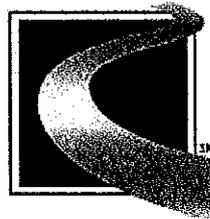


***MARYLAND TRANSPORTATION AUTHORITY***  
***Baltimore, Maryland***

***Invitation for Bids***

**William Preston Lane, Jr. Memorial Bridge**



**Maryland  
Transportation  
Authority**

**CONTRACT NO. BB 2176-000-006**

**Cleaning and Painting at Westbound Bay Bridge**

**Anne Arundel County  
Queen Anne County**

**August, 2009**



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## 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.
- When submitting bid packages via US Mail, Federal Express, DHL, UPS or any other delivery service it is your responsibility to make sure that the bid reaches the bid box before the time deadline. It may be in your best interest to send the package 24 hours in advance of the deadline. Also, when sending packages this way, make sure that the labeling specifies that it is a bid submission.

## **Notice to Bidders/Offerors**

### **eMaryland Marketplace**

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](http://www.eMarylandMarketplace.com)

# IMPORTANT INFORMATION REGARDING MBE UTILIZATION AND BIDDING REQUIREMENTS

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

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](http://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 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) and Trailer Truck Mounted Attenuators (TTMAs).
- (b) Temporary Barrier.
  - (1) Concrete Barrier.
  - (2) Traffic Barrier W Beam and Water Filled Barrier.
  - (3) Steel/Aluminum Barrier.
- (c) Temporary End Treatments.

**Category 4 Devices**

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

**CONTRACT PROVISIONS  
(NCHRP) REPORT 350 IMPLEMENTATION SCHEDULE**

CONTRACT NO. BB 2176-000-006  
2 of 2

WORK ZONE DEVICES	IMPLEMENTATION SCHEDULE TO CONFORM TO NCHRP REPORT 350 CRITERIA
<p>CATEGORY 1 Cones, tubular markers, flexible delineator posts, and drums (all without any accessories or attachments)</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 2 Type I, II, and III barricades; portable signs supports with signs; intrusion alarms; and drums, vertical panels, and cones (all with accessories or attachments)</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 3 (a) Truck Mounted Attenuators (TMAs); Trailer Truck Mounted Attenuators (TTMAs) (b) Temporary Barriers (1) Concrete Barrier (2) Traffic Barrier W Beam and Water Filled Barrier (3) Steel/Aluminum Barrier (c) Temporary End Treatments</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 4 Portable trailer mounted devices including area lighting supports, arrow panels, and changeable message signs</p>	<p>The Contractor may use devices that do not conform to NCHRP Report 350 criteria, until compliance dates are established. Use of these devices shall comply with the provisions of Part 6 of the MUTCD.</p>



**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.



**CONTRACT PROVISIONS**  
**HIGH VISIBILITY SAFETY APPAREL POLICY**

**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.



**CONTRACT PROVISIONS**  
**OCCUPYING WETLANDS**

CONTRACT NO. BB 2176-000-006  
1 of 1

**OCCUPYING WETLANDS**

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

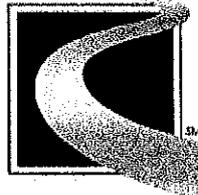
- (a) Prior to performing any work on the project, the areas of wetland will be identified and marked as directed by the Administration. All personnel of the Contractor or sub-contractors shall be alerted to these designated areas.
- (b) The Contractor or sub-contractors shall not impact any wetland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

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

**MARYLAND TRANSPORTATION AUTHORITY**  
**Baltimore, Maryland**

***Invitation for Bids***

**William Preston Lane, Jr. Memorial Bridge**



Maryland  
Transportation  
Authority

Contract No. BB 2176-000-006

**Cleaning and Painting at Westbound Bay Bridge**

**Anne Arundel County**  
**Queen Anne County**

**August, 2009**

**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 **8:30 a.m. on September 8, 2009**, in the Conference Room, at the Maryland Transportation Authority, 303 Authority Drive, Administration Building, 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.



**SP 1-1 PROJECT DESCRIPTION**

CONTRACT NO.: BB 2176-000-006

TITLE: Cleaning and Painting at Westbound Bay Bridge

FACILITY: William Preston Lane, Jr. Memorial Bridge

LOCATION: Anne Arundel and Queen Anne Counties

ADVERTISED: August 18, 2009

PRE-BID MEETING: September 8, at 8:30 a.m., in the Conference Room at the Maryland Transportation Authority, 303 Authority Drive, Administration Building, Baltimore, MD 21222

PROJECT CONTACT: Project Manager: Nafiz Alqasem (410) 537-7821  
Contract Administration: Ms. Maggie Johnson (410) 537-7807

BIDS DUE: At noon on Thursday, September 29, 2009 in the Bid Box on the 1<sup>st</sup> floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222

CLASSIFICATION: Class H- (\$15,000,001 – \$30,000,000)

CONTRACT TIME: Seven Hundred and Thirty (730) Calendar Days

LIQUIDATED DAMAGES: **\$1,500.00 per Calendar Day**

MINIMUM MBE GOALS: Overall 13% (Thirteen Percent) with no subgoals.

BID DOCUMENTS: \$25.00 - 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.



## **Location and Scope of Work**

This project is located at the William Preston Lane, Jr. Memorial Bridge (Bay Bridge) in Anne Arundel and Queen Anne Counties.

The work to be performed includes the following:

- Cleaning and painting the structural steel at the west girder spans, including the steel piers.
- Zone painting at the deck truss spans
- Cleaning and painting the interior and exterior surfaces of both suspension towers, including all braces and diaphragms
- Spot painting at the remainder of the suspension spans
- Miscellaneous structural repairs within the project site or any location within the WPL Memorial Bridge Facility.

## **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. Nafiz Alqasem, at (410) 537-7821. Parties interested in visiting the site should contact Mr. Don Watts, at (410) 537-6651.

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



If the Subcontractor does not receive payment within the required 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 Chief of Construction of the dispute. The Chief of Construction or his representative will verbally contact the prime Contractor within 48 hours to ascertain whether or not a performance dispute exists which necessitates non-payment to the Subcontractor. If a performance dispute exists, the prime Contractor must demonstrate that there is a valid basis to withhold payment from the Subcontractor. If the prime Contractor withholds payment from a Subcontractor, the prime Contractor shall provide to the Subcontractor written notice of the withholding of payment. The notice shall detail the reasons for withholding payment as well as the amount. A copy of the notice shall be provided to the Surety and the Authority. If no valid dispute exists, the prime Contractor will be directed to make immediate payment to the Subcontractor. The Subcontractor will be responsible for notifying the Chief of Construction if this payment is not made. Upon receipt of notification, the Chief 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 MdTA'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 MdTA 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 MdTA's Project Engineer when payment is made. After the MdTA's Project Engineer verifies that payment has been made to the Subcontractor the MdTA shall release withheld progress payments.

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

### **SP 1-5 WORK HOURS**

Refer to section 104 for lane closures and other work hour restrictions. Except for these restrictions, the Contractor can work 24 hours a day, seven days a week. However, no lane closures will be permitted during high winds.

### **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



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shall state that it is in force and cannot be cancelled, release or non-renewed except upon thirty (30) days prior written notice, registered mail to the Authority. All Contractors' insurance policies, with the exception of the Worker's Compensation and Employer's Liability, shall be endorsed to provide as additional insureds the Maryland Transportation Authority and the State of Maryland.

2. The Contractor shall purchase and maintain such insurance as is specified herein which will provide the Authority, its members, employees and agents, as well as the Contractor from claims which may arise out of or as a result of the Contractor's operations under this contract, whether such operations be by the Contractor, by any subcontractor, by anyone directly or indirectly employed by any of them or by anyone whose acts any of them may be liable. This insurance shall be maintained in full force until the Contract has been accepted by the Authority and final payment is made.
3. The Authority requires the following minimum levels of insurance coverage for this contract:

a) Worker's Compensation and Employer's Liability

The Contractor shall, at all times, maintain and keep in force such insurance as will protect him from claims under the Worker's Compensation Act of the State of Maryland and maintain and keep Employer's Liability Insurance at a limit of \$100,000. The Contractor shall also maintain United States Long Shore and Harbors Act coverage, if such exposure exists.

b) Comprehensive General Liability Insurance

The Contractor shall maintain Comprehensive General Liability Insurance in the amount of at least One Million Dollars (\$1,000,000) 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) 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) 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 from default/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**

GP – 7.29 of the General Provisions is supplemented as follows:

MBE participation goal for this contract is as indicated in these Special Provisions.

The Contractor shall:

1. Identify specific work categories appropriate for subcontracting;
2. At least 10 days before bid opening, solicit Minority Business Enterprises, through written notice that:
  - a) Describe the categories of work: and,
  - b) Provide information regarding the type of work being solicited and specific instructions on how to submit a bid.
3. Attempt to make personal contact with Minority Business firms:



4. Assist Minority Business Enterprises to fulfill bonding requirements or to obtain a waiver of these requirements:
5. Upon acceptance of a bid, provide the Maryland Transportation Authority (MdTA) with a list of Minority Businesses with whom the Contractor negotiated, including price quotes from Minority and Non-minority firms.

**Third Tier Subcontracting:**

Third Tier MBE/DBE Subcontracting will be approved by MdTA only when MdTA is satisfied that there is no way except by Third Tier contracting that an MBE/DBE goal can be achieved. The Contractor's written request must be submitted prior to contract award and contain specifics as to why a Third Tier contracting agreement is being requested.

**Waivers:**

If for any reason the bidder/offerer is unable to achieve the specified overall contract goal or subgoals for each certified MBE classification, the bidder/offerer must request, in writing, on Attachment A, (Certified MBE Utilization and Fair Solicitation Affidavit), a waiver a time of bid.

Strict adherence regarding documentation of the rationale for the waiver request and documentation of "Good Faith Efforts" of the Contractor are required for consideration of any waiver. For additional information on waivers, please see *COMAR 21.11.03.11*

**Criminal Fraud Provisions:**

All Contractors are reminded that Criminal Fraud Provision and Administrative Sanctions may be imposed for failure to achieve and maintain established MBE/DBE goals.

**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](http://www.dat.state.md.us).

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

### **SP 1-10 CONTRACTOR'S EMPLOYEE IDENTIFICATION**

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



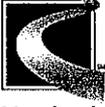
**GENERAL PROVISIONS  
GP-SECTION 1  
DEFINITIONS AND TERMS**

**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.



Maryland  
Transportation  
Authority

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

**GP 1.05 - DEFINITIONS**

Add the following definitions:

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



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

**GP 2.04 SITE INVESTIGATION**

Revise the paragraph to read as follows:

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



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

**GP-2.06 PREPARATION OF THE BID**

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

The Contractor may elect to submit 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, as a minimum, contain the following information.

- (1) State Contract No.
- (2) State Item Nos.
- (3) State's Proposed Quantities
- (4) Description of Items
- (5) Unit Price
- (6) Total Cost of Each Item
- (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 of Engineering Procurement  
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 had 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's 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% per annum beginning on the 31<sup>st</sup> 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. Nafiz Alqasem

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

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

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

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

1. Substitution of equipment or materials other than those specified will be considered, providing, in the opinion of the Engineer, such equipment or material 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 5  
LEGAL RELATIONS AND PROGRESS**

**TC-5.01 INSURANCE.**

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

**INSERT:** The following.

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

The Contractor shall maintain in full force and effect third party legal liability insurance necessary to cover claims arising from the Contractor's operations under this agreement which cause damage to the person or property of third parties. The insurance shall be under a standard commercial general liability (CGL) form endorsed as necessary to comply with the above requirements; or other liability insurance form deemed acceptable by the State. The State of Maryland shall be listed as an additional named insured on the policy. The limit of liability shall be no less than \$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**

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

**INSERT:** The following.

**TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS.**

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

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

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

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

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

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

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

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

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

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



permit verification by the Inspector that the material is stored at the approved location, and to permit the removal of the materials from the property without cost to the State of Maryland.

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

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

- (6) A statement explaining why the material can not be stored on the project, if the Contractor is requesting to store material at a location other than the project site. The statement shall include the methods of storage, separation, and identification to be used by the Contractor. The Contractor shall provide a method of inventory control and withdrawal satisfactory to the Administration which shall be used by the Contractor to monitor materials not stored on the project.

- (7) A breakdown of the Contract line item bid unit price showing the relationship of the cost of the stored material to the costs of all other materials, labor, and components of the work included in the Contract line item unit price bid by the Contractor.

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

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

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

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

**100.01.01 GENERAL**

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. The U.S. Coast Guard headquarters is located at the following address:

Commander (AOWB) USCG Atlantic Area  
Federal Building, 4<sup>th</sup> Floor  
431 Crawford Street  
Portsmouth, VA 23704

All work shall be conducted so as 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 MATERIALS: N/A**

**100.01.03 CONSTRUCTION: N/A**

**100.01.04 MEASUREMENT AND PAYMENT**

This item and all incidentals associated with it will not be measured for payment. The cost for this item shall be incidental to the "MOBILIZATION" bid item.



**CATEGORY 100  
PRELIMINARY**

**SECTION 100.02 — ENGINEERS BOAT**

**100.02.01 DESCRIPTION.**

The Contractor shall furnish a boat for the sole use of the Engineer. The boat shall be furnished at the time of furnishing the Engineers Office and shall be available for use until completion of the project.

The Engineers boat shall be watertight and have a minimum length of 20 ft. The boat shall be powered with at least a 9.8 HP outboard motor, have sufficient space for not less than four persons, be seaworthy, and bear the registration numbers of the State of Maryland.

The boat shall be insured for not less than thirty thousand dollars (\$30 000) nondeductible to protect the Administration against any loss of its property due to fire, theft, vandalism, storm, collision or flood. Liability insurance, in addition to the Contract liability insurance, shall also be provided by the Contractor for an amount no less than five hundred thousand dollars (\$500 000).

The boat shall be equipped with the required number of life preservers, 100 ft of 1/2 in. nylon anchor line, a suitable size anchor, a padlock on the outboard motor, a 10 gal minimum gas tank, and a fire extinguisher. The Contractor shall provide maintenance, repairs, a qualified operator, fuel, oil, and anchoring or docking facilities for the boat.

The maintenance and operation of the Engineers boat shall meet the approval of the Engineer. The boat shall not be used for the transportation of the Contractor's personnel, equipment, materials, or tools; but shall remain the property of the Contractor at the conclusion of the project.

**100.02.02 MATERIALS.** Not Applicable

**100.02.03 CONSTRUCTION.** Not Applicable

**100.02.04 MEASUREMENT AND PAYMENT.**

The furnishing of the boat including all maintenance, repairs, insurance, operator, fuel, oil, and anchorage or dock facilities, etc. will not be measured but will be paid for at the Contract lump sum price for the Engineers Boat item. At the conclusion of the Contract, the boat and all accessories shall become the property of the Contractor.



**CATEGORY 100  
PRELIMINARY**

**SECTION 103 — ENGINEERS OFFICE**

**103.03 CONSTRUCTION.**

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

**INSERT:** The following.

**103.03.06 Microcomputer System for all Offices.**

**(a) Two (2) Desktop Units.**

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

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

**(c) Video Monitors.** Flat-Panel LCD Monitor conforming to Energy Star requirements with a minimum screen size of 17 in.

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

**(e) Software.**

- (1) Microsoft® Office 2007 Professional for Windows™ or later.
- (2) Symantec® pcAnywhere32 for Windows™ version 12.0 or later.



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

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

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

**(g) Accessories.**

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

**(h) Notes.**

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

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



Administration. The remaining microcomputer system shall remain the property of the Contractor.

148 **ADD:** The following after 103.03.08 Office Requirements.

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

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



**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.

This project involves cleaning and painting structural steel at Westbound William Preston Lane Memorial Bridge in Anne Arundel and Queen Anne Counties.

**AGENCY CONTACTS**

<b>CONTACT</b>	<b>TITLE</b>	<b>PHONE NUMBER</b>
Ken Cimino	Administrator, MdTA	(410) 537-8157
Don Watts	Maintenance Supervisor, MdTA	(410) 537-6651
Nafiz Alqasem	Project Manager	(410) 537-7821
Roxane Y. Mukai	Traffic Manager, MdTA	(410) 537-7848

**Work Restrictions.**

The painting Contractor is informed that work on this contract will overlap Contract LB 378-000-006R2 which involves redecking portions of the bridge. Therefore, the painting contractor will not be allowed any temporary or permanent lane closure while the redecking contract is still ongoing. All cleaning and painting operations with the exception of painting the suspension towers at and above the roadway level shall be performed from the water. However, the painting Contractor will be allowed to use any lane closure given to the redecking Contractor for material or personnel drop off. The redecking Contractor, with approval of the Authority, will determine when the lane closures will occur and which lane will be closed. If the painting contractor is utilizing the lane closure, he must be able to clear the lane immediately at any time in the event that the lane needs to be opened to traffic or if the redecking Contractor deems the lane closure is no longer needed.



**SPECIAL PROVISIONS  
TRAFFIC CONTROL PLAN**

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However, once the redecking contract, LB 378-000-006R2, is complete, the painting contractor will be allowed to set up lane closures for cleaning and painting the suspension towers at and above the roadway level. LB 378-000-006R Contract is expected to be completed by November 2010. The following provisions shall apply:

**ALLOWABLE LANE CLOSURE SCHEDULES FOR CLEANING AND PAINTING  
THE SUSPENSION TOWERS AT AND ABOVE THE ROADWAY LEVEL  
WILLIAM PRESTONLANE, JR. MEMORIAL BRIDGE**

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

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

\* Available westbound Bay bridge closures for 2009 & 2010 are included in the Proposal Book for informational purposes only.

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

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

The Engineer reserves the right to modify or expand the methods of traffic control or working hours as specified in the Contract Documents. Any request from the Contractor to modify the work restrictions shall require written approval from the Engineer at least 72 hours prior to implementing the change. The Contractor shall submit a copy of the original work restrictions with the written request.



**SPECIAL PROVISIONS**  
**TRAFFIC CONTROL PLAN**

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As directed by the Engineer, temporary lane and shoulder closures will not be permitted during periods of falling precipitation, in heavy fog or otherwise poor visibility, or in the event of emergencies such as serious traffic accidents or unusually severe traffic congestion. In the event that a temporary lane or shoulder must be reopened as directed by the Engineer or authorized Authority staff, the Contractor shall evacuate all equipment, materials and personnel from the lane within thirty (30) minutes.

149 **ADD:** The following after the last paragraph, “Any monetary savings...and the Administration.”

When closing or opening a lane on freeways, expressways, and roadways with posted speed  $\geq 45$  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, a truck-mounted attenuator (TMA) with support structure designed for attaching the system to the work vehicle, and 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 manufacture’s specification as tested under NCHRP Test Level 3.

When a temporary lane or shoulder closure is in effect, work shall begin within one hour after the lane is closed. Any delay greater than one hour with no work in progress shall require the Contractor to remove the lane closure at no additional cost to the Administration. The Contractor's Traffic Manager shall attend Pre-Construction and Pre-Paving Meetings and shall discuss traffic control and the Traffic Control Plan including procedures to be implemented for lane closures.

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

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

Temporary traffic control devices to be used for lane/shoulder closure may be placed on the shoulder of the roadway by workers no earlier than 15 minutes prior to actual time 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.



**SPECIAL PROVISIONS**  
**TRAFFIC CONTROL PLAN**

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All temporary lane or shoulder closures shall be restored at the end of the closure period and no travel lane shall be reduced to less than 11 ft. 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 full traffic capacity within the time specified will result in a deduction being assessed on the next progress estimate in conformance with the following. This is in addition to the requirements specified in TC-4.02.

<b>ELAPSED TIME, MINUTES</b>	<b>DEDUCTION</b>
1 - 5	\$ <u>1,000.00</u>
Over 5	\$ <u>75.00</u> per Minute (In addition to the Original 5 minutes)

**104.01.04** Add the following:

Temporary lane closure for cleaning and painting the suspension towers at and above the roadway level will not be measured for payment. The cost for all labor, equipment with the exception of the protection vehicle, material and other incidentals necessary to complete this work shall be incidental to the lump sum bid item "Cleaning and Painting the Interior and Exterior Faces of Both Suspension Towers"





**CATEGORY 100**  
**PRELIMINARY**

**SECTION 104 — MAINTENANCE OF TRAFFIC**

**104.21 CELLULAR TELEPHONES.**

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

Two of the cellular phones shall be issued to the MDTA Police for the purpose of establishing an open line of communications between the Contractor and the MDTA Bay Bridge Police.

**104.21.02 MATERIALS.**

Cellular Telephones

As approved by the Engineer

**104.21.03 CONSTRUCTION.** Not applicable.

**104.21.04 MEASUREMENT AND PAYMENT.** The number of cellular telephones required for this Contract is 4. The cellular telephones will not be measured but will be incidental to the Contract price for Mobilization unless otherwise specified in the Contract Documents. The work includes furnishing and installing the telephones, activation fees, battery replacement, monthly service fees, extensive coverage charges, air time (peak and nonpeak time per minute), roaming rates, long distance fees in conformance with the schedules provided, and for all material, labor, equipment, tools, and incidentals necessary to complete the work. If any of the telephones become defective, are stolen, or for any other reason do not function as intended, they shall be replaced with a like kind unit at no additional expense to the Administration. Nonfunctioning or stolen telephones shall be replaced within eight hours after the Contractor is notified by the Engineer.

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



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**CATEGORY 100  
SECTION 108 –MOBILIZATION**

**108.01 DESCRIPTION.** *Add the following:*

Evacuation and anchorage:

The contractor shall provide a plan whereby he will temporarily relocate his water-borne equipment to a secured location away from the bridge prior to mobilizing such equipment to the jobsite. This location is referred to as “Safe Anchorage”.

Inclement weather and severe coastal storms- The contractor shall move all barges and other floating equipment employed to perform the work in this contract to safe anchorage away from the bridge prior to the onset of inclement weather conditions or when a severe coastal storm warning is issued, which could cause such barges and floating equipment moored under or alongside the bridge to collide with and possibly damage the bridge during such inclement weather conditions.

A Severe coastal storm is a weather event that is identified by the national weather service as such.

**108.04 MEASUREMENT AND PAYMENT.** *Add the following*

The evacuation and anchorage plan as outlined above as well as any and all needed movements to safe anchorage will not be measured for payment. The cost for all labor, equipment, materials and incidentals necessary for this work shall be incidental to the lump sum bid item for Mobilization.

**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.

**SPECIAL PROVISIONS**  
113 — DIGITAL CAMERA

CONTRACT NO. BB 2176-000-006  
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**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  
STRUCTURE**

**SECTION 400.01 - ENVIRONMENTAL AND WORKER PROTECTION**

**1. SCOPE**

This special provision covers the requirements for worker protection, environmental protection, and the handling of waste generated from the removal of lead-based paint. Safety practices not specifically related to lead paint removal are not included in this Special Provision.

- 1.1 The lead removed from structures is known to be a hazardous substance. It has been shown to have serious health effects on workers if extreme caution and attention to details are not followed. Lead removed from structures is also known to be an air and water pollutant. Therefore lead removed from structures is regulated by the EPA and OSHA. Lead removal has resulted in large fines if extreme caution and attention to details are not followed. The existing paint has been tested on the structure for lead. **THE PAINT ON THIS STRUCTURE IS KNOWN TO CONTAIN UP TO 66.8 %LEAD.**
- 1.2 The requirements for the removal of the lead based paint are presented in Parts 4 through 7 of this Special Provision. The submittals required are presented in Part 8.
- 1.3 The INTENT of this special provision is to prevent lead that is on the structure from entering the environment, to properly handle and dispose of lead-containing waste, and to prevent lead that is on the structure from harming workers and others. The Contractor shall be fully responsible for the protection of his employees and those of any subcontractor personnel from overexposure to lead and to prevent the lead from entering the environment.

**2.0 REFERENCE DOCUMENTS**

In addition to the Standard Specification and Special Provisions in this proposal, the Contractor shall comply with the requirements of the Interim Final Rule for Lead Exposure in Construction (29 CFR 1926.62) of the U.S. Occupational Safety and Health Administration (OSHA) with Maryland Amendments and any other applicable federal or state laws. Additional federal regulations include but are not limited to the following documents which are incorporated by reference.

2.1 Code of Federal Regulations

- 29 CFR 1910, "Occupational Safety and Health Standards" (General Industry Standards)
- 29 CFR 1910.120, "Hazardous Waste Operations & Emergency Response"
- 29 CFR 1910.134, "Respiratory Protection"



- 29 CFR 1910.141, "Sanitation"
- 29 CFR 1910.146, "Permit Required Confined Spaces"
- 29 CFR 1926, "Safety and Health Regulations for Construction" (Construction Industry Standards)
- 29 CFR 1926.16, "Rules of Construction"
- 29 CFR 1926.20, "General Safety and Health Provisions"
- 29 CFR 1926.21, "Safety Training"
- 29 CFR 1926.28, "Personal Protective Equipment"
- 29 CFR 1926.32, "Competent Person"
- 29 CFR 1926.51, "Sanitation"
- 29 CFR 1926.55, "Gases, Vapors, Fumes, Dusts and Mists"
- 29 CFR 1926.57, "Ventilation"
- 29 CFR 1926.59, "Hazard Communication"
- 29 CFR 1926.62, "Lead"
- 29 CFR 1926.200, "Accident Prevention Signs and Tags"
- 29 CFR 1926.500, "Fall Protection"
- 29 CFR 1926.1118, "Inorganic Arsenic"
- 29 CFR 1926.1126, "Chromium (VI)"
- 29 CFR 1926.1127, "Cadmium"
- 40 CFR 50, "National Primary and Secondary Ambient Air Quality Standards"
- 40 CFR 60, "Standards of Performance for New Stationary Sources, Appendix A, "Test Methods"
- 40 CFR 117, "Determination of Reportable Quantities for Hazardous Substances"
- 40 CFR 122, "EPA-Administered Permit Program: The National Pollutant Discharge Elimination System"
- 40 CFR 261, "Identification and Listing of Hazardous Waste"
- 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste"
- 40 CFR 263, "Standards Applicable to Transporters of Hazardous Waste"
- 40 CFR 264, "Standards for Owners/Operators of Hazardous Waste Treatment, Storage, Disposal Facilities"
- 40 CFR 265, "Interim Status Standards for Owners/Operators of Hazardous Waste Treatment Storage, and Disposal Facilities"
- 40 CFR 268, "Land Disposal Restrictions"
- 40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan"
- 40 CFR 302, "Designation, Reportable Quantities, and Notification"

2.2 Occupational Safety and Health Administration

OSHA Instruction CPL 2-2.58, "1926.26, Lead Exposure in Construction; Interim Final Rule-Inspection and Compliance Procedures.

2.3 Code of Maryland Regulations  
COMAR 09.12.20



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### 2.4 National Institute for Occupational Health and Safety

NIOSH Method 7048, "Cadmium"  
NIOSH Method 7082, "Lead"  
NIOSH Method 7600, "Hexavalent Chromium"  
NIOSH Method 7900, "Arsenic."

### 2.5 American Society for Testing Materials (ASTM)

ASTM D3335, "Test Method for Low Concentration for Lead, Cadmium, and Cobalt in Paint by Atomic Absorption Spectroscopy"

### 2.6 Environmental Protection Agency (EPA) Publications

SW-846, Test Methods for Evaluating Solid Waste - Physical and Chemical Methods  
EPA Method 3050, "Acid Digestion of Sediments, Sludge, and Soils"  
EPA Method 1311, "Toxicity Characteristic Leaching Procedure"  
EPA Method 200.7, "Determination of Metals and Trace Elements in Water and Wastes by ICP"  
EPA Method 239.1, "Methods for Determination of Metals in Environmental Samples"

### 2.7 Steel Structures Painting Council (SSPC)

SSPC-Guide 6, "Guide for Containing Debris Generated During Paint Removal Operations"  
SSPC-Guide 7, "Guide for the Disposal of Lead -Contaminated Surface Preparation Debris"  
SSPC - TU 7, "Conducting Ambient Air, Soil, and Water Sampling During Surface Preparation and Paint Disturbance Activities."

### 2.8 American Industrial Hygienists Association (AIHA)

Environmental Lead Proficiency Analytical Testing Program (ELPAT) Proficiency Testing for Lead - Airborne (AIHA-PAT)

## 3.0 DEFINITIONS

- 3.1 **Lead-Containing Paint:** The paint on structures that contains more than 600 ppm lead. The existing paint on this project is lead-containing paint. Any laboratory testing to determine the presence of lead in the existing paint shall be done in accordance with ASTM D-3335 by a laboratory determined to be proficient in the ELPAT program.

- 3.2 **Hazardous Waste:** Paint and abrasive debris is classified as hazardous waste due to any of the RCRA criteria; i.e., Corrosivity, Ignitability, Reactivity or Toxicity. Usually a waste from a paint removal project is a hazardous waste due to the characteristic of toxicity. Toxicity is indicated, if after testing by the Toxicity Characteristic Leaching Procedure (TCLP) EPA Method 1311, the leachate contains any of the following elements in the listed concentrations or greater.

Arsenic	5.0 PPM
Barium	100.0 PPM
Cadmium	1.0 PPM
Chromium	5.0 PPM
Lead	5.0 PPM
Mercury	0.2 PPM
Selenium	1.0 PPM
Silver	5.0 PPM

Note: Other compounds and characteristics can cause a waste to be hazardous as defined in 40 CFR 261 and should be taken into consideration.

- 3.3 **Generator:** Any person, by site, whose act or process produces hazardous waste. Maryland Transportation Authority and the Contractor will be considered the co-generators of the surface preparation waste. The Contractor is the Generator of any other wastes.
- 3.3.1 **Maryland Fully-Regulated Generator:** A generator who generates or causes to be generated over 220 pounds of waste per month. For purposes of this special provision, the generator is considered to be a large quantity generator.
- 3.4 **Containment and Ventilation System:** Includes the containment structure (i.e., containment walls, floor, supporting structure, entryways), ventilation system (i.e., air input and exhaust), and dust collection.
- 3.5 **Debris:** Any materials or combinations of materials that are removed from a surface or used to remove or contain paint. All dust, paint chips, spent abrasive, old containment materials, empty paint containers, etc., are debris.
- 3.6 **29 CFR 1926.62:** Any reference to 29 CFR 1926.62 in this Special Provision shall mean 29 CFR 1926.62 with Maryland Amendments.

**4. CRITERIA FOR CONTAINMENT AND VENTILATION SYSTEMS**

- 4.1 Containment/Ventilation System – West Girder Spans and suspension towers.



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- 4.1.1 The Contractor shall design a containment system that meets the requirements of SSPC Class 1A, or as defined in the SSPC-Guide 6, "Guide for Containing Debris Generated During Paint Removal Operation". Only rigid (Type A1) floors shall be used unless the debris is funneled to a rigid container.
- 4.1.2 The deck drains shall not be blocked. The containment plans shall show how water will be re-directed through or around the containment.
- 4.1.3 The containment shall control environmental emissions according to the criteria listed in Section 5.0 and control the working environment within containment according to criteria in Section 7.0. In the event of a conflict between SSPC "Containment Classification Guide" and this Special Provision, the requirements of this Special Provision shall prevail.
- 4.1.4 The Contractor shall thoroughly examine the work areas of the Bridge and be prepared to verify its ability to support the containment system. Portions of the containment system and scaffolding to be completely supported by the structure (i.e., hanging from the structure), and/or which impart a wind load on the bridge, shall be designed by a licensed Professional Structural Engineer registered in the State of Maryland in accordance with the requirements of SP 2-7. The Contractor shall submit the containment design package in accordance with the requirement in Part 8.
- 4.1.5 The Bridge is located in an area where employees of Maryland Transportation Authority, other Contractors, or the public may be in close proximity to lead work areas or lead-emitting operations.
  - 4.1.5.1 Barrier tape shall be placed to demarcate the regulated area from clean areas where workers will take breaks, wash, change clothes, etc.
  - 4.1.5.2 For locations where people other than the Contractors' forces can come within 100 feet of the lead-emitting operation, demarcation such as yellow caution tape shall be in place around the site.
  - 4.1.5.3 The lead exposure at the barrier shall be monitored with low volume personal exposure pumps operated for a minimum of seven hours a day when monitoring is performed. Monitoring shall be performed for a minimum of one day each time the containment and/or equipment is moved. Two locations shall be monitored, with one pump located directly downwind from the lead-emitting operation. The lead exposure at any monitor shall not be greater than  $30 \text{ } \mu\text{g}/\text{m}^3$  as determined by using NIOSH method 7082. Results shall be reported, in writing, to the Engineer within two days of receiving the results. If the lead exposure is greater than  $30 \text{ } \mu\text{g}/\text{m}^3$ , corrections shall be made and the monitoring repeated.

- 4.1.6 Any holes that develop in containment materials must be repaired prior to the start of the next blasting shift. However, if the holes are greater than 25 square inches, they must be repaired immediately. Blasting operations shall not proceed unless all holes greater than 25 square inches are sealed; containment materials are completely sealed against all surfaces of all members; and a tight seal is established around any duct entering or exiting containment. Entrances shall be adequately sealed. The simple overlapping of two containment materials is not an adequate seal during blasting and abrasive clean-up. Use all means to protect existing structures and materials from damage during erection and removal of containment enclosures. Cables contacting existing steel surfaces shall be padded to eliminate any damage to the existing steel. In the event of damage, make all repairs as directed by the Engineer at no additional cost to Maryland Transportation Authority.
- 4.1.7 All flexible materials shall be heavy tarps or fiber-reinforced sheeting. The materials must be capable of withstanding a direct blast from four (4) feet away at normal working conditions of the on-site blasting equipment for a minimum of three (3) seconds.
- 4.1.8 There shall be no welding or drilling allowed on any structural member of the bridge for connecting the containment and ventilation system.
- 4.1.9 Air flow shall be a minimum of 100 ft/min in crossdraft direction or 60 ft/min in downdraft direction. Air movement shall be calculated by measuring the volume of air passing through the ducts leading to the dust collectors and dividing by the cross-sectional area of containment perpendicular to the air flow. Measurements shall be taken using industrial ventilation techniques as described in Section 4.10. Ventilation during painting shall be such that OSHA-allowable solvent concentrations are not exceeded. It is the Contractor's responsibility to measure and maintain acceptable concentrations of solvents and other hazardous materials during painting.
- 4.1.10 The air flow in the contained area will be measured by the Contractor's on-site competent person at the completion of each blasting shift unless waived in writing by the Engineer. These measurements will be taken at least ten (10) feet from any air movement device (fan, air horn, etc.) in as straight a portion of the duct as possible. (It may be in the Contractor's best interest to install a 10-foot section of smooth-wall galvanized duct in which the measurements can be taken.) The competent person will provide the Engineer with the air flow measurements and calculations at least daily. The method for measuring air velocity in ducts is described in detail in "Industrial Ventilation - A Manual of Recommended Practices - 26th Edition". (This manual is available from the American



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Conference of Governmental Hygienists, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240). The measurements shall consist of at least twenty (20) readings within the duct as indicated in Table 9-3, page 9.9, and Figure 9-4, page 9.5. Various types of measuring equipment may be used. If there is a dispute or discrepancy, the governing piece of equipment will be a Dwyer Durablock Manometer, Model #400 - Air Velocity Meter.

4.1.11 **Dust Collection Equipment:** The dust collection system must be properly maintained to reduce the possibility of exceeding National Ambient Air Quality Standards or a CERCLA release. To assist workers in maintenance and to allow prediction of possible problems, the dust collection system must be equipped with an easily accessible pressure gage which measures the pressure differential across the filters. The dust collectors should operate at a stable pressure differential once the filters are seasoned. The "stable differential pressure" must be maintained within 10% of the original stable pressure differential. The "original stable differential pressure" for the dust collection equipment will be determined as follows:

4.1.11.1 Prior to start up of the system all the filters will be replaced with new filters.

4.1.11.2 The equipment shall be operated and the pressure differentials recorded every four hours for the first week of operation. It is assumed that filters will last at least a week and that constant working pressures will be stabilized. If this is not the case (pressures continue to change or filters do not last a week), maintenance procedures will be developed to adequately maintain and monitor the filtering mechanisms or pressures until they stabilize.

4.1.12 Only reverse pulse-clean dust collectors will be allowed. Dust bags are not allowed.

4.2 Containment/Ventilation System – Suspension Spans and Painting in the West Girder Spans

4.2.1 The containment for vacuum-shrouded power tool cleaning shall conform to Class 3P of SSPC Guide 6.

4.3 Containment/Ventilation System – Compression Joint Areas

4.3.1 The containment for high pressure water cleaning shall conform to Class 2W of SSPC Guide 6.

- 4.3.2 All wash water and debris shall be collected and disposed of in conformance with applicable regulations and Section 6.0 of this Special Provisions.
- 4.3.3 The containment for vacuum-shrouded power tool cleaning shall conform to Class 3P of SSPC Guide 6.

**5. CRITERIA FOR CONTROLS OVER ENVIRONMENTAL EMISSIONS**

- 5.1 Ambient Air Quality for Particulate Matter (40 CFR 50.6): Due to the location of the work site, air quality monitoring for particulate matter will not be necessary. Visible emissions shall be determined in accordance with SSPC Guide 6, Section 5.5.1, Method A. Visible emissions shall not exceed Level I which limits emissions to a cumulative duration of no more than one ( 1 ) percent of the work day.
- 5.2 Ambient Air Quality for Lead Emissions (40 CFR 50.12): Air quality monitoring for lead will not be necessary due to the location of the work site.
- 5.3 If a complaint is received, the Contractor shall be responsible for performing EPA ambient air monitoring. Sampling procedures for particulate matter shall be in accordance with 40 CFR, Part 50 - Appendix J. Sampling procedures for lead shall be in accordance with 40 CFR, Part 50 - Appendix B. Three sets of monitors shall be used - two sets in the direction of the prevailing wind and one set on the opposite side of the blasting operation. Emissions in excess of regulatory limits shall be cause to shut down the project until improvements are made to containment.
- 5.4 Visible Emissions: Visible emissions shall be determined in accordance with SSPC Guide 6, Section 5.5.1, Method A - Visible Emissions. Visible emissions shall not exceed Level 1, which limits emissions to a cumulative duration of no more than one (1) percent of the work day. SSPC TU-7 provides guidance on performing visible emissions.
- 5.5 Soil Quality: The Contractor shall not contaminate the soil with lead. This includes the soil where land-based activities may occur. The Contractor shall take pre-job soil samples and post-job samples. These samples shall be analyzed for lead by a ELPAT-accredited laboratory in accordance with EPA Method 3050 or the laboratory's accredited procedure. The results shall be submitted to the Engineer within two days of their receipt. The results of lead analysis of these samples will be supplied upon request to Maryland Department of the Environment for evaluation. Any clean-up procedures that are required and the associated costs that are a result of lead contamination of the soil as determined by the differences in the lead content of the pre- and post-job samples shall be the responsibility of the Contractor.
- 5.6 Water Quality: The Contractor shall prevent all materials, including debris, dust, and



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paint chips, from being deposited in the Chesapeake Bay. Visible solids or paint chips observed falling in the water, or increases in surface water lead concentrations of 5 parts per million or more above background level shall be cause to shut down the project until improvements are made to containment.

5.6.1 Sets of surface water samples shall be taken each day during the first five days of blasting, and monthly thereafter. The samples shall be obtained while abrasive blasting is occurring.

5.6.2 Each set of surface water samples shall consist of five individual samples taken up-tide and five individual samples taken down-tide in line with the containment and approximately 200 feet from the Bridge. Background samples should be taken at least a half-mile in the up-tide direction. A set of samples shall be taken around each containment during each evaluation period. Surface water samples shall be taken.

5.6.3 The samples shall be analyzed for lead in accordance with EPA Method 200.7 or EPA Method 239.1

5.6.4 The results shall be submitted to the Engineer within three days of the date of sampling.

### **6.0 CRITERIA FOR THE HANDLING OF WASTE AND REPORTING RELEASE**

6.1 All blasting waste and dust collector waste, whether test results show it to be hazardous waste or not, shall be handled as a hazardous waste.

6.2 All other waste streams shall be stored in separate containers. These waste streams shall be sampled and tested to determine their classification. They shall be properly disposed based on their classification.

6.3 **Sampling and Testing the Debris:** Four initial, representative and random samples of the blasting waste shall be selected and documented in accordance with the requirements of SW-846. The samples shall be tested in accordance with EPA Method 1311 found in Appendix II of 40 CFR 261. The Contractor shall submit the name and qualification of the laboratory performing the tests and shall require the laboratory to submit the results simultaneously to the Contractor and to Maryland Transportation Authority. Subsequent sampling and testing shall be as required by the reclaiming facility.

6.4 All waste shall be presumed to be hazardous until it is clearly demonstrated to be non-hazardous.

6.5 **Hazardous Waste:** If the test results indicate that the debris is a RCRA- defined Hazardous Waste, the following requirements shall apply.

- 6.5.1 Site Storage and Handling: The Contractor shall comply with all the requirements of 40 CFR 262 and 40 CFR 265, and COMAR 26.13.03.05 for on-site handling of debris. The Contractor is advised to pay particular attention to the following:
- 6.5.1.1 Time of storage: 90 days maximum from accumulation start date;
  - 6.5.1.2 Use of proper containers;
  - 6.5.1.3 Personnel training.
  - 6.5.1.4 Daily waste storage site inspection
- 6.5.2 The site storage area must be approved by the Engineer. This site may be located on Maryland Transportation Authority property near the project site if it does not interfere with operations, is not hazardous to MdTA employees, and if approved by the Engineer. The security of the storage site and the waste shall be the sole responsibility of the Contractor. The prime concern is that a fenced, locked and secure compound be erected.
- 6.5.3 Paint debris shall not be placed on or allowed to accumulate on unprotected ground and shall be adequately shielded to prevent dispersion of the debris by wind or rain or water run-off. Any evidence of improper storage shall be cause for immediate shut-down of the project until corrective action is taken.
- 6.5.4 The Contractor shall be responsible for disposing of hazardous waste, including preparation of manifests and arranging for transport by a certified waste hauler to a permitted facility. Maryland Transportation Authority will sign the manifests for surface preparation wastes.
- 6.5.5 Information on handling and disposal of hazardous waste in Maryland can be obtained from the Department of Environment, Waste Management Administration, 1800 Washington Boulevard, Baltimore, MD 21230. Hazardous Waste Information - (410) 537-3344.
- 6.6 Waste material other than blasting debris or dust collector debris that has a measured leachable lead concentration less than 5 parts per million (ppm) and is not classified as a hazardous waste for other properties or constituents shall be transported and disposed of as an industrial waste in accordance with EPA and Maryland DOE requirements.
- 6.7 **CERCLA Release**: The Contractor is advised that a discharge of ten or more pounds of lead containing waste with a particle size of 4 mils or less into the atmosphere, water or soil within a 24-hour period is considered to be a reportable release in accordance with 40 CFR 300 and 40 CFR 302.



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### 7. CRITERIA FOR CONTROLS OVER WORKER PROTECTION

- 7.1 MOSH requirements for the protection of workers from lead shall be in accordance with 29 CFR 1926.62 with Maryland Amendments and as explained in the OSHA Instruction CPL 2-2.58. The Contractor shall submit a signed affidavit attesting to knowledge of MOSH requirements.
- 7.2 The Contractor shall provide a written program that addresses each of the items below prior to any work being done at the site.
- 7.2.1 **Identify the "competent person"**, as defined in the regulation, who will be on the project. The qualifications and letter of authority to substantiate his or her competency must be included.
- 7.2.2 **List actions** to be taken when monitoring results show lead exposure above the action level.
- 7.2.3 **List actions** to be taken when monitoring results show lead exposure above the permissible exposure level.
- 7.2.4 **List actions** to be taken for specific work groups identified in 29 CFR 1926.62(d) prior to initial monitoring.
- 7.2.5 **Exposure Assessment Methodology**. At a minimum, the program should list the extent and duration of the monitoring, the work classifications to be monitored, the agency responsible for monitoring, and the qualifications of the individual evaluating the results. Only laboratories that are proficient in the AIHA or NIOSH Proficiency Testing Program for air filters shall be used for the testing. The Contractor shall provide a copy of exposure assessment results including a list of all employees each result represents, to the Engineer within five days of their receipt.
- 7.2.6 **Compliance Plan**. At a minimum, this plan should contain:
- 7.2.6.1 A description of the sources of exposure to lead on the project.
- 7.2.6.2 The engineering and administrative controls and the work practice controls to be used or considered to reduce and maintain the workers' exposure below the permissible exposure level (PEL) on the project.
- 7.2.6.3 The frequency and reporting methods of the routine inspections of the project by the competent person.
- 7.2.6.4 The expected ventilation inside the contained area and the

methodology used to monitor the ventilation equipment.

7.2.6.5 A description of the agreements among contractors on the site for assuring full compliance with lead standard.

7.2.7 **Respiratory Protection Program.** The program must be in complete compliance with the requirements of 29 CFR 1910.134, and 1926.62. The plan shall include the following items:

7.2.7.1 Identification of the Respiratory Program Administrator.

7.2.7.2 Respirator selection and fit testing protocol shall be described in detail.

7.2.7.3 Written verification that respirators are selected based on the hazards to which the worker is exposed.

7.2.7.4 The training of the workers shall be described and verified.

7.2.7.5 Cleaning, inspection, and storage of respirators shall be described.

7.2.7.6 Regular inspection and evaluation to determine the effectiveness of the program.

7.2.7.7 The physician's review procedure and/or approval for each employee to wear the required respirator.

7.2.7.8 A commitment that only MSHA and NIOSH approved respirators will be used.

7.2.7.9 A program to ensure that only Grade D air, as described in Compressed Gas Association Commodity Specification G.&.1-1966, will be used for air supplied respirators. The carbon monoxide alarms and filters used shall be described.

7.2.8 **Protective Clothing and Equipment.** A complete list of contractor supplied equipment shall be included in the plan. Since protective clothing requirements are exposure dependent, the plan should describe what clothing will be issued to employees exposed at various levels of exposure. Since it is the employer's responsibility to ensure that all clothing is removed at the end of the day, properly stored and laundered, all these procedures shall be described.



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- 7.2.9 **Housekeeping.** The Contractor shall describe the procedures used to keep change rooms, lunch areas, showers, etc., as free as practicable of accumulations of lead. It should be noted that these procedures should result in surfaces that meet the limits contained in the OSHA Instruction CPL 2-2.58.
- 7.2.10 **Hygiene Facilities and Practices.** The following shall be contained in the program:
- 7.2.10.1 The use of portable showers is feasible on this project and shall be on the site.
  - 7.2.10.2 Hand washing facilities in accordance with 29 CFR 1926.51 shall be provided.
  - 7.2.10.3 Hygiene facilities must conform to 29 CFR 1910.141.
  - 7.2.10.4 Since smoking, eating, drinking, or use of cosmetics are prohibited in lead-contaminated areas, the program shall describe the location of clean areas and the procedure, (including detailed disciplinary procedures) to enforce the ban of any smoking products, food, drink, or cosmetics on the person of any worker inside a lead contaminated or potentially lead-contaminated area. The program shall also describe how lead levels in clean areas will be measured and maintained at acceptable concentrations.
  - 7.2.10.5 The program shall detail the procedures to be used when entering and leaving a lead-contaminated area including the vacuuming of clothing.
- 7.2.11 **Medical Surveillance.** All paragraphs of 29 CFR 1926.62 (j) shall be addressed in the submitted plan. In addition to the requirements of 29 CFR 1926.62 (j), all workers shall be tested prior to their working on the project. The frequency of testing shall be at least every four (4) weeks or less depending on worker blood lead levels and company policy. At the completion of the project, all workers shall be tested. If the test indicates that blood lead levels are being controlled, the Engineer may reduce the frequency of testing; however, in no case will the pre- and post-project samples be eliminated. All results shall be supplied to the Engineer within five days of their receipt.
- 7.2.12 **Medical Removal Protection.** The methods of compliance must be described.
- 7.2.13 **Employee Training.** A complete description of the training practices, duration of training and outline of the course must be provided. At a minimum, the training must include:

- 7.2.13.1 Information on the adverse health effects of lead.
  - 7.2.13.2 Hazard Communication Training in compliance with 29 CFR 1926.59.
  - 7.2.13.3 The content of the 29 CFR 1926.62.
  - 7.2.13.4 The specific nature of the operation which could result in a lead exposure
  - 7.2.13.5 The proper use of respirators.
  - 7.2.13.6 The purpose and explanation of the medical surveillance and medical removal programs.
  - 7.2.13.7 The contents of this compliance plan.
  - 7.2.13.8 Description of engineering controls and work practices used to minimize the worker exposure to lead.
  - 7.2.13.9 Information regarding the ban on the use of chelating agents.
  - 7.2.13.10 Training for the handling of a hazardous waste in conformance with 40 CFR 265.16.
  - 7.2.14 **Signs.** Any area where the exposure to lead may be greater than the action level shall be considered a "regulated area". All regulated areas shall be properly signed. A description of regulated areas and the methodology for signing these areas shall be included.
  - 7.2.15 **Recordkeeping.** All recordkeeping procedures shall be described.
  - 7.2.16 **Observation of Monitoring.** The procedures to allow employee observation of monitoring shall be described.
- 7.3 After the plan is approved by Maryland Transportation Authority, the Contractor shall perform all operations in accordance with the approved written plan. Engineer approval of the plan shall not imply approval for addressing lead health and safety. The Contractor remains solely responsible for the adequacy and completeness of programs and work practices, and adherence to them.



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### 7.4 Maryland Transportation Authority (MdTA) Personnel

The Contractor shall include MdTA personnel assigned to this project in their Lead Compliance Program as modified herein.

- 7.4.1 MdTA personnel shall be classified in job classifications separate from any other category.
  - 7.4.2 Results from exposure monitoring tests shall be reported, in writing, to the Engineer immediately upon receipt.
  - 7.4.3 The Contractor shall provide respiratory protection consistent with the MdTA employees' exposure. This includes a Powered Air Purifying Respirator (PAPR) with HEPA filters if requested, provided it has an adequate protection factor based on exposure monitoring results. The PAPR may be either full face piece type or air hat type as manufactured by 3M Corporation or Racal, Inc., or approved equal. A supplied-air respirator of proper protection factor for blasters and Grade D breathing air shall be supplied for use by MdTA personnel who need to enter containment during blast cleaning.
  - 7.4.4 The Contractor shall maintain an adequate supply of HEPA filters and painting filters to match the negative pressure respirators used by MdTA personnel for replacement purposes.
  - 7.4.5 The Contractor shall provide disposable gloves and full-body protective clothing. Protective clothing shall have hoods and shoe covers as integral parts of the garment. Garment material shall permit passage of air and shall be impermeable to lead fumes, mists, or dust. The Contractor shall maintain an adequate supply of gloves and clothing for replacement purposes, and be responsible for laundering or disposal of these items.
  - 7.4.6 All respirators and protective clothing shall be inspected and approved by the Authority Safety Officer prior to use.
  - 7.4.7 The responsibility for training MdTA personnel in the proper procedures for care and use of respirators and full body protective clothing, and for medical surveillance of MdTA personnel, is assumed by MdTA.
- 7.5 Copies of Maryland regulations may be obtained by contacting the Division of Labor and Industry, MOSH, at (410) 880-4970.
- 7.6 Any alleged violations of the Lead Program witnessed by MdTA or alleged violations on the part of the Contractor reported to the Engineer will be investigated. The Engineer will be responsible for reporting such observations and alleged violations to MOSH. This may result in the project being shut down and/or citations being issued.

**8. SUBMITTALS**

The Contractor shall provide the following general programs within ten (10) days of contract award:

- 8.1 A copy of the Painting Contractor's Corporate Lead Plan.
- 8.2 A copy of the Painting Contractor's Corporate Respiratory Protection Plan.
- 8.3 A copy of the Painting Contractor's Corporate Medical Surveillance Policy.
- 8.4 A concept drawing of the Containment and Ventilation Plan for the West Deck Truss Spans and the West Girder Spans including rough measurements on the size of containment and the type and size of the dust collectors. Submissions of equipment and containment design that are not in accordance with the specification requirements will not be acceptable, and may result in the Bid being considered non-responsive.

The Contractor shall provide detailed, site-specific, written programs for each of the following items within 30 days of the award of the contract and prior to the mobilization of any equipment to the project site.

- 8.5 **Paint Removal, Containment, and Ventilation Plan.** The Contractor shall provide a site specific written plan for the method employed for surface preparation, containment and ventilation. This submittal shall include drawings, load-bearing capacity calculations, and wind load calculations. The submittal shall be in accordance with Section 4 and SP X-1. The drawings and calculations shall be stamped by a structural Professional Engineer licensed in the State of Maryland. The review and acceptance of the working drawings by Maryland Transportation Authority shall in no way relieve the Contractor of any responsibility for obtaining the required degree of capture, containment and collection of dust and debris.
- 8.6 Programs for the Protection of Ambient Air, Soil and Water. The Contractor shall submit testing and evaluation programs that will be used to confirm that work does not violate Federal, State and Local regulations.
- 8.7 **Worker Protection Program.** The Contractor shall submit the following worker protection program.
  - 8.7.1 The Contractor shall provide a worker protection program for lead according to 29 CFR 1926.62 with Maryland Amendments. It shall include the following:
    - 8.7.1.1 **Exposure Monitoring.** Provide a written program for determining



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the level of airborne lead within and around the lead paint removal area. Monitoring shall be performed in accordance with NIOSH Method 7082 using personal pumps on representative workers. Contractors are hereby notified that on most projects, all workers, including those outside containment are usually exposed to levels of lead above the Permissible Exposure Limit (PEL).

8.7.1.2 **Compliance Program.** Provide a written compliance program to describe the engineering and administrative controls, housekeeping practices, and protective equipment that will be used to reduce the exposure of the employees to a level less than the PEL ( $50 \text{ } \Phi\text{g/m}^3$ ).

8.7.1.3 **Respiratory Protection Program.** A copy of the respiratory protection program as required by 29 CFR 1926.62, and 29 CFR 1910.134.

8.7.1.4 **Personal Hygiene.** A written description of the hygiene facilities and practices to be used, protective clothing used, equipment use and care, and decontamination procedures shall be submitted.

8.7.1.5 **Medical Surveillance Program.** A written medical surveillance program shall be submitted, including the mechanism for submitting Blood Lead Level and ZPP testing results. The program shall include the frequency of testing, the company policy at various action levels, the company policy regarding employee removal, and medical exams.

8.7.1.6 **Employee Training.** A copy of the employee training program in accordance with 29 CFR 1926.62 and 40 CFR 265.16 shall be submitted, as well as copies of employee Certificates of Completion of the course.

8.7.1.7 **Employee Access to Records.** Submit a statement that the employee has been informed of the hazards on the project, and his or her right of access to exposure and medical records as required by 29 CFR 1926.62.

8.7.1.8 **Hazard Communication.** Submit a copy of the Hazards Communication Program as required by 29 CFR 1926.59. This submittal shall include MSDS's for all products used on the project.

8.7.1.9 **Signs.** Submit a statement confirming the wording and placement of signs that will be posted in and around the work area.

8.7.2 The Contractor shall submit a worker protection program for confined spaces in accordance with 29 CFR 1910.146 for work performed inside the suspension towers.

8.8 **Handling, Disposal, and Analysis of Debris.** The Contractor shall provide the following:

8.8.1 A copy of any test results and the procedures used to prove that the methods used by his operations will not result in the generation of a hazardous waste.

8.8.2 Assuming that the waste is hazardous until it is shown that it is not, the Contractor must provide:

8.8.2.1 **Handling and Site Storage.** The Contractor shall submit a written plan that addresses the handling and site storage of lead-containing debris in accordance with 40 CFR 262 and 40 CFR 265. The Contractor shall detail how he will comply with labeling, storage, and accumulation requirements.

8.8.2.1.1 The Contractor shall submit a copy of the Preparedness, Prevention, and Contingency Plan (PPCP).

8.8.2.1.2 The Contractor shall submit a copy of a certificate for every employee on the project which indicates that he/she has been trained in compliance with 40 CFR 265.16.

8.8.2.2 **Sampling and Testing.** The Contractor shall submit written procedures which detail the sampling and testing of the debris to determine if it is a hazardous waste. The sampling procedures shall be in accordance with those outlined in SW-846 and with TCLP procedures as defined in Appendix II of 40 CFR 261.

8.9 **CERCLA Release.** The Contractor shall submit a plan for Reportable Quantities in accordance with 40 CFR 300 and 40 CFR 302.

## 9. MEASUREMENT AND PAYMENT

9.1 The cost of environmental protection including all labor, equipment, materials, permits, working drawings, collection and temporary storage, waste hauling and disposal, testing, monitoring, etc., including any revisions and resubmissions that may be required during the execution of the work as well as all other incidentals required will not be measured for payment, but cost thereof shall be included in the contract lump sum bid price for the "Environmental Protection" item.



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- 9.2 The cost of worker protection including all labor, materials, exposure monitoring, respirators, replacement filters, personal protective equipment, showers, wash facilities, medical monitoring and medical surveillance, recordkeeping, training, laundering, tests, and all other measures to control lead exposure to the Contractor's employees and MdTA personnel as described herein and required by 29 CFR 1926 with Maryland Amendments will not be measured but shall be included in the "Worker Protection" item.



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**CATEGORY 400  
SECTION 400.02 – MISCELLANEOUS REPAIRS**

**400.02.01 DESCRIPTION**

An allowance of \$500,000.00 has been included in the proposal book to perform miscellaneous repairs assigned by the Engineer within the project site or any location within the William Preston Lane Jr. Memorial Bridge Facility. The scope of repairs will be determined by the Engineer.

**400.02.02 MATERIALS** N/A

**400.02.03 CONSTRUCTION**

This contingent item of work shall be used at the discretion of the Engineer.

**400.02.04 MEASUREMENT AND PAYMENT**

All work performed under this item will be measured and paid for in accordance with GP-9.02 of the Specifications. If the Contractor and the Engineer can agree upon unit prices or other method of payment, the agreed upon method of measurement and payment shall then be used.



**CATEGORY 400  
STRUCTURES**

**SECTION 436 - CLEANING AND PAINTING EXISTING STRUCTURAL STEEL**

**DELETE:** Section 436 in its entirety

**INSERT:** The following

**436.01 DESCRIPTION**

**436.01.1 SCOPE**

- 436.01.1.1 This specification describes the surface preparation and application of protective coatings to the steel of the west girder spans (Pier 19 to Pier 28), the west deck truss spans (Pier 28 to Pier 31), the suspension spans (Pier 31 to 33), including the interior and exterior surfaces and bracing of both suspension towers and the east deck truss spans (Piers 34 to 43) of the Westbound William Preston Lane, Jr. Chesapeake Bay Memorial Bridge. For information about these structures, refer to the original bridge plans, Contract No. PB 12-1, copies of these plans are provided in this Contract only for the convenience, assistance and information of prospective bidders. The Authority assumes no responsibility for the accuracy of these plans.
- 436.01.1.2 The Bridge is currently coated with lead based paint. Special Provisions for lead removal are presented in Section 400.01 of these specifications.
- 436.01.1.3 A five (5) year guarantee on performance of the coating system shall be supplied by the Offeror for the west girder spans and suspension towers. A five (5) year guarantee on the performance of the paint coating materials shall also be supplied by the paint manufacturer.
- 436.01.1.4 No time or date restrictions will be imposed on performing work that does not require a lane closure. Work will be allowed 24 hours a day, 365 days a year, provided acceptable ambient conditions are maintained in the work area, the work area is accessed from beneath the bridge, and operations do not impact traffic.
- 436.01.1.5 The Offeror is warned that the deck replacement Contractor (MdTA Contract LB-378-000-006R2) will be working on the Suspension Spans and Through-Truss Spans, and will be painting the finger joint areas of the deck trusses. The Offeror



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shall plan its work so as not to interfere with, or delay in any manner, the work being performed on the deck replacement. The Contractor will be required to work from west to east, starting with the west girder spans. Work on the west deck truss spans and suspension spans shall not be performed until the redecking contractor has completed its work, including cleaning and painting.

436.01.1.6 This Section shall supersede Section 436 of the Standard Specifications.

### **436.01.2** DESCRIPTION OF WORK

436.01.2.1 Cleaning and coating of all steel surfaces, including beams, inside and outside surfaces of box members, legs, piers, diaphragms, bracings, attachments, support brackets, bearing assemblies, underside of scuppers, drain pipes, and all other steel structures and appurtenances of the west girder spans from, and including, Pier 19 to Pier 28, except as described in paragraph 1.2.6 and 1.2.7

436.01.2.2 Cleaning and coating of interior and exterior surfaces of suspension towers including all bracing and diaphragms.

436.01.2.3 Spot cleaning with full primer, intermediate coat and topcoat on all steel surfaces three feet to both sides of deck truss compression joints.

436.01.2.4 Spot cleaning and spot painting of the west deck truss spans, remainder of suspension spans, and east deck truss spans.

436.01.2.5 Caulking seams of box members, including suspension towers and built-up flanges in the west girder spans and associated piers, see section 436.03.2.17

436.01.2.6 Galvanized conduit, suspension cables, suspension ropes, electric cables and appurtenances are excluded from this work.

436.01.2.7 Deck truss finger joint areas are excluded from this work.

436.01.2.8 Protection of all utilities and conduits from damage.

### **436.01.3** DEFINITIONS

436.01.3.1 Coating Systems: Coating systems include, surface preparation and anchor profile, required dry film thickness, and the number of coats and application procedure of the coats as specified.

436.01.3.2 Certified Contractor: A certified contractor is a firm who is certified by SSPC:



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The Society for Protective Coatings (SSPC) per SSPC-QP1 and SSPC-QP2. A list of Certified Contractors can be obtained from SSPC, 40 24th Street, 6th Floor, Pittsburgh, PA 15222-4643 (Telephone: (412)281-2331)

The Contractor involved with lead removal shall be accredited in conformance with COMAR 26.16.01

436.01.3.3 Contractor: The firm who signs the agreement with Maryland Transportation Authority to perform the work as described and supplies the Guarantee.

### **436.01.4 GENERAL REQUIREMENTS**

436.01.4.1 To furnish all labor, tools, materials and equipment to complete all work as necessary for cleaning and coating of the metal surfaces of the existing steel structure, caulking exterior seams of box members, including suspension towers and built-up flanges, and clean up.

436.01.4.2 The PRIMARY INTENT of this Specification for the west girder spans and suspension towers is to protect steel surfaces from corrosion for a minimum period of twenty (20) years, with a guarantee on five (5)-year performance; and to perform work in accordance with environmental, health and safety regulations.

The PRIMARY INTENT of this specification for the west deck truss spans, suspension spans and east deck truss spans is to provide corrosion protection for a minimum of seven to ten years; and to perform work in accordance with environmental, health and safety regulations. No guarantee will be associated with this phase of the work.

436.01.4.3 Any cleaning and painting activities that generate lead exposure above the OSHA/MOSH Action Level shall be performed by a Certified Contractor holding SSPC - QP2 Certification. Supervisors and workers shall be accredited in accordance with COMAR 26.16.01.13. Any cleaning and/or painting activities

that generate lead exposures below the action level shall be performed by a Certified Contractor holding SSPC-QP1 Certification. The Certified Contractor(s) shall be certified at the time that the bid is submitted.

436.01.4.4 The specifications are intended to include all work and materials necessary for the completion of the work. Any incidental item of material, labor, or detail required for the proper execution and completion of the work and omitted from the

specifications but obviously required by governing codes, local regulations, trade practices, operational functions, and good workmanship shall be provided as a part of the Contract Work without extra charge, even though not specifically detailed or mentioned.

- 436.01.4.5 Caution is advised that this Specification be read in its entirety due to the fact that signing of the contract constitutes acknowledgment that every paragraph of this Specification is fully understood and agreed to. The Contractor is responsible for informing the Engineer of any item as specified herein that is not sufficiently clear in order to complete the work in compliance with the PRIMARY INTENT of this Specification.
- 436.01.4.6 Any expense incurred due to unforeseen circumstances which is the direct result of neglect in estimating or reviewing of the problems prior to Contract shall be totally borne by the Contractor.

**436.01.5 REFERENCE DOCUMENTS**

- 436.01.5.1 This section references the following documents which are a part of this specification. The reference is to the current version at the time of bidding. In case of conflict between the requirements of this specification and those of the listed documents, the requirements of this specification shall prevail.
- 346.01.5.2 SSPC: The Society for Protective Coatings (SSPC)
- a) SSPC Vis 1, "Visual Standard for Abrasive Blast Cleaned Steel"
  - b) SSPC-SP1, "Solvent Cleaning"
  - c) SSPC-SP2, "Hand Tool Cleaning"
  - d) SSPC-SP3, "Power Tool Cleaning"
  - e) SSPC-SP10, "Near-White Metal Blast Cleaning"
  - f) SSPC-SP11, "Power Tool Cleaning to Bare Metal"
  - g) SSPC-SP12, "Surface Preparation and Cleaning of Steel and Other Hard Metals by High- and Ultrahigh- Pressure Water Jetting Prior to Recoating"
  - h) SSPC-PA1, "Shop, Field, and Maintenance Painting"
  - i) SSPC-PA2, "Measurement of Dry Paint Thickness with Magnetic Gages"
  - j) SSPC, Steel Structures Painting Manual, Volumes 1 & 2
  - k) SSPC, Abrasive Specification No. AB2 "Specification for Cleanliness of Recycled Ferrous Metallic Abrasives"
  - l) SSPC, Abrasive Specification No. AB3, "Newly Manufactured or Re-Manufactured Steel Abrasives"



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### 436.01.5.3 American Society for Testing Materials (ASTM)

- a) D523, "Standard Test Method for Specular Gloss"
- b) D4214, "Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films"
- c) D4417, "Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel"
- e) D-4285, "Standard Test Method for Indicating Oil or Water in Compressed Air"

### 326.01.5.4 Occupational Safety and Health Administration

- a) 29 CFR 1910.134, "Respiratory Protection"
- b) 29 CFR 1926, "Construction Industry Standards"

### 436.01.5.5 Code of Maryland Regulations (COMAR)

- a) COMAR 26.16.01, "Accreditation and Training for Lead Paint Abatement Services."
- b) COMAR 09.12.20, Occupational Safety and Health."

## **436.02 MATERIALS**

436.02.1 The abrasive shall be newly manufactured recyclable steel grit meeting the requirements of SSPC-AB3.

436.02.2 The coating systems shall meet the following requirements:

436.02.2.1 Total Removal and Replacement – System C of Section 912.05 of the Maryland Department of Transportation Standard Specifications for Construction and Materials.

436.02.2.2 Spot Cleaning and Painting – System H of Section 912.05 of the Maryland Department of Transportation Standard Specifications for Construction and Materials.

436.02.2.3 Compression Joint Area Zone Painting – System H of Section 912.05 of the Maryland Department of Transportation Standard Specifications for Construction and Materials



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- 436.02.3 One set of coating materials from the same manufacturer shall be applied in the west girder spans and suspension towers.
- 436.02.4 All coating materials of this coating system shall be supplied by the same manufacturer.
- 436.02.5 Materials shall be delivered to the job site in their original, unopened containers. Each container shall bear the manufacturer's brand name, batch number, date of manufacture, shelf life, and special directions. Immediately remove from the site as unacceptable any containers which are broken, opened, exceed stated shelf life, water marked and/or contain caked, lumpy or otherwise damaged materials.
- 436.02.6 Paints shall be stored in enclosed ventilated structures within the temperature range specified by the coatings manufacturer, and shall be protected from the weather.
- 436.02.7 Flammable materials shall be stored in accordance with State and local codes.

### 436.03 CONSTRUCTION

#### 436.03.1 SURFACE PREPARATION

##### 436.03.1.1 West Girder Spans and Suspension Towers

- 436.03.1.1.1 Unless otherwise specified, all work shall be performed in accordance with the manufacturer's Product Data Sheets. These specifications will govern in the event a discrepancy is found. The Contractor shall supply the Engineer with Product Data Sheets before any work commences.
- 436.03.1.1.2 The Contractor shall perform necessary tests immediately before surface preparation and regularly thereafter to determine the dew point and relative humidity when abrasive blasting is performed. Obtain all readings inside containment. If heaters are used to modify environmental conditions, a clean-burning fuel or indirect heat shall be used so the heater exhaust shall not deposit particulates on the surface.

Do not abrasive blast when conditions inside containment meet the following limitations:

- a) The relative humidity is 90% or greater.



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- b) The surface temperature is less than 5°F above the dew point.
  - c) A combination of temperature and humidity conditions are such that moisture condenses on the surface.
  - d) The surface is damp, wet, or iced.
- 436.03.1.1.3 Perform the Blotter Test (ASTM D4285) for the presence of oil and water in the air supply every working day to check for hose contaminants. Conduct this test every day for the first five (5) days of the project; and after five (5) sequential acceptable tests are reported, conduct tests every third day. The presence of oil or water in the air supply shall be cause for rejection.
- 436.03.1.1.4 Surfaces to receive coating shall be prepared in strict compliance with SSPC-SP10 (Near-White Blast Cleaning). SSPC-Vis-1 shall be used as a guide to judge abrasive blasted surface areas. Clean areas of oil and grease with clean petroleum solvents (that do not deposit a thin film) in accordance with SSPC-SP-1 as required in SSPC-SP10. Surfaces shall meet the requirements of SSPC-SP10 just prior to application of the primer.
- 436.03.1.1.5 All fins, tears, slivers, and burred or sharp edges that are present on any steel member, or that appear during the blasting operation, shall be removed by grinding and the area reblasted.
- 436.03.1.1.6 Scaling hammers may be used to remove heavy scale but heavier type chipping hammers which would excessively scar the metal shall not be used.
- 436.03.1.1.7 Recyclable steel grit abrasive shall be used. After initial use, the recycled mix shall meet the requirements of SSPC-AB2. The surface profile shall be 1.5 to 3.5 mils as measured with the appropriate grade of Testex Replica Tape in accordance with ASTM D4417, Method C. A sample of the surface profile shall be obtained on a new 1/4" x 12" x 12" ASTM A-36 steel plate supplied by the Contractor prior to commencing work.
- 436.03.1.1.8 Remove pack rust to at least 1/8 inch below the surface of the surrounding steel plates from all crevices using manually operated or power operated descaling tools



- 436.03.1.1.9 Protect all shop-primed, new steel from abrasive blasting and from overblast damage. Clean areas of damaged shop primer in accordance with SSPC-SP11, including areas damaged for any reason, including shipping and erection damage, or primer coating failure.
- 436.03.1.1.10 Cleaning and painting shall be scheduled so that dust and spray from the cleaning process will not fall on wet, newly painted surfaces. Surfaces not intended to be cleaned shall be protected during preparation and painting operations.
- 436.03.1.1.11 All abrasive, dust and paint residue shall be removed from steel surfaces with a good commercial grade vacuum cleaner equipped with a brush-type cleaning tool, or by double blowing. If the double blowing method is used, the exposed top surfaces of all structural steel, including flanges, longitudinal stiffeners, splice plates, hangers, etc. shall be vacuumed after the double blowing operations are completed. The steel shall be kept dust free and primed within 8 hours after blast cleaning. Longer time lapses will be allowed provided that ambient air and dew point conditions are maintained within the acceptable parameters for the entire time that the steel is exposed. Within a contained area, all blow-down operations shall be completed prior to painting. Once painting has commenced, only vacuuming will be allowed. If any dust, as evidenced by simply wiping the surface with a finger, accumulates on a primed surface, all horizontal surfaces shall be vacuumed prior to subsequent coating.
- 436.03.1.1.12 Care shall be taken to protect surfaces not scheduled for painting and freshly coated surfaces. Blast-damaged primed surfaces shall be thoroughly wire-brushed or abrasive blasted in accordance with the paint manufacturer's recommendation and if visible rust occurs, be reblasted to a near-white (SSPC-SP10) condition. The wire-brushed or blast-cleaned surfaces shall be vacuumed, cleaned and reprimed. Power wire brushes shall not be used.
- 436.03.1.1.13 Any scaffolding, staging or support steel above the area to be coated shall be vacuumed and cleaned to prevent abrasive or dust from dropping onto the freshly cleaned surface, or later contaminating the freshly painted surface. Freshly painted surfaces that are contaminated shall be reblasted and repainted. All surfaces to be coated shall be completely free of grit, dirt or any contaminant prior to coating regardless of origin of contaminant.



**436.03.1.2 Spot Repair and Zone Painting**

436.03.1.2.1 Surface preparation in the west deck truss spans, suspension spans and east deck truss spans shall be in accordance with SSPC-SP3, Power Tool Cleaning. Vacuum-shrouded power tools shall be used.

436.03.1.2.2 Areas to be zone painted shall be cleaned by high pressure water cleaning (HPWC) using potable water prior to power tool cleaning to remove loose paint, loose rust, loose mill scale, salts, bird droppings, dirt, debris, grease, oil, hydrocarbons, diesel smoke residue, soot, chalk, and similar surface interference materials. HPWC shall be performed in conformance with SSPC-SP12, WJ-4, except that nozzle pressures of 4000 to 6000 psi shall be used together with a rotating tip. A biodegradable detergent may be added to the water for the removal of grease, oil, and hydrocarbons if approved by the Engineer. The pressure washer shall be equipped with easily accessible gauges and pressure regulator to ascertain and regulate the water pressure. The cleaning shall be performed at close range to the surface, approximately 6 in., using a pattern of overlapping drops followed by cross-hatching with the same overlap. At the end of cleaning, the swirl patterns created by the rotating tip shall not be visible on the surface.

When the water is to be recycled, and the coating being cleaned contains lead, it shall be tested for heavy metals (e.g., lead, arsenic, cadmium, etc.) before reuse. Water exceeding the threshold value for any heavy metal (e.g. 5 mg/l for lead) shall not be reused.

436.03.1.2.3 The Engineer will designate the areas to be cleaned and painted in the east deck truss and west deck truss spans. It is intended that the areas will be designated in linear feet on a surface, i.e., face of a diagonal.

**436.03.2 PAINT APPLICATION**

436.03.2.1 All work shall be done in a neat and workmanlike manner by skilled and experienced personnel and shall conform to the painting practices specified in SSPC's "Good Painting Practices, Volume 1" (SSPC-PA1), producing a uniform, even coating that is bonded to the underlying surface.

- 436.03.2.2 All applicators of the coating materials shall demonstrate proficiency on a test panel prior to commencing full-scale application. The Contractor shall supply a 30-inch (minimum) I-Beam for proficiency demonstration and the epoxy intermediate coat. Dry film thickness readings after paint application will be taken on 2-inch centers around the circumference of the beam. The painter will be determined proficient if 90 percent or more of the readings are above 80 percent of the minimum dry film thickness and below 150 percent of the maximum dry film thickness.
- 436.03.2.3 Paint shall not be applied to a surface until it has been prepared as specified. The steel surfaces shall be completely free of dust and extraneous materials and primed before any rust appears, but in any case not longer than specified in Paragraph 3.1.1.11 for the west girder spans. Exposed metal for the areas being overcoated or zone painted shall be primed no more than 8 hours after power tool cleaning. After a coat is dry, missed or damaged spots shall be touched up before succeeding coats are applied.
- 436.03.2.4 All materials shall be applied in accordance with these specifications and the manufacturer's specifications – whichever is more strict. The finished surface shall be free from dry spray, overspray, runs, sags, drips, excessive paint build-up, ridges, waves, laps, streaks, brush marks and variations in color, texture and finish (glossy or dull). The coverage shall be complete and each coat shall be so applied as to produce an even film of uniform thickness, completely coating corners and crevices, and bonded to the underlying surface. All pipe threads, welds, nuts, bolts, rivets and edges (other than those which are caulked) shall receive an additional brush coat of primer. Spray application of stripe coat will not be allowed.
- 436.03.2.5 The equipment shall be designed for application of the materials specified. Compressors shall have suitable traps and filters to remove water and oil from the air if conventional spray equipment is used. Cleanliness shall be verified using a blotter test in accordance with ASTM D 4285. Spray equipment shall be equipped with mechanical agitators, working pressure gages, pressure regulators, and spray nozzles of the proper sizes.
- 436.03.2.6 Care shall be exercised to avoid over spraying or spattering paint on vehicles and surfaces not to be coated. Damage to vehicles and surfaces not to be coated shall be repaired by the Contractor at Contractor's expense.



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- 436.03.2.7 Paints shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Coatings shall be mixed with a high shear mixer (such as a Jiffy Mixer) in accordance with the manufacturer's directions, to a smooth, lump-free consistency. Paddle mixers, mud slingers or paint shakers are not allowed. Mixing shall be done, as far as possible, in the original containers and shall be continued until all of the metallic powder or pigment is in suspension.
- 436.03.2.8 Care shall be taken to ensure that all of the coating solids that may have settled to the bottom of the container are thoroughly dispersed. The coating shall then be strained through a screen having openings no larger than those specified for a No. 50 sieve in ASTM E 11. After straining, the mixed primer shall be kept under continuous agitation up to and during the time of application. Allow for induction period, if applicable, after mixing and before spraying.
- 436.03.2.9 The use of refrigeration techniques to extend pot life is forbidden.
- 436.03.2.10 If it is necessary to thin the coating for proper application, the thinning shall be done in accordance with the manufacturer's recommendations. Where necessary to suit the conditions of the surface, temperature, weather and method of application, the paint may be thinned immediately prior to use by the addition of not more than the amount recommended by the manufacturer to conform to Volatile Organic Compound (VOC) content regulations. No further thinning shall be performed to extend pot life once application has commenced. Thinner shall be only as recommended by the coating manufacturer.
- 436.03.2.11 Tests shall be performed immediately before painting and at least every two hours during painting to determine the dew point, temperature (air and surface), and relative humidity.
- 436.03.2.12 The coating shall be applied within the temperature and relative humidity requirements of the coatings manufacturer. Do not apply coating when the surface temperature is less than 5 °F above the dew point, nor if the surface is damp or wet.
- 436.03.2.13 All spray painting shall be performed with a containment structure in place. The Contractor shall provide forced air ventilation and explosion-

proof equipment while work is being accomplished inside the containment and shall meet all other OSHA requirements as applicable. After the surface to be coated has been properly cleaned and made completely free of contaminants, the primer (and all subsequent coats) shall be spray applied (except as noted) with nozzles and pressures recommended by the producer of the coating, so as to attain a uniform appearance and the dry film thickness specified.

- 436.03.2.14 The minimum total dry film thickness for each coat shall be as specified by the coatings manufacturer. In no case shall the minimum dry film thickness of the primer be less than 3 mils above the anchor profile, the intermediate coat be less than 4 mils, and the top coat be less than 2 mils for the west girder spans. Each coat may require more than one pass depending on application equipment and product used. The dry film thickness shall be determined by use of a Positector 6000 or other comparable electronic gage in accordance with the procedures in SSPC-PA2.
- 436.03.2.15 If the application of any coating at the required thickness in one pass produces runs, bubbles, or sags, the coating shall be applied in multiple passes of the spray gun, the passes separated by several minutes. Where excessive coating thickness produces “mud-cracking”, such coating shall be scraped back and cleaned to soundly bonded coating and the area recoated to the required thickness.
- 436.03.2.16 Members shall be covered as necessary to prevent accumulation of dry spray on blasted or painted surfaces. All dry spray shall be removed, by sanding if necessary. In areas of deficient primer thickness, the areas shall be thoroughly cleaned with power washing equipment as necessary to remove all dirt. The areas shall then be wire brushed or sanded, vacuumed, and recoated to the specified thickness. If the paint manufacturer requires that the surface be sand blasted instead of wire brushed, the Contractor shall comply. Where protection is provided for coated surfaces, such protection shall be preserved in place until the paint film has properly dried. Items which have been coated shall not be handled, worked on, or otherwise disturbed, until the paint coat is completely dry and hard.
- 436.03.2.17 All exterior seams of box beams, crevices between plates of built-up flanges and suspension tower sections, and crevices of splice plates that contained pack rust or are distorted due to the presence of pack rust shall be caulked after priming using a caulking material as recommended by the coatings manufacturer. A polysulfide caulk is required.



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- 436.03.2.18 Minimum and maximum recoat times as required by the manufacturer shall be followed.
- 436.03.2.19 The primed surface shall be vacuumed just prior to applying the intermediate coat if it has become soiled. If for any reason this vacuuming does not remove all the accumulated dust and/or dirt, the surface shall be scrubbed with a mild detergent solution (TSP: trisodium phosphate), thoroughly rinsed with water and allowed to dry for 24 hours before the surface is top coated.
- 436.03.2.20 During the progress of the work, all debris, spent abrasive, empty crates, waste, drippings, etc., shall be removed by the Contractor and the grounds about the areas to be painted shall be left clean and orderly at the end of each work day.
- 436.03.2.21 Upon completion of the work, all surplus materials, protective coverings, staging, scaffolding, abrasive, containers and all other debris shall be removed from the site. Materials shall be disposed of in an approved waste disposal facility. All paint, oil, or stains splashed or spilled upon adjacent surfaces not requiring treatment shall be removed and the entire job left clean and acceptable.
- 436.03.2.22 Areas designated to be spot coated shall be painted by brush or roller. Spray painting will only be allowed if approved by the manufacturer and Engineer. A mock-up shall be performed to show the Engineer how overspray will be contained.
- 436.03.2.23 Compression joint areas where zone painting will be performed shall receive three coats of paint over the entire surface.

### **436.03.3 QUALITY CONTROL**

- 436.03.3.1 The PRIMARY INTENT of this section is to insure that the supplier(s) of the guarantee provides adequate Quality Control, and documentation of work to Maryland Transportation Authority
- 436.03.3.2 The Engineer or his representative shall have safe access to the job site at all times while the work is in progress.



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- 436.03.3.3 The tools, equipment and/or instruments used for the quality control inspection of this job shall be those which are accepted by the trade nationally, unless a specific instrument is listed as a requirement.
- 436.03.0.4 The Certified Contractor shall insure that each applicator has in his possession a wet film thickness gauge and is experienced in the use of it.
- 436.03.3.5 The Certified Contractor shall comply with the safety and application procedures recommended for each paint system by the coating manufacturer unless otherwise specified by this specification. The Certified Contractor shall be solely responsible for the safety of his employees and shall comply with the applicable portions of regulating safety standards.
- 436.03.3.6 Qualifications of Personnel: All supervisors, foremen, and painters shall understand the provisions of this specification.
- 436.03.3.7 Quality Control shall be the responsibility of the Contractor. Adequate coating inspection and documentation shall be performed to properly verify the work in progress is in conformance with these specifications. At a minimum there shall be one employee (either an employee of the company or an independent coating inspector) at the site when the blasting operations start until completion of the painting of this project who's responsibility shall be for Quality Control. It shall be the responsibility of the Contractor to provide sufficient coating inspection personnel and documentation to assure full compliance with these specifications to the satisfaction of the Engineer. The Contractor shall also provide for quality assurance.
- 436.03.3.8 The Contractor must provide documentation sufficient to satisfy the Engineer that the inspector is knowledgeable and capable to perform his/her duties. This documentation may consist of: at least three (3) years paint inspection experience on bridges or structures of similar complexity, and certificates that 3 day (minimum) inspection training courses from recognized coatings technical societies such as NACE International or SSPC, or companies such as KTA-Tator or CCC&L/GPI have been completed.
- 436.03.3.9 The coating inspector(s) shall, at a minimum, have the following inspection equipment on site in good working order, and be experienced in its use:
- 1) Positector 6000 or other approved electronic dry film thickness gage
  - 2) NIST Calibration Standards (0-10 mils)
  - 3) Plastic calibration shims



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### 4) Sling Psychrometer

- 5) Surface Temperature Thermometers
- 6) Dew point and relative humidity tables
- 7) Blotter material (compressed air cleanliness)
- 8) Extra Coarse Replica Tape and Spring Micrometer
- 9) Wet film thickness gages
- 10) SSPC Vis1
- 11) SSPC Vis3
- 12) Light meter with 0-100 Ft. candles range
- 13) Magnahelic gauge 0-1" with 50 ft. of tubing
- 14) Anemometer or velometer

436.03.3.10 The coating inspector(s) is (are) required to document the progress, general quality of the work, and any non-compliant work.

436.03.3.11 The Contractor shall submit inspection reports to the Engineer in a form and on a schedule developed jointly by Maryland Transportation Authority and the Contractor.

436.03.3.12 The Contractor shall develop and use beam designations and submit the designation systems and inspection forms for review and comment by the Engineer.

436.03.3.13 For each coating, the Contractor shall provide the Engineer with the manufacturer's application instructions and the data listed below:

- a) Name of the company that manufactures the paint.
- b) Surface preparation recommendations.
- c) Primer, intermediate, and finish coating pot life at the anticipated application temperatures.
- d) Specific mixing instructions.
- e) Minimum and maximum dry film thickness per coat.
- f) Minimum and maximum curing time between coats, including atmospheric conditions for each.
- g) Thinner and recommended maximum thinning ratios to be used with each paint.
- h) Ventilation requirements.
- i) Allowable atmospheric conditions during which the paint shall be applied including ambient temperature, relative humidity, surface temperature and dew point temperature.

- j) Allowable application methods.
- k) Shelf life.
- l) Material Safety Data Sheets (MSDS).

**436.03.4 WARRANTIES AND GUARANTEES**

436.03.4.1 Project Warranties and Guarantees: There shall be a Special Project Warranty guaranteeing the performance of the complete coating systems, including surface preparation, materials, and application, covering the west girder spans and suspension towers against failure for a period of five (5) years from the date of final acceptance of each section. Additionally a warranty and guaranty shall be furnished by the paint manufacturer to guarantee the paint coatings against failure for the same period(s).

- 436.03.4.1.1 The Special Project Warranty and Guarantee shall be included in the Contract work to be covered by the Contractor's performance bond. The minimum amount of \$1,000,000.00, in addition to the contract amount, shall be included in the performance bond to insure the Authority of performance during the ten year Special Project Warranty and Guarantee period. Refer to GP-3.03 of the General Provisions of the Standard Specifications for further performance bond requirements. The maximum liability of the Contractor during the Special Project Warranty and Guarantee period shall be \$1,000,000.00.
- 436.03.4.1.2 Within 10 days of bid opening the Paint Manufacturer shall furnish to the Contractor a warranty and guarantee that the paint coatings, materials will not fail, as defined in these Special Provisions, within the 5 year Special Project Warranty and Guarantee period, when applied in accordance with these Special Provisions. A copy of this warranty and guarantee shall be provided to the Authority.
- 436.03.4.1.4 Any joint warranty between the Coatings Manufacturer and Applicator, or any multiple entities, offered directly to Maryland Transportation Authority is *not acceptable*.
- 436.03.4.1.5 Contractor promptly shall, after receipt of written notice, correct any defects in materials, equipment and workmanship which may develop within the guarantee period, and also correct and/or repair and/or replace any damage to other work or to the Authority's property caused by defective materials, equipment or workmanship and the repairing of same.



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- 436.03.4.1.6 The foregoing guarantee and obligations shall not deprive Maryland Transportation Authority of any action, right or remedy otherwise available for breach of any of the provisions of the Contract Documents. The periods referred to above shall not be construed as a limitation on the time in which Maryland Transportation Authority may pursue such other actions, right or remedy.
- 436.03.4.2 Failure of the coating system is defined as one or more of the following:
- 436.03.4.2.1 Active corrosion of the substrate.
  - 436.03.4.2.2 Cracking, checking, mudcracking, alligatoring, wrinkling, sagging, flaking, intercoat delaminations, or peeling.
  - 436.03.4.2.3 Sub-film corrosion.
  - 436.03.4.2.4 Loss of adhesion.
  - 436.03.4.2.5 Erosion of the film at a rate of two percent (2%) per year or greater.
  - 436.03.4.2.6 Non-uniformity of top coat color such as patches, streaks or patterns discernable from a distance of ten feet or greater that cannot be eliminated by washing.
- 436.03.4.3 In the event of coating failure, the Contractor's obligation under this Warranty and Guarantee is to provide labor, materials and equipment to prepare the areas of defined failure and to reapply the coating system in question to equal the original performance requirements of this specification. Touched-up and recoated areas are to overlap the adjacent sound coatings sufficiently to effect a continuous coatings film. A full, cosmetic top coat shall be applied to members normally visible to the public that extends to a natural break point such as a gusset plate.
- 436.03.4.4 Exclusions
- 436.03.4.4.1 The Warranty excludes corrosion, undercutting and staining from inaccessible areas. Field conditions will determine which areas are considered to be inaccessible, hence excluded from the warranty.
  - 436.03.4.4.2 Also excluded are damages resulting from structural failure, physical or

mechanical abuse, welding damage, or service beyond normal intended usage, and attributable to sources other than the Contractor or his/her agents. Additional exclusions include: defect resulting from normal wear and tear, or from misuse, or neglect from anyone other than the Contractor; defect caused by Act of God, falling objects, external forces, explosions, fires, riots, civil commotion, acts of war, acts of vandalism, radiation or other such or dissimilar occurrences beyond the control of the Contractor; and defect caused by deterioration of the coating such as surface exposure to abnormally high temperatures, abnormal pollution, abrasion, mechanical damage, abrasive cleaning, or misuse.

- 436.03.4.5 Maryland Transportation Authority shall notify the Contractor in writing within thirty (30) calendar days of any defect discovered within the warranty period. This notice shall be in writing and sent by registered mail, or other special delivery service, cost prepaid, return receipt requested, to the Contractor. All such notices when deposited in the mail, or shipped, shall be considered served when so deposited.
- 436.03.4.6 The Contractor shall be given full and complete opportunity, not interfering with Maryland Transportation Authority activities, to inspect the coated surface and examine the alleged defect.
- 436.03.4.7 All repair work shall be performed within one year of notification. Repairs shall be performed by the Contractor, or by other persons, firms, or companies selected by the Contractor. Repair or attempted repair of defects by persons, firms, or companies not selected by the Contractor shall void this Warranty and Guarantee.

#### **436.04 MEASUREMENT AND PAYMENT**

- 436.04.1 Cleaning and painting the west girder spans will not be measured but will be paid for at the contract lump sum price bid on the pertinent Cleaning and Painting Structural Steel – West Girder Spans item which price and payment shall be full compensation for all labor, materials, equipment and incidentals, including warranty and guarantee, needed to complete this item.
- 436.04.2 Cleaning and painting the suspension towers, including bracing and diaphragms will not be measured but will be paid for at the contract lump sum price for “Cleaning and Painting the Interior and Exterior Surfaces of the Suspension Towers” bid item which price and payment shall be full compensation for all labor, materials, equipment and incidentals, including warranty and guarantee, needed to complete this item.



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- 436.04.3 Spot painting the remainder of the suspension span shall be paid for at the contract unit price per square foot for "Spot Painting-Suspension Span" bid item. The payment will be full compensation for all labor, material, access, equipment and incidentals necessary to do the work.
- 436.04.4 Zone painting at the east and west deck truss spans shall be paid for at the contract unit price per square foot for "Zone Painting Deck Truss Spans" bid item. The payment shall be full compensation for all labor, materials, access, equipment and incidentals necessary to complete the work.
- 436.04.05 Caulking seams and crevices as described herein these special provisions shall be paid for at the contract unit price per linear foot for "Caulking Seams and Crevices" bid item. The payment shall be full compensation for all labor material, equipment, access and incidentals necessary to complete the work.