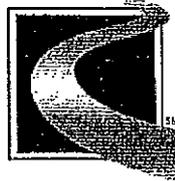


MARYLAND TRANSPORTATION AUTHORITY
Baltimore, Maryland

Invitation for Bids

Baltimore Harbor Tunnel
Fort McHenry Tunnel
Francis Scott Key Bridge
John F. Kennedy Memorial Highway
Harry W. Nice Memorial Bridge
Thomas J. Hatem Memorial Bridge
William Preston Lane, Jr. Memorial Bridge



Maryland
Transportation
Authority

Contract No. MA 2161-000-002

On-Call Structural Repairs and Miscellaneous Modifications

Anne Arundel, Baltimore, Cecil, Charles, Harford, Howard &
Queen Anne's Counties and Baltimore City

August, 2008

NOTICE TO BIDDERS

Please review the checklist prior to submitting your bid on this Contract.

- When submitting your completed bid, do not separate the book. Submit the whole book including all addenda.
- Make sure that all addenda letters are attached outside of the front cover of the bid book.
- If the addendum has revised the Schedule of Prices, make sure that you have included the revised pages in your bid. Your price should reflect any and all changes.
- Prices must be written numerically and in words, unless approved substitute forms are used (Refer to GP-2.06). Do not leave any items blank.
- When tabulating your final price, make sure all your calculations are correct.
- Minority Business Enterprise Attachments A and B must be completed and submitted with your bid. If either of these attachments is missing your bid is non-responsive. Attachments C and D **should not** be submitted at time of bid.
For additional information on how to complete the MBE Attachments, please see the insert named "Important Information regarding MBE Utilization and Bidding Requirements" located in the IFB.
- The Bid/Proposal Affidavit must be completely filled out and signed by all of the parties as indicated.
- If Escrow is being offered in a contract, the contractor must indicate whether or not they wish to utilize an Escrow Account for Retained Funds on the provided form.
- A bid bond must accompany all bids of one hundred thousand dollars (\$100,000.00) or more. The bid bond document must be completely filled out and have an original Power of Attorney form attached.
- If the document is too large for the envelope that we have provided, you can place the document in another form of packaging that can be sealed and submitted. If the document is too large for the bid box, you should alert the receptionist.
- Make sure that your company's name, address, the contract number and the bid date appears on the front of the packaging.
- When submitting bid packages via US Mail, Federal Express, DHL, UPS or any other delivery service it is your responsibility to make sure that the bid reaches the bid box before the time deadline. It may be in your best interest to send the package 24 hours in advance of the deadline. Also, when sending packages this way, make sure that the labeling specifies that it is a bid submission.

Notice to Bidders/Offerors

EMaryland Marketplace Fee

In order to take advantage of Maryland State and Local government contracting opportunities, vendors/contractors are encouraged to register with eMaryland Marketplace. The free registration provides a means for businesses to receive e-mail notification of upcoming contracting opportunities in their specified areas of interest and expertise.

For registration requirements, visit:

www.eMarylandMarketplace.com

IMPORTANT INFORMATION REGARDING MBE UTILIZATION AND BIDDING REQUIREMENTS

The Maryland Transportation Authority (the "Authority") has been forced to reject many recent bids/proposals due to bid submissions that were not in strict compliance with the stipulated MBE rules and regulations. The following checklist has been developed to highlight certain critical components of the MBE program requirements. This listing is not all-inclusive and the bidder **must** comply with all MBE rules and regulations listed throughout this entire proposal book.

Attachment A (Certified MBE Utilization and Fair Solicitation Affidavit) & Attachment B (MBE Participation Schedule) must be included with the submittal of the bid or offer. If the bidder or offeror fails to submit these forms with the bid/offer as required, the Procurement Officer **shall deem the bid non-responsive** or shall determine that the **offer is not reasonably susceptible** of being selected for award. MBE Prime Contractors must achieve the established MBE goal with other certified MBE contractors. A Prime MBE Contractor **can not** count itself as an MBE to obtain the goal.

ATTACHMENT A

When filling out Attachment A, make sure you complete the following:

- If after making good faith efforts, you determine you can not achieve the established overall goal or subgoals, you must request a waiver.
- List the percentage(s) of the overall goal(s) that you are able to achieve.
- If you do not request the waiver at time of bid and you **are not** meeting the established goal(s), your bid/offer will be considered **non-responsive or not reasonably susceptible of being selected for award.**
- Attachment A must be signed and dated.

ATTACHMENT B

When filling out Attachment B, make sure you have included the following:

- Prime Contractor's name, address and phone number.

Updated
7/16/2008

- Project description.
- Project number.
- Total contract dollar amount. This amount must match the submitted bid price.
- List the minority firm name, certification number, work to be performed, dollar amount and/or percentage amount.
- Clarify for each sub-contractor if it will provide services, is a supplier or will supply and install.
- It is the Contractor's responsibility to ensure that the proposed subcontractors are certified to perform the proposed work. All Contractors are to submit an approvable MBE plan at time of bid. Approvable means, the subcontractors are certified in the applicable SIC/NAIC Codes through MDOT and can perform the proposed work for the required participation goal. Contractors pending MBE certification at time of bid are **not** eligible for participation. If you submit a firm that is not certified to perform the proposed work and your contract falls short of the established MBE goal, your firm will be considered **non-responsive**. Prime Contractors are strongly encouraged to check the MDOT database at www.mbe.md.state.md.us to see if the subcontractor is certified to perform the work and to make sure the subcontractor has not graduated from the listed NAIC codes. If you have questions after checking the data base, you may contact the Authority MBE Office at 410-537-1048 for further assistance.

If you are using a supplier, the 60% rule applies. Please refer to the MBE Manual for the description of the 60% rule.

Please provide details on how you arrived at the 60% on Attachment B under the dollar amount. (i.e. - \$150,000.00 X 60% = \$90,000.00)

- If you are requesting a third tier relationship, you must state that request on the Attachment B form under work to be performed. Please note: Third Tier MBE/DBE subcontracting will be approved by the Authority only when the Authority is satisfied that there is no way except by Third Tier contracting that an MBE/DBE goal can be achieved. Specifics as to why a Third Tier contracting agreement must be included.
- The summary at the bottom of Attachment B must be filled out with the total overall MBE participation, Total African-American MBE participation, and the Total Women-Owned MBE participation.

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7/16/2008

- Attachment B must be signed by the preparer.
- If you are the apparent low bidder, you will receive a letter from the Authority requesting your MBE Attachment C (Outreach Efforts Compliance) and Attachment D (Subcontractor Project Participation Statement). You will have ten (10) working days to submit the attachments to the Authority. If you requested a waiver at time of bid, all of the back up documentation that complies with COMAR 21.11.03.11, must be submitted within the ten working days with Attachments C & D.
- If the apparent low bidder fails to return the required documentation within the allotted ten (10) days, the Procurement Officer may determine that the apparent low bidder is not responsible and therefore not eligible for contract award.
- When Attachments C & D are submitted they must have the identical subcontractors and dollar amount(s) listed on them as were listed on the previously submitted Attachments A & B. Failure to comply will result in your bid being non-responsive.

Updated
7/16/2008

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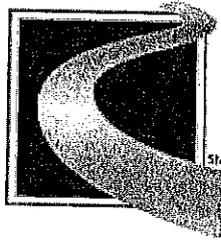


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MARYLAND TRANSPORTATION AUTHORITY
Baltimore, Maryland

Invitation for Bids

Baltimore Harbor Tunnel
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**Maryland
Transportation
Authority**

Contract No. MA 2161-000-002

On-Call Structural Repairs and Miscellaneous Modifications

**Anne Arundel, Baltimore, Cecil, Charles, Harford, Howard &
Queen Anne's Counties and Baltimore City**

August, 2008

NOTICE TO BIDDERS

A "Pre-Bidding Session" for the purpose of answering or obtaining answers to questions of parties interested in constructing the work relative to Right-of-Way, Utilities, Design, and Construction Details will be conducted at 9:00 am on September 3, 2008, in the Conference Room, 2nd Floor of Francis Scott Key Bridge Engineering/Finance Building at 300 Authority Drive in Dundalk, Maryland. While attendance at the Pre-Bid conference is not mandatory, this is the offerer's opportunity to raise questions and/or issues of concern regarding the Project.



NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT

**NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP)
REPORT 350 IMPLEMENTATION SCHEDULE FOR DEVICES USED IN THE
MAINTENANCE OF TRAFFIC**

Except as otherwise specified in this Section, all items for the maintenance of traffic, including those listed under the following categories, shall be crashworthy in conformance with Level 3 or other Level as specified by the Engineer in conformance with the safety crash testing and performance criteria published in the National Cooperative Highway Research Program (NCHRP) Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features." When conformance with NCHRP Report 350 is required, the Contractor shall provide the Engineer with the manufacturers' certifications that the devices comply with the specified criteria.

Unless specifically waived by an attachment to these Contract Provisions, devices must be approved by the Office of Traffic and Safety.

Category 1 Devices

These devices are cones, tubular markers, flexible delineator posts, and drums, all without any accessories or attachments, which are used for channelization and delineation.

Category 2 Devices

These devices are Type I, II, and III barricades; portable sign supports with signs; intrusion alarms; and drums, vertical panels, and cones, all with accessories or attachments.

Category 3 Devices

- (a) Truck Mounted Attenuators (TMAs).
- (b) Temporary Barrier.
 - (1) Concrete Barrier.
 - (2) Traffic Barrier W Beam and Water Filled Barrier.
- (c) Temporary End Treatments.

Category 4 Devices

These devices are area lighting supports, arrow panels, and portable variable message signs that are usually portable or trailer-mounted.

CONTRACT PROVISIONS
(NCHRP) REPORT 350 IMPLEMENTATION SCHEDULE

CONTRACT NO.
 CONTRACT NO. MA 2161-000-002
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WORK ZONE DEVICES	IMPLEMENTATION SCHEDULE TO CONFORM TO NCHRP REPORT 350 CRITERIA
<p>CATEGORY 1 Cones, tubular markers, flexible delineator posts, and drums (all without any accessories or attachments)</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 2 Type I, II, and III barricades; portable signs supports with signs; intrusion alarms; and drums, vertical panels, and cones (all with accessories or attachments)</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 3 (a) Truck Mounted Attenuators (TMA) (b) Temporary Barriers (1) Concrete Barrier (2) Traffic Barrier W Beam and Water Filled Barrier (c) Temporary End Treatments</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 4 Portable trailer mounted devices including area lighting supports, arrow panels, and changeable message signs</p>	<p>The Contractor may use devices that do not conform to NCHRP Report 350 criteria, until compliance dates are established. Use of these devices shall comply with the provisions of Part 6 of the MUTCD.</p>



CONTRACT PROVISIONS
OCCUPYING WETLANDS

CONTRACT NO. MA 2161-000-002

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OCCUPYING WETLANDS

The Contractor is hereby alerted to the importance of preserving wetland areas. The Administration, in conjunction with the various environmental agencies, has developed these Contract Documents so as to minimize or eliminate disturbance and damage to existing wetland areas. In order to accomplish this, the following must be rigidly adhered to:

- (a) Prior to performing any work on the project, the areas of wetland will be identified and marked as directed by the Administration. All personnel of the Contractor or sub-contractors shall be alerted to these designated areas.
- (b) The Contractor or sub-contractors shall not impact any wetland or waterway, whether it be permanently or temporarily unless otherwise stipulated in the permit application and approved as an authorized action by the appropriate regulatory agency. No fill shall be placed in these areas without a permit.
- (c) If a Contractor or sub-contractor has to impact a wetland or waterway that is not covered by an existing wetland permit, they shall immediately notify the Engineer. The Engineer will notify the Environmental Programs Division to determine the extent of any permit modification. At that time the Environmental Programs Division will request a permit modification or submit a permit application.
- (d) If the Contractor impacts any wetland or waterway for which they do not have a wetland permit, they shall be responsible for restoring the wetland areas and possibly mitigating the wetland impacts to the full satisfaction of the environmental agencies, which could include monetary compensation.
- (e) The cost of restoration and mitigation of the impacted areas shall be at no additional cost to the Administration.

The importance of not abusing the wetland areas cannot be overemphasized. Abuse of wetland areas could jeopardize the operation of the total Contract and could be cause for a shut-down. If a shut-down occurs because of the Contractor's failure to secure the required permits (i.e. the Contractor's method of work includes impacts not approved by previously acquired permits), the Contractor's negligence or operations, all costs and damages to the Contractor and to the State will be at no additional cost to the Administration. Noncompliance with these requirements will not be considered for an extension of Contract time.



HIGH VISIBILITY SAFETY APPAREL POLICY

Effective January 1, 2006, all employees of the Administration, Contractors, Utility Companies, Local Governments, FHWA, and all other persons who work on Maryland State highways and rights-of-way must wear as a minimum an outermost high-visibility garment meeting the requirements of Class 2 American National Safety Institute/International Safety Equipment Association Apparel (ANSI/ISEA 107/2004 Apparel). The high visibility outermost garment shall be fluorescent yellow-green background.



Maryland
Transportation
Authority

SPECIAL PROVISIONS

CONTRACT NO. MA 2161-000-002

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SP 1-1 PROJECT DESCRIPTION

CONTRACT NO.: MA 2161-000-002

TITLE: On-Call Structural Repairs and Miscellaneous Modifications

FACILITY: Baltimore Harbor Tunnel, Fort McHenry Tunnel, Thomas J. Hatem Memorial Bridge, Francis Scott Key Bridge, John F. Kennedy Memorial Highway, William Preston Lane Jr. Memorial Highway, Harry W. Nice Memorial Bridge

COUNTY: Anne Arundel, Baltimore, Cecil, Charles, Harford, Howard, Queen Anne's Counties and Baltimore City

ADVERTISED: **August 19, 2008**

PRE-BID MEETING: **September 3, 2008 at 9:00 a.m.** in the Conference Room at the Maryland Transportation Authority, 300 Authority Drive, 2nd Floor, Engineering/Finance Building, Baltimore, MD 21222.

PROJECT CONTACT: Project Manager: Mr. Abey Tamrat at (410) 537-7822
Contract Administration: Ms. Maggie Johnson at (410) 537-7807

BIDS DUE: **12 Noon, September 19, 2008**, in the Bid Box on the 1st floor of the Maryland Transportation Authority, Engineering/Finance Building, 300 Authority Drive, Baltimore, MD 21222.

CLASSIFICATION: Class - E (\$2,500,001 to \$5,000,000)

CONTRACT TIME: Seven Hundred Thirty (730) Calendar Days

LIQUIDATED DAMAGES: N/A

MINIMUM MBE GOALS: Overall 25%
No Subgoals

BID DOCUMENTS: **\$50.00** Bid documents can be purchased between 7:30 a.m. and 3:30 p.m., Mondays, Wednesdays, Thursdays and Fridays and between 10:00 a.m. and 4:00 p.m. on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, MD 21222.



The work to be performed under this contract is located in the following Maryland Transportation Authority ("Authority") facilities:

- a) John F. Kennedy Memorial Highway (I-95 in Harford, Cecil and Baltimore Counties);
- b) Thomas J. Hatem Memorial Bridge (U.S. 40 in Harford and Cecil Counties);
- c) Fort McHenry Tunnel (I-95 and I-395 in Baltimore City);
- d) Baltimore Harbor Tunnel (I-895 in Baltimore City and Baltimore, Anne Arundel and Howard Counties);
- e) Francis Scott Key Bridge Facility (I-695 in Baltimore City and Baltimore and Anne Arundel County);
- f) William Preston Lane Jr. Memorial Bridge (Anne Arundel and Queen Annes Counties);
- g) Harry W. Nice Memorial Bridge (Charles County); and
- h) The Authority's Point Breeze Property.

The scope of work includes providing labor, equipment, materials, etc. necessary in performing miscellaneous structural repairs and other repairs, modifications and enhancements on I-895 over Boston Street Bridge (Authority Bridge No. BCY112) and the Authority's facilities as directed by the Engineer and as shown on the Contract plans and specifications. The work may include but is not limited to the following:

- a) Repair piers, pier caps, pedestals, and abutments;
- b) Jacking bridge steel beams under traffic and restoring bearings on piers and abutments;
- c) Replace deteriorated steel bridge beams, girders, and other structural steel, including cleaning and painting repaired areas;
- d) Repair or replace damaged bridge fender systems and/or dolphins;
- e) Repair cracks in structural steel and/or welds of bridge beams/girders;
- f) Repair concrete slope protections at bridge piers and abutments;
- g) Repair damaged toll booths, canopies and concrete toll islands;
- h) Maintenance of traffic that is required for structural repairs;
- i) Miscellaneous repairs, enhancements and modifications, which may be security related or potential emergency related;
- j) Repair of retaining and noise walls;
- k) Concrete bridge deck repairs; and
- l) Repair to I-895 over Boston Street as shown on the plans.*

*** Exterior Beam Replacement on the I-895 Overpass at Boston Street shall start immediately after notice to proceed has been given to the Contractor.**

Portions of this work may have to be performed on an emergency basis rather than as a routine project. If an emergency situation arises, the Contractor hereby agrees to give the emergency situation first priority until the emergency is resolved, even though this may be at the expense of other tasks for which the Contractor is responsible.

The Engineer will provide a list and priority of projects to the Contractor on a monthly basis. Within two (2) weeks of the assignment, the Contractor shall supply the following information:

- a) The estimated time to receive all materials;
- b) The estimated number of work days to complete the project; and
- c) If requested by the Engineer, a lump sum cost proposal or a cost proposal based on a list of items supplied by the Engineer, which will include all labor, materials, equipment, and Subcontractors required to complete the project.

If an agreement on prices for projects that the Engineer has requested a cost proposal cannot be reached, the work will be performed by time and materials.

The Contractor shall furnish to the Engineer the names, addresses, phone numbers, pager numbers, etc. of at least two individuals who can be contacted by the Engineer and who are authorized to provide construction services in the event of an emergency as determined by the Engineer. One of these individuals shall be available at all times to be contacted within a maximum time period of two (2) hours.

The Contractor shall be onsite if requested within four (4) hours of initial notification, particularly for such an emergency. Failure to comply with this requirement will result in a penalty of \$50.00/min. from initial notification.

The Authority reserves the right to terminate the Contract for any reason, including its own convenience, by giving prior written notice to the Contractor. Work shall be performed as directed by the Engineer and may not be on a continual basis.

SP 1-2 SPECIFICATIONS

All work on this project shall conform to the Maryland Department of Transportation, State Highway Administration's Specifications entitled, "Standard Specifications for Construction and Materials" dated January 2001, revisions thereof, or additions thereto, and the Special Provisions included in this Invitation for Bids.

SP 1-3 ORIGINAL FACILITY PLANS AND SITE VISITS

The original facility plans are on file at the Engineering/Finance Building of the Francis Scott Key Bridge and will be made available for inspection to prospective bidders. Parties interested in viewing the plans should contact Mr. Abey Tamrat at (410) 537-7822. Parties interested in visiting the site should contact the following:

- a) John F. Kennedy Memorial Highway and Thomas J. Hatem Memorial Bridge – Mr. George Fish, Administrator at (410)-537-1104.
- b) Fort McHenry Tunnel - Mr. Dave Roehmer at (410)-537-1310.
- c) Baltimore Harbor Tunnel - Mr. David Roehmer at (410)-537-1310.

- d) Francis Scott Key Bridge – Mr. Charles Raycob at (410)-537-7513.
- e) Wm. Preston Lane Jr. Memorial Bridge, Mr. Don Watts at (410)-537-6651.
- f) Harry W. Nice Memorial Bridge - Mr. Gary Jackson at (301)-259-4870.

SP 1-4 - PROMPT PAYMENT TO SUBCONTRACTORS

The prime Contractor is responsible for making timely payments to all Subcontractors and Suppliers and provide written certification as required in Section 17-106 of the State Finance and Procurement Article of the Annotated Code of Maryland, as amended.

This contract requires the Contractor to make payment to all Subcontractors within ten (10) days of receiving payment from the Maryland Transportation Authority (“Authority”).

Each month, the construction Project Engineer will review the current pay items with the prime Contractor and all involved Subcontractors to ensure that all work satisfactorily completed within specifications is included in the monthly progress payment. For payment purposes, the same quantity totals used to compute the payment to the prime Contractor will be the basis for payment to the Subcontractor.

If the Subcontractor does not receive payment within the required ten (10) days, the Subcontractor shall notify the Project Engineer in writing of the amount in dispute including the item numbers and payment quantity for each. The Project Engineer will then notify the Director of Construction of the dispute. The Director of Construction or his representative will verbally contact the prime Contractor within 48 hours to ascertain whether or not a performance dispute exists which necessitates non-payment to the Subcontractor. If a performance dispute exists, the prime Contractor must demonstrate that there is a valid basis to withhold payment from the Subcontractor. If the prime Contractor withholds payment from a Subcontractor, the prime Contractor shall provide to the Subcontractor written notice of the withholding of payment. The notice shall detail the reasons for withholding payment as well as the amount. A copy of the notice shall be provided to the Surety and the Authority. If no valid dispute exists, the prime Contractor will be directed to make immediate payment to the Subcontractor. The Subcontractor will be responsible for notifying the Director of Construction if this payment is not made. Upon receipt of notification, the Director of Construction will schedule a meeting with the Contractor and Subcontractor to verify and discuss the non-payment issue. This meeting will be held at the Authority’s offices within two (2) working days of the Authority’s contact with the subcontractor. If it is determined that the prime Contractor has withheld payment to the Subcontractor without cause, further progress payments to the prime Contractor will be withheld until the Subcontractor is paid. In addition, the Authority may order a suspension of work or other administrative actions as it sees fit.

If an action is taken as stated above the Contractor shall notify the Authority’s Project Engineer when payment is made. After the Authority’s Project Engineer verifies that



SPECIAL PROVISIONS

CONTRACT NO. MA 2161-000-002

Page 5 of 14

payment has been made to the Subcontractor the Authority shall release withheld progress payments.

Nothing in this Special Provision shall be construed to prevent the Subcontractor from pursuing a claim with the surety under the prime Contractor's payment bond at any time.

SP 1-5 WORK HOURS

Refer to Section 104 "Maintenance of Traffic" and contract plans for lane and shoulder closures.

The Contractor shall cooperate with any other Contractors that are on site during the term of the project, as stated in GP-5.06 of the Standard Specifications. If the Contractor is directed to move off a bridge/work site once its operations have begun because of unforeseen event, it will be compensated in accordance with the specifications.

Except for maintenance of traffic restrictions, the Contractor will be permitted to work twenty-four (24) hours a day, seven (7) days a week. However, no lane or bridge closures will be permitted during high winds (greater than 25 mph), rain, snow or other precipitation events when water, ice or snow is on the roadway or when there is the potential for fog, as determined by the Authority. Nighttime construction noise shall not be allowed unless directed by the Engineer.

SP 1-6 INSURANCE

TC-5.01 INSURANCE

Section TC 5.01 of the Standard Specifications is supplemented as follows:

1. The Contractor shall not commence work under this contract until he has obtained all of the minimum amounts of insurance required by these Special Provisions and the insurance has been approved by the Engineer. The Contractor shall furnish to the Maryland Transportation Authority ("Authority") duly executed certification of all required insurance on forms satisfactory to the Authority. The certificates of insurance shall state that it is in force and cannot be cancelled, release or non-renewed except upon thirty (30) days prior written notice, registered mail to the Authority. All Contractors' insurance policies, with the exception of the Worker's Compensation and Employer's Liability, shall be endorsed to provide as additional insureds the Maryland Transportation Authority and the State of Maryland.
2. The Contractor shall purchase and maintain such insurance as is specified herein which will provide the Authority, its members, employees and agents, as well as the Contractor from claims which may arise out of or as a result of the Contractor's operations under this contract, whether such operations be by the Contractor, by any subcontractor, by anyone directly or indirectly employed by any of them or by anyone whose acts any of them may



be liable: This insurance shall be maintained in full force until the Contract has been accepted by the Authority and final payment is made.

3. The Authority requires the following minimum levels of insurance coverage for this contract:

a) Worker's Compensation and Employer's Liability

The Contractor shall, at all times, maintain and keep in force such insurance as will protect him from claims under the Worker's Compensation Act of the State of Maryland and maintain and keep Employer's Liability Insurance at a limit of One Hundred Thousand Dollars (\$100,000.00). The Contractor shall also maintain United States Long Shore and Harbors Act coverage, if such exposure exists.

b) Comprehensive General Liability Insurance

The Contractor shall maintain Comprehensive General Liability Insurance in the amount of at least One Million Dollars (\$1,000,000.00) Combined Single Limit for Bodily Injury Liability and Property Damage Liability Insurance per occurrence and in the aggregate. Such insurance shall specifically include the Comprehensive General

Liability Broad Form Endorsement and indicate explosion, collapse, and underground damage coverage.

c) Comprehensive Automobile Liability Insurance

The Contractor shall maintain Comprehensive Automobile Liability Insurance (including all automotive equipment owned, operated, rented, or leased), in the amount of at least Five Hundred Thousand (\$500,000.00) Combined Single Limit for bodily injury and property damage.

d) Additional Insurance

The Contractor shall also procure and keep in effect:

Excess liability (umbrella coverage) in excess of and applicable to the coverage in the Comprehensive General Public Liability and Property Damage Insurance, "X, C, U" and Comprehensive Automobile Insurance in the amount of at least Two Million Dollars (\$2,000,000.00) for each occurrence.

4. Accident Notification - The Contractor shall send a written report to the Engineer and to the Maryland transportation Authority within twenty-four (24) hours of any accident or other event arising in any manner from the performance of the contract which results in or might result in personal injury or property damage.



5. Failure to comply with these Special Provisions may lead to termination for default or convenience.
6. There will be no special payment for the insurance as required by this contract and all costs incidental thereto shall be included in the Lump Sum for "Mobilization", (refer to Section 108), or if the Contract does not include such an item, the insurance costs are to be included in pay items for the Proposal.

**SP 1-7 MINORITY BUSINESS ENTERPRISE REGULATIONS GOVERNING
CONSTRUCTION CONTRACTS IN EXCESS OF \$50,000
EFFECTIVE JULY 1, 2001**

See applicable sections of the Proposal Book for details.

SP 1-8 PROGRESS SCHEDULE REQUIREMENTS

Refer to Section 109 of the Standard Specifications.

SP 1-9 CORPORATE REGISTRATION

A foreign corporation is any corporation not incorporated under the Laws of the State of Maryland. All foreign corporations, prior to performing any services for the Authority, must register with the Maryland State Department of Assessment and Taxation in compliance with Subtitle 2, Title 7, of the Corporations and Associations Article of the Annotated Code of Maryland. Compliance is required of the successful vendor as well as the proposed subcontractors.

To accomplish the required registration, a foreign corporation must request and complete "Qualification Application Forms" which can be obtained from the Department of Assessment and Taxation, State Office Building, Room 803, 301 West Preston Street, Baltimore, Maryland 21201. Forms can be obtained via the Maryland Department of Assessments and Taxation website at www.dat.state.md.us.

The Contractor will be responsible for documenting compliance with the aforesaid. This documentation will be required prior to the execution of a contract with the successful bidder.

SP 1-10 CONTRACTOR'S EMPLOYEE IDENTIFICATION

The Contractor shall provide to the Authority, a list containing the following for Contractor and all sub-contractors that would be working at the site prior to start of work. This shall include trucking companies who would come to the site on a repetitive basis for supply or to remove materials:



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- Name of Company
- Name and title of contact person
- Address of the Company
- Phone Number
- Facsimile number
- E-Mail address of contact person (if any)

All Contractor's employees, including employees of subcontractors, on this project, present at the site, shall be in possession of a valid employee identification card provided by the Employer, which shall contain a photograph and identify the employee by name and job title. The employee must produce the said identification if required by the Engineer or the Authority Police.

When working in or around the Authority's buildings, said employees identification shall be displayed at all times.

While working on the transportation facility projects of the Authority, Contractor's personnel shall have an ID decal displayed on their hardhat. These decals will be provided by the Authority. All Contractor's vehicles shall have a parking decal, attached to the rear view mirror. These parking decals will also be provided by the Authority and a distribution list will be maintained. At the time of project completion these decals shall be returned to the Authority. Requests for hardhat and rearview mirror decals shall be made to the Construction Section before the beginning of construction and should include the number required of each type of decal.

All costs associated with identification cards will not be paid for separately and shall be incorporated under other items of payment in the Contract.

SP 1-11 MAINTENANCE OF RAILROAD TRAFFIC

For purpose of these Special Provisions, Amtrak, CSX Transportation, Inc., and Norfolk Southern Corporation will hereinafter be referred to as the "Railroad". Refer to GP-1.03 of the Standard Specifications for the definition of the "Engineer".

A. Railroad Traffic

The following requirements will apply to work performed in or near Railroad property.

B. Rules, Regulations, Etc.

Railroad traffic shall be maintained at all times with safety and continuity within the limitations stated below, and the Contractor shall conduct all operations on, over, and adjacent to the Railroad's property fully within the rules, regulations, and requirements of the Railroad. The Contractor shall be responsible for acquainting itself with such requirements as the Railroad may demand.



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Before proceeding with any construction work on, over, or adjacent to the Railroad's property, the Contractor shall submit plans and a detailed description of the method of procedure which will be followed for work in these areas for the approval of the Engineer and the Railroad; however, such approval shall not serve in any way to relieve the Contractor's responsibility for the adequacy and safety of the method of procedure.

Since the work in the field will not be permitted to proceed until the plans and method of procedure have been approved by the Engineer and the Railroad, it shall be the responsibility of the Contractor to submit its plans and method of procedure promptly so that unnecessary delays in construction operations will be avoided.

The Contractor shall be required to submit to the Railroad a written safety program prepared by the Contractor for the education and protection of its employees. This program shall address the hazards and safety considerations in working in the vicinity of the Railroad's property and operation.

No work shall be performed on these portions of the project until such times as all insurance policies, and other requirements of the Railroad have been complied with and their approval, in writing, has been obtained by the Engineer.

The proper official of the railroad to be contacted is as follows:

AMTRAK

Mr. Earl Watson III
Director I&C Projects
30th Street. Station
Third Floor Tower, Box 64
Philadelphia, P.A. 19104
(215) 349-1393

Norfolk Southern Corporation

Mr. T. David Wyatt
Engineer, Grade Separations
Norfolk Southern Corporation
99 Spring St., SW
Atlanta, GA 30303
(404) 529-1641



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CSX Transportation, Inc.

Mr. Carl Roe, Jr., P.E.
Principal Engineer
Public Improvements
Engineering Department, J-350
4901 Belfort Road, Suite 130
Jacksonville, FL 32256
(904) 245-1036

Except in emergencies, contact shall be made with the above specified officials.

All construction performed on, under, adjacent to, or over Railroad property will be subject to the inspection and approval of the Railroad.

At least ten (10) days advance notice shall be given, through the Engineer, to the Railroad, prior to entering upon or commencing any work on Railroad property.

Scheduling of the Contractor's operations that may affect the Railroad shall be coordinated through the Railroad. Scheduling or permission to occupy the track shall be made through the appropriate Yardmaster, in addition to the above specified officials.

All work herein provided to be done on, over, and adjacent to the Railroad's property shall be performed by the Contractor in a manner satisfactory to the Railroad, and shall be performed at such times, and in such a manner, as not to interfere with the movements of trains or traffic upon the tracks of the Railroad. The Contractor shall use all reasonable care and precaution in order to avoid accidents, damage, delay, or interference with the Railroad's trains or other property.

The Contractor shall consult the Railroad in order to determine the type of protection to ensure safety and continuity of Railroad traffic incident to the particular methods of operation and equipment to be used on the work.

The Railroad will furnish such qualified flaggers, signalmen, or protection men other than crossing watchmen, as may be required, to ensure complete protection of train operations and Railroad facilities. The need for this type of service will be determined on the basis of Railroad regulations and the Contractor's approved construction schedule. No work shall proceed without proper protection on the site. The providing of watchmen and guards, or any other precautionary and protective services by the Railroad, shall not relieve the Contractor from liability for payment of damages caused by or in consequence of the Contractor's operations.



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All expenses incurred in connection with protection of Railroad facilities by Railroad employees will be borne by the Maryland Transportation Authority. Billings for such services or expense will be made directly to the Maryland Transportation Authority by the Railroad.

It shall be expressly understood that this Contract includes no work for which the Railroad is to be billed by the Contractor, and it shall be further understood that the Contractor is not to bill the Railroad for any work which it may perform, unless the Railroad gives written permission that such work be performed at the Railroad's expense.

Any work performed by the Railroad at the Contractor's request, other than protective services and work specifically designated in these Special Provisions, shall be paid for by the Contractor immediately upon presentation of the bills by the Railroad.

Final settlement by the Maryland Transportation Authority with the Contractor shall be contingent upon: (a) the Contractor showing proof that the Railroad's property has been cleared of all machinery, equipment, surplus materials, false work, rubbish, temporary buildings, and other property in a condition satisfactory to the Railroad; and (b) the Contractor showing proof that no bills are owed by the Contractor to the Railroad in connection with the work performed on this project.

The Contractor shall secure permission from the Railroad, in writing, for the erection of any temporary structures, scaffolding, rigging on, over, or adjacent to the Railroad's property. Forms for concrete, false work, and bracing on, or over the Railroad's property shall be approved by the Railroad with respect to any reduction of existing clearance. All work on or over the Railroad's property shall be approved by the Railroad with respect to any reduction of existing clearance. All work on or over the Railroad's property shall be performed under the supervision of both the Engineer and the Railroad.

Approved minimum temporary construction clearances from Railroad tracks are 22.00 ft. vertical from top of rail and 18.00 ft. horizontal from track centerline. Approval for clearances less than noted must be obtained by the Contractor through the Engineer from the Railroad and from the regulatory agency having jurisdiction over Railroad clearances in the State of Maryland before beginning any work involving such clearances.

The Contractor shall be held responsible to see that his employees enter upon Railroad or other property through points of access designated by the property owner. Operations within these properties shall be confined to the rights-of-way as shown on the drawings and as designated by the Engineer.

Should the Contractor require a temporary grade crossing of Railroad tracks, the Contractor shall be required to apply for and execute the standard private grade crossing



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agreement for each crossing required. Application for the crossing shall be made to the Railroad at least six weeks before the crossing is required. A letter size plan showing location and size of crossing should accompany the letter of application. The letter should state the purpose for which the crossing is needed and the expected life of the crossing. The Contractor shall pay all construction, maintenance, removal, protection, and other costs. The roadbed shall be restored to its original condition.

The Contractor shall conduct its operations both on and off Railroad right-of-way so that no earth, mud, silt, or other foreign matter will be deposited on Railroad ballast or cause flooding or saturation of subgrade. In order to accomplish this, it may be necessary for the Contractor to construct temporary drainage facilities, temporary sheeting or take other precautionary action, such as nailing canvas or other similar materials to the ties to cover the ballast. The protective measures shall be performed by the Contractor at the Contractor's own expense in a manner satisfactory to the Railroad.

However, in addition to the aforementioned protective measures, if the Railroad track ballast does become fouled due to the Contractor's operations, the Railroad, with its own forces, will remove the fouled ballast and replace it with a clean ballast. The charges for this work will be billed against the Contractor by the Railroad.

The Contractor shall furnish and maintain during all construction work, such watchmen, lights, barricades, fences, and other appropriate protection as, in the opinion of the Railroad, shall be necessary for the protection of all persons having access to property and facilities of the Railroad.

Every bidder is required to ascertain from the Railroad its rules, regulations, and requirements and what, if any, delays that it shall be subjected to, or scheduled days when work would be permitted, in connection with the supporting of tracks, and in connection with other Railroad operations, and every bidder will be assumed to have included in its bid price, all costs and expenses and all risks of loss and damage to it, due to such delays, rules, regulations, and requirements.

Should any damage occur to Railroad property as a result of the Contractor's operations, the Railroad may repair such damage and perform any work for protection of its property it may deem necessary and the actual cost for such work shall be borne by the Contractor.

The Contractor will not be permitted to use Railroad personnel for the Contractor's purposes when such personnel are required at the immediate site of project construction by the Railroad solely for the safe operations of the Railroad.

Any approvals given by the Railroad will not be considered as a release from responsibility for any damage to the Railroad by the acts of the Contractor, its subcontractors, or those of the Contractor's or subcontractor's employees.



C. Shop and Working Drawings for Railroad Approval

Where the Contract Drawings or Specifications require that shop and/or working drawings are to be submitted for Railroad review and approval, such submission shall be as required above and modified herein.

Six (6) copies of shop and/or working drawings shall be submitted through the Engineer to the Railroad at least sixty (60) calendar days in advance of them being required for the work.

All working drawings submitted for Railroad approval shall be certified by a Professional Engineer registered in the area where the work is to be performed.

No work shall be performed until the working drawings are approved by the Engineer and the Railroad. Approval of the working drawings by the Engineer and the Railroad shall not relieve the Contractor's responsibility for errors in dimensions, elevations, or design calculations and for performance of the work in a safe manner without endangering the safety of the Railroad personnel, equipment, or the Contractor's workmen.

The working drawings shall clearly show all dimensions, sizes of members, types of materials, and all other pertinent information as may be required by the Engineer and the Railroad to permit proper checking for such working drawings. The Contractor shall also submit along with the working drawings, copies of the design calculations.

D. Insurance

The Contractor shall purchase and maintain for the length of the project the following insurance policies in addition to those required in the Specifications and in other sections of these Special Provisions.

1. Contractor's Public Liability and Property Damage Insurance:

Limits not less than Two Million Dollars (\$2,000,000.00) per occurrence for Bodily Injury and Two Million Dollars (\$2,000,000.00) per occurrence for Property Damage.

2. Contractor's Protective Public Liability and Property Damage Insurance:

If any part of the work is to be performed by a Subcontractor, the prime Contractor shall carry in the Contractor's own behalf, insurance of same limits as set forth in paragraph 1, above.



3. Railroad Protective Public Liability and Property Damage Insurance:

This policy shall name the respective "Railroad" as "The Insured" and shall be written on the form prescribed by the U.S. Department of Transportation, Federal Highway Administration, in the Federal Air Highway Program Manual, Volume 6, Chapter 6, Section 2, Subsection 2 Railroad-Highway Insurance Protection Required for Contractors.

Limits of liability shall be in the amount of Two Million Dollars (\$2,000,000.00) for bodily injury and property damage per occurrence with an aggregate of Six Million Dollars (\$6,000,000.00) per annual policy period.

The limits stated herein have been established after reviewing the work listed in the Contract. Should the Contractor be otherwise using railroad property (for example for a temporary grade crossing) it may be subject to other requirements. The Contractor is required to communicate with the Railroad and provide for complying with all of their requirements.

The original of policy 3. must be furnished to and approved by the Railroad.

For 1. and 2., Certifications are to be furnished to the Maryland Transportation Authority and to the Railroad on request. In all instances, the Contractor must furnish evidence to the Maryland Transportation Authority and Railroad that the insurance has been purchased and is in force until the Contract is completed and accepted. Contractor will not be permitted on Railroad property until the Insurance Policy(s) have been approved.

Policies, notices of cancellation or change, etc., are to be sent by the Contractor directly to the Engineering Officer of the Railroad. Contractor and the Contractor's insurance representatives must reconcile all policy requirements to the satisfaction of the Railroad and the Engineer.

E. Measurement and Payment

Work on Railroad property during the life of the Contract and all incidental costs imposed on the Contractor due to the operations of the Railroad will not be measured for payment, but cost thereof shall be incidental to the lump sum cost proposal for the individual project site affected by the Railroad.

Costs of all Contractor's and Railroad insurance policies will be paid for under the Contingent Miscellaneous Repairs & Modifications item.



**GENERAL PROVISIONS
GP-SECTION 1
DEFINITIONS AND TERMS**

GP 1.03 – ORGANIZATIONAL DEFINITIONS

Revise the definitions of Administration to read as follows:

Administration – The word “Administration” shall mean the “Maryland Transportation Authority”.

Except for Office of Materials and Research, all references to the Maryland State Highway Administration’s offices and positions shall mean the Authority’s corresponding Engineering Divisions and positions such as Bridge, Traffic, Highway, and Environmental Sections.



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**GENERAL PROVISIONS
GP- SECTION 1
DEFINITIONS AND TERMS**

GP 1.05 - DEFINITIONS

Add the following definitions:

Highway Standards - The official Book of Standards for Highway and Incidental Structures, edited by the State Highway Administration, with the latest incorporated revisions issued on or before the date of advertisement on the Contract.



**GENERAL PROVISIONS
GP-SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

GP 2.04 SITE INVESTIGATION

Revise the paragraph to read as follows:

The Contractor acknowledges that it has investigated and satisfied itself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling, and storage of materials; availability of labor, water, electric power, roads; uncertainties of weather, river stages, tides, or similar physical conditions at the site; and confirmation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The Contractor further acknowledges that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as the information is reasonably ascertainable from an inspection of the site, including all exploratory INFORMATION IN POSSESSION OF THE STATE, as well as from information presented by the drawings and Specifications made part of this contract. Any failure by the Contractor to acquaint itself with the available information may not relieve it from responsibility for estimating properly the difficulty or cost of successfully performing the work. The State assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the State.



**GENERAL PROVISIONS
GP-SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

GP-2.06 PREPARATION OF THE BID

GP9 **ADD:** After paragraph (a), the following.

The Contractor may elect to submit its bid on forms it has generated in the development of its bid. These may be submitted in lieu of the schedule of prices bid forms furnished by the Administration in the Invitation for Bids. These forms shall emulate the forms currently furnished by the Administration and, as a minimum, contain the following information:

- (1) State Contract No.;
- (2) State Item Nos.;
- (3) State's Proposed Quantities;
- (4) Description of Items;
- (5) Unit Price;
- (6) Total Cost of Each Item; and
- (7) Total Bid Amount.

The document shall be 8-1/2 x 11 inches, and oriented in a landscape format. The font size shall be no less than 10 point with horizontal lines dividing each item. Any addendum which revised items or quantities shall be noted on all affected schedule of prices sheets. Any special bid requirements that are noted in the schedule of prices shall also be listed on the form.

Should the Contractor elect to submit bids on the Contractor's own forms, the Contractor shall submit a sample of the form to the Administration at least two (2) weeks prior to the scheduled opening of bids. The use of Contractor generated forms shall be approved, in writing, prior to their use. If the Contractor's forms were previously approved in writing on another Administration project and have not changed, they need not be resubmitted for this project.



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Sample forms shall be submitted to:

Mr. Doug Hutcheson, P.E.
Deputy Director of Engineering
Maryland Transportation Authority
300 Authority Drive
Baltimore, MD 21222



**GENERAL PROVISIONS
GP-SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

GP 2.23 - BID PROTESTS

Section GP 2.23 of the General Provisions is supplemented as follows:

The Board of Public Works does not have the jurisdiction to consider protests relating to this solicitation or an award of this contract under this solicitation.

All protests relating to this solicitation, the selection, and/or award must be filed in writing with the Authority's Procurement Officer, within the time limitations set forth in COMAR 21.10.07 and 21.10.02. Bid protests shall be filed not later than 7 days after the basis for protest is known, or should have been known, whichever is earlier. Oral protests will not be considered.

The specific details of the protest procedures shall be followed by aggrieved actual or prospective bidders or offerors are contained in COMAR 21.10.



**GENERAL PROVISIONS
GP SECTION 4
SCOPE OF WORK**

GP 4.10 - WARRANTY OF CONSTRUCTION

GP 4.10 of the Standard Specifications is revised to read as follows:

Delete: The first paragraph in its entirety.

Insert: The following:

The Warranty as defined under paragraphs A through G in GP 4.10 "Warranty of Construction" shall apply to this Maryland Transportation Authority contract unless specified elsewhere in this Invitation for Bids.



**GENERAL PROVISIONS
GP SECTION 5
CONTROL OF WORK**

GP 5.12 - FAILURE TO MAINTAIN ENTIRE PROJECT

Delete Section GP 5.12 in its entirety

Insert: Revise the paragraph to read as follows:

Failure on the part of the Contractor, at any time, to RESPOND TO the provisions of GP 5.11 above, will result in the procurement officer immediately notifying the Contractor to comply with the required maintenance provisions. In the event that the Contractor fails to PROCEED WITH CORRECTIONS TO UNSATISFACTORY MAINTENANCE SO AS TO CONFORM TO THE PROVISIONS OF GP 5.11 within 4 hours of receipt of such notice, the procurement officer MAY NOTIFY THE CONTRACTOR TO SUSPEND ALL OTHER WORK ON THE CONTRACT UNTIL SUCH TIME AS THE UNSATISFACTORY MAINTENANCE IS CORRECTED. In the event that the Contractor fails to RESPOND TO unsatisfactory maintenance within 4 hours after receipt of such notice, the procurement officer will immediately proceed with adequate forces and equipment to maintain the project, and the entire cost of this maintenance will be deducted from monies due the Contractor ON THE NEXT MONTHLY ESTIMATE.



**GENERAL PROVISIONS
GP SECTION 8
PROSECUTION AND PROGRESS**

GP 8.09 - LIQUIDATED DAMAGES

Delete: Section GP 8.09 in its entirety

Insert: Time is an essential element of the Contract and it is important that the work be vigorously prosecuted until completion.

For every calendar day that the Contract remains uncompleted after the expiration of the Contract time specified herein, or amended by extra work authorization, change orders or supplemental agreements, the Contractor will be liable for Liquidated Damages. The amount of Liquidated Damages shall be as specified in Contract Time and Bonding. This amount shall be deducted from any money due the Contractor, not as a penalty, but as Liquidated Damages. Damages in excess of any retained percentage shall be paid to the Authority by the Contractor.

Refer to Contract time and Bonding sheet contained elsewhere herein. See Table of Contents.



SPECIAL PROVISIONS

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**GENERAL PROVISIONS
GP SECTION 9
PAYMENT**

GP 9.05 LATE PAYMENTS

ADD the following:

- (e) Payments will be made within thirty (30) days of the date when the Contract amount becomes due and payable or the date of receipt of a proper invoice, whichever is later. The State's failure to remit payment within forty-five (45) days from that date may entitle the Contractor to interest at the rate of 10 percent per annum beginning on the 31st day.



TERMS AND CONDITIONS

**TC SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

87 **DELETE:** TC-2.01 PROJECT CLASSIFICATION in its entirety.

INSERT: The following.

TC-2.01 PROJECT CLASSIFICATION

The Administration will estimate the cost of the Contract and classify it within one cost group and letter designation as follows:

COST GROUP ESTIMATE	COST GROUP LETTER CLASS
Up to \$ 100 000	A
\$ 100 001 to \$ 500 000	B
\$ 500 001 to \$ 1 000 000	C
\$ 1 000 001 to \$ 2 500 000	D
\$ 2 500 001 to \$ 5 000 000	E
\$ 5 000 001 to \$ 10 000 000	F
\$ 10 000 001 to \$ 15 000 000	G
\$ 15 000 001 to \$ 30 000 000	H
\$ 30 000 001 to \$ 50 000 000	I
\$ 50 000 001 to \$ 75 000 000	J
\$ 75 000 001 to \$ 100 000 000	K
Over \$ 100 000 000	L

The letter designation will be published as part of the Notice to Contractors.



**TERMS AND CONDITIONS
TC SECTION 4
CONTROL OF WORK**

TC 4.01 - SHOP PLANS AND WORKING DRAWINGS

Section TC 4.01 of the Specifications is amended to add:

All shop plans and working drawings for this project shall be submitted to:

Maryland Transportation Authority
Engineering Division
300 Authority Drive
Baltimore, MD 21222
Mr. Abey Tamrat .

The Contractor shall allow a minimum of four (4) weeks turn around time on all drawings from the date they are received by the Authority. All shop plans and working drawings shall be reviewed and approved by the Contractor prior to submitting for approval to the Maryland Transportation Authority and shall be submitted by the general Contractor only. No drawings sent to the Authority directly by subcontractors, fabricators, etc. will be accepted. Ten (10) sets of drawings shall be submitted for approval.

Acceptance of a material source by the Engineer does not constitute approval of the material as a substitute as an "equal". Submission of a material as an "or equal" must be done in accordance with the following paragraphs:

All shop drawings, regardless if "Submitted as Specified" or "Submitted as Equal to Specified," shall be furnished with complete, specific, detailed information from the manufacturer or supplier or the material or equipment the Contractor proposes to furnish, in which the requirements of the Specifications are clearly shown to be met. This shall include a point by point comparison with the detail requirements of the Specifications.

When any article is specified by trade name of manufacturer with or without the clause "or equal," it is intended to establish the quality of the article. If the Contractor proposes to use material or equipment of another manufacturer as an "or equal" to material or equipment specified, all shop drawings shall conform to the following requirements, conditions, and procedure:

1. Substitution of equipment or materials other than those specified will be considered, providing, in the opinion of the Engineer, such equipment or material



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is equal to, or better than specified. The decision of the Engineer with respect to approval or disapproval of any material or equipment proposed to be substituted as an "or equal" is final. The Contractor shall have no claim of any sort by reason of such decision.

2. If the Contractor proposes to substitute materials or equipment as "or equal" to those specified, it shall be its responsibility to furnish, in addition to the information discussed above, a point by point comparison of the material or equipment specified under the Contract and that proposed to be substituted. The burden of responsibility in furnishing this information is with the Contractor.

If incomplete or irrelevant data is submitted as evidence of compliance with this section of the Specifications, the data will be returned and the request for approval will be denied.



**TERMS AND CONDITIONS
TC SECTION 4
CONTROL OF WORK**

TC-4.02 FAILURE TO ADEQUATELY MAINTAIN PROJECT.

16 **ADD:** To the existing paragraph.

Additionally, an appropriate deduction will be made from the Contractor's next progress estimate for each day or portion thereof that Maintenance of Traffic deficiencies exist, and will continue until the deficiencies are satisfactorily corrected and accepted by the Engineer. Any portion of a day will be assessed a full day deduction. The deduction will be equal to a prorata share of the lump sum price bid for Maintenance of Traffic or an amount prorated from the Engineer's estimate, whichever is more. The amount prorated will be the per diem amount established by using the working days (based upon calendar dates when required) divided into the total value of the bid item or the Engineer's estimate of that item, whichever is more.

The above noted deduction will be assessed on the next progress estimate if:

The Contractor does not take action to correct the deficiencies and properly assume the responsibilities of maintaining the project (as determined by the Engineer) within four (4) hours of receiving a notice to comply with the required maintenance provisions.

The deduction will be equal to the daily prorated share of the lump sum price bid for Maintenance of Traffic or \$ 1,000.00 per day, whichever is more for each day or portion thereof that the deficiencies exist, and will continue until the deficiencies and proper assumption of the required maintenance provisions are satisfactorily corrected and accepted by the Engineer. The amount of monies deducted will be a permanent deduction and are not recoverable. Upon satisfactory correction of the deficiencies, payment of the Maintenance of Traffic lump sum item will resume.



TERMS AND CONDITIONS

TC SECTION 4
CONTROL OF WORK

98 **ADD:** After TC-4.04.

TC-4.05 DISPUTE MEDIATION

When a dispute arises out of or relates to the Contract or breach thereof, and if the dispute can not be settled through negotiation or the partnering issue resolution process, either party may first elect to try in good faith to settle the dispute by non-binding mediation administered by a mutually agreed upon qualified mediator before proceeding with other dispute resolution procedures including litigation.



**TERMS AND CONDITIONS
TC SECTION 5
LEGAL RELATIONS AND PROGRESS**

TC-5.01 INSURANCE.

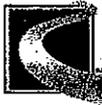
17 **DELETE:** The first three paragraphs under TC-5.01 in their entireties.

INSERT: The following.

The requirement of GP-7.14 "Liability Insurance" to submit Certificate of Insurance prior to starting work is modified for Administration Contracts to require the certificate of insurance to be submitted prior to the execution of the Contract.

The Contractor shall maintain in full force and effect third party legal liability insurance necessary to cover claims arising from the Contractor's operations under this agreement which cause damage to the person or property of third parties. The insurance shall be under a standard commercial general liability ("CGL") form endorsed as necessary to comply with the above requirements; or other liability insurance form deemed acceptable by the State. The State of Maryland shall be listed as an additional named insured on the policy. The limit of liability shall be no less than One Million Dollars (\$1,000,000.00) per occurrence/\$ One Million Dollars (\$1,000,000.00) general aggregate. The insurance shall be kept in full force and effect until all work has been satisfactorily completed and accepted. The policies shall be endorsed to provide thirty (30) days notice of cancellation or non-renewal to:

Director of Construction
Maryland Transportation Authority
300 Authority Drive
Baltimore, Maryland 21222



**TERMS AND CONDITIONS
TC SECTION 7
PAYMENT**

29 **DELETE:** TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS in its entirety.

INSERT: The following.

TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS.

When the Contractor requests payment allowance for materials, the following terms and conditions shall apply:

- (a) For superstructure members delivered on the project site, an allowance of 100 percent of the material cost plus freight charges as invoiced may be made provided the cost does not exceed 90 percent of the Contract price of the applicable Contract item. The allowance will be based upon validated invoices or bills for material including freight charges, and a copy thereof shall be made a part of the documented records for the project.
- (b) For reinforcement steel, piling, pipe, traffic barrier, signs and sign assemblies, and other nonperishable material in storage on the project, but excluding aggregates, cement, seed, plants, fertilizer or other perishable items, an allowance of 100 percent of the invoiced cost of the material plus freight charges to the Contractor may be made provided the cost does not exceed 90 percent of the Contract price of the applicable Contract item. Such material shall be delivered and stock-piled at the project site, and have been tested by the Administration and found to have conformed to the Specifications or have been accepted under an approved certification program prior to the allowance.
- (c) No allowance will be made for fuels, form lumber, falsework, temporary structures or other materials of any kind which will not become an integral part of the finished construction.

No payment for stored material will be made if it is anticipated that the material will be incorporated into the work within thirty (30) days of the written request.

Only end product manufactured material or fully fabricated products that are awaiting installation or incorporation into the finished work are eligible for prepayment. Components, elements, or ingredients of a finished product are not eligible for prepayment.

Material for which an allowance is requested shall be stored in an approved manner in areas within the State of Maryland where damage is not likely to occur. If any of the stored materials are lost or become damaged in any manner, the Contractor shall



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be responsible for repairing or replacing the damaged materials. The value of the lost or damaged material will be deducted from the Contractor's subsequent estimates until replacement has been accomplished. The request for allowances for any materials stored on private property within the State of Maryland shall be accompanied by a release from the owner and/or tenant of such property agreeing to permit the removal of the materials from the property without cost to the State of Maryland.

The material shall be clearly marked with the Administration's Contract number on individual units. If the material is normally shipped to the project in bundles or other forms of packaging, the Administration's Contract number shall be clearly marked or affixed to the package. When the material is not stored at the actual project site, the material shall be physically separated by fencing or equivalent barrier from other materials stored at the same site. The material shall be accessible to the Administration at all times.

When it is considered impractical to store materials on the actual project, the Engineer may approve storage areas in the vicinity of the actual project which will be considered at the project site.

When storage of the materials within the State of Maryland is not practical, approval shall be obtained from the Engineer for storage elsewhere. Storage of materials outside the State of Maryland will be subject to the conditions set forth in this provision and limited to materials exceeding Twenty-Five Thousand Dollars (\$25,000), which are designed and fabricated exclusively for use on a specific project.

- (e) Material for which payment has been made, either wholly or partially, shall not be removed from the approved location until such time that it is to be incorporated into the work unless authorized by the Engineer.
- (f) The Contractor shall submit a written request for payment to the Engineer at least two weeks prior to the estimate cutoff date established by the Engineer. The following items shall accompany the written request for payment:
 - (1) Consent of surety specifying the material type and the item(s) in which the material is to be used.
 - (2) Validated invoices with the signature of an officer of the company supplying the material showing actual cost.
 - (3) A notarized statement from the Contractor attesting that the invoices as submitted do not include charges or fees for placing, handling, erecting or any other charges or markups other than the actual material cost, sales tax(es), if applicable, and freight charges.
 - (4) Bills of lading showing delivery of the material. The request for allowances for any materials stored on property outside the State of Maryland shall be



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accompanied by a release from the owner or tenant of such property agreeing to permit verification by the Inspector that the material is stored at the approved location, and to permit the removal of the materials from the property without cost to the State of Maryland.

- (5) Inspection test reports, certifications and/or a written statement from the Inspector attesting to the inspection and approval of the material.

Upon receipt of the above by the Engineer and verification by the Inspector that the material is stored at the approved location, the Engineer will authorize payment.

- (6) A statement explaining why the material can not be stored on the project, if the Contractor is requesting to store material at a location other than the project site. The statement shall include the methods of storage, separation, and identification to be used by the Contractor. The Contractor shall provide a method of inventory control and withdrawal satisfactory to the Administration which shall be used by the Contractor to monitor materials not stored on the project.
- (7) A breakdown of the Contract line item bid unit price showing the relationship of the cost of the stored material to the costs of all other materials, labor, and components of the work included in the Contract line item unit price bid by the Contractor.

Upon receipt of the above by the District Engineer and verification by the Inspector that the material is stored at the approved location, the District Engineer will authorize payment.

The Contractor shall pay the material provider the amount shown on the invoice within ten (10) calendar days of receipt of payment from the Administration. Evidence of payment shall be provided to the Administration. Failure to make invoice payments as specified will be cause to deduct the monies from future estimates and/or deny future stored materials payment requests.

Copies of all pertinent data shall be made by the Contractor and distributed to the Inspector for retention as part of the documented records for the project.



TC SECTION 7
PAYMENT

TC-7.06 FINAL ACCEPTANCE AND FINAL PAYMENT

128 **DELETE:** (b) in its entirety.

INSERT: The following.

- (b) The Contractor shall then have a period of 30 days, dating from the date upon which he received the aforementioned tabulation from the Administration, in which:
- (1) To decide whether or not he will accept final payment upon such a basis, and
 - (2) To notify the Administration, in writing, of his decision. The Contractor may request an additional period up to 30 days in which to notify the Administration of his decision. In the event the Contractor notifies the Administration that he protests final payment on such a basis, that notification shall outline the reasons for said protest.



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**CATEGORY 100
PRELIMINARY**

**SECTION 100.01 - MAINTENANCE OF NAVIGATION AND COMPLIANCE WITH
STATE AND FEDERAL REGULATIONS**

100.01 GENERAL

Note that the bridges to be repaired may be over navigable waters which are under the navigational jurisdiction of the U.S. Coast Guard, U.S. Department of Transportation with headquarters at the following address: Commander (AOWB) USCG Atlantic Area, 4th Floor, Federal Building, 431 Crawford Street, Portsmouth, Virginia 23704. The Contractor shall be responsible for full compliance with all laws, regulations and requirements of the U.S. Coast Guard, which may be applicable to any operations conducted.

All work shall be conducted so as to not to interfere with the free navigation of the waterways. The Contractor shall therefore arrange his work so that the structure is capable of passing marine traffic at all times.

The Contractor shall be responsible for obtaining any required permit from the Coast Guard should any of his equipment be located in the navigable waters.

The Contractor shall be responsible for, and make good any damage caused to any craft or any person on said craft, which damage or injury is attributable to acts of the Contractor.

Removed materials, scrap or waste material and debris shall not be disposed of in the surrounding waters. The obtaining of approved disposal areas is the responsibility of the Contractor.

Any removed materials, scrap or waste material or debris dropped into the surrounding waters inadvertently, shall be removed from the water and disposed of suitably.

100.02 MEASUREMENT AND PAYMENT

Payment for this item including obtaining Coast Guard permits will not be measured for payment, but cost thereof shall be incidental to the Lump Sum cost proposal for the individual project site affected by Navigable water.



**CATEGORY 100
PRELIMINARY**

SECTION 103 — ENGINEERS OFFICE

103.03 CONSTRUCTION.

143 **DELETE:** 103.03.06 Microcomputer System for all Offices in its entirety.

INSERT: The following.

103.03.06 Microcomputer System for all Offices.

(a) Desktop Unit.

- (1) IBM compatible with an Intel or AMD processor.
- (2) Minimum microprocessor speed of 3.0 GHz.
- (3) Minimum hard drive storage of 80 GB (gigabyte).
- (4) Minimum of 1 GB RAM (Random Access Memory).
- (5) Enhanced 101 key keyboard with wrist rest.
- (6) Super Video Graphics Accelerator (SVGA).
- (7) Modem 56K BPS, ITU V.92 compliant – required for remote dial-in to the computer to provide MCMS system administration.
- (8) Mouse with mouse pad.
- (9) One CD-RW drive [re-writable CD-ROM].

(b) Operating System. Minimum Microsoft® Windows XP – all Microsoft Windows Critical Updates shall be installed prior to computer set up in the field office.

(c) Video Monitor. Color Super VGA monitor conforming to Energy Star requirements with a minimum screen size of 17 in.

(d) Printer. B&W Laser Jet Printer with a minimum resolution of 1200 DPI (dots per in.) and a minimum of 8 MB of RAM. Officejets and Bubblejets will not be accepted. Printer shall have a minimum print speed of 15 PPM (pages per minute).

(e) Software.

- (1) Microsoft® Office XP Professional for Windows™ or later.
- (2) Symantec® pcAnywhere32 for Windows™ version 10.5 or later.



- (3) Antivirus software shall be installed and configured to perform an automatic update when the microcomputer system connects to the internet. Antivirus software approved for SHA web email: *Norton, McAfee, Sophos, or ETrust.

(*Norton Internet Security includes both Antivirus and a Personal Firewall).

- (f) **Internet Access.** The microcomputer system shall be provided with unlimited Internet service approved by the Engineer. Where available internet high-speed service [DSL or cable] must be provided. With DSL or cable internet service an external Router device and firewall software are required to protect the computer from security intrusions. With DSL a Dual Outlet Modular Adapter [single-line RJ11] will be required to connect the DSL modem and the 56k dial-up modem to the same line.

(g) **Accessories.**

- (1) Uninterruptible power supply (UPS).
- (2) Standard computer workstation with minimum desk space of 60 X 30 in. and a swivel type office chair, padded with arm rests.
- (3) 8-1/2 X 11 in. xerographic paper to be supplied as needed.
- (4) Toner or ink as needed for printer.
- (5) Maintenance agreement to provide for possible down time.
- (6) Physical security system to deter theft of computer components.
- (7) Three 512MB USB Flash Drive storage devices.
- (8) Blank recordable CD-R media for re-writable CD-ROM drive to be supplied as needed.

(h) **Notes.**

- (1) The microcomputer system shall be completely set up ready for use on or before the day the Engineers office is to be occupied.
- (2) All software stated above shall be supplied on original disks with manuals and be retained in the construction field office for the duration of the Contract.
- (3) If for any reason the system fails to operate, the system shall be replaced or repaired within 48 hours.

When the microcomputer system is no longer required, the Construction Management software system including original user/operator guide manuals, program disks, and all data files (including those stored on external media: USB flash drives, CD-R's, ZIP disks, etc.) will be removed by the Engineer and delivered to the District Engineer and become the property of the Administration. The remaining microcomputer system shall remain the property of the Contractor.



148 **ADD:** Specific Field The following after **103.03.08 Office Requirements**

103.03.09 Recyclable Materials (Paper, Bottles, Cans, Etc.). The Administration's Environmental Stewardship Plan includes recycling initiatives at the Administration's construction sites and encourages recycling of all suitable material at all Engineers Offices and Contractor's site facilities.

While recycling is encouraged at all sites, the Administration is requiring recycling at the Type D Engineers Office as well as the Contractors facilities at the location of the Type D Engineers Office. The Contractor shall provide the containers as well as arrange for the removal of the recycled material from the site. Recycling will not be measured but the cost will be incidental to the Type D Engineers Office.



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**CATEGORY 100
PRELIMINARY**

SECTION 104 - MAINTENANCE OF TRAFFIC

104.00 General:

INSERT: The following:

- 1) The work in this Contract affects the following roads and will require coordination with the Maryland Transportation Authority:
 - a) John F. Kennedy Memorial Highway (I-95 in Baltimore, Harford, and Cecil Counties)
 - b) Thomas J. Hatem Memorial Bridge (U.S. 40 in Harford and Cecil Counties)
 - c) Baltimore Harbor Tunnel Thruway (I-895 in Baltimore City and Baltimore, Anne Arundel, and Howard Counties)
 - d) Francis Scott Key Bridge (I-695 in Baltimore City and Baltimore and Anne Arundel Counties)
 - e) William Preston Lane Jr. Memorial Bridge (U.S. 50 in Anne Arundel and Queen Annes Counties)
 - f) Harry W. Nice Memorial Bridge (U.S. 301 in Charles County)
 - g) Fort McHenry Tunnel (I-95 in Baltimore City)

AGENCY CONTACTS

Pre-construction/Existing Contract Coordination

Maryland Transportation Authority

Facility	Contact	Phone Number
Francis Scott Key Bridge (I-695)	Mr. Charles Raycob Facility Administrator	(410) 537-7513
John F. Kennedy Memorial Highway (I-95) & Thomas J. Hatem Memorial Bridge (U.S. 40)	Mr. George Fish Administrator- Northern Region	(410) 537-1102
Baltimore Harbor Tunnel Thruway (I-895)	Mr. Dave Roehmer Facility Administrator	(410) 537-1310
Fort McHenry Tunnel (I-95)	Mr. Dave Roehmer Facility Administrator	(410) 537-1310



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William Preston Lane Jr. Memorial Highway (US 50/301)	Mr. Ken Cimino Deputy Facility Administrator	(410) 537-6659
Harry W. Nice Memorial Bridge	Mr. Gary Jackson Facility Administrator	(301) 259-4870

Refer to Section SP 1-11 – Maintenance of Railroad Traffic for Railroad company contacts.

Section 104.01 Traffic Control Plan (“TCP”)

Section 104.01.01 DESCRIPTION.

DELETE: The first sentence of the last paragraph on page 149: “The Contractor shall...is to be closed.”

INSERT: The following:

Work Restrictions.

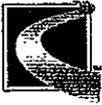
The Contractor shall provide the Engineer with a complete list of anticipated lane closures two weeks in advance of actual closure. The Engineer shall then notify the affected facilities, the Engineering Division’s Traffic Section and other appropriate offices. The TCP for work consists of a staged Maintenance of Traffic Plan (included in the contract drawings) which will be employed to perform all work in the Contract. The Engineer reserves the right to modify or expand the methods of traffic control or working hours as specified in the Contract Documents. Any request from the Contractor to modify the work restrictions shall require written approval from the Engineer at least 72 hours prior to implementing the change. The Contractor shall submit a copy of the original work restrictions with the written request.

No lane closures shall be made without prior written approval of the Engineer in the form of an Authority lane/shoulder closure permit.

ALLOWABLE LANE CLOSURE SCHEDULES

BALTIMORE HARBOR TUNNEL

Harbor Tunnel Bore Closures - 8 P.M. to 5 A.M. Monday to Thursday night (Friday morning). Maintenance of Traffic for Harbor Tunnel Bore Closures will be furnished and installed by the Harbor Tunnel Maintenance staff.



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TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:30 A.M. – 3:00 P.M.	Monday – Thursday	Southbound Single Lane Closure
9:00 A.M. – 2:30 P.M.	Monday - Thursday	Northbound Single Lane Closure
8:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure
9:30 A.M. – 12 Noon	Friday	Southbound Single Lane Closure
9:00 A.M. – 12:00 Noon	Friday	Northbound Single Lane Closure
10:00 P.M. – 10:00 A.M.	Continuous: Friday (10 PM) to Sunday (10 AM)	North or Southbound Single Lane Closure
10:00 P.M. – 5 A.M.	Sunday	Southbound Single Lane Closure

No lane or shoulder closures permitted during stadium events (i.e. Baltimore Raven, Baltimore Oriole home games, and major events at the M&T National Bank Stadium or Camden Yards).

Maintenance of Traffic details and lane closure restrictions for the Exterior Beam replacement at the Overpass on Boston Street (BCY112) shall be as shown on the Contract plans.

FORT MCHENRY TUNNEL

Fort McHenry Tunnel Bore Closures - 8 PM to 5 AM Monday to Thursday night (Friday morning). Maintenance of Traffic for Fort McHenry Tunnel Bore Closures will be furnished and installed by the Fort McHenry Tunnel Maintenance staff.

April 1 through September 30:

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 2:00 P.M.	Monday – Thursday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure
9:00 A.M. – 12:00 Noon	Friday	Single Lane Closure
9:00 P.M. – 9:00 A.M.	Friday & Saturday	Single Lane Closure
9:00 P.M. – 5:00 A.M.	Sunday	Single Lane Closure
10:00 P.M. – 5:00 A.M.	Monday – Thursday	Double Lane Closure

No lane or shoulder closures permitted during stadium events (i.e. Baltimore Raven, Baltimore Oriole home games, and major events at the M&T National Bank Stadium or Camden Yards) except for tunnel closures during night games after 8:00 p.m. South bound, and after midnight North bound.

October 1 through March 31:



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TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 3:00 P.M.	Monday – Thursday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure
9:00 A.M. – 12:00 Noon	Friday	Single Lane Closure
7:00 P.M. – 9:00 A.M.	Friday & Saturday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Sunday	Single Lane Closure
10:00 P.M. – 5:00 A.M.	Sunday– Thursday	Double Lane Closure *

No lane or shoulder closures permitted during stadium events (i.e. Baltimore Raven, Baltimore Oriole home games, and major events at the M&T National Bank Stadium or Camden Yards) except for tunnel closures during night games after 8:00 p.m. South bound, and after midnight North bound.

FRANCIS SCOTT KEY BRIDGE

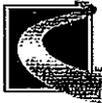
TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 3:00 P.M.	Monday – Friday	Single Lane Closure
8:00 P.M. – 5:00 A.M.	Monday – Friday	Single Lane Closure
8:00 P.M. – 5:00 A.M.	Friday to Monday	Single Lane Closure

HARRY W. NICE MEMORIAL BRIDGE

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 3:00 P.M.	Monday – Thursday	Single Lane Closure

JOHN F. KENNEDY MEMORIAL HIGHWAY

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
Continuous	Monday - Sunday	Shoulder Closure
9:00 A.M. – 3:00 P.M.	Monday – Thursday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Monday – Thursday in three lane sections	Single Lane Closure Northbound
9:00 P.M. – 5:00 A.M.	Monday – Thursday in four lane sections	Single Lane Closure Northbound
7:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure Southbound
Thanksgiving through New Years 9:00 P.M. – 5:00 A.M.	Monday – Thursday south of the Little Gunpowder River	Single Lane Closure Southbound
9:00 A.M. – 12:00 Noon	Friday	Single Lane Closure
9:00 P.M. – 5:00 A.M.	Monday – Thursday in three	Double Lane Closure



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	lane sections	Northbound
11:00 P.M. – 5:00 A.M.	Monday – Thursday in four lane sections	Double Lane Closure Northbound
9:00 P.M. – 5:00 A.M.	Monday – Thursday	Double Lane Closure Southbound
Thanksgiving through New Years 10: 00 P.M. – 5:00 A.M.	Monday – Thursday south of the Little Gunpowder River	Double Lane Closure Southbound
Midnight – 5:00 A.M.	Monday – Thursday in four lane sections	Triple Lane Closure Northbound
11:00 P.M. – 4:00 A.M.	Monday – Thursday in four lane sections	Triple Lane Closure Southbound

THOMAS J. HATEM MEMORIAL BRIDGE

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 3:00 P.M.	Monday – Thursday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure

Work is not permitted on the day before, the day of, and the day after the Holidays indicated below on all facilities. For detailed Bay bridge holiday closure restrictions, see table below:

- New Year’s Day, January 1
- Easter Weekend
- Memorial Day, the last Monday in May (Including that Weekend)
- Independence Day, July 4
- Labor Day, the first Monday in September (Including that Weekend)
- Thanksgiving Day, the fourth Thursday in November, including Friday through Monday
- Christmas Day, December 25

WILLIAM PRESTONLANE, JR. MEMORIAL BRIDGE

All lane closure requests must be coordinated and approved by the Engineer and the LB 378-000-006R2 (Phase II Re-decking, see Contract Details below) Construction Manager. No additional payment for delays due to late submission of lane closure schedules or conflicts with other work or special events will be allowed.

LB 378-000-006R2 (Deck Replacement of Westbound Suspension and Through Truss Spans and Miscellaneous Repairs):

The scope of this project includes the following items:



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- Replacing the concrete deck and steel railing in the suspension and through truss spans.
- Rehabilitating the existing steel railing in deck truss spans 35-43 and on the southwest end of the bridge
- Replacing and/or modifying the bridge deck joints
- Installing an acoustic monitoring system in the suspension spans of the eastbound bridge
- Miscellaneous structural repairs
- Repairing the timber ferry slip at the west approach of the eastbound bridge
- Painting portions of the structural steel of the westbound bridge

LB 378-000-006R2 Contract is expected to be completed by November 26, 2008.

No lane closures shall be made without prior written approval of the project Engineer in the form of an Authority lane/shoulder closure permit or the Bridge Administration.

ALLOWABLE LANE CLOSURE SCHEDULES
Bay Bridges

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 2:30 P.M.	Monday through Thursday (5.5 Hours Per Day)	Single Lane Closure (East or Westbound)
10:00 P.M. – 5:00 A.M.	Monday Nights to Wednesday Nights (7 Hours Per Night)	Single Lane Closure (East or Westbound)

When a lane closure is in effect on the westbound Bay Bridge, the Contractor will be allowed to close one lane on the eastbound Bay Bridge from 6:00a.m. until 12:00 noon or until traffic queues resulting from the lane closure reach one mile. The Engineer reserves the right to modify or cancel allowed closure hours.

The Contractor will not be permitted to use any portions of the existing roadway or interfere with or impede the free flow of traffic in any manner during prohibited hours. All existing lanes of traffic along the subject roadway must be completely open during these hours.

The Contractor shall coordinate lane closures with other on-going work or activities. No additional payment for delays due to late submission of lane closure schedules or conflicts with other work or special events will be allowed. For holiday closure restrictions on both Bay bridges, see the table below:



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HOLIDAY CLOSURE RESTRICTIONS ON BOTH BRIDGES

Unless noted otherwise, no lane closures will be permitted during the times listed below:

HOLIDAY	2006	2007	2008
New Year's (only single lane closures permitted during these times)	11am Sat. 12/31/05 to 8pm Sun 1/1/06	11am Sat. 12/30/06 to 8pm Mon. 1/1/07	11am Mon. 12/31/07 to 8pm Tues. 1/1/08
Easter Weekend	5am Fri. 4/14 to all of Easter Sunday 4/16	5am Fri. 4/6 to all of Easter Sunday 4/8	5am Fri. 3/21 to all of Easter Sunday 3/23
Bay Bridge Walk	11pm Sat. 5/6 to 5am Mon. 5/8	11pm Sat. 5/5 to 5am Mon. 5/7	11pm Sat. 5/3 to 5am Mon. 5/5
Memorial Day Weekend	5am Thurs. 5/25 to 5am Tues. 5/30	5am Thurs. 5/24 to 5am Tues. 5/29	5am Thurs. 5/22 to 5am Tues. 5/27
Independence Day Holiday	5am Fri. 6/30 to 5am Wed. 7/5	5am Mon 7/2 to 5am Thurs 7/5	5am Thurs 7/3 to 5am Mon 7/7
Labor Day Weekend	5am Thurs. 8/31 to 5am Tues. 9/5	5am Thurs. 8/30 to 5am Tues. 9/4	5am Thurs. 8/28 to 5am Tues 9/2
Sunfest/NASCAR Weekend	10pm Thurs 9/28 to 11pm Sat 9/30	10pm Thurs 9/27 to 11pm Sat 9/29	10pm Thurs 9/25 to 11pm Sat 9/27
Columbus Day Weekend	10pm Thurs 10/5 to 11pm Sat 10/7	10pm Thurs 10/4 to 11pm Sat 10/6	10pm Thurs 10/9 to 11pm Sat 10/11
Veterans Day Holiday	8pm Thurs. 11/9 to 8pm Sat. 11/11 and 10pm Sun 11/12 to 5am Mon. 11/13	8pm Fri. 11/9 to 8pm Sat. 11/10 and 10pm Sun 11/11 to 5am Mon. 11/12	N/A
Thanksgiving Weekend	5am Wed. 11/22 to 8pm Mon. 11/27	5am Wed. 11/21 to 8pm Mon. 11/26	5am Wed. 11/26 to 8pm Mon. 12/1
Christmas (only single lane closures permitted during these times)	7am Sat. 12/23 to All of Mon. 12/25	8am Sun. 12/23 to All of Tues. 12/25	5am Wed. 12/24 to All of Thurs. 12/25

Lane closures will not be permitted during periods of falling precipitation, wet roads, in heavy fog or otherwise poor visibility, or in the event of emergencies such as serious traffic accidents or unusually severe traffic congestion, as directed by the Engineer.

When a temporary lane or shoulder closure is in effect, work shall begin within one hour after the lane or shoulder is closed. Any delay longer than one hour with no work in progress shall



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require the Contractor to remove the lane or shoulder closure at no additional cost to the Authority. The Contractor's Traffic Manager shall attend pre-construction meetings and shall discuss traffic control and the Traffic Control Plan including procedures to be implemented for lane closures.

All lane closures shall be in conformance with the approved TCP and under the direction of the Contractor's Certified Traffic Manager and the Engineer.

Workers and equipment, including temporary traffic control devices needed for setting up a lane closure or restriction, are prohibited in the lane or shoulder to be closed or restricted before the time permitted in the Contract work restrictions unless otherwise noted below or as approved by the Engineer.

Temporary traffic control devices to be used for lane/shoulder closure may be placed on the shoulder of the roadway by workers no earlier than 15 minutes prior to actual time the lane/shoulder closure or restriction is permitted. Temporary traffic signs may be displayed to traffic at this time.

Workers shall not enter a lane open to traffic. Workers may be present on shoulders to prepare for lane closure setup no earlier than 15 minutes prior to actual time lane/ shoulder closure or restriction is permitted.

All temporary lane and shoulder closures shall be restored at the end of the closure period and no travel lanes shall be reduced to less than 11 feet. (3.4 meters). Prior to opening the closed lane or shoulder, the Contractor shall clear the lane or shoulder of all material, equipment, and debris.

Failure to restore traffic capacity within the time specified will result in a deduction being assessed on the next progress estimate in conformance with the following.

ELAPSED TIME (MINUTES)	DEDUCTION
1 to 5	\$1,000.00
Over 5	\$75.00 per minute (in addition to the original 5 minutes)

This is in addition to the requirements specified in TC-4.02.

When closing or opening a lane on freeways, expressways and roadways with posted speeds greater than or equal to 50 mph, a work vehicle shall be closely followed by a protection vehicle ("PV") during installation and removal of temporary traffic control devices. The PV shall consist of a work vehicle with approved flashing lights, approved truck-mounted attenuator



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("TMA") with support structure designed for attaching the system to the work vehicle, and approved arrow panel (arrow mode for multilane roadways and caution mode on two-lane, two-way roadways.) The work vehicle size and method of attachment shall be as specified in the TMA manufacturer's specifications as tested under NCHRP 350 Test Level 3.

104.01.04 MEASUREMENT AND PAYMENT.

INSERT: The following:

Measurement and payment will be made at the Contract unit days item for Flagging Operation, Single Lane Closure, Double Lanes Closure, Shoulder Lane Closure, Entrance Ramp Treatment, and Exit Ramp Treatment items. The payment will be full compensation for all material, labor, traffic manager, equipment, tools, and incidentals necessary to complete the work. The cost shall include all required equipment and setups shown on the maintenance of traffic standards as well as removal of all traffic control setups.

See Subsection 400.08.04 for Maintenance of Traffic – Measurement & Payment for "Exterior Beam Replacement on the Overpass at Boston Street" work.



**CATEGORY 100
PRELIMINARY**

SECTION 104 — MAINTENANCE OF TRAFFIC

104.08 TEMPORARY TRAFFIC SIGNS (TTS).

162 **DELETE:** 104.08.02 MATERIALS in its entirety.

INSERT: The following.

Wood Sign Supports	921.05 and 921.06
Reflectorization	950.03.04
Signs	950.08
Portable Sign Supports, Composite Aluminum Signs, Plastic Signs, and Flexible Roll Up Signs	

As approved by the Office of
Traffic and Safety

104.08.03 CONSTRUCTION.

163 **DELETE:** The fourth paragraph on this page, "Fabricated wood signs...of 0.125 in. thick." in its entirety.

INSERT: The following.

Fabricated aluminum signs to be mounted on wood posts shall have the following minimum thickness.

LONGEST DIMENSION OF SIGN in.	MINIMUM THICKNESS in.
≤ 12	0.040
12+ to 24	0.063
24+ to 36	0.080
36+ to 48	0.10
> 48	0.125

Composite aluminum, plastic, or flexible roll up signs shall only be used on those portable supports that are approved to hold that sign material by the Office of Traffic and Safety. The minimum thickness of composite aluminum signs, supported on portable sign supports, shall be 0.08 in.



SPECIAL PROVISIONS INSERT
104.12 — DRUMS FOR MAINTENANCE OF TRAFFIC

CONTRACT NO. MA 2161-000-002

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CATEGORY 100
PRELIMINARY

SECTION 104 — MAINTENANCE OF TRAFFIC

170 **DELETE:** Section 104.12 DRUMS FOR MAINTENANCE OF TRAFFIC, in its entirety.

INSERT: The following.

104.12 DRUMS FOR MAINTENANCE OF TRAFFIC.

104.12.01 DESCRIPTION. This work shall consist of furnishing and placing drums and maintaining in like new condition. The drums shall be located as specified in the Contract Documents or as directed by the Engineer.

104.12.02 MATERIALS.

Reflectorization	950.03
Plastic Drums	As approved by the Office of Traffic and Safety

Drums shall be manufactured of low density polyethylene (PE) to withstand impact without damage to themselves or vehicles. The drum shall have a height of 36 in. and a minimum diameter of 18 in. Drums may have one or more flat sides as long as the minimum 18 in. diameter is satisfied. The reflective stripes shall be horizontal, circumferential, orange and white, 6 in. wide, two each of white and orange alternating with the top stripe being orange.

High performance wide angle white and fluorescent orange sheeting shall be used on drums.

All drums shall conform to NCHRP Report 350 criteria for test Level 3.

104.12.03 CONSTRUCTION. Drums shall be adequately weighted with bags of sand or sand filled bases to keep them from moving. Sandbags, with no other attachments, shall rest on the base of the drum.

The Contractor will be permitted to neatly stencil their name or identification mark at the bottom of the nonreflective portion of the drum in maximum 2 in. high letters. No other markings or writings will be permitted on the vertical side of the drum.

Drums damaged by traffic shall be replaced within four hours after the Contractor is notified.



SPECIAL PROVISIONS INSERT
104.12 — DRUMS FOR MAINTENANCE OF TRAFFIC

CONTRACT NO. MA 2161-000-002

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104.12.04 MEASUREMENT AND PAYMENT. Drums for Maintenance of Traffic will be measured and paid for once at the Contract unit price per each. The payment will include reflectorization, setting, resetting, removing, sandbags, maintenance, cleaning of drums to like new condition, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Where drums have been set and are subsequently damaged by traffic, and the Engineer determines that they are not repairable, they shall be replaced and will be measured and paid for at the Contract unit price.



SPECIAL PROVISIONS
104.21 — CELLULAR TELEPHONES

CONTRACT NO. MA 2161-000-002

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CATEGORY 100
PRELIMINARY

SECTION 104 — MAINTENANCE OF TRAFFIC

104.21 CELLULAR TELEPHONES.

104.21.01 DESCRIPTION. This work shall consist of furnishing and maintaining new or like new cellular telephones for use by the appropriate Administration personnel. The telephones shall be fully activated and operational at the time of delivery. The telephones shall be delivered to the Engineer at the time of the Notice to Proceed and shall remain operational and not returned to the Contractor until final acceptance of the entire project in conformance with GP-5.13.

104.21.02 MATERIALS.

Cellular Telephones

As approved by the Engineer

104.21.03 CONSTRUCTION. Not applicable.

104.21.04 MEASUREMENT AND PAYMENT. The number of cellular telephones required for this Contract is 2. The cellular telephones will not be measured but will be incidental to the Contract price for Maintenance of Traffic unless otherwise specified in the Contract Documents. The work includes furnishing and installing the telephones, activation fees, battery replacement, monthly service fees, extensive coverage charges, air time (peak and nonpeak time per minute), roaming rates, long distance fees in conformance with the schedules provided, and for all material, labor, equipment, tools, and incidentals necessary to complete the work. If any of the telephones become defective, are stolen, or for any other reason do not function as intended, they shall be replaced with a like kind unit at no additional expense to the Administration. Nonfunctioning or stolen telephones shall be replaced within eight hours after the Contractor is notified by the Engineer.

Ownership of the telephones will remain with the Contractor. The Administration assumes no responsibility or liability for the condition of the telephones when they are returned.



CATEGORY 100
PRELIMINARY

SECTION 104 — MAINTENANCE OF TRAFFIC

104.23 PROTECTION VEHICLE (PV).

104.23.01 DESCRIPTION. This work shall consist of furnishing PVs as specified in the Contract Documents or as directed by the Engineer.

The PV shall consist of a work vehicle with approved flashing lights (per Standards MD 104.01-18 and 104.01-21), a truck-mounted attenuator (TMA) with support structure designed for attaching the system to the work vehicle or a trailer truck-mounted attenuator (TTMA) designed for attaching the system to the work vehicle by a pintle hook. The size of the work vehicle and the method of attachment shall be as specified in the TMA/TTMA manufacturer's specifications, as tested under NCHRP Report 350 at Test Level 3.

No part of the TMA/TTMA shall be designed to intrude under the support vehicle during impact or require a safety clearance under the support vehicle which extends forward of the rear axle.

Provide an arrow panel (arrow mode for multilane roadways and caution mode on two-lane, two-way roadways) in accordance with specification 104.07.03.

General. The work vehicle shall have the proper ballast as recommended by the TMA/TTMA manufacturer. The ballast shall be firmly secured to prevent movement during impact.

All TMA/TTMA exposed steel shall be primed and painted yellow. The undercarriage and support frame may be primed and painted black. All welding shall be done by or under the direct supervision of a certified welder.

The standard rear facing surface of the TMA/TTMA shall have an inverted "V" chevron pattern formed by alternating 4 in. wide black and yellow stripes as shown in Standard No. MD 104.01-21. The sides of the TMA/TTMA shall be bordered by a 4 in. red and white reflective tape as shown on Standard No. MD 104.01-18.

The TMA lighting system shall include brake lights, tail lights, turn signals, and ICC bar lights. The TTMA trailer shall conform to Maryland Motor Vehicle Law governing trailers. All wiring shall be protected and adequately supported.

Impact Performance. TMA/TTMAs manufactured prior to January 1, 2005 shall have passed NCHRP Report 350 Tests 50 and 51 Level 3. TMA/TTMAs manufactured after January 1, 2005 shall have passed NCHRP Report 350 Tests 50, 51, 52, and 53 Level 3.



SPECIAL PROVISIONS INSERT
104.23 — PROTECTION VEHICLE

CONTRACT NO. MA 2161-000-002

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Dimensions.

- (a) Road clearance for the TMA/TTMA shall be 12 ± 1 in. or as specified by the manufacturer.
- (b) Total weight of the TMA, exclusive of the work vehicle, shall not exceed 2100 lb unless it is trailer-mounted.

Durability. The manufacturer shall ensure that travel vibration, in either a vertical (for TMA) or horizontal position, will not affect the performance of the work vehicle or the TMA/TTMA.

Certifications. The Contractor shall provide a certification that the TMA/TTMA is in good working order, has not been damaged, and conforms to the requirements of the manufacturer's specifications (model number, roll ahead distance, truck weight, etc.) and the date of manufacture.

The TMA/TTMA shall be certified by the manufacturer that any moisture penetration will not impede the energy impact absorption properties, or add significantly to the weight of the TMA/TTMA.

Tilting. An electrically powered tilt system shall be provided to facilitate the tilting of the TMA cartridge to a 90 degree position from horizontal. The unit shall have a locking device to secure the TMA system in the vertical position. The completed tilt system shall be factory assembled.

104.23.02 MATERIAL. Not applicable.

104.23.03 CONSTRUCTION. Not applicable.

104.23.04 MEASUREMENT AND PAYMENT. Protection Vehicles will be measured and paid for at the Contract price per unit day. A unit day shall consist of any approved usage within a 24 hour calendar day period. If a protection vehicle is used for part of a day, it will be measured as a unit day, regardless of how many times it is relocated. The payment will be full compensation for the complete protection vehicle, including the truck mounted attenuator/trailer truck mounted attenuator and arrow panel, licensed work vehicle operator, connecting and disconnecting the attenuator to from the work vehicle, transporting and relocating the protection vehicle, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.



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**CATEGORY 400
STRUCTURES**

SECTION 400.01 LABOR FOR STRUCTURAL REPAIRS

400.01.01 DESCRIPTION. This work shall consist of providing labor in each of the following labor classification items. These rates shall apply to labor supplied by the prime Contractor as well as any of its subcontractors.

- 1) Skilled Labor Items – These items include all workers that are not a Bridge Repair Foreman, Welder, Boat Captain, Deck Hand, and Field Superintendent.
- 2) Bridge Repair Foreman – This is for a Bridge Repair Foreman and shall include a light duty truck to be used for transporting workers, materials, and equipment. This worker shall have a minimum of five (5) years experience as a bridge repair and structural repair foreman. The light duty (up to and including 1 ton rating) truck included in this item shall be outfitted with a hitch capable of towing 5000 lb. The light duty truck included in this item includes all trucks having a bed length of up to and including 10 ft. regardless of the cab's configuration (conventional or crew) and the bed's configuration (i.e. standard pick up bed, flat bed, utility truck bed, stake body bed, etc.).
- 3) Welder – This is for a Maryland State Certified Welder and shall include all equipment (welding machine, leads, hot box, welding shields, grinders, etc.) necessary to perform the work. This item shall also include all transportation costs for the welder and all equipment. This item shall be used regardless of the location where the actual welding occurs (in shop, in field on the ground, in field up on the bridge structure, etc.). Welder work shall include field measuring cutting, fitting, fabrication, torch cutting, and air arcing, and welding.
- 4) Boat Captain – This is for a Boat Captain and shall include a 16 foot minimum size boat.
- 5) Deck Hand – This item is for a Deck Hand.
- 6) Field Superintendent – When more than one construction crew is working, the Contractor shall provide a full time Field Superintendent who will act as the Contractor's liaison with the Engineer. The Field Superintendent shall be experienced in bridge construction work and is subject to the approval of the Engineer.

SMALL TOOLS. In conformance with TC-7.03, small tools are considered to be any equipment with a new purchase price of under One Thousand Dollars (\$1,000.00). In addition, each of the following pieces of equipment will be considered to be small tool, regardless of the new purchase price:



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- a) Hand held cut-off saws, all sizes
- b) Oxygen acetylene torches, all sizes
- c) Chain saws, all sizes
- d) Mag drills, all sizes
- e) Impact wrenches, all sizes
- f) Hammer drills, all sizes
- g) Electrical Generators, 5 KW and under

400.01.02 MATERIALS. Not applicable.

400.01.03 CONSTRUCTION. Not applicable.

400.01.04 MEASUREMENT AND PAYMENT. All labor used by the Contractor, as directed by the Engineer, will be paid for at the Contract unit prices and shall include hourly wage, overhead, small tools (as defined in Section 400.01.01), transportation cost, all fees and profit, etc. No "add-on" will be made to the amount.

The Contractor shall establish a home base located within the State of Maryland, Baltimore Metropolitan area. This location will be agreed to by the Contractor and Engineer upon award of the Contract.

For work sites located within a 40 mile radius of the Contractor's home base, the hours paid for labor will begin when work commences at the work site and will end at the completion of work at the site each day. For work sites located in excess of 40 miles from the Contractor's home base, travel time will also be paid for the roundtrip time required to travel from the 40 mile radius to the work site. The Engineer will determine the work site location.

Overtime will not be permitted without the Engineer's approval. The typical work week is Monday through Friday from 7:00 a.m. to 3:30 p.m. unless otherwise directed by the Engineer. When approved by the Engineer, all labor will be paid overtime at the rate of time and a half for all hours worked on this Contract in excess of 40 hours in any one pay week (Monday through Sunday) and for work performed on legal holidays. For the purpose of the Contract, legal holidays include New Years Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. All small tools shall be included in the hourly rate for each type labor used. The crew used each day will be subject to prior approval by the Engineer.

On days when work is canceled by the Engineer for the convenience of the Authority after the Contractor's personnel have reported to the job site or when work is canceled for rain or snow after the Contractor's personnel have reported to the job site, the Contractor will be paid a minimum of 2 hours for each approved worker present. Additional travel time will only be paid for total time (work hours plus applicable travel time) exceeding 2 hours. Examples:



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a. When the job site is a 30 minute drive beyond a 40 mile radius, and the crew reports to the job site and is immediately shut down due to rain, then the Contractor would be paid for 2 hours for each worker present.

b. When the job site is a one hour drive beyond the 40 mile radius, and the crew works for one hour before being shut down due to rain, then the Contractor would be paid for 3 hours for each approved worker present.

On days when the Engineer cancels all work due to the Contractor's manpower or equipment deficiencies, the Contractor shall receive no payment whatsoever, including travel time.

On days when work has been performed for 1 hour or more and is then shutdown by the Engineer due to the Contractor's manpower or equipment deficiencies, the Contractor will be paid only for those hours actually worked up to the time of shutdown plus applicable travel time for each approved worker present.

Lodging and meal allowances will be allowed under the Contract for assignments which require overnight lodging. No reimbursement for meals will be allowed unless lodging is required. Meals will be reimbursed at a flat rate of \$39 dollars per person for each night that lodging is required. Meal receipts are not required. The actual cost of lodging will be reimbursed up to a maximum of \$61 dollars per person per night. Lodging receipts are required for reimbursement. Tolls will be reimbursed for approved company vehicles. Toll receipts are also required for reimbursement. No mark up will be allowed for lodging, meals, or tolls.

400.01.04.01 Skilled Labor will be measured and paid for at the Contract unit price per hour. Payment will be full compensation for all equipment and transportation of equipment necessary to perform the work.

400.01.04.02 Bridge Repair Foreman including his/her light duty truck will be measured and paid for at the Contract unit price per hour. The payment will be full compensation for the use, maintenance, and operating costs of a light duty truck to be used for transporting workers, materials, and equipment.

400.01.04.03 Welder will be measured and paid for at the Contract unit price per hour. Only Maryland State Certified Welders shall be paid under this welder item. The payment will be full compensation for the welder and all equipment necessary to perform the work. This item shall also include all transportation costs for the welder and all equipment. On days when welder work (including applicable travel time) is performed in four hours or less, the Welder will be paid four hours at the Contract unit price per hour for Welder. Any additional non-welder work done beyond four hours of actual hours worked will be measured and paid for at the Contract unit price per hour for Skilled Labor as approved by the Engineer. All applicable travel time for this scenario will be



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paid at the welder rate. On days when welder work (including applicable travel time) is performed over four hours, the welder will be paid for actual hours worked up to eight hours at the Contract unit price per hour for Welder, regardless if welding work or skilled labor work is performed beyond the hours of welding work.

400.01.04.04 Boat Captain including 16 foot minimum size boat will be measured and paid for at the Contract unit price per hour. The payment will be full compensation for the Boat Captain and the use, maintenance, and operating costs of a boat to be used, and materials, and equipment.

400.01.04.05 Deck Hand will be measured and paid for at the Contract unit price per hour. Payment will be full compensation for all equipment and transportation of equipment necessary to perform the work.

400.01.04.06 Field Superintendent will not be measured, but cost will be incidental to pertinent labor items specified in this Contract.

400.01.04.07 An allowance of \$25,000.00 has been established for lodging and meals in the Schedule of Prices. There is no guarantee that any or all of this item will be used during the term of the Contract.



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**CATEGORY 400
STRUCTURES**

SECTION 400.02 - EQUIPMENT FOR STRUCTURAL REPAIRS

400.02.01 DESCRIPTION. This work shall consist of providing the following equipment for structural repairs:

- a) Flatbed Truck – (18 to 20 Ft. Bed). This truck shall have a stake body bed configuration with a cargo bed length measuring from 18 to 20 ft., inclusive. This truck shall be used only when needed for the purpose of hauling materials and equipment that can not be hauled in the Forman's light duty truck. This truck shall not be used for the sole purpose of transporting personnel.
- b) Dump Truck, Single Axle - 25 000 lb GVW (4 to 9 CY)
- c) Air Compressor, 160 to 185 cfm. This shall include 100 ft. of air hose appropriately sized to fit the compressor.
- d) Portable Light Tree. Four lamps minimum, 25 feet minimum height.
- e) Tractor Loader Backhoe – (0.75-1.25 CY).
- f) Air Hand Held Chipping Hammer, (25 lb. or under).
- g) Truck Mounted Hydraulic Platform – The truck mounted self-contained hydraulic work platform shall consist of a hydraulically operated boom with a platform for working on the underside of a bridge while the truck carrier remains on top of the bridge deck. The platform shall be a minimum of 2 ft. wide by 13.5 ft. long and capable of extending back under a bridge at least 27 ft.
- h) Air Hand Held Pavement Breaker, (90 lb. or under).
- i) Self-Propelled Aerial Lift, (40 ft. maximum platform height). This item is for aerial lifts with articulating booms or telescopic booms as needed.
- j) Self-Propelled Scissors Lift, (40 ft. maximum platform height).

The Engineer and the Contractor will agree upon appropriate sizes of these pieces of equipment.

400.02.02 MATERIALS. Not applicable.



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400.02.03 CONSTRUCTION. Not applicable.

400.02.04 MEASUREMENT AND PAYMENT. All equipment used by the Contractor, as directed by the Engineer, will be paid for at the Contract unit prices and shall include the use, maintenance and operating costs excluding the operator unless otherwise stated herein. No "add-on" will be made to the amount.

The prices for equipment shall include all bits, blades, fuel, points, etc. necessary for the efficient operation of the particular piece of equipment. Compensation will only be made for the above mentioned items which are expended performing work under this contract.

The Contractor shall establish a home base located within the State of Maryland, Baltimore Metropolitan area. This location will be agreed to by the Contractor and Engineer upon award of the Contract.

The daily rate, weekly rate, and monthly rate shall be bid based on a normal work day of 8 hours/day, 5 days (40 hours)/week, and 20 days/month. For equipment items bid on an hourly rate, payment will only be made for the actual hours used at the Contract hourly rate. Payment beyond the first 8 hours/day will be based on the Contract hourly rate for that piece of equipment. For equipment items bid on a daily unit, payment for each hour the equipment is used beyond the first 8 hours will be based on the Contract daily rate for that piece of equipment divided by eight. For equipment items bid on a weekly or monthly unit, payment for equipment used beyond the week or month will be prorated or paid to the nearest unit of payment, whichever is lower. For example, payment for one week and three days will be paid for as two weeks or one week plus the daily rate for three days, whichever is less.

Bid equipment paid on an hourly basis will be paid for actual hours used plus standby time up to 8 hours. Exceptions to this policy:

- (a) When the Contractor is limited in the work hours due to Administration imposed restrictions (such as allowing only 6 hours of lane closures during a normal 8 hour work shift). In this case, bid items that would have been used all day will be paid for a full 8 hours even though actual work hours are less than 8 hours.
- (b) Flatbed trucks conforming to the bid item, when required for the job, will be paid the same number of hours that the skilled laborers are paid.

Bid equipment will receive standby time on workdays when the equipment is not used only when previously approved by the Engineer. The Engineer's decision will be based on the economics of paying standby time versus paying to demobilize/remobilize a piece of equipment when needed.

Standby time paid for approved bid equipment not used shall be 8 hours per day for each workday. Standby rate shall be 50 percent of the Contract unit bid price. Standby rates shall not



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exceed 8 hours per day. Standby rates shall not be paid on days when no work is performed at the job site.

For work sites located within a 40 mile radius of the Contractor's home base, equipment time will begin when work commences at the work site and will end at the completion of work at the site each day. For work sites located in excess of 40 miles from the Contractor's home base, equipment time will be counted from the roundtrip time required to transport the equipment to and from the 40 mile radius to the work site. The Engineer will determine the work site location.

On days when work is canceled by the Engineer for the convenience of the Administration after the Contractor's personnel have reported to the job site or when work is canceled for rain or snow after the Contractor's personnel have reported to the job site, the Contractor will be paid a minimum of 2 hours for each approved piece of equipment. No standby time will be paid for this situation. For equipment items bid on a daily unit, payment for each hour the equipment is used will be based on the Contract daily rate for that piece of equipment divided by eight. Travel time for equipment will only be paid for total time (actual hours used plus applicable travel time) exceeding 2 hours. Examples:

- (a) When the jobsite is a 30 minute drive beyond the 40 mile radius, and the crew reports to the jobsite and is immediately shut down due to rain, then the Contractor would be paid for 2 hours for each piece of approved bid equipment that was to be used that day.
- (b) When the jobsite is 1 hour's drive beyond the 40 mile radius, and the crew works for 1 hour before being shut down due to rain, then the Contractor would be paid for 3 hours for each piece of approved bid equipment that was to be used that day.

On days when the Engineer cancels all work due to the Contractor's manpower or equipment deficiencies, the Contractor shall receive no payment whatsoever, including travel time and standby time.

On days when work has been performed for 1 hour or more and is then shut down by the Engineer due to the Contractor's manpower or equipment deficiencies, the Contractor will be paid only for those hours actually worked up to the time of shutdown plus applicable travel time for each approved piece of equipment. For equipment items bid on a daily unit, payment for each hour the equipment is used will be based on the Contract daily rate for that piece of equipment divided by eight. There will be no 2 hour minimum payment or standby time payment for this situation.

400.02.04.01 Flatbed Truck – (18 to 20 Ft. Bed) will be measured and paid for at the Contract unit price per hour.

400.02.04.02 Dump Truck, Single Axle (25,000 lb. GVW – 4 to 9 CY) will be measured and paid for at the Contract unit price per hour.



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400.02.04.03 Pickup Truck will not be measured for payment. This item will be part of other pertinent pay items.

400.02.04.04 Air Compressor (160 to 185 cfm) will be measured and paid for at the Contract unit price per hour.

400.02.04.05 Portable Light Tree. Four lamps minimum, 25 feet minimum height will be measured and paid for at the Contract unit price per hour.

400.02.04.06 Tractor Loader Backhoe – (0.75-1.25 CY) will be measured and paid for at the Contract unit price per hour.

400.02.04.07 Air Hand Held Chipping Hammer (25 lb. or under) will be measured and paid for at the Contract unit price per hour.

400.02.04.08 Air Hand Held Pavement Breaker, (90 lb. or under) will be measured and paid for at the Contract unit price per hour.

400.02.04.09 Truck Mounted Hydraulic Platform will be measured and paid for at the Contract unit price per Unit Day or Week and shall include an operator.

400.02.04.10 Self-Propelled Aerial Lift, (40 ft. maximum platform height) will be measured and paid for at the Contract unit price per hour.

400.02.04.11 Self-Propelled Scissors Lift, (40 ft. maximum platform height) will be measured and paid for at the Contract unit price per hour.



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**CATEGORY 400
STRUCTURES**

SECTION 400.03 – MATERIALS FOR STRUCTURAL REPAIRS

400.03.01 DESCRIPTION. This work is to provide for materials incorporated in the work and materials and supplies not incorporated in the work that are necessary to perform the structural repairs. Refer to TC-7.03.

400.03.02 MATERIALS. All materials used for structural repairs shall be from an approved source or as approved by the Engineer. Contractors who own or control a materials company shall not be precluded from using these companies unless the use of these companies results in prices that are not competitive with the supply industry.

400.03.03 CONSTRUCTION. Not applicable.

400.03.04 MEASUREMENT AND PAYMENT. Payment for this item is included in the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of this Contract.

Payment for materials incorporated in the work will be in accordance with Section TC-7.03 (b) of the Standard Specifications except that, in addition to the actual cost of materials and transportation charges, the Contractor will be allowed a fee of 20 percent of actual cost for overhead, profit, and bond, etc.

Payment for materials and supplies not incorporated in the work will be in accordance with Section TC-7.03(c) of the Standard Specifications. The allowable fee of 5 percent of actual cost is for overhead, profit and bond, etc.



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**CATEGORY 400
STRUCTURES**

SECTION 400.04 - SPECIALIZED EQUIPMENT FOR STRUCTURAL REPAIRS

400.04.01 DESCRIPTION. This work is to provide for Specialized Equipment necessary to perform structural repairs. Specialized Equipment is defined as equipment not having a specific item in this Contract and not considered to be small tools as defined in Section 400.01.01.

This item will only be used if necessary and will not be used without the approval of the Engineer.

400.04.02 MATERIALS. Not applicable.

400.04.03 CONSTRUCTION. Not applicable.

400.04.04 MEASUREMENT AND PAYMENT. Payment for this item is included in the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of the contract.

Payment for Specialized Equipment for Structural Repairs will be in conformance with TC-7.03, with the following exceptions:

- (a) Should specialized equipment be required, Contractors who have subsidiary equipment rental companies may not rent equipment from those companies unless their prices are competitive with their prevailing equipment rental rates being paid in the area where work is being performed.
- (b) Should be Contractor desire to rent from the associated company, the Engineer will require the Contractor to provide documentation that the prices paid for equipment rental are competitive with the equipment rental industry. This documentation shall include at least three price quotations from rental companies. All documentation shall be presented to the Engineer before the equipment is delivered to the job site.
- (c) No additional administrative or other markups will be allowed.



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**CATEGORY 400
STRUCTURES**

SECTION 400.05 – MISCELLANEOUS REIMBURSABLE EXPENSES

400.05.01 DESCRIPTION. To provide for miscellaneous reimbursable expenses throughout the term of the Contract, such as Railroad insurance and work required to maintain navigable waters in accordance with State and Federal Regulations, etc.

This item will only be used if necessary and will not be used without approval of the Engineer.

400.05.02 MATERIALS. Not applicable.

400.05.03 CONSTRUCTION. Not applicable.

400.05.04 MEASUREMENT AND PAYMENT. Payment for this item is included in the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of this Contract.



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**CATEGORY 400
STRUCTURES**

SECTION 400.06 – SUBCONTRACTORS FOR STRUCTURAL REPAIRS

400.06.01 DESCRIPTION. This work is to provide for subcontractors to perform structural repairs. This work will only be used if necessary and will not be used without approval of the Engineer.

400.06.02 MATERIALS. Not applicable.

400.06.03 CONSTRUCTION. Not applicable.

400.06.04 MEASUREMENT AND PAYMENT. A price has been established for the Subcontractors for Structural Repairs item in the Schedule of Prices, which the bidder shall not alter. There is no guarantee that any or all of this item will be used during the term of the Contract.

Payment for Subcontractors will be in conformance with TC-7.03, and the Labor for Structural and Equipment for Structural Repairs items included in this Invitation for bids.

The Contractor shall receive the cost of work performed by the subcontractor plus 5 percent for overhead, profit, bond, etc. All subcontractor work and prices shall be approved by the Engineer prior to performing any work.



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**CATEGORY 400
STRUCTURES**

**SECTION 400.07 – CONTINGENT MISCELLANEOUS REPAIRS AND
MODIFICATIONS**

400.07.01 DESCRIPTION. To provide for miscellaneous structural repairs, modifications, equipment, and miscellaneous reimbursable expenses.

This item will only be used if necessary and will not be used without approval of the Engineer.

400.07.02 MATERIALS. Not applicable.

400.07.03 CONSTRUCTION. Not applicable.

400.07.04 MEASUREMENT AND PAYMENT. Payment for materials for Structural Repairs, Specialized Equipment for Structural Repairs, Miscellaneous Reimbursable Expenses, and other additional items as directed by the Engineer will be paid for under the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of the Contract.



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**CATEGORY 400
STRUCTURES**

**SECTION 400.08 – EXTERIOR BEAM REPLACEMENT ON THE OVERPASS AT
BOSTON STREET**

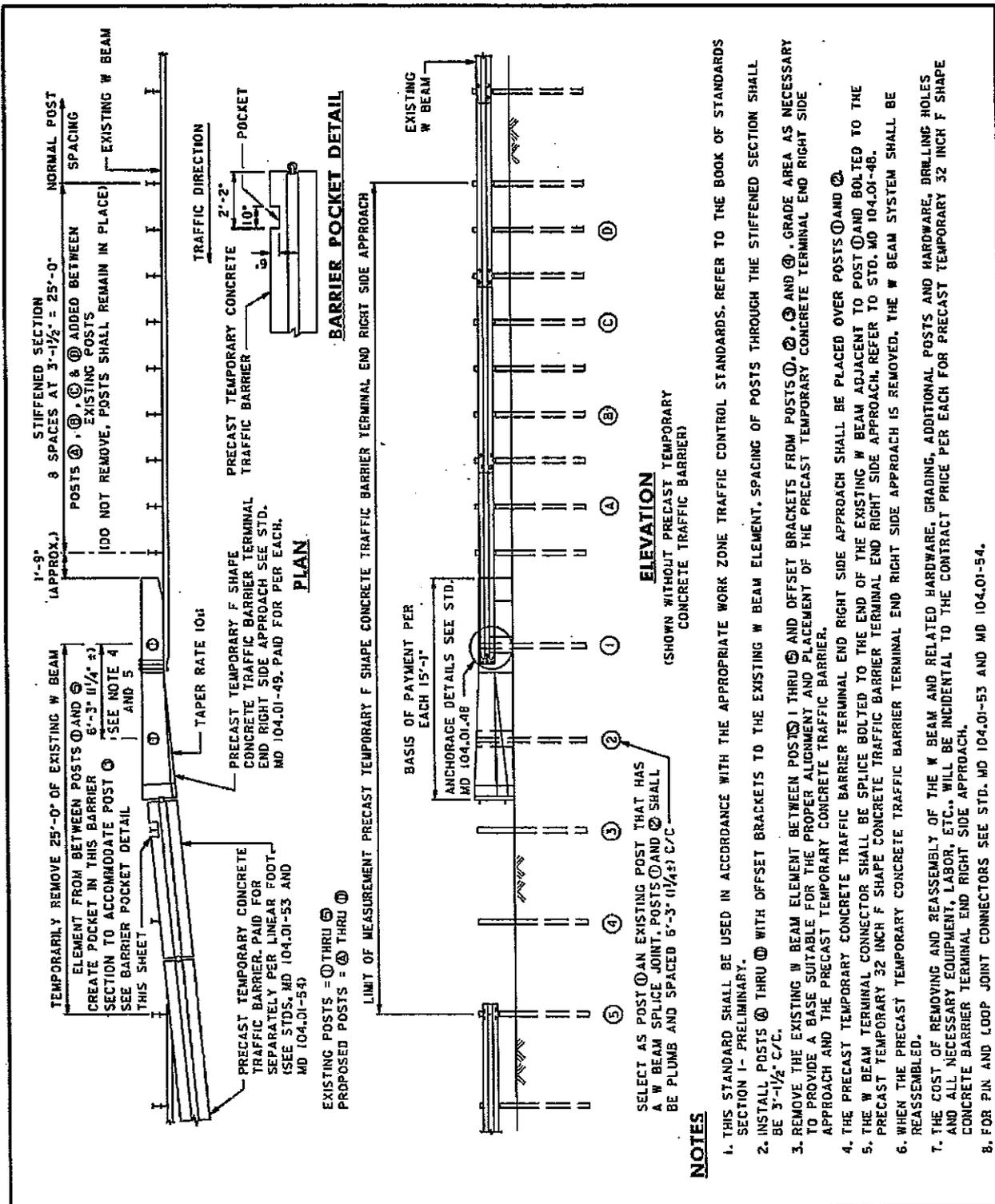
400.08.01 DESCRIPTION: This work consists of installing and removing the temporary demolition shield, removing the existing parapet, saw cutting and removing the existing concrete filled grid deck, removal of existing roadway joints, removing the existing exterior beam and diaphragms, repairing the bearing assemblies as shown on the plans, furnishing, installing and cleaning and painting the new steel girder and diaphragms, installation of new roadway joints, furnishing and installing the new grid deck section and concrete fill and casting the new parapet, including furnishing and installing the reinforcing steel for the parapet. This work also includes relocating the existing utilities, furnishing and installing new electrical conduits, electrical wiring and junction boxes as well as other incidentals as shown in the Contract plans.

400.08.02 MATERIALS : All materials shall conform to the requirements of the Contract plans.

400.08.03 CONSTRUCTION: As described in the Contract plans.

400.08.04 MEASUREMENT AND PAYMENT: Payment for this work, as described above and shown on the Contract plans, shall be at the contract lump sum price for “Exterior Beam Replacement on the Overpass at Boston Street” bid item. The payment will be full compensation for all labor, equipment, material and any incidentals necessary to complete the work.

Maintenance of Traffic for this work, including furnishing, installing and replacing (as required) of precast temporary double face 32 inch F shape concrete barrier, temporary concrete single face barrier (bolted down), precast 32 inch F shape temporary concrete traffic barrier terminal end, single lane closure, temporary traffic signs, portable variable message sign, type III barricade, drums for MOT, vertical panels, barrier markers, object markers as well as overlaying existing overhead signs shall be paid for at the Contract unit price for the relevant bid item.



- NOTES**
1. THIS STANDARD SHALL BE USED IN ACCORDANCE WITH THE APPROPRIATE WORK ZONE TRAFFIC CONTROL STANDARDS. REFER TO THE BOOK OF STANDARDS SECTION 1 - PRELIMINARY.
 2. INSTALL POSTS (A) THRU (E) WITH OFFSET BRACKETS TO THE EXISTING W BEAM ELEMENT. SPACING OF POSTS THROUGH THE STIFFENED SECTION SHALL BE 3'-1/2" C/C.
 3. REMOVE THE EXISTING W BEAM ELEMENT BETWEEN POSTS (1) THRU (5) AND OFFSET BRACKETS FROM POSTS (1), (2), (3) AND (4). GRADE AREA AS NECESSARY TO PROVIDE A BASE SUITABLE FOR THE PROPER ALIGNMENT AND PLACEMENT OF THE PRECAST TEMPORARY CONCRETE TERMINAL END RIGHT SIDE APPROACH AND THE PRECAST TEMPORARY CONCRETE TRAFFIC BARRIER.
 4. THE PRECAST TEMPORARY CONCRETE TRAFFIC BARRIER TERMINAL END RIGHT SIDE APPROACH SHALL BE PLACED OVER POSTS (1) AND (2).
 5. THE W BEAM TERMINAL CONNECTOR SHALL BE SPLICE BOLTED TO THE END OF THE EXISTING W BEAM ADJACENT TO POST (1) AND BOLTED TO THE PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END RIGHT SIDE APPROACH. REFER TO STD. MD 104.01-48.
 6. WHEN THE PRECAST TEMPORARY CONCRETE TRAFFIC BARRIER TERMINAL END RIGHT SIDE APPROACH IS REMOVED, THE W BEAM SYSTEM SHALL BE REASSEMBLED.
 7. THE COST OF REMOVING AND REASSEMBLY OF THE W BEAM AND RELATED HARDWARE, GRADING, ADDITIONAL POSTS AND HARDWARE, DRILLING HOLES AND ALL NECESSARY EQUIPMENT, LABOR, ETC., WILL BE INCIDENTAL TO THE CONTRACT PRICE PER EACH FOR PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE BARRIER TERMINAL END RIGHT SIDE APPROACH.
 8. FOR PIN AND LOOP JOINT CONNECTORS SEE STD. MD 104.01-53 AND MD 104.01-54.

SPECIFICATION 104	CATEGORY CODE ITEMS										
APPROVED <i>Kat G. McCall</i> DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT											
SHA State Highway Administration	<table border="1"> <tr> <td>APPROVAL • SHA REVISIONS</td> <td>APPROVAL • FEDERAL HIGHWAY ADMINISTRATION</td> </tr> <tr> <td>APPROVAL 8-20-03</td> <td>APPROVAL 9-23-03</td> </tr> <tr> <td>REVISED 2-10-04</td> <td>REVISED 3-31-04</td> </tr> <tr> <td>REVISED</td> <td>REVISED</td> </tr> <tr> <td>REVISED</td> <td>REVISED</td> </tr> </table>	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION	APPROVAL 8-20-03	APPROVAL 9-23-03	REVISED 2-10-04	REVISED 3-31-04	REVISED	REVISED	REVISED	REVISED
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Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST TEMPORARY 32 INCH F SHAPE
CONCRETE TRAFFIC BARRIER TERMINAL
END - RIGHT SIDE APPROACH
STANDARD NO. MD 104.01-47



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**CATEGORY 400
STRUCTURES**

SECTION 400.09 - CONCRETE BRIDGE DECK REPAIRS

400-09.01 DESCRIPTION

This work shall consist of on-call, partial or full depth removal and replacement of deteriorated concrete in reinforced concrete and steel grid decks.

400-09.02 MATERIALS

Refer to Subsection 426.02 of the Standard Specifications and the following:

A bonding agent, approved by the Engineer, shall be applied to all exposed concrete immediately prior to placement of fresh concrete.

For reinforced concrete bridge decks, the rapid setting mortar/concrete shall be one of the following products or an approved equal:

- Quikrete Rapid Road Repair #1242
- Bonsal Rapid Patch-VR manufactured by W. R. Bonsal Company in Charlotte, NC
- Sika Rapid-1 Hardening Accelerator manufactured by Sika Corporation in Lyndhurst, NJ added to mix no. 6 concrete
- Degadeck Polymer Concrete manufactured by Degussa Corporation in Shakopee, MN.

The bonding agent and mortar shall be from the same manufacturer.

Course Aggregate (1/2" maximum) shall be added to the rapid setting mortar in the proportion recommended by the manufacturer of the mortar/concrete.

400-09.03 CONSTRUCTION

Refer to Subsection 426.03 of the Standard Specifications and the following:

1. Concrete Deck Removal - The Engineer will outline the area to be repaired. In the reinforced concrete sections, a minimum 1" clearance shall be provided under the top mat of reinforcing steel.

Removal of concrete shall be limited to an area that can be repaired within the allotted work hours.



Maryland
Transportation
Authority

SPECIAL PROVISIONS INSERT

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Existing portions of grid deck shall be cleaned using hand tools if necessary and epoxy zinc rich coated. Care shall be exercised to prevent cutting or damaging any exposed reinforcement steel or steel grid. Damaged reinforcement steel shall be replaced according to Section 421 of the Standard Specifications.

2. Proportioning and Mixing the Concrete Materials - Materials shall be mixed at the site in conformance with the specified requirements of the manufacturer and for the equipment used. The concrete discharged from the mixer shall be uniform in composition and consistency. Mixing shall be capable of permitting repair operations to proceed at a steady pace.

3. Placing of Concrete - Any required forms supplied to enable placement of the concrete may be suspended from the deck by wire ties. The top surface of the deck repair shall be even with the top of the remaining deck.

Apply a bonding agent to all surfaces where fresh concrete will be placed against existing concrete. While the bonding agent is still tacky, place the fresh concrete. If the bonding agent dries, another coat shall be required at no cost to the Authority.

The new concrete shall not be placed at temperatures lower than the manufacturer's specifications without approved cold weather protection.

Concrete placement shall be limited to an area that will allow an appropriate time for curing within the allotted work hours.

4. Curing of Concrete - The concrete shall be wet cured for a minimum of one hour. Curing compound may be used as a substitute when a water cure is not practical.

All traffic (Contractor's or public) is prohibited on the concrete repair area until the curing of the material is completed and has reached a minimum compressive strength of 2500 psi.

5. General Requirements - Grinding or chipping the existing concrete deck within 6 ft of a newly repaired area is prohibited until the concrete has cured for a minimum of 12 hours.

Adequate precautions shall be taken to protect freshly placed concrete repair areas from sudden or unexpected rain.

The finished concrete repair area will be part of the riding surface of the bridge. The top of the repair area shall be placed to the true as planned line and grade of the roadway. The Contractor shall take every reasonable precaution to secure a smooth riding bridge deck by placing the concrete in a manner that meets the grade and finish of the adjoining portions of the existing bridge deck.



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Authority

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The Authority will not pay for any repairs of damage to the existing deck caused by the Contractor's operations. The cost of repairing such areas shall be the sole responsibility of the Engineer.

400-09.04 MEASUREMENT AND PAYMENT

Deck repairs will be measured and paid for at the Contract unit price per square foot for the pertinent Deck Repair items. Partial Depth Deck Repairs in Concrete Grid Deck are defined as those in which the depth of repair extends only to a maximum of 50 percent of the vertical I-beam within the deck section. The payment will be full compensation for removing deteriorated concrete to the required depth, placing the repair materials, for all removal and cleaning, air blasting, flushing with water, forming, curing and disposing of material removed, replacement of damaged reinforcements, and for all material, tools, including mixers, and incidentals necessary to complete the work.

Maintenance of Traffic for Deck repairs will be paid for under other pertinent items. See Section 104 for details.



**CATEGORY 400
STRUCTURES**

**SECTION 405 — REMOVAL OF EXISTING
STRUCTURES**

405.03 CONSTRUCTION.

276 **ADD:** The following after the fourth paragraph, "When portions of...conform to 421.03.07."

Since existing as-built details are frequently used to generate the Contract Documents for structure removal/rehabilitation projects, the following statement applies unless it is specifically overwritten in the Contract Documents: Regardless whether or not a hot mix asphalt (HMA) overlay is depicted on the structure in the Contract Documents, or it is depicted but the actual thickness varies from what is shown, no additional compensation will be given to the Contractor or the Administration if the depth of HMA differs from that specified in the Contract Documents. The provisions of GP-4.05 do not apply to this portion of the Contract.

DELETE: 405.03.01 Removal of Bridge Deck Slabs in its entirety.

INSERT: The following.

405.03.01 Removal of Bridge Deck Slabs and Parapets. The Contractor shall protect the public against injury and damage from demolition operations when removing portions of existing bridge deck slabs and parapets. When bridge deck and parapet removal is performed over or near roadways, railroads or waterways, the Contractor shall furnish and erect temporary protective shields to prevent any material or debris from entering these areas. The Contractor shall adhere to the underclearance restrictions specified in TC-6.12.

Working drawings for the protective shields shall be submitted in conformance with TC-4.01(b). Flooring and siding shall have no cracks or openings through which material particles may pass. The shields shall be able to support over their entire area 150 lb/ft² in addition to their own dead weight.

The 150 lb/ft² in addition to its own dead weight requirement for protective shields will be waived when the span to be removed is not over any of the following, or within range of rolling debris reaching any of the following:

- (a) Roadway, pedestrian walkway, bikeway, equestrian trail, parking area, navigable water, railroads and railroad property, or other traveled way.
- (b) Exposed utilities that are either aerial utilities crossing under the span or utilities located between stringers.
- (c) Environmental features such as historic ruins, endangered species habitat, etc.

When the 150 lb/ft² in addition to its own dead weight requirement is waived and the Contractor elects to remove the existing bridge deck slab by saw cutting sections and removing them by lifting from above, then the Contractor shall provide protection to



SPECIAL PROVISIONS INSERT
405 — REMOVAL OF EXISTING STRUCTURES

CONTRACT NO. MA 2161-000-002

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prevent any loose particles from reaching the ground or waterway below. In addition, a temporary construction fence shall be placed under the area of demolition to prohibit accidental access by employees and possible pedestrians.

After the Engineer determines that the protective shields have served their purpose, they shall be removed and become the property of the Contractor.

DELETE: 405.03.02 Bridge Deck Slabs to be Replaced in its entirety.

INSERT: The following.

405.03.02 Bridge Deck Slabs to be Replaced. Refer to the Contract Documents for the deck removal restrictions including sequence of locating and delineating structural elements that will remain in the completed structure, obtaining elevations, saw cutting and equipment restrictions, etc.

277 **DELETE:** 405.04 MEASUREMENT AND PAYMENT in its entirety.

INSERT: The following.

405.04 MEASUREMENT AND PAYMENT. The removal of existing bridges and structures or portions thereof will be measured and paid for as specified. The payment will be full compensation for all excavation, backfill, saw cuts, professional engineer services, removal of existing shields and debris, temporary protective shields, temporary sheeting and shoring, hauling, disposal, and for all material, labor, equipment, tools, and incidentals necessary to complete the work. On deck replacement projects, payment also includes obtaining all deck elevations specified to determine rebound, computations necessary to place new deck at required elevation, and submitting all data for review.

Construction fence used to restrict access under demolition areas will not be measured but the cost will be incidental to the pertinent Removal of Existing Structure item. When an item for construction fence is included in the Contract Documents, that portion of the construction fence used to protect demolition areas will not be included in the measurement and payment for that item.

405.04.01 The Removal of Existing Structures will not be measured but will be paid for at the pertinent Contract lump sum price.

405.04.02 The removal of existing traffic barriers (parapets, railings, etc.) from bridges, including end posts and wing walls, and retaining walls will not be measured but will be paid for at the Contract lump sum price for the pertinent Removal of Existing Traffic Barrier item.

405.04.03 Removal of existing structures for which no specific pay item is included in the Contract Documents will not be measured but the cost will be incidental to other pertinent items specified in the Contract Documents.



CATEGORY 400
STRUCTURES

SECTION 420 — PORTLAND CEMENT
CONCRETE STRUCTURES

420.03 CONSTRUCTION.

420.03.04 Concreting.

(d) Box Culverts.

- 311 **ADD:** The following before the existing first paragraph, "Box culverts shall...shall be met."

The top slab of box culverts when they are the roadway riding surface shall be placed in conformance with 420.03.04(c).

(e) Forming Concrete Parapets and Median Barriers on Bridges.

- 316 **DELETE:** The penultimate paragraph of (3), "Joints shall be...cutting the joints." in its entirety.

INSERT: The following.

Joints shall be saw cut in the finished parapet or median barrier using a diamond blade. Cuts shall be made and joints shall be spaced as shown on the Contract Documents. The trapezoidal shaped control joints on the outside of parapets will not be required if slip forming is used. Slip form placements shall only be terminated at a parapet control joint. The joints shall be saw cut as soon as possible after initial concrete set and after the concrete has set sufficiently to preclude raveling during the sawing. The sawing shall be completed the same day the concrete is extruded and before any shrinkage cracking has occurred. Concrete shall not be left overnight without saw cutting the joints.



420.04 MEASUREMENT AND PAYMENT.

331 **DELETE:** 420.04.02 in its entirety.

INSERT: The following.

420.04.02 Portland cement concrete for Substructure Concrete for Bridge, Superstructure Concrete for Bridge, and Reinforced Concrete Box Culverts will not be measured but will be paid for at the Contract lump sum price. The cost for epoxy coated reinforcement steel will be excluded from the Contract lump sum price for Superstructure Concrete for Bridge when an Epoxy Coated Reinforcement Steel Bars item for the pertinent structure is included in the Contract Documents. When a bridge deck rehabilitation project, other than bridge widenings, requires modification to the backwalls and wing walls and there is no substructure concrete item, the concrete will be incidental to the Superstructure Concrete item.

DELETE: 420.04.06 in its entirety.

INSERT: The following.

420.04.06 Floodlighting for placement of superstructure concrete will be measured and paid for at the Contract unit price per night used for the pertinent Floodlighting item. The payment will also include fuel, backup generator, setup, relocation, and removal.



**CATEGORY 400
STRUCTURES**

**SECTION 426 — LATEX MODIFIED CONCRETE
OVERLAY FOR BRIDGE DECKS**

426.01 DESCRIPTION.

345. **DELETE:** Restrictions in its entirety.

INSERT: The following.

Restrictions. Placement of LMC on bridge decks is prohibited between December 1 and April 30 except that in Allegany, Garrett, and Washington Counties it is prohibited between October 15 and May 30. The Contractor shall not remove any portion of existing bridge deck that will not be overlaid and cured prior to these restrictions.

426.03 CONSTRUCTION.

349. **DELETE:** 426.03.02 Deck Removal and Repairs in its entirety.

INSERT: The following.

426.03.02 Deck Removal and Repairs. Removal shall be performed to the limits shown in the Contract Documents. After removal the Engineer will inspect the entire exposed portion of the deck and indicate if any additional removal or repairs are required. Deteriorated areas of deck shall be removed down to sound concrete by use of power driven hand tools, hand tools, or high pressure water jet. After completion of removal of deteriorated concrete, all rust, oil, or other foreign materials detrimental to achieving bond shall be removed followed by abrasive blasting and air blast or vacuum as determined by the Engineer.

The Engineer will determine any extraneous damage to the existing bridge caused by the Contractor's operations, which the Contractor shall repair at no additional cost to the Administration.

When the Engineer determines that the remaining concrete is deteriorated beyond the specified depth of scarification or the Engineer determines that extraneous material has been removed beyond the specified depth during the scarification process that is not due to Contractor error, revisions will be made to modify the required depth of removal. This additional work will be measured and paid for in conformance with 426.04.03.

Regardless of the depth of removal of existing concrete, the LMC shall be placed to the elevations and grades specified in the Contract Documents.

Existing reinforcement steel to be utilized in the finished deck shall conform to 421.03.07 except all bars shall be thoroughly cleaned by abrasive blasting. Where the bond between existing concrete and reinforcement steel has been destroyed, or where more than half the diameter of the steel is exposed, the concrete adjacent to the bar shall be removed to a depth that will permit concrete bond to the entire periphery of the



exposed bar. This clearance shall be a minimum of 1 in. unless lower bar mats make it impractical. Care shall be exercised to prevent cutting, stretching, or damaging any exposed reinforcement steel.

Areas from which unsound concrete has been removed shall be kept free of slurry produced by hydromilling of concrete in adjacent areas. Work shall be planned so that this slurry will drain away from all open areas. All slurry shall be removed from prepared areas before proceeding with the surface preparation.

Spalled concrete, voids and other defects that are located within the proposed LMC overlay area shall then be repaired in conformance with the methods specified herein. Each repair shall include the removal of the additional deck material, all handchipping, and filling the repair area voids with LMC overlay while applying the overlay.

- (a) For cavities less than 1 in. deep, no additional work is required.
- (b) For cavities 1 to 3 in. deep, wire fabric shall be placed as specified in 423.03.04. Wire fabric will not be required for repair areas less than 2 ft².
- (c) For cavities over 3 in. deep but not full depth, the following provisions shall apply:
 - (1) If the repair crosses a proposed construction joint, a 1-1/2 x 3 in. keyway shall be provided at the vertical joint.
 - (2) The Contractor shall furnish and erect temporary protective shields as specified in 405.03.01 when the depth of removal reaches half of the original concrete deck thickness and deeper removal is anticipated.
- (d) For areas where the depth of removal is full depth, the following provisions shall apply in addition to the requirements of (c):
 - (1) In large areas, forms supplied to enable placement of the LMC overlay shall be supported by blocking erected from the stringers.
 - (2) In small areas, forms supplied to enable placement of the LMC overlay may be suspended from existing reinforcement bars by wire ties.

350 **DELETE:** 426.03.03 Surface Preparation, "the entire surface...this surface preparation." in its entirety.

INSERT: The following.

426.03.03 Surface Preparation. The entire surface shall be thoroughly cleaned and abrasive blasted before placing the overlay. The abrasive blasting shall clean all reinforcement of visible rust and clinging concrete detached from the deck and all areas of concrete against which the overlay is to be placed. Abrasive blasting may be required on the day the overlay is to be placed so that reinforcement is free of visible rust.



However, the Engineer may determine that a thin coating of flash rust will be acceptable. Abrasive blasting shall not be performed more than 24 hours prior to placing the LMC overlay.

The surface shall be further cleaned by air blast followed by flushing with water. Prior to placing the LMC overlay, the surface shall be wetted and kept wet for at least one hour and puddles of free water shall be removed.

426.04 MEASUREMENT AND PAYMENT.

354 **DELETE:** 426.04.02, .03 and .04 in their entireties.

INSERT: The following.

426.04.02 Removal to the depth specified in the Contract Documents will not be measured but the cost will be incidental to the pertinent Latex Modified Concrete Overlay item.

426.04.03 Deck repairs, regardless of the method and depth, will not be measured but the cost will be incidental to the pertinent Latex Modified Concrete Overlay item.

426.04.04 Furnishing, placing, finishing and curing of the LMC overlay, will be measured and paid for at the Contract unit price per cubic yard for the Latex Modified Concrete Overlay item. Measurement for the volume of concrete will be based on the meter readings on the mixers dispensing the latex modified concrete excluding the calculated volume of any waste.

ADD: The following after 426.04.06.

426.04.07 Furnishing and installing any formwork required for full depth deck repairs will be measured and paid for at the Contract unit price per square foot for the pertinent Formwork for Full Depth Deck Repairs item. The measurement will be based upon the exposed opening at the bottom of the deck. The cost for the amount of form work extending beyond these limits will be incidental to the item.



**CATEGORY 400
STRUCTURES**

SECTION 430 — METAL STRUCTURES

430.01 DESCRIPTION.

354 **DELETE:** The first paragraph, "This work shall...by the Engineer." in its entirety.

INSERT: The following.

This work shall consist of furnishing, fabricating, transporting, and erecting of steel beams, plate girders, trusses, grillages, columns and bents, shoes, pedestals, castings, miscellaneous steel and all incidental structural steel as specified in the Contract Documents or as directed by the Engineer. Refer to appropriate Section 435 or 436 for cleaning and painting.

355 **DELETE:** 430.02 MATERIALS, in its entirety.

INSERT: The following.

430.02 MATERIALS.

Grout	902.11(c),(d),(e)
Metals	909
Bolts	A 325
Nuts	A 563, Grade C, D, and DH
Washers	F 436
Direct Tension Indicating Washers (DTI)	F 959



CATEGORY 400
STRUCTURES

SECTION 450 — RETAINING WALLS

450.01 DESCRIPTION.

450.01.01 Preapproved Alternate Retaining walls.

411 **DELETE:** The first two paragraphs, "Alternate retaining walls...of Bridge Development." in their entireties.

INSERT: The following.

Alternate retaining walls shall only be used when specified in the Contract Documents. When alternate retaining walls are included in the Contract Documents, only those retaining walls specified will be permitted, and only one type retaining wall shall be used throughout the project.

Alternate retaining walls are selected from the list of Preapproved Alternate Retaining Walls, which is maintained by the Office of Bridge Development. Procedures for adding products to the prequalified list may be obtained from the Office of Bridge Development.

Enforcement. The Administration will enforce these requirements on all projects. Only alternate retaining walls specifically specified in the Contract Documents will be permitted on the project. All other retaining walls, even though they are preapproved or have been previously used on Administration projects, are prohibited for use on the project. The Administration will not consider any other alternate retaining walls as a value engineering change proposal. Alternate retaining walls that have been previously used on Administration projects without complying with the preapproval requirements shall be formally submitted through these procedures before they will be added to the Preapproved Lists for consideration to be used on future projects. These and other retaining wall systems may be submitted for addition to the Preapproved Lists, but the Administration will not permit these submittals to be used on an advertised or awarded project.

Deviations. Any proposed deviation in materials, post size or shape; panel size or shape; reinforcing type, size, or placement from what is shown on the Plans or from any preapproved alternates allowed on this project will be reviewed by the Administration's retaining wall consultant. All costs for these reviews, whether the details are accepted or rejected, will be borne by the Contractor. Any fabrication or creation of any retaining wall element that is a deviation and is made prior to written approval of the Administration is done so at the risk of the Contractor.



SPECIAL PROVISIONS INSERT
464 — EPOXY PROTECTIVE COATINGS FOR CONCRETE

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**CATEGORY 400
STRUCTURES**

**SECTION 464 — EPOXY PROTECTIVE
COATINGS FOR CONCRETE**

464.04 MEASUREMENT AND PAYMENT.

434 **DELETE:** 464.04.03 in its entirety.

INSERT: The following.

464.04.03 Epoxy protective coatings for concrete will be measured and paid for at the Contract unit price per square foot for the pertinent Epoxy Protective Coating item.



CATEGORY 400
STRUCTURES

SECTION 470 — UTILITIES ON STRUCTURES

470.01 DESCRIPTION. This work shall consist of placing utility markers to identify utilities when they are newly installed, replaced, relocated, or maintained on structures. When utilities are attached to existing structures, the utility company shall ensure that utility markers are installed. The identification markers shall be as specified herein and as approved by the Engineer.

470.02 MATERIALS. The marker shall consist of decals or stenciling onto the pipe or carrier with high quality black or white print. Lettering height, limited from 1 to 4 in., shall be 1/3 the pipe diameter. Markers shall include the name of the utility and a description of the contents including pressures, voltages, and any other pertinent information required by industry standards.

The proposed markers shall be submitted to the Engineer and approved prior to application to the utility.

470.03 CONSTRUCTION. Identification markers shall be placed within the first and last 50 ft of the structure, and at intervals in between not to exceed 100 ft.

The Contractor shall ensure that the each surface to receive the marker is properly cleaned and prepared prior to the application, and that the markings are oriented for best visibility.

470.04 MEASUREMENT AND PAYMENT. The application of utility markers on structures will not be measured but the cost will be incidental to the pertinent items in the Contract Documents.



SPECIAL PROVISIONS INSERT
901 — AGGREGATES

CONTRACT NO. MA 2161-000-002

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CATEGORY 900
MATERIALS

SECTION 901 — AGGREGATES

602 **DELETE:** Table 901 A in its entirety.

INSERT: The following.

SPECIAL PROVISIONS INSERT
901 — AGGREGATES

CONTRACT NO. ContdNum

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TABLE 901 A
AGGREGATE GRADING REQUIREMENTS TEST METHOD T 27

MATERIAL	SIEVE SIZE																
	2-1/2"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	No. 4	No. 8	No. 10	No. 16	No. 30	No. 40	No. 50	No. 100	No. 200	
CRUSHER RUN AGGREGATE CR-6 (f)(g)	—	100	90-100	—	60-90	—	—	30-60	—	—	—	—	—	—	—	—	0-15
BANK RUN GRAVEL — SUBBASE	100	—	—	90-100	—	60-100	—	—	—	35-90	—	—	20-55	—	—	—	5-25
GRADED AGGREGATE — BASE DESIGN RANGE (a)	—	100	95-100	—	70-92	—	50-70	35-55	—	—	—	12-25	—	—	—	—	0-8
TOLERANCE (b)	—	-2	±5	—	±8	—	±8	±8	—	—	—	±5	—	—	—	—	±3(c)
BANK RUN GRAVEL — BASE	100	—	—	85-100	—	60-100	—	—	—	35-75	—	—	20-50	—	—	—	3-20
COARSE AGGREGATE — PORTLAND CEMENT CONCRETE	—	—	100	95-100	—	25-60	—	0-10	0-5	—	—	—	—	—	—	—	—
57 and UNDERDRAIN(h)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
67	—	—	—	100	90-100	—	20-55	0-10	0-5	—	—	—	—	—	—	—	—
7	—	—	—	—	100	90-100	40-70	0-15	0-5	—	—	—	—	—	—	—	—
FINE AGGREGATE — PORTLAND CEMENT CONCRETE, UNDERDRAIN, and PNEUMATIC MORTAR (c)	—	—	—	—	—	—	100	95-100	—	—	45-85	—	—	5-30	—	—	0-10
COARSE AGGREGATE — LIGHTWEIGHT PORTLAND CEMENT CONCRETE	—	—	—	100	90-100	—	10-50	0-15	—	—	—	—	—	—	—	—	—
FINE AGGREGATE — LIGHTWEIGHT PORTLAND CEMENT CONCRETE (d)	—	—	—	—	—	—	100	85-100	—	—	40-80	—	—	10-35	—	—	5-25
FINE AGGREGATE/SAND MORTAR and EPOXIES (d)	—	—	—	—	—	—	—	100	95-100	—	—	—	—	—	—	—	0-10
MINERAL FILLER	—	—	—	—	—	—	—	—	—	—	—	100	—	—	—	—	70-100
CRUSHED GLASS (e)	—	—	—	—	100	—	—	0-55	—	—	45-85	—	—	—	—	—	0-10

(a) To establish target values for design.
 (b) Production tolerance.
 (c) ±2 for field grading. (omitting T 11)
 (d) Fine aggregate includes natural or manufactured sand.
 (e) Crushed glass shall not contain more than one percent contaminants by weight.
 (f) Not to be used in the structural part of any Administration project.
 (g) Recycled asphalt pavement may be used as a component not to exceed 15 percent and is not subject to aggregate physical property requirements in TABLE 901 B.
 (h) When this material is used for drainage applications, recycled concrete shall not be used.

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TABLE 901 D

608 **DELETE:** Note (b) in its entirety.

INSERT: The following.

(b) PV shall be 5.5 when any aggregate being blended has a PV less than 5. Aggregate from no more than two sources may be blended. Proportions of blended aggregate shall be determined as specified in MSMT 416. Not applicable for Gap Graded surface mixes or any other surface mix requiring high polish aggregate.

DELETE: Note (e) in its entirety.

INSERT: The following.

(e) PV shall be 9.0 when any aggregate being blended has a PV less than 8. When carbonate rock is used, it shall have a minimum of 25 percent insoluble residue retained on the No. 200 sieve.



SPECIAL PROVISIONS INSERT

CONTRACT NO. MA 2161-000-002

902 — PORTLAND CEMENT CONCRETE AND RELATED PRODUCTS

1 of 2

**CATEGORY 900
MATERIALS**

**SECTION 902 — PORTLAND CEMENT
CONCRETE AND RELATED PRODUCTS**

612 **DELETE:** 902.03 PORTLAND CEMENT in its entirety.

INSERT: The following.

902.03 PORTLAND CEMENT. Portland cement shall conform to M 85, with the fineness and the time of setting determined in conformance with T 153 and T 131, respectively.

902.10.03 Portland Cement Concrete Mixtures.

616 **DELETE:** Table 902 A in its entirety.

INSERT: The following.

TABLE 902 A

PORTLAND CEMENT CONCRETE MIXTURES									
MIX NO.	28 DAY SPECIFIED COMPRESSIVE STRENGTH	STANDARD DEVIATION	CRITICAL VALUE	MIN CEMENT FACTOR	COARSE AGGREGATE SIZE	MAX WATER/ CEMENT RATIO	SLUMP RANGE	TOTAL AIR CONTENT	CONCRETE TEMPERATURE
	psi	psi	psi	lb/yd ³	M 43	by wt	in.	%	F
1	2500	375	2430	455	57, 67	0.55	2 — 5	5 — 8	70 ± 20
2	3000	450	3010	530	57, 67	0.50	2 — 5	5 — 8	70 ± 20
3	3500	525	3600	580	57, 67	0.50	2 — 5	5 — 8	70 ± 20
4	3500	525	3600	615	57, 67	0.55	4 — 8	N/A	70 ± 20
5	3500	525	3600	580	7	0.50	2 — 5	5 — 8	70 ± 20
6	4500	675	4770	615	57, 67	0.45	2 — 5	5 — 8	65 ± 15
7	4200	630	4420	580	57	0.50	1-1/2 — 3	5 — 8	70 ± 20
8	4000	600	4180	750	7	0.42	2 — 5	5 — 8	65 ± 15

Note 1: When concrete is exposed to water exceeding 15 000 ppm sodium chloride content, Type II cement shall be used. In lieu of a Type II cement, a Type I cement may be used in combined form with an amount of up to 50 percent replacement with ground iron blast furnace slag, or an amount of up to 25 percent replacement with Class F fly ash. The Contractor shall submit to the Engineer the proposed mix proportions and satisfactory test results in conformance with C 1012 showing a sulfate resistance expansion not exceeding 0.10 percent at 180 days.

Note 2: The temperature of Mix No. 6 when used for other than superstructure work as defined in TC-1.02 shall be 70 ± 20 F.

Note 3: Type A or D admixture shall be added to bridge, box culvert, and retaining wall concrete.

Note 4: Nonchloride Type C admixtures may be used when approved by the Engineer.

Note 5: Other Slump Requirements:

When a high range water reducing admixture Type F or Type G is specified, the slump shall be 4 to 8 in.

When synthetic fibers are specified, the slump shall be 5 in. maximum.

When concrete is to be placed by the slip form method, the slump shall be 2-1/2 in. maximum.



SPECIAL PROVISIONS INSERT

CONTRACT NO. MA 2161-000-002

902 — PORTLAND CEMENT CONCRETE AND RELATED PRODUCTS

2 of 2

621 **DELETE:** 902.10.08 TESTING in its entirety.

INSERT: The following.

902.10.08 Testing. Sampling shall conform to T 141. Testing shall be performed as follows:

TEST	METHOD	MINIMUM TEST FREQUENCY	RESPONSIBILITY
Temperature (e)	T 309	1 per 50 yd ³ (or fraction thereof)	Project Engineer
Slump (a)(e)	T 119	1 per 50 yd ³ (or fraction thereof)	Project Engineer
Air Content (a)(e)	T 152 T 196	1 per 50 yd ³ (or fraction thereof)	Project Engineer
Compression (b)(c)(d)	T 23	1 per 50 yd ³ (or fraction thereof)	Project Engineer
Compression (b)(c)(d) Mix No. 7 Only	T 23	3 per Day	Project Engineer

- (a) A second test will be made when the first slump or air content test fails. Acceptance or rejection will be based on the results of the second test.
- (b) Compressive strength tests are defined as the average of two companion cylinders.
- (c) The Contractor shall be responsible for the making of all early break cylinders and furnishing the molds, stripping, curing/delivery of all cylinders, including 28 day cylinders, to the testing laboratory.
- (d) The Project Engineer will be responsible for making, numbering and signing the 28 day cylinders.
- (e) When constructing plain and reinforced concrete pavements, the testing frequency for slump, air content, and temperature shall be 1 per 100 yd³ or fraction thereof.



CATEGORY 900
MATERIALS

SECTION 908 — REINFORCEMENT STEEL

645 **DELETE:** 908.01 DEFORMED REINFORCEMENT in its entirety.

INSERT: The following.

908.01 DEFORMED REINFORCEMENT. Unless otherwise specified, reinforcement bars and reinforcement bars used as anchoring devices shall be deformed bars conforming to A 615 or A 706, Grade 60. Deformed bars shall be epoxy coated when specified in the Contract Documents. Epoxy powder shall conform to 917.02.

646 **DELETE:** 908.02 PLAIN REINFORCEMENT in its entirety.

INSERT: The following.

908.02 PLAIN REINFORCEMENT. Unless otherwise specified, dowel bars and dowel bars used as ties in PCC pavement expansion and contraction joints shall be plain round steel bars conforming to A 615, Grade 60 or A 36. Bars shall be epoxy coated. Epoxy powder shall conform to 917.02. All dowel bars used for traverse joints shall have a maximum pullout strength in conformance with M 254.

DELETE: 908.08 WIRE FABRIC FOR PNEUMATICALLY APPLIED MORTAR. in its entirety.

INSERT: The following.

908.08 WIRE FABRIC FOR PNEUMATICALLY APPLIED MORTAR. Wire fabric for pneumatically applied mortar and concrete encasement shall conform to A 185. It shall be fabricated either from size W1.4 wire on 3 in. centers in each direction or from W0.9 wire on 2 in. centers in each direction. It shall be galvanized as specified in 906.01.01.



SPECIAL PROVISIONS INSERT
909 — METALS

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CATEGORY 900
MATERIALS

SECTION 909 — METALS

647 **DELETE:** 909.02 STEEL FOR MISCELLANEOUS USE in its entirety.

INSERT: The following.

909.02 STEEL FOR BEARING AND MISCELLANEOUS USE. Steel for bearing on structures shall conform to A 709, Grade 50. Steel for miscellaneous use shall conform to A 36 or A 709, Grade 36.



**CATEGORY 900
MATERIALS**

SECTION 911 — JOINTS

911.06 SEALER FOR LOOP DETECTOR.

655 **DELETE:** 911.06.01 Tests in its entirety.

INSERT: The following.

911.06.01 Tests. Tests shall conform to the following:

TYPE A – TWO PART EPOXY	
TEST AND METHOD	SPECIFICATION LIMITS
Viscosity, cone and plate Viscometer@ 25 C, cps max	12 000
Pot life @ 25 C, minutes min	10
Cure time @ 25 C, no tackiness, hr max	1
Hardness, Type A durometer, D 2240	50 – 60
Tensile elongation, D 638, % min	100
Water absorption, D 570, %/24 hr max	0.5
Oil absorption, D 471, % max	0.02
Volume resistivity @ 25 C, D 257, ohm-cm min	2.4×10^{10}
TYPE B - ONE PART POLYURETHANE	
TEST AND METHOD	SPECIFICATION LIMITS
Viscosity, Brookfield RVF #6 spindle @ 20 rpm 25 C, cps max	30 000
Cure time @ 25 C, no tackiness, hr max	24
Hardness, Rex Type A	50 – 60
Tensile strength, D 412, psi min	500
Tensile elongation, D 412, % min	300
ARC resistance, D 495, sec min	70
Dielectric constant, D 150, min	6 @ 50 hz 4.25 @ 500 khz
Nonvolatile content, %	85



SPECIAL PROVISIONS INSERT
911 — JOINTS

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657 **DELETE:** 911.11 NEOPRENE DRAINAGE TROUGHS and 911.12 PREFORMED FABRIC DRAINAGE TROUGHS in their entireties.

INSERT: The following.

911.11 DRAINAGE TROUGHS.

911.11.01 Neoprene Drainage Troughs. Neoprene for drainage troughs shall conform to M 220, and the following:

NEOPRENE DRAINAGE TROUGHS		
PHYSICAL PROPERTY	METHOD	LIMITS
Thickness, in, min	—	1/4
Tensile Strength, psi min	D 412	2000
Elongation at Break, % min	D 412	250
Hardness, Type A Durometer	D 2240 (modified)	60 ± 5
Compression Set, 22 hr @ 212 F, % max	D 395	35
Oven Aging, 70 hr @ 212 F		
Tensile Strength, % max	D 573	20
Elongation, % Loss max		20
Hardness, Type A Durometer (points change)		0 to + 10

911.11.02 OPTIONAL PREFORMED FABRIC DRAINAGE TROUGHS. Optional preformed fabric drainage trough shall be a sheet composed of multiple plies of 15 ± 5 oz/yd² polyester fabric laminated with butadiene acrylonitrile, vulcanized to form an integral laminate. Physical properties of the laminate shall conform to the following:

ALTERNATE PREFORMED FABRIC DRAINAGE TROUGHS		
PHYSICAL PROPERTY	METHOD	LIMITS
No. of Plies	—	3
Laminate Weight, lb/ft ² min	—	0.85
Thickness, in, min	—	5/32
Breaking Strength, lb/in. min	D 378	1200
Elongation at Break, % max	D 378	30
Elongation at 1/10 Breaking Strength, % max	D 378	3

911.12 RESERVED.



CATEGORY 900
MATERIALS

684 **DELETE:** SECTION 917 — EPOXY PROTECTIVE COATINGS in its entirety.

INSERT: The following.

SECTION 917 — MISCELLANEOUS PROTECTIVE
COATINGS

917.01 EPOXY PROTECTIVE COATINGS FOR CONCRETE. The protective coatings shall be two component epoxy systems for use in conjunction with concrete. One component shall be a clear or pigmented condensation product of the reaction of epichlorohydrin with bisphenol A, the resin of which shall be composed of 100 percent reactive constituents. The other component shall be a clear polyamide hardener.

The producer shall submit a sample of each component for laboratory analysis. The sample shall be coded as the original sample. The original and all subsequent samples shall conform to the following:

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Pot Life, hr min	Fed. Spec TT-C-535	8
Color	Fed. Std. 595	Gray No. 26440
Dry Film Thickness 1st coat, mil min 2nd coat, mil min	D 1005	2 3
Sagging	D 4400	Must pass test for Recommended film Thickness
Flexibility	Federal Spec TT-P-115	Must not crack, check or delaminate
Infrared Spectrogram	Equipment Manufacturer's Procedure	Each component shall match original sample
Tensile Strength, psi min	MSMT 609	400

917.02 FUSION BONDED EPOXY POWDER COATINGS FOR STEEL. The epoxy protective coating shall be a one-coat, heat curable, thermosetting powdered coating that is electrostatically applied on metal surfaces as specified in the Contract Documents. For reinforcement steel, the color shall be bright, in order to contrast with the normal color of reinforcement and rust (e.g. orange, red, green, yellow etc. and not brown or any color in the rust family). If reinforcement steel is coated before fabrication, all hairline cracks and minor damage on fabrication bends shall be patched, even if there is no bond loss. The epoxy coating material



shall be selected from the pre-qualified materials list maintained by the Office of Materials and Technology.

Epoxy coatings shall conform to M 284.

917.02.01 Touch Up System. Material used for the touch up system shall be a two part epoxy system designated and color matched for patching the epoxy coating used.

Patching material shall be available through the manufacturer of the epoxy powder. The patching material shall be fully cured one hour after application at 35 F ambient.

917.02.02 Certification. The manufacturer shall furnish certification as specified in TC-1.02.

917.03 FUSION BONDED POLYESTER POWDER.

917.03.01 Materials. The polyester powder shall be a super durable TGIC (Triglycidyl Isocyanurate) polyester conforming to 917.03.05. The polyester powder shall be selected from the prequalified materials list maintained by the Office of Materials and Technology.

Material used for the touch up system shall be a two component aliphatic polyurethane conforming to 912.04.02, and color matched for patching the polyester coating used. The coating thickness of the touch up material shall be the same as the thickness of the polyester and can be applied in multiple coats.

917.03.02 Cleaning and Coating. Cleaning and coating shall be performed in an environmentally controlled plant that is fully enclosed and approved by the Administration.

All items to be coated shall be free of any oil or grease, and shall be abrasive blasted to Near White in conformance with SSPC SP-10. Cleaned surfaces shall be protected from high humidity, rainfall and surface moisture, and shall not be allowed to flash rust. The blast profile shall be 2 to 3 mils as determined in conformance with D 4417, Method C.

The thickness of the cured coating shall be 7 ± 2 mils when measured in conformance with D 1186.

The cured coating shall have a pencil hardness of 2H when tested in conformance with D 3363.

The color of the coating shall match the Federal Standard 595 color number specified in the Contract Documents.

Using a 67-1/2 volt wet sponge detector, the polyester coating shall be checked for holidays, pinholes, and discontinuities. There shall be no more than one deficiency per 5 ft².

917.03.03 Acceptance. The acceptance of a polyester powder will be based on the quality control test results required on the manufacturer's certification. The coating applicator shall be responsible for reviewing certifications to ensure conformance to 917.03.04. The coating applicator shall also maintain a file of all reviewed certifications.

917.03.04 Certification. The polyester powder manufacturer shall furnish production batch certification as specified in TC-1.02 showing conformance to the following:



TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Infrared Spectrogram	D 2621	Match prequalification sample
Taber Abrasion Resistance, mg loss, max	D 4060	100
Specific Gravity	D 5965 (Method A)	Prequalification sample \pm 0.02
Color	E 1331 or E 1338	Match Fed. Std. 595 color no. specified in Contract Documents

917.03.05 Polyester Prequalification Requirements. The following physical tests will only be required to prequalify the polyester, and will not be required for certification:

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Abrasion Resistance	Taber Abraser CS-10, 1000 gm load, 1000 cycles, D 1044	100 mg max weight loss
Adhesion	D 3359, Method A (Bonderite 1000 panel)	Rating 5A
Gloss	D 525, 60° initial	30 - 45 per Fed. Std 595
Hardness	D 3363	Min 2H - No gouge
Impact	D 2794	Pass 80 in.-lb
Salt Spray Resistance	B 117, D 1654 1000 hr (Bonderite 1000 panel)	Table 2, Rating 7
Thickness	G 12	7 \pm 2 mils
Color	E 1331 or E 1338	As specified in the Contract Documents from Fed. Std. 595 Color No. 20040
Infrared Spectrogram	Equipment manufacture's procedures	Manufacturer's IR
Weather Resistance	D 4587, test condition D Test shall be conducted with a UVA lamp (340 nm peak) for 1000 hr	50 % min gloss retention
Specific Gravity	D 5965	Manufacturer's result

917.04 DUPLEX ZINC-POLYESTER POWDER COATING SYSTEM.

917.04.01 Materials.

Organic Zinc Rich Paint	912.02.03
Fusion Bonded Polyester Coating and Touch Up System	917.03
Hot Dip Galvanized Zinc	A 123 and A 153



This duplex system consists of a cathodic zinc layer applied by either the hot dip galvanizing process, or the application of an organic zinc rich paint and a barrier layer of polyester powder coating.

Prior to application of a duplex system, the applicator shall have demonstrated the ability to properly apply and cure the materials of the system.

Material used for the touch up system shall be a two component aliphatic polyurethane conforming to 912.04.02, and color matched for patching the polyester coating used. The coating thickness of the touch up material shall be the same as the thickness of the polyester and can be applied in multiple coats.

917.04.02 Cleaning and Coating. Cleaning and coating shall be performed in an environmentally controlled plant that is fully enclosed and approved by the Administration.

Zinc Coating.

(a) **Hot Dip Galvanized Method.** When a polyester powder is to be applied over hot dip galvanizing, the galvanized surface shall be prepared by solvent cleaning conforming to SSPC SP-1, followed by brush off blast cleaning using grit conforming to SSPC SP-7. The blast profile shall be 2 to 3 mils as determined in conformance with D 4417, Method C. When the blast cleaning exposes bare steel, the bare steel shall be spot primed with an organic zinc rich coating. The polyester powder shall be applied within 24 hours of surface preparation. The cured polyester powder shall conform to the requirements listed below.

(b) **Organic Zinc Rich Paint Method.** When a polyester powder is to be applied over an organic zinc rich paint, they shall be applied in a continuous operation. The surface shall be prepared by solvent cleaning conforming to SSPC SP-1, followed by abrasive blast cleaning using grit to a condition conforming to SSPC SP-10, Near White. The blast profile shall be 2 to 3 mils as determined in conformance with D 4417, Method C. The organic zinc rich paint shall be fully cured prior to application of the polyester powder. The thickness of the organic zinc rich paint shall be 3 to 5 mils as determined in conformance with D 1186.

Polyester Coating. The thickness of the polyester coating shall be 5 to 9 mils for methods (a) and (b) when measured in conformance with D 1186. The cured coating shall have a pencil hardness of 2H when tested in conformance with D 3363.

Material used for the touch up system shall be a two component aliphatic polyurethane conforming to 912.04.02, and color matched for patching the polyester coating used. The coating thickness of the touch up material shall be the same as the thickness of the polyester and can be applied in multiple coats.

The color of the coating shall match the Federal Standard 595 color number specified in the Contract Documents.

Using a 67-1/2 volt wet sponge detector, the polyester coating shall be checked for holidays, pinholes, and discontinuities. There shall be no more than one deficiency per 5 ft².



SPECIAL PROVISIONS INSERT
917 — MISCELLANEOUS PROTECTIVE COATING

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917.04.03 Acceptance. The acceptance of an organic zinc rich paint shall conform to 912.01.03. The acceptance of a polyester powder shall conform to 917.03.03. The acceptance of hot dip galvanized zinc shall be based on inspections conforming to A 123, A 153, and the Contract Documents.

917.04.04 Certification. The certification of the polyester powder shall conform to 917.03.04. The certification of the organic zinc rich paint shall conform to 912.02.03.

917.05 PAINT SYSTEM FOR NEW GALVANIZED STRUCTURES.

917.05.01 Materials. All paint within the paint system shall be from the same manufacturer. The manufacturer shall be on the list of Approved Paint Manufacturers maintained by the Office of Materials and Technology. The paint shall conform to the following:

Primer Coat	912.03.02, 2 to 5 mils
Finish Coat	912.04.02, 2 to 4 mils
Color	Federal Standard 595
Brown	Color No. 20040
Black	Color No. 27038
Green	Color No. 24108

917.05.02 Cleaning and Coating. Cleaning and coating shall be performed in an environmentally controlled plant that is fully enclosed and approved by the Administration.

917.05.03 Surface Preparation. New galvanized steel shall not have been water or chromate quenched. The surface shall be solvent cleaned in conformance with SSPC SP-1 using a nonresidue solvent and a lint free cloth. The surface shall then be brush off blasted in conformance with SSPC SP-7 using grit. Any damaged areas shall be repaired in conformance with A 780. If repair is made using an organic zinc rich primer, the primer shall conform to 912.02.03.

917.05.04 Paint Application. If application of primer does not immediately follow the brush off blasting, each item shall be stored in an environment free of moisture and dust. The primer shall be applied in conformance with the manufacturer's recommendations within 12 hours of brush off blasting.

After the primer has properly cured, the finish coat shall be applied in conformance with the manufacturers' recommendation.

917.05.05 Acceptance. The finished painted surface shall be holiday free when tested with a low voltage holiday detector (minimum 30 volts), using tap water. If holidays are detected, the coatings may be repaired with additional coatings in conformance with A 780 or they may have the paint stripped and recoated at no additional cost to the Administration.



**CATEGORY 900
MATERIALS**

SECTION 950 — TRAFFIC MATERIALS

712 **DELETE:** 950.03 REFLECTORIZATION OF SIGNS AND CHANNELIZING DEVICES in its entirety.

INSERT: The following.

950.03 REFLECTORIZATION OF SIGNS AND CHANNELIZING DEVICES. Unless otherwise specified in the Contract Documents, retroreflective sheeting for signs shall conform to 950.03.02, 950.03.03 or 950.03.04. When yellow Type IV, VI, VII, IX, or Super high efficiency, full cube retroreflective sheeting is specified in the contract documents, fluorescent yellow shall be used. Retroreflective sheeting for channelizing devices shall conform to 950.03.02, 950.03.03, 950.03.04 or 950.03.07.

Sign sheeting must be selected from the Qualified Products List.

Sign legend and background sheeting shall be from the same sheeting manufacturer.

950.03.01 Type I Retroreflective Sheeting. When specified in the Contract Documents, engineering grade retroreflective sheeting shall conform to D 4956, Type I.

950.03.02 Type III Retroreflective Sheeting. Type III retroreflective sheeting shall conform to D 4956, Type III and the following:

MINIMUM REFLECTIVE INTENSITY VALUES FOR TYPE III SHEETING							
Minimum Coefficient of Retroreflection (R_A) $cd/(lx \cdot m^2)$							
Observation Angle°	Entrance Angle°	Silver- White	Yellow	Red	Blue	Green	Brown
0.2	+40	100	60	18	7	15	3
0.5	+40	60	45	10	7	10	2.5

The Contractor shall furnish certification as specified in TC-1.02 that the reflective sheeting conforms to these requirements for each batch.



950.03.03 Type IV Retroreflective Sheeting. Type IV retroreflective sheeting shall conform to D 4956, Type IV and the following:

MINIMUM REFLECTIVE INTENSITY VALUES FOR TYPE IV SHEETING							
Minimum Coefficient of Retroreflection (R_A) $cd/(lx \cdot m^2)$ Per E 810 (Average of 0 and 90 degrees Orientation)							
Observation	Entrance	White	Yellow	Red	Green	Blue	Orange
Angle ^o	Angle ^o						
0.2	40	120	80	16	12	9	29
0.5	40	55	40	10	8	4	14
1.0	40	9	8	1	0.8	0.5	1

950.03.04 Type IX Retroreflective Sheeting. Type IX retroreflective sheeting shall conform to D 4956, Type IX and the following:

MINIMUM REFLECTIVE INTENSITY VALUES FOR TYPE IX SHEETING								
Minimum Coefficient of Retroreflection (R_A) $cd/(lx \cdot m^2)$ Per E 810 (Average of 0 and 90 degrees Orientation)								
Observation	Entrance	White	Yellow	Fl Yellow	Fl. Yellow Green	Red	Green	Blue
Angle ^o	Angle ^o							
0.2	40	90	70	55	75	26	9.8	4.5
0.5	40	35	27	15	23	10	3.5	1.5
1.0	40	10	8.8	6	8	3	1.6	0.8



950.03.05 Super High Efficiency, Full Cube Retroreflective Sheeting. Super high efficiency, full cube retroreflective sheeting shall conform the following:

MINIMUM REFLECTIVE INTENSITY VALUES FOR SUPER HIGH EFFICIENCY, FULL CUBE RETROREFLECTIVE SHEETING									
Minimum Coefficient of Retroreflection (R_A) $cd/(lx \cdot m^2)$									
Per E 810 (Average of 0 and 90 degree orientation)									
Observation	Entrance	White	Yellow	Fl. Yellow	Fl. Yellow-Green	Red	Green	Blue	Fluor. Orange
Angle°	Angle°								
0.2	-4	570	425	340	455	114	57	26	200
0.2	30	215	160	130	170	43	21	10	75
0.2	40	100	75	60	80	20	10	7.5	35
0.5	-4	400	300	240	320	80	40	18	140
0.5	30	150	112	90	120	30	15	6.8	52
0.5	40	50	37	30	40	10	5	4	18
1	-4	120	90	72	96	24	12	5.4	42
1	30	45	34	27	36	9	4.5	2.0	16
1	40	25	19	15	20	5	3	1.5	9

950.03.06 Temporary Traffic Signs (TTS).

- (a) All rigid temporary traffic signs shall be fluorescent orange and conform to D 4956, Type VII or Super High Efficiency, Full Cube Retroreflective Sheeting.
- (b) All temporary flexible rollup signs shall be fluorescent orange and conform to D 4956, Type VI.

950.03.07 Black Sheeting. Black sheeting shall be nonreflective.

950.03.08 Drums for Maintenance of Traffic. All drums for maintenance of traffic shall have high performance wide angle white and fluorescent orange sheeting and conform to D 4956 Type VII.