



Invitation For Bids (Federal)

SUPPLY OF METRO BOX

Solicitation IFB No.: FQ18142/MDR

BIDS OPENING: **2PM Wed. July 11, 2018**

FUNDING: Federal

DBE: 4%

Date: June 19, 2018

Margarita Rodriguez
Contract Administrator
Office of Procurement and Materials
mdrodriguez@wmata.com

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APPENDIX “D”	EQUIPMENT INSTALLED BY WMATA

Date: June 19, 2018

SUBJECT: IFB No. FQ18142/MDR

Dear Sir/Madam:

The Washington Metropolitan Area Transit Authority (WMATA) is seeking bids from qualified contractor to provide services of a Contractor to design, prototype, build, assemble, test, and deliver Metro Boxes (MBs); and provide technical support during commissioning of MBs with electrical equipment identified in this IFB. The requirements of these activities are the subject of this Statement of Work (SOW). This IFB contains a 4% percent DBE goal.

A pre-bid conference will be held. Your company's bid must be submitted in accordance with the IFB's terms and submitted electronically through WMATA's Project Management Software System (PROCORE). No paper bids will be accepted.

Bid Documents are available in pdf format can be downloaded free of charge as follows:

WMATA's website:

<https://www.wmata.com/Business/procurement/solicitations/active-procurement-opportunities.cfm>

If you have any technical, contractual, or administrative questions, please e-mail them to mdRodriguez@wmata.com no later than close of business, Friday June 29, 2018.

WMATA will provide written answers by e-mail to all those who obtain the IFB and provide their e-mail addresses.

The following documents must be completed, signed and submitted with your company's bid:

Price Schedule;
Solicitation, Offer & Award form;
Proposed Project Schedule;
Pre-Award Survey;
Representations and Certifications;
Certificate(s) of Insurance;
Appendix B (if applicable);
Appendix B-1 (if applicable).

Sincerely,




Sherreen N. Tolliver, Contract Manager
Office of Procurement & Materials-Construction

INTRODUCTORY INFORMATION
SOLICITATION CERTIFICATIONS PAGE

FQ18142/MDR
SUPPLY OF METRO BOX

APPROVED FOR RELEASE



Anderson T. Bray, Jr., GWCPM, Project Manager
COO / DECO / ENGA / COMMS

6/14/18

Date



Sherreen N. Tolliver, Contract Manager
Office of Procurement & Materials - Construction

6/19/18

Date

END OF SECTION

**NOTICE TO BIDDERS
IMPORTANT
PLEASE READ CAREFULLY**

To ensure submission of complete bids and to avoid irregularities that could result in a non-responsive bid, please check your company's bid for each of the following common responsiveness problems:

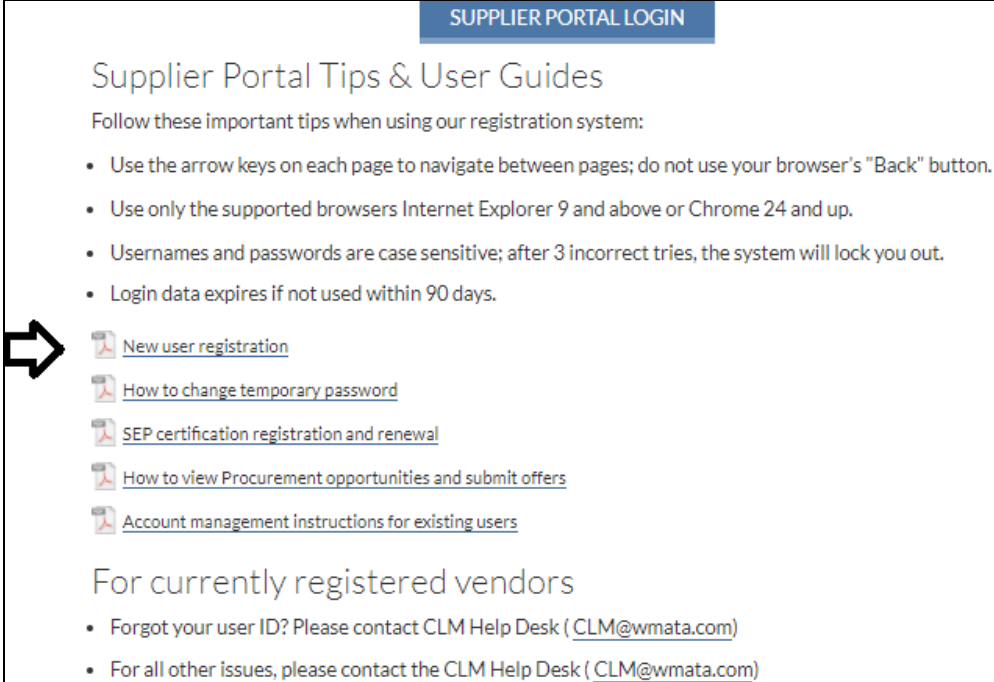
1. Have you checked your company's bid? Are all items included and checked for math errors?
2. If amendments are included, has your company acknowledged and recorded the number of amendments on bid form?
3. Has your company signed and submitted the Solicitation, Offer & Award page(s)?
4. Has your company properly completed and checked the appropriate box for each Certification and Representation? Have you included the Representations and Certifications with your company's bid?
5. Has your company completed and included the Pre- Award Data form?
6. Has your company complied with the Appendix B or B-1 requirement (if applicable)?
7. Has your company marked the bid envelope with solicitation number and addressed it to the Contract Administrator **Margarita Rodriguez** (Bid Bond submittal)?
8. Has your company included copies of any required Certificate(s) of Insurance?
9. Has your company included the Proposed Project Schedule?

Note: Contractor's pricing, if offered to other jurisdictions, will be the same regardless of quantities ordered. The Authority makes no representations regarding the quantities that may be ordered by any other jurisdictions.

NOTICE TO ALL VENDORS

Please be advised that all vendors and contractors who do business with the Washington Metropolitan Area Transit Authority (WMATA) must register in the WMATA Vendor Registration System. Registration is located at <http://www.wmata.com>

New Vendor Registration: <https://www.wmata.com/business/procurement/vendor-resources.cfm>



The screenshot shows a webpage titled "SUPPLIER PORTAL LOGIN" with the heading "Supplier Portal Tips & User Guides". Below the heading, it says "Follow these important tips when using our registration system:" followed by a list of five tips. Below the tips is a list of five links, each with a document icon. A black arrow points to the first link, "New user registration". Below the links is the heading "For currently registered vendors" followed by a list of two items.

SUPPLIER PORTAL LOGIN

Supplier Portal Tips & User Guides

Follow these important tips when using our registration system:

- Use the arrow keys on each page to navigate between pages; do not use your browser's "Back" button.
- Use only the supported browsers Internet Explorer 9 and above or Chrome 24 and up.
- Usernames and passwords are case sensitive; after 3 incorrect tries, the system will lock you out.
- Login data expires if not used within 90 days.

➔ [New user registration](#)

[How to change temporary password](#)

[SEP certification registration and renewal](#)

[How to view Procurement opportunities and submit offers](#)

[Account management instructions for existing users](#)

For currently registered vendors

- Forgot your user ID? Please contact CLM Help Desk (CLM@wmata.com)
- For all other issues, please contact the CLM Help Desk (CLM@wmata.com)

If you are a vendor or contractor and *HAVE* done business with WMATA in the past, please electronically request your company's User ID and Password at <http://www.wmata.com> *Forgot User Id/Password*.

Registered Vendor Benefits:

- Visibility to WMATA contract administrators and/or purchasing agents during the purchasing decision period;
- Visibility to other 17,500 registered vendors for possible business opportunities;
- Opportunity to update online, company information such as an e-mail address or contact person on-line;
- Ability to sign up for electronic payment option; and
- Ability to electronically reset user id and password.

Any questions regarding registration may be sent to clm@wmata.com.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
SOLICITATION, OFFER AND AWARD

CONTRACT NO.	SOLICITATION NO. IFB: FQ18142/MDR <input checked="" type="checkbox"/> ADVERTISED <input type="checkbox"/> NEGOTIATED	DATE ISSUED 6/18/2018	ADDRESS OFFER TO OFFICE OF PROCUREMENT Office of Procurement 600 Fifth Street NW Washington, DC 20001
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SOLICITATION

Sealed offer of electronic bid submission through "PROCORE" for furnishing the supplies or services in the schedules will be received at Authority until WED. 2:00 P.M. Local time July 11, 2018
(Hour) (Date)

If this is an advertised solicitation, offers will be publicly opened at that time.

CAUTION – LATE OFFERS: See paragraph 6 of Solicitation Instructions.

All offers are subject to the following:

1. The Solicitation Instructions that are attached.
2. The Terms and Conditions that are attached.
3. The Price Schedule included herein and/or attached hereto.
4. Such other provisions, representations, certifications, and specifications, as are attached or incorporated herein by reference.

Bidder's e-mail: _____ **Bidder's phone number** _____

SCHEDULE

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT (GRAND TOTAL)
	See – Price Schedule Sheet →				\$

DUN & BRADSTREET ID NUMBER:

BIDDER

Name and Address (Street, city, county, state, and zip code)	Name and Title of Person Authorized to Sign Offer (Print or Type)	
	Signature	Offer Date
<input type="checkbox"/> Check if remittance is different from above — enter such address in Schedule		

AWARD (To be completed by The Authority)

ACCEPTANCE AND AWARD ARE HEREBY MADE FOR THE FOLLOWING ITEM(S):

ITEM NO.	QUANTITY	UNIT	AWARD TOTAL
SUPPLY OF METRO BOX	(See price Schedule)		\$

The total amount of this award is \$ _____

Name of Contracting Officer
(Print of Type)

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

AWARD DATE

PRICE SCHEDULE

Supply of Metro Box	
Type of Acquisition:	FFP
Purchase/Installation:	Build/Supply Metro Boxes
Period of Performance:	125 Calendar Days

DESCRIPTION		QTY	UOM	UNIT PRICE	EXTENDED TOTAL
1.	Project Management Services	1	LOT	\$	= \$
2.	Design Services	1	LOT	\$	= \$
<u>PROTOTYPE - METRO BOX (MB)</u>					
3.	Prototype MB Enclosure Units	1	EA	\$	= \$
4.	Prototype MB – Outdoor Installation Kit	1	EA	\$	= \$
<u>PRODUCTION</u>					
5.	Metro Box Production equates to build, assemble, test & deliver.	130	EA	\$	= \$
6.	Outdoor MB Kit <i>Equates to modifications of MB for outdoor installations.</i>	5	EA	\$	= \$
7.	Documentation Services	1	LOT	\$	= \$
8.	Testing Support	130	EA		
9.	Commissioning Services	130	EA	\$	= \$
10.	Allowance – Spare Parts	1	LOT	\$	= \$
11.	Training Services	1	LOT	\$	= \$
12.	Extended Warranty	2	EA	\$	= \$
13.	Miscellaneous as Directed Indirect costs, office, small tools, etc.	1	LOT	\$	= \$
GRAND TOTAL:					\$ _____

 Authorized Signature

 Date

 Print: (Name & Title)

 Company Name & Address

***NOTES:** Pricing shall be F.O.B. Destination, covering all costs including but not limited to labor, materials, markups, overhead, profit, insurance, fuel, freight, and transportation. The contractor shall complete entries in the columns entitled "Unit Price" and "Extended Price". Prices shown on the Bid Price Schedule sheet shall constitute full compensation of all costs of performance under this contract. Price evaluation will be based on the extended price.

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

SOLICITATION, OFFER AND AWARD

CONTINUATION SHEET

THE UNDERSIGNED ACKNOWLEDGES RECEIPT OF THE FOLLOWING AMENDMENTS

TO SOLICITATION **IFB No.: FQ18142/MDR**

Amendment Number _____	Dated _____
Amendment Number _____	Dated _____
Amendment Number _____	Dated _____
Amendment Number _____	Dated _____
Amendment Number _____	Dated _____
Amendment Number _____	Dated _____

Failure to acknowledge receipt of all amendments may render the bid unacceptable.

Authorized Signature

Print (Name/Title)

Company Name

Date: _____

SOLICITATION INSTRUCTIONS

IFB SOLICITATION INSTRUCTIONS

1. INTRODUCTION

- (a) The Authority seeks to award a contract; for the procurement of Metro Boxes (MBs); and to provide technical support during commissioning of MBs. To that end, WMTA is issuing this Invitation for Bids (IFB) to solicit bids from qualified firms and individuals who can satisfy the requirements of the Contract.
- (b) Since this is a low bid solicitation, award of a Contract hereunder shall be to the lowest priced, responsible bidder whose bid is responsive to, and meets all requirements of, the solicitation.
- (c) The Authority contemplates award of a firm fixed price Contract. Unless otherwise specified in the Price Schedule, the Authority reserves the right to make multiple awards pursuant to this solicitation.
- (d) In the event that the Contractor is unable or otherwise fails to provide goods or services within the time frames required in this Contract, the Authority reserves the right to procure them from any other source and in any other manner it deems appropriate. Nothing contained herein shall be deemed to waive, modify or impair the Authority's right to treat such failure as a material breach of the Contractor's obligations pursuant to the "Default" article of this Contract, or to pursue any other remedy to which the Authority may be entitled pursuant to this Contract, at law or in equity.

2. GOODS TO BE FURNISHED/SERVICES TO BE SUPPLIED

Bidders are advised that:

- (a) If "services" are to be performed pursuant to this solicitation, they must be provided in all respects as specified in the Contract and include the services to be furnished, together with any labor, materials or other work necessary for satisfactory and complete performance.
- (b) If "supplies" are to be provided pursuant to this solicitation, they must be delivered in all respects as specified in the Contract and include the items to be furnished, together with any labor, service or other work necessary for satisfactory and complete performance.
- (c) Contractor agrees that Project property will remain available to be used for its originally authorized purpose throughout its useful life or disposition.

3. COMMUNICATIONS WITH THE AUTHORITY

Prospective bidders are advised that any and all communications with WMATA relating to this solicitation and made by, or on behalf of, a prospective bidder at any time between release of this IFB and Contract award, must be directed to the Contract Administrator as follows:

Margarita Rodriguez, Contract Administrator
mRodriguez@wmata.com

A violation of this provision, deemed willful by the Authority, may result in a determination that an offeror is not responsible, and thus ineligible for award, for purposes of this and/or future Authority solicitations.

4. PREPARATION OF BIDS

- (a) Bidders shall furnish all information requested by the solicitation and, in so doing, are expected to examine the IFB and all referenced documents carefully. Failure to do so will be at bidder's risk.
- (b) The bidder shall sign the solicitation and print or type its name on the Price Schedule and on each continuation sheet, if an entry has been made. Erasures or other changes must be initialed by the person signing the bid.
- (c) Bidders must state a definite time for delivery of supplies or for performance of services unless otherwise specified in the solicitation.
- (d) Bidders should be aware that all prices for the work shall be deemed to include the cost of all work, labor and materials required by the Contract including, without limitation, delivery charges, insurance, bond premiums or any other expenses required by this Contract, as well as expenses associated with compliance with Federal, State or local laws or regulatory requirements. All prices are deemed to be F.O.B. Destination.

5. EXPLANATIONS TO BIDDERS

- (a) Any explanation desired by a bidder regarding the meaning or interpretation of the solicitation or Contract including, without limitation, the terms and conditions, technical specifications or Scope of Work, and Contract drawings, must be requested in writing with sufficient time allowed for a reply to reach all bidders before the date that bids will be opened. Absent extraordinary circumstances, all inquiries must be transmitted in a time frame to ensure the Contracting Officer's receipt at least ten (10) days prior to the date specified for bid opening. All such requests must be submitted via e-mail or first class mail to the Contract Administrator identified in Paragraph 3. Include the IFB number and Contract title in any correspondence.
- (b) Any information that the Authority furnishes to a prospective bidder relating to this solicitation will be provided in writing to all prospective bidders in the form of an amendment if, in the Contracting Officer's judgment, the information is necessary to the preparation and/or submittal of proposals or lack of such information would be otherwise prejudicial to other prospective bidders. Bidders must acknowledge receipt of all amendments on the form provided.

- (c) Oral explanations, representations or instructions of any kind relating to the subject matter of this solicitation given at any time before award of the Contract by any employee, officer or agent of the Authority, will not be binding upon the Authority. The Authority does not assume responsibility for the accuracy of any such communication.
- (d) The failure of a prospective bidder to request an explanation will serve to preclude it from claiming any ambiguity, inconsistency or error that should have been discovered by a reasonably prudent bidder.

6. PRE-BID CONFERENCE

For the purpose of clarifying the requirements of this IFB, a pre-proposal conference will be held to respond to questions by prospective bidders. **This pre-bid conference will be held at 1:00 p.m. on Tuesday, June 26, 2018, in the 4A-02/4B01 DECO Conference Room (4th Floor) of the WMATA Jackson Graham Building, 600 5th Street, NW, Washington, DC 20001.**

It is requested that bidders submit their questions in writing, whether in advance of the meeting or during the meeting. Questions from the floor, however, are permissible.

7. AMENDMENTS PRIOR TO DATE SET FOR OPENING OF BIDS

- (a) The Authority reserves the right to amend any of the terms of this IFB, the proposed Contract's terms and conditions, the Scope of Work and/or drawings prior to the date set for the opening of bids. Copies of any such amendments as may be issued will be furnished in writing to all prospective bidders.
- (b) If, in the Contracting Officer's judgment, any amendment(s) would require material changes in bid quantities and/or price, the date set for bid opening may be postponed for such period that, in the Contracting Officer's opinion, will enable bidders to revise their bids. In such instances, the amendment will include an announcement of the new date for bid opening.
- (b) In the event of an amendment, all other terms and conditions of the solicitation shall remain unchanged.

8. ACKNOWLEDGMENT OF AMENDMENTS

Bidders are required to acknowledge receipt of all amendment(s) to the solicitation on the designated form to be submitted with their bid. Failure to acknowledge all amendments may cause the bid to be considered not responsive to the solicitation, which would require rejection of the bid.

9. PREPARATION OF BIDS

- a. Bids shall be submitted on the Price Schedule furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, such erasures or changes must be initialed by the person signing the bid.
- b. Bidders shall furnish all information required by this IFB and, in so doing, are expected to fully examine the IFB and all attached documents. Failure to do so will be at the bidder's risk.
- c. Discounts for prompt payment will not be considered in the evaluation of bids. However, any offered discount will be included within the award of the Contract and the Authority will apply it, if payment is made within the discount period referenced in the bid.
- d. The Price Schedule may include prices for one or more items that are unit prices, lump sum bids, alternate prices, or a combination thereof. The Price Schedule expressly requires a bid on all items. Failure to do so will render the bid nonresponsive.
- e. All bid prices shall be deemed to include the cost of all work, labor and materials required by the Contract, including without limitation, delivery charges, insurance, container charges or any other expenses incidental to the work, including, but not limited to expenses associated with compliance with Federal, State or local laws or regulatory requirements. All bid prices are deemed to be F.O.B. Destination.
- f. Unless specifically permitted by the Price Schedule, alternate bids will not be considered.

10. SUBMITTAL OF BIDS

- a. Electronic Bid Submission through “**PROCORE**”, a mechanism which allows bidders/vendors to electronically submit bids.
- b. Bidders are responsible and must ensure that its submission in “PROCORE” can be accessed.
Please contact the Contract Administrator via email: mdRodriguez@wmata.com
Provide the following information:

Company	Contact(s) Name/Title	Telephone Number(s)
Address	Address	Email
Web-site	NOTE: Please provide more than 1 contact.	

You will receive a “Welcome to PROCORE” email, which will enable you to create your password (for first time users).

- c. Facsimile bids, postage mailed delivered packages will not be considered.
- d. Electronically, all bids will remain sealed until the date and time specified for the opening of bids.
- e. Bidders must execute required signature pages listing personnel who are authorized to bind the bidder to contractual agreement(s).

11. RESPONSIVE BIDS

- a. Bidders are advised that a bid that is at variance or noncompliant with any provision of this solicitation, including a qualified or conditional bid, may be rejected as non-responsive.
- b. The Contracting Officer may reject a bid as nonresponsive if, in his or her judgment, the bid prices are materially unbalanced. Bid prices are materially unbalanced when they are significantly understated for one (1) or more element(s) of work and significantly overstated for other element(s) of work.
- c. The Authority reserves the right to waive minor errors or omissions in a bid and to deem it responsive.

12. LATE BIDS AND MODIFICATIONS OR WITHDRAWALS PRIOR TO BID OPENING

- a. Any bid received at the office designated in the solicitation after the exact time specified for bid opening will not be considered, unless it is received before award and it:
 - (1) Electronic submission
The only acceptable evidence to establish the time of receipt by the Authority's the time/date stamp of that electronic event on the bid or any other documentary evidence of receipt maintained by the Authority or through "PROCORE".
 - (2) Is the only bid received.
- b. Any modification or withdrawal of a bid is subject to the same conditions as set forth in subparagraphs (a) (1) through (a) (2) above.
- c. The only acceptable evidence to establish the time of the Authority's receipt is the time/date stamp of that event on the bid wrapper or other documentary evidence of receipt maintained by the Authority.
- d. Notwithstanding subparagraph (a), a late modification of any otherwise successful bid that makes its terms more favorable to the Authority will be considered at any time it is received and may be accepted.
- e. Bids may be withdrawn by written notice, received by the Authority before the opening of bids. Bids may be withdrawn in person by a bidder, or its authorized representative, if the representative's identity is established to the Contracting Officer's satisfaction and the representative signs a receipt for the return of the bid, before the opening of bids. The attempted withdrawal of a bid, received subsequent to bid opening and during the acceptance period set forth in paragraph 12, will not be honored and will be without effect.

13. BID ACCEPTANCE PERIOD AND BIDDER'S DEFAULT

- a. The acceptance period for this solicitation is ninety (90) calendar days.
- b. By submission of its bid, the bidder agrees that it shall be irrevocable and shall remain available to WMATA to award a Contract pursuant to this solicitation for not less than the acceptance period. The bidder's failure to furnish required documents and/or to execute a Contract from WMATA in accordance with its bid, during the acceptance period shall constitute a bidder's default.
- c. In the event of a bidder's default, the bidder shall be liable to WMATA for all associated damages and costs, including without limitation, WMATA's "cost to cover." The "cost to cover" is the difference between the bid price and the price WMATA ultimately pays for the work encompassed in this solicitation, whether through award of a Contract to another bidder, pursuant to this solicitation or otherwise.

- d. In the event of a bidder's default as described in paragraph (c), the bidder agrees that WMATA may retain or otherwise proceed against the bid guarantee furnished pursuant to paragraph 13 below as a means of recovering such damages and costs. In the event that the bid guarantee is insufficient to compensate WMATA for all such damages and costs, the bidder shall remain liable to WMATA for the remaining sum.

14. BID GUARANTEE

- a. This solicitation requires submission of a bid guarantee to secure compliance with the bidder's obligation to furnish any documents that may be required by the solicitation and/or to execute a Contract upon the Contracting Officer's acceptance of its bid, during the acceptance period.
- b. The bid guarantee shall be in the nature of a bid bond in the form attached hereto, or in a postal money order, certified check, cashier's check, or irrevocable letter of credit in a form and from an institution that the Contracting Officer approves. The bid guarantee shall be five percent (5%) of the total bid.
- c. The bid guarantee, other than a bid bond, shall be returned to unsuccessful bidders as soon as practicable upon the opening of bids. The bid guarantee shall be returned to the successful bidder as soon as practicable, after it furnishes all required documents and executes the Contract.

15. BID MISTAKE

- a. A bidder who seeks to withdraw its bid subsequent to bid opening due to a claimed mistake or error in its preparation shall notify the Contracting Officer, in writing, immediately upon realizing the mistake, but not later than three (3) business days following bid opening. Such notification must set forth the details of, and explanation for, the claimed mistake. The Contracting Officer shall evaluate the claimed mistake and determine whether the bidder will be permitted to withdraw its bid.
- b. In the event of an apparent discrepancy between any unit price and its associated extended price, the unit price will be presumed to be correct. The Contracting Officer may award a Contract to an otherwise low bidder based upon the unit price, subject to the additional terms of this article.
- c. A bidder claiming a mistake shall, at the Contracting Officer's request, appear before one (1) or more designated Authority representative(s) to provide testimony and/or documentation that may include the bidder's computation sheets and calculations, to assist in the Authority's determination.
- d. Nothing contained herein shall preclude the Contracting Officer from allowing a bidder to cure a deficiency in an otherwise responsive bid where he or she determines that such deficiency is in the nature of a minor informality or irregularity.

16. REPRESENTATIONS, CERTIFICATIONS, AND ACKNOWLEDGMENTS

All bidders shall check or complete all applicable boxes or blocks, and provide all requested information, and signatures on the attached "Representations and Certifications" form. Bidders are reminded of the obligation to fully and faithfully complete the accompanying "Representations and Certifications" form that must be submitted with its bid. Failure to do so may result in the bid being rejected as nonresponsive.

17. LAWS AND REGULATIONS

Bidders are responsible for complying with any and all applicable State of Maryland, Commonwealth of Virginia, District of Columbia, and Federal laws and regulations governing the services to be provided under this Contract. Further, the successful bidder shall be responsible to obtain, at its own cost and expense, any and all licenses/permits required to transact business in any political jurisdictions where work will be performed.

18. ROYALTY INFORMATION [N/A]

[NOT APPLICABLE]

19. REQUIREMENT FOR COST DATA FOR CONTRACT AWARD

The Authority may require the apparent low bidder to submit cost data in sufficient detail to permit analysis of the cost elements that comprise the bid prices. In such instances, the apparent low bid may, at the discretion of the Authority, be subject to audit.

20. PRE-AWARD INFORMATION/BIDDER RESPONSIBILITY

- (a) In order to be eligible for award of a Contract, a bidder must affirmatively demonstrate to the Contracting Officer's satisfaction that it is responsible for purposes of this solicitation. Such demonstration must include a showing that it maintains the requisite integrity, overall technical expertise and experience, (including prior performance on other Authority contracts or contracts with other government agencies), and sufficient financial resources to perform the Contract in a timely, satisfactory and appropriate manner. Failure to so demonstrate may result in rejection of the low bidder as not responsible. In such event, the second lowest bidder will be required to demonstrate its responsibility. This process will continue until a bidder successfully demonstrates that it is responsible for purposes of Contract award.
- (b) The Contracting Officer may conduct a pre-award survey and/or take other actions to obtain information regarding the apparent low bidder's responsibility. The apparent low bidder shall promptly supply information that the Contracting Officer requests regarding its responsibility, in such manner and form as he or she requests.
- (c) Among other items, the apparent low bidder shall furnish the following when the Contracting Officer requests:
 - (1) A completed and signed "Pre-Award Evaluation Data" form (copy attached), including all referenced financial statements and information;
 - (2) Evidence of good standing in the System for Award Management (SAM) at www.sam.gov.
 - (3) Disadvantaged Business Enterprise data as set forth in Appendix B. The submittal of certain items and request for waiver (if applicable) are required if the bid is \$150,000 or greater. Failure to submit forms B-12, B-13, and/or to request waivers (if applicable) may cause the bid to be rejected. A bidder's failure to supply this information or otherwise fully cooperate with the Authority's inquiry may result in a determination that the bidder is not responsible for purposes of this solicitation and thereby ineligible for award.
 - (4) Small Business Enterprise (SBE) documentation (if applicable) as set forth in Appendix B-1. The bidder's failure to supply this information or otherwise fully cooperate with the Authority's inquiry may result in a determination that the bidder is not responsible for purposes of this solicitation and thereby ineligible for award.

21. PRE-AWARD RESPONSIBILITY MEETING

The Authority reserves the right to require that a pre-award meeting be held with the apparent low bidder prior to Contract award in order to further assist the Authority in determining the bidder's responsibility for purposes of award.

22. SITE VISIT/INSPECTION OFFEROR'S FACILITIES [N/A]

[NOT APPLICABLE]

23. BASIS FOR CONTRACT AWARD

- a. Award(s) of this Contract will be made based solely on the lowest price as stated in the Price Schedule, to the bidder(s) (i) whose bid is judged to be responsive to the terms of the solicitation and (ii) who demonstrates to the Contracting Officer's satisfaction that it is responsible for purposes of award of this Contract.
- b. Unless otherwise expressly specified in the Price Schedule, the Authority may make multiple awards as a result of this solicitation.
- c. The Authority reserves the right to reject all bids and cancel this solicitation at any time prior to award.
- d. A written award notice mailed or otherwise furnished to the successful bidder within the acceptance period shall result in a binding contract without further action by either party.

24. EQUAL EMPLOYMENT OPPORTUNITY

In order to be eligible for award of a Contract pursuant to this solicitation, the apparent low bidder will be required to comply with all applicable Equal Employment Opportunity laws and regulations.

25. PERFORMANCE/PAYMENT BONDS

The successful proposer shall, within the time established in this Contract and as a condition to issuance of a Notice to Proceed, furnish performance and payment bonds, if applicable, on forms acceptable to the Authority and in the amounts indicated in this Contract.

26. DISADVANTAGED BUSINESS ENTERPRISES REQUIREMENTS

Attached as part of this solicitation are documents outlining the requirements for the Disadvantaged Business Enterprise (DBE) Program: **The DBE requirement/goal for this Contract is 4% unless a good faith waiver is requested and approved.**

- (a) If the proposal is over \$150,000, in order for the offeror to be considered responsible, the following documents (See Appendix B) shall be completed and submitted with the bid:

Schedule of DBE Participation

Letter of Intent to Perform as Subcontractor/Joint Venturer
(If applicable)

DBE Unavailability Certification
(Where applicable)

Written request for waiver, when DBE participation is less than stated percentage.

- (b) If this Contract involves a Small Business Enterprise (SBE) set-aside, the provisions of Appendix B-1 are applicable. Appendix B-1 forms must be completed by each bidder to insure that its bid is acceptable.

The provisions of Appendix B (if attached) do not become applicable and forms do not have to be completed, unless the total bid price is \$150,000 or more. If the bid is \$150,000 or more and any portion of the submittal requirement is omitted, then the bid may be found to be unacceptable and subsequently rejected. Appendix B forms and/or waivers must be completed with great care by each bidder to ensure that its bid is acceptable.

27. OPPORTUNITY FOR DISADVANTAGED BUSINESS ENTERPRISES TO BID

The Washington Metropolitan Area Transit Authority hereby notifies all prospective bidders that it will affirmatively ensure that disadvantaged minority business enterprises will be afforded full opportunity to submit bids in response to this solicitation and will not be discriminated against on the basis of race, color, creed, sex, religion, national origin, disability, sexual preference and/or gender identity in consideration for award.

28. NOTICE OF PROTEST POLICY

- (a) The Authority's procedure for the administrative resolution of protests is set forth in Chapter 17 of WMATA's Procurement Procedures Manual (PPM). The procedures contain strict rules for filing a timely protest, for responding to a notice that a protest has been filed, and other procedural matters.
- (b) The basis on which FTA will review a grantee's protest decision is defined in §17-8. FTA will generally exercise discretionary jurisdiction over cases deemed to involve issues important to the overall third party contracting program. FTA's decision to decline jurisdiction over a protest does not imply approval of or agreement with the agency's decision or that FTA has determined that this Contract is eligible for Federal participation.
- (c) Alleged violations must be submitted to the Contracting Officer who will administratively decide the protest.
- (d) The United States District Courts for the Districts of Maryland, Virginia and the District of Columbia, and the local courts in Maryland, Virginia and the District of Columbia have jurisdiction over court actions concerning protest decisions.

29. WMATA'S TAX EXEMPT STATUS

- (a) Pursuant to Article XVI, Paragraph 78, of the Washington Metropolitan Area Transit Authority's Compact, as adopted by the State of Maryland, the District of Columbia, and the Commonwealth of Virginia, with the authorization and consent of the Congress of the United States, the Authority has been accorded exemption from taxes as follows:
 - "The Authority and the Board shall not be required to pay taxes or assessments upon any of the property acquired by it or under its jurisdiction, control, possession or supervision, or upon its activities in the operation and maintenance of any transit facility or upon any revenues therefrom, and the property and income derived therefrom shall be exempted from all Federal, State, District of Columbia, municipal, and local taxation. This exemption shall include without limitation, all motor vehicle license fees, sales taxes and motor fuel taxes."
- (b) By submission of its bid, the bidder certifies that none of the taxes that the Authority is exempt from are included therein.

30. ENGLISH LANGUAGE AND UNITED STATES CURRENCY

With respect to both this solicitation and the resultant Contract:

- (a) All communications (oral, written, electronic and otherwise including but, not limited to, software coding) shall be in the English language.
- (b) All pricing shall be in United States dollars.

31. BRAND NAME OR EQUAL

- (a) If items called for by this IFB have been identified in the Price Schedule by a "brand name or equal" description, such identification is intended to be descriptive, but not restrictive, and is to indicate the quality and characteristics of products that will be satisfactory. Bids offering "equal" products, including products of the brand name manufacturer, other than the one described by brand name will be considered for award, if such products are clearly identified in the bids and the Authority determines that they fully meet the salient characteristics (physical, functional, or performance) requirements in the IFB.
- (b) Unless the bidder clearly indicates in its bid that it is offering an "equal" product, the bid shall be considered as offering a brand name product referenced in the IFB.
- (c) If the bidder proposes to furnish an "equal" product, a description of the product to be furnished shall be placed in the space provided in the IFB, or such product shall be otherwise clearly identified in its bid. The Authority, at its sole discretion, must be able to determine equality *without an extensive evaluation*. Thus, if the bidder has some information demonstrating equality of the proposed equal, such as acceptance by another transit agency, it should submit such documentation with its bid.
- (d) CAUTION TO BIDDERS. WMATA is not responsible for locating or securing any information that is not identified in its bid and reasonably available to the Authority. The offeror must furnish as a part of its proposal all descriptive material (such as cuts, illustrations, drawings, or other information) necessary for the Authority's determination.
- (e) The information furnished may incorporate by specific reference, information previously furnished or otherwise available to the Authority.

32. REQUESTS FOR RECORDS

The Washington Metropolitan Area Transit Authority (WMATA), in the regular course of business, may receive from the public, including prospective vendors and bidders, requests for records on a variety of topics. It is WMATA's policy to make official agency records, including electronic records, available to the public, unless specifically prohibited by WMATA's policy or applicable laws.

- (a) "Records" means any existing writings, drawings, maps, recordings, tapes, film, microfilm, correspondence, forms, cards, photographs, optical disks, photo copies, and records stored by computer (electronic records) that are made or received by WMATA in connection with a public contract. A record does not include uncirculated personal notes, papers, electronic records and any other records that were created and retained solely as work papers for personal use of the Contracting Officer, Contract Administrator or other WMATA employee.
- (b) WMATA's contracting process allows for the release/posting of certain information concerning this Contract after its award. This includes the name of the successful bidder and the amount of the award. This information is available on WMATA's website under "Business with Metro" or directly from the Contract Administrator.
- (c) Upon WMATA's request, the successful bidder shall be required to provide a redacted copy of its bid with confidential and proprietary information redacted.
- (d) After the award is announced, the winning proposal may be subject to release under WMATA's Public Access to Records Policy (PARP).
- (e) When WMATA determines that a bid will be of wide public interest, WMATA will post the redacted bid on its website. When WMATA receives three (3) or more requests for a successful bid, WMATA will post it on its website.
- (f) Requests for Records that are not made available during the procurement process will be submitted in accordance with the PARP. Requests must be in writing and sent by mail to the Office of General Counsel, Washington Metropolitan Area Transit Authority, 600 Fifth Street, NW, Washington, D.C. 20001, or by electronic mail at parpprivreq@wmata.com or by facsimile to the attention of the PARP Administrator at (202) 962-2550. If a request for records is sent directly from the requestor to a Contract Administrator, department, or independent office, that entity shall immediately forward the request to the PARP Administrator in the Office of General Counsel. If records are subject to a PARP request, a member of the PARP team will contact the company to begin the PARP document review process, which includes providing detailed written justifications for any information for which exemptions are claimed.

- (g) Neither WMATA's bidding process nor the PARP process generally allow for the release of information that would cause competitive harm to the bidders, other organizations, WMATA's employees, or interests. Information that will be withheld includes the following:
- (1) The names of unsuccessful bidders;
 - (2) The bids of unsuccessful bidders;
 - (3) Personal information (this does not include education and qualifications which are released) about the successful bidder or its employees that is not available to the public on the website of the successful bidder;
 - (4) Unit price details of the successful bid (this does not include the bottom line price, which is released);
 - (5) The names of the vendors who file a protest to the solicitation or its award;
 - (6) The written adjudication of any protests;
 - (7) Personal information concerning WMATA's employees; and
 - (8) Trade secrets and confidential commercial or financial information obtained from a bidder.
- (h) If your company's records are subject to a PARP request (i.e., if it is the successful bidder), a broad claim of confidentiality for the entire bid is rarely acceptable, and will likely be rejected during the PARP process. Therefore, WMATA suggests that you narrowly identify your confidential/proprietary information based on the following guidance:
- (i) Information that may be withheld/redacted: Detailed pricing except bottom line offer amounts;
- (j) Public information subject to release:
- (1) Any information on your company's website;
 - (2) Publicly known information (even if not on your company's website);
 - (3) General company background;
 - (4) Mere compliance with IFB requirements; and
 - (5) Anything standard to the industry.

(Submit with Bid)

REPRESENTATIONS & CERTIFICATIONS

CONTRACTING REQUIREMENTS

REPRESENTATIONS & CERTIFICATIONS

Instructions: Check or complete all applicable boxes or blocks on this form and submit it with your offer.

1. TYPE OF BUSINESS ORGANIZATION

By submission of this offer, the offeror represents that it operates as an individual, a partnership, a limited liability company, a joint venture, a nonprofit organization, or a corporation, incorporated under the laws of the State of _____.

Name	Signature
Title	Company
Date	

2. AFFILIATION AND IDENTIFYING DATA

Each offeror shall complete 2.1, 2.2 if applicable, and 2.3 below, representing that:

2.1 It is, is not, owned or controlled by a parent company. For this purpose, a parent company is defined as one that either owns or controls the activities and basic business policies of the offeror. To own another company, means that the parent company must own at least a majority, i.e., more than fifty percent (50%), of the voting rights in that company. To control another company, such ownership is not required. If another company is able to formulate, determine or veto the offeror's basic business policy decisions, such other company is considered the parent of the offeror. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, Contractual arrangements or otherwise.

2.2 If the offeror is owned or controlled by a parent company, it shall insert in the space below the name and main office address of the parent company:

Name of Parent Company

Main Office Address (including ZIP Code)

2.3 If the offeror has no parent company, it shall provide in the applicable space below its own employer's identification number (E.I.N.), (i.e., number used on Federal tax returns or, if it has a parent company, the E.I. N. of its parent company).

Offeror E.I. N.: _____ or, Parent Company's E.I. N.: _____

Name	Signature
Title	Company
Date	

3. PREVIOUS CONTRACTS AND COMPLIANCE REPORTS

This representation is applicable to federally assisted contracts. By submission of this offer, the offeror represents that:

- 3.1 It [] has, [] has not, participated in a previous contract or subcontract subject to either the Equal Opportunity Clause of this solicitation, or the clause contained in Parts II and IV of Executive Order 11246, as amended; that prohibits discrimination on the basis of race, color, creed, national origin, sex, age; and
- 3.2 It [] has, [] has not, filed all required compliance reports; and
- 3.3 Representations indicating submittal of required compliance reports signed by proposed subcontractors will be obtained prior to subcontract awards.

Name	Signature
Title	Company
Date	

4. DISADVANTAGED BUSINESS ENTERPRISE

This representation is applicable to federally assisted contracts. By submission of this offer, the offeror represents that:

- 4.1 It [] is, [] is not, a disadvantaged business enterprise.

"Disadvantaged Business Enterprise" means a for-profit small business concern that is at least fifty one percent (51%) owned by one or more individuals who are both socially and economically disadvantaged individuals or, in the case of a corporation, in which fifty one percent (51%) of the stock is owned by one or more such individuals; and whose management and daily business operations are controlled by one or more socially and economically disadvantaged individuals who own it.

"Socially and Economically Disadvantaged Individual" is defined in Appendix B. Notice of Requirements for Disadvantaged Business Enterprise (DBE). By submission of this offer, the offeror represents that:

- 4.2 It [] is, [] is not, currently certified by Metropolitan Washington Unified Certification Program (MWUCP) as a disadvantaged business enterprise.
- 4.3 **Special Certification Requirements for Transit Vehicle Manufacturers.** Each transit vehicle manufacturer, as a condition of being authorized to bid or propose on FTA funded transit vehicle procurements, must certify that it has complied with the DBE requirements of 49 C.F.R. Part 26.

The offeror represents that it [] is or [] is not a transit vehicle manufacturer and [] has or [] has not complied with the DBE requirements of 49 C.F.R Part 26.

Name	Signature
Title	Company
Date	

5. SMALL BUSINESS ENTERPRISE (MAY 2015)

“Small Business Enterprise” means a for profit small business concern that is at least fifty one percent (51%) owned by one (1) or more individual(s) who are economically disadvantaged. “Economically Disadvantaged Individual” is defined in Appendix B-1, Definitions, in Notice of Requirements for Small Business Enterprise (SBE) Program.

5.1 It is, is not, a small business enterprise. A firm must be a small business as defined by the U.S. Small Business Administration (SBA) by applying current SBA business size standards found in 13 C.F.R. Part 121 that are applicable to the type of work the firm seeks to perform in USDOT assisted contracts. The fifty one percent (51%) owner must be a U.S. citizen or permanent resident. A firm must be organized for profit in order to be eligible for SBE certification. The firm’s average gross receipts cannot exceed the overall USDOT size standard for a small business [\$23.98 million averaged over the three (3) previous fiscal years or part of year that the business has been in existence.] Set forth in 49 C.F.R. § 26.65, at least fifty one percent (51%) of the firm’s ownership must be held by individuals who meet the personal net worth (PNW) cap of \$1.32 million as prescribed by 49 C.F.R. § 26.67.

5.2 It is, is not, currently certified by WMATA as a small business enterprise.

Name	Signature
Title	Company
Date	

6. AFFIRMATIVE ACTION COMPLIANCE

This representation is applicable to federally assisted contracts of \$50,000 or more that are awarded to contractors with fifty (50) or more employees. By submission of this offer, the offeror represents that:

6.1 It has a workforce of _____ employees.

6.2 It has developed and has on file, or has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 C.F.R. §§ 60.1 and 60.2), or

6.3 It has not previously had contracts subject to the written affirmative action program requirements of the rules and regulations of the U.S. Secretary of Labor.

Name	Signature
Title	Company
Date	

7. COVENANT AGAINST GRATUITIES

By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement:

Neither it nor any of its employees, representatives or agents have offered or given gratuities (in the form of entertainment, gifts or otherwise) to any Board member, employee or agent of the Authority with the view toward securing favorable treatment in the awarding, or administration of this Contract.

Name	Signature
Title	Company
Date	

8. CONTINGENT FEES

By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement:

8.1 It [] has, [] has not, employed or retained any company or persons (other than a full-time, bona fide employee working solely for the offeror) to solicit or secure this Contract, and

8.2 It [] has, [] has not, paid or agreed to pay any company or person (other than a full-time, bona fide employee working solely for the offeror) any fee, commission, percentage, or brokerage fee contingent upon or resulting from the award of this Contract.

Name	Signature
Title	Company
Date	

9. CLEAN AIR ACT AND CLEAN WATER ACT CERTIFICATION

This certification is applicable if the Contract will be federally assisted and the offer exceeds \$150,000, or the Contracting Officer believes that orders under an indefinite type Contract in any year will exceed \$150,000 or a facility to be used has been the subject of a conviction under the Clean Air Act [42 U.S.C. § 7413(c)(1)] or the Clean Water Act [33 U.S.C. § 1319(c)], is listed by the U.S. Environmental Protection Agency (EPA) as a violating facility, and the acquisition is not otherwise exempt:

9.1 Any facility to be utilized in the performance of this Contract [] is, or [] is not listed on the EPA's List of Violating Facilities;

9.2 Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communications from the Administrator, or a designee of the EPA, indicating that any facility that it proposes to use in the performance of this Contract is under consideration to be listed on the EPA's List of Violating Facilities; and

9.3 Offeror will include a certification substantially the same as this certification, including this paragraph, in every non-exempt subcontract.

Name	Signature
Title	Company
Date	

10. DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION

This certification is applicable to federally assisted contracts over \$25,000.

10.1 Primary Covered Transactions. This certification applies to the offer submitted in response to this solicitation and will be a continuing requirement throughout the term of any resultant Contract.

10.1.1 In accordance with the provisions of 2 C.F.R. Part 1200 and 2 C.F.R. Part 180, Subpart C, the offeror certifies to the best of its knowledge and belief that it and its principals:

10.1.1.1 are not currently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal or state department or agency;

10.1.1.2 have not, within a three (3) year period preceding this offer, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) transaction or contract under a public transaction; violation of Federal or state antitrust statutes, or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

10.1.1.3 are not currently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, state, or local) with commission of any of the offenses enumerated in paragraph (1) (ii) of this certification; and have not, within a three (3) year period preceding this offer, had one (1) or more public transactions (Federal, state, or local) terminated for cause or default.

10.1.2 Where the offeror is unable to certify to any of the statements in this certification, the offeror shall attach an explanation to this offer.

10.2 Lower Tier Covered Transactions. This certification applies to a subcontract at any tier expected to equal or exceed \$25,000 and will be a continuing requirement throughout the term of this Contract.

10.2.1 The prospective lower tier subcontractor certifies, by submission of this offer, that neither it nor its principals is currently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal or state department or agency.

10.2.2 Where the prospective lower tier subcontractor is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

10.3 The Certification required by 10.2, above, shall be included in all applicable subcontracts and the Contractor shall keep a copy on file. The Contractor shall be required to furnish copies of certifications to the Contracting Officer upon his or her request.

Name	Signature
Title	Company
Date	

11. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION

11.1 By submission of its offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement:

11.1.1 The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or with any other competitor;

11.1.2 Unless otherwise required by law, the prices that are quoted in this offer have not been knowingly disclosed by the offeror and will not be knowingly disclosed by the offeror prior to award (in the case of a negotiated procurement), directly or indirectly, to any other offeror or to any competitor; and

11.1.3 No attempt has been made or will be made by the offeror to induce any other person or firm to submit or not to submit an offer, for the purpose of restricting competition.

11.2 Each person signing this offer certifies that:

11.2.1 He or she is the person in the offeror's organization responsible for the decision regarding the prices being offered herein and that he/she has not participated, and will not participate, in any action contrary to 11.1.1 through 11.1.3 above; or

11.2.2 He or she is not the person in the offeror's organization responsible for the decision regarding the prices being offered herein, but that he/she has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated; and will not participate, in any action contrary to 11.1.1 through 11.1.3 above; or and as their agent he or she does hereby so certify.

Name	Signature
Title	Company
Date	

12. CERTIFICATION OF NONSEGREGATED FACILITIES

This certification is applicable to federally assisted contracts over \$10,000.

12.1 By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement:

12.1.1 It does not and will not maintain or provide for its employees, any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control, where segregated facilities are maintained.

12.1.2 The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in this Contract.

12.1.3 As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin, because of habit, local custom or otherwise.

12.1.4 It further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will:

12.2 Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;

12.3 Retain such certifications in its files; and

12.4 Forward the following notice to such subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted prior to award of a subcontract exceeding \$10,000 that is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for such subcontract or for all subcontracts during a period (i.e., quarterly, semiannually or annually).

Name	Signature
Title	Company
Date	

13. NONDISCRIMINATION ASSURANCE

13.1 By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, in connection with this procurement, that it will not discriminate on the basis of race, color, creed, religion, national origin, sex, age, disability, sexual preference and/or gender identity in the performance of this Contract. The offeror is required to insert the substance of this clause in all subcontracts and purchase orders. The Contractor's failure to carry out these requirements is a material breach of this Contract, that may result in the termination of this Contract or such other remedy as the Authority deems appropriate. The offeror further agrees by submitting this offer, that it will include this certification, without modification, in all subcontracts and purchase orders.

Name	Signature
Title	Company
Date	

14. CERTIFICATION OF RESTRICTIONS ON LOBBYING

This certification is applicable to federally assisted contracts if the offer exceeds \$100,000.

14.1 By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that to the best of his or her knowledge or belief:

14.1.1 No federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

14.1.2 If any funds other than federally appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Contract, the undersigned shall complete and submit Standard Form--LLL, "Disclosure of Lobbying Activities."

14.1.3 The undersigned shall require that the language of this certification be included in all sub-awards (including subcontracts, sub-grants and contracts under grants, loans and cooperative agreements) at all tiers and that all sub-recipients shall certify and disclose accordingly.

14.2 This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352, as amended. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

14.3 The Contractor certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C.A. § 3801, *et. seq.* apply to this certification and disclosure, if any.

Name	Signature
Title	Company
Date	

15. BUY AMERICA ACT CERTIFICATION

The Buy America Act requirements apply to federally assisted construction contracts, and acquisition of goods or rolling stock contracts valued at more than \$150,000.¹

15.1 By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement it will comply with 49 U.S.C. § 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. § 661.7 Separate requirements for rolling stock are set out at 49 U.S.C. § 5323(j)(2)(C) and 49 C.F.R. § 661.11.

15.2 An offeror must submit to the Authority, the appropriate Buy America Act certification (below) with all offers on FTA funded contracts, except those subject to a general waiver. Offers that are not accompanied by a completed Buy America Act certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors. Mark the applicable certifications below:

15.2.1 Certification requirement for procurement of steel, iron, or manufactured products:

Certificate of Compliance with 49 U.S.C. § 5323(j)(1)

The offeror hereby certifies that it will meet the requirements of 49 U.S.C. § 5323(j)(1) and the applicable regulations in 49 C.F.R. § 661.5.

Certificate of Non-Compliance with 49 U.S.C. § 5323(j)(1)

The offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. § 5323(j)(1) and 49 C.F.R. § 661.5, but it may qualify for an exception pursuant to 49 U.S.C. §§ 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. § 661.7.

15.2.2 Certification requirement for procurement of buses, other rolling stock and associated equipment:

Certificate of Compliance with 49 U.S.C. § 5323(j)(2)(C)

The offeror hereby certifies that it will comply with the requirements of 49 U.S.C. § 5323(j)(2)(C) and the regulations at 49 C.F.R. § 661.11.

Certificate of Non-Compliance with 49 U.S.C. § 5323(j)(2)(C)

The offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. § 5323(j)(2)(C) and 49 C.F.R. § 661.11, but may qualify for an exception pursuant to 49 U.S.C. §§ 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. § 661.7.

Name	Signature
Title	Company
Date	

¹ If the funding for this Contract comes from an FTA grant issued before December 26, 2014, then the limit is \$100,000.

16. CERTIFICATION OF NON-DELINQUENT TAXES

This certification is applicable to federally assisted contracts.

16.1 By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement:

16.1.1 It has not been convicted over the past three (3) years of violating any Federal criminal tax law or failed to pay any tax.

16.1.2 It has certified if it has been notified of an unresolved tax lien or any unsatisfied Federal tax delinquency in excess of \$3,000 and that it is paying tax debts through an installment agreement or has requested a collections due process hearing.

16.1.3 The offeror agrees that a breach of this certification is a violation of the Federal Acquisition Regulation (FAR).

16.1.4 As used in this certification, the term "tax delinquency" means an outstanding debt for which a notice of lien has been filed in public records.

16.1.5 It further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will:

16.2 Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the FAR.;

16.3 Retain such certifications in its files; and

16.4 Forward the following notice to such subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATION OF NON-DELINQUENT TAXES

A Certification of Non-Delinquent Taxes must be submitted prior to award of a subcontract exceeding \$100,000 that is not exempt from the provisions of the FAR. The certification may be submitted either for such subcontract or for all subcontracts during a period (i.e., quarterly, semiannually or annually).

Name	Signature
Title	Company
Date	

17. DISCLOSURES OF INTERESTS OF WMATA BOARD MEMBERS

For purposes of this disclosure, terms in bold are defined by the Code of Ethics for Members of the WMATA Board of Directors a copy of which is available at www.wmata.com. Financial interests include ownership interests and prospective and actual income. Firm includes parents, subsidiaries and affiliates.

By submission of this offer, the offeror certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that to the best of its knowledge, information and belief in connection with this procurement:

17.1 [] No WMATA **Board member, household member or business associate** has a financial interest in this firm, in a **financial transaction** with the Authority to which this firm is a party or prospective party, or in an **actual or prospective business relationship with the Authority** to which this firm is a party.

17.2 [] The following WMATA **Board member(s), household member(s) or business associate(s)** has a financial interest in this firm, in a **financial transaction** with the Authority to which this firm is a party or prospective party, or in an **actual or prospective business relationship with the Authority** to which this firm is a party, Include in "Nature of Interest" below, a description of the financial interest and (1) for ownership interests, the value of the interest, the name and address of the firm in which the interest is held, and the total equity or equivalent interest of the firm; and (2) for income, the amount of all income received by the **Board member, household member or business associate** in the current and preceding fiscal year for services provided, and the name and address of the firm from which the income was received.

Name of Board Member Household Member or Business Associate	Nature of Interest
_____	_____
_____	_____
_____	_____

17.3 The certification required by 17.1 and 17.2 above shall be included in all subcontracts. The prime contractor shall furnish copies of certifications to the Contracting Officer and retain a copy for inspection upon his or her request.

Name	Signature
Title	Company
Date	

18. CRIMINAL BACKGROUND SCREENING CERTIFICATION (QUARTERLY)

By submission of this offer, the offeror certifies that:

- 18.1** It will contract with or engage a reputable third-party vendor to conduct, criminal background screenings of all Contractor personnel who will have access to WMATA's customers, WMATA's property, or WMATA's information in connection with this Contract. This requirement also applies to Contractors who engage with the general public on WMATA's behalf.
- 18.2** It will screen for criminal convictions, taking into consideration (1) the nature of the services or work being performed under the contract with particular regard for the individual's access to, and interaction with, WMATA's customers, property, and confidential information; (2) the nature or gravity of the offense or conduct resulting in a criminal conviction; and (3) the time that has lapsed since the conviction and/or completion of the sentence, all Contractor personnel who will have access to WMATA's customers, the general public, WMATA's property, or WMATA's information and who work on this Contract during each calendar year within this Contract's period of performance. The Offeror will provide certification that it conducted these screenings to the Contracting Officer's Technical Representative (COTR) on a quarterly basis, on a form provided.
- 18.3** The Contractor shall submit to the COTR, a list of all employees and agents who will require Contractors' access badges not less than 7 days prior to the date on which access will be required.
- 18.4** The Offeror will determine that all Contractor personnel working on this Contract during the calendar year passed the Contractor's criminal background screening and will be in good standing and otherwise fit to work on this Contract.
- 18.5** The Offeror has not obtained or otherwise been made aware of any information about any Contractor personnel working on this Contract that contradicts or otherwise impacts the Contractor's determination that such persons passed the Contractor's criminal background screening and/or are fit to work on this Contract.
- 18.6** The Contractor will flow this requirement down to all of its subcontractors who will have access to WMATA's customers, the general public, WMATA's property, or WMATA's information within this Contract's period of performance.

Name	Signature
Title	Company
Date	

19. CERTIFICATION REQUIRED FOR ALL SAFETY-SENSITIVE² CONTRACTS.

- 19.1** By submission of this offer, the offeror represents and certifies that it will comply with the Federal Transit Administration (FTA) regulations, "Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations," 49 C.F.R. Part 655, and applicable provisions of the U.S. Department of Transportation (DOT) regulations, "Procedures for Transportation Workplace Drug and Alcohol Testing Programs," 49 C.F.R. Part 40.
- 19.2** Offeror agrees that its employees and agents, including but not limited to, safety-sensitive subcontractors will be enrolled in a drug and alcohol testing program that meets the policy and procedural requirements listed in Appendix A of this document.
- 19.3** Offeror understands that Washington Metropolitan Area Transit Authority (WMATA) will perform oversight during the contract's period of performance to ensure that the successful offeror complies with the DOT/FTA regulations.
- 19.4** Failure to comply with this certification may result in WMATA issuing sanctions and pursuing available contractual remedies.

Name	Signature
Title	Company
Date	

² See the Combined Glossary for a definition of "safety-sensitive."

PRE-AWARD EVALUATION DATA

PROJECT DESCRIPTION: **SUPPLY OF METRO BOX**

1. Name of firm _____
2. Address: _____
3. Individual Partnership Corporation Joint Venture
4. Date organized _____.
State where incorporated or organized _____.
5. Names of officers or partners:
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
6. How long has your firm been in business under its present name?

In order to be considered, at a minimum, the Contractor shall have performed/completed as the prime contractor similar scope, difficulty and complexity of the work specified in the contract plans and specifications, from rail transit and/or public or private industrial sectors.

The listed completed projects must include the following information (questions 7 through 9);

- | | | |
|--------------------------|--------------------------------------|-----------------|
| ▪Owner/Company | ▪Contract Name | ▪Duration |
| ▪Contact Personnel | ▪Amount | (From/to Dates) |
| ▪Address | ▪Character & Type of work | |
| ▪Up-to-Date Phone number | ▪Portions/% of the work accomplished | |
| ▪Email | with the Bidder's own forces. | |

7. Attach as Schedule One (1) a list of similar current contracts that demonstrate your firm's technical proficiency, each with contract amount, name of contracting party, character or type of work and percentage of completion.
8. Attach as Schedule Two (2) a list of similar contracts, each with contract amount, name of contracting party, and character or type of work for similar contracts completed in the last three (3) years.
9. In the last two (2) years has your firm been denied an award where it was the offeror?

If the answer is yes, attach as Schedule Three (3) the full particulars regarding each occurrence.

10. Has your firm failed to complete, in the last two (2) years, any contract on which it was the offeror?

If the answer is yes, attach as Schedule Four (4), the full particulars regarding each occurrence.

11. Financial resources available as working capital for the Contract:

a. Cash on hand: \$ _____

b. Sources of credit: _____

12. Attach as Schedule Five (5) financial statements and letters from banks regarding credit as required by the "Pre-Award Information" article.

13. What percentage of work (Contract amount) does your firm intend performing with its own personnel? %.

14. Attach as Schedule Six (6), a list of all principal subcontractors and the percentage and character of work (Contract amount) that each will perform. Principal items of work shall include, but not be limited to, those items listed in the "Pre-Award Information" article.

15. If the Contractor or subcontractor is in a joint venture, submit "Pre-Award Evaluation Data" forms for each member of the joint venture.

The above information is confidential and will not be divulged to any unauthorized personnel.

The undersigned certifies to the accuracy of all information.

COMPANY: _____

SIGNATURE: _____

NAME: _____

TITLE: _____

DATE: _____

TERMS AND CONDITIONS

CHAPTER I – TERMS AND CONDITIONS

1. AGREEMENT

The work to be performed under this Contract may briefly be described as to provide various Metro Boxes, documentation/testing/commissioning and training services as listed in the Price Schedule, including all necessary or incidental work, labor and materials.

The Contractor agrees to perform the work in accordance with requirements and terms and conditions hereinafter set forth in this Contract. In consideration for the Contractor's complete, satisfactory and proper performance of the Contract, the Authority agrees to pay to the Contractor, and the Contractor agrees to accept as full compensation, the sums of money set forth in the Price Schedule at the time and in the manner and upon the terms and conditions set forth in this Contract.

2. ARRANGEMENT OF CONTRACTUAL PROVISIONS

For ease of reference, this Contract is divided into chapters, articles (also referred to as "clauses"), paragraphs and subparagraphs. While the chapters and articles are titled, it is understood that both the use of such titles and the manner and overall arrangement of the Contractual provisions are intended solely for the convenience of the parties and are without independent Contractual or legal significance.

3. ORDER OF PRECEDENCE

(a) Any inconsistency in the Contract shall be resolved by giving precedence to the following order: (a) terms and conditions (b) the specifications or Scope of Work; (c) drawings, if any; (d) other documents, exhibits, and attachments generated by the Authority as part of this Contract; (e) the technical proposal, if any, and other Contractor submissions generated as part of this Contract. In the event of a conflict within or between provisions entitled to equal precedence, the more stringent requirement shall apply.

(b) Notwithstanding paragraph (a), if this Contract is funded, in whole or part, through the Federal Government, all contract terms mandated for inclusion by the Federal Government shall be deemed to supersede any other conflicting or inconsistent provisions of this Contract.

4. REQUIREMENTS CONTRACT [N/A]

[NOT APPLICABLE]

5. INDEFINITE QUANTITY CONTRACT [N/A]

[NOT APPLICABLE]

6. ORDERING [N/A]

[NOT APPLICABLE]

7. ORDER LIMITATIONS [N/A]

[NOT APPLICABLE]

8. AUDIT, AVAILABILITY, AND INSPECTION OF RECORDS- FTA

- (a) Authorized persons. The Contracting Officer and his or her representatives, including representatives of the Authority's governing jurisdictions and any other Federal, state, or local entity providing funding for this Contract and the U.S. Comptroller General shall have access and inspection rights described in this article.
- (b) Examination of costs. The Contractor shall maintain, and the Contracting Officer shall have the right to examine and audit, all records sufficiently to properly reflect all costs incurred or anticipated to be incurred directly or indirectly in performance of this Contract. This right of examination shall include inspection of the Contractor's facilities engaged in performing this Contract at all reasonable times.
- (c) Cost or pricing data. If the Contractor is required to submit cost or pricing data in connection with any pricing action relating to this Contract, the Contracting Officer shall have the right to examine and audit all of the Contractor's records related to: (1) any bid for this Contract, subcontract, or modification; (2) any clarifications of the bid; (3) pricing of this Contract, subcontract or modification; or (4) performance of this Contract, subcontract or modification.
- (d) Availability. The accounts, records and cost information required to be originated under this Contract, and together with all other accounts, records and cost information related to this Contract, shall be maintained and made available by the Contractor and subcontractor(s):
 - (1) At their offices at all reasonable times for inspection, audit, reproduction or such other purposes as the Contracting Officer or by anyone he or she authorizes may require or pursuant to any other provision of this Contract; and
 - (2) Except to the extent otherwise expressly set forth in this Contract, until three (3) years from the date of final payment under this Contract. If the Contract is completely or partially terminated, such records shall be maintained for a period of three (3) years from either the date of any resulting final settlement or the date of final payment, whichever is later. If a pricing adjustment is involved in any dispute or litigation related to this Contract, such records shall be maintained for a period equal to the later of three (3) years from the date of final payment or one (1) year following the final disposition of the dispute or litigation.
- (e) Subcontracts. The Contractor shall insert this article, in all subcontracts that exceed \$150,000.

9. AVAILABILITY OF FUNDS FOR THE NEXT FISCAL YEAR

Funds are not guaranteed for performance under this Contract beyond the current fiscal year that ends on June 30th. The Authority's obligation for performance of this Contract beyond that date is contingent upon the availability of funds from which payment for Contract purposes can be made. The Authority's legal liability for any payment cannot arise for performance under this Contract, until funds are made available to the Contracting Officer for performance and until he or she notifies the Contractor of the availability, in writing. Any option exercised by the Authority that will be performed, in whole or in part, in a subsequent fiscal year is subject to availability of funds in that year and will be governed by the terms of this article.

10. CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)

- (a) The work will be conducted under the Contracting Officer's general directions. Authority will be delegated to the Contracting Officer's Technical Representative (COTR) to take the following actions;
- (1) Act as the principal point of contact with the Contractor. The COTR will submit a copy of each item of incoming correspondence and a copy of any enclosures to the Contract Administrator;
 - (2) Approve in writing, the Contractor's progress schedule and submittals when required;
 - (3) Inspect the work for compliance with this Contract;
 - (4) Review and approve invoices and payment estimates. The COTR will forward invoices and receipts to accounting. The COTR will bring any significant discrepancies in, or disputes concerning, Contractor invoices or payments to the Contracting Officer's attention. In those cases requiring release of final retained percentages of payment, the COTR will make his or her recommendations to the Contracting Officer in writing;
 - (5) Coordinate correspondence with the Contract Administrator, if its importance significantly impacts the Contractual terms and conditions;
 - (6) Evaluate the Contractor's technical letters and proposals for the Contracting Officer;
 - (7) Advise the Contracting Officer of potential problems that may affect Contract performance;
 - (8) Advise DBE Office, if DBE, SBE, or SBLPP issue(s) appear that may require investigation.
 - (9) Advise the Contracting Officer whenever the COTR has reason to believe that the Contractual not-to-exceed amount will be exceeded;
 - (10) Prepare the Authority's estimate for proposed Contract modifications. Participate in negotiations for modifications;

- (11) Approve, in writing, the Contractor's progress schedule when required.
 - (12) Receive from the Contractor, monthly, if applicable, DBE status reports and forward them to the DBE Office;
 - (13) Receive from the Contractor certified payroll reports and prepare a log sheet indicating the following: (1) name of the Contractor and subcontractor; (2) the Contract number; (3) the certified payroll number (number for the payroll for the project starting with the number 1); (4) the time frame of the payroll period (i.e. 1/21/11-2/3/11); (5) the statement of compliance date (first page of the report); and (6) the date the report was received by WMATA;
 - (14) Maintain a comprehensive file/record of documents and correspondence concerning Contract activities and actions;
 - (15) Provide the Contract Administrator with a written notification after all supplies/services have been received with a statement that the COTR is not aware of any open issues that would preclude closeout of the Contract and that it is ready for closeout. The COTR will return the file, containing all records, correspondence, etc., to the Contract Administrator;
 - (16) Execute Standard Form 1420, which contains a detailed performance evaluation of the Contractor. If, there are one (1) or more categories in which the Contractor is deemed unsatisfactory, these evaluations must be provided to it for comment;
 - (17) Provide the Contract Administrator with a written request (and requisition) to exercise option(s) (if any) a minimum of ninety (90) days prior to the time established in this Contract for exercise of the option;
 - (18) The presence or absence of the COTR or his or her inspectors shall not relieve the Contractor from any requirements of this Contract.
 - (19) The COTR may not re-delegate or sub-delegate his or her authority to act on the Contracting Officer's behalf. If, for whatever reason the COTR is unable or unwilling to fulfill his or her responsibilities under this Contract, only the Contracting Officer can designate a new COTR.
- (b) The COTR's name and address will be provided after award.

CHAPTER II – TIME/DELAYS/LIQUIDATED DAMAGES

1. PERIOD OF PERFORMANCE

The period of performance is 125 calendar days commencing on the Notice to Proceed Date (NTP).

If WMATA elect to award Optional services (extended Warranty and Maintenance Service); the period of performance will be extended for two (2) additional years.

The Authority has the unilateral right to extend this Contract by exercising up to an additional two (2) years subjected to all terms and conditions stated herein.

The Authority may exercise the option(s) (if any) by written notice to the Contractor prior to commencement of the option period. The Contracting Officer shall give the Contractor a preliminary notice of its intent to exercise an option within a reasonable time before the Contract expires. The preliminary notice does not commit the Authority to exercise an option.

2. OPTIONS- EVALUATION **[N/A]**

[NOT APPLICABLE]

3. OPTIONS- EXERCISE **[N/A]**

[NOT APPLICABLE]

4. OPTION FOR INCREASED OR DECREASED QUANTITIES OF SUPPLIES **[N/A]**

[NOT APPLICABLE]

5. OPTIONS TO EXTEND SERVICES **[N/A]**

[NOT APPLICABLE]

6. OPTION TO EXTEND THE TERM OF THE CONTRACT **[N/A]**

[NOT APPLICABLE]

7. **OPTIONS EXERCISED OUT OF SEQUENCE [N/A]**

[NOT APPLICABLE]

8. **LIQUIDATED DAMAGES FOR DELAY**

- (a) *Time is of the essence to this Contract.* In the event of a delay under this Contract beyond the period of performance or beyond the period to which such time may be extended by the Contracting Officer, the Authority shall be paid damages for such delay. Since the amount of such damages and the loss to the Authority will be extremely difficult to ascertain, it is hereby expressly agreed that such damages will be liquidated and paid as follows:
- (b) The liquidated damages for each and every day (per day), of unexcused delay, the sum of ***two thousand nine hundred eighty-six dollars and 48/100*** (\$2,986.48) that is hereby agreed upon not as a penalty, but as liquidated damages.
- (c) The Authority shall have the right to deduct such liquidated damages from any monies due or which may become due to the Contractor under this Contract. If the amount that becomes due is less than liquidated damages due to the Authority, the Contractor shall pay the difference upon the Contracting Officer's demand.

9. EXTENSIONS OF TIME/FORCE MAJEURE

- (a) For purposes of this clause, the term “force majeure” shall mean an unforeseen event or circumstance, beyond the control of, and not occasioned by the fault or negligence of, the Contractor or the Authority, that gives rise to a delay in the progress of the Contract, including, without limitation, acts of God, acts of war or insurrection, unusually severe weather, fires, floods, strikes, freight embargoes or other events or circumstances of like nature.
- (b) Notwithstanding the provisions of the “Liquidated Damages” article of this Contract (if applicable), if the Contractor is delayed at any time during the performance of this Contract, by the Authority’s negligence or by a force majeure event, then the Contracting Officer shall extend the time for completion and/or the affected delivery date(s) in the following circumstances:
 - (1) The cause of the delay arises after the award of the Contract and neither was nor could have been anticipated by the Contractor by reasonable investigation before such award;
 - (2) The Contractor demonstrates to the Contracting Officer that the completion of the work and/or affected deliveries will be actually and necessarily delayed;
 - (3) The delay cannot be avoided or mitigated by the exercise of all reasonable precautions, efforts and measures available to the Contractor, whether before or after the cause of delay; and
 - (4) The Contractor makes a written request and provides other information to the Contracting Officer, as described below.
- (c) If the Contractor will be delayed at any time or for any period by two (2) or more of the above-mentioned causes, the Contractor shall not be entitled to a separate extension for each cause, but shall be entitled to only one (1) period of extension for the cumulative effects of the delay.
- (d) The Contracting Officer may rescind or shorten any extension previously granted, if he or she subsequently determines that any information that the Contractor provided in support of a request for an extension of time was erroneous, if, accurate information would have resulted in a denial of the request for an excusable delay. The Contracting Officer will not rescind or shorten any extension previously granted, if the Contractor acted in reliance upon it and if, in his or her judgment, such extension was based on information that the Contractor submitted in good faith, even if it is later determined to be erroneous.
- (e) The request for an extension of time shall be made within ten (10) days after the Contractor knows or should know of any cause for which it may claim an excusable delay. The Contractor’s request shall contain any potential basis for an extension of time, describing, as fully as possible, the nature and projected duration of the delay and its effect on the completion of the work identified in the request. Within thirty (30) days after his or her receipt of all such information, the Contracting Officer shall advise the Contractor of his or her decision on such requested extension. Where it is not reasonably practicable for the Contracting Officer to render his or her decision in the thirty (30) day period, he or she shall, prior to the expiration of such period, advise the Contractor that he or she will require additional time and state the approximate date upon which he or she expects to render a decision.

- (f) In no event shall a delay in performance of the Contract occasioned solely by a force majeure event or the acts or omissions of any party outside of the Contractor's control be the basis for a termination for default pursuant to this Contract. In no event shall a subcontractor at any tier be deemed a party outside of the Contractor's control.

10. THE AUTHORITY'S DELAY

- (a) If the performance of all or any part of this Contract is delayed in a material manner or extent by the Authority's acts or omissions that are not expressly or impliedly authorized by this Contract or by applicable provisions of law, the Contracting Officer shall make an adjustment (excluding profit) for any increase in the cost of performance of this Contract caused by such delay and shall modify the Contract, in writing. The Contracting Officer shall make an adjustment to the delivery or performance dates and to any other Contractual provision, if such delay or interruption affected Contract compliance. The Contracting Officer shall make no adjustment under this Contract for any delay or interruption, if performance was or could have been delayed by any other cause, including, without limitation: (i) the fault or negligence of the Contractor or any subcontractor; (ii) an act constituting a force majeure event pursuant to this Contract; or (iii) any other cause for which an adjustment is provided under any other article of this Contract, at law or in equity.
- (b) An adjustment pursuant to paragraph (a) shall not be allowed:
- (1) For any costs incurred more than twenty (20) days before the Contractor notifies the Contracting Officer, in writing, of the delay.
 - (2) Unless the claim, in a sum certain, is asserted in writing as soon as practicable after the termination of the delay. In no event, shall a Contractor assert a delay claim later than thirty (30) days after its termination. The delay claim shall be accompanied by appropriate documentation, specifically supporting the nature and extent of the claimed impact upon the cost and/or time required for performance. In any instance where it is not possible for the Contractor to fully project such impact within the thirty (30) day period, it shall support the claim with such documentation as is then reasonably available, along with a statement of the anticipated time frame when the Contractor expects to provide the additional materials. The Contracting Officer shall maintain the right throughout the process to request such additional materials as he or she shall reasonably require in consideration of the claim and shall be under no obligation to conclude his or her consideration of the claim prior to review of all relevant materials. Any adjustment to the Contract price pursuant this article must be determined prior to final payment under this Contract.

11. NOTICE TO THE AUTHORITY OF LABOR DISPUTES

- (a) Whenever the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this Contract, the Contractor shall immediately give notice thereof, including all relevant information with respect thereto, to the Contracting Officer.
- (b) The Contractor agrees to insert the substance of this article, including this paragraph (b), in any subcontract hereunder if a labor dispute may delay the timely performance of this Contract.

12. NOTIFICATION OF BANKRUPTCY OR INSOLVENCY

In the event the Contractor becomes insolvent or files or has filed against it a petition in bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the Contract, written notification of such to the Contracting Officer. This notification shall be furnished as soon as possible, but in no event more than ten (10) days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of all WMATA Contract numbers for all WMATA contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract.

CHAPTER III – ACCEPTANCE/INSPECTIONS/DEFICIENCIES

1. INSPECTION OF SERVICES

- (a) The Contractor shall provide and maintain an inspection system acceptable to the Authority covering the services under this Contract. The Contractor shall maintain complete records of all inspection work it performs and make them available to the Authority during Contract performance in the manner and in accordance with the time periods set forth in the “Audit and Inspection of Records” article of this Contract.
- (b) The Authority has the right to inspect and test all services called for by this Contract, at all times and places reasonably practicable during the term of this Contract. The Authority shall perform inspection and tests in a manner that will not unduly delay the Contract.
- (c) If the Authority performs inspections or tests on the Contractor’s or subcontractor’s premises, the Contractor shall furnish, and shall require subcontractors to furnish, without cost, all reasonable facilities and assistance for the safe and convenient performance of such inspections or tests.
- (d) If any of the services performed do not conform to the Contract’s requirements, the Authority may require the Contractor to perform them again in conformity with the Contract’s requirements, without additional cost. When the defects in performance cannot reasonably be corrected by such further performance, the Authority may:
 - (1) Direct the Contractor to take necessary action to ensure that future performance conforms to this Contract’s requirements; and/or
 - (2) Reduce the Contract price to reflect the reduced value of the services performed.
- (e) If the Contractor fails to comply with the provisions of paragraph (d), the Authority may:
 - (1) By contract or otherwise, perform the services and charge to the Contractor any cost thereby incurred by the Authority; and/ or
 - (2) In the event that the Contracting Officer deems such failure to comply a material breach, terminate the Contract for default.
- (f) Nothing contained herein shall be deemed to preclude the Contracting Officer from reducing the Contract price due to the reduced value of nonconforming services to the Authority.

2. INSPECTION OF SUPPLIES

- (a) The Contractor shall provide and maintain an inspection system acceptable to the Authority covering supplies under this Contract and shall tender to the Authority for acceptance only supplies that have been inspected in accordance with the inspection system and that the Contractor determines to be in conformity with this Contract's requirements. As part of the system, the Contractor shall prepare records evidencing the nature and result of all inspections. These records shall be made available to the Authority during the term of the Contract and thereafter in accordance with the "Audit and Inspection of Records" article of this Contract. The Authority may perform reviews and evaluations as reasonably necessary to ascertain compliance with this article. These reviews and evaluations shall be conducted in a manner that will not unduly delay the Contract. Reviews, whether exercised or not, do not relieve the Contractor of its obligations under this Contract.

- (b) The Authority has the right to inspect and test all supplies under this Contract, to the extent practicable, at all places and times, including during manufacturing, and before acceptance. The Authority shall perform inspections and tests in a manner that will not unduly delay the Contract. The Authority assumes no Contractual obligation to perform any inspection and/or test nor shall the Authority's failure to perform any inspection and/ or test relieve the Contractor of any obligation under this Contract.

- (c) If the Authority performs inspection(s) or test(s) on the Contractor's or subcontractor's premises, the Contractor shall furnish, and shall require subcontractors to furnish, without additional cost, all reasonable facilities and assistance for the safe and convenient performance of these inspections or tests.

- (d) When supplies are not ready at the time specified for inspection or testing, the Contracting Officer may charge to the Contractor for any additional associated costs. The Contracting Officer may also charge the Contractor for any additional costs of inspection or testing when prior rejection makes re-inspection or retesting necessary.

3. ACCEPTANCE OF SUPPLIES

- (a) The Authority shall accept or reject tendered supplies as promptly as practicable after delivery, unless otherwise provided in this Contract. The Authority's failure to inspect and/or accept or reject the supplies shall not relieve the Contractor from responsibility, nor impose liability upon the Authority, for nonconforming supplies.
- (b) The Authority's acceptance shall be deemed conclusive, except for latent defects, fraud, willful misconduct, gross mistakes amounting to fraud or as otherwise provided in this Contract. In such instances, the Authority, in addition to any other rights and remedies it has under this Contract, at law or in equity, shall have the right:
 - (1) To direct the Contractor, at no increase in Contract price, to correct or replace the defective or nonconforming supplies at the original point of delivery or, if the Contracting Officer determines, at the Contractor's facility, in accordance with a reasonable delivery schedule as may be agreed upon between the parties. The Contracting Officer may reduce the Contract price, if the Contractor fails to meet such delivery schedule; or
 - (1) Within a reasonable time after the Contractor's receipt of a Notice of Defects or Nonconformance, the Contracting Officer may reduce the Contract price, as is equitable under the circumstances, if he or she elects not to require correction or replacement. When supplies are returned to the Contractor, the Contractor shall bear the costs of transportation.

4. NEW MATERIAL [SUPPLIES]

Unless this Contract specifies otherwise, the Contractor represents that any supplies and components to be provided under this Contract are new (not used or reconditioned, and not of such age or so deteriorated as to impair their usefulness or safety). If at any time during the performance of this Contract, the Contractor believes that furnishing supplies or components that are not new is in the Authority's best interests, the Contractor shall notify the Contracting Officer immediately in writing.

The Contractor's notice shall include the reasons for the request, along with any proposed price reduction, that the Authority may take if the Contracting Officer agrees to authorize such supplies or components. The Contracting Officer's authorization to use such supplies or components shall be final and binding and not subject to further review pursuant to the "Disputes" article of this Contract or otherwise.

5. WARRANTY OF SUPPLIES

- (a) All workmanship, parts and materials furnished for this Contract shall be unconditionally warranted against failures or defects for a period of one (1) year after the Authority accepts them or places them in service, whichever is earlier. The Contractor shall accept the Authority's records regarding the date the item was placed in service.
- (b) In the event that any work covered by the warranty provisions fails during the warranty period, the Contractor shall repair or replace the work within three (3) days without cost or expense to the Authority.
- (c) Should the Contractor shall fail to repair or replace any part or do any work in accordance with the terms of this warranty, or if immediate replacement or work is necessary to maintain operations, the Authority shall have the right to cause such replacement to be made, utilizing its own forces and/or those of third parties as the Authority shall reasonably deem appropriate, at the Contractor's expense.
- (d) Each piece of equipment, component or part thereof that the Contractor replaces, repairs, adjusts or services in any manner under the terms of this warranty during the warranty period shall be reported to the Contracting Officer on the Authority's forms. Each report shall indicate in detail all repairs, adjustments and servicing to each and every component, unit or part thereof.
- (e) Any warranty work shall be accomplished with minimum disruption to the Authority's operations and to its maintenance and service facilities. The Authority shall at its sole discretion determine the availability of facilities for warranty work.
- (f) The Contractor shall make adequate service facilities available, along with spare parts, for all the items under warranty. Trained technical service personnel shall be available to the Authority sufficient to meet the Contractor's warranty obligations.
 - (1) The Contractor shall provide field service representatives who are competent and fully qualified in the maintenance and operation of the warranted items. These field service representatives shall assist the Authority in overcoming any difficulties in the operation or maintenance of the warranted items. They shall further serve as the Contractor's on-site representatives for any component failure claims or warranty claims under this Contract.
 - (2) During the warranty period, a field service representative shall be available within twenty four (24) hours.
- (g) The Authority's rights set forth in this article shall be in addition to those set forth elsewhere in this Contract or otherwise at law or in equity.

6. WARRANTY OF SERVICES

(a) Definitions.

“Acceptance,” as used in this clause, means the act(s) of WMATA’s authorized representative by which WMATA approves specific services, in partial or complete performance of the Contract.

(b) Notwithstanding inspection and acceptance by WMATA or any provision concerning the conclusiveness thereof, the Contractor warrants that all services performed under this contract will, at the time of acceptance, be free from defects in workmanship and conform to the requirements of this contract. The Contracting Officer shall give written notice of any defect or nonconformance to the Contractor within thirty (30) days from the date of acceptance by WMATA. This notice shall state either --

(1) That the Contractor shall correct or re-perform any defective or nonconforming services; or

(2) That WMATA does not require correction or re-performance.

(c) If the Contractor is required to correct or re-perform, it shall be at no cost to WMATA, and any services corrected or re-performed by the Contractor shall be subject to this clause to the same extent as work initially performed. If the Contractor fails or refuses to correct or re-perform, the Contracting Officer may, by contract or otherwise, correct or replace the services with similar services and charge the Contractor with the cost, or make an equitable adjustment to the Contract price.

(d) If WMATA does not require correction or re-performance, the Contracting Officer shall make an equitable adjustment to the Contract price.

7. CORRECTION OF DEFICIENCIES

(a) The Contractor must replace materials or correct workmanship not conforming to the Contract’s requirements at no additional cost to WMATA. In addition, the Contractor is subject to any liquidated damages specified in this Contract or actual damages incurred by WMATA. If the Contractor fails to correct deficiencies, the Contracting Officer, may take specific action as follows:

(1) Replace or correct the item or work at the Contractor’s expense. This may be accomplished by award of a new contract or by use of WMATA’s own resources.

(2) Accept the items with a reduction in price. This action will be accomplished by formal modification to this Contract. The reduced price will be based upon the reasonable value of the item, considering the possible cost of correcting the item.

(2) Terminate this Contract for default. If the item or work must be re-procured, the Contractor is normally liable for excess costs incurred by WMATA in accordance with the “Termination for Default” article of this Contract.

8. FIRST ARTICLE INSPECTION

- (a) The Contractor shall deliver one (1) unit to the Authority for first article (pre-production) tests. The shipping documentation shall contain this Contract number and the lot/item identification number. The characteristics for the first article inspection and its testing requirements are stated in the technical specifications/Scope of Work.
- (b) Within ten (10) days after the Authority receives the first article, the Contracting Officer shall notify the Contractor, in writing, of the conditional approval, approval, or disapproval of the first article. The notice of conditional approval or approval shall not relieve the Contractor from complying with all requirements of the specifications and all other terms and conditions of this Contract. A notice of conditional approval shall state any further action required of the Contractor. A notice of disapproval shall cite the reasons for the disapproval.
- (c) If the first article is disapproved, the Contractor, upon the Authority's request, shall submit an additional first article for testing. After each request, the Contractor shall make any necessary modifications, or repairs to the first article or select another first article for testing. The Contractor shall pay for all costs related to these tests. The Contractor shall furnish any additional first article under this Contract within the time specified by the Authority. The Contracting Officer may make an equitable adjustment to the Contract for any schedule extension related to these tests, at no cost to the Authority.
- (d) Unless otherwise provided in the Contract, the Contractor:
 - (1) May deliver the approved first article as a part of the Contract quantity, if it meets all of the Contract's requirements for acceptance and was not damaged or impaired in testing; and
 - (2) Shall remove and dispose of any first article from the Authority's test facility at the Contractor's expense.
- (e) The Contractor is responsible for providing operating and maintenance instructions, spare parts support, and repairs to the first article during any first article test.
- (f) The Authority will inspect the first article in accordance with the Contract's requirements. A written report will be forwarded to the Contractor in accordance with (b) above.

9. F.O.B. DESTINATION

- (a) Unless otherwise specified, the Contractor shall furnish all supplies to be delivered under this Contract "F.O.B. Destination". As used herein, "F.O.B. Destination" means:
- (1) Free of expense to WMATA on board the carrier's conveyance, at a specified delivery point where WMATA's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and
 - (2) Supplies shall be delivered to WMATA's warehouse unloading platform, or receiving dock, at the Contractor's expense. WMATA shall not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery of the supplies to the destination, unless such charges are caused by WMATA's acts or omissions, acting in its Contractual capacity. If the Contractor uses a rail carrier or freight forwarder for less than full carload shipments, the Contractor shall assure that the carrier will furnish tailgate delivery, if transfer to truck is required to complete delivery to WMATA.
- (b) The Contractor shall:
- (1) Pack and mark the shipment to comply with this Contract's specifications;
 - (2) In the absence of specifications, prepare the shipment in conformance with carrier requirements;
 - (3) Prepare and distribute commercial bills of lading;
 - (4) Deliver the shipment in good order and condition to the delivery point specified in the Contract;
 - (5) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by WMATA at the delivery point specified in the Contract;
 - (6) Furnish a delivery schedule and designate the mode of delivering carrier; and
 - (7) Pay and bear all charges to the specified point of delivery.

10. QUALITY ASSURANCE/QUALITY CONTROL

The Contractor shall be responsible for quality assurance and for assuring that the work conforms to the requirements of this Contract. The Contractor shall maintain an effective and economical quality control program planned and developed in conjunction with other Contractor functions necessary to satisfy this Contract's requirements. The quality control program shall establish and implement procedures to ensure that only acceptable supplies or services are tendered to the Authority for acceptance, and shall demonstrate both recognition of the Contract's quality requirements and an organized approach to satisfying them. The program shall ensure that quality requirements are satisfied throughout all phases of Contract performance, including, as applicable, design development, purchasing, fabrication, processing, assembly, inspection, testing, packaging, delivery, and storage and shall provide for the early detection of actual or potential deficiencies, trends, or conditions that could result in unsatisfactory quality.

CHAPTER IV—CHANGES/ PRICING ADJUSTMENTS

1. CHANGE ORDERS

- (a) The Contracting Officer may at any time, by a written order, and without notice to the sureties, if any, direct and implement change orders, within the general scope of this Contract, including but not limited to one or more of the following:
- (1) Nature and/or extent of services to be performed or supplies to be furnished;
 - (2) Time of performance (i.e., hours of the day, days of the week, etc.); or
 - (3) Place of performance of the services or delivery of the supplies.
- (b) If, in the Contracting Officer's judgment, any change causes an increase or decrease in the cost of, or the time required for, the performance of any part of this Contract, whether or not directly changed by the order, he or she shall make an equitable adjustment to the Contract price, the delivery schedule, or both, and shall modify the Contract, in writing, accordingly.
- (c) In any instance where the Contractor asserts a right to an adjustment in the Contract price or time required for performance as the result of a change, it must submit a written claim advising the Authority within thirty (30) days from the date of receipt of the written order directing the change. The claim shall be accompanied by appropriate documentation, supporting the nature and extent of the claimed impact upon the Contract price and/or time required for performance. In any instance where it is not reasonably practicable fully project such impact within the thirty (30) day period, the Contractor shall accompany its claim with such supporting documentation as is then reasonably available as along with a statement of the anticipated time frame when the Contractor expects to provide the additional materials. The Contracting Officer shall maintain the right throughout the process to request such additional materials as he or she shall reasonably require in consideration of the claim and shall be under no obligation to conclude his or her consideration of the claim prior to review of all relevant materials. Any adjustment to the Contract price pursuant to this article must be agreed upon or otherwise determined prior to final payment.
- (d) If the Contractor's proposed price adjustment includes the cost of property rendered obsolete or excess by the change, the Contracting Officer shall have the right to prescribe the manner of property disposition.
- (e) Disagreement regarding either party's right to any adjustment in price or time for performance as the result of a change implemented pursuant to this article shall be subject to adjudication in accordance with the "Disputes" article of this Contract. Notwithstanding the pendency of any such dispute, the Contractor expressly acknowledges that it shall remain fully obligated to perform the Contract as so changed.

- (f) The Contractor shall promptly notify the Contracting Officer of matters, whether implemented as change orders or otherwise, that the Contractor believes may reasonably result in either an increase or decrease in the Contract price or the time required for performance of any part of the Contract and shall take action as the Contracting Officer directs. The Contractor's failure to provide such notification shall constitute a waiver of its right to seek an adjustment in the Contract price or time required for such performance.
- (g) In no event shall the Contractor be entitled to payment for change orders, additional or extra supplies or services or other modifications to this Contract, unless the Contracting Officer authorizes, it in writing.

2. PRICING OF ADJUSTMENTS

- (a) The parties agree that, notwithstanding any interpretation of contract cost principles to the contrary, the Authority will not be liable for interest, however represented, on or as a part of any claim, request, proposal or adjustment, including equitable adjustments, whether it arises under the Contract or otherwise.
- (b) As part of its proposal for any Contract modification requiring a price adjustment in excess of \$150,000, the Contractor shall submit to the Contracting Officer, cost or pricing data under the conditions described in this paragraph and certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete and current as of the date submitted. At the Contracting Officer's discretion, the Contractor, may be required to submit cost or pricing data for price adjustments less than \$150,000.
- (c) The Contractor shall ensure that this article is included in all subcontracts at any tier, if the value of the subcontracted work exceeds \$150,000.

3. ACCOUNTING AND RECORD KEEPING FOR ADJUSTMENTS

- (a) *Applicability.* This article shall apply to any adjustment in the Contract price initiated by the Contractor or the Authority.
- (b) *Forward Price Adjustments.* Unless waived in writing, the Contractor shall furnish to the Contracting Officer, a proposed price adjustment in advance of performance of any work for which the price adjustment is requested. The Contractor shall generate such records as are necessary to substantiate all elements of the proposed adjustment, which records shall be specifically segregated and identified in the Contractor's accounting system as being applicable to the pricing adjustment request.

- (c) *Post Price Adjustments.* This paragraph shall be applicable to price adjustments that either (i) are expected to exceed \$50,000; or (ii) arise in connection with a Contract with a base sum in excess of \$1,000,000. In addition to the records required pursuant to paragraph (b) above, if pricing of an adjustment under this Contract is not agreed upon between the parties prior to the commencement of work for which the pricing adjustment is requested, the Contractor and any subcontractor engaged in work for which the pricing adjustment is requested, shall maintain accounts and original cost records specifically segregated and identified by job order or other appropriate accounting categories that the Contracting Officer approves for all incurred, segregable costs related to the work for which the pricing adjustment is requested. The Contractor shall maintain accounts and records that segregate and account for the costs of all work associated with that part of the Contract for which the pricing adjustment is requested. The Contractor shall allocate the costs so accumulated between: (1) work required under the base Contract; (2) work requested to be reimbursed under the pricing adjustment; and (3) work claimed or determined to be related to other actual or proposed adjustments, including but not limited to, changes orders, differing site conditions, and the like. The accounts and records so established shall accumulate such costs under logical costs groups, such as material, labor, equipment, subcontracts, field overhead and the like. The Contractor shall record these costs on a form approved by the Contracting Officer.
- (e) *Access to Records.* As a condition to the Authority's obligation to consider any claim for a potential price adjustment under any provision of this Contract, the Contractor shall grant the Authority access to review and ascertain the validity of the accounting records being maintained for segregation of costs, including base cost records, and to audit any such costs as the Contracting Officer deems appropriate.
- (f) *Limitation on Price Adjustments.* If the Contractor or any subcontractor fails to generate, maintain, or make available any records required under this Contract, in addition to any rights to which the Authority may be entitled, the Contracting Officer shall determine whether such failure is willful, deliberate or otherwise precipitated by the Contractor's bad faith, in which case the Contractor shall not be entitled to any price adjustment for the work in question. Where the Contracting Officer determines that the failure was not the result of the Contractor's bad faith, he or she shall determine the reasonable direct costs of the work for which records are not available, and add a single mark-up for indirect expenses not to exceed ten percent (10%) of the direct costs based on:
- (1) An audit of the Contractor's or subcontractor's records made available to the Authority; and/or
 - (2) The Authority's estimate as the Contracting Officer adopts or modifies
- (g) In no event shall the Contractor and/or subcontractor be allowed any profit on claimed work for which records are not made available in accordance with its obligations under this Contract.
- (h) *Flow-down clause.* The Contractor shall ensure the inclusion of this article in all subcontracts issued under this Contract, modified as necessary, for proper identification of the contracting parties and the Contracting Officer.

CHAPTER V – INVOICES/PAYMENTS/ DEDUCTIONS

1. BILLING AND PAYMENT

(a) The Authority shall pay and the Contractor shall accept the amounts set forth in the Price Schedule as full compensation for all costs and expenses of completing the this Contract, including, but not limited to, all labor and material required to be furnished under this Contract, all overhead, expenses, fees and profits including the cost of providing storage yards or facilities; all risks and obligations set forth in this Contract; any applicable fees or taxes; and all expenses due to any unforeseen difficulties encountered in the prosecution of the work.

(b) Payments will be made following acceptance of the services or supplies to be provided under this Contract and after receipt and acceptance of a properly completed invoice. All invoices shall be sent directly to the Contracting Officer's Technical Representation (COTR); unless specified otherwise.

Invoices shall be prepared and submitted in duplicate, sequentially numbered and contain the date, contract order number, Item, description, quantity, unit prices, date of delivery, delivery location, DBE report and extended totals.

WMATA will accept the submittal of invoices in one of the following methods:

- (1) Email: Invoices may be submitted through email at: apinvoice@wmata.com. Please submit one (1) invoice and supporting documentation per PDF attachment. You may submit more than one PDF attachment per email.
- (2) Fax: Invoices may be submitted via the following number: 1-866-534-9063. Please submit one (1) invoice and all supporting documentation for this invoice per fax.
- (3) Regular Mail: Invoices may be submitted via U.S. Postal Service to the following address:

WMATA-Accounts Payable
PO Box 1910
Beltsville, MD 20704-1910

Note: This address is only for vendor invoices. Correspondence should not be sent to this address.

(c) Invoices shall contain the vendor's name, a unique invoice number for each shipment or service, invoice date, payment terms, total invoice amount, "remit to" address, purchase order number, freight terms, description of each item being invoiced, quantity, unit item cost, extended cost by item, total freight/handling costs, and contact name and email address. Final invoices must clearly be marked "Final" and cite the amount of this Contract, amount previously paid, and the balance due.

(d) The Authority shall remit payment, generally within thirty (30) days of its receipt and acceptance of an invoice satisfying the requirements of paragraphs (b) and (c), at the prices stipulated in the Contract for supplies delivered and accepted or services rendered and accepted, less any applicable deductions.

2. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA – MODIFICATIONS

If the Contracting Officer determines that any price, including profit or fee, previously negotiated in connection with any modification to this Contract involving changes in cost plus applicable profit in excess of \$150,000 was based upon the Contractor's or subcontractor's cost or pricing data that was not complete, accurate or current, such that the amount the Authority paid to the Contractor for such price adjustment was greater than the Contractor would have been entitled to, based upon accurate and complete data, the Authority shall be entitled to an adjustment in an amount equal to such overpayment. The Authority's rights hereunder shall be in addition to any other rights it may have under this Contract, at law or in equity.

3. SUBCONTRACTOR PAYMENTS

- (a) The Contractor shall, under this Contract, establish procedures to ensure timely payment of amounts due pursuant to the terms of its subcontracts. The Contractor shall pay each subcontractor for satisfactory performance of its contract, or any billable portion thereof, no later than ten (10) days from the date of the Contractor's receipt of payment from the Authority for work by that subcontractor. The Contractor shall also release, any retention withheld from the subcontractor within ten (10) days of satisfactory completion of all work required by that subcontractor.
- (b) The Contractor shall certify on each payment request to the Authority that payment has been or will be made to all subcontractors in accordance with paragraph (a) above. The Contractor shall notify the Contracting Officer with each payment request, of any situation where scheduled subcontractor payments have not been made.
- (c) In the event of a claim by any subcontractor that the Contractor has failed to comply with the terms of this article, the Contractor agrees to fully cooperate in any Authority investigation, and, if deemed appropriate by the Authority, to implement appropriate remedial measures to ensure future compliance.
- (d) The Contractor agrees that the Contracting Officer may provide information that he or she deems appropriate in response to inquiries from subcontractors seeking to determine the status of the Authority's payments to the Contractor.
- (e) Nothing contained in this article or elsewhere in this Contract shall create a Contractual relationship between the Authority and any subcontractor, shall make the subcontractor an intended beneficiary of this Contract or shall alter or affect traditional concepts of privity of contract.

4. GARNISHMENT OF PAYMENTS

Payments under this Contract shall be subject to any garnishment, attachment orders, and/or levies issued pursuant to the laws of the United States, Maryland, Virginia, and the District of Columbia.

CHAPTER VI – CONTRACT TERMINATION/STOP WORK ORDERS/DISPUTES

1. STOP WORK ORDERS

- (a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part of the work for a period of up to ninety (90) days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a “Stop Work Order” (“SWO”) issued under this article. Upon receipt of the SWO, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the SWO during the period of work stoppage. Within a period of ninety (90) days after an SWO is delivered to the Contractor, or within any extension of that period to which the parties agree, the Contracting Officer shall either:
 - (1) Cancel the SWO; or
 - (2) Terminate the work covered by the SWO as provided in this Contract, as appropriate.

- (b) If a SWO is cancelled or expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment to the delivery schedule or Contract price, or both, and shall modify the Contract in writing if, in his or her judgment:
 - (1) The SWO results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this Contract; and
 - (2) The Contractor submits a written claim for such adjustment within thirty (30) days after the end of the period of work stoppage. At the Contracting Officer's discretion, the Authority may act upon any claim submitted at any time before final payment under this Contract.

- (c) If an SWO is not cancelled and the work covered by the Contract is terminated for the convenience of the Authority, the Contracting Officer shall allow reasonable costs, if any, resulting from the SWO in arriving at the termination settlement pursuant this Contract.

2. TERMINATION FOR DEFAULT- FTA

- (a) The Contractor shall be in default if it commits a breach of any of its obligations under this Contract deemed material by the Contracting Officer. In addition to those instances specifically referred to in this Contract, the Contractor shall be in default in the following circumstances:
- (1) It fails to begin, or abandons, the work of the Contract in accordance with the contractual requirements;
 - (2) It fails to deliver the supplies or perform the services within the time specified in this Contract or any extension that the Contracting Officer approves;
 - (3) It fails to make progress in a manner that the Contracting Officer deems unreasonable so as to endanger performance of this Contract; or
 - (4) In the view of the Contracting Officer, the Contractor is willfully violating this Contract or is not executing it reasonably and in good faith.
- (b) In the event the Contractor's material breach pursuant to paragraph (a), the Contracting Officer is authorized to direct a written notice (a "Notice to Cure") to the Contractor, specifying the nature of the breach and stating that the Contractor has ten (10) days to cure the breach or such additional time as the Contracting Officer authorizes. If the Contractor fails to cure the breach in the time specified in the Notice to Cure, the Contracting Officer may terminate this Contract, in whole or designated part, for default after providing written notice to the Contractor.
- (c) Upon receipt of a "Notice of Default," the Contractor shall immediately cease performance of the work so terminated. The Authority shall have the right to take any action necessary to complete the work, including performing the work itself, or contracting with another party to do so. In the event the work is completed directly by the Authority or by a third party, the Contractor shall be liable for the additional costs and expenses necessary to complete the work, including, without limitation, labor, material costs, plant costs, tooling expenses, and equipment and property costs. The Authority may deduct the costs and expenses so charged and pay them out of any monies otherwise payable to the Contractor. Nothing contained herein shall be deemed to relieve the Contractor of its continuing obligation to perform any portion of this Contract that was not terminated.
- (d) The Contracting Officer may, at his or her sole discretion, waive a default by the Contractor, but such waiver shall not be deemed a waiver of any subsequent default.
- (e) Upon any termination for default, the Contracting Officer may require the Contractor to transfer title and deliver to the Authority, any completed or partially completed supplies, components (including data and intellectual property) and Contract rights that the Contractor has specifically produced or acquired for the terminated portion of this Contract. At the Contracting Officer's direction, the Contractor shall also protect and preserve property in its possession in which the Authority may have an interest.

- (f) Upon any termination for default, the Authority shall pay for supplies delivered and accepted and/or services rendered and accepted in accordance with the terms of this Contract. The Authority may also compensate the Contractor for actions that it reasonably takes at the Contracting Officer's direction for the protection and preservation of property. The Authority may withhold from these payments any sum that the Contracting Officer determines to be necessary to protect the Authority against loss because of outstanding or claimed liens, or pending or anticipated claims under the Contract.
- (g) If, at any time following the Authority's issuance of a termination for default hereunder, it is determined that the Contractor was not in default or that the default was excusable, the termination shall be converted to a termination for convenience and the rights and obligations of the parties shall be determined in accordance with the "Termination for Convenience" article of this Contract.
- (h) Any dispute or disagreement regarding any issue arising under this article shall be subject to adjudication in accordance with the "Disputes" article of this Contract. In no event shall the Authority's issuance of a "Notice to Cure" pursuant to paragraph (b) be the basis of a dispute pursuant to the "Disputes" article or otherwise be subject to further review under this Contract or otherwise. The pendency of any dispute shall not constitute a basis for the delay or suspension of, or otherwise affect the Authority's right to proceed in accordance with this article, including without limitation, its right to complete the work or its right to insist that the Contractor complete any portion of the Contract that was not terminated.
- (i) The Authority's rights and remedies in this article are in addition to any other rights and remedies provided under this Contract, at law or in equity.

3. TERMINATION FOR CONVENIENCE- FTA

- (a) The Contracting Officer may terminate this Contract in whole, or in part, if he or she determines that a termination is in the Authority's interest. The Contracting Officer shall terminate by delivering a "Notice of Termination" to the Contractor specifying the extent of termination and its effective date.
- (b) Upon receipt of a Notice of Termination, except as the Contracting Officer otherwise directs, the Contractor shall immediately:
 - (1) Stop work as specified in the Notice of Termination;
 - (2) Complete performance of the work not terminated;
 - (3) Place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete the remaining portion of the Contract;
 - (4) Terminate all subcontracts to the extent that they relate to the work terminated;

- (5) Assign to the Authority, as directed by the Contracting Officer, all of the Contractor's right(s), title, and interest(s) under the subcontracts terminated. The Authority shall have the right to settle or pay any termination costs arising out of the subcontracts and have no further liability to the Contractor for the work that was the subject of such subcontracts;
 - (6) With the Contracting Officer's approval, settle all outstanding liabilities and settlement costs arising from the termination of subcontracts;
 - (7) As the Contracting Officer directs, transfer title and deliver to the Authority:
 - (i) Parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated; and
 - (ii) The completed or partially completed plans, drawings, information and other property that would have been required to be furnished to the Authority, if the Contract had been completed.
 - (8) Take any action that may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this Contract that is in the Contractor's possession and in which the Authority has or may acquire an interest;
 - (9) Use its best efforts to sell, as the Contracting Officer authorizes, any property of the types referred to in paragraph (b)(7). The Contractor is not required to extend credit to any purchaser and may acquire the property under the conditions that the Contracting Officer prescribes. The proceeds of any transfer or disposition will be applied to reduce payments to be made by the Authority under this Contract, credited to the price or cost of the work, or paid in any other manner that the Contracting Officer directs.
- (c) The Contractor shall submit complete termination inventory schedules not later than one hundred twenty (120) days from the effective date of termination, unless the Contracting Officer extends the time in writing.
 - (d) As soon as reasonably practicable, and not later than twenty (20) business days following the Authority's issuance of a "Notice of Termination" pursuant to paragraph (a), the Contractor shall submit a termination settlement proposal (TSP) to the Contracting Officer in the form that he or she prescribes, detailing the costs to which it asserts entitlement pursuant to this article. If the Contractor fails to submit the TSP within the time prescribed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due to the Contractor as a result of the termination and shall pay the amount so determined.
 - (e) Following submission of the Contractor's TSP pursuant to paragraph (d), the parties shall agree upon the whole, or any part, of the amount to be paid or remaining to be paid as a result of the termination. The amount may include a reasonable allowance for profit on work completed. In no event shall the total amount to be paid to the Contractor pursuant to this article exceed the total Contract price as reduced by (1) payments previously made and (2) the Contract price of the remaining work, not terminated.

- (f) If the parties disagree on the whole amount to be paid because of the termination, the Contracting Officer shall pay the Contractor the amounts that he or she determines as follows, but without duplication of any amounts agreed upon under paragraph (e):
- (1) The Contract price for completed supplies or services that the Authority accepted [or sold or acquired under paragraph (b)(9)] not previously paid for, adjusted for any saving of freight and other charges.
 - (2) The total of:
 - (i) The costs incurred prior to termination in the performance of the work terminated, including initial costs and preparatory expenses allocable thereto, but excluding any costs attributable to items compensated or to be paid for under subparagraph (f)(1);
 - (ii) Termination costs under terminated subcontracts that are properly chargeable to the terminated portion of this Contract, if not excluded in subparagraph (f)(2)(i); and
 - (iii) A sum, representing profit on the items described in subparagraph (f)(2)(i) that the Contracting Officer determines to be fair and reasonable pursuant to Section 49.202 of the Federal Acquisition Regulation (FAR), in effect on the date of this Contract. If it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, the Contracting Officer shall allow no profit under this subparagraph and shall reduce the settlement to reflect the projected rate of loss.
 - (3) The reasonable indirect costs of settlement of the work terminated, including:
 - (i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of TSP(s);
 - (ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and
 - (iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.
- (g) Except for normal spoilage, and except to the extent that the Authority expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (f), the fair value, as he or she determines of property that is unavailable or damaged and undeliverable to the Authority or to a third party.
- (h) The cost principles and procedures of FAR Part 31 in effect on the date of this Contract, shall govern all costs claimed, agreed to, or determined under this article, except that the Authority shall not be obligated to pay interest, however represented, on any claimed costs.

- (i) The Contractor shall have the right to appeal, under the "Disputes" article, from the Contracting Officer's determination under paragraphs (d) or (f). The Contractor's failure to submit the TSP within the time provided in paragraph (d), or to timely request an extension thereof, shall constitute a waiver of its right to appeal the Contracting Officer's determination pursuant to the "Disputes" article or any otherwise applicable Contractual, legal or equitable remedy.
- (j) In determining any sum due to the Contractor under this article, there shall be deducted:
 - (1) All unliquidated advances or other payments to the Contractor under the terminated portion of this Contract;
 - (2) The value, as the Contracting Officer, reasonably determines, of any claim that the Authority has against the Contractor under this Contract, including any third-party claim, if the Contracting Officer is not satisfied that sufficient insurance coverage is in place; and
 - (3) The agreed price for, or the proceeds of sale of, materials, supplies, or other items that the Contractor procured or sold under this article, not recovered by or credited to the Authority.
- (k) If the Contractor asserts that any partial termination has rendered enforcement of the remainder of this Contract at the remaining Contract price inequitable, the Contractor may file a proposal with the Contracting Officer for an adjustment to the price(s) for the continued portion of this Contract. Such proposal shall be submitted within ninety (90) days from the effective date of termination, unless the Contracting Officer extends it in writing, and shall be accompanied by appropriate supporting documentation.
- (l) The Contractor's responsibilities and obligations under this article shall remain in full force and effect notwithstanding the pendency of any dispute or other delay relating to determination of the appropriate price adjustment or any other issue arising from the termination for convenience.
- (m) Unless otherwise provided in this Contract or by statute, the Contractor and all subcontractors whose work is encompassed in the termination settlement shall maintain all records and documents relating to the terminated portion of this Contract for three (3) years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this Contract. The Contractor shall make these records and documents available to the Authority, its governing jurisdictions and any other Federal, state, or local entities providing funding for this Contract, and to the U.S. Comptroller General or the agents or representatives of any of them, at the Contractor's office, at all reasonable times, without any direct charge.

4. ASSIGNMENT- FTA

- (a) Except as otherwise provided in this article, the Contractor shall not transfer any of its rights and obligations under this Contract to third parties without the Contracting Officer's prior, written consent. The Contracting Officer may recognize a third party as successor in interest to this Contract in the event of a transfer of all or substantially all of the Contractor's assets, a change in a division of the Contractor involved in the performance of this Contract, or if a parent company provides performance guarantee(s) under this Contract, (i.e., sales of assets, transfer of assets pursuant to merger or consolidation, or incorporation of a proprietorship or partnership). Such recognition shall be at the Contracting Officer's discretion after review of the facts and circumstances surrounding each request. The Contracting Officer, at his or her discretion, may conduct an evaluation of the successor party's capability to perform this Contract in the same manner and to the same extent that he or she conducted a responsibility determination as part of the original solicitation for this Contract. Should the Contracting Officer, for any reason, not recognize such a successor in interest, he or she may terminate this Contract.
- (b) Any attempt to transfer by assignment that the Contracting Officer does not authorize shall constitute a material breach of this Contract and the Contracting Officer may terminate this Contract in accordance with the "Termination for Default" article set forth in this Contract.
- (c) Nothing contained herein shall be deemed to preclude the Contractor's assignment of claims for monies due or to be become due to it under this Contract to a bank, trust company or other financing institution, including any Federal lending agency, upon written notice of such assignment to the Contracting Officer.

5. DISPUTES- FTA

- (a) Any dispute concerning a question of fact arising under or related to this Contract that is not disposed of by agreement, shall be decided by the Contracting Officer, who shall reduce his/her decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The Contracting Officer's decision shall be final and conclusive unless, within thirty (30) calendar days from the date of its receipt, the Contractor mails or otherwise furnishes to the Contracting Officer, a written notice of appeal addressed to the Authority Board of Directors. Such notice must indicate that an appeal is intended and must reference the decision and Contract number. The decision of the Board of Directors or its duly authorized representative for the determination of such appeals shall be final and conclusive, unless in proceedings initiated by either party for review of such decision in a court or board of competent jurisdiction, it determines that the decision was fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In any appeal under this article, the appellant shall be afforded an opportunity to be heard and offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of this Contract in accordance with the Contracting Officer's decision. The Armed Services Board of Contract Appeals (ASBCA) is the Board of Directors' authorized representative for final decisions on an appeal.

- (b) This "Disputes" article does not preclude consideration of questions of law in connection with decisions provided for in paragraph (a) above. Nothing in the Contract, however, shall be construed as making final the decisions of the Board of Directors or its representative on questions of law.

6. EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS FOR CONSTRUCTION ACTIVITIES

When undertaking "construction" as recognized by the U.S. Department of Labor (U.S. DOL), the Contractor agrees to comply with U.S. DOL regulations "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Part 60, and Executive Order 11246 "Equal Employment Opportunity," as amended by Executive Order 11375, "Amending Executive Order 11246, Relating to Equal Employment Opportunity," 42 U.S.C. § 2000 (e) note.

CHAPTER VII – INDEMNIFICATION/INSURANCE/RISK OF LOSS

1. INDEMNIFICATION

- (a) Contractor shall indemnify, defend and hold harmless the Authority, its Board members, employees and agents, from all liabilities, obligations, damages, penalties, claims, costs, charges and expenses (including reasonable attorneys' fees), of whatsoever kind and nature for injury, including personal injury or death of any person or persons, and for loss or damage to any property, including the property of the Contractor and the Authority, occurring in connection with, or in any way arising out of the use, occupancy and performance of the work and/or any acts in connection with activities to be performed under this Contract, unless the loss or damage is due to the sole negligence of the Authority. Nothing in the preceding sentence shall be deemed to relieve Contractor from ultimate liability for any of its obligation under this Contract.
- (b) Contractor shall indemnify, defend and hold harmless the Authority, its Board members, employees and agents, against any and all claims, liabilities, losses, demands, damages, penalties, costs, charges, remedial costs, environmental claims, fees or other expenses including attorneys' fees, related to, arising from or attributable to any effluent or other hazardous waste, residue, contaminated soil or other similar material discharged from, removed from, or introduced on, about or under the job site. The foregoing indemnity does not apply to loss or damage due to preexisting conditions, whether known or unknown.
- (c) If any action or proceeding relating to this indemnification is brought against the Authority, then upon written notice from the Authority to the Contractor, the Contractor shall, at its own expense, resist or defend such action or proceeding by counsel approved by the Authority in writing. No approval of counsel shall be required where the cause of action is resisted or defended by counsel of any insurance carrier obligated to resist or defend the same. The Authority reserves the right to use its own counsel under this indemnity at Contractor's sole cost and expense.
- (d) Contractor understands and agrees to its responsibility to provide indemnification to the Authority pursuant to this clause. The provision of insurance, while anticipated to provide a funding source for this indemnification, is in addition to any indemnification requirements. The failure of Contractor's insurance to fully fund any indemnification shall not relieve the Contractor of any obligation hereunder.

2. INSURANCE REQUIREMENTS

If you do not currently carry all of the required insurance for this IFB, a current certificate of insurance (COI) evidencing the insurance you do carry and a letter from your insurance agent/broker stating that 'if our client (you) are awarded the contract, the required coverage will be provided' will suffice.

EXHIBIT A

Insurance Requirements

I. MINIMUM REQUIRED INSURANCE: MINIMUM LIMITS OF INSURANCE

INSURANCE TYPE	LIMITS	BASIS
Workers' Compensation Employers' Liability	Statutory	
	\$500,000	Each Accident
	\$500,000	Disease Policy Limit
	\$500,000	Disease Each Employee
Commercial General Liability	\$2,000,000	Each Occurrence Limit
	\$4,000,000	General Aggregate Limit
	\$2,000,000	Products-Completed Operations Limit
Business Auto Liability	\$2,000,000	Combined Single Limit
Railroad Protective Liability Insurance (RRP)		
	\$2,000,000	Each Occurrence Limit
	\$6,000,000	Aggregate Limit
Professional Liability	\$2,000,000	Each Claim

**II. MINIMUM REQUIRED INSURANCE:
MINIMUM INSURANCE COVERAGES AND COVERAGE PROVISIONS**

- 1) Contractor is required to maintain the prescribed insurance outlined in this Exhibit A during the entire period of performance under this contract. Notice to Proceed (NTP) will not be issued until all required insurance has been accepted by WMATA.
- 2) The prescribed insurance coverage and limits of insurance are minimum required coverages and limits. Contractor is encouraged, at its sole cost and expense, to purchase any additional insurance coverages and or limits of insurance that Contractor deems prudent and necessary to manage risk in the completion of this contract.
- 3) Upon written request from WMATA, contractor shall provide copies of any requested insurance policies, including applicable endorsements, within five (5) business days of such request.
- 4) Receipt, review or communications regarding certificates of insurance (COI), insurance policies, endorsements, or other materials utilized to document compliance with these Minimum Insurance Requirements does not constitute acceptance by WMATA.

- 5) Insurance companies must be acceptable to WMATA and must have an A. M. Best rating of at least A- VII.
- 6) Unless otherwise noted, "Claims Made" insurance policies are not acceptable.
- 7) Any insurance policy utilizing a Self-Insured Retention (SIR) requires written approval from WMATA.
- 8) Contractor must incorporate these Minimum Insurance Requirements into contract requirements of all subcontractors of every tier; however, Contractor, at its sole peril, may amend these Minimum Insurance Requirements for its subcontractors, but doing so does not relieve Contractor from its respective liability to WMATA.
- 9) Compliance with these Minimum Insurance Requirements does not relieve Contractor from Contractor's respective liability to WMATA, even if that liability exceeds the Minimum Insurance Requirements.

III. COVERAGE-SPECIFIC REQUIREMENTS

Commercial General Liability

- 1) Commercial General Liability (CGL) shall be written on ISO Occurrence Form CG0001 (12/04) or its equivalent. Equivalency determination shall be made in WMATA's sole and unreviewable discretion.
- 2) Required minimum limits of coverage may be achieved through a combination of the aforementioned CGL coverage form and an Umbrella/Excess Liability coverage form(s), provided that the Umbrella/Excess Liability coverage form(s) provides the same or broader coverage than the prescribed CGL coverage form.
- 3) Policy shall be endorsed with Additional Insured Endorsement(s) in compliance with the "Additional Insured" Section below.
- 4) Policy shall be endorsed with a Waiver of Subrogation Endorsement(s) in compliance with the "Waiver of Subrogation" section below.
- 5) The definition of "Insured Contract" shall be modified to provide coverage for contractual liability for any contracts involving construction or demolition operations that are within 50 feet of a railroad, and sidetrack agreements. Evidence of this modification shall be provided to WMATA along with all other required documents.
- 6) Defense Costs (Allocated Loss Adjustment Expense) must be included and outside of the policy limits for all primary liability and Umbrella/Excess Liability policies.

Business Auto Liability

- 1) Business Auto Liability insurance shall be written on ISO Business Auto Coverage Form CA 00 01 03 06, or its equivalent. Equivalency determination shall be made in WMATA's sole and unreviewable discretion.
- 2) Policy shall be endorsed with Additional Insured Endorsement(s) in compliance with the "Additional Insured" Section below.
- 3) Policy shall be endorsed with a Waiver of Subrogation Endorsement(s) in compliance with the Waiver of Subrogation" section below.
- 4) Business Auto Liability minimum Combined Single Limit requirements may be obtained through the combination of a primary business auto liability policy and an Umbrella/Excess Liability policy provided that the Umbrella/Excess Liability policy complies with items 2 and 3 above.
- 5) MCS-90 Endorsement for work involving the transportation or disposal of any hazardous material or waste off of the jobsite.

If the MCS-90 Endorsement is required, minimum auto liability limits of \$5,000,000 per occurrence are also required as is form CA 99 48, broadened coverage for pollution liability.

- 6) Non-Owned Disposal Site (NODS) Endorsement providing coverage for the Contractor's legal liability arising out of pollution conditions at the designated non-owned disposal site.

Railroad Protective Liability

Railroad Protective Liability Insurance is required for any work within 50 feet of WMATA railroad tracks or work within WMATA rail stations.

- 1) The Railroad Protective Liability (RRP) policy must be on a policy form and with an insurance company that is acceptable to WMATA.
- 2) WMATA shall be the Named Insured.
- 3) The original RRP policy shall be sent to WMATA at following address:

Washington Metropolitan Area Transit Authority
Office of Insurance, Room 8F
600 Fifth Street, NW
Washington, DC 20001

WMATA Blanket RRP Program Option

WMATA may offer to waive the requirement for the Contractor to procure RRP if

- 1) the work qualifies for coverage under WMATA's blanket RRP program, and
- 2) the Contractor prepays the RRP premium which shall be determined by the rate schedule promulgated by the insurer in effect as of the effective date of this Contract.

Professional Liability Insurance

WMATA may require professional liability insurance (Errors and Omissions) for the work of Permittee or its subcontractors for certain types of consulting services.

IV. OTHER

Additional Insured

- 1) Contractor and subcontractors of every tier are required to add WMATA and WMATA Board of Directors as additional insured on all required insurance including excess liability policies, with the exception of Workers' Compensation and Professional Liability.
- 2) Coverage provided to Additional Insured shall be primary and non-contributory to any other insurance available to the Additional Insured, including coverage afforded to the WMATA as an additional insured by subcontractors, and from other third parties.
- 3) Coverage provided to any Additional Insured shall be for claims arising out of both ongoing operations and products and completed operations hazard.
- 4) Coverage available to any Additional Insured under the products and completed operations hazard can only be limited to the applicable statute of repose in the jurisdiction(s) where the contract scope of work takes place.
- 5) Commercial General Liability and Umbrella/Excess Liability forms must provide defense coverage for additional insureds. The Additional Insured Endorsement shall provide coverage for Ongoing as well as Products and Completed Operations with no limitation on when claims can be made.

Waiver of Subrogation

Contractor and subcontractors of every tier are required to have all insurance policies except Professional Liability endorsed to waive the respective insurance company's rights of recovery against WMATA, and the WMATA Board of Directors.

- 1) Waiver shall be provided on an endorsement that is acceptable to WMATA.

Certificate of Insurance (COI)

Contractor shall provide WMATA an ACORD Certificate of Insurance (COI) and copies of all required endorsements as evidence that the insurance requirements of this Section have been satisfied. Certificates of Insurance shall be sent to WMATA.

The Certificate Holder box should read:

Washington Metropolitan Area Transit Authority
Office of Insurance, Room 8F
600 Fifth Street, NW
Washington, DC 20001

Additionally:

- 1) Proposed material modifications to required insurance, including notice of cancellation, must be received by WMATA in writing at least 30 days prior to the effective date of such change or cancellation.
- 2) WMATA's receipt of copies of any COI, policy endorsements or policies does not relieve Contractor of the obligation to remain in compliance with the requirements of this Section at all times. Contractor's failure to comply with these insurance requirements shall constitute a material breach of this Contract.
- 3) Receipt of the COI does not constitute acceptance of the insurance outlined above.

3. TITLE AND RISK OF LOSS

- (a) Unless this Contract specifically provides for earlier passage of title to deliverables (including documents, reports, and data) or other items resulting from this Contract, title shall pass to the Authority upon acceptance, regardless of when or where the Authority takes physical possession. Risk of loss, theft, destruction of, or damage to, such deliverables or other items remains with the Contractor, until the transfer of title or at the time when the Authority takes physical possession, whichever is later.
- (b) In the event of loss or damage to any deliverable or other item of work, prior to the time when the Authority takes physical possession, the Contractor agrees to repair or replace it as soon as reasonably possible to restore the item to the same condition that pre-existed the loss or damage, in accordance with all requirements of this Contract, without cost to the Authority. Nothing contained herein shall be deemed to require the Contractor's repair or replacement of any loss or damage caused solely by the Authority's acts or omissions.
- (c) The following clause applies, if and when the Contractor performs work on its own property.
 - (1) WMATA retains title to all WMATA-furnished property, including, but not limited to spares and property furnished for repair, maintenance, overhaul, or modification. WMATA furnished property shall not become a fixture, or lose its identity as personal property by being attached to any real property. The Contractor shall use WMATA's property, furnished under this Contract, only for performing this Contract, unless the Contracting Officer approves otherwise. Modifications or alterations of WMATA property are prohibited, unless they are (i) Reasonable and necessary due to the technical specifications for this Contract; (ii) Required for normal maintenance; or (iii) Otherwise authorized by the Contracting Officer. Risk of loss is on the Contractor for WMATA-furnished property, i.e. the Contractor is liable for loss, theft, damage or destruction to WMATA property while it is in the Contractor's possession or control. The Contractor shall take all reasonable actions necessary to protect WMATA's property from loss, theft, damage or destruction. The Contractor shall do nothing to prejudice WMATA's rights to recover against third parties for any loss, theft, damage or destruction to WMATA's property.

4. TRANSIT EMPLOYEE PROTECTIVE ARRANGEMENTS – FTA

[NOT APPLICABLE]

5. VETERANS PREFERENCE- FTA

A veterans preference, as provided by 49 U.S.C. §5325(k), to the extent practical, (1) Will give a hiring preference to veterans, as defined in 5 U.S.C. §2108, who have the skills and abilities required to perform construction work required under a third party contract in connection with a Capital Project supported with Federal assistance appropriated or made available for 49 U.S.C. chapter 53, and (2) Will not require an employer to give a preference to any veteran over an equally qualified applicant who is a member of any racial or ethnic minority, female, and individual with a disability, or former employee.

6. INAPPLICABILITY OF CLAUSES REQUIRING UNAUTHORIZED OBLIGATIONS

- (a) Except where the Chief Procurement Officer specifically agrees in writing, when any supply or service acquired under this Contract is subject to any End User License Agreement (EULA), Terms of Service (TOS), Master Agreement, Terms and Conditions or similar legal instrument or agreement, that includes any clause requiring WMATA to indemnify the Contractor or any person or entity for damages, costs, fees, or any other loss or liability or that would create an unauthorized obligation, the following shall govern:
- (i) Any such clause is unenforceable against WMATA.
 - (ii) Neither WMATA nor any authorized end user shall be deemed to have agreed to such clause by virtue of it appearing in the EULA, TOS, or similar legal instrument or agreement. If the EULA, TOS, or similar legal instrument or agreement is invoked through an "I agree" click box or other comparable mechanism (e.g., "click-wrap" or "browse-wrap" agreements), execution does not bind WMATA or any WMATA authorized end user to such clause.
 - (iii) Any such clause is deemed to be stricken from the EULA, TOS, or similar legal instrument or agreement.
- (b) When any supply or service acquired under this Contract is subject to any End Use License Agreement (EULA), Terms of Service (TOS), or similar legal instrument or agreement, any clause requiring WMATA to pay pre-judgment interest, taxes to which it is exempt, or automatic fines is void and without effect.

CHAPTER VIII – INTELLECTUAL PROPERTY RIGHTS

1. PATENT INDEMNITY

The Contractor shall indemnify the Authority and its Board members, agents and employees against liability, including costs, for infringement of any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. § 181) arising out of the manufacture or delivery of supplies, the performance of services, or the construction, alteration, modification, or repair of real property under this Contract. If the Contractor is not the original equipment manufacturer (OEM) for a manufactured product purchased under this Contract, it will ensure that the patent holder provides indemnity to WMATA under this article. This indemnity shall not apply unless the Contractor is informed as soon as practicable by the Authority of the suit or action alleging such infringement, and is given such opportunity as is afforded by applicable laws, rules, or regulations to participate in the defense thereof. Such indemnity shall not apply to:

- (1) An infringement resulting from compliance with the Contracting Officer's specific written instructions directing a change in the supplies to be delivered or in the materials or equipment to be used, or directing a manner or performance of the Contract not normally used by the Contractor;
- (2) An infringement resulting from addition to, or change in, such supplies or components furnished or construction work performed that was made subsequent to delivery or performance by the Contractor; or
- (3) A claimed infringement that is unreasonably settled without the Contractor's consent, unless required by final decree of a court of competent jurisdiction.

2. SET-OFF

The Authority has common law, equitable and statutory rights to set-off. These rights shall include, but are not limited to, the Authority's right to set-off any monies due to the Contractor under this Contract, by any amounts due and owing to the Authority with regard to, any Contract with the Authority, plus any amounts due and owing to the Authority for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The Authority shall exercise its set-off rights in accordance with applicable law and practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the Authority, its representatives, or the Federal Government.

3. RIGHTS IN TECHNICAL DATA – LIMITED [N/A]

[NOT APPLICABLE]

4. RIGHTS IN TECHNICAL DATA – UNLIMITED

- (a) The term technical data as used in this article means technical writings, computer software, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of a technical nature, whether or not copyrighted, that are specified to be delivered pursuant to this Contract.

The term does not include financial reports, cost analyses, and other information incidental to Contract administration. "Computer software" as used in this article means computer programs, computer data bases, and documentation thereof.

- (b) The Authority or its designated representative shall have the right to use, duplicate or disclose technical data, including computer software, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so that is contained in or derived from:

- (1) Any manuals, instructional materials prepared for installation, operation, maintenance or training purposes;
- (2) Technical data pertaining to end items, components or processes that were prepared for the purpose of identifying sources, sizes, configurations, mating and attachment characteristics, functional characteristics and performance requirements ("form, fit and function" data such as , specification control drawings, catalog sheets, and outline drawings Except for the computer software, it means data identifying sources, functional characteristics, and performance requirements, but specifically excludes the source code, algorithms, processes, formulae, and flow charts of the software.);
- (3) Other technical data that the Contractor or subcontractor , normally furnishes without restriction; ;
- (4) Other specifically described technical data that the parties have agreed will be furnished without restriction;
- (5) All computer software regardless of whether it is technical data as defined in this article, including the source code, algorithms, processes, formulae, and flow charts, that the Contractor developed or materially modified for the Authority or for which the Authority is required by Federal law or regulation to provide a royalty-free, irrevocable and nonexclusive license to the Federal government.

- (c) The Authority shall have the right to use, duplicate, or disclose technical data other than as defined in paragraph (a), in whole or in part. Such technical data shall not, without the written permission of the party furnishing such technical data, be:

- (1) Released or disclosed, in whole or in part, outside of the Authority,
- (2) Used, in whole or in part, by the Authority for manufacturing, or
- (3) Used by a party other than the Authority except for: (i) emergency repair or overhaul, (ii) where the item or process concerned is not otherwise reasonably

available to the Authority to enable timely performance of this work, or (iii) administration of this Contract or the inspection of any products produced under it, where the third party has a written contract with the Authority to perform these efforts. In all cases described in this subsection, the release or disclosure outside of the Authority shall be subject to a nondisclosure agreement.

- (d) Technical data provided in accordance with paragraph (c) shall be identified with a legend that suitably recites this limitation. This article shall not impair the Authority's right to use similar or identical data acquired from other sources.
- (e) Where any item is purchased as a separate line item in this Contract, that purchase includes all integral parts of that item, including any computer software, source code, algorithms, processes, formulae, and flow charts. The Authority has full rights to use, duplicate or disclose any or all parts of the item, including computer software, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so. Should disclosure of the computer software be required only under this paragraph, then the Contracting Officer may waive the provisions of this paragraph if he or she certifies in writing that the item is commercially available from multiple sources and will be fully compatible with existing Authority property.
- (f) Material covered by copyright:
 - (1) The Contractor grants to the Authority, and to its Board members, agents and employees acting within the scope of their official duties, a royalty-free, nonexclusive and irrevocable license throughout the world for the Authority's purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others so to do, all technical data and computer software covered by subsection (b) (5) now or hereafter covered by copyright.
 - (2) No such copyrighted matter shall be included in (i) technical data or (ii) computer software covered by subsection (b) (5) furnished hereunder without the written permission of the copyright owner for the Authority to use such copyrighted matter in the manner above described.
 - (3) The Contractor shall report to the Authority promptly and in reasonable written detail each notice or claim of copyright infringement it receives regarding any technical data or computer software covered by subsection (b)(5) provided to the Authority.
- (g) Relation to patents: Nothing contained in this article shall imply a license to the Authority under any patent, or be construed as affecting the scope of any license or other right otherwise granted to the Authority under any patent.
- (h) Any dispute under this article shall be subject to the "Disputes" article of this Contract.
- (i) The Contracting Officer may retain from payment up to ten percent (10%) of the Contract price until final delivery and acceptance of the technical data defined in this Article and as required to be furnished by the Price Schedule or the Contract's specifications.

**5. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
[SUPPLIES]**

- (a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on this Contract, once the Contractor is notified thereof.

- (b) In the event of any claim or suit against the Authority based on any alleged patent or copyright infringement arising out of this Contract or out of the use of any supplies furnished or services performed hereunder, the Contractor shall furnish to the Contracting Officer, all evidence and information in its possession pertaining to such suit or claim. Such evidence and information shall be furnished at the Contractor's expense since the Contractor has agreed to indemnify the Authority for such infringement claims.

- (c) This article shall be included in all subcontracts.

CHAPTER IX – ADDITIONAL COVENANTS/LEGAL REQUIREMENTS

1. NONDISCRIMINATION ASSURANCE- FTA

- (a) *Nondiscrimination Assurance.* In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. §2000 (d), section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §6102, section 202 of the American with Disabilities Act of 1990, 42 U.S.C. §12132, D.C. law and Federal transit law at 49 U.S.C. §5332, the Contractor, sub-recipient, or subcontractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, religion, national origin, sex, age, sexual preference, gender identity and/or disability. In addition, the Contractor, sub-recipient, or subcontractor agrees to comply with applicable Federal implementing regulations and other regulations that FTA may issue.
- (b) *Equal Employment Opportunity.* The following equal employment opportunity requirements apply to this Contract.
- (1) *Race, Color, Creed, National Origin, Sex.* In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. §2000(e), and Federal transit laws at 49 U.S.C. §5332, the Contractor agrees to comply with all applicable equal opportunity requirements of the U.S. Department of Labor (U.S. DOL) including, but not limited to "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor, " 41 C.F.R. Part 60 *et. seq.*, [implementing Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000(e) note], and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of this Contract. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, creed, national origin, sex or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements that FTA may issue.
- (2) *Age.* In accordance with Section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements that FTA may issue.

- (3) *Disabilities.* In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. §12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements that FTA may issue.
- (c) The Contractor also agrees to include all of these requirements in each subcontract financed, in whole or in part, with Federal assistance provided by FTA, modified only, if necessary, to identify the affected parties.
- (d) Failure by the Contractor, sub-recipient, or subcontractor to carry out these requirements is a material breach of this Contract, that may result in the termination or such other remedy as the Authority deems appropriate.

2. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT-OVERTIME COMPENSATION

This Contract, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-333), is subject to the following provisions and to all other applicable provisions and exceptions of such Act and the regulations of the U.S. Secretary of Labor thereunder.

- (a) *Overtime requirements.* No Contractor or subcontractor contracting for any part of the Contract work that may involve the employment of laborers, mechanics, apprentices, trainees, watchmen, and guards shall require or permit any such employee in any workweek in which he or she is employed to work in excess of forty (40) hours in such work week on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such employee receives compensation at a rate not less than one and one-half (1 ½) times his or her basic rate of pay for all hours worked in excess of forty (40) hours in such work week.
- (b) *Violation. Liability for Unpaid Wages-Liquidated damages.* In the event of any violation of paragraph (a) the Contractor and any subcontractor responsible therefore shall be liable to any affected employee for his or her unpaid wages. In addition, such Contractor and subcontractor shall be liable to the Authority for liquidated damages. Liquidated damages shall be computed with respect to each individual laborer, mechanic, apprentice, trainee, watchman or guard employed in violation of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of his or her standard work week of forty (40) hours without payment of the overtime wages required by paragraph (a).
- (c) *Withholding for unpaid wages and liquidated damages.* The Contracting Officer may withhold from the Contractor, such sums as he or she determines to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in paragraph (b).

- (d) *Subcontracts.* The Contractor shall insert this article in all subcontracts at any tier. Contractor shall also require subcontractors to include this clause in any lower tier subcontracts. The Contractor shall be responsible for compliance by any and all subcontractors at every tier.
- (e) *Records.* The Contractor shall maintain payroll records containing the information specified in 29 C.F.R. § 516.2(a). Such records shall be preserved for three (3) years from the completion of this Contract.

3. WALSH-HEALEY PUBLIC CONTRACTS ACT

If this Contract is for materials, supplies, or equipment in an amount that may exceed \$10,000 and is subject to the Walsh-Healey Public Contracts Act, as amended (41 U.S.C. §§ 35-45) the following terms and conditions apply:

- (a) All stipulations required by the Act and regulations issued by the U.S. Secretary of Labor (41 C.F.R. Part 50) are incorporated by reference. These stipulations are subject to all applicable rulings and interpretations of the U.S. Secretary of Labor that are now, or may hereafter, be in effect.
- (b) All employees whose work relates to this Contract shall be paid not less than the minimum wage prescribed by the U.S. Secretary of Labor (41 C.F.R. § 50-202.2). Learners, student learners, apprentices, and certain handicapped workers may be employed at less than the prescribed minimum wage (41 C.F.R. § 50-202.3) to the same extent that such employment is permitted under Section 14 of the Fair Labor Standards Act (41 U.S.C. § 40).

4. DAVIS-BACON ACT- FTA [N/A]

[NOT APPLICABLE]

5. COPELAND ANTI-KICKBACK ACT – FTA

- (a) The Contractor agrees to comply with section 1 of the Copeland “Anti-Kickback Act,” 18 U.S.C. § 874 that prohibits anyone from inducing, by any means, any person employed on construction, prosecution, completion or repair of a Federally assisted building or work, to give up any part of his or her compensation to which he or she is entitled. Contractor further agrees to comply with section 2 of the Act, 40 U.S.C. §3145, as amended, and implementing U.S. DOL regulations, “Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part, by Loans or Grants from the United States.” Contractor agrees to comply with 29 C.F.R. Part 3 which imposes record keeping requirements for all such contracts in excess of \$2,000.
- (b) Contractor shall insert this clause in all subcontracts, and require that subcontractors insert this clause in any and all of their subcontracts, at any tier.

6. CONVICT LABOR

- (a) Except as provided in paragraph (b), the Contractor shall not employ in the performance of this Contract any person undergoing a sentence of imprisonment imposed by any court of the Federal Government, a State, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam or the U.S. Virgin Islands.
- (b) The Contractor is not prohibited from employing persons:
 - (1) On parole or probation to work at paid employment during the term of their sentence;
 - (2) Who have been pardoned or who have served their terms; or
 - (3) Confined for violation of the laws of the Federal Government, the states, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if—
 - (a) The worker is paid or is in an approved work or training program on a voluntary basis;
 - (b) Representatives of the local union's central bodies or similar labor union organizations have been consulted;
 - (c) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades where there is a surplus of available gainful labor in the locality, or impair existing contracts or services;
 - (d) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality where the work is being performed; and
 - (e) The Attorney General of the United States has certified that the work-release laws or regulations of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

7. COVENANT AGAINST CONTINGENT FEES

- (a) The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide, established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach of this warranty, the Authority shall have the right to terminate this Contract without liability or, in its discretion, to deduct from the Contract price, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee, if no fraud is suspected.
- (b) If fraud is suspected, the Authority's only remedy prior to final adjudication by a court of competent jurisdiction is to report the matter to WMATA's Office of Inspector General (OIG), the U.S. Department of Transportation's Office of Inspector General (DOT-OIG), the Offices of Inspectors General of any agency providing funding under this Contract and/or appropriate Federal, state and/or local law enforcement authorities.

8. SEAT BELT USE POLICY

The Contractor agrees to comply with terms of Executive Order No. 13043 "Increasing Seat Belt Use in the United States" and is encouraged to include these requirements in each subcontract awarded for work relating to this Contract.

9. SENSITIVE SECURITY INFORMATION

The Contractor must protect, and take measures to assure that its subcontractors at each tier protect, "sensitive information" made available during the course of administering an Authority contract or subcontract in accordance with 49 U.S.C. Section 40119(b) and implementing DOT regulations, "Protection of Sensitive Security Information," 49 CFR Part 15, and with 49 U.S.C. Section 114(s) and implementing Department of Homeland Security regulations, "Protection of Sensitive Security Information," 49 CFR Part 1520.

10. LAWS AND REGULATIONS

The Contractor shall be responsible to comply with any applicable State of Maryland, Commonwealth of Virginia, District of Columbia, Federal and local laws and regulations governing the services and/or supplies to be provided under this Contract. Further, the Contractor shall be responsible to obtain, at its own cost and expense, any and all licenses/permits required to transact business in any political jurisdictions where work will be performed.

11. HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA

- (a) The Contractor agrees to submit a Material Safety Data Sheet (U.S. Department of Labor Form OSHA-20), as prescribed in Federal Standard No. 313B, for all hazardous materials five (5) days before delivery of the material, whether or not listed in Appendix A of the Standard. This obligation applies to all materials delivered under this Contract that involve exposure to hazardous materials or items containing these materials.
- (b) "Hazardous material," as used in this clause, is defined in Federal Standard No. 313B, in effect on the date of this Contract.
- (c) Neither the requirements of this clause nor the Authority's acts or omissions shall relieve the Contractor of any responsibility or liability for the safety of Authority's, personnel or property.
- (d) Nothing contained in this article shall relieve the Contractor from complying with applicable Federal, state, and local laws, codes, ordinances, and regulations (including the requirement to obtain licenses and permits) in connection with hazardous materials.

- (e) The Authority's rights in data furnished under this Contract regarding hazardous materials are as follows:
- (1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to (a) apprise personnel of the hazards that they may be exposed to in using, handling, packaging, transporting, or disposing of hazardous materials (b) obtain medical treatment for those affected by the materials; and (c) have others use, duplicate, and disclose the data for the Authority for these purposes.
 - (2) To use, duplicate, and disclose data furnished under this article in precedence over any other provision of this Contract providing for rights in data.
 - (3) The Authority is not precluded from using similar or identical data acquired from other sources.
 - (4) The data shall not be duplicated, disclosed, or released outside of the Authority, in whole or in part, for any acquisition or manufacturing purpose, if the following legend is marked on each piece of data to which this clause applies -

"This data furnished under this Contract shall not be used, duplicated, or disclosed for any acquisition or manufacturing purpose without the Contracting Officer's permission. This legend shall be marked on any reproduction of this data."
 - (5) The Contractor shall not place any restrictive legend on any data that (i) the Contractor or any subcontractor previously delivered to the Authority without limitations; or (ii) should be delivered without limitations under the "Rights in Technical Data" clause.
 - (6) The Contractor shall insert this article including this paragraph, with appropriate changes in the designation of the parties, in subcontracts at any tier (including purchase designations or purchase orders) under this Contract involving hazardous materials.

12. **LIVING WAGE** **[N/A]**

[NOT APPLICABLE]

13. METRIC SYSTEM

To the extent the Federal Government directs, the Contractor agrees to use the metric system of measurement in its Contract activities, in accordance with the Metric Conversion Act, as amended by the Omnibus Trade and Competitiveness Act, 15 U.S.C. § 205 (a) *et. seq.*; Executive Order No. 12770, "Metric Usage in Federal Government Programs," 15 U.S.C. § 205(a) note; and applicable U.S. DOT or FTA regulations in accordance with applicable Federal directives. As practicable and feasible, the Contractor agrees to supply products and services with dimensions expressed in the metric system of measurement. Metric usage shall not be required to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms.

14. MANDATORY DISCLOSURE

The Contractor shall timely disclose, in writing, to WMATA's Office of the Inspector General (OIG), with a copy to the Contracting Officer, whenever, in connection with the award, performance, or closeout of this Contract or any subcontract hereunder, the Contractor has credible evidence that a principal, employee, agent, or subcontractor of the Contractor has committed—

- (a) A violation of Federal criminal law involving fraud, conflict of interest, bribery, or gratuity violations found in Title 18 of the United States Code; or
- (b) A violation of the civil False Claims Act (31 U.S.C. §§ 3729-3733).
 - (1) WMATA, to the extent permitted by law and regulation, will safeguard and treat information obtained pursuant to the Contractor's disclosure as confidential where the information has been marked "confidential" or "proprietary" by the company. To the extent permitted by the law and regulation, such information will not be released by WMATA to the public pursuant to a Public Access to Records (PARP) request. WMATA may transfer documents provided by the Contractor to any department or agency within the state, Federal or local government, if the information relates to matters within the organization's jurisdiction.
 - (2) If the violation relates to an order against a government-wide acquisition contract, a multi-agency contract, a multiple-award schedule contract such as the Federal Supply Schedule, or any other procurement instrument intended for use by multiple agencies, the Contractor shall notify the OIG of the ordering agency and the OIG of the agency responsible for the basic contract.

15. WHISTLEBLOWER PROTECTION – FEDERAL

- (a) The Contractor and its subcontractors shall encourage their employees and independent contractors to report information without fear of actual or threatened discrimination, retaliation or reprisal that they in good faith reasonably believe is evidence of gross mismanagement; gross misuse or waste of public resources or funds; fraud; violation of law; abuse of authority in connection with the conduct of WMATA operations or contracts; or a substantial and specific danger to health, security or safety. The Contractor and its subcontractors shall notify their employees that they may make reports under this paragraph to:
- (1) WMATA's Office of Inspector General (OIG), in person, in writing, through the OIG Hotline (888-234-2374) or email wmata-oig-hotline@verizon.net or by any other reasonable means;
 - (2) WMATA's Metro Transit Police Department (MTPD), in person, by telephone (202-962-2121) or by any other reasonable means, or to the OIG, if the information constitutes a potential violation of criminal law;
 - (3) WMATA's Chief Safety Officer, in person, in writing, through the SAFE Hotline (202-249-7233) or email safety@wmata.com, or by any other reasonable means; or
 - (4) Any other official, office or agency within WMATA or outside WMATA that the employee or independent contractor reasonably believes has the authority to act on the matter.
- (b) The Contractor, its employees, independent contractors and subcontractors shall cooperate with any inquiry or review by an authorized official of WMATA, or by the Federal government or any other governmental entity with jurisdiction over WMATA, regarding a matter that would constitute a report under paragraph (a) or a violation of this or any whistleblower provision of this Contract, and with any enforcement or judicial proceeding arising from such inquiry or review.
- (c) The Contractor and its subcontractors shall not interfere with or deny the right of any employee or independent contractor of either the Contractor or any of its subcontractors to make a report under paragraph (a). The Contractor and its subcontractors shall not recommend, take or threaten to take any action having a negative or adverse impact on any employee or independent contractor of either the Contractor or any of its subcontractors because he or she:
- (1) Made or is perceived to have made a report under paragraph (a);
 - (2) Sought a remedy under applicable law after making a report under paragraph
 - (3) Participated in or cooperated with an inquiry or review by an authorized official of WMATA, or by the Federal government or any other governmental entity with jurisdiction over WMATA, regarding a matter that would constitute a report under paragraph (a) or a violation of this or any whistleblower provision of this Contract, or with an enforcement or judicial proceeding arising from such inquiry or review;

- (4) Refused to obey an order that would violate law; or
 - (5) Refused to work or authorize work when a hazardous safety or security condition presents an imminent danger of death or serious injury, there was no reasonable alternative to refusal, there was not sufficient time to eliminate the danger in absence of refusal and the individual, where possible, notified the Contractor or subcontractor of the condition and of his or her intent not to perform or authorize work.
- (d) The Contractor shall include, or shall cause to be included, the substance of this clause, including this paragraph (d), in its subcontracts at all tiers.
- (e) The Contractor and its subcontractors shall comply with the National Transit Systems Security Act (NTSSA) 6 U.S.C. §1142, which prohibits discharging, demoting, suspending, reprimanding or in any other way discriminating against an employee as a reprisal for the employee lawfully and in good faith:
- (1) Reporting a hazardous safety or security condition;
 - (2) Refusing to work when a hazardous safety or security condition presents an imminent danger of death or serious injury, there is no reasonable alternative to refusal, there is not sufficient time to eliminate the danger in absence of refusal and the individual, where possible, has notified the Contractor or subcontractor of the condition and of his or her intent to not perform work;
 - (3) Refusing to authorize the use of any safety or security related equipment, track or structures, if the individual is responsible for their inspection or repair and reasonably believes they are in a hazardous safety or security condition, there is no reasonable alternative to refusal, there is not sufficient time to eliminate the danger in absence of refusal and the individual, where possible, has notified the Contractor or subcontractor of the condition and of his or her intent not to authorize use of hazardous equipment or infrastructure unless corrected;
 - (4) Providing information for or directly assisting in an investigation of conduct that the individual reasonably believes to be in violation of Federal law regarding safety, security or fraud, waste or abuse of funds intended for safety or security;
 - (5) Refusing to violate or assist in violation of Federal public transportation safety or security law;
 - (6) Cooperating with a safety or security investigation by the U.S. Secretary of Transportation, U.S. Secretary of Homeland Security or the National Transportation Safety Board;
 - (7) Furnishing information to law enforcement agencies relating to an accident or incident resulting in damage to property, injury or death; or
 - (8) Filing a complaint under the NTSSA (6 U.S.C. §1142), or testifying regarding such complaint.

- (f) The Contractor shall notify the Authority of any instance, related to this Contract, of a report under subparagraph (e)(1) or refusal under subparagraphs (e)(2), (3) or (5).
- (g) The enforcement, filing and investigation of complaints, and remedies under this clause shall be governed by the NTSSA (6 U.S.C. §1142), applicable Federal regulations and Federal law.
- (h) This clause shall be interpreted in accordance with the NTSSA (6 U.S.C. §1142). If any provision is found to be in conflict with the NTSSA, the NTSSA shall govern.
- (h) The Contractor shall include, or shall cause to be included, this clause, including this paragraph, in its subcontracts at all tiers.

16. WORKPLACE VIOLENCE/ZERO TOLERANCE

Pursuant to Metro Policy/Instruction 7.8.3, all Metro Contractors must: (1) establish zero tolerance for acts of workplace violence for their employees and those of subcontractors at any tier, and (2) not retaliate against any of their employees or independent contractors for cooperating with investigations.

17. DRUG AND ALCOHOL TESTING (FOR SAFETY SENSITIVE FUNCTIONS ONLY) – FTA
[N/A]

[NOT APPLICABLE]

18. EMPLOYMENT RESTRICTION WARRANTY

- (a) The Contractor warrants that it will not offer employment to, solicit or discuss prospective employment with, or otherwise engage in substantive employment related discussions or communications with, any present or former Board member of the Authority who has been involved, directly or indirectly, in any matter of financial interest to the Contractor until at least two (2) years after the Board member has ceased involvement in the matter. The post-employment restriction on former Authority employees is one (1) year from the date of their last employment with WMATA. The Contractor shall not knowingly engage in communications of the nature described above with any immediate family member or member of the household of any Authority employee or Board member during the period when such employee or Board member is involved in any matter of financial interest to the Contractor.
- (b) If a former Board member or employee of the Authority is eventually hired, the Contractor shall ensure that the former Board member or employee is not involved in negotiating or otherwise dealing with the Authority on any particular matter over which he or she had responsibility during his or her tenure.

- (c) Should the Contractor fail to comply with the provisions hereof, and no fraud is suspected, the Contracting Officer shall have the right to withhold payment under this Contract in an amount not to exceed two percent (2%) of the total Contract amount as liquidated damages to the Authority, such withholding to be in addition to any other withholding or retainage under this Contract. Any dispute shall be settled in accordance with the "Disputes" clause of this Contract.
- (d) If fraud is suspected, the Authority's only remedy prior to a final decision by a court of competent jurisdiction is to report the matter to WMATA's Office of Inspector General (OIG), the U.S. Department of Transportation's Office of Inspector General (DOT-OIG), the Offices of Inspectors General of any state or Federal agency providing funding under this Contract and/or appropriate Federal, state and/or local law enforcement authorities.

19. GRATUITIES

- (a) In connection with performance of this Contract, or any changes or modifications relative thereto, the giving of or offering to give gratuities (in the form of entertainment, gifts or otherwise) by the Contractor, or any agent, representative or other person deemed to be acting on behalf of the Contractor, or any supplier or subcontractor furnishing material to or performing work under this Contractor, to any Board member, employee or agent of the Authority; with a view toward securing this Contract or securing favorable treatment regarding this Contract is expressly forbidden. The terms of this "Gratuities" clause shall be strictly construed and enforced in the event of violations hereof.
- (b) Reported instances of the giving or offering to give gratuities within the context of this "Gratuities" clause will be investigated by the Authority's Board of Directors or its duly authorized representative. A preliminary investigation will be made to determine whether there is probable cause to suspect that a violation of this clause exists. If such probable cause exists, the Board of Directors, or its duly authorized representative, shall formally notify WMATA's Office of Inspector General (OIG), the U.S. Department of Transportation's Office of Inspector General (DOT-OIG), the Offices of Inspectors General of any state or Federal agency providing funding under this Contract and/or appropriate Federal, state and/or local law enforcement authorities.
- (c) The rights and remedies of the Authority provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided under this Contract, at law or in equity.

20. OFFICIALS NOT TO BENEFIT

- (a) No member of or delegate to Congress, resident commissioner or member of a state or local public body shall be admitted to any share or part of this Contract, or to any benefit that may arise therefrom during his or her tenure or for two (2) years thereafter, unless his or her interest in the business entity that is awarded this Contract is placed in a blind trust in accordance with the rules and regulations of the U.S. Office of Government Ethics (OGE).
- (b) Enforcement of this clause shall be consistent with 18 U.S.C. §431.

21. ORGANIZATIONAL CONFLICTS OF INTEREST

- (a) An organizational conflict of interest (OCI) exists when the nature of the work to be performed under a proposed contract or a subcontract may, without some restriction on future activities result in an unfair competitive advantage to the Contractor or subcontractor; because of (1) unequal access to information, (2) biased ground rules or (3) impaired objectivity. An unequal access to information OCI may exist if in performing a Contract, a Contractor obtains access to non-public information that provides it with a competitive advantage in a later competition. A biased ground rules OCI may exist if the Contractor has a role in setting rules for a source selection in which it will compete. An impaired objectivity OCI may exist if, in performing a Contract, a Contractor is called upon to evaluate an offer from or performance by, itself or an affiliated entity.
- (b) In the event that the Contractor believes that it or any of its potential subcontractors may have an OCI, it shall notify the Contracting Officer, in writing, within five (5) working days after it becomes aware of the potential or actual OCI. The written notification shall identify the nature and circumstances of the perceived conflict and propose appropriate measures to eliminate or mitigate the OCI. The Contracting Officer will review the circumstances and the proposed mitigation plan and notify the Contractor stating whether: (1) no mitigation is required; (2) the conflict cannot be mitigated; or (3) the conflict can be mitigated and he or she accepts the proposed measures, or recommends additional measures.
- (c) The Contractor's failure to identify such perceived conflicts may result in the Contract being rescinded or terminated.
- (d) Should the Contractor identify or become aware of a conflict during the term of this Contract, including any extension thereof that it could not reasonably anticipate prior to award, it shall notify the Contracting Officer in accordance with paragraph (b), or request an exception to the restriction with supporting rationale. The Contracting Officer shall consider the Contractor's proposed measures to mitigate or eliminate the conflict, or the request for an exception.
- (e) If the proposed measures are not determined to be feasible or are otherwise not acceptable to the Contracting Officer, he or she may terminate the Contract. If the Contracting Officer does not grant a request for an exception, and the Contract is not terminated, the Contractor shall be notified in writing and be given ten (10) days from the date of the written notification to take all necessary actions to comply with this clause.

- (f) If the proposed measures are determined to be acceptable to the Contracting Officer, he or she may grant a specific exception to this restriction, when in the Contracting Officer's judgment, the exception will not create a conflict between the Contractor's duties and obligations under this Contract and the duties and obligations imposed on the Contractor under another contractual or other relationship.
- (g) If the Contractor fails to comply with the terms of this clause, and no fraud is suspected, the Contracting Officer, may withhold payments due under this Contract until such time as the Contractor is in compliance or, should the non-compliance remain uncorrected at the expiration of ten (10) days from the Contracting Officer's written notice as provided in paragraph (b), terminate the contract for default pursuant to this Contract.
- (h) If fraud is suspected, the Authority's only remedy prior to a final determination by a court of competent jurisdiction is to report the matter to WMATA's Office of Inspector General (OIG), the U.S. Department of Transportation's Office of Inspector General (DOT-OIG), the Offices of Inspectors General of any state or Federal agency providing funding under this Contract and/or appropriate Federal, state and/or local law enforcement authorities.
- (i) The Contractor, in performing this Contract, shall avoid any conduct that might result in or give the appearance of creating for Board members or employees of the Authority in their relationship with the Contractor, any conflicts of interest or favoritism and/or the appearance thereof and shall avoid any conduct that might result in a Board member, or employee failing to adhere to any Code of Ethics or standards of conduct adopted by the Authority's Board of Directors.
- (j) The Contracting Officer's determination under this clause shall be final and shall be considered a question of fact within the meaning of the "Disputes" article of this Contract.

22. CONTRACTOR PERSONNEL

- (a) The Authority may direct the replacement of the Contractor's employees reasonably deemed to be unsuitable by the Contracting Officer, or whose continued participation in the work is deemed contrary to the best interests of the Authority. Except in circumstances deemed exigent by the Contracting Officer, the reason for replacement will be discussed between the Contractor and the Authority before a replacement directive is issued. Upon receipt of a written replacement directive from the Authority specifying the date by which the replacement must occur, the Contractor shall proceed with the replacement and shall do so in a manner that minimizes, to the greatest extent practicable, any impact upon the Contract.
- (b) Contractor personnel required to work on WMATA's property must obtain a WMATA vendors' badge and successfully complete the mandatory safety training that must be renewed yearly. The Contractor must advise its affected personnel that, to obtain a vendor's badge, a signed waiver to perform a background check is required.

23. FALSE STATEMENTS, CLAIMS OR SUBMISSIONS

- (a) The Contractor acknowledges its responsibility to undertake its obligations under this publicly funded Contract with full integrity and, to take all reasonable steps to ensure that statements, claims and submissions made pursuant to this Contract are provided in good faith and with a reasonable belief as to their truthfulness, accuracy and completeness.
- (b) In the event that it is finally determined by a court of competent jurisdiction that any statement, claim, submission, or certification made by or on behalf of the Contractor pursuant to a material element of the Contract was knowingly false, fictitious or fraudulent, the Authority shall be entitled to recover from the Contractor, an amount equal to not more than three (3) times the monetary value of the benefit derived or sought to be derived by the Contractor through its false statement, claim or submission. For purposes hereof, an element of the Contract shall be deemed material if it impacted or could reasonably have been intended to impact the disposition of any claim, dispute, proposed or implemented change order, proposed pricing or schedule adjustment of any nature, or other substantive issue directly affecting the rights of the parties under the Contract.
- (c) The Authority's only remedy prior to a final determination by a court of competent jurisdiction is to report the matter to WMATA's Office of Inspector General (OIG), the U.S. Department of Transportation's Office of Inspector General (DOT-OIG), the Offices of Inspectors General of any state or Federal agency providing funding under this Contract and/or appropriate Federal, state and/or local law enforcement authorities.
- (d) The Authority's rights set forth in this article are in addition to any contractual, legal or equitable rights that may arise upon the Contractor's submission of a false claim or statement, including without limitation, the Authority's right to terminate the Contract for default once fraud is finally determined by a court of competent jurisdiction. The provisions of this clause shall not serve in any respect to limit, waive or modify any civil or criminal liability, of the Contractor or any of its officers, agents or employees that such conduct may precipitate.

CHAPTER X – MISCELLANEOUS ADDITIONAL PROVISIONS

1. FEDERAL, STATE, AND LOCAL TAXES

- (a) Except as may be otherwise provided in this Contract, the Contract price shall be deemed to include all applicable Federal, state and local taxes and duties.
- (b) If a statute, court decision, written ruling or regulation regarding any Federal excise tax or duty on the transactions or property covered by this Contract takes effect after the Contract date, and:
- (c) Results in the Contractor being required to pay or bear the burden of any such Federal excise tax or duty or rate increase that would not otherwise have been payable on such transactions or property, the Contract price shall be increased by the amount of such tax or duty or rate increase, if the Contractor warrants in writing that no amount for such newly imposed Federal obligation was included in the Contract price as a contingency reserve or otherwise; or
- (d) Results in the Contractor not being required to pay or bear the burden of, or in its obtaining a refund or drawback of, any Federal excise tax or duty that would otherwise have been payable on such transactions or property or that was the basis of an increase in the Contract price, the Contract price shall be decreased by the amount of the relief, refund, or drawback, or that amount shall be paid to the Authority, as the Contracting Officer directs. If the Contractor fails to follow the Contracting Officer's instructions, it will be required to pay or bear the burden of, any such Federal excise tax or duty through a decrease in the Contract price.
- (e) Paragraph (b) above shall not be applicable to social security taxes or to any other employment tax.
- (f) No adjustment of less than \$250 shall be made in the Contract price pursuant to paragraph (b).
- (g) As used in paragraph (b), the term "Contract date" means the date the Contract was executed by the Authority. As to additional services, supplies or construction procured by modification to this Contract, the term "Contract date" means the effective date of such modification.
- (h) The Contractor shall promptly notify the Contracting Officer of matters that may result in either an increase or decrease in the Contract price under this clause and shall take action as the Contracting Officer directs. The Authority shall be entitled to a reduction in the Contract price reflecting such amount and a refund of monies paid related to such taxes, plus applicable interest.

2. PUBLIC COMMUNICATION

The Contractor shall not issue communications to the media, place advertisements, nor publicize through any means the services, goods or construction that it is providing to WMATA under this Contract, without prior written consent of the Contracting Officer. The Contractor shall not publish, in print or online, any communications products such as newsletters, press releases, blogs or other communications without the Contracting Officer's prior, written consent. Approval of any such requests shall be at the Contracting Officer's sole discretion.

3. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE

- (a) This Contract shall be deemed to be executed in the District of Columbia, regardless of the domicile of the Contractor and shall be governed by and construed in accordance with the laws of the District of Columbia except to the extent, if any, superseded by Federal law.
- (b) The parties agree that any and all claims asserted by or against the Authority arising hereunder or related hereto shall be heard and determined either in the courts of the United States located in the District of Columbia, the State of Maryland or the Commonwealth of Virginia or in the courts of the District of Columbia, State of Maryland or Commonwealth of Virginia that maintain jurisdiction over such claims and where venue properly resides.

4. SEVERABILITY

If the Contract contains any unlawful provisions, the same shall be deemed of no effect, and shall upon the application of either party be stricken from the Contract without affecting the binding force of the Contract as it shall remain after omitting such provision.

5. SURVIVAL

Any provision expressly set forth as surviving the expiration or termination of this Contract, shall be deemed to survive any such expiration or termination.

CHAPTER XI – ADDITIONAL FEDERAL PROVISIONS

1. NOTIFICATION OF FEDERAL PARTICIPATION- FTA

This project is being funded in whole or part with Federal funds.

2. ALL NECESSARY FEDERAL PROVISIONS DEEMED INCLUDED- FTA

It is the intent of the parties that each and every provision of law required to be inserted in this Contract should be and is hereby inserted herein.

3. ACCESS TO THIRD PARTY CONTRACT RECORDS- FTA

- (a) The Contractor agrees to provide the Authority, the FTA Administrator, the U.S. Comptroller General or any of their authorized representatives, access to any of the Contractor's books, documents, papers and records that are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts and transcriptions. The Contractor also agrees, pursuant to 49 C.F.R. §633.17 to provide FTA Administrator or his or her authorized representatives including any Project Management Oversight (PMO) Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U. S. C. § 5302(a)(1), which is receiving Federal financial assistance through the programs described at 49 U. S. C. §§ 5307, 5309 or 5311.
- (b) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- (c) The Contractor agrees to maintain all books, records, accounts and reports required under this Contract for a period of not less than three (3) years after the date of termination or expiration of this Contract. In the event of litigation or settlement of claims arising from the performance of this Contract, the Contractor agrees to maintain such records until the Authority, the FTA Administrator, the U.S. Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. [See 49 C.F.R. § 18.39(i)(11)].

4. AMERICANS WITH DISABILITIES ACT ACCESSIBILITY – FTA

- (a) The Contractor agrees that it will operate public transportation services in compliance with 42 U.S.C. § 12101 *et seq.*; DOT regulations, “Transportation Services for Individuals with Disabilities (ADA)” using facilities and equipment that comply with 49 C.F.R. Part 37; and Joint ATBCB/DOT regulations, “Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles,” 36 C.F.R. Part 1192 and 49 C.F.R. Part 38. Private entities must comply with the requirements of 49 C.F.R. Part 37 applicable to public entities with which they contract to provide public transportation services.
- (b) Facilities to be used in public transportation service must comply with 42 U.S.C. § 12101 *et seq.*; DOT regulations, “Transportation Services for Individuals with Disabilities (ADA),” 49 C.F.R. Part 37; and Joint ATBCB/DOT regulations, “Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles,” 36 C.F.R. Part 1192 and 49 C.F.R. Part 38.

5. RIGHTS IN DATA AND COPYRIGHTS — FTA

- (a) The term "subject data" used in this article means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under this Contract. The term includes graphic or pictorial delineation in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists; specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to Contract administration.
- (b) The following restrictions apply to all subject data first produced in the performance of this contract:
 - (1) Except for its or WMATA's own internal use, the Contractor may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may the Contractor authorize others to do so, without the written consent of the U.S. Government, until such time as the Government may have either released or approved the release of such data to the public. This restriction on publication, does not apply to agreements with academic institutions;
 - (2) In accordance with 49 C.F.R. § 18.34 and 49 C.F.R. § 19.36, the Federal Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, the following subject data for its purposes:
 - (i) Any subject data developed under this contract whether or not a copyright has been obtained; and
 - (ii) Any rights of copyright to which the contractor purchases ownership with Federal assistance.

- (c) When the Federal Transit Administration (FTA) provides financial assistance for a planning, research, development, or a demonstration project, it is FTA's general intention to increase mass transportation knowledge, rather than limit the benefits to participants in the project. Therefore, unless FTA determines otherwise, the Contractor agrees that, in addition to the rights set forth in subsection (b)(2) of this article, FTA may make available to any FTA recipient, sub-recipient, third party contractor, or third party subcontractor, either FTA's license in the copyright to the subject data derived under this Contract or a copy of the subject data first produced under this Contract. If this Contract is not completed for any reason whatsoever, all data developed under this Contract shall become subject data as defined in subsection (a) and shall be delivered as the Federal Government may direct.
- (d) Unless prohibited by state law, the Contractor agrees to indemnify, save, and hold harmless WMATA and the Federal Government, their officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from the Contractor's willful or intentional violation of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under this Contract. The Contractor shall not be required to indemnify WMATA and the Federal Government for any such liability arising out of the wrongful acts of their employees or agents.
- (e) Nothing contained in this article shall imply a license to WMATA or the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to WMATA or the Federal Government under any patent.
- (f) The requirements of paragraphs (b) and (c), do not apply to material furnished by the Authority to the Contractor and incorporated in the work carried out under the contract provided that the Contractor identifies the incorporated material at the time of delivery of the work.
- (g) Any dispute arising under this article shall be subject to the "Disputes" article of this Contract.
- (h) Notwithstanding any other payment provision in this Contract, the Contracting Officer may retain from payments due and owing the Contractor up to 10 percent (10 %) of the contract price until final delivery and acceptance of the subject data defined in this article and as required to be furnished by the Price Schedule or the Contract's specifications.

6. PATENT RIGHTS- FTA

- (a) Depending on the nature of the project, the Federal Government may acquire patent rights when the Contractor produces a patented or patentable invention, improvement or discovery. The Federal Government's rights arise when the patent or patentable information is conceived, or first reduced to practice. When a patent is issued or patentable information becomes available, the Contractor will report the same to the Authority, to enable it to notify FTA and provide a detailed report satisfactory to FTA.
- (b) Unless the Federal Government determines otherwise in writing, regardless of the status of any contractor, WMATA will transmit the Federal Government's patent rights to FTA as specified in 35 U.S.C. § 200, *et. seq.* and the Department of Commerce's regulations "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements," 37 C.F.R. Part 401.

7. BUY AMERICA ACT- FTA

- (a) The Buy America Act requirements apply to the following types of contracts: construction contracts, the acquisition of goods or rolling stock valued at more than \$150,000.00³
- (b) The Contractor agrees to comply with 49 U.S.C. § 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. § 661.7, and include final assembly in the United States for fifteen (15) passenger vans and fifteen (15) passenger wagons produced by the Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. § 5323(j)(2)(C) and 49 C.F.R. § 661.11. Rolling stock must be assembled in the United States and have a sixty-five percent (65%) domestic content.
- (c) Contractor is responsible for flowing down these requirements to subcontractors at every tier. The dollar threshold only applies to the prime contract. All subcontracts thereunder are subject to the Buy America Act requirements.
- (d) A bidder must submit to WMATA the appropriate Buy America Act certification with all offers on FTA funded contracts, except those subject to a general waiver. Bids that are not accompanied by the appropriate Buy America Act certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

³ If the federal grant that funds this procurement was issued prior to 12/2014, then this amount is \$100,000.00.

8. **PRE-AWARD AND POST DELIVERY AUDIT REQUIREMENTS – FTA** **[N/A]**

[NOT APPLICABLE]

9. **CHARTER BUS REQUIREMENTS- FTA** **[N/A]**

[NOT APPLICABLE]

10. **SCHOOL BUS REQUIREMENTS- FTA** **[N/A]**

[NOT APPLICABLE]

11. **BUS TESTING- FTA** **[N/A]**

[NOT APPLICABLE]

12. **CARGO PREFERENCE- FTA**

The Contractor agrees:

- (a) To utilize privately owned United States flag commercial vessels to ship at least fifty percent (50%) of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this Contract if such vessels are available at fair and reasonable rates for United States flag commercial vessels;
- (b) To furnish within twenty (20) working days following the date of loading for shipments originating within the United States, or within thirty (30) working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a) above to WMATA (through the Contractor in the case of a subcontractor's bills-of-lading) and to the Office of Cargo Preference, Maritime Administration (MAR-590), 400 Seventh Street SW, Washington, DC 20590;
- (c) To include these requirements in all subcontracts issued pursuant to this Contract when the subcontract may involve the transport of equipment, material, or commodities by ocean liner.

13. CLEAN AIR ACT- FTA

- (a) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401-7671. The Contractor agrees to report each violation to the Authority and understands and agrees that the Authority will, in turn, report each violation as required to FTA and the appropriate EPA Regional Office.
- (b) The Contractor will comply with U.S. EPA Regulations “Control of Air Pollution from Mobile Sources,” 40 C.F.R. Part 85; “Control of Emissions from New and In-Use Highway Vehicles and Engines,” 40 C.F.R. Part 86; “Fuel Economy and Greenhouse Gas Exhaust Emissions of Motor Vehicles,” 40 C.F.R. Part 600, as well as any applicable State Implementation Plans (SIP), and EPA regulations “Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Developed, Funded or Approved Under Title 23 U.S.C. or Federal Transit Laws” 40 C.F.R. Part 93, along with other applicable Federal regulations.
- (c) Flow-down requirement. The Contractor also agrees to include this article in each subcontract exceeding \$150,000 financed, in whole or in part, with Federal assistance provided by FTA.

14. CLEAN WATER ACT- FTA

- (a) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Water Act, as amended, 33 U.S.C. §§1251-1377. The Contractor agrees to report each violation to the Authority and understands and agrees that the Authority will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- (b) The Contractor will protect underground sources of drinking water in compliance with the Safe Drinking Water Act of 1974, as amended, 42 U.S.C. §§300 (f)-(j).
- (c) The Contractor will comply with the notice of violating facility provisions in section 508 of the Clean Water Act, as amended, 33 U.S.C. § 1368.
- (d) The Contractor will facilitate compliance with Executive Order 11738, “Providing for Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants or Loans,” 42 U.S.C. §7606 note.
- (e) Flow-down requirement. The Contractor also agrees to include this clause in each subcontract exceeding \$150,000 financed, in whole or in part, with Federal assistance provided by FTA.

15. RECOVERED MATERIALS/ RECYCLED PRODUCTS- FTA

- (a) The Contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. § 6962), including but not limited to the regulatory provisions of 40 C.F.R. Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.
- (b) Flow-down requirement. The Contractor also agrees to include these requirements in each subcontract financed, in whole or in part, with Federal assistance provided by FTA.

16. RETAINAGE

No Retainage. No provision of this Contract shall serve to deny Contractor's entitlement to full payment for properly performed work or suitably stored materials. No amounts shall be withheld from any payment request submitted by Contractor based on percentage of the work performed during the period of performance and no amounts shall be assigned to the line items, other than as assigned by Contractor in its payment requests.

17. ENERGY CONSERVATION- FTA

- (a) The Contractor agrees to comply with mandatory standards and policies relating to the energy efficiency which are contained in the applicable state energy conservation plan issued in compliance with the National Energy Policy and Conservation Act, as amended, 42 U.S.C. § 6321, *et. seq.*
- (b) The Contractor agrees to perform an energy assessment for any building constructed, reconstructed or modified with FTA funds as required under FTA regulations, "Requirements for Energy Assessments." 49 C.F.R. Part 622.
- (c) The Contractor must include this clause in all subcontracts and sub-agreements at every tier.

18. CHANGES TO FEDERAL REQUIREMENTS- FTA

- (a) Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement (Form FTA MA (22) dated October 1, 2015) between the Authority and FTA, as they may be amended or promulgated during the term of this Contract. Contractor's failure to so comply shall constitute a material breach of this Contract.
- (b) Flow-down requirement. The Contractor agrees to include this Article in each subcontract financed in whole or in part with Federal Assistance provided by FTA. It is further agreed that the Article shall not be modified, except to identify the subcontractor who will be subject to its provisions.

19. FLY AMERICA REQUIREMENTS- FTA

- (a) The Contractor agrees to comply with 49 U. S. C. § 40118 (the “Fly America” Act) in accordance with the General Services Administration’s regulations at 41 C.F.R. § 301-10, which provide that recipients and sub-recipients of Federal funds and their contractors are required to use U. S. Flag carriers for U. S. Government financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. If a foreign air carrier was used, the Contractor shall submit an appropriate certification or memorandum adequately explaining why service by a U. S. flag carrier was not available or why it was necessary to use a foreign air carrier and shall provide a certificate of compliance with the Fly America requirements.
- (b) Flow-down requirement. The Contractor agrees to include the requirements of this article in all subcontracts that may involve international air transportation.

20. PAYMENT DEDUCTIONS - NONCOMPLIANCE WITH DBE REQUIREMENTS- FTA

- (a) For Federally funded contracts that exceed \$150,000 and to which the Disadvantage Business Enterprise (DBE) Requirements (Appendix B) apply, the failure to perform in accordance with requirements of Appendix B may result in a partial or full suspension of payment, including progress payments, if applicable.
- (b) If the Contractor is found to be in noncompliance with the DBE requirements of Appendix B, the progress of the work shall also be deemed to be unsatisfactory, and an amount equal to the DBE participation in the Contract shall be retained from payment (or progress payments, if any) made to the Contractor.
- (c) If the contract value is over \$150,000, the prime contractor will be responsible for submitting a monthly report of the status of its DBE subcontractors as outlined in Appendix B to the Contracting Officer.
- (d) If the Contractor fails to submit the required monthly DBE reports, the Contracting Officer may suspend payment (or progress payments) until such time as the monthly reports are submitted and accepted by the Authority.

21. GOVERNMENT-WIDE DEBARMENT OR SUSPENSION- FTA

- (a) The Contractor is bound by its certification contained in its bid that neither the Contractor its principals, or affiliates, are excluded or disqualified, from Federal contracting. The certification is a material representation of fact, relied upon by the Authority in entering into this Contract. If it is later determined that the Contractor knowingly rendered an erroneous certification, in addition to remedies available to the Authority, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The Contractor agrees to comply with the requirements of 2 C.F.R, part 180, subpart C as adopted and supplemented by U.S. DOT regulations at 2 C.F.R, part 1200 "Nonprocurement Suspension and Debarment," including any amendments thereto, Executive Orders Nos. 12549 and 12689 "Debarment and Suspension" 31 U.S.C. § 6101 note, and other applicable Federal laws, regulations or guidance regarding participation with debarred or suspended contractors throughout the term of this Contract.
- (b) Flow-down requirement. The Contractor agrees to include this article in all subcontracts at all tiers under this Contract requiring lower tier contractors to comply with Federal suspension and debarment requirements, and review the System for Award Management (SAM) at www.sam.gov in order to comply with U.S. DOT regulations at 2 C.F.R, Part 1200 prior to awarding any subcontract under this Contract.

22. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

- (a) The preceding provisions include, in part, certain standard terms and conditions required by the U.S. Department of Transportation (DOT), whether or not expressly set forth in other Contract provisions. All Contractual provisions required by DOT, as set forth in FTA Circular 4220.1F and FTA Master Agreement (23) October 1, 2016 or any revision thereto, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all DOT or FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any of the Authority's requests that would cause the Authority to be in violation of the FTA terms and conditions.
- (b) Flow-down requirement. The Contractor agrees to include this clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to the provisions.

23. NO FEDERAL GOVERNMENT OBLIGATIONS TO THIRD PARTIES- FTA

- (a) The Authority and the Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of this Contract, absent the express written consent by the Federal Government, it is not a party to this Contract and shall not be subject to any obligations or liabilities to the Authority, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from this Contract.
- (b) Flow-down requirement. The Contractor agrees to include this clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

24. FALSE STATEMENTS OR CLAIMS CIVIL AND CRIMINAL FRAUD- FTA

- (a) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U. S. C. § 3801 *e.t seq.* and U. S. DOT Regulations, "Program Fraud Civil Remedies," 49 C.F. R. Part 31, apply to its actions pertaining to this Contract. Upon execution of this Contract, the Contractor certifies and affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to this Contract or FTA assisted project for which this Contract is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent that it deems appropriate.
- (b) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U. S. C. 5307, the Government reserves the right to impose the penalties of 18 U. S. C. 1001 and 49 U. S. C 5307 (n)(1) on the Contractor, to the extent the Federal Government deems appropriate.
- (c) Flow-down requirement. The Contractor agrees to include this clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to the provisions.

25. LOBBYING- FTA

- (a) The Contractor agrees that it will not use Federal funds to influence any officer or employee of a Federal agency, member of Congress or an employee of a member of Congress or an officer or employee of Congress on matters that involve this Contract or the underlying grant or agreement, including any award, extension or modification.
- (b) Contractor agrees that it will comply with 31 U.S.C. § 1352, as amended, U.S. DOT regulations "New Restrictions on Lobbying" 49 C.F.R, Part 20, to the extent consistent with 31 U.S.C. § 1352, as amended and other applicable Federal laws, regulations and guidance prohibiting the use of Federal funds for any activity concerning legislation or appropriations designed to influence the U.S. Congress or a state legislature unless an exception exists in current Federal law.
- (c) Flow-down requirement. The Contractor agrees to include these requirements in all subcontracts at all tiers under this Contract.

26. NATIONAL INTELLIGENT TRANSPORTATION SYSTEMS ARCHITECTURE AND STANDARDS-FTA

The Contractor agrees to:

- (a) Conform to the National Intelligent Transportation Systems (ITS) Architecture requirements of 23 U.S.C. § 517(d), as amended by MAP-21, unless it obtains an exemption from those requirements;
- (b) Follow:
 - (1) FTA Notice, "PTA National ITS Architecture Policy on Transit Projects," 66 Fed. Reg. 1455, January 8, 2001, and
 - (2) All other applicable Federal guidance, and
- (c) Flow this provision down to all applicable subcontracts.

27. CONTRACTS INVOLVING FEDERAL PRIVACY ACT REQUIREMENTS- FTA

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

- (a) The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552 (a). Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.
- (b) The Contractor also agrees to include these requirements in each subcontract involving the administration of any system of records on behalf of the Federal government financed, in whole or in part, with Federal assistance provided by FTA.

28. PROGRESS PAYMENTS

When satisfactory progress has not been achieved by a Contractor during any period for which a progress payment is to be made, a percentage of the progress payment may be retained. Retainage should not be used as a substitute for good contract management, and the Contracting Officer should not withhold funds without cause. Determinations to retain and the specific amount to be withheld shall be made by the Contracting Officer on a case-by-case basis. Such decisions will be based on the Contracting Officer's assessment of past performance and the likelihood that such performance will continue. The amount of retainage withheld shall not exceed ten percent (10%) of the approved, estimated amount in accordance with the terms of this Contract and may be adjusted as the Contract approaches completion to recognize better than expected performance, the ability to rely on alternative safeguards, and other factors. Upon completion of all Contract requirements, retained amounts shall be paid promptly.

29. BONDING FOR CONSTRUCTION PROJECTS EXCEEDING \$150,000 – FTA

The Contractor agrees to comply with applicable bonding requirements as follows:

- (a) *Proposal Security.* A proposal bond must be issued by a fully qualified surety company acceptable to WMATA and listed as a company currently authorized under 31 C.F.R. Part 223 as possessing a Certificate of Authority as described thereunder.
- (b) *Rights Reserved.* In submitting its offer, it is understood and agreed by offeror that the right is reserved by WMATA to reject any and all offers, or part of any offer. It is also understood and agreed that if the offeror refuses or is unable to enter into this Contract, or refuses or is unable to furnish adequate and acceptable performance bonds and labor and material payments bonds, or refuses or is unable to furnish adequate and acceptable insurance, it shall forfeit its security to the extent of WMATA's damages occasioned by such withdrawal, or refusal, or inability to enter into an agreement, or provide adequate security therefore.

It is further understood and agreed that to the extent that the defaulting offeror's proposal bond, certified check, cashier's check, treasurer's check, and/or official bank check (excluding any income generated thereby that was retained by WMATA) shall prove inadequate to fully compensate WMATA for the damages occasioned by default, then the offeror agrees to indemnify WMATA and pay over to WMATA the difference between the proposal security and WMATA's total damages, so as to make WMATA whole.

- (c) *Performance and Payment Bonding Requirements (Construction).* The Contractor shall be required to obtain performance and payment bonds as follows:
 - (1) *Performance bonds.* The penal amount of performance bonds shall be one hundred percent (100%) of the original Contract price, unless WMATA determines that a lesser amount would be adequate for its protection.
 - (2) WMATA may require additional performance bond protection when the Contract price is increased. The increase in protection shall generally equal one hundred percent (100%) of the increase in Contract price. WMATA may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.
- (d) *Payment bonds.* The penal amount of the payment bonds shall equal:
 - (1) Fifty percent (50%) of the Contract price, if it is not more than \$1,000,000.
 - (2) Forty percent (40%) of the Contract price, if it is more than \$1,000,000, but not more than \$5,000,000; or
 - (3) Two and one half million (\$2,500,000), if the Contract price is more than \$5,000,000.
- (d) If the original Contract price is \$5,000,000 or less, WMATA may require additional protection, if the Contract price is increased.

30. BONDING REQUIREMENTS- GENERAL

- (a) *Performance and Payment Bonding Requirements (Non-Construction).* The Contractor may, as a condition to the issuance of a Notice to Proceed, be required to obtain performance and payment bonds on forms acceptable to the Authority when necessary to protect the WMATA's interests. The following situations may warrant a performance bond:
- (1) WMATA's property or funds will be provided to the Contractor for use in performing the Contract or as partial compensation (as in retention of salvaged material).
 - (2) If Contractor sells assets to or merges with another concern, and WMATA, after recognizing the latter concern as the successor in interest, desires assurance that it is financially capable.

Substantial progress payments will be made before the delivery of end items begins.
 - (3) This Contract is for dismantling, demolition, or removal of improvements.
- (b) When it is determined that a performance bond is required, the Contractor shall be required to obtain performance bonds, as follows:
- (1) The penal amount of performance bonds shall be one hundred percent (100%) of the original Contract price, unless WMATA determines that a lesser amount would be adequate for its protection.
 - (2) WMATA may require additional performance bond protection when the Contract price is increased. The increase in protection shall generally equal one hundred percent (100%) of the increase in Contract price. WMATA may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.
- (c) A payment bond is required only when a performance bond is required, and if the use of payment bond is in WMATA's interests. When it is determined that a payment bond is required, the Contractor shall be required to obtain payment bonds as follows:
- (1) Fifty percent (50%) of the Contract price, if it is not more than \$1,000,000;
 - (2) Forty percent (40%) of the Contract price, if it is more than \$1,000,000, but not more than \$5,000,000; or
 - (3) Two and one half million (\$2,500,000), if the Contract price is increased.
- (d) *Advance Payment Bonding Requirements.* The Contractor may be required to obtain an advance payment bond, if the Contract contains an advance payment provision and a performance bond is not furnished. WMATA shall determine the amount of the advance payment bond necessary to protect it.

- (e) *Patent Infringement Bonding Requirements (Patent Indemnity)*. The Contractor may be required to obtain a patent indemnity bond, if a performance bond is not furnished and the financial responsibility of the Contractor is unknown or doubtful. WMATA shall determine the amount of the patent indemnity required to protect it.

- (f) *Warranty of the Work and Maintenance Bonds*. The Contractor warrants to WMATA, the architect and/or engineer that all materials and equipment furnished under this Contract will be of highest quality and new, unless WMATA specifies otherwise, free from faults and defects and in conformance with the Contract. All work not conforming to these standards shall be considered defective. If required by the Project Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
 - (1) The work furnished must be of first quality and the workmanship must be the best obtainable in the various trades. The work must be safe, substantial and durable in all respects. The Contractor hereby guarantees that the work will not contain defective materials or faulty workmanship for a minimum period of one (1) year after final payment by WMATA. The Contractor shall replace or repair any defective materials or equipment or faulty workmanship during the period of the guarantee at no cost to WMATA. As additional security for these guarantees, the Contractor shall, prior to the release of final payment, furnish separate maintenance (or guarantee) bonds in a form acceptable to WMATA written by the same corporate surety that provides the performance bond and labor and material payment bond for this Contract. These bonds shall secure the Contractor's obligation to replace or repair defective materials and faulty workmanship for a minimum period of one (1) year after final payment and shall be written in an amount equal to one hundred percent (100%) of the Contract amount, as adjusted.

31. SEISMIC SAFETY – FTA [N/A]

[NOT APPLICABLE]

CHAPTER XII-WMATA POLICIES

1. SAFETY REQUIREMENTS

- (a) The Contractor shall be responsible for ensuring compliance with the most stringent provisions of the applicable statutes and regulations of the District of Columbia, State of Maryland, Commonwealth of Virginia or political subdivision where the work is being performed, as well as the METRO Construction Safety and Environmental Manual (1984, as amended) issued by the Authority, and the U.S. Department of Labor OSHA standards pertaining to the safe performance of the work. In the absence of a specific construction industry standard, the Contractor is required to comply with either an established OSHA General Industry Standard, National Institute for Occupational Safety and Health (NIOSH) guidelines, American Conference of Governmental Industrial Hygienists (ACGIH) guidelines, American National Standards Institute (ANSI) guidelines, the WMATA System Safety Program Plan, the WMATA Construction Safety and Environmental Manual, or the Metrorail Safety Rules and Procedures Handbook. For contracts where work will be performed on, or will interface with the Metrorail System, the Contractor shall also comply with the publication entitled "Metrorail Safety Rules and Procedures Handbook." In the event of a conflict between these guidelines and applicable Federal, State or local health and safety laws, regulations or standards, the more stringent standard shall apply. Further, the Contractor shall ensure that all methods of performing the work do not involve danger to the personnel working at the site, the public and private property, whether or not these methods are cited or indicated in the Contract. The Contractor shall immediately provide to the Contracting Officer, a copy of all citations and/or warnings of safety violations received from any Federal, State or local jurisdiction or agency thereof, and/or all notifications of safety violations from insurance companies. The Contractor shall also provide to the Contracting Officer, copies of any and all subpoenas, complaints or other documents relating to any law suit alleging safety violations.
- (b) The Contractor shall employ and assign a full-time Safety Superintendent for Contracts involving "safety sensitive" functions (See Combined Glossary attached hereto for a definition). **[NOT APPLICABLE]**
- (c) The Contractor shall provide, at the site of the work, a first aid kit which shall be fully equipped to meet the needs of the anticipated work force.
- (d) The Contractor shall follow all appropriate RAIL Operational Rules, Operational Administrative Procedures (OAPs), Standard Operational Procedures (SOPs) and General and Special Orders while on the operational railroad and all Start-Up Rules and Manager's Notices when in declared start-up areas.

2. PRE-EMPLOYMENT CRIMINAL BACKGROUND CHECK REQUIREMENT

- (a) As a prerequisite to eligibility for a WMATA-issued identification and access badge (“One Badge”), access to WMATA’s customers, property, or confidential information, and in consideration for this Contract, the Contractor shall have the sole responsibility for, and shall assure, adequate criminal background screenings on a routine basis of all of its personnel who are or will be working on WMATA’s premises (whether they receive a One Badge or not) or otherwise have access to WMATA’s customers, property, or confidential information.
- (b) Contractor shall implement, not later than notice to proceed, a criminal background check screening of the Contractor’s personnel that shall take into consideration (1) the nature of the services or work being performed under the contract with particular regard for the individual’s access to, and interaction with, WMATA’s customers, property, and confidential information; (2) the nature or gravity of the offense or conduct resulting in a criminal conviction; and (3) the time that has lapsed since the conviction and/or completion of the sentence.
- (c) The Contractor shall contract with, or otherwise engage, a reputable third-party vendor to conduct the required criminal background screenings, and shall provide the vendor with a copy of its criminal background check screening policies and procedures.
- (d) The Contractor shall not place any person on or engage any person under this Contract, unless that person passes the Contractor’s criminal background screening. At the end of each calendar quarter, the Contractor shall certify to the Contracting Officer’s Technical Representative on a form provided, its compliance with this criminal background screening requirement and confirm that all persons required to be screened passed the contractor’s criminal background screening before working on this Contract. For the sole purpose of monitoring the Contractor’s compliance, WMATA reserves the right to request additional documents or perform its own criminal background screening of Contractor’s personnel. The Contracting Officer will inform the Contractor, in writing, of any proposed action within a reasonable time before such action is taken.
- (e) The Contractor shall indemnify and hold WMATA harmless from any and all claims, demands, damages, costs and expenses, including attorneys’ fees and other costs and expenses associated with any claims, demands, requests for relief, and/or other liabilities arising out of or resulting from the contractor’s criminal background screening obligations and processes.
- (f) The Contractor will include this requirement in all subcontracts under this Contract, and receive certifications from their subcontractors to ensure that its subcontractors’ personnel who are or will be working on WMATA’s premises (whether they receive a One Badge or not) or otherwise have access to WMATA’s customers, property, or confidential information undergo the required criminal background checks.

3. WORKPLACE VIOLENCE/ZERO TOLERANCE

Pursuant to Metro Policy/Instruction 7.8.3, all Metro Contractors and subcontractors at any tier must: (1) establish zero tolerance for acts of workplace violence for their employees and independent contractors, and (2) not retaliate against any of their employees or independent contractors for cooperating with investigations.



MID-ATLANTIC COOPERATIVE RIDER CLAUSE

The Mid-Atlantic Purchasing Team (MAPT) is the agreement between the Metropolitan Washington Council of Governments (“MWCOCG”) and the Baltimore Metropolitan Council (“BMC”) to aggregate the public entity and non-profit purchasing volumes in the Maryland, Virginia and Washington, D.C. region (“region”).

Format

A lead agency format is used to accomplish this work. The Lead Agency in this procurement has included this MAPT Cooperative Rider Clause in this solicitation indicating its willingness to allow other public entities to participate pursuant to the following Terms and Conditions:

1. Terms
 - 1.1 Participating entities, through their use of the Cooperative Rider Clause, agree to the terms and conditions of the resulting contract to the extent that they can be reasonably applied to the participating entity.
 - 1.2 Participating entities may also negotiate additional terms and conditions specific to their local requirements upon mutual agreement between the parties.
2. Other Conditions - Contract and Reporting
 - 2.1 The contract resulting from this solicitation shall be governed by and "construed in accordance with the laws of the State/jurisdiction in which the participating entity officially is located;
 - 2.2 To provide to MWCOCG and/or BMC contract usage reporting information, including but not limited to quantity, unit pricing and total volume of sales by entity, as well reporting other participating entities added on the contract, on demand and without further approval of contract participants;
 - 2.3 Contract obligations rest solely with the participating entities only;
 - 2.4 Significant changes in total contract value may result in further negotiations of contract pricing with the lead agency and participating entities.

In pricing and other conditions, vendors are urged to consider the broad reach and appeal of MAPT with public and non-profit entities in this region.

A list of the participating members of the Mid-Atlantic Purchasing Team can be found at the following web links www.mwcog.org/purchasing-and-bids/cooperative-purchasing/member-links/ and <http://www.baltometro.org/our-work/cooperative-purchasing/brcpc-representatives>

BOND FORMS

PERFORMANCE BOND	
Contract No.:	Contract Date:
Penal Sum of Bond:	
Date Bond Executed:	
<p>KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety(ies) hereto, are firmly bound to the Washington Metropolitan Area Transit Authority (hereinafter called the Authority) in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: Provided, that, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.</p> <p>THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the contract identified above:</p> <p>NOW, THEREFORE, if the Principal shall perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Authority, with or without notice to the Surety(ies), and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligation shall be void and of no effect.</p> <p>IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.</p> <p style="text-align: center;">Principal(s)</p>	
1. Firm Name and Address: Signature: _____ Name and Title:	Corporate Seal State of Inc.:
2. Firm Name and Address: Signature: _____ Name and Title:	Corporate Seal State of Inc.:
3. Firm Name and Address: Signature: _____ Name and Title:	Corporate Seal State of Inc.:

PERFORMANCE BOND – Page 2

Corporate Sureties				
Surety A	Surety Name and Address: Signature: _____ Name and Title:		Liability Limit \$ _____ State of Inc.:	(Seal)
Surety B	Surety Name and Address: Signature: _____ Name and Title:		Liability Limit \$ _____ State of Inc.:	(Seal)
Surety C	Surety Name and Address: Signature: _____ Name and Title:		Liability Limit \$ _____ State of Inc.:	(Seal)
Attach additional pages as needed.				
	Bond Premium Schedule		Total Premium \$ _____	
Instructions				
1. This form is authorized for use in connection with contracts for construction work or the furnishing of supplies and services.				
2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.				
3. Corporation executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "Corporate Sureties".				
4. Corporations executing the bond shall affix their corporate seals.				
5. The name of each person signing this performance bond should be typed in the space provided.				
6. The date this bond is executed must be the same date as the contract execution date.				

PAYMENT BOND

Contract No.

Contract Date:

Penal Sum of Bond:

Date Bond Executed:

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety(ies) hereto, are firmly bound to the Washington Metropolitan Area Transit Authority (hereinafter called the Authority) in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: Provided, that, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the contract identified above:

NOW, THEREFORE, if the Principal shall promptly make payment to all claimants as hereinafter defined supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligation shall be void and of no effect, otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the CONTRACT.
2. The above-named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due the claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a. Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to the Principal within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal at any place where he maintains an office or conducts business, or his residence or such notice shall be served in any manner in which legal process may be served in the state or District of Columbia in which the aforesaid project is located, save that such service need not be made by a public officer.
 - b. After the expiration of one (1) year following the date of final settlement of said CONTRACT, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - c. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

PAYMENT BOND page 2

IN WITNESS WHEREOF, the Principal and Sureties have executed this payment bond and have affixed their seals on the date set forth above.

Principal(s)

1.	Firm Name and Address: Signature: _____ Name and Title:	State of Inc.:	Corporate Seal
2.	Firm Name and Address: Signature: _____ Name and Title:	State of Inc.:	Corporate Seal
3.	Firm Name and Address: Signature: _____ Name and Title:	State of Inc.:	Corporate Seal

Corporate Sureties

Surety	Surety Name and Address:	Liability Limit	(Seal)
A	Signature: _____ Name and Title:	\$ _____ State of Inc.:	
B	Signature: _____ Name and Title:	\$ _____ State of Inc.:	
C	Signature: _____ Name and Title:	\$ _____ State of Inc.:	

**Attach additional pages as needed.
 Instructions**

- This form is authorized for use in connection with contracts for construction work or the furnishing of supplies and services.
- The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.
- Corporation executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "Corporate Sureties".
- Corporations executing the bond shall affix their corporate seals.
- The name of each person signing this payment bond should be typed in the space provided.
- The date this bond is executed must be the same date as the contract execution date.

PROPOSAL SECURITY (PROPOSAL BOND FORM)
Submit with Price Proposal

Request for Proposal No.: _____ Proposal Date: _____
 Penal Sum of Bond: _____ 5% of Offered Price or Amount, \$:
 Date Bond Executed: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety(ies) hereto, are firmly bound to the Washington Metropolitan Area Transit Authority in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: Provided, that, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the proposal identified above:

NOW, THEREFORE, if the Principal, upon acceptance by the Authority of his proposal identified above, within the period specified therein for acceptance (ninety [90] days if no period is specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the proposal as accepted within the time specified (ten [10] days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Authority for any cost of procuring the work which exceeds the amount of his proposal, then the above obligation shall be void and of no effect.

Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the proposal that the Principal may grant to the Authority notice of which extension(s) to the Sureties being hereby waived provided that such waiver shall apply only with respect to extensions aggregating not more than ninety (90) calendar days in addition to the period originally allowed for acceptance of the proposal.

Principal(s)

	Corporate Seal
1. Firm Name and Address:	
Signature: _____	State of Inc.: _____
	Corporate Seal
2. Firm Name and Address:	
Signature: _____	State of Inc.: _____
	Corporate Seal
3. Firm Name and Address:	
Signature: _____	State of Inc.: _____

PROPOSAL SECURITY (PROPOSAL BOND FORM) - Continued - page 2

Corporate Sureties				
Surety A	Surety Name and Address: Signature: _____ Name and Title:		Liability Limit \$	(Seal)
Surety B	Surety Name and Address: Signature: _____ Name and Title:		Liability Limit \$	(Seal)
Surety C	Surety Name and Address: Signature: _____ Name and Title:		Liability Limit \$	(Seal)
Attach additional pages as needed.				
Instructions				
<ol style="list-style-type: none"> 1. This form is authorized for use whenever a proposal guaranty is required in connection with construction work or the furnishing of supplies and services. 2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished. 3. The penal sum of the bond shall be expressed as either a percentage of the proposal price or in dollars and cents. 4. Corporation executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "Corporate Sureties". 5. Corporations executing the bond shall affix their corporate seals. 6. The name of each person signing this proposal bond should be typed in the space provided. 				

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1 Introduction

The Washington Metropolitan Area Transit Authority (WMATA) transit system operates over a 1600 square mile area and has more than 100 miles of underground tunnels. WMATA utilizes public safety grade land mobile radio for voice and data communications in its transit and administrative operations. Existing Motorola radio equipment operating in the 490 MHz band is being replaced with 700 MHz Project 25 Phase 2 compliant radio systems. The new 700 MHz radio system will serve operations above and below ground. Portions of regional 800 MHz below ground RF systems are also being replaced below ground. The regional 800 MHz systems belong to local jurisdictions and are referred to as the Public Safety Radio System (PSRS). Motorola is under contract to provide the new 700 MHz radio system and portions of the 700 and 800 MHz RF below ground equipment.

In conjunction with the communications upgrade, WMATA will house various equipment at a number of locations in the below ground tunnels and in selected outdoor locations. This equipment includes:

- Bi-directional amplifiers (BDAs) – used to provide 700 and 800 MHz radio signal in belowground areas
- IT networking equipment – used for various IT functions below ground
- Network of Wi-Fi access points – used for IT communications below ground
- Network of smoke detectors – used to detect smoke in below ground areas

This equipment requires a designed mounting and housing system that will protect it from the environment, allow mounting in a variety of situations and configurations, and allow 24/7 servicing. This mounting and housing system is referred to as the “Metro Box”, or MB.

WMATA requires the services of a Contractor to design, prototype, build, assemble, test, and deliver Metro Boxes (MBs); and provide technical support during commissioning of MBs with electrical equipment and mounting hardware to house both the radio equipment, as well as other supporting equipment identified in this IFB. The requirements of these activities are the subject of this Statement of Work (SOW).

2 Project Overview

2.1 Responsibilities

Contractor shall design, prototype, build, assemble, test, and deliver Metro Boxes (MBs); and provide technical support during commissioning of MBs with electrical equipment and mounting hardware to house both the radio equipment, as well as other supporting equipment identified in this IFB.

- A. The Work includes constructing the Project as indicated in the Contract Documents.
- B. The completed Project will result in the complete design and supply of the following:

One (1) prototype and one hundred thirty (130) production Metro Boxes (MB) and associated equipment will be designed and constructed.

One (1) prototype and five (5) Outdoor Metro Box Kit

WMTA requires the design, supply, housings and equipment for trackside enclosure (called Metro Box (MB) of electronic communications equipment.

The scope of work includes:

- Design of the MB
- Prototype the MB and an outdoor cabinet
- Test the designs
- Select and provide portions of the enclosed electronic equipment
- Allow for WMTA to provide portions of the electronic equipment
- Manufacture and supply the specified quantities of MBs
- Document the designs
- Train WMATA on use and maintenance of the MBs
- Provide spare parts, and warranty of the MBs

The desired MB design will consist of a metal enclosure, such as a NEMA cabinet and three 19" H-frame racks organized in a line up. The enclosure will house electrical items which are not rated for outdoor and harsh below ground environments. The racks will house items rated for harsh environment including BDAs and batteries. Power and signal wiring will run between the enclosure and racks. Commercial power wires, fiber optic signal wires, and radiating coax will enter and exit the MB system. Some wires will enter the enclosure. Some will connect with equipment in the racks.

The project has split responsibilities in terms of WMATA-supplied and Contractor-supplied materials and services. As an overview, the responsibility splits are as follows. This specification provides additional details.

Contractor-supplied materials

- MB enclosure and H-frames
- Floor isolation base for the MB system
- Commercial AC line voltage termination at the MB
- UPS and battery backup system
- AC line voltage distribution within the MB enclosure and H-frame(s)
- IT backplate and DIN rails (located inside the MB enclosure)
- Miscellaneous hardware for mounting and interconnecting all materials, WMATA and Contractor-supplied

Contractor-supplied services

- Site surveys
- Overall design of the MB for performance and reliability
- MB enclosure and H-frame design and construction
- Fabricate the floor isolation base for the MB system
- Fabricate IT backplate and the BDA interconnection plate
- Warranty and optional extended warranty support services
- Deliver MBs to WMATA specified locations
- Technical commissioning support
- Perform bench test and provide certified test reports for WMATA approval
- Preassemble MBs prior to field installation by others

WMATA-supplied materials

- BDA units
- BDA RF interconnection plate
- BDA RF distribution cables and supporting small components
- Fiber optic patch panel
- Network equipment and its power supplies for mounting inside the MB enclosure
- Wi-Fi access points, power supplies, antennas, and cables
- Aspirating smoke detectors, power supplies, and cables

WMATA-supplied services

- Transportation and logistics of below ground MB work
- BDA RF wiring (distribution, small components, and field wiring)
- BDA power-up, programming, testing, and commissioning
- Network equipment on the IT backplate
- Network equipment power-up, programming, testing, and commissioning
- Fiber optic patch panel components
- Fiber optic patch panel termination and distribution
- Installation, assembly, and test of the Contractor-supplied components
- Installation test, and commissioning of the finished MBs
- Cold installation of the BDAs

Notes:

1. The term "WMATA-supplied" means the materials and services will come from various groups; Engineering, Maintenance (SMNT), IT, and other WMATA contractors such as Motorola and their contractors.
2. The WMATA Engineering Department will be the Contractor's single point of contact for the project and for interface to the various WMATA groups.
3. The Contractor should assume that any materials and services not covered in this SOW, or that are discovered during the design process, become the responsibility of the Contractor, and should be handled through a change order process.

2.2 Execution

The project requires a highly cooperative process among the Contractor and several WMATA departments including Engineering, IT, SMNT, and WMATA's other contractors. The qualified Contractor will provide project management, engineering, and technical services.

The process begins with WMATA-hosted site surveys showing the Contractor a representative mix of installation locations and situations.

The Contractor's design will be reviewed at three design completion points; 35%, 65%, and 95%. At the 95% point the Contractor will bring prototypes of his materials to be integrated to WMATA-supplied materials. The prototype will be assembled, installed and tested for proper function and performance. Once approved, the Contractor will be authorized to produce the balance of the production materials.

3 Requirements

3.1 Enclosure and Racks

Figure 1 below is a sketch of the MB concept. It consists of four modules. Three modules are open H-Frame 19" racks which house equipment rated for open air mounting, in WMATA tunnels. The fourth module is envisioned as a standard or modified UL-rated NEMA enclosure. The Contractor shall design the enclosure with a hinged door which allows easy access to all equipment with the enclosure. The enclosure door shall provide a document pocket on the inside suitable for holding a 25 sheet 11x17 paper document set.

The left to right organization of the modules is a topic for discussion during the design process. The modules shall be manufactured to facilitate the integration of equipment and quick assembly in the Metro environment. The Contractor shall supply and install the four modules.

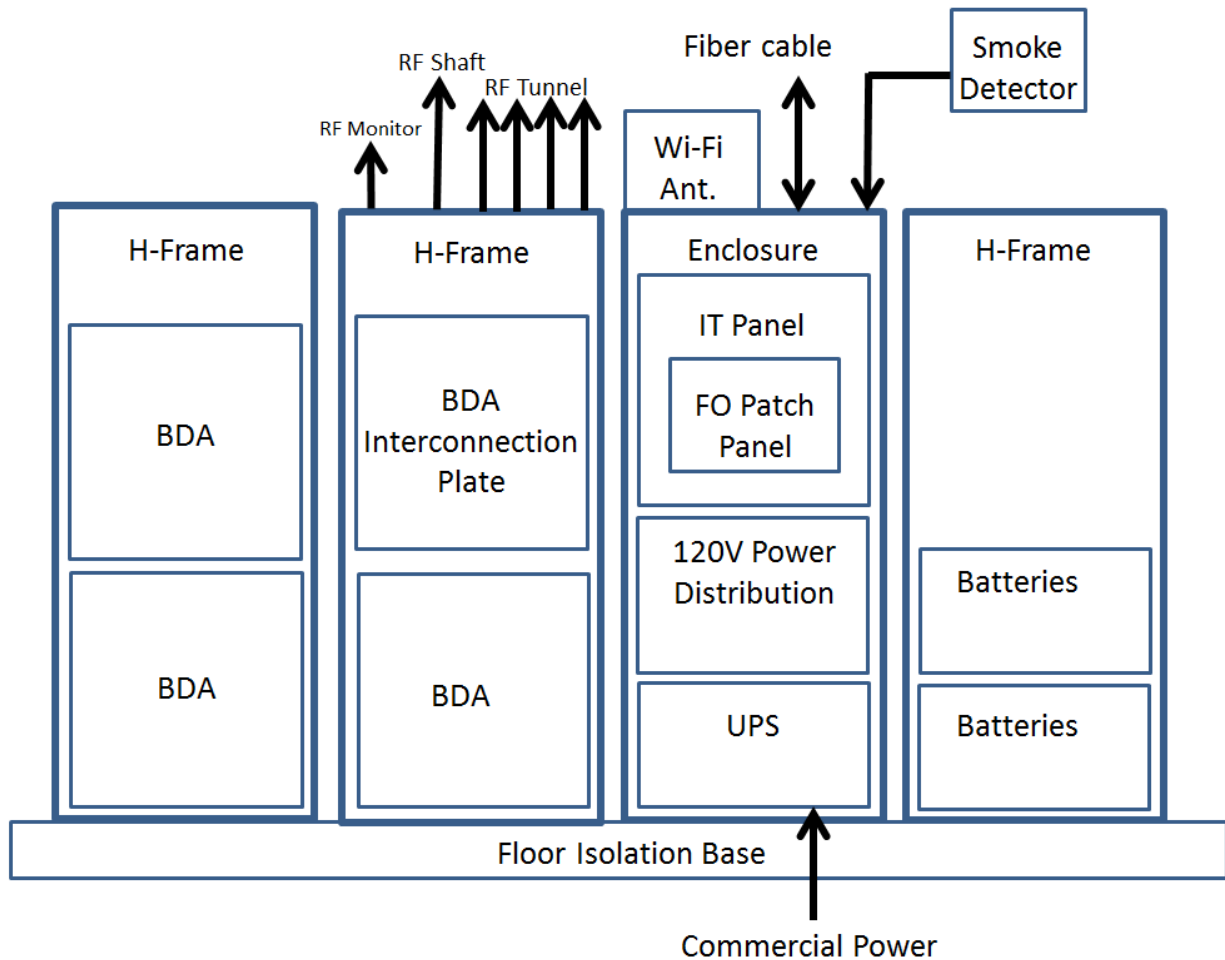


Figure 1 – Metro Box Concept Sketch

The module set shall be mounted on a 4" floor isolation base to hold modules in position and to elevate the system above wet floors. The platform is envisioned as a pair of metal rails and is a topic of design discussion. The Contractor shall supply the mounting platform. WMATA shall bolt the mounting platform to the concrete floor and bolt the MB racks to the platform.

3.1.1 Physical Space Constraints

The floor space of the MB shall not exceed a footprint of 108" wide by 36" deep. The height of the installed MB including the platform shall be between 42" and 70". The actual height shall be determined and approved during site surveys and the design process.

3.1.2 Installation Locations

The Contractor shall supply and deliver MBs to the variety of locations and facilities. Typically, a maximum of three BDAs shall be installed at any location.

3.1.3 Outdoor Installations

In six or less vent shaft situations, there is insufficient space in the shaft, so the MB will be installed outdoors at the top of the shaft. Outdoor installations will require sun shades for the BDAs. The Contractor shall work with WMATA to determine a suitable design for the sun shades. The Contractor shall provide the sun shades. WMATA will install the sun shades, concrete mounting pads, and suitable earth grounding and lightning protection for the outdoor installations. The final number of outdoor installations will be determined during the project. Some outdoor installations may require equipment security fencing. WMATA will supply and install the fencing. WMATA's typical style of fencing is shown in Vol. I (A).

3.1.4 Heat Load Analysis

The Contractor shall perform a heat load analysis for the enclosure. The analysis shall account for the heat generated by the all active electronic equipment in the MB and shall be submitted for approval by WMATA. The operational ambient temperature range is -20 deg. F to 115 deg. F. The internal temperature of the MB should not exceed the range of the electronic equipment that is mounted inside the MB box.

3.1.5 Enclosure Ventilation

Metro Box will not require ventilation or active cooling.

Table 1 below contains the results of a 2007 WMATA Air Quality Study and is provided as a guide for filter selection. WMATA strongly prefers selection of a (COTS) commercial off-the-shelf fan/filter with a replaceable filter element. All ventilation solutions shall be approved by WMATA.

VERSAR
6850 VERSAR CENTER
SPRINGFIELD, VA 22154

Group No: L 234-032
Acct. No: 45209055
Date: 9/13/2007

CONTACT: C. MERIDITH
PROJECT: WMATA TUNNEL OUT STUDY

PARTICLE SIZING

Client No.	Analytics No:	< 2.5um		2.5 - 10um		10 - 25um		> 25um	
		#/500	%	#/500	%	#/500	%	#/500	%
Red line tunnel	L 234-32-01	40	8.0	109	21.8	266	53.2	85	17.0
Red line filters	L 234-32-02	78	15.6	73	14.6	336	67.2	13	2.6
Yellow line tunnel	L 234-32-03	93	18.6	272	54.4	75	15.0	60	12.0
Yellow line filters	L 234-32-04	103	20.6	209	41.8	177	35.4	11	2.2
Green line tunnel	L 234-32-05	106	21.2	154	30.8	231	46.2	9	1.8
Green line filters	L 234-32-06	199	39.8	126	25.2	169	33.8	6	1.2
Orange line tunnel	L 234-32-07	148	29.6	122	24.4	225	45.0	5	1.0
Orange line filters	L 234-32-08	199	39.8	174	34.8	125	25.0	2	0.4
Blue line tunnel	L 234-32-09	120	24.0	77	15.4	183	36.6	120	24.0
Blue line filters	L 234-32-10	58	11.6	114	22.8	319	63.8	9	1.8

Table 1 - Tunnel Air Particle Dust Size Characterization (Courtesy Versar Inc. 2007)

3.2 MB Equipment

Vol. I (C) contains an equipment matrix that shows the equipment installed in an MB and shows the connections between equipment.

WMATA has selected some portions of the electrical equipment to be supplied by the Contractor. The Contractor shall provide this equipment or functionally similar equipment. Other pieces of equipment shall be selected and provided by the Contractor. Final selections of all equipment shall be made during the design process. Contractor shall additionally provide for each MB the following, or equal, may be used: AC Power Strip – APC, SBP2200RM.

Certain equipment will be provided and installed by WMATA. These pieces of equipment are shown in Vol. I (A), for the convenience of the Contractor is bidding and designing.

3.2.1 Commercial Power Feed

Note: Applies to all design aspects involving 120 VAC power: WMATA desires that all 120 VAC power components be physically segregated from other MB electronics. For example, line feed, power distribution, backup power might all located in the bottom section of the MB enclosure. A segregated design will allow WMATA maintenance staff responsible for power systems to perform service within a confined area.

The MB shall receive primary power from commercial power feeds nearby each location. Commercial power is 120 VAC single phase. WMATA will provide power cables within reach of each MB. The Contractor shall provide a power termination block with surge protection inside the enclosure.

The Contractor shall provide a door or hinged panel within the enclosure that restricts access to the commercial power block and to the branch power distribution equipment.

3.2.2 Power Distribution

The Contractor shall provide the necessary branch circuits to power all equipment in the MB. The 20 AMP branch circuits shall be compliant with current NFPA 70 standards and distributed through outlet strips with sufficient outlets for all equipment plus 4 unassigned outlets to be used for future expansion and by service technicians. The outlet strip blocks shall be properly sized to accept various gauges of wire. The MB will contain communications cabling so the Contractor shall design the electrical distribution system to not adversely affect the communications and radio equipment.

Electrical branch circuit line, neutral, and grounding conductors should be maintained close together (e.g., twisted, sheathed, taped, or bundled together) to minimize inductive coupling into the communications cabling. The minimum separation distance per ANSI/TIA/EIA-569 between power and data cables for unshielded power lines or electrical equipment under 2 kVA in proximity to open or nonmetal pathways is five (5) inches. The MB shall have a nameplate installed identifying the all the branch circuits within the enclosure.

The Contractor shall provide a GFCI protected maintenance receptacle accessible from within the enclosure. The maintenance receptacle shall not be connected to UPS backup power.

3.2.3 Backup Power

The Contractor shall provide an appropriately sized UPS system for each MB. The UPS electronics shall be rack mountable inside the enclosure. The UPS shall include appropriate circuit breakers for over current protection. The electronics shall provide maintenance and diagnostic signals which may be accessed locally via a USB port, and remotely via an RJ45 connector.

Vol. I (C) shows the equipment that will be powered by the UPS. The Contractor shall estimate the design of the UPS system capacity from information in this SOW, and shall finalize the design during the MB design process.

The Contractor shall implement a UPS architecture that will be suited for remote, hardened environmental conditions. The Contractor shall propose cost effective commercial products that meet the load rating, battery runtime, and has a small form factor.

The Contractor shall provide an automatic UPS bypass switch UPS that allows WMATA maintenance to manually disconnect the UPS from the load and allows an automatic failsafe bypass mode should the UPS fail to energize the load. When the bypass switch is active, the UPS load shall be powered directly from the electrical circuit feeding the UPS. This bypass switch shall be certified by the manufacturer to have reliability in the order of 10^{-9} and it shall be immune to the harsh WMATA tunnel and outdoor environments.

A diagram of the UPS bypass switch is located in Vol. I (C) and in Figure 2 below.

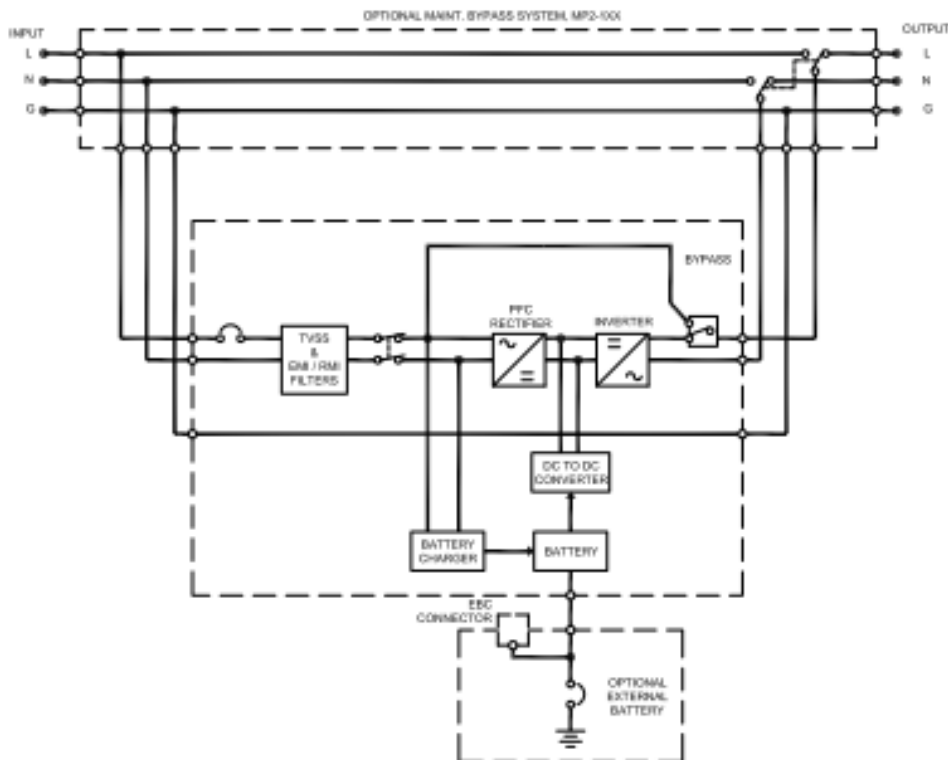


Figure 2 – UPS Bypass Switch

3.2.4 UPS Batteries

The Contractor shall design and provide a battery bank to provide 2 hour run time in a maximum configured MB system. Within this time the MB supply voltage shall not fall below 87% of the normal voltage.

The battery bank shall be located external to the enclosure in a 19" H-frame. The Contract shall provide battery tray(s) and battery boxes suitable for protecting the batteries in WMATA's underground and outdoor environments. The battery bank shall provide N+1 redundancy. Loss of one battery may reduce run time capacity but shall not result in loss of all capacity.

The batteries shall be sealed (valve-regulated) lead-acid type to provide a means to recombine hydrogen and oxygen gases, thus minimizing emissions from the cell. The design shall use passive ventilation configuration methods to maintain the hydrogen concentration level below 1% and comply with applicable code requirements.

The Contractor shall design the UPS battery rack for easy installation and replacement of batteries. The batteries shall come with a one-year warranty. The selected batteries shall offer a minimum 8-year replacement cycle.

3.2.5 IT Backplate

The Contractor shall design, provide, and install in the enclosure, the IT backplate illustrated and shown in Figure 3 below. The Contractor shall equip the backplate with three DIN rails as illustrated. The IT network equipment shown on the backplate are provided and installed by WMATA. The Contractor shall locate the DIN rails to accept the WMATA-provided equipment shown in Vol. 1 (A).

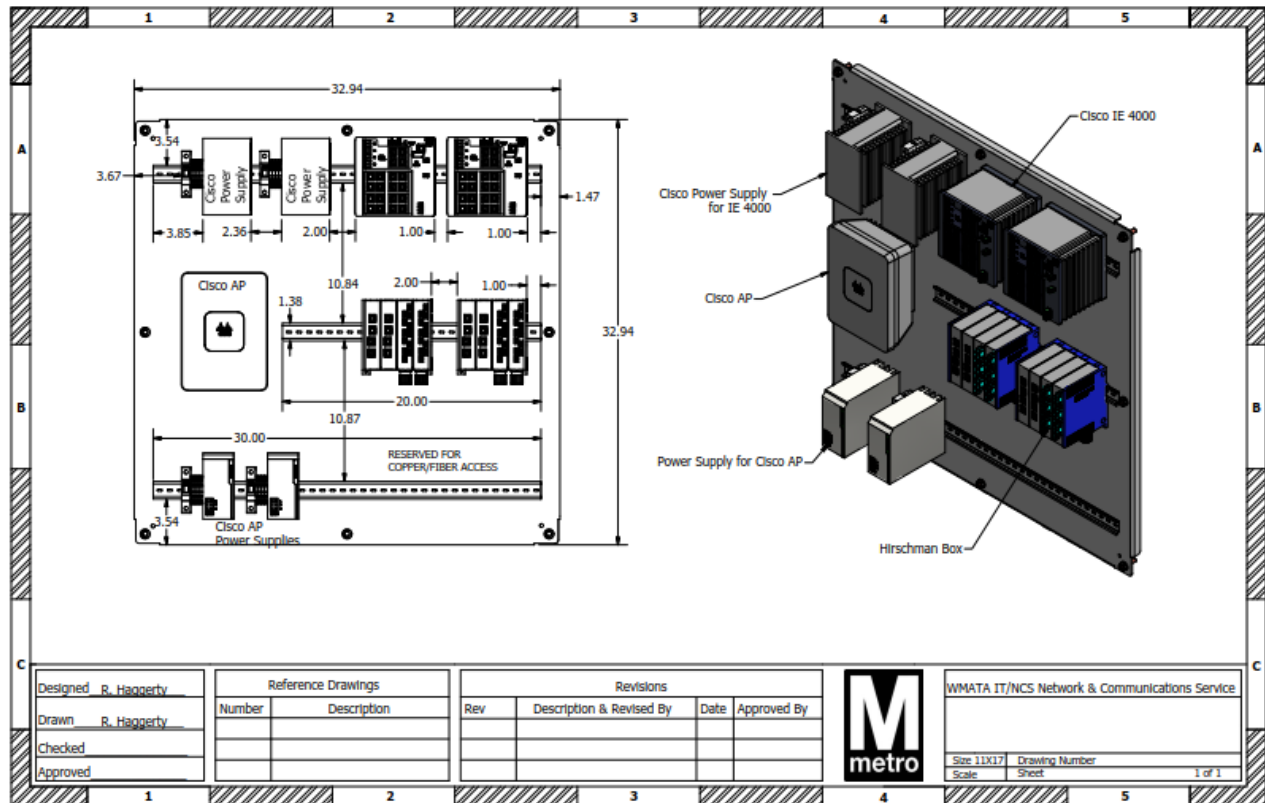


Figure 3 – Fiber Optic Backplate

3.2.6 Fiber Optic Patch Panel

The fiber optic (FO) patch panel is part of the IT backplate illustrated in Figure 3. FO patch panel components attach to a DIN rail on the backplate. This item is labeled “Hirschman Box” on the drawing in Figure 3. Two modules are shown, sufficient for terminating two cables. The Contractor shall provide and install the DIN rail. WMATA will install the FO patch panel components and terminate the FO cables.

3.2.7 Fiber Optic Cable Management System

Two 6 strand FO cables enter the MB coming from a WMATA communications room. WMATA will terminate the cables at the FO patch panel. WMATA will provide FO jumper cables and connect them from the FO patch panel to the BDA units.

The Contractor shall design and provide a FO cable management system for the MB. The Contractor shall provide a suitable FO cable entry port into the enclosure, and an exit port for FO cables going from the enclosure to the BDAs. The Contractor shall design and provide suitable cable management hardware for FO cables within the enclosure. Contractor shall also design and provide suitable cable management for cables exiting the enclosure going to the BDA modules. The design shall conform to the cable manufacture’s specifications regarding strain relief and minimum bend radius.

3.2.8 Grounding and Bonding

The Contractor shall be responsible for grounding and bonding the MB metallic structure, electrical and communications equipment and raceways in accordance with the current edition of the NFPA 70 National Electric Code and industry standards.

The Contractor shall provide equipment grounding conductors from the disconnect switches, feeders and branch circuits. Electrical equipment shall be provided with a minimum of two ground paths; one path shall be a green insulated equipment grounding electrode conductor and the second path shall be a connection to a grounded metallic structure using metallic fasteners, metallic conduit and/or bonding jumper between the neutral and ground bus.

The Contractor shall be responsible for providing shielding and grounding of equipment to protect RF and communications systems from interference from electrical distribution systems.

3.2.9 Interior Lighting

The Contractor shall provide LED technology interior lighting for the enclosure that illuminates automatically when the enclosure door is opened. The minimum brightness of the light shall be 700 lumens.

3.2.10 Enclosure Lock

The Contractor shall provide a lock to secure the MB enclosure. The Contractor shall key all locks as per WMATA's directions and provide at least one key for each enclosure.

3.2.11 BDAs

WMATA will install, configure, power up, and commission three BDAs per MB, as per Appendix A and shown in Figure 4 below. These include 700 MHz BDAs for the WMATA radio system and 800 MHz PSRS BDAs.

The Contractor shall design and provide H-Frame racks for mounting the BDAs. The Contractor shall design and provide mounting hardware, and cable management for FO cables and AC power cables. The Contractor shall provide FO cable and power cable ports in the enclosure for these cables.

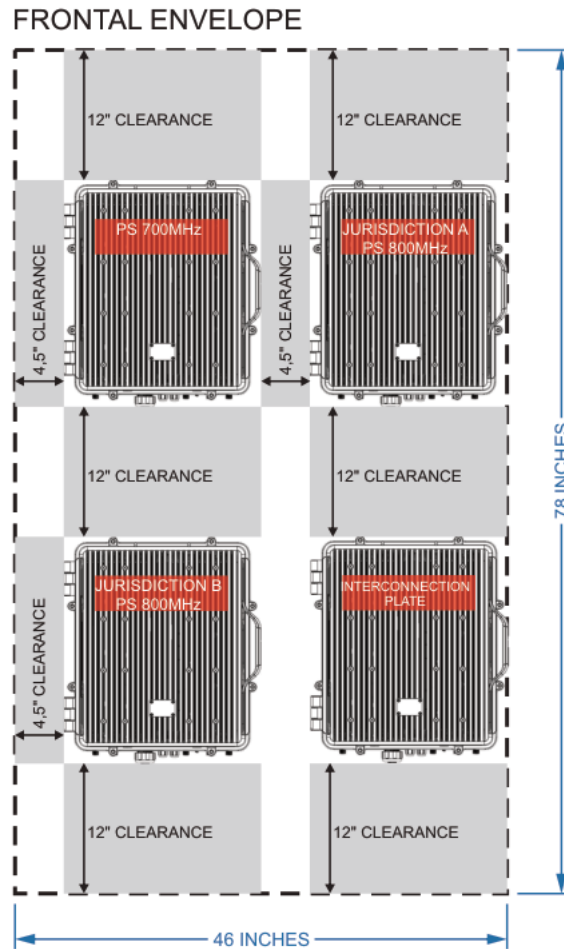


Figure 4 – BDA Rack Layout

3.2.11 RF Interconnection Plate

As per Figure 5, one mounting location in a BDA H-frame will be occupied by an RF interconnection plate. This plate will house RF connection components shown in a diagram in Figure 5 below. This passive network consists of RF jumpers, bi-directional couplers, cross-band couplers and other components required to connect the BDAs to the underground DAS.

The Contractor shall design, provide, and install, one per MB, weatherproof metal enclosure for the RF interconnection plate. The design of the metal enclosure shall provide unobstructed access to external connections including; the RF monitor port, connections to the DAS, and the inbound and outbound coax cables. The Contractor shall work with WMATA during the design process to arrive a metal enclosure design that accommodates the WMATA-provided RF interconnection plate using simple screw-in-place plate installation.

WMATA will provide and install the RF interconnection plate with the RF components pre-installed. Connection of the interconnection plate components with the BDAs, tunnel DAS and local shaft antennas will be performed by WMATA.

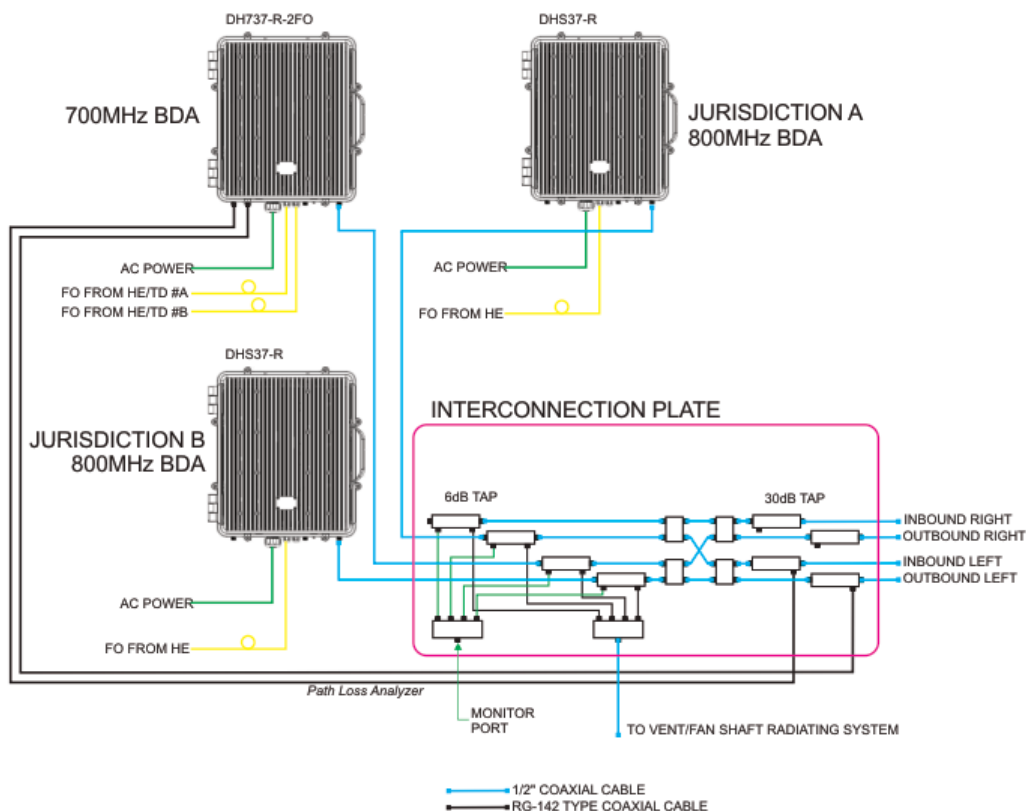


Figure 5 – BDA Rack Layout (Typical)

3.2.12 Wi-Fi Access Point and Antenna

As part of the WMATA supplied and installed equipment, the Wi-Fi access point will be located on the IT backplate.

The Contractor shall provide an enclosure penetration, mounting and means for cable routing for the Wi-Fi antenna. The antenna specifications are located in Appendix B.

3.2.13 Support for Aspirating Smoke Detector

WMATA will install one aspirating smoke detector (ASD) in close proximity to each MB. The ASD is will be powered from the MB and will communicate with the IT devices on the IT backplate. The ASD communicates via a serial line to a serial-to-Ethernet converter and connects to a server on the IT backplate. WMATA will provide, install, test, and commission all components associated with each ASD.

The Contractor shall provide a sealable port in the enclosure for the ASD power cable and serial data cable. The Contractor shall allocate one 120 VAC outlet, UPS served, to the ASD.

3.2.14 External Network Connections

The IT backplate contains a server which supports additional network connections, beyond those used within the MB. WMATA will use nine network connections as follows:

- Five (5) CCTV cameras
- One (1) tunnel pump RTU
- One (1) tunnel fan RTU
- Two (2) spare

The Contractor shall provide a sealable port in the enclosure for nine (9) plenum rated CAT6A cables. WMATA will install these cables and connect to the equipment on the IT backplate.

3.2.15 Future Space Allocation

The Contractor shall provide 25% spare equipment space in each MB. The Contractor's design shall be expandable for adding enclosures and H-Frame racks.

3.3 General Design Specifications

The Contractor shall provide a design that allows for the easy routing of cabling and wiring entering and exiting the MB. Where possible, connectors shall be bulkhead mounted for easy access.

The Contractor shall provide a design that has the maximum amount of cabling installed at the manufacturer's factory and not in the underground of the WMATA rail system.

3.3.1 Ratings and Certifications

The enclosure of the MB shall be designed and manufactured to protect electrical and communications equipment, wiring and cabling in wet, dusty and corrosive environment and shall conform to the following ratings and certifications:

- IP66 or NEMA 4X: IT module, spare modules (if any)
- NFPA 70: Electrical Module (as required)
- UL Rated

3.3.2 Labels

The MB shall have all wiring labeled using high quality, black text on white background, and high durability markings that match the as-built documentation.

All components inside the enclosure shall be labeled on the back plate (or other mounting surface) with Brady labels (or approved equal) using black text on white background.

All components external to the enclosure shall be labeled using Lamicoid nameplates that are glued and screwed onto the outside of the MB. The nameplates shall use black text on white background and the font size and exact wording shall be defined as part of the design process.

Each MB shall be delivered with a unique identifying nameplate on the exterior of the MB. WMATA will provide the label format.

3.3.3 Panel Hardware

The MB shall be designed and manufactured with a minimum quality 316 stainless steel panel hardware that will ensure prolonged operation in high exposure underground environment. The underground environment is often exposed to 95% relative humidity noncondensing, temperature variation, dripping water, severe brake dust accumulation, and up to 70 PSF wind loads. Panel hardware will include terminal blocks, breakers, transformers, grounding hardware, and shall conform to the following ratings and certifications listed in the subsections below.

3.3.4 Color coding

The Contractor shall provide panel hardware (such as terminal blocks, wiring, and cabling) that is color coded. The color coding shall be identified on the as-built documentation and shall conform to WMATA color coding requirements.

3.3.5 Terminal Blocks

The Contractor shall provide angled standoffs for mounting the terminal blocks to make the termination of field wiring easier during the installation of the MB.

3.3.6 Bulkhead Connectors

The Contractor shall provide bulkhead mounted connectors where the use of such would aid in reducing the installation time. All bulkhead connectors shall be designed and installed to maintain the NEMA 4x specifications of the MB. All bulkhead connectors shall be provided with covers for shipment when not attached to a cable. The use of bulkhead connectors shall be coordinated with the WMATA DAS installation team.

4 Design Process

Information specific to the MB design process is included in this section.

The MB project requires a highly cooperative design process among the Contractor and several WMATA departments including Engineering, IT, SMNT, and WMATA's other contractors. The process begins with WMATA-hosted site surveys showing the Contractor a representative sample of installation locations and situations.

The Contractor's design shall be reviewed at three design completion points; 35%, 65%, and 95%. The 35% and 65% design reviews will focus on an integrated design of Contractor-supplied and WMATA-supplied components. At the 95% point, the Contractor shall focus on a completed design package and a buildable WMATA-approved drawing set. The prototype will be assembled, installed and tested for proper function and performance.

Once approved, the Contractor will be authorized to produce the balance of the production materials. Production quantities and delivery/installation schedule are described in this IFB.

4.1 Prototypes

4.1.1 Prototype MB

The Contractor shall manufacture and deliver one assembled and tested prototype MB at the 95% design point. The prototype shall be manufactured from the approved 95% design drawings. A factory test shall be conducted at the Contractor's facility using the proposed equipment. After factory test, the Contractor shall deliver the prototype to WMATA for inspection and testing. WMATA will add the WMATA-provided equipment including three BDAs, RF components, and IT components. The Contractor shall demonstrate the prototype in a WMATA shop area. After shop demonstration, WMATA shall install, with Contractor technical support, the prototype in an actual tunnel location and test for proper function and performance.

4.1.2 Prototype Outdoor Installation Kit

Outdoor MB installations will require an outdoor installation kit. The kit shall consist of a sun shade over the BDAs and weather protection of the RF and fiber cables within the BDA racks. The Contractor shall design, manufacture, and deliver the sun shades, and weather protection. WMATA strongly desires the outdoor installation to require only passive air ventilation cooling. The Contractor shall evaluate any outdoor installation cooling needs and propose appropriate designs.

The Contractor shall manufacture and deliver one assembled prototype installation kit including the sun shade and weather protection, at the 95% design point. The prototype shall be manufactured from the approved 95% design drawings. The Contractor shall demonstrate the prototype outdoor installation kit in a WMATA shop area.

4.2 Manufacturing and Delivery

The Contractor shall manufacture MBs for specific locations, as requested and authorized by WMATA. Not all MBs will be manufactured and delivered at once. Contractor deliveries shall be coordinated to align with the WMATA schedule.

Delivery address: WMATA #390
6901 B Distribution Drive
Beltsville, MD 20705

4.2.1 Production

The Contractor shall perform factory testing and document the following tests on each production of MB. Production test results for each unit shall be recorded electronically and shipped with the MB. Test result files shall be provided to the WMATA project manager for approval prior to authorization to ship.

- Visual inspection documented with photographs
- Wiring continuity record
- Factory certification for all Contractor supplied components used in the MB
- Powered up operational and functional test checklist and records

WMATA will warehouse the received MB prior to transportation to, and installation at the intended locations. Should there be a change in WMATA's project schedule that affects the MB installation schedule, the Contractor shall have at least 25 MBs on hand for a period of at least 3 months.

The Contractor shall ultimately manufacture sufficient quantities of MBs to supply all locations. These quantities are reflected in the Unit Price Schedule.

The Contractor shall have the capability to manufacture and install all MBs within one year. The Contractor shall coordinate the delivery of the MB to a WMATA identified delivery location within the WMATA operating area. The final delivery location shall be determined no later than 72 hours prior to the required delivery date.

4.2.2 Spare Parts

The Contractor shall provide an inventory of selected spare parts and submit a list of recommended spare parts to WMATA.

WMATA shall use the Spare Parts and Consumables allowance shown on the Unit Price Schedule to select from the list of proposed spare parts made by the Contractor. The Contractor shall deliver the selected items to WMATA within 60 days of WMATA having made the selection.

5 Installation, Testing, and Commissioning

WMATA will install, field test, and commission each MB installation. WMATA will define the installation schedule.

5.1 Field Testing and Commissioning Support

The Contractor shall provide support services to WMATA's installation team for field testing and commissioning. The Contractor shall offer the level of support requested in the Unit Price schedule. The Contractor shall be prepared for on-site technical support, especially for the earlier MB installations.

5.2 Transportation

WMATA will provide transportation of MB equipment from a WMATA storage location to a trackside location in the installation vicinity.

5.3 Commercial Power Connection

Members of WMATA's electrical maintenance department will route and install primary electric cables to each MB. WMATA shall perform power-up of the MB electrical and distribution system and work with the WMATA electrician to commission the AC and DC equipment.

WMATA will power up and commission the UPS system.

5.4 IT Backplate Equipment

WMATA's IT department shall install and commission the IT equipment. This includes:

- All components on the IT backplate
- The Wi-Fi radio and antenna
- The aspirating smoke detector
- Alarm and diagnostic wiring and programming of signals to be transmitted over the FO cables

5.5 BDA Equipment

WMATA's SMNT department shall install, configure, and commission the BDA equipment. This includes:

- Terminating the FO cables
- Producing and installing the FO patch cables from the IT backplate to BDAs
- Installing the BDA RF interconnection components
- Programming and adjusting the BDA RF system
- Connecting and powering up the DAS cable

6 Training

The Contractor shall provide at least two sessions on different dates, for 10 persons each, of classroom training for WMATA technical support personnel. WMATA will provide a classroom/workshop environment for the hands-on training. The Contractor's training content shall include:

- Setup and assembly in the workshop
- Programming and shop testing
- Installation and commissioning
- Installation test and verification
- Operations and maintenance
- Troubleshooting and repair

The Contractor shall develop a training syllabus, schedule, and course materials for WMATA's review and approval.

7 As-Built Documentation

7.1 File Format

The Contractor shall provide hard copies and electronic copies of the as-built documentation in native source format (such as Word, Excel or AutoCAD) and in PDF format. All drawings shall be printed and readable on 11 x 17 inch paper.

The Contractor shall finalize the design of the MB in AutoCAD 3D and submit the 3D files to WMATA for approval.

7.1.1 Manuals

The Contractor shall supply operations and maintenance manuals for all equipment installed inside the MB. The manuals shall be in electronic searchable PDF format and 5 bound or binder format hardcopies.

7.1.2 Configuration Files and Software

The Contractor shall provide all software configuration files in native machine loadable format and human readable text format in electronic PDF format.

All proprietary software required for reading, analyzing, maintaining, and transferring configuration files to Contractor furnished equipment within the MB, shall be provided to WMATA in native format.

8 Warranty

Please refer to Chapter I – Terms & Conditions; 5. Warranty of Supplies (page 51).

In addition to the one (1) year warranty as described in the Terms & Conditions (mentioned above); the Contractor shall provide to WMATA two (2) additional warranty years for all equipment and hardware provided by the Contractor.

The Contractor shall replace at no cost to WMATA any defective equipment or hardware during the warranty period.

The warranty period for each MB shall start upon WMATA commissioning acceptance of the individual installed MB.

9 Acceptance

Conditional acceptance shall be declared on a per-MB basis upon receipt of each unit following factory test, deliverer to WMATA, and passed incoming inspection.

Conditional acceptance shall be declared on a per-MB basis upon WMATA's successful installation and commissioning of each MB or within 30 days of delivery.

Project acceptance shall be declared when all MBs have been successfully accepted for each MB and project requirements and deliverables have been completed. Any spare MB units not being placed into service are not included.

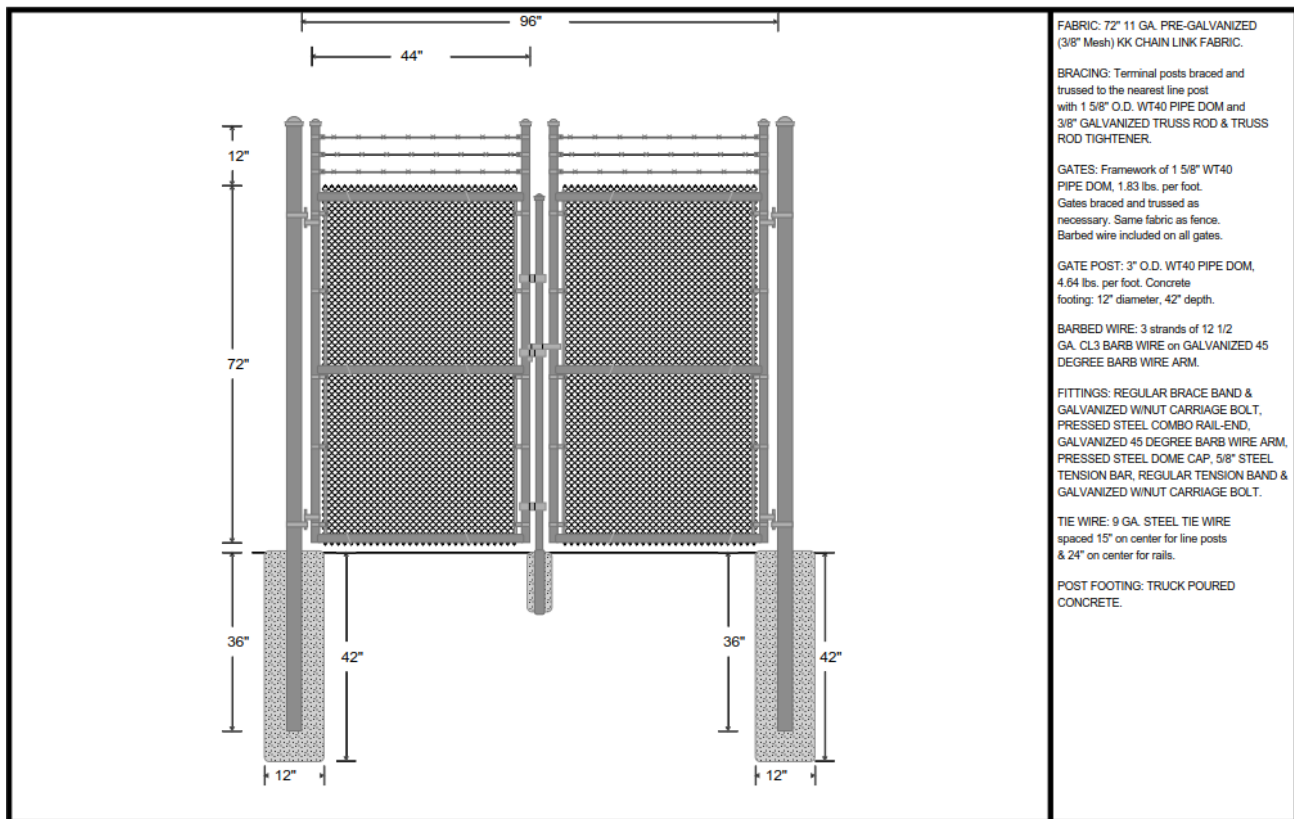
10 Contract Deliverables

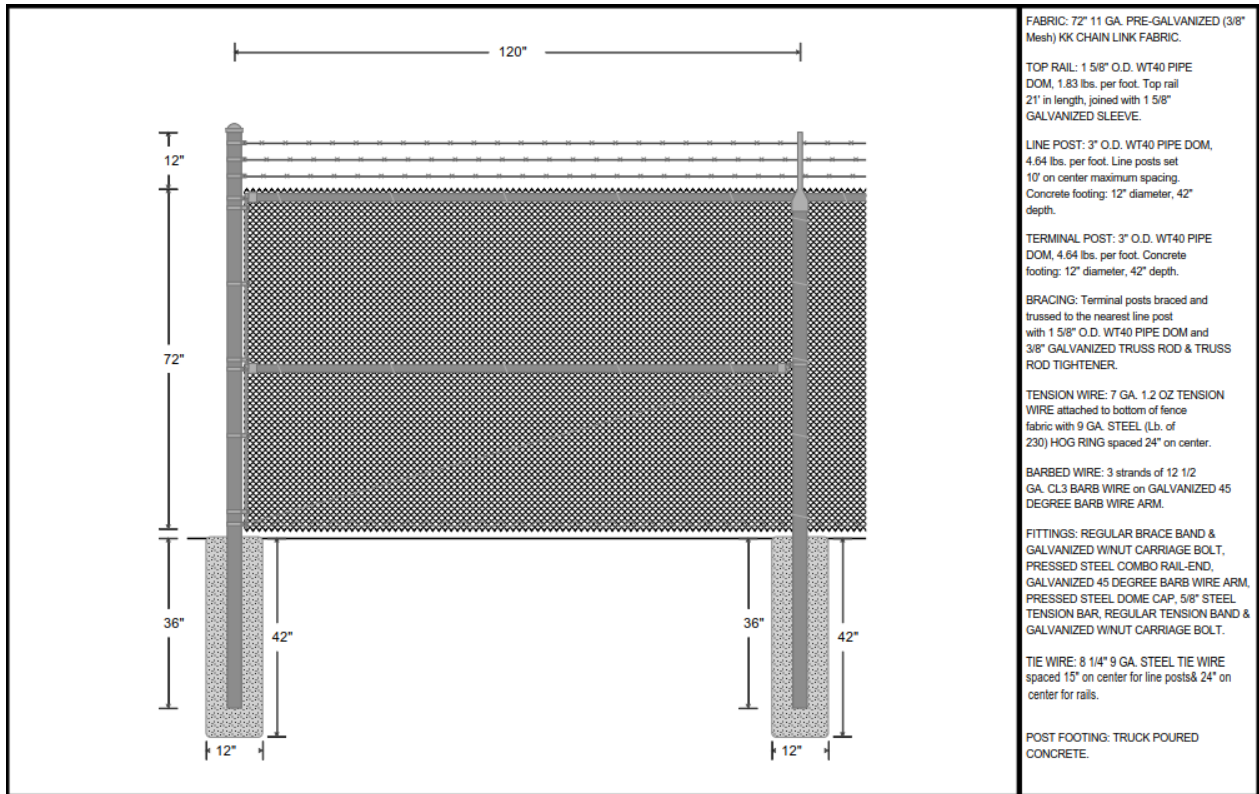
The Contract Deliverables with due dates are identified in Appendix C. CDRL documents require approval by WMATA.

VOL. I (A) Specifications for WMATA –Supplied Equipment

The following equipment, or equal, may be used:

- Network Switch - Cisco Industrial Ethernet 4000 Series
- Serial-to-Ethernet server - Moxa NPort Express DE-311, or Lantronix MSS-100
- Fiber Optic Patch Panel - Belden Modular Industrial Patch Panel (MIPP™)
- Wi-Fi Access Point - Cisco Aironet 1560 Series Outdoor Access Point
- Wi-Fi Antenna - MP Antenna, 2X-MIMO-DUAL BAND, Model 08-ANT-0944-2X
- BDA – Fiplex, DIGITAL FIBER DAS SYSTEM, 136 - 869 MHz, PS700 - PS800 MODELS
- RF Interconnection Plate
- Aspirating Smoke Detector - VESDA VLC-505
- Security Fencing – Typical





VOL. I (B) Specifications for Contractor-Supplied Equipment

The following equipment, or equal, may be used:

- AC Power Strip – APC, SBP2200RM

MB Equipment Connection Matrix with MB Module Configuration

MB Equipment/ Connection Matrix	UPS	Ventilation Fan (If Required)	Storage Batteries	Maintenance Receptacle	Interior Light	IT FO Patch Panel 1	IT FO Patch Panel 2	Network Switch 1	Network Switch 2	Power Supply 1	Power Supply 2	Power Supply 3	Power Supply 4	WiFi Access Point	Serial to Ethernet Device Server	Interior Light	MB FO Cable Mgt. System	700 MHz BDA	800 MHz BDA A	800 MHz BDA B	RF Interconnection Plate	ASD	Wi-Fi Antenna	Functional Modules	Enclosed Form Factor	(Open Form Factor
	UPS																							UPS	TBD	
Ventilation Fan (If required)	X																							Electrical	TBD	
Storage Batteries	X																									
Maintenance Receptacle																										
Interior Light																										
IT Fiber Optic Patch Panel 1																										
IT Fiber Optic Patch Panel 2																										
Network Switch 1					X	X																				
Network Switch 2					X	X																				
Power Supply 1							X	X																		
Power Supply 2							X	X																		
Power Supply 3																										
Power Supply 4																										
Wi-Fi Access Point							X	X		X	X															
Serial to Ethernet Device Server							X	X		X	X															
Interior Light																										
MB FO Cable Mgt. System						✓	✓																	MB FO	NEMA 4X	
700 MHz BDA	✓																									
800 MHz BDA A	✓																									
800 MHz BDA B	✓																									
RF Interconnection Plate																		X	X	X						
Aspirated Smoke Detector (ASD)	X																									
Wi-Fi Antenna																					✓					
Comm. Rm. Fiber Optic Cable (FOC) 1																										
Comm Rm. FOC 2																										
Electrical Circuit 1	X																									
Electrical Circuit 2				X																						
Electrical Circuit 3					X																					
Fire Panel																										
Tunnel Ventilation FOC						✓	✓																			
Tunnel Pumps FOC						✓	✓																			
Tunnel RF DAS																										
Local DAS Antenna																										
RF Test Equipment																										
4 ASD Sampling Tubes																										
External Network Connections								✓	✓																	

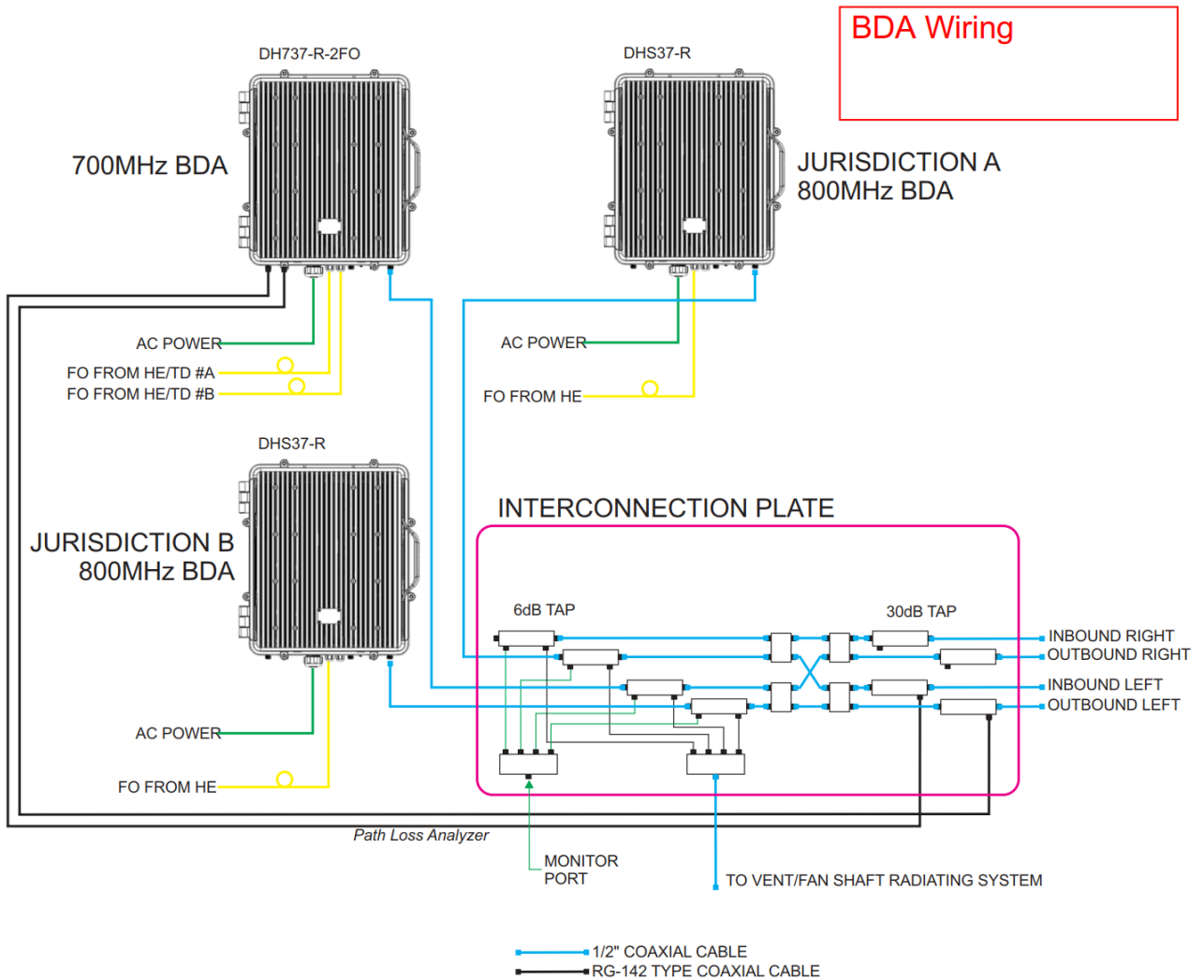
Equipment Legend

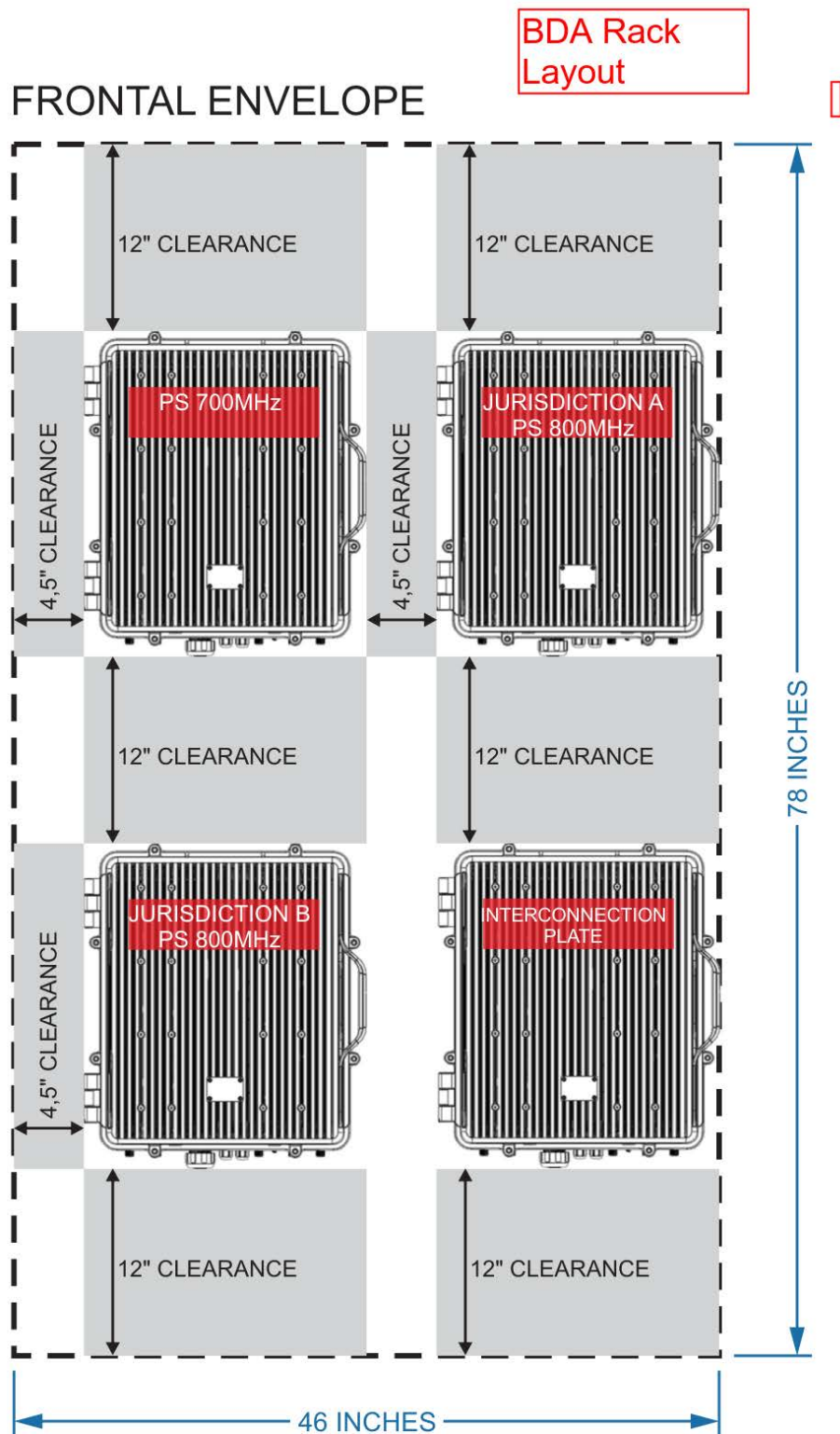
- Equipment = Installation by Contractor
- Equipment = Installation by Others (Future)

Connection Legend

- X = Penetrations/port and connection by Contractor
- X = Space Allocation by the Contractor, connection by WMATA
- ✓ = Penetration/Port and space allocation by Contractor, connection by WMATA

VOL. I (D) BDA Equipment Illustrations





COMBINED GLOSSARY OF DEFINITIONS

As used throughout this Contract, except to the extent otherwise expressly specified, the following terms shall have the meanings set forth below:

Acceptance: Acknowledgment by the Authority that the supplies, services, or other work conform to the applicable contract requirements.

Acceptance Period: The number of days available to the Authority to award a Contract pursuant to this solicitation, during which period offerors may not withdraw their offers.

Amendment: Written instructions issued prior to the date set for bid opening to clarify, revise, add or delete requirements of the IFB.

Approved equal: An item approved by WMATA as equivalent to a brand name item originally specified.

Authority or WMATA or Metro: The Washington Metropolitan Area Transit Authority, created effective February 20, 1967, by Interstate Compact by and between Maryland, Virginia and the District of Columbia pursuant to Public Law 89-774, approved November 6, 1966.

Board of Directors: The Board of Directors of the Washington Metropolitan Area Transit Authority.

Brand name: Identification of an item that is produced or controlled by one or more entities, including trademarks, manufacturer names, or model names or numbers that are associated with a manufacturer.

Breach: An unexcused and unjustifiable failure or refusal of a party to satisfy one (1) or terms of the Contract which, if material, shall constitute a basis for potential default.

Change or Change Order: A written alteration issued, upon agreement of both parties or unilaterally by the Authority, to modify or amend the Contract, generally directing changes to the Scope of Work and/or Contract terms.

Claim: A written demand or assertion by the Contractor seeking, as a legal right, the payment of money, adjustment or interpretation of Contract terms, or other relief, arising under or relating to this Contract.

Clarifications: Exchanges between the Authority and one (1) or more bidders of a limited nature, whereby bidders may be given the opportunity to clarify certain aspects of their bids or to resolve minor irregularities, informalities or clerical errors.

Constructive Change: An act or omission by the Authority that, although not identified as a Change Order, does in fact cause a change to the Contract.

Contract or Agreement: The written agreement executed between the Authority and the Contractor awarded pursuant to this solicitation.

Contract Administrator: The Authority's representative designated to serve as its primary point of contact for pre-award activities relating to the solicitation as well as such post-award activities as are set forth in the Contract.

Contracting Officer: An employee with authority duly delegated from the powers of the Chief Procurement Officer to legally bind the Authority by signing a Contractual instrument. The Contracting Officer is the Authority's primary point of contact for pre-award administration, modifications above the limits of the Contracting Officer's Representative, and final settlement.

Contracting Officer Representative: The person to whom the Contracting Officer delegates the authority and responsibility for post-award execution of the Contract. The Contracting Officer's Representative is the Authority's primary point of contact with its Contractor.

Contractor: The individual, partnership, firm, corporation, or other business entity that is contractually obligated to the Authority to furnish, through itself or others, the supplies, services and/or construction services described in the Contract, including all incidentals that are necessary to complete the work in accordance with the contract.

Contract Price: The amount payable to the Contractor under the terms and conditions of the Contract based on lump sum prices, unit prices, fixed prices, or combination thereof, with any adjustments made in accordance with the Contract.

Data: Recorded information, regardless of form or the media on which it may be recorded, including technical data and computer software.

Day: Calendar day, except where the term business day, work day or like term is used.

Designer: The individual, partnership, firm, corporation or other business entity that is either the Contractor, or employed or retained by the Contractor, to manage and perform the design services for the Contract.

Disadvantaged Business Enterprise (DBE): A for-profit small business concern that has been certified by the Authority to be at least fifty-one percent (51%) owned by one (1) or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which fifty one percent (51%) of the stock is owned by one (1) or more individuals, and whose management and daily business operations are controlled by one (1) or more of the socially and economically disadvantaged individuals who own it.

Descriptive literature: Information provided by an offeror, such as cuts, illustrations, drawings, and brochures that shows a product's characteristics or construction of a product or explains its operation. The term includes only that information needed to evaluate the acceptability of the product and excludes other information for operating or maintaining the product.

Directed, ordered, designated, prescribed or words of like importance: Shall be understood that the direction, requirement, order, designation or prescription of the Contracting Officer is intended and similarly the words approved, acceptable, satisfactory or words of like import shall mean approved by, or acceptable to, or satisfactory to the Contracting Officer, unless otherwise expressly stated.

Explanation: Additional information or clarification provided by an Authority representative to one (1) or more prospective bidders in response to an inquiry relating to the solicitation, that will be binding upon the Authority, only to the extent specified in the Contract.

Equivalent: Of equal or better quality and/or performance to that specified in the Contract as determined by the Authority.

Final Payment: The last payment to the Contractor for work performed under the Contract.

Force Majeure: An unforeseen event or circumstance, beyond the control of, and not occasioned by the fault or neglect of, the Contractor or the Authority, that gives rise to a delay in the progress or completion of the Contract, including, without limitation, acts of God, acts of war or insurrection, unusually severe weather, fires, floods, strikes, freight embargoes or other events or circumstances of like nature.

FTA: Federal Transit Administration, an agency within the United States Department of Transportation that provides financial and technical assistance to local public transit agencies.

Government: The Government of the United States of America.

Industry Standards: Drawings, documents, and specifications or portions thereof published by industry organizations. Industry Standards are not part of this Contract unless specifically listed as such in the Scope of Work.

Legal Requirements: All Federal, state and local laws, ordinances, rules, orders, decrees, and regulatory requirements such as: building codes, mechanical codes, electrical codes, fire codes, Americans with Disabilities Act Accessibility Guidelines (ADAAG), and other regulations of any government or quasi-government entity that are applicable to this Contract.

Milestone: A specified date in the Contract by which the Contractor is required to complete a designated portion or segment of the work.

Minor Irregularity: A variation from the solicitation contained in a bid that does not affect the price or other material term of the Contract and does not confer a competitive advantage or benefit not enjoyed by other offerors or adversely impact the Authority's interests.

Notice to Proceed: Written notice issued by the Authority establishing the date on which the Contractor may commence work and directing the Contractor to proceed with all or a portion of the work.

Offeror: A party submitting a bid in response to this solicitation.

Option: A unilateral right in the Contract by which, for a specified time, the Authority may elect to purchase, at a predetermined price, additional supplies, services and/or work called for by the Contract or to extend the term of the Contract.

Organizational conflict of interest: A circumstance in which, because of other activities or relationships, a person, corporation or other business entity is unable or potentially unable to render impartial assistance or advice to the Authority, or its objectivity in performing the Contract is or might be otherwise impaired, or it has an unfair competitive advantage.

Period of Performance: The time allotted in the Contract for completion of the work. The period of performance begins upon the effective date of Contract execution and ends on the last date for complete performance of the final option. The period of performance incorporates the milestones established for the Contract.

Pre-award Survey: An evaluation of a prospective Contractor's capability to perform a proposed Contract, including an assessment of matters relating to its responsibility.

Product Data: Information furnished by the Contractor to describe materials used for some portion of the work, such as written or printed descriptions, illustrations, standard schedules, performance charts, instructions, brochures, and diagrams.

Records: Books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

Safety Sensitive: FTA regulations at 49 C.F.R. § 655.4 define “safety sensitive functions” as any of the following duties when performed by WMATA as a grant recipient, or any of its contractors: (a) Operating a revenue service vehicle, including when it is not in revenue service; (b) Operating a nonrevenue service vehicle, when required to be operated by the holder of a commercial driver’s license (CDL); (c) Controlling dispatch or movement of a revenue service vehicle; (d) Maintaining (including repairs, overhaul and rebuilding) a revenue service vehicle or equipment used in revenue service; and (e) Carrying a firearm for security purposes. WMATA’s definition of safety sensitive functions extends beyond FTA’s requirements and includes (f) Employees and contractors who maintain escalators and elevators (including repairs, overhauls and rebuilding) and (g) Station managers.

Services: The performance of work by a person or legal entity under contract with the Authority, including without limitation: maintenance; overhaul; repair; servicing; rehabilitation; salvage; modernization or modification of supplies, systems or equipment; routing, recurring maintenance of real property; housekeeping; operation of Authority-owned equipment, facilities and systems; communication services; Architect-Engineering services; professional and consulting services; and transportation and related services.

Small Business Enterprise Set-Aside: Competitive procurement(s), less than \$500,000, exclusively for SBE certified bidders/proposers.

Supplies: The end item(s) required to be furnished by the Contractor in fulfillment of its obligation under this Contract as well as any and all related services and required performance.

Statement of Work/Scope of Work (SOW): The portion of a contract or IFB that describes specifically what is to be done by the Contractor. It may include specifications, performance outcomes, dates and time of performance, quality requirements, etc.

Solicitation: This Invitation for Bids (IFB).

Shop Drawings: Fabrication, erection, layout, setting, schematic, and installation drawings that the Contractor prepares for permanent structures, equipment, and systems it designed to comply with this Contract.

Similar: Generally the same but not necessarily identical; details shall be worked out in relation to location and relation to other parts of the work.

Site: The areas that are occupied by or used by the Contractor and subcontractors during performance of the Contract.

Small Business Enterprise (SBE): A for profit small business concern that has been certified by the Authority to be at least fifty one percent (51%) owned by one (1) or more individuals who are economically disadvantaged.

Small Business & Local Preference Program: Board mandated small business contracting program for WMATA funded contracts with firm(s) located in the District of Columbia, Maryland or Virginia.

Subcontract: An agreement between the Contractor and another party, or between other subcontractors at any tier, to perform a portion of the Contract through the acquisition of specified supplies, materials, equipment or services.

Subcontractor: An individual, firm, partnership, or corporation that has a contractual obligation with the Contractor or other subcontractors.

Submittal: Written or graphic document or samples prepared for the work by the Contractor or a subcontractor and submitted to the Authority, including shop drawings, product data, samples, certificates, schedules of material, or other data.

Substantial Completion: Work or a portion thereof that has progressed to the point where it is sufficiently complete in accordance with the Contract (including receipt of test and inspection reports) so that it , can be utilized for the purpose for which it is intended, and only incidental work remains for physical completion in accordance with the Contract.

Substitution: An item offered by the Contractor of significant difference in material, equipment, or configuration, that functionally meets the requirements of the Contract, but is submitted in lieu of item specified therein.

Utility: A public and/or private facility or installation, other than WMATA's facility, that relates to (1) the conveyance and supply of water, sewage, gas, chemicals, steam, petroleum products, and other piped installations, or (2) electrical energy, telephone, radio, television, and cellular or wireless communications.

Utility Standards: Drawings and specifications for utilities published or issued by municipalities or utility companies.

WMATA Safety Manual: A compilation of the appropriate safety and reporting requirements for the project as specified in the Contract.

WMATA Safety and Security Certification Program Plan: A compilation of the appropriate system safety and security certification requirements for the project.

Work: All of the services of any kind, as well as any and all goods, supplies, equipment, labor, and material, of any type and nature to be furnished and/or performed pursuant to this Contract to accomplish the Contract's stated objectives in a timely and fully satisfactory manner.

APPENDICES

APPENDIX A

== RESERVED ==

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APPENDIX B

ATTACHMENT A

**NOTICE OF REQUIREMENTS
FOR
DISADVANTAGED BUSINESS ENTERPRISE (DBE)**

May 2015

~Applies only if proposal price is \$500,000 or more for a construction contract or \$150,000 or more for a supply and service contract.

~APPENDIX B~

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

1. DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENT:

- A. The DBE requirements of the Authority's DBE Program Plan apply to this contract. Accordingly, the Contractor shall carry out the requirements of the Authority's DBE Program Plan and this Appendix in the award and administration of this U.S. Department of Transportation (US DOT) assisted contract.

2. POLICY:

- A. It is the policy of the Authority (WMATA), the Federal Transit Administration (FTA) and the US DOT that Disadvantaged Business Enterprises (DBEs) shall compete fairly to receive and participate in performing federally assisted contracts, including contracts and subcontracts at any tier. It is further the policy of the Authority, the FTA and the US DOT that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts. The Contractor hereby agrees to carry out this policy in the award and administration of subcontracts to the fullest extent possible consistent with efficient Contract performance.

3. CONTRACT GOAL:

- A. If the bidder is not a DBE, the bidder agrees that the DBE goal for this Contract shall be met by subcontractors or by joint ventures with DBEs. The goal set forth for this Contract is 4 % of the final Contract price, including amendment and modification. The amount of DBE participation will be determined by the dollar value of the work performed and/or supplies furnished by DBE firms as compared to the total value of all work performed and/or supplies furnished under this Contract. The Contractor shall have met this goal if the Contractor's DBE participation meets or exceeds this goal.
- B. In cases where work is added to the Contract by modification such that additional DBE participation is necessary to meet this goal, the Contractor shall increase the participation of one or more firms listed on the "Schedule of DBE Participation" or submit additional DBE certified firms to meet the goal. In cases where work is deleted from the Contract, the goal shall be applicable to the new Contract amount. The Contractor shall be permitted to meet the goal by revising its DBE participation, provided, however, that the revision shall not result in DBE participation that is less than the original goal.

4. DEFINITIONS:

- A. **Appendix B.** The Notice of Requirements for Disadvantaged Business Enterprise, which when attached to a solicitation, implements the DBE requirements of the Authority's DBE Program Plan in the award and administration of federally funded Authority contracts.
- B. **Certified DBE.** means a for-profit small business concern (a) that is at least fifty one percent (51%) owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which fifty one percent (51%) of the stock is owned by one or more such individuals; (b) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it; and (c) whose eligibility is evidenced by a current WMATA Certification letter, a D.C. Department of Transportation Certification letter, or a certification letter issued by the Metropolitan Washington Unified Certification Program (MWUCP).
- C. **Contractor.** One who participates, through a contract or subcontract (at any tier), in a US DOT assisted highway, transit or airport program.
- D. **DC DOT.** The District of Columbia Department of Transportation.
- F. **Good Faith Efforts.** Efforts to achieve a DBE goal or other requirements of the Authority's DBE Program Plan which by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the goal program requirement.
- G. **Joint Venture.** An association of a DBE firm and one (1) or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and shares in the capital contribution, control, management, risks, and profits of the joint venture commensurate with its ownership interest.
- H. **Metropolitan Washington Unified Certification Program (MWUCP).** A unified certification program mandated by 49 C.F.R. §26.81 between two Federal transit recipients (WMATA and the D.C. Department of Transportation). The agreement became effective January 2005.
- I. **Pre-certification.** A requirement under 49 C.F.R. §26.81(c) that all certifications by the MWUCP be made final before the due date for bids or offers on a contract on which a firm seeks to participate as a DBE.
- J. **Race-conscious.** A measure or program that is focused specifically on assisting only DBEs, including women-owned DBEs.
- K. **Race-neutral.** A measure or program that is, or can be, used to assist all small businesses. For the purposes of the DBE program, race-neutral includes gender-neutrality.

- L. **Small Business Concern.** With respect to firms seeking to participate as DBEs in US DOT assisted contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration implementing regulations (13 C.F.R. Part 121) that also does not exceed the cap on average annual gross receipts specified in 49 CFR § 26.65(b).
- M. **Socially and Economically Disadvantaged Individual.** Any individual who is a citizen (or other lawfully admitted permanent resident) of the United States and who the Authority finds to be a socially and economically disadvantaged individual on a case-by-case basis, and any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged.
- (1) Black Americans, which includes persons having origins in any of the Black racial groups of Africa;
 - (2) Hispanic Americans, which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
 - (3) Native Americans, which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
 - (4) Asian-Pacific Americans, which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the North Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
 - (5) Subcontinent Asian Americans, which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
 - (6) Women; and
 - (7) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.
- N. **US DOT Assisted Contract.** Any contract between the Authority and a contractor (at any tier) funded in whole or in part with US DOT financial assistance, including letters of credit or loan guarantees.
- O. **Unified Certification Program (UCP).** The program mandated by 49 C.F.R. § 26.81(a), which requires all U. S. DOT recipients of Federal financial assistance to participate in a statewide certification program by March 2002.
- P. **WMATA.** Washington Metropolitan Area Transit Authority, the transit system (rail and bus) serving the metropolitan Washington area, including parts of Virginia and Maryland.

5. HOW DBE PARTICIPATION IS COUNTED TOWARDS THE CONTRACT GOAL:

DBE participation shall be counted towards meeting the DBE goal in accordance with the following:

- A. When a DBE participates in a contract, only the value of the work actually performed by the DBE is counted towards the DBE goal.
 - (1) This amount includes the entire amount of that portion of a construction contract that is performed by the DBE's own forces. This amount includes the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).
 - (2) This amount includes the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of the contract, towards the DBE goal, provided the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.
 - (3) When a DBE subcontracts part of its work under the contract to another firm, the value of the subcontract work may be counted towards the DBE goal only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count towards the DBE goal.
- B. When a DBE performs as a participant in a joint venture, the portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that a DBE performs with its own forces towards the DBE goal may be counted.
- C. Expenditures to a DBE contractor towards the DBE goal may be counted only if the DBE is performing a commercially useful function on that contract.
 - (1) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Authority will consider the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

- (2) A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.
 - (3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or if the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work, the Authority will presume that the DBE is not performing a commercially useful function.
- D. The following factors will be used by the Authority in determining whether a DBE trucking company is performing a commercial useful function:
- (1) The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible for on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting the DBE goal.
 - (2) The DBE must itself own and operate at least one fully licensed, insured and operational truck used on the contract.
 - (3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers, it employs.
 - (4) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (5) The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.
 - (6) The lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the terms of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

- E. The following factors will be used to count expenditures with DBEs for materials or supplies towards the DBE goal:
- (1) If the materials or supplies are obtained from a DBE manufacturer, one hundred percent (100%) of the cost of the materials or supplies will be counted towards the DBE goal. A manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the contract.
 - (2) If the materials or supplies are purchased from a DBE regular dealer, sixty percent (60%) of the cost of the materials or supplies will be counted towards the DBE goal. A regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph if this person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by long-term lease agreement and not on an ad hoc or contract-by-contract basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph.
 - (3) With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials and supplies required on a job site, may be counted towards the DBE goal, provided the fees are reasonable and are not excessive as compared to fees customarily allowed for similar services. The cost of the materials and supplies themselves may not be counted towards the DBE goal.
- F. All DBE firms must be pre-certified. Participation by a firm that is not currently Authority certified as a DBE at the time of bid opening, does not count towards the DBE goal. All DBE firms must be in compliance with 49 CFR, Part 26.
- G. The dollar value of work performed under this Contract by a firm that MWUCP decertifies as a DBE does not count towards the DBE goal.
- H. The participation of a DBE subcontractor does not count towards the Contractor's DBE goal, until the amount being counted towards the goal has been paid to the DBE.

6. BIDS AND REQUIREMENTS (WITH THE BID):

The bidder shall submit the following with its bid. Any bidder who fails to complete and return this information with its bid shall be deemed to be not responsive and may be ineligible for Contract award. Bidders that fail to meet the DBE goal above and fail to demonstrate “good faith efforts” to justify waiver of the DBE goal (See paragraph 6.C. below) shall be deemed to be not responsible and will be ineligible for Contract award.

- A. Completed “Schedule of DBE Participation” (Attachment B-1) sufficient to meet the above goal. If the bidder is a DBE firm and intends to satisfy the appropriate DBE requirement with its own firm, it must indicate in the Schedule the area of work and percentage it will perform to satisfy the goal. All offerors must attach current WMATA, DC DOT or MWUCP certification letters for each DBE listed on the Schedule.
- B. Executed “Letters of Intent to Perform as a Subcontractor/Joint Venture” (Attachment B-2). If the bidder is not a DBE or intends to satisfy the requirements through other DBE firms, then it must attach these letters from each certified DBE listed on the Schedule.
- C. Justification for grant of relief (Appendix B waiver of DBE goal). If in the submittal of its bid, the bidder fails to meet the DBE goal above, the bidder has the burden of furnishing sufficient documentation with its bid of its “good faith efforts” to justify a grant of relief (waiver) from the goal or portion of the goal. Such justification shall be in the form of a detailed report. The following is a list of actions that shall be considered as part of the bidder’s good faith efforts to obtain DBE participation. This list is neither a mandatory checklist nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases:
 - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the Contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The offeror must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goal will be achieved. This includes, where appropriate, breaking out Contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- (4) Negotiating in good faith with interested DBEs. It is the offeror's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work. "DBE Unavailability Certifications" (Attachment B-3) shall be completed as appropriate.
- (5) An offeror using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as the Contract goal into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the Contract with its own organization does not relieve the offeror of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs, if the price difference is excessive or unreasonable.
- (6) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.
- (7) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
- (8) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (9) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

7. BID REQUIREMENTS (APPARENT LOW BIDDER):

The bidder shall submit the following items within ten (10) calendar days after notification that they are the apparent low bidder:

- A. A copy of a current WMATA, D.C. DOT or MWUCP certification letter(s) shall be attached to the DBE Schedule of Participation to evidence DBE pre-certification.
- B. DBE Manufacturer's Affidavit, if applicable, must be submitted in order to receive one hundred percent (100%) of the allowable credit for expenditures to DBE manufacturers/suppliers (Attachment B-4). By submission of this affidavit, the bidder certifies this it is satisfied that the manufacturer meets the requirements of 49 CFR Part 26.
- C. Schedule B Information for Determining Joint Venture Eligibility, if applicable (Attachment B-5, pgs. 1-4). Submittal shall be signed by all parties, dated and notarized.
- D. Copy of Joint Venture Agreement, if applicable. Submittal shall be signed by all parties, dated and notarized.
- E. Certification letter of the DBE regular dealer/supplier, if applicable. If the bidder wants to receive the maximum allowable credit for its expenditures for material(s) or supplies required under this Contract, from DBE regular dealers/suppliers, the DBE must submit a signed and notarized statement on their letterhead, stating that it is a regular dealer of the material(s) or supplies. By submission of this statement, the bidder certifies that it is satisfied that the subcontractor is a regular dealer/supplier that meets the requirements of 49 CFR Part 26.
- F. For design-build contracts, if a DBE goal is specified in the DBE GOAL/ REQUIREMENTS, the bidder shall submit, with its initial bid, a list of DBE-certified firms that it intends to enter into subcontract agreements with for this Contract. If no goal is specified in the solicitation and the bidder still intends to utilize DBEs in the performance of this Contract, the offeror shall submit with its initial bid a list of those DBE-certified firms. The documentation requirements of the solicitation shall be completed and submitted at the time of bid opening for any Contract in which a DBE goal is applicable or for any Contract in which there was no goal established, but the offeror identified DBE-certified firms that it intended to enter into subcontract agreements with in its initial bid. Any bidder who fails to complete and return the following information, if applicable, with its bid may be deemed to be not responsible and may be ineligible for Contract award. Offerors that fail to meet the DBE goal, if any, specified in the solicitation and fail to demonstrate a good faith effort and/or to justify waiver of the DBE goal, may be deemed to be not responsible and may be ineligible for contract award.

8. CONTRACT ADMINISTRATION REQUIREMENTS:

The following requirements apply after contract award:

- A. The Contractor shall include the following provision in each subcontract it awards in support of the DBE goal:

“The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in termination of this contract or such other remedy as the Buyer deems appropriate.”

- B. (1) The Contractor shall monitor the performance of, collect and report data on DBE participation to WMATA’s Small Business Programs Office on the WMATA website at www.wmata.com under Doing Business with WMATA and on the attached “Prompt Payment Report-Prime Contractor’s Report” (Attachment B-6) which shall be submitted monthly with each payment request. Failure to submit these reports may result in suspension of contract payments. The Contractor shall certify with each payment request that payment has been or will be made to all subcontractors due payment, within ten (10) days after receipt of payment from the Authority for work by that subcontractor. The Contractor shall inform the COR or COTR, with their payment request, of any situation in which scheduled subcontractor payments have not been made and the reason therefore.
- (2) The Contractor shall require each subcontractor to report Prompt Payment data to WMATA’s Small Business Programs Office online at www.wmata.com under Doing Business with WMATA and on a monthly basis using the attached “Prompt Payment Report-Subcontractor’s Report” (Attachment B-7). The subcontractor shall certify that payment has been received.
- (3) The Contractor and the subcontractor are required to have Prompt Payment reporting training for each WMATA contract which has been awarded to them. Failure to complete this training may result in suspension of contract payments.

- C. The Contractor shall have a continuing obligation to maintain a schedule for participation by DBE contractor(s) to meet its goal set forth above in this Appendix. The Contractor shall not have work performed nor the materials or supplies furnished by any individual or firm other than those named in the "Schedule of DBE Participation." If at any time, the Contractor believes or has reason to believe that it needs to obtain a substitute for a DBE contractor named in the "Schedule of DBE Participation", the Contractor shall, within ten (10) days, notify the Contracting Officer and the Small Business Programs Office of that fact in writing on (Attachment B-8). A copy of this written request will be forwarded to the DBE vendor. The vendor shall have ten (10) days to respond in writing to the Contracting Officer. The Contracting Officer shall will meet with the DBE Liaison Officer to review the documentation submitted. A written determination will be made within ten (10) days on whether to approve or deny the request. There is no appeal to this decision. A copy of this decision shall be maintained in the contract file. Situations which may warrant substitution for a DBE firm include, but are not limited to the following:
- (1) Evidence of change in ownership or circumstances regarding the firm's status as a DBE.
 - (2) Death or physical disability, if the named subcontractor or DBE partner of the joint venture is an individual.
 - (3) Dissolution, if a corporation or partnership.
 - (4) Bankruptcy of the subcontractor, subject to applicable bankruptcy law, and only instances where the bankruptcy affects the Contractor's ability to perform.
 - (5) Inability to furnish a reasonable performance or payment bond, if required.
 - (6) Inability to obtain, or loss of, a license necessary for the performance of the particular category of work.
 - (7) Failure or inability to comply with a requirement of law applicable to contractors and subcontractors on a construction, alteration or repair project.
 - (8) Failure or refusal to execute the subcontract in accordance with the terms of an offer submitted to the Contractor prior to the Contractor's submission of its offer, but only where the Contracting Officer or other delegated Authority representative can ascertain with reasonable certainty the terms of such offer. In the absence of any other factors, such a failure or refusal will be considered an unusual situation only if the offeror obtained, prior to bidding/proposing, an enforcement commitment from the subcontractor involved.
 - (9) Failure to comply with the terms and conditions of this Contract or those of its subcontract or joint venture agreement.

The Contractor must have the prior, written approval of the Contracting Officer and the DBE Liaison before substitution of a DBE subcontractor, regardless of the reason for substitution. Failure to obtain the Authority's approval could result in the Contractor's suspension or debarment.

If the request for substitution is approved, within thirty (30) days thereafter, the Contractor shall, if necessary to achieve the Appendix B goal, make every reasonable effort to subcontract the same or other work equivalent in value to other certified DBE firms. These efforts must be submitted in writing to the Contracting Officer and the DBE Liaison Officer. Examples of reasonable efforts include, but are not limited to the following:

1. documentation of efforts made to assist the DBEs contacted that needed assistance in obtaining bonding or insurance required by the bidder or the Authority;
 2. documentation of efforts to utilize the services of small business organizations, community and contractor groups to locate qualified DBEs;
 3. documentation that the bidder has broken out contract work items into economically feasible units in fields where there are available DBE firms to perform the work; and
 4. evidence that adequate information was provided to interested DBEs about the plans, specifications and requirements of the contract, and that such information was communicated in a timely manner.
- D. The Contractor shall forward copies of all subcontracts to the DBE Office at the time of their execution.
- E. If the Contracting Officer or other delegated Authority representative determines that the Contractor has failed to comply with this Appendix B, he/she will notify the Contractor of such noncompliance and the action to be taken. The Contractor shall, after receipt of such notice, take corrective action. If the Contractor fails or refuses to comply promptly, the Contracting Officer or other delegated Authority representative may issue a "stop work order" stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop work order shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor. When the Authority proceeds with such formal actions, it has the burden of proving that the Contractor has not met the requirements of this Appendix. The Contractor's failure to meet its Appendix B goal shall shift the burden to it to show that it has met the good faith requirements of this Appendix. After exhausting all of its administrative and legal remedies, if the Contractor is found to have failed to exert a "good faith effort" to involve DBEs in the work, the Authority may suspend or debar the Contractor.

- F. The Contractor agrees to cooperate in any studies or surveys as may be conducted by the Authority which are necessary to determine the extent of the Contractor's compliance with this Appendix.
- G. The Contractor shall keep records and documents for two (2) years following performance of this Contract to indicate compliance with this Appendix. These records and documents, or copies thereof, shall be made available at reasonable times and places for inspection by any authorized representative of the Authority and will be submitted upon request, together with any other compliance information that such representative may require.
- H. If the Authority, FTA or the US DOT has reason to believe that any person or firm has willfully and knowingly provided incorrect information or made false statements regarding the DBE Program, the matter shall be referred to WMATA's DBE office, and WMATA's Office of Inspector General (OIG).
- I. Failure by the Contractor to carry out the requirements of this Appendix is a material breach of this Contract, that may result in the termination of this Contract or such other remedy as the Authority deems appropriate.

SUMMARY OF SUBMITTALS

With the Bid:

1. Completed "Schedule of DBE Participation" (Attachment B-1) with current certification letters attached for each listed DBE.
2. Executed "Letters of Intent to Perform as a Subcontractor/Joint Venture" (Attachment B-2).
3. Justification for grant of relief (waiver of DBE goal), if applicable. Include completed "DBE Unavailability Certifications" (Attachment B-3) as appropriate.

Bid Requirements (Apparent Low Bidder)

1. All DBEs must submit copies of their current WMATA or D.C. DOT certification letters or a certification letter issued by the MWUCP.
2. A DBE Manufacturer's Affidavit, if applicable, must be submitted in order to receive one hundred percent (100%) of the allowable credit for expenditures to DBE manufacturers/suppliers (Attachment B-4).
3. Schedule B Information for Determining Joint Venture Eligibility, if applicable (Attachment B-5, pgs. 1, 2, 3, 4).
4. Copy of Joint Venture Agreement, if applicable.
5. Certification letter of the DBE regular dealer/supplier, if applicable.

After Contract Award

1. "Prompt Payment Report-Prime Contractor's Report" Attachment B-6) – submitted monthly.
2. "Prompt Payment Report-Subcontractor's Report" (Attachment B-7) - submitted monthly.
3. Request to substitute DBE contractor (see paragraph 8.C.) – submitted as required.
4. Copies of subcontracts-submitted at the time of their execution.

**SUBMIT WITH BID
 SCHEDULE OF DBE PARTICIPATION**

Contract No. _____

Project Name _____

Name of Bidder

The bidder shall complete this Schedule by identifying only those DBE firms, (with scope of work and price) who have agreed to perform work on this Contract. The prices shall be at an amount that is at least the DBE percentage goal for the total Contract. The offeror agrees to enter into a formal agreement with the DBE firm(s) listed for the work, at an amount equal to, or greater than, the prices listed in this Schedule, subject to award of a Contract with the Authority. If the total amount is less than the DBE percentage goal, a justification for waiver of DBE goal shall be attached to this Schedule.

Name of DBE Subcontractor	Address	Type of Work (Electrical, Paving, Etc.) and Contract Items or Parts Thereof to be Performed and Work Hours Involved	Agreed Price
Subtotal \$ DBE Subcontractors			
Name of DBE Prime Contractor	Address	Type of Work (Electrical, Paving, Etc.) and Contract Items or Parts Thereof to be Performed and Work Hours Involved	Agreed Price
Subtotal \$ DBE Prime Contractor			
TOTAL \$ ALL DBE CONTRACTORS		TOTAL	

_____ Signature of Contractor' Representative

_____ Title

_____ Date

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Contract Number: _____

Project Name: _____

**LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR/JOINT VENTURE
(ALL ITEMS MUST BE COMPLETED)**

TO: _____
(Name of Offeror)

The undersigned intends to perform work in connection with the above projects as (check one):

_____ An individual _____ A corporation
_____ A partnership _____ A joint venture

Specify in detail particular work items or parts thereof to be performed:

at the following price: \$ _____

Please indicate _____ % of the dollar value of the subcontract that will be awarded to non-DBE contractors, if applicable. The undersigned will enter into a formal agreement with you for the above work upon your execution of a contract with the Authority.

Name of DBE Subcontractor/Joint Venture

Phone Number

Address

WMATA Vendor ID #/DBE Cert. #

Signature & Title

Date

The following is to be completed by the Prime Contractor. A copy of this letter must be returned to the DBE subcontractor to indicate acceptance.

To: _____
(Name of DBE)

You have projected your interest and intent for such work, and the undersigned is projecting completion of such work as follows:

WORK ITEMS	PROJECTED DBE COMMENCEMENT DATE	PROJECTED DBE COMPLETION DATE
---------------	---------------------------------------	-------------------------------------

(Date)

(Name of Prime Contractor &
Acceptance Signature)

SUBMIT WITH BID

DBE UNAVAILABILITY CERTIFICATION

I, _____, _____, of _____
(Name) (Title) (Bidder)

certify that on _____ I contacted the following DBE contractor(s) to obtain offer(s) for work
(Date)
items to be performed on Contract Number _____

DBE Contractor	Work Items Sought	Form of Bid Sought (i.e., Unit Price, Materials and Labor Only, Etc.)
_____	_____	_____

To the best of my knowledge and belief, said DBE contractors were unavailable (exclusive of unavailability due to lack of agreement on price) for work on this project, or unable to prepare a bid, for the following reason(s):

Signature: _____

Date: _____

_____ was offered an opportunity to submit a bid on the above
(Name of DBE Contractor)

identified work on _____ by _____
(Date) (Source)

The above statement is true and accurate account of why I did not submit an offer on this project.

(Signature of DBE Contractor)

(Title)

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DBE Certification Instructions

Important Notice

If you do not have a current, official letter of certification from WMATA, D.C. DOT or MWUCP, you are not pre-certified and are therefore not eligible to participate as a Disadvantaged Business Enterprise on the bid.

For those who wish to access the MWUCP certification application, it may be found on the internet at the following address:

https://www.wmata.com/business/disadvantaged_business_enterprise. Go to "Procurement and Contracting", click on "Disadvantaged Business Enterprise", then click on "DBE Application for Certification".

49 CFR Part 26 gives Metropolitan Washington Unified Certification Program (MWUCP) ninety (90) days in which to process a complete DBE application. In order to become certified and participate in the MWUCP, you must comply with the procedures that follow. Certification must be final before the due date for bids or offers on a contract on which a firm seeks to participate as a DBE.

Instructions

49 C.F.R. § 26.81(d) of the Certification Procedures requires a firm to be certified as a DBE in its "home state," where its principal place of business is located, in order to become certified outside such "home state". Therefore, you must attach to the MWUCP application, a copy of a valid DBE Certification letter from your home state's Department of Transportation. In addition, submit the pertinent documents for your company listed below. The application should be completed in full and NOTARIZED.

General (All firms must submit these documents.)

- Current (unaudited) Financial Statements;
- Prior three (3) years Federal Tax Returns;
- Resume of Principal(s) and Key Personnel;
- Third Party Agreements, such as Rental and Management Agreements;
- Licenses to Do Business;
- Personal Net Worth (PNW) Statement;
- Statement of Disadvantage;
- No Change Affidavit or Notice of Change (where applicable).

Corporations

- Articles of Incorporation;
- By-Laws;
- Copies of any Stock Options;
- Copies of Stock Certifications of Each Holder;
- Copies of Stockholders' Voting Rights;
- Record of First Organizational Meeting.

Partnerships

Partnership Agreement

Proprietorships

IRS Employer ID Number
WMATA Vendor ID#

Limited Liability Companies

Operating Agreement with any amendments;
Certificate of Formation, U.S. Income Tax Returns.

Change of Status Review

On or before each certification anniversary date, you must submit a No Change Statement attesting that there have been no changes in the firm's circumstances affecting its ability to meet the eligibility requirements of 49 CFR Part 26 or WMATA's DBE Program Plan. Firms with changed circumstances must submit a Notice Regarding Change for review by the DBE Office. A review of these changes shall be made to determine if the firm is in compliance with the 49 CFR Part 26.

Affidavit Enclosure

NOTE: When completing MWUCP Application, complete all information blocks. Type "N/A" if item does not apply to you or your firm.

DBE MANUFACTURER'S AFFIDAVIT

I hereby declare and affirm that I am _____ (Title)
and duly authorized representative of _____ (Name of Company),
a _____ owned and controlled enterprise
whose address is _____

I further declare and affirm that company employees (persons not on the payroll of and/or performing the same tasks for disadvantaged owned business having any interest in the affiant's business) operate the following company equipment relative to the manufacturing process:

Equipment

Type Function Model Age Make

Number of employees involved in the manufacturing process: _____

The undersigned swears that the foregoing statements are true and correct and fully understands that WMATA may rely on these statements in determining whether a WMATA prime contractor purchasing goods from the undersigned's manufacturing concern is entitled to a 100% credit of such purchases towards its DBE goal. The undersigned further understands that any material misrepresentation will be grounds for initiating action under Federal or state laws concerning false statements.

Signature of Affiant Printed Name

Date: _____ State: _____ County: _____

On this _____ day of _____, 19_____

before me appeared _____ (Name)
to me personally known, who, being duly sworn, did execute the foregoing Affidavit, and did state that he or she was properly authorized by _____ (Name of Firm)
to execute the Affidavit and did so as his or her free act and deed.

(Seal) Sworn and subscribed before me _____ (Notary Public)
Commission Expires: _____

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Information for Determining Joint Venture Eligibility

Page 1

.....
Name and address of Joint Venture:

Contact Person: _____ Telephone: _____

Have you attached a copy of the Joint Venture agreement? Yes No

NOTE: Affidavit will not be processed without a copy of the Joint Venture agreement.
.....

Name and address of Joint Venture partner: _____

Contact Person: _____ Telephone: _____

Status of firm: DBE. Non-Minority.

Does firm have current WMATA, D.C. DOT or MWUCP DBE certification? Yes No
.....

Name and address of Joint Venture partner: _____

Contact Person: _____ Telephone: _____

Status of firm: DBE. Non-Minority.

Does firm have current WMATA, D.C. DOT or MWUCP DBE certification? Yes No
.....

Describe the nature of the Joint Venture's business:

Describe the role in the Joint Venture of each partner listed above:

Describe the experience and business qualifications of each partner in the Joint Venture listed above:
.....

Information for Determining Joint Venture Eligibility

Page 2

.....
Indicate the percentage of ownership in the Joint Venture for each Joint Venture partner, indicating dollar amounts wherever applicable.

Name of Partner	Percentage of Ownership	Profit and Loss Sharing	Capital Contributions including Equipment	Other Agreements
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTALS:

.....
Identify by name, title, race, sex and company affiliation those individuals responsible for the management control of and participation in this contract:

1. Financial decisions, such as payroll, insurance, surety and/or bonding requirements:

Name: _____ Race: _____

Title: _____ Sex: Male Female

Company affiliation: _____

2. Management decisions, such as estimating, marketing and sales, hiring and firing, purchasing supplies:

Name: _____ Race: _____

Title: _____ Sex: Male Female

Company affiliation: _____

3. Supervision of field operations:

Name: _____ Race: _____

Title: _____ Sex: Male Female

Company affiliation: _____

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Information for Determining Joint Venture Eligibility

Page 3

.....

The undersigned swear that the foregoing statements are correct and include all material information necessary to identify and explain the terms and operations of our following named Joint Venture:

.....

and the intended participation by each Joint Venturer in the undertaking. Further, the undersigned covenant and agree to provide the Authority current, complete and accurate information regarding actual Joint Venture work and the payment thereof and any proposed changes in any of the Joint Venture arrangements and to permit the audit and examination of the books, records and files of the Joint Venture, or those of each Joint Venturer relevant to the Joint Venture, by authorized representatives of the Authority or the Federal funding agency. Any material misrepresentation will be grounds for terminating any contract which may be awarded and for initiating action under Federal and State laws concerning false statements.

It is recognized and acknowledged that the Authority's DBE Program shall have access to the information provided herein above for the purpose of establishing eligibility and authenticity of the minority/woman-owned status of the Joint Venture.

It is understood that trade secrets and information privileged by law, as well as commercial, financial, geological and geophysical data furnished will be protected.

_____	_____
(NAME OF FIRM)	(NAME OF SECOND FIRM)
_____	_____
(SIGNATURE OF AFFIANT)	(SIGNATURE OF AFFIANT)
_____	_____
(PRINT NAME)	(PRINT NAME)
_____	_____
(TITLE)	(TITLE)
_____	_____
(DATE)	(DATE)

.....

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Information for Determining Joint Venture Eligibility

Page 4

.....
Date: _____ State: _____ County: _____

On this _____ day of _____, 19_____,

before me appeared _____
(Name)

to me personally known, who, being duly sworn, did execute the foregoing Affidavit, and did state that he or she was properly authorized by _____

(Name of Firm)
to execute the Affidavit and did so as his or her free act and deed.

(Seal) Sworn and subscribed before me _____
(Notary Public)

Commission Expires: _____

.....
Date: _____ State: _____ County: _____

On this _____ day of _____, 19_____,

before me appeared _____
(Name)

to me personally known, who, being duly sworn, did execute the foregoing Affidavit, and did state that he or she was properly authorized by _____

(Name of Firm)
to execute the Affidavit and did so as his or her free act and deed.

(Seal) Sworn and subscribed before me _____
(Notary Public)

Commission Expires: _____

.....

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Washington Metropolitan Area Transit Authority

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
 MONTHLY PROMPT PAYMENT REPORT

PRIME – CONTRACTOR’S REPORT

This report is required to be submitted to the Office of Procurement, DBE Branch 600 5th Street, NW, Suite 3C, Washington, DC 20001, pursuant to the requirements of WMATA’s DBE Program Plan and §26.29 of 49 CFR Part 26.

Contract No.: _____ Reporting Period: _____

Name of Prime Contractor: _____ DBE – Yes or No

Prime Contract Amount: _____ Total Received this Reporting Period: _____ Total Received to Date: _____
 DBE Goal _____

Name of Sub-Contractor	DBE (Y/N)	Description of Work	Date of Contract Awarded	Amount of Sub-Contractor Award	Amount Paid This Reporting Period	Cumulative Paid To Sub-Contractor	% of Physical Work Complete
TOTAL							

I certify the information furnished with respect to DBE subcontractor performance correct to the best of my knowledge and represents a current status of the prime contractor with the DBE subcontractors for the designated period covered by this report. Further, those subcontractors, due payment pursuant to the terms of their subcontracts will be paid within ten days after receipt of payment from WMATA.

By: _____ Title: _____ Date: _____

Washington Metropolitan Area Transit Authority

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
 MONTHLY PROMPT PAYMENT REPORT

SUBCONTRACTOR'S REPORT

This report is required to be submitted to WMATA's DBE Office, 600 5th Street, NW, Suite 3C, Washington, DC 20001, pursuant to the requirements of WMATA's DBE Program Plan and 49 C.F.R. §26.29.

Contract No.: _____ Reporting Period: _____

Name of Subcontractor: _____ DBE – Yes or No

Subcontractor Contract Amount: _____ Total Received this Reporting Period: _____ Total Received to Date: _____

Name of Sub-Contractor	DBE (Y/N)	Description of Work	Date of Contract Awarded	Amount of Sub-Contractor Award	Amount Paid This Reporting Period	Cumulative Paid To Sub-Contractor	% of Physical Work Complete
TOTAL							

I certify the information furnished with respect to DBE subcontractor performance correct to the best of my knowledge and represents a current status for the designated period covered by this report. Further, those contractors, due payment pursuant to the terms of their subcontracts will be paid within ten days after receipt of payment from the Contractor.

By: _____ Title: _____ Date: _____

APPENDIX B-1

ATTACHMENT A
NOTICE OF REQUIREMENTS
FOR
SMALL BUSINESS ENTERPRISE (SBE) PROGRAM

May 2015

~Applies only if proposal price is \$500,000 or less.

SMALL BUSINESS ENTERPRISE PROGRAM (SBE)

SMALL BUSINESS ENTERPRISE PROGRAM (SBE)

SMALL BUSINESS PROGRAM POLICY

It is the policy of the Authority (WMATA), the Federal Transit Administration (FTA), and US Department of Transportation (USDOT) to foster small business participation in federally funded contracts. In order to facilitate competition and maximize participation by small businesses, the Authority will assign small business participation within the established threshold on a contract-by-contract basis on USDOT assisted construction and on non-construction procurements [i.e., contracts for services, supplies and equipment have a total value not to exceed five hundred thousand dollars (\$500,000.00).] The threshold may be satisfied by utilizing one (1) or more small business concerns as primes or subcontractors or suppliers of goods and services provided that the small business performs a minimum of fifty-one percent (51%) of the tasks pursuant to the awarded contract. The Contractor hereby agrees to carry out this policy in the award and administration of subcontracts to the fullest extent possible consistent with efficient Contract performance. Refer to Appendix B-1 for more detail on the SBE Program.

QUALIFICATIONS

- (a) A firm that is currently WMATA DBE certified under the Metropolitan Washington Unified Certification Program will automatically be certified as SBE. All other firms that meet the eligibility requirements must apply to the Authority's SBE Coordinator in the WMATA's DBE Program Office (DBEPO) for SBE status. All SBE certified firms will appear in the online WMATA SBE Directory.
- (b) A firm must be a small business as defined by the U.S. Small Business Administration (SBA) by applying current SBA business size standards found in 13 C.F.R. Part 121 that are applicable to the type of work the firm seeks to perform in USDOT-assisted contracts.
- (c) The firm's average gross receipts cannot exceed the overall USDOT size standard for a small business set forth in 49 C.F.R. § 26.65. [\$23.98 million averaged over the three (3) previous fiscal years or part of year which the business has been in existence].
- (d) At least fifty one percent (51%) of the firm's ownership must be held by individuals who meet the personal net worth (PNW) cap of \$1.32 million as prescribed by 49 C.F.R. § 26.67.
- (e) A firm must be organized for profit in order to be eligible for SBE certification.
- (f) The fifty one percent (51%) owner must be a U.S. Citizen or Permanent Resident.
- (g) **Each firm must be qualified as a SBE before the solicitation process. Proposals and bids will not be accepted from non-SBE qualified firms.**

CERTIFICATIONS

- (a) Each certified SBE firm that is a Non-DBE firm must annually submit an affidavit to WMATA's DBE Office affirming its continued eligibility to participate in the SBE program. SBE/DBE firms do not have to submit an affidavit annually as long as they stay in DBE compliance.
- (b) A firm seeking SBE certification and/or annual renewal must cooperate fully with WMATA DBE Office's requests for information relevant to the certification and annual renewal process. Failure or refusal to provide such information may result in the denial or removal of certification.

The SBE firm is responsible for listing the North American Industry Classification System (NAICS) Code(s) that is/are the primary activities of the business and ensuring the NAICS Code(s) have been approved by WMATA's SBE Coordinator.

Each SBE firm shall complete and adhere to all requirements in Appendix B-1.

~ **APPENDIX B-1**

SMALL BUSINESS ENTERPRISE (SBE) PROGRAM

1. SMALL BUSINESS ENTERPRISE (SBE) REQUIREMENT:

The SBE requirements of the Authority's DBE Program Plan apply to this contract. Accordingly, the Contractor shall carry out the requirements of the Authority's DBE Program Plan and this Appendix in the performance of this U.S. Department of Transportation (US DOT) assisted contract.

2. POLICY:

It is the policy of the Authority (WMATA), the Federal Transit Administration (FTA), and U.S.DOT to foster small business participation in federally funded contracts. In order to facilitate competition and maximize participation by small businesses, WMATA will assign small business participation within the established threshold on a contract-by-contract basis on USDOT assisted construction contracts and on non-construction procurements (i.e., contracts for services, supplies and equipment having a total value not to exceed \$500,000). The threshold may be satisfied by utilizing one (1) or more small business concerns as primes or subcontractors or suppliers of goods and services provided that the small business performs a minimum of fifty one percent (51%) of the tasks pursuant to the awarded Contract. The Contractor hereby agrees to carry out this policy in the award and administration of subcontracts to the fullest extent possible consistent with efficient Contract performance.

3. DEFINITIONS:

- A. **Appendix B-1.** The Notice of Requirements for Small Business Enterprise Program, when attached to a solicitation, implements the SBE requirements of the Authority's DBE Program Plan in the award and administration of federally funded Authority contracts.
- B. **Certified SBE.** Is a for-profit small business concern (a) that is at least fifty one percent (51%) owned by one or more individuals who are economically disadvantaged or, in the case of a corporation, in which fifty one percent (51%) of the stock is owned by one (1) or more such individuals; (b) whose management and daily business operations are controlled by one (1) or more of the economically disadvantaged individuals who own it; and (c) whose eligibility is evidenced by a current MWUCP (WMATA or D.C. Department of Transportation Certification letter), or an SBE certification letter issued by WMATA's DBE Office.
- C. **Contractor.** One who participates, through a contract or subcontract (at any tier), in a US DOT assisted highway, transit or airport program.

- D. **Commercially Useful Function (CUF).** An SBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the SBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether an SBE is performing a commercially useful function, the Authority will consider the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing.
- (1) An SBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of SBE participation.
 - (2) If an SBE does not perform or exercise responsibility for at least fifty one percent (51%) of the total cost of its contract with its own work force, or if the SBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work, the Authority will presume that the SBE is not performing a commercially useful function.
- E. The following factors will be used by the Authority in determining whether an SBE trucking company is performing a commercial useful function:
- (1) The SBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible for on a particular contract.
 - (2) The SBE must itself own and operate at least one fully licensed, insured and operational truck used on the contract.
 - (3) The SBE may lease trucks from another SBE firm, including an owner-operator who is certified as an SBE.
 - (4) The SBE may also lease trucks from a non-SBE firm, including an owner-operator. The SBE who leases trucks from a non-SBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.
 - (5) The lease must indicate that the SBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the terms of the lease with the consent of the SBE, so long as the lease gives the SBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the SBE.
- F. **DC DOT.** The District of Columbia Department of Transportation.
- G. **Economically Disadvantaged Individual.** Any individual who is a citizen (or other lawfully admitted permanent resident) of the United States and, in general, whose net worth is less than \$1.32 million (excluding equity in personal residence and applicant's firm).

- H. **Joint Venture.** An association of an SBE firm and one (1) or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the SBE is responsible for a distinct, clearly defined portion of the work of the Contract and shares in the capital contribution, control, management, risks, and profits of the joint venture commensurate with its ownership interest.
- I. **Metropolitan Washington Unified Certification Program (MWUCP).** A unified certification program mandated by 49 CFR §26.81 between two Federal transit recipients (WMATA and the D.C. Department of Transportation). The agreement became effective January 2005.
- J. **Race-conscious.** A measure or program that is focused specifically on assisting only DBEs, including women-owned DBEs.
- K. **Race-neutral.** A measure or program that is, or can be, used to assist all small businesses. For the purposes of the SBE and DBE programs, race-neutral includes gender-neutrality.
- L. **Small Business Concern.** With respect to firms seeking to participate as SBEs in US DOT assisted contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration's implementing regulations (13 C.F.R. Part 121) that also does not exceed the cap on average annual gross receipts specified in 49 C.F.R. § 26.65(b).
- M. **US DOT Assisted Contract.** Any contract between the Authority and a contractor (at any tier) funded, in whole or in part, with US DOT financial assistance, including letters of credit or loan guarantees.
- N. **WMATA.** Washington Metropolitan Area Transit Authority, the transit system (rail and bus) serving the metropolitan Washington area, including parts of Virginia and Maryland.

4. SOLICITATION REQUIREMENTS:

The bidder shall submit the following with its bid or proposal, no later than the time of the bid or proposal due date. Any bidder who fails to complete and return this information with its bid shall be deemed to be not responsive and may be ineligible for contract award. Bidders that are not SBE certified shall be deemed to be not responsible and will be ineligible for Contract award.

- a. A copy of a current WMATA, D.C. DOT or MWUCP certification letter(s) or SBE certification letter shall be attached to evidence SBE pre-certification. All SBE firms must be pre-certified. Participation by a firm that is not currently certified as an SBE by the Authority at the time of bid opening does not count. All SBE firms must be in compliance with 49 CFR, Part 26.
- b. Information for Determining Joint Venture Eligibility, if applicable (Attachment 1, pgs. 1-4). Submittal shall be signed by all parties, dated and notarized.
- c. Copy of Joint Venture Agreement, if applicable. Submittal shall be signed by all parties, dated and notarized.
- d. Completed "Schedule of Participation for SBE Contracts" (Attachment 2) identifying the area of work and percentage of contract performance for SBE prime contractor and all subcontractors. The SBE must perform, at least fifty one percent (51%) of the total Contract value, to meet the SBE contract performance requirement.
- e. Executed "Letter of Intent to Perform as Subcontractor on SBE Contract" (Attachment 3) must be submitted for all subcontractors.

5. CONTRACT ADMINISTRATION REQUIREMENTS:

The following requirements apply after contract award:

- a. The Contractor shall include the following provision in each subcontract it awards:

“The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of U.S. DOT assisted contracts. The Contractor’s failure to carry out these requirements is a material breach of this Contract, which may result in termination of this contract or such other remedy as the Authority deems appropriate.”
- b. The Contractor shall report on SBE performance on the attached, SBE Prime Contractor Prompt Payment Report (Attachment 4) which shall be submitted monthly with each payment request. Failure to submit these report(s) may result in suspension of contract payments. The Contractor shall certify, with each payment request, that payment has been or will be made to all subcontractors due payment, within ten (10) days after receipt of payment from the Authority for work by that subcontractor. The Contractor shall inform the COR or COTR, with its payment request, of any situation where scheduled subcontractor payments have not been made and the reason therefore. The Contractor shall require each subcontractor to complete and forward to the Small Business Coordinator on a monthly basis a “SBE Subcontractor Prompt Payment Report” (Attachment 5). The subcontractor shall certify that payment has been received.
- c. The Contractor must have the prior written approval of the contracting officer and the SBE office before substitution for an SBE subcontractor, regardless of the reason for substitution. Failure to obtain Authority approval could result in the Authority declaring the Contractor ineligible to receive further Authority contracts for three years from the date of the finding.
- d. The contractor shall forward copies of all subcontracts to the Small Business Coordinator at the time of their execution.
- e. If the Contracting Officer or other delegated Authority representative determines that the Contractor has failed to comply with this Appendix B-1, he/she will notify the Contractor of such noncompliance and the action to be taken. The Contractor shall, after receipt of such notice, take corrective action. If the Contractor fails or refuses to promptly comply, the Contracting Officer or other delegated Authority representative may issue a “stop work order” stopping all or part of the work, until satisfactory corrective action has been taken. No part of the time lost due to any such stop work order shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor. When the Authority proceeds with such formal actions, it has the burden of proving that the Contractor has not met the requirements of this Appendix, but the Contractor’s failure to meet its Appendix B-1 goal shall shift to it, the requirement to come forward with evidence to show that it has met the good faith requirements of this Appendix.
- f. The Contractor agrees to cooperate in any studies or surveys that the Authority conducts which are necessary to determine the extent of the Contractor’s compliance with this Appendix.

- g. The Contractor shall keep records and documents for three (3) years following performance of this Contract to indicate compliance with this Appendix. These records and documents, or copies thereof, shall be made available at reasonable times and places for inspection by any authorized representative of the Authority and will be submitted upon request together with any other compliance information that such representative may require.
- h. If the Authority, the FTA or the U.S. DOT has reason to believe that any person or firm has willfully and knowingly provided incorrect information or made false statements regarding the SBE Program, the matter shall be referred to the WMATA's DBE Office, and WMATA's Office of Inspector General (OIG).
- i. The Contractor's failure to carry out the requirements of this Appendix is a material breach of this Contract, that may result in the termination of this Contract or such other remedy as the Authority deems appropriate.

Information for Determining Joint Venture Eligibility

Page 1

.....

Name and address of Joint Venture:

Contact Person: _____ Telephone: _____

Have you attached a copy of the Joint Venture agreement? Yes No

NOTE: Affidavit will not be processed without a copy of the Joint Venture agreement.

.....

Name and address of Joint Venture partner: _____

Contact Person: _____ Telephone: _____

Status of firm: DBE Non-Minority Female Veteran.

Does firm have current WMATA, DC DOT or MWUCP DBE certification? Yes No

.....

Name and address of Joint Venture partner: _____

Contact Person: _____ Telephone: _____

Status of firm: DBE. Non-Minority Female Veteran.

Does firm have current WMATA, DC DOT or MWUCP DBE certification? Yes No

.....

Describe the nature of the Joint Venture business:

Describe the role in the Joint Venture of each partner listed above:

Describe the experience and business qualifications of each partner in the Joint Venture listed above:

Information for Determining Joint Venture Eligibility

Page 2

Indicate the percentage of ownership in the Joint Venture for each Joint Venture partner, indicating dollar amounts wherever applicable.

Name of Partner	Percentage of Ownership	Profit and Loss Sharing	Capital Contributions including Equipment	Other Agreements

TOTALS:

Identify by name, title, race, sex and company affiliation those individuals responsible for the management control of and participation in this contract:

1. Financial decisions, such as payroll, insurance, surety and/or bonding requirements:
Name: _____ Race: _____
Title: _____ Sex: Male Female
Company affiliation: _____
2. Management decisions, such as estimating, marketing and sales, hiring and firing, purchasing supplies:
Name: _____ Race: _____
Title: _____ Sex: Male Female
Company affiliation: _____
3. Supervision of field operations:
Name: _____ Race: _____
Title: _____ Sex: Male Female
Company affiliation: _____

M

Information for Determining Joint Venture Eligibility

Page 3

The undersigned swear that the foregoing statements are correct and include all material information necessary to identify and explain the terms and operations of our following named Joint Venture:

and the intended participation by each Joint Venturer in the undertaking. Further the undersigned covenant and agree to provide the Authority current, complete and accurate information regarding actual Joint Venture work and the payment thereof and any proposed changes in any of the Joint Venture arrangements and to permit the audit and examination of the books, records and files of the Joint Venture, or those of each Joint Venturer relevant to the Joint Venture, by authorized representatives of the Authority or the Federal funding agency. Any material misrepresentation will be grounds for terminating any contract that may be awarded and for initiating action under Federal and State laws concerning false statements.

It is recognized and acknowledged that the Authority's SBE Program shall have access to the information provided herein above for the purpose of establishing eligibility of the Joint Venture.

It is understood that trade secrets and information privileged by law, as well as commercial, financial, geological and geophysical data furnished will be protected.

_____	_____
(NAME OF FIRM)	(NAME OF SECOND FIRM)
_____	_____
(SIGNATURE OF AFFIANT)	(SIGNATURE OF AFFIANT)
_____	_____
(PRINT NAME)	(PRINT NAME)
_____	_____
(TITLE)	(TITLE)
_____	_____
(DATE)	(DATE)



Information for Determining Joint Venture Eligibility

Page 4

.....

Date: _____ State: _____ County: _____

On this _____ day of _____, 20_____,

before me appeared _____

(Name)

to me personally known, who, being duly sworn, did execute the foregoing Affidavit, and did state that he or she was properly authorized by _____

(Name of Firm)

to execute the Affidavit and did so as his or her free act and deed.

(Seal)

Sworn and subscribed before me _____

(Notary Public)

Commission Expires: _____

.....

Date: _____ State: _____ County: _____

this _____ day of _____, 20_____,

before me appeared _____

(Name)

To me personally known, who, being duly sworn, did execute the foregoing Affidavit, and did state that he or she was properly authorized by _____

(Name of Firm)

to execute the Affidavit and did so as his or her free act and deed.

(Seal)

Sworn and subscribed before me _____

(Notary Public)

Commission Expires: _____

.....

SUBMIT WITH BID/PROPOSAL

SCHEDULE OF PARTICIPATION on SBE Contract

Contract No. _____

Project Name _____

Name of Bidder/Proposer

The bidder/proposer shall complete this Schedule by identifying those firms, (with scope of work and price), who have agreed to perform work on this Contract. The bidder/proposer agrees to enter into a formal agreement with the firm(s) listed for the work and at, or greater than, the prices listed in this Schedule subject to award of a Contract with the Authority.

Name of Subcontractor	Address	Type of Work (Electrical, Paving, Etc.) and Contract Items or Parts Thereof to be Performed and Work Hours Involved	Agreed Price
Subtotal \$ Subcontractors			
Name of Prime Contractor	Address	Type of Work (Electrical, Paving, Etc.) and Contract Items or Parts Thereof to be Performed and Work Hours Involved	Agreed Price
Subtotal \$ SBE Prime Contractor			
TOTAL \$ ALL CONTRACTORS		TOTAL	

Signature & Title of Contractor Representative

Date

**LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR/JOINT VENTURE
(ALL ITEMS MUST BE COMPLETED)**

TO: _____
(Name of Bidder/Proposer)

The undersigned intends to perform work in connection with the above projects as (check one):

_____ An individual _____ A corporation
_____ A partnership _____ A joint venture

Specify in detail particular work items or parts thereof to be performed:

at the following price: \$ _____

Please indicate _____% of the dollar value of the subcontract that will be awarded to subcontractors, if applicable. The undersigned will enter into a formal agreement with you for the above work upon your execution of a contract with the Authority.

_____	_____
Name of SBE Firm's Subcontractor/Joint Venture	Phone Number
_____	_____
Address	WMATA Vendor ID
_____	_____
Signature & Title	Date

The following is to be completed by the Prime Contractor. A copy of this letter must be returned to the subcontractor to indicate acceptance.

To: _____
(Name of Subcontractor)

You have projected your interest and intent for such work, and the undersigned is projecting completion of such work as follows:

WORK ITEMS:

PROJECTED SUBCONTRACTOR COMMENCEMENT DATE:

PROJECTED SUBCONTRACTOR COMPLETION DATE:

(Name of Prime Contractor & Acceptance Signature) _____

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
SUPPLY AND SERVICE CONTRACT IFB: FQ18142
Washington Metropolitan Area Transit Authority (WMATA)

SMALL BUSINESS ENTERPRISE (SBE)
PRIME CONTRACTOR'S PROMPT PAYMENT REPORT

Page _____ of _____
 Reporting Period _____
 Contract Number _____

This Report is required to be submitted to the DBE Office, Attn: Coordinator, Small Business Programs, 8201 Ardwick Ardmore Road, Landover, MD 20785, pursuant to the requirements of WMATA's DBE Program Plan and 49 CFR Part 26.

Name of SBE Prime Contractor: _____

Prime Contract Amount: _____ :

Name of Sub-Contractor	SBE (Y/N)	Description of Work	Date Contract Awarded	Amount of Subcontractor Award	Amount Paid This Reporting Period	Cumulative Paid To Sub-Contractor

I certify the information furnished with respect to subcontractor performance is correct to the best of my knowledge and represents a current status of the SBE prime contractor with subcontractors for the designated period covered by this report. Further, those subcontractors, due payment pursuant to the terms of their subcontracts will be paid within ten (10) days after receipt of payment from WMATA.

Signature & Title of Authorized Representative: _____ Date: _____

Washington Metropolitan Area Transit Authority (WMATA)

**SMALL BUSINESS ENTERPRISE (SBE)
SUBCONTRACTOR'S PROMPT PAYMENT REPORT**

Page _____ of _____
 Reporting Period _____
 Contract Number _____

This Report is required to be submitted to the DBE Office, Attn: Coordinator, Small Business Programs, 8201 Ardwick Ardmore Road, Landover, MD 20785, pursuant to the requirements of WMATA's DBE Program Plan and 49 CFR Part 26.

Subcontractor: _____

SBE Prime Contractor: _____ Subcontract Amount: _____

Description of Service/Product Performed	Invoice Date	Invoice Amount	Payment Received From Prime Contractor (<i>Check # or EFT Confirmation #</i>)	Cumulative Payments Received From Prime Contractor

I certify that the information furnished with respect to payment(s) by the prime contractor for the above services/products is true and accurate to the best of my knowledge and belief.

Signature & Title of Authorized Representative: _____ Date: _____

APPENDIX C

Appendix C – CDRL Listing

SOW SECTION	NAME	CDRL DESCRIPTION	DUE DATE
-	Project	Status Reports	Monthly
4	Design of MB	Survey Report	NTP + 60 days
4	Design of MB	Heat Load Analysis	NTP + 90 days
4	Design of MB	35% Design	NTP + 90 days
4	Design of MB	65% Design	NTP + 120 days
4	Design of MB	95% Design	NTP + 150 days
4	Design of MB	Final Design	NTP + 180 days
5	Installation by others	Installation by others	Per WMATA Schedule
5	Field Testing	Field Testing support	Per WMATA Schedule
5	Commissioning	On-Site Commissioning Support	Per WMATA Schedule
6	Training	Training Material	Final Design + 30 days
7	Documentation	Documentation	Final Design + 60 days
8	Warranty	Warranty and Support Contract	Per WMATA Schedule
9	Conditional Acceptance	Delivered Functional Units	Per WMATA Schedule
9	Commissioning Acceptance	Installed and commissioned Units	Per WMATA Schedule
9	Project Acceptance	Completed Contract Deliverables	Per WMATA Schedule

APPENDIX D
Equipment Installed by WMATA

Network Switches

Cisco Industrial Ethernet 4000 Series Switches

Developed specifically to withstand the harshest industrial manufacturing environments, these switches offer the most flexible and resilient industrial Ethernet products with secure connectivity, simple management and edge application execution.

Product Overview

The Cisco® Industrial Ethernet (IE) 4000 Series delivers Gigabit connectivity to Cisco ruggedized switching portfolio with superior high-bandwidth switching capacity and proven Cisco IOS® Software. The IE 4000 Series provides highly secure access and industry-leading convergence ring protocols to support resilient and scalable networks while adhering to industry compliance requirements.

The IE 4000 Series is ideal for industrial Ethernet applications where hardened products are required, including manufacturing, energy, transportation, smart cities. With improved overall performance, greater bandwidth, advanced security features, and enhanced hardware, the Cisco IE 4000 Series complements the current industrial Ethernet portfolio of related Cisco industrial switches, such as the Cisco IE 2000 and IE 3000.

The Cisco IE 4000 can easily be installed. with a GUI based Device Manager, it also offers out-of-the-box industrial usage configuration and simplified manageability to deliver advanced security, data, video, and voice services over industrial networks.

The IE 4000 executes edge applications using Cisco IOx to transform sensor data into insight and action. With Cisco IOx for customers take advantage of consistent, distributed computing across Cisco IoT network infrastructure. For more information regarding Cisco IOx, please visit: [Cisco Iox Data Sheet](#)

Features and Benefits

Table 1. Features and Benefits of Cisco IE 4000

Feature	Benefit
Robust Industrial Design	<ul style="list-style-type: none"> Built for harsh environment and temperature range (-40 to 70 C). Hardened for vibration, shock and surge, and noise immunity. Resilient dual ring design via 4x Gigabit Ethernet uplink ports. Complies with multi-industry specifications for automation, ITS, and substation environments. Improves uptime, performance, and safety of industrial systems and equipment. Fitted with compact, DIN rail compliant form factor ideal for industrial deployment. Covers a wide range of Power over Ethernet (PoE) application requirements.
User-Friendly GUI Device Manager	<ul style="list-style-type: none"> Allows easy configuration and monitoring via a web based Device Manager. Eliminates the need for more complex terminal emulation programs. Reduces the cost of deployment.
SwapDrive: “Zero-Config” Replacement	<ul style="list-style-type: none"> Simple switch replacement in case of a failure. No networking expertise required. Helps ensure fast recovery.
High-Density Industrial Power over Ethernet (PoE)	<ul style="list-style-type: none"> Reduces complexity with one cable for both connectivity and power. Controls costs by limiting wiring, distribution panels, and circuit breakers. Creates space and reduces heat dissipation.

Feature	Benefit
	<ul style="list-style-type: none"> • Enables ready-to-use PoE devices like IP phones and wireless access points. • Supports (on select models) maximum HD camera deployments.
Full Gigabit Ethernet Switch	<ul style="list-style-type: none"> • Connects new wireless access point (802.11n and 802.11ac). • Enables new HD IP Cameras and new PLC (Programmable Logic Control). • Allows SCADA (Supervisory Control And Data Acquisition) connectivity. • Provides introduction of new bandwidth-hungry applications in the industrial space. • Supports very-delay-sensitive applications and time-sensitive networks. • Delivers multiple rings, redundant ring topology for new network configurations. • Extends geographical scalability where longer distance connectivity is required.
Cisco IOx for Fog Compute Applications	<ul style="list-style-type: none"> • Reach business outcomes associated with IoT initiatives with application execution close to edge network. • Reach production scale rapidly by offering flexible application development and deployment approaches • Build new business with the ability to process high volumes of data close to network edge and deliver closed-loop system control in real time.

Your Ruggedized Choice for Industrial Environments

The Cisco Industrial Ethernet (IE) 4000 Series offers:

- Bandwidth and capacity to grow with your networking needs: 20-Gbps nonblocking switching capacity with up to 20 Gigabit Ethernet ports per switch
- High-density industrial PoE/PoE+ support providing in-line power to up to 8 power devices, including IP cameras and phones, badge readers, wireless access points, etc.
- Cisco IOS Software features for smooth IT integration and policy consistency
- Robust resiliency enabled by dual ring design via 4x Gigabit Ethernet uplink ports, Resilient Ethernet Protocol (REP), Parallel Redundancy Protocol (PRP), PROFINET– Media Redundancy Protocol (MRP) ring, High Availability Seamless Redundancy (HSR) ring, Etherchannel and Flexlink support, redundant power input, dying gasp, etc.
- True zero-touch replacement for middle-of-the-night or middle-of-nowhere failure
- Line-rate, low-latency forwarding with advanced hardware assist features (such as NAT, IEEE1588)
- Simplified software upgrade path with universal images
- Support of Industrial automation protocols EtherNet/IP (CIP), PROFINET, and Modbus TCP

Figure 1 shows switch models, Table 2 shows all the available Cisco IE 4000 Series models, Table 3 lists the SW license PIDs, and Table 4 lists the power supplies for Cisco IE 4000 Series Switches.

Figure 1. IE 4000 Models



Table 2. Cisco IE 4000 Series Models

Product Number	Total Ports	GE Combo Uplinks (4G) ¹	Additional Combo Ports	RJ-45 Copper Ports (T)	SFP Fiber Ports (S)	PoE/PoE+ Ports (P, GP)	Default Software
IE-4000-4TC4G-E	8	All models have 4 GE combo uplink ports	4 (FE)				All models ship with LAN Base image ²
IE-4000-8T4G-E	12			8 (FE)			
IE-4000-8S4G-E	12				8 (FE)		
IE-4000-4T4P4G-E	12			4 (FE)		4 (FE)	
IE-4000-16T4G-E	20			16 (FE)			
IE-4000-4S8P4G-E	16				4 (FE)	8 (FE)	
IE-4000-8GT4G-E	12			8 (GE)			
IE-4000-8GS4G-E	12				8 (GE)		
IE-4000-4GC4GP4G-E	12			4 (GE)		4 (GE)	
IE-4000-16GT4G-E	20			16 (GE)			
IE-4000-8GT8GP4G-E	20			8 (GE)		8 (GE)	
IE-4000-4GS8GP4G-E	16				4 (GE)	8 (GE)	

¹ Combo ports provide one copper and one fiber physical port and only one can be activated at a time.

² Can be upgraded to IP Services at a fee.

All copper Gigabit Ethernet interfaces support speed negotiation to 10/100/1000 mbps and duplex negotiation. All copper Fast Ethernet interfaces support speed negotiation to 10/100 mbps and duplex negotiation.

Table 3. Cisco IE 4000 Software Licenses and Accessories PIDs

License	Description
L-IE4000-RTU=	IE4000 Electronic software license upgrade from LAN base L2 to IP Services L3 features
LIC-MRP-Manager=	MRP ring manager license
LIC-MRP-Client=	MRP ring client license
STK-RACK-DINRAIL=	19" DIN Rail mount kit

Table 4. Power Supplies for Cisco IE 4000 Series Switches

Product Number	Wattage	Rated Nominal Input Operating Range	Supported Input Voltage Operating Range	Power Output	PoE/PoE+ Support	Use Case Scenario
PWR-IE170W- PC-AC=	170W	AC 100-240V/2.3A 50-60Hz or DC 125-250V/2.1A	AC 90-264V or DC 106-300V	54VDC/3.15A	Yes	Maximum PoE/PoE+ port support in a AC or high DC environment ¹
PWR-IE170W- PC-DC=	170W	DC 12-54V/23A	DC 10.8-60V	54VDC/3.15A	Yes	Maximum PoE/PoE+ port support in a DC environment ¹
PWR-IE50W- AC=	50W	AC 100-240V/1.25A 50-60Hz or DC 125-250V/1.25A	AC 90-264V or DC 106-300V	24VDC/2.1A	No	No PoE/PoE+ support needed in an AC or DC environment
PWR-IE50W- AC-IEC=	50W	AC 100-240V/1.25A 50-60Hz	AC 90-264V	24VDC/2.1A	No	No PoE/PoE+ support needed when IEC plug is desired

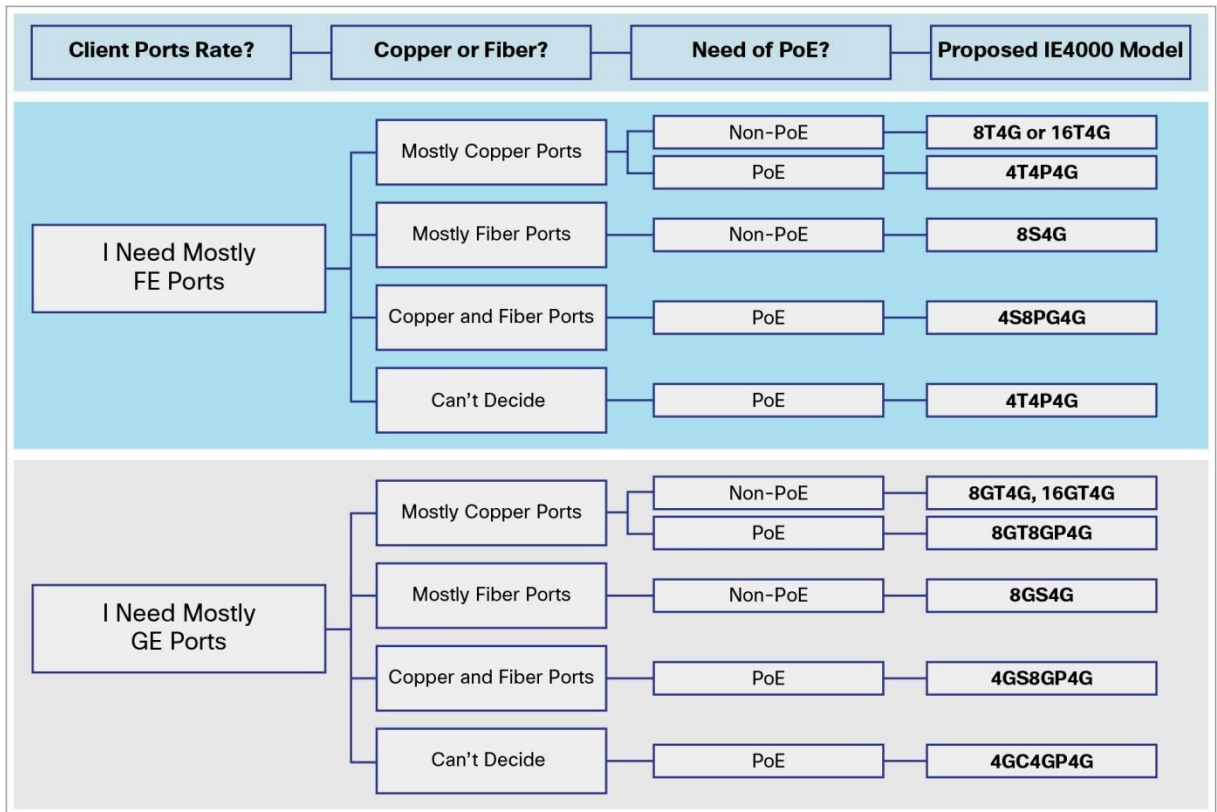
Product Number	Wattage	Rated Nominal Input Operating Range	Supported Input Voltage Operating Range	Power Output	PoE/PoE + Support	Use Case Scenario
PWR-IE65W- PC-AC=	65W	AC 100-240V/1.4A 50-60Hz or DC 125-250V/1.0A	AC 90-264V or DC 106-300V	54VDC/1.2 A	Yes	Minimum (1~2 port) PoE support needed in an AC or high DC environment ²
PWR-IE65W- PC-DC=	65W	DC 24-48VDC/4.5A	DC 18-60V	54VDC/1.2 A	Yes	Minimum (1~2 port) PoE support needed in a DC environment ²

¹ The entire power budget for the switch and PoE ports needs to stay within 170W. A PoE port draws up to 15.4W of power, and a PoE+ port draws up to 30W of power.

² The entire power budget for the switch and PoE ports needs to stay within 65W.

Figure 2 shows a diagram to help you select a Cisco IE 4000 model.

Figure 2. Cisco IE 4000 Model Selection Guide



Product Specifications

Table 5 lists specifications, Table 6 gives information about switch performance and scalability, Table 7 and 8 list important software features, Table 9 lists compliance specifications, Table 10 gives information about management and standards of the Cisco IE 4000 Series Switches, and Table 11 shows the list of supported SFPs.

Table 5. Product Specifications

Description	Specification
Hardware	<ul style="list-style-type: none"> • 1GB DRAM • 128-MB onboard flash memory • 1-GB removable SD flash memory card • Mini-USB connector • RJ-45 connector
Alarm	<ul style="list-style-type: none"> • Alarm I/O: two alarm inputs to detect dry contact open or closed, one alarm output relay
Power Input	<ul style="list-style-type: none"> • Redundant DC input voltage with operating range: nominal 9.6 to 60VDC • Maximum DC input current: 3.7A - IE-4000-4T4P4G-E, IE-4000-8T4G-E, IE-4000-8GT4G-E, IE-4000-16T4G-E 4.3A - IE-4000-4GC4GP4G-E, IE-4000-4TC4G-E, IE-4000-4S8P4G-E, IE-4000-4GS8GP4G-E, IE-4000-16GT4G-E, IE-4000-8GT8GP4G-E 5A - IE-4000-8S4G-E, IE-4000-8GS4G-E
Power Consumption	<ul style="list-style-type: none"> • IE-4000-4T4P4G-E, IE-4000-8T4G-E, IE-4000-8GT4G-E, and IE-4000-16T4G-E: 35W • IE-4000-4GC4GP4G-E, IE-4000-4TC4G-E, IE-4000-4S8P4G-E, IE-4000-4GS8GP4G-E, and IE-4000-16GT4G-E: 40W • IE-4000-8S4G-E, IE-4000-8GS4G-E: 42W • These numbers are measured at 9.6V and do not include PoE power consumption
Dimensions, (H x W x D)	<ul style="list-style-type: none"> • All IE 4000 models have the following dimensions: 6.12 x 6.12 x 5.09 in. (155.4 x 155.4 x 129.2 mm) • PWR-IE170W-PC-AC=: 5.93 x 3.72 x 5.60 in. (150.6 x 94.5 x 142.2) • PWR-IE170W-PC-DC=: 5.93 x 4.47 x 5.75 in. (150.6 x 113.5 x 145.8) • PWR-IE50W-AC=: 5.8 x 2.0 x 4.4 in. (147 x 51 x 112 mm) • PWR-IE50W-AC-IEC=: 5.8 x 2.0 x 4.4 in. (147 x 51 x 112 mm) • PWR-IE65W-PC-AC=: 5.9 x 2.6 x 4.6 in. (150 x 66 x 117 mm) • PWR-IE65W-PC-DC=: 5.9 x 2.6 x 4.6 in. (150 x 66 x 117 mm)
Weight	<ul style="list-style-type: none"> • All IE4000 models listed in Table 1: 6.35 pounds (2.88 kg) • PWR-IE170W-PC-AC=: 3.88 pounds (1.76 kg) • PWR-IE170W-PC-DC=: 3.7 pounds (1.67 kg) • PWR-IE50W-AC=: 1.4 lb (0.65 kg) • PWR-IE50W-AC-IEC=: 1.4 lb (0.65 kg) • PWR-IE65W-PC-DC=: 2.6 (1.18 Kg) • PWR-IE65W-PC-AC=: 2.7 (1.24 Kg)

Table 6. Switch Performance and Scalability

Description	Specification
Forwarding rate	Line rate for all ports and all packet sizes
Number of queues	4 egress
Unicast MAC addresses	16,000
IGMP multicast groups	1,000
Number of VLANs	1,000
IPv4 MAC security ACEs	1,000 with default TCAM Template
NAT translation	Bidirectional, 128 unique subnet NAT translation entries, which can expand to tens of thousands of translated entries if designed properly

Table 7. Cisco IE 4000 LAN BASE: Key Software Features

LAN Base License (Default)	Features
Layer 2 Switching	IEEE 802.1, 802.3, 802.3at, 802.3af standard, VTPv2, NTP, UDLD, CDP, LLDP, Unicast Mac filter, Flexlink, Resilient Ethernet Protocol (REP), VTPv3, EtherChannel, Voice VLAN, QinQ tunneling, Industrial macro configuration
Security	SCP, SSH, SNMPv3, TACACS+, RADIUS Server/Client, MAC Address Notification, BPDU Guard, Port-Security, Private VLAN, DHCP Snooping, Dynamic ARP Inspection, IP Source Guard, 802.1x, Guest VLAN, MAC Authentication Bypass, 802.1x Multi-Domain Authentication, Storm Control, Trust Boundary, FIPS 140-2, Netflow Lite
Layer 2 Multicast	IGMPv1, v2, v3 Snooping, IGMP filtering, IGMP Querier
Management	Fast Boot, Express setup, Web Device Manager, Industrial Network Director (IND), MIB, Smartport, SNMP, syslog, storm control, unicast, multicast, broadcast, SPAN sessions, RSPAN, DHCP server, customized DOM (digital optical management), Embedded Event Manager (EEM), Plug-n-Play Agent
Industrial Ethernet	CIP Ethernet/IP, Profinet v2, IEEE 1588 PTP v2, NTP to PTP translation, CIP Time Sync
Quality of Service	Ingress Policing, Rate-Limit, Egress Queueing/shaping, AutoQoS, QoS
Layer 2 IPv6	IPv6 Host support, HTTP over IPv6, SNMP over IPv6
Layer 3 Routing	IPv4 Static Routing
Industrial Management	Layer 2 switching with 1:1 static Network Address Translation (NAT)
Redundancy	Redundancy Ethernet Protocol ring (REP) Parallel Redundancy Protocol (PRP) Media Redundancy Protocol (MRP) ring, MRP Auto Manager (MAM) High Availability Seamless Redundancy (HSR)
Utility	Power Profile, dying gasp, GOOSE messaging, SCADA protocol classification, MODBUS TCP/IP, utility SmartPort macro, BFD, Ethernet OAM, IEEE 802.3ah, CFM (IEEE 802.1ag)

¹ Support after product General Availability

Table 8. Cisco IE 4000 IP Services: Key Software Features

IP Services License	Additional Features
IP Multicast	PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM), and PIM sparse-dense mode
IP Unicast Routing Protocols	OSPF, EIGRP, BGPv4, IS-IS, RIPv2, Policy-Based Routing (PBR), HSRP
Cisco Express Forwarding	Hardware routing architecture delivers extremely high-performance IP routing
IPv6 Routing	RIPng, OSPFv6, and EIGRPv6 support
Security	IEEE 802.1AE MACsec, Cisco TrustSec [®] , SGT inline tagging and SGACL
Virtualization	VRF-lite

Table 9. Compliance Specifications

Type	Standards
Electromagnetic Emissions	FCC 47 CFR Part 15 Class A EN 55022A Class A VCCI Class A AS/NZS CISPR 22 Class A CISPR 11 Class A CISPR 22 Class A ICES 003 Class A CNS13438 Class A KN22
Electromagnetic Immunity	EN55024 CISPR 24 AS/NZS CISPR 24

Type	Standards
	KN24 EN 61000-4-2 Electro Static Discharge EN 61000-4-3 Radiated RF EN 61000-4-4 Electromagnetic Fast Transients N 61000-4-5 Surge EN 61000-4-6 Conducted RF EN 61000-4-8 Power Frequency Magnetic Field EN 61000-4-9 Pulse Magnetic Field EN 61000-4-11 AC Power Voltage EN 61000-4-18 Damped Oscillatory Wave EN-61000-4-29 DC Voltage Dips
Industry Standards	EN 61000-6-1 Light Industrial EN 61000-6-2 Industrial EN 61000-6-4 Industrial EN 61326 Industrial Control EN 61131-2 Programmable Controllers Substation KEMA (IEEE 1613, IEC 61850-3) Marine DNV NEMA TS-2 (EMC, environmental, mechanical) IEEE 1613 Electric Power Stations Communications Networking IEC 61850-3 Electric Substations Communications Networking EN50155 Railway - Electronic Equipment on Rolling Stock (EMC, ENV, Mech) EN50121-4 Railway - Signaling and Telecommunications Apparatus EN50121-3-2 Railway - Apparatus for Rolling Stock ODVA Industrial EtherNet/IP PROFINET conformance B IP30 (per EN60529)
Safety Standards and Certifications	Information Technology Equipment: UL/CSA 60950-1 EN 60950-1 CB to IEC 60950-1 with all country deviations NOM to NOM-019-SCFI (through partners and distributor) Industrial Floor (Control Equipment): UL 508 CSA C22.2, No 142 Hazardous Locations: ANSI/ISA 12.12.01 CSA C22.2 No 213 IEC 60079-0, -15 IECEx test report EN 60079-0, -15 ATEX certification (Class I Zone 2) Cabinet enclosure required
Operating Environment	Operating Temperature: -40C to +75C <ul style="list-style-type: none"> -40C to +70C (Vented Enclosure Operating) -40C to +60C (Sealed Enclosure Operating) -34C to +75C (Fan or Blower equipped Enclosure Operating) EN 60068-2-1 EN 60068-2-2 EN 61163 Altitude: up to 15,000 feet
Storage Environment	Temperature: -40 to +85 degrees C Altitude: 15,000 feet IEC 60068-2-14
Humidity	Relative humidity of 5% to 95% non-condensing IEC 60068-2-3 IEC 60068-2-30
Shock and Vibration	IEC 60068-2-27 (operational shock, 50G, 11ms, Half Sine) IEC 60068-2-27 (Non-Operational Shock, 65-80G, 9ms, Trapezoidal) IEC 60068-2-6, IEC 60068-2-64, EN 61373 (Operational Vibration) IEC 60068-2-6, IEC 60068-2-64, EN 61373 (Non-operational Vibration)

Type	Standards
Corrosion	ISO 9223: Corrosion class C3-Medium class C4-High EN 60068-2-52 (Salt Fog) EN 60068-2-60 (Flowing Mixed Gas)
Others	RoHS Compliance China RoHS Compliance TAA (Government) CE (Europe)
Warranty	Five-year limited HW warranty on all IE-4000 PIDs and all IE Power Supplies (see table 3 above). See link below for more details on warranty
Mean Time Between Failure (MTBF)	IE-4000-4TC4G-E: 578, 730 Hours IE-4000-8T4G-E: 591, 070 Hours IE-4000-8S4G-E: 583, 700 Hours IE-4000-4T4P4G-E: 562, 300 Hours IE-4000-16T4G-E: 558, 310 Hours IE-4000-4S8P4G-E: 535, 880 Hours IE-4000-8GT4G-E: 591, 240 Hours IE-4000-8GS4G-E: 583, 700 Hours IE-4000-4GC4GP4G-E: 550, 940 Hours IE-4000-16GT4G-E: 558, 630 Hours IE-4000-8GT8GP4G-E: 519, 190 Hours IE-4000-4GS8GP4G-E: 536, 220 Hours

Table 10. Management and Standards

Description	Specification
IEEE Standards	<ul style="list-style-type: none"> • IEEE 802.1D MAC Bridges, STP • IEEE 802.1p Layer2 COS prioritization • IEEE 802.1q VLAN • IEEE 802.1s Multiple Spanning-Trees • IEEE 802.1w Rapid Spanning-Tree • IEEE 802.1x Port Access Authentication • IEEE 802.1AB LLDP • IEEE 802.3ad Link Aggregation (LACP) • IEEE 802.3af Power over Ethernet provides up to 15.4W DC power to each end device • IEEE 802.3at Power over Ethernet provides up to 25.5W DC power to each end device • IEEE 802.3af Power over Ethernet • IEEE 802.3at Power over Ethernet Plus • IEEE 802.3ah 100BASE-X SMF/MMF only • IEEE 802.3x full duplex on 10BASE-T • IEEE 802.3 10BASE-T specification • IEEE 802.3u 100BASE-TX specification • IEEE 802.3ab 1000BASE-T specification • IEEE 802.3z 1000BASE-X specification • IEEE 1588v2 PTP Precision Time Protocol • IEEE 802.1AS PTP • IEEE 802.1Qbv TSN
RFC Compliance	<ul style="list-style-type: none"> • RFC 768: UDP • RFC 783: TFTP • RFC 791: IPv4 protocol • RFC 792: ICMP • RFC 793: TCP • RFC 826: ARP • RFC 854: Telnet • RFC 951: BOOTP • RFC 959: FTP • RFC 1157: SNMPv1 • RFC 1901,1902-1907 SNMPv2 • RFC 2273-2275: SNMPv3 • RFC 2571: SNMP Management • RFC 1166: IP Addresses • RFC 1256: ICMP Router Discovery • RFC 1305: NTP • RFC 1492: TACACS+ • RFC 1493: Bridge MIB Objects • RFC 1534: DHCP and BOOTP interoperation • RFC 1542: Bootstrap Protocol • RFC 1643: Ethernet Interface MIB • RFC 1757: RMON • RFC 2068: HTTP • RFC 2131, 2132: DHCP • RFC 2236: IGMP v2 • RFC 3376: IGMP v3 • RFC 2474: DiffServ Precedence • RFC 3046: DHCP Relay Agent Information Option • RFC 3580: 802.1x RADIUS • RFC 4250-4252 SSH Protocol

Description	Specification	
SNMP MIB Objects	<ul style="list-style-type: none"> • BRIDGE-MIB • CALISTA-DPA-MIB • CISCO-ACCESS-ENVMON-MIB • CISCO-ADMISSION-POLICY-MIB • CISCO-AUTH-FRAMEWORK-MIB • CISCO-BRIDGE-EXT-MIB • CISCO-BULK-FILE-MIB • CISCO-CABLE-DIAG-MIB • CISCO-CALLHOME-MIB • CISCO-CAR-MIB • CISCO-CDP-MIB • CISCO-CIRCUIT-INTERFACE-MIB • CISCO-CLUSTER-MIB • CISCO-CONFIG-COPY-MIB • CISCO-CONFIG-MAN-MIB • CISCO-DATA-COLLECTION-MIB • CISCO-DHCP-SNOOPING-MIB • CISCO-EMBEDDED-EVENT-MGR-MIB • CISCO-ENTITY-ALARM-MIB • CISCO-ENTITY-SENSOR-MIB • CISCO-ENTITY-VENDORTYPE-OID-MIB • CISCO-ENVMON-MIB • CISCO-ERR-DISABLE-MIB • CISCO-FLASH-MIB • CISCO-FTP-CLIENT-MIB • CISCO-IF-EXTENSION-MIB • CISCO-IGMP-FILTER-MIB • CISCO-IMAGE-MIB • CISCO-IP-STAT-MIB • CISCO-LAG-MIB • CISCO-LICENSE-MGMT-MIB • CISCO-MAC-AUTH-BYPASS-MIB • CISCO-MAC-NOTIFICATION-MIB • CISCO-MEMORY-POOL-MIB • CISCO-PAE-MIB • CISCO-PAGP-MIB • CISCO-PING-MIB • CISCO-PORT-QOS-MIB • CISCO-PORT-SECURITY-MIB • CISCO-PORT-STORM-CONTROL-MIB • CISCO-PRIVATE-VLAN-MIB • CISCO-PROCESS-MIB • CISCO-PRODUCTS-MIB • CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB • CISCO-RTTMON-ICMP-MIB • CISCO-RTTMON-IP-EXT-MIB • CISCO-RTTMON-MIB • CISCO RTTMON-RTP-MIB 	<ul style="list-style-type: none"> • CISCO RTTMON-RTP-MIB • CISCO-SNMP-TARGET-EXT-MIB • CISCO-STACK-MIB • CISCO-STACKMAKER-MIB • CISCO-STP-EXTENSIONS-MIB • CISCO-SYSLOG-MIB • CISCO-TCP-MIB • CISCO-UDLD-MIB • CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB • CISCO-VLAN-MEMBERSHIP-MIB • CISCO-VTP-MIB • ENTITY-MIB • ETHERLIKE-MIB • HC-RMON-MIB • IEEE8021-PAE-MIB • IEEE8023-LAG-MIB • IF-MIB • IP-FORWARD-MIB • LLDP-EXT-MED-MIB • LLDP-EXT-PNO-MIB • LLDP-MIB • NETRANGER • NOTIFICATION-LOG-MIB • OLD-CISCO-CHASSIS-MIB • OLD-CISCO-CPU-MIB • OLD-CISCO-FLASH-MIB • OLD-CISCO-INTERFACES-MIB • OLD-CISCO-IP-MIB • OLD-CISCO-MEMORY-MIB • OLD-CISCO-SYS-MIB< • OLD-CISCO-SYSTEM-MIB • OLD-CISCO-TCP-MIB • OLD-CISCO-TS-MIB • RMON-MIB • RMON2-MIB • SMON-MIB • SNMP-COMMUNITY-MIB • SNMP-FRAMEWORK-MIB • SNMP-MPD-MIB • SNMP-NOTIFICATION-MIB • SNMP-PROXY-MIB • SNMP-TARGET-MIB • SNMP-USM-MIB • SNMP-VIEW-BASED-ACM-MIB • SNMPv2-MIB • TCP-MIB • UDP-MIB

Table 11. SFP Support

Part Number	Specification	SFP Type	Max Distance	Cable Type	Temp Range*	DOM Support
GLC-FE-100FX-RGD=	100BASE-FX	FE	2km	MMF	IND	Yes
GLC-FE-100LX-RGD=	100BASE-LX10	FE	10km	SMF	IND	Yes
GLC-FE-100FX=	100BASE-FX	FE	2km	SMF	COM	No
GLC-FE-100LX=	100BASE-LX10	FE	10km	SMF	COM	No
GLC-FE-100EX=	100BASE-EX	FE	40km	SMF	COM	No
GLC-FE-100ZX=	100BASE-ZX	FE	80km	SMF	COM	No
GLC-FE-100BX-D=	100BASE-BX10	FE	10km	SMF	COM	No
GLC-FE-100BX-U=	100BASE-BX10	FE	10km	SMF	COM	Yes
GLC-SX-MM-RGD=	1000BASE-SX	GE	550m	MMF	IND	Yes
GLC-LX-SM-RGD=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	IND	Yes
GLC-ZX-SM-RGD=	1000BASE-ZX	GE	70km	SMF	IND	Yes
GLC-BX40-U-I=	1000BASE-BX40	GE	40km	SMF	IND	Yes
GLC-BX40-D-I=	1000BASE-BX40	GE	40km	SMF	IND	Yes
GLC-BX40-DA-I=	1000BASE-BX40	GE	40km	SMF	IND	Yes
GLC-BX80-U-I=	1000BASE-BX80	GE	80km	SMF	IND	Yes
GLC-BX80-D-I=	1000BASE-BX80	GE	80km	SMF	IND	Yes
GLC-SX-MMD=	1000BASE-SX	GE	550m	MMF	EXT	Yes
GLC-LH-SMD=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	EXT	Yes
GLC-EX-SMD=	1000BASE-EX	GE	40km	SMF	EXT	Yes
GLC-ZX-SMD=	1000BASE-ZX	GE	70km	SMF	EXT	Yes
GLC-BX-D=	1000BASE-BX10	GE	10km	SMF	COM	Yes
GLC-BX-U=	1000BASE-BX10	GE	10km	SMF	COM	Yes
CWDM-SFP-xxxx= (8 freq)	CWDM 1000BASE-X	GE		SMF	COM	Yes
DWDM-SFP-xxxx= (40 freq)	DWDM 1000BASE-X	GE		SMF	COM	Yes
SFP-GE-S=	1000BASE-SX	GE	550m	MMF	EXT	Yes
SFP-GE-L=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	EXT	Yes
SFP-GE-Z=	1000BASE-ZX	GE	70km	SMF	EXT	Yes
GLC-SX-MM=	1000BASE-SX	GE	550m	MMF	COM	No
GLC-LH-SM=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	COM	No
GLC-ZX-SM=	1000BASE-ZX	GE	70km	SMF	COM	Yes
GLC-TE=	1000BASE-T	GE	100m	Copper	EXT	NA
GLC-T=	1000BASE-T	GE	100m	Copper	COM	NA

Note: Not all SFPs supported in all SW versions. For first software release supporting SFP refer to https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html

Not all SFPs are supported in PROFINET GSD, SIMATIC STEP7/TIA Portal, please visit https://www.cisco.com/c/en/us/td/docs/switches/lan/industrial/software/configuration/guide/b_sfp_TIA.html

* If non industrial (i.e., EXT, COM) SFPs are used the switch operating temperature must be derated.

MMF = multi-mode fiber

SMF = single-mode fiber

Warranty Information

Warranty information for the IE 4000 is available on <https://www.cisco-servicefinder.com/warrantyfinder.aspx>

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IT FO Patch
Panels



Fiber Splice Box, Copper Patch Panel,
both



MIPP™



Be certain.
Belden.

**The Industrial Termination
and Patching Solution
from Belden**

Robust quality, easy installation and high port-density

MIPP™ The industrial-strength patch panel from Belden

Be certain. Belden.



Robust industrial quality offers long-term stability for performance-critical ethernet applications, delivering peace of mind to network engineers and system installers.



Belden's Modular Industrial Patch Panel (MIPP™) is a robust and versatile termination panel for both fiber and copper cables that need to be connected from operating environment to active equipment. Easily installed on any standard 35mm DIN rail, MIPP features high port-density to meet expanding network connectivity needs within limited space. MIPP™ is Belden's high-quality solution for performance-critical Industrial Ethernet Applications.

Robust quality

The durable MIPP™ panels are constructed of lightweight, high strength aluminium, securely protecting copper and optical fiber connections under the harshest industrial conditions. The housing is able to withstand temperatures from -20°C to +70°C and is resistant to shocks and vibrations. The patch panel's industrial quality guarantees a secure termination point for reliable industrial Ethernet connectivity.

Fiber, copper, both

MIPP™ comes as either a Fiber Splice Box, Copper Patch Panel, or a combination. Where both fiber and copper cables are needed together the design enables simply connecting both to a single panel. MIPP™ allows flexible network design for network engineers and flexible patching for system installers.

Easy installation and maintenance

The smart housing design allows quick and flexible installation of the MIPP™ on a DIN rail or a wall. Maintenance is equally easy, since the modules can be individually removed without dismantling the MIPP™ from the DIN rail or wall mount. Just take out the modules that need work and save precious time.

Future proof

As network design may change over time, MIPP™ allows for modifications by simply swapping modules to meet the new design required. Installing a MIPP™ with blind* modules readies the solution for any extensions or modifications to come. MIPP™ is the future proof termination and patching solution for dynamic industries.

Save space

Belden knows the importance of cabinet space in industrial sites. Continuous growth of system networks requires smart use of the existing space. MIPP™ is designed to fit. Thanks to its narrow housing design the required space is kept to a minimum. With three cable entry points (top and bottom) there is no need for special cabinet design or positioning.

Best fit

MIPP™ is the reliable solution for connecting Belden® cables and Hirschmann™ switches.

MIPP's housing design reduces installation and maintenance time. Just extract the modules that require work.

5 reasons why MIPP™ is the dependable industrial termination and patching solution



Wind tower installation application

1. **Robustness:** durable UL certified (UL 1863) solution for linking Hirschmann™ switches to Belden cabling with a guaranteed lifetime of well over 10 years.
2. **Versatility:** suitable in nearly any industrial application where fiber splicing, copper termination or both are required. A single MIPP™ allows for termination and patching of:
 - up to 72 fiber cables: MIPP™ Fiber Splice Box
 - up to 24 copper cables: MIPP™ Copper Patch Panel
3. **Ease of use:** mounted on a DIN rail or wall, any module can be individually extracted from the housing for maintenance actions.
4. **Future proof:** simply swap modules to meet new network demands or add blind modules at initial installation.
5. **Save space and cost:** high port density and multiple cable entry points.

* A blind module is a blanking plate with no cut-outs, for future proof.

MIPP™ Fiber Splice Box

Save cost and space:
high port density and
multiple cable entry points
minimize required cabinet
space.

MIPP™ Fiber Splice Box guarantees efficient fiber termination and is designed for use in a wide range of industrial applications. MIPP™ Fiber Splice Box accommodates various fiber types and connectors: LC, SC, SC metal, ST, ST metal and E-2000™ fiber duplex adapters.

MIPP™ Fiber Splice Box gives you everything you need:

- Splice tray and multiple fingers for easy fiber management
- Up to three cable entries for single fiber module, ideal for ring topology applications
- High port density with up to 72 fiber counts (for a single MIPP™) for efficient usage of space



Accessories for the MIPP™ Fiber Splice Box
Brilliance connectors

Type of Adapters

Single Fiber Modules

(up to 12 fiber connections)

- 6 x SC duplex adapters
- 6 x SC metal duplex adapters
- 6 x LC duplex adapters
- 6 x ST duplex adapters
- 6 x ST metal duplex adapters
- 6 x E-2000™ duplex adapters

Double Fiber Modules

(up to 24 fiber connections)

- 12 x SC duplex adapters
- 12 x SC metal duplex adapters
- 12 x LC duplex adapters
- 12 x ST duplex adapters
- 12 x ST metal duplex adapters
- 12 x E-2000™ duplex adapters

Fiber Applications

- Multimode: OM1, OM2, OM3 and OM4
- Singlemode: OS2 and OS2/APC

MIPP™ Fiber Splice Box is UL certified (UL 1863).



MIPP™ Copper Patch Panel

MIPP™ Copper Patch Panel ensures maximum reliability for Industrial Ethernet and PROFINET networks. The MIPP™ Copper Patch Panel complements the market leading Hirschmann™ switches and high performance Belden cabling solutions by enabling cables to be terminated and linked to active equipment using DataTuff® patch cords, in an organised and structured manner.

MIPP™ Copper Patch Panel covers all your copper termination and patching needs:

- High variety of media and connectors:
 - RJ45 copper keystone jacks (unshielded and shielded, Cat 5e, Cat 6, Cat 6_A)
 - RJ45 copper coupler (unshielded and shielded, Cat 6_A)
- Suitable in nearly any industrial application thanks to the robust aluminium housing (resisting an operating temperature range of -20°C to +70°C)



Perfect fit to the Belden cables and Hirschmann™ product families.

Type of Keystone

Single Copper Modules

- 2 or 4 x RJ45 keystone unshielded
- 2 or 4 x RJ45 keystone shielded
- 2 or 4 x RJ45 coupler unshielded
- 2 or 4 x RJ45 coupler shielded

Type of Cable Categories

- Cat 5e unshielded and shielded
- Cat 6 unshielded and shielded
- Cat 6_A unshielded and shielded

MIPP™ Copper Patch Panel is UL certified (UL 1863).



Accessories for the MIPP™ Copper Patch Panel
DataTuff® for cables and patch cords

MIPP™ Mix



Scan to view the MIPP™ Mix video

The market shows a clear trend in the growing use of both Industrial Ethernet and fiber infrastructures in industrial networks. MIPP™ addresses this by allowing the connection of both fiber and copper cables in a single solution*. Specifically designed for industrial use, MIPP™'s functionality and reliability can make a significant contribution to the uptime and availability of performance-critical systems.

MIPP™ Fiber Splice Box and Copper Patch Panel for varying industrial networking needs



* up to 6 single modules, 3 double modules or a combination can be used in one MIPP™





Accessories

MIPPTM Fiber Splice Box Accessories

	SC	LC	ST	E-2000TM
Pigtails	<p>1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours:</p> <ul style="list-style-type: none"> • SC / UPC SM 9/125, OS2 • SC / APC SM 9/125, OS2 • SC / PC MM 62.5/125, OM1 • SC / PC MM 50/125, OM2 • SC / PC MM 50/125, OM3 • SC / PC MM 50/125, OM4 	<p>1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours:</p> <ul style="list-style-type: none"> • LC / UPC SM 9/125, OS2 • LC / APC SM 9/125, OS2 • LC / PC MM 62.5/125, OM1 • LC / PC MM 50/125, OM2 • LC / PC MM 50/125, OM3 • LC / PC MM 50/125, OM4 	<p>1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours:</p> <ul style="list-style-type: none"> • ST / UPC SM 9/125, OS2 • ST / PC MM 62.5/125, OM1 • ST / PC MM 50/125, OM2 • ST / PC MM 50/125, OM3 • ST / PC MM 50/125, OM4 	<p>1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours:</p> <ul style="list-style-type: none"> • E-2000TM/UPC SM 9/125, OS2 • E-2000TM/APC SM 9/125, OS2 • E-2000TM/PC MM 62.5, OM1 • E-2000TM/PC MM 50/125, OM2 • E-2000TM/PC MM 50/125, OM3 • E-2000TM/PC MM 50/125, OM4
Brilliance Field Installable Connectors	<p>12 or 24 brilliance connectors SC, 900 micron:</p> <ul style="list-style-type: none"> • OS2 Blue - AX105208 • OM1 Beige - AX105205 • OM2 Black - AX105206 • OM3/4 Aqua - AX105207 	<p>12 or 24 brilliance connectors LC, 900 micron:</p> <ul style="list-style-type: none"> • OS2 Blue - AX105203 • OM1 Beige - AX105200 • OM2 Black - AX105201 • OM3/4 Aqua - AX105202 	<p>12 or 24 brilliance connectors ST, 900 micron:</p> <ul style="list-style-type: none"> • OS2 Blue - AX105213 • OM1 Beige - AX105210 • OM2 Black - AX105211 • OM3/4 Aqua - AX105212 	

MIPPTM Copper Panel Accessories

Industrial Ethernet DataTuff® Patch Cords:	<ul style="list-style-type: none"> • Cat 5e 2 or 4 pairs • Cat 6 2 or 4 pairs • Cat 6_A 2 or 4 pairs • Shielded or Unshielded • Twisted Pair or Bonded Pair • PVC, FRNC, TPE or PUR jackets
---	---



**MIPP™ is ideal for use
in a wide range of industrial
networking applications requiring
maximum system reliability and
flexibility.**





Find Your MIPP™ in 5 Steps

1	What is your system build-up?		
	Fiber only	Copper only	Both Fiber and Copper
	MIPP™ Fiber Splice Box	MIPP™ Copper Patch Panel	MIPP™ Mix

2	How many Fibers/Copper cables do you need?		
	MIPP™ Fiber Splice Box	MIPP™ Copper Patch Panel	MIPP™ Mix
Single module	Fiber count: up to 12	Copper cables: up to 4	depending on design, a combination can be used
Double module	Fiber count: >12 and ≤ 24 in one cable	N/A	
From 2 up to 6 modules	Fiber count: up to 72	Copper cables: up to 24	
Also available as blind modules or housing for future proof or module replacement			

3	How is it mounted?	
	On a DIN rail	On a wall
	DIN rail version	wall mount plate

4	What type of adapter/keystone do you need?	
	MIPP™ Fiber Splice Box	MIPP™ Copper Patch Panel
	LC/LC Duplex adapters	Unshielded KeyConnect
	SC/SC Duplex adapters	Shielded KeyConnect
	ST/ST Duplex adapters	Unshielded Couplers
	E-2000™/E-2000™ Duplex adapters	Shielded Couplers

5	What fiber application/copper category do you need?		
	MIPP™ Fiber Splice Box		MIPP™ Copper Patch Panel
	Multimode	Singlemode	Cat 5e
	OM1	OS2	Cat 6
	OM2	OS2/APC	Cat 6 _A
	OM3		
	OM4		

Do you need Accessories?

See page 7



MIPP™ Fiber Splice Box Single Module Standard Part Number Reference Guide

1 System build-up **MIPP™ Fiber Splice Box**

2 Number of Fibers **Single Module (Fiber count up to 12)**

3 Mounting Type **DIN rail (wall mount also available)**

4 Adapter **LC *** **SC ***

5 Application		OM1	OM2	OM3	OS2	OM1	OM2	OM3	OS2
Color		Beige	Beige	Aqua	Blue	Beige	Beige	Aqua	Blue
Adapter sleeve material		Phosphor Bronze		Ceramic		Phosphor Bronze		Ceramic	
Part Number		MIPP-01-030	MIPP-01-033	MIPP-01-003	MIPP-01-005	MIPP-01-007	MIPP-01-010	MIPP-01-012	MIPP-01-013
Accessories									
Pigtails	Part Number	MIPP-01-031	MIPP-01-002	MIPP-01-004	MIPP-01-006	MIPP-01-008	MIPP-01-011	MIPP-01-037	MIPP-01-014
Brilliance Connectors	Part Number	MIPP-01-032	MIPP-01-001	MIPP-01-034	MIPP-01-035	MIPP-01-036	MIPP-01-009	MIPP-01-038	MIPP-01-039

4 Adapter **ST ***

5 Application		OM1	OM2	OM3	OS2
Color		Beige	Beige	Aqua	Blue
Adapter sleeve material		Phosphor Bronze		Ceramic	
Part Number		MIPP-01-015	MIPP-01-042	MIPP-01-017	MIPP-01-019
Accessories					
Pigtails	Part Number	MIPP-01-040	MIPP-01-016	MIPP-01-018	MIPP-01-045
Brilliance Connectors	Part Number	MIPP-01-041	MIPP-01-043	MIPP-01-044	MIPP-01-046

* SC and ST available also in metal adapters via Customer Service

* E-2000™ adapters available via Customer Service

* OM4 fibers available via Customer Service

Material	Steel (powder coated)
Weight (gr)	560
Protection Class	IP40
Cable Entry	<ul style="list-style-type: none"> • 3 possible cable entries • 1 M16 Gland installed • 1 extra M16 Gland supplied
Diameter Cable	3 to 10 mm
Cable Types	loose-tube, mini-breakout or breakout cables of up to 12 fibers
Mating Cycles	500 cycles (E-2000™ 1000 cycles)



MIPP™ Copper Patch Panel Single Module Standard Part Number Reference Guide

1	System build-up	MIPP™ Copper Patch Panel							
2	Number of Copper Cables	Single Module (Copper cables up to 4)							
3	Mounting Type	DIN rail (wall mount also available)							
4	Keystone	Unshielded KeyConnect			Shielded KeyConnect			Unshielded Couplers	Shielded Couplers
5	Category	CAT 5e	CAT 6	Cat 6 _A	CAT 5e	CAT 6	Cat 6 _A	Cat 6 _A	Cat 6 _A
	Weight (gr)	515			640			515	640
	Connector Part Number	AX101310	AX101321	AX102283	AX104595	AX104596	AX104562	AX104024	AX104501
	4 Keystones* Part Number	MIPP-01-021	MIPP-01-020	MIPP-01-022	MIPP-01-023	MIPP-01-024	MIPP-01-025	MIPP-01-026	MIPP-01-027

*Available also with 2 keystones via Customer Service

Material	Steel (powder coated)
Protection Class	IP20
Cable Entry	<ul style="list-style-type: none"> • 1 cable entry point • with tie wrap fixing latch
Diameter Cable	4 x 7.5 mm
Mating Cycles	750 cycles

MIPP™ Fiber Splice Box Standard Part Number Reference Guide

Max Number Fibers	Type of Module	Mounting Type		Adapter Type				Application					Accessories		Part Number	
		DIN rail	Wall Mount	LC	SC	ST	E-2000™	Multimode			Singlemode		Pigtails	Brilliance Connectors		
								OM1	OM2	OM3	OS2	OS2/APC				
	No Housing - Blind Module															MIPP-00-001
12	No Housing Single			•					•							MIPP-00-002
12	No Housing Single				•				•							MIPP-00-003
12	No Housing Single				•						•					MIPP-00-004
12	1 x Single	•		•				•								MIPP-01-030
12	1 x Single	•		•				•					•			MIPP-01-031
12	1 x Single	•		•				•						•		MIPP-01-032
12	1 x Single	•		•					•							MIPP-01-033
12	1 x Single	•		•					•				•			MIPP-01-002
12	1 x Single	•		•					•					•		MIPP-01-001
12	1 x Single	•		•						•						MIPP-01-003
12	1 x Single	•		•						•			•			MIPP-01-004
12	1 x Single	•		•							•			•		MIPP-01-034
12	1 x Single	•		•								•				MIPP-01-005
12	1 x Single	•		•								•				MIPP-01-006
12	1 x Single	•		•								•			•	MIPP-01-035
12	1 x Single	•			•			•						•		MIPP-01-007
12	1 x Single	•			•			•						•		MIPP-01-008
12	1 x Single	•			•			•						•		MIPP-01-036
12	1 x Single	•			•				•							MIPP-01-010
12	1 x Single	•			•				•					•		MIPP-01-011
12	1 x Single	•			•				•					•		MIPP-01-009
12	1 x Single	•			•					•						MIPP-01-012
12	1 x Single	•			•					•				•		MIPP-01-037
12	1 x Single	•			•					•				•		MIPP-01-038
12	1 x Single	•			•						•					MIPP-01-013
12	1 x Single	•			•						•			•		MIPP-01-014
12	1 x Single	•			•						•			•		MIPP-01-039
12	1 x Single	•				•		•								MIPP-01-015
12	1 x Single	•				•		•						•		MIPP-01-040
12	1 x Single	•				•		•						•		MIPP-01-041
12	1 x Single	•				•			•							MIPP-01-042
12	1 x Single	•				•			•				•			MIPP-01-016
12	1 x Single	•				•				•				•		MIPP-01-043
12	1 x Single	•				•				•						MIPP-01-017
12	1 x Single	•				•				•			•			MIPP-01-018
12	1 x Single	•				•				•				•		MIPP-01-044
12	1 x Single	•				•				•						MIPP-01-019
12	1 x Single	•				•				•						MIPP-01-045
12	1 x Single	•				•				•				•		MIPP-01-046
1 x 24	1 x Double	•					•					•		•		MIPP-10-001
1 x 24	1 x Double	•			•				•							MIPP-10-002
1 x 24	1 x Double	•			•					•						MIPP-10-003
1 x 24	1 x Double	•			•						•					MIPP-10-004
1 x 24	1 x Double	•			•						•			•		MIPP-10-005
1 x 24	1 x Double	•				•		•								MIPP-10-006
1 x 24	1 x Double	•				•		•						•		MIPP-10-007
1 x 24	1 x Double	•				•				•						MIPP-10-008
1 x 24	1 x Double	•				•					•			•		MIPP-10-009
1 x 24	1 x Double	•	•					•						•		MIPP-10-010
1 x 24	1 x Double	•			•			•								MIPP-10-011
1 x 24	2 x Single	•			2x				2x							MIPP-02-001
1 x 24	2 x Single	•			2x				2x				2x			MIPP-02-002
1 x 24	2 x Single	•				2x		2x						2x		MIPP-02-003
1 x 24	2 x Single	•				2x		2x								MIPP-02-004
1 x 24	2 x Single	•				2x			2x							MIPP-02-006
1 x 24	2 x Single	•				2x					2x					MIPP-02-008
48	2 x Double	•			2x						2x					MIPP-20-001
48	4 x Single	•			4x				4x							MIPP-04-001



MIPP™ Copper Patch Panel Standard Part Number Reference Guide

Max Number of Cables	Type of Module	Mounting Type	Keystone Type				Cable Type			Part Number	
			DIN rail	KeyConnect		Couplers		Cat 5e	Cat 6		Cat 6 _A
				Unshielded	Shielded	Unshielded	Shielded				
	No Housing - Blind Module								MIPP-00-001		
4	No Housing Single			•		•			MIPP-00-005		
4	No Housing Single		•				•		MIPP-00-006		
4	1 x Single	•	•			•			MIPP-01-021		
4	1 x Single	•	•				•		MIPP-01-020		
4	1 x Single	•	•					•	MIPP-01-022		
4	1 x Single	•		•		•			MIPP-01-023		
4	1 x Single	•		•			•		MIPP-01-024		
4	1 x Single	•		•				•	MIPP-01-025		
4	1 x Single	•			•			•	MIPP-01-026		
4	1 x Single	•						•	MIPP-01-027		
8	2 x Single	•	•				•		MIPP-02-010		
16	4 x Single	•						4x	MIPP-04-002		

MIPP™ Mix Standard Part Number Reference Guide

Type of Module	Mounting Type	Module 1	Module 2	Module 3	Module 4	Module 5	Part Number
	DIN rail						
No Housing - Blind Module							MIPP-00-001
2 x Single	•	Fiber: SC OM1 with Pigtailed	Copper: Unshielded Keystones Cat 5e				MIPP-02-005
2 x Single	•	Fiber: SC OS2	Copper: Unshielded Keystones Cat 6				MIPP-02-007
2 x Single	•	Fiber: SC OS2 with Pigtailed	Copper: Unshielded Keystones Cat 5e				MIPP-02-009
3 x Single	•	Copper: Unshielded Coupler, Cat 6	Copper: Unshielded Coupler, Cat 6	Fiber: SC OM3			MIPP-03-001
3 x Single	•	Copper: Unshielded Coupler, Cat 5e	Fiber Double Module: ST OM2	Fiber Double Module: ST OM2			MIPP-21-001
5 x Single	•	Fiber: LC OS2 with Pigtailed	Copper: Unshielded Coupler, Cat 6 _A	Blind Module	Blind Module	Blind Module	MIPP-05-001

*For more information on other configurations please contact Customer Service

Fit for any industry

MIPP™ is ideal for use in a wide range of industrial networking applications requiring maximum system reliability and flexibility. The industrial design makes it highly suited for use in Machine Building, Transportation, Alternative Power Generation, Power Transmission & Distribution, and Oil & Gas markets, as well as more general use in enterprise, buildings and other applications.

Always Stay Ahead with Belden

In a highly competitive environment, it is crucial to have reliable partners who are able to add value to your business. When it comes to signal transmissions, Belden is the number one solutions provider. We understand your business and want to know your specific challenges and targets to see how effective signal transmission solutions can push you ahead of the competition. By combining the strengths of our three leading brands, Belden®; Hirschmann™; and Lumberg Automation™, we are able to offer the solution you need. Today it may be a single cable, a switch or a connector, thus solving a specific issue; tomorrow it can be a complex range of integrated applications, systems and solutions.

We guarantee the superior performance of your mission-critical systems, even in the most demanding circumstances. If signal transmission is vital to your business, get in touch with the partner that delivers. Be certain. Belden.





MIPP™
**Delivering peace
of mind to network
engineers and
system installers.**

See www.beldensolutions.com for a complete listing of Belden locations.



**Be certain
you stay
in touch.**

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Cisco Aironet 1560 Series Outdoor Access Points



Cisco Aironet® 1560 Series Outdoor Access Points offer the latest 802.11ac Wave 2 functions in a rugged, low-profile housing that service providers and enterprises can deploy easily.

Ideal for applications requiring rugged outdoor Wi-Fi coverage, the Cisco Aironet 1560 Series Access Points offer the latest IEEE 802.11ac Wave 2 radio standard in a compact, aesthetically pleasing, easy-to-deploy package. The 1560 Series offers flexible deployment options for service providers and enterprise networks, that need the fastest links possible for mobile, outdoor clients (smartphones, tablets, and laptops) and wireless backhaul. With options for internal or external antennas, the 1560 Series Access Points give network operators the flexibility to balance their desired wireless coverage with their need for easy deployment. The Cisco Aironet 1560 Series is built on the strong base of Cisco® wireless innovations such as:

- Cisco CleanAir® technology for spectrum intelligence
- Cisco ClientLink technology for beamforming
- Radio Resource Management (RRM) for dynamic transmitter channel and power control

Whether deployed as a traditional access point or wireless mesh (future availability) access point, the Cisco Aironet 1560 Series provides the throughput capacity needed for today's bandwidth-hungry devices.

Features and Benefits

Table 1 lists the features and benefits of the Cisco Aironet 1560 Series.

Table 1. Features and Benefits of Cisco Aironet 1560 Series

Feature	Benefit
802.11ac Wave 2 radio	Provides up to 1.3-Gbps data rates with 3 x 3 multiple input, multiple output (MIMO) and up to three spatial streams
Multuser MIMO (MU-MIMO)	Allows transmission of data to multiple 802.11ac Wave 2-capable clients simultaneously to improve client experience; prior to 802.11ac Wave 2, access points could transmit data to only one client at a time, typically referred to as single-user MIMO
Flexible deployment modes	Allows for deployment of the 1560 in a variety of ways including point-to-point and mesh networks (future availability); it can also be deployed with the Cisco Mobility Express Solution, which is ideal for small to medium-sized deployments that supports multiple access points without a physical controller; all deployment modes are easy to set up and configure
Small Form-Factor Pluggable (SFP) port	Supports optical fiber-based network connectivity for remote locations

Prominent Feature/Differentiator/Capability

The Cisco Aironet 1560 Series offers the following features:

- Improved performance for multiple client devices: The 802.11ac Wave 2 access points use MU-MIMO technology, which allows different data streams to all flow at once from the access point to multiple 802.11ac Wave 2-supported devices. Now, multiple 802.11ac Wave 2 devices can connect at the same time, getting the information they need quicker.
- 5-GHz support: The Cisco Aironet 1560 Series doubles the scale of 5-GHz mobile devices and raises the performance of high-density environments.
- Cisco Flexible Antenna Port technology uses software configurable for either single- or dual-band antennas. It allows you to use the same antenna ports for either dual-band antennas to reduce footprint or single-band antennas to optimize radio coverage.
- Cisco Mobility Express: This solution is designed to bring enterprise-class wireless access to small and medium-sized networks. Easy to set up with low maintenance, Mobility Express includes advanced features from Cisco and does not require a physical controller appliance.
- Cisco High Density Experience (HDX): Cisco HDX comes standard on the 1560, giving this access point top-of-the-line network efficiency over a large number of wireless clients. HDX uses customized chipsets to target the needs of high-density networks. It is built with best-in-class RF architecture and gives a better user experience for high-performance applications.

Product Specifications

Table 2 lists the specifications of the 1560 access point.

Table 2. Specifications of Cisco Aironet 1560 Series

Item	Specification																																																																																																								
802.11ac Wave 1 and 2 capabilities	<ul style="list-style-type: none"> • 1562I: 3 x 3 MIMO with three spatial streams • 1562E/D 2 x 2 MIMO with two spatial streams • Multi- and single-user MIMO • Maximal ratio combining (MRC) • 802.11ac beamforming (transmit beamforming) • 20-, 40-, and 80-MHz channels • PHY data rates up to 1.3 Gbps (80 MHz in 5 GHz) • Packet aggregation: A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) • 802.11 dynamic frequency selection (DFS) • Cyclic-shift-diversity (CSD) support 																																																																																																								
802.11n (and related) capabilities	<ul style="list-style-type: none"> • 1562I: 3 x 3 MIMO with three spatial streams • 1562E/D: 2 x 2 MIMO with two spatial streams • MRC • 20- and 40-MHz channels • PHY data rates up to 450 Mbps • Packet aggregation: A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) • 802.11 DFS • CSD support 																																																																																																								
Data rates supported	<p>802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps</p> <p>802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</p> <p>802.11n data rates on 2.4 and 5 GHz:</p> <table border="1"> <thead> <tr> <th rowspan="2">MCS Index</th> <th colspan="2">GI = 800 ns</th> <th colspan="2">GI = 400 ns</th> </tr> <tr> <th>20-MHz Rates (Mbps)</th> <th>40-MHz Rates (Mbps)</th> <th>20-MHz Rates (Mbps)</th> <th>40-MHz Rates (Mbps)</th> </tr> </thead> <tbody> <tr><td>0</td><td>6.5</td><td>13.5</td><td>7.2</td><td>15</td></tr> <tr><td>1</td><td>13</td><td>27</td><td>14.4</td><td>30</td></tr> <tr><td>2</td><td>19.5</td><td>40.5</td><td>21.7</td><td>45</td></tr> <tr><td>3</td><td>26</td><td>54</td><td>28.9</td><td>60</td></tr> <tr><td>4</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr> <tr><td>5</td><td>52</td><td>108</td><td>57.8</td><td>120</td></tr> <tr><td>6</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr> <tr><td>7</td><td>65</td><td>135</td><td>72.2</td><td>150</td></tr> <tr><td>8</td><td>13</td><td>27</td><td>14.4</td><td>30</td></tr> <tr><td>9</td><td>26</td><td>54</td><td>28.9</td><td>60</td></tr> <tr><td>10</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr> <tr><td>11</td><td>52</td><td>108</td><td>57.8</td><td>120</td></tr> <tr><td>12</td><td>78</td><td>162</td><td>86.7</td><td>180</td></tr> <tr><td>13</td><td>104</td><td>216</td><td>115.6</td><td>240</td></tr> <tr><td>14</td><td>117</td><td>243</td><td>130</td><td>270</td></tr> <tr><td>15</td><td>130</td><td>270</td><td>144.4</td><td>300</td></tr> <tr><td>16</td><td>19.5</td><td>40.5</td><td>21.7</td><td>45</td></tr> <tr><td>17</td><td>39</td><td>81</td><td>43.3</td><td>90</td></tr> <tr><td>18</td><td>58.5</td><td>121.5</td><td>65</td><td>135</td></tr> </tbody> </table>	MCS Index	GI = 800 ns		GI = 400 ns		20-MHz Rates (Mbps)	40-MHz Rates (Mbps)	20-MHz Rates (Mbps)	40-MHz Rates (Mbps)	0	6.5	13.5	7.2	15	1	13	27	14.4	30	2	19.5	40.5	21.7	45	3	26	54	28.9	60	4	39	81	43.3	90	5	52	108	57.8	120	6	58.5	121.5	65	135	7	65	135	72.2	150	8	13	27	14.4	30	9	26	54	28.9	60	10	39	81	43.3	90	11	52	108	57.8	120	12	78	162	86.7	180	13	104	216	115.6	240	14	117	243	130	270	15	130	270	144.4	300	16	19.5	40.5	21.7	45	17	39	81	43.3	90	18	58.5	121.5	65	135
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Item	Specification							
	19	78	162	86.7	180			
	20	117	243	130	270			
	21	156	324	173.3	360			
	22	175.5	364.5	195	405			
	23	195	405	216.7	450			
	802.11ac Data Rates (5 GHz)							
	Spatial Streams	MCS	GI = 800 ns			GI = 400 ns		
			20 MHz	40 MHz	80 MHz	20 MHz	40 MHz	80 MHz
	1	0	6.5	13.5	29.3	7.2	15	32.5
	1	1	13	27	58.5	14.4	30	65
	1	2	19.5	40.5	87.8	21.7	45	97.5
	1	3	26	54	117	28.9	60	130
	1	4	39	81	175.5	43.3	90	195
	1	5	52	108	234	57.8	120	260
	1	6	58.5	121.5	263.3	65	135	292.5
	1	7	65	135	292.5	72.2	150	325
	1	8	78	162	351	86.7	180	390
	1	9	–	180	390	–	200	433.3
	2	0	13	27	58.5	14.4	30	65
	2	1	26	54	117	28.9	60	130
	2	2	39	81	175.5	43.3	90	195
	2	3	52	108	234	57.8	120	260
	2	4	78	162	351	86.7	180	390
	2	5	104	216	468	115.6	240	520
	2	6	117	243	526.5	130	270	585
	2	7	130	270	585	144.4	300	650
	2	8	156	324	702	173.3	360	780
	2	9	–	360	780	–	400	866.7
	3	0	19.5	40.5	87.8	21.7	45	97.5
	3	1	39	81	175.5	43.3	90	195
	3	2	58.5	121.5	263.3	65	135	292.5
	3	3	78	162	351	86.7	180	390
	3	4	117	243	526.5	130	270	585
	3	5	156	324	702	173.3	360	780
	3	6	175.5	364.5	–	195	405	–
	3	7	195	405	877.5	216.7	450	975
	3	8	234	486	1053	260	540	1170
	3	9	260	540	1170	288.9	600	1300

Item	Specification
Frequency band and 20- MHz operating channels (regulatory domains)	<p>A: 2.412 to 2.462 GHz, 11 channels 5.280 to 5.320 GHz, 3 channels 5.500 to 5.580 GHz, 5 channels 5.660 to 5.700 GHz, 3 channels 5.745 to 5.825 GHz, 5 channels</p> <p>B: 2.412 to 2.462 GHz, 11 channels 5.180 to 5.240 GHz, 4 channels 5.260 to 5.320 GHz, 4 channels 5.500 to 5.720 GHz, 12 channels 5.745 to 5.825 GHz, 5 channels</p> <p>C: 2.412 to 2.472 GHz, 13 channels 5.745 to 5.825 GHz, 5 channels</p> <p>D: 2.412 to 2.462 GHz, 11 channels 5.745 to 5.865 GHz, 7 channels</p> <p>E: 2.412 to 2.472 GHz, 13 channels 5.500 to 5.580 GHz, 5 channels 5.660 to 5.700 GHz, 3 channels</p> <p>F: 2.412 to 2.472 GHz, 13 channels 5.745 to 5.805 GHz, 4 channels</p> <p>G: 2.412 to 2.472 GHz, 13 channels 5.745 to 5.825 GHz, 5 channels</p> <p>-H: 2.412 to 2.472 GHz, 13 channels 5.745 to 5.825 GHz, 5 channels</p> <p>-I: 2.412 to 2.472 GHz, 13 channels</p> <p>-K: 2.412 to 2.462 GHz, 11 channels 5.280 to 5.320 GHz, 3 channels 5.500 to 5.620 GHz, 7 channels 5.745 to 5.805 GHz, 4 channels</p> <p>-L: 2.412 to 2.472 GHz, 13 channels 5.500 to 5.620 GHz, 7 channels 5.745 to 5.865 GHz, 7 channels</p> <p>-M: 2.412 to 2.472 GHz, 13 channels 5.500 to 5.580 GHz, 5 channels 5.660 to 5.700 GHz, 3 channels 5.745 to 5.805 GHz, 4 channels</p> <p>-N: 2.412 to 2.462 GHz, 11 channels 5.745 to 5.825 GHz, 5 channels</p> <p>-Q: 2.412 to 2.472 GHz, 13 channels 5.500 to 5.700 GHz, 11 channels</p> <p>-R: 2.412 to 2.472 GHz, 13 channels 5.260 to 5.320 GHz, 4 channels 5.660 to 5.700 GHz, 3 channels 5.745 to 5.825 GHz, 5 channels</p>

Item	Specification
	<p>-S: 2.412 to 2.472 GHz, 13 channels 5.500 to 5.700 GHz, 11 channels 5.745 to 5.825 GHz, 5 channels</p> <p>-T: 2.412 to 2.462 GHz, 11 channels 5.500 to 5.580 GHz, 5 channels 5.660 to 5.700 GHz, 3 channels 5.745 to 5.825 GHz, 5 channels</p> <p>-Z: 2.412 to 2.462 GHz, 11 channels 5.500 to 5.580 GHz, 5 channels 5.660 to 5.700 GHz, 3 channels 5.745 to 5.825 GHz, 5 channels</p>

Note: Customers are responsible for verifying approval for use in their individual countries. To verify approval that corresponds to a particular country, please visit <http://www.cisco.com/go/aironet/compliance>.

Maximum number of nonoverlapping channels	2.4 GHz	5 GHz
	<ul style="list-style-type: none"> ● 802.11b/g: <ul style="list-style-type: none"> ◦ 20 MHz: 3 ● 802.11n: <ul style="list-style-type: none"> ◦ 20 MHz: 3 ◦ 40 MHz: 1 (hardware capable) 	<ul style="list-style-type: none"> ● 802.11a: <ul style="list-style-type: none"> ◦ 20 MHz: 27 ● 802.11n: <ul style="list-style-type: none"> ◦ 20 MHz: 27 ◦ 40 MHz: 13 ● 802.11ac: <ul style="list-style-type: none"> ◦ 20 MHz: 27 ◦ 40 MHz: 13 ◦ 80 MHz: 6

Note: This number varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.

Receive Sensitivity					
	Spatial Streams	2.4 GHz Radio		5 GHz Radio	
		1562I	1562D/E	1562I	1562D/E
802.11/11b					
1 Mbps	1	-100	-98	NA	NA
11 Mbps	1	-88	-87	NA	NA
802.11a/g					
6 Mbps	1	-92	-90	-94	-93
24 Mbps	1	-86	-83	-89	-88
54 Mbps	1	-76	-74	-80	-79
802.11n HT20					
MCS0	1	-90	-89	-91	-90
MCS4	1	-84	-82	-88	-86
MCS7	1	-77	-75	-80	-78
MCS8	2	-89	-88	-90	-89
MCS12	2	-82	-80	-85	-83
MCS15	2	-75	-72	-78	-76
MCS16	3	-89		-90	
MCS20	3	-81		-84	
MCS23	3	-73		-76	

Item	Specification				
802.11n HT40					
MCS0	1	-88	-86	-90	-90
MCS4	1	-82	-80	-85	-83
MCS7	1	-75	-74	-78	-76
MCS8	2	-87	-86	-90	-90
MCS12	2	-80	-78	-82	-81
MCS15	2	-72	-70	-75	-73
MCS16	3	-87		-90	
MCS20	3	-78		-81	
MCS23	3	-71		-74	
802.11ac VHT20					
MCS0	1			-95	-94
MCS4	1			-88	-86
MCS7	1			-81	-79
MCS8	1			-77	-75
MCS0	2			-94	-93
MCS4	2			-86	-84
MCS7	2			-78	-76
MCS8	2			-74	-72
MCS0	3			-93	
MCS4	3			-85	
MCS7	3			-78	
MCS8	3			-72	
MCS9	3			-69	
802.11ac VHT40					
MCS0	1			-91	-90
MCS4	1			-85	-84
MCS7	1			-79	-77
MCS8	1			-75	-73
MCS9	1			-73	-71
MCS0	2			-91	-90
MCS4	2			-83	-82
MCS7	2			-76	-74
MCS8	2			-73	-70
MCS9	2			-71	-68
MCS0	3			-91	
MCS4	3			-82	
MCS7	3			-74	
MCS8	3			-69	
MCS9	3			-68	

Item	Specification				
802.11ac VHT80					
MCS0	1			-88	-88
MCS4	1			-83	-81
MCS7	1			-75	-73
MCS8	1			-71	-69
MCS9	1			-69	-67
MCS0	2			-88	-88
MCS4	2			-80	-78
MCS7	2			-73	-71
MCS8	2			-69	-67
MCS9	2			-67	-65
MCS0	3			-88	
MCS4	3			-78	
MCS7	3			-71	
MCS8	3			-67	
MCS9	3			-65	
Maximum conducted transmit power	1562I		1562D		1562E
	<ul style="list-style-type: none"> • 2.4 GHz: 29 dBm with 3 antennas • 5 GHz: 29 dBm with 3 antennas 		<ul style="list-style-type: none"> • 2.4 GHz: 27 dBm with 2 antennas • 5 GHz: 27 dBm with 2 antennas 		<ul style="list-style-type: none"> • 2.4 GHz: 27 dBm with 2 antennas • 5 GHz: 27 dBm with 2 antennas
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.					
Interfaces	<ul style="list-style-type: none"> • WAN port 10/100/1000BASE-T Ethernet, autosensing (RJ-45), PoE in • SFP port (fiber or electrical) • Management console port (RJ-45) • Multicolor LED • DC power input • Reset button 				
Uplink options	Ethernet, SFP, and wireless mesh (future availability)				
Dimensions (L x W x D)	1562I: 9.0 x 6.8 x 3.9 in. (22.9 x 17.1 x 9.8 cm) 1562D: 9.0 x 6.8 x 4.3 in. (22.9 x 17.1 x 10.9 cm) 1562E: 9.0 x 6.8 x 3.9 in. (22.9 x 17.1 x 9.8 cm)				
Weight	1562I: 5.6 lb (2.5 kg) 1562D: 5.7 lb (2.6 kg) 1562E: 5.6 lb (2.5 kg)				
Environmental	Operating temperature: <ul style="list-style-type: none"> • -40 to 65°C (-40 to 149°F) ambient air with no solar loading • -40 to 55°C (-40 to 131°F) ambient air with solar loading Storage temperature: -40 to 85°C (-40 to 185°F) Wind resistance: <ul style="list-style-type: none"> • Up to 100-mph sustained winds • Up to 165-mph wind gusts 				
Environmental ratings	<ul style="list-style-type: none"> • IEC 60529 IP67 • NEMA Type 4X • Icing protection NEMA 250-2008 • Corrosion NEMA 250-2008 (600 hours) • Solar radiation EN 60068-2-5 (1200 W/ m2) • Vibration MIL-STD-810 				

Item	Specification				
Antennas	<ul style="list-style-type: none"> ● Integrated dual-band semi-omnidirectional antenna radome, vertically polarized (1562I) 7 dBi (2.4 GHz), 4 dBi (5 GHz) ● Integrated dual-band directional antenna radome, dual polarized (1562D) 9 dBi (2.4 GHz), 10 dBi (5 GHz) ● Dual Band <ul style="list-style-type: none"> ○ AIR-ANT2568VG-N 6 dBi (2.4 GHz), 8 dBi (5 GHz) Omni ○ AIR-ANT2547VG-N 4 dBi (2.4 GHz), 7 dBi (5 GHz) Omni ○ AIR-ANT2547V-N 4 dBi (2.4 GHz), 7 dBi (5 GHz) Omni ○ AIR-ANT2588P3M-N= 8 dBi (2.4 GHz), 8 dBi (5 GHz) Directional ○ AIR-ANT2513P4M-N= 13 dBi (2.4 GHz), 13 dBi (5 GHz) Directional ● Single Band <ul style="list-style-type: none"> ○ 2.4 GHz <ul style="list-style-type: none"> ○ AIR-ANT2450V-N= 5 dBi (2.4 GHz), Omni ○ AIR-ANT2450VG-N= 5 dBi (2.4 GHz), Omni, vertical polarized ○ AIR-ANT2450HG-N= 5 dBi (2.4 GHz), Omni, horizontal polarized ○ AIR-ANT2480V-N= 8 dBi (2.4 GHz), Omni ○ AIR-ANT2413P2M-N= 13 dBi (2.4 GHz), Directional, dual polarized ○ 5 GHz <ul style="list-style-type: none"> ○ AIR-ANT5150VG-N= 5 dBi (5GHz), Omni, vertical polarized ○ AIR-ANT5150HG-N= 5 dBi (5GHz), Omni, horizontal polarized ○ AIR-ANT5180V-N= 8 dBi (5GHz), Omni ○ AIR-ANT5114P2M-N= 14 dBi (5GHz), Directional, dual polarized <p>For antenna details, please refer to the antenna webpage: http://www.cisco.com/go/antennas</p>				
Powering options	<ul style="list-style-type: none"> ● AC (with AIR-PWRADPT-RGD1=, AC/DC outdoor power adapter) ● 44–57 VDC input ● Universal Power of Ethernet (UPoE), 802.3at ● Cisco power injectors: <ul style="list-style-type: none"> AIR-PWRINJ-60RGD1= (outdoor rated, 60W, with NEMA 5-15 AC plug) AIR-PWRINJ-60RGD2= (outdoor rated, 60W, unterminated AC cable) AIR-PWRINJ6= (indoor, 802.3at) <p>Note: If 802.3at Power over Ethernet (PoE) is the source of power, the 1562I radios will shift from 3 x 3 to 2 x 2.</p>				
Power consumption	<table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">1562I</td> <td style="width: 15%;">32 W (3x3:3, full power)</td> </tr> <tr> <td>1562D/E</td> <td>25 W</td> </tr> </table>	1562I	32 W (3x3:3, full power)	1562D/E	25 W
1562I	32 W (3x3:3, full power)				
1562D/E	25 W				
Compliance	<p>Safety</p> <ul style="list-style-type: none"> ● UL60950, 2nd Edition ● CAN/CSA-C22.2 No. 60950, 2nd Edition ● IEC 60950, 2nd Edition ● EN 60950, 2nd Edition <p>Immunity</p> <ul style="list-style-type: none"> ● <= 5 mJ for 6kV/3kA @ 8/20 ms waveform ● ANSI/IEEE C62.41 ● EN61000-4-5 Level 4 AC Surge Immunity ● EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity ● EN61000-4-3 Level 4 EMC Field Immunity ● EN61000-4-2 Level 2 ESD Immunity ● EN60950 Overvoltage Category IV <p>Radio Approvals</p> <ul style="list-style-type: none"> ● FCC Part 15.247, 15.407 ● FCC Bulletin OET-65C ● RSS-247 ● RSS-102 ● AS/NZS 4268.2003 ● ARIB-STD 66 (Japan) ● ARIB-STD T71 (Japan) ● EN 300 328 ● EN 301 893 				

Item	Specification
	<p>EMI and Susceptibility</p> <ul style="list-style-type: none"> • FCC part 15.107, 15.109 • ICES-003 • EN 301 489-1, -17 <p>Security</p> <ul style="list-style-type: none"> • Wireless bridging/mesh (future availability) • X.509 digital certificates • MAC address authentication • Advanced Encryption Standard (AES) <p>Wireless Access</p> <ul style="list-style-type: none"> • 802.11i, Wi-Fi Protected Access 2 (WPA2), and WPA • 802.1X authentication, including Extensible Authentication Protocol (EAP) and Protected EAP (EAP-PEAP), EAP Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), EAP-Subscriber Identity Module (EAP-SIM), and Cisco LEAP • VPN pass-through • IP Security (IPsec) • Layer 2 Tunneling Protocol (L2TP) • MAC address filtering
Warranty	1-year limited hardware warranty

Ordering Information

Table 3 gives ordering information for the Cisco Aironet 1560 Series.

Table 3. Ordering Information for Cisco Aironet 1560 Series

Part Number	Product Description
Aironet 1560 Series	<ul style="list-style-type: none"> • AIR-AP1562I-x-K9: Dual-band 802.11a/g/n/ac, Wave 2, internal semi-omni antennas • AIR-AP1562E-x-K9: Dual-band 802.11a/g/n/ac, Wave 2, external antennas • AIR-AP1562D-x-K9: Dual-band 802.11a/g/n/ac, Wave 2, internal directional antennas <p>Regulatory domains: (x = regulatory domain)</p> <p>Customers are responsible for verifying approval for use in their individual countries. To verify approval that corresponds to a particular country or the regulatory domain used in a specific country, visit http://www.cisco.com/go/aironet/compliance.</p> <p>Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.</p> <ul style="list-style-type: none"> • AIR-AP1562I-D-K9I: Dual-band 802.11a/g/n/ac, Wave 2, internal semi-omni antennas (India only) <p>Cisco SMARTnet™ Service for the Cisco Aironet 1560 Series Access Points</p> <p>Refer to the Service part numbers available on Cisco Commerce Workspace for available service offerings.</p>

Warranty Information

The Cisco Aironet 1560 Series Outdoor Access Points come with a 1 -year limited warranty that provides full warranty coverage of the hardware. The warranty includes 10 –day advance hardware replacement and helps ensure that software media are defect-free for 90 days. For more details, visit <http://www.cisco.com/go/warranty>.

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For More Information

For more information about the Cisco Aironet 1560 Series, visit <http://www.cisco.com/go/wireless> or contact your local Cisco account representative.



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2X-MIMO-DUAL BAND

MULTI-POLARIZED DUAL FEED MIMO ANTENNA

MODEL NO:

08-ANT-0944-2X

Wi-Fi Antenna

Features

- Two Separate Antenna Feeds
- Obstruction Penetrating TX/RX
- Enhanced Connectivity & Throughput
- Built In Spatial Diversity
- Wide Band Performance
- Integrated Ground Plane
- UV Stabilized Materials
- Single 3/4" Stud Mount

Applications

- Wireless Broadband Systems
- WiFi AP, Router, Bridge, CPE
- 2.4 & 5 GHz Band Applications
- Wireless Broadband Systems
- Wireless Mesh Systems
- Vehicle WiFi
- High Obstruction Deployments
- Outdoor Fixed or Mobile Applications

Physical Specifications

- Diameter: 4.5 in
- Height: 2.5 in
- Weight: 12 oz
- Construction: UV ASA
- Cables: LMR200, 15 LF
- Warranty: One year limited
- Ground Plane: Built In

MP Antenna, LTD.

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Elyria, Ohio 44035

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Product Overview

The 2X-MIMO-DUAL BAND by MP Antenna is a low profile Multi-Polarized MIMO (Multiple-Input-Multiple-Output) antenna providing superior patterning and continuous wideband performance (4.9GHz - 6GHz) for outdoor fixed or mobile data communications. The 2X-MIMO-DUAL BAND provides two separate antenna feeds and elements that provide maximum diversity for 2.4/4.9/5.8 GHz WiFi and WiMAX broadband wireless frequencies. Featuring a built in ground plane, high performance low loss cables, and high quality connectors for maximum system efficiency. Custom configurations are also available.

Typical Performance

- Frequency Range: 2.4-3GHz, 4.9-6 GHz
- Gain: 4dBi*
- VSWR: 1.1:1-1.5:1
- Polarization: Multi-Polarized
- Power: 50 Watts Input
- Input: 50 ohms nominal

* With built in spatial and polarization diversity, performance in obstructed environments is greater than that of standard antennas with similar or higher laboratory gains.

Available Part Numbers

08-ANT-0944-2X-RPSMA
White, 15' LMR200 Pigtail, RPSMA-Male

08-ANT-0944-2X-NF
White, 15' LMR200 Pigtail, N-Female

08-ANT-0944-2X-NM
White, 15' LMR200 Pigtail, N-Male

08-ANT-0944-2X-SMAM
White, 15' LMR200 Pigtail, SMA-Male

08-ANT-0944-2X-RPTNC
White, 15' LMR200 Pigtail, RPTNC-Male

08-ANT-0944-2X-TNC
White, 15' LMR200 Pigtail, TNC-Male

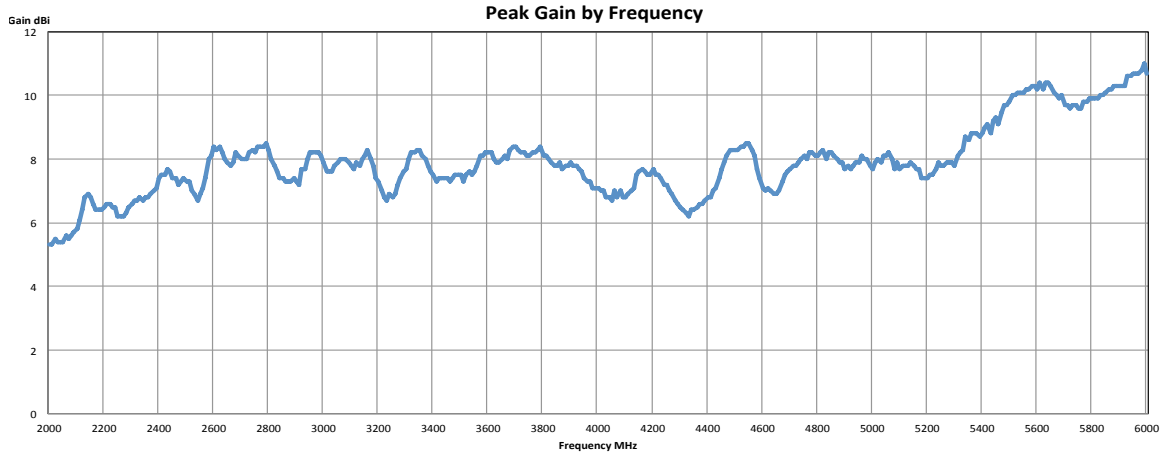
Custom Configurations Available



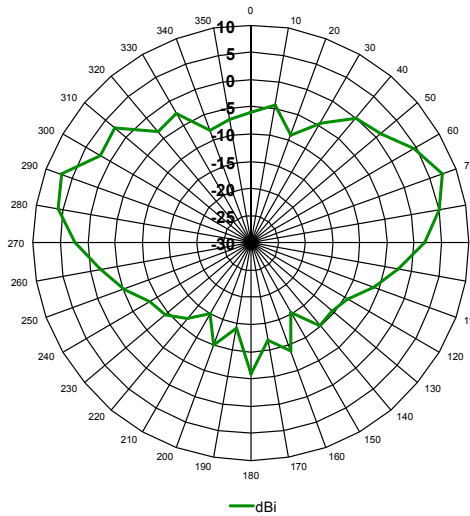
DATA SHEET

2X-MIMO-DUAL BAND

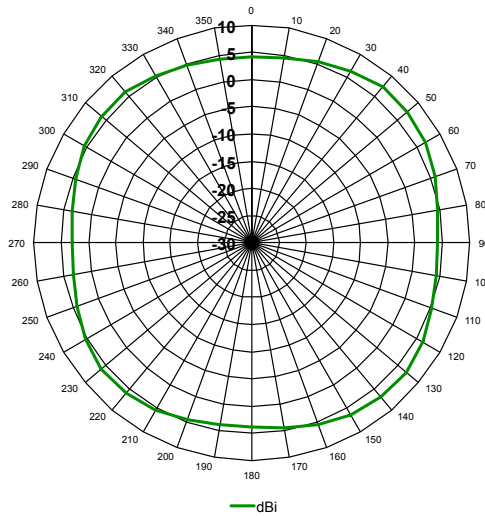
MULTI-POLARIZED DUAL FEED MIMO ANTENNA



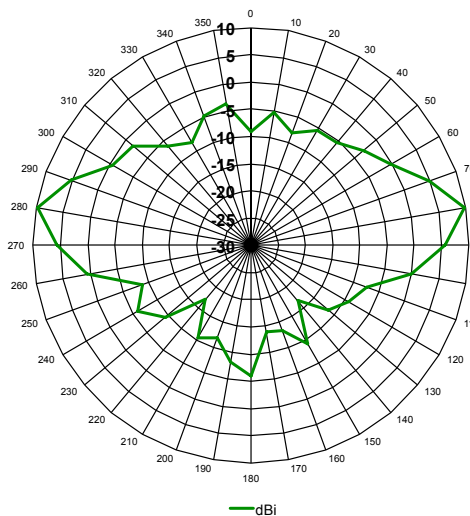
2.4GHz Elevation Radiation Pattern



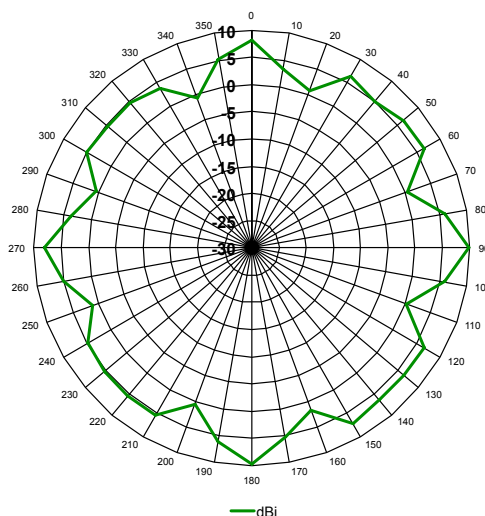
2.4GHz Azimuth Radiation Pattern



5.8GHz Elevation Radiation Pattern



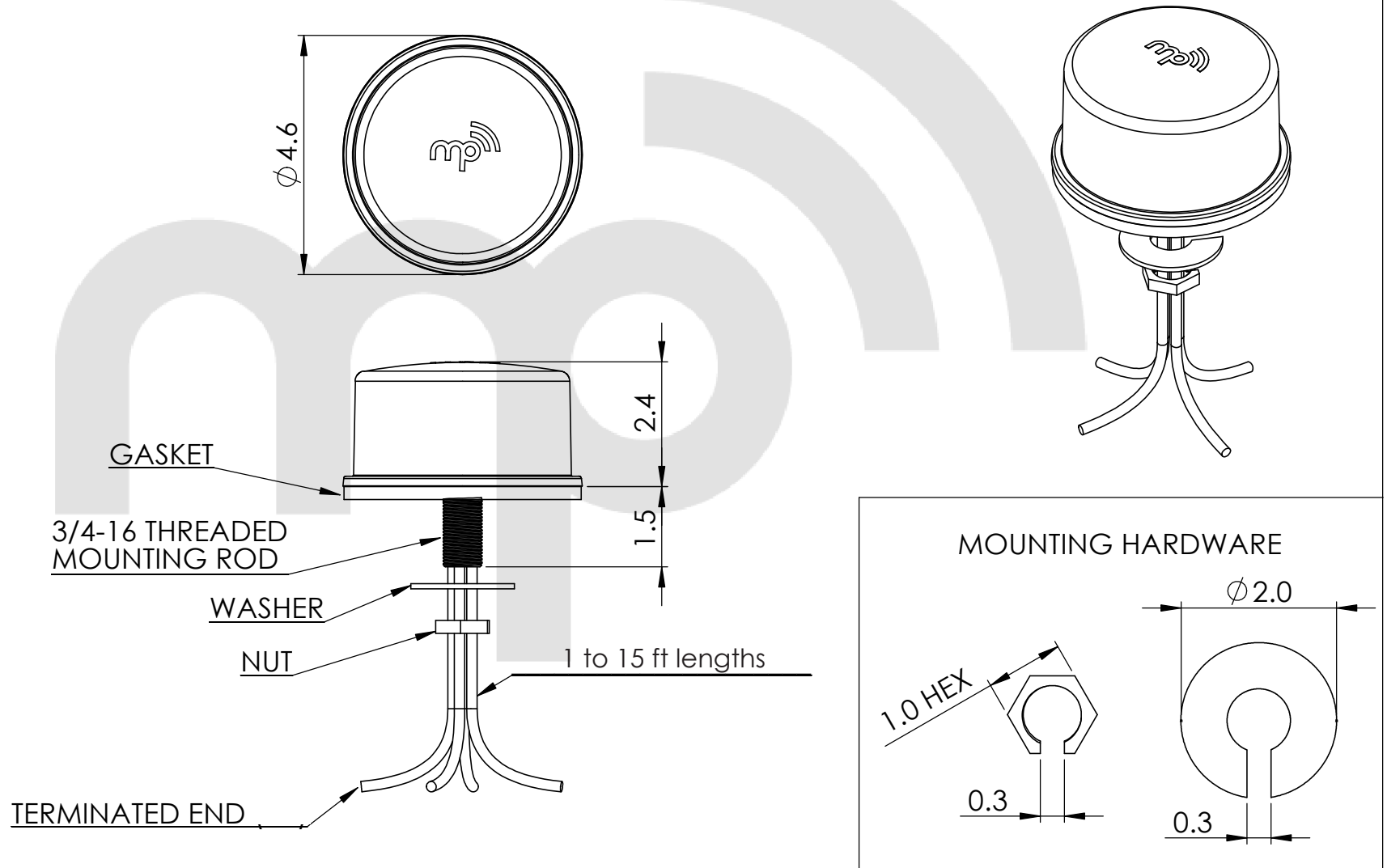
5.8GHz Azimuth Radiation Pattern

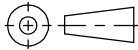


rethink the antenna™

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FREQUENCY RANGE	CONNECTOR	MINIMUM MOUNTING HOLE DIAMETER	MAX MOUNTING HOLE DIAMETER	MAX MOUNTING SURFACE THICKNESS	COLOR	NUMBER OF FEEDS
2.4, 5GHz	Various (see chart)	see specific part number drawing	see specific part number drawing	see specific part number drawing	White or Black	1 to 4 leads



MP ANTENNA, LTD. 147 Eady Court Elyria, OH 44035 www.mpantenna.com	THIRD ANGLE  DIMENSIONS ARE IN INCHES		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MP ANTENNA, LTD. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MP ANTENNA LTD IS PROHIBITED.	DESCRIPTION: 2.4, 5GHz Dual Band Outdoor Mobile Antenna	Model Number: 08-ANT-0944	
		NAME				DATE
	DRAWN	BM				12/29/14

APPENDIX D

DIGITAL FIBER DAS SYSTEM 136 - 869 MHz

BDAs

DAS Series

Product Features

- Digital signal processing based technology not “RF over Fiber”
- Field expandable
- No need of “Front End BDA” or “POI”, reduced infrastructure cost
- Fiber runs up to 25 miles (40 km)
- No fiber noise being transported to RF thanks to digital signal processing
- Programmable uplink squelch (per channel and time slot) for reduced UL noise contribution
- Software programmable channel selective or band selective operation, suitable for highly congested RF environments
- Centralized operation, single point of access
- AGC per channel and time slot, no Far End communication Degradation
- Same unit supports Over The Air (OTA) operation
- NFPA Compliant



Digital Remote



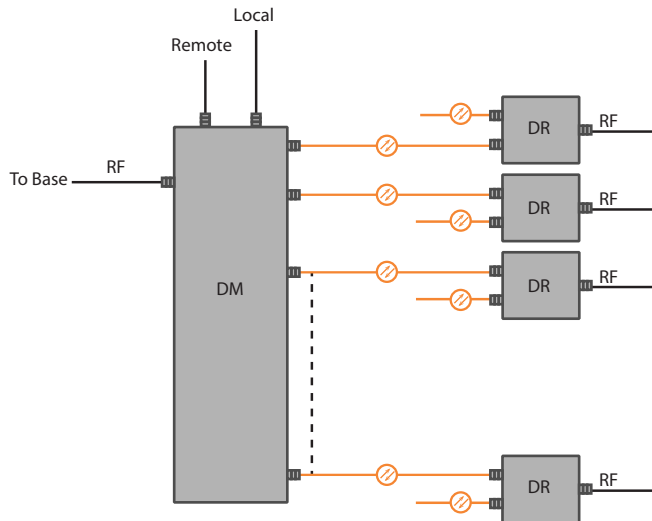
Digital Master



Applications

- For P25 Ph1, P25 Ph2, DMR, TETRA, NXDN and Conventional Systems
- Indoor: tunnels, buildings, subways, airports, among others
- Outdoor: stadiums, canyons, dense urban areas, remote rural towns

Typical application



Notes:
DM: Digital Master Unit
DR: Digital Remote Unit

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DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

Specifications	Value
Fiber Optic	Single mode
WDM	Yes, one fiber for digital master and digital remote connection
Optical wavelengths	1310 / 1550 nM
Operational bands	VHF, UHF, PS700, PS800
Maximum fiber distance	25 miles • 40 km Max
Maximum DM - DR relation	1 - 6 for termination "-M6" 1 - 12 for termination "-M12" 1 - 18 for termination "-M18" 1 - 24 for termination "-M24"
Number of channel filters	24 channels
Available channel filter BW	15KHz, 20KHz, 30KHz, 45KHz, 90KHz, 180KHz and Full Band
Group delay (excluding fiber delay)	55 μ S (15 KHz BW) +/- 3 μ S 45 μ S (20 KHz BW) +/- 3 μ S 32 μ S (30 KHz BW) +/- 2 μ S 24 μ S (45 KHz BW) +/- 2 μ S 14 μ S (90 KHz BW) +/- 2 μ S 12 μ S (180 KHz BW) +/- 2 μ S 4 μ S (Full Band)
DL RF Gain from Master to Remote	80dB
UL RF Gain from Remote to Master	80dB

Digital Master Unit Electrical and Mechanical Specifications	Value
Supported Fiber Loss	18dBo max
Optical return loss	>45dB
Number of optical ports	6 for termination "-M6" 12 for termination "-M12" 18 for termination "-M18" 24 for termination "-M24"
RF port s return loss	>15dB
Max Operational DL Input Power	-35dBm
DL manual attenuator	20dB in 1dB steps per optical port
Maximum UL output power	+24 dBm (+18dBm for DH300-My)
UL IM and spurious generation	< -13dBm (<-36dBm for DH300-My)
UL manual attenuator	20dB in 1dB steps per optical port
RF connectors	N(f)
Optical connectors	LC / APC
AC Supply	110/220 VAC 50/60Hz
Power consumption	65W for termination "-M6" 100W for termination "-M12" 135W for termination "-M18" 170W for termination "-M24"
DC Supply	Optional, see table
Housing	IP67 / NEMA4X
Environmental	EN 300 019
Temperature range	-4° to +131° F • -20° to +55° C
Humidity	<95% non condensing
Dimension	20.2 x 18.2 x 9 in • 514 x 462 x 230 mm

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DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

Weight	55 lbs • 25 Kg for termination “-M6” 59 lbs • 27 Kg for termination “-M12” 64 lbs • 29 Kg for termination “-M18” 68 lbs • 31 Kg for termination “-M24”
MTBF	>50,000 hours
Standards	ITU T G 652 , EN60825-1

Digital Remote Unit Electrical and Mechanical Specifications

Value

Number of optical ports	1 for Digital Master connection (second FO port, option “2FO”)
Optical return loss	>45dB
Number of RF ports	1 for service antenna
RF port return loss	15dB
UL maximum input power	0dBm
UL noise reduction	UL squelch per channel, programmable
Manual attenuator	20dB in 1dB steps +/- 0.5 dB
RF connectors	N(f)
Optical connectors	LC/APC
Composite Output Power, DL	DH124-R = +24dBm DHS37-R = +37dBm DH437-R = +37dBm DH336-R = +36dBm DH737-R = +37dBm DH7S3434-R = +34dBm per band
DL IMD and spurious generation	< -13dBm (>60dBc for DH336-R)
Noise figure	<9dB
AC Supply	110/220 VAC 50/60Hz
Power consumption	140W máx
DC Supply	Optional, see table
Housing	IP67 / NEMA4X
Environmental	EN 300 019 4.1
Temperature range	-22° to +131° F • -30° to +55° C
Humidity	<95% non condensing
Dimension	20.2 x 18.2 x 9 in • 514 x 462 x 230 mm
Weight	55 lbs • 25 Kg
MTBF	>50,000 hours

Control and Alarms

Value

Alarms report	Via Digital Master Local: USB (POWER STATUS, DM STATUS, DR STATUS) Remote: SNMP (Ethernet)
Digital Master Unit Configuration	Local: USB or Ethernet (Web browser) Remote: access via Ethernet or Wireless MODEM (RC-G Option)
Digital Remote Configuration	Via Digital Master Unit Local: USB Remote: via Digital Master Unit

Normative

Value

Standards	ITU T G 652 EN60825-1
FCC	FCC, CFR 47, Part 15, Subpart B, Class A digital devices FCC, CFR 47, Part 90, Subpart I
ETSI	EN301489-1; EN301489-18

DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

VHF MODELS

TYPE	MODEL	FREQUENCY RANGE		DUPLEXER		POWER SUPPLY			NFPA
		137 - 164MHz	155 - 174MHz	2MHz BW 5MHz Split	Without Duplexer	AC	+24VDC	-48VDC	
MASTER	DH100-M6-001	X		X		X			X
MASTER	DH100-M6-002	X		X			X		X
MASTER	DH100-M6-003	X		X				X	X
MASTER	DH100-M6-004		X	X		X			X
MASTER	DH100-M6-005		X	X			X		X
MASTER	DH100-M6-006		X	X				X	X
MASTER	DH100-M6-007	X			X	X			X
MASTER	DH100-M6-008	X			X		X		X
MASTER	DH100-M6-009	X			X			X	X
MASTER	DH100-M6-010		X		X	X			X
MASTER	DH100-M6-011		X		X		X		X
MASTER	DH100-M6-012		X		X			X	X
MASTER	DH100-M12-001	X		X		X			X
MASTER	DH100-M12-002	X		X			X		X
MASTER	DH100-M12-003	X		X				X	X
MASTER	DH100-M12-004		X	X		X			X
MASTER	DH100-M12-005		X	X			X		X
MASTER	DH100-M12-006		X	X				X	X
MASTER	DH100-M12-007	X			X	X			X
MASTER	DH100-M12-008	X			X		X		X
MASTER	DH100-M12-009	X			X			X	X
MASTER	DH100-M12-010		X		X	X			X
MASTER	DH100-M12-011		X		X		X		X
MASTER	DH100-M12-012		X		X			X	X
MASTER	DH100-M18-001	X		X		X			X
MASTER	DH100-M18-002	X		X			X		X
MASTER	DH100-M18-003	X		X				X	X
MASTER	DH100-M18-004		X	X		X			X
MASTER	DH100-M18-005		X	X			X		X
MASTER	DH100-M18-006		X	X				X	X
MASTER	DH100-M18-007	X			X	X			X
MASTER	DH100-M18-008	X			X		X		X
MASTER	DH100-M18-009	X			X			X	X
MASTER	DH100-M18-010		X		X	X			X
MASTER	DH100-M18-011		X		X		X		X
MASTER	DH100-M18-012		X		X			X	X
MASTER	DH100-M24-001	X		X		X			X
MASTER	DH100-M24-002	X		X			X		X
MASTER	DH100-M24-003	X		X				X	X
MASTER	DH100-M24-004		X	X		X			X
MASTER	DH100-M24-005		X	X			X		X
MASTER	DH100-M24-006		X	X				X	X
MASTER	DH100-M24-007	X			X	X			X
MASTER	DH100-M24-008	X			X		X		X
MASTER	DH100-M24-009	X			X			X	X
MASTER	DH100-M24-010		X		X	X			X
MASTER	DH100-M24-011		X		X		X		X
MASTER	DH100-M24-012		X		X			X	X
REMOTE	DH124-R-001	X		X		X			X
REMOTE	DH124-R-009	X		X			X		X
REMOTE	DH124-R-002	X		X				X	X
REMOTE	DH124-R-005		X	X		X			X
REMOTE	DH124-R-011		X	X			X		X
REMOTE	DH124-R-006		X	X				X	X
REMOTE	DH124-R-013	X			X	X			X
REMOTE	DH124-R-014	X			X		X		X
REMOTE	DH124-R-015	X			X			X	X
REMOTE	DH124-R-019		X		X	X			X
REMOTE	DH124-R-020		X		X		X		X
REMOTE	DH124-R-021		X		X			X	X
REMOTE	DH124-R-2FO-001	X			X	X			X
REMOTE	DH124-R-2FO-002	X			X		X		X
REMOTE	DH124-R-2FO-003	X			X			X	X
REMOTE	DH124-R-2FO-004		X		X	X			X
REMOTE	DH124-R-2FO-005		X		X		X		X
REMOTE	DH124-R-2FO-006		X		X			X	X
MASTER	DH100-M-RM-001	X			X	X			X
MASTER	DH100-M-RM-002		X		X	X			X

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DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

UHF MODELS

TYPE	MODEL	FREQUENCY RANGE		DUPLEXER				POWER SUPPLY			NFPA
		470 - 485MHz	450 - 475MHz or 485 - 512MHz	0.7MHz BW 3MHz Split	2MHz BW 5MHz Split	5MHz BW 10MHz Split	Without Duplexer	AC	+24VDC	-48VDC	
MASTER	DH400-M6-001		X	X				X			X
MASTER	DH400-M6-002		X	X					X		X
MASTER	DH400-M6-003		X	X						X	X
MASTER	DH400-M6-004	X		X				X			X
MASTER	DH400-M6-005	X		X					X		X
MASTER	DH400-M6-006	X		X						X	X
MASTER	DH400-M6-010		X		X			X			X
MASTER	DH400-M6-011		X		X				X		X
MASTER	DH400-M6-012		X		X					X	X
MASTER	DH400-M6-013	X			X			X			X
MASTER	DH400-M6-014	X			X				X		X
MASTER	DH400-M6-015	X			X					X	X
MASTER	DH400-M6-019		X			X		X			X
MASTER	DH400-M6-020		X			X			X		X
MASTER	DH400-M6-021		X			X				X	X
MASTER	DH400-M6-022	X				X		X			X
MASTER	DH400-M6-023	X				X			X		X
MASTER	DH400-M6-024	X				X				X	X
MASTER	DH400-M6-028		X				X	X			X
MASTER	DH400-M6-029		X				X		X		X
MASTER	DH400-M6-030		X				X			X	X
MASTER	DH400-M6-031	X					X	X			X
MASTER	DH400-M6-032	X					X		X		X
MASTER	DH400-M6-033	X					X			X	X
MASTER	DH400-M12-001		X	X				X			X
MASTER	DH400-M12-002		X	X					X		X
MASTER	DH400-M12-003		X	X						X	X
MASTER	DH400-M12-004	X		X				X			X
MASTER	DH400-M12-005	X		X					X		X
MASTER	DH400-M12-006	X		X						X	X
MASTER	DH400-M12-010		X		X			X			X
MASTER	DH400-M12-011		X		X				X		X
MASTER	DH400-M12-012		X		X					X	X
MASTER	DH400-M12-013	X			X			X			X
MASTER	DH400-M12-014	X			X				X		X
MASTER	DH400-M12-015	X			X					X	X
MASTER	DH400-M12-019		X			X		X			X
MASTER	DH400-M12-020		X			X			X		X
MASTER	DH400-M12-021		X			X				X	X
MASTER	DH400-M12-022	X				X		X			X
MASTER	DH400-M12-023	X				X			X		X
MASTER	DH400-M12-024	X				X				X	X
MASTER	DH400-M12-028		X				X	X			X
MASTER	DH400-M12-029		X				X		X		X
MASTER	DH400-M12-030		X				X			X	X
MASTER	DH400-M12-031	X					X	X			X
MASTER	DH400-M12-032	X					X		X		X
MASTER	DH400-M12-033	X					X			X	X
MASTER	DH400-M18-001		X	X				X			X
MASTER	DH400-M18-002		X	X					X		X
MASTER	DH400-M18-003		X	X						X	X
MASTER	DH400-M18-004	X		X				X			X
MASTER	DH400-M18-005	X		X					X		X
MASTER	DH400-M18-006	X		X						X	X
MASTER	DH400-M18-010		X		X			X			X
MASTER	DH400-M18-011		X		X				X		X
MASTER	DH400-M18-012		X		X					X	X
MASTER	DH400-M18-013	X			X			X			X
MASTER	DH400-M18-014	X			X				X		X
MASTER	DH400-M18-015	X			X					X	X
MASTER	DH400-M18-019		X			X		X			X
MASTER	DH400-M18-020		X			X			X		X
MASTER	DH400-M18-021		X			X				X	X
MASTER	DH400-M18-022	X				X		X			X
MASTER	DH400-M18-023	X				X			X		X
MASTER	DH400-M18-024	X				X				X	X
MASTER	DH400-M18-028		X				X	X			X
MASTER	DH400-M18-029		X				X		X		X

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		470 - 485MHz	450 - 475MHz or 485 - 512MHz	0.7MHz BW 3MHz Split	2MHz BW 5MHz Split	5MHz BW 10MHz Split	Without Duplexer	AC	+24VDC	-48VDC	
MASTER	DH400-M18-030		X				X			X	X
MASTER	DH400-M18-031	X					X	X			X
MASTER	DH400-M18-032	X					X		X		X
MASTER	DH400-M18-033	X					X			X	X
MASTER	DH400-M24-001		X	X				X			X
MASTER	DH400-M24-002		X	X					X		X
MASTER	DH400-M24-003		X	X						X	X
MASTER	DH400-M24-004	X		X				X			X
MASTER	DH400-M24-005	X		X					X		X
MASTER	DH400-M24-006	X		X						X	X
MASTER	DH400-M24-010		X		X			X			X
MASTER	DH400-M24-011		X		X				X		X
MASTER	DH400-M24-012		X		X					X	X
MASTER	DH400-M24-013	X			X			X			X
MASTER	DH400-M24-014	X			X				X		X
MASTER	DH400-M24-015	X			X					X	X
MASTER	DH400-M24-019		X			X		X			X
MASTER	DH400-M24-020		X			X			X		X
MASTER	DH400-M24-021		X			X				X	X
MASTER	DH400-M24-022	X				X		X			X
MASTER	DH400-M24-023	X				X			X		X
MASTER	DH400-M24-024	X				X				X	X
MASTER	DH400-M24-028		X				X	X			X
MASTER	DH400-M24-029		X				X		X		X
MASTER	DH400-M24-030		X				X			X	X
MASTER	DH400-M24-031	X					X	X			X
MASTER	DH400-M24-032	X					X		X		X
MASTER	DH400-M24-033	X					X			X	X
MASTER	DH400-MRM-210		X				X	X			X
MASTER	DH400-MRM-211	X					X	X			X
MASTER	DH400-MRM-212		X				X	X			X
MASTER	DH4L00-M6-001		X				X	X			X
MASTER	DH4L00-M6-002		X				X		X		X
MASTER	DH4L00-M6-003		X				X			X	X
MASTER	DH4L00-M12-001		X				X	X			X
MASTER	DH4L00-M12-002		X				X		X		X
MASTER	DH4L00-M12-003		X				X			X	X
MASTER	DH4L00-M18-001		X				X	X			X
MASTER	DH4L00-M18-002		X				X		X		X
MASTER	DH4L00-M18-003		X				X			X	X
MASTER	DH4L00-M24-001		X				X	X			X
MASTER	DH4L00-M24-002		X				X		X		X
MASTER	DH4L00-M24-003		X				X			X	X
REMOTES	DH437-R-201		X			X		X			X
REMOTES	DH437-R-202		X			X			X		X
REMOTES	DH437-R-203		X			X				X	X
REMOTES	DH437-R-207		X		X			X			X
REMOTES	DH437-R-208		X		X				X		X
REMOTES	DH437-R-209		X		X					X	X
REMOTES	DH437-R-213		X	X				X			X
REMOTES	DH437-R-214		X	X					X		X
REMOTES	DH437-R-215		X	X						X	X
REMOTES	DH437-R-219		X				X	X			X
REMOTES	DH437-R-220		X				X		X		X
REMOTES	DH437-R-221		X				X			X	X
REMOTES	DH437-R-225	X				X		X			X
REMOTES	DH437-R-226	X				X			X		X
REMOTES	DH437-R-227	X			X					X	X
REMOTES	DH437-R-231	X			X			X			X
REMOTES	DH437-R-232	X			X				X		X
REMOTES	DH437-R-233	X			X					X	X
REMOTES	DH437-R-237	X		X				X			X
REMOTES	DH437-R-238	X		X					X		X
REMOTES	DH437-R-239	X		X						X	X
REMOTES	DH437-R-243	X					X	X			X
REMOTES	DH437-R-244	X					X		X		X
REMOTES	DH437-R-245	X					X			X	X
REMOTES	DH4L37-R-001		X				X	X			X

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APPENDIX D

DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

UHF MODELS

TYPE	MODEL	FREQUENCY RANGE		DUPLEXER				POWER SUPPLY			NFPA
		470 - 485MHz	450 - 475MHz or 485 - 512MHz	0.7MHz BW 3MHz Split	2MHz BW 5MHz Split	5MHz BW 10MHz Split	Without Duplexer	AC	+24VDC	-48VDC	
REMOTES	DH4L37-R-002		X				X		X		X
REMOTES	DH4L37-R-003		X				X			X	X
REMOTES	DH437-R-2FO-201		X			X		X			X
REMOTES	DH437-R-2FO-202		X			X			X		X
REMOTES	DH437-R-2FO-203		X			X				X	X
REMOTES	DH437-R-2FO-207		X		X			X			X
REMOTES	DH437-R-2FO-208		X		X				X		X
REMOTES	DH437-R-2FO-209		X		X					X	X
REMOTES	DH437-R-2FO-213		X	X				X			X
REMOTES	DH437-R-2FO-214		X	X					X		X
REMOTES	DH437-R-2FO-215		X	X						X	X
REMOTES	DH437-R-2FO-219		X				X	X			X
REMOTES	DH437-R-2FO-220		X				X		X		X
REMOTES	DH437-R-2FO-221		X				X			X	X
REMOTES	DH437-R-2FO-225	X				X		X			X
REMOTES	DH437-R-2FO-226	X				X			X		X
REMOTES	DH437-R-2FO-227	X				X				X	X
REMOTES	DH437-R-2FO-231	X			X			X			X
REMOTES	DH437-R-2FO-232	X			X				X		X
REMOTES	DH437-R-2FO-233	X			X					X	X
REMOTES	DH437-R-2FO-237	X		X				X			X
REMOTES	DH437-R-2FO-238	X		X					X		X
REMOTES	DH437-R-2FO-239	X		X						X	X
REMOTES	DH437-R-2FO-243	X					X	X			X
REMOTES	DH437-R-2FO-244	X					X		X		X
REMOTES	DH437-R-2FO-245	X					X			X	X
REMOTES	DH424-R-201		X		X			X			X
REMOTES	DH424-R-202	X			X			X			X
REMOTES	DH424-R-203		X		X			X			X
REMOTES	DH424-R-204		X				X	X			X
REMOTES	DH424-R-205	X					X	X			X
REMOTES	DH424-R-206		X				X	X			X
REMOTES	DH437-R-249		X		X			X			X
REMOTES	DH437-R-250		X				X	X			X

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DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

PS700 - PS800 MODELS

TYPE	MODEL	FREQUENCY RANGE		DUPLEXER		POWER SUPPLY			NFPA	RC-G
		PS700	PS800	With Duplexer	Without Duplexer	AC	+24VDC	-48VDC		
MASTER	DH700-M6-001	X		X		X				
MASTER	DH700-M6-002	X		X			X			
MASTER	DH700-M6-003	X		X				X		
MASTER	DH700-M6-004	X			X	X				
MASTER	DH700-M6-005	X			X		X			
MASTER	DH700-M6-006	X			X			X		
MASTER	DH700-M12-007	X		X		X				
MASTER	DH700-M12-008	X		X			X			
MASTER	DH700-M12-009	X		X				X		
MASTER	DH700-M12-010	X			X	X				
MASTER	DH700-M12-011	X			X		X			
MASTER	DH700-M12-012	X			X			X		
MASTER	DH700-M18-013	X		X		X				
MASTER	DH700-M18-014	X		X			X			
MASTER	DH700-M18-015	X		X				X		
MASTER	DH700-M18-016	X			X	X				
MASTER	DH700-M18-017	X			X		X			
MASTER	DH700-M18-018	X			X			X		
MASTER	DH700-M24-019	X		X		X				
MASTER	DH700-M24-020	X		X			X			
MASTER	DH700-M24-021	X		X				X		
MASTER	DH700-M24-022	X			X	X				
MASTER	DH700-M24-023	X			X		X			
MASTER	DH700-M24-024	X			X			X		
MASTER	DHS00-M6-001		X	X		X				
MASTER	DHS00-M6-002		X	X			X			
MASTER	DHS00-M6-003		X	X				X		
MASTER	DHS00-M6-004		X		X	X				
MASTER	DHS00-M6-005		X		X		X			
MASTER	DHS00-M6-006		X		X			X		
MASTER	DHS00-M12-007		X	X		X				
MASTER	DHS00-M12-008		X	X			X			
MASTER	DHS00-M12-009		X	X				X		
MASTER	DHS00-M12-010		X		X	X				
MASTER	DHS00-M12-011		X		X		X			
MASTER	DHS00-M12-012		X		X			X		
MASTER	DHS00-M18-013		X	X		X				
MASTER	DHS00-M18-014		X	X			X			
MASTER	DHS00-M18-015		X	X				X		
MASTER	DHS00-M18-016		X		X	X				
MASTER	DHS00-M18-017		X		X		X			
MASTER	DHS00-M18-018		X		X			X		
MASTER	DHS00-M24-019		X	X		X				
MASTER	DHS00-M24-020		X	X			X			
MASTER	DHS00-M24-021		X	X				X		
MASTER	DHS00-M24-022		X		X	X				
MASTER	DHS00-M24-023		X		X		X			
MASTER	DHS00-M24-024		X		X			X		
MASTER	DHS00-M-RM-001		X	X		X				
MASTER	DH700-M-RM-001	X		X		X				
REMOTES	DH737-R-001	X		X		X				
REMOTES	DH737-R-002	X		X			X			
REMOTES	DH737-R-003	X		X				X		
REMOTES	DHS37-R-001		X	X		X				
REMOTES	DHS37-R-002		X	X			X			
REMOTES	DHS37-R-003		X	X				X		
REMOTES	DH737-R-2FO-001	X		X		X				
REMOTES	DH737-R-2FO-002	X		X			X			
REMOTES	DH737-R-2FO-003	X		X				X		
REMOTES	DHS37-R-2FO-001		X	X		X				
REMOTES	DHS37-R-2FO-002		X	X			X			
REMOTES	DHS37-R-2FO-003		X	X				X		

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DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

TETRA MODELS

TYPE	MODEL	DUPLER				POWER SUPPLY			NFPA	
		380-385/390-395	385-390/395-400	410-415/420-425	415-420/425-430	AC	+24VDC	-48VDC	With NFPA	Without NFPA
MASTER	DH300-M6-001	x				x			x	
MASTER	DH300-M6-002	x					x		x	
MASTER	DH300-M6-003	x						x	x	
MASTER	DH300-M6-004	x				x				x
MASTER	DH300-M6-005	x					x			x
MASTER	DH300-M6-006	x						x		x
MASTER	DH300-M6-007		x			x			x	
MASTER	DH300-M6-008		x				x		x	
MASTER	DH300-M6-009		x					x	x	
MASTER	DH300-M6-010		x			x				x
MASTER	DH300-M6-011		x				x			x
MASTER	DH300-M6-012		x					x		x
MASTER	DH300-M6-013			x		x			x	
MASTER	DH300-M6-014			x			x		x	
MASTER	DH300-M6-015			x				x	x	
MASTER	DH300-M6-016			x		x				x
MASTER	DH300-M6-017			x			x			x
MASTER	DH300-M6-018			x				x		x
MASTER	DH300-M6-019				x	x			x	
MASTER	DH300-M6-020				x		x		x	
MASTER	DH300-M6-021				x			x	x	
MASTER	DH300-M6-022				x	x				x
MASTER	DH300-M6-023				x		x			x
MASTER	DH300-M6-024				x			x		x
MASTER	DH300-M12-001	x				x			x	
MASTER	DH300-M12-002	x					x		x	
MASTER	DH300-M12-003	x						x	x	
MASTER	DH300-M12-004	x				x				x
MASTER	DH300-M12-005	x					x			x
MASTER	DH300-M12-006	x						x		x
MASTER	DH300-M12-007		x			x			x	
MASTER	DH300-M12-008		x				x		x	
MASTER	DH300-M12-009		x					x	x	
MASTER	DH300-M12-010		x			x				x
MASTER	DH300-M12-011		x				x			x
MASTER	DH300-M12-012		x					x		x
MASTER	DH300-M12-013			x		x			x	
MASTER	DH300-M12-014			x			x		x	
MASTER	DH300-M12-015			x				x	x	
MASTER	DH300-M12-016			x		x				x
MASTER	DH300-M12-017			x			x			x
MASTER	DH300-M12-018			x				x		x
MASTER	DH300-M12-019				x	x			x	
MASTER	DH300-M12-020				x		x		x	
MASTER	DH300-M12-021				x			x	x	
MASTER	DH300-M12-022				x	x				x
MASTER	DH300-M12-023				x		x			x
MASTER	DH300-M12-024				x			x		x
MASTER	DH300-M18-001	x				x			x	
MASTER	DH300-M18-002	x					x		x	
MASTER	DH300-M18-003	x						x	x	
MASTER	DH300-M18-004	x				x				x
MASTER	DH300-M18-005	x					x			x
MASTER	DH300-M18-006	x						x		x
MASTER	DH300-M18-007		x			x			x	
MASTER	DH300-M18-008		x				x		x	
MASTER	DH300-M18-009		x					x	x	
MASTER	DH300-M18-010		x			x				x
MASTER	DH300-M18-011		x				x			x
MASTER	DH300-M18-012		x					x		x
MASTER	DH300-M18-013			x		x			x	
MASTER	DH300-M18-014			x			x		x	
MASTER	DH300-M18-015			x				x	x	
MASTER	DH300-M18-016			x		x				x
MASTER	DH300-M18-017			x			x			x
MASTER	DH300-M18-018			x				x		x
MASTER	DH300-M18-019				x	x			x	
MASTER	DH300-M18-020				x		x		x	

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DIGITAL FIBER DAS SYSTEM

136 - 869 MHz

DAS Series

TETRA MODELS

TYPE	MODEL	DUPLEXER				POWER SUPPLY			NFPA	
		380-385/390-395	385-390/395-400	410-415/420-425	415-420/425-430	AC	+24VDC	-48VDC	With NFPA	Without NFPA
MASTER	DH300-M18-021				x			x	x	
MASTER	DH300-M18-022				x	x				x
MASTER	DH300-M18-023				x		x			x
MASTER	DH300-M18-024				x			x		x
MASTER	DH300-M24-001	x				x			x	
MASTER	DH300-M24-002	x					x		x	
MASTER	DH300-M24-003	x						x	x	
MASTER	DH300-M24-004	x				x				x
MASTER	DH300-M24-005	x					x			x
MASTER	DH300-M24-006	x						x		x
MASTER	DH300-M24-007		x			x			x	
MASTER	DH300-M24-008		x				x		x	
MASTER	DH300-M24-009		x					x	x	
MASTER	DH300-M24-010		x			x				x
MASTER	DH300-M24-011		x				x			x
MASTER	DH300-M24-012		x					x		x
MASTER	DH300-M24-013			x		x			x	
MASTER	DH300-M24-014			x			x		x	
MASTER	DH300-M24-015			x				x	x	
MASTER	DH300-M24-016			x		x				x
MASTER	DH300-M24-017			x			x			x
MASTER	DH300-M24-018			x				x		x
MASTER	DH300-M24-019				x	x			x	
MASTER	DH300-M24-020				x		x		x	
MASTER	DH300-M24-021				x			x	x	
MASTER	DH300-M24-022				x	x				x
MASTER	DH300-M24-023				x		x			x
MASTER	DH300-M24-024				x			x		x
REMOTES	DH336-R-001			x		x				
REMOTES	DH336-R-002			x			x			
REMOTES	DH336-R-003			x				x		
REMOTES	DH336-R-007	x				x				
REMOTES	DH336-R-008	x					x			
REMOTES	DH336-R-009	x						x		
REMOTES	DH336-R-013					x				
REMOTES	DH336-R-014						x			
REMOTES	DH336-R-015							x		
REMOTES	DH336-R-019		x			x				
REMOTES	DH336-R-020		x				x			
REMOTES	DH336-R-021		x					x		
REMOTES	DH336-R-025		x			x				
REMOTES	DH336-R-026		x				x			
REMOTES	DH336-R-027		x					x		
REMOTES	DH336-R-028	x				x		x		
REMOTES	DH336-R-2FO-001			x		x				
REMOTES	DH336-R-2FO-002			x			x			
REMOTES	DH336-R-2FO-003			x				x		
REMOTES	DH336-R-2FO-007	x				x				
REMOTES	DH336-R-2FO-008	x					x			
REMOTES	DH336-R-2FO-009	x						x		
REMOTES	DH336-R-2FO-013					x				
REMOTES	DH336-R-2FO-014						x			
REMOTES	DH336-R-2FO-015							x		
REMOTES	DH336-R-2FO-019		x			x				
REMOTES	DH336-R-2FO-020		x				x			
REMOTES	DH336-R-2FO-021		x					x		
REMOTES	DH336-R-2FO-025					x				
REMOTES	DH336-R-2FO-026						x			
REMOTES	DH336-R-2FO-027							x		

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APPENDIX D