NOTICE OF AMENDMENT OF CONTRACT

TO:
STV Incorporated
2722 Merrilee Dr, Ste 350
Fairfax, VA 22031

DATE ISSUED: December 19, 2014

CONTRACT NO: 634-12

CONTRACT TITLE: FM Services - Pentagon City Elevator

THIS IS A NOTICE OF AMENDMENT OF A CONTRACT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.

This is your notice that the above referenced contract has been amended as detailed in the attached AGREEMENT 634-12 AMENDMENT 2.

EMPLOYEES NOT TO BENEFIT:
NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.

VENDOR CONTACT: THOMAS FLOURNOY
EMAIL ADDRESS: Thomas.Flournoy@stvinc.com
TELEPHONE NO.: 571-633-2220

VENDOR PAYMENT TERMS: NET 30 DAYS

COUNTY CONTACT: BEA HICKS
EMAIL ADDRESS: BHICKS@ARLINGTONVA.US
TELEPHONE NO.: 703-228-4951

_———————————_ _———————————————————_
CONTRACT AUTHORIZATION DISTRIBUTION
RICHARD D. WARREN, JR., CPPB VENDOR: 1
COUNTY PURCHASING AGENT BID FOLDER: 1
Date 12/19/14
TO: 
STV Incorporated
2722 Merrilee Dr, Ste 350
Fairfax, VA 22031

DATE ISSUED: 
December 12, 2013

CONTRACT NO: 
634-12

CONTRACT TITLE: 
PM Services - Pentagon City Elevator

AMENDMENT NO: 
1

THIS IS A NOTICE OF AMENDMENT OF A CONTRACT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.

This is your notice that the above referenced contract has been amended as detailed in the attached AGREEMENT 634-12 AMENDMENT 1.

EMPLOYEES NOT TO BENEFIT:
NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.

VENDOR CONTACT: THOMAS FLOURNOY TELEPHONE NO.: 571-633-2220
EMAIL ADDRESS: Thomas.Flourney@stvinc.com

VENDOR PAYMENT TERMS: NET 30 DAYS

COUNTY CONTACT: BEA HICKS TELEPHONE NO.: 703-228-4951
EMAIL ADDRESS: BHICKS@ARLINGTONVA.US

__________________________________________
RICHARD D. WARREN, JR., CPPB
COUNTY PURCHASING AGENT

__________________________________________
Date
NOTICE OF AWARD OF CONTRACT

TO:
STV Incorporated
2722 Merrilee Dr, Ste 350
Fairfax, VA 22031

DATE ISSUED:
September 12, 2012

CONTRACT NO:
634-12

CONTRACT TITLE:
PM Services = Pentagon
City Elevator

THIS IS A NOTICE OF AWARD OF A CONTRACT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.

Your firm is awarded the above referenced contract in accordance with the response submitted by you on January 20, 2012. The contract term covered by this Notice of Award is effective September 12, 2012 and expires on July 19, 2013.

The contract documents consist of the terms and conditions of Agreement No. 634-12, including any exhibits, attached or amendments thereto.

CONTRACT PRICING:

1) REFER TO EXHIBIT B (ATTACHED)

2) PRICING FIRM FOR CONTRACT TERM

EMPLOYEES NOT TO BENEFIT:
NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.

VENDOR CONTACT: THOMAS FLOURNOY
EMAIL ADDRESS: Thomas.Flournoy@stvinc.com
VENDOR PAYMENT TERMS: NET 30 DAYS

COUNTY CONTACT: BEA HICKS
EMAIL ADDRESS: BHICKS@ARLINGTONVA.US

CONTRACT AUTHORIZATION

DISTRIBUTION

VENDOR: 1
BID FOLDER: 1

RICHARD D. WARREN, JR., CPPB
COUNTY PURCHASING AGENT

Date
ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT
2100 CLARENDON BOULEVARD SUITE 500
ARLINGTON, VIRGINIA 22201

NOTICE OF AWARD OF CONTRACT

TO:  STV Incorporated  DATE ISSUED:  August 19, 2009
     2722 Merrilee Dr, Ste 350  CONTRACT NO:  458-08
     Fairfax, VA 22031  CONTRACT TITLE:  FM Services - Rosslyn

THIS IS A NOTICE OF AWARD OF A CONTRACT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.

Your firm is awarded the above referenced contract. The contract documents consist of the terms and conditions of Agreement No. 458-08, including any exhibits, attached or amendments thereto.

CONTRACT PRICING:

1) LUMP SUM, FIXED PRICE CONTRACT VALUE $3,829,240.00

EMPLOYEES NOT TO BENEFIT:
NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.

VENDOR CONTACT:  THOMAS FLOURNOY  TELEPHONE NO.:  703-633-2220
EMAIL ADDRESS:  Thomas.Flournoy@stvinc.com

VENDOR PAYMENT TERMS:  NET 30 DAYS

COUNTY CONTACT:  BEA HICKS  TELEPHONE NO.:  703-228-4851
EMAIL ADDRESS:  BHICKS@ARLINGTONVA.US

CONTRACT AUTHORIZATION  DISTRIBUTION

RICHARD D. WARREN, JR., CPPB  VENDOR:  1
COUNTY PURCHASING AGENT  BID FOLDER:  1
ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT
SUITE 500, 2100 CLARENDON BOULEVARD
ARLINGTON, VA 22201

AGREEMENT NO. 634-12

This Agreement (hereinafter “Agreement”) is made, on the date of execution by the County, between STV Incorporated (“Consultant”) a Virginia Corporation authorized to do business in the Commonwealth of Virginia, and the County Board of Arlington County, Virginia (“County”). The County and the Consultant, for the consideration hereinafter specified, agree as follows:

1. CONTRACT DOCUMENTS
   The Contract Documents consist of:
   - Agreement No. 634-12, and all modifications properly incorporated into the Agreement
   - Exhibit A – Scope of Work
   - Exhibit B – Fee Schedule and Billing Rates
   - Exhibit C – Federal Transit Administration (FTA) Clauses
   - Exhibit D – Pentagon City Station Elevator Feasibility Study Dated October 2010
   - Exhibit E – Washington Metropolitan Area Transit Authority (WMATA) Design Criteria and Standards, and Specifications
   - Exhibit G – WMATA and Arlington County As-Built and Record Drawings

   The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. In case of conflicting variance between the Contract Documents, the more stringent requirement shall take precedence; where the terms and provisions of this Agreement vary from the terms and provisions of the other Contract Documents, the terms and provisions of this Agreement shall prevail over the other Contract Documents, however, Exhibit C shall prevail over Exhibits A, B and the Agreement.

   The Contract Documents set forth the entire Agreement between the County and the Consultant. The County and the Consultant agree that no representative or agent of either of them has made any representation or promise with respect to this Agreement which is not contained in the Contract Documents. The Contract Documents may be referred to herein below as the “Contract” or “Agreement”.

2. SCOPE OF WORK
   The Consultant agrees to perform the services described in the Contract Documents (hereinafter the "Work"). The primary purpose of the Work is Consultant for design services for construction of a new elevator entrance to the Pentagon City Metrorail Station on the Metro Blue and Yellow Lines. The Scope of Work is more fully described in Exhibit A. The Contract Documents set forth the minimum Work estimated by the County and the Consultant to be necessary to complete the Work. It shall be the Consultant's responsibility, at the Consultant's sole cost, to provide the specific services set forth in the Contract Documents and sufficient services to fulfill the purposes of the Work. Nothing in the Contract Documents shall be construed to limit the Consultant's responsibility to manage the details and execution of its Work.

3. STANDARD OF CARE
   In the performance or furnishing of professional services hereunder, the Consultant and all its agents, shall exercise the degree of skill and care normally accepted as professional practices and procedures by members of the same profession currently practicing under similar conditions in the
same locality ("Customary Standard of Care").

4. **RESPONSIBILITY OF THE CONSULTANT**
   The Consultant shall be responsible for the professional quality, technical accuracy, and the coordination of all materials produced and other services furnished by the Consultant under this Agreement. The Consultant shall, without additional compensation, correct, or revise any errors or deficiencies in the Work as defined in Exhibit A (Scope of Services) or services provided, which are discovered within a twelve-month period of final completion of Work.

5. **RESPONSIBILITY FOR CLAIMS AND LIABILITIES**
   The County’s review, approval, or acceptance of, or payment for, any services required under this Contract shall not be construed to operate as a waiver by the County of any rights or of any cause of action arising out of the Contract. The Consultant shall be and remains liable to the County for the accuracy and competency of plans, specifications, or other documents, within the Customary Standard of Care.

6. **CONTRACT TERM**
   Time is of the essence. Work under this Agreement will commence on “the date of the issuance of a Notice to Proceed by the Project Officer”. All Work as defined in Exhibit A, will be completed no later than **310 calendar days following the commencement date**. No Work shall be deemed complete until it is accepted by Project Officer.

7. **CONTRACT AMOUNT**
   The County will pay the Consultant in accordance with the terms of the Payment paragraph, and Exhibit B for the Consultant’s completion of the Work for the individual project assignment(s) described and required in the Contract Documents. The Consultant agrees that it shall complete the Work for the total Contract Amount specified in this section unless such amount is modified as provided in this Agreement. The Contract Amount includes all of the Consultant’s overhead and fees (profit).

   The method of payment for this Contract is a negotiated hourly rate basis plus reimbursement of direct expenses with a not to exceed value. The Consultant shall be paid for services rendered in accordance with the rates shown on the current fee schedule and billing rates as described in Exhibit “B” attached and incorporated herein. Total compensation for the services performed shall be up to a maximum of **$358,359.00** ("Contract Amount"). The proposed hourly rates include all overhead and internal expenses of the firm and the equipment, tools, software and supplies required to perform the work. The Consultant shall be reimbursed only for those direct expenses shown on the current fee schedule. No additional compensation will be paid for Work within the scope of Work of the Contract.

8. **PROJECT OFFICER**
   The performance of the Consultant is subject to the review and approval of the County Project Officer (“Project Officer”) who shall be appointed by the Director of the Arlington County department or agency requesting the work under this Contract. However, it shall be the responsibility of the Consultant to manage the details of the execution and performance of its work under the Contract Documents.

9. **ADJUSTMENTS FOR CHANGE IN SCOPE**
   The County may order changes in the Work within the general scope of the work consisting of additions, deletions or other revisions. No claim may be made by the Consultant that the scope of the project or of the Consultant’s services has been changed requiring adjustments to the amount of compensation due the Consultant unless such adjustments have been made by a written amendment to the Contract signed by the County and the Consultant. If the Consultant believes
that any particular work is not within the scope of the Project or is a material change or otherwise will call for more compensation to the Consultant, the Consultant must immediately notify the Project Officer after the change or event occurs and within ten (10) calendar days thereafter must provide written notice to the Project Officer. The Consultant’s notice must provide to the Project Officer the amount of additional compensation claimed, together with the basis therefore and supportive documentation for the amount. The Consultant will not be compensated for performing any work unless a proposal complying with this paragraph has been submitted in the time specified above and a written amendment has been signed by the County and the Consultant and a County purchase order is issued covering the cost of the services to be provided under the amendment.

10. ADDITIONAL SERVICES
The Consultant shall not be compensated for any goods or services provided except those included in Exhibit A and included in the Contract Amount unless those goods or services are covered by a written Amendment to this Agreement signed by the County and the Consultant and a County purchase order is issued covering the expected cost of such services.

The County may determine the need for additional work by the Consultant. Upon a request from the County, the Consultant shall prepare a cost proposal for any such work. No Additional Services shall be performed unless a written amendment to this Agreement has been executed by both parties.

Additional services agreed upon by the parties will be billed at the rates set forth in Exhibit B unless otherwise agreed.

11. REIMBURSABLE EXPENSES
No expenses except those identified in this Contract as project related expenses will be reimbursed if incurred without the prior written approval of the County and the issuance of a County purchase order detailing the specific expenses to be incurred by the Consultant and their estimated amount. Payment for approved reimbursable expenses will be made within thirty (30) days after receipt by the Project Officer of a correct invoice identifying the nature of the expense. Reimbursable expenses allowed shall be charged to the County on a unit price basis at the Consultant’s cost. All amounts paid for reimbursable expenses shall be considered part of the Contract Amount.

The total amount paid for project related expenses shall not exceed the amount shown in Exhibit B.

13. REIMBURSABLE TRAVEL-RELATED EXPENSES
No reimbursable travel-related expenses shall be allowed for employees of firms located within the greater Baltimore-Washington Metropolitan Area, as defined by the United States Office of Management and Budget (OMB). If approved by the County for employees of firms outside this area, the County’s policy for reimbursement of travel-related expenses will be as follows:

Meals: The County will reimburse a Consultant for the actual out-of-pocket expenses for employee meals, excluding alcoholic beverages at the per diem rate not to exceed $71.00 or the individual meal rates not to exceed of $12.00 for breakfast, $18.00 for lunch, $36.00 for dinner and $5.00 for incidental expenses. Receipts are required.

Lodging: The County will reimburse lodging expenses incurred for lodging at a reasonably priced commercial facility in the immediate area of the work, where feasible. Complete and legible itemized receipts shall accompany any request for reimbursement. No reimbursement shall be made for ineligible expenses including room service, laundry, telephone and in-room movies. If a room is shared with another person not connected with the work being performed for the County, including a spouse, the County will reimburse a Consultant for no more than the cost of a single room.
Transportation:

**General**
Reservations shall be made in advance whenever possible to take advantage of all available discounts.

**Ground Transportation**
Use of public transportation is encouraged. Receipts must be submitted for any inter-city public transportation used. Reimbursement for the use of personal or company vehicles, if allowed, shall not exceed the then current mileage rates paid by the County to its employees and personal use must be excluded from the request for reimbursement. Parking expenses are reimbursable up to $7.00 per day.

Rental of vehicles or use of taxicabs, in lieu of the use of a personal or company vehicle, may be approved if the Consultant can justify a cost savings by renting a car or using a taxicab, and obtains approval in advance from the Project Officer. For rental vehicles, the Consultant will be reimbursed for only those rental charges, insurance and/or fuel fees allocable to the Work. The Consultant will not be reimbursed for the purchase of liability insurance and/or collision/comprehensive insurance if their existing insurance coverage provides protection. Receipts are required for reimbursement.

**Air Travel**
Airfare will be reimbursed at the lowest cost available, typically coach rate, and must be purchased at least 7 days in advance, unless otherwise approved.

Time limit: Requests for travel reimbursement covering the above submitted more than sixty (60) days after completion of the travel shall not be honored.

**Non-reimbursable Expenses:** The following expenses are not allowable for reimbursement:

1. Alcoholic beverages
2. Personal phone calls
3. Self-entertainment activities (i.e. pay TV, movies, night clubs, health clubs, theaters, bowling)
4. Personal expenses (i.e. laundry, valet, haircuts)
5. Personal travel insurance (i.e. life, medical, or property insurance) for air fare or rental cars.
6. Auto repairs, maintenance and insurance costs for personal vehicles
7. Travel expenses incurred to obtain or maintain training and/or certificates that are not associated with an employee's job requirements.
8. If the County adopts different rates for its employees, the adopted rates shall prevail.

14. **PAYMENT OF SUBCONSULTANTS**
The Consultant is obligated to take one of the two following actions within seven (7) days after receipt of amounts paid to the Consultant by the County for work performed by any subConsultant under this Contract:

a. Pay the subConsultant for the proportionate share of the total payment received from the County attributable to the work performed by the subConsultant under this Contract; or
b. Notify the County and the subConsultant, in writing, of the Consultant's intention to withhold all or a part of the subConsultant's payment with the reason for nonpayment.

The Consultant is obligated to pay interest to the subConsultant on all amounts owed by the Consultant that remain unpaid after seven (7) days following receipt by the Consultant of payment from the County for work performed by the subConsultant under this Contract, except for amounts withheld as allowed in b., above. Unless otherwise provided under the terms of this Contract, interest shall accrue at the rate of one percent (1%) per month.

The Consultant shall include in each of its subcontracts a provision requiring each subConsultant to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subConsultant.

The Consultant's obligation to pay an interest charge to a subConsultant pursuant to the above provisions may not be construed to be an obligation of the County. A Contract modification may not be made for the purpose of providing reimbursement for such interest charge. A cost reimbursement claim may not include any amount for reimbursement for such interest charge.

15. COUNTY PURCHASE ORDER REQUIREMENT
County purchases are authorized only if a County Purchase Order is issued in advance of the transaction, indicating that the ordering agency has sufficient funds available to pay for the purchase. Such a Purchase Order is to be provided to the Consultant by the order agency. The County will not be liable for payment for any purchases made by its employees without appropriate purchase authorization issued by the County Purchasing Agent. Consultants providing goods or services without a signed County purchase order do so at their own risk and expense.

16. REPLACEMENT OR AUGMENTATION OF KEY PERSONNEL AND SUBCONSULTANTS
The key personnel and sub-Consultants submitted by the Consultant in its Proposal and thereafter accepted by County are considered essential to the Consultant’s qualifications. The Consultant may not replace, substitute or augment any key personnel or sub-Consultant without prior written approval of the County. A request to replace or substitute any key personnel or subConsultant for any reason, shall be provided to the County Project Officer at least fifteen (15) calendar days in advance of such proposed replacement or substitution and the request shall contain sufficient justification, including identification of the proposed replacement or substitute and their qualifications, in sufficient detail to permit evaluation by the County.

Additionally, the Consultant shall not remove or replace the approved Project Manager without written approval of County. In cases of the approved Project Manager’s prolonged illness or other extended leave of absence, Consultant shall provide an interim Project Manager whose continued work on the project shall be subject to approval by County.

In the event of the Project Manager’s resignation or termination from the Consultant’s employment, the Consultant shall replace the Project Manager with an individual with similar qualifications and experience and only with the County’s prior written approval.
17. **PROJECT STAFF**
The County will, throughout the Initial Contract Term and any Subsequent Contract Term have the right of reasonable rejection and approval of staff or subConsultants assigned to the project by the Consultant. If the County reasonably rejects staff or subConsultants, the Consultant must provide replacement staff or subConsultants satisfactory to the County in a timely manner and at no additional cost to the County. The day-to-day supervision and control of the Consultant's employees, and employees of any of its subConsultants, shall be the sole responsibility of the Consultant.

18. **SUPERVISION BY CONSULTANT**
The Consultant shall at all times enforce strict discipline and good order among the workers performing under this Contract, and shall not employ on the work any person not reasonably proficient in the work assigned.

19. **EMPLOYMENT DISCRIMINATION BY CONSULTANT PROHIBITED**
During the performance of this Contract, the Consultant agrees as follows:

   A. The Consultant will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability or any other basis prohibited by state law related to discrimination in employment except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Consultant. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

   B. The Consultant, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, will state that such Consultant is an Equal Opportunity Employer.

   C. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

   D. The Consultant will comply with the provisions of the Americans with Disabilities Act of 1990 which prohibits discrimination against individuals with disabilities in employment and mandates their full participation in both publicly and privately provided services and activities.

   E. The Consultant will include the provisions of the foregoing paragraphs in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontract or vendor.

20. **EMPLOYMENT OF UNAUTHORIZED ALIENS PROHIBITED**
In accordance with §2.2-4311.1 of the Virginia Code, the Consultant acknowledges that it does not, and shall not during the performance of this Contract for goods and/or services in the Commonwealth, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.
21. **DRUG-FREE WORKPLACE TO BE MAINTAINED BY CONSULTANT**

During the performance of the work pursuant to this Contract, the Consultant agrees to (i) provide a drug-free workplace for the Consultant's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Consultant's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Consultant that the Consultant maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subConsultant or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Consultant by Arlington County in accordance with the Arlington County Purchasing Resolution, the employees of which Consultant are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

23. **SAFETY**

The Consultant shall comply with, and ensure that the Consultant's personnel and subcontracted personnel comply with, all current applicable local, state and federal policies, regulations and standards relating to safety and health, including, by way of illustration and not limitation, the standards of the Virginia Occupational Safety and Health program of the Department of Labor and Industry for General Industry and for the Construction Industry, the Federal Environmental Protection Agency standards and the applicable standards of the Virginia Department of Environmental Quality.

24. **VIRGINIA UNIFORM STATEWIDE BUILDING CODE**

All improvements or construction of County buildings and facilities shall be designed in compliance with the most current edition of the Virginia Uniform Statewide Building Code (VUSBC). The cover sheet of all plans developed shall clearly indicate this requirement and shall indicate the applicable edition of the VUSBC utilized by the designer.

25. **ADA COMPLIANCE**

The Consultant shall ensure that all services provided under this Agreement are completed in accordance with the requirements of the Americans with Disabilities Act (ADA), and any other applicable regulations and standards. The parties agree that ADA compliance is a vital part of this contract.

The Consultant shall monitor Work performed by the construction Consultant during the construction phase, and inform the County and construction Consultant of any Work performed that does not conform with the ADA or other applicable requirements, to enable corrective action to be taken.

The Consultant shall defend and hold the County harmless from any expense or liability arising from the Consultant's non-compliance with accessibility requirements under the ADA, and other applicable regulations and standards, under this Agreement. The Consultant shall be responsible for all costs related to permitting delays, redesign, corrective Work, and litigation relating to such non-compliance.
Neither the Arlington County Inspection Services Division, nor any County staff and/or their third party inspection services, are responsible for verifying the design is in compliance with Contract Documents, the ADA, or other applicable requirements.

26. TERMINATION FOR CAUSE, INCLUDING BREACH AND DEFAULT: CURE
The Contract shall remain in force for the Initial Contract Term or any Subsequent Contract Term(s) and until the County determines that all of the following requirements and conditions have been satisfactorily met: the County has accepted the Work, and thereafter until the Consultant has met all requirements and conditions relating to the Work under the Contract Documents, including warranty and guarantee periods. However, the County shall have the right to terminate this Contract sooner if the Consultant is in breach or default or has failed to perform satisfactorily the Work required, as determined by the County in its discretion.

If the County determines that the Consultant has failed to perform satisfactorily, then the County will give the Consultant written notice of such failure(s) and the opportunity to cure such failure(s) within at least fifteen (15) days before termination of the Contract takes effect ("Cure Period"). If the Consultant fails to cure within the Cure Period or as otherwise specified in the notice, the Contract may be terminated for the Consultant’s failure to provide satisfactory Contract performance. Upon such termination, the Consultant may apply for compensation for Contract services satisfactorily performed by the Consultant, allocable to the Contract and accepted by the County prior to such termination unless otherwise barred by the Contract ("Termination Costs"). In order to be considered, such request for Termination Costs, with all supporting documentation, must be submitted to the County Project Officer within fifteen (15) days after the expiration of the Cure Period. The County may accept or reject, in whole or in part, the application for Termination Costs and notify the Consultant of same within a reasonable time thereafter.

If the County terminates the Contract for default or breach of any Contract provision or condition, then the termination shall be immediate after notice from the County to the Consultant (unless the County in its discretion provides for an opportunity to cure) and the Consultant shall not be permitted to seek Termination Costs.

Upon any termination pursuant to this section, the Consultant shall be liable to the County for all costs incurred by the County after the effective date of termination, including costs required to be expended by the County to complete the Work covered by the Contract, including costs of delay in completing the Work or the cost of repairing or correcting any unsatisfactory or non-compliant work performed or provided by the Consultant or its subconsultants. Such costs shall be either deducted from any amount due the Consultant or shall be promptly paid by the Consultant to the County upon demand by the County. Additionally, and notwithstanding any provision in this Contract to the contrary, the Contactor is liable to the County, and the County shall be entitled to recover, all damages to which the County is entitled by this Contract or by law, including, and without limitation, direct damages, indirect damages, consequential damages, delay damages, replacement costs, refund of all sums paid by the County to the Consultant under the Contract and all attorney fees and costs incurred by the County to enforce any provision of this Contract.

Except as otherwise directed by the County in the notice, the Consultant shall stop work on the date of receipt of notice of the termination or other date specified in the notice, place no further orders or subcontracts for materials, services, or facilities except as are necessary for the completion of such portion of the Work not terminated, and terminate all vendors and
subcontracts and settle all outstanding liabilities and claims. Any purchases after the date of termination contained in the notice shall be the sole responsibility of the Consultant.

In the event any termination for cause, default, or breach shall be found to be improper or invalid by any court of competent jurisdiction then such termination shall be deemed to have been a termination for convenience.

27. TERMINATION FOR THE CONVENIENCE OF THE COUNTY
The performance of work under this Contract may be terminated by the Purchasing Agent in whole or in part whenever the Purchasing Agent shall determine that such termination is in the County's best interest. Any such termination shall be effected by the delivery to the Consultant of a written notice of termination at least fifteen (15) days before the date of termination, specifying the extent to which performance of the work under this Contract is terminated and the date upon which such termination becomes effective. The Consultant will be entitled to receive compensation for all Contract services satisfactorily performed by the Consultant and allocable to the Contract and accepted by the County prior to such termination and any other termination costs as negotiated by the parties, but no amount shall be allowed for anticipatory profits.

After receipt of a notice of termination and except as otherwise directed, the Consultant shall stop all work on the date of receipt of the notice of termination or other date specified in the notice; place no further orders or subcontracts for materials, services or facilities except as are necessary for the completion of such portion of the work not terminated; immediately transfer all documentation and paperwork for terminated work to the County; and terminate all vendors and subcontracts and settle all outstanding liabilities and claims.

28. INDEMNIFICATION
The Consultant covenants for itself, its employees, and subconsultant to save, defend, hold harmless, and indemnify the County and WMATA, and all of their elected and appointed officials, officers, current and former employees, agents, departments, agencies, boards, and commissions (collectively the "County" and "WMATA" for purposes of this section) from and against any and all claims made by third parties or by the County for any and all losses, damages, injuries, fines, penalties, costs (including court costs and attorney's fees), charges, liability, demands or exposure, however caused, resulting from, arising out of, or in any way connected with the Consultant's negligent acts or omissions or errors in performance or nonperformance of its work called for by the Contract Documents, whether such act or omission or error is attributable to Consultant, subconsultant, any material supplier, or anyone directly or indirectly employed by them, called for by the Contract Documents. This duty to save, defend, hold harmless and indemnify shall survive the termination of this Contract.

If any action or proceeding relating to the indemnification required by this Section is brought against the County or WMATA, then upon written notice from the County or WMATA to the Consultant, Consultant shall at Consultant's expense, resist or defend such action or proceeding by counsel approved by the County or WMATA in writing, such approval not to be unreasonably withheld, but 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 same.

If, after Notice by the County and/or WMATA, the Consultant fails or refuses to save, defend, hold harmless and/or indemnify the County and/or WMATA, the Consultant shall be liable for and reimburse the County and/or WMATA for any and all expenses, including but not limited to, reasonable attorneys fees incurred and settlements or payments made. The Consultant shall pay such expenses upon demand by the County and failure to do so may result in such amounts being withheld from any amounts due to Consultant under this Contract.
Except for pre-existing hazardous waste, Consultant shall save, defend, hold harmless, and indemnify the County and WMATA 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 introduced to or brought upon the site by the Consultant, or any of Consultant’s subconsultants or agents.

Consultant understands and agrees that it is Consultant’s responsibility to provide indemnification to the County and WMATA pursuant to this section. The provision of insurance, while anticipated to provide a funding source for this indemnification, is in addition to any indemnification requirements and the failure of Consultant’s insurance to fully fund any indemnification shall not relieve the Consultant of any obligation assumed under this indemnification.

29. INTELLECTUAL PROPERTY INDEMNIFICATION
The Consultant warrants and guarantees that no intellectual property rights (including, but not limited to, copyright, patent, mask rights and trademark) of third parties are infringed or in any manner involved in or related to the services provided hereunder.

The Consultant further covenants for itself, its employees, and subconsultants to save, defend, hold harmless, and indemnify the County, and all of its officers, officials, departments, agencies, agents, and employees from and against any and all claims, losses, damages, injuries, fines, penalties, costs (including court costs and attorney’s fees), charges, liability, or exposure, however caused, for or on account of any trademark, copyright, patented or unpatented invention, process, or article manufactured or used in the performance of this Contract, including its use by the County. If the Consultant, or any of its employees or subconsultants, uses any design, device, work, or materials covered by letters patent or copyright, it is mutually agreed and understood, without exception, that the Contract Amount includes all royalties, licensing fees, and any other costs arising from the use of such design, device, work, or materials in any way involved with the Work. This duty to save, defend, hold harmless and indemnify shall survive the termination of this Contract. If, after Notice by the County, the Consultant fails or refuses to fulfill its obligations contained in this section, the Consultant shall be liable for and reimburse the County for any and all expenses, including but not limited to, reasonable attorneys fees incurred and any settlements or payments made. The Consultant shall pay such expenses upon demand by the County and failure to do so may result in such amounts being withheld from any amounts due to Consultant under this Contract.

30. COPYRIGHT
The Consultant hereby irrevocably transfers, assigns, sets over and conveys to the County all right, title and interest, including the sole exclusive and complete copyright interest, in any and all copyrightable works created pursuant to this Agreement. The Consultant further agrees to execute such documents as the County may request to effect such transfer or assignment.

Further, the Consultant agrees that the rights granted to the County by this paragraph are irrevocable. Notwithstanding anything else in this Agreement, the Consultant’s remedy in the event of termination of or dispute over the terms of this Agreement shall not include any right to rescind, terminate or otherwise revoke or invalidate in any way the rights conferred pursuant to the provisions of this paragraph. Similarly, no termination of this Agreement shall have the effect of rescinding, terminating or otherwise invalidating the rights acquired pursuant to the provisions of this "Copyright" paragraph.

The use of subconsultants or third parties in developing or creating input into any copyrightable materials produced as a part of this Agreement is prohibited unless the County approves the use of such subconsultants or third parties in advance and such subconsultants or third parties agree to
include the provisions of this paragraph as part of any contract they enter into with the Consultant for work related to work pursuant to this Agreement.

31. OWNERSHIP AND RETURN OF RECORDS
This Contract confers no ownership rights to the Consultant nor any rights or interests to use or disclose the County’s data or inputs.

The Consultant agrees that all drawings, specifications, blueprints, data, information, findings, memoranda, correspondence, documents or records of any type, whether written or oral or electronic, and all documents generated by the Consultant or its subconsultants as a result of the County’s request for services under this Contract, are the exclusive property of the County (“Record” or “Records”), and all such Records shall be provided to and/or returned to County upon completion, termination, or cancellation of this Contract. The Consultant shall not use, willingly allow, or cause such materials to be used for any other purpose other than performance of all obligations under the Contract without the written consent of the County. Additionally, the Consultant agrees that the Records are confidential records and neither the Records nor their contents shall be released by the Consultant, its subconsultants, or other third parties; nor shall their contents be disclosed to any person other than the Project Officer or his or her designee. The Consultant agrees that all oral or written inquiries from any person or entity regarding the status of any Record generated as a result of the existence of this Contract shall be referred to the Project Officer or his or her designee for response. At the County’s request, the Consultant shall deliver all Records to the Project Officer, including "hard copies" of computer records, and at the County’s request, shall destroy all computer records created as a result of the County's request for services pursuant to this Contract.

The Consultant agrees to include the provisions of this section as part of any contract or agreement the Consultant enters into with subconsultants or other third parties for work related to work pursuant to this Contract.

No termination of this Contract shall have the effect of rescinding, terminating or otherwise invalidating this section of the Contract.

32. CONFIDENTIAL INFORMATION
The Consultant, and its employees, agents, and subconsultants, hereby agree to hold as confidential all WMATA, Homeland Security, and County information obtained as a results of its Work under this Contract. Confidential information includes, but is not limited to, nonpublic personal information, personally identifiable health information, social security numbers, proprietary systems, addresses, dates of birth, other contact information or medical information about a person, information pertaining to products, operations, systems, customers, prospective customers, techniques, intentions, processes, plans, expertise and any information entrusted to any affiliate of the parties. The Consultant shall take reasonable measures to ensure that all of its employees, agents, and subconsultants are informed of, and abide by, this requirement.

33. ETHICS IN PUBLIC CONTRACTING
This Contract incorporates by reference Article 9 of the Arlington County Purchasing Resolution, as well as any state or federal law related to ethics, conflicts of interest, or bribery, including by way of illustration and not limitation, the Virginia State and Local Government Conflict of Interests Act (Code of Virginia § 2.2-3100 et seq.), the Virginia Governmental Frauds Act (Code of Virginia § 18.2-498.1 et seq., and Articles 2 and 3 of Chapter 10 of Title 18.2 of the Code of Virginia, as amended (§ 18.2-438 et seq.). The Consultant certifies that its offer is made without collusion or fraud and that it has not offered or received any kickbacks or inducements from any other offeror, supplier, manufacturer, or subConsultant and that it has not conferred on any public employee having
official responsibility for this purchase any payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised unless consideration of substantially equal or greater value was exchanged.

34. **COUNTY EMPLOYEES**

No employee of Arlington County, Virginia, shall be admitted to any share in any part of this Contract or to any benefit that may arise therefrom which is not available to the general public.

35. **FORCE MAJEURE**

The Consultant shall not be held responsible for failure to perform the duties and responsibilities imposed by this Contract if such failure is due to fires, riots, rebellions, natural disasters, wars, or an act of God beyond control of the Consultant Force Majeure, beyond the and outside the scope of the Consultant's then current disaster plan, control of the Consultant, that make performance impossible or illegal, unless otherwise specified in the Contract.

The County shall not be held responsible for failure to perform its duties and responsibilities imposed by the Contract if such failure is due to fires, riots, rebellions, natural disasters, wars, or an act of God beyond control of the County that make performance impossible or illegal, unless otherwise specified in the Contract.

38. **AUTHORITY TO TRANSACT BUSINESS**

The Consultant shall pursuant to Code of Virginia § 2.2-4311.2, be and remain authorized to transact business in the Commonwealth of Virginia during the Initial Term and any Subsequent Contract Term(s) of this Contract. A contract entered into by a Consultant in violation of this requirement is voidable, without any cost or expense, at the sole option of the County.

39. **RELATION TO COUNTY**

The Consultant is as an independent Consultant and neither the Consultant nor its employees will, under any circumstances, be considered employees, servants or agents of the County. The County will not be legally responsible for any negligence or other wrongdoing by the Consultant, its employees, servants or agents. The County will not withhold payments to the Consultant for any federal or state unemployment taxes, federal or state income taxes, Social Security tax, or any other amounts for benefits to the Consultant. Furthermore, the County will not provide to the Consultant any insurance coverage or other benefits, including workers' compensation, normally provided by the County for its employees.

40. **ANTITRUST**

By entering into this Contract, the Consultant conveys, sells, assigns and transfers to the County all rights, title, and interest in and to all causes of action the Consultant may now have or hereafter acquire under the antitrust laws of the United States or the Commonwealth of Virginia, relating to the goods or services purchased or acquired by the County under this Contract.

41. **REPORT STANDARDS**

Reports or written material prepared by the Consultant in response to the requirements of this Contract or request of the Project Officer shall, unless otherwise provided for in the Contract, meet standards of professional writing established for the type of report or written material provided, shall be thoroughly researched for accuracy of content, shall be grammatically correct and not contain spelling errors, shall be submitted in a format approved in advance by the Project Officer, and shall be submitted for advance review and comment by the Project Officer. The cost of correcting grammatical errors, correcting report data, or other revisions required to bring the report or written material into compliance with these requirements shall be borne by the Consultant.
When submitting documents to the County, The Consultant shall comply with the following guidelines:

- All submittals and copies shall be printed on at least thirty percent (30%) recycled-content and/or tree-free paper;
- All copies shall be double-sided;
- Report covers or binders shall be recyclable, made from recycled materials, and/or easily removable to allow for recycling of report pages (reports with glued bindings that meet all other requirements are acceptable);
- The use of plastic covers or dividers should be avoided; and
- Unnecessary attachments or documents not specifically asked for should not be submitted, and superfluous use of paper (e.g. separate title sheets or chapter dividers) should be avoided.

42. **AUDIT**
The Consultant agrees to retain all books, records and other documents related to this Contract for at least five (5) years after final payment. The County or its authorized agents shall have full access to and the right to examine any of the above documents during this period and during the Initial Contract Term or any Subsequent Contract Term. If the Consultant wishes to destroy or dispose of records (including confidential records to which the County does not have ready access) within five (5) years after final payment, the Consultant shall notify the County at least thirty (30) days prior to such disposal, and if the County objects, shall not dispose of the records.

43. **ASSIGNMENT**
The Consultant shall not assign, transfer, convey, sublet, or otherwise dispose of any award, or any or all of its rights, obligations, or interests under this Contract, without the prior written consent of the County.

44. **AMENDMENTS**
This Contract shall not be modified except by written amendment executed by persons duly authorized to bind the Consultant and the County.

45. **ARLINGTON COUNTY PURCHASING RESOLUTION AND COUNTY POLICIES**
Notwithstanding any provision to the contrary herein, no provision of the Arlington County Purchasing Resolution or any applicable County policy is waived in whole or in part.

46. **DISPUTE RESOLUTION**
All disputes arising under this Agreement, or its interpretation, whether involving law or fact, or extra work, or extra compensation or time, and all claims for alleged breach of Contract shall be submitted to the Project Officer for decision at the time of the occurrence or beginning of the work upon which the claim is based, whichever occurs first. Such claims shall state the facts surrounding it in sufficient detail to identify it together with its character and scope. Claims denied by the Project Officer may be submitted to the County Manager in writing no later than sixty (60) days after final payment in accordance with the Arlington County Purchasing Resolution.

The time limit for final written decision by the County Manager in the event of a contractual dispute, as that term is defined in the Arlington County Purchasing Resolution, is fifteen (15) days. Procedures for considering contractual claims, disputes, administrative appeals, and protests are contained in the Purchasing Resolution, incorporated herein by reference. A copy of the Arlington
County Purchasing Resolution is available upon request from the Office of the Purchasing Agent. The Consultant shall not cause a delay in the Work pending a decision of the Project Officer, County Manager, County Board, or a court of law.

47. **APPLICABLE LAW, FORUM, VENUE AND JURISDICTION**
   This Contract and the work performed hereunder shall be governed in all respects by the laws of the Commonwealth of Virginia and the jurisdiction, forum, and venue for any litigation with respect thereto shall be in the Circuit Court for Arlington County, Virginia, and in no other court. In performing the Work under this Contract, the Consultant shall comply with applicable federal, state, and local laws, ordinances and regulations.

48. **ARBITRATION**
   It is expressly agreed that nothing under the Contract shall be subject to arbitration, and any references to arbitration are expressly deleted from the Contract.

49. **NONEXCLUSIVITY OF REMEDIES**
   All remedies available to the County under this Contract are cumulative, and no such remedy shall be exclusive of any other remedy available to the County at law or in equity.

50. **NO WAIVER**
   The failure of either party to exercise in any respect a right provided for in this Contract shall not be deemed to be a subsequent waiver of the same right or any other right.

51. **SEVERABILITY**
   The sections, paragraphs, sentences, clauses and phrases of this Contract are severable, and if any phrase, clause, sentence, paragraph or section of this Contract shall be declared invalid by the valid judgment or decree of a court of competent jurisdiction, such invalidity shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this Contract.

52. **NO WAIVER OF SOVEREIGN IMMUNITY**
   Notwithstanding any other provision of this Contract, nothing in this Contract or any action taken by the County pursuant to this Contract shall constitute or be construed as a waiver of either the sovereign or governmental immunity of the County. The parties intend for this provision to be read as broadly as possible.

53. **SURVIVAL OF TERMS**
   In addition to any numbered section in this Agreement which specifically state that the term or paragraph survives the expiration or termination of this Contract, the following sections if included in this Contract also survive: INDEMNIFICATION; RELATION TO COUNTY; OWNERSHIP AND RETURN OF RECORDS; AUDIT; COPYRIGHT; INTELLECTUAL PROPERTY INDEMNIFICATION; AND CONFIDENTIAL INFORMATION.

54. **HEADINGS**
   The section headings in this Contract are inserted only for convenience and are not to be construed as part of this contract or a limitation on the scope of the particular section to which the heading refers.

55. **AMBIGUITIES**
   Each party and its counsel have participated fully in the review and revision of this Agreement. Any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not apply in interpreting this Agreement. The language in this Agreement shall be interpreted as to its fair meaning and not strictly for or against any party.
56. NOTICES
Unless otherwise provided herein, all notices and other communications hereunder shall be
deemed to have been given when made in writing and either (a) delivered in person, (b) delivered
to an agent, such as an overnight or similar delivery service, or (c) deposited in the United States
mail, postage prepaid, certified or registered, addressed as follows:

TO THE CONSULTANT:


TO THE COUNTY:
Ms. Bea Hicks, Project Officer
Department of Environmental Services – Transportation Division
2100 Clarendon Blvd, Suite 900
Arlington, VA 22201;

AND

Richard D. Warren, Jr., Purchasing Agent
Arlington County, Virginia
2100 Clarendon Boulevard, Suite 500
Arlington, Virginia 22201

57. NON-DISCRIMINATION NOTICE
Arlington County does not discriminate against faith-based organizations.

58. ACCESSIBILITY OF WEB SITE
If any work performed under this Contract results in design, development, maintenance or
responsibility for content and/or format of any County websites, or County’s presence on other
party websites, the Consultant shall perform such work in compliance with the requirements set
forth in the U.S. Department of Justice document entitled “Accessibility of State and Local
Government Websites to People with Disabilities.” The document is located at:
http://www.ada.gov/websites2.htm

59. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS
This Contract is subject to certain provisions required by the U.S. Department of Transportation as
set forth in FTA Circular 4220.1.F, which are attached as Exhibit C. Anything to the contrary
notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with
any other provisions contained in this Agreement. The Consultant shall not perform any act, fail to
perform any act, or refuse to comply with any County requests which would cause the County to be
in violation of the FTA terms and conditions.

The Consultant agrees to include this clause in each subcontract financed in whole or in part with
federal assistance provided by the FTA. It is further agreed that the clause shall not be modified,
except to identify the subconsultant who will be subject to the provisions.
60. **INSURANCE REQUIREMENTS**

Prior to the execution of this Contract and upon any Contract extension thereafter, the Consultant shall provide to the County Purchasing Agent evidence indicating that the Consultant has in force the coverage and endorsements (collectively referred to hereinafter “coverage”, “coverages” or “insurance”) required below. The Consultant agrees to maintain such insurance until the completion of this Contract or as otherwise stated below or in the Contract Documents.

All required insurance coverages must be acquired from insurers authorized to do business in the Commonwealth of Virginia, with an A.M. Best rating of “A-VII”, and as acceptable to the County. The insurance requirements herein shall not operate as a limitation of the Consultant’s liability or as a limitation of the Consultant’s duty of indemnification, as set forth in this solicitation and any resulting contract. The Consultant is responsible for determining whether the minimum coverage below are adequate to protect its interest.

The Consultant shall secure and maintain (and ensure that its subConsultants, if any, secure and maintain) all insurance required by law or this Contract, including without limitation:

a. **Workers Compensation - Virginia Statutory Workers Compensation (W/C) coverage including Virginia benefits and employers liability with limits of $100,000/100,000/500,000. The County will not accept W/C coverage issued by the Injured Worker’s Insurance Fund, Towson, MD.**

b. **Commercia General Liability - $1,000,000 combined single limit coverage with $2,000,000 general aggregate covering all premises and operations and including Personal Injury, Completed Operations, Contractual Liability, Independent Consultants, and Products Liability. The general aggregate limit shall apply to this Contract.**

c. **Business Automobile Liability - $1,000,000 Combined Single Limit (Owned, non-owned and hired).**

d. **The Consultant shall carry Errors and Omissions or Professional Liability insurance which will pay for injuries arising out of errors or omissions in the rendering, or failure to render services or perform Work under the Contract, in the amount of $1,000,000.**

e. **Additional Insured - Arlington County, and its officers, elected and appointed officials, employees, and agents shall be named as additional insureds on all policies, except Workers Compensation and Auto and Professional Liability. A copy of the Additional Insured endorsement must be provided by the Consultant to the County Purchasing Agent prior to the execution of this Contract and any Contract extension. Failure to provide such documentation shall result in cancellation of the award or of the Contract.**

f. **Cancellation - If there is a material change or reduction in coverage, nonrenewal of any insurance coverage or cancellation of any insurance coverage required by this contract, the Consultant shall notify the Purchasing Agent immediately. Any policy on which the Consultant has received notification from an insurer that the policy has or will be cancelled or materially changed or reduced must be immediately replaced with another policy consistent with the terms of this Contract and in such a manner that there is no lapse in coverage, and the County immediately notified of the replacement. Not having the required insurance throughout the Contract Term is considered a material breach of this Contract and grounds for termination. The Consultant shall also obtain an endorsement providing to the County thirty (30) days advance notice of cancellation or nonrenewal (ten days for nonpayment of premium. A copy of that endorsement shall be provided to the County Purchasing Agent prior to the execution of this Contract or any Contract extension thereafter.**
g. Any insurance coverage that is placed as a “claims made” policy must remain valid and in force, or the Consultant must obtain an extended reporting endorsement consistent with the terms of this Contract, until the applicable statute of limitations has expired, such date as determined to begin running from the date of the Consultant’s receipt of final payment.

h. Contract Identification – All documentation and copies of endorsements required hereunder shall state this Contract’s number and title.

i. Certificate Holder - The Certificate Holder must be identified as:

   The County Board of Arlington County, VA
   c/o The Purchasing Agent
   2100 Clarendon Boulevard, Suite 500
   Arlington, VA 22201

The Consultant must disclose the amount of any deductible or self-insurance component applicable to the General Liability, Automobile Liability, Professional Liability, Intellectual Property or any other policies required herein, if any. The County reserves the right to request additional information to determine if the Consultant has the financial capacity to meet its obligations under a deductible. Thereafter, at its option, the County may require a lower deductible, funds equal to the deductible be placed in escrow, a certificate of self-insurance, collateral, or other mechanism in the amount of the deductible to ensure additional protection for the County.

The Consultant shall require all subconsultants to maintain during the term of this contract, Commercial General Liability insurance, Business Automobile Liability insurance, and Workers’ Compensation insurance in the same form and manner as specified for the Consultant. The Consultant shall furnish subconsultants’ documentation of coverage and endorsements specified herein to the County Purchasing Agent immediately upon request by the County and/or prior to a subconsultant performing work related to this Contract.

No acceptance or approval of any insurance by the County shall be construed as relieving or excusing the Consultant from any liability or obligation imposed upon the Consultant by the provisions of the Contract Documents.

The Consultant shall be responsible for the work performed under the Contract Documents and every part thereof, and for all materials, tools, equipment, appliances, and property of any description used in connection with the Work. The Consultant assumes all risks for direct and indirect damage or injury to the property or persons used or employed on or in connection with the work contracted for, and of all damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the Contract, or in connection in any way whatsoever with the contracted work.

The Consultant shall be as fully responsible to the County for the acts and omissions of its subconsultants and of persons employed by them as it is for acts and omissions of persons directly employed by it.

Notwithstanding any of the above, the Consultant may satisfy its obligations under this section by means of self-insurance for all or any part of the insurance required, provided that the Consultant can demonstrate financial capacity, the alternative coverage(s) are submitted to and acceptable to the County and the terms additional endorsements required hereunder are met to the satisfaction of the County Purchasing Agent or Risk Manager. The Consultant must provide its most recent actuarial report and provide a copy of its self-insurance resolution to determine the adequacy and security of the insurance funding.
61. ADA COMPLIANCE- NOT USED

Compliance with the Americans with Disabilities Act (ADA) shall be the sole responsibility of the Contractor. The Contractor shall defend and hold the County harmless from any expense or liability arising from the Contractor’s non-compliance therewith. The Contractor’s responsibilities related to ADA compliance shall include, but not be limited to, the following:

a. Access to Programs, Services and/or Facilities: The Contractor shall ensure its programs; services and facilities are accessible to persons with disabilities. If a particular facility or program is not accessible, the Contractor shall provide equivalent services in an accessible alternate location or manner to ensure that persons with disabilities are not denied access to services.

b. Effective Communication: The Contractor, upon request, shall provide appropriate aids and services leading to effective communication for qualified persons with disabilities so they can participate equally in the Contractor’s programs, services, and activities, including qualified sign language interpreters, documents in Braille, and other ways of making information and communications accessible to people who have speech, hearing, or vision impairments, as required by the ADA.

c. Modifications to Policies and Procedures: The Contractor shall make the necessary modifications to its policies and procedures to ensure that people with disabilities have an equal opportunity to enjoy the Contractor’s programs, services, and activities, as may be required by the ADA. For example, individuals with service animals are welcomed in the Contractor’s offices or facilities, even where pets are generally prohibited.

d. The Contractor shall not place a surcharge on a person with a disability or any group of individuals with disabilities to cover the cost of providing auxiliary aids/services or reasonable modifications of policy.

e. Employment: The Contractor shall not discriminate on the basis of disability in its hiring or employment practices.

f. Responding to inquiries from the U.S. Department of Labor.

WITNESS these signatures:

THE COUNTY BOARD OF ARLINGTON

COUNTY, VIRGINIA

AUTHORIZED SIGNATURE: [Signature]
NAME: RICHARD D. WARREN, JR.
TITLE: PURCHASING AGENT
DATE: 9/10/12

CONSULTANT

AUTHORIZED SIGNATURE: [Signature]
NAME AND TITLE: Thomas S. Flourey, V.P.
DATE: September 7, 2012
EXHIBIT A - SCOPE OF WORK

INTRODUCTION

The intent of this scope of work is to complete thirty percent design and provide the necessary architectural and engineering services required for a second elevator entrance to the Pentagon City Metrorail Station on the Metro Blue and Yellow Lines in Arlington County. In general, services will include:

- Design services, concept plans to 30 percent, and construction cost estimates for a new second elevator;
- Conducting an analysis and assessment of the existing elevator to determine replacement or refurbishment;
- Design services for replacement and/or refurbishment of the existing elevator, and
- Advising the County regarding the use of the Design-Build (D-B) versus the Design-Bid-Build procurement method for finalizing the project.

At the completion of the above services, the County will determine the preferred method of procurement as either Design-Build or Design-Bid-Build and the County and Consultant will develop a scope of work and fee proposal for the balance of the project effort based on that decision. It is understood that the Consultant will be prohibited from participating as a prime or subconsultant for a selected D-B team should the County select that as the preferred procurement method.

PROJECT TEAM

The Consultant will be responsible for project management and the overall quality of services delivered to the County. The project team will consist of the following consultants:

- STV for project management, engineering and architecture;
- Van Deusen & Associates for vertical transportation;
- DMY, Inc. (DBE) for geotechnical investigation and analysis; and

PROJECT BACKGROUND

The Pentagon City Metrorail station ranks second in ridership among stations in northern Virginia, provides access to multiple retail, government and commercial office buildings, and is a transfer point for regional and local transit buses and numerous private bus services.
The Pentagon City Metrorail station is located under the northbound lanes of Hayes Street with a passageway connecting the station mezzanine to both sides of Hayes Street. The station has two (2) side platforms with a center track. On the east side of Hayes Street, there are two (2) escalators and one (1) elevator connecting the passageway to the street; on the west side, there are two escalators connecting the passageway to the street. All passengers needing to use the street elevator must enter or exit the station on the east side of Hayes Street. The addition of a second elevator will provide access to the passageway from the west side of Hayes Street as well as provide elevator redundancy for this station entrance when one elevator is out of service for any reason, consistent with current WMATA design criteria.

A feasibility study of Pentagon City Elevator was completed by the Washington Metropolitan Area Transit Authority (WMATA) in October, 2010. In 2010, the Pentagon City Metrorail station handled approximately 36,000 combined daily entries and exits on an average weekday, second only to the Rosslyn Metrorail station in Northern Virginia, and this represents a 13 percent growth in ridership since 2006 – almost equaling the 2030 forecast of 37,000 combined entries indicated in the 2008 Metro Station Access and Capacity Study conducted by WMATA.

The vertical distance between the top of the passageway and the street surface is approximately 25 feet. The location of the new elevator is largely determined by the location of the existing passageway, particularly in the north/south direction since the elevator vestibule must align with the passageway. Construction of a new second elevator on the north side of the passageway corresponds to the new second elevator being in the general area of the pedestrian path for people crossing Hayes Street. The general scope of work requires:

- Excavating for the new elevator shaft, elevator vestibule, elevator machine room and sump pit;
- Cutting through the existing passageway wall;
- Installing structural elements to create shaft structure;
- Mechanical, electrical, HVAC, and communications installations;
- Required connection to WMATA power and communications;
- Installing the elevator and associated equipment;
- Required finishes;
- Maintenance of Traffic;
- Repaving the sidewalk around the elevator at street level plaza; and
- Relocating the bicycle lockers and bicycle racks on the plaza.

Federal and state funds will be used to construct the new Pentagon City Metrorail station elevator(s). The County has secured funding for design
through completion of construction and already received a Categorical Exclusion (CE) from the Federal Transit Administration (FTA) for this project with no further environmental review anticipated.

**SCHEDULE**

The schedule for the project is attached to this scope of work and assumes a ten-month project duration with anticipated Notice to Proceed of September 1, 2012 and a completion date of June 22, 2013. Project completion date will be adjusted to reflect actual Notice to Proceed once issued.

**SCOPE OF WORK AND DELIVERABLES**

The Consultant will provide the scope of work divided into six tasks with subtasks within each. The six major task areas are as follows:

- Task 1: Project Management Plan
- Task 2: Property And Utility Survey
- Task 3: Data Collection
- Task 4: Concept Plan & Cost Estimate Analysis To Replace Existing Elevator
- Task 5: Preliminary Engineering
- Task 6: Preliminary Construction Cost Estimate And Construction Schedule

Work will be designed in accordance and consistent with the most current applicable WMATA Design Criteria and Standards, and Specifications; the Adjacent Construction Project Manual (ACPM) (Revision 4), dated February 16, 2010; local and state standards that apply; and ADA and other federal standards, as required. The Consultant recognizes that WMATA is a key stakeholder in this project and that they will have the right to review, approve, comment upon, and request changes to the plans and specifications to the extent required by the ACPM.

**TASK 1: PROJECT MANAGEMENT PLAN**

The Consultant's Project Manager will be the primary point of contact with the County's Project Officer. Subtasks within Task 1 are as follows:

- Notice to Proceed
  - The Consultant will receive a formal Notice to Proceed (NTP) from the County Project Officer.

- Prepare Project Management Plan
  - The Consultant will prepare a Project Management Plan (PMP) for the project, and submit to the County Project Officer for approval. As a minimum, the PMP will address points of contact for the County and stakeholders, staffing plan (including subconsultants), scope of work, project schedule, budget, deliverables, design criteria, and quality control and quality assurance procedures.

- Prepare Subconsultant Agreements
  - The Consultant will prepare subcontracts for each subconsultant. Subcontracts will incorporate the terms and conditions of the County's
contract with the Consultant. Subcontracts will contain a detailed scope of work, budget, and schedule for the subconsultant.

**Kick-off Meeting with County**
The Consultant will participate in a kick-off meeting with the County Project Officer and other County staff as appropriate to introduce key staff, review the contract terms, deliverables, schedule, and general scope of work. Subsequent to the project kick-off meeting, the Consultant will participate with the County in a kick-off meeting with WMATA to initiate the project with WMATA.

**Preliminary Site Visit**
The Consultant will conduct a site visit to familiarize key Consultant, County, and WMATA staff with conditions in the station and surrounding environs, and to become familiar with the project goals and objectives. Attending this site visit will be the Consultant's project manager and technical staff from the consultant team representing relevant disciplines required to execute the project: civil, architecture, structural, and vertical transportation.

**Attend Monthly Meetings with County**
The Consultant will attend monthly progress meetings with the County Project Officer. The Consultant, in conjunction with the County Project Officer, will develop an agenda in advance of the meeting. These meetings will be used to discuss project management, schedule, and progress on the design and may be combined with County review meetings. Attending the monthly meeting will be the Consultant's project manager and design manager and technical staff as required by the Project Officer to address a particular issue or topic. Meeting minutes will be prepared by the Consultant and approved by the County Project Officer prior to distribution.

**Prepare Monthly Invoice**
The Consultant will prepare a monthly invoice in accordance with the contract terms and conditions. The monthly invoice will be supported by the monthly progress report described below.

**Prepare Monthly Progress Report**
The Consultant will prepare a monthly progress report, which will substantiate the invoiced amount and describe project activities completed to date and anticipated activities for the next reporting period. It will include a section alerting the County Project Officer to and discussing any activities (internal or external) that would have an impact on schedule or budget. The discussion on project impacts will include possible mitigation measures the Consultant might implement to minimize or remediate identified impacts.

**Task 1 Deliverables**
Deliverables for Task 1 will consist of:

- Project Management Plan
- Attendance at Kick-off Meeting
- Preliminary Site Visit
- Attendance at Monthly Progress Meetings
- Monthly Invoicing and Progress Reports
- Meeting Minutes

**TASK 2: PROPERTY AND UTILITY SURVEY**

The Consultant will conduct a site survey that will incorporate into the project plans surface features (planimetrics), property lines and property ownership, known utilities, details of the station infrastructure, and other elements necessary to execute the project plans. Meeting minutes will be prepared by the Consultant and approved by the County Project Officer prior to distribution.

**Prepare Site Specific Work Plan (SSWP)**

The Consultant will prepare a SSWP for accessing WMATA property and performing the necessary survey to accomplish the Work. The Consultant will review the SSWP with the County Project Officer and seek approval from the County Project Officer prior to submitting it to WMATA for approval. The Consultant will recommend responses to comments made by WMATA to the County Project Officer and seek approval of responses prior to resubmitting the SSWP as required to attain their approval to move forward with the work effort.

**Research Property Deeds and Easements**

The Consultant, will research property deeds and easements prior to performing the property and utility survey. This information will be incorporated into the project’s base mapping.

**Request Access to WMATA Property**

The Consultant will formally request access to WMATA’s property to perform the required survey. Subconsultants performing the work will be escorted by a Consultant employee.

**Request Access to Adjacent Private Property**

The Consultant will formally request access to adjacent private property identified while performing the research on property deeds and easements and perform the required survey. Subconsultants performing the work will be escorted by a Consultant employee.

**Perform Property and Utility Survey**

Topographic survey will be used to develop base mapping for the project limits. This survey will be structured to supplement existing survey provided by the County or will be developed independently.

Surveys will be based on WMATA’s vertical and horizontal datum. Mapping will be compiled and digitized at 1"=50′ with 1-foot contour intervals. Field surveys will be used to establish horizontal and vertical control. In addition to the basic planimetric features, special emphasis will be placed on obtaining information on the following:

- Underground utilities, including fiber optic lines
- Drainage and utility features
- Physical structural constraints
- Obstructed areas, as required
Natural and constructed planimetric features

In preparation of topographic surveys, the Consultant will provide the location of utility appurtenances (e.g., poles, pedestals, handhols, manholes, basins/inlets, and valves). Gravity systems (storm/sanitary) will be opened and interior data recorded. Depth pipe size and, when required, structure condition information will be annotated and/or photographed. Closed systems will be compiled from record information where available.

The Consultant will retain a subConsultant to perform underground utility designation (SUE - Level C). Level C is the most commonly used level of information. It involves surveying visible utility facilities (e.g., manholes, valve boxes, etc.) and correlating this information with existing utility records. If site conditions dictate, vacuum excavation test holes will be performed to identify size and depth information of utilities; however, this cost is not included in the Contract Amount.

The Consultant will research and conduct a field survey to re-establish the existing right-of-way and boundaries of adjoining properties. Right-of-way will be based upon field survey information. Boundaries for adjoining properties will be depicted based upon field ties to parcel/subdivision monuments and the County’s GIS property owner maps. Existing easements will be depicted based upon existing utility field location, record maps, and the County’s GIS data.

Deliver Base Mapping: Information collected will be converted into an electronic format that can be compiled into appropriate AutoCAD base drawings for use in planning activities and preliminary engineering and layouts. The Consultant will deliver completed base mapping in accordance with the above scope of work to the County.

Task 2 Deliverables: Deliverables for Task 2 will consist of:

- Site Specific Work Plan for Survey
- Property and Utility Survey
- Subsurface Utility Engineering – Level C (as required)
- Base Mapping
- Meeting Minutes

TASK 3: DATA COLLECTION: The Consultant will perform a data collection effort so the design is advanced with available and current information. Office research will primarily be performed with the County, WMATA, and adjacent property owners if needed. Site visits will be required to investigate and confirm existing plans and to survey the mechanical, electrical, and communication rooms to assess current configurations and requirements as existing plans are not likely current with field conditions. Meeting
minutes will be prepared by the Consultant and approved by the County Project Officer prior to distribution.

**Request Existing Station Data**
The Consultant will request plans, specifications, contract documents, geotechnical borings and logs, and other data from WMATA that may be available for the existing station. This would include any available data on improvement projects subsequent to the station's original construction.

**Request Other Available Data**
The Consultant will request current design criteria and standards, systems requirements, and copies of standard drawings being used by WMATA. The Consultant will also request from the County, additional information that they may possess within the project limits that would supplement the Data Collection efforts. This may include additional geotechnical information and/or reports, topographic survey performed for adjacent projects, and plans for adjacent improvements, particularly as it relates to Hayes Street.

**Preliminary Review of Permits**
The Consultant will conduct a preliminary review of required permits, licenses and easements that may be required for construction. This list will be refined and finalized as the design progresses and more design information becomes available. An important step in this process is the early identification of the Authority Having Jurisdiction (AHJ).

**Prepare Site Specific Work Plan (SSWP)**
The Consultant will prepare a SSWP for accessing WMATA property and performing additional site investigation based on the data retrieved as described above. The will involve two SSWPs, one for the on-site, in-station investigation, and a second for the geotechnical investigation. The Consultant will review both SSWPs with the County Project Officer and receive approval from the County Project Officer prior to submitting it to WMATA for approval. The Consultant will recommend responses to the County Project Officer based on the comments made by WMATA and seek approval from the County Project Officer prior to resubmitting the SSWPs as required to attain WMATA approval to move forward with the work effort.

**Request Access to WMATA Property**
The Consultant will formally request access to WMATA's property to perform the site investigation, in-station and geotechnical. Subconsultants performing the work will be escorted by a Consultant employee.

**Request Access to Adjacent Private Property**
If required, the Consultant will formally request access to adjacent private property to perform additional site investigation as needed. Subconsultants performing the work will be escorted by a Consultant employee.

**Perform Site**
The Consultant and sub-consultants will complete a site investigation to
confirm existing conditions and plans and to survey the mechanical, electrical, and communication rooms. This site investigation will assess and document current configurations and requirements for the project, particularly as it relates to mechanical, electrical, plumbing/fire protection and communications.

Attending this site visit will be technical staff from the Consultant firm representing each of the relevant disciplines required to execute the project: civil, architecture, structural, mechanical, electrical, plumbing/fire protection and vertical transportation.

The Consultant will conduct the site survey to accomplish data collection with the intent of determining which systems are currently being used on the existing elevator, including the means being used to air condition the mechanical room of the elevator, as well as the shaft and car of the elevator itself.

The Consultant will evaluate the condition and suitability of the existing elevator sump pump equipment and its ability to serve the proposed elevator renovations. The evaluation will also confirm that the existing system meets code. If the existing condition of the sump pump is inadequate or does not meet current code, a recommendation will be submitted to the County Project Officer by the Consultant for replacement. This recommendation shall include a cost estimate.

For fire protection, the Consultant will evaluate the condition and code compliance of the fire suppression system protecting the existing elevator shaft and machine room. Modification or replacement recommendations of the system will be provided to the County Project Officer by the Consultant depending on the outcome of the site investigations and evaluations.

The survey will also include the five electrical core systems that will be affected by the second elevator: power, lighting, fire alarm, closed circuit television (CCTV), and telephone/data services. Survey efforts will begin at the source or head-end of these systems in an attempt to determine spare capacity and ability to modify these systems to accommodate the new elevator.

The architectural and structural investigation survey will confirm the existing geometry of the space and location of relevant and important items either as shown on the existing station plans provided by WMATA or added since original construction was undertaken. It will include a review of the existing site and building condition and functionality and document apparent building and systems deficiencies and problems.

It should be noted; however, that within the scope of this investigation,
no selective demolition or testing will be completed and the observations made will be based upon visible inspections and access to spaces.

**Perform Geotechnical Investigation**

The Consultant will review existing available data and develop and complete an investigation of subsurface soils conditions. Findings of the research and exploration and testing program will be compiled into a geotechnical report with formal recommendations.

Prior to initiating the field investigation, the Consultant will coordinate with County Project Officer, prepare a traffic control plan, and develop a detailed work plan. Geotechnical data will be collected for the proposed structure and a boring log prepared. Where possible, existing information will be collected and used as both a cost-saving effort and as a way to confirm and supplement additional data collected under this effort. Data will be analyzed and a preliminary geotechnical report prepared. A soil laboratory testing programming will be developed to specifically address the expected subsurface issues.

A more detailed scope of work prepared by DMY, Inc. is attached to and incorporated by reference into this scope of work.

**Documentation of Data Collection**

The Consultant will document data collected from third parties and field investigations and assemble this information into a concise file for future reference by the Consultant. Information having a direct bearing on design decisions will be identified by the Consultant.

Data collected during the site investigation will be collated and transferred to a reference copy of the as-built plans provided by WMATA and used as the basis for developing the 30% plans for the project.

**Task 3 Deliverables**

Deliverables for Task 3 will consist of:

- Preliminary Review of Permits Memo Report
- Site Specific Work Plan for Site Investigation
- Site Specific Work Plan Geotechnical Investigation
- Geotechnical Subsurface Investigation Report
- Meeting Minutes

**TASK 4: CONCEPT PLAN & COST ESTIMATE ANALYSIS TO REPLACE EXISTING ELEVATOR**

Using data collected in Tasks 3, the Consultant will perform a study to assess the condition of the existing elevator at the Pentagon City Metrorail Station. The purpose of this study will be to determine the reliability of the existing elevator and whether rehabilitation or replacement is the most suitable course for the program. The study will include a review and assessment of future vertical transportation needs at the station. Meeting minutes will be prepared by the Consultant and approved by the County Project Officer prior to distribution.
Develop Assessment Report

The Consultant will develop an assessment report on the condition of the existing elevator. The report will address the existing access and egress constraints, vertical transportation needs (demands), condition of the existing equipment (physical plant, mechanical, electrical, plumbing/fire protection and communications), and compliance with current codes. The report will include a recommendation for further action. The report will be submitted to the County Project Officer for review and approval by the Consultant.

Develop Preliminary Cost Estimate

The Consultant will develop a preliminary cost estimate for the recommendations made in the Assessment Report using pricing from recent projects completed in the Washington area.

Decision Workshop with Arlington County

The Consultant will conduct a decision workshop with the County Project Officer and other County staff as appropriate. In this workshop, the findings of the Assessment Report will be presented, including any recommendations and the process used to determine those recommendations. Working with County Project Officer and other County staff as appropriate, the Consultant will develop a decision matrix to determine the desired program. The Assessment Report will be updated to incorporate actions and decisions made in the workshop.

Develop Preliminary Design Concept

Upon the approval by the County Project Officer of the selected program, the Consultant will develop a preliminary design concept. The preliminary concept will be developed to a level representing approximately 10% plans (Design Concept). The 10% plans (Design Concept) will be submitted to the County Project Officer for approval prior to being finalized.

Refine Cost Estimate: Using the Preliminary Design Concept

Based on the plan development to 10% (Design Concept), the Consultant will refine and update the cost estimate prepared for the Assessment Report.

Meeting with Arlington County and WMATA

The Consultant will prepare for and support the County in a meeting with WMATA to present the findings of the Assessment Report and the Decision Workshop to WMATA.

Approval of the Preliminary Design Concept

Upon approval of the Preliminary Design Concept by the County Project Officer and WMATA, the Consultant will advance the design into Task 5.

Task 4 Deliverables

Deliverables for Task 4 will consist of:

- Assessment Report on the Existing Elevator
- Preliminary Cost Estimate to Replace the Existing Elevator
- Decision Workshop Presentation
• Preliminary Design Concept
• Updated Cost Estimate to Replace the Existing Elevator
• Attendance at Meetings with WMATA
• Meeting Minutes

**TASK 5: PRELIMINARY ENGINEERING**

Using data collected in Tasks 2 and 3, the Consultant will confirm the concept design for the Preferred Alternative discussed in the *Pentagon City Station Elevator Feasibility Study*, dated October 2010. At the County’s request, the Consultant will also explore alternate arrangements during this confirmation process. Once the design is confirmed, the Consultant will advance the design to the requested 30% plan level. Meeting minutes will be prepared by the Consultant and approved by the County Project Officer prior to distribution.

**Confirm Concept Design**

The Consultant will confirm the concept design for the Preferred Alternative discussed in the *Pentagon City Station Elevator Feasibility Study*, dated October 2010.

**Design Kick-off Meeting with WMATA**

Upon confirmation of the concept design, the Consultant and County staff will meet with WMATA to review the plans and approach to advancing the design. The County Project Officer will coordinate this meeting which will be attended by key Consultant staff. The Consultant will prepare necessary materials (plans and reports) prior to the meeting. If any modifications or clarifications to the concept plans are required, they will be discussed at this meeting.

**Prepare 15% Preliminary Engineering Plans and Specifications**

Once the concept design is confirmed with WMATA and approved by the County Project Officer, the Consultant will advance the preliminary engineering to a level representing approximately 15% plans. A draft list of specifications will be developed as part of the 15% plans. If new or updated specifications are required, they will be identified at this time.

**Prepare 15% Preliminary Engineering Cost Estimate**

Using cost data and information developed in Task 4, the Consultant will develop a preliminary cost estimate for the 15% preliminary engineering plans and specifications.

**Perform 15% Preliminary Engineering QA/QC Check**

Prior to submitting the plans for review, the Consultant will conduct an internal discipline coordination review meeting and quality assurance check of the plans and specifications. The Consultant’s Quality Assurance Manager will independently confirm and document that the Consultant has completed a quality control check of the plans and specification set, commensurate with the level of completion, prior to their submission.

**Attend 15% Design Review Meeting**

At the 15% level, the Consultant will submit the plans to the County Project Officer for formal review. Upon approval of the County Project Officer, the Consultant will submit the plans to WMATA for formal
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
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<tbody>
<tr>
<td>Perform 15% Review of Permits</td>
<td>At the 15% level, the Consultant will update the preliminary review of required permits, licenses, and easements that may be required for construction. This list will be finalized as the design progresses and more design information becomes available.</td>
</tr>
<tr>
<td>Prepare 30% Preliminary Engineering Plans and Specifications</td>
<td>The Consultant will perform necessary engineering tasks to develop and document the design scope of work to include the plans and specifications and encompassing the required disciplines, including civil, architectural, structural, mechanical, electrical, fire protection, communications, HVAC, and systems. Specifications will be developed using a redline approach indicating suggested changes to the standard specifications used by WMATA. Comments reconciled and accepted during the 15% design review meeting will be incorporated into the 30% design plans.</td>
</tr>
<tr>
<td>Perform 30% Preliminary Engineering QA/QC Check</td>
<td>Prior to submitting the plans for review, the Consultant will conduct an internal discipline coordination review meeting and quality control check of the plans and specifications. The Consultant’s Quality Assurance Manager will independently confirm and document that the Consultant has completed a quality control check of the plans and specification set, commensurate with the level of completion, prior to their submission.</td>
</tr>
<tr>
<td>Attend 30% Design Review Meeting</td>
<td>At the 30% level, the Consultant will submit the plans to the County Project Officer for formal review. Upon approval of the County Project Officer, the Consultant will submit the plans to WMATA for formal review. Upon receipt of comments from WMATA, the Consultant will develop a response matrix and attend a design review meeting where each comment received will be addressed. Comments reconciled in the design review meeting will be incorporated into the next design iteration.</td>
</tr>
<tr>
<td>Perform 30% Review of Permits</td>
<td>At the 30% level, the Consultant will update the review of required permits, licenses, and easements (performed at the 15% level) that may be required for construction using current information and understanding of the permitting process.</td>
</tr>
<tr>
<td>Finalize Preliminary Engineering Plans and Specifications</td>
<td>The Consultant will perform necessary engineering tasks to bring the plans and specifications to a Final 30% level of effort as defined in the scoping process. The Consultant will work with the County Project Officer in advance to determine and define the minimum elements to be included in the 30% design plans, recognizing that the various disciplines may be developed to different levels of completion. This will also be dependent on the project delivery method chosen by the County (i.e.</td>
</tr>
</tbody>
</table>
Design-Build or Design-Bid-Build). Specifications will be further reviewed and updated but remain in a redline state indicating suggested changes to the standard specifications used by WMATA. The final specifications will be finalized by the Consultant once the procurement method is determined by the County Project Officer.

Perform Final 30% QA/QC Check

Prior to finalizing the 30% plans and specifications, the Consultant will conduct a final internal discipline coordination review meeting and quality control check of the plans and specifications. The Consultant’s Quality Assurance Manager will independently confirm and document that the Consultant has completed a quality control check of the plans and specification set prior to their being finalized.

Approval of the Final 30% Plans and Specifications

Upon completion of the final review, the Consultant will submit the plans and specifications for approval by the County Project Officer. After the County Project Officer’s approval, the Consultant will submit the final plans to WMATA. Upon final approval, the Consultant will submit the requisite number of deliverables in accordance with the scope of work.

Task 5 Deliverables

Deliverables for Task 5 will consist of:

- Confirmation of Concept Design Memo Report
- Attendance at: Meetings with WMATA (3)
- 15% and 30% PE Plans and Specifications
- 15% and 30% PE Cost Estimate
- 15% and 30% Review of Permits Memo Report
- 15% and 30% Plans QA/QC Documentation
- Final 30% PE Plans and Specifications
- Final 30% Plans QA/QC Documentation
- Meeting Minutes

Deliverables will be submitted in the following quantities:

- Six (6) copies of all analyses, reports, meeting notes, surveys and concept plans;
- 20 half-size and 10 full-size sets of drawings and specifications;
- 4 sets of CD with electronic CAD file of drawings and specifications;
- 25 copies of the Master Log of Design Review Comments and resolutions

TASK 5: PRELIMINARY CONSTRUCTION COST ESTIMATE AND CONSTRUCTION SCHEDULE

Prepare Final

The Consultant will assist the County in preparing a cost estimate that can be relied upon to determine how the project will advance. Meeting minutes will be prepared by the Consultant and approved by the County Project Officer prior to distribution.

The Consultant will use the previous efforts developed in Tasks 4 and 5 to
Construction Cost Estimate
develop a final construction cost estimate for the project. The cost estimate will include general conditions, special provisions, mark-ups, and fees, and will be developed assuming that the procurement method will be either design-bid-build or design-build.

Prepare Construction Schedule
The Consultant will develop a construction schedule for the project assuming the procurement method will be either design-bid-build or design-build. The construction schedule will be annotated and accompanied by a narrative that discusses assumptions used in developing the schedule.

Perform Final Construction Cost Estimate and Schedule QA/QC Check
Prior to finalizing the construction cost estimate and schedule, the Consultant will conduct an internal quality control check. The Consultant’s Quality Assurance Manager will independently confirm and document that the Consultant has completed a quality control check of the cost estimate and schedule.

Submit Final Construction Cost Estimate and Schedule for Review
The Consultant will submit the construction cost estimate and schedule to the County Project Officer for formal review and approval.

Attend Construction Cost Estimate and Schedule Review Meeting
Upon receipt of comments, the Consultant will develop a response matrix and attend a construction cost estimate and schedule review meeting where each comment received will be addressed.

Revise Final Construction Cost Estimate and Schedule
Comments reconciled in the construction cost estimate and schedule review meeting will be incorporated into the final version of both documents. The Consultant will then resubmit both documents to the County Project Officer for final approval.

Approval of the Final Construction Cost Estimate and Schedule
The Consultant will submit the final construction cost estimate and schedule for approval to the County Project Officer. Upon final approval, the Consultant will submit the requisite number of deliverables in accordance with the scope of work.

Task 6 Deliverables
Deliverables for Task 6 shall consist of:

- Preliminary and Final Construction Cost Estimate
- Preliminary and Final Construction Schedule
- Cost Estimate and Schedule QA/QC Documentation
- Attendance at Cost Estimate and Schedule Review Meeting
- Meeting Minutes

Deliverables will be submitted in the following quantities:

- Five (5) hard copies and three (3) electronic copies of the
Estimate and Schedule

ITEMS TO BE PROVIDED BY OTHERS

The County Project Officer shall provide or facilitate provision of the following:

- Pentagon City Metrorail Station As-Built Plans
- Pentagon City Metrorail Station Improvement As-Built Plans
- Arlington County Hayes Street Improvement Plans
- Arlington County GIS Mapping

Deliverables will be submitted in the following quantities:

- Five (5) hard copies and three (3) electronic copies of the Estimate and Schedule
Proposal for Geotechnical Engineering Services

Pentagon City Metrorail Station Second Elevator Entrance
Arlington County, Virginia

Proposal No.: 012712.05

June 6, 2012

Prepared for

STV Group Incorporated
2722 Merrilee Drive, Suite 350
Fairfax, Virginia 22031

Prepared by

DMY Inc.
14241 Midlothian Turnpike, Suite 230
Midlothian, VA 23113
June 6, 2012

Mr. Thomas S. Flournoy, PE
Vice President

STV Incorporated (STV)
2722 Merrilee Drive, Suite 350
Fairfax, Virginia 22031

DMY Proposal No. 012712.05

Re: Proposal for Geotechnical Engineering Services
Pentagon City Metrorail Station Second Elevator Entrance
Arlington County, Virginia

Dear Mr. Flournoy:

DMY Inc. is pleased to present our cost proposal for providing geotechnical engineering services for the above referenced project. This proposal was generated based on our discussions, the e-mail messages from you, and our understanding of the project. Our experience with similar projects and local geological formation has also been incorporated in this proposal.

PROJECT DESCRIPTION

The Pentagon City Metrorail station (Pentagon City station) is on Metro’s Blue and Yellow Lines and ranks second in highest ridership of the northern Virginia stations. The Pentagon City station is located under the northbound lanes of Hayes Street with a passageway connecting the station mezzanine to both sides of Hayes Street. The station has two side platforms with the tracks running in the center. There are two mezzanine-platform elevators, one for each side platform. On the east side there are two escalators and one elevator connecting the passageway to the street. On the west side there are two escalators connecting the passageway to the street. All passengers needing to use the street elevator must enter or exit the station on the east side.

The proposed improvements will add a new elevator at the west entrance and may result in the rehabilitation or replacement of the existing elevator at the east entrance. The latter will be determined after an assessment of the condition of the existing equipment and functionality of the existing vertical transportation infrastructure.
SCOPE OF WORK

Based on the Pentagon City Station Elevator Facility Study (October, 2010) and other related documents provided to us, we propose to conduct one (1) soil borings of forty (40) feet deep from the ground surface elevation of existing passageway.

The boring will be drilled using a Geoprobe or skid drill rig. Split Spoon samples (ASTM D-1586) samples and Thin Walled Tube samples will be taken to explore the subsurface conditions. The soil samples will be taken at two and half (2.5)-foot intervals for a total of 40 feet. Should unforeseen conditions be encountered in the field that would require modifying drilling, we would contact you to confirm any expense involved before proceeding with the work.

The boreholes will be backfilled with auger cuttings after field boring is completed. Groundwater readings will be obtained during and immediately after each boring. 24-hour groundwater readings will also be taken. Upon completion of the drilling operations, the soil samples will be tested for engineering related classifications and properties.

A supplemental laboratory-testing program is included with the field investigations to determine the engineering properties of the site soils. The laboratory analysis will include the following items:

- Visual Soil Classifications (ASTM D2488)
- Natural Moisture Contents (ASTM D2216)
- Particle-size Distributions (ASTM D422)
- Atterberg Limits (ASTM D4318)
- Unconfined Compressive Strength (ASTM D2166)

A geotechnical report summarizing our findings and geotechnical design recommendations will be prepared and provided to you after the completion of the field operation and laboratory testing. The geotechnical report will discuss the following major issues:

1. Scope of the Investigation;
2. A description of the project;
3. Geological Setting of the site;
4. Details of the field exploration, such as numbers of borings, location of borings, and depth of borings;
5. A general description of the subsurface soil conditions as determined from the recovered soil samples, laboratory tests, and standard penetration resistance, and groundwater elevation record;
6. Anticipated groundwater control measures needed at the site during and after construction.
7. Recommendations for the earthwork activity and the engineering properties of the subsurface materials
8. Recommendations for Foundations
9. Conclusions and limitations of the investigation.

DMY will be responsible for establishing dig tickets through the Miss Utility process. However, we will need STV to provide the utility clearance within the property of the Metrorail Station and the drilling permit from the Arlington County or WMATA.
SCHEDULE

We have divided the project into three (3) phases as listed in Table 1 below:

Table 1: Estimated Schedule for Geotechnical Study

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description of Work</th>
<th>Estimated Duration</th>
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</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>Drilling and Field Testing</td>
<td>1 week</td>
</tr>
<tr>
<td>Phase II</td>
<td>Performing Lab Tests</td>
<td>2 to 3 weeks</td>
</tr>
<tr>
<td>Phase III</td>
<td>Preparing and Issuing Report</td>
<td>2 weeks</td>
</tr>
</tbody>
</table>

Phase I: We will start the project with a review of available geotechnical information and perform a detail site reconnaissance. We will contact STV to clear underground utilities prior to field work. We expected to complete the field exploration after the utility clearance.

Phase II: This phase will consist of laboratory testing on selected soil samples extracted from the boreholes. We estimate that approximately two to three weeks will be required to complete this phase.

Phase III: After completing Phases I and II, we will analyze the data and prepare a geotechnical report for the proposed project. Any change made by the design team during our project execution process will be evaluated from geotechnical perspective. This phase typically take us two (2) weeks to complete; however, if there are substantial changes in the design scheme, it will take us longer to prepare the final geotechnical report in order to reflect the most current design scheme.

Please note that there will be some interactions between the design team and our engineers regarding the design parameters, construction requirements, etc. Miscommunications and other office and admin delays could change our schedule.

BUDGET

We have divided the scope of the project into four phases with a detailed cost breakdown listed below in Table 2 for each phase.

Table 2: Detailed Cost Breakdown for Geotechnical Study

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I: Field Investigation including permit process and field drilling</td>
<td>Field Soil Sampling and Testing</td>
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</table>
## Phase II: Lab Testing

<table>
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<tr>
<th>Field Engineering</th>
<th>$1,360</th>
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<tbody>
<tr>
<td>$1,450</td>
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</table>

## Phase III: Engineering Analysis and Report

<table>
<thead>
<tr>
<th>Analysis and design</th>
<th>$1,500</th>
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</thead>
<tbody>
<tr>
<td>Preliminary Geotechnical Report</td>
<td>$2,500</td>
</tr>
<tr>
<td>Final Geotechnical Report</td>
<td>$2,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$11,860</strong></td>
</tr>
</tbody>
</table>

During the execution of the project, we will monitor the timely execution of each phase, inform you about our upcoming schedule, and check the fulfillment of each line item. In the event the subsurface exploration services outlined above need to be modified, we will contact you immediately. Any adjustment to the work scope that would affect the cost of our services will be coordinated with you prior to their being implemented. Additional work performed beyond the scope of work will, upon the client’s approval, be invoiced at the unit prices agreed upon at the time of the client’s approval.

The work effort included in this proposal ends with the submission of the geotechnical report.

## CLOSING

If the scope of work, cost estimate, and terms and conditions outlined in this proposal are acceptable, please complete and sign this proposal at the end and return to our office. A purchase order or some other form of written authorization will also be acceptable provided that you reference the DMY Proposal No. 012712.05 dated June 6, 2012.

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. If you have any questions, please feel free to contact our office at (804) 381-4800 or e-mail me at jding@dmy-inc.com.

Respectfully submitted,

DMY Inc,

John Z. Ding, P.E.
President/Chief Engineer
DMY Proposal No. 012712.05
Pentagon City Metrorail Station Second Elevator Entrance
Arlington County, Virginia

Proposal Accepted By:

________________________________________  _____________
Signature                                           Date

________________________________________
Printed name

__________
Title
# ESTIMATE OF ENGINEERING FEES
## SUMMARY PAGE

<table>
<thead>
<tr>
<th>STV Proposal or Job Number: 05 54335</th>
<th>Client Job Number: RFP No. 525-12</th>
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<tbody>
<tr>
<td>Project Description/Location: Pentagon City Memorial Station Second Elevator Entrance</td>
<td></td>
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<tr>
<td>Client: Arlington County</td>
<td>Client Project Manager: Bas Hicks</td>
</tr>
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<tr>
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<th>Hours</th>
<th>Loaded Rates</th>
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**NOTES:**
- STV Incorporated AMOUNT = $293,437
- STV Incorporated PERCENTAGE = 81.9%
- DBE AMOUNT = $35,672
- DBE PERCENTAGE = 10.9%
- SUBCONSULTANT AMOUNT = $64,922
- SUBCONSULTANT PERCENTAGE = 18.1%
- ESTIMATED CONSTRUCTION COST = $10,000,000
- DESIGN AS A PERCENT OF EST. CONSTRUCTION = 3.6%

*prepared by STV Incorporated
8/15/2012 9:55 AM*

Thomas S. Flournoy  
Vice President, STV Incorporated
## ESTIMATE OF ENGINEERING FEES
### Task 1: Project Management

**STV Proposal or Job Number:** 00-54233  
**Client Job Number:** RFP No. 635-12  
**Project Description/Location:** Pentagon City Metrorail Station Second Elevator Entrance  
**Client:** Arlington County  

**Prepared By/Date:** TSF 06/04/12  
**Reviewed By/Date:** AWP 06/08/12

### Staff Hours by Classification

<table>
<thead>
<tr>
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**Staff Hour Totals:** 70 PM, 8 TM, 74 Sr. A/E, 15 A/E, 8 Jr. A/E, 0 Sr. CADD, 0 Admin., 40 Total  

**Hourly Payroll Rate:** $222.50  
**Budgeted Costs:** $15,575  

**Total:** $216  
**Staff Hour Totals:** 70 PM, 8 TM, 74 Sr. A/E, 15 A/E, 8 Jr. A/E, 0 Sr. CADD, 0 Admin., 40 Total  

**Budgeted Costs:** $15,575  

### Other Direct Costs (ODC) Estimate:

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<th>Item Description</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Item Cost</th>
<th>Summary</th>
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<tr>
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<td>$0.555</td>
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<tr>
<td>Air Fare, per airline ticket</td>
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<td>300.00</td>
<td>$300.00</td>
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<tr>
<td>Meals, per person per day</td>
<td></td>
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<tr>
<td>Lodging, per room-night</td>
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<td>150.00</td>
<td>$150.00</td>
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<td>Photocopies, per copy</td>
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<td>Blackline or Blueline Prints, per sheet</td>
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<tr>
<td>Bond or Vellum Reproductions, per sheet</td>
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<td>1.00</td>
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<tr>
<td>Mylar, per sheet</td>
<td></td>
<td>10.00</td>
<td></td>
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</tr>
<tr>
<td>Overnight Delivery, per package</td>
<td>20</td>
<td>20.00</td>
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<tr>
<td>Other</td>
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**SUBTOTAL ODC:** $315.00

### SUBCONSULTANTS:

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<tr>
<th>Item</th>
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<tbody>
<tr>
<td>Van Deusen &amp; Associates (Vertical Transportation Subconsultant)</td>
<td>$1,600</td>
</tr>
</tbody>
</table>

**SUBTOTAL SUBS:** $1,600

---

**Summary:**

- **LOADED RATES:** $35,524  
- **FIXED FEE:** $0.00  
- **TOTAL:** $35,524  
- **ODC:** $315  
- **ODC MULTIPLIER:** 1.00  
- **BUDGETED ODC:** $315  
- **SUBCONSULTANTS:** $1,600  
- **SUB MULTIPLIER:** 1.00  
- **BUDGETED SUBS:** $1,600  
- **COFC MULTIPLIER:** 0.0000%  
- **COFC:** $0.00

**TOTAL:** $37,439

---

**Printed:** August 15, 2012 09:55 AM
## ESTIMATE OF ENGINEERING FEES
### Task 2: Property and Utility Survey

**STV Proposal or Job Number:** 00-54233  
**Client Job Number:** RFP No. 635-12  
**Project Description/Location:** Pentagon City Metrorail Station Second Elevator Entrance  
**Client:** Arlington County

**Prepared By/Date:** TSF 06/04/12  
**Reviewed By/Date:** AWP 06/08/12

### Staff Hours by Classification

<table>
<thead>
<tr>
<th>PM</th>
<th>TM</th>
<th>Sr. A/E</th>
<th>A/E</th>
<th>Jr. A/E</th>
<th>Sr. CADD</th>
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<tr>
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<td></td>
<td></td>
<td>Cervantes and Associates</td>
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<td></td>
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<td>Cervantes and Associates</td>
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</table>

**Staff Hour Totals:** 0 0 4 16 0 0 0 20

**Hourly Payroll Rate:** $222.50  $169.73  $176.26  $124.62  $97.25  $86.00  $65.42

**Budgeted Costs:** $0  $0  $705  $1,994  $0  $0  $0

**Total Staff Costs:** $2,639

### Other Direct Costs (ODC) Estimate

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<tr>
<th>UNITS</th>
<th>UNIT COST</th>
<th>ITEM COST</th>
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<tr>
<td>Travel (mileage), per vehicle-mile</td>
<td>$ 0.555</td>
<td>$ -</td>
</tr>
<tr>
<td>Air Fare, per airline ticket</td>
<td>$ 600.00</td>
<td>$ -</td>
</tr>
<tr>
<td>Ground Transport (Metro)</td>
<td>$ 30.00</td>
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<tr>
<td>Meals, per person per day</td>
<td>$ 60.00</td>
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<tr>
<td>Lodging, per room-night</td>
<td>$ 150.00</td>
<td>$ -</td>
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<tr>
<td>Photocopies, per copy</td>
<td>50</td>
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<td>Blackline or Blueline Prints, per sheet</td>
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<td>Bond or Vellum Reproductions, per sheet</td>
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<tr>
<td>Mylar, per sheet</td>
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<td>$ 20.00</td>
<td>$ -</td>
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<tr>
<td>Other</td>
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**SUBTOTAL ODC:** $ 35.08

### Summary

| LOADED RATES: | $ 2,899 |
| FIXED FEE: | $ 0.000 |
| TOTAL: | $ 2,899 |
| ODC: | $ 35 |
| ODC MULTIPLIER: | 1.00 |
| BUDGETED ODC: | $ 35 |
| SUBCONSULTANTS: | $ 23,912 |
| SUB MULTIPLIER: | 1.00 |
| BUDGETED SUBS: | $ 23,812 |
| COFC MULTIPLIER: | 0.0000% |
| COFC: | - |

**SUBTOTAL SUBS:** $ 23,812

**TOTAL:** $ 26,546

printed: August 15, 2012 09:55 AM
# ESTIMATE OF ENGINEERING FEES

## Task 3: Data Collection

### STV Proposal or Job Number: 00-54233
### Project Description/Location: Pentagon City Metrorail Station Second Elevator Entrance
### Client: Arlington County
### Client Job Number: RFP No. 635-12

#### Design Assumptions:

**Prepared By/Date:** TSF 06/04/12
**Reviewed By/Date:** AWP 09/06/12

### Staff Hours by Classification

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**Staff Hour Totals:**

| 0 | 0 | 28 | 72 | 0 | 0 | 0 | 100 |

**Hourly Payroll Rate:**

| $225.50 | $188.73 | $176.36 | $124.62 | $97.25 | $86.89 | $65.42 |

**Budgeted Costs:**

| 0 | $4,936 | $8,973 | 0 | $0 | $0 | 0 |

**Total:** $13,911

### Other Direct Costs (ODC) Estimate:

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<th>Item Description</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Item Cost</th>
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<td>Ground Transport (Metrorail)</td>
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<tr>
<td>Lodging, per room-night</td>
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<td>150.00</td>
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<tr>
<td>Photocopies, per copy</td>
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<tr>
<td>Mylar, per sheet</td>
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<tr>
<td>Overnight Delivery, per package</td>
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<td>Other</td>
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**SUBTOTAL ODC:** $60.00

### SUBCONSULTANTS:

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<th>Item Description</th>
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<td>Van Deusen &amp; Associates (Vertical Transportation Subconsultant)</td>
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**SUBTOTAL SUBS:** $16,160

### Summary

**LOADED RATES:** $13,911

**FIXED FEE:** $0.0000

**TOTAL:** $13,911

**ODC MULTIPLIER:** $1.00

**BUDGETED ODC:** $60

**SUBCONSULTANTS:** $16,560

**SUB MULTIPLIER:** $1.00

**BUDGETED SUBS:** $16,560

**COFC MULTIPLIER:** 0.0000%

**COFC:** $0

**SUBTOTAL:** $30,531

*Printed: August 15, 2012 09:35 AM*
ESTIMATE OF ENGINEERING FEES
Task 4: Concept Plan & Cost Estimate Analysis to Replace Existing Elevator

STV Proposal or Job Number: 00-54233
Client Job Number: RFP No. 635.12
Project Description/Location: Pentagon City Metro Rail Station Second Elevator Entrance
Design Assumptions:

Prepared By/Date: TSF 06/04/12
Reviewed By/Date: AWP 06/08/12

Staff Hours by Classification

<table>
<thead>
<tr>
<th>Direct Labor Estimate</th>
<th>PM</th>
<th>TM</th>
<th>Sr. A/E</th>
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<th>Sr. CADD</th>
<th>Admin.</th>
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<td>Develop Preliminary Cost Estimate</td>
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<td>Decision Workshop with Arlington County</td>
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<td>20</td>
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<td>Develop Preliminary Design Concept</td>
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SUBCONSULTANTS:

| ITEM COST | |
|------------|-
| Van Deusen & Associates (Vertical Transportation Subconsultant) | \$ 7,250 |
| NAME / DESCRIPTION | |
| SUBTOTAL SUBS: | \$ 7,250 |
| TOTAL: | \$ 27,735 |

printed: August 15, 2012 09:55 AM
## ESTIMATE OF ENGINEERING FEES

### Task 5: Preliminary Engineering

**STV Proposal or Job Number:** 00-54223  
**Client Job Number:** RFP No. 635-12  
**Project Description/Location:** Pentagon City Metro/Rail Station Second Elevator Entrance  
**Client:** Arlington County

**Prepared By/Date:** TSF 06/04/12  
**Reviewed By/Date:** AWP 00/00/12

### Staff Hours by Classification

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### Approval of Final 30% Plans and Specifications

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### Summary

- Loaded Rates: $204,621
- Fixed Fee: $0.0000
- Total: $204,621
- ODC: $375
- ODC Multiplier: 1.00
- Budgeted ODC: $375
- Subconsultants: $15,700
- Sub Multiplier: 1.00
- Budgeted Subs: $15,700
- COFC Multiplier: 0.0000%
- COFC: $0.00

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**Total:** $220,696

Printed: August 15, 2012 09:55 AM
# ESTIMATE OF ENGINEERING FEES

## Task 6: Preliminary Construction Cost Estimate and Construction Schedule

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**Prepared By/Date:** TSP 06/04/12  
**Reviewed By/Date:** AWP 06/05/12

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<td>Included</td>
<td></td>
</tr>
</tbody>
</table>

**Staff Hour Totals:** 0 0 24 50 0 0 0 0 104  
**Hourly Payroll Rate:** $122.50  $188.73  $176.36  $124.62  $197.25  $86.89  $85.42

**Budgeted Costs:**  
- $0  
- $0  
- $4,233  
- $9,970  
- $0  
- $0  
- $0  
- $14,202

### Other Direct Costs (ODC) Estimate:

<table>
<thead>
<tr>
<th></th>
<th>UNITS</th>
<th>UNIT COST</th>
<th>ITEM COST</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel (mileage), per vehicle-mile</td>
<td>1</td>
<td>$0.555</td>
<td>$1,200.00</td>
<td>LOADED RATES: $14,202</td>
</tr>
<tr>
<td>Air Fare, per airline ticket</td>
<td>2</td>
<td>$600.00</td>
<td>$1,200.00</td>
<td>FIXED FEE: 0.0000</td>
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<tr>
<td>Ground Transport, vehicle per day</td>
<td>40.00</td>
<td></td>
<td></td>
<td>TOTAL: $14,202</td>
</tr>
</tbody>
</table>
| Meal, per person per day | 60.00 |          |           | ODC: $1,210  
| Lodging, per room night | 150.00 |          |           | ODC MULTIPLIER: 1.00  
| Photocopies, per copy | 100 | 0.10 | 10.00 | BUDGETED ODC: $1,210  
| Blackline or Blueline Prints, per sheet | 0.80 |          |           | SUBCONSULTANTS: $  
| Bond or Vellum Reproductions, per sheet | 1.00 |          |           | SUB MULTIPLIER: 1.00  
| Mylar, per sheet | 10.00 |          |           | BUDGETED SUBS: $  
| Overnight Delivery, per package | 20.00 |          |           | COFC MULTIPLIER: 0.0000% |
| Other | - | - | - | COFC: $  

**SUBTOTAL ODC:** $1,210.00

### SUBCONSULTANTS:

<table>
<thead>
<tr>
<th>NAME / DESCRIPTION</th>
<th>ITEM COST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>

**SUBTOTAL SUBS:** $15,412
ATTACHMENT “A”

FTA REQUIRED CERTIFICATIONS

SEISMIC SAFETY-CERTIFICATE OF COMPLIANCE
(To be submitted with a bid/proposal for the construction of new buildings or additions to existing buildings.)

The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

Date    February 16, 2012

Signature    Thomas S. Flournoy

Company Name    STV Incorporated dba STV Group Incorporated

Title    Thomas S. Flournoy, P.E., Vice President
ATTACHMENT "B"

CERTIFICATION REGARDING LOBBYING PURSUANT TO 49 CFR PART 20

APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING
(To be submitted with each bid or offer exceeding $100,000)

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned [Contractor] certifies, to the best of his or her knowledge and belief, that:

(1) No Federal 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.

(2) If any funds other than Federal 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 Federal
contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard
Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by
Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying

(3) The undersigned shall require that the language of this certification be included in the award
documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants,
loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this
transaction was made or entered into. Submission of this certification is a prerequisite for making or
entering into this transaction imposed by 31, U.S.C. § 1352 [as amended by the Lobbying Disclosure Act
of 1995]. 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.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails
to file or amend a required certification or disclosure form shall be subject to
a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or
failure.]
The Contractor, **STV***, 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.

**Signature of Contractor's Authorized Official**

Thomas S. Flournoy, P.E., Vice President  
Name and Title of Contractor's Authorized Official

February 16, 2012  
Date

*STV Incorporated dba STV Group Incorporated (STV)*
ATTACHMENT "C"

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

(To be submitted with each bid or offer exceeding $25,000)

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by Arlington County. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to Arlington County, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them or 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 statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.
Thomas S. Flournoy, P.E., Vice President

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

February 16, 2012

Date

☐ I am unable to certify to the above statements. My explanation is attached.
Purpose

Arlington County requested that Metro evaluate the feasibility of building a second elevator between the passageway and street on the west side of Hayes Street to improve accessibility to the station and serve the growing ridership demand. This report focuses on potential locations for the new elevator and conceptual plans for the recommended location.

Pentagon City Metrorail Station

The Pentagon City Metrorail station (Pentagon City station) is on Metro’s Blue and Yellow Lines (See Figure 1) and ranks second in highest ridership of the northern Virginia stations. The Pentagon City station is located under the northbound lanes of Hayes Street with a passageway connecting the station mezzanine to both sides of Hayes Street. The station has two side platforms with the tracks running in the center. There are two mezzanine-to-platform elevators, one for each side platform. On the east side there are two escalators and one elevator connecting the passageway to the street. On the west side there are two escalators connecting the passageway to the street. All passengers needing to use the street elevator must enter or exit the station on the east side.

<table>
<thead>
<tr>
<th>Station Access Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Entrance</td>
<td>2-escalators and 1-elevator between passageway and street</td>
</tr>
<tr>
<td>West Entrance</td>
<td>2-escalators between passageway and street</td>
</tr>
<tr>
<td>Underground Passageway</td>
<td>Connecting east and west entrances to station mezzanine</td>
</tr>
<tr>
<td>Existing Tunnel (not open)</td>
<td>Tunnel connecting existing passageway to the corner of 12th and Hayes Streets</td>
</tr>
</tbody>
</table>

The Pentagon City Metrorail station currently handles approximately 36,000 combined daily entries and exits on an average weekday, second only to the Rosslyn Metrorail station of the Northern Virginia stations. In the AM peak period, there are 5,916 entries and 2,198 exits. In the PM peak period, there are 5,211 entries and 8,272 exits. This represents a 13 percent growth in ridership since 2006.

<table>
<thead>
<tr>
<th>Table 2: April 2010 Weekday Ridership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>AM Off-Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
<tr>
<td>PM Off-Peak</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
The vast majority of station passengers arrive on foot. The Metro 2007 Rail Passenger survey found that 59% of passengers access the station by walking in the AM peak period while the remaining passengers arrive by bus (24%), private automobile (13%), bike (2%), taxi (1%) and other (less than 1%). These percentages are based on survey data and are approximate.

According to the 2008 Metro Station Access and Capacity Study the ridership is forecasted to increase to approximately 37,000 combined daily entries and exits on an average weekday by 2030. Given the 2010 ridership is nearing the 2030 forecast indicates ridership is growing faster than anticipated.

Table 3: Pentagon City Mode of Access, 2007

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Walk</th>
<th>Bus</th>
<th>Auto</th>
<th>Bike</th>
<th>Taxi and Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Period</td>
<td>3,490</td>
<td>1,420</td>
<td>770</td>
<td>118</td>
<td>118</td>
</tr>
<tr>
<td>Percentage</td>
<td>59%</td>
<td>24%</td>
<td>13%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Metro 2007 Metrorail Passenger Survey
Note: AM Peak Period from 5:30AM-9:00AM

New Elevator

Access Improvements

Current Metro design criteria require two elevators between all levels of a station to maintain access for passengers using a wheelchair or passengers with strollers and luggage in the event that one elevator is shut down for repairs or maintenance. This design criteria applies to new stations or existing stations undergoing major expansion.

Though the Pentagon City station does not meet this threshold for a second elevator between the passageway and street other important factors that need to be considered are passenger accessibility and convenience along with elevator maintenance and reliability. Additional elevator service would be more convenient for those passengers requiring an elevator particularly passengers accessing the station from the west. Today, those passengers must use the elevator on the east side of Hayes Street which requires crossing Hayes Street, a busy six-lane roadway, and backtracking through the passageway to the station entrance. This route could increase the passenger travel time several minutes in each direction.

In addition, elevators go out-of-service for scheduled maintenance and unscheduled repairs. Between August 2009 and 2010 there were 13 elevator outages resulting in approximately 24 out-of-service hours. Today, if the existing elevator is out-of-service passengers needing the elevator must travel to a nearby station where Metro provides a shuttle bus service back to the Pentagon City station. This results in passengers being delayed in reaching their destination and increased Metro operating costs to provide this service. A second elevator would minimize the need for this shuttle bus service thereby reducing operating costs.
Occasionally, and without much warning the Pentagon closes the Pentagon Bus Facility. During these times, the bus service is relocated to Pentagon City greatly increasing the overall station demand including the elevator usage. A second elevator between the street and passageway would increase the overall access to the Pentagon City station and better accommodate these additional passengers.

**Capacity and Demand**

This study addressed the existing elevator capacity and demand. In general, the elevator capacity between the passageway and street at the Pentagon City station was not seen as an issue given the new elevator would serve an existing station entrance rather than a new entrance. To verify this assumption an elevator capacity analysis and site visit were conducted.

The elevator capacity analysis (See Appendix) shows that one new elevator would serve approximately 334 people in a 30-minute period based on the higher-speed, larger capacity traction elevator. A larger capacity hydraulic elevator would also serve the same number of people. However, the smaller existing hydraulic elevator only serves 224 people in a 30-minute period. The main advantages of a traction elevator are the higher-speed and the opportunity to locate the elevator equipment on top of the elevator head house.

Traction powered elevators can travel up to 400 feet per minute while hydraulic elevators travel 150 feet per minute. Hydraulic elevators are the existing Metro standard for locations with less than a 50-foot rise. This standard is based on economic and performance factors. The hydraulic elevator offers costs savings of approximately $100,000. In addition, the higher-speed benefit of the traction elevator is not fully realized for short vertical rises.

At the Pentagon City station the distance between the passageway and street is approximately 26-feet. Based on Metro standards a hydraulic elevator would be appropriate. At this distance the round trip travel time for the traction elevator would be 10 seconds less than the hydraulic elevator which represents less than 10% travel time savings.

A site visit was conducted in May 2010 during the PM peak half-hour period (5:00 PM - 5:30 PM) to assess the current elevator usage. Thirty-five people were observed using the elevator (twenty-five people entering and ten people exiting the station). Several people were in wheelchairs and others were pushing strollers. While these numbers represent a modest elevator demand these people clearly relied on the elevator to meet their access needs.

Based on the capacity of a new elevator and the existing demand one new elevator would be sufficient to accommodate the elevator demand. This new elevator would ensure elevator access at all times, accommodate the additional passengers during Pentagon Bus Facility closures and minimize the need for bus shuttles when the elevator is out-of-service.
Alternative Locations

The location of the new elevator is largely determined by the location of the existing passageway, particularly in the north/south direction since the elevator vestibule must align with the passageway either on the north or south side. Locating the new elevator on the north side of the passageway corresponds to the new elevator being in the general area of the pedestrian path for people crossing Hayes Street on the plaza. Locating the new elevator on the south side of the passageway provides the opportunity to shift the elevator closer to the escalator parapet on the plaza, outside of the main pedestrian path.

Alternative 1 considers one new elevator on the north side of the passageway. In general, this alternative would require:

- Cutting through the existing passageway wall
- Excavating for the new elevator shaft, elevator vestibule and elevator machine room
- Installing the elevator and associated equipment
- Installing the interior finishes for the elevator vestibule
- Repaving the sidewalk around the elevator on the plaza
- Relocating bicycle lockers and racks on the plaza

Alternative 1 includes a separate machine room located adjacent to the new elevator at the passageway level. This configuration would be applicable for both the hydraulic and traction elevators. There are traction elevators that locate the elevator equipment on top of the elevator head house. These ‘machine-room-less’ elevators are more difficult to maintain due to the equipment location and space constraints. At Pentagon City a ‘machine-room-less’ traction elevator would require maintenance staging to occur on the plaza potentially impacting pedestrian flow. For these reasons, Metro’s elevator maintenance staff prefers a separate machine room. Alternative 1 shows the machine room adjacent to the elevator on the passageway level, requiring 26-feet of excavation for this space; this represents a conservative approach. However, there is flexibility in locating the machine room and as the design advances other potential locations could be identified.

The elevator including the waiting areas shown in Alternative 1 would require approximately 200 square feet on the plaza and approximately 600 square feet for the elevator, associated mechanical room and vestibule on the passageway level.
Alternative 2 considers a new elevator on the south side of the passageway in existing Metro service rooms. This alternative would utilize existing space thereby requiring less excavation. However, it would require relocating train control and communications equipment. This equipment is vital to Metrorail operations, therefore a replacement location and equipment would have to be constructed, tested and operational before the existing systems could be demolished. The costs for reconstruction would be upwards of $15 Million. This estimate is largely based on costs for relocating the train control equipment at the Silver Spring Metro station in support of the new Transit Center currently under construction. This cost was considered prohibitive and as a result Alternative 2 was eliminated from further consideration.

Figure 3, 4 and 5 show the conceptual plans for Alternative 1.
Figure 2: Existing Conditions - Passageway/Mezzanine Level
NOTES:
1. Existing bike racks, bike lockers and bus shelters to be relocated.

2. Pentagon City Multimodal Improvement Project (South Hayes Street)

Figure 4: Proposed Elevator - Street Level

Scale: NTS
Order of Magnitude Cost Estimates

The order of magnitude cost estimate for the new elevator between the passageway and street at the Pentagon City station is shown in Table 2. The total project cost is estimated to be $2.6 Million (2009 dollars) including both ‘hard’ construction costs and ‘soft’ costs (e.g. design and engineering, administration and insurance/bond costs). This estimate is only preliminary and includes many assumptions. The range of accuracy at this conceptual level is -10% to +40%. Factoring in this cost range, results in a total project cost between $2.3 - $3.6 Million (2009 dollars).

This estimate is based on a traction elevator with a separate machine room which represents the more conservative estimate.

<table>
<thead>
<tr>
<th>Element</th>
<th>Cost (FY09$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demolition and Excavation</td>
<td>$400,000</td>
</tr>
<tr>
<td>Elevator Shaft and Interior Build-out</td>
<td>$583,100</td>
</tr>
<tr>
<td>Elevator - High Speed Electric</td>
<td>$641,700</td>
</tr>
<tr>
<td>Communications System Integration</td>
<td>$87,400</td>
</tr>
<tr>
<td>Utility and Sitework at Street Level</td>
<td>$50,900</td>
</tr>
<tr>
<td>Labor Costs</td>
<td>$145,200</td>
</tr>
<tr>
<td>Total Hard Cost</td>
<td>$1,908,300</td>
</tr>
<tr>
<td>Soft Costs: Design/Engineering (10%); Project Administration (10%); Construction Support (10%); and Insurance/Bond (15%)</td>
<td>$667,905</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,576,205</strong></td>
</tr>
</tbody>
</table>

*Notes: A hydraulic elevator would result in cost savings on the order of $100,000. The utility relocation estimate presents an allowance, not a detailed estimate.*

Environmental Screening

This study assumes that Federal funds will be used to construct the new elevator at the Pentagon City station. Initially, it was anticipated that a documented Categorical Exclusion (CE) would be the appropriate level of NEPA analysis given no major impacts were anticipated. However, Arlington County has already received a CE from FTA for this project and no further environmental review is anticipated. The issue of whether a Metro Compact Public Hearing would be required was raised. Metro staff has confirmed that a Compact public hearing would be not required for a new elevator at the Pentagon City station.

Next Steps

The next steps involve initiating the design for the new elevator to a level appropriate for a design build contract and securing funding for construction of the new elevator.
## Appendix
### Elevator Capacity Analysis

<table>
<thead>
<tr>
<th>Passengers Per Elevator Car (entering and exiting station, 15 each direction)</th>
<th>New Traction Elevator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger unloading top (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Passenger loading top (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>5.20</td>
</tr>
<tr>
<td>Leveling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
<tr>
<td>Passenger unloading bottom (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Passenger loading bottom (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>5.20</td>
</tr>
<tr>
<td>Leveling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
<tr>
<td>Round trip time =</td>
<td>83.40</td>
</tr>
<tr>
<td>Number of Elevators</td>
<td>1</td>
</tr>
<tr>
<td>Entering</td>
<td></td>
</tr>
<tr>
<td>Passenger capacity per 30 minutes (entering)</td>
<td>324</td>
</tr>
<tr>
<td>Exiting</td>
<td></td>
</tr>
<tr>
<td>Passenger capacity per 30 minutes (exiting)</td>
<td>324</td>
</tr>
<tr>
<td>Interval Between Elevators</td>
<td>83.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passengers Per Elevator Car (entering and exiting station, 15 each direction)</th>
<th>New Hydraulic Elevator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger unloading top (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Passenger loading top (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>10.40</td>
</tr>
<tr>
<td>Leveling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
<tr>
<td>Passenger unloading bottom (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Passenger loading bottom (sec)</td>
<td>15.75</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>10.40</td>
</tr>
<tr>
<td>Leveling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
<tr>
<td>Round trip time =</td>
<td>93.80</td>
</tr>
<tr>
<td>Number of Elevators</td>
<td>1</td>
</tr>
<tr>
<td>Entering</td>
<td></td>
</tr>
<tr>
<td>Passenger capacity per 30 minutes (entering)</td>
<td>324</td>
</tr>
<tr>
<td>Exiting</td>
<td></td>
</tr>
<tr>
<td>Passenger capacity per 30 minutes (exiting)</td>
<td>324</td>
</tr>
<tr>
<td>Interval Between Elevators</td>
<td>93.80</td>
</tr>
</tbody>
</table>
Appendix (Cont'd)
Capacity Assumptions

Traction Elevator (High-Speed)

<table>
<thead>
<tr>
<th>Step</th>
<th>Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boarding/Alighting Per Passenger (sec)</td>
<td>1.05</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>5.20</td>
</tr>
<tr>
<td>Levelling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>5.20</td>
</tr>
<tr>
<td>Levelling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
</tbody>
</table>

Hydraulic Elevator (Lower-Speed)

<table>
<thead>
<tr>
<th>Step</th>
<th>Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boarding/Alighting Per Passenger (sec)</td>
<td>1.05</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>10.40</td>
</tr>
<tr>
<td>Levelling time (sec)</td>
<td>1.00</td>
</tr>
<tr>
<td>Doors opening (sec)</td>
<td>1.50</td>
</tr>
<tr>
<td>Doors closing (sec)</td>
<td>2.50</td>
</tr>
<tr>
<td>Travel time (sec)</td>
<td>10.40</td>
</tr>
<tr>
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<td>Doors opening (sec)</td>
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* Based on WMATA Design Manual

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<tr>
<th>Pentagon City Station 2030 Ridership Forecast</th>
<th>Half Hour Peak Ridership</th>
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