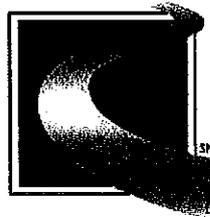


**MARYLAND TRANSPORTATION AUTHORITY**  
**Baltimore, Maryland**

***Invitation for Bids***

**JOHN F. KENNEDY MEMORIAL HIGHWAY**



**Maryland  
Transportation  
Authority**

**CONTRACT NO. KH 2263-000-002**

**Replace 5KV Cable for Rt. 222 Interchange**

**CECIL COUNTY**

**SEPTEMBER 2009**



**TABLE OF CONTENTS**

	<u>Page No.</u>
<b>Notice to Bidders/Offerors - Small Business Reserve Procurement .....</b>	<b>i</b>
Notice to Bidders/Offerors.....	ii-iii
National Cooperative Highway Research Program (NCHRP) .....	iv-v
Occupying Wetlands .....	vi
High Visibility Safety Apparel Policy .....	vii-viii
Invitation for Bids .....	1
Special Provisions.....	2-9
Revisions to General Provision.....	10-17
Revisions to Terms and Conditions .....	18-25
 Revisions to Technical Requirements:	
<b>Category 100</b>	
Section 104            Maintenance of Traffic .....	26-29
Section 108            Mobilization .....	30
 <b>Category 200</b>	
Section 205            Test Pit Excavation .....	31
 <b>Category 300</b>	
Section 308            Erosion and Sediment Control.....	32-34
 <b>Category 700</b>	
Section 701            Topsoil and Subsoil .....	35
Section 705            Turfgrass Establishment.....	36



**Category 800**

Section 809	Trenching and Backfill .....	37-39
Section 811	Hand Holes, Manholes, Handboxes, Pullboxes and Splice Boxes .....	40-41
Section 820	General Electrical Work and Testing .....	42-49
Section 826	Removal of Existing Handboxes .....	50
Section 831	Miss Utility .....	51
Section 832	Conduit Placed Under Existing Pavement .....	52-53
Section 889	Underground Power Cable .....	54-56
Section 890	Above Ground Handbox .....	57-60

**Category 900**

Section 950	Reflect of Signs and Channel Devices .....	61-62
Wage Rates .....		63
Contractor Affirmative Action Program.....		64-80
Affirmative Action Requirements Utilization of Minority Business Enterprises for Straight State Contracts (For Information Purposes Only) .....		81-87
Proposal Form.....		88
Schedule of Prices.....		89-95
Contract Time and Bonding.....		96
Buy American Steel Act.....		97-99
Bid/Proposal Affidavit.....		100-110
Escrow Account For Retained Funds .....		111



Maryland  
Transportation  
Authority

Proposal Guaranty.....	112
Bid Guarantee.....	113-114
Bid Bond.....	115-117

**NOTICE TO BIDDERS/OFFERORS**  
**SMALL BUSINESS RESERVE PROCUREMENT**

This is a Small Business Reserve Procurement as defined in **COMAR 21.11.01.06**, for which award will be limited to certified small business vendors. Only businesses that meet the statutory requirements set forth in State Finance and Procurement Article, §§14-501 —14-505, Annotated Code of Maryland, and that are registered with the Department of General Services Small Business Reserve Program are eligible for award of a contract.

For the purposes of a Small Business Reserve Procurement, a small business is a for-profit business, other than a broker, that meets the following criteria:

- \* It is independently owned and operated;
- \* It is not a subsidiary of another business;
- \* It is not dominant in its field of operation;
- \* Its **wholesale** operations did not employ more than 50 persons, and its gross sales did not exceed an average of \$4,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **retail** operations did not employ more than 25 persons, and its gross sales did not exceed an average of \$3,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **manufacturing operations** did not employ more than 100 persons, and its gross sales did not exceed an average of \$2,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **service operations** did not employ more than 100 persons, and its gross sales did not exceed an average of \$10,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **construction operations** did not employ more than 50 persons, and its gross sales did not exceed an average of \$7,000,000 in its most recently completed 3 fiscal years;\*  
and
- \* The **architectural and engineering** services of the business did not employ more than 100 persons and the gross sales of the business did not exceed an average of \$4,500,000 in its most recently completed 3 fiscal years.
- \* If a business has not existed for 3 years, the employment and gross sales average or averages shall be the average for each year or part of a year during which the business has been in existence.

Further information on the certification process is available at [www.dgs.state.md.us](http://www.dgs.state.md.us) and click on the Small Business Reserve hyperlink.

## NOTICE TO BIDDERS

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

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

## **Notice to Bidders/Offerors**

### **eMaryland Marketplace Fee**

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

For registration requirements, visit:  
[www.eMarylandMarketplace.com](http://www.eMarylandMarketplace.com).



**NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT**

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

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

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

**Category 1 Devices**

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

**Category 2 Devices**

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

**Category 3 Devices**

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

**Category 4 Devices**

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

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

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

Λ



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

Contract No. KH 2263-000-002

1 of 1

**OCCUPYING WETLANDS**

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

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

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



Maryland  
Transportation  
Authority

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

Contract No. KH 2263-000-002

1 of 2

**NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT**

**HIGH VISIBILITY SAFETY APPAREL POLICY**

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

**STATEMENT OF POLICY.**

- (a) The High Visibility Safety Apparel Policy provides a standardized apparel program.
- (b) The program seeks to improve the visibility of all persons who work on Authority highways and rights-of-way.
- (c) All apparel shall contain the appropriate class identification label.
- (d) Compliance with this policy is retroactive and becomes effective immediately. All affected employees shall receive high visibility apparel awareness training.

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

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



Maryland  
Transportation  
Authority

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

Contract No. KH 2263-000-002

2 of 2

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

**REFERENCES.**

- (a) ANSI/ISEA 107/2004 standard – American National Safety Institute/International Safety Equipment Association
- (b) MUTCD 2003 – Manual for Uniform Traffic Control Devices - Sections 6D.03B and 6E.02
- (c) Visibility Research – The VCTR 1989 report concludes that fluorescent colors, when compared with non-fluorescent colors, enhance the daytime conspicuity of worker clothing.

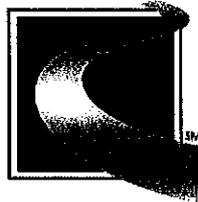
**DEFINITIONS.**

- (a) Apparel – The outermost high-visibility garment worn by employees who work on Authority highways and rights-of-way.
- (b) Highways – All roads owned by the Maryland Department of Transportation and maintained by the Authority.
- (c) High Visibility – The ability for workers to be distinguishable as human forms to be seen, day and night, at distances that allow equipment operators and motorists to see, recognize, and respond.

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

***Invitation for Bids***

**John F. Kennedy Memorial Highway**



**Maryland  
Transportation  
Authority**

**Contract No. KH 2263-000-002**

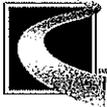
**Replace 5KV Cable for Rt. 222 Interchange**

**Cecil County**

**September 2009**

**NOTICE TO BIDDERS**

A "Pre-Bidding Session" for the purpose of answering or obtaining answers to questions of parties interested in constructing the work relative to Right-of-Way, Utilities, Design, and Construction Details will be conducted at **10:00am.** on **October 6, 2009**, in the Conference Room, at the Maryland Transportation Authority, 300 Authority Drive, 1<sup>st</sup> Floor, Baltimore, Maryland 21222. While attendance at the Pre-Bid conference is not mandatory, this is the offeror's opportunity to raise questions and/or issues of concern regarding the project.



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 8

**SP 1-1 PROJECT DESCRIPTION**

CONTRACT NO.: KH 2263-000-002

TITLE: Replace 5KV Cable for Rt. 222 Interchange

FACILITY: John F. Kennedy Memorial Highway Administration Building Area

LOCATION: Cecil County

ADVERTISED: September 22, 2009

PRE-BID MEETING: **October 6, 2009 at 10:00 a.m** in the Conference Room at the Maryland Transportation Authority, 300 Authority Drive, 1<sup>st</sup> Floor, Engineering Building, Baltimore, MD 21222

PROJECT CONTACT: Project Manager: Mr. Kataw Say (410) 537-7853  
Contract Administration: Ms. Maggie Johnson (410) 537-7807

BIDS DUE: **12:00 Noon, October 27, 2009** in the Bid Box on the 1<sup>st</sup> floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222

CLASSIFICATION: Class B (\$ 100,001 – \$ 500,000)

CONTRACT TIME: One Hundred Twenty (120) Calendar Days

LIQUIDATED DAMAGES: **\$ 800.00 per Calendar Day**

MINIMUM MBE GOALS: Overall  0  % and  0  % Subgoals  
**SMALL BUSINESS RESERVE PROCUREMENT (SBR)**

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



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 2 of 8

### **SP 1-1 DESCRIPTION**

The work to be performed under this contract is located at John F. Kennedy Memorial Highway Administration facility in Cecil County.

This project consists of the replacement of the 5KV feeder beginning at the existing JFK Administration building transformer pad and terminates at the existing Rt. 222 Interchange transformer pad. The project involves electrical work consisting of replacing 5KV feeder and will need a temporary generator feed to maintain reliable operation of the Rt. 222 lighting, weight station signing, weight station controls, CCTV cameras, and traffic light. All work and materials necessary to provide complete and functioning systems shall be included.

Trenching and backfilling for the placement of conduits, and concrete pads is required. Contractor must contact Miss Utility and test pit at all locations for exact position of cables, conduits, and other underground utilities.

Overall Project construction would be expected to take **One Hundred Twenty (120) days** from the Notice to Proceed.

### **SP 1-2 SPECIFICATIONS**

All work on this project shall conform to the Maryland Department of Transportation, State Highway Administration's Specifications entitled, "Standard Specifications for Construction and Materials" dated July 2008, revisions thereof, or additions thereto, and the Special Provisions included in this Invitation for Bids.

### **SP 1-3 ORIGINAL FACILITY PLANS AND SITE VISITS**

The original facility plans are on file at the Engineering/Finance Building of the Francis Scott Key Bridge and will be made available for inspection to prospective bidders. Parties interested in viewing the plans should contact Mr. Kataw Say, at (410) 537-7853. Parties interested in visiting the site should contact Mr. Dan Sawyers at (410) 537-1118.

### **SP 1-4 PROMPT PAYMENT TO SUBCONTRACTORS**

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

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



Maryland  
Transportation  
Authority

## SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 3 of 8

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

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

If an action is taken as stated above the Contractor shall notify the Authority's Project Engineer when payment is made. After the Authority's Project Engineer verifies that payment has been made to the Subcontractor the Authority shall release withheld progress payments.

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

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

Refer to Section 104, "Maintenance of Traffic" for times permitted for lane closures and other work hour restrictions.

The Contractor shall cooperate with any other Contractors that are on site during the term of the project, as stated in GP-5.06 of the Standard Specifications.



**SP 1-6 INSURANCE**

**TC-5.01 INSURANCE**

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

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

a) Worker's Compensation and Employer's Liability

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

b) Comprehensive General Liability Insurance

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



c) Comprehensive Automobile Liability Insurance

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

d) Additional Insurance

The Contractor shall also procure and keep in effect:

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

4. Accident Notification - The Contractor shall send a written report to the Engineer and to the Maryland Transportation Authority within twenty-four (24) hours of any accident or other event arising in any manner from the performance of the Contract which results in or might result in personal injury or property damage.
5. Failure to comply with these Special Provisions may lead to termination for default or convenience.
6. There will be no special payment for the insurance as required by this contract and all costs incidental thereto shall be included in the Lump Sum for "Mobilization", (refer to Section 108), or if the Contract does not include such an item, the insurance costs are to be included in pay items for the Proposal.

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

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

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

The Contractor shall:

1. Identify specific work categories appropriate for subcontracting;
2. At least ten (10) days before bid opening, solicit Minority Business Enterprises, through written notice that:



- a) Describe the categories of work; and
  - b) Provide information regarding the type of work being solicited and specific instructions on how to submit a bid.
3. Attempt to make personal contact with Minority Business firms;
  4. Assist Minority Business Enterprises to fulfill bonding requirements or to obtain a waiver of these requirements; and
  5. Upon acceptance of a bid, provide the Maryland Transportation Authority ( "Authority") with a list of Minority Businesses with whom the Contractor negotiated, including price quotes from Minority and Non-minority firms.

**Third Tier Subcontracting:**

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

**Waivers:**

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

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

**Criminal Fraud Provisions:**

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

**SP 1-8 PROGRESS SCHEDULE REQUIREMENTS**

Refer to Section 110 of the Standard Specifications.



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 7 of 8

### **SP 1-9 CORPORATE REGISTRATION**

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

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

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

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

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

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

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

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

While working in the Tunnels or on one of the major bridges of the Authority, Contractor's personnel shall have an ID decal displayed on their hardhat. These decals will be provided by the Authority. All of the Contractors' vehicles shall have a parking decal, attached to the rear view mirror. These parking decals will also be provided by the Authority and a distribution list will be maintained. At the time of project completion these decals shall be returned to the Authority.



Requests for hardhat and rearview mirror decals shall be made to the Construction Section before the beginning of construction and should include the number required of each type of decal.

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

### **SP 1-12 ESTIMATED QUANTITIES**

All construction items and quantities in these Special Provisions are provided in the Contract for use when and as directed by the Engineer. The quantities for these items are established for the purpose of obtaining a bid price. The quantities for these items may be increased or decreased without any adjustment to the Contract Unit Price for the item(s) or they may be deleted entirely from the Contract by the Engineer without negotiation. The Contractor will not be allowed to submit a claim against the Authority for any adjustment to the Contract Unit Price should the item(s) be increased, decreased, or eliminated.



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

**GP-1.03 ORGANIZATIONAL DEFINITIONS**

Revise the definitions of Administration to read as follows:

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

Except for Office of Materials and Technology all references to the Maryland State Highway Administration’s offices and positions shall mean the Authority’s corresponding offices and positions.

For Erosion Sediment Control (ESC) (SHA SECTION 308):

MdTA Point of Contact as the ESC Quality Assurance Inspector for the Office of Engineering and Construction is Mr. Timothy Plume @ 443-790-8975 and [Tplume@mdta.state.md.us](mailto:Tplume@mdta.state.md.us). As specified in Section 308.01.03 Quality Assurance Ratings, the project scores will be reported on corresponding MdTA Form 00C61 (SHA Form No. 00C61)

The Maryland Department of Environment (MDE) Water Management Administration (WMA) requires the Contractor shall provide notification to both agencies (MDE & MdTA) seven days before commencing any land disturbing activities, and they are required to hold an ESC Pre-construction meeting. The Engineer will notify Mr. Plume; the MDE (WMA) ESC Inspector at (410)-537-3510; the Contractor’s certified Erosion and Sediment Control Manager (ESCM) and superintendent for attendance at the Pre-Construction ESC Meeting. This is required by the permitting agency,



Maryland  
Transportation  
Authority

**SPECIAL PROVISIONS**

Contract No. KH 2263-000-002

Page 1 of 1

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

**GP-1.05 DEFINITIONS**

Add the following definitions:

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



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

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

**GP-2.04 SITE INVESTIGATION**

Revise the paragraph to read as follows:

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



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

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

**GP-2.06 PREPARATION OF THE BID**

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

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

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

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

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

Sample forms shall be submitted to:

Ms. Linda McGill, CPPB  
Chief Procurement Officer  
Maryland Transportation Authority  
300 Authority Drive  
Baltimore, Maryland 21222



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

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

**GP-2.23 BID PROTESTS**

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

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

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

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



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

**GP-4.10 WARRANTY OF CONSTRUCTION**

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

**Delete:** The first paragraph in its entirety.

**Insert:** The following:

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



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

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

**GP-5.12 FAILURE TO MAINTAIN ENTIRE PROJECT**

**Delete** Section GP-5.12 in its entirety

**Insert:** Revise the paragraph to read as follows:

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



**GENERAL PROVISIONS  
GP SECTION 9  
PAYMENT**

**GP-9.05 LATE PAYMENTS**

**ADD the following:**

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



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

**TC 4.01 – SHOP PLANS AND WORKING DRAWINGS**

**DELETE SECTION (a) IN ITS ENTIRETY AND REPLACE WITH THE FOLLOWING**

**ADD:**

- (a) General. The Plans will be supplemented by working drawings, catalog cuts, schematics, material data, installation plans and manuals, user manuals, and other data necessary to demonstrate to the Engineer adequate control of the work, proper installation and handling, conformance to the specifications, and that the proposed materials and equipment is suitable for the intended use. All authorized alterations affecting the requirements and information given on the working drawings shall be in writing to the Engineer. Any deviations from the Specifications, Special Provisions, or Plans shall be clearly highlighted and explained. When reference is made to the working drawings, the interpretation shall be the working drawings as affected by all authorized alterations then in effect. When reference is made to the working drawings, the interpretation shall be that working drawings include working drawings, catalog cuts, schematics, material data, installation plans and manuals, user manuals, and other data necessary to demonstrate to the Engineer adequate control of the work, proper installation and handling, conformance to the specifications, and that the proposed material or equipment is suitable for the intended use.

Working drawings will show details of all structures, lines, grades, typical cross section of roadway, general cross sections, location and designation of all units and elements. Cabinet drawings shall be to-scale showing the location of all equipment proposed to be mounted within the cabinet. One-line diagrams and schematics shall be provided for equipment cabinets showing the interconnection of all devices located therein. Equipment layouts shall include rack-level elevation views as well as floor plans for all equipment racks. All working drawings, regardless if submitted as specified or submitted as equal substitutes, shall be furnished with complete, specific, detailed information from the manufacturer or supplier for the material or equipment the Contractor proposes to furnish, in which the requirements of the Specifications and Special Provisions shall be clearly shown to be met.

When any article is specified by trade name of manufacturer with or without the clause "or equal," it is intended to establish the quality of the article. If the Contractor proposes



to use material or equipment of another manufacturer as an "or equal" to the material or equipment specified, all working drawings shall conform to the following requirements, conditions, and procedures:

1. Substitution of equipment or materials other than those specified will be considered, providing, in the opinion of the Engineer, such equipment or material is equal to, or better than specified. The decision of the Engineer with respect to approval or disapproval of any material or equipment proposed to be substituted as an "or equal" is final. The Contractor shall have no claim of any sort by reason of such decision.
2. If the Contractor proposes to substitute materials or equipment as "or equal" to those specified, it shall be his responsibility to furnish, in addition to the information discussed above, a point by point comparison of the material or equipment specified under the Contract and that proposed to be substituted. The burden of responsibility in furnishing this information is with the Contractor.
3. If the substitute material or equipment requires any re-design or affects other aspects of the project, the Contractor shall be responsible to provide such re-design including details and to adjust elements as necessary to achieve the re-design at no additional cost to the Administration. Cost saving re-designs will be considered under the value engineering specifications.

If incomplete or irrelevant data is submitted as evidence of compliance with Specifications, Special Provisions, or Plans, the data will be returned and the request for approval of working drawings will be denied.

The Contractor shall provide, at no additional cost to the Administration, all required working drawings and shall have them adequately checked, after which they shall be submitted to the Engineer for review. The Engineer may reject working drawings and return them for revisions, in which case the Contractor shall submit revised working drawings as required. No items involving working drawings shall be incorporated into the work until working drawings have been accepted by the Engineer, however, acceptance shall not relieve the Contractor of any responsibility in connection with the working drawings.

The working drawings shall be prepared on sheets no smaller than 8.5" x 11" and no larger than 22" x 36". The sheet size and scale of the drawings shall be appropriate for the work depicted.



Maryland  
Transportation  
Authority

**SPECIAL PROVISIONS**

Contract No. KH 2263-000-002

Page 3 of 5

All working drawings shall be submitted by the Contractor, no working drawings submitted directly by subcontractors, fabricators, suppliers, etc. shall be accepted. Acceptance of a material source or equipment source by the Engineer or Administration shall NOT constitute approval of the material or equipment nor approval of the materials or equipment as a substitute or an "equal" product.

**ADD:**

(b) The working drawings shall be submitted electronically as files (FAXES are NOT acceptable). Electronic submission may be made via email for small submissions. Email is the preferred submission method. The email submissions shall be made to the email addresses provided by the Administration upon notice to proceed of the project and shall include [ksay@mdta.state.md.us](mailto:ksay@mdta.state.md.us). Where electronic submittals are larger than email can support (currently about 8MB), the submission may be made using one or more of the following alternatives:

1. Posted on a contractor supported FTP server, or other via another service that may be accessed by the administration as long as an email notice is made with the 'cover' sheet.
2. Copied onto a CD, DVD, or other supported data media and submitted to the Administration via standard mail. At least five (5) copies of the media shall be provided for in-house distribution. The address to mail such media transfers is:

Maryland Transportation Authority  
Engineering Division  
300 Authority Drive  
Baltimore, MD 21222  
ATTN: Kataw Say

**ADD:**

(c) Electronic Submittal Format. All electronic submittals shall be in a format readable by the Administration. The submittals shall be in Adobe portable document format (PDF) compatible with version 6.0 of Adobe Acrobat.

Each submittal shall be a single file. Multi-file submittals shall not be accepted.

The first page of each submittal shall be a cover page. The cover page must be in the 8.5 x 11" sheet format. The cover page must include:



1. Contract number.
2. Contract title.
3. Submittal Number. For each project (Contract), a sequential number starting with number 1 shall be used. Where a submittal is rejected, or otherwise requires resubmittal or replacement, the Submittal number shall be appended with an "R" followed by the revision number.
4. The Contractor's name, mailing address, contact phone number, contact email address.
5. The relevant line items in the contract that the submittal is associated with.
6. A brief description of the materials or data represented in the submittal package.
7. The date of the submittal.
8. The manufacturer's name, web site address, mailing address, and contact phone number, if applicable.
9. The vendor's or reseller's name, web site address, mailing address, and contact phone number if applicable.
10. The cover page must contain a 6" x 3" blank space where engineering stamps may be placed (electronically) without covering data in the page.

The electronic file must not be secured. The review process for electronic submittals will place electronic stamps and may include electronic comments in the electronic submittals by the Contractor. Any security or compatibility problems that prevent the use of the electronic stamps or electronic commenting will render the submittal unacceptable. The returned file may be secured to prevent accidental changes.

**ADD:**

- (d) File Naming Conventions and rules. It is necessary and required that file naming conventions and rules be followed to lend to organization and reduce confusion regarding the electronic submissions. Submittals that do not follow the file naming conventions described herein will be rejected without review. Strict adherence to the file naming rules is required. The file names for electronic submissions shall follow these rules:



1. The first five characters must be the first five characters of the contract number. For example, for contract MA435-000-006, the first five characters of the file name must be MA435.
2. The sixth character must be a dash.
3. The seventh through ninth characters shall be the text "SUB," which is short for submittal. Which is used to indicate that the file is a submittal from a Contractor.
4. The tenth character must be a dash.
5. The eleventh through thirteenth characters must be the submittal number, e.g., 001.
6. In the event of a re-submittal, the 14<sup>th</sup> character will be an R followed by the re-submittal number.
7. The remaining filename characters may be any short descriptive characters that may be useful to identify the nature of the submittal (fewer than 40 additional characters).
8. Examples of filenames:
  - i. MA435-SUB-001-Conduit.pdf
  - ii. MA435-SUB-001R2-Conduit.pdf
  - iii. MA434-SUB-015-Fiber Optic Cable.pdf
9. After the submittal has been reviewed, the text 'SUB' will be replaced by the text 'TRN' by the administration and the electronic file with electronic stamps and possibly containing electronic comments will be returned to the contractor via email, CD, DVD, or similar electronic file transfer.

**ADD:**

- (e) Upon completion of the project, all electronic files that have been transmitted to the Contractor (TRN's) shall be transferred to CD's, DVD's or other media by the Contractor and provided to the Administration along with as-built data. Data provided shall include any original files in original format, used to generate the PDF submittals, these may include CADD, Visio, Word, Excel, MathCad, Access/DataBase, HTML, JPG/Pictures, Power point, or any other format that may have been used as the originating document. Provide three (3) copies of all media.



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

**TC-4.02 FAILURE TO ADEQUATELY MAINTAIN PROJECT.**

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

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

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

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

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



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

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

**TC-5.01 INSURANCE.**

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

**INSERT:** The following.

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

The Contractor shall maintain in full force and effect third party legal liability insurance necessary to cover claims arising from the Contractor's operations under this agreement which cause damage to the person or property of third parties. The insurance shall be under a standard commercial general liability ("CGL") form endorsed as necessary to comply with the above requirements; or other liability insurance form deemed acceptable by the State. The State of Maryland shall be listed as an additional named insured on the policy. The limit of liability shall be no less than One Million Dollars (\$1,000,000.00) per occurrence/ Two Million Dollars (\$2,000,000.00) general aggregate. The insurance shall be kept in full force and effect until all work has been satisfactorily completed and accepted. The policies shall be endorsed to provide thirty (30) days notice of cancellation or non-renewal to:

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



**TC SECTION 7  
PAYMENT**

**TC-7.06 FINAL ACCEPTANCE AND FINAL PAYMENT.**

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

**INSERT:** The following.

(b) The Contractor shall then have a period of 30 days, dating from the date upon which he received the aforementioned tabulation from the Administration, in which:

(1) To decide whether or not he will accept final payment upon such a basis, and

(2) To notify the Administration, in writing, of his decision. The Contractor may request an additional period up to 30 days in which to notify the Administration of his decision. In the event the Contractor notifies the Administration that he protests final payment on such a basis, that notification shall outline the reasons for said protest.



**CATEGORY 100  
PRELIMINARY**

**SECTION 104 — MAINTENANCE OF TRAFFIC**

**104.01 TRAFFIC CONTROL PLAN (TCP).**

**104.01.01 DESCRIPTION.**

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

**INSERT:** The following.

The work to be performed under this contract is located at John F. Kennedy Memorial Highway Administration facility in Cecil County.

This project consists of the replacement of the 5KV feeder beginning at the existing JFK Administration building transformer pad and terminates at the existing Rt. 222 Interchange existing transformer pad. The project involves electrical work consisting of replacing 5KV feeder and will need a temporary generator feed to maintain reliable operation of the Rt. 222 lighting, weight station signing, weight station controls, CCTV cameras, and traffic light. All work and materials necessary to provide complete and functioning systems shall be included.

**AGENCY CONTACTS**

<b>CONTACT</b>	<b>TITLE</b>	<b>PHONE NUMBER</b>
George Fish	Administrator, MdTA	(410) 537-1102
Eric Morris	Maintenance Supervisor, MdTA	(410) 537-8153
Dan Sawyers	Utility Coordinator, MdTA	(410) 537-1118
Roxane Y. Mukai	Traffic Manager, MdTA	(410) 537-7848
Kataw Say	Design Engineer, MdTA	(410) 537-7853

**Work Restrictions.** On Monday of each week, the Contractor shall provide the Engineer with a complete list of anticipated lane and shoulder closures for the following two weeks, allowing the Authority a minimum of fourteen (14) calendar days or ten (10) working days notification. The Engineer shall then notify the affected facilities, the Engineering Division’s Traffic Section and other appropriate offices. No lane closures shall be made without prior written approval of the Engineer in the form of an Authority lane/shoulder closure permit. The Authority is not responsible for lost workdays resulting



from the Contractor failing to submit schedules or providing notification of maintenance of traffic requirements in a timely manner. Other contractors may be actively working in or around the vicinity of this project. The Contractor shall cooperate with and coordinate work activities with contractors in adjoining or overlapping work areas. The Contractor is responsible for obtaining lane/shoulder closure or other Permits from all affected agencies that require permits for work on their right of way, including those listed in this Special Provision. The Contractor shall make contact with the representative from the affected agency, through the Project Engineer and provide a copy of all coordination correspondence to the Authority. Sufficient time shall be allowed for review and approval of the permit application.

**ALLOWABLE LANE CLOSURE SCHEDULES**  
**JOHN F. KENNEDY MEMORIAL HIGHWAY**

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
Continuous	Monday - Sunday	Shoulder Closure
9:00AM – 3:00PM	Monday – Thursday	Single Lane Closure
7:00 PM – 5:00 AM	Monday – Thursday	Single Lane Closure Northbound
7:00 PM – 5:00 AM	Monday – Thursday	Single Lane Closure Southbound
9:00AM – 12:00Noon	Friday	Single Lane Closure
9:00 PM – 5:00 AM	Monday – Thursday	Double Lane Closure Northbound
9:00PM – 5:00AM	Monday – Thursday	Double Lane Closure Southbound

No lane closures are permitted on Holidays, or the day preceding and following the Holidays indicated below:

- New Year's Day, January 1
- Good Friday
- Easter Sunday
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day and the Wednesday before
- Christmas Day

If a holiday falls on a Thursday, Friday or Monday, no closures will be permitted during that weekend.



The contractor will not be permitted to use any portions of the existing roadway or interfere with or impede the free flow of traffic in any manner during prohibited hours.

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

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

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

When closing or opening a lane on freeways, expressways, and roadways with posted speed  $\geq$  **50 mph**, a work vehicle shall be closely followed by a protection vehicle (PV) during installation and removal of temporary traffic control devices. The PV shall consist of a work vehicle with approved flashing lights, a truck-mounted attenuator (TMA) with support structure designed for attaching the system to the work vehicle, and arrow panel (arrow mode for multilane roadways and caution mode on two-lane, two-way roadways) The work vehicle size and method of attachment shall be as specified in the TMA manufacture's specification as tested under NCHRP Test Level 3.

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

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

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



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

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

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

Failure to restore full traffic capacity within the time specified will result in a deduction being assessed on the next progress estimate in conformance with the following. This is in addition to the requirements specified in TC-4.02.

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

**104.01.04 MEASUREMENT AND PAYMENT.**

**INSERT:** The following:

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

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

The pay item(s) for this section include(s):

**1001 Maintenance of Traffic --** per lump sum



**SECTION 108 — MOBILIZATION**

**108.01 DESCRIPTION.** This work shall consist of the construction preparatory operations, including the movement of personnel and equipment to the project site and for the establishment of the Contractor's offices, buildings, and other facilities necessary to begin work.

**108.02 MATERIALS.** Not applicable.

**108.03 CONSTRUCTION.** All work performed in providing the facilities and services shall be done in a safe and workmanlike manner.

**108.04 MEASUREMENT AND PAYMENT.** Mobilization will not be measured but will be paid for at the Contract lump sum price. The cost of all required insurance and bonds will be incidental to the Mobilization item.

Payment of 50 percent of the Mobilization item will be made in the first monthly estimate after the Contractor has established the necessary facilities. The remaining 50 percent will be prorated and paid in equal amounts on each of the next five monthly estimates. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Payment of the Mobilization item will not be made more than once, regardless of the fact that the Contractor may have, for any reason, shut the work down on the project, moved their equipment away from the project and then back again.

If an item for mobilization is not provided, the cost of mobilization including the required insurance and bonds will be incidental to the other items specified in the Contract Documents.

The pay item(s) for this section include(s):

**1002 Mobilization --** per lump sum



## SECTION 205 – TEST PIT EXCAVATION

**205.01 DESCRIPTION.** Excavate and backfill test pits to determine the location of underground structures and utilities.

**205.02 MATERIAL.** Not Applicable.

**205.03 CONSTRUCTION.** Determine the location of underground structures and utilities by test pit excavation prior to excavation operations.

Excavate test pits at the location and to the size and depth authorized. Backfill test pits as specified in section 210.

### **205.04 MEASUREMENT AND PAYMENT.**

Test Pit Excavation will be measured and paid for at the Contract unit price per cubic yard for the material actually removed from within the limits specified. The payment will be full compensation for all excavation, tamped backfill, and all material, labor equipment, tools, and incidentals necessary to complete the work. Any pavement to be replaced will be measured and paid for as specified in section 106.

The pay item(s) for this section include(s):

**2001 Test Pit Excavation --** per cubic yard



**CATEGORY 300  
DRAINAGE**

**SECTION 308 – EROSION AND SEDIMENT CONTROL**

**DELETE:** 308.01.03 Quality Assurance Ratings in its entirety.

**INSERT:** The following.

**308.01.03 Quality Assurance Ratings.** A Quality Assurance Inspector will inspect each project every 2 weeks to ensure compliance with the approved Erosion and Sediment Control Plan. The MdTA Office of Engineering and Construction Erosion and Sediment Control (ESC) Quality Assurance Inspector is Mr. Timothy Plume @ 443-790-8975 and [Tplume@mdta.state.md.us](mailto:Tplume@mdta.state.md.us) The scores will be reported on Form No. ESC1, Erosion and Sediment Control Field Investigation Report. The Quality Assurance Inspector will use the scores to determine the following ratings:

SCORE	RATING
≥ 90	A
80 - 89.9	B
70 - 79.9	C
60 - 69.9	D
< 60	F

**Rating A.** The project is in compliance. Minor corrective action may be necessary.

**Rating B.** The project is in compliance; however, corrective action is necessary.

**Rating C.** The project is in compliance; however, deficiencies noted require corrections. Shutdown conditions described elsewhere herein could arise quickly. Project will be re-inspected within 72 hours.

**Rating D.** The project is in non-compliance. The Administration will shut down all earthwork operations. All work efforts shall focus on correcting erosion and sediment control deficiencies. The project will be re-inspected within 72 hours. All required corrective actions shall be completed within the 72 hour period for the project to be upgraded to a 'B' rating. Failure to upgrade the project from a 'D' to a 'B' or better rating will result in the project being rated an 'F'. Noncompliance penalty will be imposed for each day the project has a 'D' rating. Refer to Shutdown elsewhere in this Specification for additional requirements.

**Rating F.** The project is in non-compliance. An 'F' rating indicates a score less than 60 or the appropriate permits and approvals have not been obtained; or that the limit of disturbance has been exceeded, or that wetlands, wetland buffers, Waters of the United



States (WUS), floodplains, and tree preservation areas as specified in Section 107 have been encroached upon; or that work is not proceeding according to the approved Erosion and Sediment Control Plan and schedules. The Administration will shut down the entire project until the project receives a 'B' or better rating. All work efforts shall focus on correcting erosion and sediment control deficiencies. Noncompliance penalties will be imposed for each day the project has an 'F' rating.

**Shutdowns.** If a project is rated 'C', correct all deficiencies within 72 hours. The project will be re-inspected at the end of this period. If the deficiencies have not been satisfactorily corrected, the project will be rated 'D' and all earthwork operations will be shut down until the project is rated 'B' or better.

If consecutive 'C' ratings are received, the Contractor will be alerted that their overall effort is marginal and a shut down of all earthwork operations is imminent if erosion and sediment control efforts do not substantially improve within the next 72 hours. The project will be re-inspected at the end of this period. If the deficiencies are not satisfactorily corrected or other deficiencies are identified that result in a score of less than 80 and not below 60 on Form No. ESC1, a 'D' rating will be given and all earthwork operations will be shut down.

If disregard for correcting these deficiencies is evident, an 'F' rating will be given and the entire project will be shut down until the project receives a 'B' or better rating. When degradation to a resource could occur, or if the Contractor is unresponsive, the Administration may elect to have these corrective actions performed by another contractor or by Administration maintenance staff. All costs associated with this work will be billed to the original Contractor in addition to noncompliance penalties.

**Noncompliance Penalty.** Whenever a project is rated 'D' or 'F', the Administration will assess Noncompliance Penalties. Noncompliance Penalties shall be paid within 30 days from the date of notification to the Contractor. Payments will not be allowed to accrue for consideration at final project closeout.

The second time that a project is rated 'F', the Erosion and Sediment Control Training Certificate issued by the State Highway Administration will be immediately revoked from the project superintendent and the Erosion and Sediment Control Manager for at least a six month period and until successful completion of the State Highway Administration's Erosion and Sediment Control Certification Program. Neither the project superintendent nor the Erosion and Sediment Control Manager will be allowed to oversee the installation and maintenance of erosion and sediment controls during the period the certification is revoked on any project of the Authority. Replace the project superintendent and the Erosion and Sediment Control Manager with certified personnel. Work may not commence until the certified personnel are in place.

**DELETE:** 308.01.04 Incentive Payments and Liquidated Damages in its entirety.

**INSERT:** The following.

**308.01.04 Noncompliance Penalty Payments.** For each day that the project has a 'D' rating, the Contractor and/or his surety shall be liable for noncompliance penalties in the amount



of \$ 500.00 per day. Failure to upgrade the project to a minimum of a 'B' rating within 72 hours will result in the project being rated 'F'.

For each day that the project has an 'F' rating, the Contractor and/or his surety shall be liable for noncompliance penalties in the amount of \$ 1,000.00 per day.

### **308.03 CONSTRUCTION.**

#### **308.03.08 Stabilization Requirements.**

**ADD:** The following at the end of the fourth paragraph.

Any disturbed area not draining to a suitable sediment trapping device must be stabilized at the end of each working day. Suitable stabilization methods include:

Seed and mulch, stone, impervious sheeting properly secured by sandbags or stones. No separate payment is provided for this activity.

#### **308.04 MEASUREMENT AND PAYMENT.**

**DELETE:** 308.04 in its entirety.

**INSERT:** The following.

#### **308.04 MEASUREMENT AND PAYMENT.**

The pay item(s) for this section include(s):

**3001 Silt Fence--** per linear feet

**3002 Stabilized Construction Entrance and Rehabilitate Stabilized Construction Entrance--** per Tons

All other Erosion and Sediment Control measures when required by MDE and the Engineer, are incidental to the cost of excavation, grading and final stabilization practices. All materials, labor, equipment, tools, installation, maintenance, repair, resetting, any temporary stabilization and final removal of all erosion and sediment control devices shall also be incidental to the cost of excavation, grading and final stabilization practices.



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

**CATEGORY 700  
LANDSCAPING**

**SECTION 701 — TOPSOIL AND SUBSOIL**

**701.01 DESCRIPTION.** This work shall consist of furnished topsoil, placing a four inch depth of topsoil on disturbed areas for final grade in preparation of permanent turf establishment, seed or sod, as specified in the Section 701 Standard Specifications or as directed by the Engineer.

**701.04 MEASUREMENT AND PAYMENT** Placing Topsoil will be measured and paid for at the Contract unit price per square yard. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

The pay item(s) for this section include(s):

**7001 Placing Furnished Topsoil Four Inch (4") Depth -- per square yard**



Maryland  
Transportation  
Authority

**SPECIAL PROVISIONS**

Contract No. KH 2263-000-002

Page 1 of 1

**CATEGORY 700  
LANDSCAPING**

**SECTION 705 — TURFGRASS ESTABLISHMENT**

**705.01 DESCRIPTION.** This work shall consist of preparing soil and establishing turfgrass as specified in Section 705 Standard Specifications or as directed by the Engineer.

Site located in Region 2 – for Seeding Seasons and Seed Mixes Chart.

“Kentucky 31’ variety of Tall Fescue seed is prohibited for this contract.

**705.04 MEASUREMENT AND PAYMENT.**

The pay item(s) for this section include(s):

**7002 Turfgrass Establishment -- per square yard**



### **809 Trenching and Backfill**

See Section 809 of the Specifications with the following changes:

#### **809.03 CONSTRUCTION**

**CHANGE:** Text which reads: ‘...reads “CAUTION: SHA ELECTRICAL LINE BURIED BELOW,” repeated...’

**TO:** ‘...reads “BURIED ELECTRICAL LINE,” or other approved message, repeated every 36 in. if necessary. ’ **Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable or concrete duct bank.**

**ADD:** the following paragraphs before the “Cable Treatment” paragraph:

**"Miss Utility".** Where trenching and backfilling for the placement of conduits, splice boxes, handholes and handboxes is required, the contractor must contact "Miss Utility". "Miss Utility" shall be notified 48 hours in advance of any work under the contract and test pit all marked locations for exact position of cables, conduits, and other underground utilities.

**Depth.** Unless otherwise specified on the contract drawings, trenches shall be excavated to a depth such that all conduits, wires, or duct cable in trench is at a finished elevation at least 48” (inches) below the final grade. Where trenches are placed on slopes, cover shall be measured from the outside jacket of the duct cable or conduit to the nearest top of grade. This measurement will generally be perpendicular to the slope of the grade.

Where proper trench depth cannot be obtained, and improper depth presents a hazard to the cables, or conduit, the Engineer may direct that lengths of 4” (inches) galvanized rigid steel conduit be installed as a sleeve. The sleeve length shall be in intervals of min. 10’ (ft). The contractor must bend conduit to conform to the line and grade of the trench. Additionally, the Engineer may require concrete cover in shallow trench, on slopes, or where other conditions indicate the need. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. **All excavation shall be unclassified. Unclassified excavation will consist of the excavation of all material of whatever character encountered in the work.**

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor’s responsibility to locate existing utilities within the work area prior to excavation. Where existing active cable(s) cross proposed installations, the Contractor shall



insure that these cable(s) are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the Engineer, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

**In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.**

**Width.** Unless otherwise specified on the contract drawings, trenches shall be excavated to a width such that all conduits, wires, or duct cables in the trench are placed with at least 3" (inches) of backfilled material between the outside edge of the conduits, wires, or duct cables and undisturbed earth.

**PVC.** Contractor shall be installed Two 4" (inches) diameter PVC at least 48" (inches) in depth, concrete cover around 3" (inches) minimum. Conduits shall be installed parallel to the traveled sections of roadway or specified on the plans. All joint and connections shall be glued with appropriate PVC cement.

**Duct Bank.** 2-WAY Underground utility duct banks for power cable shall be a minimum 18" (inches) wide and minimum 12" (inches) deep of concrete (See Drawing E-2).

**Stake Out.** Stake out trenches prior to trenching and review the exact placement with the Engineer. Generally, keep trenches at least 3' behind guardrail and curb, and out of drainage ditches, gutters, culverts etc.. Run trenches in as straight a line as possible and parallel to the nearest roadway.

**Roadway Crossing.** Refer to section 832 of the specifications.

**Guardrail.** Where guardrail is to be placed, reset, removed, or otherwise worked in any manner, that tends to disturb the earth, place conduits and wiring only after such work is complete so as to avoid damage to the electrical work by the guardrail work.

**Curb and Gutter.** Where curb or gutter work is to be done in close proximity to electrical work, perform the work in the order and fashion necessary to minimize the risk of damaging either of the two types of works.

**Unsuitable Materials in Trench.** Remove any objects or projections into a trench, which may damage the wire or cable duct. These may include rocks, debris, glass, old cables, concrete, etc..



Alternatively, provide a galvanized rigid steel sleeve with grommets where projections into the trench cannot be removed.

**Restoration.** Backfill trench and tamp to achieve compaction. Seed, mulch and stabilize earth such that area is restored to previous conditions.

**809.04 MEASUREMENT AND PAYMENT**

**DELETE:** Text in its entirety.

**INSERT:** The following.

The contractor's quality assurance and quality control responsibilities shall be incidental to the pay items below. Construction stake out and coordination shall be incidental to the items listed below. Testing as specified in the Special Provisions and Specifications shall be incidental to the pay items listed below.

- 8001**      **18" (inches) wide, 52" (inches) deep, Trench and Backfill -- per linear foot**
- 8002**      **18" (inches) wide, 12" (inches) deep, Concrete Duct Bank – per cubic yard**
- 8003**      **4" (inches) diameter, PVC Schedule 80 Conduit Assembly – per linear foot**

Trench shall be paid for per linear foot for any width or depth required to meet the Specifications, Special Provisions, and details in the plans. Payment for each linear foot of trench shall include all excavation, backfill, trench marking tape, tamping, seeding, mulching, etc. as required. The linear foot cost shall include removal of any excess material. Trench and backfill shall be paid per linear foot as "LINEAR FEET OF TRENCH AND BACKFILL".

Concrete for underground duct bank shall be paid for per cubic yard for any width or depth required to meet the Specifications, Special Provisions, and details in the plans. Payments at the contract price for the underground duct bank shall be full compensation for all labor, equipment and material required to do the work.

PVC conduit will be measured per linear foot and paid as the item "Linear Feet of furnish and install PVC conduit underground power cable" where 4" (inches) is the trade size of the conduit. Payment under this item shall include all equipment, labor, conduit, connections PVC cement and incidental work necessary to install the conduits.



## **811 HAND HOLES, MANHOLES, HANDBOXES, PULLBOXES, AND SPLICE BOXES**

See Section 811 of the SHA's *Standard Specifications for Construction and Materials* in conjunction with the changes shown in this Section.

### **811.01 DESCRIPTION**

**DELETE:** The entire text of Paragraph 811.01.

**INSERT:** The following.

This work shall consist of furnishing and installing electrical manholes and hand boxes as specified in the Contract Documents or as directed by the Engineer.

### **811.03 CONSTRUCTION**

**ADD:** The following.

#### **811.03.01 Hand Boxes and Manholes**

- Manufacturer shall have documented experience in the manufacture of typical standard handboxes or manholes for a minimum of three years.
- Typical standard handboxes can be either precast concrete or cast-in-place as designated on the drawings.
- Up to 15 linear feet of 3" perforated plastic underdrain shall be provided to keep the typical standard handbox positively free of water during construction. Outlet underdrain as directed by engineer.
- Typical Standard Handboxes shall be 30" (inches) in diameter by minimum 48" (inches) deep.
- Wall thickness shall be minimum 4" (inches).
- Include cable pulling irons opposite each duct entry.
- Ring and lid shall be installed at least 2" above finish grade so that water drains away from them.
- Each typical standard handbox should be equipped with a minimum 3 m long, 20 mm copper-clad steel ground rod through the floor of the manhole, with all metallic components in the typical standard handbox such as racks, cable sheaths, ladder, and so on securely grounded to this rod with a #6 AWG green or bare insulated cable.



Maryland  
Transportation  
Authority

**SPECIAL PROVISIONS**

Contract No. KH 2263-000-002

Page 2 of 2

**811 04 MEASUREMENT AND PAYMENT**

**DELETE:** The entire text of Paragraph 811.04

**INSERT:** The following.

For the pay items listed below:

**8004 Typical Standard Handboxes -- per each**

Cost for the work shall be paid for according to bid prices. Bid prices shall include all equipment, materials, and labor to complete the work as specified herein including dewatering, excavation, bedding, material installation, cover, backfill (using excavated materials) and other miscellaneous items of work specified herein.



## 820 - GENERAL ELECTRICAL WORK AND TESTING

SEE SECTION 820 OF THE SHA'S *STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS* IN CONJUNCTION WITH THE CHANGES SHOWN IN THIS SECTION.

### 820.01 DESCRIPTION

**ADD:** The following.

- (a) This work includes contacting, coordinating and cooperating with BG&E (or other local utility company) for the changes and additions to the electrical service.
- (b) The Plans show only diagrammatic locations of cables, conduits, and other underground utilities. They are approximate and do not show every detail. The Contractor shall provide working drawings, shop drawings, and catalog cuts, etc., which show final details of the installation.

#### 820.01.01 Codes, Standards, Inspection, and Documentation

- (a) All work shall be performed in accordance with the codes and standards listed below. In addition, materials and construction methods shall meet the minimum requirements and recommendations of the listed codes, standards, and organizations. Unless otherwise stated, the latest edition, revision, or supplement, as of the date of advertisement, of the specified codes shall be used.
  - ANSI - American National Standards Institute
  - ASTM - American Society for Testing and Materials
  - IEEE - Institute of Electrical and Electronic Engineers
  - NEC - National Electrical Code (NFPA70)
  - NECA - National Electrical Contractors Association (NECA 1-2006)
  - NEMA - National Electrical Manufacturers Association
  - NESC - National Electrical Safety Code
  - NFPA - National Fire Protection Association
  - UL - Underwriters' Laboratories
  - TIA - Telecommunications Industry Association
- (b) All materials supplied by the contractor shall be new and UL listed, where such listing is possible. Submit catalog cuts for all materials in accordance with Shop Plans & Working Drawings in SPECIAL PROVISIONS (TC4.01).



- (c) The MDTA Chief Electrical Inspector or his appointed representative will inspect the entire installation. The Contractor shall contact the Electrical Inspector at least 48 hours before needed inspections. All trenches shall be inspected before backfilling. All equipment, conduits, etc. shall be inspected at rough in and prior to concealment. All work shall be inspected prior to power-up. Contact the Chief Electrical Inspector, Douglas Evans, at 410-977-2687 or [devans3@mdta.state.md.us](mailto:devans3@mdta.state.md.us) to arrange necessary inspections.
- (d) All rough-in work shall be documented via a digital camera prior to concealment. Camera shall be color, minimum of 5 mega pixels, and images shall be clear and readable to the naked eye. All color photos shall be time stamped with the date of the picture. Filename or other label shall identify project number and general location of the picture. All pictures shall be submitted on a CD or DVD at the conclusion of the project, however, electronic copies shall be made available at any time by request to the project engineer, inspector, and/or electrical inspector.
- (e) Special attention is directed to the fact that the Standard Specifications For Construction and Materials dated July 2008 and published by the Maryland Department of Transportation, State Highway Administration, also governs this work, and is referenced frequently herein as the "Specifications."
- (f) All work shall be performed in accordance with NECA 1-2006 (Standard for Good Workmanship in Electrical Construction) or latest revision.
- (g) Unless clearly specified otherwise, all voltages indicated are AC (alternating current), shall be at 60 Hz, and stated as RMS values.

#### **820.01.02 Quality Assurance and Quality Control**

The contractor shall inspect all materials furnished or installed under this contract and shall bring any damage, failure, or other problem to the attention of the project inspector prior to incorporation into the work. The contractor shall provide his own quality assurance and quality control for the work performed in the contract. The inspectors operating on behalf of the state are not a replacement for contractor's management and the contractor's own quality assurance and quality control.

Prior to final inspections/punch list development the contractor shall conduct his own inspections. The use of inspection checklists and quality control documents is required as evidence that inspections have been completed.



## 820.03 CONSTRUCTION

### 820.03.01 GENERAL

**ADD:** The following.

For the purpose of this specification, “direct supervision” shall mean that the qualified Master Electrician shall be at the job site at all times electrical work is performed. The Master Electrician shall be the single point of contact for inspection and quality control issues related to electrical work and shall be able to effectively manage the electrical work force.

The contractor must provide qualified labor to perform installation. Where licenses or certifications are available or required by local jurisdictions, state jurisdictions, or federal jurisdictions for certain skilled trades, such as electrical, mechanical, plumbing, welding, etc. The skilled trade workers shall have current versions of the appropriate license or certification prior to working the associated specialty and shall provide copies to the Project Engineer or Inspectors upon request.

Installation, splicing, terminating, and testing of fiber optic cable shall be performed by a trained and qualified fiber optic cable technician. Copies of certifications and experience shall be submitted to the Engineer prior to starting work.

**ADD:** The following just prior to paragraph 820.03.

### 820.03.04 Testing Fiber Optic Cables

Circuit tests shall be performed to verify that each fiber is connected to the proper circuit, and that it is continuous with no breaks, or damaged sections, in the fiber. All strands shall meet current EIA/TIA-568 specifications. Dark fibers and excessive attenuation due to breaks, bends, bad splices, defective connectors and bad installation practices shall not be accepted and shall be corrected. For fiber optic testing standards, see EIA-455-171 (FOTP-171), EIA 526-14.

- (a) All cables shall have ST connectors installed prior to testing. All testing, for purposes of acceptance of the system, shall be conducted on fully installed and assembled fiber optic cables.
- (b) Upon completion of testing, replace or repair any failed cable(s) with a new fiber or cable, and test the new cable to demonstrate acceptability.
- (c) Insertion loss testing shall be performed.
- (d) These tests shall be measured in dB.
- (e) These tests shall use 850 nm and 1300 nm light sources for multimode fiber and 1300 and 1550 nm for single mode fiber.



- (f) Test shall be documented for all wavelengths as noted above.
- (g) Test results shall be documented on paper and stored on a computer diskette and shall be turned over to the electrical inspector after testing is complete. Attachment 820-A to this Section shows a sample fiber optic test report.
- (h) An optical time domain reflectometer (OTDR) approved by the Engineer shall be used to conduct testing. The OTDR shall be calibrated to sheath (jacket) length, not optical length, by adjusting the unit's index of refraction. Properly trained technicians shall conduct tests.
- (i) All OTDR traces shall maximize both the vertical and horizontal scales to the greatest extent possible and still fit the entire trace on the screen.
- (j) A cable segment shall be deemed a failure if the total loss exceeds the calculated loss for that length of cable as indicated in Attachment 820-A. A cable segment shall fail if any individual splice loss is greater than 0.3dB, or if any mated connector pair loss is greater than 1.0dB, or if there is any point loss (over less than 1' of cable) of more than 1.0dB.
- (k) After the circuit test, a functional test shall be performed. This test shall consist of allowing the system to operate as normal for 30 consecutive days. Any failures shall be repaired by the Contractor at his own expense, and the test restarted.

**820.03.05** All switches and breakers shall be operational and the operation of the devices they control verified. That is, the Contractor shall test switches and breakers in the presence of the MDTA electrical inspector to prove and assure that the device (or devices) specified is (are) controlled and no other device (or devices) is (are) controlled. All panel schedules shall be accurate and reflect the final installation.

**820.03.06** All GFI protected outlets shall be tested with a suitable tester in the presence of the MDTA electrical inspector. The tester shall be a device that plugs into the outlet and indicates proper wiring of the outlet. A switch on the tester shall be utilized to introduce a ground fault that must trip the GFI device.

**820.03.07** All Uninterruptible Power Supplies shall be tested by removal of power sources. Verify proper transfer to battery and backup time consistent with the manufacturers load vs time data for the particular model of UPS. Restore normal power and verify that batteries are charged and normal operation commences.

**820.03.08** All PVC conduit fittings, except threaded fittings, shall be schedule 80 and glued and water tight. All GRSC fittings shall be tight fit.



**820.03.09** All photo electric controls shall be tested by applying a temporary shade to simulate photometric changes intended to activate the controls. Such testing shall be performed by the contractor in the presence of the MDTA electrical inspector.

**820.03.10** All three phase panels, loads, motors, generators, UPS's, and ATS's shall be checked for proper phase rotation and consistent phase termination between termination points. Ie: Phase A is the same Phase at all Phase A termination points and the phase rotation is the same at all points. Such testing shall be performed by the contractor and witnessed by the electrical inspector.

**820.03.11** Flexible metal conduit (Greenfield) and liquid tight flexible metal conduit (seal tight), and liquid tight flexible non-metallic conduit may be used as follows. Flexible fabric innerduct and innerduct used for low-voltage and fiber optic systems is not covered by this requirement.

- (a) Lengths not exceeding 3' shall be used to connect transformers over 5KVA and motors.
- (b) Lengths not exceeding 6' may be used for the final connection of light fixtures used in ceilings.
- (c) Lengths not exceeding 6" may be used for the final connection devices that may be subject to minor vibration or minor movement perhaps from temperature expansion and contraction.
- (d) Other lengths as clearly specified on the plans or as approved by the Engineer.

**820.03.12** Conduit/Cable labeling. Interior cable and raceways shall be permanently labeled at a minimum of every 50 feet, every 25 feet when view is obstructed, and within 5' of any wall or floor/ceiling penetration at all junction boxes, terminations, and within 12" of electrical panel. Label color shall be Safety Orange with Black Letters and shall follow ANSI (ASME) A13.1 for location and size.

**820.03.13** Unless specifically shown otherwise on the plans, wiring derived from different system voltages shall be installed in separate conduits. Wiring of different voltages derived from the same system (i.e. Control wiring) may be permitted to be installed in the same conduit or junction box provided that all requirements of the NEC are maintained.

**820.03.14** No wiring other than the primary voltage indicated shall be installed in electrical panels and Safety/Disconnect Switches. Exception may be granted for wiring that terminates on a device within the panelboard or safety/disconnect switch that is integral to the operation of that device. Enclosures for switches or overcurrent devices shall not be used as junction boxes, auxiliary gutters, or raceways for conductors feeding through or tapping off to other switches or overcurrent devices.

**820.03.15** Branch Circuits: Any circuits supplying more than 50% non-linear loads shall have a dedicated neutral conductor.



**820.03.16** Conduit or tubing 1" and larger shall be provided with a suitable insulating bushing.

**820.03.17** Panel Board Labeling. All circuits installed or modified by the contractor in any way shall be properly labeled in the associated panel board panel schedule. This work shall include verifying that the existing load on the affected circuit(s) is also correctly identified. The label shall identify the type of load(s) served (e.g.: receptacles, lighting, appliances, motors, pumps, etc..) and the location (e.g.: room 103, sump pit#1, etc...). Where changes are minor (e.g. Two circuits or less being changed), the existing panel schedule may be modified as approved by the electrical Inspector. Larger changes shall require a new panel schedule typed, neat in appearance. The new schedule may copy the identifying labels of the old schedule provided that the contractor has not made any changes to those circuits. To clarify, replacing a panel board, moving circuits within a panel board, or similar changes shall be considered modifying the circuit and shall require testing to verify the connections of all such circuits and coordinating the panel schedule with the existing conditions.

**820.03.18** Fire Stopping. All penetrations into fire walls or core holes between floors and walls must be properly fire-stopped in accordance NEC requirements for fire stopping. Penetrations into the surface of any firewall or presumed firewall should be only slightly larger than the conduit, cable or cables that will need to pass through it. This will make fire stopping easier and allow the wall to maintain a better over all structural integrity.

**820.03.19** Construction Stakeout and Coordination

- (a) The Contractor shall coordinate this work with the work of other trades to avoid conflicts. Electrical cables and equipment damaged by the execution of work of other trades shall be completely removed and replaced with new.
- (b) The Contractor shall keep an up-to-date set of as-built red lined drawings on the job site. Submit as-built drawings upon completion of the work. The Contractor shall note the exact location of trenches at 100-foot intervals on the as-built drawings by station, and offset from the roadway. The Contractor shall show only the work that is part of the final project on as-built drawings.

**820.03.20** Boxes and Cabinets. Unless specified otherwise, junction boxes, pull boxes, disconnect switches, cabinets, and other boxes installed outdoors and above ground shall be NEMA4X rated; except cabinets and boxes requiring ventilation which shall be NEMA3X rated.

**820.03.21** Rodent stopping. All conduits that connect to exterior mounted cabinets shall be stuffed with copper mesh at the cabinet end point to deter rodent egress through the conduit. The copper mesh shall be installed after all wires and cables have been installed. The mesh shall be removable and the mesh and installation and removal technique shall not damage wires or cables.



**ATTACHMENT 820-A  
SAMPLE FIBER OPTIC CABLE TEST REPORT**

(To be filled out after installation is complete)

<b>Job Name:</b> <b>Job ID:</b>	<b>Fiber Cable:</b>
<b>Location (A):</b>	<b>Location (B):</b>

**ANSI/EIA/TIA 568A: Cable Loss Factor (CLF); 1km=3280.83 feet**

3.75 db/km (**0.00114 db/ft**) @ 850 nm for 62.5/125 μm MM

0.50 db/km (**0.00045 db/ft**) @ 1300 nm for 62.5/125 μm MM

0.50 db/km (**0.00015 db/ft**) @ 1310 nm and 1550 nm for OSP SM

1.0 db/km (**0.00030 db/ft**) @ 1310 nm and 1550 nm for ISP SM

0.5 Connector Loss (CL) = 0.75 db per pair of connectors

Splice Loss (SL) = 0.3 db each

**To calculate ACCEPTABLE LOSS (db): Multiply cable length x (CLF) + (CL) + (SL) = DB margin:** \_\_\_\_\_

Cable Length	Strand No.	A to B	B to A	Fiber ID
Feet	1			Blue
850 NM MM	2			Orange
dB	3			Green
	4			Brown
	5			Slate
	6			White
	7			Red
	8			Black
	9			Yellow
	10			Violet
	11			Rose
	12			Aqua



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 8 of 8

Cable Length	Strand No.	A to B	B to A	Fiber ID
Feet	1			Blue
1300 NM/MM	2			Orange
dB	3			Green
	4			Brown
	5			Slate
	6			White
	7			Red
	8			Black
	9			Yellow
	10			Violet
	11			Rose
	12			Aqua

Cable Length	Strand No.	A to B	B to A	Fiber ID
Feet	1			Blue
1550 NM/MM	2			Orange
dB	3			Green
	4			Brown
	5			Slate
	6			White
	7			Red
	8			Black
	9			Yellow
	10			Violet
	11			Rose
	12			Aqua

Technician: \_\_\_\_\_ Date: \_\_\_\_\_



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 1 of 1

## SECTION 826 — REMOVAL OF EXISTING HANDBOXES

**826.01 DESCRIPTION.** This work shall consist of remove and relocate or remove and dispose of existing handboxes.

**826.02 MATERIALS.** Not applicable.

**826.03 CONSTRUCTION.** Existing handbox covers and frames shall be removed, concrete should be removed to a depth of twelve (12) inches and hole should be filled with AASHTO No. 57 Aggregate and capped with 6" of suitable topsoil. Area shall be seeded to match existing growth.

**Any property damaged shall be replaced or repaired as directed by the Engineer at no additional cost to the Authority.**

Handboxes removed and not reused shall become the property of the Contractor.

**MEASUREMENT AND PAYMENT.** Removal of existing handboxes will not be measured but will be paid for at the Contract price per each. The payment will full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

The pay item(s) for this section include(s):

**8005    Removal of Existing Handboxes    -- per lump sum**



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS  
831- MISS UTILITY

Contract No. KH 2263-000-002

Page 1 of 1

**CATEGORY 800  
UTILITIES**

**SECTION 831 - MISS UTILITY**

**831.01 DESCRIPTION.**

This work shall consist of contacting Miss Utility as required by Law and providing evidence of Miss Utility Marking of the construction area.

This work shall include written notification to the Maryland Transportation Authority at least seventy-two (72) hours in advance of excavation for each site.

**831.03 CONSTRUCTION.**

The Contractor shall contact Miss Utility and assure that all construction areas are marked where excavation or other work affecting or possibly affecting underground utilities will take place. The Contractor shall maintain the markings. The Contractor shall pay any Miss Utility fees. The Contractor shall submit copies of Miss Utility tickets to the Engineer as evidence of this work.

The Contractor shall provide a written notification of intent to excavate or disturb the earth in an area to the Maryland Transportation Authority at least seventy-two (72) hours in advance of such activity. The Maryland Transportation Authority is not a subscriber to utility marking services. This notification shall permit the Authority to mark any Authority owned utilities within the excavation or disturbance area. The written notification shall be provided to the Authority's Project Manager and a copy provided to the Administrator at the affected facility as indicated below:

Name	Phone	Fax
Dave Roehmer, BHT	410-537-1310	410-537-1304
Dave Roehmer, FMT	410-537-1310	410-537-1304
Charles Raycob, FSK	410-537-7513	410-537-7503
Gary Jackson, HWN	410-537-6807	301-259-0411
George Fish, JFK, TJH	410-537-1101	410-537-1105
Ken Cimino, WPL	410-295-8156	410-295-8151

The Contractor shall maintain markings of utilities until excavation and disturbance work is complete. Existing marked utilities shall not be damaged or disturbed without permission of the owner of the utility.

**831.04 MEASUREMENT AND PAYMENT.**

This work will not be measured or paid separately, but shall be considered incidental to other work on the project.



**832 Conduit Placed under Existing Pavement**

**832.01 DESCRIPTION**

This work shall consist of placing conduits under existing pavement.

**832.02 MATERIALS**

HDPE SDR11 or SIMILAR

**832.02.01** Unless otherwise specified on the plans, all conduits placed under existing pavement shall be 4" (inches).

**832.03 CONSTRUCTION**

Install conduits under roadways, entrance ramps, shoulders, driveways, and other traveled paved sections by directional bore, auguring, missile, push, or other method approved by the Engineer. The selected installation method shall not damage the traveled roadway. Conduits placed in this fashion shall be HDPE SDR11 or approved by the Engineer..

**832.03.01** Parking lots may, at the Contractor's option, be excavated, via trench and repaired to match existing conditions. Conduits placed by trenching may be non-metallic.

**832.03.02** In all cases, conduits shall be installed at least 48" in depth. Conduits shall be installed parallel to the traveled sections of roadway or as shown on drawing E-1.

**832.03.03** A typical standard handbox shall be placed on both sides of the roadway crossing, and grommets shall be placed on both ends of the conduit. The conduit shall pass completely under paved and unpaved shoulder and at least 4' feet beyond edge of pavement and completely into the handbox. The handbox shall be paid as specified in sections 811.

**832.04 METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

All pay items shall include all materials, labor, and equipment necessary to furnish and install a complete, operational, and acceptable system as specified herein and as shown on the plans. Payment of items shall include all testing and guarantee required by the specifications and special provisions. Any requirements of the specifications, special provisions or plans not specifically detailed or mentioned in a payment item shall be considered incidental to the pay items below.

The contractor's quality assurance and quality control responsibilities shall be incidental to the pay items below. Construction stake out and coordination shall be incidental to the items listed below. Testing as specified in the Special Provisions and Specifications shall be incidental to the pay items listed below.

**8006 4" (inches) HDPE SDR-11 conduit Pushed, Directional Bored or**

**Placed Under Existing Pavement – per linear foot**

**052**



Maryland  
Transportation  
Authority

**SPECIAL PROVISIONS**

Contract No. KH 2263-000-002

Page 2 of 2

**832.04.01** This work will be measured per linear foot and paid as the item "Linear Feet of 4" (inches) HDPE SDR-11 conduit pushed, directional bored or placed under existing pavement" where 4" (inches) is the trade size of the conduit. Payment under this item shall include all excavation, equipment, labor, restoration of the excavated areas, conduit, connections, and incidental work necessary to install the conduits.



## **889 UNDERGROUND POWER CABLE**

### **889.01 DESCRIPTION**

**889.01.01** This work shall include furnishing and installing power cable and furnishing power cable within duct bank in accordance with these specifications at the locations shown on the plans. Requirements for trenching and backfilling for the installation of underground conduit and duct banks is covered under SECTION 809 "Trench and Backfill."

### **889.02 MATERIALS**

5KV (Shielded), MV-90, 90°C Max. Temp. Operation - 3 Conductors with #6 Grounding Conductor

### **889.02.01 MINIMUM REQUIREMENT**

#### **Description**

- Shielded: Class B stranded copper, extruded conductor shield, heat and moisture resistant crosslinked polyethylene, semi conducting insulation shield, copper shield, and overall PVC jacket.
- 3 conductors, phase identified, (color coded tape (black, red and blue) applied under the metallic shielding tape) and cabled together with fillers and bare copper ground conductor(s). Cable core covered with binder tape and overall flame and sunlight resistant black PVC jacket. Surface printed. Jacket available in colors on special order.
- Suitable for direct buried application.
- Suitable for installation in underground duct bank.

#### **Standards**

- UL 1072.
- Sunlight Resistant.
- Direct Burial.
- Color code K-2.
- Conductors rated at 90°C.
- Per ICEA S-66-524/NEMA WC-7.

#### **Specifications**

- Size (AWG/MCM) : 4



Maryland  
Transportation  
Authority

## SPECIAL PROVISIONS

Contract No. KH 2263-000-002

Page 2 of 3

- Strands: 7
- Nominal Insulations Thickness (inches): 0.090
- Nominal Thickness – Cond. Jacket (inches): 0.060
- Copper Grounding (AWG): 6
- Nominal Thickness (inches): 0.110
- Nominal O.D (inches): 1.620
- Current at 40°C (Amps): 91
- Nominal Weight (LBS/MFT): 1423
- Voltage Rating (volts): 5000
- No. Conductors: 3

**889.02.02** Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Southwire Company
2. Custom Cable Corporation
3. Substitute manufacturer is accepted as long as the minimum requirements are meet.

### **889.03 CONSTRUCTION**

**889.03.01** The cable installed in this project shall be permanently marked and labeled at both ends of the cable and inside all typical standard handboxes.

**889.03.02** Power cable shall be installed at exactly shown on drawing E-1.

**889.03.03** Prior to installing conductors, remove all obstructions and debris by pulling a mandrel type device through each conduit run and all fittings in the presence of the Engineer. Cap conduit ends by using a manufactured cap or plug. Prior to the installation of wiring, remove manufactured caps or plugs and install an insulated bonding bushing on galvanized rigid conduit; install bell end fittings on PVC conduit.

**889.03.04** Contractor shall install power cable inside the 4" (inches) diameter PVC concrete encased duct bank.

**889.03.05** The contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks. Wherever possible, cable shall be run without splices, from connection to



connection. Maximum pulling-tensions shall be governed by cable manufacturer's recommendations.

**889.03.06** During construction, the Contractor shall be responsible to maintain reliable operation of the existing Rt. 222 lighting, weight station signing, weight station controls, CCTV cameras, and traffic light with temporary power source (Generator). Temporary generator shall be 230KW, furnished, installed, and maintained by contractor as necessary to maintain electrical service.

**889.03.07** The Contractor shall submit to the Engineer a copy of the cable manufacturer's approved recommendations and tool suggestions.

#### **889.04 MEASUREMENT AND PAYMENT**

All pay items shall include all materials, generator, labor, and equipment necessary to furnish and install, test, mark and label a complete, operational, and acceptable system as specified herein and as shown on the plans. Payment of items shall include all testing and guarantee required by the specifications and special provisions.

In addition, the following services/work shall be incidental to the listed pay item(s):

- The contractor's quality assurance and quality control responsibilities
- Construction stake out and coordination
- Testing as specified in the Special Provisions and Specifications

The pay item(s) for this Section includes:

**8007 Power Cable** -- per linear foot

**8008 Temporary Generator** – lump sum

**889.04.01** The complete power cable (3 conductors) shall be paid per linear foot. (Note: This shall not mean per conductor). Payment shall be based on measured cable actually installed in the final project.

**889.04.02** Contractor shall be paid a lump sum for temporary generator. This price shall include maintaining the generator in service, including refueling as necessary. The price shall also include removal of generator and restoring area to match existing conditions.



## **890 ABOVE GROUND HANDBOX**

### **890.01 DESCRIPTION**

**890.01.01** This work shall include furnishing and installing above ground electrical handboxes at the locations shown on the plans. Generally above ground boxes will be used where drainage cannot be achieved in a standard below grade handbox and water accumulation is not desired.

### **890.02 MATERIALS**

5KV Stainless Steel Splice Cabinet NEMA 3R/NEMA 3X  
5KV Separable Elbow Connector  
5KV Two-way Loadbreak Junction

(a) Loadbreak Junctions and Loadbreak Elbow Connectors contained in a corrosion resistant, stainless steel, NEMA 3R/NEMA 3X Cabinet. In the event of a fault on the 5kV feeder, an electrician would be able to remove the Loadbreak Elbow Connectors from the Loadbreak Junctions and isolate the sections of cable between the Isolation Points. The Loadbreak Elbow Connectors require the use of a fiberglass shotgun stick which requires six feet clearance in from of the equipment.

(b) Each of the Loadbreak Elbow Connectors shall be outfitted with a Fault Indicator attached to the test point of the Loadbreak Elbow Connector. The Fault Indicator provides a visual indication of a fault through the Loadbreak Elbow Connector.

#### **(c) Cabinet Specifications**

- Material: 12GA 302-2B Stainless Steel
- NEMA Type: 3R Rating or 3X Rating
- Open bottom
- Pad mounted enclosure
- Stainless steel full length piano hinge
- Overlapping double doors, gasketed doors with door restraints
- S.S: Pad lockable handle with 3 point latching mechanism with nylon rollers at the top and bottom
- Door Frames double flanged on all four sides
- 3/4" Plywood back panel treated with clear polyurethane



- Interior and exterior of cabinet mill finish stainless steel
- UL Listed
- Removable lifting ears

**(d) Loadbreak Apparatus Connector Specification**

- Loadbreak Elbow Connector is a fully rated 200A switching device, designed in accordance to **IEEE Standard 386** – Latest revision
- 200A 15kV Class – Expanded Range Loadbreak Elbow Connector
- Standard Voltage Class: 25 kV
- Maximum Rating Phase-to-Phase: 26.3 kV
- Maximum Rating Phase-to-Ground: 15.2 kV
- AC 60 Hz 1 Minute Withstand: 40 kV
- DC 15 Minute Withstand: 78 kV
- BIL and Full Wave Crest: 125 kV
- Minimum Corona Voltage Level: 19 kV
- Continuous: 200 A rms
- Switching: 10 operations at 200 A rms at 26.3 kV
- Fault Closure: 10,000 A rms symmetrical at 26.3 kV for 0.17 s after 10 switching operations
- Short Time: 10,000 A rms symmetrical for 0.17 s / 3,500 A rms symmetrical for 3.0 s
- The elbow must be sized to the cable insulation diameter
- Select an elbow kit with a capacitive test point for use on a #4 Class B Stranded cable with a minimum insulation diameter of 1.22” and a maximum diameter of 1.73”. Jacket seal included in the kit.

**(e) Loadbreak Junction Specification**

- 200A, 15kV Class Loadbreak Junction provided to meet all requirements of **IEEE Standard 386 – Separable Insulated Connector Systems**
- Two-way Loadbreak Junction with latch indicator rings and adjustable bracket
- Adjustable stainless steel bracket can be mounted with up to 90° tilt from a curved or flat mounting surface in 10° increments.



- Number of interfaces: 2
- Standard Voltage Class: 15 kV
- Maximum Rating Phase-to-Phase: 14.4 kV
- Maximum Rating Phase-to-Ground: 8.3 kV
- AC 60 Hz 1 Minute Withstand: 34 kV
- DC 15 Minute Withstand: 53 kV
- BIL and Full Wave Crest: 95 kV
- Minimum Corona Voltage Level: 11 kV
- Continuous: 200 A rms
- Switching: 10 operations at 200 A rms at 14.4 kV
- Fault Closure: 10,000 A rms symmetrical at 14.4 kV for 0.17 s after 10 switching operations
- Short Time: 10,000 A rms symmetrical for 0.17 s / 3,500 A rms symmetrical for 3.0 s
- Drain wire clamps each accommodate two wires up to 1/0 stranded (2/8" diameter)

(f) Manufacturers: Subject to compliance with requirements, provide products by the following:

4. Mass Electrical Apparatus
5. WH Salisbury & Co.
6. Copper Power System
7. Thomas & Betts
8. Hubbell Power System, Inc.
9. Other Approved by Engineer

### **890.03 CONSTRUCTION**

**890.03.01** Where the cabinet is installed within 30ft of a traveled lane provide guardrail as indicated on plans to protect the unit from vehicle impact. If within a parking lot, 6" round, steel, painted yellow, concrete filled bollards a minimum of 36" tall, 36" apart and poured into concrete foundation at least 36" deep may be used. Bollard and guardrail must be at least 3' away from the cabinet.



Maryland  
Transportation  
Authority

**SPECIAL PROVISIONS**

Contract No. KH 2263-000-002

Page 4 of 4

**890.03.02** Install cabinet, guardrail, bollards, and other appurtances in accordance with drawings and details and applicable code (NEC) requirements.

**890.04 MEASUREMENT AND PAYMENT**

Above ground handbox will be measured per each complete and installed as the item "Each of Above Ground Handbox". The payment will full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work as shown on the plans. Payment of items shall include all testing and guarantee required by the specifications and special provisions.

The pay item(s) for this Section includes:

- |             |                      |    |              |
|-------------|----------------------|----|--------------|
| <b>8009</b> | Above Ground Handbox | -- | per Each     |
| <b>8010</b> | Guardrail            | -- | per lump sum |



**CATEGORY 900  
MATERIALS**

**SECTION 950 - TRAFFIC MATERIALS**

**950.03 REFLECTORIZATION OF SIGNS AND CHANNELIZING DEVICES.**

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

**INSERT:** The following.

**950.03 REFLECTORIZATION OF SIGNS AND CHANNELIZING DEVICES.** Unless otherwise specified in the Contract Documents, retroreflective sheeting for permanent signs shall conform to 950.03.01 and 950.03.03. Retroreflective sheeting for temporary signs and channelizing devices shall conform to 950.03.02 or 950.03.03, and 950.03.04.

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

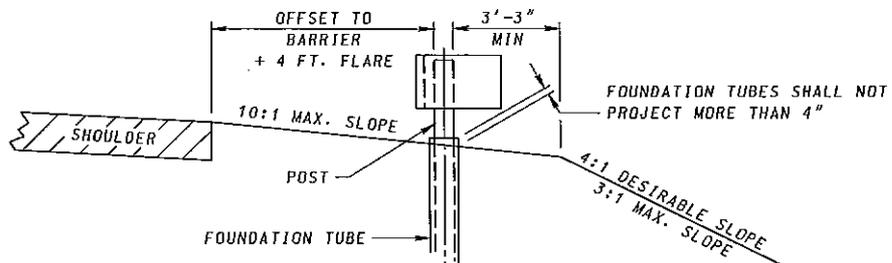
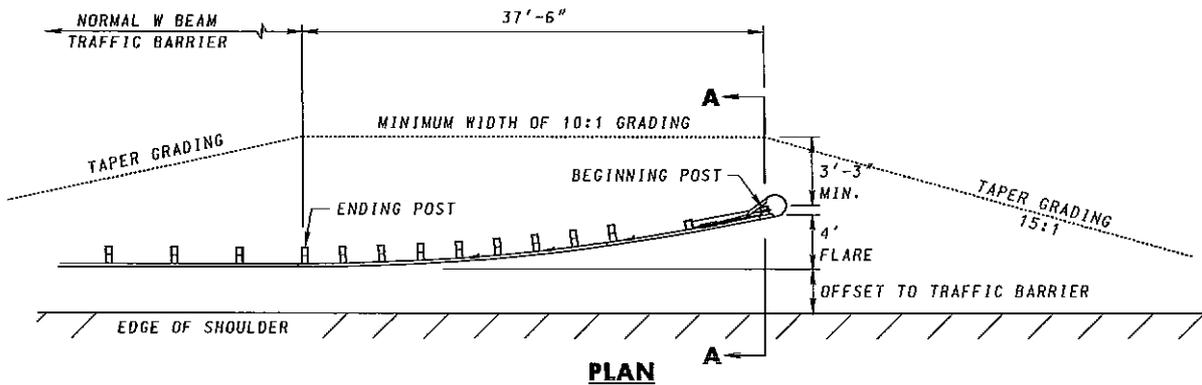
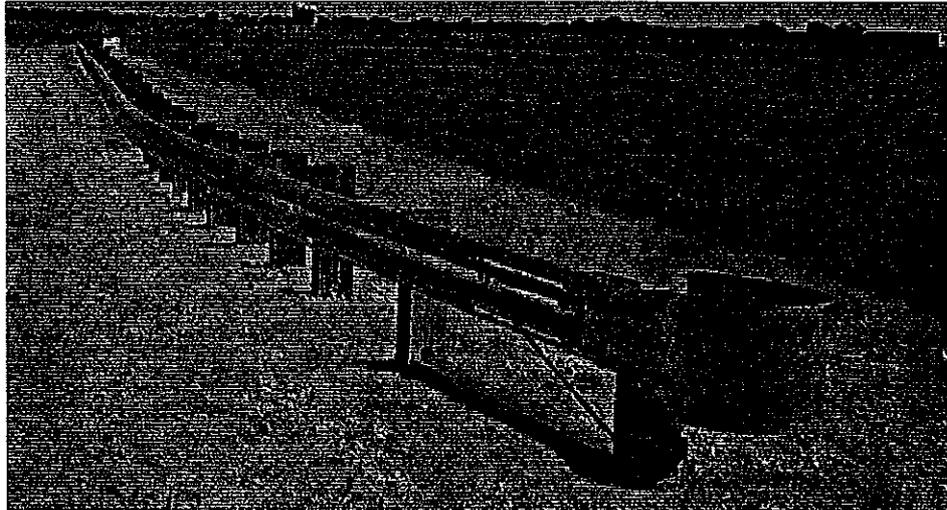
MINIMUM REFLECTIVE INTENSITY VALUES FOR RETROREFLECTIVE SHEETING Minimum Coefficient of Retroreflection ( $R_A$ ) $cd/(lx \cdot m^2)$ Per ASTM E-810 (Average of 0 and 90 degree orientation)									
Observation Angle <sup>o</sup>	Entrance Angle <sup>o</sup>	White	Yellow	Fluor. Yellow	Fluor. Yellow-Green	Red	Green	Blue	Fluor. Orange
0.2	-4	570	425	340	455	114	57	26	170
0.2	30	215	160	130	170	43	21	10	64
0.5	-4	400	300	240	320	80	40	18	120
0.5	30	150	112	90	120	30	15	6.8	45
1	-4	120	90	72	96	24	12	5.4	36
1	30	45	34	27	36	9	4.5	2	14

**950.03.02 Temporary Traffic Signs (TTS).**

- (a) All rigid temporary traffic signs shall be fluorescent orange and conform to ASTM D 4956-05, Type VII or 950.03.01.
- (b) All temporary flexible rollup signs shall be fluorescent orange and conform to ASTM D 4956-05, Type VI.

**950.03.03 Black Sheeting.** Black sheeting shall be nonreflective.

**950.03.04 Drums for Maintenance of Traffic.** All drums for maintenance of traffic shall have retroreflective white and fluorescent orange reboundable sheeting and conform to ASTM D 4956-05 Type VII.



**SECTION A-A**

**NOTES** APPLICABLE TO ALL TYPE B TERMINALS

1. 6:1 MAX GRADING IS ALLOWABLE WHEN THE BARRIER IS LOCATED 12 FT. OR MORE FROM THE OUTSIDE EDGE OF SHOULDER.
2. ADD DELINEATION ON END OF TREATMENT AS DIRECTED BY THE OFFICE OF TRAFFIC AND SAFETY.
3. 4' FLARE REQUIRED
4. TYPE B TERMINAL SHALL ONLY BE USED WHEN THE GRADING AS SHOWN AND THE REQUIRED LENGTH OF NEED IS PROVIDED.

SPECIFICATION <b>605</b>	CATEGORY CODE ITEMS
APPROVED	<i>Kirk G. McCall</i> DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
	APPROVAL • SHA REVISIONS
	APPROVAL 11-10-99
	REVISED 3-15-06
	REVISED
	REVISED
APPROVAL • FEDERAL HIGHWAY ADMINISTRATION	
APPROVAL 7-2-99	
REVISED 4-5-06	
REVISED	
REVISED	

**Maryland Department of Transportation**  
**STATE HIGHWAY ADMINISTRATION**  
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

**TYPE B TRAFFIC BARRIER END TREATMENT**

**STANDARD NO.**

**MD 605.02**