MARYLAND TRANSPORTATION AUTHORITY
Baltimore, Maryland

Invitation for Bids

WILLIAM PRESTON LANE, JR., MEMORIAL (BAY) BRIDGE

Maryland
Transportation
Authority

Contract No. LB-2330-000-006

Access Control Fencing at Bay Bridge

Anne Arundel and Queen Anne's Counties

August, 2009

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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 2nd , 2009**, in the Conference Room, at the Maryland Transportation Authority, 300 Authority Drive, 1st Floor, Baltimore, Maryland 21222. While attendance at the Pre-Bid conference is not mandatory, this is the offeror's opportunity to raise questions and/or issues of concern regarding the project.

TABLE OF CONTENTS

Page No.

Invitation for Bids i

Table of Contents ..... ii-iii

Contract Provisions
- Check list prior to submitting bids ..... iv-v
- Important information regarding MBE utilization and bidding Requirements ..... vi-vii
- Notice to Bidders/Offerors about eMaryland Marketplace viii
- National Cooperative Highway Research Program ..... ix-x
- High Visibility Safety Apparel Policy ..... xi-xii

Special Provisions 1-7

Revisions to General Provisions 8-15

Revisions to Terms and Conditions 16-21

Revisions to Technical Requirements:
- 100-01: Maintenance of Navigation & Compliance with State & Federal Regulations 22
- 103: Engineers Office 23-24
- 104.00: Maintenance of Traffic (General) 25-29
- 100-02: Digital Camera 30-31
- 400-01: Anchorage Piers Access Control Fencing 32-36
- 499: Working Drawings 37
- 607: East Shore Security Fencing 38-42
- 914: Security and Chain Link Fencing 43-45
- 950: Traffic Materials 46

Wage Rates 47-51

Contractor Affirmative Action Program 52-68

Affirmative Action Requirements Utilization of Minority Business Enterprises for Straight State Contracts 69-74

Proposal Form 75

Schedule of Prices 76-80

Contract Time and Bonding 81

Buy American Steel Act 82-84

Exhibit to Solicitation State of Maryland - Maryland Transportation Authority
Minority Business Enterprise Participation 85-95

Bid/Proposal Affidavit 96-106

Escrow Account for Retained Funds 107

Proposal Guaranty 108

Bid Guarantee 109-110

Bid Bond 111-113

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 acknowledgment pages.
- 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). Don't 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 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.

11/20/08

- 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.

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.

Please read all of the instruction provided on Attachment A, B, C & D in its entirety before completing the forms.

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 the Prime Contractor can achieve the established overall goal and sub goals, you must check the appropriate box.
- If after making good faith efforts, you determine you can not achieve the established overall goal or subgoals, you must request a waiver by checking the appropriate box.
- 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 Part 2

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

- Prime Contractor's name, address and phone number.
- Project description.
- Project number/Solicitation Number.
- List the minority firm name(Column 1), certification number and MBE Classification (Column 2), Total sub contract dollar amount (Column 3) and NAICS Codes of the services to be performed or products to be supplied (Column 4)
- Clarify for each sub-contractor if it will provide services, is a supplier or will supply and install (Column 5)
- 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 NAICS Codes through MDOT and can perform the proposed services 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 services and your contract falls short of the established MBE goal, your firm will be considered **non-responsive or not reasonably susceptible of being selected for award.**

- Prime Contractors are strongly encouraged to check the MDOT database at www.mbe.mdot.state.md.us to see if the subcontractor is certified to perform the services and to make sure the subcontractor has not graduated from the listed NAICS 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 (Column 5) (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 (Column 1). 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.

- Attachment B must be signed and dated.

- If you are the apparent low bidder, you will receive a letter from the Authority requesting your MBE Attachment C (Outreach Efforts Compliance Statement) and Attachment D (Subcontractor Project Participation Affidavit). 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.

Notice to Bidders/Offerors

eMaryland Marketplace

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

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.

WORK ZONE DEVICES	IMPLEMENTATION SCHEDULE TO CONFORM TO NCHRP REPORT 350 CRITERIA
CATEGORY 1 Cones, tubular markers, flexible delineator posts, and drums (all without any accessories or attachments)	All devices shall conform to NCHRP Report 350 criteria.
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)	All devices shall conform to NCHRP Report 350 criteria.
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	All devices shall conform to NCHRP Report 350 criteria.
CATEGORY 4 Portable trailer mounted devices including area lighting supports, arrow panels, and changeable message signs	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.

NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT

HIGH VISIBILITY SAFETY APPAREL POLICY

BACKGROUND. Research indicates that high visibility garments have a significant impact on the safety of employees who work on highways and rights-of-way. In addition, high visibility garments may help to prevent injuries and accidents and to make highway workers more visible to the motoring public, which ultimately improves traffic safety.

STATEMENT OF POLICY.

(a) The High Visibility Safety Apparel Policy provides a standardized apparel program.

(b) The program seeks to improve the visibility of all persons who work on Administration highways and rights-of-way.

(c) All apparel shall contain the appropriate class identification label.

(d) Compliance with this policy is retroactive and becomes effective immediately. All affected employees shall receive high visibility apparel awareness training.

APPLICABILITY. This policy applies to all Administration employees and all other persons who work on Administration highways and rights-of-way. All workers shall wear, at a minimum, Class 2 ANSI/ISEA 107/2004 apparel.

(a) For Administration employees, this apparel shall have a fluorescent yellow-green background material color and be the outermost garment worn.

(b) Retro-reflective material color for Administration employee apparel shall be silver or white and be visible at a minimum distance of 1,000 feet. The retro-reflective safety apparel shall be designed to clearly recognize and differentiate the wearer from the surrounding work environment. The retro-reflective material may be contrasted by fluorescent orange background material not exceeding one and one half inches on either side of the retro-reflective material.

(c) For non-Administration employees, this apparel shall be either fluorescent orange-red or fluorescent yellow-green background material color and be the outermost garment worn.

(d) Retro-reflective material color for non-Administration employee apparel shall either be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and be visible at a minimum distance of 1,000 feet. The retro-reflective safety apparel shall be designed to clearly recognize and differentiate the wearer from the surrounding work environment.

REFERENCES.

(a) ANSI/ISEA 107/2004 standard – American National Safety Institute/International Safety Equipment Association

(b) MUTCD 2003 – Manual for Uniform Traffic Control Devices - Sections 6D.03B and 6E.02

(c) Visibility Research – The VCTR 1989 report concludes that fluorescent colors, when compared with non-fluorescent colors, enhance the daytime conspicuity of worker clothing.

DEFINITIONS.

(a) Apparel – The outermost high-visibility garment worn by employees who work on Administration highways and rights-of-way.

(b) Highways – All roads owned by the Maryland Department of Transportation and maintained by the Administration.

(c) High Visibility – The ability for workers to be distinguishable as human forms to be seen, day and night, at distances that allow equipment operators and motorists to see, recognize, and respond.

SP 1-1 PROJECT DESCRIPTION

CONTRACT NO.:	LB 2330-000-006
TITLE:	Access Control Fencing at Bay Bridge
FACILITY:	William Preston Lane Jr., Memorial Bridge (US 50 / US 301)
LOCATION:	Anne Arundel and Queen Anne's Counties
ADVERTISED:	**August 19, 2009**
PRE-BID MEETING:	9:00 am on September 2, 2009 in the Conference Room at the Maryland Transportation Authority, 300 Authority Drive, 1st Floor, Engineering Building, Baltimore, MD 21222
PROJECT CONTACT:	Project Manager: Mr. Abey Tamrat at (410)-537-7822 Contract Administration: Ms. Maggie Johnson (410)-537-7807
BIDS DUE:	**12:00 Noon on September 24, 2009** in the Bid Box on the 1st floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222
CLASSIFICATION:	Class C ($500,001 to $1,000,000)
CONTRACT TIME:	240 calendar days
LIQUIDATED DAMAGES:	**$800.00 per Calendar Day**
MINIMUM MBE GOALS:	Overall 21%
BID DOCUMENTS:	$60.00 - Bid documents can be purchased between 7:30am and 3:30pm, Mondays, Wednesdays, Thursdays and Fridays and, between 10:00am and 4:00pm on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, MD 21222.

This project is located at the Chesapeake Bay Bridge (both Westbound and Eastbound) in Anne Arundel and Queen Anne's Counties.

The project includes furnishing and installation of access control fencing (both security and chain link types) at the following locations:

1. Anchor Piers 31 and 34 of the Westbound Bridge,
2. Base of Piers 23 and 28 of the Eastbound Bridge, and
3. East shore approach and end span of both the bridges.

Work also includes replacement of barbed wire on top of existing chain link fence at base of Piers 32 & 33 of the Westbound Bridge and Piers 25 & 26 of the Eastbound Bridge.

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 July 2008, 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 Mr. Ken Cimino, Administrator for the Bay Bridge at (410) 295-8157.

SP 1-4 - PROMPT PAYMENT TO SUBCONTRACTORS

The prime Contractor is responsible for making timely payments to all Subcontractors and Suppliers as required in the 1988 edition of the State Finance and Procurement Article of the Annotated Code of Maryland, Section 17-106.

This contract requires the Contractor to make payment to all Subcontractors within 10 days of receiving payment from the Authority.

Each month, the 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 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 Contractor withholds payment from a Subcontractor, the 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 (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 Project Engineer verifies that 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 pursing 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) <u>Worker's Compensation and Employer's Liability</u>

   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) <u>Comprehensive General Liability Insurance</u>

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 Article 23, Section 90, 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 web site at e-mail address: 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 the Contractor and all Sub-Contractors that would be working at the site. This shall include trucking companies who would come to the site on a repetitive basis for supply or removal of materials:

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 Project 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. Request for hardhat and rearview mirror decals shall be made to the Construction Division before the beginning of construction and should include the number required of each type.

All costs associated with ID's will not be paid for separately and shall be incorporated under other items of payment in the contract.

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 "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 offices and positions.

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-2.06 PREPARATION OF THE BID

ADD: After paragraph (a), the following.

The Contractor may elect to submit his bid on forms he has generated in the development of his 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 Administrations and, of 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
(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 points 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 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.

Sample forms shall be submitted to:

Ms. Linda McGill
Chief Procurement Officer
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.

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 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, Maryland 21222-2200
ATTN: 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 Project 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 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 his 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.

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 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 5
LEGAL RELATIONS AND PROGRESS

TC-5.01 INSURANCE.

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 $1,000,000 per occurrence/$2,000,000 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 30 days notice of cancellation or non-renewal to:

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

TERMS AND CONDITIONS
TC SECTION 7

PAYMENT

TC-7.03 FORCE ACCOUNT WORK.

DELETE: TC-7.05 PROGRESS PAYMENTS Subsection (a) (3) Variable Retainage

INSERT: The following.

(3) **VARIABLE RETAINAGE.** The Contract will be subject to a variable retainage based upon the Authority's performance evaluations of the Contractor.

Those qualifying may have retainage reduced upon request of the Contractor with consent of surety. This request must be processed through the Construction Manager. If at any time during the performance of the project, the evaluation of the Contractor changes, retainage reduction may be reconsidered.

Contractors with "A" evaluations for the last two years may be reduced from 5 percent to 2.0 percent upon request after 15 percent project completion. Project completion percentage will be based upon actual work completed (excluding monies paid for stored materials). An interim evaluation of the current project must be completed and must be an "A". Contractors with "A" evaluations for the last two years may petition to have all retainage at that point released upon completion of a significant milestone. Retainage will continue at 2.0 percent until the next milestone of completion of the contract.

Contractors with "B" evaluations or any combination of "A" and "B" evaluations for the last two years may be reduced from 5 percent to 2.5 percent at 50 percent project completion and remain at that level until released upon final payment. Project completion percentage will be based upon actual work completed (excluding monies paid for stored materials). An interim evaluation of the current project shall be completed and shall be an "A" or "B".

Contractors with "C" evaluations or any combination of "C" and "D" evaluations for the last two years will begin and remain at 5 percent for the life of the project. An interim evaluation of the current project shall be completed and shall be a "C" or better rating.

Contractors with a "D" evaluation for the last two years will begin at 5 percent. Project performance will be evaluated monthly. Should the contractor performance remain at the "D" level, to protect the State's interest 10% of the progress payment will be withheld until performance improves to a "C".

New Bidders. Contractors who have not been previously rated by the Authority may be eligible for a reduction in retainage. To be eligible, their past performance on highway and bridge work shall be documented by the government agency with whom they had a contract and their performance shall be documented on Authority forms.

All other Contractors who do not fit into the above criteria would require a 5 percent retainage throughout the life of the Contract.

CATEGORY 100
PRELIMINARY

SECTION 100-01 - MAINTENANCE OF NAVIGATION AND COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

100-01.01 GENERAL

Note that the William Preston Lane, Jr. Memorial Bridge over the Chesapeake Bay is 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, 5th Coast Guard District, Federal Building, 431 Crawford Street, Portsmouth, Virginia 23704, Att: Ann Deaton. The Contractor is advised that this structure is over navigable waters and he/she shall, therefore, 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.

100-01.02 MEASUREMENT AND PAYMENT

This item will not be measured for payment. Costs for this item shall be included in "Mobilization" item.

CATEGORY 100
PRELIMINARY

SECTION 103 — ENGINEERS OFFICE

103.03 CONSTRUCTION.

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 Pentium 4 or AMD processor.

(2) Minimum microprocessor speed of 3.4 GHz.

(3) Minimum hard drive storage of 80 GB (gigabyte).

(4) Minimum of 2.0 GB RAM (Random Access Memory).

(5) Enhanced 101 key keyboard with wrist rest.

(6) Super Video Graphics Accelerator ("SVGA") with 16MB memory.

(7) Modem 56K BPS, ITU V.92 compliant – required for remote dial-in to the computer to provide MCMS system administration.

(8) Full Duplex Sound Card (Sound Blaster Pro & Windows Compatible).

(9) Audio Speakers.

(10) Mouse with mouse pad.

(11) One CDRW/DVDRW combo drive. Min Speed = 48X.

(12) One Parallel Port, One Serial Port, Two USB Ports.

(b) Operating System. Minimum Microsoft® Windows XP.

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

(d) Printer/Scanner. HP (Hewlett-Packard) Photosmart C6180 All-in-One Inkjet Printer, 32 PPM, 4800x1200 DP, Color, 64MB, PC/Mac. Office jets and Bubble jets will not be accepted.

(e) Software.

(1) Microsoft® Office 2000/XP Professional for Windows™ or later.

(2) Antivirus software shall be installed and configured to perform an automatic update when the microcomputer system connects to the Internet.

(f) Internet Access. The microcomputer system shall be provided with unlimited DSL/Broadband or better Internet access approved by the Engineer.

(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) Blank recordable CD-R media for re-writable CD-ROM drive to be supplied as needed.

(8) One – USB 2.0 Flash Drive (1GB of Memory).

(h) Notes.

(1) The microcomputer system shall be completely set up ready for use on or before the day the Engineer's 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.

(4) 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 will be removed by the Engineer and delivered to the Area Engineer and become the property of the Authority. The remaining microcomputer system shall remain the property of the Contractor.

(5) Type 'C' and Type 'D' Engineer's Office shall have two (2) complete microcomputer systems.

CATEGORY 100
PRELIMINARY

SECTION 104 — MAINTENANCE OF TRAFFIC

104.01 TRAFFIC CONTROL PLAN (TCP).

104.01.01 DESCRIPTION.

149 **DELETE:** The fourth paragraph sentence "Refer to contract Documents for Work Restrictions." in its entirety.

INSERT: The following.

Agency Contacts

CONTACT	TITLE / JURISDICTION	PHONE NUMBER
William Preston Lane Jr. Memorial Highway (US 50/301)	Mr. Ken Cimino, Facility Administrator	(410) 537-6659
Abey Tamrat	Project Engineer, Structures	410-537-7822
Roxane Y. Mukai	Traffic Manager	410-537-7848

Work Restrictions. On Monday of each week, the Contractor shall provide the Engineer with a complete list of anticipated lane and shoulder closures for the following two weeks, allowing the Authority a minimum of fourteen (14) calendar days or ten (10) working days notification. The Engineer shall then notify the affected facilities, the Engineering Division's Traffic Section and other appropriate offices. No lane closures shall be made without prior written approval of the Engineer in the form of an Authority lane/shoulder closure permit. The Authority is not responsible for lost workdays resulting from the Contractor failing to submit schedules or providing notification of maintenance of traffic requirements in a timely manner. Other contractors may be actively working in or around the vicinity of this project. The Contractor shall cooperate with and coordinate work activities with contractors in adjoining or overlapping work areas.

The Contractor is responsible for obtaining lane/shoulder closure or other Permits from all affected agencies that require permits for work on their right of way, including those listed in this Special Provision. The Contractor shall make contact with the representative from the affected agency, through the Project Engineer and provide a copy of all coordination correspondence to

the Authority. Sufficient time shall be allowed for review and approval of the permit application.

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:

- 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 will have priority over all lane closure needs and is expected to be completed around September 2010.

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

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:

The following standards shall be used for single lane closures for the pertinent situation:

1. Work at the Anchor Piers of the West Bound Bridge – Contractor shall utilize standards MD 104.05-07 Right Lane Closure/Exp-Freeway Greater than 40 MPH or MD 104.05-08 Left Lane Closure/Exp-Freeway Greater than 40 MPH to close the appropriate lane at the Eastern Shore at the bridge approaches. The Authority will 'close' the appropriate lane on the bridge using the lane use signals. The contractor is required to use a Truck Mounted Attenuator in advance of the work zone, in the closed lane. Drums may be used to delineate the closed lane within the limits of the work zone.

2. West Bound approach to the bridge from the Eastern Shore – Right Lane closure to install fence at the shore and the first span of the bridge – Use standard MD 104.05-14 Right Lane Closure/Exp-Freeway At Exit and Entrance Ramps Greater Than 40 MPH.

3. West Bound approach to the bridge from the Eastern Shore – Left Lane closure to install fence at the shore and the first span of the bridge – Use standard MD 104.05-08 Left Lane Closure/Exp-Freeway Greater Than 40 MPH.

4. East Bound approach to the East Abutment – Either lane closure to install fence at the shore and the first span of the bridge – The required lane will be 'closed' by the Authority using the lane use signals. The contractor is required to use a Truck Mounted Attenuator in advance of the work zone, in the closed lane. Drums may be used to delineate the closed lane within the limits of the work zone.

Tables of available of lane closures for the West Bound Bridge for 2009 and 2010 are attached herein, at the end of this section.

Lane closures will not be permitted during periods of falling precipitation, wet roads, high winds, 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 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 specifications, specified standards 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 45 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 ("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.

ADD: the following:

Maintenance of Traffic will not be measured but will be paid for at the Contract lump sum price. The payment will be full compensation for all labor (including Traffic Manager), temporary traffic signs, material and equipment (for which a bid item has not been established), and any incidentals necessary to complete the work.

A contingent pay item for temporary traffic signs has been established under the Schedule of Prices. This pay item shall only be used for additional signs that are not required as part of the standard Temporary Traffic Control Typical Applications specified for e the closure(s) required. This item will be used only as directed by the Engineer.

The cost shall include all required equipment and set ups shown on the maintenance of traffic standards, as well as removal of all traffic control set ups

Maryland Transportation Authority

William Preston Lane, Memorial (Bay) Bridge
Available Westbound Bridge Closures - 2009

Maryland Transportation Authority

Code A	Close at 8:00 PM and reopen at 5:00 AM	Code F	Close at 9:00 PM and reopen at 8:00 AM
Code B	Close at 8:00 PM and reopen at 7:00 AM	Code G	Close at 10:00 PM and reopen at 5:00 AM
Code C	Close at 8:00 PM and reopen at 8:00 AM	Code H	Close at 10:00 PM and reopen at 7:00 AM
Code D	Close at 8:00 PM and reopen at 10:00 AM	Code I	Close at 11:00 PM and reopen at 7:00 AM
Code E	Close at 9:00 PM and reopen at 5:00 AM		

LEGEND

No bridge closure

Holiday - no bridge closure (only single lane closures permitted during the New Year's and Christmas holidays)

- *In addition to the above, between Labor Day weekend and Memorial Day weekend, single lane closures are permitted from 9 AM - 2:30 PM, Mondays, Tuesdays, Wednesdays, and Thursdays.*
- *In addition to the above, between Memorial Day weekend and Labor Day weekend, single lane closures are permitted from 9 AM - 2:30 PM, Mondays, Tuesdays and Wednesdays.*

January 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	

February 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	

March 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
A	A	A	E	H	F	
A	A	A	E	H	F	
A	A	A	E	H	F	
A A A		A	E	H	F	

April 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		A	E	H	I	
A	A	A	E			
A	A	A	E		I	
A	A	A	G		I	
A	A	A	G			

May 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					I	
A	A	A	G		I	
A	A	A	G		I	
A	A	A				
	G	G			I	

June 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
G	G	G			I	
G	G	G			I	
G	G	G			I	
G	G	G			I	
G	G					

July 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		G				
G	G	G			I	
G	G	G			I	
G	G	G			I	
G	G	G				

August 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					I	
G	G	G			I	
G	G	G			I	
G	G	G			I	
G G	G	G			I	

September 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	G	G				
	E	E			I	
E	E	E	G		I	
E	E	E			I	
E	E	E				

October 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			G		I	
E	E	E			I	
E	A	A	G		I	
A	A	A	E	I	F	
A	A	A	E	I	F	

November 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						G
A	A	A	A	B	C	G
A	A	A	A	B	C	G
A	A	A	A	B	C	G
A A	A					

December 2009

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	A	A	A	B	C	G
A	A	A	A	B	C	G
A	A	A	A	B	C	G
A	A	A				G
A	A	A				

All full bridge closures are subject to change and may not be allowed at the indicated start time due to high traffic volumes, traffic incidents, inclement weather or high wind warnings.

29A

LB 2330 000 006

Maryland Transportation Authority

William Preston Lane, Jr. Memorial (Bay) Bridge
Available Westbound Bridge Closures - 2010

Maryland Transportation Authority

Code A	Close at 8:00 PM and reopen at 5:00 AM	Code F	Close at 9:00 PM and reopen at 8:00 AM
Code B	Close at 8:00 PM and reopen at 7:00 AM	Code G	Close at 10:00 PM and reopen at 5:00 AM
Code C	Close at 8:00 PM and reopen at 8:00 AM	Code H	Close at 10:00 PM and reopen at 7:00 AM
Code D	Close at 8:00 PM and reopen at 10:00 AM	Code I	Close at 11:00 PM and reopen at 7:00 AM
Code E	Close at 9:00 PM and reopen at 5:00 AM		

- *In addition to the above, between Labor Day weekend and Memorial Day weekend, single lane closures are permitted from 9 AM - 2:30 PM, Mondays, Tuesdays, Wednesdays, and Thursdays.*
- *In addition to the above, between Memorial Day weekend and Labor Day weekend, single lane closures are permitted from 9 AM - 2:30 PM, Mondays, Tuesdays and Wednesdays.*

LEGEND

No bridge closure

Holiday - no bridge closure (only single lane closures permitted during the New Year's and Christmas holidays)

January 2010						
				A	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A

February 2010						
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A
A	A	A	A	D	D	A

March 2010						
A	A	A	E	H	F	
A	A	A	E	H	F	
A	A	A	E	H	F	
A	A	A	E	H	F	
A	A	A				

April 2010						
	A	A	E			
A	A	A	E	H	I	
A	A	A	E		I	
A	A	A	G		I	
A	A	A	G			

Easter Weekend

May 2010						
					I	
A	A	A	G		I	
A	A	A	G		I	
A	A	A	G		I	
A	A	A				

Memorial Day Weekend

June 2010						
	G	G			I	
G	G	G			I	
G	G	G			I	
G	G	G			I	
G	G	G				

July 2010						
G	G	G			I	
G	G	G			I	
G	G	G			I	
G	G	G				

Independence Day Holiday

August 2010						
G	G	G			I	
G	G	G			I	
G	G	G			I	
G	G	G			I	

September 2010						
		G				
	E	E			I	
E	E	E	G		I	
E	E	E			I	
E	E	E	G			

Labor Day Weekend

Labor Day Weekend

Sunfest / NASCAR Weekend

October 2010						
					I	
E	E	E			I	
E	A	A	G		I	
A	A	A	E	I	F	
A	A	A	E	I	F	

Columbus Day Weekend

November 2010						
A	A	A	A	B	C	G
A	A	A	A	B	C	G
A	A	A	A	B	C	G
A	A					
A	A					

Thanksgiving Weekend

December 2010						
		A	A	B	C	G
A	A	A	A	B	C	G
A	A	A	A	B	C	G
A	A	A				
A	A	A	A			

Christmas Holiday

New Year's Holiday

All full bridge closures are subject to change and may not be allowed at the indicated start time due to high traffic volumes, traffic incidents, inclement weather or high wind warnings.

21 B

LB 2330 000 006

CATEGORY 100
PRELIMINARY

SECTION 113 — DIGITAL CAMERA

113.01 DESCRIPTION. Furnish a new or like new digital camera with a Color Inkjet Printer for use by Administration personnel. The digital camera and printer shall be delivered to the Engineer at the time of the Notice to Proceed. They shall remain operational and not be returned to the Contractor until final acceptance of the entire project, in conformance with GP-5.13.

113.02 MATERIALS.

(a) Digital Camera. The digital camera shall meet the following requirements and be furnished with the specified accessories.

(1) Windows 2000, ME, XP compatible operating system

(2) Photo Suite, Photo Deluxe, Picture Works, Photo Shop, or similar Photo Managing Software

(3) 4.0 megapixel image resolution (minimum)

(4) 3X optical zoom (minimum)

(5) Two (2) sets of rechargeable batteries

(6) SmartMedia Card or memory stick (512 MB minimum)

(7) Pop-up or built-in flash modes

(8) All items required for quick downloading

(9) Auto-quick focus

(10) Lens Cover, Shoulder Strap, and Carrying Case

(11) AC adapter and Battery Charger

(b) Color Inkjet Printer. The printer shall conform to the following minimum requirements;

(1) Resolution of 2400 x 1200 DPI (dots per inch).

(2) Print speed of 17 PPM (pages per minute) for black and white and 13 PPM for color.

(3) Memory 8 MB.

(4) Duty cycle of 5,000 pages/month.

Office-jets and Bubble-jets will not be accepted.

113.03 CONSTRUCTION. Not applicable.

113.04 MEASUREMENT AND PAYMENT. The digital camera will not be measured but the cost will be incidental to the Contract price for Maintenance of Traffic unless otherwise specified in the Contract Documents. If the digital camera or printer becomes defective, is stolen, or for any other reason does not function as intended, it shall be replaced with an approved camera or printer at no additional cost to the Administration. A nonfunctioning or stolen camera or printer shall be replaced within eight hours after the Engineer notifies the Contractor.

Ownership of the camera and printer will remain with the Contractor. The Administration assumes neither responsibility nor liability for the condition of the camera when returned.

CATEGORY 400
STRUCTURES

SECTION 400-01 ANCHORAGE PIER ACCESS CONTROL FENCING

400-01.01 DESCRIPTION. This work shall consist of furnishing and installation of two (2) new steel fencing systems at each of the two anchorage piers on the Westbound Bay Bridge (Piers 31 and 34, at the deck level) and new steel fencing system at each of the two anchorage piers on the Eastbound Bay Bridge (Piers 23 and 28, at the water level) as part of this project to increase facility security. The fencing will be installed on existing structures with new anchor bolts.

Work also includes furnishing and installation of four (4) anti-climb fences on main suspension cables near the anchorage piers (Westbound Bay Bridge). Location of the fence posts and anti-climb fences will be as shown on the plans, and, as directed by the Engineer.

Work also includes replacing, completely the existing barbed wire on top of the existing chain link fences at the bases of Piers 32 & 33 of the Westbound Bridge and at bases of Piers 25 & 26 of the Eastbound Bridge. Note that this work is at the water level.

Substitutes for Rolled Members. The Contractor/Fabricator has the option of substituting a fabricated shape for the rolled shape specified in the Contract Documents provided the substitution is at no additional cost to the Authority and the fabricated shape conforms to the following requirements:

(a) The substituted fabricated shape shall provide a moment of inertia equal to or greater than the rolled shape for the full length of the member.

(b) The substituted fabricated shape shall be of equal depth or greater than the rolled shape and not decrease the underclearance shown in the Contract Documents.

(c) The minimum web or leg thickness for fabricated shapes shall be 1/2 in.

(d) The minimum flange thickness for fabricated shapes shall be 1 in. The minimum flange width for fabricated shapes shall be 12 in. The width to thickness ratio for fabricated flanges shall not exceed 12.

(e) The fabricated shape shall be made of the same material specified for the rolled shape.

(f) All normal criteria for creating a welded member are adhered to.

400-01.01.01 PRE-CONSTRUCTION WORK. The Contractor shall field verify and measure the each anchorage piers including existing cable housing structures prior to construction or

fabrication of steel base plate assemblies. The slope on the top of the cable housing structures will have to be matched with beveled sole plates. The final location of the fence posts will be the contractor's responsibility and will need to be established prior to ordering materials. The contractor's layout shall also include locating anchor bolts so as to not interfere with existing reinforcing steel in the anchorage pier structures. Contractor shall provide a copy of all field measurements to Engineer along with working drawings prior to ordering any materials.

All fencing post assemblies and fixtures installed shall be new and supplied by the Contractor. Any existing fencing that is supposed to be removed and not needed to be incorporated back into the structures shall become the property of the Contractor and disposal of the same, if necessary, shall be done per regulations.

400-01.02 MATERIALS.

Epoxy Grout	902.11(d)
Structural Steel	909.01
Anchor Bolts, Nuts and Washers	909.06
High Strength Bolts, Nuts and Washers	909.07
Security Fencing Fabric	914.01.02
Tie Wires, Line Post Clips, Tension Wires and Tension Wire Clips	914.02
Post, Braces, Fittings and Hardware	914.03
Gates	914.04
Barbed Wire	914.05
Barbed Tape	914.06

All nuts for the Westbound Bridge Anchor Pier Fencing shall be lock nuts.

The structural steel for the fence system shall include the additional requirements for Charpy V-notch testing and conform to A 709, Grade 50. After welding, posts shall be either mechanically or hot dipped galvanized. The coating shall conform to the thickness, adherence, and quality requirements of A 123. Base plates and framing members shall all be galvanized. All bolts, nuts, and similar fasteners in contact with the galvanized material shall be mechanically or hot dipped galvanized. The coating shall conform to the thickness, adherence, and quality requirements of A 153. All bolts, nuts, washers, and lock washers shall be stainless steel. Stainless steel hardware need not be galvanized.

All welding shall be performed by welding operators certified using the procedures from the latest edition of the American Welding Society Structural Welding Code AWS D1.1.

All welding shall be done by the shielded metal-arc, gas shielded fluxcore, gas metal-arc, or submerged-arc process.

Weld quality shall conform to current AWS D1.1 Section 8. Records of welding procedure and welding operator test results shall be kept by the supplier and shall be available for review by the Purchaser.

All welds shall be examined visually to insure compliance with the quality requirements of AWS D1.1, Section 8. Fillet welds shall be examined by magnetic particle inspection at a rate of 1' per 5' or portion thereof, of each size and location.

Steel used in fabricating the base plate and other miscellaneous parts shall be fabricated from ASTM A709 Grade 50.

The Contractor shall provide certificate of compliance to prove that all products meet or exceed the specified ASTM and AASHTO requirements.

400-01.03 CONSTRUCTION METHODS:

1. Construction shall conform to Section 430. The Contractor shall set the anchor bolts by epoxy grouting.

2. Contractor shall provide all necessary equipment for access control fencing erections.

3. Prior to setting new posts, the existing supports/foundations shall be cleaned, inspected and necessary repairs performed as directed by the Engineer.

4. The surfaces of steel are to be kept clean and free of dirt, oils, grease, concrete, spatter, chalk marks, crayon marks etc. Post assemblies and components shall be stored on platforms, skids, or other supports above the surface of the ground, and care shall be taken to prevent scratching of surfaces. Any scratches of the protective coating shall be repaired to the satisfaction of the Engineer.

5. Post caps and Barb wire extension arms shall be welded to the posts to prevent movement.

6. Placement of signs on the fence fabric is prohibited. If signs are required, it shall be secured to the post to eliminate movement in high winds.

7. Brace and truss assemblies shall be used where required or as per manufacturer's recommendation, to counteract lateral forces. These assemblies are typically located at each terminal post. In some cases, 2 brace and truss assemblies maybe required in a single panel.

8. Following completion of erection and installation of the fencing system, the Engineer shall verify installation meets these specifications and shall be deemed acceptance.

9. The contractor shall at all times keep the roadway clear of construction debris. The contractor will ensure that the area is free of any materials, parts, debris or any other

matter that could impact traffic on the roadway or waterway during non-working hours.

10. Upon completion of the installation and acceptance by the Engineer, clean up all waste material resulting from the fence construction.

400-01.03.01 CONSTRUCTION TESTING

The tests outlined in this section should be performed by the Contractor at no additional expense to the Authority to determine the acceptability of the fence. These tests shall be executed, until successful, by the Contractor and witnessed and signed off by the Project Engineer. A written test procedure signed off by the Project Engineer shall be submitted at the conclusion of the test. Meeting the test criteria will ensure optimal intrusion detection and will help reduce the possibility of nuisance alarms.

POST RIGIDITY TEST

Posts should be tested by applying a 50 lb. force at a height of 5 feet above the ground level. The post should not deflect more than 3/4 inches at the point the force is applied. If the post moves more than 3/4 inches, it should be removed and a new post installed.

FABRIC DEFLECTION TEST

Fence fabric should be tested by applying a 50 lb. force to the fabric at mid-height of the fence and at the center of each pair of posts. The force should first be applied by pulling the fabric then pushing it. Measure the movement of the fence fabric at maximum deflection. The measured deflection should not exceed 2 1/2 inches. Repeat the test using a 30 lb. force applied at the same point. If the measured deflection exceeds the maximum allowable tolerance, the connections between the fabric and posts, rails, and top guard should be checked, adjusted and the test repeated.

400-01.03.02 BONDING/GROUNDING TO SUPERSTRUCTURE STEEL. The Contractor shall ground/bond the perimeter systems in accordance with the N.E.C. (National Electric Code), N.E.S.C. (National Electric Safety Code) ASTM F 1916.

400-01.04 MEASUREMENT AND PAYMENT. The payment will be full compensation for all material, labor, equipment, tools and incidentals necessary to complete the work.

The removal existing fencing, if any, will not be measured but the cost will be incidental to the Contract lump sum price for the pertinent fence item.

Anchorage Pier Access Control Fencing will not be measured but will be paid for at the Contract lump sum prices established in the schedule of prices.

Separate pay items have been established for security fencing at Anchor Piers at West Bound Bridge, Pier 23 of the Eastbound Bridge and Pier 28 of the Eastbound Bridge.

Separate lump sum pay items (one for each bridge) have been established for replacement of barbed wire on top of existing chain link fence at bases of Piers 32 & 33 of the Westbound Bridge and at bases of Piers 25 & 26 of the Eastbound Bridge.

Payment towards the lump sum prices shall be full compensation for furnishing, coating, assembling, and erecting the access control fences and anti climb fences at all four anchorage piers, including all fixtures as specified in the Contract Documents and all labor, equipment, tools, materials, supervision, testing, and incidentals necessary to complete the contract.

CATEGORY 400
STRUCTURES

SECTION 499 – WORKING DRAWINGS

499.03 CONSTRUCTION.

499.03.02 Consultant Engineering Firm.

438 **ADD**: The following after the first paragraph, "When the Contract...to that firm." Working drawings for this Contract shall be submitted electronically as outlined in TC-4.01 Shop Plans and Working Drawings.

438 **DELETE:** The last paragraph on the page, "to expedite.....time extension." in its entirety.

439 **DELETE**: The first paragraph on this page, "The Contractor, fabricator...for primary review." in its entirety.

INSERT: The following.
The Contractor, fabricator, or supplier shall submit all working drawings, etc. for approval in accordance with, and as outlined in TC-4.01.

439 In the 2nd and 3rd complete paragraphs

REPLACE: "Administration's Office of Bridge Development."

WITH: "Director-Maryland Transportation Authority."

439 **DELETE**: **499.03.03 Office of Bridge Development.** In its entirety.

499.03.04 Revisions and Substitutions.

439 **REPLACE:** "Director-Office of Bridge Development."

WITH: "Director-Maryland Transportation Authority."

CATEGORY 600
SHOULDERS

536 **DELETE**: The title "SECTION 607 — CHAIN LINK FENCE" in its entirety

INSERT: The following.

SECTION 607 — EAST SHORE SECURITY FENCING

607.01 DESCRIPTION. This work shall consist of furnishing and installation new fencing systems along or within the perimeter of the Authority's right-of-way including superstructure fencing at the east end spans of the both the bridges to restrict unauthorized access to the bridge's substructure support(s) for increased facility security. Fencing on the ground portions shall be of security type and the fencing on the bridge railings/parapets shall be of chain link type. It shall be installed on existing structures with new anchor bolts and on ground with new concrete foundations. Work will also include furnishing and installation of anti-climb fences at the terminus of the proposed bridge fencing. The location of the fence posts and anti-climb fences will be as shown on the attached plans, and, as directed by the Engineer.

All fencing post assemblies and fixtures installed shall be new and supplied by the Contractor.

607.02 MATERIALS.

Concrete Mix No. 2	902.10
Epoxy Grout	901.11(d)
Structural Steel	909.01
Anchor Bolts, Nuts and Washers	909.06
High Strength Bolts, Nuts and Washers	909.07
Chain Link Fencing Fabric	914.01
Security Fencing Fabric	914.01.02
Tie Wires, Line Post Clips, Tension Wires and Tension Wire Clips	914.02
Post, Braces, Fittings and Hardware	914.03
Gates	914.04
Barbed Wire	914.05

All references to Section 914 above refer to the Special Provisions elsewhere in this IFB Book.

All welding shall be done by the shielded metal-arc, gas shielded fluxcore, gas metal-arc, or submerged-arc process.

Weld quality shall conform to current AWS D1.1 Section 8. Records of welding procedure and welding operator test results shall be kept by the supplier and shall be available for review by the Purchaser.

Steel used in fabricating the base plate and other miscellaneous parts shall be fabricated from ASTM A709 Grade 50.

The Contractor shall provide certificate of compliance to prove that all products meet or exceed the specified ASTM and AASHTO requirements.

607.03 CONSTRUCTION.

607.03.01 General Requirements. Contractor shall provide all necessary equipment for access control fencing erections.

The Contractor's activities and operations shall be confined to the area immediately adjacent to the right-of-way lines and within the right-of-way except that permission may be granted by the Engineer for normal construction activities through lands owned by or under control of the Authority.

In areas where any privately owned fence or other property is within the Authority's right-of-way, the Contractor shall remove the items and place them on the owner's property as directed by the Engineer. The Contractor shall be held responsible for any damage to privately owned items removed.

Fence lines specified in the Contract Documents are only a guide and the exact location of the fence shall be determined in the field by the Engineer.

The bottom of the fabric shall be placed a nominal distance of 1 in. above the groundline. A maximum clearance of 6 in. will be permitted for a maximum horizontal distance of 8 ft except for special conditions as specified in the Contract Documents.

Any excavation or backfill required to comply with the above clearance shall be as approved by the Engineer. Fence fabric shall be placed on the roadside of the posts as specified in the Contract Documents or as directed by the Engineer. For storm water management ponds, the fabric shall be placed on the outside of the posts or the side farthest from the pond.

The fence shall be true and taut. The Contractor should understand that the Authority will later attach a shock/vibration cable to the fence fabric. The shock/vibration cable is intended to detect persons tampering with, cutting, or climbing the fence. For the detection to work reliably, the Contractor shall ensure the fence fabric is installed true, taut and uniform, with no loose or floppy sections throughout the fence line. A fence with tight fabric conducts high frequency vibration to the sensor cable more readily than loose or sagging fabric and forms a tougher barrier to intrusion in general. Tight fence fabric is also less prone to be moved by the wind.

All posts shall be plumbed and spaced as uniform as practicable to the spacing specified in the Contract Documents with a tolerance of minus 2 ft.

Terminal posts shall be installed at all ends, abrupt changes in grade and at changes in the horizontal alignment over 15 degrees. The maximum distance between terminal posts shall be 500 ft.

Post lengths shall accommodate the fabricated width of the fence fabric without stretching or compressing the fabric and provide the required spacing below the bottom of the fabric.

Post caps with barbed wire extension arms are required for all round line, terminal, and corner posts. The post caps with barbed wire extension arms shall be welded to the post to prevent movement. Horizontal brace rails shall run between all terminal posts and line posts near the top and bottom of the fabric. The fabric shall be attached to the horizontal rails with tie wire fasteners at 12 in. intervals.

Horizontal brace rails with diagonal truss rods and turn buckles shall be installed at all terminal posts. Sufficient braces shall be supplied to permit complete bracing from each terminal post to all adjacent line posts.

Fabric shall be tied to brace rails at 2 ft maximum intervals and to posts at 12 in. maximum spacing. Stretcher bars shall be attached to terminal posts by connectors equally spaced at 16 in. maximum centers. Top and bottom connectors shall be as close as possible to the ends of the fabric. The placement of signs on the fence fabric is prohibited. If signs are required they shall be secured to the post to eliminate movement in high winds.

607.03.02 Shore Fencing Anchorage for Line Posts and Terminal Posts. All posts shall be plumb. The Contractor shall set the line post and terminal post by the concrete method only. The drive anchor blade method is not to be used for this project.

All excavation shall be coordinated with respect to electrical and mechanical component installations. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located.

Rock. Where rock is encountered at a depth less than that specified for the footing, a hole 1 in. larger than the greatest dimension of the post shall be drilled to a depth of 12 in. or the planned footing depth, whichever is less. After the post has been set, the remainder of the drilled hole shall be filled with grout composed of one part portland cement and two parts mortar sand by dry loose volume. The space above the rock shall be filled with concrete. The anchor unit method is prohibited in rock areas, where all posts shall be set in concrete.

Concrete Method. Posts shall be centered in the concrete footings. The concrete shall be thoroughly compacted around the post by rodding or vibrating. The finished top surface shall be troweled to a smooth finish slightly above the groundline and uniformly sloped to drain away from the post. The post shall not be disturbed within the 72 hours after the individual post footing is completed.

Hand mixed concrete shall not be used unless otherwise approved by the Engineer. When permitted, the maximum size of the hand mixed batch shall be 1/2 yd^3.

607.03.03 Bridge Fencing Anchorage for Line Posts and Terminal Posts. All posts shall be plumb. The Contractor shall set the line post and terminal post by anchor bolts and epoxy grouting on cored holes on concrete parapets and drilled holes on steel railing, as specified in the Contract Documents.

607.03.04 Grounding to the Earth. The Contractor shall ground and bond the perimeter systems in accordance with the N.E.C. (National Electric Code), N.E.S.C. (National Electric Safety Code) ASTM F 1916 and as specified herein.

Fences crossing power lines of 600 volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150 feet (46 m) on each side of crossing. The grounding electrodes shall be a minimum 3/4" diameter x 10' long copper clad rod, driven into the earth until the top is 12 in below grade. Attach a No. 2 AWG bare stranded copper conductor by exothermically welding to the ground rods and extend underground in the immediate vicinity of the fence post. Secure the grounding conductor to the post with 5/16" (7.9 mm) self-tapping galvanized or stainless steel bolts and approved copper compression terminal ends or clamps.

After grounding connections have been completed, the Contractor shall perform a ground resistance test in the presence of the Engineer. The ground resistance shall not exceed 25 OHMS under normal dry conditions. Where resistance requirements cannot be attained, install additional rods no closer than 6' on center. Install no more than two additional rods at each location.

607.03.05 Fence Construction Testing

The tests outlined in this section should be performed by the Contractor at no additional expense to the Authority to determine the acceptability of the fence. These tests shall be executed, until successful, by the Contractor and witnessed and signed off by the Project Engineer. A written test procedure signed off by the Project Engineer shall be submitted at the conclusion of the test. Meeting the test criteria will ensure optimal intrusion detection and will help reduce the possibility of nuisance alarms.

Post Rigidity Test

Posts should be tested by applying a 50 lb. force at a height of 5 feet above the ground level. The post should not deflect more than 3/4 inches at the point the force is applied. If the post moves more than 3/4 inches, it should be removed and a new post installed.

Fabric Deflection Test

Fence fabric should be tested by applying a 50 lb. force to the fabric at mid-height of the fence and at the center of each pair of posts. The force should first be applied by pulling the fabric then pushing it. Measure the movement of the fence fabric at maximum deflection. The measured deflection should not exceed 2 1/2 inches. Repeat the test using a 30 lb. force applied at the same point. If the measured deflection exceeds the maximum allowable tolerance, the connections

between the fabric and posts, rails, and top guard should be checked, adjusted and the test repeated.

607.04 MEASUREMENT AND PAYMENT. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

The removal of privately owned fence or other property from within the Authority's right-of-way will not be measured but the cost will be incidental to the Contract pay items for the pertinent fence.

607.04.01 Chain Link Fence (for bridge barrier/parapet) will be measured and paid for at the Contract unit price per linear foot for the actual number of linear feet measured to centers of end posts, complete, in place and accepted by the Engineer.

607.04.02 Security Fence (on ground) will be measured and paid for at the Contract bid price for the pertinent bridge's lump sum items. Payment will be full compensation for fabric, end posts, gates, terminal posts, barbed wire, all attachments and fixtures as specified in the Contract Documents, in place and accepted by the Engineer.

607.04.03 Anti-climb fences will be measured and paid for at the Contract unit price per each unit complete in place and accepted by the Engineer.

CATEGORY 900
MATERIALS

724 **DELETE**: SECTION 914 — CHAIN LINK FENCE in its entirety.

INSERT: The following.

SECTION 914 — SECURITY AND CHAIN LINK FENCING

914.00 CERTIFICATION. The manufacturer shall furnish certification as specified in TC-1.02. In addition, a sample of the fence fabric shall be submitted with the fabric certification.

914.01 CHAIN LINK FENCING FABRIC. Chain link fencing fabric shall be 2 in. mesh woven from coated No. 6 gauge wire for 6 ft and 8 ft fence and No. 9 gauge wire for 5 ft fence unless otherwise specified in the Contract Documents. The ends shall have a knuckled selvage at the bottom and a barbed selvage at the top. The fabric shall conform to M 181. Type I fabric shall conform to Class D coating. Vinyl coated steel shall conform to F 668, Class 2B thermally fused. Vinyl color shall be warm gray or black as specified in the Contract Documents.

914.01.01 FENCE FABRIC FOR SUPER SILT FENCE. Galvanized fabric for super silt fence shall conform to 914.01, except that it shall be woven from No. 9 gauge wire having a Class C coating. The mesh shall be 42 in. in height.

914.01.02 SECURITY FENCING FABRIC. Security fencing fabric shall be welded wire fabric conforming to ASTM F 2453, fabricated from low carbon steel wire and electronically control welded, forming a specified mesh size.

1. Manufacturer:

   (a.) Riverdale Mills Corp., Northbridge, MA., Tel: 1-800-762-6374, or approved equal.

The wire shall conform to ASTM A 853 Grade AISI 1006, having a minimum tensile strength of 70,000 PSI. After welding, the fabric shall be hot-dipped, galvanized with a minimum 1.2 oz zinc/ft^2 followed by a 10 mil minimum PVC coating. The mesh size shall be as specified in the Contract Documents.

Note: Welded mesh is measured wire center to wire center, whereas, chain link mesh openings are measured inside to inside of the diagonal wires with 1/8" (3 mm) tolerance. I.e. welded mesh wires located 2¼ inches on center (57 mm) and compared to 2 inch (51 mm) chain link have the same mesh openings.

PVC coating shall be thermally fused and adhered to a primer, which is thermally cured onto the galvanized steel core wire. PVC coating shall be applied in a continuous process. Vinyl color shall be warm gray or black as specified in the Contract Documents.

914.02 TIE WIRES, LINE POST CLIPS, TENSION WIRES, AND TENSION WIRE CLIPS. These items shall conform to M 181. Twisted ties for fabric attachment to rails shall be 9 gauge ties for fabric sizes 10.5 gauge and larger. The galvanized coating shall have a minimum weight of 1.2 oz/ft^2. These items, when used with aluminum coated steel fabric, shall be coated with aluminum at a minimum weight of 0.40 oz/ft^2. The tension wire and tie wires used with polyvinyl chloride (PVC) coated steel fabric shall have the same coating thickness and color requirements as the fence fabric.

914.03 POSTS, BRACES, FITTINGS, AND HARDWARE. All posts, braces, fittings, and hardware shall conform to M 181. When these items are specified to be PVC coated, they shall be thermally fused and bonded. The PVC thickness shall be 10 to 15 mil except that bolts, nuts, and washers shall be metallic coated steel. When opting to use round posts, the posts shall conform to industry standards for Class 1 or 2.

914.04 GATES. The fabric used for gates shall be identical to the fencing fabric. The gate frame and other hardware shall conform to 914.02 and 914.03. When the gate frame is PVC coated, movable fittings, such as hinges and latches, shall be field coated with a PVC coating specifically prepared for this purpose.

1. Overhead Slide Gates (Anchorage Pier Fencing)
    a. Overhead Sliding Gates at the Anchorage Piers (31 and 34 Westbound Bay Bridge) shall be Standard Overhead Slide Gate or approved equal manufactured by Tymetal Corp., 2549 State Route 40, Greenwich, NY 12834 Tel: 800-328-4283, or approved equal.

2. Locks: The gates are to be secured by locks to be keyed according to instructions from MdTA maintenance personnel. All locking hardware mechanism shall provide a locking system that prevents loosening over time. The system shall be first submitted and approved by the MdTA.

914.05 BARBED WIRE. Barbed wire shall conform to A 121. The barbed wire shall be 12-1/2 gauge with four point, round barbs at 5 in. spacings and Class 3 coating requirements.

914.06 BARBED TAPE/RAZOR WIRE. The diameter of the barbed tape obstacle in packaged condition shall be 18" +/- 2". The tape shall be fabricated from 0.025" AISI 430 series stainless steel with a minimum Rockwell hardness of (30N) 39, or galvanized high tensile steel. Each loop shall contain barb clusters spaced 4" on center, and each barb cluster shall have 4 needle-sharp barbs with an average barb length of 1.2" as measured from the center of the cluster. Barbs shall be alternately offset from the tape centerline from 0.15" to 0.45". The tape shall be permanently cold clenched a minimum of 230^0 around a 0.098" diameter AISI 304 spring quality austenitic stainless steel core wire, or Class 3 high-tensile galvanized core wire having a minimum tensile strength of 180,000 or 220,000 psi. The finished reinforced barbed

tape shall have two continuous cut-resistant strengthening flanges which shall be continuous and straight to each barb root to permit maximum barb penetration. Each roll shall consist of 33 loops with adjacent loops clipped at 0 equally spaced locations around the circumference to provide the concertina effect. The clips shall be fabricated from 0.065" x 0.375" stainless steel and shall be capable of withstanding a minimum pull load of 200 lbs. Each roll of barbed tape shall cover 50 linear feet when properly installed.

CATEGORY 900
MATERIALS

SECTION 950 - TRAFFIC MATERIALS

950.03 REFLECTORIZATION OF SIGNS AND CHANNELIZING DEVICES.

DELETE: 950.03.03 Type IX Retroreflective Sheeting in its entirety.

INSERT: The following.

950.03.03 Permanent Signs Retroreflective Sheeting. Retroreflective sheeting for permanent signs shall conform to ASTM D 4956-05, except as modified below:

MINIMUM REFLECTIVE INTENSITY VALUES FOR RETROREFLECTIVE SHEETING
Minimum Coefficient of Retroreflection·(R_A) cd/(lx · m^2)
Per ASTM E-810 (Average of 0 and 90 degree orientation)

Observation Angle°	Entrance Angle°	White	Yellow	Fluor. Yellow	Fluor. Yellow-Green	Red	Green	Blue	Fluor. Orange
0.2	-4	570	425	340	455	114	57	26	170
0.2	30	215	160	130	170	43	21	10	64
0.5	-4	400	300	240	320	80	40	18	120
0.5	30	150	112	90	120	30	15	6.8	45
1	-4	120	90	72	96	24	12	5.4	36
1	30	45	34	27	36	9	4.5	2	14

INSERT:

950.03.07 Permanent Traffic Signs (PTS) Unless otherwise specified in the Contract Documents, retroreflective sheeting for permanent signs shall conform to 950.03.03.