LCD monitor with tilt/swivel capabilities.
5. 250 Megabyte or larger Zip Drive internal or external with backup software for MS-Windows and DOS, and fifteen corresponding formatted data cartridges corresponding to the tape drive size.
6. 1Flatbed USB version 2.0 or greater Color Scanner with automatic document feed.
7. Uninterruptible power supply (UPS).
8. Surge protector for the entire computer configuration to be used in conjunction with the UPS.
9. Computer workstation, chair, printer stand, and/or table having both appropriate surface and chair height.
10. One can of compressed air and screen cleaning solution every other month of the duration of the contract.

Ensure one computer has a 56K baud data/fax modem. If more than one computer configuration is specified, provide one network interface card for the base computer configuration and hardwire connections between computer configurations as directed by the RE.

Also provide:
15 USB 8 GB Flash/Jump memory drives
50 CD-R 700 MB (or larger) recordable CD's compatible with the CD drive and 50 recordable DVD's.
2 CD/DVD Holder (each holds 50)

1 color laser printers and supplies as follows:

1. HP PCL 6 emulation, with a minimum of 192 Megabytes of expanded memory, printer cable, and legal size paper tray.
2. One set of printer ink cartridges every other month for the duration of the construction project for each printer.

Software as follows:

1. Microsoft Windows, latest version with future upgrades for the duration of the entire project. Ensure 1 computer has a Microsoft Windows XP; 32 Bit Operating System for ACES, Extra and Groupwise.
2. Microsoft Office Professional, latest version.
3. Norton's System Works for Windows, latest version, or compatible software package with future upgrades and latest virus patches.
4. Anti-Virus software, latest version with monthly updates for the duration of the contract.
5. Visio Professional Graphics Software for Windows, latest version
6. Primavera Project Management, latest version
7. Adobe Acrobat Professional, latest version, for Scanner

THE THIRD PARAGRAPH IS CHANGED TO:

When the computer system is no longer required by the RE, the Department will remove and destroy the hard drive, and return the computer system to the Contractor. The Department will retain other data storage media.

6. Office Equipment.

2. 1 digital camera(s). Ensure each digital camera has auto-focus, with rechargeable batteries and charger, 256 MB memory card, USB Memory Card Reader compatible with camera and field office computer, 1.5 inch LCD monitor, 5 mega pixel resolution, 10X optical zoom lens, built in flash, image stabilization, computer connections, and a carrying case
3. 1 video camcorder(s). Ensure each video camcorder is a mini DVD camcorder with 10X optical zoom, 2" LCD monitor, USB 2.0 compatible and includes USB 2.0 connections.

7. Inspection Equipment.

1. 2 Calculators with trigonometric capability
2. 1 Date/ Received stamp and ink pad
3. 1 Electronic Smart level, 4 foot
4. 1 Electronic Smart level, 2 foot
5. 3 Carpenter rulers
6. 1 Steel tape, 100 feet
7. 1 Cloth tape, 100 feet
8. 1 Illuminated measuring wheel
9. 1 Plumb bob and cord

10. 1 Line level and cord
11. 1 Surface thermometer
12. 1 Concrete thermometer
13. 1 Digital infrared asphalt thermometer
14. 0 Direct Tension Indicator (DTI) Feeler Gage, 0.005 inch
15. 0 Sledge hammer, 8lb
16. 1 Self leveling laser level with range of 100 feet and an accuracy of ¼ inch per 100 feet
17. 3 Hard hats - orange, reflectorized hard hats according to ANSI Z89.1.
18. 3 Safety garments – orange, reflectorized, 360º high visibility safety garments according to ANSI/ISEA Class 3, Level 2 standards. To be replaced yearly for the duration of the contract.
19. 3 Sets of rain gear with reflective sheeting
20. 3 Sets of hearing protection with a NRR rating of 22 dB
21. 3 Sets of eye protection according to ANSI Z87.1
22. 1 Sets of fall arrest equipment according to ANSII Z359.1 standards consisting of a full body harness, lanyard and anchor.
23. 1 Light meter - capable of measuring the level of luminance in foot-candles
24. 3 Lantern flashlight, 6V with monthly battery replacements
25. 0 Digital Psychrometer
26. 1 Chain Drag according to ASTM D4580-86
27. 1 Testing equipment and apparatus conforming to AASHTO T23, T119, T152
28. 3 Hard Bound Daily Diaries, 5-½" X 8" minimum with one day per page. To be provided yearly for the duration of the contract.
29. 250 Legal size hanging folders
30. 250 Legal size manila file folders – three tab

155.03.03 Telephone Service
THIS SUBPART IS CHANGED TO:

Telephone service consists of monthly charges for telephone and cellular phones provided for the field office and materials field laboratory excluding set up charges.

155.04 MEASUREMENT AND PAYMENT
THE THIRD PARAGRAPH IS CHANGED TO:

The Department will make payment for TELEPHONE SERVICE for the actual costs of the charges as evidenced by paid bills submitted within 60 days of receipt from the service provider for telephone and cell phones.

SECTION 157 – CONSTRUCTION LAYOUT AND MONUMENTS

157.03.01 Construction Layout
THE SEVENTH PARAGRAPH IS CHANGED TO:

Provide the Utilities with the layout needed to install relocated utility facilities and coordinate the Work. Ensure that relocated facilities do not conflict with proposed construction, including High Voltage Proximity Act conflicts.
THE FOLLOWING IS ADDED AFTER THE NINTH PARAGRAPH:

SECTION 158 – SOIL EROSION AND SEDIMENT CONTROL AND WATER QUALITY CONTROL

158.03.02 SESC Measures

19. Oil-Only Emergency Spill Kit.

THE SECOND SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Include Oil-only Emergency Spill Kit, Type 1 consisting of the following:

SECTION 159 – TRAFFIC CONTROL

159.02.02 Equipment

THE FOLLOWING IS ADDED TO THE LIST OF EQUIPMENT REFERENCES:

Portable Variable Message Sign w/Remote Communication……..……...……1001.04

159.03.02 Traffic Control Devices

2. Construction Barrier Curb.

THE LAST PARAGRAPH IS CHANGED TO:

Provide top and side mounted flexible delineators on the construction barrier curb. For delineators located on the right side when facing in the direction of traffic, ensure that the retroreflective sheeting is white. For delineators located on the left side when facing in the direction of traffic, ensure that the retroreflective sheeting is yellow. Attach flexible delineators according to the manufacturer's recommendations.

Starting at the beginning of the construction barrier curb section mount top delineators at 100-foot intervals on tangent sections, curves of radii greater than 1,910 feet, and at 50-foot intervals on curves of radii of 1,910 feet or less.

Mount side delineators at the lead end of each barrier segment with the top of the delineator 3 inches from the top of the barrier.

6. Traffic Control Truck with Mounted Crash Cushions.

THE LAST SENTENCE IS CHANGED TO:

Submit drawings to the RE detailing the manner of securing the ballast, signed and sealed by a Professional Engineer, certifying that it is capable of withstanding the impact forces for which the impact attenuator is rated.

THE FOLLOWING IS ADDED TO THE SECOND PARAGRAPH:

8. Portable Variable Message Sign w/Remote Communication (PVMSRC). Place the PVMSRC at the location directed by the RE. Ensure that a designated representative familiar with the operation and programming of the unit is available on the Project for On-Site Configuration. Only display messages authorized by the Department for the Project and make the signs available for use remotely from the Traffic Operation Center (TOC) specified in 105.07.01.B. If the PVMSRC fails to function, repair the equipment within 48 hours of receiving notice from the Department that the PVMSRC is not functioning.

Provide a broadband cellular telephone service plan with data service on an IP based packet network for the intended uninterrupted 24/7 operational and functional requirements of the PVMSRC. Ensure that the PVMSRC has remote operation capability from the specified TOC using the Department's current DMS control software at the time of deployment.

Provide for one week of testing by the TOC for remotely operating the PVMSRC before the start of construction operations that require lane or shoulder closures, or other impacts to traffic. At least 10 days before testing, submit to the RE for approval a plan for any work to be completed in the TOC. Submit a request to the RE at least 4 days in advance to access the TOC for any work.

159.03.08 Traffic Direction

A. Flagger.
THE LAST SENTENCE IS CHANGED TO:

Ensure that the flagger is equipped with a STOP/SLOW paddle and follows MUTCD flagging procedures.

159.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
PORTABLE VARIABLE MESSAGE SIGN WITH REMOTE COMMUNICATION	UNIT

THE FOLLOWING IS ADDED:

If after being notified by the Department that the PORTABLE VARIABLE MESSAGE SIGN WITH REMOTE COMMUNICATION has failed to function and the equipment has not been restored to good working order within 48 hours, the Department will make payment reductions as follows:

For each occasion the equipment was not restored within 48 hours the Department will assess a liquidated damage of $250 for every 48 hour period the equipment is not functioning.

SECTION 160 – PRICE ADJUSTMENTS

160.03.01 Fuel Price Adjustment
THROUGHOUT THIS SUBPART, TABLE 161.03.01-1 IS CHANGED TO TABLE 160.03.01-1

THE THIRD PARAGRAPH IS CHANGED TO:

If the as-built quantity of an Item listed in Table 160.03.01-1 differs from the sum of the quantities in the monthly Estimates, and the as-built quantity cannot be readily distributed among the months that the Item listed in Table 160.03.01-1 was constructed, then the Department will determine fuel price adjustment by distributing the difference in the same proportion as the Item's monthly Estimate quantity is to the total of the Item's monthly estimates.

THE 13 TH AND 15 TH LINE IN THE TABLE 160.03.01-1 IS CHANGED TO:

SOIL AGGREGATE BASE COURSE, ___ " THICK	1 Gallon per Cubic Yard
DENSE-GRADED AGGREGATE BASE COURSE, ___ " THICK	1 Gallon per Cubic Yard

THE 25 TH LINE IN THE TABLE 160.03.01-1 IS CHANGED TO:

HOT MIX ASPHALT ___ ___ ___ BASE COURSE	2.50 Gallons per Ton

THE FOLLOWING ARE ADDED TO TABLE 160.03.01-1

Items	**Fuel Usage Factor**
NON-VEGETATIVE SURFACE, HOT MIX ASPHALT	2.50 Gallons per Ton
COLOR-COATED NON-VEGETATIVE SURFACE, HOT MIX ASPHALT	2.50 Gallons per Ton

160.03.02 Asphalt Price Adjustment

NOTE 1 OF THE THIRD PARAGRAPH IS CHANGED TO:

1. The Department will determine the weight of asphalt binder for price adjustment by multiplying the percentage of new asphalt binder in the approved job mix formula by the weight of the item containing asphalt binder. If a Hot Mix Asphalt item has a payment unit other than ton, the Department will apply an appropriate conversion factor to determine the number of tons used.

THE FOURTH PARAGRAPH IS CHANGED TO:

$A = B \times [(MA - BA)/BA] \times C \times M \times G$

Where:
A = Asphalt Price Adjustment
B = Bid Price for Tack Coat/Prime Coat
MA = Monthly Asphalt Price Index
BA = Basic Asphalt Price Index
C = Petroleum Content of the Tack Coat and Prime Coat in Percent by Volume:
Use 100% for cutbacks and Tack Coat 64-22
60% for Polymer Modified Tack Coat
60% for RS or similar type emulsions
M = Percentage of Bid Price Applicable to Materials Only: Use 82%
G = Gallons of Tack Coat and Prime Coat Furnished and Applied

SECTION 162 – VIBRATION MONITORING

162.01 DESCRIPTION

This Section describes the requirements for vibration monitoring. Perform vibration monitoring to measure the vibration levels of the existing bridge structure. Perform monitoring during all pile driving activities.

162.02 CONSTRUCTION

162.02.01 Vibration Monitoring and Control

Develop a program to monitor the ambient and construction vibrations during pile driving.

A. Quality Assurance.

Perform all work under the direct supervision of a professional engineer registered in the State of New Jersey. The Engineer must have at least ten (10) years responsible experience in similar work and have available professional level capability in related geotechnical and structural evaluations and engineering.

Engage the services of a specialty firm experienced in measuring ground vibrations to conduct vibration monitoring and control during all pile driving activities. The specialty firm shall have a minimum of five years experience performing similar work. Submit the specialty firm's qualifications to the RE for approval.

B. Vibration Monitoring and Control Program.

Contractor shall control ground vibrations caused by pile driving activities so that the existing bridge structure is not impacted adversely. Implement program prior to and during the course of pile driving. Establish ambient vibrations at bridge. Any vibrations close to or exceeding the specified limits shall be immediately reported to the RE.

Provide two seismographs at each location where piles are driven. Locate the two seismographs at the existing bridge substructure unit (abutment) nearest the pile driving as follows: one seismograph nearest the pile driving and one a distance of 10 to 15 feet from the first, as directed by the RE.

For each day of monitoring, prepare and submit a daily field report summarizing the results of the vibration monitoring to the RE by 9:00 a.m. of the following working day.

1. The Vibration Limit Criteria are as follows:

   (a) Peak Particle Velocity Limits

   Contractor shall conduct all activity in such a manner that the maximum peak particle velocity at the existing bridge structure does not exceed the safe limits recommended in the U.S. Bureau of Mines Report, RI 8507, Appendix B. The safe limits for residential structures shall be applied to the existing bridge structure. For the existing bridge structure the Contractor may propose higher PPV limits based on additional study and monitoring, which at a minimum must include dynamic strain monitoring of the structure. Any such proposal is subject to approval of the RE.

Submit a Vibration Monitoring and Control Plan at least 30 days before pile driving activities. At a minimum, include the following information:

1. Techniques to maintain vibration levels below limits.
2. Mitigation techniques to be employed if required.
3. Proposed contents of report.

During pile driving activities, vibrations shall be recorded continuously during work hours and evaluated full-time by the on-site vibration specialist during the first day of operations, and reviewed once daily thereafter.

Contractor shall cease operations and inform the RE if measurements are greater than limits. The RE will then perform an initial inspection of the portion of the structure adjacent to the Contractor's operations. If no indication of significant damage is found, i.e. noticeable deformation or observed cracking of structural members, the Contractor may resume pile driving activities and maintain vehicular traffic on the existing structure while the RE simultaneously monitors and observes the structure to evaluate if it is sustaining damage or excessive deformation. If no significant damage or excessive deformation is observed during the initial operations, the Contractor may proceed with traffic maintained on the existing structure, however, the RE will perform daily inspections of the portions of the structures adjacent to the Contractor's work areas.

If it is determined that there is imminent or actual observed damage, pile driving activities shall cease. The Contractor shall evaluate proposed modifications to his operations to mitigate damage and submit the proposed changes to the RE for review and acceptance before resuming operations.

162.03 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Item as follows:

Item	*Pay Unit*
VIBRATION MONITORING	LUMP SUM

DIVISION 200 – EARTHWORK

SECTION 201 – CLEARING SITE

201.03.02 Clearing Site, Bridge and Clearing Site, Structure
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH.

Only the following equipment is permitted for the work:

1. **Pneumatic or Electric Equivalent Hand Operated Hammers.**
    a. When demolishing concrete not closer than 6 inches to structural members: hammers weighing no more than 90 lbs (exclusive of bit), equipped only with chisel point bits.
    b. When demolishing concrete within 6 inches of structural members: hammers weighing no more than 30 lbs (exclusive of bit).
2. **Saw Cutters.**
    a. When cutting concrete within 6 inches of structural members: concrete cutters and concrete saws. While using water in the cutting operation, provide shielding beneath the cutting operation to prevent water leakage. Continuously collect slurry and dispose of as specified in 201.03.09. Ensure that the slurry does not enter the structure or highway drainage system.
3. **Hydraulic Breakers.** Ram-hoe type breakers, hydraulic breakers, and demolition shears may be used with the following restrictions:
    a. Submit required data to the RE for Department's analysis of stresses induced to the girders.
    b. Delineate the centerline and limits of the top flange of girders before the equipment operation.
    c. Do not use equipment within 6 inches of the delineated flanges.
    d. Do not pull or twist the reinforcement steel.
4. **Hydraulic Splitters.** Hydraulic splitters.
5. **Other Equipment.** Obtain RE approval before use.

201.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

The Department will not make payment for the Item CLEARING SITE in excess of $40,000 until Completion.

The Department will not make payment for the Item CLEARING SITE, BRIDGE (1809-158) in excess of $110,000 until Substantial Completion.

SECTION 202 – EXCAVATION

202.02 MATERIALS
THE FIRST IN THE LIST IS CHANGED TO:

Coarse Aggregate (No. 57, or 67)..... 901.03

SECTION 203 – EMBANKMENT

203.02.01 Materials
THIS SUBPART IS CHANGED TO:

Provide materials as specified:

Soil Aggregate (I-7, I-9, I-10, I-11, I-13, and I-14)	901.11

DIVISION 400 – PAVEMENTS

SECTION 401 – HOT MIX ASPHALT (HMA) COURSES

401.02.01 Materials
EMULSIFIED ASPHALT UNDER TACK COAT IS REVISED TO:
Emulsified Asphalt, Grade RS-1, CRS-1, SS-1, SS-1h, Grade CSS-1 or CSS-1h 902.01.03

401.02.02 Equipment
THE LAST PARAGRAPH IS CHANGED TO:

When an MTV is used, install a paver hopper insert with a minimum capacity of 14 tons in the hopper of the HMA paver.

401.03.01 Preparing Existing Pavement

A. Milling of HMA.

Stage	Max. time interval allowed
5	24 hours

THE FOLLOWING IS ADDED AFTER THE FOURTH PARAGRAPH:

Sawcut at the limit of paving in driveways and at other limits requiring a neat edge between new and existing HMA.

D. Repairing HMA Pavement.
THE ENTIRE TEXT IS CHANGED TO:

If potholes are discovered, notify the RE immediately. The RE may immediately direct repairs of small areas. The RE may require further evaluation of a large area to determine the need for additional milling and paving.

Sawcut existing HMA pavement to a maximum depth of 10 inches, or to the full depth of bound layers, whichever is less. Sawcut lines parallel and perpendicular to the roadway baseline and 3 inches away, at the closest point, from the damaged area to be repaired.

Remove damaged and loose material to a depth of at least 3 and no more than 10 inches below the level of milling within the boundary of the sawcuts to form rectangular openings with vertical sides. Shape and compact the underlying surface to produce a firm, level base. Ensure that the remaining pavement is not damaged.

Apply polymerized joint adhesive or tack coat to the vertical surfaces of the openings. Spread and grade HMA in the opening as directed by the RE. Ensure that the temperature of the HMA when placed is at least 250 °F, and compact as specified in 401.03.03.F. Compact areas not accessible to rollers with a flat face compactor. Compact until the top of the patch is flush with the adjacent pavement surface.

Reuse removed material as specified in 202.03.07.A.

401.03.02 Tack Coat and Prime Coat
TABLE 401.03.02-1 IS CHANGED TO:

Table 401.03.02-1 Tack Coat Application

Material	Spraying Temp, °F	Gallons per Square Yard	Season
Cut-Back Asphalt:			
RC-70	120 to 190	0.05 to 0.15	Oct 15 to Apr 15
Emulsified Asphalt:			
RS-1	70 to 140	0.05 to 0.15	All year
CRS-1	125 to 185	0.05 to 0.15	All year
SS-1, SS-1h	70 to 140	0.05 to 0.15	All year
CSS-1, CSS-1h	70 to 140	0.05 to 0.15	All year

401.03.03 HMA Courses

D. Transportation and Delivery of HMA.
THE FIRST PARAGRAPH IS CHANGED TO:

Deliver HMA using HMA trucks in sufficient quantities and at such intervals to allow continuous placement of the material. Do not allow trucks to leave the plant within 1 hour of sunset unless nighttime lighting is provided as specified in 108.06. The RE will reject HMA if the HMA trucks do not meet the requirements specified in 1009.02. The RE will suspend construction operations if the Contractor fails to maintain a continuous paving operation. Before the truck leaves the plant, obtain a weigh ticket from a fully automatic scale. Before unloading, submit for each truckload a legible weigh ticket that includes the following:

1. Name and location of the HMA plant.
2. Project title.
3. Load time and date.
4. Truck number.
5. Mix designation.
6. Plant lot number.
7. Tare, gross, and net weight.

E. Spreading and Grading.
THE THIRD PARAGRAPH IS CHANGED TO:

The use of an MTV is optional for the construction of intermediate and surface course in the traveled way. If an MTV is used, ensure that the MTV independently delivers HMA from the HMA trucks to the HMA paver. Operate the MTV to ensure that the axle loading does not damage structures, roadway, or other infrastructure.

H. Air Void Requirements.
THE FOLLOWING IS ADDED AFTER THE THIRD PARAGAPH:

If areas of existing shoulders are found to be insufficient to support the proposed HMA pavement and the required compaction cannot be achieved, notify the RE immediately. The RE may either direct additional milling and paving to provide a suitable base to pave the proposed HMA or waive coring and air void requirements in such shoulder areas.

J. Ride Quality Requirements.

THE FIRST PARAGRAPH IS CHANGED TO:

The Department will evaluate the HMA surface course using the International Roughness Index (IRI) according to ASTM E 1926. The Department will use the measured IRI to compute the appropriate pay adjustment (PA). The PA may be positive for superior quality work or negative for defective work. The Department may exclude certain area as specified in the Special Provisions.

SUBPART 3 OF SECOND PARAGRAPH IS CHANGED TO:

3. Preparation for IRI Testing. Provide the necessary traffic control when the Department performs IRI testing. Perform required mechanical sweeping of the surface course before IRI testing. To facilitate auto triggering on laser profilers, place a single line of preformed traffic marking tape perpendicular to the roadway baseline 300 feet before the beginning of each lane, shoulder, and ramp to be tested. Submit the actual stationing for each traffic marking tape location to the RE.

4. Acceptance.

a. Pay Adjustment.

THE FOLLOWING IS ADDED:

Route	Type	Number of Lift	Mile Post	
			From	To
202	Highway Other Than Freeway/Limited Access	1	38.98	39.12

401.03.05 Core Samples

THE LAST SENTENCE OF THE 2ND PARAGRAPH IS CHANGED TO THE FOLLOWING:

Apply an even coating of tack coat to sides of the hole. Place HMA in maximum lifts of 4 inches in the hole and compact each lift. Ensure that the final surface is 1/4 inch above the surrounding pavement surface.

401.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

The Department will make a payment adjustment for HMA air void quality by the following formula:

Pay Adjustment = Q x BP x PPA

Where:
BP = Bid Price
Q= Air Void Lot Quantity
PPA= air void PPA as specified in 401.03.03H.

The Department will make a payment adjustment for HMA thickness quality by the following formula:

Pay Adjustment = Q x BP x PPA

Where:
BP = Bid Price
Q= Thickness Lot Quantity
PPA= thickness PPA as specified in 401.03.03I

The Department will make a payment adjustment for HMA ride quality, as specified in 401.03.03J.

DIVISION 500 – BRIDGES AND STRUCTURES

SECTION 502 – LOAD BEARING PILES

502.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED TO THE FIFTH PARAGRAPH:

SECTION 505 – PRECAST AND PRESTRESSED STRUCTURAL CONCRETE

505.01 DESCRIPTION
THE FOLLOWING IS ADDED:

This section also describes the requirements for manufacturing, furnishing, and erecting precast parapet panels, prefabricated substructure units and prefabricated superstructure units.

505.02 MATERIALS

505.02.01 Materials

THE FOLLOWING IS ADDED:

Prefabricated Superstructure Units 904.05
Prefabricated Substructure Units…… 904.03
Precast Parapet Panels……. 904.03
Precast Parapet Panel surface texturing and color……..... 904.03.07
Structural Steel ……... 906.04
Bolts and Bolting Materials 908.01
Paint 912.01
Coatings…… . 912.02
Corrosion Inhibitor Admixture 903.02.05

For longitudinal joints in Prefabricated Superstructure Units use Ultra High Performance Concrete in accordance with subsection 903.11.

Use only epoxy coated reinforcement steel in the fabrication of the prefabricated superstructure units.

For high early strength grout in Prefabricated Substructure Units use a non-shrink grout as specified in subsection 903.08.02, except the grout may be used with a flowable consistency provided that a minimum 3700 psi compressive strength is achieved in 24 hours.

505.03 CONSTRUCTION
THE FOLLOWING SUBSECTION IS ADDED AFTER 505.03.03:

505.03.04 Prefabricated Superstructure Units

A. **Submittals by the Contractor.** Submit the following at least 20 days before start of fabrication:

1. **Quality Control Plan.** Submit for review and approval to the ME. In the plan, clearly define the quality control procedures, personnel, frequency of activities, and the required remedial actions.

2. **Working Drawings.** Submit as specified in 105.05 for approval with the following information as a minimum:

   a. Plan layout, including length, width, skew angle and orientation.
   b. Concrete mix design including admixtures.
   c. Concrete surface finishes.
   d. Concrete compressive strength (stripping, lifting and rotating).
   e. Lifting details including crane placement location.
   f. Deck cross-sections showing structural depths and reinforcement.
   g. Tolerances
   h. Reinforcement size, positioning and schedule.
   i. Camber table.
   j. Structural steel type and grade specifications.
   k. Structural steel girders and diaphragms including detail connections.
   l. Welding procedures.
   m. Cambering procedures.

3. **Erection Plan.** Provide to the RE, 60 working days in advance of any erection, a detailed erection plan. The RE will approve the erection plan and time estimate prior to the start of any erection work. The erection plan shall include at a minimum, the following:

   a. Number and type of manpower and equipment.
   b. Shipping procedures.
   c. Lifting procedures.
   d. Erecting sequence.
   e. Temporary bracing.
   f. Manufacturer's recommendations.
   g. Procedures for employee safety.
   h. Anchorage details and design calculations, signed and sealed by a Professional Engineer.
   i. Grout placement procedures and equipment.
   j. Route used by delivery trucks.
   k. Location of storage.
   l. Estimated time for erection.

B. Rejection of Units. RE will reject individual precast units for any of the following reasons:

1. Fractures or cracks passing through the deck
2. Camber that does not meet the requirements in the approved working drawings
3. Honeycombed open texture
4. Dimensions not conforming within the allowable tolerances as specified
5. Separation of the concrete deck from the steel girders
6. Defects that indicate proportioning, mixing and molding not in compliance with the specification as specified or indicated
7. Damaged ends where such damage would prevent making a satisfactory joint
8. Units with cracks within any part of the concrete that is greater than 0.03 inches in width

9. Significant damage to the units during transportation, erection or construction.

C. Shipping and Storing. Notify the RE at least 10 days before shipping. Ship and store units according to the manufacturers' recommendations.

D. Installation. Notify the RE to schedule a pre-installation meeting at least 20 calendar days prior to the start of installation. Install units according to the approved erection plan. Ensure that a representative from the manufacturer is present at the project site, full time, during the erection of prefabricated superstructure units to provide technical assistance to the Contractor in the event unusual problems or special circumstances arise.

1. **Erection of Units.** Do not proceed with the erection of units until all units for the structure have been delivered to the site. Install units to the correct line and grade as shown on the approved working drawings and as indicated in the approved erection plan. After all the units are erected, inspect them to ensure the correctness of their location. Use approved steel shims between the bearing and the girder, to compensate for minor differences in elevation between units and to comply with approach and adjacent deck elevations.

2. **Structural Steel.** Install all diaphragms and other structural steel work as shown on the Plans and approved working drawings after the units are in their final locations.

3. **Installation Tolerances.** Ensure adjacent units match elevation within 1/4 inch vertically along longitudinal edges and 1/4 inch vertically at the end of units, provided all diaphragms can be tightened without permanent deformation or damage to any structural component. Ensure that joint widths between units are 6 inches ± 1/2 inch. If the tolerances are not met, adjust the units as indicated in the procedures shown on the approved working drawings.

4. **Filling and Sealing Longitudinal Joints.** Ensure that the surface of the joint is free of any material such as oil, grease or dirt, which may prevent bonding of the sealing materials. Prior to placement of the ultra-high performance concrete material, form the bottom of the joint flush with the bottom of the slab. Mix according to the manufacturer's directions. Place and cure in accordance with the manufacturer's recommendations. Ensure that installers are trained in the proper handling and installation of the materials as recommended by the manufacturer.

5. **Sealing of Lifting Holes.** After the units are in their final locations, fill the lifting holes with non-shrink grout. Use a removable form at the bottom surface of the deck to retain the grout.

E. Loading. Units may have construction loads applied upon erection and before the joints are sealed in accordance with the approved erection procedure. Once the joints are sealed, do not apply any load to the units until joint material has a minimum strength of 4600psi as approved by the RE.

F. Final Repairs. After the installation work is complete, repair remaining concrete defects, holes for inserts and lifting holes as indicated and approved by the RE.

505.03.05 Prefabricated Substructure Units

A. **Submittals by the Contractor.** Submit the following at least 20 days before start of fabrication of the prefabricated superstructure units:

1. **Quality Control Plan.** Submit for review and approval to the ME. In the plan, clearly define the quality control procedures, personnel, frequency of activities, and the required remedial actions.

2. **Working Drawings**. Submit as specified in 105.05 for approval with the following information as a minimum:

   a. As-built survey showing centerline of driven piles on the working drawings along with any adjustments to the plan required to compensate for as-built locations.
   b. Plan layout, including length, width, skew angle and orientation.

c. Concrete mix design including admixtures.
d. Concrete surface finishes.
e. Concrete compressive strength (stripping, lifting and rotating).
f. Lifting details including crane placement location.
g. Structural depths and reinforcement.
h. Tolerances.
i. Reinforcement schedule.
j. Pressurized grouting procedure that ensures full grout penetration in cavity.

3. Erection Plan. Provide to the RE, 60 working days in advance of any erection, a detailed erection plan. The RE will approve the erection plan and time estimate prior to the start of any erection work. The erection plan shall include at a minimum, the following:

a. Number and type of manpower and equipment.
b. Shipping procedures.
c. Lifting procedures.
d. Erecting sequence.
e. Temporary bracing.
f. Manufacturer's recommendations.
g. Procedures for employee safety.
h. Anchorage details and design calculations, signed and sealed by a Professional Engineer.
i. Grout placement procedures and equipment.
j. Route used by delivery trucks.
k. Location of storage.
l. Estimated time for erection.

B. Rejection of Units. RE will reject individual precast units for any of the following reasons:

1. Fractures or cracks passing through the units.
2. Honeycombed open texture.
3. Dimensions not conforming within the allowable tolerances as specified.
4. Defects that indicate proportioning, mixing and molding not in compliance with the specification as specified or indicated.
5. Damaged ends where such damage would prevent making a satisfactory joint.
6. Units with cracks within any part of the concrete that is greater than 0.03 inches in width
7. Significant damage to the units during transportation, erection or construction.

C. Shipping and Storing. Notify the RE at least 10 days before shipping. Ship and store units according to the manufacturer's recommendations.

D. Installation. Notify the RE to schedule a pre-installation meeting at least 20 calendar days prior to the start of installation. Install units according to the approved erection plan. Ensure that a representative from the manufacturer is present at the project site, full time, during the erection of prefabricated substructure units to provide technical assistance to the Contractor in the event unusual problems or special circumstances arise.

1. Erection of Units. Do not proceed with the erection of units until all units for the substructure have been delivered to the site.

Install steel support brackets as shown to the line and grade on the approved working drawings. Install Concrete in Footing under the substructure units prior to placement of the substructure units. Install substructure units to the correct line and grade as shown on the approved drawings and as indicated in the approved erection plan. After all the units are erected, inspect them to ensure the correctness of their location.

2. **Installation Tolerances.** Ensure adjacent units shall match elevation within 1/4 inch vertically along longitudinal edges and 1/4 inch vertically at the end of units.

3. **Grouting.** Install joint ties and fill all pockets and lifting lugs with non-shrink pressurized grout to ensure full penetration of entire cavity with grout. Provide a backup grout pump for availability in case of main pump failure. Ensure that the surface of the joint is free of any material such as oil, grease or dirt, which may prevent bonding of the sealing materials. Apply one coat of an epoxy waterproofing to all port holes or lifting holes that are grouted in the field after the grout has properly cured. Ensure that installers are trained in the proper handling and installation of the materials as recommended by the manufacturer.

E. Loading. Units may not have load applied before grouting in accordance with the approved erection procedure. Once the grout is placed, do not load the units until the grout material has achieved a minimum strength of 3700 psi as approved by the RE.

505.03.06 Precast Parapet Panels

A. **Submittals by the Contractor.** Submit the following at least 20 days before start of fabrication of the precast parapet panels:

1. **Quality Control Plan.** Submit for review and approval to the ME. In the plan, clearly define the quality control procedures, personnel, frequency of activities, and the required remedial actions.

2. **Working Drawings**. Submit as specified in 105.05 for approval and with the following information as a minimum:

   a. Design calculations giving complete information as to the proposed method of fabrication, erection of precast panels and method of attachments to withstand forces from concrete pour.
   b. Plan layout, including length, width, and orientation.
   c. Concrete mix design including admixtures.
   d. Concrete surface texture and color.
   e. Panel or unit length and size and designation.
   f. A numbered panel layout for fabrication and erection purposes.
   g. The location of reinforcement steel in the member and the location of reinforcement attachment devices that are embedded in the panels.
   h. Concrete compressive strength (stripping, lifting and rotating).
   i. Lifting details including crane placement location.
   j. Structural depths and reinforcement.
   k. Tolerances.
   l. Reinforcement schedule.

3. **Erection Plan.** Provide to the RE, 60 working days in advance of any erection, a detailed erection plan. The RE will approve the erection plan and time estimate prior to the start of any erection work. The erection plan shall include at a minimum, the following:

   a. Number and type of manpower and equipment.
   b. Shipping procedures.
   c. Lifting procedures.
   d. Erecting sequence.
   e. Temporary bracing.
   f. Manufacturer’s recommendations.

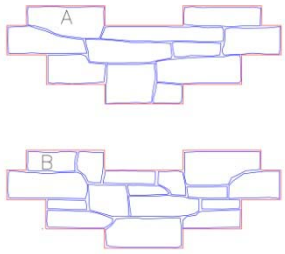
g. Procedures for employee safety.
h. Anchorage details and design calculations, signed and sealed by a Professional Engineer.
i. Grout placement procedures and equipment.
j. Route used by delivery trucks
k. Location of storage.
l. Estimated time for erection.

B. Rejection of Units. RE will reject individual precast units for any of the following reasons:

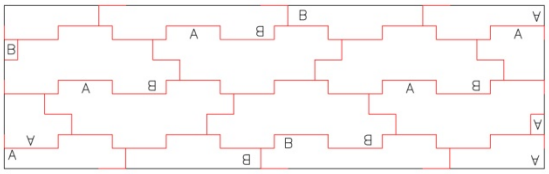
1. Fractures or cracks passing through the units.
2. Honeycombed open texture.
3. Dimensions not conforming within the allowable tolerances as specified.
4. Defects that indicate proportioning, mixing and molding not in compliance with the specification as specified or indicated.
5. Damaged ends where such damage would prevent making a satisfactory joint.
6. Units with cracks within any part of the concrete that is greater than 0.03 inches in width.
7. Significant damage to the units during transportation, erection or construction.
8. Damage to the coloring or surface texture.

C. Archtectural Surface Treatment. Precast Parapet Panels shall be constructed utilizing a formliner having a textured and colored concrete surface and a color stain system replicating the appearance of natural stone. A mock-up shall also be prepared of the wall panel, depicting the stone pattern and the stained color treatment, for evaluation by the Department and the State Historic Preservation Office (SHPO).

Provide a form liner that produces a stone pattern with a maximum ¾ inch relief. Match the form liner pattern to the stone work on the Van Dorn Mill with stone sizes ranging from 3 inches to 36 inches wide and maximum height of 12 inches. The form liner should have irregular seam line such as from Milestones MS-1003 English Drystack (altered to provide maximum relief) or an approved equal.



1. Form liner sections



2. Wall Panel showing form liner seam patterns

Use a release agent compatible with the form liner and the color stain system to be applied to the concrete surfaces. Provide the Resident Engineer with the manufacturer's specifications for product application.

Use metal or fiberglass form ties designed to separate a minimum of one inch back from the finished surface leaving only a neat hole that can be plugged with patching material. Submit type of form ties to the Resident Engineer for approval prior to use.

Use an acrylic resin-based or acid-based color stain formulated to penetrate finished concrete surfaces, creating a surface finish that will allow water vapor transmission and resist deterioration from water, acid, alkali, fungi and sunlight. Match color variations, shades, flecking and veining present in the natural stone located on the Van Dorn Mill.

Van Dorn Mill Location:
Childs Road & Route 202
Basking Ridge, NJ 07920
40°43'56"N
74°32'28"W
http://www.bernards.org/community/About_Bernards_Twp/abt_hist_district.aspx

Ensure that manufacturer of form liner and contractor performing the concrete staining operation have at least five years experience in making stone masonry molds and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors.

Schedule conference with supplier, contractor, RE, NJDOT Office of Landscape Architecture (OLA), and SHPO to assure understanding of form liner use, color application, requirements for construction of mock-up panel and work coordination.

Submit sample of form liner within 30 days of receiving the contract, prior to construction of mock-up panel, for review and approval by the RE and OLA. Upon approval of the form liner, submit a plan, elevation and details to show overall pattern, color treatments, joint locations, form tie locations, mortar straps and strap anchors, end, edge and other special conditions. Construct a 3'6"height x 6' long mock-up to be available a minimum of sixty days before production work starts and use the same materials, methods and work force that will be used on the project. Illustrate the selected pattern, texture and coloration and include butt joints and pattern continuation on the mock-up. Cure for a minimum of 28 days and after the surface is determined to be acceptable for coloring, apply color stain. Notify RE 5 days prior to submitting mock-up for review and approval by the RE, OLA, and SHPO. Repeat, if necessary, until approval has been received. Use mock-up panel as the quality standard for the project.

Clean and remove all build-up and foreign matter from the form liner prior to any concrete pour. Inspect for blemishes or tears and repair if needed following supplier's recommendations. Replace any form liner if, after being repaired, it yields a concrete texture inconsistent with the approved mock-up. Replace any panel that cannot be repaired at no additional cost to the State.

Place form liners in accordance with the liner placement drawings. Butt liner joints as tightly as practical to prevent leakage between abutting liners. Attach form liners to forms securely following supplier's recommendations. Apply form release agent as per the manufacturer's recommendations. Ensure that liner joints are not easily visible. Place seams and joints so that the architectural finish will be unbroken and continuous. Stop expansion joint material one-half inch from the surface and apply permanent caulking, shaped to the contours of the adjacent surfaces, to fill the opening. Remove the seam line created by abutting molds if the pattern selected has form liners connecting through the middle of the stones. Match the texture and shape of the surrounding stone, avoiding visible seams or mold marks. Mask joints in the simulated mortar joints or by matching surface contouring through the joints. Avoid creating defects in finished surface when form stripping and related construction. Place form ties at thinnest points of molds (high points of finished wall). Neatly patch the remaining hole after disengaging the protruding portion of the tie so that it will not be visible after coloring the concrete surface.

Cure all simulated stone surfaces and any patching required for a minimum of 28 days. Clean surface prior to application of stain materials to assure that surface is free of latency, dirt, dust, grease, efflorescence, paint or other foreign material in accordance with manufacturer's instruction for surface preparation. Do not sand blast. Power wash with water, minimum 3000 psi, using fan nozzle perpendicular to and at a distance of one or two feet from the surface. Completed surface shall be free of blemishes, discoloration, surface voids and unnatural form marks.

Apply stain by a skilled craftsman with a minimum of five years direct experience in the same type of work. Apply base color to the simulated stone surface. Apply accent colors to individual stones as shown on the Liner Placement Drawings and mock-up panel. Apply highlight colors by hand wiping. Apply mortar color as shown on the mock-up panel. Provide temporary cover of completed work where exposed soil or pavement is adjacent to the textured surface and may splatter dirt or soil from rainfall or where the surface may be subject to overspray from other processes.

D. Shipping and Storing. Notify the RE at least 10 days before shipping. Ship and store units according to the manufacturer's recommendations.

E. Installation. Notify the RE to schedule a pre-installation meeting at least 20 days prior to the start of installation. Install units according to the approved erection plan. Ensure that a representative from the manufacturer is present at the project site, full time, during the erection of precast parapet panels to provide technical assistance to the Contractor in the event unusual problems or special circumstances arise.

1. **Erection of Units.** Do not proceed with the erection of panels until all units have been delivered to the site.

   Install units so they are plumb and vertical with secure attachments to allow for placement of the concrete within each parapet. After all the units are erected, inspect them to ensure the correctness of their location prior to placement of concrete. Install concrete in the parapet and then place panels on top.

2. **Installation Tolerances.** Ensure adjacent units shall match elevation within 1/4 inch vertically along longitudinal edges and 1/4 inch vertically at the end of units.

F. Opening to traffic. Install concrete barrier curb as per the Staging Plans prior to opening the roadway to traffic. The concrete barrier curb must remain in place until the concrete in the parapet has attained a compressive strength of 4600 pounds per square inch as determined from 2 concrete cylinders taken from each parapet field cured according to AASHTO T23.

505.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED AFTER FIRST PARAGRAPH:

Item	*Pay Unit*
PREFABRICATED SUPERSTRUCTURE UNITS	SQUARE FOOT
PREFABRICATED SUBSTRUCTURE UNITS	CUBIC YARD
PRECAST PARAPET PANEL	LINEAR FOOT

Prefabricated Superstructure Units will be measured as the number of installed square feet. Measurements will be taken as the horizontal plane projection of the top of the structural slab. Measurements will be taken from the outside edge to outside edge of the top surface. No deduction will be made for joints, chamfers or corner cuts.

Prefabricated Substructure Units will be measured by the exterior dimensions of the installed units without deductions for grout holes.

Precast Parapet Panels will be measured by the number of installed linear feet. Measurements will be taken along the horizontal length of the installed panels.

The Department will include payment for cutting of piles to final top elevation, steel support brackets, grout and reinforcement steel for the prefabricated substructure units under the item PREFABRICATED SUBSTRUCTURE UNITS.

The Department will include payment for ultra high performance concrete, structural steel and reinforcement steel for the prefabricated superstructure units under the item PREFABRICATED SUPERSTRUCTURE UNITS.

The Department will include payment for reinforcement steel in the precast parapet panels and the precast pilasters under the item PRECAST PARAPET PANELS.

SECTION 507 – CONCRETE BRIDGE DECK AND APPROACHES

507.01 DESCRIPTION
THE FIRST PARAGRAPH IS CHANGED TO:

This Section describes the requirements for constructing precast concrete bridge approaches.

507.02 MATERIALS

507.02.01 Materials
THE FOLLOWING IS ADDED:
Structural Precast Concrete 904.03
Precast Concrete Bridge Approach 904.06

For joints in Precast Concrete Bridge Approach use Ultra High Performance Concrete in accordance with 903.11.

507.03.07 Concrete Bridge Approach
THE FOLLOWING IS ADDED:

Ensure the concrete conforms to the surface requirements as specified in 507.03.02 N, except each lot will be equal to the number of cubic yards of approach concrete placed in the lane.

THE FOLLOWING SUBSECTIONS ARE ADDED:

507.03.08 Precast Concrete Bridge Approach

A. Working Drawings.

Submit working drawings for approval as specified in 105.05. Submit working drawings for approval that include the following:
- Class of concrete.
- Slab layout drawing that shows the location of slabs appropriately mark numbered.
- Reinforcing size and position.
    - Detailed drawings showing the locations and sizes of dowels, tie bars, inverted dovetail slots and dimensional geometry related to widths and lengths of each slab.
    - Production note sheet showing the source of materials, testing methods, weights of each slab, tolerances and all details relating to yard storage, shipping and handling.

B. Pre-Placement Meeting.

Hold a pre-placement meeting 20 calendar days before the planned start of slab installation with the RE, inspection personnel, project superintendent, project foreman, project surveyor, grout installers, fabricator, and any other subcontractor who will be involved in the precast concrete approach slab construction work. The purpose of the meeting is to make sure all parties involved in the installation are fully acquainted with the installation process and the criteria for acceptance. Any questions regarding proper installation techniques and acceptance must be answered and resolved at the pre-placement meeting.

C. **Installation Plan.**

Prepare a detailed installation plan and present it to the RE or his assigned representative at least 60 days before the planned start of slab installation. Indicate the following information as required to meet the requirements of this Specification:

- size and location of the placement crane
- Rigging to be used for lifting the slabs
- Routes to be used by the delivery trucks
- Plans for maintenance and protection of traffic
- Proposed method and equipment used for fine grading
- Equipment to be used for mixing and installing the Ultra High Performance Concrete.

D. Installation Process:

1. **Surveying and Engineering.** Determine the theoretical surface elevations and dimensional sizes of the new slabs before any slabs are fabricated. Fabricate and place new slabs in accordance with the surface elevations shown on the contract drawings.
2. **Sawcut and Removal of Existing Pavement.** Sawcut full depth at the limits of precast concrete bridge approach. Remove existing concrete or composite pavement so as not to allow spalling of the remaining pavement. Dispose or reuse the removed pavement and/or approach slab as specified in Subsection 202.03.07.A.
3. **Subbase Preparation.** Examine underlying material to determine its condition after the existing concrete has been removed. Place coarse aggregate, size no. 8, conforming to Subsection 901.03 and compact using the rolling and vibrating method as specified in Subsection 203.03.02.C. Shape the surface of the existing subbase and compact to a firm and even surface within a tolerance of plus or minus 1/2 inch of grade and contour.
4. **Approach Slab Placement.** Mark out the leading ends and edges before placement of any slabs to ensure proper placement and fit. Account for proper joint widths as indicated in the Plans.

   Ensure the slab is set in a manner such that all corners of the slab contact the graded surface uniformly at the same time to avoid disturbing the finished graded surface unnecessarily and to avoid damage to the edges of the concrete slab.

   Ensure the finished vertical differential across any joint is to be 1/4 inch or less. After the slab has been placed check the vertical differential before setting the next slab. If the differential exceeds 1/4 inch, remove the slab and re-grade the subgrade until the differential is 1/4 inch or less before setting the next slab.

   Protect the bars against bending and against damage to the epoxy coating. Provide protection to the final fine graded surface under the bars.
5. **Filling and Sealing Longitudinal Joints.** Ensure that the surface of the joint is free of any material such as oil, grease or dirt, which may prevent bonding of the sealing materials. Mix according to the manufacturer's directions. Place and cure in accordance with the manufacturer's recommendations. Ensure that installers are trained in the proper handling and installation of the materials as recommended by the manufacturer.
6. **Sealing of Lifting Holes.** After the slabs are in their final locations, fill the lifting holes with non-shrink grout.

E. Loading. Once the joints are sealed, do not apply any traffic loads to the slabs until joint material has attained a minimum strength of 3700 psi as approved by the RE.

THE FOLLOWING SUBPART IS ADDED:

507.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED AFTER FIRST PARAGRAPH:

Item	*Pay Unit*
PRECAST CONCRETE BRIDGE APPROACH…….……	SQUARE YARD

The Department will include payment for reinforcement steel and ultra high performance concrete for the precast concrete bridge approach under the item PRECAST CONCRETE BRIDGE APPROACH.

SECTION 555 - BRIDGE DECK ASPHALT OVERLAYS

555.01 DESCRIPTION

This Section describes the requirements for constructing bridge deck waterproof surface course (BDWCS) and retrofit strip seal joint system to be used for this bridge deck resurfacing project.

555.02 MATERIALS

555.02.01 Materials

Provide materials as specified:

Tack Coat 64-22, PG 64-22	902.01.01
Tack Coat:	
Cut-Back Asphalt, Grade RC-70	902.01.02
Emulsified Asphalt, Grade RS-1, SS-1, SS-1h, Grade CSS-1 or CSS-1h	902.01.03
Joint Sealer, Hot Poured	914.02
Polymerized Joint Adhesive	914.03

A. BDWSC. Provide BDWSC mixture that is produced at an HMA plant that is listed on the QPL and meets the requirements specified in 1009.01. Ensure that the BDWSC mixture meets the following requirements:

1. Composition of Mixtures. Composition of the mixture for BDWSC is coarse aggregate, fine aggregate, and asphalt binder, and may also include mineral filler and crumb rubber. Do not use Reclaimed Asphalt Pavement (RAP), Ground Bituminous Shingle Material, Remediated Petroleum Contaminated Soil Aggregate, or Crushed Recycled Container Glass (CRCG) in BDWSC.

Use an asphalt binder that is storage-stable, pre-blended, homogeneous, polymer modified asphalt cement using Styrene-Butadiene (SB), Styrene-Butadiene-Styrene (SBS), or Styrene-Butadiene-Rubber (SBR) formulations. Modified binders that graded out as a PG 82-34 were found to be adequate to produce mixtures that pass the mixture performance tests. Similar modified asphalts that are at least a PG 76-28 and that produce mixtures that meet the mixture performance tests are permitted. Alternately, the Contractor may use a concentrated thermoplastic polymeric asphalt modifier, integrated during the hot mix asphalt mixing process.

Use coarse aggregate that conforms to 901.05.01 and is classified as argillite, gneiss, granite, quartzite, or trap rock as defined in 901.03.01. Use fine aggregate that is stone sand as specified in 901.05.02 and has an uncompacted void content of at least 45 percent when tested according to AASHTO T 304, Method A. In addition, ensure that the minimum sand equivalent is 45 percent when tested according to AASHTO T 176. Ensure that mineral filler, if used, conforms to 901.05.03.

2. Mix Design. At least 45 days before initial production, submit a JMF for the BDWSC on forms supplied by the Department. Include a statement naming the source of each component and a report confirming the results meet the criteria specified in Tables 555.02.01-1 and 555.02.01-2.

Establish the percentage of dry weight of aggregate passing each required sieve size and an optimum percentage of asphalt binder based upon the weight of the total mix. Determine the optimum percentage of asphalt binder according to AASHTO R 35 and M 323 with an N_{des} of 50 gyrations. Before maximum specific gravity testing or compaction of specimens, condition the mix for 2 hours according to the requirements for conditioning for volumetric mix design in AASHTO R 30, Section 7.1. If the absorption of the combined aggregate is more than 1.5 percent according to AASHTO T 84 and T 85, short term condition the mix for 4 hours according to AASHTO R 30, Section 7.2 prior to compaction of specimens (AASHTO T 312) and determination of maximum specific gravity (AASHTO T 209). Ensure that the JMF is within the master range specified in, Table 555.02.01-1.

Ensure that the mixture meets a minimum tensile strength ratio (TSR) of 90 percent when tested according to AASHTO T 283 with the following exceptions:

a. Before compaction, condition the mixture for 2 hours according to AASHTO R 30 Section 7.1.

b. Compact specimens with 40 gyrations according to AASHTO T 312.

c. Extrude specimens as soon as possible without damaging.

d. Use AASHTO T 269 to determine void content.

e. Record the void content of the specimens.

f. If less than 55 percent saturation is achieved, the procedure does not need to be repeated, unless the difference in tensile strength between duplicate specimens is greater than 25 pounds per square inch.

g. If visual stripping is detected, modify or readjust the mix.

For each mix design, submit 3 gyratory specimens and one loose sample corresponding to the composition of the JMF, including the design asphalt content, with the mix design forms. The ME will use these samples for verification of the properties of the job mix formula. Compact the specimens to the design number of gyrations (N_{des}). To be acceptable, all three gyratory specimens must comply with the gradation and asphalt content requirements in Table 555.02.01-1 and with the control requirements in Table 555.02.01-2. The ME reserves the right to be present at the time of molding the gyratory specimens.

In addition, submit 6 gyratory specimens and two (2) 5-gallon buckets of loose mix to the ME. The ME will use these additional samples for performance testing of the BDWSC mix. Ensure that the additional gyratory specimens are compacted according to AASHTO T 312, are 77 mm high, and have an air void content of 1.5 ± 0.5 percent. The ME will test the specimens using an Asphalt Pavement Analyzer according to AASHTO TP 63 at 64°C, 100 psi hose pressure, and 100 lb. wheel load. The ME will use the supplied loose mix to compact two (2) samples to an air void content of 1.5 ± 0.5 percent for Flexural Beam Fatigue testing.

The ME will test the fatigue specimens according to AASHTO T 321 at 15˚C, 10 Hz loading frequency, and 1,500 micro-strains. The ME will approve the JMF if the average rut depth for the 6 specimens in the asphalt pavement analyzer testing is not more than 3 mm in 8,000 loading cycles and the fatigue life, as determined by AASHTO T 321, is greater than 100,000 cycles. If the JMF does not meet the APA and Flexural Beam Fatigue criteria, redesign the BDWSC mix and submit for retesting.

The JMF for the BDWSC mixture is in effect until modification is approved.

When unsatisfactory results for any specified characteristic of the work make it necessary, the Contractor may establish a new JMF for approval. In such instances, if corrective action is not taken, the ME may require an appropriate adjustment to the JMF.

Should a change in sources be made or a change in the properties of materials occur, the ME will require that a new JMF be established and approved before production can continue.

Table 555.02.01-1 Job Mix Formula Requirements for BDWSC	
Sieve Size	**Percent Passing by Mass**
½"	100
3/8"	80-100
#4	55-85
#8	32-42
#16	20-30
#30	12-22
#50	7-16
#100	3-12
#200	2.0-6.0
Minimum Percent Asphalt Binder by Mass of Total Mix	7.0

Table 555.02.01-2 Volumetric Requirements for Design and Control of BDWSC					
	Required Density (% of Max Sp. Gr.)	**Voids Filled with Asphalt**	**Voids in Mineral Aggregate**	**Dust to Binder Ratio**	**Draindown AASHTO T 305**
	N_{des} (50 gyrations)	**(VFA)**	**(VMA)**		
Design Requirements	99	90 - 100	≥ 18.0 %	0.3 – 0.9	≤ 0.1 %
Control Requirements	98 - 100	90 - 100	≥ 18.0 %	0.3 – 0.9	≤ 0.1 %

Table 555.02.01-3 Performance Testing Requirements for BDWSC	
Test	**Requirement**
APA @ 8,000 loading cycles (AASHTO TP 63)	< 3 mm
Flexural Fatigue Life (AASHTO T 321)	> 100,000 cycles

3. Sampling and Testing

a. General Acceptance Requirements. The RE or ME may reject and require disposal of any batch or shipment that is rendered unfit for its intended use due to contamination, segregation, improper temperature, lumps of cold material, or incomplete coating of the aggregate. For other than improper temperature, visual inspection of the material by the RE or ME is considered sufficient grounds for such rejection.

Ensure that the temperature of the mix at discharge from the plant or storage silo meets the recommendation of the supplier of the asphalt binder or supplier of the asphalt modifier.

Combine and mix the aggregates and asphalt binder to ensure that at least 95 percent of the coarse aggregate particles are entirely coated with asphalt binder as determined according to AASHTO T 195. If the ME determines that there is an on-going problem with coating, the ME may obtain random samples from 5 trucks and will determine the adequacy of the mixing on the average of particle counts made on these 5 test portions. If the requirement for 95 percent coating is not met on each sample, modify plant operations, as necessary, to obtain the required degree of coating.

b. Sampling. Perform sampling as specified in 902.02.04.B.

c. Quality Control Testing. Perform quality control testing as specified in 902.02.04.C.

d. Acceptance Testing and Requirements. The ME will determine volumetric properties at N_{des} for acceptance from samples taken, compacted, and tested at the HMA plant. The ME will compact HMA to the 50 design gyrations (N_{des}), using equipment according to AASHTO T 312. The ME will determine bulk specific gravity of the compacted sample according to AASHTO T 166. The ME will use the most current QC maximum specific gravity test result in calculating the volumetric properties of the BDWSC.

The ME will determine the dust-to-binder ratio from the composition results as tested by the QC technician.

Ensure that the HMA mixture conforms to the requirements specified in Table 555.02.01-1 and 555.02.01-2. If 2 samples in a lot fail to conform to the gradation or volumetric requirements, immediately initiate corrective action.

The ME will test a minimum of 1 sample per lot for moisture, basing moisture determinations on the weight loss of an approximately 1600-gram sample of mixture heated for 1 hour in an oven at 280 ± 5°F. Ensure that the moisture content of the mixture at discharge from the plant does not exceed 1.0 percent.

e. Performance Testing. Provide five (5) 5-gallon buckets of loose mix to the ME for testing in the Asphalt Pavement Analyzer (APA) and the Flexural Beam Fatigue device. Ensure that the first sample is taken in the first lot of production. Thereafter, sample every second lot. The ME may stop production of BDWSC if a sample does not meet the design criteria for performance testing as detailed in Table 555.02.01-3.

B. Retrofit Strip Seal Joint System. Use a strip seal joint system that builds up the joint using elastomeric or polymer concrete and seals the joint using a strip seal expansion joint. Ensure that the joint system includes a method for securing the strip seal with the elastomeric or polymer concrete.

Ensure that the strip seal joint system is capable of being constructed within the allowable lane closure hours for the project and compatible with installation in an asphalt overlay.

Use strip seal gland that is a neoprene strip seal gland according to 914.04.02.B or a preformed silicon strip seal meeting the criteria in Table 555.02.01-4.

Table 555.02.01-4 Requirements for Preformed Silicon Strip Seal

Property	Test Method	Requirement
Durometer (Shore A)	ASTM D 2240	55 ± 5
Tensile (psi)	ASTM D 412	550 minimum
Elongation	ASTM D 412	350% minimum
Tear (die B ppi)	ASTM D 624	80 minimum
Compression Set @ 350°F, 22 hrs.	ASTM D 395	30% maximum
Operating Temperature Range[1]		– 60°F to + 450°F
Specific Gravity		1.51
Color		Black

1. The heat age data at temperatures above 300°F does not apply in this application but in general, tested at 302°F and 437°F, no degradation occurs causing functional concern. The operating temperature range indicates the material remains elastomeric in nature at the above temperatures.

555.02.02 Equipment

Provide equipment as specified:

HMA Paver	1003.03
HMA Compactor	1003.05
Bituminous Material Distributor	1003.07
Sealer Application System	1003.08
Mechanical Sweeper	1008.03
Hot-Air Lance	1008.06
HMA Plant	1009.01
HMA Trucks	1009.02

Provide a thin-lift nuclear density gauge according to ASTM D 2950.

555.03 CONSTRUCTION

555.03.01 BDWSC

A. Paving Plan. At least 20 days before the start of placing the BDWSC, submit to the RE for approval a detailed plan of operation as specified in 401.03.03.A.

B. Weather Limitations. Do not place BDWSC if it is precipitating. Do not allow trucks to leave the plant when precipitation is imminent. The Contractor may resume operations when the precipitation has stopped and the surface is free of water.

Do not pave if the base temperature is below 50 °F.

C. Test Strip. Construct a test strip of the BDWSC at a location agreed upon with the RE. Ensure that the tack coat or prime coat has been placed as specified in 555.03.01.D, before placing BDWSC. Transport and deliver, spread and grade, and compact as specified in 555.03.01.E, 555.03.01.F, and 555.03.01.G, respectively, and according to the approved paving plan. Construct a test strip of at least 1 Ton. While constructing the test strip, record the following information and submit to the RE:

1. **Ambient Temperature.** Measure ambient temperature at the beginning and end of each day's paving operation.
2. **Base Temperature.** Measure the surface temperature of the existing base before paving.
3. **HMA Temperature.** Measure the temperature of the HMA immediately after placement.
4. **Roller Pattern.** Provide details on the number of rollers, type, and number of passes used on the test strip.
5. **Nuclear Density Gauge Readings.** Obtain the maximum density from the plant, and input it into the nuclear density gauge. Use the nuclear density gauge to read the bulk density and percent air voids.
6. **Quality Control Core Density Test Results.** Take 5 randomly selected quality control cores to test for the bulk specific gravity and the maximum specific gravity.

   Use drilling equipment with a water-cooled, diamond-tipped, masonry drill bit that shall produce 6-inch nominal diameter cores for the full depth of the pavement. Remove the core from the pavement without damaging it. After removing the core, remove all water from the hole. Fill the hole with HMA or cold patching material, and compact the material so that it is 1/4 inch above the surrounding pavement surface.

   Compare the nuclear density gauge readings and the core test results to establish a correlation. Use this correlation as a guide for the continued use of the nuclear density gauge for density control.

If the test strip does not meet requirements, make adjustments and construct a second test strip. If the second test strip does not meet requirements, suspend paving operations until written approval to proceed is received.

Before making adjustments to the paving operations, notify the RE in writing.

D. Tack Coat. Clean the surface and apply tack coat as specified in 401.03.02. Use the same tack coat material as required for adjacent roadway paving on the Project. Ensure that the tack coat is full cured prior to placing the BDWSC. Apply a 1/8-inch thick, uniform coating of polymerized joint adhesive to vertical contact surfaces of curbing, gutters, scuppers, parapets and other structures before the placing of the BDWSC against them. Apply the polymerized joint adhesive slowly to ensure an even coating thickness.

E. Transportation and Delivery of HMA. Transport and deliver BDWSC as specified in 401.03.03.D except that the use of an MTV is not required.

F. Spreading and Grading. Ensure that required deck repairs have been completed before placing the BDWSC. Place BDWSC at the laydown temperature recommended by the supplier of the asphalt binder or the supplier of the asphalt modifier if the dry mix modified process is used. Spread and grade BDWSC as specified in 401.03.03.E.

G. Compacting. Compact as specified in 401.03.03.F. Operate rollers in static mode only.

H. Opening to Traffic. Remove loose material from the traveled way, shoulder, and auxiliary lanes before opening to traffic. Do not allow traffic or construction equipment on the BDWSC until the surface temperature is less than 170°F.

I. Air Void Requirements. Use a thin-lift nuclear density gauge to measure in-place bulk specific gravity. Correct the reading using correction factor developed during the test strip. Calculate the air voids using the maximum specific gravity supplied by the QC technician at the HMA plant. Compact the mixture so that the air voids are a maximum of 3 percent.

J. Ride Quality Requirements. The Department may evaluate the surface course placed in the traveled way as specified in 401.03.03.J using the equations for ramps and shoulders in Table 401.03.03-7.

555.03.02 Retrofit Strip Seal Joint System

A. Working Drawings. Submit working drawings for certification for the retrofit strip seal joint system as per section 105.05. As a minimum include the following information of the working drawings:

1. Manufacturer's requirements for materials in the joint system.
2. Method of installation including sequence of installation, temperature restrictions, materials handling requirements.
3. Ensure that the removal and reinstallation of the strip seal can be accomplished from above the joint without full closure of the roadway.
4. Method to be used to ensure that the strip seal does not protrude above the top of the joint.

B Manufacturer's Representative and Recommendations. Submit two copies of written installation procedures and material certifications two weeks prior to the first scheduled installation to the RE. Arrange with the manufacturer of the joint system to assign a representative who is completely knowledgeable and competent in all aspects with the joint systems materials and installation procedures. Ensure that the representative is present during each joint system installation to assure proper construction, material preparation, installation and curing. The representative is responsible to advise the RE and the Contractor that the correct installation methods are being followed, to train assigned personnel in the correct methods of installation, and to verify proper installation of the joint in writing to the RE.

C. Weather Limitations. Follow the manufacturer's recommendations regarding weather limitations.

D. Preparation. Center the joint installation over the existing expansion joint gap and to the width determined by the manufacturer. Variation in the width of the joint may be necessary to accommodate site conditions.

Saw cut the pavement transversely at the determined width along the joint to a two (2) inch minimum depth. To permit the new joint system to be installed, remove all material, including wearing surface, masking or covering

material, waterproofing membrane, concrete header, and old joint material between the saw cuts. If it is necessary to remove concrete, use only hand held tools. Remove existing materials without damaging existing sound concrete that is to remain. Use elastomeric or polymer concrete to repair any damage to sound concrete.

Grit blast all joint surfaces, dry and free of dust, dirt, grease, loose materials and any other matter that will inhibit bonding. Clean the concrete surface to the satisfaction of the manufacturer's representative.

E. Installation Elastomeric or Polymer Concrete. Form the joint and install hardware, if necessary. If hardware is installed to mechanically hold the strip seal gland, ensure that it is placed at the proper depth for the joint. Mix and place the elastomeric or polymer concrete according to the manufacturer's recommendations. Open to traffic according to the manufacturer's recommendations.

F. Installation Strip Seal Gland. Prepare the surfaces and the strip seal gland according to manufacturer's recommendations. Install the strip seal gland according to manufacturer's recommendations. Ensure that the strip seal gland is installed to the proper depth and does not protrude above the top of the joint. Open to traffic according to the manufacturer's recommendations.

555.04 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Items as follows:

Item	*Pay Unit*
BRIDGE DECK WATERPROOF SURFACE COURSE	TON
RETROFIT STRIP SEAL JOINT SYSTEM	LINEAR FOOT

The Department will measure BRIDGE DECK WATERPROOF SURFACE COURSE by the ton as indicated on the certified weigh tickets, excluding unused material.

The Department will make payment for TACK COAT or TACK COAT 64-22 as specified in 401.04.

The Department will measure RETROFIT STRIP SEAL JOINT SYSTEM in linear feet from curb to curb along the joint.

SECTION 609 – BEAM GUIDE RAIL

609.01 DESCRIPTION

THE FOLLOWING IS ADDED:

This section also describes the requirements for the installation of polyester powder coated beam guide rail and posts over the zinc coated guide rail elements along with all pertinent hardware.

609.02 MATERIALS

THE FOLLOWING IS ADDED:

Do not apply a dichromate top layer on the galvanized zinc-coated surfaces receiving a polyester powder coating. The coating process is the same as specified in ASTM M775M Class A or ASTM M884M Class A for Fusion-Bonded epoxy. The color of the powder coating is dark brown, matching the Federal Standard 595B number 20059 color fan deck (July 1994).

609.03.01 Beam Guide Rail
THE SEVENTH PARAGRAPH IS CHANGED TO:

Install flexible delineators with white retroreflective sheeting on the right side of the direction of traffic. Install flexible delineators with yellow retroreflective sheeting on the left side of the direction of traffic. Mount flexible delineators on the blockout of beam guide rail using either a "U" channel base on the I-beam blockout or a flat base attached to a wood, polymer, or other solid top blockout. Attach the base to the blockout using an adhesive recommended by the manufacturer of the base and panel.

609.03.03 Terminals and Anchorages
THE FOLLOWING IS ADDED:

Excavate cut slope as specified in 202.03.03 within the limits of the buried guide rail terminal. Drive beam guide rail posts for buried guide rail terminal to the required position. Ensure that posts are driven plumb, properly spaced, and to the line and grade shown. Attach the beam guide rail element to the spacer at every post. Attach the beam guide rail element and plate to the terminal posts. Align the top edge of the beam guide rail element in a straight line. Where a vertical transition is required, ensure that the top edge of the beam guide rail element forms the chords of a smooth vertical curve. Backfill with excavated material as specified in 203.03.02C.

609.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM IS ADDED:

The Department will make payment for Polyester Powder Coating of the beam guide rail, thrie beam guide rail bridge, and posts and pertinent hardware under the items Beam Guide Rail, Beam Guide Rail Element, Beam Guide Rail Post and Thrie Beam Guide Rail Bridge.

DIVISION 650 – UTILITIES

THE FOLLOWING SECTION IS ADDED:

SECTION 654– JCP&L FACILITY

654.01 DESCRIPTION

This Section describes the requirements for installing, relocating, removing and deenergizing Jersey Central Power and Light (JCP&L) aerial electric utility facilities including appurtenances and also includes the requirements for transferring electric services.

654.02 MATERIALS

Except for the materials noted below, JCP&L will supply all materials necessary for the work at no cost to the Contractor. Provide JCP&L written notice 21 days in advance of when materials will be required. Ensure the electric subcontractor takes delivery of the materials from JCP&L's storage facility within two weeks of the notice from JCP&L indicating that the material is available. Materials may be located at more than one JCP&L storage facility. If the electric subcontractor fails to take delivery, the material may not be available, and the electric subcontractor may be required to provide an additional request for materials. The Contractor is responsible for compensating the Department for any additional handling costs incurred by JCP&L resulting from the failure to take delivery within the time required.

The electric subcontractor is responsible for loading the material, delivering it to the job site, and all subsequent handling and delivery within the jobsite. Store and protect all materials received from JCP&L. Return and deliver all excess materials furnished by JCP&L to JCP&L's storage facility. Obtain a receipt for all material received from JCP&L, maintain a documented inventory of materials used and obtain a receipt for all material returned to JCP&L.

Tack Coat: PG 64-22 ..... 902.01.01
Hot Mix Asphalt (HMA) (12.5M64) 902.02

654.03 CONSTRUCTION

654.03.01 Electric

A. Prequalification.
THE ENTIRE TEXT IS CHANGED TO:

Only a prequalified electric subcontractor, approved by JCP&L, may construct and relocate JCP&L electric facilities. The following is a list of electric subcontractors that have been previously approved by JCP&L. This list is provided as information only, and is not an endorsement by the Department of any subcontractor. The Contractor is responsible for soliciting from a subcontractor that will be approved by JCP&L when preparing its Bid. Work restricted to the electric subcontractor does not preclude the Contractor from performing the work of layout, traffic control, sawcutting, pavement removal, temporary or final pavement restoration, and landscape restoration associated with the work of installing or relocating JCP&L electrical facilities.

APPROVED ELECTRICAL SUBCONTRACTOR

APPROVED ELECTRICAL CONTRACTORS

Hawkeye, LLC
100 Marcus Blvd
Hauppague, NY 11788
Tel: 631-447-3100
Fax: 631-776-1847
Att: Charles Gravina - Mgr. Electric Operations
email: cgravina@hawkeyellc.com

M.J. Electric, Inc.
1047 Shoemaker Avenue
PO Box 310
Shoemaker, PA 19555-310
Tel: 610-636-8901
Fax: 610-562-1375
Att: Bill Shaw
email: wshaw@mjelectric.com

Henkels & McCoy, Inc.
985 Jolly Road
Blue Bell, PA 19422
Tel: 215-283-7707
Fax: 215-283-7573
Att: Alan L. Lippy - Director, Power Operations East
email: alippy@henkels.com

Asplundh
161 Second Street
Wilkes Barre, PA 18702
Tel: 570-947-1101
Fax: 570-822-0770
Att: Vincent Stanbro
email: v.stanbro@asplundh.com

JBL Electric Inc.
3001 South Clinton Avenue
South Plainfield, NJ 07080
Tel: 800-525-4628
Fax: 973-237-0038
Att: Jim Leary – President
email: jleary@jbelectric.com

Demeter Electric
896 Bushkill Center Road
Nazareth, PA 18064
Tel: 610-759-4513
Fax: 610-759-4513
Att: Rich Demeter
email: demeterelectric@verizon.net

MYR (Harlan & The L.E. Myers Company)
1416 Trindle Road 3-A
Carlisle, PA 17013-9718
Tel: 717-243-4600 x 227
Fax: 717-243-3633
Att: John Arganbright
email: jarganbright@myrgroup.com

Approved for underground work only
J. Fletcher Creamer & Son, Inc.
1701 E. Linden Avenue
Linden, NJ 07036
Tel: 908-925-3200
Fax: 908-925-3350
Att: Ted Paliwoda
email: tpaliwoda@jfcson.com

B. Indemnification. The Contractor agrees to indemnify and hold harmless JCP&L, its officers, employees and agents from liability and claims related to the work described under Section 654. This requirement does not establish JCP&L as a third party beneficiary; the provisions specified in Section 107.10 are unaltered.

C. Scheduling of Work and Interruption to Utilities. Provide the RE and the designated JCP&L representative with a detailed schedule of when the electric utility work will be performed. Indicate in the schedule for each activity

the following information: the work locations; the number of crews; and whether the work will be performed during a day shift or night shift, or on weekends. Coordinate all electric utility work with the JCP&L representative, and notify the RE and the JCP&L representative at least two weeks prior to starting electric utility work. Do not interrupt existing electric service until approved by the JCP&L representative.

Weather conditions may prevent connections to existing systems between June 1 and September 30. Do not perform work which will require electric transmission service interruptions from June 1 through September 30 without the approval of JCP&L. JCP&L may extend this period based on weather conditions and system demand. Notify JCP&L at least one month in advance of commencing conductor work.

If service transfers are required, coordinate service transfers with the JCP&L representative. Notify the property owner and all tenants affected by service interruptions or transfers prior to making the service transfer. Minimize disruption to normal operations of existing facilities and minimize any interruption of electric service to JCP&L customers. Protect existing facilities during construction and installation of the service transfer.

D. Quality Control and Quality Assurance. Provide access to the work for the JCP&L representative at all times. Perform all electric utility work in a manner acceptable to the JCP&L representative. Perform all electric utility work in accordance with JCP&L standards and details.

E. Safety. Perform work in accordance with applicable OSHA regulations, N.J.S.A. 34:6-47 "High Voltage Proximity Act", and JCP&L safety standards.

F. Abandonment and Removal. Prior to beginning work, review the condition of all existing electric utility facilities noted to be removed with the JCP&L representative. If the JCP&L representative designates the material to be salvaged, remove the material and deliver it to a JCP&L storage facility. Remove and dispose of all other electrical utility material designated for removal.

G. Excavation. When excavation is required in areas having existing pavement and sidewalk, sawcut to the full depth of the existing pavement and sidewalk. Excavate trenches for ground anchors and appurtenances. Provide vertical sides for excavations within the traveled way, shoulder, sidewalk areas, and where existing facilities require protection. Remove unstable material at the bottom of the excavation and backfill with granular material. Provide and maintain trench crossings where necessary to maintain access. Do not leave trenches open overnight unless protected by temporary fencing or steel plates. Remove and dispose of excess or unsuitable material as specified in 202.03.07.

H. Backfill. Backfill with suitable material in lifts not exceeding 6 inches thick, loose measurement. If the backfill is predominantly granular material, compact the backfill material with a vibratory plate compactor. For material that is not predominately granular, compact the backfill material with a vibratory rammer compactor. If it is not possible to compact the backfill material, the Contractor may backfill with CLSM with the approval of the JCP&L representative. If using CLSM, install as specified in 601.03.01.F.

I. Restoration. Restore areas disturbed in the performance of electrical utility relocations to its original condition. In areas that are disturbed for which the plans provide final grading, pavement or landscaping, provide temporary restoration to the satisfaction of the RE. If open-cut trenching across a road is required, restore the pavement with in-kind construction.

J. Field Testing. Perform a high-potential test (also known as a dielectric voltage withstand test) on all cables and splices prior to energizing. Testing must be performed by a person who is qualified to operate the test equipment, and is familiar with the cable system. Ensure that the cables are disconnected from non-cable systems equipment, and that adequate physical clearances are maintained between all cable ends, energized cables, and electrical grounds and all other equipment during the test. Prior to performing the test, verify that all taps or laterals in the circuit are cleared. In the event hot poured compound filled splices and terminations are involved, do not perform testing until they have cooled to ambient temperature. Set the relays in the high voltage direct current test equipment to operate between 5 and 25 milliamperes leakage. The shape of the leakage curve under constant voltage is more important than the absolute leakage current of a "go or no go" withstand test result. The field test voltage is related to the final factory applied dc potentials using a factor of 80 percent.

Ensure the high potential test is performed in the presence of the JCP&L representative. Apply a direct current field test voltage according to the following table:

Field Test Values				
Rated Voltage	**dc Hi-Pot Test**		**dc Hi-Pot Test**	
Phase to	**(15 Minutes)**			
Phase	**Wall - mils**	**Kv**	**Wall - mils**	**kV**
5000	90	25	115	35
8000	115	35	140	45
15000	175	55	220	65
25000	260	80	320	95
28000	280	85	345	100
35000	345	100	420	125
46000	445	130	580	170
69000	650	195	650	195

Note: If the leakage current quickly stabilizes, the duration may be reduced to 10 minutes.

After the voltage has been applied and the test level reached, record the leakage current at one-minute intervals. If the leakage current decreases or stays steady after it has leveled off, the cable is considered satisfactory. If the leakage current starts to increase, excluding momentary spurts due to supply-circuit disturbances, extend the test to see if the rising trend continues. At the conclusion of the test, discharge the circuit through the test set and voltmeter circuit. After the potential drops below 95% of the test value, ground the cable and discharge the circuit. Leave the grounds on all conductors for a minimum of four times as long as the test voltage was applied.

Remove and replace cables that fail to meet the requirements of the direct current field test. The Contractor is responsible for reimbursing the Department for any additional material costs incurred by the Department resulting from the failure to meet the requirements of the direct current field test.

K. Energizing Lines. Energize lines with the guidance of the JCP&L representative. Prior to energizing lines, submit a request to JCP&L. Switching orders may only originate from JCP&L employees. Submit a request for permission to energize transmission lines 10 days in advance of when the work will be performed. Request permission to energize distribution lines in a manner that will permit the JCP&L representative to submit a request to JCP&L's Dispatch Office by noon the previous business day.

L. As-builts. Upon completion of the work, submit to JCP&L as-built drawings in accordance with JCP&L standards. Prints of construction drawings, marked to show the final location, are acceptable. Provide a copy of the as-built drawings to the RE.

654.04 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Items as follows:

Item	*Pay Unit*
ELECTRICAL UTILITY RELOCATION, JCP&L	LUMP SUM

SECTION 702 – TRAFFIC SIGNALS

702.01 DESCRIPTION
THE FOLLOWING IS ADDED:

The temporary traffic signal system shall be portable for use during the Phase III seven-day construction period.

702.02 MATERIALS

THE FOLLOWING SUBSECTION IS ADDED:

702.02.03 Temporary Portable Traffic Signal System

Materials for the temporary portable traffic signal system shall be as follows:

A. Temporary Portable Traffic Signal System manufactured by O.M.J.C. Signal Inc.
Model: Pop-Up Heavy Duty Autonomous Traffic System or approved equal

B. Mast Arm Trailer:

The unit shall be a towable, trailer mounted, hydraulically lifted mast and arm. It shall have two 12-inch, 3-section traffic signal heads with backplates. The unit shall include a battery powered hydraulic pump for raising and lowering the arm. Lifting mechanisms using cable, winches, or linear actuators are not acceptable.

The chassis of the unit shall provide multiple points at which auxiliary equipment may be mounted. The trailer shall have 15-inch wheels; fenders and standard US DOT required trailer lights. The unit shall have a drop tongue that can be hinged down and locked toward the ground as well as be removable. The tongue shall be provided with standard hitch arrangements as specified by the end user. There shall be extendable leveling jacks at each corner rated at 2000 pounds each.

In the folded position, the unit less the hitch shall not exceed the following overall dimensions: 72-inch width, 112-inch length or 79-inch height without the solar option and 114-inch height with the solar option. The removable hitch will typically extend 56 inches front of the trailer.

In the horizontal position, the trailer mast arm shall have a minimum 9-foot to a maximum 15-foot reach from the side of the trailer and give a minimum of 17-foot clearance over the baseline established by the jacks. A lock or fixed mechanism shall keep the arm from lowering once the reach is established. With two ITE approved 12-inch 3-section signals in place one at the outer end of the arm, the other mounted on the vertical mast, equipped with back plates and tunnel visors, the unit shall withstand 80-mile per hour wind gusts. The wind gust rating assumes that the entire weight of the unit is carried by the jack stands, that the unit is level, and that the jack stands are on clean, dry pavement.

The chassis and mast shall be labeled to designate pinch points, electrical hazards and overhead power line cautions. There shall be an electrical grounding lug provided to terminate to a user supplied driven electrical ground.

The primary pivot point of the mast, when fully extended, shall have a positive mechanical lock to ensure that the mast remains upright. All other joints and extensions of the mast or arm shall have positive

mechanical locks or pins to prevent the collapse or unauthorized movement or dismantling of the mast or arm.
The unit shall have a receiver type hitch in the rear, enabling a receiver tube to be installed for towing multiple units in tandem. The unit shall include a rear electrical receptacle for plugging in lights from a second unit for tandem towing.

The hydraulic pump shall power the mast in both up and down directions. The pump flow shall be restricted to limit the maximum speed of travel of the arm to a safe speed. Operator safety shall be enhanced by the use of a non-conductive pendant to operate the pump via a minimum 6-foot long cable, allowing the operator to step away from the trailer so that he can clearly watch the mast as it rises to observe for power lines, traffic or other obstructions. The hydraulic pump and pump battery terminations shall be housed in a lockable enclosure.

The unit shall be powder coated a highway safety orange, and have reflective decals placed appropriately to meet US DOT requirements. The unit shall have an axle and suspension rated adequately to handle the overall trailer weight. Trailers that have a gross weight over 3,000 pounds shall be equipped with trailer brakes.

The system shall comply with the requirements for Portable Traffic Control Signals as defined in the 2009 edition of the Manual on Uniform Traffic Control Devices (MUTCD), Section 4D.32, including specifically the requirements pertaining to signal heads, lamps, spacing of signals, clearance, and number of signal faces. For optimizing signal viewing, signal mountings shall allow a 180 degrees vertical axis of rotation and adjustments also for up and down alignments.

The system shall be delivered with matching key padlocks for all the enclosures.

C. Emergency Portable Mast Arm and Knock-Down Capability:

Each independent portable signal trailer shall have the capability to flash yellow or red or be used as a "knock down" replacement portable mast arm, independent of other trailers. In this optional case the control system shall enable external AC signal inputs to run the DC LED signal heads independent of the normal control system. During the knock down option utilization, outputs will be monitored via the actual monitor at the knock down site. If this option is required, each trailer shall be able to hook up to 120 Volt AC inputs and shall run the DC signals as well as adequately load the monitor so as to not let the outputs float high. It shall also be able to self monitor the knock down signal lights and force a fail mode if there is a signal head LED failure, dual indication, or conflict related to the specific trailers function.

D. Traffic Signal Timer Controller:

The controller shall conform to NEMA TS-1 controller functionality and shall be menu driven through a menu driven display and keypad. The display shall be able to show programming parameters, and real time operational parameters not limited to each timing interval being timed including green min, green max, green extensions, yellow and red as well as which phase is being timed. Standard traffic signal nomenclature shall be used, making the assumption that a movement of traffic is a phase and that individual parts of the phases timing are intervals. The controller shall have a minimum 8-phase controller functionality and shall have a minimum of 6 output circuits at each master or remote location. The controller shall be rated for temperatures between 30˚C and +50˚F and environments up to 90 percent humidity.

The traffic controller shall have the following additional features:

CONTROLLER MEMORY: The controller shall have the ability to register and retain a vehicle call on any designated phase if the vehicle call was made at the time when the clearance intervals were initiated. This is to insure that the phase is serviced at the next appropriate place in the controller phasing, reducing the likelihood of traffic being trapped in the "detection zone".

The controller and power systems shall have adequate over current protection using breakers or fuses. Fuses shall be industry standards if used.

CONFLICT MONITOR: The conflict monitor shall conform to minimum NEMA TS1 monitor functionality. Monitors shall be factory tested before installation. The monitoring system of a multiple trailer signal system remain inoperable unless the conflict monitor is installed. Provision shall be made in the monitoring system to accommodate different phasing and numbers of remote trailers. The monitor shall be able to monitor current and voltage of each channel able to detect dark signals. The monitor shall have additional channels for expanding the phase monitoring requirements. Monitoring shall be done according to standard permanent signal methodology except for having data transmitted through the radio system as necessary. A programmed device of compatible channels and functions shall be part of the monitor. An optional programming devise shall be provided when required.

MODES OF FAILURE: If the conflict monitor orders a fail mode, the traffic signals shall display flashing red on all trailers. If there is a loss of power, the traffic signals shall be dark on the affected trailer and the traffic signals on the other trailers shall flash red.

The monitoring system shall be able to detect the difference between soft and hard fail conditions. If enabled, soft fail conditions such as loosing the radio signal shall enable the system to restart if and when the soft fail condition is corrected.

I/O MAPPING: The controller system inputs and outputs shall be mappable. The radio system board shall also provide programmable I/O. This shall as a minimum enable detector and phase assignments to be changed. Each portable signal radio I/O whether master or secondary, shall have 4 programmable inputs and 6 programmable outputs.

VEHICLE ACTUATION: The system shall be able to run in pretimed, actuated or semi-actuated modes. This shall be programmable thru the keyboard. Vehicle actuation if required, shall be thru sensors located at each signal trailer.

Each unit (Master and Secondary) shall have a non-intrusive vehicle detector mounted on its mast arm, which shall require no pavement cuts or any connection to the pavement. The detector shall be capable of covering one or more lanes and have a detection range of up to 200 feet for cars and trucks, assuming straight, level pavement.

PREEMPTION: The control system shall be able to accommodate the addition of preempt inputs. The preemption programming shall be as typical for permanent traffic signal equipment.

TIME BASE COORDINATION: The controller shall have an internal time clock and internal time base coordination. It shall have the optional capability to coordinate into existing traffic systems.

E. Wireless Communication / Interconnection

The following shall be the minimum common requirements for the Wireless Transceiver. It shall:

- Operate in license-free, Spread Spectrum bands (902-928 megahertz) utilizing Frequency Hopping
- Operate multiple user-selectable non-overlapping hopping patterns
- Be completely configurable via the provided menu driven display/keypad
- Provide Bi-directional radio transmission with confirmation
- Real time' data transfer ensuring multiple transfers of data with error checking for live monitoring
- Have an operating temperature between -40˚C and +80˚C
- Operate within the full operating voltage ranges of the DC system
- Programmable RF output levels of 1 milliwatt, 10 milliwatts, 100 milliwatts, 500milliwatts or 1 Watt c/o supplied operator interface
- Operate as Master, Remote, or Repeater
- Have received signal strength indicator (RSSI) light emitting diodes (LED) for Power / Radio Frequency Link Status
- Allow firmware updates c/o industry standard port
- Shall have means to read out digital display of real time RSSI and Packet Response Times.

Radio Remote for Police Control :

A hand held remote pendant shall be available that can be used to increment the signals. Provision shall be provided to prevent the overriding the clearance times. It shall have a display showing the status of the trailers signal indications. It shall be powered by a standard 12-Volt DC cigarette lighter plug. The remote shall only be operated by a uniformed police traffic director.

Cabinet Requirements:

The radio, monitoring and control equipment shall be enclosed in a weather tight enclosure of NEMA 3R standards. It shall also contain a battery charger (120-Volt AC input) and charge controller. The bottom of the cabinet shall have a spring loaded trap door access hole for running a power cord into the battery charger.

Signals:

The system shall be designed to use DC LED traffic signal heads. In a fail mode the signal system shall be programmable for flash or steady, and yellow or red color.

Batteries:

The batteries shall be a deep cycle lead acid absorbed glass mat (AGM) type. They shall be hermetically sealed and shall be maintenance free.

Batteries shall be housed in enclosure(s) secure from vandalism, theft, and weather. The enclosure(s) shall also keep the batteries securely in place during transport.

Battery capacity on the Master & Secondary trailer shall be adequate to allow up to 20 consecutive days of operation without any additional charging.

Solar Charging:

Each unit (Master & Secondary) shall have adequate solar charging capacity to insure that each can operate independently of line power or auxiliary charging devices for a minimum of the six best solar months in the 48 contiguous states of the United States.

The solar array on each unit shall be capable of tilt adjustment on 2 axis in order to maximize the efficiency of the solar panels. The panels shall be fastened in a secure manner. Panel mounting hardware shall use high security bolt heads.

The solar arrays shall be capable of being stowed in a manner so that they are entirely within the boundaries of the framework of the trailer, and be towed at highway speeds.

Battery Charger:
A 120 Volt AC battery charger shall be provided for the instance when batteries need to be charged from an external source. It shall be rated at a minimum wattage of 360 watts.

Charge Controller:
A charge controller shall be provided for interfacing between the solar panels, the control system, and the batteries. Any combination shall be able to be used simultaneously. It shall be maximum power point tracking, and multiple stage utilizing battery temperature and AGM battery superior charge parameters. The charge controller shall be rated to handle the solar system maximum outputs. It shall have current limiting. It shall have a digital display to monitor charge performance.

System Compatibility, Expansion, and Capabilities

These trailers and or systems shall be able to be used with portable traffic equipment utilizing the same control systems. The radio and control system shall be able to work within larger systems achieving more complex systems and phasings.

System Warranty
The system (parts and labor) shall carry a full warranty for one year.

F. Technical Support:

Manufacturer/supplier technical support shall be made available 24 hours a day, whenever the portable traffic signal system is in operation. Technical support shall be provided at no additional cost to the NJDOT.

G. Emergency Replacement of Damaged or Failed Trailer Unit

The contractor shall continuously store a spare fully equipped portable traffic signal trailer at the work site. In the event of the accidental loss of a trailer unit, the replacement unit shall be immediately employed. The contractor shall immediately take steps to replace the damaged trailer unit at no additional cost to the NJDOT.

H. Temporary Portable Traffic Signal System Timing Schedule

<u>70-Second Fixed-Time Cycle</u>

<u>Signal Indications</u>

PHASE	SIGNAL FACES		TIME (SECS.)
	1 & 2	3 & 4	
1. R.O.W. SB U.S. Route 202	G	R	21
1. Change	Y	R	4
1. Clearance	R	R	11
2. R.O.W. Shalebrook Drive	R	G	20
2. Change	R	Y	3
2. Clearance	R	R	11
Emergency Flash	R	R	-

702.03 CONSTRUCTION
THE FOLLOWING IS ADDED:

After placing a temporary or interim traffic signal system into operation, inspect the traffic signal system every day. Fill out a Contractor Maintenance Traffic Signal Inspection Report (Form EL-16C) when the traffic signal system becomes operational, when the traffic signal system is modified, and at every inspection.

Maintain as-built drawings of each signal modification. Place copies of the as-built drawings for each traffic signal system modification, Forms EL-16C, and Forms EL-11C in a plastic pocket mounted inside the cabinet door of each controller cabinet. Also provide a copy of all forms and as-built drawings to the RE.

If a new, temporary or interim traffic signal system fails or becomes damaged, repair and restore the traffic signal system to normal operation. Begin repair of the traffic signal system within 2 hours of receiving notice of damage or malfunction from the Department, State police, or local authorities. Ensure that workers assigned to such repair work continuously until the traffic signal resumes normal signal operation.

For each response to a system failure or damage, fill out a Contractor Maintenance Emergency Call Record (Form EL-11C) and place it in a plastic pocket mounted inside the cabinet door of each controller cabinet.

If the Contractor fails to respond to a failure or damage notification and begin work within 2 hours of notification, or does not continue to work until the traffic signal system resumes normal operation, the Department, in the interest of safety, will respond with its own forces to restore normal operation. If the Department mobilizes its forces to effect repairs, the Contractor agrees to pay the Department a sum of $3000 for costs of mobilizing its forces and equipment. In addition, the Contractor must pay the Department the actual cost of material used for the repair and pay the actual costs of police traffic protection.

702.03.11 Temporary and Interim Traffic Signal Systems
THE FIRST THROUGH FIFTH PARAGRAPHS ARE DELETED:

DIVISION 900 – MATERIALS

SECTION 901 – AGGREGATES

901.11 SOIL AGGREGATE

1. Composition of Soil Aggregate.

THE FOLLOWING IS ADDED TO THE LAST PARAGRAPH:

For Designation I-14, the Contractor may use up to 30 percent steel slag by weight of the coarse aggregate portion of the soil aggregate. Obtain steel slag from a source listed on the QPL as specified in 901.01. Use steel slag that was produced as a co-product of the steel making process. Ensure that the steel slag consists of tough, durable pieces that are uniform in density and quality. Stockpile steel slag as specified in 901.02. Ensure steel slag for blending with I-14 Soil Aggregate does not exceed 0.50 percent expansion from hydration when tested according to ASTM D 4792.

SECTION 902 – ASPHALT

902.02.02 Composition of Mixtures

TABLE 902.02.02-2 IS CHANGED TO:

Table 902.02.02-2 Additional Fine Aggregate Requirements for HMA

Tests	Test Method	Minimum Percent
Uncompacted Void Content of Fine Aggregate	AASHTO T 304, Method A	45
Sand Equivalent	AASHTO T 176	45

902.03.02 Mix Design

THE FOURTH PARAGRAGH IS CHANGED TO:

The ME will test 2 specimens to verify that the final JMF produces a mixture that has a minimum void content as specified in Table 902.03.03-1. The ME will determine percent air voids according to AASHTO T 209, and either NJDOT B-6 or AASHTO T 331.

902.03.03 Sampling and Testing

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that the mix meets the requirements as specified in 902.02.04.A, otherwise the RE or ME will reject the material.

THE SECOND PARAGRAPH IS CHANGED TO:

During production, the ME will take one random acceptance sample from each 700 tons of production to verify composition. Conduct air voids and draindown tests as directed by the ME.

THE FOURTH PARAGRAPH IS CHANGED TO:

The ME will perform sampling according to NJDOT B-2 or ASTM D 3665, and will perform testing for composition according to AASHTO T 308 or NJDOT B-5. Perform testing for air voids according to AASHTO T 209 and either NJDOT B-6 or AASHTO T 331. Perform testing for draindown according to NJDOT B-7 or NJDOT B-8.

902.04.03 Sampling and Testing
THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that the mix meets the requirements as specified in 902.02.04.A, otherwise the RE or ME will reject the material. Maintain the temperature of the mix between 300 °F and 330 °F. Perform and meet requirements for quality control testing as specified in 902.02.04.C.

THE SECOND PARAGRAPH IS CHANGED TO:

During production, the ME will take one random acceptance sample from each 700 tons of production to verify composition. Conduct draindown tests as directed by the ME.

902.05.01 Composition of Mixture
THE FIFTH PARAGRAPH IS CHANGED TO:

For fine aggregate, use stone sand conforming to 901.05.02. Ensure that the combined fine aggregate in the mixture conforms to the requirements in Table 902.02.02-2.

902.05.02 Mix Design
THE FIRST PARAGRAPH IS CHANGED TO:

Design the SMA to meet the requirements in Table 902.05.02-1 and Table 902.05.02-2. Prepare the JMF according to AASHTO R 46. Determine the JMF at 4 percent air voids and 75 gyrations of the Superpave gyratory compactor.

TABLE 902.05.02-2 IS CHANGED TO:

Table 902.05.02-2 SMA Mixtures Volumetrics For Design and Plant Production

Property	Production Control Tolerances	Requirement
Air Voids	±1%	4.0%
Voids in Mineral Aggregate (VMA)	–	17.0% minimum
VCA_{mix}	–	Less than VCA_{dry}
Draindown @ production temperature	–	0.30% maximum
Asphalt Binder Content (NJDOT B-5)	±0.15%	6% minimum
Asphalt Binder Content (AASHTO T 308)	±0.40%	6% minimum
Tensile Strength Ratio (AASHTO T 283)	–	80% minimum

902.05.03 Sampling and Testing
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that the mix meets the requirements as specified in 902.02.04.A, otherwise the RE or ME will reject the material.

THE SECOND PARAGRAPH IS CHANGED TO:

During production at the plant, the ME will take a sample from each 700 tons of production to verify composition and air voids. Conduct draindown, VCAmix, VCAdry, and VMA testing as directed by the ME. Perform tests according to AASHTO R 46.

THE FOURTH PARAGRAPH IS CHANGED TO:

The ME will perform sampling according to NJDOT B-2 or ASTM D 3665, and will perform testing for composition according to AASHTO T 308, or NJDOT B-5. The ME will determine bulk specific gravity of the compacted sample according to AASHTO T 166 or AASHTO T 331. The ME will use the most current QC maximum specific gravity test

result, obtained according to AASHTO T 209, in calculating the volumetric properties of the SMA. Perform testing for draindown according to AASHTO T 305.

902.06.03 Sampling and Testing
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that the mix meets the requirements as specified in 902.02.04.A, except that the temperature of the mix at discharge is required to be between 230 °F and 275 °F, otherwise the RE or ME will reject the material.

THE SECOND PARAGRAPH IS CHANGED TO:

During production, the ME will take one random acceptance sample from each 700 tons of production to verify composition. Conduct draindown tests as directed by the ME.

SECTION 903 – CONCRETE

903.03.05 Control and Acceptance Testing Requirements

E. Acceptance Testing for Strength for Pay-Adjustment Items.
Concrete Items which are subject to pay adjustment and the base prices are as follows:

ITEMS	DESCRIPTION	UNIT	BASE PRICE
507036P	CONCRETE BRIDGE PARAPET	LF	$305.00

903.03.06 Tables

Table 903.03.06-2 Requirements for Structural Concrete Items
THE SEVENTH LINE UNDER CAST-IN-PLACE ITEMS IS CHANGED TO:

Table 903.03.06-2 Requirements for Structural Concrete Items

	Concrete Class	Slump[1] (inches)	Percent Air Entrainment for Coarse Aggregate[1]	
			No. 57 & No. 67	No. 8
Decks, Sidewalks, Curbs, Parapets, Concrete Patch	A	3 ± 1	6.0 ± 1.5	7.0 ± 1.5

903.05.04 Control and Acceptance Testing Requirements
THE SUPERSCRIPT REFERENCE NO. 4 UNDER TABLE 903.05.04-1 IS CHANGE TO:

4. For chloride permeability testing, the ME will mold 4 additional cylinders, taking 2 cylinders each from 2 randomly selected delivery trucks for testing at 56-days.

THE FOURTH PARAGRAPH IS CHANGED TO:

If, upon testing at 56 days, 1 or more individual test results exceed 2000 coulombs, the RE may:

1. Require that the Contractor remove and replace the defective lot, or
2. Allow the Contractor to submit a corrective action plan for approval.

THE FOLLOWING SUBSECTIONS ARE ADDED AFTER SUBSECTION 903.10:

903.11 ULTRA-HIGH PERFORMANCE CONCRETE (UHPC)

903.11.01 Composition

The material shall be a self-leveling, self-consolidating cementitious UHPC containing a well graded matrix of fibers so as to provide ductility in bending and an ultra-low permeability, for superior durability and toughness. All of the components of the UHPC mixture shall be supplied by a single material manufacturer with a minimum of 5 years' experience in manufacturing and the commercial supply of UHPC.

903.11.02 Mix Design and Verification

At least 90 days prior to the planned start of stage 3 construction, submit the mix design to the ME for approval. Use a Portland cement based premix with all matrix materials pre-blended and packaged to ensure uniform consistency. The premix shall consist of a blended premix, steel fibers and an admixture.

The maximum coarse aggregate shall not exceed a nominal size of 0.024 inches.

The steel fibers shall be a high-carbon steel with a minimum tensile strength of 290,000 psi (2000MPa). Minimum steel fiber content shall be 2 % by volume of premix.

The compressive strength shall be a minimum of:

- 5700 psi at 24 hour moist cure
- 11,600 psi at 4 day moist cure
- 14,500 psi at 28 day moist cure
- 20,000 psi following a Thermal Treatment at minimum of 95% Relative Humidity at 195 F for 48 hours.

Rapid chloride permeability testing shall be in accordance with ASTM C1202. The rapid chloride permeability of the hardened UHPC shall be less than 250 coulombs after thermal treatment.

The water shall be as per section 919.08. If ambient temperatures rise above 80F ice cubes may be required to decrease mix temperature.

Accelerator may be added as required.

The UHPC shall be gray in color.

903.11.03 Mixing and Control

Storage of premix, fibers and additives will be as required by the supplier's specifications in order to protect materials against loss of physical and mechanical properties.

At least 10 days prior to the placement of the UHPC for stage three construction, arrange for an onsite meeting with the UHPC material supplier representative and the ME. The objective of the meeting will be to clearly outline the procedures for mixing, transporting, finishing and curing of the UHPC material.

A representative of the UHPC material supplier must be on site during mixing and placement of the UHPC. The representative shall be knowledgeable in the supply, mixing, delivery and placement of the UHPC material.

All UHPC shall be batched on site with mixing equipment as specified by the material manufacturer.

SECTION 904 – PRECAST AND PRESTRESSED CONCRETE

904.01.02 Fabrication
THE LAST SENTENCE OF PART 2 IS CHANGED TO:

If using SCC, minimize or eliminate the use of vibrators to prevent segregation.

904.02.06 Quality Control and Acceptance Requirements
STEP 2 IN THE THIRD PARAGRAPH IS CHANGED TO:

2. Dimensions not conforming to the tolerances specified in Table 904.02.02-1.

904.03.02 Fabrication

THE FOLLOWING SUBPART IS ADDED:

4. The following is a list of fabricators capable of producing precast parapet panels and prefabricated substructure units:

High Concrete Group
Contact: Doug Lorah
Phone: 717-336-9300
Email: dlorah@high.net
125 Denver Road, Denver, PA 17517

The Fort Miller Company, Inc.
Contact: Scott Harrigan
Phone: 518-695-5000
Fax: 518-695-4970
E-mail: sharrigan@fmgroup.com

Northeast Precast
Contact: Matt Hicks
Phone: 856-765-9088, Ext 108
Fax: 856-413-1291
Email: mhicks@northeastprecast.com
92 Reese Road, Millville, NJ 08332

J&R Slaw Inc.
Contact: Jeremy Klotz
Phone: 610-852-2020
Email: jeremy@slawprecast.com
438 Riverview Road, Lehighton, Pa 18235

Ensure that the precast concrete plant meets the requirements of 1011.01. Provide an office for the ME as specified in 1011.03.

THE FOLLOWING SUBSECTIONS ARE ADDED AFTER SUBSECTION 904.04:

904.05 PREFABRICATED SUPERSTRUCTURE UNITS

904.05.01 Component Materials

Provide materials as specified:
Corrosion Inhibitor…….903.02.05
Concrete…….903.03
Mortar……..903.08.01
Curing Materials……..903.10
Ultra High Performance Concrete……903.11
Reinforcement Steel…… 905.01
Structural Steel…….906.04
Inorganic Zinc Epoxy Urethane Paint System…….912.01.01
Metallized Coating System……..912.01.05
Bolts and Bolting Materials……..908.01

Use Class P Concrete with corrosion inhibitor for the prefabricated superstructure units. Ensure that the concrete meets the requirements for slump and air entrainment for precast culverts in Table 903.03.06-2.

This work shall consist of furnishing and installing prefabricated concrete/steel composite superstructure units. The units shall be cast right side up with no prestressing.

904.05.02 Manufacturer Requirements

The following is a list of fabricators capable of producing prefabricated superstructure units:

High Concrete Group
Contact: Doug Lorah
Phone: 717-336-9300
Email: dlorah@high.net
125 Denver Road, Denver, PA 17517

The Fort Miller Company, Inc.
Contact: Scott Harrigan
Phone: 518-695-5000
Fax: 518-695-4970
E-mail: sharrigan@fmgroup.com

J&R Slaw Inc.
Contact: Jeremy Klotz
Phone: 610-852-2020
Email: jeremy@slawprecast.com
438 Riverview Road, Lehighton, Pa 18235

Ensure that the precast concrete plant meets the requirements of 1011.01. Provide an office for the ME as specified in 1011.03.

904.05.03 Structural Steel Fabrication

Fabricate structural steel as specified in 906.04.

904.05.04 Pre-cast Concrete Fabrication

A. **Placing Reinforcement Steel.** Before placing the concrete, place all reinforcement steel in position as shown on the approved working drawings and as specified in 504.03.01. Firmly tie the reinforcement steel to avoid displacement during placing of the concrete.

For longitudinal distribution reinforcement steel, the fabricator may use welded wire fabric or deformed billet steel bars. Ensure that welded wire fabric is shipped in mats.

If using lifting hooks or lugs, galvanize the devices according to ASTM A 153.

B. **Placing Concrete.** Place concrete as specified in 504.03.02.D and 504.03.02.E. Before placing concrete, ensure that reinforcement and any other embedded material are free of loose rust, frost, dirt, oil, or contaminants that may prevent a bond with the concrete. Consolidate concrete with internal vibrators. The fabricator may use external vibration to supplement internal vibration.

C. **Marking of Units**. Identify each unit with a permanent marking on the underside of the deck in the vicinity of the end diaphragm with the following information:

Trade Name

Manufacturer

Date of Manufacture

Load Rating

Mark Number

1. **Fabrication Requirements.** Manufacture the precast concrete units in steel forms.

Ensure that units comply with Table 904.05.04-1. **Table 904.05.04-1 Fabrication Requirements for Precast Concrete Arch Structures**

Geometry of Concrete Deck	
Length of Each Unit1	± 3/4 inch
Width	± 3/8 inch
Deck Thickness	+ 3/8 inch, - 1/4 inch
Deviation from Diagonals (horizontal)	± 3/4 inch
Deviation from End Squareness or Skew	± 3/4 inch
Stringer Spacing (within unit)	± 1/2 inch
Horizontal Alignment2	± 3/8 inch
Insert Locations	± 3/8 inch
Reinforcing	± 2 inch (non-cumulative)
Spacing	± 3/8 inch
Cover (top and bottom mats)	
Camber of Steel Beams	± 1/4 inch
Inverted (at time of casting)3	± 3/8 inch
Upright Design Camber	

1. Adjacent unit lengths shall not vary by more than ¾ inch.

2. Deviation measured from straight line parallel to the centerline of the unit.

3. Camber measured at tension flange at midspan.

904.05.05 Shipping and Handling

Handle and ship as specified in 904.01.05.

904.05.06 Quality Control and Acceptance

Provide quality control and acceptance as specified in 904.03.06.

904.06 PRECAST CONCRETE BRIDGE APPROACH

904.06.01 Component Materials

Provide materials as specified:

Corrosion Inhibitor……...903.02.05
Concrete……...903.03
Mortar 903.08.01
Epoxy Grout 903.08.02.B
Curing Materials 903.10
Ultra High Performance Concrete……903.11
Reinforcement Steel 905.01
Joint Ties (epoxy coated) 905.03.01
Dowel Bars (epoxy coated) 905.03.03
Preformed Joint Filler 914.01

Use Class P Concrete with corrosion inhibitor for the precast concrete bridge approach. Ensure that the concrete meets the requirements for slump and air entrainment for precast culverts in Table 903.03.06-2.

Use coarse aggregate in the concrete mix that contains no carbonate rock.

Provide all reinforcement steel according to ASTM A 775.

904.06.02 Manufacturer Requirements

Ensure that the precast concrete plant meets the requirements of 1011.01. Provide an office for the ME as specified in 1011.03.

The following is a list of fabricators capable of producing precast concrete bridge approaches:

High Concrete Group
Contact: Doug Lorah
Phone: 717-336-9300
Email: dlorah@high.net
125 Denver Road, Denver, PA 17517

The Fort Miller Company, Inc.
Contact: Scott Harrigan
Phone: 518-695-5000
Fax: 518-695-4970
E-mail: sharrigan@fmgroup.com

Northeast Precast
Contact: Matt Hicks
Phone: 856-765-9088, Ext 108
Fax: 856-413-1291
Email: mhicks@northeastprecast.com
92 Reese Road, Millville, NJ 08332

J&R Slaw Inc.
Contact: Jeremy Klotz
Phone: 610-852-2020
Email: jeremy@slawprecast.com
438 Riverview Road, Lehighton, Pa 18235

904.06.03 Pre-cast Concrete Fabrication

A. Fabricate the slab panels as specified in Subsection 904.03 and the requirements herein with the only exception being under curing. Do not allow membrane curing compounds. Provide layout and shop drawings.
B. Cast the slab in panels of the length and width shown on the plans.
C. Ensure the bottom surface texture is smooth and that the top surface texture is as specified in 507.03.02.I. Complete top surface texture before applying curing materials.
D. For slabs that will transfer load to other new slab panels, cast load transfer dowels in the slab at transverse joint ends. Cast the dowels square to the transverse end and parallel to the top surface of the slab within +1/8 inch of the locations shown on the Plans.
E. Cast inverted dovetailed slots for the transverse dowels and longitudinal tie bars in the panels to accommodate dowels and tie bars as shown on the Plans square to the edge of the slab to within +1/8 inch.
F. Design the lifting devices to lift the panels from the topside. Recess each lifting device in the panel a minimum of 1 inch below the surface.
G. Coat the portion of the dowels cast into the precast slab with bond breaker.
H. For each slab, attach a 1 inch thick by 1 inch wide foam gasket to the underside edge of the slab to prevent grout leakage and to create discrete grout chambers between corresponding ports. Provide for positive placement of grout in each chamber and minimize upward pressure on the slab during placement. Show the location of all gaskets on the slab shop drawings.
I. Cast the slabs to the following tolerances:
    Length + 3/16 inch
    Width + 3/16 inch
    Thickness + 1/8 inch
    Difference in diagonals not to exceed 3/16 inch
    Edge Squareness 1/8 inch in 10 inches (in relation to top and bottom surfaces)
J. 11. Cure slab panels as specified in 904.01.03, except that the required stripping strength is 4000 pounds per square inch.
K. 12. Ensure that slab panels remain in their forms for the duration of the curing operation.

904.06.04 Shipping and Handling

Handle and ship as specified in 904.01.05. Secure slab panels on vehicle so no fatigue cracking will occur during transportation of unit. Provide 48 hour advance notice to RE and ME of loading and shipping schedule.

904.06.05 Quality Control and Acceptance Requirements

Notify the ME in writing at least 21 days before start of production.

For quality control, keep applicable records according to PCI Division 1, Quality Control, or NPCA requirements, and the approved QC plan. Supply copies of these records to the ME as requested. Ensure that the quality control technician performing all tests is certified as an ACI Field Testing Technician, Grade 1.

During production, the ME will inspect the quality of materials and the process of manufacture. The ME will accept the concrete as specified in 903.03.05 and will inspect the finished pieces prior to shipping for dimensional tolerances and damage. If the concrete piece is cracked, spalled, honeycombed, chipped, or otherwise defective, the ME may reject the piece or approve repairs.

SECTION 905 – REINFORCEMENT METALS

905.01.03 Welded Wire Reinforcement
THE SECOND PARAGRAPH IS CHANGED TO:

When approved as an alternate to galvanized reinforcement bars, use galvanized welded wire reinforcement that meets the requirements of ASTM A 641, Table 1, Class 1.

905.03.03 Dowel Bars
THE FIRST PARAGRAPH IS CHANGED TO:

For dowel bars in transverse joints, use epoxy-coated, Grade 60, plain reinforcement steel according to ASTM A 615. If shown on the Plans, use dowel bars fitted with end caps. Ensure that the end caps are non-metallic and designed to prevent the entrance of grout or mortar into the expansion void.

SECTION 910 – MASONRY UNITS

SECTION 912 – PAINTS, COATINGS, TRAFFIC STRIPES, AND TRAFFIC MARKINGS

THE FOLLOWING SUBSECTIONS ARE ADDED AFTER SUBSECTION 912.01.04:

912.01.05 Metalized Coating System
Metalized coating shall consist of a zinc coating installed at the fabricator conforming to the requirements of ASTM B69 and ASTM B833. A certification of compliance is required for acceptance of the zinc wire. The dry film thickness of the coating systems shall be within 200 to 250 micrometers. The dry film thickness will be determined by the use of a magnetic dry film thickness gage. The gage shall be used in accordance with ASTM D 4138 to verify the coating thickness when requested by the ME. If the Tooke gage shows that the metallic coat is not within the specified thickness range, the total coating system will be rejected.

912.03.01 Epoxy Traffic Stripes

B. Glass Beads.
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic.

SECTION 913 – GUIDE RAIL, FENCE, AND RAILING

913.01.05 Miscellaneous Hardware

SUBPART 3 OF THE FIRST PARAGRAPH IS CHANGED TO:

3. Use plates for guide rail on bridges and buried guide rail terminals conforming to ASTM A 36 and galvanized according to ASTM A 123.

DIVISION 1000 – EQUIPMENT

SECTION 1001 – TRAFFIC CONTROL EQUIPMENT

THE FOLLOWING SUBSECTION IS ADDED:

1001.04 PORTABLE VARIABLE MESSAGE SIGN WITH REMOTE COMMUNICATION

Provide a NTCIP compliant portable variable message sign as described under 1001.02 equipped with broadband cellular modem.

SECTION 1009 – HMA PLANT EQUIPMENT

1009.01 HMA PLANT

A. Requirements for HMA Mixing Plants.

THE FOLLOWING IS ADDED AFTER THE SECOND PARAGRAGH:

> The HMA producer is required to have a quality control (QC) program plan approved annually by the ME as per Materials Approval Procedure MAP-102. The HMA producer is required to ensure that the QC plan conforms to the requirements outlined in the report entitled "Hot Mix Asphalt Quality Control Program Plan" prepared by the Department of Transportation and New Jersey Asphalt Paving Association. Failure to follow these requirements will result in rejection of HMA materials supplied by the HMA producer and removal of the HMA supplier from the QPL.

THE FOLLOWING SUBSECTION IS ADDED AFTER 1009.02:

1009.03 ASPHALT-RUBBER BINDER BLENDING EQUIPMENT

Provide equipment for preparation of Asphalt-Rubber Binder. Ensure that the unit is equipped with a crumb rubber feed system capable of continuously supplying the asphalt cement feed system, and is capable of fully blending the individual crumb rubber particles with the asphalt cement. Use an asphalt-rubber binder storage tank that is equipped with a heating system capable of maintaining the temperature of the binder between 325 and 375 °F during the reaction. Ensure the asphalt-rubber binder storage tank is also equipped with an internal auger mixing device, oriented horizontally in the tank, capable of maintaining a uniform mixture of the asphalt-rubber binder.

Ensure that the tanks for storage of asphalt-rubber binder are equipped to uniformly heat the material to the required temperature under effective and positive control at all times. Ensure that heating is accomplished so that no flame comes in contact with the heating tank.

Provide a circulating system of sufficient capacity for the binder to ensure continuous circulation between the storage tank and proportioning units during the entire operating period. Ensure that the discharge end of the binder circulating pipe is maintained below the surface of the binder in the storage tank to prevent discharge of hot binder into the open air.

Ensure that pipe lines and fittings are steam or oil jacketed, electrically or otherwise heated, and insulated to prevent heat loss.

Provide valves according to AASHTO T 40, except ensure that a sampling valve is also located in the lowest third of each storage tank.

If the plant has been equipped with a water injection type asphalt foaming system, ensure that the system will allow the proper amount of asphalt rubber binder to be supplied continuously or provide a by-pass to ensure that the proper amount of asphalt rubber binder is supplied to the mix.

SECTION 1011 – PRECAST AND PRESTRESSED CONCRETE PLANT EQUIPMENT

1011.03 ME'S OFFICE

THE SECOND PARAGRAPH SUBPART 2 &3 ARE CHANGED TO:

2. One high-speed broad band connection with a minimum speed of 3 megabits per second (mbps) with dynamic IP address (DSL, Cable, etc.).
3. Two desks and 2 chairs.

NJDOT TEST METHODS

THE FOLLOWING TEST METHODS ARE ADDED:

NJDOT B-10 – OVERLAY TEST FOR DETERMINING CRACK RESISTANCE OF HMA

A. Scope. This test method is used to determine the susceptibility of HMA specimens to fatigue or reflective cracking. This test method measures the number of cycles to failure.

B. Apparatus. Use the following apparatus:

1. Overlay Tester. An electro-hydraulic system that applies repeated direct tension loads to specimens. The machine features two blocks, one is fixed and the other slides horizontally. The device automatically measures and records a time history of load versus displacement every 0.1 sec at a selected test temperature.

   The sliding block applies tension in a cyclic triangular waveform to a constant maximum displacement of 0.06 cm (0.025 in.). This sliding block reaches the maximum displacement and then returns to its initial position in 10 sec. (one cycle).

2. Temperature Control System. The temperature chamber must be capable of controlling the test temperature with a range of 32 to 95 ^{o}F (0 to 35 ^{o}C).
3. Measurement System. Fully automated data acquisition and test control system. Load, displacement, and temperature are simultaneously recorded every 0.1 sec.
4. Linear Variable Differential Transducer (LVDT). Used to measure the horizontal displacement of the specimen (+/- 0.25 in.). Refer to manufacturer for equipment accuracy for LVDT.
5. Electronic Load Cell. Used to measure the load resulting from the displacement (5000 lb capacity). Refer to manufacturer for equipment accuracy for load cell.
6. Specimen Mounting System. Used two stainless steel base plates to restrict shifting of the specimen during testing. The mounting jig holds the two stainless steel base plates for specimen preparation.
7. Cutting Template.
8. Two Part Epoxy. Two part epoxy with a minimum 24 hour tensile strength of 600 psi (4.1 MPa) and 24 hour shear strength of 2,000 psi (13.8 MPa).
9. 10 lb weight (4.5 kg). Used to place on top of specimens while being glued to specimen platens**.**
10. ¼ inch Width Adhesive Tape. Placed over gap in plates to prevent the epoxy from bonding the plates together.
11. Paint or Permanent Marker. Used to outline specimens on platens for placement of epoxy.
12. 3/8-in. Socket Drive Handle with a 3-in. (7.6 cm) extension.

C. Procedure. Perform the following steps:

1. Sample Preparation.

a. Laboratory Molded Specimens - Use cylindrical specimens that have been compacted using the gyratory compactor (AASHTO T 312). Specimen diameter must be 6 inches (150 mm) and a specimen height must be 4.5 inches +/- 0.2 inches (115 +/- 5 mm).

Note 1 - Experience has shown that molded laboratory specimens of a known density usually result in a greater density (or lower air voids) after being trimmed. Therefore, it is recommended that the laboratory technician produce molded specimens with an air void level slightly higher than the targeted trimmed specimen. Determine the density of the final trimmed specimen in accordance with AASHTO T 166.

b. Core Specimens – Specimen diameter must be 6 inches +/- 0.1 inch (150 mm +/- 2 mm). Determine the density of the final trimmed specimen in accordance with AASHTO T166.

2. **Trimming of Cylindrical Specimen.** Before starting, refer to the sawing device manufacturer's instructions for cutting specimens.

   a. Place the cutting template on the top surface of the laboratory molded specimen or roadway core. Trace the location of the first two cuts by drawing lines using paint or a permanent maker along the sides of the cutting template.

   b. Trim the specimen ends by cutting the specimen perpendicular to the top surface following the traced lines. Discard specimen ends.

   c. Trim off the top and bottom of the specimen to produce a sample with a height of (1.5 inches +/- 0.02 inches (38 mm +/- 0.5 mm).

   d. Measure the density of the trimmed specimen in accordance with AASHTO T 166. If the specimen does not meet the density requirement as specified for performance testing for the mix being tested, then discard it and prepare a new specimen.

   e. Air dry the trimmed specimen to constant mass, where constant mass is defined as the weight of the trimmed specimen not changing by more than 0.05% in a 2 hour interval.

3. **Mounting Trimmed Specimen to Base Plates (Platens).**

   a. Mount and secure the base plates (platens) to the mounting jig. Cut a piece of adhesive tape approximately 4.0 inches (102 mm) in length. Center and place the piece of tape over the gap between the base plates.

   b. Prepare the epoxy following manufacturer's instructions.

   c. Cover a majority of the base plates (platens) with epoxy, including the tape. Glue the trimmed specimen to the base plates.

   d. Place a 10 lb (4.5 kg) weight on top of the glued specimen to ensure full contact of the trimmed specimen to the base plates. Allow the epoxy to cure for the time recommended by the manufacturer. Remove the weight from the specimen after the epoxy has cured.

   e. Turn over the glued specimen so the bottom of the base plates faces upward. Using a hacksaw, cut a notch through the epoxy which can be seen through the gap in the base plates. The notch should be cut as evenly as possible and should just begin to reach the specimen underneath the epoxy. Great care should be taken not to cut more than 1/16 inch (1.58 mm) into the specimen.

   f. Place the test sample assembly in the Overlay Tester's environmental chamber for a minimum of 1 hour before testing.

4. **Start Testing Device.** Please refer to manufacturer's equipment manual prior to operating equipment.

   a. Turn on the Overlay Tester. Turn on the computer and wait to ensure communication between the computer and the Overlay Tester occurs.

   b. Turn on the hydraulic pump using the Overlay Tester's software. Allow the pump to warm up for a minimum of 20 minutes.

   c. Turn the machine to load control mode to mount the sample assembly.

5. **Mounting Specimen Assembly to Testing Device.** Enter the required test information into the Overlay Tester software for the specimen to be tested.

   a. Mount the specimen assembly onto the machine according to the manufacturer's instructions and the following procedural steps.

1. Clean the bottom of the base plates and the top of the testing machine blocks before placing the specimen assembly into the blocks. If all four surfaces are not clean, damage may occur to the machine, the specimen, or the base plates when tightening the base plates.
2. Apply 15 lb-in of torque for each screw when fastening the base plates to the machine.

6. Testing Specimen.

a. Perform testing at a constant temperature recommended by the New Jersey Department of Transportation for the mixture in question. This is typically either 59 °F (15 °C) or 77 °F (25 °C).

Note 3 – Ensure the trimmed specimen has also reached the constant temperature required.

b. Start the test by enabling the start button on the computer control program. Perform testing until a 93% reduction or more of the maximum load measured from the first opening cycle occurs. If 93% is not reached, run the test until a minimum of 1,200 cycles.

c. After the test is complete, remove the specimen assembly from the Overlay Tester machine blocks.

D. Report. Include the following items in the report:

1. Date and time molded or cored.
2. NJDOT mixture identification.
3. Trimmed specimen density.
4. Starting Load.
5. Final Load.
6. Percent decline (or reduction) in Load.
7. Number of cycles until failure.
8. Test Temperature

NJDOT B-11- DETERMINING GRADATION OF CRUMB RUBBER FOR ASPHALT MODIFICATION

A. Scope. This method is used to determine the gradation of the crumb rubber for asphalt-rubber binder

B. Apparatus. Use the following apparatus:

1. Oven capable of maintaining a temperatures of 140 ± 10 °F for drying sample to a constant weight.
2. Rubber balls having a weight of 8.5 ± 0.5 grams, a diameter of 24.5 ± 0.5mm mm, and a Shore Durometer "A" hardness of 50 ± 5 per ASTM Designation D 224
3. No. 8, 16, 30, 50, 100, and 200 sieves conforming to AASHTO M 92.
4. Mechanical sieve shaker conforming to AASHTO T 27.
5. Balance conforming to AASHTO M 231 and having a minimum capacity of 100 grams with a precision of 0.1 gram.

C. Procedure. The crumb rubber for asphalt rubber binder is required to conform to the gradations specified below when tested in accordance with ASTM Designation C 136 except as follows:

1. Obtain 100 ± 5 grams from the crumb rubber sample and dry to a constant weight at a temperature of not less than 135 °F nor more than 145 °F and record the dry sample weight.
2. Place the crumb rubber sample and 5.0 grams of talc in a one pint jar, then shake it by hand for a minimum of one minute to mix the crumb rubber and the talc. Continue shaking or open the jar and stir until the particle agglomerates and clumps are broken and the talc is uniformly mixed.
3. Place one rubber ball on each sieve. After sieving the combined material for 10 ± 1 minutes, disassemble the sieves. Brush remaining material adhering to the bottom of a sieve into the next finer sieve. Weigh and record the weight of the material retained on the No. 8 sieve and leave this material (do not discard) on the scale or balance. Ensure that observed fabric balls remain on the scale or balance

and are placed together on the side of the scale or balance to prevent the fabric balls from being covered or disturbed when placing the material from finer sieves on to the scale or balance. Add the material retained on the next finer sieve (No. 16 sieve) to the scale or balance. Weigh and record that weight as the accumulative weight retained on that sieve (No. 16 sieve). Continue weighing and recording the accumulated weights retained on the remaining sieves until the accumulated weight retained in the pan has been determined. Before discarding the crumb rubber sample, separately weigh and record the total weight of the fabric balls in the sample.

4. Determine the weight of material passing the No. 200 sieve (or weight retained in the pan) by subtracting the accumulated weight retained on the No. 200 sieve from the accumulated retained weight in the pan. If the material passing the No. 200 sieve (or weight retained in the pan) has a weight of 5 grams or less, cross out the recorded number for the accumulated weight retained in the pan and copy the number recorded for the accumulated weight retained on the No. 200 sieve and record that number (next to the crossed out number) as the accumulated weight retained in the pan. If the material passing the No. 200 sieve (or weight retained in the pan) has a weight greater than 5 grams, cross out the recorded number for the accumulated weight retained in the pan, subtract 5 grams from that number and record the difference next to the crossed out number. The adjustment to the accumulated with retained in the pan is made to account for the 5 grams of the talc added to the sample. For calculation purposes, the adjusted accumulated weight is the same as the adjusted accumulated weight retained in the pan. Determine the percent passing based on the adjusted total sample weight and recorded to the nearest 0.1 percent.

D. Report. Report all test results on ME provided forms.

NJDOT B-12 – DETERMINING ROTATIONAL VISCOSITY OF ASPHALT RUBBER BINDER

A. Scope. This method presents procedures for sampling and testing of asphalt-rubber binder in the field using a hand held portable rotational analog or digital viscometer.

B. Apparatus. Use the following apparatus:

1. **Viscometer.** A hand held high range rotational viscometer. Analog models with indicator needles and scaled dial displays or digital read out viscometers may be used. Analog models that have been found acceptable include Rion Model VT-04E and Haake Model, VT-02. Digital models that have been found acceptable include Haake VT 2 Plus.
2. **Rotor.** A cylinder with a diameter of 24 ± 1.1 millimeters, height of 53 ± 0.1 millimeters, and a vent hole attached to a spindle or shaft with length of 87 ± 2 millimeters that is compatible with the selected viscometer. Acceptable rotors include Rion No. 1, Haake No 1, or an equivalent.
3. **Thermometer.** Digital with metal jacket probe accurate to 1 °F.
4. **Sample Containers.** Clean 1 gallon metal cans with lids and wire bale.
5. **Viscosity Standard Oils.** Fluids calibrated in absolute viscosity centipoise (cP).
6. **Viscometer Holder.** Clean metal container or stand for safely storing the viscometer between tests.
7. **Level Surface.** Level surface not directly on the ground.
8. **Heat Source.** A controllable heat source (i.e. a hot plate, gas stove, or burner) to maintain the temperature of the asphalt-rubber sample at 350 ± 3 °F while measuring viscosity.
9. **Personal Equipment.** Eye protection and heat resistant gloves.

C. Procedure. Perform the following steps:

1. **Calibration of Equipment.** Calibrate the equipment as follows:

a. Verify the accuracy of the viscometer by comparing the viscosity results obtained with the hand held viscometer to 3 separate calibration fluids of known viscosities ranging from 1000 cP to 5000 cP. The known viscosity value are based on the fluid manufacturer's standard test temperature or based on the test temperature versus viscosity correlation table provided by the fluid manufacturer.

b. The viscometer is considered accurate if the values obtained are within 300 cP of the known viscosity.

c. Verify the calibration of the rotational viscometer using viscosity standards before use at each site.

2. Sampling Asphalt-Rubber Binder. Provide new sample containers and ensure that they are clean before using. Before sampling, draw at least 1 gallon from an appropriate sample valve on the interaction tank and discard. Then reopen the sample valve and draw at least 3/4 of a gallon for testing.

3. Preparing Asphalt-Rubber Binder Samples for Testing. Prepare the asphalt-rubber binder as follows:

a. Immediately transport the sample to the testing area. Ensure that the testing area is close to the sampling location to reduce the potential for temperature loss.

b. Set the open asphalt-rubber binder sample container on the level surface on or over the heat source.

c. To prevent scorching or burning, manually stir the asphalt-rubber binder sample using a metal stir rod or the temperature probe.

d. Continue stirring until a consistent asphalt-rubber binder temperature of 350 ± 3 °F is achieved. Record the actual test temperature with the corresponding viscosity measurement.

e. Insert the viscometer spindle and rotor into the hot asphalt-rubber binder sample near the edge of the can. Ensure that the spindle and rotor are not inserted deeper than the immersion depth mark on the shaft and are not plugging the vent hole. During insertion, the spindle and rotor may be tilted slightly to keep the vent hole clear.

f. Allow the rotor to acclimate to the temperature of the asphalt-rubber binder for approximately 1 minute. During acclimation, stir the sample thoroughly and measure the temperature.

g. Orient the sample and the rotor so that the rotor is near the center of the sample, align the depth mark on the shaft with the asphalt-rubber binder surface, and level the viscometer in order to measure viscosity.

4. Testing. Analog viscometers include a level bubble to help orient the device to ensure that the rotor and shaft remain vertical. Digital viscometers may not include a level bubble. If a level bubble is not included, attach a small adhesive bubble to the viscometer or use a framework with a level bubble.

Test the asphalt-rubber binder as follows:

a. As soon as the viscometer is leveled and the depth mark is even with the asphalt-rubber binder surface, begin rotor rotation. When using a digital viscometer, activate the continuous digital display according to the manufacturer's recommendations. Read and record the peak viscosity value (The peak measurement typically represents the viscosity of the asphalt-rubber binder; report and log that value. As the rotor continues to turn, it "drills" into the sample and spins rubber particles out of its measurement area. This may cause thinning of the material in contact with the rotor erroneously indicating a drop in the apparent viscosity of the asphalt-rubber binder) from the graduated scale labeled with the corresponding rotor number or from the digital display.

b. After completing the first measurement, move the viscometer rotor away from the center of the sample can without removing it from the asphalt-rubber binder sample. Turn off the rotor rotation.

c. Stir the asphalt-rubber binder sample thoroughly.

d. Repeat Steps 1, 2, and 3. Take 3 measurements and average the results to determine the viscosity.

e. Return the viscometer to its holder with the rotor suspended in a suitable solvent. Before using the rotor again, wipe off the solvent and dry the rotor to avoid solvent contamination of the next sample.

D. Calculations. Some meters read in units of mPa·s (0.001 Pascal·seconds) or dPa·s (0.1 Pa·s), while others may read in centipoise (cPs) units. The conversion is 1 Pa·s = 1000 cPs.

E. Report. Include the following items in the report:

1. Date and time sampled.
2. Location of asphalt-rubber binding blending plant.
3. Test temperature and viscosity.
4. Rotor designation.
5. Viscometer model and serial n

ATTACHMENTS

FHWA ATTACHMENT NO. 1

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

ATTACHMENTS

I GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

   Section I, paragraph 2;

   Section IV, paragraphs 1, 2, 3, 4, and 7;

   Section V, paragraphs 1 and 2a through 2g.
5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

    a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

    b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

1. **Equal Employment Opportunity**: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

    a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

    b. The contractor will accept as his operating policy the following statement:

    "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer**: The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy**: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

    a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

    b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

    c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

    d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

    a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

    b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

    c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. **Personnel Actions**: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

    a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

    b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

    c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

    d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. **Training and Promotion:**

    a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

    b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. **Unions**: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

   a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

   b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

   c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

   d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

   a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

   b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

   c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **Records and Reports**: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

   a. The records kept by the contractor shall document the following:

1. The number of minority and non-minority group members and women employed in each work classification on the project;
2. The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
3. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
4. The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. **General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form

FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
   1. the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
   2. the additional classification is utilized in the area by the construction industry;
   3. the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
   4. with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

    a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

    b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

    a. Apprentices:
        1. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
        2. The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.
        3. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
        4. In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

    b. Trainees:
        1. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and

individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

2. The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.
3. Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
4. In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:
Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. **Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices,

trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, the social security number of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain

written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
   1. that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
   2. that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
   3. that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

   a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

   b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

   a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

   b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII.SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to

inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

*"*Whoever*, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or*

Whoever *knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or*

Whoever *knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;*

Shall *be fined not more that $10,000 or imprisoned not more than 5 years or both."*

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. **Instructions for Certification - Primary Covered Transactions**:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge

and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
   a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
   b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
   c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
   d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. **Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or

voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

   a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

   b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or

entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT PREFERENCE FOR APPALACHIAN CONTRACTS

(APPLICABLE TO APPALACHIAN CONTRACTS ONLY.)

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:
   a. To the extent that qualified persons regularly residing in the area are not available.
   b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.
   c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph 1c shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph 4 below.
2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which he estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, he shall promptly notify the State Employment Service.
3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.
4. If, within 1 week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph 1c above.
5. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

FHWA ATTACHMENT NO. 1

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

V. STATEMENTS AND PAYROLLS

2. **Payrolls and Payroll Records:**

THE FOLLOWING SUBPART IS CHANGED TO:

b. The payroll records shall contain the name, the last four digits of the social security number of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs. Contractors or subcontractors shall maintain complete social security numbers and home addresses for employees. Government agencies are entitled to request or review all relevant payroll information, including social security numbers and addresses of employees. Contractors and subcontractors are required to provide such information upon request.

FHWA ATTACHMENT NO. 2

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these Specifications:
    a. Covered area means the geographical area in which the Project is located.
    b. Director means Director, Office of Federal Contract Compliance Programs, United States Department of Labor or any person to whom the Director delegates authority.
    c. Employer identification number means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, US Treasury Department Form 941.
    d. Minority includes:
        (1) Black (a person having origins in any of the black African racial groups not of Hispanic origin);
        (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race);
        (3) Asian and Pacific Islander (a person having originals in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
        (4) American Indian or Alaskan Native (a person having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participating or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. The Contractor shall implement the specific affirmative action standards provided in paragraphs 6a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
4. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these Specifications, Executive Order 111246, or the regulations promulgated pursuant thereto.
5. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the US Department of Labor.
6. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foreman, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment with specific attention to minority or female individual working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred back to the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the source compiles under 6b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news median, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and females and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contraction and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

7. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (6a through p). The efforts of a Contractor association, joint contractor union, Contractor-Community, or other similar group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 6A through p of these Specifications provided that the Contractor actively participates in the group, make every effort to assure that the group has a positive impact on the employment of minorities and females in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, make a good faith effort to meet its individual goals and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

8. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

9. The Contractor shall not use the goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

10. The Contractor shall not enter any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

11. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspensions, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246 as amended.

12. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 6 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the

Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

13. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (such as mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

14. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (such as those under the Public Works Employment Act of 1977 and the community Development Block Grant Program).

15. Noncompliance by the Contractor with the requirements of the Affirmative Action Program for Equal Employment Opportunity may be cause for delaying or withholding monthly and final payments pending corrective and appropriate measures by the Contractor to the satisfaction of the Department.

FHWA ATTACHMENT NO. 3

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The goals for minority and female participation, in the covered area, expressed in percentage terms for the Contractor's aggregate work force in each trade, on all construction work are as shown on Page 2.

   These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

   The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4. (3) a, and 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, and 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 sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.
2. The Contractor will provide the Department with written notification in triplicate within 10 working days of 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 will list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
3. As used in this Notice and in the Contract resulting from this solicitation the covered area is the county or counties in which the Project is located.
4. If a project is located in more than one county, the minority work hours goal, only, will be determined by the county which serves as the primary source of hiring or, if workers are obtained almost equally from one or more counties, the single minority goal will be the average of the affected county goals.

WORK HOUR GOALS IN EACH TRADE FOR MINORITY AND FEMALE PARTICIPATION

COUNTY	MINORITY PARTICIPATION PERCENT	FEMALE PARTICIPATION PERCENT
Atlantic	18.2	6.9
Bergen	15	6.9
Burlington	17.3	6.9
Camden	17.3	6.9
Cape May	14.5	6.9
Cumberland	16	6.9
Essex	17.3	6.9
Gloucester	17.3	6.9
Hudson	12.8	6.9
Hunterdon	17	6.9
Mercer	16.4	6.9
Middlesex	15	6.9
Monmouth	9.5	6.9
Morris	17.3	6.9
Ocean	17	6.9
Passaic	12.9	6.9
Salem	12.3	6.9
Somerset	17.3	6.9
Sussex	17	6.9
Union	17.3	6.9
Warren	1.6	6.9

FHWA ATTACHMENT NO. 4

STATE OF NEW JERSEY EQUAL EMPLOYMENT OPPORTUNITY FOR CONTRACTS FUNDED BY FHWA

The parties to this Agreement do hereby agree that the provisions of NJSA 10:2-1 through 10:2-4 and NJSA 10:5-31 et seq (PL 1975, c 127, as amended and supplemented) dealing with discrimination in employment on public contracts, and the rules and regulations promulgated pursuant thereunto, are hereby made a part of this contract and are binding upon them.

During the performance of this contract, the Contractor agrees as follows:

a. The Contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status or sex. The Contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status or sex. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Division of Civil Rights/Affirmative Action setting forth provisions of this nondiscrimination clause;

b. The Contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status or sex;

c. The Contractor or subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Division of Civil Rights/Affirmative Action, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The notices referred to in paragraphs a and c may be obtained from the Supervising Engineer of Construction or his representative at the preconstruction conference.

FHWA ATTACHMENT NO. 5

EMERGING SMALL BUSINESS ENTERPRISE UTILIZATION ATTACHMENT
FHWA FUNDED CONTRACTS

I UTILIZATION OF EMERGING SMALL BUSINESS ENTERPRISE (ESBE) AS CONTRACTORS, MATERIALS SUPPLIERS AND EQUIPMENT LESSORS.

The New Jersey Department of Transportation (NJDOT) advises each contractor or subcontractor that failure to carry out the requirements set forth in this attachment shall constitute a breach of contract and, after the notification of the applicable federal agency, may result in termination of the agreement or contract by the Department or such remedy as the Department deems appropriate. Requirements set forth in this section shall also be physically included in all subcontracts in accordance with USDOT requirements.

II POLICY.

It is the policy of the NJDOT that Emerging Small Business Enterprises (ESBE), as defined in Section IV, Part B below, shall have an opportunity to participate in the performance of contracts financed in whole or in part with federal funds. In furtherance of this policy the NJDOT has established an Emerging Small Business Enterprise Program. This program is designed to promote participation and shared economic opportunity by smaller firms who qualify as ESBE's in NJDOT construction contracts and is undertaken pursuant to the authority contained in 23 CFR Part 26.

III. CONTRACTOR'S ESBE OBLIGATION.

The contractor agrees to ensure that ESBE's, as defined in Section IV, Part B below, have an equal opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with federal funds. In performing work under this agreement with the NJDOT, the contractor shall take all necessary and reasonable steps in accordance with the provisions of this attachment to ensure that ESBE's have the maximum opportunity to compete for and perform contracts. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of any contract obligation including, but not limited to, its performance of its obligations under this ESBE attachment.

IV. GOALS FOR THIS PROJECT.

A. This project includes a goal of awarding 4 percent of the total contract value to subcontractors, equipment lessors and/or material suppliers, which qualify as ESBE's.

1. Failure to meet the minimum goal placed on this project, or to provide a good faith effort to meet the minimum goal, may be grounds for rejection of the bid as being non-responsive.

2. As a source of information only, an ESBE Directory is available from the Division of Civil Rights/Affirmative Action. Use of this listing does not relieve the contractor of its responsibility to seek out ESBE's not listed, prior to bid. If a contractor proposes to use an ESBE contractor not listed in the ESBE Directory, the proposed ESBE firm must submit a completed certification application to the Division of Civil Rights/Affirmative Action, fifteen (15) days prior to bid date.

B. DEFINITIONS.

1. Emerging Small Business Enterprise is defined as: a for-profit business concern classified as a small business pursuant to the appropriate Small Business Administration regulations, and which is owned and controlled by individuals who do not exceed the personal net worth criteria ($750,000) established in 49 CFR Part 26.

2. Owned and Controlled is defined as: that at least 51% of the ownership interests as well as the management and daily business operations of the firm reside in individuals whose personal net worth does not exceed the requirements established in 49 CFR, Part 26.

V. COUNTING ESBE PARTICIPATION.

A. Each ESBE is subject to a certification procedure to ensure its ESBE eligibility status prior to the award of contract. In order to facilitate this process it is advisable for the bidder to furnish names of proposed ESBE's to the Department 15 days before bid opening. Once a firm is determined to be a bona fide ESBE by the Division of Civil Rights/Affirmative Action, the total dollar value of the contract awarded to the ESBE is counted toward the applicable goal.

B. The contractor may count toward its ESBE goal only expenditures to ESBE's that perform a commercially useful function in the work of a contract. An ESBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibility by actually performing, managing and supervising the work involved. To determine whether an ESBE is performing a commercially useful function, the contractor shall evaluate the amount of work contracted, industry practice and other relevant factors.

C. If a ESBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the ESBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, you must presume that it is not performing a commercially useful function.

D. If the prime contractor is a certified ESBE, payments made to the contractor for work performed by the contractor will be applied toward the ESBE goal. Payments made to the prime contractor for work performed by non-ESBE's will not be applied toward the ESBE goal.

E. The prime contractor may count 60 percent of its expenditures to ESBE suppliers that are not manufacturers, provided that the ESBE supplier performs a commercially useful function in the supply process. The contractor may count 100% of its expenditure to ESBE suppliers who are also manufacturers. Manufacturers receive 100% credit toward the ESBE goal.

VI GOOD FAITH EFFORT.

To demonstrate sufficient reasonable efforts to meet the ESBE contract goals, a bidder shall document the steps it has taken to obtain ESBE participation, including but not limited to the following:

A. Attendance at a pre-bid meeting, if any, scheduled by the Department to inform ESBE's of prime contracting and subcontracting opportunities under a given solicitation.

B. Advertisement in general circulation media, trade association publications, and small business publications for at least 20 days before bids are due. If 20 days are not available, publication for a shorter reasonable time is acceptable.

C. Written notification to ESBE's that their interest in the contract is solicited;

D. Efforts made to select portions of the work proposed to be performed by ESBE's in order to increase the likelihood of achieving the stated goal;

E. Efforts made to negotiate with ESBE's for specific bids including at a minimum:

1. The names, addresses and telephone numbers of ESBE's that were contacted;

2. A description of the information provided to ESBE's regarding the plans and specifications for the work to be performed; and

3. A statement of why additional agreements with ESBE's were not reached;

F. Information regarding each ESBE the bidder contacted and rejected as unqualified and the reasons for the bidder's conclusion;

G. Efforts made to assist the ESBE in obtaining bonding or insurance required by the bidder or the department.

NOTE: If the Division of Civil Rights/Affirmative Action determines that the apparent successful low bidder has failed to meet the requirements of this section, the bidder will be afforded the

opportunity for an administrative reconsideration of that determination prior to the award or rejection of the contract. As part of the administrative reconsideration process, the bidder will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. NJDOT will send the bidder a written decision on reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the USDOT.

VII SUBMISSION OF REQUIRED DOCUMENTS.

A. The following shall be submitted either with the bid or to the Division of Civil Rights and Affirmative Action no later than seven (7) State business days after the date of receipt of bids.

1. ESBE Form “A2” - Schedule of ESBE Participation. List all ESBE’s participating in the contract; listing the scope of work, dollar value and percent of total contract to be performed.

2. Supplement to ESBE Form “A2”- A list of all subcontractors who submitted bids or quotes on this project.

3. ESBE Form B - Affidavit of Emerging Small Business Enterprise. Each proposed ESBE not listed in the NJDOT ESBE directory must submit Form B attesting to its validity as an ESBE. (All firms must be certified by the Department’s ESBE Coordinator prior to award of the contract).

4. Request for Exemption - In the event that the bidder fails to meet the specified goal, they must submit within Seven State business days of the bid, a written request for exemption to the goal. This request must include a written statement addressing Items A through G in Article VI of this attachment in addition to an accounting of the reason(s) why each items in the bid proposal was not subcontracted. Submittal of such request does not imply departmental approval. An assessment of the material will be conducted by the Department’s Division of Civil Rights/Affirmative Action.

5. The name of the person who is serving as its ESBE Liaison Officer

B. The State Highway Engineer will be the sole judge of proper compliance and action taken in fulfilling the requirements as set forth herein.

VIII ESBE LIAISON OFFICER.

A. The contractor shall designate an ESBE Liaison Officer who shall be responsible for the administration if its ESBE program in accordance with the requirements of this attachment.

IX OBLIGATIONS AFTER AWARD OF THE CONTRACT.

If at any time following the award of contract, the contractor intends to sublet any portion(s) of the work under said contract, or intends to purchase material or lease equipment not contemplated during preparation of bids, said contractor shall take the following actions:

1. Notify the Resident Engineer, in writing, of the type and approximate value of the work the contractor intends to accomplish by such subcontract, purchase order or lease.

2. Attempt to obtain a qualified ESBE to perform the work.

3. Submit the Post-Award ESBE Certification Form to the Regional Supervising Engineer with his application to sublet or prior to purchasing material or leasing equipment. Post Award ESBE forms may be obtained from the Resident Engineer.

X CONSENT BY DEPARTMENT TO SUBLETTING.

The Department will not approve any subcontract proposed by the Contractor unless and until said contractor has complied with the terms of this attachment.

XI SELECTION AND RETENTION OF SUBCONTRACTORS.

A. The contractor is further obligated to provide the Resident Engineer with a listing of firms, organizations or enterprises solicited and those utilized as subcontractors on the proposed project. Such listing shall clearly delineate which firms are classified as an ESBE.

B. The contractor shall identify all efforts it made to identify and retain an ESBE as a substitution subcontractor when the arrangements with the original ESBE proved unsuccessful shall be submitted in writing to the Department's ESBE Coordinator for approval. Work in the category concerned shall not begin until such approval is granted in writing.

C. Notification of a subcontractor's termination will be sent to the Department by the contractor through the Resident Engineer. Said termination notice will state whether the subcontractor is an ESBE and the reason for termination.

XII CONCILIATION.

Allegations of breach of any obligation contained in these ESBE provisions will be investigated by the Federal Office of Contract Compliance in conjunction with the Division of Civil Rights/Affirmative Action of the New Jersey Department of Transportation and the Federal Highway Administration.

XIII DOCUMENTATION.

A. The Department or the federal funding agencies may at any time require such information as is deemed necessary in the judgement of the Department to ascertain the compliance of any bidder or contractor with the terms of these provisions.

B. Record and Reports.

The Contractor shall keep such records as are necessary to determine compliance with its Emerging Small Business Enterprise Utilization obligations. The records kept by the contractor will be designed to indicate:

1. The names of ESBE contractors, equipment lessors and material suppliers contacted for work on this project.
2. Work, services and materials which are not performed or supplied by the prime contractor.
3. The actual dollar value of work subcontracted and awarded to ESBE's.
4. Efforts taken in seeking out and utilizing ESBE's. This would include solicitations, quotes and bids regarding project work items, supplies, leases, or other contract items.
5. Documentation of all correspondence, contacts, telephone calls, or other actions taken to obtain the services of ESBE's on this project.
6. Records of all ESBE's who have submitted quotes/bids to the contractor on the project.

C. Submit reports, as required by the Department, on those contracts and other business transactions executed with ESBE's in such form and manner as may be prescribed by the Department.

D. All such records must be maintained for a period of three (3) years following acceptance of final payment and will be available for inspection by the Department.

XIV PAYMENT TO SUBCONTRACTORS.

The Contractor agrees to pay its subcontractors in accordance with the Specifications

XV NON-COMPLIANCE.

Failure by the bidder to comply with these provisions may result in rejection of the bid. The contractor may further be declared ineligible for future Department contracts.

FHWA ATTACHMENT NO.6

EQUAL EMPLOYMENT OPPORTUNITY SPECIAL PROVISIONS

1. General

    a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (Form FHWA-1273) and these Special Provisions which are imposed pursuant to Section 140 of Title 23 USC, as established by Section 22 of the Federal Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the Equal Employment Opportunity requirements set forth in the Required Contract Provisions.

    b. The Contractor will work with the State agencies and the Federal Government in carrying out Equal Employment Opportunity obligations and in their review of activities under the contract.

    c. The Contractor and all subcontractors holding subcontracts, not including material suppliers, of $10,000 or more, will comply with the following minimum specific requirement activities of Equal Employment Opportunity. The Contractor will include these requirements in every subcontract of $10,000 or more with such modification of language as is necessary to make them binding on the subcontractor. (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors).

    d. Noncompliance by the Contractor with the requirements of the Affirmative Action Program for Equal Employment Opportunity may be cause for delaying or withholding monthly and final payments pending corrective and appropriate measures by the Contractor to the satisfaction of the Department.

2. Equal Employment Opportunity Policy

    The Contractor will accept as its operating policy the following statement which is designed to further the provisions of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

    It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and on-the-job training.

3. Equal Employment Opportunity Officer

    The Contractor will designate and make known to the Department contracting officers an equal opportunity officer (hereinafter referred to as the EEO Officer) who will have the capability, authority and responsibility to effectively implement and promote an active contractor program of equal employment opportunity.

4. Dissemination of Policy

    a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommended such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure compliance, the following minimum actions will be taken:

(1) An initial project site meeting with key supervisory and office personnel will be conducted before or at the start of work, and then not less than once every 6 months, at which time the Contractor's equal employment opportunity program will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.
(2) All new supervisory and office personnel will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the Contractor's equal employment opportunity obligations within 30 days following their reporting for duty with the Contractor.
(3) All personnel engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official concerning the Contractor's procedures for locating and hiring minority and female employees.

b. In order to make the Contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor will take the following actions:
(1) Notices and posters setting forth the Contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
(2) The Contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, and/or other appropriate means.

5. Recruitment

a. When advertising for employees, the Contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer". All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants, including, but not limited to, State employment agencies, schools, colleges and minority-oriented organizations. To meet this requirement, the Contractor will, through his EEO Officer, identify sources of potential minority and female employees, and establish procedures with such sources whereby applicants may be referred to the Contractor for employment consideration.

In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with the equal employment opportunity contract provisions. (The US Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or females, or obligates the Contractor to do the same, such implementation violates Executive Order 11246, as amended).

c. The Contractor will encourage his present employees to refer minority and female applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures pertaining to the referral of applicants will be discussed with employees.

6. Personnel Actions

Wages, working conditions and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed:

a. The Contractor will conduct a project site inspection at the start of work, and periodically thereafter, to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The Contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The Contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The Contractor will promptly investigate all complaints of alleged discrimination made to the Contractor in connection with its obligations under this contract, and will resolve or attempt to resolve such complaints, within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, corrective action shall include such other persons. Upon completion of each investigation, the Contractor will inform complainants of available avenues of appeal.

7. Training Special Provisions

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journey people in the type of craft or job classification involved.

The number of training positions will be__0_, where feasible, consisting of at least_0__ APPRENTICES and _0__TRAINEES. TRAINEE HOURS=__0__.

Apprentices are defined as registered members of an approved apprenticeship program recognized by the United States Department of Labor (USDOL) Bureau of Apprenticeship and Training (BAT) or a New Jersey State apprenticeship agency recognized by USDOL BAT (e.g., New Jersey Department of Education). Graduates of the Pre-Apprenticeship Training Cooperative Program shall be classified as apprentices. Trainees are defined as skilled, semi-skilled or lower level management individuals receiving training per one of the approved NJDOT "Revised Standard Training Guidelines" (available from the Division of Civil Rights).

Where feasible, at least 50% of the training positions will be assigned to Skilled Crafts which include but are not limited to Carpenters, Dockbuilders, Electricians, Ironworkers and Operating Engineers.

a. Contractor Submission and NJDOT Approval of the Initial Training Program.

At or after the preconstruction conference and prior to the start of work, the Contractor shall submit a training program to the Resident Engineer for his or her review and comments prior to Division of Civil Rights review and approval. The Contractor's training program shall include:
(1) the number of trainees or apprentices to be trained in all selected Training Positions,
(2) the Standard Program Hours for all positions,
(3) an estimate of the Minimum Available Hours actually feasible on the project toward completion of the Standard Program Hours per position,
(4) a training schedule of Estimated Start Dates for the apprentices or trainees, developed and coordinated with the project's work progress schedule,
(5) Training Guidelines for all positions, and
(6) which training will be provided by the Contractor and which by Subcontractors.

The number of apprentices and trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeypeople in the various crafts within a reasonable area of recruitment. The Contractor shall submit timely, revised training programs as required throughout the project to ensure that feasible and Maximum Available Training is provided. Maximum Available Training is defined as bringing each apprentice or trainee onto the project when work first becomes available in his/her craft and providing all available training until hours are no longer available.

b. Assignment of Training to Subcontractors

In the event that portions of the contract work are subcontracted, the Contractor shall determine how many, if any, of the apprentices or trainees are to be trained by subcontractors, provided,

however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by these Training Special Provisions. The Contractor shall also ensure that these Training Special Provisions are made applicable to such subcontracts.

c. Requirements for Recruitment, Selection and Approval of Apprentices and Trainees
   (1) Apprentices or trainees should be in their first year of apprenticeship or training. The Contractor shall interview and screen trainee candidates to determine if their actual work experience is equivalent to or exceeds that offered by the training program prior to submitting candidates, via the Resident Engineer, to the Division for review and approval or disapproval.
   (2) Training and upgrading of minorities (e.g., Blacks, Asians or Pacific Islanders, Native Americans or Alaskan Natives, Hispanics) and females toward journeyperson status is a primary objective of these Training Special Provisions. Accordingly, the Contractor shall make every effort to enroll minorities and females, by conducting systematic and direct recruitment through public and private sources likely to yield minority and female apprentices or trainees, to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.
   (3) No employee shall be employed as an apprentice or trainee in any position in which he or she has successfully completed a training course leading to journeyperson status or in which he or she has been employed as a journeyperson. The Contractor shall satisfy this requirement by including appropriate questions in the employment application or by other suitable means and by submitting an accurate and complete “Apprentice/Trainee Approval Memorandum.” Regardless of the methods used, the Contractor’s records should document the findings in each case.
   (4) Skilled craft trainees may complete up to 3,000 total training hours on NJDOT projects, with an extension of an additional 1,000 hours permitted on a case-by-case basis. Semi-skilled and lower-level management trainees attain journeyperson status upon completion of a training guideline and may complete up to three (3) different positions.

d. Apprenticeship and Training Programs
   (1) The minimum length and type of training for each position will be established in the training program selected by the Contractor and approved by NJDOT and the Federal Highway Administration. NJDOT will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average apprentice or trainee for journeyperson status in the craft concerned by the end of the training period.
   (2) Apprenticeship programs registered with the US Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by USDOL BAT and training programs approved but not necessarily sponsored by the US Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided such programs are being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the NJDOT Division of Civil Rights prior to commencing work on the positions covered by the Contractor’s training program. The Division will review guidelines developed by the Contractor for approval or disapproval in accordance with the Training Guideline Approval Process described in the “Revised Standard Training Guidelines”. The Division will also review existing guidelines for revision based on the same process.
   (3) It is the intention of these provisions that training be provided in construction crafts rather than clerk-typist or secretarial-type positions. Training is permitted in lower level management positions (e.g., timekeepers), where the training is oriented toward project site applications. Training in semi-skilled laborer positions is permitted provided that significant and meaningful training is available on the project site. Some offsite, classroom training (e.g., safety, first aid instruction) may be permitted as long as such training is an integral part of an approved training program and does not comprise a significant part of the overall training.

e. Reimbursement of the Contractor for Providing Training

(1) The Contractor will be credited for each apprentice or trainee employed on the construction site who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such apprentices or trainees as provided hereinafter. Payment will be made under the pay item Trainees at the bid price in the Proposal per person-hour of training given an employee on this contract in accordance with an approved training program. If approved, payment will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other sources do not specifically prohibit the Contractor from receiving other reimbursement. Offsite, classroom training reimbursement may only be made to the Contractor when the company does one or more of the following and the apprentices or trainees are concurrently employed on a Federal-aid project: contributes to the cost of the training and/or provides instruction to apprentices or trainees or pays their wages during the offsite, classroom training (e.g., safety, first aid instruction) period.

(2) The Contractor shall pay apprentices and trainees according to the project-specific New Jersey Department of Labor Prevailing Wage Rate Determination for the project.

f. Documentation Required to be Signed by Apprentices or Trainees and provided to NJDOT

(1) At the start of training, the Contractor shall provide the Resident Engineer and each apprentice or trainee with an applicable “Training Guideline” and, at the conclusion of training, an accurate and complete “Training Certificate for Reporting Hours to NJDOT”, showing hours of training satisfactorily completed.

(2) The Contractor shall maintain and submit an accurate and complete “NJDOT Contractor’s 1409 Quarterly Training Report” to the Resident Engineer within ten (10) days of the end of each training quarter (e.g., January 10, April 10, July 10, October 10); a copy shall also be given to each apprentice or trainee.

(3) The Contractor shall maintain and submit accurate and complete “Biweekly Training Reports” to the Resident Engineer, and each apprentice or trainee, as periodic reports documenting performance under these Training Special Provisions.

g. Training and Promotion

(1) The Contractor shall assist in locating, qualifying, and increasing the skills of minority and female employees, and applicants for employment.

(2) The Contractor shall advise employees and applicants for employment of available training programs and entrance requirements.

(3) The Contractor shall periodically review the training and promotion potential of minority and female employees and encourage eligible employees to apply for such training and promotion.

h. Determining Good Faith Compliance

(1) Per the approved program or guideline, the Contractor shall provide Maximum Available Training to apprentices and trainees by beginning their training as soon as feasible with the start of craft work utilizing the skill involved on the project construction site and by retaining them as long as training opportunities exist in their crafts or until their training program positions are completed.

(2) The Contractor shall recall apprentices or trainees released due to reductions in force when the work scope permits and they are available to return. When they are unavailable to resume training on the project site, the Contractor shall submit written proof of recall efforts and replacement candidates and/or positions in a timely manner. The Contractor shall not terminate apprentices or trainees prior to completion of their training program positions without NJDOT consultation and authorization. Apprentices or trainees are not required to be on board for the entire length of the contract.

(3) The Contractor shall have fulfilled the contractual responsibilities under these Training Special Provisions if the company has provided Acceptable Training to the number of apprentices or trainees specified in this contract and/or by providing the remaining hours required to complete training positions begun by apprentices or trainees on other projects. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

(4) The Contractor shall be responsible for demonstrating all steps that have been taken in pursuance of enrolling minorities and females in the training program positions, prior to a

determination as to whether the Contractor is in compliance with these Training Special Provisions.

(5) The Contractor shall submit to the Resident Engineer written training program summaries at the 50% time and/or cost stage of the contract and also prior to project completion, describing all good faith actions and particularly addressing Maximum Available Training for incomplete training positions, per the procedure found in the revised "Instructions for Implementing the Training Special Provisions".

i. Enforcement Measures and Contractor's Rating

(1) Payment will not be made if either the failure to provide the required training or the failure to hire the apprentice or trainee as a journeyperson is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of these Training Special Provisions.

(2) Per established procedures and scheduled Contract Compliance Reviews, the Contractor's performance will be rated and reviewed periodically by the Department.

(3) Noncompliance with these Training Special Provisions may be cause for delaying or withholding monthly and final payments, pending corrective and appropriate measures by the Contractor to the satisfaction of the Department, per Item 1d of these EEO Special Provisions.

8. Unions

If the Contractor relies in whole or in part upon unions as a source of employees, the Contractor will make maximum effort to obtain the cooperation of such unions to increase opportunities for minorities and females within the unions, and to effect such union referrals to the construction project. Actions by the Contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The Contractor will use maximum effort to develop, in cooperation with the unions, joint training programs aimed at qualifying more minorities and females for union membership and increasing their skills in order to qualify for higher paying employment.

b. The Contractor will use maximum effort to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.

c. The Contractor will obtain information concerning the referral practices and policies of the labor unions except that to the extent such information is within the exclusive possession of the labor unions and they refuse to furnish this information to the Contractor, the Contractor shall so certify to the Department and shall set forth what efforts have been made to obtain this information.

d. In the event the unions are unable to provide the Contractor with a reasonable flow of minority and female referrals within the time limit set forth in the collective bargaining agreement, the Contractor will through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified and/or qualifiable minorities and females. (The US Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees). In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such Contractor shall immediately notify the Department.

9. Subcontracting

a. The Contractor will use maximum effort to solicit bids from and to utilize minority subcontractors or subcontractors with meaningful minority and female representation among their employees. Contractors may use lists of minority-owned construction firms as issued by the Department.

b. The Contractor will use maximum effort to ensure subcontractor compliance with the equal employment opportunity obligations.

10. Documents and Reports

a. The Contractor will maintain such documents as are necessary to determine compliance with the contract's equal employment opportunity requirements. Documents will include the following:
   (1) the number of minorities, non-minorities, and females employed in each work classification on the Project.
   (2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and females (applicable only to Contractors who rely in whole or in part on unions as a source of their work force).
   (3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and
   (4) the progress and efforts being made in securing the services of minority and female subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. All such documents must be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Department and the Federal Highway Administration.

c. The contractor and each subcontractor must submit monthly employment and wage data to the Department via a web based application using electronic Form CC-257R. Instructions for registering and receiving the authentication code to access the web based application can be found at:
   http://www.state.nj.us/transportation/business/procurement/ConstrServ/documents/NJ_StimulusReportingNotification-Contractor.pdf

   Instructions on how to complete Form CC257 are provided in the web application. Submit Form CC-257R through the web based application within 10 days following the end of the reporting month. Submission of this form also satisfies the requirement of the form FHWA 1391.

   All employment and wage data must be accurate and consistent with the certified payroll records. The contractor is responsible for ensuring that their subcontractors comply with these reporting requirements. Failure by the contractor to submit Monthly Employment Utilization Report may impact the contractor's prequalification rating with the Department.

FHWA ATTACHMENT NO.7

SPECIAL CONTRACT PROVISIONS FOR INVESTIGATING, REPORTING AND RESOLVING EMPLOYMENT DISCRIMINATION AND SEXUAL HARASSMENT COMPLAINTS

The contractor hereby agrees to the following requirements in order to implement fully the nondiscrimination provisions of the Supplemental Specifications.

The Contractor agrees that in instances when it receives from any person working on the project site a verbal or written complaint of employment discrimination, prohibited under N.J.S.A. 10:5-1 et seq., 10:2-1 et seq., 42 U.S.C. 2000(d) et seq., 42 U.S.C. 2000 (e) et seq. and Executive Order 11246, it shall take the following actions:

1. Within one (1) working day commence an investigation of the complaint which shall include but not be limited to interviewing the complainant, the respondent, and all possible witnesses to the alleged act or acts of discrimination or sexual harassment.
2. Prepare and keep for its use and file a detailed written investigative report which includes the following information:
   a) Investigatory activities and findings.
   b) Dates and parties involved and activities involved in resolving the complaint.
   c) Resolution and corrective action taken if discrimination or sexual harassment is found to have taken place.
   d) A signed copy of resolution of complaint by complainant and contractor.

   In addition to keeping in its files the above-noted detailed written investigative report, the contractor shall keep for possible future review by the Department all other records, including but not limited to, interview memos and statements.
3. Upon the request of the Department, provides to the Department within ten (10) calendar days a copy of its detailed written investigative report and all other records on the complaint investigation and resolution.
4. Take appropriate disciplinary action against any contractor employee, official or agent who has committed acts of discrimination or sexual harassment against any contractor employee or person working on the project. If the person committing the discrimination is a subcontractor employee, then the contractor is required to attempt to effectuate corrective and/or disciplinary action by the subcontractor in order to establish compliance with project's contract requirements.
5. Take appropriate disciplinary action against any contractor employee, official or agent who retaliates, coerces or intimidates any complaint and/or person who provides information or assistance to any investigation of complaints of discrimination or sexual harassment. If the person retaliating, coercing or intimidating a complainant or other person assisting an investigation is a subcontractor's employee, then the contractor is required to attempt to effectuate corrective and/or disciplinary action by the subcontractor in order to establish compliance with the project's contract requirements.
6. Ensure to the maximum extent possible that the privacy interests of all persons who give confidential information in aid of the contractor's employment discrimination investigation are protected.

In conjunction with the above requirements, the contractor shall develop and post a written sexual harassment policy for its work force.

Failure by the contractor to comply with the above requirements may be cause for the New Jersey Department of Transportation to institute against the contractor any and all enforcement proceedings and/or sanctions authorized by the contract or by state and/or federal law.