

BALTIMORE WASHINGTON THURGOOD MARSHALL INTERNATIONAL
AIRPORT & MARTINS STATE AIRPORT: SANITARY SEWER CLEANING,
REPAIR AND MAINTENANCE

PROJECT ID No. 10-07-34

SOLICITATION & SPECIFICATION
DOCUMENTS ONLY

THE PRICING DOCUMENTS ARE NOT
INCLUDED IN THIS FILE

*IF YOU HAVE OBTAINED THIS SOLICITATION
FROM EMARYLANDMARKETPLACE OR
FROM OTHER SOURCES,
PLEASE CONTACT
PROCUREMENT@MENV.COM*

WITH THE FOLLOWING INFORMATION:

Company Name
Contact Name
Physical Shipping Address
Phone
Fax
Email of Contact Person

Please specifically identify the project's number
to obtain the pricing documents.



INVITATION FOR BIDS

PROJECT ID No. 10-07-34

**BALTIMORE WASHINGTON THURGOOD
MARSHALL INTERNATIONAL AIRPORT &
MARTIN STATE AIRPORT: SANITARY SEWER
CLEANING, REPAIR & MAINTENANCE**

**ANNE ARUNDEL & BALTIMORE
COUNTIES, MD**

**Issued By:
Procurement Division
Maryland Environmental Service
259 Najoles Road
Millersville, MD 21108**

Issue Date: January 7, 2010

NOTICE: To ensure receipt of any changes or additional materials related to this Invitation for Bids, Prospective Bidders having received this solicitation from a source other than the Procurement Office of the Maryland Environmental Service should immediately contact the Procurement Office and provide their company name, street address, name of their primary contact for this IFB, and that person's phone number, fax number and e-mail address.

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- Bid Documents (to be submitted with the Services Bid Form)
 - ◆ Bid/Proposal Affidavit
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 - ◆ Living Wage Affidavit of Agreements (Contractors and Subcontractors)

January 7, 2010

INVITATION FOR BIDS

**BALTIMORE WASHINGTON THURGOOD MARSHALL INTERNATIONAL AIRPORT &
MARTINS STATE AIRPORT: SANITARY SEWER CLEANING, REPAIR & MAINTENANCE**

Anne Arundel & Baltimore Counties, Maryland

PROJECT ID No. 10-07-34

BID DUE DATE: February 10, 2010

BID DUE TIME: 2:00 PM

TO ALL PROSPECTIVE BIDDERS:

PURPOSE: The Maryland Environmental Service (MES) is soliciting competitive sealed bids from qualified contractors to provide all labor, conduct cleaning, maintenance, and repairs of sanitary sewer lines originating from BWI, Martins State Airport and surrounding affiliated MAA operated satellite facilities. The project involves cleaning and TV inspection of the entire sewer system, manhole repairs, sewer pipe spot repairs, sewer pipe lining, root control and other miscellaneous improvements to the sewer system. Method and degree of repairs for some of the items will be determined and authorized by an MES representative.

MBE SUBCONTRACT PARTICIPATION: An overall MBE subcontract participation goal of twenty-six percent (26%) of the total amount of the bid has been established for this procurement. Prospective Bidders may search the Maryland Department of Transportation (MDOT) MBE Directory online for certified Minority Business Enterprises by accessing the MES Web Site at <http://www.menv.com/mbe.shtml>. Both the minority and non-minority prime submitting a bid shall attempt to achieve the MBE subcontract participation goal established in the Invitation for Bids. The MBE prime may not use its workforce to achieve the established MBE subcontract goal.

LIVING WAGE: Contract(s) awarded as a result of this solicitation will be subject to State of Maryland Living Wage requirements, as detailed in COMAR 21.11.10. Additional information regarding the Living Wage Requirements is included in this solicitation. Bidders are to sign and return the attached Living Wage Affidavit of Agreement with their bid responses.

TERM OF CONTRACT: The duration of the contract shall be for five consecutive fiscal years from the notice to proceed. MES fiscal years begin July 1st and end June 30th. MES reserves the right to modify these dates without penalty.

BONDING REQUIREMENTS: Bonding is not required for this project.

SITE VISIT: A Site Visit has been scheduled for January 20, 2010 at 2:00 PM. Prospective Bidders are to meet at the MES Office located on the 2nd floor in the building located at 7001 Aviation Boulevard, in Glen Burnie, MD. The purpose of the Site Visit is to allow potential Bidders the opportunity to familiarize themselves with and ask questions about the work.

DEADLINE FOR BID SUBMISSION: The Maryland Environmental Service will receive competitive Sealed Bids at its Headquarters, until **2:00 PM on February 10, 2010** at which time all bids will be opened and read aloud. Bidders are solely responsible for the timely receipt of their bids. Late bids will not be accepted. Electronically transmitted bids will not be accepted.

All bids (one original and two copies) shall be placed in a sealed envelope, marked and addressed as follows:

**Maryland Environmental Service
259 Najoles Road
Millersville, MD 21108
Attention: Candy Mott-Harris, Procurement Division**

**Bid For: BALTIMORE WASHINGTON THURGOOD MARSHALL INTERNATIONAL
AIRPORT & MARTINS STATE AIRPORT: SANITARY SEWER CLEANING, REPAIR &
MAINTENANCE**

Project ID No. 10-07-34

DO NOT OPEN UNTIL: February 10, 2010 AT 2:00 PM

The right is reserved, as the interest of the Maryland Environmental Service may appear, to reject any items of any Bid.

QUESTIONS/REQUESTS FOR CLARIFICATION: Contractors having questions and inquiries regarding either the technical or the procurement sections of the bid documents shall contact the Service's Procurement Office (Attn: Candy Mott-Harris) at procurement@menv.com or via fax at 410-729-8280. Failure to follow these instructions may result in a delayed response to bidder inquiries.

OBTAINING BID DOCUMENTS: *****THIS SOLICITATION IS SENT ELECTRONICALLY.*** Bid documents may be obtained by contacting the Procurement Office Monday through Friday during the hours of 8:00 AM to 4:00 PM. **Please provide the contact name, company name, shipping address, phone and fax number, when requesting solicitation packages.** Fax: 410-729-8280 E-mail: procurement@menv.com

**Irene Hoffman, CPPO
Chief, Procurement & Contracts**

MARYLAND ENVIRONMENTAL SERVICE



MES Headquarters Front Entrance (West Side Entrance)

HEADQUARTERS ADDRESS

**259 Najoles Road
Millersville, MD 21108**

Procurement Division Phone: (410) 729-8510

Procurement Division Fax: (410) 729-8280

DIRECTIONS:

From Baltimore and Areas North:

Head south on Interstate 97 and get off the interstate at Exit 10, Benfield Blvd, heading west. You will pass through a traffic light and at the four way stop sign take a left onto Najoles Road. Our headquarters is about a quarter mile down the road on the left.

From Annapolis and South

Highway 50 to Interstate 97 North. Take Exit 10, Benfield Blvd. At the stop light at the bottom of the ramp, take a left onto Veterans Highway. Proceed to the next light and take a left onto Benfield Blvd. You will pass over 97 and through a traffic light and at the four way stop sign take a left onto Najoles Road. Our headquarters is about a quarter mile down the road on the left.

Instructions for Delivering Bids/Proposals to MES Headquarters

♦ 259 Najoles Road, Millersville, MD 21108

♦ Procurement Division Phone: (410) 729-8510

The Bidder/Offeror shall follow these instructions when submitting a bid/proposal on this project.

Bid/Proposal Identification

To ensure timely delivery to the Procurement Division before the established bid/proposal due date and time, **both the exterior and interior envelopes** – particularly those delivered via mail courier service (i.e. UPS, FedEx, USPS, etc.) – **MUST BE marked as specified in the Notice to Bidders/Offerors.**

Bidders/Offerors are solely responsible for the timely receipt of their bids/proposals. Late Bids/Proposals will not be accepted. Electronically transmitted bids/proposals will not be accepted.

Hand Delivered Bids/Proposals

The Front Desk Receptionist will only accept bids/proposals hand delivered by the Bidder/Offeror or his/her agent. Bids/proposals will then be time and date stamped by the Security Desk Receptionist and forwarded to the Procurement Division.

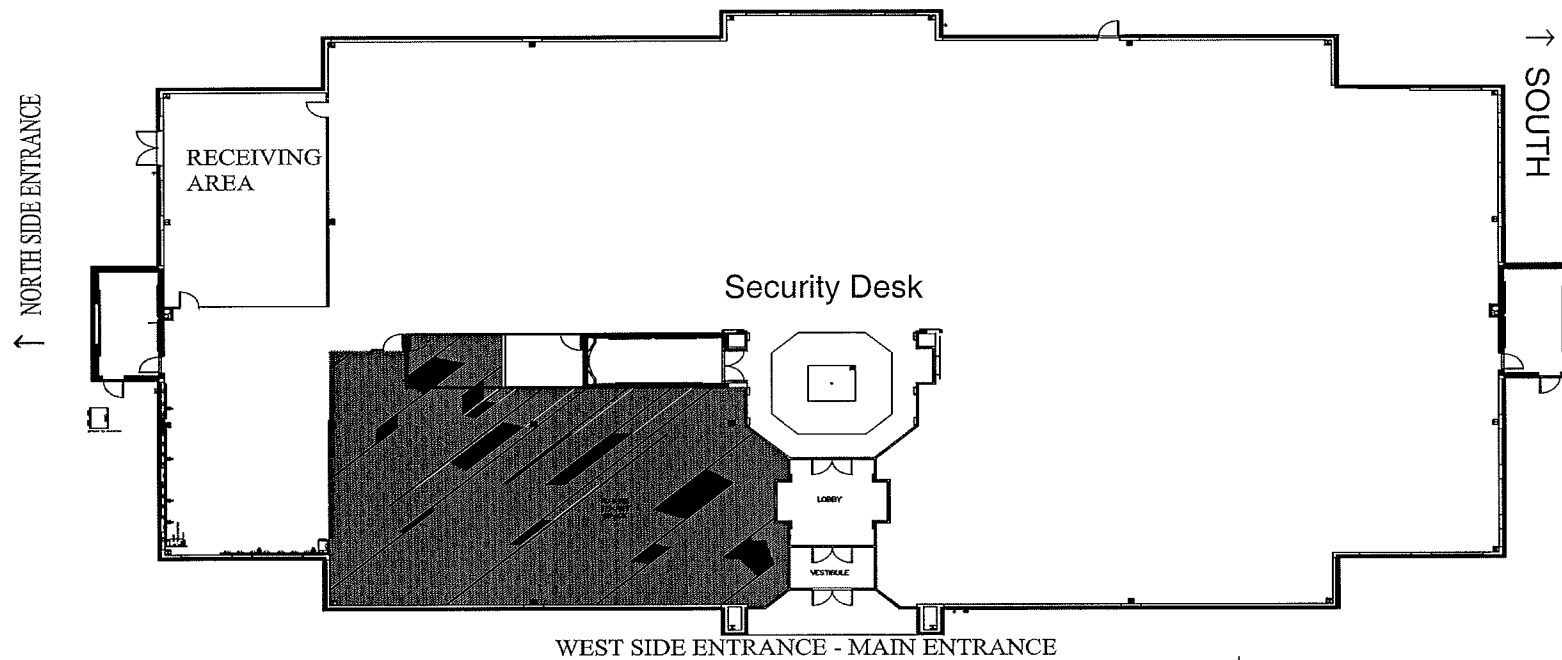
Bids/Proposals Delivered by Mail Courier Service

Bids/proposals submitted via UPS, FedEx, US Mail, or other mail service, will be delivered to the **Receiving Area** located at the **North Side Entrance** of the MES Headquarters. The Receiving Area faces the north side parking lot. (See enclosed diagram)

The Courier shall press the button for the intercom and state that a bid/proposal is waiting receipt at the receiving area door. An MES employee will admit the courier into the building. The bid/proposal will then be time and date stamped by an MES employee and forwarded to the Procurement Division.



↑ EAST SIDE
ROUTE 97



WEST SIDE ENTRANCE - MAIN ENTRANCE

MARYLAND ENVIRONMENTAL SERVICE
259 NAJOLES ROAD
MILLERSVILLE, MD 21108

↓ NAJOLES
ROAD

**STATE OF MARYLAND-MARYLAND ENVIRONMENTAL SERVICE
INSTRUCTIONS TO BIDDERS
FOR
SERVICES**

GENERAL INFORMATION

1. LICENSES, REGISTRATION AND QUALIFICATIONS

- A. At or before the time of contract award the successful bidder must be licensed as required by the laws of Maryland.
- B. The Service reserves the right to require that the Contractor demonstrate that it has the skills, equipment and other resources to satisfactorily perform the nature and magnitude of work necessary to complete the project within the contract schedule.
- C. When Municipal, County, State or Federal laws require that certain personnel (electricians, plumbers, etc.) be licensed, then all such personnel employed on the Work including subcontractors and their employees, shall be so licensed.

2. AMENDMENTS TO INVITATIONS FOR BIDS

Amendments shall be sent to all prospective bidders who were sent an Invitation For Bids or who are known to have obtained the bidding documents. Amendments will be distributed within a reasonable time to allow bidders to consider them in preparing their bids. If the time and date for receipt of bids does not permit preparation, the time shall be increase to the extent possible in the amendment, or if necessary, by telephone and confirmed by amendment. Bidders must acknowledge receipt of all amendments on the face of the bid form. Failure to acknowledge an amendment may render a bid non responsive.

3. DISCREPANCIES AND CLARIFICATIONS

- A. Should a bidder find discrepancies in the plans and/or specifications or should a bidder be in doubt as to the meaning or intent of any part thereof, he/she must not later than ten (10) working days prior to the bid opening, request clarification from the Service. The Service may then issue a written amendment. Requests shall include the contract number and project name and shall be directed to the address indicated in the Notice to Bidders. Failure to request such clarification is a waiver to any claim by the bidder for expenses made necessary by reason of later interpretation of the contract documents.
- B. Oral explanations or instructions will not be binding; only written amendments are binding. Any amendments resulting from these requests will be distributed as noted in paragraph two (2) above. The Service retains the right to issue no response to requests received after an established deadline. The Service always retains the right to issue no response to requests from potential bidders.

4. PUBLIC INFORMATION ACT

Bidders should give specific attention to the identification of those portions of their bids which they deem to be confidential, proprietary information or trade secrets and provide any justification of why such materials, upon request, should not be disclosed under the Maryland Public Information Act, Section 10-611 et seq. of the State Government Article of the Annotated Code of Maryland.

5. CONTRACT CERTIFICATES AND AFFIDAVITS

The bidder shall review all certificates and affidavits called for in the contract documents; the bidder should be prepared to execute them, and if they cannot be truthfully executed, notify the Service.

6. ARREARAGES

By submitting a response to this solicitation, a bidder shall be deemed to represent that it is not in arrears in the payment of any obligation due and owing the State of Maryland, including the payment of taxes and employee benefits, and shall not become so in arrears during the term of the contract.

BID PACKAGE PREPARATION

1. BID DOCUMENTS

A. Use only the Forms provided by the Service. Submit an original and two (2) copies of the required forms in a single sealed envelope clearly marked on the outside with the Bid Identification Number, the Bid Due Date and time. The following items, if provided elsewhere in the solicitation, must be fully executed and included in the bid:

- (1) Bid Form
- (2) Bid/Proposal Affidavit.
- (3) Bid Security (*if applicable*)
- (4) Contractors Qualification Questionnaire (*if applicable*)
- (5) Equipment List (*if applicable*)
- (6) List of Subcontractors (*if applicable*)
- (7) Certified MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A) (*if applicable*)
- (8) MBE Participation Schedule (MBE Attachment B) (*if applicable*)

B. Use ink or a typewriter. Handwritten bids must be legible. Any erasures and/or alterations shall be initialed in ink by the signer.

C. **All** original documents **must** be signed in ink as follows:

- **Individuals** sign with full name.

- **Partnerships:** a member or members of the partnership with authority to bind the partnership.
- **Corporations:** an officer must sign, and be attested by the corporate secretary or an assistant corporate secretary. If not signed by an officer attach a copy of the portion of the By-Laws or Board resolution, certified by the corporate secretary, showing the authority of the person so signing on behalf of the corporation.

2. BID FORM

- A. The bidder shall complete as part of their pricing for the work specified on the enclosed bid form. Bids not submitted on the Bid Form provided by MES will be deemed non-responsive and may be rejected.
- B. The base bid will include lump sum price work and/or unit price work with estimated quantities established by the Service and unit prices provided by the Contractor to arrive at a base bid.
- C. Unit Prices: Should the Contractor be required to perform work over and above that required by contract documents, or should they be ordered to omit work required by contract documents, he will be paid an extra, or shall credit the Service; as the case may be, on basis of unit prices quoted herein. Prices quoted shall be the same for "extra" work and for "credit" work and shall be the sum total compensation payable or creditable for such items of work, including all labor, materials, etc. to cover the services.
- D. The base bid shall be stated in dollars and cents, and in both words and figures. If there is a discrepancy between the written words and the figures, the written words shall govern.

3. BID/PROPOSAL AFFIDAVIT

The bidder shall complete as part of their bid package the Bid/Proposal Affidavit which contains the Anti-Bribery, Non-Collusion, Procurement, Financial Disclosure, Political Contribution Disclosure Affirmation, Drug and Alcohol Free Work Place, and Payment of Taxes.

4. BID SECURITY

- A. When the base bid is in excess of \$100,000, and if required elsewhere in the solicitation, the bidder must furnish a bid bond issued by a surety company approved by the State with his construction Bid Form. The Bid Bond must be in an amount not less than five per cent (5%) of the amount of the base bid and shall be submitted on a form provided by the Service.
- B. Certified checks, cash, and other security set forth in COMAR 21.06.07.01 are acceptable in lieu of a Bid Bond, and subject to the same conditions.

- C. **Failure to provide sufficient bid security shall render the bid non-responsive; bids received with insufficient bid security will be rejected.**
- D. Assistance in obtaining bid, performance and payment bonds may be available to qualifying small businesses through the Maryland Small Business Development Financing Authority (MSBDFA). MSBDFA can directly issue bid, performance or payment bonds up to \$750,000. MSBDFA may also guaranty up to 90% of a surety's losses as a result of a Contractor's breach of contract; MSBDFA's exposure on any bond guaranteed may not, however, exceed \$900,000. Bonds issued directly by the program will remain in effect for the duration of the contract, and those surety bonds that are guaranteed by the program will remain in effect for the duration of the surety's exposure under the contract. To be eligible for bonding assistance, a business must first be denied bonding by at least one surety in both the standard and specialty markets within 90 days of submitting a bonding application to MSBDFA. The applicant must employ fewer than 500 full-time employees or have a gross sales of less than \$50 million annually, have its principal place of business in Maryland or be a Maryland resident, must not subcontract more than 75 percent of the work, and the business or its principals must have a reputation of good moral character and financial responsibility. Finally, it must be demonstrated that the bonding or guarantee will have a measurable economic impact, through job creation and expansion of the state's tax base. Applicants are required to work through their respective bonding agents in applying for assistance under the program. Questions regarding the bonding assistance program should be referred to:

Maryland Department of Business and Economic Development
Maryland Small Business Development Financing Authority
217 E. Redwood Street
22nd Floor
Baltimore, Maryland
Phone: 410-333-4270 Fax: 410-333-6931

5. **CONTRACTORS QUALIFICATION QUESTIONNAIRE**

The Contractor's Qualification Questionnaire, if required elsewhere in this solicitation, must be completed, signed and returned with the Bid Form. Failure to do so may render the bid non-responsive.

6. **CERTIFIED MBE UTILIZATION AND FAIR SOLICITATION AFFIDAVIT (MBE Attachment A)**

The Certified MBE Utilization and Fair Solicitation Affidavit, if required elsewhere in this solicitation, must be completed, signed and returned with the Bid Form. Failure to do so may render the bid non-responsive. **Bids not submitted with the Certified MBE Utilization and Fair Solicitation Affidavit will be rejected as non-responsive.**

7. **MBE PARTICIPATION SCHEDULE (MBE Attachment B)**

The MBE Participation Schedule (MBE Attachment B), if required elsewhere in this solicitation, must be completed, signed and returned with the Bid Form. Failure to do so may render the bid non-responsive. **Bids not submitted with the MBE Participation Schedule will be rejected as non-responsive.**

MBE SUBCONTRACT PARTICIPATION REQUIREMENTS

If a minimum MBE subcontract participation goal has been established as part of the contract, the bidder shall follow these instructions:

- A. The Bidder shall structure its procedures for the performance of the work required in this contract to attempt to achieve the minority business enterprise (MBE) subcontract participation goal stated in the Invitation for Bids. MBE performance must be in accordance with the Exhibits, as authorized by Code of Maryland Regulations (COMAR) 21.11.03. Contractor agrees to exercise all good faith efforts to carry out the requirements set forth in this solicitation.
- B. The MBE subcontract participation goal is established as the minimum percentage of the dollar amount of the contract. The bidder agrees to put forth a good faith effort to achieve the minimum MBE subcontract goal and that Maryland State Certified Minority Business Enterprises will perform the tasks identified and assigned by the Bidder.
- C. The MBE prime contractor shall put forth a good faith effort to achieve the minimum MBE subcontract goal and that Maryland State Certified Minority Business Enterprises will perform the tasks identified and assigned by the Bidder.
- D. Minority Business Enterprises are encouraged to respond to this solicitation.

CONTRACTOR RESPONSIBILITIES:

- A. Once a MBE subcontract participation goal on this Contract has been established the Contractor agrees that this amount of the Contract and subcontract tasks will be performed by State certified minority business enterprises.
- B. Both the MBE prime and subcontractor(s) will remain certified during the term of the agreement and any extensions thereof. Maintenance of minority business certification shall be considered a material obligation of the agreement.
- C. The bidder shall complete and return with its bid the Certified MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A) whereby the bidder acknowledges the certified MBE participation goal or requests a waiver, commits to make a good faith effort to achieve the goal, and affirms that MBE subcontractors were treated fairly in the solicitation process. Bids submitted without the Certified MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A) will be deemed non-responsive and will be rejected.
- D. The bidder shall complete and return with its bid the MBE Participation Schedule (MBE

Attachment B) whereby the bidder responds to the expected degree of Minority Business Enterprise subcontract participation as stated in the solicitation, by identifying the specific commitment of certified MBEs at the time of submission. The bidder shall specify the price and the percentage of contract value associated with each MBE subcontractor identified on the MBE Participation Schedule. Bids submitted without the MBE Participation Schedule (MBE Attachment B) will be deemed non-responsive and will be rejected.

E. To achieve the result of meeting the contract minority business enterprise subcontract participation goal, the Contractor shall:

- (1) Identify specific work categories appropriate for subcontracting;
- (2) At least ten (10) days prior to the bid opening, solicit minority business enterprises, through written notice that describes the categories of work to be subcontracted and provide specific instructions on how to submit a bid;
- (3) Attempt to make personal contact with MBE firms;
- (4) Assist MBE firms with bonding requirements or to obtain a waiver of those requirements;
- (5) In order to publicize contracting opportunities to minority businesses, attend pre-bid meetings or other meeting scheduled by the agency.

DOCUMENTATION

The following documentation shall accompany the Bid and shall be part of the Contract:

- (1) Certified MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A)
- (2) MBE Participation Schedule (MBE Attachment B)

If the bidder is unable to achieve the MBE subcontract participation goal, the Bidder shall submit, in conjunction with the MBE Schedule of Participation, a request for a full or partial waiver.

The following documentation shall be submitted within ten (10) working days from notification that the Contractor is the apparent low Bidder or within ten (10) working days following the award, whichever is earlier and shall be part of the Contract:

- (1) Outreach Efforts Compliance Statement (MBE Attachment C)
- (2) Subcontractor Project Participation Statement of intent (MBE Attachment D) signed by both the Bidder and each MBE listed in the schedule of participation. Or, if the prime Contract has been awarded, copies of the Subcontract Agreement or Agreements.

- (3) Any other documentation considered appropriate by the Service to ascertain bidder responsibility in connection with the contract MBE participation goal.
- (4) The amount and type of bonds required of MBE Contractors, if any.
- (5) The Contractor, by submitting its bid or offer, consents to provide such documentation as requested by the Service and to provide right of entry at any reasonable time for purposes of the Service's representatives verifying compliance with the MBE Subcontractor requirements.

If the bidder is unable to achieve the MBE subcontract participation goal, the Bidder shall submit, instead of or in conjunction with MBE Attachment C, a fully documented written request for a full or partial waiver to include the following:

- (a) A detailed statement of the efforts made to select portions of the Work proposed to be performed by MBE's in order to increase the likelihood of achieving the stated goal;
- (b) A detailed statement of the efforts made to contact and negotiate with MBE's and non-MBE's including the names, addresses, dates and telephone numbers of MBE's contacted, and a description of the information provided regarding the Plans, Specifications, and anticipated time schedule for portions of the Work to be performed;
- (c) As to each MBE that placed a Subcontract quotation which the bidder considers not to be acceptable, a detailed statement of the reasons for this conclusion; and
- (d) A list of minority Subcontractors found to be unavailable. This should be accompanied by a Minority Contractor Unavailability Certificate (MBE Attachment F) signed by the minority business refused to give the written certification.

If the Contract has been awarded and the following documentation is not furnished, the award shall be null and void.

RECORDS AND REPORTS:

- A. The Contractor shall maintain such records as are necessary to confirm compliance with its Minority Business Enterprise utilization obligations. These records shall indicate the identify of minority and non-minority Subcontractors employed on the contract, the type of work performed by each, and the actual dollar value of work, services and procurement achieved by each Contractor and Subcontractor.
- B. The Contractor shall submit information with his monthly cost breakdown for progress payments which indicates the dollar value of Contracts awarded to Minority Business Enterprises as the Contract Work occurs. (MBE Attachment G) This information will be

submitted as a supplement to the Cost Breakdown For Progress Payments form. Failure of the Contractor to submit the required supplementary MBE participation information may result in delays in processing progress payments.

- C. All records concerning MBE participation must be retained by the Contractor and will be available for inspection by the Service for a period of three years after final completion of the Contract

ENFORCEMENT:

- A. The Service is responsible for conducting inspections to confirm compliance with the terms of this Section. If the Service determines that the Contractor or Subcontractors are not in compliance with this Section, the Service will notify the Contractor of those measures which the Contractor must take to restore the Contractor to a state of compliance.
- B. If the documentary material submitted by the Contractor or Subcontractor to determine minority business status contains false, misleading information or other misrepresentations, the matter will be referred to the Attorney General for appropriate action.

CONTRACTOR ASSISTANCE:

- A. Contractors requiring assistance in locating Minority Business Enterprises are encouraged to contact the following offices:

Minority Business Enterprise Office
Department of Transportation
7201 Corporate Center Drive; P.O. Box 548
Hanover, Maryland 21076
410-865-1241

The State of Maryland Minority Business Enterprise Directory is available to Contractors online and at the location listed above. The Directory contains information about currently certified Minority Business Enterprises.

6. SCHEDULES

Schedules are required to be submitted by the Contractor in accordance with the contract specifications.

BID OPENING AND EVALUATION

1. BID OPENING

Bids will be opened and read aloud in public at the time and place stated in the Notice to Bidders.

2. RESERVED RIGHTS

The Service reserves the right to:

- (a) Reject any and all bids or part(s) of bids or to accept any bid or part(s) of bids in the public interest.
- (b) Waive any informality in a bid.
- (c) Cancel this invitation at any time without liability to any bidder.
- (d) Make the award by item, or groups of items, or total bid if it is in the best interest of the Service to do so.

3. MULTIPLE, ALTERNATE, OR CONDITIONAL BIDS

By submission of a bid the bidders accepts the terms and conditions, specifications, plans, affidavits and all other documents comprising this Invitation for Bid. Unless multiple or alternate bids are requested in the solicitation, these bids may not be accepted. However, if a bidder clearly indicates a base bid, it shall be considered for award as though it were the only bid submitted by the bidder. Conditioning a bid on material exceptions, additions or revisions to the published Invitation For Bids and published addenda (if any) shall render a bid non-responsive.

4. CONDITIONING BIDS UPON OTHER AWARDS NOT ACCEPTABLE

Any bid which is conditioned upon receiving award of both the particular contract being solicited and another contract with the Service, or any other agency of the State of Maryland, shall be deemed non-responsive and not acceptable.

5. MODIFICATIONS AND WITHDRAWAL OF BIDS

Withdrawal or modifications to bids are effective only if written notice thereof is filed prior to the time and date of bid opening and at the place specified in the Notice to Bidders. A note of withdrawal or modification to a bid must be signed. No withdrawal or modifications shall be accepted after the time and date for opening of bids.

6. MISTAKES IN BIDS

- A. Mistakes Discovered Before Opening. A bidder may correct mistakes discovered before the time and date set for the opening by correcting the bid or withdrawing the bid as provided in Section 5.
- B. Confirmation of Bid. If the procurement officer knows or has reason to conclude that a mistake may have been made, the bidder may be required to confirm the bid. Situations

in which confirmation may be requested include obvious, apparent errors on the face of the bid or a bid unreasonably lower than the other bids submitted. If the bidder alleges mistake, the bid may be corrected or withdrawn upon written approval if any of the following conditions are met:

1. If the mistake and intended correction are clearly evident on the face of the bid document, the bid shall be corrected to the intended correct bid and may not be withdrawn. Examples of mistakes that may be clearly evident on the face of the bid documents are typographical errors, errors in extending unit prices, transposition errors, and arithmetical errors.
2. A bidder may be permitted to withdraw a low bid if:
 - a. A mistake is clearly evident on the face of the bid document but the intended correct bid is not similarly evident; or
 - b. The bidder submits proof of evidentiary value which clearly and convincingly demonstrates that a mistake was made.
 - c. Mistakes Discovered After Award. Mistakes may not be corrected after the award of the Contract except when the procurement officer and the head of a procurement agency make a determination that it would be unconscionable not to allow the mistake to be corrected.
 - d. Changes in prices are not permitted. Corrections shall be submitted to and approved by the Office of the Attorney General.

7. BID EVALUATION AND AWARD

- A. General. The Contract is to be awarded to the responsible bidder who meets the requirements and evaluation criteria set forth in the Invitation for Bids, and is either the lowest bid price or lowest evaluated bid price.
- B. Determination of Lowest Bidder. Bids shall be evaluated to determine which bidder offers the lowest cost to the Service in accordance with the evaluation criteria set forth in the Invitation for Bids. Except as otherwise provided under; Section 6-, Mistakes in Bids:
 1. The unit price will govern in the event of a discrepancy between the unit price bid and the extended price (product of unit price multiplied by the quantity).
 2. The sum of the extended prices will govern in the event of a discrepancy between the total lump sum bid and the extended prices.
 3. The written words will govern in the event of a discrepancy between the prices written in words and the prices written in figures.
 4. If a unit price has been omitted, the unit price will be determined by dividing the extended price by the quantity.

- C. Award. Upon determination of the lowest bidder, review of the bid for responsiveness, and satisfaction that the bidder is responsible, the Contract may be awarded to that bidder. A Contract may be awarded to a bidder offering a higher quality item than that designated in the Invitation for Bids if that bidder is also the lowest responsive and responsible bidder.

CONTRACT AWARD AND EXECUTION

1. AWARD OF CONTRACT:

- A. The award of the contract shall not be effective until the Service has obtained all required approvals.

Bid prices shall be irrevocable for a period of ninety (90) days following bid opening. The Service may request an extension of the ninety (90) day period and the bidder(s) may choose to agree.

- B. The Contract shall be awarded to the responsible bidder submitting the lowest responsive bid. The successful bidder will be given a written Notice of Intent to Award stating the Service's intent to award the contract.
- C. The award will be based on the Base Bid in the Bid Form, plus Add/Deduct Alternates if any are selected by the Service. The Service alone will determine whether to select any Add/Deduct Alternates after bid opening. Add/Deduct Alternates will be accepted in the order listed in the Bid Form.
- D. The Service reserves the right to cancel the award of any contract before the execution of the contract by all parties without any liability on its part.

EXECUTION OF CONTRACT

- A. Shortly after the Notice of Intent to Award, the Service shall forward the formal Contract form to the successful bidder for execution. In addition, the bidder shall furnish the following in the form and content required by the Service.

- (1) Contract Affidavit
- (2) Performance and Payment Bonds, if applicable
- (3) Outreach Efforts Compliance Statement, if applicable
- (4) Subcontractor Project Participation Statement, if applicable
- (5) Fully documented full or partial MBE waiver request, if applicable
- (6) Certificates of Insurance

- B. The Contract form and additional documentation shall be returned to the Service within the time specified in the Letter of Intent to Award. This documentation is a prerequisite for execution of the contract.

3. FAILURE TO EXECUTE CONTRACT

- A. Failure of the Contractor to execute the contract, to complete the Contract Affidavit, to file acceptable bonds, certificates of insurance, and MBE documentation within the time specified shall be just cause for annulment of the award; and, shall result in the forfeiture of bid security, if applicable.
- B. In the event that the damages sustained by the State exceed the amount of the bid security, the state reserves the right to proceed against the Contractor for the balance of its damages.

4. PERFORMANCE AND PAYMENT BONDS

- A. Performance and Payment Bonds, if applicable, are required only when the amount of the initial award is in excess of \$100,000.
- B. Persons or firms performing construction contracts for the State of Maryland are not required to post payment bonds if the contract price is \$100,000 or less. Sub-contractors and suppliers on such contracts should be aware that the normal protection such bonds offer to sub-contractors and suppliers is not available on construction contracts where the amount of the contract is \$100,000 or less.
- C. Prior to the award of the contract, the State will provide to the Contractor for execution, copies of the Performance Bond and Payment Bond. The bonds must be executed and returned to the Service. The Premium for the bonds shall be paid by the Contractor.
- D. The Bonds shall be in the full amount of the contract price.
- E. At the direction of the Service, the Contractor may be required to increase the amount of the bonds; for such additions, the Contractor will be reimbursed by the State in the amount of the actual increased bond cost.

5. PAYMENT TO CONTRACTORS BY ELECTRONIC FUNDS TRANSFER (EFT)

- A. The State Comptroller's Office requires payment by electronic transfer for any contract expected to exceed \$200,000 and that requires Board of Public Works approval.
- B. By submitting a response to this solicitation, the Bidder agrees to accept payments by electronic funds transfer unless the State Comptroller's Office grants an exemption. The selected Bidder shall register using the enclosed form (COT/GAD X-10 vendor electronic Funds (EFT) Registration Request Form).

Any request for an exemption must be submitted to the State Comptroller's Office for approval at the address specified on the COT/GAD X-10 form and must include the business identification information as stated on the form and include the reason for the exemption. To request an exemption please contact the Comptroller's Office at 1-888-784-0144.

PROTESTS

1 DEFINITION

- A. In this Section, the following words have the meanings indicated.
- B. Terms Defined.
 - 1) "Interested Party" means a prospective bidder or offeror that may be aggrieved by the solicitation of a contract, or an actual bidder or offeror that may be affected by the award of a contract.
 - 2) "Procurement Officer" means the Chief of Procurement & Contracts for the Maryland Environmental Service, or such other individual designated by the Deputy Director of the Maryland Environmental Service.
 - 3) "Protest" means a complaint filed in accordance with this section relating to the solicitation or award by the Maryland Environmental Service of the contract to be awarded as a result of this procurement.
 - 4) "Protester" means any actual or prospective bidder or offeror, or contractor who files a protest in connection with the solicitation or the award of the contract to be awarded as a result of this procurement.
 - 5) "Reviewing Authority" means the Deputy Director of the Maryland Environmental Service, or designee.

2 FILING OF PROTEST

- A. An interested party may protest to the Procurement Officer against the award or the proposed award of the contract which is the subject of this solicitation.
- B. The protest shall be in writing, addressed to the Procurement Officer, and delivered to the headquarters of the Maryland Environmental Service. A protester may not file a protest by electronic means or by facsimile.

3 TIME FOR FILING

- A. A protest based upon alleged improprieties in a solicitation shall be filed three business days before the bid opening date or the closing date for receipt of proposals. For procurement by competitive sealed proposals, alleged improprieties that did not exist in the initial solicitation but which are subsequently incorporated in the solicitation shall be filed not later than three business days before the next closing date for receipt of proposals following the incorporation.
- B. In cases other than those covered in §A, protests shall be filed not later than three business days after the basis for protest is known or should have been known, whichever is later.
- C. The term "filed" as used in §A or §B means receipt by the Procurement Officer. Protesters are cautioned that protests should be transmitted or delivered in the manner that shall assure earliest receipt. A protest received by the Procurement Officer after the time limits prescribed in §A or §B may not be considered, and the protester shall have no further cause of complaint against the Maryland Environmental Service.

4 FORM

To expedite handling and review of protests, the envelope containing the protest should be labeled "Protest." The written protest shall include as minimum the following:

- A. The name, address, telephone number and email address of the

- Protester;
- B. The solicitation or contract number;
- C. A statement of reasons for the protest; and
- D. Supporting exhibits, evidence, or documents to substantiate the reasons for the protest.

5 TIME FOR SUBMITTING REQUESTED INFORMATION

The Procurement Officer may request the protester to submit additional information or substantiation. Any additional information or substantiation shall be submitted to the Procurement Officer within three business days after receipt of notification or such other time as the Procurement Officer may specify in order to expedite consideration of the protest. Failure of any party to comply with a request for information or substantiation by the Procurement Officer may result in a resolution of the protest without consideration of any response to the request that is not timely submitted.

6 RESOLUTION OF THE PROTEST

- A. The Procurement Officer may conduct discussions and, if appropriate, negotiations with the protester or any other interested party and may resolve the protest by agreement with any one or more interested parties.
- B. If the protest is not resolved by agreement, the Procurement Officer shall render a decision on the protest, in writing, as soon as possible after receiving all relevant, requested information. The Procurement Officer may render a decision based solely on the relevant information submitted to the Procurement Officer, and does not have to provide any opportunity to any interested party to submit additional information, or to rebut information already submitted to the Procurement Officer.
- C. The decision of the Procurement Officer shall be reviewed by the Reviewing Authority. The Reviewing Authority may approve, modify, or disapprove the Procurement Officers' decision. In disapproving a decision, the Reviewing Authority may order the Procurement Officer to resolve the protest in another manner. Unless the protest is remanded to the Procurement Officer, the decision of the Reviewing Authority is the final action by the Maryland Environmental Service.
- D. A protest under this section is not a contested case under Title 10, Subtitle 2 of the State Government Article.

**MINORITY BUSINESSES ARE ENCOURAGED TO RESPOND TO THIS SOLICITATION.
MARYLAND FIRMS ARE ENCOURAGED TO RESPOND TO THIS SOLICITATION.**

MBE Subcontracting Documentation Requirements

The following changes apply to Invitation for Bids/Request for Proposals

1. As authorized by Code of Maryland Regulations (COMAR) 21.11.03, the Bidder/Offeror **must name its MBE subcontractors, the tasks each will perform and the dollar value of the subcontract with their bid/proposal.** The Bidder/Offeror shall structure its procedures for the performance of the work required in this contract to achieve the MBE subcontract participation goal stated in the Invitation for Bids or Request for Proposals.

REMINDER: Effective July 1, 2001, both the minority and non-minority prime must exercise all good faith efforts to carry out the requirements set forth in this solicitation. The MBE prime may not use its workforce to achieve the established MBE subcontract goal.

2. If, after making a good faith effort to achieve the MBE subcontract participation goal, the bidder/offeror determines that he/she is unable to achieve the established MBE goal, the Bidder/Offeror may submit a level of participation level less than the established goal with his/her bid/proposal. If an amount less than the established goal is submitted with the bid/proposal, a fully documented full or partial waiver request must be submitted within 10 day of the apparent awardee's receipt of a Letter of Intent to Award.
3. The Bidder/Offeror shall provide the required documents according to the schedule below:
 - The MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A) **and** the Certified MBE Subcontract Participation Schedule (MBE Attachment B) **must be submitted with the Bid/Proposal.** MES will **reject as non-responsive** any bid/proposal that does not include **both** MBE Attachment A and MBE Attachment B as required – even if the Bidder/Offeror is the apparent low bidder/apparent awardee.
 - The Outreach Efforts Compliance Statement (MBE Attachment C), the Subcontractor Project Participation Statement (MBE Attachment D), and a fully documented full or partial MBE waiver request (if necessary) must be submitted within 10 working days of receiving a Letter of Intent to Award. If the apparent awardee **fails to return each completed document** (i.e. MBE Attachments C and D and a full or partial waiver request) **within 10-days** of receipt of a Letter of Intent to Award, **the Procurement Officer may determine that the apparent awardee is not responsible and therefore not eligible for contract award.**

All questions regarding these changes, the new MBE Subcontract Participation forms or any other MBE related issues should be directed to the Agency's MBE Liaison Officer at 410-729-8510 or procurement@menv.com.

**EXHIBIT TO SOLICITATION
STATE OF MARYLAND
MARYLAND ENVIRONMENTAL SERVICE**

MINORITY BUSINESS ENTERPRISE SUBCONTRACT PARTICIPATION

PURPOSE

The Bidder shall structure its procedures for the performance of the work required in this contract to attempt to achieve the minority business enterprise (MBE) subcontract participation goal stated in the Invitation for Bids or Request for Proposals. MBE performance must be in accordance with this Exhibit, as authorized by Code of Maryland Regulations (COMAR) 21.11.03. The Bidder agrees to exercise all good faith efforts to carry out the requirements set forth in this Exhibit.

MBE GOALS AND SUB GOALS



An MBE subcontract participation goal of (26%) twenty-six percent of the total contract dollar amount has been established for this procurement. By submitting a response to this solicitation, the bidder or offeror agrees that this dollar amount of the contract will be performed by certified minority business enterprises.

OR



An overall MBE subcontract participation goal of _____ percent of the total contract dollar amount has been established for this procurement. This dollar amount includes:

- ☐ A sub goal of ____ percent of the total contract dollar amount to be allocated to certified minority business enterprises classified as women-owned businesses.
- ☐ A sub goal of ____ percent of the total contract dollar amount to be allocated to certified minority business enterprises classified as African American-owned businesses.

By submitting a response to this solicitation, the bidder or offeror agrees that these dollar amounts of the contract will be performed by Maryland State certified minority business enterprises as specified.

- ◆ A prime contractor — including an MBE prime contractor — must accomplish an amount of work not less than the MBE subcontract goal with Maryland State certified MBE subcontractors.
- ◆ A prime contractor comprising a joint venture that includes MBE partner(s) must accomplish the MBE subcontract goal with Maryland State certified MBE subcontractors.

SOLICITATION AND CONTRACT FORMATION

- ◆ A bidder or offeror must include with its bid or offer:
 - (1) A completed Certified MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A) whereby the bidder or offeror acknowledges the certified MBE subcontract participation goal or requests a waiver, commits to make a good faith effort to achieve the goal, and affirms that MBE subcontractors were treated fairly in the solicitation process.
 - (2) A completed MBE Participation Schedule (MBE Attachment B) whereby the bidder or offeror responds to the expected degree of Minority Business Enterprise participation as stated in the solicitation, by identifying the specific commitment of certified MBEs at the time of submission. The bidder or offeror shall specify the price and/or the percentage of contract value associated with each MBE subcontractor identified on the MBE Participation Schedule.

If a bidder or offeror fails to submit both MBE Attachment A and MBE Attachment B with the bid or 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.

- ◆ Within 10 working days from notification that it is the apparent awardee or from the date of the actual award, whichever is earlier, the apparent awardee must provide the following documentation to the Procurement Officer.
 - (1) Outreach Efforts Compliance Statement (MBE Attachment C)
 - (2) Subcontractor Project Participation Statement (MBE Attachment D)
 - (3) If the apparent awardee believes a waiver (in whole or in part) of the overall MBE goal or of any sub goal is necessary, it must submit a fully documented waiver request that complies with COMAR 21.11.03.11.
 - (4) Any other documentation required by the Procurement Officer to ascertain bidder or offeror responsibility in connection with the certified MBE participation goal.

If the apparent awardee fails to return each completed document within the required time, the Procurement Officer may determine that the apparent awardee is not responsible and therefore not eligible for contract award. If the contract has already been awarded, the award is voidable.

CONTRACT ADMINISTRATION REQUIREMENTS

Contractor shall:

1. Submit monthly to the Department a report listing any unpaid invoices, over 30 days old, received from any certified MBE subcontractor, the amount of

each invoice and the reason payment has not been made.

2. Include in its agreements with its certified MBE subcontractors a requirement that those subcontractors submit monthly to the Department a report that identifies the prime contract and lists all payments received from Contractor in the preceding 30 days, as well as any outstanding invoices, and the amount of those invoices.
3. Maintain such records as are necessary to confirm compliance with its MBE participation obligations. These records must indicate the identity of certified minority and non-minority subcontractors employed on the contract, the type of work performed by each, and the actual dollar value of work performed. Subcontract agreements documenting the work performed by all MBE participants must be retained by the Contractor and furnished to the Procurement Officer on request.
4. Consent to provide such documentation as reasonably requested and to provide right-of-entry at reasonable times for purposes of the State's representatives verifying compliance with the MBE participation obligations. Contractor must retain all records concerning MBE participation and make them available for State inspection for three years after final completion of the contract.
5. At the option of the procurement agency, upon completion of the contract and before final payment and/or release of retainage, submit a final report in affidavit form and under penalty of perjury, of all payments made to, or withheld from MBE subcontractors.

ATTACHMENTS

- A. Certified MBE Utilization and Fair Solicitation Affidavit (must be submitted with bid or offer)
- B. MBE Subcontract Participation Schedule (must be submitted with bid or offer)
- C. Outreach Efforts Compliance Statement (must be submitted within 10 working days of notification of apparent award or actual award, whichever is earlier)
- D. Subcontractor Project Participation Statement (must be submitted within 10 working days of notification of apparent award or actual award, whichever is earlier)
- E. Full/Partial MBE Goal Waiver Request Instructions (if applicable, must be submitted within 10 working days of notification of apparent award or actual award, whichever is earlier)
- F. Minority Contractor Unavailability Certificate (if applicable, must be submitted with the Bidder/Offeror's waiver request within 10 working days of notification of apparent award or actual award, whichever is earlier)

MARYLAND ENVIRONMENTAL SERVICE
Sanitary Sewer Cleaning, Repair, and Maintenance
For
Thurgood Marshall / Baltimore/Washington International Airport & Martins State Airport

PROJECT ID. NO. 10-07-34

PART I: GENERAL

1.0 GENERAL INFORMATION:

- A. The Maryland Environmental Service (MES) operates various environmental programs at the Thurgood Marshall Baltimore/Washington International (BWI) Airport as well as at Martins State Airport. Operations, maintenance, and monitoring of these programs are completed by the MES on behalf of the Maryland Aviation Administration (MAA).
- B. MES performs inspection, sampling, maintenance and repairs of the entire BWI sanitary sewer collection system with wastewater flowing to both Baltimore and Anne Arundel County treatment plants. MES submits monthly reports to the MAA summarizing: inspections, repairs, problems encountered and upgrades to 50,000+ linear feet of BWI sewer pipeline and associated structures.
- C. Portions of the BWI sewer collection system are found within the Aircraft Operations Area (AOA) in secured portions of BWI airport. MES personnel will be required to escort the selected contractor to these areas to oversee all work and ensure safe working conditions near to air traffic.
- D. The sanitary pipe diameters at BWI range from 4" up to 16". Several different pipe materials are found along the BWI sewer collection system. Pipe materials consist of terra cotta (TC), ductile iron (DI), poly vinyl chloride (PVC), vitrified clay pipe (VCP).
See Map Attachment A

PART II: DETAILED SPECIFICATIONS

2.0 GENERAL CONDITIONS:

- A. The purpose of this contract is to conduct cleaning, maintenance, and repairs of sanitary sewer lines originating from BWI, Martins State Airport and surrounding affiliated MAA operated satellite facilities. The project involves cleaning and TV inspection of the entire sewer system, manhole repairs, sewer pipe spot repairs, sewer pipe lining, root control and other miscellaneous improvements to the sewer system. Method and degree of repairs for some of the items will be determined and authorized by an MES representative. The selected contractor shall be responsible for all aspects of cleaning and repairing the sanitary sewer outlined in the attached nine specification sections.

- B. All work performed by the contractor shall be in accordance with these specifications and all applicable State and Federal regulations.
- C. The Contractor shall agree and understand that the Service shall have full and final authority for, but not necessarily limited to the following:
- Determination of completion regarding each manhole location.
 - Review of daily cost figures.
 - Requesting additional equipment, personnel, supplies and/or services.
 - Approval of handling, removal, and disposal services.
 - Disapproval of the use of certain equipment, personnel, supplies, services and/or procedures.
 - Hours of work.
 - Days of work.
 - Stopping work orders for reasons of safety, airfield emergencies, environmentally unsafe activities and/or procedures.
- D. The Contractor shall have sole responsibility for the health and safety of its employees and/or employees of subcontractors. This responsibility shall include the selection of protection level(s) and enforcement of safety rules and policies according to accepted standards.
- Many deaths occur yearly by employees entering confined spaces unaware of the dangers contained within. Much of the work outlined within these specifications relating to sewer improvements requires confined areas to be entered. The National Institute of Occupational Safety and Health (NIOSH) developed guidelines for safe entry into confined spaces in 1987. The Occupational Safety and Health Administration (OSHA) developed guidelines for Permit-Required Confined Spaces for General Industry (29 CFR 1910.146) in January 1993. The selected Contractor will correctly follow OSHA guidelines relating to Permit-Required Confined Space Entry while working at both BWI and MTN Airports.
 - All contractual or sub-contractual employees must have completed an OSHA approved Confined Space Training and/or refresher course prior to completing work under this contract. The contractor must submit to the Service a copy of each employee's certification annually to remain in compliance with OSHA regulations.
 - All confined space work will not be completed until the contractor's designee for each task meets with a Service representative and signs off on the Service's required confined space paperwork.
 - All required confined space permit monitoring paperwork must be completed as necessary and copies shall be submitted to the Service prior to leaving the worksite at the end of each day.
- E. The Contractor shall agree and understand that subcontractors may be used in relation to labor, equipment, materials, and/or services required for a project under the contract, which are not within the scope or capacity of the primary Contractor.

- F. Contractor understands that site restoration to improve the activities of this construction project shall specifically include:
- Repair and or replacement of paved areas to their original condition at the start of the project
 - Cleaning of the roadways and airfield of mud and other accumulated debris, on a routine basis and prevention of soil/sediment run off during ongoing repair projects
 - Re-grading and seeding (with stabilization matting or straw) all damaged grassy areas
 - Pre-establishing any drainage
- G. Contractor shall agree to construction clean up which should proceed as construction progresses and shall consist of the removal of all mud, oil, paint containers, soil, gravel, trash, debris, and any other materials that are unsightly or can cause or result in erosion. All petroleum products, paints and solvents shall be stored in covered containers at the construction site by the Contractor. The Contractor shall be responsible for maintaining the integrity and security of the storage of these materials until such time, as necessary, tests establish that the materials can be disposed of as construction debris.
- H. Contractor shall agree that all areas disturbed by the Contractor's operations, including staging and stockpiling areas, construction strips, access roads, and areas within the acquired rights-of-way and easements shall be restored and re-stabilized as specified herein.
- I. Contractor understands that the installation of temporary fencing (safety fence around pits, temporary chain link around any pump station site) is required. The temporary fencing shall be so installed to inflict minimal damage to the site after the fencing is removed upon completion of the project. Any area damaged by the installation, maintenance, or removal of fencing must be restored to its original condition.

3.0 CONTRACT DURATION:

- A. The duration of the contract shall be for five consecutive fiscal years from the notice to proceed. MES fiscal years begin on July 1st and end on June 30th. MES reserves the right to modify these dates without penalty.

4.0 BASIS FOR BIDDING:

- A. Multiple contracts shall be awarded to the lowest responsive Total Bid Price from responsible bidders. Bidder responsibility will be evaluated on factors including Minority Business Enterprise (MBE) participation (26%), verification of sufficient staffing, and verification of sufficient equipment, and ranked according to the Total Bid Price.
- B. As tasks outlined within the project scope arise, MES will contact the short listed firms in the established rank order. Work orders will be assigned to the available Contractor that submitted the lowest Total Bid Price. Note: Contractors that were unavailable to perform any given assignment will be contacted again in ranked order when the next assignment comes up.

5.0 SPECIAL CONDITIONS: ****

- A. When required, the contractor must be able to initiate work within 24 hours of being notified by the MES.
- B. Many of the BWI sanitary sewer pipelines are located along heavily traveled airport roadways or along airplane taxiways and other movement areas. Due to traffic conditions (car/bus/plane) many portions of the BWI sewer system can only be accessed during the early morning hours between 12:00 A.M. and 6:00 A.M. The awarded Contractor must have the manpower, materials and equipment available to conduct cleanings, repairs, linings and all other sewer related operations during these early morning hours. It is essential that the Contractor perform maintenance of these manholes as efficiently as possible. Once started, the Contractor must perform maintenance of these manholes consecutively on every working day (Monday – Friday) until the maintenance is completed and the equipment is removed from the area, thus permitting normal vehicle/aircraft operations. These “off hour” morning operations shall not present any additional costs to the Service.
- C. The Contractor shall assign a qualified Project Manager to coordinate all aspects of the contract. The contractor shall submit, with the bid, the Project Manager’s resume including a detailed work history.
- D. The Contractor shall submit, with the bid, a detailed list of all equipment to be utilized on this project.
- E. The Contractor will need to perform a confined space entry in order to access sanitary manholes. All personnel who enter, supervise, or act as rescuer/standby during the confined space, as defined by law, must have confined space entry training and certification, as required by Federal, State or local laws. Such certification shall be submitted to the Service for approval, before any confined space work commences.
 - a. The contractor shall submit, with the bid, a list of all employee(s) certified in “Confined Space” along with a copy of their current certificates.
 - b. The contractor shall be required to sign the MES contractor notification form and the MES contractor debriefing form for permit-required confined space entry before and after performing the entry on the date(s) of service.
- F. There is a Minority Business Enterprise (MBE) participation minimum requirement of 26% for this bid. The 26% requirement applies to each year of the contract, with years ending June 30, 2010, 2011, 2012, 2013, and 2014. The nature of this work at BWI Airport facilities will allow for most aspects of the workload to be subcontracted to an MBE certified in the State of Maryland. For example selecting an MBE vendor to haul away material would satisfy the MBE obligation as long as the 26% requirement is met. The Contractor shall also submit a “Schedule G” with each invoice to acknowledge MBE participation. (Invoices will not be paid unless the “Schedule G” is attached and completed in its entirety and according to MES specifications).

G. Guarantee

The Contractor hereby guarantees all of the work included in this contract for a period of two (2) years after the date of conditional acceptance of the work as the following:

1. The Contractor is liable for all faulty or imperfect materials, and for all imperfect, careless, unskilled workmanship on his part, the part of his Sub-Contractors, or component manufacturers.
2. The entire work and each and every part thereof shall operate, with normal care and attention, in a satisfactory and efficient manner, and in accordance with the requirements of the specifications.
3. The Contractor agrees to replace with proper workmanship and materials, and to re-execute, correct, or repair without cost to the Service, work which may be found to be improper or imperfect or which does not operate in satisfactory manner or fails to perform as specified.

6.0 Records and Reports

A. Contractor should submit an estimated breakdown of the bid items and quantities to be used for each project including the estimated total cost.

B. Contractor shall submit to the Service, records of all manifests for transportation and disposal certification. (Prior to leaving the job site for the day)

C. Contractor shall furnish any other correspondence or reports as requested by the Service regarding authorized actions.

D. All reports and findings shall be treated confidentially, and released only to Federal and/or State regulatory agencies, with copies to the Service.

E. The Contractor shall submit all invoices to the Service for certification and payment. (Including schedule G)

F. The contractor shall be required to sign the MES contractor notification form and the MES contractor debriefing form for permit-required confined space entry before and after performing the entry on the date(s) of service.

Bid Form Details

The Bid Forms detail the nature and estimated quantities of the maintenance work required. This work shall be completed on a time and materials basis. Hourly rates shall include all labor, equipment, materials, insurance costs, overhead costs, and profit. The hourly rates shall also include the time of a supervision/foreman who will coordinate the Contractor's effort to meet the needs of the Service.

During the course of the work, the Contractor shall provide three copies of the daily reports to the Service identifying the total hours expended and the materials used under each bid item. If the Service agrees with the quantities listed by the Contractor, the Service shall sign the reports returning one copy to the Contractor. For billing purposes, the Contractor must attach copies of the approved daily reports with the invoice. If discrepancies arise with the invoice, the Contractor shall only be compensated for the quantities shown on the daily reports. In the event that the estimated quantity for a bid item have been exhausted, the Service has the option to execute a change order for the additional quantities at the same unit price listed within the bid form.

Bid Item Number 1 : On-Site Supervisor

The Contractor shall provide an on-site supervisor to manage all aspects of the assigned projects. The on-site supervisor shall also be responsible for submitting the daily report manifests, assuring that all confined space permit paperwork is complete, and notifying the Service of any contingencies that may occur. When completing outlined work within this scope such as sliplining, CIPP lining etc. an on site supervisor is considered by the Service to be an incidental charge and will be included in the price of completing each task. The on site supervisor cost in Bid Item No. 1 is to establish a known separate supervisor cost should tasks arise relating to collection system maintenance and repair that are not covered within this scope of work. The hourly rate shall include the costs for all personal protective equipment (PPE) required to complete each assigned project as well as a work vehicle for transportation to the worksite. This item shall be bid as an hourly rate with an estimated quantity of 25 hours for each year.

Bid Item Number 2: Laborers

The Contractor shall provide an hourly rate for (1) general laborer. The hourly rate shall include the costs for all personal protective equipment (PPE) required and a work vehicle for transportation to complete each assigned project. When completing outlined work within this scope such as sliplining, CIPP lining etc. labor is considered by the Service to be an incidental charge and will be included in the price of completing each task. The labor cost in Bid Item No. 2 is to establish a known separate labor cost should tasks arise relating to collection system maintenance and repair that are not covered within this scope of work. This item shall be bid as an hourly rate with an estimated quantity of 50 hours for each year.

Bid Item Number 3: Vacuum/ Sewer Cleaner Truck (Pump & Water Truck) & Operator

The Contractor shall provide an hourly rate for a pump and water truck with a minimum of 3000-gallon liquid storage capacity including an experienced operator to assume all responsibilities. The pump and water truck is a vehicle/unit designed to pump, vacuum, or extract heavy sludge and/or solids and should be equipped with a fully hydraulic boom and a positive displacement

blower (i.e. PD). The debris body of the truck shall be equipped with a rear door drain to decant excess liquid but retain solids. Six hundred feet of jet hose should be supplied with the pump and water unit. Jet hose shall be 1" ID and should have an operating pressure of 3,000 PSI and a burst pressure of 7,500 PSI. The water pump shall be hydraulically driven. The operator should be able to alter flows and pressures separately. The operator will also be required to maintain the pump and water truck on-site as well as when hauling materials off-site for disposal. The water truck should have a capacity of 1,500 gallons of freshwater availability and carry its own backflow preventer. The selected Contractor must possess a valid permit from the State of Maryland to remove water from county fire hydrants to perform work. This unit price will include the labor for the operator, all hoses, boom tubes, and extensions required to complete each project as well as any tools or required equipment to perform the necessary maintenance on the facility or truck. This item shall be bid as an hourly rate as required on a daily basis with an estimated 150 hours for each year.

Bid Item Number 4: Painting

This section includes materials and application of paint and coating systems acceptable to the Service. Surfaces covered will be submerged, exposed, and buried metal as well as metal in contact with concrete. See Section No. 9 entitled "Painting " for details outlining all materials, standards and operations acceptable to the Service. This item shall be bid per cubic foot with an estimated 25 feet of painting to be completed each year

Bid Item Number 5: Camera and Lighting

The pan-and-tilt camera shall be solid-state color, with remote control of the rotational lens. The camera shall be capable of viewing the complete circumference of the pipe. The camera lens shall be an auto-iris type with remote controlled manual override. The camera light head shall include a high-intensity side viewing lighting system to allow illumination of internal sections of lateral connections and pipe circumferences. This bid item will include the cost of a separate designated vehicle to transport camera and lighting equipment and (1) designated camera operator who is thoroughly experienced with the use of such specialized equipment. This item shall be bid as an hourly rate as required on a daily basis with an estimated 150 hours for each year.

Bid Item Number 6: Cementitious Lining

This material shall be a high strength, high build, corrosion resistant resin impregnated synthetic mortar based on calcium acuminate cement. The cementitious liner for sewer manholes must be spray applied only. See Section No. 4 entitled "Manhole Repairs " for details outlining all materials, standards and operations acceptable to the Service. This cost will include all equipment required to perform cementitious lining operations. This item shall be bid per linear feet with an estimated 30 linear feet requiring cementitious lining per year.

Bid Item Number 7: Manhole Steps

New manhole steps shall be aluminum type 6061-T6 meeting OSHA requirements with grooved, non-slip treads. Manhole steps shall be inserted into manhole wall using a flex-lock insert meeting requirements of ASTM C-478 section No. 12. Manhole steps and inserts shall be as manufactured by Atlantic Concrete Products, Inc. or accepted equal. This item shall be bid per step with an estimated 10-step replacement/installations each year.

Bid Item Number 8: Manhole Frame and Covers

Manhole covers shall have either 24-inch, 26-inch, or 32-inch diameter opening. Covers and frames shall be cast iron designed for traffic bearing H-20 loading. Manhole frames, covers, gaskets and hardware shall be as manufactured by East Jordan Iron Works, Neenah, or accepted equal. The pick holes in the cover shall be designed for easy removal of the cover with rounded edges. All covers for sewer shall have a factory cast stating "Sanitary Sewer" as well as "BWI Airport". All hardware shall be 304 stainless steel. See Section No. 4 entitled "Manhole Repairs" for details outlining all materials, standards and operations acceptable to the Service. MES estimates a total of 2 manhole frames and covers of various sizes requiring replacement each year. This item shall be bid per frame and cover replacement with an estimated one 24-inch frame and cover and one 32-inch frame and cover per year.

Bid Item Number 9: Adjustment Grade Rings

All adjustment rings shall be pre-cast concrete and come provided with boltholes matching the frame. Grade rings are used to either bring manhole to acceptable grade height or to raise manhole in areas they may be located on a floodplain. See Section No. 4 entitled "Manhole Repairs" for details outlining all materials, standards and operations acceptable to the Service. This cost will include all equipment such as front-end loaders, cables, shackles and other associated equipment that is required to complete grade ring installation. This item shall be bid per ring with an estimated 10 grade rings to be installed each year.

Bid Item Number 10: Joint Sealing

Joint sealing is a process in which rehabilitation of deteriorating/separating joints is performed by forcing a chemical sealer into the void space by a system of pumps, hoses and sealing packers. All necessary equipment needed to perform this type of system repair such as sealant containers, pumps, regulators, valves hoses and packers shall be included in the price of this item. See Section No. 3 entitled "Joint Grouting" for details outlining all materials, standards and operations acceptable to the Service. This item shall be bid per joint with an estimated 30 pipe joints to be sealed per year.

Bid Item Number 11: Non-Hazardous Liquids Disposal

The Contractor shall provide the necessary labor and equipment to collect and dispose of all waste materials generated from the maintenance and operations (minimum 3,000 gallon "jetter" truck with vacuum/pump capabilities- see Bid Item No. 3 for specifications). This unit price will include the labor for the operator, all hoses required to complete each project as well as any tools or required equipment to perform the necessary maintenance on the facility or vehicle as well as the costs for disposal of the waste fluids hauled. Contractor often will be able to decant wastewater collected at another system point as directed by the Service. However, this option may not always be feasible and this bid item establishes a per gallon charge for transportation and proper disposal of this collected non-hazardous liquid. The unit price will also include fuel costs and mileage traveled to the job site and disposal facility. This item shall be bid per gallon with an estimated 15,000 gallons of wastewater disposed of each year.

Bid Item Number 12: Non-Hazardous Sludge Disposal (Landfill)

The Contractor shall provide the necessary labor, equipment, and materials to collect and dispose of all waste materials generated from the maintenance operations and their disposal. This would include, but is not limited to trash, sediment, organic matter, and construction debris removed during sewer cleaning/ maintenance operations. The Contractor shall provide a per cubic yard cost using an estimated 5 cubic yards of solid wastes to the nearest appropriate landfill each year.

Bid Item Number 13: Hazardous Liquids Disposal

There is a potential for gasoline, motor oil, and other hazardous materials to enter the sanitary sewer system, especially along heavily traveled airport roadways. The Contractor shall provide the necessary labor and equipment to collect and dispose of all hazardous waste materials generated from the maintenance, operations and their disposal (minimum 3,000 gallon "jetter" truck with vacuum/pump capabilities). This unit price will include the labor for the operator, all hoses required to complete each project as well as any tools or required equipment to perform the necessary maintenance on the facility or vehicle as well as the costs for disposal of the hazardous waste fluids hauled. The unit price will also include fuel costs and mileage traveled to the job site and disposal facility. This item shall be bid at a rate of 250 gallons for each year.

Bid Item Number 14: Hazardous Sludge Disposal (Contaminated Waste; Landfill)

There is a potential for various fuels, motor oil, and other hazardous materials to enter the sanitary sewer system, especially along heavily traveled airport roadways. In the event of an emergency spill response situation, the selected contractor will be required to pump and haul solids containing high concentrations of oil, grease, and ethylene glycol or any mixture of these pollutants. The Contractor shall provide the necessary labor and equipment to collect and dispose of all waste materials generated from the maintenance, operations and their disposal (Minimum 3,000 gallon "jetter" truck with vacuum/pump capabilities). This unit price will include the labor for the operator, all hoses required to complete each project as well as any tools or required equipment to perform the necessary maintenance on the facility or vehicle as well as the costs for disposal of the hazardous waste solids hauled. The unit price will also include fuel costs and mileage traveled to the job site and disposal facility. This item shall be bid at a rate of 1 cubic yards of material for each year.

Bid Item Number 15: CIPP Lining

Cured-in-place pipe (CIPP) requires a hollow cylinder containing a non-woven or a woven material, or a combination of non-woven and woven material surrounded by a cured thermosetting resin. This pipe is formed within an existing pipe. Therefore, it shall take the shape of and shall fit tightly to the existing pipe. See Section No. 1 entitled "Lining" for all details outlining materials, standards and operations acceptable to the Service. This unit will include all equipment such as meters, tubing, resin that are required to Perform CIPP lining operations. This item shall be bid per square foot with an estimated 500 feet of CIPP lining to be performed per year.

Bid Item Number 16: HDPE Sliplining

Sliplining is a process in which you rehabilitate deteriorating pipe by inserting a smaller pipe into an existing pipe. As a trench less method, sliplining can be applied to either pressure or gravity pipelines. In the sliplining process, a winch cable is inserted through the existing pipeline and attached to the front of a new liner. The new liner is then pulled into the existing line and the new liner is connected to the system. Often there is a need to fill the void created by this process within the pipe with grouting. See Section No. 2 entitled "Sliplining" for details outlining all materials, standards and operations acceptable to the Service. This item shall be bid per square foot with an estimated 500 feet of sliplining to be performed per year.

Bid Item Number 17: Root Control

This specification covers requirements for the chemicals necessary for destroying roots, which have grown into the existing airport sewer systems and the introduction of chemicals to inhibit further re-growth, as well as cleaning/cutting any roots in the sewer system. See Section No. 5 entitled "Root Control" for details outlining all materials, standards and operations acceptable to the Service. This item shall be bid per square foot with an estimated 50 feet of root removal/treatment performed per year.

Bid Item Number 18: Bypass Pumping

Bypass pumping is a process in which wastewater is pumped around a particular pipeline sections or segments. Bypass pumping may be performed in response to an emergency situation (surcharge) or while performing needed repairs and maintenance to any component of the collection system. Bypass pumping can be performed around a single pipe section or several sections of pipeline based on need. During bypass pumping, trash pump(s) are utilized to reroute wastewater around necessary pipe and manhole sections. Pneumatic plugs are necessary to block flow at designated manholes and to allow pumping. All plugs to be used by the selected Contractor must be inspected by a Service representative prior to installation. Two 6-inch centrifugal trash pumps with a minimum pumping capability of 1200 gallons per minute will be used by the selected Contractor to complete bypass pumping. One pump will be used as the "primary" pump and one pump will be used as "standby" to be used should the first pump fail during operation. Both pumps shall be on site at all times during pumping operations. Selected Contractor will furnish all labor, PPE, hoses, bracing, plugs, compressor, couplings, pump(s), confined space entry materials, and fuel to effectively pump wastewater. This bid item is to be billed at a single 24-hour daily rate with an estimated 7 days of bypass pumping to be conducted each year.

SECTION 1
BWI & MTN SEWER SYSTEM LINING, TYPE A
(RESIN-IMPREGNATED FLEXIBLE TUBE)

1.1 GENERAL

A. Description

1. This section describes the procedures for the reconstruction of pipelines and conduits by the installation of a resin-impregnated, flexible tube, which is inverted into the existing conduit by use of a hydrostatic head or air pressure. The resin is cured by circulating hot water or introducing controlled steam within the tube. When cured, the finished pipe will be continuous and tight fitting.
2. This specification does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the contractor to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

B. Referenced Documents

1. ASTM Standards:
 - D 543 Test Method for Resistance of Plastics to Chemical Reagents
 - D 638 Test Method for Tensile Properties of Plastics
 - D 790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
 - D 903 Test Method for Peel or Stripping Strength of Adhesive Bonds
 - D 1600 Terminology for Abbreviated Terms Relating to Plastics
 - D 3839 Practice for Underground Installation of Fiberglass (Glass-Fiber-Reinforced Thermosetting Resin) Pipe
 - F 412 Terminology Relating to Plastic Piping Systems

C. Definitions

1. Definitions are in accordance with Terminology F 412 and abbreviations are in accordance with Abbreviations D 1600, unless otherwise specified.
2. Descriptions of Terms Specific to This Standard:
 - a. Cured-in-place pipe (CIPP) – a hollow cylinder containing a non-woven or a woven material, or a combination of non-

woven and woven material surrounded by a cured thermosetting resin. This pipe is formed within an existing pipe. Therefore, it shall take the shape of and shall fit tightly to the existing pipe.

- b. Inversion – the process of turning the resin-impregnated tube inside out by the use of water pressure or air pressure.
- c. Lift – a portion of the CIPP that has cured in a position such that it has pulled away from the existing pipe wall.

1.2 MATERIALS

A. Tube

The tube should consist of one or more layers of flexible needled felt or an equivalent non-woven or woven material, or a combination of non-woven and woven materials, capable of carrying resin, withstanding installation pressures and curing temperatures. The tube should be compatible with the resin system used. The material should be able to stretch to fit irregular pipe sections and negotiate bends. The outside layer of the tube should be plastic coated with a material that is compatible with the resin system used. The tube should be fabricated to a size that, when installed, will tightly fit the internal circumference and the length of the original conduit. Allowance should be made for circumferential stretching during inversion.

TABLE 1 CIPP Initial Structural Properties

Property	Test Method	Minimum Value psi	Minimum Value (Mpa)
Flexural strength	D 790	4 500	(31)
Flexural modulus	D 790	250 000	(1 724)
Tensile strength (for pressure pipes only)	D 638	3 000	(21)

B. Resin

A general purpose, unsaturated, styrene-based, thermoset resin and catalyst system or an epoxy resin and hardener that is compatible with the

inversion process should be used. The resin must be able to cure in the presence of water and the initiation temperature for cure should be less than 180 degrees F (92.2 degrees C). The CIPP system can be expected to have as a minimum the initial structural properties given in Table 1.

1.3 EXECUTION

A. Installation

1. Cleaning and Inspection:

- a. Prior to entering access areas such as manholes, and performing inspection or cleaning operations, an evaluation of the atmosphere to determine the presence of toxic or flammable vapors or lack of oxygen shall be undertaken in accordance with local, state, or federal safety regulations.
- b. Cleaning of Pipeline – All internal debris shall be removed from the original pipeline. Gravity pipes shall be cleaned with hydraulically powered equipment, high-velocity jet cleaners, or mechanically powered equipment.
- d. Inspection of Pipelines – Prior to installing any lining, inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles, and service connections by closed-circuit television or man entry. The interior of the pipeline shall be carefully inspected to determine the location of any conditions that may prevent proper installation of the impregnated tube, such as protruding service taps, collapsed or crushed pipe, and reductions in the cross-sectional area of more than 40%. These conditions shall be noted so that they can be corrected.
- e. Line Obstructions – The original pipeline shall be clear of obstructions such as solids, dropped joints, protruding service connections, crushed or collapsed pipe, and reductions in the cross-sectional area of more than 40% that will prevent the insertion of the resin-impregnated tube. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, then a point repair excavation shall be made to uncover and remove or repair at the obstruction.

2. Resin Impregnation – The tube shall be vacuum-impregnated with resin (wet-out) under controlled conditions. The volume of resin used shall be sufficient to fill all voids in the tube material at nominal thickness and diameter. The volume shall be adjusted by adding 5 to 10% excess resin for the change in resin volume due to polymerization and to allow for any migration of resin into the cracks and joints in the original pipe.

3. Inversion:

- a. Using Hydrostatic Head – The wet-out tube shall be inserted through an existing manhole or other temporary access by means of an inversion process and the application of a hydrostatic head sufficient to fully extend it to the next designated manhole or termination point. The tube shall be inserted into the vertical inversion standpipe with the impermeable plastic membrane side out. At the lower end of the inversion standpipe, the tube shall be turned inside out and attached to the standpipe so that a leak proof seal is created. The inversion head shall be adjusted to be of sufficient height to cause the impregnated tube to invert from point of inversion to point of termination and hold the tube tight to the pipe wall, producing dimples at side connections. Care shall be taken during the inversion so as not to over-stress the felt fiber.
 - 1. An alternative method of installation is a top inversion. In this case, the tube is attached to a top ring and is inverted to form a standpipe from the tube itself.
 - 2. The tube manufacturer should provide information on the maximum allowable tensile stress for the tube.
- b. Using Air Pressure – The wet-out tube shall be inserted through an existing manhole or other temporary access by means of an inversion process and the application of air pressure sufficient to fully extend it to the next designated manhole or termination point. The tube shall be connected by an attachment at the upper end of the guide chute so that a leak proof seal is created and with the impermeable plastic membranes side out. As the tube enters the guide chutes, the tube shall be turned inside out. The inversion air pressure shall be adjusted to be of sufficient pressure to cause the impregnated tube to invert from point of inversion to point of termination and hold the tube tight to the pipe wall, producing dimples at side connections. Care shall be taken during the inversion so as not to overstress the woven and non-woven materials. Suitable precautions shall be taken to eliminate hazards to personnel in the proximity of the construction when pressurized air is being used.
- c. Required Pressures – Before the inversion begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing conduit, and the maximum allowable pressure so as not to damage

the tube. Once the inversion has started, the pressure shall be maintained between the minimum and maximum pressures until the inversion has been completed. Should the pressure deviate from within the range of the minimum and maximum pressures, the installed tube shall be removed from the existing conduit.

4. Lubricant – The use of a lubricant during inversion is recommended to reduce friction during inversion. This lubricant shall be poured into the inversion water in the down tube or applied directly to the tube. The lubricant used shall be a nontoxic, oil-based product that has no detrimental effects on the tube or boiler and pump system, will not support the growth of bacteria, and will not adversely affect the fluid to be transported.

5. Curing:

- a. Using Circulating Heated Water – After inversion is completed, a suitable heat source and water recirculation equipment are required to circulate heated water throughout the pipe. The equipment shall be capable of delivering hot water throughout the section to uniformly raise the water temperature above the temperature required to effect a cure of the resin. Water temperature in the line during the cure period should be as recommended by the resin manufacturer.

1. The heat source shall be fitted with suitable monitors to gage the temperature of the incoming and outgoing water supply. Another such gage shall be placed between the impregnated tube and the

pipe invert at the termination to determine the temperatures during cure.

2. Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appears to be hard and sound and the remote temperature sensor indicates that the temperature of a magnitude to realize an exotherm or cure in the resin. After initial cure is reached, the temperature shall be raised to the post-cure temperature recommended by the resin manufacturer. The post-cure temperature shall be held for a period as recommended by the resin manufacturer, during which time the recirculation of the water and cycling of the boiler to maintain the temperature continues. The curing of the CIPP must take into account the existing pipe material,

b. Using Steam – After inversion is completed, suitable steam-generating equipment is required to distribute steam throughout the pipe. The equipment shall be capable of delivering steam throughout the section to uniformly raise the temperature within the pipe above the temperature required to effect a cure of the resin. The temperature in the line during the cure period shall be as recommended by the resin manufacturer.

1. The steam-generating equipment shall be fitted with a suitable monitor to gage the temperature of the outgoing steam. The temperature of the resin being cured shall be monitored by placing gages between the impregnated tube and the existing pipe at both ends to determine the temperature during cure.

2. Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appears to be hard and sound and the remove temperature sensor indicates that the temperature is of a magnitude to realize an exotherm or cure in the resin. After initial cure is reached, the temperature shall be raised to post-cure temperatures recommended by the resin manufacturer. The post-cure temperature shall be held for a period as

recommended by the resin manufacturer, during which time the distribution and control of steam to maintain the temperature continues. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil).

c. Required Pressures – Before the curing begins, the pressure required to hold the flexible tube tight against the existing conduit shall be provided by the tube manufacturer. Once the cure has started and dimpling for laterals is completed, the required pressure shall be maintained until the cure has been completed. Should the pressure deviate more than 2.3 ft of water (1 psi) from the required pressure, the installed tube shall be removed from the existing conduit. A continuous log of pressure during cure shall be maintained.

6. Cool-Down:

- a. Using Cool Water After Heated Water Cure – The new pipe shall be cooled to a temperature below 100 degrees F (38 degrees C) before relieving the static head in the inversion standpipe. Cool-down may be accomplished by the introduction of cool water into the inversion standpipe to replace water being drained from a small hole made in the downstream end. Care should be taken in the release of the static head so that a vacuum will not be developed that could damage the newly installed pipe.
- b. Using Cool Water After Steam Cure – The new pipes shall be cooled to a temperature below 113 degrees F (45 degrees C) before relieving the internal pressure within the section. Cool-down may be accomplished by the introduction of cool water into the section to replace the mixture of air and steam being drained from a small hole made in the downstream end. Care shall be taken in the release of the air pressure so that a vacuum will not be developed that could damage the newly installed pipe.

7. Workmanship – The finished pipe shall be continuous over the entire length of an inversion run and be free of dry spots, lifts, and delaminations. If these conditions are present, remove and replace the CIPP in these areas at no additional cost to the Service.

- a. If the CIPP does not fit tightly against the original pipe at its termination point(s), the space between the pipes shall be sealed by filling with a resin mixture compatible with the CIPP.

8. Service Connections – After the new pipe has been cured in place, the existing active service connections shall be reconnected. This should generally be done without excavation from the interior of the pipeline by means of a television camera and a remote-control cutting device.

C. Inspection Practices

1. For each inversion length designated in the contract documents, the preparation of two CIPP samples is required, one from each of the following two methods:
 - a. The sample shall be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has

been inverted through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags.

- b. The sample shall be fabricated from material taken from the tube, and the resin/catalyst system used. The sample shall then be cured in a clamped mold: placed in the downtube when circulating heated water is used or placed in the silencer when steam is used.
- D. The samples for each of these cases shall be large enough to provide a minimum of three specimens for flexural testing and also for tensile testing, if applicable. The following test procedures should be followed after the sample is cured and removed.
 1. Short-Term Flexural (Bending) Properties – The initial tangent flexural modulus of elasticity and flexural stress shall be measured for gravity and pressure pipe applications in accordance with Test Methods D 790 and should meet the requirements of Table 1.
 2. Tensile Properties – The tensile strength shall be measured for pressure pipe applications in accordance with Test Method D 638 and must meet the requirements of Table 1.
 3. Gravity Pipe Leakage Testing – Test all rehabilitated sewer pipes.
 4. Delamination Test – A delamination test shall be performed on each inversion length specified. The CIPP samples shall be prepared in accordance with this specification, except that a portion of the tube material in the sample should be dry and isolated from the resin in order to separate tube layers for testing. Delamination testing shall be in accordance with Test Method D 903, with the following exceptions:
 - a. The rate of travel of the power-actuated grip shall be 1 in. (25 mm)/min.
 - b. Five test specimens shall be tested for each inversion specified.
 - c. The thickness of the test specimen shall be minimized, but should be sufficient to adequately test delamination of nonhomogeneous CIPP layers.
 5. The peel or stripping strength between any nonhomogeneous layers of the CIPP laminate shall be a minimum of 10 lb./in. (178.60 g/mm) of width for typical CIPP applications.
 6. Inspection and Acceptance – The final installation will be inspected visually if appropriate for short sections, or by closed-

circuit television. Variations from true line and grade may be inherent because of the conditions of the original piping. No infiltration of groundwater should be observed. All service entrances should be accounted for and be unobstructed.

PAYMENT

1. CIPP (Type A) lining will be measured and paid at unit price item as stated in the proposal as Bid Item #15.
2. All incidental costs including, but not limited to, materials, meters, samples, mechanical equipment, PPE, permit required confined space entries, labor, TV inspection (pre and post), cleaning shall be included in the unit item (per foot) of pipe being lined.

****END OF SECTION No. 1****

SECTION 2
BWI & MTN SEWER SYSTEM LINING, TYPE B
(HDPE SLIPLINING)

2.1 GENERAL

A. Description

1. This section specified sliplining for longitudinal and other major cracks for repair of the existing gravity sewer pipe.
2. Contractor shall be responsible for the final constructed product, materials, and tools used, and for furnishing the labor and qualified personnel necessary for the method of construction.
3. The Contractor must demonstrate that the chosen method will control flow of wastewater and prevent loss of soil into natural waters, does not damage structures and pavements and provide stability under anticipated conditions.
4. The Contractor shall furnish all items, including but not limited to, necessary material, supplies, equipment, spoil transportation systems, hoists, ventilation safety equipment, and survey controls necessary to construct the pipe rehabilitation by the selected method.
5. It is the Contractors responsibility to provide a safe workplace and conduct operations by methods and with equipment to positively control dust, fumes, sediments, wastewater and gases to meet OSHA and other federal, state and local codes, standards and guidelines.

B. Submittals

1. Submit for review a Work Plan with complete Contractor's construction drawings and written description identifying details of the proposed method of construction and the sequence of operations to be performed during construction. The drawings and descriptions shall be sufficiently detailed to demonstrate to the Engineer whether the proposed materials and procedures will meet the requirements of this Section.
2. Depending on the Contractor's method of construction, the Work Plan, including drawings, shall be submitted on the following items:
 - a. Description of equipment and capabilities.
 - b. Method of controlling line and grades.
 - c. Method of controlling pipe placement.

- d. Details of the pipe sliplining.
 - e. Details of controlling pipe stress, capable of sliplining the specified pipe size for the lengths.
 - f. Method of maintaining flow in pipeline or via bypass piping or pumping.
3. Submit data, project list and references indicating the Contractor has been actively engaged in the sliplining of large diameter pipe for a minimum of five years.

2.2 MATERIAL

A. Products

Slipliner pipe shall be high-density polyethylene pipe specifically fabricated for gravity sewer sliplining, Plexco, Chevron or accepted equal.

B. Dimensions

Slipliner pipe and couplings shall fit within the I.D. of the existing pipe.

C. Grout

Grout placed in the annular space between the OD of the liner pipe and the ID of the existing pipe shall be cement or chemical based grout with a minimum compressive strength of the grout shall be 3,500 psi.

2.3 EXECUTION

A. General

- 1. The pipe shall follow the line and grade of the existing pipe.
- 2. Install the pipe in a manner that does not cause upheaval, settlement, cracking, movement, or distortion of the existing pipe.

B. Trenching and Earthwork

- 1. Accomplish trenching and earth moving work in accordance with the OSHA Safety & Health Regulations for Construction Standard, Excavations subpart 29 CFR 1926.0650
- 2. Provide trained and certified "Equipment Operator" personnel to the job site during trenching & earthmoving operations.

C. Preparation

- 1. Cleaning of the existing pipe followed by TV inspection (Specifications found in Section #6) shall be performed prior to sliplining. This will allow the engineer to identify locations and type of repairs. This will also allow the Contractor to become familiarized with the pipe to be sliplined, including location of

valves, ARVs and pipe deflections. Obstructions such as roots, large joint off-sets, rocks or other debris, etc. that would prevent passage or damage the liner pipe sections must be removed or repaired prior to installing the new pipe. This inspection will allow the Contractor to modify their sliplining procedure to meet existing conditions.

2. Wastewater Flow

The Contractor may, at his option, bypass sewage around the section of the force main to be relined during repair operations. During slip-lining operations, the Contractor may elect to not bypass sewage if the slip-lining process does not interfere with flow continuity, in the opinion of the Engineer. The bypass shall be performed by plugging the force main in an upstream location and bypassing the sewage into a downstream access point. If pumping is used, a backup pump shall be provided. The Contractor shall submit his proposed method of bypassing sewage to the Engineer, and shall be responsible for the bypass system during its operation (bypass shall be attended at all times).

D. Installation of Liner Pipe

1. Installation: The installation of pipe and fittings shall be in strict conformance to the manufacturer's requirements.
2. Pipe Grouting: Annular space grouting shall not damage the liner and shall conform to the manufacturer's requirements.
3. Pipe Handling: Use textile slings, other suitable materials or a forklift. Use of chains or cables is not allowed. Packing, handling, and shipping shall be done in accordance with the manufacturer's instructions.
4. Additional TV Inspections: Following installation of the liner pipe, and grouting of the annular space between the carrier and liner pipe, perform a TV inspection of the liner pipe interior per Section No. 7. Repair or replace any damaged or misaligned pipes, joints or fittings.

2.4 PAYMENT

1. Sliplining will be measured and paid at unit price item (sewer lining Type B) as stated in the proposal on bid item no. 16.
2. Access pits shall be located at existing manholes. Excavation, backfill and compaction will be paid per cubic yards as stated in the Unit Price Contingent items for excavation and backfill. Pavement repair and removing/replacing manholes will also be paid based on unit contingent items.

3. All other incidentals including, but not limited to, cost of pipe, materials, grout, equipment, PPE, permit required confined space entries, labor, TV inspection (pre and post), cleaning shall be included in the unit item (per foot) of pipe being lined.

****END OF SECTION No. 2****

SECTION 3 JOINT GROUTING

3.1 GENERAL

A. Description

The initial TV inspection will identify sections of the sewer system that are damaged, requiring spot repairs. Minor cracks, including cracks from root growth, and joint problems will require application of a chemical sealant/grout.

B. Purpose

1. The intent of this section is to define certain properties that a sealing material should have to perform effectively in the intended application and under ambient field conditions. The intended application is to seal sewer pipe joints and cracks with a remote-controlled sealing packer.
2. In every case, mixing and handling of chemical sealing materials shall be in accordance with the manufacturer's recommendations.

3.2 MATERIALS

A. Chemical Sealing Materials

1. Acrylamide base gel sealing material:
 - a. A minimum of 10% acrylamide base material by weight in the total sealant mix. A higher concentration (%) of acrylamide base material may be used to increase strength or offset dilution during injection. If presence of roots is found during TV inspection of these sections, then root control chemicals as specified in Section #5 shall be used as additional ingredients to the base gel. Confirm compatibility with the product manufacturer.
 - b. The ability to tolerate some dilution and react in moving water during injection.
 - c. A viscosity of approximately 2 centipoise which can be increased with additives.
 - d. A constant viscosity during the reaction period.
 - e. A controllable reaction time from 10 seconds to 1 hour.

- f. A reaction (curing) that produces a homogeneous, chemically stable, non-biodegradable, firm, flexible gel.
- g. The ability to increase mix viscosity, density and gel strength by the use of additives.

B. Equipment

- 1. The basic equipment shall consist of necessary chemical sealant containers, pumps, regulators, valves, hoses, etc., and joint sealing packers for the various sizes of sewer pipes. The packer shall be cylindrical and have a diameter less than the pipe size and have cables attached at each end to pull it through the line. The packer device shall be constructed in a manner to allow a restricted amount of sewage to flow. Generally, the equipment shall be capable of performing the specified operations in lines where flows do not exceed the maximum line flows for joint testing/sealing.

3.3 EXECUTION

A. Joint Sealing Procedure

- 1. Joints showing visible leakage and/or minor separations shall be sealed as specified. Joint sealing shall be accomplished by forcing chemical sealing materials into or through faulty joints by a system of pumps, hoses, and sealing packers. Jetting or driving pipes from the surface that could damage or cause undermining of the pipelines shall not be allowed. Uncovering the pipe by excavation of pavement and soil (which would disrupt traffic, undermine adjacent utilities and structures, and cause further damage to the pipe lines being repaired) shall not be allowed. The packer shall be positioned over the faulty joint by means of a measuring device and the closed-circuit television camera in the line. It is important that the procedure used by the contractor for positioning the packer be accurate to avoid overruling the packer and thus not effectively sealing (grouting) the intended joint. The packer ends (end elements, sleeves) shall be expanded using controlled pressure. The expanded ends shall seal against the inside periphery of the pipe to form a VOID area at the faulty joint, now completely isolated from the remainder of the pipeline. Into this isolated area, sealant materials shall be pumped through the hose system at controlled pressures, which are in excess of groundwater pressures. The pumping unit, metering equipment, and the packer device shall be designed so that proportions and quantities of materials can be regulated in accordance with the type and size of the leak being sealed.

B. Joint Sealing Verification

1. Upon completing the sealing of each individual joint, the packer shall be deflated until the VOID pressure meter reads zero pressure, then reinflated and the joint retested as specified. Should the VOID pressure meter not read zero, the Contractor shall clean his equipment of residual grout material or make the necessary equipment repairs/adjustments to produce accurate VOID pressure readings. Joints that fail to meet the specified test criteria shall be resealed and retested until the test criteria can be met in order to receive a payment.
2. All sewer sections repaired shall be pressure tested as specified in these specifications.

C. Residual Sealing Material

1. Residual sealing materials that extend into the pipe, reduce the pipe diameter, or restrict the flow shall be removed from the joint. The sealed joints shall be left reasonably "flush" with the existing pipe surface. If excessive residual sealing materials accumulate in the line (and/or if directed by the inspector) the manhole section shall be cleaned to remove the residual materials.

D. Records

1. Complete records shall be kept of joint sealing performed in each manhole section. The records shall identify the manhole section in which the sealing is done, the location of each joint sealed, and the joint sealing verification results.

3.4 GUARANTEE

- A. All sewer pipe joint sealing work performed shall be guaranteed against faulty workmanship and/or materials for a period of two years after the completion of the work.

3.5 PAYMENT

- A. Payment for sewer joint grouting repairs will be made per joint sealed as stated in the Proposal on Bid Item No. 10.
- B. All incidental costs including, but not limited to, the cost of materials, containers, pumps, regulators, valves, hoses, PPE, permit required confined space entries and labor shall be included in the unit item per joint being sealed.

****END OF SECTION No. 3****

SECTION 4 MANHOLE REPAIRS

4.1 GENERAL

A. Purpose

1. The intent of this specification is to provide for all aspects of manhole rehabilitation and sealing using various procedures either singularly or in combination.

B. Description:

Refer to the tables in the bid form for the manholes to be rehabilitated. Sewer manhole rehabilitation includes the following:

1. Sealing, plugging, patching, and coating of the manhole structure, including manhole chimney, corbel/cone, wall, and base with mortars, coatings and sealant to improve the surface condition, eliminate infiltration, and provide corrosion protection.
2. Lining and structural enhancement of the manhole using a cementitious liner.
3. Repair or rebuilding of the manhole chimney and corbel to improve structural condition when excavation is required.
4. Removal and/or replacement of unsound and missing steps.
5. Reinstallation or replacement of manhole frames and covers for grade adjustment, frame alignment, condition or inflow elimination.
6. Elimination of infiltration/inflow under the manhole frame.
7. Elimination of inflow through and around manhole covers.

4.2 MATERIAL

A. Manhole Sealing, Plugging, Patching, and Coating:

1. The materials used shall be designed, manufactured, and intended for sewer manhole rehabilitation and the specific application in which they are used. The materials shall have a proven history of performance in sewer manhole rehabilitation. The materials shall be delivered to the job site in original unopened packages and clearly labeled with the manufacturer's identification and printed instructions. All material shall be stored and handled in accordance with recommendations of the manufacturer and the American Concrete Institute. Materials used for specific applications shall be as follows.

- a. Stopping active leaks in concrete and masonry manholes:
 - i. A premix fast-setting, volume-stable waterproof cement plug consisting of hydraulic cement, graded silica aggregates, special plasticizing and accelerating agents. It shall not contain chlorides, gypsums, plasters, iron particles, aluminum powder of gas-forming agents, or promote the corrosion of steel it may come in contact with. Set time shall be approximately 1 minute. Ten-minute compressive strength shall be approximately 500 psi.
 - ii. A silconate-based liquid accelerator, field mixed with neat Portland cement. The set time shall be approximately 1 minute.
 - iii. The elastomeric polyurethane resin-soaked method, using dry twisted jute oakum, or resin-rod with polyurethane resin (water activated).
- b. Patching, repointing, filling, and repairing non-leaking holes, cracks, and spalls in concrete and masonry manholes:

A premixed nonshrink cement-based patching material consisting of hydraulic cement, graded silica aggregates, special plasticizing and accelerating agents, which has been formulated for vertical or overhead use. It shall not contain chlorides, gypsums, plasters, iron particles, aluminum

powder, or gas-forming agents or promote the corrosion of steel it may come into contact with. Set time (ASTM C-191) shall be less than 30 minutes. One-hour compressive strength (ASTM C-109) shall be a minimum of 200 psi and the ultimate compressive strengths (ASTM C-109) shall be a minimum of 5000 psi. Bond strengths (ASTM C-882 Modified) shall be a minimum of 1700 psi.

B. Cementitious Lining

The material shall be a high strength, high build, corrosion resistant, resin impregnated synthetic mortar based on calcium aluminate cement. When mixed with the appropriate amount of water, a paste-like material will develop which may be sprayed, cast, pumped or gravity-flowed into any area $\frac{1}{4}$ inch or larger. This mortar will harden quickly without any need for special curing and can be considered mature after 24 hours. The hardened mortar has been purposely developed to be resistant to very aggressive soil conditions, such as low pH and high sulfates, seawater and dilute sulfuric acid resulting from bacteriological oxidation of

hydrogen sulfide common to sanitary sewers. The raw materials are carefully selected and contain no calcium sulfates, tri-calcium aluminates or agents aggressive to reinforcing steel. The mortar is designed to resist biogenic corrosion in atmospheres in which Portland cements may reach levels as low as pH 2.

C. Manhole Steps

New manhole steps shall be aluminum type 6061-T6 meeting OSHA requirements with grooved, non-slip treads. Manhole steps shall be inserted into manhole wall using a flex-lock insert meeting requirements of ASTM C-478 section 12. Manhole steps and inserts shall be as manufactured by Atlantic Concrete Products, Inc. or accepted equal.

C. Manhole frame and covers

1. Manhole frame and covers shall be non-gasketed type with closed two 1"pickholes. Manhole covers shall vary in diameter based on location. Covers and frames shall be cast iron designed for both traffic bearing H-20 and aircraft loading based on location.
2. Manhole frames, covers and hardware shall be as manufactured by East Jordan Iron Works, Neenah, or accepted equal.
3. The pick holes in the cover shall be designed for easy removal of the cover with rounded edges.
4. All covers for sewer shall have a factory casted to include:
 - BWI or Martin State Airport
 - Sanitary Sewer and include the
 - Appropriate manhole ID number
5. All hardware shall be 304 stainless steel.

D. Adjustment Grade Rings

1. All adjustment rings shall be precast concrete and provided with boltholes matching the frame.
2. Gaskets shall be extruded rope, butyle base conforming to AASHTO M-198.
3. Provide precast rings at all locations for adjusting manhole rim elevation. Cast in place concrete or brick is not allowed.

4.3 PROCEDURES

All materials shall be mixed and applied in accordance with the manufacturer's written instructions.

A. Cleaning

All concrete and masonry surfaces must be clean. Grease, laitance, loose bricks, mortar, unsound concrete, and other materials must be completely removed. Water blasting utilizing proper nozzles shall be the primary method of cleaning; however, other methods such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers or mechanical means may be required to properly clean the surface. Surfaces on which these other methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products.

B. Stopping Infiltration

After surface preparation and prior to the application of coatings, infiltration shall either be stopped by chemical grout sealing, plugging, or by installing "bleed" pipes at the base of the manhole.

C. Patching

All loose or disintegrated material shall be removed from the area to be patched or repointed exposing a sound subbase. Holes or voids around steps, joints or pipes, spalled areas, and cavities caused by missing or broken brick shall be patched and missing mortar repointed using a nonshrink patching mortar. Cracks not subject to movement and greater than 1/16 of an inch in width shall be routed out to a minimum width and depth of 1/2 inch and patched with nonshrink patching mortar.

D. Coating (weatherproofing)

A waterproof, cementitious coating shall be applied to all surfaces, from and including the manhole bench to the bottom of the frame. The material shall be applied in accordance with the manufacturer's recommendations to surfaces that are free of cracks or voids wider than 1/16 inch. A minimum of two coats (of contrasting colors) of this material shall be applied; however, an additional coat may be required, depending on the depth of the manhole. When completed, the coating shall be free of any cracks or holes.

E. Coating (corrosion protection)

An epoxy resin conforming to these specifications shall be applied to all surfaces, from the manhole bench to the frame.

F. Post Curing

After proper curing of the applied materials, any "bleed" pipes that were used shall be removed, and the holes plugged and coated with the specified materials.

G. Cementitious Liner (Spray Applied)

This method uses a premixed cementitious blend of binders, materials, aggregates, glass fiber and other additives. After mixing with water, the material is spray applied directly to the manhole surface in a two-coat application with in-between and finish trowling required. The result is a continuous liner from invert to frame which restores structural integrity and provides corrosion protection.

1. Materials

Specially formulated prepackaged mixes shall be used. The material shall be fiber reinforced and contain special additives that produce a minimum 28-day compressive strength of 3,000 psi. The material shall form a mechanical and chemical bond to the manhole surface and have zero shrinkage.

2. Surface Preparation

The entire surface shall be thoroughly cleaned. All loose and protruding material shall be removed. Active infiltration through the manhole structure shall be stopped. All large voids shall be patched. The manhole flow channel shall be covered with plywood.

3. Application

The materials shall be mixed and applied in accordance with the manufacturers written instructions using approved equipment. The material shall be spray applied directly to the damp manhole surface in a two-coat application. The material shall be trowled after each coat. The material shall completely cover the interior surface of the manhole with a minimum thickness of 3/8 inch.

4. Curing

The material shall be cured according to the manufacturer's instructions.

5. Testing

Product performance shall be confirmed by casting six 2-inch cubes or four 3-inch by 6-inch test cylinders from the applied material. The product shall be tested for compressive strength per ASTM C-495.

H. Repair of Manhole Chimney and Corbel, Requiring Excavation:

1. In paved Areas:

- a. The removal of the manhole frame shall be accomplished by making a square cut of sufficient size in the pavement.
- b. Material in the exposed area shall be dug out to a sufficient depth to permit the required repairs. All excess material, including pavement, shall be disposed of as required in the Contract Documents.
- c. Suitable materials (stockpiled) shall be tamped in place to form the sub-base for the pavement. If additional material is needed, suitable material shall be added before the pavement is replaced.
- d. The surfacing used to cover the exposed area (concrete or asphalt) shall conform to the existing pavement. It shall be placed to the same elevation and grade and have a thickness equal to or greater than the existing pavement.
- e. Pavement replacement not satisfactorily done by the Contractor shall be reworked at no expense to the Owner.

2. In Unpaved Areas:

- a. Only necessary excavation around manhole shall be performed
- b. Backfill shall be replaced and compacted to prevent settlement and to restore the setting to a condition equal to or better than that found. Backfill shall not cover the manhole.
- c. Any property which is removed for access to the manhole shall be replaced by the contractor in existing or better condition. If this replacement is not to the satisfaction of the engineer, it shall be redone at no cost to the Owner.

- 3. The Contractor shall take all necessary precautions to prevent falling debris from damaging the manhole trough and/or entering the sewer.
- 4. The damaged or deteriorated portions of the existing manhole chimney and corbel shall be removed and disposed of as specified.

5. The chimney and corbel shall be repaired or rebuilt with new brick or precast concrete grade rings as appropriate to reconstruct the chimney to the height needed for the frame and cover to meet the required grade. The manhole frame shall be sealed using either manufactured or applied sealing method.

I. Repair of Manhole Chimney Seal (Epoxy):

Epoxy must be designed to absorb stress created when cracks and joints move due to vibrations. The manhole chimney is prepared and epoxy is applied over the damaged chimney section. The dried epoxy shall be both flexible to prevent cracking during vibrations and maintain a watertight seal.

1. Materials

Contractor must use a polyamine epoxy that is 100% flexible and is high strength, corrosion resistant, and waterproof. The manufacturer of the epoxy must state that the chosen epoxy will bond to properly prepared concrete, metal, wood, or fiberglass. The Service accepts the use of the PARSONPOXY FP™ product manufactured by Parsons Environmental Products Incorporated for all chimney seal applications at BWI. However, MES will allow comparable products only if they are shown to meet or exceed the physical properties and strengths of the Parsonpoxy FP™ product.

2. Surface Preparation

The entire surface shall be thoroughly cleaned. Surfaces must be cleaned of all rust, scale, marine growth, debris, grease and loose material prior to epoxy application. Contractor will spray concrete and metal with a minimum 3000 psi water blast or thoroughly wire brush surface to remove loose dirt then allow to fully dry prior to the application of epoxy. If any active leaks are detected during the time of surface preparation they must be repaired before the application of epoxy

3. Application

The materials shall be mixed and applied in accordance with the manufacturers written instructions using approved equipment. The material shall be physically applied directly to the dry manhole surface in a two-coat application using a rigid paintbrush, putty knife or gloved hand.

2. Curing/ Dry Time

The Contractor shall allow curing times in accordance with manufacturer's instructions.

J. Manhole Frame and Cover Reinstallation or Replacement

1. Excavation and site restoration in paved and unpaved areas shall be as specified above.
2. The Contractor shall remove the existing manhole frame and cover and if they are not being reused, dispose of them as directed by the Engineer. It shall be the responsibility of the Contractor, at no additional cost to the Owner, to repair any damage to the chimney or corbel caused by the removal of the existing manhole frame.
3. If the manhole frame is to be raised, a sufficient number of new pre-cast concrete grade rings or brick shall be installed to enable the frame and cover to meet the new grade. The manhole cover may also be raised to meet the grade by installing an approved steel or iron manhole adjusting ring in the top of the existing manhole frame.
6. Damaged manhole frames and covers are to be replaced. New replacement frames and covers shall be as specified in the Contract Documents. The Contractor shall then install the new or reused frames so that the top of the covers are at the required grade.
5. All manholes are to receive inserts.

K. Manhole Frame Sealing

The manhole frame and the chimney above the cone shall be sealed, with a flexible sealing ring. This type of chimney seal should allow riser portion of manhole to have vertical and horizontal movement while maintaining a watertight seal. Seals are created when the stainless steel expansion bands compress the rubber seal against the inside of the frame and cone.

1. Materials
This type of chimney seal use expansion bands are made from either 304 or 316 type stainless steel. Physical properties are listed below. The Service prefers the use of the FlexRib Seal™ product manufactured by Parsons Environmental Products Incorporated for all chimney seal applications at BWI. However, MES will allow comparable products if they are proven to meet or exceed the physical properties and strengths of the FlexRib Seal™ product.
3. Application
Seals are created when the stainless steel expansion bands compress the rubber seal against the inside of the frame and cone with <2,000 lbs. of force. The rubber is extruded to the required length and the ends are hot spliced together using virgin rubber compound to form a high strength vulcanized joint.

4. Curing/ Dry Time

The Contractor shall allow curing times in accordance with manufacturer's instructions.

4.4 PAYMENT

- A. Payment for this section will be made under the base bid and actual quantities utilized, as stated in the Proposal. Include all labor, material, PPE, permit required confined space entries and incidentals related to this section of specifications in the appropriate base bid line items.

****END OF SECTION No. 4****

SECTION 5 ROOT CONTROL

5.1 GENERAL

A. Description

This specification covers requirements for the chemicals necessary for destroying roots, which have grown into the existing sewer system and chemicals to inhibit further re-growth, as well as cleaning/cutting any roots in the sewer system.

5.2 MATERIALS

A. Destroying Intruding Roots

The active component for destroying intruding roots in sanitary sewer lines shall be a potent, non-systemic toxin which will kill contacted roots at low concentrations but which will not permanently affect parts of the plant distant from the treated roots. The active ingredient must be spontaneously detoxified by natural chemical or biochemical processes in a relatively short interval following its use. The active ingredient shall not adversely affect the performance of wastewater treatment plants, and shall have EPA approval for use in sewer lines.

The active ingredient for destroying root intrusions shall be (anhydrous) Sodium Methyldithiocarbamate (no less than 24.25%) or a compound demonstrated to be equal in the preceding characteristics.

B. Inhibiting Re-growth of Root Intrusion

The active ingredient for inhibiting re-growth of root intrusions in sanitary sewer lines shall inhibit root cell growth on contact, but shall not be transported so as to damage other portions of the parent plant. The material shall bind firmly to the soil in the vicinity of openings in line joints so as to form a persistent chemical barrier suppressing the growth of root tips. The material shall be sufficiently stable under the conditions of use to provide protection for twelve months or longer, but shall be subject to decomposition in wastewater treatment plants without disturbing plant processes. The material shall have EPA acceptance for use in sanitary sewers.

The root cell growth-inhibiting agent shall be:

- a. 2,6- Dichlorobenzonitrile (no less than 24.25%) or a compound demonstrated equivalent in the foregoing characteristics
- b. Sodium Methylclithio carbanate, in combination with 2.6 – Dichloroben zonitrile formulated as a 50% wettable powder or;

- c. Diquat Dibromide formulated at a 37.3% concentration, or greater or;
- d. A compound demonstrated equivalent in the foregoing characteristics.

The formula shall have surfactants and foaming agents (inert ingredients) sufficient to produce a stable, small-bubble, dense foam capable of sustaining its shape and thus remaining on the treated roots for approximately one hour. One (1) gallon of concentrated root control agent is to produce 400 gallons of foam, when mixed as a 5% aqueous solution.

C. Formulation of Chemical Root Control Agents

The formulation of the above described chemical root control agents shall be EPA registered, labeled for the intended use in sewer lines, and acceptable to the environmental and pesticide regulatory agencies of the state in which the work is performed.

Prior to completing work, the Contractor shall submit for approval, specimen product label(s) and material Safety Data Sheets for any chemical root control agents that the Contractor proposes to use on the contract.

5.3 EXECUTION

A. Application

- 1. Application of the chemical root control agent shall be by foaming in accordance with the best-recommended practice for conditions present in the line under treatment.
- 2. All foaming procedures shall be in accordance with the manufacturer's labeled instructions on the container label. Equipment used shall be approved by the manufacturer of the chemical root control agent. Mixing and handling shall be in strict accordance with the manufacturer's label and applicable safety codes.
- 3. All foam delivered to the line shall be generated from a freshly prepared solution. Solution which has been mixed more than 12 hours may be significantly reduced in effectiveness. The ratio of

water to the concentrated root control agents shall be no less than a twenty-to-one (5%) solution. The water used to prepare the solution shall be clear, cool, and free of acid, alkali, oxidizing agents, or large amounts of oil or compounds or materials.

4. The foam discharge hose shall be inserted into the section of line, by being tagged, or otherwise conveyed through the length of the section. The foam shall be discharged as the hose is retrieved, at the rate recommended for the pipe capacity, to assure that the foam fills the pipe to the top.
5. The flow of sewage shall be controlled as required. Extremely fast flows or steep grades shall be treated as deemed most effective by field supervisors.

B. Cleaning

1. No cleaning is required prior to root control treatment except in extremely rare situations where extensive accumulations of root growth or debris prevent proper application of the herbicide. In these circumstances cleaning should precede application of the herbicide by at least two to three weeks, in order for re-growth to be established.
2. Cleaning of line sections after application of root control agents should be postponed as long as possible and as practical with project schedule, to assure ongoing biological decomposition of root masses.
3. All roots shall be cut and removed from the sewer system by means of mechanical devices.

5.4 QUALIFICATIONS

A. Contractor Experience

1. The Contractor must demonstrate a minimum level of five (5) years direct experience in applying chemical sewer root control of the type proposed.
2. The Contractor must have performed a minimum of five (5) other jobs similar in size and scope to the work specified herein.
3. Documentation indicating contractors experience shall be submitted during the submittal process.

5.5 GUARANTEE

A. For each sewer section (manhole-to-manhole) that is treated under the Contract, the Contractor shall guarantee the work as follows:

1. At the option of the Customer, the Contractor will, at his own expense, re-treat a sewer section, or remit to the Customer 100% of the payment received to treat that section, in the event that: (1) live roots are found in the section within six months after the

application; or, (2) the section plugs up the floods due to live tree root obstructions within a period of two years, beginning two months after the date of treatment, and ending two years and two months after the date of treatment.

2. Re-treatments, performed at no charge in honor of the guarantee, do not extend the expiration date of the guarantee.
3. The guarantee applies only to sewer stoppages caused by live tree roots. It does not apply to stoppages caused by grease or other foreign matter; flat, collapsed or deformed pipe; or flooding caused by a surcharged or plugged sewer section downstream from a guaranteed sewer section.

This guarantee applies to main line sewers only. The decision of the Owner as to the cause of a plug-up or the condition of treated roots is binding.

5.6 PAYMENT

1. Payment for root control, cleaning and cutting will be made based on unit price per foot as stated in the proposal. Payments will be made based on the actual quantities utilized.
2. All incidental costs including, but not limited to, the cost of materials, chemicals, mechanical devices, regulators, valves, hoses, PPE, permit required confined space entries and labor necessary to perform root removal and treatment shall be included in the unit item cost estimate.

****END OF SECTION No. 5****

SECTION 6

CLEANING AND TV INSPECTION OF SANITARY SEWER LINES

6.1 GENERAL

A. Description

1. Cleaning
 - a. The intent of sewer line cleaning is to remove foreign materials from the lines and restore the sewer to a minimum of 95% of the original carrying capacity or as required for proper seating of internal pipe joint sealing packers. Since the success of the other phases of work depends a great deal on the cleanliness of the lines, the importance of this phase of the operation is emphasized. It is recognized that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor will not be required to clean those specific manhole sections. If in the course of normal cleaning operations, damage does result from preexisting and unforeseen conditions such as broken pipe, the Contractor will not be held responsible.
2. TV Inspection
 - a. Sewer System video inspection shall be accomplished by using a Pan-and-Tilt camera. During this inspection the operator notes obstructions, offset joints, debris remaining in the main, and the general conditions of each pipe section. The inspection shall be video taped, and data relating to the inspection report is logged.
 - b. The Contractor shall furnish all items, including but not limited to, bypass system, necessary material, supplies, equipment joists, ventilation safety equipment, and controls necessary to perform the TV inspections.
 - c. There will be three separate TV inspection requirements at different times.

B. Submittals

1. Submit for review a Work Plan with complete Contractor's written description identifying details of the proposed method of cleaning and TV inspection and the sequence of operations to be performed. The descriptions shall be sufficiently detailed to demonstrate to the Engineer whether the proposed materials and procedures will meet the requirements of this Section.

2. Submit data, project list and references indicating the contractor has been actively engaged in cleaning and TV inspection of pipe for a minimum of three years.

6.2 MATERIALS

A. Cleaning Equipment:

1. **Hydraulically Propelled Equipment:** The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of grease. If sewer cleaning balls or other equipment which cannot be collapsed is used, special precautions to prevent flooding of the sewers and public or private property shall be taken.
2. **High-Velocity Jet (Hydrocleaning) Equipment:** All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.
3. **Mechanically Powered Equipment:** Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 750 feet of rod. The rod shall be specifically heat-treated steel. To insure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.
4. **Cleaning Precautions:** During sewer cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment. When hydraulically propelled cleaning tools (which depend upon water pressure to provide their cleaning force) or tools which retard the flow in the sewer line are used, precautions shall be taken to insure that the water pressure created does not damage or cause flooding of public or private property being served by the sewer. When possible, the flow of sewage in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. When additional water from fire

hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant.

B. Camera

The pan-and-tilt camera shall be solid-state color, with remote control of the rotational lens. The camera shall be capable of viewing the complete circumference of the pipe. The camera lens shall be an auto-iris type with remote controlled manual override.

C. Lighting

The camera light head shall include a high-intensity side viewing lighting system to allow illumination of internal sections of lateral connections and pipe circumferences.

6.3 EXECUTION

A. Sewer Cleaning

1. The designated sewer sections shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. Selection of the equipment used shall be based on the conditions of lines at the time the work commences. The equipment and methods selected shall be satisfactory to the Engineer. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the cleaning effort shall be abandoned.
2. Roots shall be removed in the designated sections where root intrusion is a problem. Special attention should be used during the cleaning operation to assure almost complete removal of roots from the joints. Any roots that could prevent the seating of the packer or could prevent the proper application of chemical sealants shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaners. Chemical root treatment may be used at the option of the Contractor. (See section #5 for root control specifications).

B. Inspection

1. After the sewer system is cleaned, inspect with a television camera specifically designed to produce color videotape and constructed for sewer force main inspection. Each section to be televised shall be isolated by bypassing sewage flow from the line section. Lighting for the camera shall provide a clear picture of the entire periphery of the existing system. Provide monitoring and video recording of each televised sewer line inspection, referenced to pipe station.
2. Perform Cleaning and TV inspection three times:
 - a. Initial Inspection: Inspect the pipe to be rehabilitated following cleaning, as discussed above, at the project start.
 - b. Repair Verification: Inspect the interior of the entire pipe following installation of liner and/or repairs and rehabilitation.
 - c. Warranty Check: Inspect the interior of the entire pipe one month before end of the warranty period (i.e. 12 months after the pipe has been accepted).

C. Documentation

Each inspection shall be recorded on videotape/cd. A written report of the condition of the pipe shall be prepared at the time of the inspection. This

report shall contain: identification and approximate location of any pipe defects. When each videotape/cd has been completed and reviewed, both labeled television inspection sheets and labeled videotapes/cd's shall be delivered to the Service. These materials shall be correctly identified between manhole sections and contain, date, inspector, time, type of pipe, width of pipe and length.

6.4 PAYMENT

1. Cleaning will be measured and paid at a unit price per square foot as stated in the proposal.
2. Televising or "TV inspection" of pipeline sections will be measured and paid at a unit price per square foot as stated in the proposal.
3. All incidental costs including, but not limited to, the cost of materials, mechanical devices, pumps, hoses, couplings, PPE, permit required confined space entries and labor necessary to perform televising and pipeline jet cleaning operations shall be included in each unit item (per foot) cost.

****END OF SECTION #6****

SECTION 7 GENERAL CONCRETE CONSTRUCTION

7.1 GENERAL

A. General

This section includes materials, installation, reinforcing steel, joints, concrete, and finishing and curing for general concrete construction.

B. Submittals

1. Submit manufacturer's catalog data and descriptive literature for joint filler, control joints, epoxy bonding compound, and floor hardener.
2. Submit a laboratory test of the reinforcing steel to prove conformance with the specified ASTM standard.
3. Submit concrete mix designs.
4. Submit a report from a testing laboratory verifying that aggregate materials contains less than 1% asbestos by weight or volume and conform to the specified gradations or characteristics.

7.2 MATERIALS

A. Formwork

1. Design forms according to ACI 347.

B. Bond Breaker

Bond breaker shall be a non-staining type which will provide a positive bond prevention, such as Williams Tilt-Up Compound, as manufactured by Williams Distributors, Inc., Seattle, Washington; Silcoseal 77, as manufactured by SCA Construction Supply Division, Superior Concrete Accessories, Franklin Park, Illinois; or equal.

C. Form Release Agent

1. Form release agent shall effectively prevent absorption of moisture and prevent bond with the concrete. Agent shall be non-staining and nontoxic after 30 days.
2. For steel forms, release agent shall prevent discoloration of the concrete due to rust.

D. Reinforcing Steel

1. Reinforcement shall conform to ASTM A 615, Grade 60.

2. Fabricate reinforcing in accordance with the current edition of the Manual of Standard Practice, published by the Concrete Reinforcing Steel Institute. Bend reinforcing steel cold.

E. Welded Wire Fabric

Welded wire fabric shall conform to ASTM A 185.

F. Tie Wire

Tie wire shall be 16-gauge minimum, black, soft annealed.

G. Bar Supports

Bar supports in beams and slabs exposed to view after form stripping shall be galvanized and plastic coated. Use concrete supports for reinforcing in concrete placed on grade.

H. Bar Couplers

Reinforcing steel bar splicing couplers shall be a mechanical type as manufactured by Dayton Barsplice Inc. or equal. Use couplers which do not reduce tensile or ultimate strength of bars.

I. Joint Sealant

Joint sealant shall be a multipart, gray, non-staining, non-sagging, polyurethane sealant, which cures at ambient temperature to a firm, flexible, resilient, tear-resistant rubber. Sealant shall be RC 270 of Products Research and Chemical Corporation, Mameco International Vulkem 227, Multi-Chem MC287, or equal.

J. Backing Rod for Expansion Joints

Backing rod shall be an extruded closed-cell polyethylene foam rod, such as Minicel backer rod, manufactured by Industrial Systems Department, Plastic Products Group of Hercules, Inc., Middletown, Delaware; Ethafoam SB, as manufactured by Dow Chemical Company, Midland, Michigan; or equal. The rod shall be 1/4 inch larger in diameter than the joint width. Where possible, provide full-length sections for the joint; minimize splices. Apply backup rod and bond breaker tape in expansion joints.

K. Bond Breaker Tape

Bond breaker tape shall be an adhesive-backed glazed butyl or polyethylene tape that will adhere to the premolded joint material or concrete surface. The tape shall be the same width as the joint. The tape shall be compatible with the sealant.

L. Preformed Control Joint

Preformed control joint shall be a one-piece, flexible, PVC joint former, such as Kold-Seal Zip-Per Strip KSF-150-50-50, manufactured by Vinylex Corp., Knoxville, Tennessee, or a one-piece steel strip with preformed groove, such as Keyed Kold Retained Kap, manufactured by Burke Concrete Accessories, Inc., San Mateo, California, or equal. Provide the preformed control joint material in full-length unspliced pieces.

M. Premolded Joint Filler

Joint filler shall be preformed, non-extruded type constructed of closed-cell neoprene conforming to ASTM D 1752, Type I, as manufactured by W. R. Grace Company of Cambridge, Massachusetts; W. R. Meadows, Inc., Elgin, Illinois; or equal or bituminous type preformed expansion joint filler conforming to ASTM D 994.

N. Cement

Cement shall conform to ASTM C 150, Type II, with maximum tricalcium aluminate not to exceed 8%. The maximum percent alkalis shall not exceed 0.6%.

O. Aggregates

Aggregates shall comply with ASTM C 33 and shall contain less than 1% asbestos by weight or volume and be free from any substances that will react with the cement alkalis.

P. Concrete Admixtures

1. Concrete shall contain an air-entraining admixture. Admixture shall conform to ASTM C 260, except it shall be nontoxic after 30 days and shall contain no chlorides. Admixtures shall be Master Builders MB-AE 10, Sika AER (Sikamix 104), or equal.
2. Concrete shall contain a water-reducing admixture. The admixture shall conform to ASTM C 494, Type A, D, E, F or G, except it shall contain no chlorides, shall be nontoxic after 30 days, and shall be compatible with the air-entraining admixtures. The amount of admixture added to the concrete shall be in accordance with the manufacturer's recommendations. Admixtures shall be Master Builders Pozzoloth polymer-type normal setting, Plastocrete (Sikamix 160) Normal Set, Sika Chemical Corporation, or equal.
3. Concrete for clarifier walls shall contain a C494, Type F or G.
4. Do not use any admixture that contains chlorides or other corrosive elements in any concrete.

Q. Grout

1. Nonshrink grout shall conform to the Corps of Engineers Specification for Nonshrink Grout, CRD-C621-83, and to these specifications. Use a non gas-liberating type, cement base,

premixed product requiring only the addition of water for the required consistency. Grout shall be UPCON High Flow, Master Flow 713, or equal. Components shall be inorganic.

2. Ordinary type grout (dry pack) shall consist of one part portland cement to two parts sand (100% passing a No. 8 sieve). Add sufficient water to form a damp formable consistency.
3. Expansive Grout: Premixed, cementitious mixture with a minimum 28-day strength of 3,500 psi. Provide air entraining content as recommended by the manufacturer.
4. Epoxy Grout:
 - a. Mix the two components of epoxy bonding compound in compliance with the manufacturer's instructions.
 - b. Use sand that is oven dry and meets the following gradation requirements for epoxy grout:

Sieve Size	No. 8	No. 50	No. 100
% Passing	100	30 +/- 15	5 +/- 5

R. Mortar

Mortar or grout placed on horizontal construction joints shall be a mixture of cement, sand, and water in the same proportions used in the concrete but with coarse aggregate omitted.

S. Bonding Compound

1. Epoxy bonding compound shall be Concresive 1001 LPL, Adhesive Engineering Company, San Carlos, California; Sikadur Hi-Mod (Sikastix 370), Sika Chemical Corporation, Lyndhurst, New Jersey; Epoxtile 2391 by W. R. Grace and Company; Euco Epoxy 463 by Euclid Chemical Company; or equal.
2. Nonepoxy bonding compound shall be Weldcrete by Larsen Products Corp., Link by Sta-Dry Manufacturing Corp., Euco Weld by Euclid Chemical Co., or equivalent. The compound shall be rewettable for up to two weeks.

T. Concrete Mix Design

1. Conform to ASTM C 94, except as modified by these specifications.
2. Air content as determined by ASTM C 231 shall be 4% +/- 1%.
3. Use classes of concrete as described in the following table:

Class	Type of Work	28-Day Compressive Strength (in psi)	Minimum Cement Content (in lbs per C.Y.)
A	Concrete for all Structures within AOA sections of BWI	5,000	752
B	Concrete for all structures, slabs, pipe supports, Pump and Equipment pads, and concrete not otherwise specified.	4,000	564
C	Pavement and sidewalk	3,000	500

U. Concrete Tests

1. Concrete quality testing will be performed on the concrete by an independent testing firm provided by the Contractor. Testing firm representative shall be present for all concrete placements.
 - a. Frequency of Sampling: Cast four concrete test cylinders from each 50 cubic yards, or fraction thereof, of each class of concrete placed in any one day. Sampling and curing of cylinders shall conform to ASTM C 31.
 - b. Strength Testing: Test cylinders in accordance with ASTM C 39. Test one cylinder at 7 days for information; test two cylinders at 28 days for acceptance; and hold one cylinder for verification. Strength acceptance will be based on the average of the strengths of the two cylinders tested at 28 days. If one cylinder of a 28-day test manifests evidence of improper sampling, molding, or testing, other than low strength, discard it and use the fourth cylinder for the test result.
 - c. Determine concrete slump by ASTM C 143 with each strength test sampling and as required to establish consistency.
 - d. Determine air content of the concrete using ASTM C 231 to verify the percentage of air in the concrete immediately prior to depositing in forms.
 - e. The average value of concrete strength tests shall be equal to or greater than the specified 28-day strength. No test shall be less than 90% of the specified 28-day strength.

V. Curing Compound

1. Curing compound shall conform to ASTM C 309, Type 1, Class B.
2. Curing compound shall be compatible with required finishes and coatings and shall meet Clean Air Quality Standards.

7.3 EXECUTION

A. Form Tolerances

1. Failure of the forms to produce the specified concrete surface and surface tolerance shall be grounds for rejection of the concrete work. Rejected work shall be repaired or replaced at no additional cost to the Owner.
2. The following table indicates tolerances or allowable variations from dimensions or positions of structural concrete work:

Maximum Tolerance

Sleeves and inserts	+1/4" -1/4"
Projected ends of anchors	+1/4" -0.0"
Anchor bolt setting	+1/4" -1/4"
Finished concrete, all locations	+1/4" -1/4" in 10 feet Max +/-1" in total length

The planes or axes from which the above tolerances are to be measured shall be as follows:

Sleeves and inserts: Centerline of sleeve or insert.

Projected ends of Plane perpendicular to anchors: the end of the anchor as located on the drawings.

Anchor bolt setting: Centerline of anchor bolt.

Finish concrete: The concrete surface as located on the drawings.

Where equipment is to be installed, comply with manufacturer's tolerances if more restrictive than above.

B. Form Surface Preparation

1. Clean form surfaces to be in contact with concrete of foreign material prior to installation.

2. Coat form surfaces in contact with concrete with a release agent prior to form installation.

C. Form Reuse

3. Reuse only forms that provide a uniform surface texture on exposed concrete surfaces. Apply light sanding or other surface treatment between uses for uniform texture. Plug unused tie rod holes with corks, shave flush, and sand the concrete surface side. Do not patch forms other than filling tie rod holes, except in the case of Class II forms. Do not use metal patching discs on Class I forms.

D. Removal of Forms

1. The following table indicates the minimum allowable time after the last cast concrete is placed before forms, shoring, or wall bracing may be removed:

Sides of footings and encasements	24 hours
Vertical sides of beams	48 hours
Slabs and beams	10 days (forms only)

2. Do not remove forms from concrete which has been placed with outside air temperature below 50°F without first determining if the concrete has properly set without regard for time. Do not apply heavy loading on green concrete. Immediately after forms are removed, the surface of the concrete shall be carefully examined and any irregularities in the surface shall be repaired and finished as specified.

E. Embedded Items

Set anchor bolts and other embedded items accurately and hold securely in position until the concrete is placed and set. Check all special castings, channels, or other metal parts that are to be embedded in the concrete prior

to and again after concreting. Check all nailing blocks, plugs, and strips necessary for the attachment of trim, finish, and similar work prior to concreting.

F. Beveled Edges (Chamfer)

Form 3/4-inch beveled edges on exposed concrete edges and corners, beam soffit corners, and where indicated on the drawings. Reentrant corners in concrete members shall not have fillets, unless otherwise shown in the drawings. The top edges of slabs, walkways, beams, and walls may be beveled with an edging trowel in lieu of using chamfer strips.

G. Placing Reinforcement

1. Place reinforcing steel in accordance with the current edition of Recommended Practice for Placing Reinforcing Bars, published by the Concrete Reinforcing Steel Institute.
2. Place reinforcing in accordance with the following, unless otherwise indicated:
 - a. Reinforcement indicated on the drawings is continuous through the structure to the farthest extent possible. Terminate bars 2 inches clear from faces of concrete.
 - b. Splices may be used to provide continuity due to bar length limitations. Minimum length of bars spliced for this reason is 30 feet. Splicing of reinforcement which is detailed to be continuous on the drawings is not permitted.
3. Place reinforcement a minimum of 2 inches clear of any metal pipe or fittings.
4. Secure reinforcing dowels in place prior to placing concrete. Do not press dowels into the concrete after the concrete has been placed.
5. Roll wire mesh used for reinforcement flat before placing concrete. Support and tie wire mesh to prevent movement during concrete placement.

H. Site-Mixed Concrete

Conform to ACI 304.

I. Ready-Mixed Concrete

Conform to ASTM C 94.

J. Placing Concrete

Conform to ACI 304.

K. Pumping Concrete

Conform to ACI 304.2R-91.

L. Weather Requirements

1. Conform to ACI 305 for placing during hot weather.
2. Conform to ACI 306 for placing during cold weather.

M. Bonding to Old Concrete

Coat the contact surfaces with epoxy bonding compound. The method of preparation and application of the bonding compound shall conform to the manufacturer's printed instructions and recommendations for specific application for this project.

N. Grouting Machinery Foundations

Block out the original concrete or finish off a sufficient distance below the bottom of the machinery base to provide for the thickness of grout required by the equipment manufacturer. After the machinery has been set in position and wedged to the proper elevation by steel wedges, fill the space between the bottom of the machinery base and the original pour of concrete with a pour able nonshrink grout. Grout and grouting procedure shall be in accordance with API 610, Seventh Edition, Appendix L.

O. Backfill Against Walls

Do not place backfill against walls until the concrete has obtained a compressive strength equal to the specified 28-day compressive strength. Where backfill is to be placed on both sides of the wall, place the backfill uniformly on both sides.

P. Concrete Finishes

1. Complete concrete surfaces in accordance with the following schedule:

<u>Finish Designation</u>	<u>Area Applied</u>
F-4	Exterior and interior surfaces to be coated.
S-4	Slabs and floors of structures or buildings exposed to view.
E-1	Exposed edges. EXCEPTION: edges normally covered with earth.

2. Finish F-4: Repair defective concrete, remove fins, fill depressions 1/16 inch or deeper, fill tie holes, remove mortar spatter, and remove bulges higher than 1/16 inch.
3. Finish S-4: Steel trowel finish without local depressions or high points and apply a light hair-broom finish. Do not use stiff bristle brooms or brushes. Leave hair-broom lines parallel to the direction of slab drainage.
4. Finish E-1: Provide chamfer or beveled edges.

Q. Curing Concrete

1. Conform to ACI 308.
2. It is the responsibility of the Contractor to select the appropriate curing method in response to climate and/or site conditions occurring at the time of concrete placement. Take appropriate measures as described in ACI 305 and 306 for protecting and curing concrete during hot and cold weather.

R. Repair of Defects

1. Do not repair defects until concrete has been reviewed by the Owner's Representative.
2. Surface Defects: Repair surface defects that are smaller than 1 foot across in any direction and are less than 1/2 inch in depth.

Repair by removing the honeycombed and other defective concrete down to sound concrete, make the edges perpendicular to the surface and at least 3/8 inch deep, thoroughly dampen the surface, work into the surface a bonding grout (one part cement to one part fine sand), fill the hole with mortar, match the finish on the adjacent concrete, and cure as specified.

3. Severe Defects: Repair severe defects that are larger than surface defects but do not appear to affect the structural integrity of the structure.

Repair by removing the honeycombed and other defective concrete down to sound concrete, make the edges of the hole perpendicular to the surface, sandblast the surface, coat the sandblasted surface with epoxy bonding compound, place nonshrink grout, match the finish on the adjacent concrete, and cure as specified.

4. Major Defects: If the defects are serious or affect the structural integrity of the structure or if patching does not satisfactorily restore the quality and appearance to the surface, the Engineer may require the concrete to be removed and replaced, complete, in accordance with the provisions of this section.

S. Repair of Cracks

1. Repair cracks in concrete structures that are wider than 1/10 inch in width by cutting out a square edged and uniformly aligned joint 3/8 inch wide by 3/4 inch deep, preparing exposed surfaces of the joint, priming the joint, and applying polyurethane joint sealant.
2. If the cracks are serious or affect the structural integrity or function of the element, the Owner's Representative may require the concrete to be removed and replaced, complete, in accordance with the provisions of this section.

T. Aluminum Surfaces in Contact With Concrete

Coat aluminum surfaces in contact with concrete per System No. 51.

7.4 PAYMENT

- A. There will be no separate payment for concrete and other items specified in this section. Include all labor, material and incidentals related to this section of specifications in the appropriate base bid line items.

****END OF SECTION No. 7****

SECTION 8 GENERAL METALS CONSTRUCTION

8.1 GENERAL

A. Description

This Section includes requirements for providing miscellaneous hardware and accessories necessary to complete the work as indicated, in accordance with the contract documents.

B. Submittals

1. Submit the following Contractor's Drawings:
 - a. Shop drawings showing sizes, finishes, locations, required hardware and accessories, and details for all fabricated metal work, threaded fasteners miscellaneous metals and welds.

8.2 MATERIALS

A. Shapes and Bars

1. Mild steel shall meet requirements of ASTM A36, unless otherwise indicated.
2. Stainless steel shall meet requirements of ASTM A276, type 316.
3. Aluminum shall meet requirements of ASTM B221 with alloy and temper of 6061, T6. Aluminum structural members shall meet requirements of ASTM B308 with alloy and temper of 6061, T6. Handrail that is a standard product of a manufacturer may be alloy 6061 or 6063 temper as provided by the manufacturer.

B. Plate, Sheet, Strip

1. Mild steel shall meet requirements of ASTM A36, or A282, grade C.
2. Stainless Steel
 - a. Over 1/8 inch shall meet requirements of ASTM A264 and type 316 in accordance with ASTM A240.
 - b. Under 1/8 inch shall meet requirements of ASTM A167, type 316.

3. Aluminum shall meet requirements of ASTM B209 with alloy and temper of 6061, T6.

C. Castings

1. Gray iron shall meet requirements of ASTM A48, grade 25 except valve and curb boxes shall be minimum class 20.
2. Malleable iron shall meet requirements of ASTM A47, grade 35018.
3. Ductile iron shall meet requirements of ASTM A536, grade 60-40-18.
4. Nodular iron shall meet requirements of ASTM A220, grade 45008.
5. Steel shall meet requirements of ASTM A27, grade 65-35.
6. Aluminum shall meet requirements of ASTM B108 with alloy and temper of 356.0, T6.

D. Pipe and Tube

Aluminum shall meet requirements of ASTM B221 with alloy and temper of 6061, T6. Wall thickness shall be Schedule 80, per ANSI H35.2 unless otherwise shown on the Drawings.

E. Bolts, Nuts, Washers

1. General
 - a. Provide 304 stainless for use with stainless non-metallic and aluminum materials.
 - b. Provide cadmium plated for use with all other materials.
2. Stainless
 - a. Bolts shall meet requirements of ASTM A193, grade B8M.
 - b. Nuts shall meet requirements of ASTM A194, grade 8M.
 - c. Washers shall meet requirements of ANSI B18.22.1 and be of the same material as the bolts and nuts.
3. Expansion anchors shall meet requirements of FS FF-S-325.

- a. For concrete, wedge type, Group II, Type 4, Class 1 or 2; self-drilling type, Group III, Type 1 or non-drilling type, Group VIII, Type 1 or 2.
 - b. For masonry, lag shield type, Group II, Type 1, or split shield type, Group II, Type 3, Class 3.
4. Headed steel anchors shall be fabricated from cold finished carbon steel meeting requirements of ASTM A108 and fabricated as shown on the drawings.

F. Fabrications

1. General

- a. Fabricate items as indicated in the Contract Documents and as shown on approved Contractor's drawings. Straighten work bent by shearing or punching.
- b. Press exposed edges and ends of metal smooth, with no sharp edges and with corners slightly rounded. Construct connections and joints exposed to weather to exclude water.
- c. Provide sufficient quantity and size of anchors for the proper fastening of the work.

G. Painting and Coatings

1. Painting

Metal fabrications shall be shop painted per Section #10 except connecting ends which shall be shop primed and field painted after installation.

2. Metal Coatings

- a. Galvanized sheet shall meet requirements of ASTM A446/A446M. All other galvanizing shall meet requirements of ASTM A123 or ASTM A153 or ASTM A385 as applicable.
3. Galvanize touch up shall be zinc dust coating conforming to requirements of MIL P 26915.
4. Bituminous corrosion protection for contact surfaces of different type metals will be Tnemec, No. 46 Tnemec-tar or Kop-coat, Bitumastic No. 300M or equal.
5. Coat aluminum accessories and metal items embedded in and in contact with concrete in accordance with Section #8.

8.3 EXECUTION

A. Installation

1. Installation shall be in accordance with the AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings and the AISC Code of Standard Practice for Steel Buildings and Bridges, where applicable.
2. Provide additional shims, washers, anchors and corrective work as required to ensure that installation is firm, tight, anchored, in true alignment with neat fits, without distortions, unsightly fastenings, raw edges or protrusions.
3. Touch up damaged painted areas and field coat at connecting ends as required, using same paint as shop paint. Touch up galvanize items in accordance with ASTM A780.

8.4 PAYMENT

- #### **A.**
- There will be no separate payment for metals and other items specified in this section. Include all labor, material and incidentals related to this section of specifications in the appropriate base bid line items.

****END OF SECTION No. 8****

SECTION 9 PAINTING AND COATING

9.1 GENERAL

A. Description

This section includes materials and application of painting and coating systems for the following surfaces:

1. Submerged metal.
2. Exposed metal.
3. Buried metal.
5. Metal in contact with concrete.
6. Interior architectural coatings and finishes.

B. Submittals

1. Submit shop drawings.
2. Submit manufacturer's data sheets showing the following information:
 - a. Complete listing of coating systems with the specific manufacturer's products to be used in each system.
 - b. Statement verifying that the specified prime coat is recommended by the manufacturer for use with the specified intermediate and finish coats.
 - c. Percent solids by volume.
 - d. Minimum and maximum recommended dry-film thickness per coat for prime, intermediate, and finish coats.
 - e. Recommended surface preparation.
 - f. Recommended thinners.
3. Submit color swatches.
4. All colors shall be selected by the Owner's representative.

9.2 MATERIALS

A. Painting and Coating Systems

The following index lists the various painting and coating systems by service and generic type:

PAINT COATINGS SYSTEM INDEX

<u>System No.</u>	<u>Title</u>	<u>Generic Coating</u>
Exposed Metal Coating Systems		
10.	Exposed Metal, Corrosive Environment	High-Build Epoxy (two-part system) with polyurethane topcoat
Buried Metals		
21.	Buried valves, flanges, valve boxes, etc.	High build epoxy
Coating Systems for Nonferrous Metals		
51.	Aluminum and Concrete Insulation	Bituminous

These systems are specified in detail in the following paragraphs. For each coating, the required surface preparation, prime coat, intermediate coat (if required), topcoat, and coating thicknesses are described. Mil thicknesses shown are minimum dry-film thicknesses.

A. Exposed Metal Coating Systems

System No. 10 - Exposed Metal, Corrosive Environment:

Type: High-build epoxy intermediate coat having a minimum volume solids of 60%, with an inorganic zinc prime coat and a pigmented polyurethane finish coat having a minimum volume solids of 52%.

Service conditions: For use with ferrous metal structures or pipes subjected to water condensation, chemical fumes, such as hydrogen sulfide, salt spray, and chemical contact.

Surface Preparation: SSPC SP-10

Prime Coat: Apply one coat of Catha-Coat 304V as manufactured by ICI/Devoe coatings at the rate of 4 mils DFT, or equal.

Intermediate Coat: Apply one coat of Devran 224 HS as manufactured by ICI/Devoe Coatings at the rate of 4-8 mils DFT per coat, or equal.

Finish Coat: Apply one coat of Devthane 379 as manufactured by ICI/Devoe coatings at the rate of 2-3 mils DFT, or equal.

B. Buried Metals

System No. 21 - Buried Metal:

Type: High solids epoxy or phenolic epoxy having a minimum volume solids of 80% (ASTM D 2697).

Service Conditions: Buried metal, such as valves, flanges, bolts, nuts, structural steel, and fittings.

Surface Preparation: SSPC SP-10.

Coating System: Apply three or more coats of Ameron 400, Tnemec 104 HS, Engard 480 HS, Devoe Bar-Rust 233H, or equal; 30 mils total.

C. Coating Systems for Nonferrous Metals

1. System No. 51 - Aluminum and Concrete Insulation:

Type: Bituminous paint having a minimum volume solids of 68% coal-tar pitch used.

Use: Coat areas of aluminum grating, stairs, structural members or aluminum fabrications, in contact with concrete with this system.

Surface Preparation: Dust blast.

Prime Coat: Apply synthetic resin primer to metal surface before finish coats. Products: Koppers 40, Tnemec 32-1210, Porter VC 1799, or equal.

Finish Coat: Two coats of Koppers Bitumastic Super Service Black, 12 mils each; two coats of Tnemec 46-450 Heavy Tnemecol, 12 mils each; two coats of Porter Tarmastic 100, 12 mils each; or equal.

9.3 EXECUTION

A. Weather Conditions

1. Do not paint in the rain, wind, snow, mist, and fog or when steel or metal surface temperatures are less than 5 degrees F above the dew point.
2. Do not apply paint when the relative humidity is above 85% or the temperature is above 90 degrees F, at the location the paint is being applied.
3. Do not paint when temperature of metal to be painted is above 120 degrees G.
4. Provide ventilation if the above conditions cannot be met.

B. Surface Preparation

1. Do not abrasive blast or prepare more surface area in one day than can be coated in one day; prepare surfaces and apply coatings the same day. Remove all sharp edges, burrs, and weld spatter. Do not abrasive blast PVC piping or equipment.
2. Surface preparation shall conform with the SSPC specifications as follows:

Solvent Cleaning	SP-1
Hand Tool Cleaning	SP-2
Power Tool Cleaning	SP-3
White Metal Blast Cleaning	SP-5
Commercial Blast Cleaning	SP-6
Brush-Off Blast Cleaning	SP-7
Pickling	SP-8
Near-White Blast Cleaning	SP-10
3. Wherever the words "solvent cleaning," "hand tool cleaning," "wire brushing," or "blast cleaning" or similar words are used in these specifications or in paint manufacturer's specifications, they shall be understood to refer to the applicable SSPC (Steel Structure Painting Council, Surface Preparation Specifications, ANSI A159.1) specifications listed above.
4. Brush-off blasting of concrete and masonry surfaces is defined as opening subsurface holes and voids and etching the surface for a coating to bond.
5. Remove oil and grease from metal surfaces in accordance with SSPC SP-1. Use clean clothes and cleaning solvents and wipe dry with clean clothes. Do not leave a film or greasy residue on the cleaned surfaces before abrasive blasting.
6. Remove weld spatter and weld slag from metal surfaces and grind smoothly rough welds, beads, peaked corners, and sharp edges including erection lugs in accordance with SSPC SP-2 and SSPC SP-3.
7. Neutralize welds with a chemical solvent that is compatible with the specified coating materials. Use clean clothes and chemical solvent. Wipe dry with clean clothes. Do not leave a residue on the cleaned surfaces.

C. Painting Systems

1. All materials of a specified painting system, including primer, intermediate, and finish coats, shall be produced by the same manufacturer. Thinners, cleaners, dryers, and other additives shall be as recommended by the paint manufacturer for the particular coating system.
2. Deliver paints to the jobsite in the original, unopened containers.

D. Surfaces Not to be Coated

Do not paint the following surfaces unless otherwise noted in the drawings or in other specification sections. Protect during the painting of adjacent areas:

1. Concrete
2. Stainless steel
3. Glass
4. Electrical fixtures except for factory coatings
5. Nameplates
6. Grease fittings
7. Brass and copper
8. Plastic and FRP

E. Protection of Surfaces Not to be Painted

Remove, mask, or otherwise protect hardware, lighting fixtures, switchplates, aluminum surfaces, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not intended to be painted. Provide drop cloths to prevent paint materials from falling on or marring adjacent surfaces. Protect working parts of mechanical and electrical equipment from damage during surface preparation and painting process. Mask openings in motors to prevent paint and other materials from entering the motors.

F. Repair of Improperly Coated Surfaces

If the item has an improper finish color or insufficient film thickness, clean and topcoat the surface with the specified paint material to obtain the specified color and coverage. Abrasive blast visible areas of chipped, peeled, or abraded paint, feathering the edges. Then prime and finish coat in accordance with the specifications. Work shall be free of runs, bridges, shiners, laps, or other imperfections.

9.4 PAYMENT

1. Payment for painting will be made based on unit price per foot as stated in the proposal. Payments will be made based on the actual quantities utilized.
2. All incidental costs including, but not limited to, the cost of materials, mechanical devices, PPE, permit required confined space entries and labor necessary to perform painting shall be included in the unit item cost estimate.

****END OF SECTION No. 9****

**THIS FORM MUST BE SUBMITTED WITHIN 10 DAYS OF RECEIVING A LETTER OF INTENT
TO AWARD**

CONTRACT AFFIDAVIT

A. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:

I am the [title] _____

and the duly authorized representative of (business) _____

and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

B. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

For services, supplies, or equipment delivered to a Maryland Environmental Service project location outside the State of Maryland, completion of affirmation K.1. is not required. However, the contractor must comply with applicable corporate registration requirements.

I FURTHER AFFIRM THAT:

1. The business named above is a domestic (_____), foreign (_____) corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports together with filing fees, with the Maryland State Department of Assessments and Taxation and that the name and address of the resident agent filed with the State Department of Assessments and Taxation is:

Name: _____

Address: _____

2. Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Employment Security Administration, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

C. CERTAIN AFFIRMATIONS VALID

I FURTHER AFFIRM THAT:

To the best of my knowledge, information, and belief, each of the affirmations, certifications, or acknowledgments contained in that certain Bid / Proposal Affidavit dated _____, 20____, and executed by me for the purpose of obtaining the contract to which this Exhibit is attached remains true and correct in all respects as if made as of the date of this Contract Affidavit and as if fully set forth herein.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

Date: _____

By _____

Authorized Representative and Affiant

**THIS FORM MUST BE SUBMITTED WITHIN 10 DAYS OF RECEIVING
A LETTER OF INTENT TO AWARD**

MBE Attachment C

MARYLAND ENVIRONMENTAL SERVICE
Outreach Efforts Compliance Statement

In conjunction with the bid or offer submitted in response to Solicitation No. _____, I state the following:

1. Bidder/ Offeror identified opportunities to subcontract in these specific work categories:

2. Attached to this form are copies of written solicitations (with bidding instructions) used to solicit certified MBEs for these subcontract opportunities.

3. Bidder/Offeror made the following attempts to contact personally the solicited MBEs:

4. ☐ Bidder/Offeror assisted MBEs to fulfill or to seek waiver of bonding requirements.
(DESCRIBE EFFORTS)

- ☐ This project does not involve bonding requirements.

5. ☐ Bidder/Offeror did/did not attend the pre-bid conference
☐ No pre-bid conference was held.

Bidder/Offeror Name

By: _____

Address

Name, Title

Date

**THIS FORM MUST BE SUBMITTED WITHIN 10 DAYS OF RECEIVING
A LETTER OF INTENT TO AWARD**

MBE Attachment D

**MARYLAND ENVIRONMENTAL SERVICE
Subcontractor Project Participation Statement**

**Submit One Form for Each State Certified MBE Listed in the MBE Subcontract
Participation Schedule (MBE Attachment B)**

Provided that _____ is awarded the State contract in
(Prime Contractor Name)

conjunction with Project No. _____, it and _____,
(MBE Subcontractor Name)

Maryland Department of Transportation MBE Certification No. ____ - ____

intend to enter into a contract by which Subcontractor shall: (describe work)

- ☐ No bonds are required of Subcontractor
- ☐ The following amount and type of bonds are required of Subcontractor:

Prime Contractor Signature

By: _____
Name, Title

Date

Subcontractor Signature

By: _____
Name, Title

Date

**FULL OR PARTIAL WAIVER REQUESTS MUST BE SUBMITTED WITHIN
10 DAYS OF RECEIVING A LETTER OF INTENT TO AWARD**

MBE Attachment E

**STATE OF MARYLAND
MARYLAND ENVIRONMENTAL SERVICE**

FULL/PARTIAL MBE GOAL WAIVER REQUEST INSTRUCTIONS

If the apparent awardee believes a waiver **(in whole or in part)** of the overall MBE goal or of any sub goal is necessary, it must submit a fully documented waiver request that complies with COMAR 21.11.03.11. The instructions for requesting a full/partial waiver are as follows:

- A. If for any, reason, the apparent successful bidder or offeror is unable to achieve the contract goal for certified MBE participation, the bidder or offeror may request, in writing, a *waiver* (an exception to the goal with justification) to include the following:
 - (1) A detailed statement of the efforts made to select portions of the work proposed to be performed by certified MBEs in order to increase the likelihood of achieving the stated goal;
 - (2) A detailed statement of the efforts made to contact and negotiate with certified MBEs including:
 - (a) The names, addresses, dates, and telephone numbers of certified MBEs contacted and
 - (b) A description of the information provided to certified MBEs regarding the plans, specifications, and anticipated time schedule for portions of the work to be performed;
 - (3) As to each certified MBE that placed a subcontract quotation or offer that the apparent successful bidder or offeror considers not to be acceptable, a detailed statement of the reasons for this conclusion;
 - (4) A list of minority subcontractors found to be unavailable. This list should be accompanied by an MBE unavailability certification (MBE Attachment F) signed by the minority business enterprise, or a statement from the apparent successful bidder or offeror that it was unable to obtain the written certification from the MBE; and
 - (5) The record of the apparent successful bidder's or offeror's compliance with the outreach efforts required under COMAR 21.11.03.09.
- B. A waiver of a certified MBE contract goal may be granted only upon a reasonable demonstration by the bidder or offeror that certified MBE participation was unable to be obtained or was unable to be obtained at a reasonable price and if the Director or designee determines that the public interest is served by a waiver. In making a determination under this section, the Director or designee may consider engineering estimates, catalogue prices, general market availability, and availability by certified MBEs in the area in which the work is to be performed, other bids or offers and subcontract bids or offers substantiating significant variances between certified MBE and non-MBE cost of participation, and their impact on the overall cost of the contract to the State and any other relevant factor.
- C. The Director or designee may waive any of the provisions of COMAR 21.11.03.09-10 for a sole source, expedited, or emergency procurement in which the public interest cannot reasonably accommodate use of those procedures.
- D. When a waiver is granted, except waivers under §C, one copy of the waiver determination and the reasons for the determination shall be kept by the MBE Liaison Officer with another copy forwarded to the Office of Minority Affairs.

**FULL OR PARTIAL WAIVER REQUESTS MUST BE SUBMITTED WITHIN
10 DAYS OF RECEIVING A LETTER OF INTENT TO AWARD**

MBE Attachment F
Page 1 of 2

**STATE OF MARYLAND
MINORITY CONTRACTOR UNAVAILABILITY CERTIFICATE**

1. It is hereby certified that the firm of

Prime Contractor Name

_____, on _____ contacted the
Address: Number, Street, City, State, Zip Date

Minority Business Enterprise: _____
MBE Name

Address: Number, Street, City, State, Zip

seeking to obtain a bid for the work/service in relation to project number:
_____ or project name: _____

2. List the type of work/service required: _____

3. Indicate the form of bid sought: _____

4. To the best of our knowledge and belief, said Minority Business Enterprise is unavailable for the work/service relation to the project number: _____; or, is unable to prepare a bid for the following reason(s):

Reason(s): _____

Printed MBE Name:

Signature of MBE

Date

**FULL OR PARTIAL WAIVER REQUESTS MUST BE SUBMITTED WITHIN
10 DAYS OF RECEIVING A LETTER OF INTENT TO AWARD**

MBE Attachment F
Page 2 of 2

5. It is hereby certified the above Minority Business Enterprise was offered an opportunity to bid on project:

_____ on _____ by the above
Name and Number Date

named prime contractor. The above statement is a true account of why the above MBE firm did not submit a bid on the project.

6. Reason why Prime Contractor was unable to obtain MBE signature.

Prime Printed Name

Signature of Prime

Title

Date

TO BE SUBMITTED BY CONTRACTOR/VENDOR WITH EACH INVOICE

MBE Attachment G

**MONTHLY COST BREAKDOWN FOR PROGRESS
SUBCONTRACTOR PAYMENTS**
(INCLUDE ALL MBE AND NON-MBE SUBCONTRACTORS)

Contract ID Number: _____ Project Name: _____

Name of Prime Contractor: _____

Commencement Date in NTP: _____

Contract MBE Goal(s):

MBE Goal(s) Achieved to Date:

Overall MBE Goal _____%

Overall MBE Goal _____%

Sub-goals:

Sub-goals:

_____ % Women-owned firms

_____ % Women-owned firms

_____ % African-Americans owned firms

_____ % African-Americans owned firms

Invoice Date: _____

Invoice #: _____

Invoice Amount: \$ _____

SUBCONTRACT PAYMENT INFORMATION

SUBCONTRACTOR'S NAME & MDOT MBE CERTIFICATION No. (if applicable)	TOTAL DOLLAR VALUE OF SUBCONTRACTOR'S WORK	TOTAL DOLLAR AMOUNT OF SUB'S WORK INCLUDED IN THIS INVOICE	TOTAL DOLLAR AMOUNT OF SUB'S WORK INVOICED TO DATE	TOTAL DOLLAR AMOUNT PAID TO SUBCONTRACTOR TO DATE
Name: MDOT # _____				
Name: MDOT # _____				
Name: MDOT # _____				
Name: MDOT # _____				

CERTIFIED AS CORRECT:

Signature of Prime Contractor Authorized Representative

Date

Address

City

State

Zip

Telephone Number

Verified by MES Project Manager

Date

MARYLAND ENVIRONMENTAL SERVICE

SAMPLE SERVICE CONTRACT

(I.D. No:)

THIS CONTRACT, entered into this _____ day of _____, 2008, by and between the

STATE OF MARYLAND
MARYLAND ENVIRONMENTAL SERVICE
259 Najoles Road
Millersville, MD 21108
hereinafter ("Service")

and

hereinafter ("Contractor");

WHEREAS, the Service has chosen the Contractor, and the Contractor has agreed to perform the work herein and be bound by the terms of this Contract;

NOW, THEREFORE, for and in consideration of the mutual covenants herein contained be it agreed by and between the parties hereto as follows:

ARTICLE I - SCOPE OF WORK

The general objective of this Contract is that the Contractor shall _____

_____ To this end, the Contractor agrees to carry out the work described in the Invitation for Bids, Request for Proposals, or Scope of Work, which is attached hereto and expressly incorporated and made a part of this Contract herein.

ARTICLE II - COMPENSATION AND METHOD OF PAYMENT

The services set forth above shall be performed during the term of the Contract as stated herein for:

The Contractor shall submit monthly billings for all costs expended in the performance of this Contract in accordance with the Payment Schedule attached hereto. A standard billing format shall be followed including, but not limited to, the Contractor's

Federal Tax Identification Number of _____, or a Social Security Number of _____ and the Contract Identifying Number set out above. A cost accounting practice will be followed in accordance with COMAR 21.09, and uniform practices of the profession as acceptable to the Service.

ARTICLE III - TERM

The term of this Contract shall be from _____ through _____. No work may be initiated under this Contract until the Contractor has been instructed to proceed by the Service.

ARTICLE IV - CONTRACT REPRESENTATIVES

The following individuals are designated as Contract Representatives for their respective parties (name and address):

Service

**259 Najoles Road
Millersville, MD 21108**

Phone 410-729-

Contractor _____

Phone _____

The scope of authority of the designated Contract Representatives to act for their respective parties is set forth in Article V of the Service's General Conditions which is attached and expressly made a part of this Contract in accordance with Article V.

ARTICLE V - GENERAL CONDITIONS

The conditions contained in Maryland Environmental Service, General Conditions, Service Contracts (Rev. 1/05), are expressly incorporated and made a part of this Contract herein.

ARTICLE VI - MERGER

This Contract embodies the whole agreement of the parties. There are no promises, terms, conditions, or obligations referring to the subject matter, other than those contained herein or incorporated herein by reference.

IN WITNESS WHEREOF, the parties have executed this Contract, I.D. No. _____, by causing the same to be signed on the day and year first above written.

CONTRACTOR

WITNESS

BY _____

Name: _____

Title: _____

**STATE OF MARYLAND
MARYLAND ENVIRONMENTAL SERVICE**

WITNESS

BY _____
**JAMES M. HARKINS
DIRECTOR**

**Approved as to form and legal
sufficiency this _____ day of
_____, 20__.**

**Assistant Attorney General
MARYLAND ENVIRONMENTAL SERVICE**

**MARYLAND ENVIRONMENTAL SERVICE
GENERAL CONDITIONS
SERVICE CONTRACTS
(REV. 6/08)**

ARTICLE I - TERMS AND APPLICABILITY

This document sets out the provisions generally applicable to contracts for services, as defined below, and for consulting contracts involving technical research and analysis, with formal reporting of results to the Maryland Environmental Service. The provisions herein do not constitute a complete agreement, and must be appended to a document, executed by all parties, which identifies the specific work to be performed, compensation, term of the agreement, and special conditions, if any. This document and the Basic Agreement are intended to be complementary and shall be construed accordingly. However, should there be a direct contradiction between the terms and conditions contained herein and the Basic Agreement, then the Basic Agreement shall govern and control the Contract.

Specific terms used in this document have the following definitions:

(a) **"Basic Agreement"** means the executed document to which the General Conditions contained herein are appended and incorporated.

(b) **"Contract"** means the direct contractual relation between the Service and the Contractor including all terms and conditions contained herein and in the Basic Agreement.

(c) **"Contractor"** means the person, firm, corporation or other entity obligated to perform services for the Service under this Contract.

(d) **"The Service"** means the Maryland Environmental Service.

(e) **"Services"** means the rendering of time, effort, or work, rather than the furnishing of a specific physical product other than reports incidental to the required performance. It includes, but is not limited to, the professional, personal, and/or contractual services provided by architects, engineers, attorneys, accountants, physicians, consultants, appraisers, land surveyors, or where the service is associated with the provision of expertise or labor, or both; for example, property management, janitorial, security, waste disposal, pest control, environmental control, trash removal, window cleaning, computer hardware and software, closed circuit television system, snow removal, energy audit and energy consultation, office equipment maintenance (typewriter, photocopy machine, calculators, etc.) hauling, construction management, or construction inspection services.

(f) **"Scope of Work" or "Work"** refers to the specific contractual obligation of the Contractor, as identified in the Basic Agreement, Proposal, or other work statement incorporated into the Contract.

MARYLAND ENVIRONMENTAL SERVICE
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Page 2

ARTICLE II - EXEMPTION FROM STATE PROCUREMENT CODE

(a) The Contractor is hereby put on notice that the Service is generally exempt from the provisions of Division II of the State Finance and Procurement Article of the Annotated Code of Maryland. However, the Service is not exempt from Titles 14, 16 and 17 of that Article. Except as specifically provided in this Contract and under State law, the provisions of Division II and the regulations adopted under authority contained in Division II do not apply. In particular, the Maryland State Board of Contract Appeals does not have jurisdiction over disputes arising out of any aspect of this Contract, including, but not limited to, disputes relating to the formation, award, performance, breach, modification or termination of this Contract, or disputes relating to the qualification or selection of bidders or offerors.

(b) The Service will enforce, and the Contractor agrees to abide by, Subtitle 3 of Title 14 of the State Finance and Procurement Article of the Annotated Code of Maryland (1988 vol. and as amended) and the regulations adopted pursuant to that Title. The aforesaid statute and regulations generally relate to purchases from minority businesses. In the event the provisions of the aforesaid statute or regulations conflict with the regulations of this Contract, then the statute or regulations shall govern.

ARTICLE III - INDEPENDENT CONTRACTOR

The Contractor is not an employee of the Service but is an independent contractor as that term is normally defined. The Contractor shall be responsible for providing all supplies and materials necessary for performance of all work under the Contract, and for withholding any taxes and Social Security payments due in relation to the Contract. The Contractor is not an agent of the Service or the State of Maryland, and cannot commit the Service or the State to any expenditure of funds, or enter into any contractual obligation on behalf of the Service or the State.

ARTICLE IV - CONTINGENT FEES

The Contractor warrants that it has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency working for the Contractor, to solicit or secure this Contract, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide salesperson, or commercial selling agency, any fee or other consideration contingent on the making of this Contract.

ARTICLE V - CONTRACT REPRESENTATIVE

Unless otherwise specified in an addendum to this Contract, the Contractor's Contract Representative as identified in the Basic Agreement, shall be deemed to have authority to render any decision or take any action required under the Contract. The Service's Contract Representative, as identified in the Basic Agreement, is the person to be contacted by the Contractor for the purposes of communicating routine information, requesting assistance, or making routine inquiries with respect to the Contract. Unless otherwise specified by law or regulation or in an addendum to the Basic Agreement, the Service's Procurement Officer is the only official authorized to enter into or administer the Contract, to make determinations and findings with respect to the Contract, authorize changes to the Scope of Work, or issue Stop Work Orders.

MARYLAND ENVIRONMENTAL SERVICE
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Service of any notice required by the Contract shall be complete upon mailing of such notice, postage prepaid, to the appropriate Contract Representative at the address indicated in the Basic Agreement. If no Contract Representative is named, then the person executing the Contract for a party shall be the Contract Representative for purposes of notice.

ARTICLE VI - WARRANTY & GUARANTEES

The Contractor agrees to prosecute all work under this Contract continuously and diligently and to meet all milestones contained in the Scope of Work. The Contractor shall be responsible for the supervision and inspection of, and the technical accuracy and coordination of all data and work pursuant to this Contract, and shall produce a product meeting professional standards of quality and methodology.

ARTICLE VII - CONTRACT EQUIPMENT

All non-expendable equipment, including major equipment as defined in this Article, procured with any funds from this Contract, shall be Service property and shall be used primarily for work under this Contract. Prior written approval of the Service shall be required for use of said equipment on a non-interference basis, for other work of the Contractor. The Contractor shall use all effort to care for and maintain the equipment. Upon termination of this Contract, the Service shall determine what disposition shall be made of the equipment and shall so notify the Contractor within thirty (30) days. The Contractor shall report its acquisition of non-expendable equipment covered by this Contract to the Service annually. Non-expendable equipment is that which: **(1)** has a probable useful life in excess of one (1) year beyond the date of acquisition, and **(2)** costs at least \$100, either as an individual piece, or a group of pieces intended to be used together.

All items of Major Equipment to be procured with funds from this Contract shall be itemized in the budget of this Contract to the extent possible. "Major Equipment" shall be defined as any item of equipment costing Five Hundred Dollars (\$500.00) or more. Unless itemized in the budget approved by the Service, purchase of each item of Major Equipment shall require prior written approval of the Service.

ARTICLE VIII - MODIFICATIONS TO SCOPE OF WORK

The Service, by written direction to the Contractor, may make additions and changes within the general subject matter of this Contract. Within fifteen (15) days of receipt of a Notice of Change, the Contractor shall advise the Service of the effect, if any, such changes would have on budgeting, cost, delivery schedules, milestones or any other Contract provisions. If such effects are acceptable to the Service, the Service shall issue a Notice to Proceed With Changes, upon receipt of which, the Contractor shall immediately institute all such requested changes. Such directed additions or changes to the Scope of Work shall become part of the contractual obligation.

ARTICLE IX - RETENTION OF RECORDS - AUDIT

The Contractor shall retain and maintain all records and documents relating to this Contract three (3) years after final payment by the Service hereunder or any applicable statute of limitations, whichever is longer, and shall make them available for inspection and audit by an independent

MARYLAND ENVIRONMENTAL SERVICE
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certified public accounting firm auditor selected by the service. All costs incurred by the auditor shall be borne by the Service.

The Service's auditor shall have the right, during usual business hours, to examine and audit all pertinent records of the Contractor to verify invoices submitted pursuant to this Contract.

ARTICLE X - PATENTS AND COPYRIGHTS

The Contractor agrees that the State of Maryland shall become the sole owner of any U.S. or foreign patent or patents either conceived or first actually reduced to practice in the course of performance under this Contract, or resulting from the scope of this Contract as delineated herein. The Contractor also agrees that the State of Maryland shall become the sole owner of any U.S. or foreign copyrights obtained on material conceived or first actually written in the course of performance under this Contract, or resulting from data or analyses conducted in relation thereto. The Contractor further agrees that it retains no ownership interest or rights in such patents or copyrights, and that it will faithfully and promptly execute and deliver any documents required to officially establish ownership of such in the name of the State of Maryland.

The Contractor shall have the duty to disclose to the Service any invention associated with or reduced to practice in the course of performance under this Contract. Furthermore, the Contractor agrees that, if at any time during the course of performance of this Contract, it should become aware of a potential conflict between the rights of the State of Maryland under this Contract, and those of any other party or entity, as to ownership of any patent or copyright interests developing in relation to said performance, then the Service shall be immediately notified of such conflict. In such a case, it is agreed and understood that the terms of this Contract may be adjusted to provide for an equitable relationship between monies expended hereunder in pursuant of such patent or copyright interests, and benefits to be obtained therefrom by the Service. This provision shall be construed as a material term of this Contract.

ARTICLE XI - RIGHTS IN DATA, PUBLIC DISCLOSURE

Unless otherwise specified by addendum to this Contract, the Contractor agrees that all reports, drawings, studies, specifications, estimates, maps, and computations prepared by or for it under the terms of this Contract shall be delivered to and become and remain the property of the Service upon termination or completion of the work. The Service shall have the absolute right to duplicate and use, for any purpose whatsoever, all or any part of the technical data which are to be delivered under this Contract.

The Contractor shall have the right to duplicate and use, for internal program purposes, all or any part of the technical data which are to be delivered under this Contract.

The Contractor shall notify the Service in advance of public disclosure of any information related to this Contract, unless such disclosure is compelled by legislative or judicial process. The Contractor shall in all cases submit to the Service three (3) copies of any scientific or technical paper, abstract, report or other vehicle pertaining in whole or in part to this Contract which the Contractor desires to publish, submit for publication, distribute or otherwise publicly disseminate. Such submission shall be made by the Contractor to the Service at least thirty (30) days prior to its planned initial public dissemination, disclosure, or submission for publication. The Contractor shall

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include in any such documents or vehicles of public disclosure a statement which acknowledges the Service, the specific programs therein, and the financial support provided by this Contract. Furthermore, upon receipt of a written request from the Service, the Contractor shall also provide a disclaimer stating that the contents of the aforesaid document or vehicle of public disclosure do not in any way reflect the views, opinions, or policies of the Service.

ARTICLE XII - INSURANCE

The Contractor shall at all times have and maintain Commercial General Liability with a combined limit for personal injury and property damage liability at One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) in the aggregate, and Vehicle Liability Insurance with a combined limit for personal injury and property damage liability of Five Hundred Thousand Dollars (\$500,000) per occurrence and One Million Dollars (\$1,000,000) in the aggregate. Certificates of such insurance acknowledging the Hold Harmless Clause contained in this document shall be filed with the Service.

ARTICLE XIII - SUBLETTING OR ASSIGNING OF CONTRACTS

The benefits and obligations hereunder shall inure to and be binding upon the parties hereto and their respective successors, provided that the personnel of any such successor, whether such successor be an individual, a partnership or a corporation, is acceptable to the Service. The Contractor shall not hire consultants, sublet, sell, transfer, assign or otherwise dispose of this Contract in any portion thereof, or of its right, title or interest therein, without the prior written consent of the Service.

In the case of any subcontract, the Contractor agrees to bind the subcontractor and every subcontractor agrees to be bound by all terms of this Contract unless particular provisions are expressly waived, in writing, by the Service.

ARTICLE XIV - MARYLAND SAVED HARMLESS

The Contractor will be responsible for all damage to life and property due to its acts or omissions, or those of its agents, employees, or subcontractors, in connection with its performance under this Contract, and will be responsible for all work, both permanent and temporary, until all services or work under this Contract are declared accepted by the Service.

The Contractor to the extent of its available insurance, shall indemnify and save harmless and defend the Service, the State of Maryland and all of its officers and employees from all suits, actions, judgments, damages, losses or claims of any character, brought on account of any injuries or damage sustained by any person or property in consequence of any acts or omissions of the Contractor or any subcontractor, or their respective employees, agents, or representatives. This responsibility is not to be deemed as a waiver of any immunity which may exist in any action against the Service.

The exemption described in Article II of these General Conditions does not constitute an exemption from Title 12 of the State Government Article of the Annotated Code of Maryland.

ARTICLE XV - NON-DISCRIMINATION IN EMPLOYMENT

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The Contractor agrees: **(1)** not to discriminate in any manner against an employee or applicant for employment because of race, color, religion, creed, age, sex, marital status, national origin, ancestry, or physical or mental handicap unrelated in nature and extent so as reasonably to preclude the performance of such employment; **(2)** to include a provision similar to that contained in Subsection (1) above, in any subcontract except a subcontract for standard commercial supplies or raw materials; and **(3)** to post and to cause subcontractors to post in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this clause.

ARTICLE XVI - SANCTIONS UPON IMPROPER ACTS

In the event the Contractor, or any of its officers, partners, principals or employees, is convicted of a crime arising out of or in connection with the procurement, performance, or payment of this Contract, the Contract shall, in the discretion of the Service, be terminated without liability. Such sanction shall be applicable, as appropriate and in the discretion of the Service, to any conviction during, or after the expiration of, the term of the Contract.

ARTICLE XVII - NON-HIRING OF EMPLOYEES

No employee of the State of Maryland, or any department, commission, agency, or branch thereof, whose duties as such employee include matters relating to or affecting the subject matter of this Contract, shall, while such employee, become or be an employee of the party or parties hereby contracting with said State of Maryland or any unit thereof.

ARTICLE XVIII - DISPUTES

All disputes under this Contract, if not resolved by the parties, shall be resolved by courts of competent jurisdiction in the State of Maryland and in accordance with the laws of the State of Maryland.

ARTICLE XIX - TERMINATION FOR DEFAULT

If the Contractor fails to fulfill its obligations under this Contract properly and on time, or otherwise violates any provision of the Contract, the Service may terminate the Contract by written notice to the Contractor. The notice shall specify the acts or omissions relied on as cause for termination. All finished or unfinished supplies, services and plans provided by this Contractor, shall at the Service's option, become the Service's property. The Service shall pay the Contractor fair and equitable compensation for satisfactory performance prior to receipt of notice of termination, less the amount of reasonable and actual damages caused by the Contractor's breach. If the amount of the reasonable and actual damages incurred by the Service are more than the compensation due to the Contractor, the Contractor will remain liable for the amount of excess damages. Contractor shall not be liable for the Service's consequential damages or for lost profits. The rights and remedies of the Service provided in this Article shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract. If it is determined for any reason that the Contractor was not in default under the provisions of this Article, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to Article XIX, TERMINATION FOR CONVENIENCE OF THE SERVICE.

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ARTICLE XX - TERMINATION FOR CONVENIENCE OF THE SERVICE

The performance of work under this Contract may be terminated by the Service in accordance with this Article in whole, or from time to time in part, whenever the Service shall determine that such termination is in its best interest. Notice of Termination shall be in writing and shall be effective upon receipt. The Contractor will cease work under the Contract on the date and to the extent specified in the Notice of Termination. The Contractor agrees to take any action that may be necessary, or as the Service may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Service has or may acquire an interest. The Service will pay all reasonable costs associated with this Contract that the Contractor has incurred up to the date of termination and all reasonable costs associated with termination of the Contract. However, the Contractor shall not be reimbursed for any anticipatory profits not earned as of the date of termination.

ARTICLE XXI - SUSPENSION OF PERFORMANCE

The Service may, at any time, order in writing a temporary suspension in performance for a period of time it deems appropriate. An adjustment shall be made for any increase in the cost of performance of this Contract (excluding profit) caused by an unreasonable suspension or a suspension for an unreasonable length of time. Should an adjustment be necessary, the Contract shall be modified in writing accordingly. Any adjustment claimed by the Contractor under this Article must be presented in writing to the Service as soon as practicable after the termination of the suspension, but, not later than the date of final payment under the Contract.

ARTICLE XXII - POLITICAL CONTRIBUTION DISCLOSURE

The Contractor shall comply with the Election Law Article, Title 14, of the Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State, a county, or an incorporated municipality, or their agencies, during a calendar year in which the person receives in the aggregate \$100,000 or more, shall file with the State Board of Elections a statement disclosing contributions that cumulatively exceed \$500 made during the reporting period to a candidate for elective office in any primary or general election. The statement shall be filed with the State Board of Elections: (1) before a purchase or execution of a lease or contract by the State, a county, an incorporated municipality or their agencies, and shall cover the preceding two calendar years; and (2) if the contribution is made after the execution of a lease or contract, then twice a year, throughout the contract term, on : (a) February 5, to cover the 6-month period ending January 31; and (b) August 5, to cover the 6-month period ending July 31.

ARTICLE XXIII- EFFECTIVE DATE

It is understood and agreed by the parties hereto that this Contract and any modification thereof shall not become effective or enforceable until executed by the Service.

ARTICLE XXIV - LAW APPLICABLE

This Contract shall be governed by the laws of the State of Maryland, and the parties hereby expressly agree that the courts of the State of Maryland shall have exclusive jurisdiction to decide any question arising hereunder.

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The Contractor will observe and comply with all federal, State and local laws and ordinances that affect, in connection with this Contract, the work to be performed, those employed or engaged in connection therewith, any material or equipment used, or the conduct of the work itself; and will procure and bear the expense of all necessary licenses, permits, and insurance.

ARTICLE XXV - SEVERABILITY

It is understood and agreed by the parties hereto that if any of these provisions shall contravene, or be invalid under, the laws of the particular state, county or jurisdiction where used, such contravention or invalidity shall not invalidate the whole agreement, but the Contract shall be construed as if not containing the particular provision or provisions held to be invalid in the said particular state, county, or jurisdiction, and the rights and obligations of the parties shall be construed and enforced accordingly.

ARTICLE XXVI - MINORITY BUSINESS ENTERPRISE UTILIZATION

PURPOSE:

The Contractor shall structure its procedures for the performance of the work required in this contract to attempt to achieve the minority business enterprise (MBE) subcontract participation goal stated in the Invitation for Bids. MBE performance must be in accordance with this Exhibit, as authorized by Code of Maryland Regulations (COMAR) 21.11.03. The Bidder agrees to exercise all good faith efforts to carry out the requirements set forth in this Exhibit.

DEFINITIONS:

As used in this Section, the following words have the meanings indicated.

- A. "Certification" means a determination through the procedures outlined in COMAR 21.11.03 that a legal entity is a minority business enterprise.
- B. "Certified Minority Business Enterprise" means a minority business enterprise that holds a certification.
- C. "Control" means the exercise of the power to manage and operate a business enterprise.
- D. "Joint Venture" means an association of two or more persons to carry out a single business activity for a limited purpose or time. A joint venture itself can never be certified as a minority business. The money invested in a joint venture reflects the percentage of participation by the parties in the joint venture. Only the money paid to a certified MBE in a joint venture may be credited by a prime Contractor toward reaching an MBE goal. The joint venture agreement must reveal the scope of the MBE's managerial and financial responsibilities.
- E. "Minority Business Enterprise" or "MBE" means any legal entity, other than a joint venture, organized to engage in commercial transactions, that is at least 51

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percent owned and controlled by one or more minority persons, or a nonprofit entity organized to promote the interests of the physically or mentally disabled.

- F. (1) "Minority person" means a member of a socially or economically disadvantaged minority group, and includes African Americans, Hispanics, American Indians, Asians, women, and the physically or mentally disabled.
- (2) "Minority person" includes, for contracts funded wholly or in part by federal funds, a federal definition of "minority person" if the use of the definition in Section 10.2 F(1) above is not acceptable to the federal government and the use of the federal definition is required as a condition of federal participation in the Contract.
- G. "MBE Liaison Officer" means the employee designated by the Service to administer the Service's MBE Program.
- H. "Ownership" means:
- (1) For a sole proprietorship, that the sole proprietor is a minority person. If the ownership interest held by a minority person is subject to formal or informal restrictions such as options, security interests, agreements, etc., held by a non-minority person or business entity, the options, security interest, agreements, etc., held by the non-minority person or business entity may not significantly impair the minority person's ownership interest.
- (2) For a partnership, that at least 51 percent of the partnership's assets or interests are owned by a minority person or minority persons. If the ownership interest held by a minority person is subject to formal or information restrictions such as options, security interests, agreements, etc., held by a non-minority person or business entity, the options, security interests, agreements, etc., held by a non-minority person or business entity may not significantly impair the minority person's ownership interest.
- (3) For a corporation, that legal and equitable ownership of at least 51 percent of all classes of stock, bonds, or other securities issued by the corporation is owned by a minority person or minority persons. If an ownership interest held by a minority person is subject to formal or informal restrictions such as options, security interests, agreements, etc., held by a non-minority person or business entity, the options, security interests, agreements, etc., held by the non-minority person or business entity may not significantly impair the minority person's ownership interest.
- I. "Solicitation notice" means public notice of a solicitation for bids, offers, or expressions of interest which contains the nature of the procurement, relevant

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dates, the availability of solicitation documents, if any, and other pertinent information. The notice must consist of but is not limited to:

- (1) Legal advertisement;
- (2) Newspaper notice;
- (3) Bid Board Notice; or
- (4) Bid or proposal documents including the invitation for bids or request for proposals.

CONTRACTOR RESPONSIBILITIES:

- A. If a MBE subcontract participation goal has been established in the Service's solicitation documents, the Contractor agrees that this amount of the Contract will be performed by Maryland State Certified Minority Business Enterprises.
- B. The MBE prime contractor shall to put forth a good faith effort to achieve the established MBE subcontract goal and that Maryland State Certified Minority Business Enterprises will perform the tasks identified and assigned by the Bidder.
- C. The documentation requirements of F, below, are applicable only if Maryland State Certified MBE subcontractors are to be utilized in the performance of the Contract.
- D. Only Maryland State certified MBE subcontractors may be utilized to meet the established MBE subcontract participation goal on this contract.
- E. Each bid or offer submitted in response to this solicitation shall be accompanied by a completed MBE Utilization Affidavit (MBE Attachment A), whereby the bidder acknowledges the certified MBE participation goal or requests a waiver, commits to make a good faith effort to achieve the goal, and affirms that MBE subcontractors were treated fairly in the solicitation process. Whether or not the MBE Utilization Affidavit is filed with the bid, by submission of a bid each bidder acknowledges the MBE goal stated in the solicitation and promises to make a good faith effort to achieve the goal.
- F. Each bid or offer submitted in response to this solicitation shall be accompanied by a complete MBE Participation Schedule (MBE Attachment B) whereby the bidder or offeror responds to the expected degree of Minority Business Enterprise participation as stated in the solicitation, by identifying the specific commitment of certified MBEs at the time of submission. The bidder or offeror shall specify the price and/or the percentage of contract value associated with each MBE subcontractor identified on the MBE Participation Schedule
- G. To achieve the result of meeting the contract minority business enterprise subcontract participation goal, the contractor shall:

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- (1) Identify specific work categories appropriate for subcontracting;
- (2) At least ten (10) days prior to the bid opening, solicit minority business enterprises, through written notice that describes the categories of work to be subcontracted and provide specific instructions on how to submit a bid;
- (3) Attempt to make personal contact with MBE firms;
- (4) Assist MBE firms with bonding requirements or to obtain a waiver of those requirements;
- (5) In order to publicize contracting opportunities to minority business enterprises, attend pre-bid meetings or other meeting scheduled by the agency.

G. Documentation

The following documentation shall accompany the Bid and shall be part of the Contract:

- (1) Certified MBE Utilization and Fair Solicitation Affidavit (MBE Attachment A)
- (2) MBE Participation Schedule (MBE Attachment B)

If the bidder is unable to achieve the MBE subcontract participation goal, the Bidder shall submit, in conjunction with MBE Attachments A and B, a request for a full or partial waiver.

The following documentation shall be submitted within ten (10) working days from notification that the Contractor is the apparent low Bidder or within ten (10) working days following the award, whichever is earlier and shall be part of the Contract:

- (1) Outreach Efforts Compliance Statement (MBE Attachment C)
- (2) Subcontractor Project Participation Statement of intent (MBE Attachment D) signed by both the Bidder and each MBE listed in the schedule of participation. Or, if the prime Contract has been awarded, copies of the Subcontract Agreement or Agreements.
- (3) Any other documentation considered appropriate by the Service to ascertain bidder responsibility in connection with the contract MBE participation goal.
- (4) The amount and type of bonds required of MBE Contractors, if any.
- (5) The Contractor, by submitting its bid or offer, consents to provide such documentation as requested by the Service and to provide right of entry at any

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reasonable time for purposes of the Service's representatives verifying compliance with the MBE Subcontractor requirements.

If the bidder is requesting a full or partial waiver of the MBE subcontract participation goal, the Bidder shall submit, in conjunction with MBE Attachments C, a fully documented written request for a full or partial waiver to include the following:

- (a) A detailed statement of the efforts made to select portions of the Work proposed to be performed by MBEs in order to increase the likelihood of achieving the stated goal;
- (b) A detailed statement of the efforts made to contact and negotiate with MBEs and non-MBEs including the names, addresses, dates and telephone numbers of MBEs contacted, and a description of the information provided regarding the Plans, Specifications, and anticipated time schedule for portions of the Work to be performed;
- (c) As to each MBE that placed a Subcontract quotation which the bidder considers not to be acceptable, a detailed statement of the reasons for this conclusion; and
- (d) A list of minority Subcontractors found to be unavailable. This should be accompanied by a Minority Contractor Unavailability Certificate (MBE Attachment F) signed by the minority business refused to give the written certification.

If each completed document is not returned within the required time, the Procurement Officer may determine that the apparent awardee is not responsible and therefore not eligible for contract award. If the contract has already been awarded, the award is voidable.

RECORDS AND REPORTS:

- A. The Contractor shall maintain such records as are necessary to confirm compliance with its Minority Business Enterprise utilization obligations. These records shall indicate the identify of minority and non-minority Subcontractors employed on the contract, the type of work performed by each, and the actual dollar value of work, services and procurement achieved by each Contractor and Subcontractor.
- B. The Contractor shall submit information with his monthly cost breakdown for progress payments which indicates the dollar value of Contracts awarded to Minority Business Enterprises as the Contract Work occurs. (MBE Attachment G) This information will be submitted as a supplement to the Cost Breakdown For Progress Payments form. Failure of the Contractor to submit the required supplementary MBE participation information may result in delays in processing progress payments.

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- C. All records concerning MBE participation must be retained by the Contractor and will be available for inspection by the Service for a period of three years after final completion of the Contract.

ENFORCEMENT:

- A. The Service is responsible for conducting inspections to confirm compliance with the terms of this Section. If the Service determines that the Contractor or Subcontractors are not in compliance with this Section, the Service will notify the Contractor of those measures, which the Contractor must take to restore the Contractor to a state of compliance.
- B. If the documentary material submitted by the Contractor or Subcontractor to determine minority business status contains false, misleading information or other misrepresentations, the matter will be referred to the Attorney General for appropriate action.

CONTRACTOR ASSISTANCE:

- A. Contractors requiring assistance in locating Minority Business Enterprises are encouraged to contact the following offices:

Minority Business Enterprise Office
Department of Transportation
7201 Corporate Center Drive
P.O. Box 548
Hanover, Maryland 21076
410-865-1241

The State of Maryland Minority Business Enterprise Directory is available to Contractors online and at the location listed above. The Directory contains information about currently certified Minority Business Enterprises.

Revised 6/2008

APPROVED as to form and legal sufficiency

**Maryland Environmental Service
Office of the Attorney General**

LIVING WAGE REQUIREMENTS

The Maryland Environmental Service has determined that it will voluntarily apply to this contract, certain provisions of Title 18 of the State Finance and Procurement, Annotated Code of Maryland, the Living Wage Act. An MES contract for services valued at \$100,000 or more may be subject to a Living Wage requirement. Additional information regarding the Living Wage requirement is contained below and in Attachment 1 entitled Living Wage Requirements for Service Contracts. Contractor must fill out, sign, and return the attached Affidavit of Agreement.

Except as otherwise provided in the Living Wage Act, Contractors and Subcontractors subject to the MES Living Wage requirement shall pay each covered employee at least \$11.30 per hour, if MES contract services valued at 50% or more of the total value of the contract are performed in the Tier 1 Area. If MES contract services valued at 50% or more of the total contract value are performed in the Tier 2 Area, Contractor or Subcontractor shall pay each covered employee at least \$8.50 per hour. The specific Living Wage rate is determined by whether a majority of services take place in a Tier 1 Area or Tier 2 Area of the State. The Tier 1 Area includes Montgomery, Prince George's, Howard, Anne Arundel, and Baltimore Counties, and Baltimore City. The Tier 2 Area includes any county in the State not included in the Tier 1 Area. In the event that the employees who perform the services are not located in the State, the MES Chief of Procurement shall assign the tier based upon where the recipients of the services are located.

This contract has been deemed to be a Tier 1 contract.

ATTACHMENT 1 – Living Wage Requirements for Service Contracts (includes Affidavit of Agreement which must be filled out, signed and returned to MES.

Living Wage Requirements for Service Contracts

- A. This contract is subject to the Living Wage requirements. The requirement generally applies to a Contractor or Subcontractor who performs work on an MES contract for services that is valued at \$100,000 or more. An employee is subject to the Living Wage if he/she is at least 18 years old or will turn 18 during the duration of the contract; works at least 13 consecutive weeks on the MES Contract and spends at least one-half of the employee's time during any work week on the MES Contract.
- B. The Living Wage Law does not apply to:
- (1) A Contractor who:
 - (A) has an MES contract for services valued at less than \$100,000, or
 - (B) employs 10 or fewer employees and has an MES contract for services valued at less than \$500,000.
 - (2) A Subcontractor who:
 - (A) performs work on an MES contract for services valued at less than \$100,000,
 - (B) employs 10 or fewer employees and performs work on an MES contract for services valued at less than \$500,000, or
 - (C) performs work for a contractor not covered by the Living Wage Law as defined in B(1)(B) above, or B (3) or C below.
 - (3) Service contracts for the following:
 - (A) services with a Public Service Company;
 - (B) services with a nonprofit organization;
 - (C) services with an officer or other entity that is in the Executive Branch of the State government and is authorized by law to enter into a procurement ("Unit"); or
 - (D) services between a Unit and a County or Baltimore City.

- C. If MES determines that application of the Living Wage would conflict with any applicable Federal program, the Living Wage does not apply to the contract or program.
- D. A Contractor must not split or subdivide an MES contract for services, pay an employee through a third party, or treat an employee as an independent contractor or assign work to employees to avoid the imposition of any of the Living Wage requirements.
- E. The Commissioner of Labor and Industry shall adjust the wage rates by the annual average increase or decrease, if any, in the Consumer Price Index for all urban consumers for the Washington/Baltimore metropolitan area, or any successor index, for the previous calendar year, not later than 90 days after the start of each fiscal year. The Commissioner shall publish any adjustments to the wage rates on the Division of Labor and Industry's Website. An employer subject to the Living Wage Law must comply with the rate requirements during the initial term of the contract and all subsequent renewal periods, including any increases in the wage rate, published by the Commissioner, automatically upon the effective date of the revised wage rate.
- F. A Contractor/Subcontractor who reduces the wages paid to an employee based on the employer's share of the health insurance premium, shall not lower an employee's wage rate below the minimum wage as set in §3-413, Labor and Employment Article, Annotated Code of Maryland. A Contractor/Subcontractor who reduces the wages paid to an employee based on the employer's share of health insurance premium shall comply with any record reporting requirements established by MES.
- G. A Contractor/Subcontractor may reduce the Living Wage rates paid by no more than 50 cents of the hourly cost of the employer's contribution to an employee's deferred compensation plan. A Contractor/Subcontractor who reduces the wages paid to an employee based on the employer's contribution to an employee's deferred compensation plan shall not lower the employee's wage rate below the minimum wage as set in §3-413, Labor and Employment Article, Annotated Code of Maryland.
- H. If the Commissioner determines that the Contractor/Subcontractor violated a provision of this contract, the Contractor/Subcontractor shall pay restitution to each affected employee, and MES may assess liquidated damages of \$20 per day for each employee paid less than the Living Wage.



**STATE OF MARYLAND
NOTICE TO VENDORS/CONTRACTORS**

In order to help us improve the quality of State solicitations, and make our procurement process more responsive and business-friendly, we ask that you take a few minutes and provide comments and suggestions regarding this solicitation. Please return your comments with your bid or proposal (or no bid), as the case may be. Thank you for your assistance.

Bid/Proposal Number: _____, entitled: _____

I. If you have responded with a no bid, please indicate the reason below:

- ☐ Other commitments preclude our participation at this time.
- ☐ The subject of the contract is not something we normally provide.
- ☐ We are inexperienced in the work/commodities required.
- ☐ The specifications are either unclear or too restrictive. (Please explain in remarks section.)
- ☐ The scope of work is beyond our current capacity.
- ☐ Doing business with government is simply too complicated
- ☐ We cannot be competitive. (Please explain in remarks section)
- ☐ Time for completion is insufficient.
- ☐ Bonding/insurance requirement are prohibitive. (Please explain in remarks section.)
- ☐ Bid/proposal requirements, other than specifications, are unreasonable or too risky. (Please explain in remarks section.)
- ☐ Prior experience with State of Maryland contracts was unprofitable or otherwise unsatisfactory. (Please explain in remarks section.)
- ☐ Other: _____

II. If you have submitted a bid or proposal, but wish to offer suggestions or express concerns, please use the remarks section below. (Use the back for additional information.)

Remarks:

Vendor Name: _____ Date: _____

Contact: _____ Phone: (____) _____

Address: _____

THANK YOU!!!