

**ARLINGTON COUNTY, VIRGINIA**

**AGREEMENT NO. 18-089-9  
TASK ORDER NUMBER 5**

This Task Order Number 5 is made on October 11, 2021 by the County and amends Agreement Number 18-089-9 ("Main Agreement") dated June 10, 2019 between STV incorporated, dba STV Group Incorporated ("Contractor") and the County Board of Arlington County, Virginia ("County").

The County and the Contractor agree to amend the Main Agreement as follows by adding Task Order No. 5, titled: Bus Bay Expansion at East Falls Church Metrorail Station Final Design Services.

1. The Contractor shall prepare Design Documents in accordance with Tasks 1 through Task 10 as described in the attached Scope of Work and STV fee proposal dated September 15, 2021;
2. The Task Order Amount shall be Not-to-Exceed \$\$2,289,646.95;
3. This Task Order shall also constitute as the Notice to Proceed upon the execution by the County and the Contractor;
4. The Period of Performance shall no exceed Four Hundred Fifty-five (455) consecutive calendar days from Item No. 3.

All other terms and conditions of the Main Agreement remain in effect.

WITNESS these signatures:

THE COUNTY BOARD OF ARLINGTON  
COUNTY, VIRGINIA

STV GROUP INCORPORATED

AUTHORIZED: DocuSigned by:  
SIGNATURE: *Dr. Sharon T Lewis*  
89B86B1AD301462...  
NAME: DR. SHARON T LEWIS  
TITLE: PURCHASING AGENT  
DATE: 10/20/2021

AUTHORIZED: DocuSigned by:  
SIGNATURE: *Jose Bustamante*  
BC3F0C7D0E1A419...  
NAME: Jose Bustamante  
TITLE: Vice President  
DATE: 10/19/2021





DEPARTMENT OF ENVIRONMENTAL SERVICES

Division of Transportation

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## Scope of Work

### Bus Bay Expansion at East Falls Church Metrorail Station Final Design Services Task Order #5 Under Agreement #18-089-9

#### **I. Introduction**

The Arlington County Department of Environmental Services, Division of Transportation is seeking consultant services, as a task order assignment under Agreement #18-089-9, to finalize the design of a preferred concept at the WMATA East Falls Church Metrorail Station. This work will be done in coordination with Washington Metropolitan Area Transit Authority (WMATA) and will have to meet the latest WMATA Manual of Design Criteria, WMATA's Adjacent Construction Project Manual, ADA requirements and other applicable federal, local, and state codes.

The bus loop is located at the intersection of N. Sycamore Street and Washington Boulevard, with the entrance/exit located on N. Sycamore Street. Adjacent to the loop is the WMATA Park-and-Ride lot, which serves the East Falls Church Metrorail Station. This project will expand bus bay capacity by adding up to three new bus bays and replacing the existing bus shelters. The project will also replace the signal at the bus loop entrance/exit and include pedestrian access improvements from the Metro Park-and-Ride lot, improvements to the accessible parking access, and the possible addition of a signal and crosswalk at the entrance to the park-and-ride lot on Washington Boulevard. The project will be coordinated with Arlington County's complete streets program and signal improvements on N. Sycamore Street as well as a Capital Bikeshare expansion project in the area, in both Arlington and City of Falls Church.

#### **II. Project Schedule**

The Contractor's services shall be required immediately after issuance of the task order award and Notice to Proceed (NTP) authorization, which is anticipated in September 2021. The Contractor shall submit a detailed baseline project schedule which is compatible with, and easily incorporated into, the County's Microsoft Project master project schedule. This deliverable shall be delivered in Microsoft Project and PDF file formats. The schedule prepared by the Contractor shall include durations and predecessors to set start and finish dates, with milestones clearly identified. The actual project schedule

shall be tracked by the Contractor for comparisons with the baseline project schedule and submitted monthly to the County Project Officer.

Unless otherwise notified in writing by the County Project Officer, the total duration of design services from the County's NTP to completion of Tasks 1 through 9 shall not exceed 365 consecutive calendar days. Contractor's task schedule shall include review times for County and WMATA staff of not less than 30 calendar days for each set of deliverables defined for Tasks 1 through 9.

### **III. GRANT FUNDED PROJECT**

This task is funded in part by grants from the Virginia Department of Rail and Public Transportation (DRPT) and the Northern Virginia Transportation Commission (NVTC). The Contractor is responsible for ensuring its compliance with all applicable DRPT and NVTC requirements including the following:

- A. The Contractor, their agents and employees shall comply with all covenants and provisions of the Virginia Department of Rail and Public Transportation (DRPT) Master Agreement for the Use of Commonwealth Transportation Funds with the County Board of Arlington County VA dated May 30, 2012 and shall be made expressly a part of any subcontracts executed by the Contractor and shall be binding on all subcontractors, vendors, their agents and employees.
- B. The Contractor shall name NVTC and its Bond Trustee, the Commonwealth of Virginia, the Commonwealth Transportation Board, DRPT, the Virginia Department of Transportation and their officers, employees and agents as additional insureds on any insurance policy issued for the Work to be performed, and present satisfactory evidence of insurance coverage before commencing with any Work, so that they are protected for losses to the extent caused by the negligence or willful misconduct of such entity or person, from third party claims that are directly related to or arise out of: (a) any failure by the Contractor to comply with, to observe or to perform in any material respect any of the covenants, obligations, agreements, terms or conditions in this Task, or any breach by Contractor of its representations or warranties in this Task; (b) any actual or willful misconduct or negligence of the Contractor, its employees or agents in direct connection with the Work; (c) any actual or alleged patent or copyright infringement or other actual or alleged improper appropriation or use of trade secrets, patents, proprietary information, know-how, trademarked or service-marked materials, equipment devices or processes, copyright rights or inventions by the Contractor in direct connection with the Work; (d) inverse condemnation, trespass, nuisance or similar taking of harm to real property committed or caused by the Contractor, its employees or agents in direct connection with the work; or (e) any assumed liabilities.

### **IV. BACKGROUND**

With the existing Metrorail Silver Line service and the projected opening of the Silver Line Phase 2 project, the East Falls Church Metrorail Station is expected to have additional local and commuter bus service. East Falls Church Metrorail Station is the first station where the Silver Line joins the Orange Line. This station will become an important transfer point for both rail and bus riders. The existing bus loop is at or just above capacity for the existing bus service. To accommodate any growth in service, reconfiguration of the bus loop is necessary to provide additional capacity.

In 2015, WMATA in coordination with the County completed a station bus facility study using AECOM consultants to assess the existing conditions of the Bus Loop, Park & Ride Lot, and adjacent sidewalks and roadways. The final East Fall Church Station Bus Facilities Study report included four (4) alternative design concepts, which added different number of bus bays to improve bus throughput, layover, and accommodate future services. The report also identified ways of enhancing the adjacent pedestrian and bicycle network. These concepts were based on low, medium, and high investments.

In 2020, the County initiated a new study to develop two (2) alternative design concepts and project cost estimates for the Bus Bay Expansion at East Falls Church Metrorail Station. The new alternatives complemented the four (4) existing alternatives developed in 2015 study. The East Falls Church Bus Bay Expansion Study Report dated July, 2021, included a comparison of all alternatives. The preferred concept from the 2021 study will be used as the concept to advance to final design under this task order assignment.

WMATA owns the Metrorail station, the bus loop, and a section of the Park-and-Ride lot. Another section of the Park- and-Ride lot is owned by the Virginia Department of Transportation (VDOT) but WMATA has an easement for transit purposes. No coordination with VDOT for work in the Park-and-Ride lot is expected. Arlington County owns and operates the traffic signals in the project area. The project will coordinate with VDOT any impact to the vehicular and pedestrian flow between I-66 ramp and N. Sycamore street and impact to VDOT structures, including roadway signs and information system.

Other ongoing projects in the area include the following:

- Transform I-66
- Signal replacement at Washington Blvd and N. Sycamore Street
- Signal study at WMATA Parking Lot entrance on Washington Boulevard sidewalk improvements along N. Sycamore Street
- Bike station project on Kiss-and-Ride Lot
- Envision Route 7 Bus Rapid Transit

## **V. SCOPE OF SERVICES**

This scope of services outlines the requirements to develop the final design of a preferred option for the Bus Bay Expansion at East Falls Church Metrorail Station. The design must comply with County, WMATA, VDOT, and other local, state, and federal codes/requirements. Contractor shall be responsible for the successful execution of the following tasks and deliverables, which include:

- General Requirements
- Task 1: Project Management and Administration
- Task 2: Data Collection, Site Investigation and Property and Utility Survey Design
- Task 3: Environmental Documentation
- Task 4: 30% Design Plans
- Task 5: Final Design and Construction Bid Documents
- Task 6: Construction Schedule and Construction Cost Estimate
- Task 7: Construction Procurement Services
- Task 8: Construction Administrative Services
- Task 9: Public Involvement

## **A. General Requirements**

The Contractor's work will be managed through Arlington County's Transit Bureau in the Department of Environmental Services. A Project Officer will be designated by the County and will be responsible for overall coordination and communications of all project elements, both internal and external to the County, including WMATA.

The Contractor must coordinate with County staff to confirm requirements; review available drawings, reports, and other documentation pertaining to the site. The Contractor shall promptly notify the County Project Officer if requirements for any additional work are identified and secure written approval before commencing any work.

WMATA shall participate in the review of the design as well as comment upon or request changes to the plans. WMATA will designate a Project Manager who will be responsible for the coordination of and communications to/from WMATA departments involved in the review and approval of the design as well as subsequent requests for information, comments, and responses. The Contractor shall be responsible for preparation of all reports, meeting documents, meeting minutes, design plans, technical analysis, cost and schedule estimates.

Unless approved otherwise by the Project Officer, the Contractor shall deliver all deliverables and provide access to electronic copies via Procore, a cloud-based project management system. Deliverables shall include drafts and final submission of all design documents and reports. The Contractor shall expect up to two (2) rounds of review on all submissions- draft and final. All deliverables must be delivered in Microsoft Word and/or PDF format with searchable text functions. The Contractor must also deliver all final design documents in their native file format, such as AutoCAD. The Project Officer reserves the right to request electronic copies, at any time during the project, of any deliverable in their native file format, which include but is not limited to Microsoft Word, Excel, and Power Point.

The Contractor shall furnish all staff, labor (including any required professional disciplines), materials, and equipment to perform all operations in connection with scope of services herein.

The Contractor shall be responsible for the following:

- Provide personnel, budget, and schedule control; preparation and transmittal of document deliverables; respond to questions and requests by Arlington County and WMATA; and resolution of design review comments.
- Review and adoption of applicable criteria, codes, and regulations including but not limited to National Fire Protection Association (NFPA) standards, Americans with Disabilities Act (ADA) regulations and rules, and all appropriate state and local agencies and utility companies; and
- Provide project status at the bi-weekly meeting, or as frequently as necessary.

Some of this work shall require the Contractor to secure permission and coordinate WMATA access from the WMATA Office of Joint Development and Adjacent Construction.

All work will conform to the following WMATA and other manuals, guidelines and documents, as applicable to this task order:

- WMATA Manual of Design Criteria (latest version)
- WMATA Adjacent Construction Project Manual (ACPM) (latest version)

- WMATA CAD Standards Manual (latest version)
- WMATA Metrobus Station Customer Service Bus Stop Amenity Reference Guide
- WMATA Surveying and Mapping Guidance
- ADA Standards
- NACTO Guidelines
- National Fire Protection Association (NFPA)
- State, county, federal and all other appropriate codes

## **B. Task 1: Project Management**

The Contractor shall appoint a Project Manager who will be the primary point of contact with Arlington County's Project Officer. The Contractor's Project Manager shall be responsible for preparing and presenting the following items.

### Project Management Plan

A Project Management Plan (PMP), inclusive of Staffing Plan, Work Schedule, and Quality Assurance/Quality Control (QA/QC) Manual for accomplishing the deliverables associated with Tasks 1 through 3 for approval by the County Project Officer. The PMP shall include, but is not be limited to, specific provisions for bi-weekly meetings, written monthly progress reports, meeting agendas and minutes, projected submissions including dates, quality control reviews, document management, design schedule, project budget, and any other appropriate management information to assure a successful engagement in meeting the County's needs.

### Staffing Plan

The Staffing Plan shall list Contractor staff who will be working on this task order, their title and role, and the expected responsibilities for each task. The Contractor shall develop and maintain a comprehensive Work Schedule that identifies timeframes for each task milestone and deliverable within the duration of this task order. The Contractor shall track progress based on deliverables completed, in progress, and needing to start. The Contractor shall also provide estimates to complete outstanding activities. The design progress shall be tracked against the baseline project schedule and submitted to the County Project Officer as part of the monthly progress report.

### Quality Plan

The Quality Assurance/Quality Control (QA/QC) Manual shall provide guidelines and procedures for QA of calculations, deliverables and other materials submitted to the County Project Officer; and shall define functions procedures and responsibilities related to the design effort. The Contractor shall update the QA/QC Manual as needed to accommodate project changes. The Contractor shall employ quality assurance measures and documentation per the Project Officer approved guidelines throughout the project.

### Design Coordination Meetings

The Contractor must prepare and maintain meeting agendas, attendance sheet, and minutes. The Contractor must participate at the concept design Kick-Off Meeting to discuss and coordinate the work described in Tasks 1 through 9. The Contractor must conduct Design Coordination Meetings with the County and others on a bi-weekly basis, or as frequently as necessary, to review progress on the technical work and resolve issues affecting completion of the design. Meeting minutes must be

prepared by the Contractor, approved by the County Project Officer, and distributed by the Contractor within five (5) business days of each meeting. WMATA will provide representatives who will attend all meetings they deem appropriate for their participation. These meetings will be held at the offices of Arlington County's Department of Environmental Services.

### Project Administration

The Contractor must manage, and track documents generated as part of this task order including but not limited to reports, schedule and cost estimates, diagrams, drawings, plans, calculations, specifications, and written project correspondence. The Contractor shall be responsible for ensuring that all deliverables required as part of the project contract are delivered to the Project Officer.

The Contractor must prepare and submit monthly invoices, with progress summary/reports, to the County Project Officer. The monthly progress report shall include the following information: accomplishments, deliverables, important meetings, budget performance, schedule adherence, percentage of tasks completed, and current issues relating to budget, schedule and other project management issues. The County Project Officer shall approve the format of this report.

The Contractor must prepare and submit each month an earned value project report with a summary and estimated completion of the project showing each of the Tasks 1 through 9. Each task will be tracked against a baseline cumulative spend plan on a monthly basis and included in the project report.

### **Task 1 Deliverables**

#### 1.1 Project Management Plan (draft and final)

- Work Schedule (draft and final)
- Staffing Plan (draft and final)
- Quality Assurance/Quality Control Manual (draft and final)

#### 1.2 Agenda, Attendance Sheet and Minutes of Biweekly Coordination Meetings

#### 1.3 Monthly Progress Reports and Monthly Invoices

#### 1.4 Project Management Reporting

### **C. Task 2: Data Collection, Site Investigation and Property and Utility Survey Design**

The existing project site contains infrastructure owned and operated by multiple major stakeholders including but not limited to, WMATA, Arlington County, VDOT, and Dominion Energy. The Contractor will conduct a complete field survey of the project site to include identifying the existing roadway geometry, property lines, existing underground and overhead utilities, any existing infrastructure, and topographical information. It has been determined that a subsurface utility investigation shall be required.

### Prepare Site Specific Work Plan (SSWP)

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



### Perform Site Investigation

The Contractor will complete a site investigation to confirm existing conditions and survey. This site investigation will assess and document the current configurations through photographic inventory and field observation notes. Technical staff representing each of the relevant disciplines required to execute the project will attend the site visit, including civil engineering, architecture, structural engineering, electrical engineering, vertical transportation, and traffic engineering.

### Geotechnical Investigation

The Contractor will review existing available data for subsurface soils conditions. The findings of our review will be based on the data from the most recently available geotechnical report.

Existing information will be collected and used as a cost-saving effort. If it is determined that the most recently available geotechnical data is out of date or that subsurface changes may have occurred as a result of utility work or other construction in the vicinity since the last available borings were completed, additional geotechnical borings may be required to confirm and supplement available data.

Contractor shall provide cost proposal for additional borings and geotechnical lab analysis as an optional task within this scope of services. If additional geotechnical investigation and borings are determined to be necessary, Arlington County will direct the Contractor to proceed with any additional work.

### Perform Topographic and Utility Surveys

The Contractor will confirm information from the preliminary engineering phase of the project. Our subconsultants will also perform a new field survey to capture any of the recent changes that have occurred in the expanded project area. This survey update will be used to develop the final design drawings. The Contractor shall provide cost proposal for test-pits to locate utilities. If Arlington County decides to proceed with this work, Arlington County will direct the Contractor to proceed with any additional work.

### As-Built Drawing Data Collection

The Contractor will coordinate with Arlington County, WMATA, & VDOT to obtain any necessary as-built information important to the project design intent. The Contractor will coordinate with VDOT to obtain as-built information of the critical ITS infrastructure located within the vicinity of the project site. The Contractor will utilize this information to avoid any redesigns of VDOT ITS infrastructure, thus further complicate the design. If it is determined that the existing VDOT ITS infrastructure will be impacted, an additional scope and fee may be required.

In addition, the Contractor will coordinate with Arlington County to obtain existing traffic signal and roadway lighting infrastructure adjacent to the WMATA project site. This pertinent information will be used to determine the ability to reuse conduit and cabinets in accordance with NEC requirements. If as-builts cannot be obtained from Arlington County and/or VDOT an additional fee may be required to reconstruct the signal and roadway lighting independent from the existing system. A separate task order will be issued for the work related to reconstruction of the signal at the bus loop entrance.

The Contractor will coordinate further with WMATA to obtain any existing site lighting/parking lighting as-built information. It has been determined that as-built information will be required to be able to retain the existing site lighting within the footprint of the project. If no as-builts are present and conduit fill capacities cannot be identified and confirmed, a supplemental scope of work and fee estimate may be required to design the site lighting independent of the existing lighting network.

#### Documentation of Data Collection

The Contractor will document the data collected and assemble this information into a concise file for future reference. Information having a direct bearing on design decisions will be identified by The Contractor. 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 plans for the project.

#### **Task 2 Deliverables**

- 2.1 Topographic, Property Line, and Subsurface Utility Location Survey
- 2.2 Subsurface Utility Investigation Report
- 2.3 Borings Report (Optional Task)

#### **D. Task 3: Preliminary Design Phase**

##### Preliminary Design

The Contractor shall facilitate a meeting to further review the preferred concept to enhance pedestrian circulation around the site and improve bicycle, vehicle, and bus interaction along N. Sycamore Street and at bus loop entrance prior to initiating the Preliminary Design Phase. The Contractor will also incorporate the data collected from Task 2 into the preferred alternative conceptual design and will use the data to advance the concept into a 30% Preliminary Design Plan. All site plans will utilize AutoCAD and will follow the Arlington County CAD Standards. All sheet sizes will be 24" x 36" and will follow Arlington County's Site Plan Review Process. Each discipline may have their own scale identified on each plan sheet in accordance with that discipline's standard drawing size as defined by the accompanied standard.

Designs will be in accordance with WMATA standards and specifications if within WMATA's immediate facility; and Arlington County and/or VDOT standards for any adjacent roadway/traffic infrastructure improvements that may be required as part of the design dependent upon the property line locations.

The Contractor shall perform the necessary engineering tasks to develop and document the preliminary design to include the specifications and drawings encompassing the following systems or disciplines:

- Civil Engineering, including site plan
- Architectural Design, including electrical
- Structural Engineering, including foundation/connections bus shelters, signage, and information system
- Systems Engineering
- Traffic Engineering and Analysis
- Landscape Design

### Preliminary Traffic Analysis

A traffic study will be prepared to evaluate and document the traffic operational impacts associated with the proposed changes to the intersections of bus loop entrance/exit across from the I-66 off-ramp and the Park-and-Ride entrance along N. Sycamore Street.

The preferred concept includes limited changes related to the roadway geometry and the associated traffic/transit operations along N. Sycamore Street. Therefore, the traffic study will be limited to the following intersections along N. Sycamore Street:

- N. Sycamore Street at 19th Street N (signalized)
- N. Sycamore Street at Bus Loop Entrance/I-66 Off Ramp (Signalized)
- N. Sycamore Street at Park-and-Ride (Right-In/Right-Out Only)
- N. Sycamore Street at Washington Boulevard

As shown above, the study area for traffic analysis captures one signalized intersection on either side of the proposed changes to the bus loop entrance and the Park-and-Ride lot entrance.

The Contractor will work with the County and/or VDOT to gather information regarding existing traffic counts and traffic signal timing information. The traffic analysis will be conducted for the following three scenarios:

Scenario	Traffic Volumes	Other Parameters
Existing Conditions	Pre-COVID traffic counts to be provided by County and/or VDOT (adjusted based on agreed upon adjustment factors, if needed)*	Traffic signal timings to be provided by County (Synchro files)
Future No Build**	Projected traffic volumes based on historic/simple growth rate; Projected bus route frequency and/or number of exiting buses (provided by County/WMATA)	Traffic signal timings may be adjusted/optimized, as needed
Future Build**	Same as No Build	Traffic signal timings may be adjusted/optimized, as needed

\* As an option, County and/or VDOT may request to conduct intersection turning movements at the study area intersections. The Contractor shall provide a cost proposal as an optional task for these counts. Arlington County will determine if these counts are needed and may direct the Contractor to proceed with additional work.

\*\* Future buildout year to be determined.

All the traffic analyses will be performed consistent with VDOT's Traffic Operations and Safety Analysis Manual (TOSAM) Version 2.0 and assumed to use Synchro software (version 10 or higher). Each analysis scenario would consist of AM and PM peak hour analysis and will include the following intersection-level measures of effectiveness for all study area intersections:

- Movement/approach/overall delay/Level of Service
- Average/maximum approach queues

Based on the above, appropriate traffic signal timing (phasing/splits/off set) and turn lane storage length recommendations will be made. A separate task order will be issued for the work related to reconstruction of the signal at the bus loop entrance.

A traffic analysis technical memorandum will be prepared to summarize the evaluations and recommendations. For scoping purposes, two (2) rounds of review comments are assumed on the draft technical memorandum. Each round of review is expected to provide the Contractor a consolidated set of comments (County, VDOT, and WMATA).

Note that the above scope has been developed without the benefit of a pre-scoping meeting with VDOT traffic engineering staff and their input. If substantial changes and/or additional analyses are required, this scope (and the associated effort) will need to be revised accordingly.

#### Preliminary Utility Coordination

The Contractor will work with the County to gather information from and to coordinate with utility companies that will potentially be affected by the Project. Task elements include:

- Arlington County will be responsible for initiating a work request through Dominion Energy (DE). The Contractor will then coordinate directly with DE for utility concerns and potential power source identification.
- Request record utility information from the various entities that have existing assets in the Project area.
- Project area including Arlington County, WMATA, Dominion Virginia Power, Verizon, Comcast, Washington Gas, various fiber optic companies, as well as any other utility owners/operators.
- Conduct one initial meeting with utility owners/operators to introduce the Project and gather information on any proposed upgrades or improvements those owners may have planned.
- As the project nears the 30% design completion stage, conduct one follow-up meeting with utility companies to inform them of the progress on the project and the need for any technical support to help evaluate existing conditions.
- The Contractor shall participate in 3 County's Utility Coordination Meetings, which have monthly frequency.

#### Preliminary Construction Cost Estimate and Schedule

The Contractor shall prepare an itemized estimate of the cost of the project consistent with the documentation provided from Tasks 2 and 3. The cost estimate shall include general conditions, special provisions, mark-ups, and fees.

The Contractor shall provide a schedule of activities and time required for actions associated with procurement, mobilization, submittals, equipment fabrication and delivery, construction, testing, acceptance, certification, and closeout documentation. Include as appropriate, specific milestones for the construction as well as those required for coordination of the project with VDOT and WMATA.

#### **Task 3 Deliverables**

- 3.1 Traffic Technical Memorandum
- 3.2 Preliminary Design of Preferred Alternative
- 3.3 Preliminary Construction Cost Estimate
- 3.4 Preliminary Construction Schedule

**E. Task 4: Environmental Documentation**

Because the Project includes a modification of WMATA station facilities and station access, an Environmental Evaluation (EE) will be required to assess the potential effects of the action.

Environmental Evaluation (EE)

The Contractor shall develop the EE to support WMATA Compact requirements, specifically 14(c)(1). The EE will describe the Project and document potential impacts on the human and natural environment in terms of transportation, social, economic, and environmental factors. The analysis will be presented in a manner that provides Project decision-makers the opportunity to understand the various potential impacts of the Project to inform decisions related to design and construction. The EE will summarize the study findings and any pertinent recommendations regarding specific impacts. The EE will include the following:

- Existing Site Description: The Contractor will develop a description of the existing site, based on desktop reviews supplemented by field visits where necessary. The description will include the existing physical features and transportation elements of the site.
- Project Description: The Contractor will evaluate whether additional analysis is necessary to confirm the presence or absence of environmental impacts to meet WMATA requirements, including field work and documentation for compliance with federal and state regulatory programs, as required/ The resources covered will be the same as listed in the CE.
- Prepare up maps, graphics and technical memoranda or reports, as necessary, for attachment to the EE documentation (or incorporation by reference, if possible) which support the impacts assessment.

**Task 4 Deliverables**

4.2 Environmental Evaluation

**F. Task 5: Final Design and Construction Bid Documents**

The Contractor will advance the concept design for the preferred alternative for the Bus Bay Expansion at the East Falls Church Metrorail Station. We will prepare 60%, 90%, and 100% design plans, as well as final construction documents. Work will be completed in accordance with the most recent version of the WMATA design standards and criteria; Adjacent Construction Program Manual, Revision 5a dated September 15, 2015 for all elements within the WMATA property line. For all design elements adjacent to the WMATA property line within the VDOT/Arlington County shared ROW that are impacted by the project, the contractor will utilize Arlington County and/or VDOT standards. Drawings will include plans, sections, elevations, details, schedules, and line diagrams, as required to represent each discipline at each phase of the project. Submissions will be circulated to VDOT for review and comment to obtain their concurrence on intersection improvements within their ROW only. Stakeholder coordination meetings outside of the general bi-weekly meetings that are required for the design effort will occur under Task 9 – Public Involvement.

## 5.1 60% Design Development

### Prepare 60% Design Development Plans and Specifications

Once the preliminary design is confirmed with WMATA and approved by the Arlington County Project Officer, the Contractor will advance the design to 60% plans and specifications. If additional specifications are required, they will be identified at this time.

As part of the 60% submission, the Contractor will submit a preliminary MOT plan complete with TMP. The MOT plan will consist of no more than the relative Temporary Traffic Controls (TTCs) from the 2011 Virginia Work Area Protection Manual, Revision 2 to be used to construct the associated roadway features. The TMP will follow the Type A projects requirements per VDOT IIM-TE-351.5.

Communications plans will be submitted as part of the 60% Design depicting the rerouting of the Arlington County traffic signal related fiber, if required. Connections will be based off the County's fiber GIS database and/or as-built information received.

A photometric analysis for the roadway lighting and the site lighting will be provided at a 60% design level; however, no calculations associated with roadway or site lighting will be required at this submission.

### Perform 60% Review of Permits

The Contractor will update the preliminary review of required permits that may be required for construction. This list will be finalized as the design progresses and more design information becomes available. It is anticipated that the 60% site plans will also be routed through VDOT for review and comment as it relates to the shared ROW in the vicinity of the project site. The County will aid in the coordination effort with VDOT NOVA District to initiate the land use permit application process. Plans will be submitted to VDOT through their ProjectWise application.

### Prepare 60% Design Quantity Take-Off

Each discipline will develop a list of quantities specific to their design. The quantities will match the measure and payment of their respective design standard that they are adhering to. The Contractor will develop a construction cost estimate with this information in Task 6.

### Perform 60% Design Development QA/QC Check

Prior to submitting the design documents for review, the Contractor will conduct an internal discipline coordination review meeting and quality check of the plans and specifications. The Contractor's quality manager for the project will independently confirm and document that the Contractor has completed a quality control check of the plans and specification set, commensurate with the level of completion, prior to their submission.

### Prepare 60% Design and Conduct Design Review Meeting

The Contractor will submit the 60% design plans to Arlington County for a formal review, which includes all related design documents, plans and specifications. Upon approval by the Arlington County Project Officer, the Contractor will submit the plans to WMATA and VDOT for review. Upon receipt of

comments consolidated from the County, WMATA, and VDOT, the Contractor 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. Meeting minutes will be prepared by the Contractor and approved by the Arlington County Project Officer prior to distribution.

### **Task 5.1 Deliverables**

- 5.1.1 60% Design Plans with List of Drawings (half size)
- 5.1.2 60% Design Specifications
- 5.1.3 Miss Utilities Report
- 5.1.4 Draft Design Report
- 5.1.5 60% Design Review Summary Spreadsheet of Comments, Questions, and Resolutions

## 5.2: 90% Design Development

### Prepare 90% Design Development Plans and Specifications

The Contractor will update the plans in accordance with the agreed upon direction from the 60% submission. Comments reconciled and accepted during the 60% design review meeting will be incorporated into the 90% design plans.

New traffic related plan elements included within the 90% submission include a clearance interval package corresponding to the proposed traffic signal modification. Clearance Interval Calculations will follow VDOT requirements. A separate task order will be issued for the work related to reconstruction of the signal at the bus loop entrance.

### Perform 90% Review of Permits

The Contractor will update the review of required permits that may be required for construction using current information and understanding of the permitting process.

### Prepare 90% Design Quantity Take-Off

Each discipline will revise their list of quantities specific to their design. The quantities will match the measure and payment of their respective design standard that they are adhering to. The Contractor will develop a 90% construction cost estimate under Task 6.

### Perform 90% Design Development QA/QC Check

Prior to submitting the design documents for review, the Contractor will conduct an internal discipline coordination review meeting and quality check of the plans and specifications. The Contractor's quality manager for the project will independently confirm and document that the Contractor has completed a quality control check of the plans and specification set, commensurate with the level of completion, prior to their submission.

### Attend 90% Design Review Meeting

At the 90% level, the Contractor will submit the plans to Arlington County for formal review. Upon receiving the approval of the Arlington County Project Officer, the Contractor will submit the plans to

WMATA and VDOT for formal review. Upon receipt of comments from WMATA and VDOT, the Contractor 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 final design iteration.

**Task 5.2 Deliverables**

- 5.2.1 90% Design Plans with List of Drawings (half size)
- 5.2.2 CAD Files (electronic only)
- 5.2.3 90% Design Specifications
- 5.2.4 Final Design Report
- 5.2.5 Permit Applications
- 5.2.6 Long Lead Items List
- 5.2.7 Utility Coordination Report
- 5.2.8 90% Design Review Summary Report of Comments, Questions, and Resolutions
- 5.2.9 Traffic Signal VDOT Clearance Interval Package

5.3: 100% Design and Construction Bid Documents

Prepare 100% Construction Plans and Specifications

The Contractor will update the plans in accordance with the agreed upon direction from the 90% submission. Comments reconciled and accepted during the 90% design review meeting will be incorporated into the 100% design plans. Specifications will be developed using a redline approach indicating suggested changes to the standard specifications used by WMATA. In addition, voltage drop calculations will be developed and submitted in accordance with the proposed site lighting design and roadway lighting design (if needed).

Prepare 100% Design Quantity Take-off

Each discipline will revise their list of quantities specific to their design. The quantities will match the measure and payment of their respective design standard that they are adhering to. Quantities will be supplied to our subconsultant, VJ Associates (DBE), who will in turn develop a cost estimate as defined in Task 6 below.

Perform 100% QA/QC Check

Prior to submitting the design documents for review, the Contractor will conduct an internal discipline coordination review meeting and quality check of the plans and specifications. The Contractor's quality manager for the project will independently confirm and document that the Contractor has completed a quality control check of the plans and specification set, commensurate with the level of completion, prior to their submission.

Attend 100% Design Review Meeting

At the 100% level, the Contractor will submit the plans to Arlington County for formal review. Upon receipt of approval from the Arlington County Project Officer, the Contractor will submit the plans to WMATA and VDOT for final formal review. Upon receipt of comments from WMATA & VDOT, the Contractor 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 final construction bid documents. Plans will be digitally signed and sealed by a Professional Engineer registered in the state of VA.

### **5.3 Deliverables**

- 5.3.1 100% Design Plans, Signed and Sealed
- 5.3.2 Design Specifications and Record Calculations, Signed and Sealed
- 5.3.3 Final Design Report
- 5.3.4 Utility Coordination Report
- 5.3.5 CAD Files
- 5.3.6 Drawing Mylars, Signed and sealed
- 5.3.7 100% Design Review Summary Report of Comments, Questions, and Resolutions
- 5.3.8 Site Lighting Voltage Drop Calculations
- 5.3.9 VDOT Traffic Signal Clearance Interval Package

### **G. Task 6: Construction Schedule and Construction Cost Estimate**

The Contractor will develop a high-level construction schedule for the proposed Bus Bay Expansion at the East Falls Church Metrorail Station at the 60%, 90%, and 100% submission milestones. The Contractor shall submit the construction schedule in Microsoft Project and PDF formats. The construction schedule will be annotated and accompanied by a narrative that discusses the assumptions used to develop the schedule. The Contractor will provide a schedule of activities and account for the time required for procurement, mobilization, submittals, equipment fabrication and delivery, construction, installation, testing, acceptance, certification, and closeout documentation. The construction schedule will include specific milestones for construction and improvements, as well as those required for coordination of the project with other entities. These entities include WMATA, VDOT, and DE.

The Contractor will develop itemized construction cost estimates at the 60%, 90%, and 100% submission milestones. Cost estimates will account for general conditions, special provisions, mark-ups, bonding, insurance, taxes, and fees. Cost estimates will include actual quantities and unit costs for each portion of the work, consistent with the pay items in the specifications. The Contractor will provide Arlington County with estimate forms for approval. Quantity take offs developed under Task 5 will be utilized to develop the cost estimates.

### **Task 6 Deliverables**

- 6.1 60% Construction Schedule
- 6.2 90% Construction Schedule
- 6.3 100% Construction Schedule
- 6.4 60% Construction Cost Estimate
- 6.5 90% Construction Cost Estimate
- 6.6 100% Construction Cost Estimate

#### **H. Task 7: Construction Procurement Services**

During the bidding of the contract for construction, the Contractor will attend (1) pre-bid meeting to answer any questions tendered by construction contractors with respect to the design documents. It is understood that Arlington County will address all other questions, specifically with respect to contract conditions, bid requirements, and other non-design related matters.

##### Bidder Questions

The Contractor will assist Arlington County in design interpretation, prepare responses to bidder questions, and respond to requests for information (RFIs) and technical questions related to the construction bid documents. Contractor will prepare responses to all design matters and maintain a log of all questions and answers for dissemination to bidders by the Arlington County Project Officer as an addendum to the bid documents.

##### Bid Addenda

To the extent that drawings or specifications need to be modified or updated to conform to a response to a bidder question, the Contractor will modify the appropriate drawings and specifications. At the conclusion of the bid period, and proximate to the issue of the permit for construction, the Contractor will re-issue the drawings and specifications with the latest date. All drawings will be noted as issued for construction.

#### **Task 7 Deliverables**

- 7.1 Attend (1) construction Pre-Bid meeting
- 7.2 Respond to construction contractor Pre-Bid questions, if applicable
- 7.3 Prepare Addenda as needed
- 7.4 Prepare revised Contract Drawings and Specifications

#### **I. Task 8: Construction Administrative Services (Optional Task)**

If authorized by Arlington County, the Contractor shall perform Construction Administration Services throughout the construction phase of the project on an as-needed hourly rate basis. The contractor will review submittals, shop drawings, and provide responses to the construction contractor's Requests for Information (RFIs). The contractor will review and observe the construction contractor's work for compliance with the construction documents, as well as provide observation of the start-up and operation of major building systems. The Contractor personnel will make limited site visits and attend project progress meetings with Arlington County and the construction contractor to discuss construction progress and provide visual QC inspections.

The Contractor will evaluate contractor proposed change orders (PCOs) and facilitate resolution of the requests, assessing the changes for potential cost and schedule impacts. The Contractor will also prepare documents to implement approved field design changes.

At substantial completion, the Contractor will review the progress and quality of the work in place and review and add items and/or comments to the punch list submitted by the contractor. As necessary and deemed appropriate, the Contractor may add to the punch list items noted by the Contractor. When the

items remaining to be completed as noted on the punch list meet the acceptable threshold, the Contractor will confirm and sign-off on substantial completion.

The Contractor will perform final inspections as required by the local Authority Having Jurisdiction and collect and review as-built or record drawings submitted by the contractor. With that information, the contractor will prepare CAD file as-built record drawings in accordance with WMATA CAD standards. The Contractor will also coordinate construction closeout documentation including logging and delivery of operations and maintenance manuals and warranties to Arlington County.

#### **Task 8 Deliverables**

- 8.1 Preparation of responses and tabulation of the Contractor's RFIs
- 8.2 Review of shop drawings and submittals
- 8.3 Periodic site visits
- 8.4 Assist the county with Change Order review and preparation
- 8.5 Coordination and support for the County's Commissioning Engineer
- 8.6 Punch list review (and augmentation) at Substantial Completion and Final Completion inspections
- 8.7 Assembly and delivery of Contractor's close out documentation including record drawings, operation and maintenance manuals, commissioning, testing and balancing reports and warranties

#### **J. Task 9: Public Involvement**

The Contractor Team will assist Arlington County with a County public meeting and assist WMATA with the WMATA public hearing in compliance with the County's public involvement process and with WMATA Compact Requirements.

Task elements for the County's public meeting include:

- Develop meeting materials including the presentation, script and up to 5 informational displays including translation as required
- Support the County at the public meeting

Task elements for the WMATA public hearing include:

- Secure the meeting location and translation and transcription services;
- Prepare materials needed for the Public Docket including translation
- Develop notification signage to advertise public hearing including translation
- Develop materials needed to support a Pop-Up meeting at the station in advance of the public hearing including translation
- Develop webpage content to support the public hearing process including translation
- Advertise the meeting in accordance with the WMATA Compact requirements (including the Washington Post and other publications);
- Develop meeting materials including the presentation, script and up to 15 informational displays;
- Create and manage online and intercept surveys;

- Provide staff to supplement WMATA staff at the public hearing; and
- Prepare the draft and final Public Hearing Staff Report and Public Hearing Staff Report Supplement.

**Task 9 Deliverables**

- 9.1 PH Meeting materials
- 9.2 PH Preparation Meetings and Minutes
- 9.3 Prepare for and attend PH, including securing transcription and/or translation services
- 9.4 Draft and Final PH Staff Report
- 9.5 Informational Displays (5) for Public Meetings
- 9.6 Material for Public Docket
- 9.7 Material for Pop-Up Meeting
- 9.8 Material for Webpage



September 15, 2021

Michelle Chaney  
Contracts Administrator  
Arlington County Division of Transportation  
2100 Clarendon Blvd., Suite 900  
Arlington, VA 22201

**Reference: Bus Bay Expansion at East Falls Church Metrorail Station: Final Design Services– Task Order #5 under Agreement #18-089-9.**

Dear Ms. Chaney:

Thank you for the opportunity to provide a fee for the scope identified for the Bus Bay Expansion at East Falls Church Metrorail Station: Final Design Services – Task Order #5 under Agreement #18-089-9. We offer the following staff to perform the work.

**Lara Hegler, P.E.** is the proposed Task/Project Manager and will oversee all tasks under this assignment. Lara brings more than 25 years of experience managing transportation projects in Virginia, Maryland, and the District of Columbia.

**Habib Diouf, PE** will serve as the Deputy Task Lead and oversee the final design development, coordinate with all disciplines while also leading the site civil engineering design efforts.

**Suresh Karre, P.E., PTOE** will serve as the Traffic Analysis Lead coordinating the various disciplines in the finalization of the preferred concept.

**Michael Hooshangi, P.E., DBIA** will serve as the QA/QC manager to ensure that all the deliverables under this task order meet the established quality standards. Michael is the Chief Engineer for STV's Virginia and D.C. offices and is responsible for all engineering deliverables.

The following section identifies a list of assumptions that were taken into consideration in the development of fee.

#### **General Assumptions**

1. It is assumed that each task will not be a stand-alone lump sum fee but that the total fee in its entirety will be allowed to be utilized for all Tasks 1-9, excluding Task 8 and Task 10.
2. Task 10 will be a stand-alone task that will be tracked and invoiced separately on a LS basis.
3. The County will be responsible for all grant reporting to other outside agencies.
4. The County will provide any existing agreements with WMATA, VDRPT and VDOT, as required.
5. Arlington County will provide a copy of all grant related agreements, including DRPT, NVTA, and others for the consultants' review and acceptance.

#### **Task 1. Project Management and Administration**

1. Each active month, the task manager will provide one (1) invoice and one (1) invoice report that will capture all the activities and efforts. The invoice will be invoiced as a percentage complete for each scope task and will include an invoice report detailing the work performed during the period of performance.



Task Order #5 under Agreement #18-089-9

September 15, 2021

Page 2 of 8

2. If the schedule is extended beyond 12 active months, additional fees may be required under Task 1.
3. Based on the current COVID-19 pandemic situation, we propose to utilize virtual meetings (using Skype, Zoom or similar platforms) for all meetings including the kick-off, bi-weekly, and other project team coordination meetings.
4. Task 1 includes the development of templates for project controls reporting that may be used and/or refined for the use on Arlington County Transit Capital Improvement Program for tracking financials and schedules.

## **Task 2 – Data Collection, Site Investigation and Property and Utility Survey Design**

1. SSWP are only necessary for the survey and subsurface utility work being performed by Timmons. If the County exercises the optional geotechnical services, these borings will also require a SSWP.
2. Site visits by engineering design disciplines do not require a SSWP.
3. Night and weekend fieldwork are excluded.
4. Hazardous materials sampling, drumming, testing, and personal protection is excluded.
5. Borings for the bus shelters is excluded.
6. Boundary surveys of the individual properties are excluded.
7. The Client will provide project survey control or datum if possible (WMATA LDP vs. Arlington County etc.).
8. Easement research is excluded. Recorded easements may be shown if a title report is provided by the Owner.
9. Test Pits and Quality Level A Subsurface utility designation is excluded.

### **Task 2 Optional Scope of Services - Geotechnical**

1. RK&K will develop a subsurface exploration program consisting of Standard Penetration Test (SPT) borings to obtain soil samples for laboratory testing.
2. RK&K will perform a site reconnaissance at the project site. A geotechnical engineer will locate the borings in the field with a handheld GPS and/or based on existing site features.
3. The drilling subcontractor, DMY, Inc., under contract to RK&K, will mobilize to the project site with a truck-mounted drill rig. The drilling subcontractor will be responsible for contacting MISS Utility and other required governmental agencies to clear public utilities. It is assumed the client will obtain all permits needed for the fieldwork and that site access will be provided by the client. It is anticipated that the fieldwork will be conducted between the hours of 7 AM to 5 PM on a weekday. It is assumed all fieldwork will be completed in Level D PPE.
4. Up to nine Standard Penetration Test (SPT) borings will be drilled for the proposed construction as summarized in Table 1. Soil samples will be obtained at 2.5-ft intervals in the pavement borings and continuously in the SWM borings. A bulk sample will be collected from each pavement boring. Two infiltration tests will be performed, one at each proposed SWM facility location.
5. Monitor groundwater levels during the fieldwork. The pavement borings will be backfilled upon completion, grouted, and patched in kind. SWM borings will be backfilled with auger cuttings.
6. DMY, an AASHTO resource (formerly AMRL) accredited laboratory, will conduct laboratory testing on selected samples. The testing will determine the natural moisture content for 26 soil samples, the grain-size distribution using mechanical sieves without hydrometer for 7 samples, and the Atterberg limits for 7 samples. Testing on bulk bag samples will include the modified Proctor and California Bearing Ratio (CBR) for 2 samples.
7. RK&K will incorporate the subsurface exploration data into the GER as described above. The GER will include, in addition to the base scope:
  - A brief review and description of our field and laboratory test procedures and the results of the testing conducted

- A final boring location plan, final boring logs, and laboratory testing results.

Boring Purpose	Number of Borings	Total Depth of Each Boring (ft)	Total Footage (ft)	Sampling Interval
Pavement	5	10	50	2.5-ft
SWM	4	16	64	Continuous
Total	9		114	

### Task 3. Preliminary Design Phase

1. Existing (pre-COVID), turning movement counts and traffic signal timing/synchro models to be provided by County. Field verification of signal timings and geometry only are included in the traffic analysis.
2. Assumes the use Arlington County's existing synchro files, provide updates, and develop results, graphics, and MOE tables. VISSIM will not be utilized for any traffic or transit operational analysis. Detailed calibration of the models is not included.
3. Traffic Analysis scope includes one comment resolution meeting for the Draft and Final Memorandum.
4. Task includes broad review of the design for bus operations//scheduling. No further bus routing or timings will be developed.
5. ESC design not required at 30%.
6. Preparation of pipe profiles not included at 30%.

### Task 4. Environmental Documentation

1. Data collection to support this task will be limited to review of previously prepared and publicly accessible studies, reports, or other data and documentation (i.e., "desktop research"). Technical field surveys and associated reporting, such as wetland delineations, species or habitat assessments, and architectural/archaeological surveys are not included in this proposal.
2. This proposal includes hours for staff to visit the Project site, make observations, and take photos of existing site conditions. Photos will be included in the EE to illustrate existing site conditions as applicable. Preparation of a formal photo log or archive-quality photography is not included in this proposal.
3. Project scoping/coordination/consultation/correspondence with regulatory agencies having jurisdiction over potentially impacted resources is not included in this proposal.
4. The analysis of potential impacts will primarily be qualitative, supported by simple calculations as applicable to provide rough order of magnitude impact estimates. Detailed quantitative assessments to support the impact assessment are not included in this proposal.
5. All deliverables under this task will be provided in electronic format (e.g., Adobe PDF, Microsoft Word). Hard copy printing of physical documents is not included in this proposal.
6. Support for public involvement activities described under Task 9 is not included in activities proposed under Task 4 but can be provided for additional scope and fee.
7. Assessment of hazardous materials conditions under this task is limited to the review of publicly accessible information (e.g., NEPAassist). Fees for the purchase/requisition of detailed reports from database search services (e.g., Environmental Data Resources [EDR]) is not included in this proposal.



### **Task 5. Final Design and Construction Bid Documents**

1. Fee includes submitting 60%, 100% and IFB plan sets to meet the schedule requested.
2. Mechanical and Plumbing Design is excluded.
3. Parking area and bus shelters will be designed in accordance with WMATA Design Criteria and Standard.
4. Renderings are not included.
5. The results of any optional geotechnical subsurface investigation or utility designation will not alter or require non-standard designs.
6. All stormwater quality and quantity management requirements can be met in the preferred alternative facilities.
7. Standard pipe and structures can be used for all drainage systems and SWM facilities and therefore special structural design is not included.
8. Assumed permit approvals required from Arlington County Department of Environmental Services (DES) to obtain the LDA (Land Disturbance).
  - a. WQIA will be included (in accordance with County template)
  - b. SWPPP will be included, utilizing the County template
  - c. Tree inventory is exempt from task
  - d. Permit review fees are not included
9. CCTV Coverage and emergency call phones will be provided in parking area only per the WMATA Design Criteria.
10. Dynamic Message Signs with real time bus information will be provided in bus shelters
11. Access control to roadway gates will be provided. Gate mechanisms are not covered in this fee.
12. CCTV and PA in Shelter area will not be provided.

### **Task 6. Construction Schedule and Cost Estimate**

1. The Construction Project Schedule will be performed in Primavera P6. If required, it will be converted to a Microsoft Project schedule; however, MS Project durations and dates may differ slightly than those reported on in Primavera P6.
2. Construction Project Schedule will be accompanied by a narrative which will provide detailed information regarding the formation of the schedule including resource/crew assumptions, time of year restrictions, adverse weather considerations, and a listing of major risks.
3. A draft version of the Construction Project Schedule will be provided to the county for comment prior to producing a final version.

### **Task 7. Construction Procurement Services**

1. Each of the nine (9) key discipline leads will attend one (1) pre-bid meeting to answer questions.
2. Up to twenty (20) bidder questions will be answered and evaluated.
3. Up to two (2) sheets per discipline will be modified by plan sheet revisions and associated specification updates.

### **Task 8. Construction Administrative Services**

1. Task 8 will be negotiated when the design is approximately 100% completed and will be provided on a time and materials basis.



## Task 9. Public Involvement

### A. Public Meeting Support

1. Assumes up to ten (10) 2-hour meetings with team to prepare for public meeting.
2. Includes the development of a Public Involvement Plan with up to two rounds of changes.
3. Prepare and print sign-in sheet, agenda, name tags, and comment sheet with two rounds of changes each.
4. Coordinate and purchase other meeting materials as necessary (for example pens, hand sanitizer, etc)
5. One-page, two-sided factsheet with up to two rounds of changes. Translate factsheet into Spanish. Print production of 500 factsheets.
6. Develop a PowerPoint (PPT) template for technical team presentation with two rounds of changes. Assist technical team with script for PPT. Translation of script into Spanish.
7. Edit copy provided by technical team, print production of up to (5) 30x40 display boards in English. Due to the expensive natural of meeting boards we recommend the interpreter translate the boards, if necessary.
8. Provide up to three (3) staff to help set up hearing, work the sign-in desk, take meeting minutes, and clean up after meeting. Assumes 2-hour public hearing meeting, 2 hours to set up, ½ hour to clean up, and 2 hours travel time.

### B. Public Hearing Support

1. Coordinate in-person public hearing location and logistics.
2. Research and book a court reporter and interpreter.
3. Prepare and print sign-in sheet, agenda, name tags, and comment sheet with two rounds of changes each.
4. Coordinate and purchase other meeting materials as necessary (for example pens, hand sanitizer, etc)
5. Prepare 1-page, two-sided factsheet with up to two rounds of changes. Translate factsheet into Spanish. Print production of 500 factsheets.
6. Develop signage (large banner) to advertise the public hearing in English and Spanish with up to two rounds of changes. Place signage at location TBD.
7. Develop and print up to (15) 30x40 display boards in English. Due to the expensive natural of meeting boards we recommend the interpreter translate the boards if necessary.
8. Assumes up to three (3) staff to help set up hearing, work the sign-in desk, take meeting minutes, and clean up after meeting.
9. Assumes 2-hour public hearing meeting, 2 hours to set up, ½ hour to clean up, and 2 hours travel time

### C. Pop Ups

1. Coordinate logistics for a pop-up meeting at East Falls Station.
2. Provide up to three (3) staff at the station for 4 hours + 2 hours to include set up and travel.
3. Create and print a one-page hand out will be made to promote the meeting. Assumes all pop-up materials will be provided such as tent, tablecloth, t-shirts, banner, giveaways, signage. Assumes one staff will be bilingual. Assumes WMATA will provide tent, banner, giveaways, tablecloth, and staff.

### D. Other Support (Webpage, Ads, Surveys, Social Media)

1. Provide up to 2000 words in English and Spanish and three (3) medium sized graphics for website content.
2. Other materials already developed, such as the factsheet, will also be posted to the website.
3. Create copy and layout for small to mid-ad sizes for up to three (3) newspaper ads for the Washington Post and up to 2 other publications. Create insertion orders and place up to 3 ads.
4. Create online survey using survey monkey and promote via paid social media and at the pop-up event.
5. Social media ads will include mockups with two rounds of changes, placement of ad, monitoring of ad, and summary report.



Task Order #5 under Agreement #18-089-9

September 15, 2021

Page 6 of 8

### **Task 10 - N. Sycamore Street & I-66 Off-Ramp Traffic Signal Design**

In addition to the broader scope language provided under the Bus Bay Expansion at East Falls Church Metrorail Station Final Design Services, the following language is supplemental to the traffic signal design elements of the project located at the intersection of N. Sycamore Street & I-66 Off-ramp. This effort may be delivered under a separate task order PO and invoiced separately.

- Arlington County and/or VDOT will provide the following:
  - As-Built Signal Plans for N. Sycamore & I-66 Off Ramp
  - Fiber interconnect as-builts and/or GIS communication files
  - Existing neighboring intersection timings and phasing plans
  - Traffic counts and crash data
  - Existing and Future Volumes, Timing plans and Synchro files
- Traffic signal components will utilize the Arlington County Signal Standards (2019) for design.
- Arlington County standard foundations will be used for traffic signal infrastructure. TS Design team will coordinate with others for test holes needed. Arlington County will obtain test holes utilizing in-house crews.
- Intersection lighting plans, luminaires, photometrics and voltage drop calculations are excluded; however, any lighting elements designed by others will be incorporated into the signal plans, as required.
- Temporary traffic signal designs are excluded
- We are assuming the roadway lighting will not be co-located with the traffic signal poles. Roadway lighting will be separate from the traffic signal design as that approach is present today.
- Meeting attendance has been excluded from this scope and fee but was included within the master scope & fee
- STV is not responsible for submitting or paying any fees associated with obtaining a permit from VDOT.
- The scope includes coordination for the power source locations with DE (Dominion Energy); however, Arlington County is responsible for initiating the service request through DE since they are the account owners. Power source locations will be coordinated with the utility work being performed by others as not to present overlap.
- Boring locations will be identified early in the design process per Arlington County's latest signal specifications. The boring locations for the traffic signal work will be coordinated with other borings needed for the project. Locations will be included on an exhibit for the County & VDOT's review. It is assumed that Arlington County will utilize an in-house utility locating contractor to obtain the borings for the traffic signal design.
- Signing and pavement marking plans at the intersection are excluded from this scope & fee but the pavement marking plans will be signed and sealed within the East Falls Church Metrorail Station Bus Bay Expansion Final Design Services under Task 5.
- Current lighting at the intersection of N. Sycamore Street is exclusive to the roadway light poles located within the sidewalk. There are currently no lighting mast arms co-located with the traffic signal. Our intention is to follow this same approach and maintain photometrics through roadway lighting and not the traffic signal. If needed, after the photometric analysis performed under the master scope, lights can be co-located at the traffic signal per Arlington County standards. This information will be added into the Pole Signal Mounting chart on the traffic signal plan sheet. No additional fee for lighting at the intersection was accounted for in this estimate.
- Communications plans will be provided on 1" = 25', 1" = 50', or 1" = 100' scale CADD base sheets, as necessary, given the length of the communication run and level of detail required to accurately depict installation. STV will base the communications design on information provided by the County including any as-built information or GIS information on the existing communication assets along the corridor.
- STV will develop Change Interval sheets to accompany the traffic signal designs associated with this project. Change Interval Sheets will be calculated and designed per VDOT requirements and will be submitted as part of the 90%, 100%, & Final Bid Document Submissions. Initial traffic signal timing information will also be provided per Arlington County Signal Standards (latest edition). Arlington County will provide the existing and future traffic signal timings and Synchro files for the adjacent intersections along N. Sycamore Street.



Task Order #5 under Agreement #18-089-9

September 15, 2021

Page 7 of 8

- STV does not anticipate the use of non-standard technical specifications or special provisions required as part of the traffic signal design (non-standard meaning not an Arlington County or VDOT specification). If it is deemed necessary for a technical specification or provision to be created, a separate estimate of hours will need to be agreed upon by the County depending on the level of involvement.
- STV will assemble a cost estimate, which will align with the summary of quantities depicted in the traffic signal design plans. It is deemed that the traffic signal will utilize only Arlington County standard infrastructure. The cost estimate will utilize Arlington County standard bid items (where applicable) and current market value using existing VDOT Bid tabs for similar projects with similar conditions and/or similar project pricing. Non-standard bid items will include a measure and payment statement for inclusion in the overall special provisions section of the final bid documents. The cost estimate shall contain the line item description, reference to specific County specification section, unit of measurement, quantity, and price. If a VDOT standard item is used, it will be specified as such within the cost estimate.
- At this time, we do not anticipate the need for temporary signal plans to be developed. If deemed necessary, a separate estimate of hours will be submitted for review.

### Deliverables

Traffic Signal Plans will be submitted to Arlington County & VDOT during 30%, 60%, 100%, & Final design phases in coordination and on the same schedule as the other efforts for the project and submitted for review and approval as part of the overall final design submittal being compiled under Task 5. A final bid set signed and sealed by a Virginia Professional Licensed Engineer to be issued after the Final design plan is submitted. Six (6) final plan sets will be distributed to the major stakeholders at the Final Bid Documents phase of the project. The traffic signal plan sheets will be inserted into the overall Bus Bay Expansion at East Falls Church Metrorail Project Plan set. Below is a list of each intersection submission and its associated deliverables:

30% Signal Design Plans to the County will contain the following:

- Cover Sheet
- Intersection Signal Plan with conceptual pole layout related to traffic signals and pedestrian push button poles.

60% Signal Design Plans to the County will contain the following:

- 60% Traffic Signal Design Plans with responses to Arlington County & VDOT's 30% comments
- Communication/Interconnect Plan
- Draft Change Interval Calculations & Clearance Interval Diagram
- 60% Cost Estimate

100% Package will contain:

- 100% Traffic Signal Design Plans
- Communication/Interconnect Design Plans
- Responses to Arlington County & VDOT's 60% comments
- 100% Cost Estimate
- Change Interval Calculations & Clearance Interval Diagram
- Red-Line QC Plan (As requested by the County)
- Evaluation and updates to the CA Services scope and fee

Permit Package will contain:

- Final Signed & Sealed Signal and Communication/Interconnect Design Plans with Arlington County's comments incorporated
- Responses to 100% Comments from Arlington County & VDOT
- Final Cost Estimate



Task Order #5 under Agreement #18-089-9  
September 15, 2021  
Page 8 of 8

- Final Change Interval Calculations & Clearance Interval Diagram
- Red-Line QC Plan (As requested by the County)

Procurement Support Services will be provided for one signal design engineer to attend a pre-bid meeting and answer questions as well as provide up to one (1) page of addenda.

Construction Administrative Services is provided only as an estimate of the hours and fee associated with the signal design and will be revisited at the 100% design submission and include the following assumptions:

- STV will attend two (2) site visits.
- STV is responsible for responding to up to four (4) RFI's related to the Columbia Pike & S. Rolfe Street intersection resulting in up to one (1) minor design revisions.
- STV will review up to two (2) shop drawings related to traffic signal components.
- STV will review and approve as-built documentation for the traffic signal components for the signal.

Our proposed fee to provide the scope for Tasks 1 through 10, *excluding optional services* is **\$1,892,275.11**. The estimate for **Task 10** assumes that this task will be integrated into the entire design package; however, the work will be tracked separately and may be invoiced under a separate PO, if necessary. The fee for the optional geotechnical services in Task 2 is **\$27,369.59**. An estimate for the optional construction administrative services is also provided; however, STV will revisit this total with the County when the design is approximately 100% completed. The CA Services estimate includes a fee for Task 10 CA separately for tracking purposes. The total fee estimate for all CA Services is **\$370,002.25**, which includes **\$10,574.19** for CA services for Task 10. We have enclosed our backup spreadsheets in pdf format for your review.

Sincerely,

A handwritten signature in blue ink that reads "Jose Bustamante".

Jose Bustamante, P. E.  
Vice President

cc: Lara Hegler (STV)  
Habib Diouf (STV)  
E. Robin McElhaney (Arlington County)  
Kenex Seville (Arlington County)

# STV Fee Estimates



## ESTIMATE OF PROFESSIONAL SERVICES SUMMARY PAGE

STV Proposal or Job Number: 0070551

Client Job Number: 18-089-9; Task 5

Project Description/Location: Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services

Client: Arlington County

Client Project Manager: Kenex Seville

Item	wksht	STV Hours	Budgeted Effort	Other Dir. Costs	Subconsult.	Grand Total	DBE
Task 1: Project Management and Administration & Project Controls Templates	A	941	\$ 208,658.65	\$ -	\$ -	\$ 208,658.65	
Task 2: Data Collection, Site Investigation and Property and Utility Survey Design	B	328	\$ 55,120.74	\$ -	\$ 47,297.82	\$ 102,418.56	
Task 3: Preliminary Design Phase	C	1,994	\$ 314,811.44	\$ 2,000.00	\$ 14,208.72	\$ 331,020.16	
Task 4: Environmental Documentation	D	12	\$ 2,848.20	\$ -	\$ 40,247.68	\$ 43,095.88	
Task 5: Final Design and Construction Bid Documents	E	4,722	\$ 736,897.38	\$ 20,000.00	\$ 101,866.24	\$ 858,763.62	
Task 6: Construction Schedule and Construction Cost Estimate	F	518	\$ 109,597.34	\$ -	\$ -	\$ 109,597.34	
Task 7: Construction Procurement Services	G	136	\$ 25,835.10	\$ -	\$ -	\$ 25,835.10	
Task 9: Public Involvement	H	48	\$ 13,556.64	\$ -	\$ 162,108.02	\$ 175,664.66	
Task 10: N. Sycamore Street and I-66 Off Ramp Traffic Signal Design	J	278	\$ 37,198.64	\$ 22.50	\$ -	\$ 37,221.14	
<b>GRAND TOTALS &gt;</b>		<b>8,699</b>	<b>\$ 1,504,524.13</b>	<b>\$ 22,022.50</b>	<b>\$ 365,728.48</b>	<b>\$ 1,892,275.11</b>	

ADDITIONAL SERVICES							
Task 2: Optional Services - Geotechnical	B				\$ 27,369.59	\$ 27,369.59	
Task 8: Estimated CA Services - To be further refined/negotiated at 100%	I	1,968	\$ 330,430.06	\$ -	\$ 28,998.00	\$ 359,428.06	
Task 10: N. Sycamore St and I-66 Off Ramp Traffic Signal Design - CA Services	J	0	\$ 10,574.19	\$ -	\$ -	\$ 10,574.19	
<b>GRAND TOTALS &gt;</b>		<b>10,667</b>	<b>\$ 1,845,528.38</b>	<b>\$ 22,022.50</b>	<b>\$ 422,096.07</b>	<b>\$ 2,289,646.95</b>	

**Base Services**

STV AMOUNT = \$ 1,504,524.13  
 STV PERCENTAGE = 80%

DBE AMOUNT (BASE CONTRACT) = \$ 162,108.02  
 DBE PERCENTAGE = 9%

SUBCONSULTANT AMOUNT = \$ 365,728.48  
 SUBCONSULTANT PERCENTAGE = 19%

prepared by STV Incorporated

Senior Project Manager, STV Incorporated



## ESTIMATE OF PROFESSIONAL SERVICES

### Task 1: Project Management and Administration & Project Controls Template

<b>STV Proposal or Job Number:</b>	0070551	<b>Client Job Number:</b> 18-089-9; Task 5
<b>Project Description/Location:</b>	Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services	
<b>Client:</b>	Arlington County	
<b>Design Assumptions:</b>	1. Period of Performance is 12 months from NTP to final deliverables 2. Task will develop templates and other project controls tools for managing other projects 3. Up to 24 Bi-weekly meetings, up to 4 key staff attending 4. Meetings will be virtual	
<b>Prepared By/Date:</b>	LEH 09/08/21	
<b>Reviewed By/Date:</b>	JB 09/10/21	

#### Manhours by Classification

**Direct Labor Estimate:**

	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Jr. Eng./ Planner/ Cadd	Total
<b>1.1 Project Management</b>									-
General Project Management	120								120
Prepare Project Management Plan (Draft & Final)									-
Design Schedule - Draft and Final	4		40						44
Staffing Plan - Draft and Final	2								2
Quality Plan - Draft and Final	2							8	10
Safety Plan	1							2	3
Project QA	8	64							72
Maintain Electronic Project Record Files and Documents	24		48						72
Project Closeout	8		16				16		40
									-
<b>1.2 Design Coordination Meetings</b>									-
Kick-Off Meeting with County (1) - up to 8 staff	2	2	12	12					28
Attend Bi-weekly Coord Meetings (up to 24) - up to 4 staff, avg includes prep, agendas, minutes, follow up (up to 24)	60	12	120						192
									-
<b>1.3 Project Administration</b>									-
Prepare Monthly Invoice & Progress Report (13)	20		40						60
Subconsultant Agreements (3)	6					24			30
Subconsultant Coordination - invoicing/agreements	8								8
									-
<b>1.4 Project Management Reporting</b>									-
Develop Templates for Project Controls Tracking	40	40				120			200
Monthly Project Controls Reporting	12					48			60
									-
									-
									-
									-
									-
<b>Manhour Totals:</b>	317	118	276	12	0	192	16	10	<b>941</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$89,530	\$31,524	\$59,288	\$1,913	\$0	\$23,925	\$1,633	\$846	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	<b>Summary</b>  <b>BUDGETED COSTS:</b> \$208,658.65 <b>EFFORT MULTIPLIER:</b> 1.0000 <b>BUDGETED EFFORT:</b> \$ 208,658.65  <b>ODC:</b> \$ - <b>ODC MULTIPLIER:</b> <b>BUDGETED ODC:</b> \$ -  <b>SUBCONSULTANTS:</b> \$ - <b>SUB MULTIPLIER:</b> 1.00 <b>BUDGETED SUBS:</b> \$ -
Air Fare, per airline ticket		600.00	-	
Ground Transport, per vehicle-trip		14.00	-	
Meals, per person per day		30.00	-	
Lodging, per room-night		200.00	-	
Third-Party Photocopies, per copy		0.15	-	
Blackline or Blueline Prints, per sheet		0.80	-	
Bond or Vellum Reproductions, per sheet		1.25	-	
Mylar Sepias, per sheet		10.00	-	
Photographs, per roll (including development)		12.00	-	
Overnight Postage, per package		20.00	-	
Parking		14.00	-	
OTHER:			-	
<b>SUBTOTAL ODC:</b>			<b>\$ -</b>	
<b>SUBCONSULTANTS:</b>				
		ITEM COST		
NAME / DESCRIPTION		\$	-	
NAME / DESCRIPTION		\$	-	
<b>SUBTOTAL SUBS:</b>			<b>\$ -</b>	
<b>TOTAL:</b> \$ 208,658.65				



## ESTIMATE OF PROFESSIONAL SERVICES

### Task 2: Data Collection, Site Investigation and Property and Utility Survey Design

STV Proposal or Job Number: 0070551 Client Job Number: 18-089-9; Task 5  
 Project Description/Location: Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
 Client: Arlington County  
 Design Assumptions: 1. Site visits by disciplines do not required SSWP

Prepared By/Date: LEH 09/08/21  
 Reviewed By/Date: JB 09/10/21

#### Manhours by Classification

Direct Labor Estimate:	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Jr. Eng./ Planner/ Cadd	Total
<b>Project Coordination/Administration</b>									
General Project Coordination	4		8	4	4			4	24
<b>Field Survey</b>									
Site Visits and Field Verification	4		24	24	8	16	8	8	92
2.1 Topographic, Property Line, and Subsurface Utility Location Survey	By Timmons								
2.2 Subsurface Utility Investigation Report	By Timmons								
<b>Prepare Site Specific Work Plans (SSWP) - up to two (2)</b>									
Survey	By Timmons								
SUE	By Timmons								
<b>Geotechnical Investigation</b>									
Collect Existing Geotechnical Report	By RK&K								
2.3 Optional Task - Geotechnical Borings and report (if requested)	By RK&K								
<b>As Built Data Collection</b>									
VDOT As-builts			32			8			40
Easements			8			4			12
ITS Infrastructure			4	20		12			36
Roadway Lighting			2			2		2	6
WMATA As Builts			16			16			32
Easements			8			4			12
Site lighting/parking lighting			4	12					16
Existing Site Lighting			4						4
Documentation of Data Collection	2		12	16			24		54
<b>Manhour Totals:</b>	<b>10</b>	<b>0</b>	<b>122</b>	<b>76</b>	<b>12</b>	<b>62</b>	<b>32</b>	<b>14</b>	<b>328</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$2,824	\$0	\$26,207	\$12,117	\$1,797	\$7,726	\$3,266	\$1,184	

#### Other Direct Costs (ODC) Estimate:

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	<b>BUDGETED COSTS:</b> \$55,121 <b>EFFORT MULTIPLIER:</b> 1.0000 <b>BUDGETED EFFORT:</b> \$ 55,120.74  <b>ODC:</b> \$ - <b>ODC MULTIPLIER:</b> 1.00 <b>BUDGETED ODC:</b> \$ -  <b>SUBCONSULTANTS:</b> \$ 47,297.82 <b>SUB MULTIPLIER:</b> 1.00 <b>BUDGETED SUBS:</b> \$ 47,297.82	
Air Fare, per airline ticket		600.00	-		
Ground Transport, per vehicle-trip		14.00	-		
Meals, per person per day		30.00	-		
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-		
Blackline or Blueine Prints, per sheet		0.80	-		
Bond or Vellum Reproductions, per sheet		1.25	-		
Mylar Sepias, per sheet		10.00	-		
Photographs, per roll (including development)		12.00	-		
Overnight Postage, per package		20.00	-		
Parking		14.00	-		
OTHER:		-	-		
<b>SUBTOTAL ODC: \$</b>			<b>-</b>		

#### SUBCONSULTANTS:

	ITEM COST	
Timmons - Survey	\$ 18,339.00	
Timons - SUE	\$ 9,726.88	
Timons - SSWP and Coordination	\$ 2,328.80	
RK&K - Base Geotechnical Services	\$ 16,903.14	
<b>SUBTOTAL SUBS:</b>	<b>\$ 47,297.82</b>	<b>TOTAL: \$ 102,418.56</b>

RK&K - OPTIONAL SERVICES - Additional Geotechnical Services	\$ 27,369.59
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<b>Manhour Totals:</b>	86	0	591	321	92	480	168	256	1,994
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$24,289	\$0	\$126,953	\$51,177	\$13,778	\$59,813	\$17,144	\$21,658	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -		
Air Fare, per airline ticket		600.00	-	<b>BUDGETED COSTS:</b>	\$314,811
Ground Transport, per vehicle-trip		14.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Meals, per person per day		30.00	-	<b>BUDGETED EFFORT:</b>	\$ 314,811.44
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-		
Blackline or Blue-line Prints, per sheet		0.80	-	<b>ODC:</b>	\$ 2,000.00
Bond or Vellum Reproductions, per sheet		1.25	-	<b>ODC MULTIPLIER:</b>	1.00
Mylar Sepias, per sheet		10.00	-	<b>BUDGETED ODC:</b>	\$ 2,000.00
Photographs, per roll (including development)		12.00	-		
Overnight Postage, per package		20.00	-		
Parking		14.00	-	<b>SUBCONSULTANTS:</b>	\$ 14,208.72
Printing	1	1.00	2,000.00	<b>SUB MULTIPLIER:</b>	1.00
				<b>BUDGETED SUBS:</b>	\$ 14,208.72
			<b>SUBTOTAL ODC:</b>		
			\$	<b>2,000.00</b>	
<b>Directs</b>					
			<b>ITEM COST</b>		
RK&K - 30% Drainage Design			\$ 14,208.72	<b>TOTAL:</b>	\$ 331,020.16
			<b>SUBTOTAL SUBS:</b>	\$	<b>14,208.72</b>

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## **ESTIMATE OF PROFESSIONAL SERVICES**

### **Task 4: Environmental Documentation**

**STV Proposal or Job Number:** 0070551 **Client Job Number** 18-089-9; Task 5  
**Project Description/Location:** Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
**Client:** Arlington County  
**Design Assumptions:**

**Prepared By/Date:** LEH 09/08/21  
**Reviewed By/Date:** JB 09/10/21

#### Manhours by Classification

<u>Direct Labor Estimate:</u>	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Jr. Eng./ Planner/ Cadd	Total
4.1 Environmental Documentation									-
Task Coordination	4		8						12
Environmental Evaluation									-
					RK&K				-
									-
<b>Manhour Totals:</b>	4	0	8	0	0	0	0	0	<b>12</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$1,130	\$0	\$1,718	\$0	\$0	\$0	\$0	\$0	

#### Other Direct Costs (ODC) Estimate:

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -		
Air Fare, per airline ticket		600.00	-	<b>BUDGETED COSTS:</b>	\$2,848
Ground Transport, per vehicle-trip		14.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Meals, per person per day		30.00	-	<b>BUDGETED EFFORT:</b>	\$ 2,848.20
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-	<b>ODC:</b>	\$ -
Blackline or Blue-line Prints, per sheet		0.80	-	<b>ODC MULTIPLIER:</b>	1.00
Bond or Vellum Reproductions, per sheet		1.25	-	<b>BUDGETED ODC:</b>	\$ -
Mylar Sepias, per sheet		10.00	-		
Photographs, per roll (including development)		12.00	-	<b>SUBCONSULTANTS:</b>	\$ 40,247.68
Overnight Postage, per package		20.00	-	<b>SUB MULTIPLIER:</b>	1.00
Parking		14.00	-	<b>BUDGETED SUBS:</b>	\$ 40,247.68
OTHER:			-		
<b>SUBTOTAL ODC:</b>			<b>\$ -</b>		
<b>SUBCONSULTANTS:</b>					
			<b>ITEM COST</b>		
RK&K			\$ 40,247.68	<b>TOTAL:</b>	\$ 43,095.88
NAME / DESCRIPTION			-		
<b>SUBTOTAL SUBS:</b>			<b>\$ 40,247.68</b>		

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## ESTIMATE OF PROFESSIONAL SERVICES

### Task 5: Final Design and Construction Bid Documents

<b>STV Proposal or Job Number:</b>	0070551	<b>Client Job Number:</b> 18-089-9; Task 5
<b>Project Description/Location:</b>	Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services	
<b>Client:</b>	Arlington County	
<b>Design Assumptions:</b>		
<b>Prepared By/Date:</b>	LEH 09/08/21	
<b>Reviewed By/Date:</b>	JB 09/10/21	

#### Manhours by Classification

Direct Labor Estimate:	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Jr. Eng./ Planner/ Cadd	Total
Project Coordination (most effort included in Civil)	8								8
5.1 60% Design Development Plans and Specifications									-
Perform 60% Review of Permits			4	8					12
Prepare 60% Design Plans/Specs									-
Traffic Ops/Transit Ops Coordination			8						8
Site Civil/Utilities			68	84		108			260
Drainage Design									RK&K
Landscape Design			26		96				122
Traffic, including MOT, pavement markings and TMP			58			67		40	165
Lighting Photometric Analysis (no roadway or street lighting)			8				8		16
Architectural Design			68		128		160		356
Structures Design			64	60				20	144
Systems/Comm	4		44	92		124	48	96	408
Electrical Design	2		56				54		112
Develop 60% Design Quantities (hours accounted for under disciplines)									-
QA/QC (hours accounted for under disciplines)	8								8
Miss Utilities Report			24						24
Draft Design Report	2		40	80					122
Address 60% Comments (hours accounted for under disciplines)				8					8
Prepare for and attend 60% Design Review Meeting (1) - up to 6 key discipl	1		16	16	16	16			65
5.2 100% Design Development Plans and Specifications									-
Perform 100% Review of Permits			4		8				12
Prepare 100% Design Plans/Specs									-
Traffic Ops/Transit Ops Coordination			8						8
Site Civil			50	72	88				210
Drainage Design									RK&K
Landscape Design			18		64				82
Traffic, including MOT, pavement markings and TMP (NO SIGNALS)			32			57		32	121
Lighting (Parking Lot and Bus Loop)	4		40				32		76
Architectural Design			60		84		44		188
Structures Design			54	30			0	20	104
Systems/Comm	4		36	112		144	28	92	416
Electrical Design	8		100				72		180
Develop 100% Design Quantities (hours accounted for under disciplines)									-
QA/QC (hours accounted for under disciplines)									-
Final Design Report	2		24	60					86
Address 100% Comments (hours accounted for under disciplines)				8					8
Prepare for and attend 100% Design Review Meeting (1) - up to 6 key discipl	1		16	16	16	16			65
Permit Applications and Resubmital	2		16		12				30
Long Lead Items List			8		16				24
Utility Coordination Report			16						16
5.3 IFB Design and Construction Bid Documents									-
Prepare IFB Design Plans/Specs									-
Traffic Ops/Transit Ops Coordination			8						-
Site Civil			28	32	60				120
Drainage Design									RK&K
Landscape Design			16		60				76
Traffic, including MOT, pavement markings and TMP (NO SIGNALS)			40			66		32	138
Lighting (Parking Lot and Bus Loop)			16				8		24
Architectural Design			40		80		40		160
Structures Design			45	25			0	30	100
Systems/Comm	4		40	104		80	56	80	364
Electrical Design	2		32				18		52
Develop IFB Design Quantities (hours accounted for under disciplines)									-
QA/QC (hours accounted for under disciplines)									-
Address IFB Comments (hours accounted for under disciplines)				8					8
Utility Coordination Report			16						16
Final Design Report	2		16	40					58

IFB Signed and Sealed Drawings incorporating all comments	4		8	40				40	92
Constructability Review									-
Review of 60% and 100% Design	2	32	16						50
									-
<b>Manhour Totals:</b>	60	32	1,287	895	728	678	568	482	<b>4,722</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$16,946	\$8,549	\$276,460	\$142,690	\$109,025	\$84,486	\$57,964	\$40,777	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -		
Air Fare, per airline ticket		600.00	-	<b>BUDGETED COSTS:</b>	\$736,897
Ground Transport, per vehicle-trip		14.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Meals, per person per day		30.00	-	<b>BUDGETED EFFORT:</b>	\$ 736,897.38
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-		
Blackline or Blueline Prints, per sheet		0.80	-	<b>ODC:</b>	\$ 20,000.00
Bond or Vellum Reproductions, per sheet		1.25	-	<b>ODC MULTIPLIER:</b>	1.00
Mylar Sepias, per sheet		10.00	-	<b>BUDGETED ODC:</b>	\$ 20,000.00
Photographs, per roll (including development)		12.00	-		
Overnight Postage, per package		20.00	-		
Parking		14.00	-	<b>SUBCONSULTANTS:</b>	\$ 101,866.24
Outside printing services	4	5,000.00	20,000.00	<b>SUB MULTIPLIER:</b>	1.00
				<b>BUDGETED SUBS:</b>	\$ 101,866.24
			<b>SUBTOTAL ODC:</b>	<b>\$</b>	<b>20,000.00</b>

**SUBCONSULTANTS:**

NAME / DESCRIPTION	ITEM COST	TOTAL:
RK&K - Drainage Design	\$ 101,866.24	
	-	
<b>SUBTOTAL SUBS:</b>	<b>\$</b>	<b>101,866.24</b>

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## ESTIMATE OF PROFESSIONAL SERVICES #REF!

**STV Proposal or Job Number:** 0070551 **Client Job Number** 18-089-9; Task 5  
**Project Description/Location:** Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
**Client:** Arlington County  
**Design Assumptions:**

**Prepared By/Date:** LEH 09/08/21  
**Reviewed By/Date:** JB 09/10/21

### Manhours by Classification

<u>Direct Labor Estimate:</u>	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Jr. Eng./ Planner/ Cadd	Total
<u>Task Coordination</u>									-
Schedule and Estimate Coordination	8			40					48
<u>Construction Schedule</u>									-
Construction Schedule -60%			50						50
Construction Schedule -100%			50						50
Construction Schedule -IFB			50						50
									-
<u>Cost Estimate</u>									-
Cost Estimate -60%			200						200
Cost Estimate -100%			80						80
Cost Estimate - IFB			40						40
									-
									-
									-
									-
									-
<b>Manhour Totals:</b>	8	0	470	40	0	0	0	0	<b>518</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$2,259	\$0	\$100,961	\$6,377	\$0	\$0	\$0	\$0	

### Other Direct Costs (ODC) Estimate:

	UNITS	UNIT COST	ITEM COST	<u>Summary</u>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	<b>BUDGETED COSTS:</b> \$109,597 <b>EFFORT MULTIPLIER:</b> 1.0000 <b>BUDGETED EFFORT:</b> \$ 109,597.34  <b>ODC:</b> \$ - <b>ODC MULTIPLIER:</b> 1.00 <b>BUDGETED ODC:</b> \$ -  <b>SUBCONSULTANTS:</b> \$ - <b>SUB MULTIPLIER:</b> 1.00 <b>BUDGETED SUBS:</b> \$ -	
Air Fare, per airline ticket		600.00	-		
Ground Transport, per vehicle-trip		14.00	-		
Meals, per person per day		30.00	-		
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-		
Blackline or Blue-line Prints, per sheet		0.80	-		
Bond or Vellum Reproductions, per sheet		1.25	-		
Mylar Sepias, per sheet		10.00	-		
Photographs, per roll (including development)		12.00	-		
Overnight Postage, per package		20.00	-		
Parking		14.00	-		
OTHER:		-	-		
<b>SUBTOTAL ODC:</b>			<b>\$ -</b>		
				<b>TOTAL:</b>	<b>\$ 109,597.34</b>
				<b>SUBTOTAL SUBS:</b>	<b>\$ -</b>



## ESTIMATE OF PROFESSIONAL SERVICES

### Task 7: Construction Procurement Services

**STV Proposal or Job Number:** 0070551      **Client Job Number** 18-089-9; Task 5  
**Project Description/Location:** Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
**Client:** Arlington County  
**Design Assumptions:**

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**Prepared By/Date:** LEH 09/08/21  
**Reviewed By/Date:** JB 09/10/21

#### Manhours by Classification

#### **Direct Labor Estimate:**

	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Jr. Eng./ Planner/ Cadd	Total
<u>Task Coordination</u>	2		8						-
<u>Attend one (1) Pre-Bid Meeting</u>									-
Each discipline lead to attend up to two hours			18						18
- Nine (9) Design Discipline Task Leaders									-
<u>RFI Bidder Questions</u>									-
Up to twenty (20) design related bidder questions			32		8				40
<u>Bidder Addenda</u>									-
Up to two (2) updated plan sheets per discipline	4		2				48		54
Updated specifications			8						8
QA/QC			16						16
									-
									-
									-
									-
									-
									-
									-
									-
									-
									-
									-
									-
<b>Manhour Totals:</b>	6	0	84	0	8	0	48	0	<b>136</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	\$84.60	
<b>Budgeted Costs:</b>	\$1,695	\$0	\$18,044	\$0	\$1,198	\$0	\$4,898	\$0	

#### **Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	<b>BUDGETED COSTS:</b>	\$25,835
Air Fare, per airline ticket		600.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Ground Transport, per vehicle-trip		14.00	-	<b>BUDGETED EFFORT:</b>	\$ 25,835.10
Meals, per person per day		30.00	-		
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-	<b>ODC:</b>	\$ -
Blackline or Blue-line Prints, per sheet		0.80	-	<b>ODC MULTIPLIER:</b>	1.00
Bond or Vellum Reproductions, per sheet		1.25	-	<b>BUDGETED ODC:</b>	\$ -
Mylar Sepias, per sheet		10.00	-		
Photographs, per roll (including development)		12.00	-	<b>SUBCONSULTANTS:</b>	\$ -
Overnight Postage, per package		20.00	-	<b>SUB MULTIPLIER:</b>	1.00
Parking		14.00	-	<b>BUDGETED SUBS:</b>	\$ -
OTHER:		-	-		
				<b>TOTAL:</b>	\$ 25,835.10
<b>SUBTOTAL ODC: \$</b>					
<b>SUBCONSULTANTS:</b>					
			ITEM COST		
NAME / DESCRIPTION			\$ -		
NAME / DESCRIPTION			-		
<b>SUBTOTAL SUBS: \$</b>					

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## ESTIMATE OF PROFESSIONAL SERVICES

### Task 9: Public Involvement

**STV Proposal or Job Number:** 0070551 **Client Job Number:** 18-089-9; Task 5  
**Project Description/Location:** Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
**Client:** Arlington County  
**Design Assumptions:** 1. Design staff will not be required to attend the public meetings or public hearing meetings  
 2. No renderings will be developed by the design staff

**Prepared By/Date:** LEH 09/08/21  
**Reviewed By/Date:** JB 09/10/21

#### Manhours by Classification

**Direct Labor Estimate:**

	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Total
Task 9.0 - Public Involvement	By Sharp and Company							-
Task Oversight and Coordination	48							48
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
<b>Manhour Totals:</b>	48	0	0	0	0	0	0	<b>48</b>
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	
<b>Budgeted Costs:</b>	\$13,557	\$0	\$0	\$0	\$0	\$0	\$0	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	<b>Summary</b>  <b>BUDGETED COSTS:</b> \$ 13,556.64 <b>EFFORT MULTIPLIER:</b> 1.0000 <b>BUDGETED EFFORT:</b> \$ 13,556.64  <b>ODC:</b> \$ - <b>ODC MULTIPLIER:</b> 1.00 <b>BUDGETED ODC:</b> \$ -  <b>SUBCONSULTANTS:</b> \$ 162,108.02 <b>SUB MULTIPLIER:</b> 1.00 <b>BUDGETED SUBS:</b> \$ 162,108.02  <b>TOTAL:</b> \$ 175,664.66
Air Fare, per airline ticket		600.00	-	
Ground Transport, per vehicle-trip		30.00	-	
Meals, per person per day		30.00	-	
Lodging, per room-night		200.00	-	
Third-Party Photocopies, per copy		0.15	-	
Blackline or Blueline Prints, per sheet		0.80	-	
Bond or Vellum Reproductions, per sheet		1.25	-	
Mylar Sepias, per sheet		10.00	-	
Photographs, per roll (including development)		12.00	-	
Overnight Postage, per package		20.00	-	
Parking		14.00	-	
OTHER:		-	-	
<b>SUBTOTAL ODC:</b>			<b>\$ -</b>	

**SUBCONSULTANTS:**

	ITEM COST	
Sharp and Company	\$ 162,108.02	
NAME / DESCRIPTION	-	
<b>SUBTOTAL SUBS:</b>		<b>\$ 162,108.02</b>





**ESTIMATE OF PROFESSIONAL SERVICES**

**Task 8: Estimated CA Services - To be further refined/negotiated at 100%**

STV Proposal or Job Number: 0070551 Client Job Number: 18-089-9; Task 5  
 Project Description/Location: Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
 Client: Arlington County  
 Design Assumptions: 1. Assumes Construction Duration of 16 months  
 2. Billing Rates will be renegotiated or escalated at 3% to account for the start of construction  
 3. Estimate provided for budgeting purposes; hours/fee to be revisited at 90% design  
 4. It is assumed that CA services will be invoiced

Prepared By/Date: LEH 09/08/21  
 Reviewed By/Date: JB 09/10/21

**Manhours by Classification**

Direct Labor Estimate:	Sr. PM	Planning Director	Sr. Eng./ Sr. Arch/ Sr Estim.	Eng. 2	Arch.	Eng. 1	Sr Tech Cadd	Total
<u>Construction Administrative Services</u>								
Task Management and Coordination	32		68	480	80		80	740
<u>Construction Technical RFI and Submittal Reviews</u>								
Site Civil			40	80	40		120	280
Drainage								-
Traffic, including MOT, pavement markings			40	40		40		120
Street Lighting			40					40
Lighting (Parking Lot and Bus Loop)			40	40				80
Architectural Design			40		60		80	180
Structures Design			40	40				80
Systems/Comm			40	80				120
Electrical Design	8		80	80			80	248
Landscape Design			40	40				80
								-
								-
TO BE FURTHER REFINED AND NEGOTIATED AT 90%								
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
								-
<b>Manhour Totals:</b>	40	0	468	880	180	40	360	1,968
<b>Hourly Payroll Rate:</b>	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	
<b>Budgeted Costs:</b>	\$11,297	\$0	\$100,531	\$140,298	\$26,957	\$4,984	\$36,738	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	
Air Fare, per airline ticket		600.00	-	
Ground Transport, per vehicle-trip		30.00	-	
Meals, per person per day		79.00	-	
Lodging, per room-night		280.00	-	
Third-Party Photocopies, per copy		0.15	-	
Blackline or Blueline Prints, per sheet		0.80	-	
Bond or Vellum Reproductions, per sheet		1.25	-	
Mylar Sepias, per sheet		10.00	-	
Photographs, per roll (including development)		12.00	-	
Overnight Postage, per package		20.00	-	
Parking		14.00	-	
<b>SUBTOTAL ODC: \$</b>				-

		ITEM COST	
SUBCONSULTANT (Estimated)		\$ 28,998.00	
			-
<b>SUBTOTAL SUBS: \$</b>			28,998.00

<b>Summary</b>	
<b>BUDGETED COSTS:</b>	\$ 320,805.88
<b>EFFORT MULTIPLIER:</b>	1.0000
<b>BUDGETED EFFORT:</b>	\$ 320,805.88
<b>Escalation = 3%:</b>	\$ 330,430.06
<b>ODC:</b>	\$ -
<b>ODC MULTIPLIER:</b>	1.00
<b>BUDGETED ODC:</b>	\$ -
<b>SUBCONSULTANTS:</b>	\$ 28,998.00
<b>SUB MULTIPLIER:</b>	1.00
<b>BUDGETED SUBS:</b>	\$ 28,998.00
<b>TOTAL: \$ 349,803.88</b>	



## ESTIMATE OF PROFESSIONAL SERVICES

### Task 10: N. Sycamore Street and I-66 Off Ramp Traffic Signal Design

STV Proposal or Job Number: 0070551 Client Job Number: 18-089-9; Task 5  
 Project Description/Location: Bus Bay Expansion at East Falls Church Metrorail Station -Final Design Services  
 Client: Arlington County  
 Design Assumptions:

Prepared By/Date: LEH 09/08/21  
 Reviewed By/Date: JB 09/10/21

#### Manhours by Classification

Direct Labor Estimate:	Sr. PM	Planning Director	Sr. Arch/Sr Eng	Eng. 2	Arch.	Eng. 1	TechCadd	Total
Project Management and Coordination	2		12					14
separate invoicing and project reports for optional task & accounting								-
Data Collection								-
Field Visit & Processing Field Work			2			4		6
As-Built Data Collection & Review			4			2		6
30% Design Submission - Preliminary Design								-
Cover Sheet						1		1
Sheet Set Up - Pole Layouts			4			16		20
DE/Arl Co/WMATA Coordination			8					8
QC & Submittal Preparation			4			4		8
80% Design Submission								-
Provide comment responses & progress plans			4			12		16
Quantity Takeoff			1			2		2
Develop Communication/Interconnect Plan			4	4		8		16
Change interval sheets and Initial timings			8					8
DE/Arl Co/WMATA Coordination			4			6		10
Develop Draft Cost Estimate			3					3
30% Comment Resolution Meeting			7			6		13
QC & Submittal Preparation								-
Boring Locations Exhibit			2		2			4
100% Design Submission								-
Provide comment responses & Update plans			2			8		10
Update interval sheets & Signal Timings				2		4		6
Update Quantities & Cost Estimate			2			4		6
DE/Arl Co/WMATA Coordination			8					8
100% Comment Resolution Meeting			2			6		8
QC & Submittal Preparation			7					13
Final Bid Documents								-
Comment Resolution Meeting			2					2
Provide Comment Responses & Update Plans			2			8		10
QC & Submittal Preparation			4			4		8
Signing & Sealing of Plans			2			1		3
Procurement Services								-
Attend Prebid Meeting				2				2
RFI Bidder Questions				2				2
Bidder Addenda (up to one sheet revised)			2		2			4
CA Services								-
Site Visits (Up to 2)			6					6
Review & Approve Shop Drawings (Up to 2)			4					4
Address contractor RFIs (Review of up to 4)	2		8		15			25
Prepare Minor Design Revisions (Up to 1 Revisions)	1		4		6	8		19
Review & Approve Signal As-Built			4					4
Manhour Totals:	5	0	126	10	25	112	0	278
Hourly Payroll Rate:	\$282.43	\$267.15	\$214.81	\$159.43	\$149.76	\$124.61	\$102.05	
Budgeted Costs:	\$1,412	\$0	\$27,066	\$1,594	\$3,744	\$13,956	\$0	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -	
Air Fare, per airline ticket		600.00	-	
Ground Transport, per vehicle-trip		30.00	-	
Meals, per person per day		30.00	-	
Lodging, per room-night		200.00	-	
Third-Party Photocopies, per copy		0.15	-	
Blackline or Blue-line Prints, per sheet		0.80	-	
Bond or Vellum Reproductions, per sheet	18	1.25	22.50	
Mylar Sepias, per sheet		10.00	-	
Photographs, per roll (including development)		12.00	-	
Overnight Postage, per package		20.00	-	
Parking		14.00	-	
OTHER:		-	-	
<b>SUBTOTAL ODC:</b>			<b>\$ 22.50</b>	

		ITEM COST	
NAME / DESCRIPTION		\$ -	
NAME / DESCRIPTION		\$ -	
<b>SUBTOTAL SUBS:</b>		<b>\$ -</b>	

		Summary
<b>BUDGETED COSTS:</b>	\$	47,772.83
<b>EFFORT MULTIPLIER:</b>		1.0000
<b>BUDGETED EFFORT:</b>	\$	47,772.83
<b>ODC:</b>	\$	22.50
<b>ODC MULTIPLIER:</b>		1.00
<b>BUDGETED ODC:</b>	\$	22.50
<b>SUBCONSULTANTS:</b>	\$	-
<b>SUB MULTIPLIER:</b>		1.00
<b>BUDGETED SUBS:</b>	\$	-
<b>TOTAL:</b>	\$	47,795.33

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# Subconsultant Fee Estimates

**East Falls Church Bus Bay Expansion**  
**Arlington County, Virginia**  
**15-Sep-21**  
**Contract # 18-089-9, Task 5**

<b>BASE SCOPE</b>				
Classification	Hours	Rate		Extension
Project Manager	38	\$256.85		\$9,760.30
Senior Engineer	346	\$204.68		\$70,819.28
Construction Manager	-	\$185.34		\$0.00
Engineer	412	\$132.11		\$54,429.32
Environmental Planner	296	\$129.03		\$38,192.88
<b>TOTAL LABOR</b>	<b>1,092</b>			<b>\$173,201.78</b>
Blackline or Blueline Prints	30	SHEETS	@ \$0.80/SHEET	= \$24.00
<b>TOTAL FEE</b>				<b>\$173,225.78</b>

<b>OPTIONAL SCOPE - TEST BORINGS AND LABORATORY TESTING</b>				
Classification	Hours	Rate		Extension
Project Manager	3	\$256.85		\$770.55
Senior Engineer	10	\$204.68		\$2,046.80
Construction Manager	-	\$185.34		\$0.00
Engineer	66	\$132.11		\$8,719.26
Environmental Planner	-	\$129.03		\$0.00
<b>TOTAL LABOR</b>	<b>79</b>			<b>\$11,536.61</b>
DMY Services		Per attached proposal		= \$15,769.18
<b>TOTAL FEE</b>				<b>\$27,305.79</b>

<b>OPTIONAL SCOPE - CA Services (estimated); to be renegotiated at 100% design</b>				
Classification	Hours	Rate		Extension
Project Manager	8	\$256.85		\$2,054.80
Senior Engineer	80	\$204.68		\$16,374.40
Construction Manager	0	\$185.34		\$0.00
Engineer	80	\$132.11		\$10,568.80
Environmental Planner	0	\$129.03		\$0.00
<b>TOTAL LABOR</b>	<b>168</b>			<b>\$28,998.00</b>

**Hours Summary**  
**East Falls Church Bus Bay Expansion**  
**Arlington County, Virginia**  
**Commision # 20054**

	Project Manager	Senior Engineer	Construction Manager	Engineer	Environmental Planner	Total Hours	
<b>Task 2: Data Collection, Site Investigation</b>							
Geotechnical Engineering							
Review of Existing Subsurface Data		1	8		16	25	
Geotechnical Engineering Report		2	8		48	58	
Interdisciplinary Coordination, Address Comments		1	4		4	9	
Construction Phase Services		2	6		8	16	
SUBTOTAL		6	26		76	0	108
<i>Optional Task</i>							
Subsurface Exploration Plan, Coordination							
Test Boring Stake Out and Inspection		2	4		12	18	
Boring Logs and Laboratory Testing		1	3		46	49	
SUBTOTAL		3	10		66	0	79
<b>Task 3: Environmental Documentation</b>							
Task management							
Site visit (see Note 1)		6			4	10	
Resource Evaluations					12	12	
Land use, plans & property					26	26	
Socioeconomic characteristics & community facilities					26	26	
Visual quality					10	10	
Historic properties/cultural resources					28	28	
Section 4(f)/6(f) properties					22	22	
Transportation					22	22	
Noise & vibration					14	14	
Air quality					14	14	
Natural resources							
Vegetation					12	12	
Wildlife & habitat					12	12	
Threatened & endangered species					12	12	
Water resources (including water quality)					16	16	
Hazardous materials & waste					30	30	
Utilities & infrastructure (inc SWM)					18	18	
QA/QC		2			18	20	
SUBTOTAL		8	0	0	0	296	304
<b>Task 4: 30% Design Plans</b>							
Stormwater Management/Drainage							
Prepare 30% Design Development Plans (SWM, Drainage Layout)			20		24	44	
Prepare SWM Design Memo			4		8	12	
Prepare 30% Design Quantity Take-Off (SWM, Drainage)			2		4	6	
Perform 30% Design Development QA/QC Check		4	2		2	8	
Prepare 30% Design and Conduct Design Review Meeting			8		6	14	
SUBTOTAL		4	36	0	44	0	84

<b>Task 5: Final Design and Construction Bid Documents</b>							
Stormwater Management							
<b>5.1. 60% Design Development</b>							
Prepare 60% Design Development Plans (SWM, Drainage, ESC)		56		60			116
Prepare 60% Design Development Specifications (SWM)		16					16
Prepare Miss Utilities Report							0
Prepare Draft Design Report (SWM, Drainage)		28		32			60
Perform 60% Review of Permits (SWM/ESC)		4					4
Prepare 60% Design Quantity Take-Off (SWM, Drainage, ESC)		4		8			12
Perform 60% Design Development QA/QC Check	8	12		4			24
Prepare Permit Applications (SWM/ESC)		20		8			28
Prepare 60% Design and Conduct Design Review Meeting		16		6			22
<b>5.3. 100% Design Development</b>							
Prepare 100% Design Development Plans (SWM, Drainage, ESC)		56		80			136
Prepare 100% Design Development Specifications (SWM)		8		24			32
Perform 100% Final Design Report (SWM, Drainage)		20		32			52
Prepare 100% Design Quantity Take-Off (SWM, Drainage, ESC)		4		14			18
Perform 100% Design Development QA/QC Check	8	12		8			28
Update / Finalize Permit Applications (SWM/ESC)		16		8			24
Attend 100% Design Review Meeting		4		8			24
SUBTOTAL		20	284	0	292	0	596
TOTAL BASE SCOPE	38	346	-	412		296	1,092
TOTAL BASE SCOPE PLUS OPTIONAL SCOPE	41	356	-	478		296	1,171

<b>Task 8: Estimated CA Services</b>							
Drainage		4	40		40		84
Geotechnical		4	40		40		84
Will be revisited at 100%		8	80	0	80	0	168

Staff	Labor Classification	Fully loaded hourly rate	10) meetings with team. Assumes 2 hours to attend meeting and prepare for meeting	Public Involvement Plan with up to two rounds of changes.	Public meeting (in-person) - prepare and print sign-in sheet, agenda, name tags, and comment sheet with two rounds of changes each. Coordinate and purchase other meeting materials as necessary (for example pens, hand sanitizer, etc)	Public Meeting - prepare one page two-sided factsheet with up to two rounds of changes. Translate factsheet into Spanish. Print production of 500 factheets.	Public Meeting - develop PPT template for technical team presentation with two rounds of changes. Assist technical team with script for PPT. Translation of script into Spanish.	Public Meeting - Develop up to 1 graphics, soft copy provided by technical team, print production of up to (5) 30x40 display boards in English. Due to the expensive nature of meeting boards we recommend the interpreter translate the boards if necessary.	Public Meeting - (3) staff to help set up hearing, work the sign in desk, take meeting minutes, and clean up after meeting. Assumes 2 hour meeting, 2 hour to set up, 3 hour to clean up, and 2 hours travel time (including time to pick up hearing supplies at our storage unit) for a total of 6 hours.	Public Hearing - coordinate in-person public hearing location and logistics.	Public Hearing - research and book a court reporter and interpreter.	Public Hearing - prepare and print sign-in sheet, agenda, name tags, and comment sheet with two rounds of changes each. Coordinate and purchase other meeting materials as necessary (for example pens, hand sanitizer, etc)	Public Hearing - prepare one page two-sided factsheet with up to two rounds of changes. Translate factsheet into Spanish. Print production of 500 factheets.	Public Hearing - develop PPT template for technical team presentation with two rounds of changes. Assist technical team with script for PPT. Translation of script into Spanish.	Public Hearing - develop signage (large banner) to advertise the public hearing in English and Spanish with up to two rounds of changes. Place signage at location TBD.	Public Hearing - develop and print up to (15) 30x40 display boards in English. Due to the expensive nature of meeting boards we recommend the interpreter translate the boards if necessary.	Public Hearing - (5) staff to help set up hearing, work the sign in desk, take meeting minutes, and clean up after meeting. Assumes 2 hour meeting, 2 hour to set up, 3 hour to clean up, and 2 hours travel time (including time to pick up hearing supplies at our storage unit) for a total of 6 hours.	Pop Up - coordinate logistics for a pop-up meeting at East Falls Station. These costs assume we will have 3 staff on the station for 4 hours + 2 hours to include set up and travel. Create and print a one page hand out will be made to promote the meeting. Assumes all pop-up materials will be provided such as tent, table cloth, chairs, banner, giveaway, signage. Assumes one staff will be bilingual. Assumes WMAITA will provide tent, banner, giveaway, table cloth, and staff.	Website content (2000 words in English and Spanish and 3 medium sized graphics). Other materials already budgeted for such as the factsheet will also be posted to the webpage.	Create copy and layout for 3 newspaper ads for the Washington Post and up to 2 other publications. Create insertion orders and place up to 3 ads.	Create online survey using survey monkey and promote it via paid social media and at the pop-up event. Social media ads will include mock ups with two rounds of changes, placement of ad, monitoring of ad, and summary report.	Total Hours					
Mary Arzl	Project Manager	\$287.39						1										3				2		6			
Susan Sharp	Project Manager	\$287.39																						2	2		
Dianna Pfeiffer	Web Designer	\$199.45																							0		
Alton Epstein	Senior Graphic Designer	\$123.11			2		2								2									10	74		
Chaise Gelling	Senior Communication Specialist	\$171.08	2	2		2			4	2				2										2	4	48	
Emily Ara	Communications Specialist	\$112.41																								60	
Leann Benson	Communications Specialist	\$112.41					20								20											148	
Lindsay Wood	Communications Specialist	\$112.41	20	16	2	20		8	6	10			2	20	10	10	10	24	6		20	10	20	60	274		
Kevin Price	Communications Specialist	\$112.41																								40	
Marla Mendez	Graphic Designer	\$99.63			12		20		15					12	20	6	6	45						30	20	192	
Shelley Johnson	Senior Communication Specialist	\$171.08																								0	
Nadya Kuzhicheva	Junior Communication Specialist	\$87.22			4		10			10	40	4	4	10				8	10		10	20		60	180		
Steve Morris	Communications Specialist	\$112.41				20			10					20												110	
Luke Pfeiffer	Junior Web Designer	\$99.63																								0	
Juliana Yalin	Senior Communication Specialist	\$171.08																								0	
Daria Troshchinsky	Junior Communication Specialist	\$87.22																								0	
Alan Guffee	Senior Communication Specialist	\$171.08																								0	
John Carter	Communications Specialist	\$102.70																								4	
<b>TOTAL HOURS</b>			22	18	20	92	38	52	22	52	4		20	92	38	28	156	22	52	4	102	110	198		1338		
			\$2,596.38	\$2,140.72	\$2,015.60	\$9,951.36	\$4,216.42	\$6,092.00	\$2,573.14	\$4,955.00	\$348.88		\$2,015.90	\$9,951.36	\$4,216.42	\$2,912.32	\$18,096.00	\$2,573.14	\$5,772.84		\$11,307.36	\$12,884.40	\$21,655.36		\$125,908.02		
<b>Expenses</b>																											
Court Reporter (3 hours)											\$ 500.00															\$ 500.00	
Interpreter (3 hours)											\$ 500.00															\$ 1,000.00	
Event fee											\$ 500.00															\$ 500.00	
AV Equipment											\$ 500.00															\$ 500.00	
Printing					\$ 500.00		\$ 500.00				\$ 50.00	\$ 500.00		\$ 1,000.00	\$ 1,500.00											\$ 4,050.00	
Misc public hearing supplies					\$ 200.00						\$ 200.00															\$ 400.00	
Certified Translation Services Using WMAITA preferred vendor						\$ 300.00	\$ 300.00						\$ 300.00	\$ 300.00									\$ 300.00	\$ 300.00	\$ 600.00	\$ 2,400.00	
Mileage								\$ 25.00	\$ 100.00													\$ 100.00			\$ 20,000.00	\$ 6,000.00	\$ 26,000.00
Advertising																											
																										Expenses	\$36,200.00
																										<b>Grand Total</b>	<b>\$162,108.02</b>



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**August 26, 2021**

**STV Incorporated**

Attn: Ms. Lara Hegler  
2701 Prosperity Ave, Suite 305  
Fairfax, VA 22031  
(571) 633-2228 Office  
(571) 480-2025 Cell  
[lara.hegler@stvinc.com](mailto:lara.hegler@stvinc.com)

Dear Ms. Hegler:

Re.: Topographic and Utility Surveys – I-66 Park & Ride & Bus Loop

Timmons Group is pleased to offer this proposal for topographic survey, on an approximately 3.2-acre WMATA i-66 Park & Ride and Bus Loop site located at the intersection of North Sycamore Street and Route 237 Washington Blvd. in Arlington, VA. The site is comprised of 8 individual properties belonging to WMATA, along with a portion of the VDOT I-66 Right of Way. We look forward to working with you to achieve your vision for this project.

Thank you for allowing Timmons Group to provide professional services on this project. We will provide the requested services, complying with established standards, while being mindful of costs to the Client (the “Client”) named above according to the terms and conditions of this Letter of Agreement (the “Agreement”). Prior to submittal to a public agency, all documents will be sent to the Client, if requested, to ensure a complete understanding by all parties.

**SCOPE AND SCHEDULE OF SERVICES:**

Timmons Group will provide the services as detailed on the Scope of Services attached as Exhibit A (the “Scope of Services”).

We will provide services in a timely and efficient manner and will keep you informed of the job status and any necessary changes. We estimate that the project will be completed within 4 weeks of our receipt of written Notice to Proceed. Any changes required to the Scope of Services must be approved in writing before such changes take effect, and you will be notified by the project manager. As of the date first written above, any changes in the Scope of Services caused by governing codes or Client revisions may require a schedule and/or fee change. You will be notified of any such changes in writing by the project manager.

**PAYMENT SCHEDULE:**

**FIXED FEE**

Fees for this Agreement will be billed on a monthly basis as a fixed fee per the Scope of Services in Exhibit A and will be billed per the master subcontract agreement #18-089-9.

**TERMS AND CONDITIONS:**

This Agreement shall be controlled by the provisions listed above and the Terms and Conditions in the master subcontract agreement #18-089-9. If there is any conflict between the provisions of this Letter of Agreement and the Terms and Conditions, the Terms and Conditions shall control.

We will proceed upon receipt of this signed Agreement. Please note that fees quoted are valid for sixty (60) days from the date first written above.





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**REIMBURSEMENTS:**

Any services and costs such as submittal fees, printing, courier, mileage and outside consultants not listed in the Scope of Services (“General Reimbursements”) will be invoiced separately in addition to the professional services provided under this Agreement. Reimbursements may include a reasonable handling charge of up to 15% of cost.

**PAYMENT TERMS:**

Unless otherwise provided under the terms of this Agreement, all payments will conform to the master subcontract agreement, 18-089-9.

We will proceed upon receipt of this signed agreement. Should you have any questions, you can reach me directly at (703) 554-6704 (direct), by cell (703)581-4217 or via email at [jeff.smeraldo@timmons.com](mailto:jeff.smeraldo@timmons.com).

8/26/21

Timmons Group

Date

**ACKNOWLEDGED AND ACCEPTED:**

On behalf of the Client, this Agreement, including Exhibit A [Scope of Services] Exhibit B [Terms and Conditions] is accepted and agreed to as of the date written below.

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

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



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## EXHIBIT A SCOPE OF SERVICES

Under this Agreement, Timmons Group will provide professional services relative to the project located at intersection of North Fairfax Drive and North Vermont Street in Arlington, VA and outlined in the diagram below. Fees are based on January 2021 Fully loaded rates.

### Exhibit A

**Task 1: Topographic, Property line and Subsurface Utility Location Survey:.....\$18,339.00**

Provide a field run topographical survey, as defined by the Commonwealth of Virginia, for the delineated project site shown in the diagram below consisting of approximately 1.4 acres. The survey will extend to the face of curb of the adjoining streets. survey will include location of visible physical improvements, storm and sewer structure invert data, pavement locations and 1' contour data with a DTM. The final survey will be provided in a cad format suitable for engineering design and the survey will be tied to the Virginia State Plane Coordinate System (VCS NAD83 – North) and the North American Vertical Datum 1988 (NAVD88), Arlington County or WMATA LDP coordinates if necessary. Boundary information will be shown based on any existing evidence found in the field and available records but will not constitute a boundary survey of any affected properties. The property lines and the Right of Way of the adjoining streets will be determined using found field evidence and available record information but will not constitute a boundary survey as defined by the Commonwealth of Virginia. The site is comprised of 8 individual properties and the exterior of properties will be surveyed and interior lines will be shown based on record information. The limits of the adjacent street rights of way will be researched and determined in the field if evidence is available. Results of the survey will be shown on the topographic survey.

This survey will include location of above ground evidence of utilities combined with locations of the designated utilities under the Utility Designation Investigation and Report Task. Evidence of easements, if found in records research or in the field will be shown on the survey.

**Task 2-Subsurface Utility Investigation and Report (ASCE 38-02 Quality Level B).....\$9,726.88**

TG will provide an ASCE Quality Level B utility investigation to determine the horizontal location of existing utilities within the project area. The Client or Client Representative will define this area. This investigation will include the use of electromagnetic designating equipment to mark all traceable/locatable subsurface utility features accessible from ground surface features. Both active and passive type utility detection will be used.

TG will mark the designated facilities with American Public Works Association (APWA) compliant colors. TG uses the color pink to show unknown signal paths as well as for temporary survey as outlined by (APWA) color code chart. Flags may also be placed to preserve markings in or around the designated scope of work.

Designators will use their findings to draft the configuration, direction and location of all utilities detected. All utilities will be depicted with the proper color to differentiate each separate utility system. Field sketches will include the material type and size if available upon the time of designation. Sketches will also include all specific field notes that are appropriate for the project.

All projects will have a final review with senior staff and/or manager to review all project findings. This will include the review of field sketches, all notes, photographs (when available or needed), all utility records (If available) and the finished CADD file. This will ensure all systems are accurately depicted throughout the entire scope of work.

Where non-conductive or non-locatable utilities are found, record drawings may be used to depict the approximate location. TG does not guarantee that all utilities can be designated. Circumstances beyond our control may include but not limited to non-metallic lines (without tracer wire), site conditions, depth of utilities, lack of fluid conductivity and lack of access. This investigation does not include the use Ground Penetrating Radar (GPR) or other intrusive methods such as test pits or borings.

TG will not be responsible for designating irrigation or sprinkler systems, buried tanks, wells, and septic tanks unless they are specifically requested in the scope.



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TG deliverables will include a CADD file of the designated facilities and copies of field notes or marked plans when appropriate. It can also include digital photographs when allowed or necessary to properly identify each facility. A certified report will accompany the deliverables.

**Task 3: Site Specific Work Plan and Meetings.....\$2,328.80**

This task item will be to prepare and submit the WMATA Site Specific Work Plan using the Standard WMATA SSWP forms. Fees include preparation of the plan and meeting with WMATA to ensure site access is coordinated.

The scope and fees are based on the following assumptions:

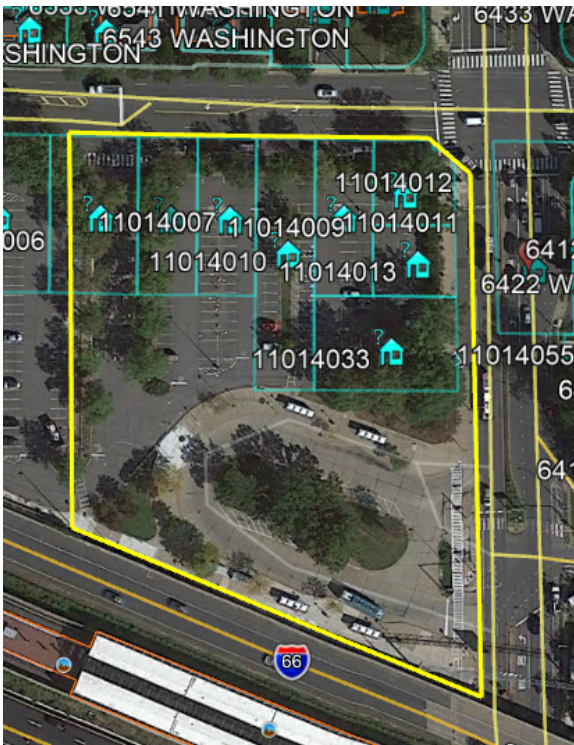
- Boundary surveys of the individual properties are excluded.
- The Client will provide project survey control or datum if possible (WMATA LDP vs. Arlington County etc.).
- Easement research is excluded. Recorded easements may be shown if a title report is provided by the Owner.
- Test Pits and Quality Level A Subsurface utility designation is excluded.

**Deliverables:**

- 2.1 topographic, Property Line and Subsurface Utility Location Survey-AutoCad drawing file and 3-D surface suitable for design.
- 2.2 Subsurface Utility Investigation Report

If additional scope items are required or if our assumptions need to be adjusted, please let me know and we will update this proposal.

**Project Site:**



**Bus Bay Expansion EFC Metro**  
**Task 1 Topographic, Property Line and Subsurface Utility Location Survey**

Category	TG Rate	Estimated Hours	Sub Total	Comments
Licensed Land Surveyor	\$166.79	8.00	\$1,334.32	April 2021 Avg Fully Loaded Rate
Survey Project Manager	\$124.31	16.00	\$1,988.96	April 2021 Avg Fully Loaded Rate
SR. Survey Technician	\$110.69	48.00	\$5,313.12	April 2021 Avg Fully Loaded Rate
Survey CAD Specialist	\$102.33		\$0.00	April 2021 Avg Fully Loaded Rate
Survey Party Chief	\$101.07	60.00	\$6,064.20	April 2021 Avg Fully Loaded Rate
Instrument Operator	\$60.64	60.00	\$3,638.40	April 2021 Avg Fully Loaded Rate
		<b>Total</b>	<b>\$18,339.00</b>	

Expenses

None

**Bus Bay Expansion EFC Metro**  
**Task 3-Utility Designating (ASCE 38-02 Quality Level B)**

Category	TG Rate	Estimated Hours	Sub Total	Comments
Licensed Land Surveyor	\$166.79		\$0.00	April 2021 Avg Fully Loaded Rate
Survey Project Manager	\$124.31	64.00	\$7,955.84	April 2021 Avg Fully Loaded Rate
SR. Survey Technician	\$110.69	16.00	\$1,771.04	April 2021 Avg Fully Loaded Rate
Survey CAD Specialist	\$102.33		\$0.00	April 2021 Avg Fully Loaded Rate
Survey Party Chief	\$101.07		\$0.00	April 2021 Avg Fully Loaded Rate
Instrument Operator	\$60.64		\$0.00	April 2021 Avg Fully Loaded Rate
		<b>Total</b>	<b>\$9,726.88</b>	

Expenses

None

**Bus Bay Expansion EFC Metro  
Task 4 SSWP and Meetings**

Category	TG Rate	Estimated Hours	Sub Total	Comments
Licensed Land Surveyor	\$166.79	8.00	\$1,334.32	April 2021 Avg Fully Loaded Rate
Survey Project Manager	\$124.31	8.00	\$994.48	April 2021 Avg Fully Loaded Rate
SR. Survey Technician	\$110.69		\$0.00	April 2021 Avg Fully Loaded Rate
Survey CAD Specialist	\$102.33		\$0.00	April 2021 Avg Fully Loaded Rate
Survey Party Chief	\$101.07		\$0.00	April 2021 Avg Fully Loaded Rate
Instrument Operator	\$60.64		\$0.00	April 2021 Avg Fully Loaded Rate
		<b>Total</b>	<b>\$2,328.80</b>	

Expenses

None