Maryland Transportation Authority

Martin O'Malley
Governor

Anthony Brown
Lt. Governor

Beverley K. Swaim-Staley
Chairman

Peter J. Basso
Rev. Dr. William C. Calhoun, Sr.
Mary Beyer Halsey
Louise P. Hoblitzell
Richard C. Mike Lewin
Isaac H. Marks, Sr., Esq.
Michael J. Whitson
Walter E. Woodford, Jr., P.E.

Ronald L. Freeland
Executive Secretary

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May 10, 2010

TO ALL PURCHASER'S OF CONTRACT DOCUMENTS

ADDENDUM NO. 3

RE: **Contract No. MA 951-000-002**
Lighting Renovations at the I-95/I-395 and I-95/I-895 Interchanges

To Whom It May Concern:

It is important that you acknowledge receipt of this Addendum No. 3 on the referenced contract regardless if you will be bidding or not bidding.

Very truly yours,

Linda McGill, CPPB
Chief Procurement Officer

LM/DMD

Enclosures

Contract No. MA 951-000-002

This will acknowledge receipt of the attached Addendum No.3.

_____
NAME OF COMPANY

_____ _____
SIGNATURE DATE

THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE SHALL BE RETURNED TO THIS OFFICE VIA **FAX AT 410-537-7801**, ATTENTION: MAGGIE JOHNSON PRIOR TO THE BID OPENING DATE.

IN ADDITION, THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

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May 10, 2010

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ADDENDUM NO. 3

RE: **Contract No. MA 951-000-002**
Lighting Renovations at the I-95/I-395 and I-95/I-895 Interchanges

To Whom It May Concern:

A. The Bid Due Date for the above referenced contract is **May 18, 2010** at 12:00 Noon.

B. The following changes have been made to the Invitation for Bids book:

1. Delete pages 13, 79-84, 90, 91 and 146 and replace with pages numbered the same dated **May 5, 2010 - Addendum 3.**

C. The following changes have been made to the Contract Plan Sheets:

1. Delete sheets numbers 1, and 2 and replace with sheets numbered the same dated **May 5, 2010 - Addendum 3.**

D. Attached are responses to questions submitted for this contract.

Very truly yours,

Linda McGill, CPPB
Chief Procurement Officer

LM/DMD

THIS ADDENDUM SIGNED ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

Responses to Submitted Questions

Question 1. Is ultrasonic testing for the bolts and/or core testing for concrete being required? If so, what percent of foundation will require these tests?

Response. Delete special provision 150 and replace with specification 150 dated May 5, 2010, Addendum No. 3. No core testing will be required, but ultrasonic testing will required for bolts of the existing pole bases on the bridge structures.

Question 2. Plan sheet E- 1.00, the note regarding 'Scope of Work' and the note referring to the lighting fixtures conflict with each other. Are we replacing the existing luminaires and leaving the mast assembly as is, or replacing the mast assembly as well?

Response. Delete drawing E-1.00 and replace with sheets numbered the same dated May 5, 2010 Addendum No. 3.

Question 3. Page 90 (Addendum 1), under measurement and payment reads, "Highmast lighting structures will be measured and paid for at the Contract unit price for each highmast lighting structure complete and in place and fully operational by height of highmast lighting structure. The payment shall be full compensation for all material, including but not limited to, anchor bolts, luminaires, winch assemblies ..." etc. Therefore, are we to include the cost of furnishing and installing luminaires with the pole, or separate from the pole, as listed in the schedule of prices? If we price this as the specifications read, we will be including the luminaires cost two times.

Response. Delete page 90 and 91 of IFB and replace with pages numbered the same dated May 5, 2010 Addendum No. 3.

Maryland Transportation Authority

SP 1-1 PROJECT DESCRIPTION

CONTRACT NO.:	MA-951-000-002
TITLE:	Lighting Renovations at the I-95/I-395 and I-95/I-895 Interchanges
FACILITY:	Fort McHenry Tunnel (FMT) and Baltimore Harbor Tunnel (BHT)
LOCATION:	Baltimore City, Baltimore County and Howard County
ADVERTISED:	**March 30, 2010**
PRE-BID MEETING:	**April 15, 2010 at 10:00 a.m.** in the Conference Room at the Maryland Transportation Authority, 300 Authority Drive, 1st floor, Engineering Building, Baltimore, MD 21222
PROJECT CONTACT:	Project Manager: David Dabkowski (410) 537-7852 Contract Administration: Ms. Maggie Johnson (410)-537-7807
BIDS DUE:	**12 Noon, May 18, 2010,** in the Bid Box on the 1st floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222
CLASSIFICATION:	Class – E ($2,500,001 – $5,000,000)
CONTRACT TIME:	Three Hundred Fifteen (315) Calendar Days
LIQUIDATED DAMAGES:	**$500.00 per Calendar Day**
MINIMUM MBE GOALS:	Overall 30% No subgoals
BID DOCUMENTS:	$25.00 - 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 6:00 p.m. on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, Maryland 21222.

CATEGORY 100
PRELIMINARY

150 - BRIDGE LIGHTING STRUCTURE FOUNDATION REPAIRS

150.01 DESCRIPTION. This work consists of repairing existing deteriorated bridge lighting structure foundations at locations specified in the Contract Documents or as directed by the Engineer.

150.01.01 Quality Control.

150.01.01.01 Installer Qualifications: Post-installed anchors shall be installed by an installer with a minimum of five years experience performing similar installations.

150.01.01.02 Installer Training: Conduct thorough training with the manufacturer or the manufacturer's representative for the installer on the Project. Training shall consist of a review of the complete installation process for drilled-in anchors including, but not limited to, the following:

A. Hole drilling procedure
B. Hole preparation and cleaning technique
C. Anchor element type, material, diameter, and length
D. Proof loading/torquing

150.01.01.03 Certifications: Unless otherwise directed by the Engineer, anchors shall have one of the following certifications:

A. ACI 355.2 Evaluation Report
B. ASTM Certification
C. ICC-ES Evaluation Report indicating conformance with applicable ICCES AC193

150.01.01.04 Acceptance Criteria: A post-installed anchor is acceptable if the test load specified herein is attained without:

A. Slippage of more than 2.5-percent of the embedded length, rounded to the nearest 1/16-inch for mechanical anchors
B. Bolt failure
C. A sign of damage in the surrounding concrete

150.02 MATERIALS.

Curing Materials	902.07.03

Concrete Mix No. 6	902.10.03
Reinforcement Steel	908.01
Anchor Bolts	909.08
Conduit	921.07
Galvanizing for Hardware	A 153

150.03 CONSTRUCTION. Construction shall conform to 405.03, 406.03 and 420.03, except as modified herein.

150.03.01 Inspection. The Contractor shall perform an inspection of the pole base structure for each existing light pole identified for replacement in the Contract Documents or as directed by the Engineer. The report shall include photographs, visual inspection, ultrasonic test result on anchor bolt, and repair recommendations. The Contractor shall submit each report to the MdTA for approval.

150.03.02 Refurbish Pole Base. Upon approval from the MdTA for a recommendation to refurbish an existing pole base, the Contractor shall replace anchor bolts and repair concrete.

150.03.02.01 The Contractor shall replace, at a minimum, the top 4" layer of concrete of the existing pole base, and all anchor bolts. The bolt circle shall match the bolt circle of the pole to be provided. Removal of existing anchors for replacement may be performed by using a bolt extractor as manufactured by Drillco Devices, Ltd., or approved equal.

150.03.02.02 Top of foundation shall be sloped to drain and shall have a broomed finish. Exposed edges of concrete shall be chamfered ¾" by ¾" minimum.

150.03.03 Concrete. Refer to 420. Concrete shall be mix no. 6 in accordance with 902.10.03.

150.03.04 Anchor Bolts. Anchor bolts shall be installed in accordance with ACI 318 Appendix D. Anchor bolts shall be fastened with cementitious grout. The cementitious grout shall meet or exceed the strength of existing surrounding concrete. The anchor bolt shall be placed in a corrugated sleeve or an internally-roughened hole that fully develops tensile strength of anchor.

The type of drill and bit for drilling the hole, the hole condition, and the spacing of the anchor bolts shall conform to the recommendations of the anchor bolt manufacturer.

150.03.04.01 Installer Training: Implement a training and/or qualification program for installers of post-installed anchors. Anchor installers shall be trained and made fully familiar with the manufacturer's installation procedures including additional requirements as specified or as directed.

150.03.04.02 Examination/Site Verification of Conditions:

A. The use of anchors shall be restricted to the applications and installations as indicated on the Contract Drawings.

B. Post-installed anchors may only be installed in sound concrete. Surfaces showing obvious distress by way of porosity, disintegration, carbonation, and cracks over 0.02-inch in width and 12-inches or longer and within the distance of the embedment length shall be reported to the Engineer for evaluation.

150.03.04.03 Preparation:

A. Existing reinforcement shall be exposed to establish the reinforcement pattern before drilling.

B. No cutting of reinforcement will be permitted without prior written approval from the Engineer. Multi-cutting of the same bar is considered as one cut.

C. Reinforcement will be considered to be cut if:

1. For No. 4 through No. 7: Cuts, nicks, or drill into bar body are greater than 1/16-inch
2. For No. 8 and Larger: Cuts, nicks, or drill into bar body are greater than 1/8-inch

D. When installing anchors through cut reinforcement, the anchoring mechanism shall be located at least two anchor diameters beyond the cut reinforcement.

150.03.04.04 Cast-In-Place Anchors: Use templates to locate bolts accurately and securely in formwork.

150.03.04.05 Post-installed anchors shall be installed in accordance with the ICC-ES reports and manufacturer's installation instructions. Where installation criteria differ, the order of precedence from highest to lowest is 1) this Specification; 2) the ICC-ES reports; 3) the manufacturer's installation instructions.

150.03.04.06 Holes for post-installed anchors shall be drilled with carbide-tipped bits using rotary hammer drills meeting the requirements of ANSI B212.15 unless ICC-ES AC193 or ICC-ES AC308 testing demonstrates that using percussive drilling or another type(s) of bit, including core drills, is acceptable. Drilled holes shall be cleaned of chips, dust, loose material, and water prior to anchor installation. The hole diameters and depths shall be as recommended in the manufacturer's instructions. The hole diameter shall be checked every ten holes for conformance to the hole tolerances specified in ICC-ES AC308 for adhesive anchors, ICC-ES AC193 or ACI 335.2 for mechanical anchors. Verify depth of the concrete member before drilling holes. The embedment depth of the post-installed anchor shall not exceed the greater of 2/3 of the concrete member thickness or the concrete member thickness minus 4-inches. Contact the Engineer if these requirements cannot be met based on the actual member thickness.E. Anchors shall be installed perpendicular to the concrete surface within a plus or minus 5-degree tolerance. Post-installation

verification of this criterion may be satisfied by visual inspection to verify proper seating of the nut and washer.

150.03.04.07 In areas where concrete has been removed, the minimum anchor embedment shall be measured from the surface of sound concrete.

150.03.04.08 Bending and welding of post-installed anchors is not permitted.

150.03.04.09 The nut thread engagement for the anchors (studs) shall be such that the bolt threads project past the outside face of the nut when completely installed.

150.03.04.10 The length identification code on the head of the anchor shall not be damaged during installation. Anchor projection may be cut-off subject to the approval of the Engineer and documentation of the location, embedment, and length code.

150.03.04.11 Care shall be exercised to avoid bending anchors to match base plate holes, or loosening of anchors by prying sideways after tightening. Care shall also be exercised to ensure that the cone nut of an undercut anchors does not become loose from the stud during the setting or tensioning operation.

150.03.04.12 Non-grouted base plates may have a maximum 1/8-inch gap as evidenced under exterior edges around the plate provided that 1) the plate exhibits bearing contact within its interior against the concrete surface; and 2) the uneven bearing does not prevent application of the prescribed torque. If an unacceptable bearing contact condition exists, one of the following procedures shall apply:

A. The concrete surface shall be reworked to obtain a proper fit.

B. For gaps of up to 1-inch, the base plate may be grouted instead using the following technique:

1. Insert post-installed anchors and set the base plate.
2. Insert nuts to finger-tight condition.
3. Install shims positioned no more than 1/2-inch away from the anchors to reduce gaps between base plate shims to 1/8-inch or less at anchor locations.
4. Apply tightening torque. The bolt tightening shall not be performed when interior shims under the base plates have been placed away from anchors so that downward bending of the base plate would result upon tightening. Shims shall be moved as close as possible to the anchors before applying the installation torque.
5. Fill the gap with non-shrink grout leaving the shims in place. For base plates on walls where grouting is not feasible, the gap may be filled with shim plates. The shims may be stacked but no more than four shims shall be stacked.

150.03.04.12 Relocating Holes within Base Plates: The base plate with bolts may be relocated no more than 1-inch in any direction with respect to the attachment principal axis.

150.03.04.13 All anchors shall be visually inspected in order to verify and document that they have been installed as specified herein. As a minimum, inspection attributes for post-installed anchors shall comply with the special inspection section of the applicable ICC-ES report (with the exception of validating the strength of existing concrete) plus additional attributes imposed by this Specification. These attributes of inspection shall be identified in the inspection report documentation.

150.03.04.14 If visual inspection reveals that the installed anchor does not meet the specified requirements, the anchor shall be relocated as permitted by this Specification, or shall be removed and replaced by another anchor, or referred to the Engineer for evaluation.

150.03.04.15 Testing of post-installed anchors shall be witnessed by the Inspector. Test of post-installed anchors is mandatory.

150.03.04.16 Testing Method: Post-installed anchors shall be tested by the direct tension method as follows:

A. Direct Tension Method: A tensile load as defined herein below is applied. If the tension load is applied by jacking against the concrete, the jacking pressure is to be distributed outside of an area having its center at the postinstalled anchor and its diameter, or least dimension, equal to the required anchor spacing as given in the ICC ES report. Post-installed anchors tested by this method shall be retightened by applying the installation torques.

B. Testing shall be in accordance with ACI 355.2 and ASTM E488.

150.03.04.17 Test (Proof) Load: Tension test (proof) load shall be as indicated on the approved shop drawings. For post-installed mechanical anchors, the test load shall be a tensile load equal to 80-percent of the specified nominal yield strength of the anchor bolt material times the tensile area of the bolt.

150.03.04.18 Test Frequency: All anchors shall be tension-tested.

150.03.04.19 Remove and replace misplaced or malfunctioning anchors. Fill empty anchor holes and patch failed anchor locations with high-strength non-shrink, nonmetallic grout. Anchors that fail to meet proof load or installation torque requirements shall be regarded as malfunctioning.

150.03.04.20 Abandoned holes shall be grouted with non-shrink grout. When post-installed anchors fail to meet the acceptance criteria under inspection and testing, the following repairs may be undertaken:

A. When failure is due to excessive anchorage pullout, contact the Engineer to evaluate the damage and approve a repair method. If approved, the anchor may be reset once prior to redrilling the hole and installing an anchor of equal size. Use the minimum spacing embedment depth, and installation torque required for the original anchor.

B. When failure is due to breaking of the anchor, slippage or loosening, bending, improper installation or poor attachment, remove the defective anchor, redrill the hole, and install the same diameter anchor if the integrity of surrounding concrete has not been disturbed.

C. For cases where excessive slippage upon torquing is experienced, or usage of the same hole is not possible, fill the existing hole with non-shrink grout and relocate the anchor location.

D. When failure is due to breakout of concrete around the anchor, the Engineer will develop an appropriate repair. Contact the Engineer to evaluate the damage and repair method. Local spalling of the concrete around the anchor, up to a maximum depth of 1/4-inch, is not considered a concrete breakout failure.

E. Mislocated anchors may be cut flush with concrete surface, and need not be removed if they do not interfere with subsequent installations.

F. Removal of installed anchors for inspection or replacement may be performed by using a bolt extractor as manufactured by Drillco Devices, Ltd., or approved equal.

G. Retest all replaced anchors as specified herein.

150.04 MEASUREMENT AND PAYMENT. Bridge Lighting Structure Foundation Repairs will be measured and paid for at the Contract unit price per each. The payment will be full compensation for inspection services, forms and form removal, reinforcement steel, curing and misting, grooving, electrical work, and all material, labor, equipment (including safety equipment), testing, tools and incidentals necessary to complete the work.

DESCRIPTION OF ITEM	UNIT
POLE BASE EVALUATION REPORT	EACH
REFURBISH POLE BASE	EACH

CATEGORY 800
TRAFFIC

808 - LIGHTING STRUCTURES

634 **808.02 MATERIALS**

ADD:

Highmast Lighting Structures 963

808.03 CONSTRUCTION

ADD:

The area around the foundation of a highmast pole shall be cleared of debris to facilitate the raising and lowering of the luminaire ring. All branches and vegetation that might interfere with the raising and lowering of the luminaire ring shall be removed.

Remove portions of existing highmast pole, including baseplate, as required to facilitate erection of the new/replacement pole.

Perform work so as not to damage existing wiring, foundation, or anchor bolts.

Remove portions of grout as required around leveling nuts to facilitate leveling of the new pole. Leave space open, ie: do not re-grout, so that air may circulate and water may exit the pole base.

Anchor Bolts. Construction of cast-in-place anchor bolts shall comply with requirements of Section 150.03.04.

808.04 MEASUREMENT AND PAYMENT

ADD:

808.04.05 Highmast lighting structures will be measured and paid for at the Contract unit price for each highmast lighting structure complete and in place and fully operational by height of highmast lighting structure. The payment shall be full compensation for all material, including but not limited to, anchor bolts, winch assembly, cables, wiring, terminal board, junction box, electrical connectors, circuit breaker, lamps, pulleys, structural steel, welding, inspection, testing, certification, engineering, calculations; labor including but not limited to assembly, erection, electrical connection, and testing; tools;

equipment; and incidentals necessary to complete the work. This item does not include the highmast foundation and luminaries.

808.04.06 Two (2) electric winch assemblies furnished, tested, and found acceptable for high mast poles shall be included in item 819.

BID/PROPOSAL FORM

Contract No. MA 951-000-002

Proposal Of _____
(Name)

_____
(Address)

_____
(Phone Number)

To furnish and deliver all materials and to perform all work in accordance with the Specifications and the other Contract Documents except as specifically stated otherwise in the Special Provisions relating to Contract No MA 951-000-002 for Lighting Renovations at the I-95/I-395 and I-95/I-895 Interchanges.

as defined in the Special Provisions on which proposal will be received until twelve (12) Noon on the 18th of May 2010 in the Bid Box of the Maryland Transportation Authority Division of Procurement and Statutory Program Compliance, Building 300, 1st. floor, located at the Francis Scott Key Bridge, Baltimore, MD. The work will be performed at Fort McHenry Tunnel (FMT) and Baltimore Harbor Tunnel (BHT) in Baltimore City, Baltimore County and Howard County.

Bids will be opened publicly at 12:00 Noon on the Bid Date in the Engineering Conference Room of the Transportation Authority which is located directly adjacent to the Bid Box.

To the Maryland Transportation Authority, Baltimore, MD:

In accordance with the published "Notice to Contractors" of the Maryland Transportation Authority, inviting proposals for the work; identified above, I/We certify; that I/We am/are the only person or persons interested in this Proposal as principals; that it is made without collusion with any person, firm or corporation; that an examination has been made of the Contract Documents and of the work site; that I/We certify have the equipment, labor, supervision and financial capacity to perform this contract either with my/our organization or with subcontractors; that I/We propose to furnish all necessary machinery, equipment, tools, labor and other means of construction and to furnish all materials specified in the manner and at the time prescribed; that I/We understand that the quantities of work as indicated herein are to be determined by me/us; that I/We further understand that all work required by this contract is to be performed in accordance with the following Schedule of Prices.

Maryland Transportation Authority

I-95 / I-395 AND I-95 / I-895

LIGHTING RENOVATIONS AT THE I-95/I-395 AND I-95/I-895 INTERCHANGES

BALTIMORE CITY / BALTIMORE COUNTY
HOWARD COUNTY

CONTRACT NO. MA-951-000-002

MA-951-000-002

ADDENDUM 3 - May 5, 2010

INDEX OF SHEETS

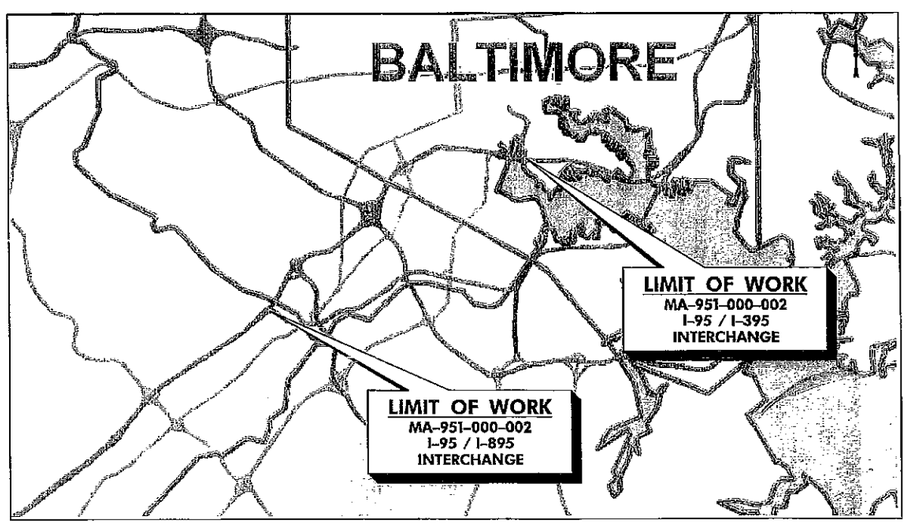
SHEET NO.	DWG. NO.	DESCRIPTION
1	T-1.00	TITLE SHEET
2	E-1.00	ELECTRICAL SYMBOLS AND ABBREVIATIONS
3	E-1.01	GENERAL NOTES AND LIGHTING LEGENDS
4	E-2.00	I-95/I-395 INTERCHANGE KEY PLAN
5	E-2.01	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 1 OF 12
6	E-2.02	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 2 OF 12
7	E-2.03	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 3 OF 12
8	E-2.04	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 4 OF 12
9	E-2.05	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 5 OF 12
10	E-2.06	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 6 OF 12
11	E-2.07	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 7 OF 12
12	E-2.08	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 8 OF 12
13	E-2.09	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 9 OF 12
14	E-2.10	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 10 OF 12
15	E-2.11	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 11 OF 12
16	E-2.12	I-95/I-395 INTERCHANGE LIGHTING PLAN - SHEET 12 OF 12
17	E-2.13	I-95/I-895 INTERCHANGE KEY PLAN
18	E-2.14	I-95/I-895 INTERCHANGE LIGHTING PLAN - SHEET 1 OF 3
19	E-2.15	I-95/I-895 INTERCHANGE LIGHTING PLAN - SHEET 2 OF 3
20	E-2.16	I-95/I-895 INTERCHANGE LIGHTING PLAN - SHEET 3 OF 3
21	E-3.00	EXISTING POLE BASE DETAILS
22	E-3.01	ELECTRICAL DETAILS - SHEET 1 OF 2
23	E-3.02	ELECTRICAL DETAILS - SHEET 2 OF 2
24	LP-1.00	LIGHTING POLE FOUNDATION DETAILS
25	MT-1.00	MAINTENANCE OF TRAFFIC DETAILS
26	ESC-1.00	EROSION AND SEDIMENT CONTROL NOTES - SHEET 1 OF 2
27	ESC-1.01	EROSION AND SEDIMENT CONTROL NOTES - SHEET 2 OF 2

REFERENCE DRAWINGS:

The following reference drawings do not represent work to be performed under this contract. These are provided only for the convenience, assistance and information of prospective bidders. The Authority assumes no responsibility for the accuracy of these drawings :

AB1	E-1	I-95/I-395 INTERCHANGE PLAN - SHEET 1 OF 3
AB2	E-2A	I-95/I-395 INTERCHANGE PLAN - SHEET 2 OF 3
AB3	E-3A	I-95/I-395 INTERCHANGE PLAN - SHEET 3 OF 3
AB4	R-5	I-95 ELEVATION - SHEET 1 OF 2
AB5	R-7	I-95 ELEVATION - SHEET 2 OF 2
AB6	R-7	I-95 ON-RAMP (N.B.) ELEVATION
AB7	R-8	I-95 OFF-RAMP (S.B.) ELEVATION - SHEET 1 OF 3
AB8	R-9	I-95 OFF-RAMP (S.B.) ELEVATION - SHEET 2 OF 3
AB9	R-10	I-95 OFF-RAMP (S.B.) ELEVATION - SHEET 3 OF 3
AB10	R-19	I-395 (S.B.) ELEVATION
AB11	R-23	I-395 (N.B.) ELEVATION
AB12	R-10	I-395OFF-RAMP (N.B.) AND I-395 ON-RAMP (N.B.) ELEVATIONS
AB13	R-11	I-95 ON-RAMP (S.B.)/HANOVER STREET ELEVATION - SHEET 1 OF 2
AB14	R-12	I-95 ON-RAMP (S.B.)/HANOVER STREET ELEVATION - SHEET 2 OF 2

PB AMERICAS, INC.
100 SOUTH CHARLES STREET
TOWER 1, 10th FLOOR
BALTIMORE, MARYLAND 21201-2727



HORIZONTAL DATUM	NAD 83 /91
VERTICAL DATUM	NAVD 88

LOCATION MAP

MILEAGE
XX.XX MILES

STANDARDS AND SPECIFICATIONS

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MARYLAND STATE HIGHWAY ADMINISTRATION'S "STANDARDS FOR HIGHWAY AND INCIDENTAL CONSTRUCTION", THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION'S "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, JULY 2008" AND ALL REVISIONS THEREOF, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES(MUTCD) AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.

COMPLETENESS OF DOCUMENTS

THE MARYLAND TRANSPORTATION AUTHORITY SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE MARYLAND TRANSPORTATION AUTHORITY'S CASHIER'S OFFICE. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

ADA COMPLIANCE

THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES IN COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION

RIGHT OF WAY

RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT OF WAY PLATS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS. NOTIFICATION TO "MISS UTILITY", 1.800.257.7777, SHALL BE GIVEN 48 HOURS (TWO FULL WORKING DAYS) IN ADVANCE OF WORKING IN THE AREA OF THE SPECIFIC AFFECTED UTILITY. THE NOTIFICATION TO "MISS UTILITY" IS REQUIRED WHENEVER ANY EXCAVATING OR SIMILAR WORK IS TO BE PERFORMED.

THE CONTRACTOR MUST NOTIFY THE SPECIAL TRADES SUPERVISOR OF THE FACILITY (FSK, NMB, LMB) AT LEAST 72 HOURS BEFORE EXCAVATING.

ENVIRONMENTAL INFORMATION

MDE # 10-SF-0052

SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION. THE CONTRACTOR SHALL APPLY ALL EROSION AND SEDIMENT CONTROL MEASURES TO ALL ERODIBLE MATERIALS EXPOSED BY ANY ACTIVITY ON THE PROJECT. THESE MEASURES SHALL BE COORDINATED WITH OTHER ON-GOING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF SECTION 308 OF THE SPECIFICATIONS.

MARYLAND TRANSPORTATION AUTHORITY

STATE OF MARYLAND DAVID WESLEY LOCKE No. 35489 PROFESSIONAL ENGINEER	RECOMMENDED FOR APPROVAL Douglas Hutchison DIRECTOR OF ENGINEERING, OFFICE OF ENGINEERING AND CONSTRUCTION	12-11-09 DATE
	APPROVED Geoffrey V. Kolberg CHIEF ENGINEER, OFFICE OF ENGINEERING AND CONSTRUCTION	01/27/10 DATE
	APPROVED Paul J. Friedel EXECUTIVE SECRETARY	1/31/10 DATE

BY: $USERNAME$

ABBREVIATIONS

&	AND
@	AT
℄	CENTERLINE
Ø	DIAMETER
APPROX	APPROXIMATELY
C	CONDUIT
CONT	CONTINUOUS
CSX	CSX TRANSPORTATION
DN	DOWN
DWG	DRAWING
DIA	DIAMETER
ELEC	ELECTRIC
EQUIP	EQUIPMENT
EXIST	EXISTING
FT	FOOT/FEET
G GRND GRD	GROUND
H, HT	HEIGHT
HPS	HIGH PRESSURE SODIUM
ID	IDENTIFICATION
JB	JUNCTION BOX
LBS	POUNDS
L	LENGTH
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MH	MOUNTING HEIGHT
MISC	MISCELLANEOUS
MTD	MOUNTED
MOT	MAINTENANCE OF TRAFFIC
MTA	MARYLAND TRANSIT ADMINISTRATION
NO	NUMBER
N, NEUT	NEUTRAL
REV	REVISION(S), REVISED
RGS	RIGID GALVANIZED STEEL
SPEC	SPECIFICATION(S)
TYP	TYPICAL
V	VOLTS, VOLTAGE
W	WATT, WIDTH, WIDE

APPLICABLE CODES/ STANDARDS

WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS LISTED, BUT NOT LIMITED TO THE FOLLOWING:

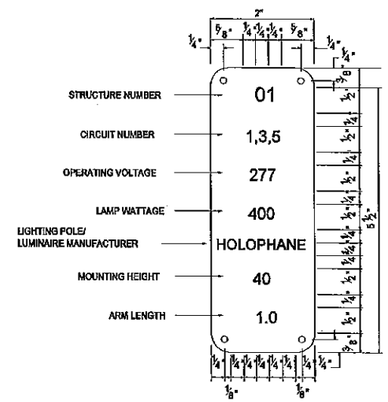
CODES:

1. INTERNATIONAL BUILDING CODE (LATEST EDITION)
2. NATIONAL ELECTRICAL CODE (LATEST EDITION)
3. NATIONAL ELECTRICAL SAFETY CODE (LATEST CODE)

STANDARDS:

1. ANSI/ IESNA RP-8-00
2. AASHTO ROADWAY LIGHTING DESIGN GUIDE.

POLE IDENTIFICATION PLATE



NOTE:
IDENTIFICATION PLATE SHALL BE LOCATED ON THE SIDE OF THE POLE THAT IS FACING ONCOMING TRAFFIC. THE PLATE SHALL BE SECURED WITH STAINLESS STEEL FASTERERS.

SYMBOLS

- POLE MOUNTED FIXTURE, 1-HEAD
- POLE MOUNTED FIXTURE, 2-HEADS
- POLE MOUNTED FIXTURE, 3-HEADS
- POLE MOUNTED FIXTURE, 4-HEADS

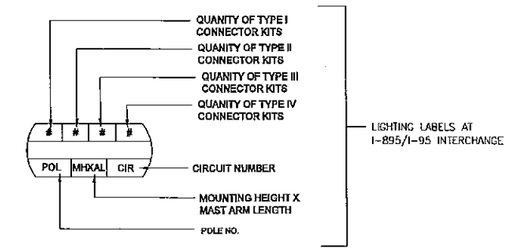
FIXTURES TO REPLACE EXISTING.

- UNDER - VIADUCT LUMINAIRE MOUNTED VERTICALLY TO PIER, TYPE "E"
- UNDER - VIADUCT LUMINAIRE MOUNTED HORIZONTALLY, TYPE "E"
- V UNDER - VIADUCT MOUNTED VERTICALLY, TYPE "E"
- HIGHMAST LIGHT POLE WITH 8 TYPE HM1 LUMINAIRES
- EXISTING HIGH MAST LIGHTING TO REMAIN (POLE MOUNTED FIXTURE, 7-HEADS)
- EXISTING LOW LEVEL LIGHTING
- GROUND ROD, 3/4" DIAx10'
- J JUNCTION BOX
- H HANDHOLE
- UNDERGROUND CONDUIT
- EXPOSED/ABOVE GROUND CONDUIT
- FUSED/UNFUSED IN-LINE CONNECTOR KIT
- FUSED/UNFUSED Y CONNECTOR KIT
- EXISTING VAULT

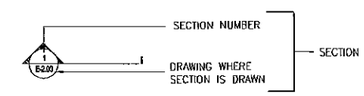
SCOPE OF WORK

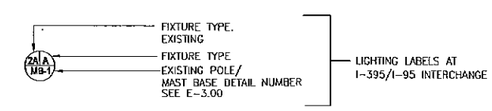
THE PURPOSE OF THIS PROJECT IS TO REMOVE AND REPLACE THE EXISTING LIGHT POLES AND LUMINARES AS THEY PERTAIN TO FIXTURES THAT ARE ATTACHED TO THE ELEVATED PORTION OF THE I395 ROADWAY AND THE RELATED INTERCHANGE AREA OF I95. IN ADDITION TO FIXTURE REPLACEMENT THE INTENT OF THIS PROJECT IS TO DECREASE THE AMOUNT OF VIBRATION ON THE FIXTURES BY PROVIDING ISOLATION PADS, BUSHING, & WASHER AT THE BASE OF EACH MAST IN THE AFFECTED AREA, AND TO REPLACE LOW LEVEL POLES AND LUMINAIRES WITH HIGHMAST LIGHTING AT THE I-95/I-895 INTERCHANGE INTERCHANGE IN HOWARD COUNTY.

LABELS



CONNECTOR KITS:
TYPE I - UNFUSED IN-LINE
TYPE II - FUSED IN-LINE
TYPE III - FUSED Y
TYPE IV - UNFUSED Y





LIGHT NUMBER - LOW LEVEL LIGHT POLE IDENTIFIER

PB AMERICAS, INC.
100 SOUTH CHARLES STREET
TOWER 1, 10th FLOOR
BALTIMORE, MARYLAND 21201-2727
410-727-5050

MARYLAND TRANSPORTATION AUTHORITY
Engineering Division

ADDENDUMS & REVISIONS			
NO.	DESCRIPTION	BY	DATE
2	ADDENDUM No.3	DL	4/5/10
$DGNNAME$			$DATE$

LIGHTING RENOVATIONS AT THE I-95/I-395 AND I-95/I-895 INTERCHANGES
BALTIMORE CITY / HOWARD COUNTY
ELECTRICAL SYMBOLS AND ABBREVIATIONS

DESIGNED BY AS | DRAWN BY WBP | CHECKED BY DL
CONST. REVIEW BY | DATE AUGUST 25, 2009 | SCALE NOT TO SCALE

CONTRACT NO. MA-951-000-002
DRAWING NO. E-1.00
SHEET NO. 2 OF 27