

Contract #15-03-12-01

business in the Commonwealth of Virginia.

WITNESSETH:

Spotsylvania County ("AGREEMENT"), and

THREE HUNDRED NINE DOLLARS (\$380,309.00).

Agreement shall be resolved in favor of the terms in the AGREEMENT.

first written above.

SPOTSYLVANIA COUNTY, VIRGINIA

JOHNSON, MIRMIRAN &
THOMPSON, INC.

By: _____
Edward Petrovitch _____ Dated _____
County Administrator

By: Robert Gallagher Dated: 7/31/19
Senior Vice President

Approved as to form:

 7/31/19
COUNTY ATTORNEY Dated

Asst COUNTY ATTORNEY



**ENGINEERING
SCOPE OF SERVICES &
FEE PROPOSAL**

for

**Pierson Drive Industrial Park
Spotsylvania County, VA
Contract No. 15-03-12-01
JMT Project #15-0038-0004**

Rev. June 12, 2019

Rev. May 23, 2019

May 20, 2019

Submitted To: Spotsylvania County
Board of Supervisors

 *6/20/2019*
Benjamin L. Loveday, P.E.

Director

Utilities/Public Works Department
County of Spotsylvania, Virginia

Submitted By: JMT
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Proj. #15-0038-004

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PROJECT DESCRIPTION

This project includes: overall project administration, project initiation, environmental reviews, design, quality assurance/quality control (QA/QC), permitting, the constructability review, preparation of bid documents, construction administration construction quality assurance plan & materials testing matrix, and general inspection for the Pierson Drive Industrial Park Project in Spotsylvania County. The Project is located on Pierson Drive in Spotsylvania County, VA, on Tax Map Parcels 25-1-1, 25C-2-22, 25C-2-21, 25C-2-20, and 25C-2-22A. The site is zoned I-2 (Industrial) and contains approximately 46 acres.

The proposed improvements total approximately 1,750 linear feet and generally involves the construction of a new roadway extending from Pierson Drive into the currently undeveloped property to the east as well as mass grading of the remainder of the property, in accordance with the previously prepared *Preliminary Engineering Plan* (by Bowman Consulting Group, Ltd. / June 2018). A conceptual plan of the new roadway is shown in Attachment B (*PIERSON DRIVE INDUSTRIAL ROAD ACCESS EXHIBIT*, dated May 2018). The project also includes the construction phase services for the inspection of intersection improvements, curb and gutter, storm sewer, utility relocations, pavement, pavement markings, signs, and maintenance of traffic.

Johnson, Mirmiran & Thompson, Inc. (*JMT*, or *JMT Environmental Engineer*, or *Construction Engineer*) will undertake overall execution of this project as a task order under our existing General Engineering Consulting (GEC) On-Call Contract with the County and will perform contract management, environmental, QA/QC, and construction phase services as outlined in the Scope below. Bowman Consulting Group, Ltd. (*BCG*, *BCG Environmental Engineer*, or *Engineer of Record*) will serve as a sub-consultant to JMT and will be the Engineer of Record (EOR) for the design of the Project. BCG will provide surveying, environmental, engineering design, and limited construction phase services as outlined in the Scope below.

Project Initiation and Administration, Design Quality Assurance/Quality Control (QA/QC), Permitting, Constructability Review, Preconstruction Administration, Construction Administration, Construction Quality Assurance Plan & Materials Testing Matrix, and General Inspection.

This project is funded with a combination of VDOT Economic Development/Industrial Access Program grant funding and local County funds.

STANDARD AND REFERENCE DOCUMENTS

All design, preconstruction administration, construction administration, and inspection for this project will be performed in accordance with the latest editions of the Manual for Uniform Traffic Control Devices (MUTCD), the Va. MUTCD, VDOT Inspection Manual, VDOT Work Area Protection Manual, Chapter 13 of the VDOT Locally Administered Projects Manual, VDOT Road and Bridge Specifications, VDOT Road and Bridge Standards, Spotsylvania County Water and Sanitary Sewer Design and Construction Standards (Oct. 2018), Spotsylvania County Design Standards Manual (Rev. Jan. 2012).

SCOPE OF WORK

TASK 1 – PROJECT INITIATION AND ADMINISTRATION

The project management team will include representatives from the County, JMT, BCG, and VDOT. The management team will be convened as discussed in this scope to guide the study.

Task 1.1 Kick-off Meeting

JMT will attend and help organize a kick-off meeting with representatives of the County, BCG, and VDOT. The purpose of the meeting is to discuss the study objectives, schedule, confirm study approach, corridor conditions and issues, and other related considerations. The County will be responsible for hosting the meeting and coordinating invitations to meeting attendees. JMT will assist the County in developing an agenda for the meeting.

Task 1.2 Bi-Weekly Coordination/Conference Calls

JMT will conduct ongoing management tasks throughout the project duration, including:

- Preparation of monthly progress reports detailing work accomplishments for the reporting period, budget status, schedule status, outstanding issues and action items, and overview of upcoming work.
- Bi-weekly (typically) project coordination (including a written progress report), conference calls between the JMT project manager, BCG project manager, and the County as appropriate. VDOT may be invited to these coordination meetings, subject to County approval.
- Provide overall direction and coordination, monitoring work progress, facilitating team communication, assigning staff, overseeing technical work, and implementing quality control during the design and construction phases of the Project.

Task 1 Assumptions

- Invoices and progress reports will be submitted no less frequently than monthly, and no more frequently than quarterly.

Task 1 Deliverables

- Summary meeting minutes will be prepared by JMT for review and comment by the County. JMT will finalize and distribute to meeting attendees in electronic (PDF) format.
- Invoices and written bi-weekly status/progress reports.
- Summary notes of project coordination conference calls.

Task 1 County Responsibilities

- Host kickoff meeting, coordinate invitations to kickoff meeting
- Participate in bi-weekly conference calls

TASK 2 – ENVIRONMENTAL SERVICES

Environmental Services will be performed by JMT in accordance with the Locally Administered Projects Manual, Part 3, Chapter 15 (Environmental Requirements). All necessary environmental forms for the Project will be completed and submitted either directly to the agency or to the County, whichever is appropriate, to obtain environmental clearances for this Project.

Environmental tasks for the Project are outlined below based on the understanding that the Project is funded with state/local funds, and, therefore, must follow the federal State Environmental Review Process (SERP) process for Locally Administered projects.

Task 2.1 Project Early Notification Form (EQ-429)

JMT will prepare an EQ-429 early notification form, reflecting the funding sources for the project. JMT will prepare the EQ-429, submit it to Spotsylvania County for review (and signature if necessary), and then JMT will submit it to VDOT.

VDOT will complete the Preliminary Environmental Inventory (PEI) required by the SERP process. Typical VDOT review/response times range from 30-60 days but may be longer.

Task 2.2 Threatened & Endangered Species Review

JMT will conduct coordination and database reviews with the Department of Conservation and Recreation, Department of Game and Inland Fisheries, and US Fish and Wildlife Service for the project. As part of the USFWS coordination, the steps outlined in the IPaC database will be followed and the appropriate information package will be submitted to the agency for review. This work assumes that no additional coordination beyond updated coordination and information submittals will be required. The database searches will be conducted only one time, at the onset of JMT's coordination efforts.

JMT is not responsible for any changes that may occur to the database results between the initial coordination efforts and the initiation of the project.

Task 2.3 Cultural Resources Survey

JMT will conduct the cultural resources survey at a level of effort sufficient to identify architectural resources over 50 years in age and archaeological sites present within the project's Area of Potential Effect (APE). Cultural resources surveys will be conducted in accordance with the National Historic Preservation Act of 1966, as amended and the Advisory Council on Historic Preservation's (ACHP) implementing regulations, 36 CFR Part 800, the

Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (Federal Register 48:44716-44742), the Virginia Department of Historic Resources' (VDHR) Guidelines for Preparing Identification and Evaluation Reports, and DHR's Guidelines for Conducting Cultural Resource Survey in Virginia.

Archaeological work will be conducted by or under the direct supervision of a person meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeologists (48 FR 44738-9) and architectural work will be conducted by or under the direct supervision of a person meeting the Secretary of the Interior's Professional Qualification Standards for Architectural Historian (48 FR 44738-9).

A Definition of Effect and Criteria of Adverse Effect document will be prepared and submitted to the VDHR. It is assumed that VDHR will respond with a determination of 'No Historic Properties Affected' or 'No Adverse Effect' for the project and therefore no further survey or coordination will be necessary. Typical VDHR review/response times range from 30-60 days, but may be longer depending on project complexity. Should VDHR request surveys or additional coordination beyond that described below, a separate scope of services will be prepared.

A Phase I archaeological and archaeological identification report detailing the results of the fieldwork and any resulting artifact analysis will be prepared. Additionally, recommendations for additional work, including but not limited to Phase II archaeological testing or site-level NRHP assessment will be included.

Task 2.4 Hazardous Materials Due Diligence

JMT will conduct hazardous materials due diligence for the project by performing a Phase I Environmental Site Assessment in accordance with ASTM E 1527-13 guidelines. A hazardous materials records search for the proposed project will be conducted by reviewing the following state and federal databases: NPL, CERCLIS, RCRA Solid Waste Landfills, RCRA TSD facilities, RCRA Corrective Action Sites, PCB sites, Emergency Response Network sites, and DEQ Voluntary Remediation Sites. A field review of the project site will be performed to confirm the presence or absence of sites identified through the database search. Any other potential sites (such as dry-cleaning establishments, service stations, waste water treatment facilities, etc.) in the vicinity of the project will be documented during the field review. No subsurface samples or invasive sampling, Phase II Environmental Site Assessment will be performed; if required, a Phase II Environmental Site Assessment will be performed under a change order.

JMT will prepare and deliver a brief memorandum of any potential hazardous materials concerns to the County.

JMT will also perform a search of DEQ's databases for any previously documented issues, and JMT will conduct a field review of the Project site to identify any potential hazardous materials-related issues. JMT will prepare the VDOT Hazardous Materials Due Diligence Certification for Locally Administered Projects Form (EQ-121) and provide it to the County for review and signature, if required. JMT will then submit the EQ-121 to VDOT for review.

This scope of services assumes that a Phase II Environmental Site Assessment will not be prepared for this project.

Task 2 Assumptions

- No formal surveys or habitat assessments for state federal-listed threatened/endangered species will be required.
- If the Phase I Environmental Site Assessment recommends additional subsurface or invasive study or remediation of contaminated material, then this work would be considered out of scope.
- If the cultural resource reconnaissance survey recommends additional Phase I or Phase II studies, then this work would be considered out of scope.

Task 2 Deliverables

- VDOT Form EQ-429
- Threatened and Endangered Species coordination materials
- Phase I Architectural Survey Report
- Phase I Archaeological Survey Report
- Phase I Environmental Site Assessment
- VDOT Form EQ-121

Task 2 County Responsibilities

- Provide JMT with access to project site, if required
- Provide review/signature of EQ-429 form
- Provide review/signature of EQ-121 form

TASK 3 – DESIGN QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

JMT will provide guidance and support as needed to BCG to help Project submittals and approvals flow in accordance with the Virginia Department of Transportation's (VDOT's) Locally Administered Program (LAP) process.

Task 3 Deliverables

- None

Task 3 County Responsibilities

- None

TASK 4 – DESIGN and PERMITTING SERVICES (by BCG)

BCG will perform the following Design and Permitting Services, inclusive of supporting Surveying, Wetlands Delineation, Stormwater Management, Construction Plan, Bonding, and other associated services. Refer to Attachment B for a full description of BCG's Scope of Services, Assumptions, Deliverables, and County Responsibilities.

BCG

<u>Task</u>	<u>Description</u>
1	Meetings and Management Services
2	Topographic Survey (North Side)
3	Topographic Survey (South Side)
4	Preliminary Stormwater Mgmt
5	Wetland Delineation and JD
6	Wetland Location Survey
7	Industrial Drive Construction Plan
8	Stormwater Management Design
9	Address Industrial Drive/SWM Comments
10	Final Construction Plan
11	Address Final Construction Plan Comments
12	General VPDES Permit and SWPPP
13	Permit Processing
14	Infrastructure Bond Preparation
15	Bond Reductions
16	Subdivision, ROW and Easement Ded. Plat
17	Easement Plat
18	Offsite ROW Dedication Plat (Pierson Dr)
19	Plat Coordination/Expediting

Task 4 Assumptions – refer to Attachment B

Task 4 Deliverables – refer to Attachment B

Task 4 County Responsibilities – refer to Attachment B

TASK 5 – CONSTRUCTABILITY REVIEW – not required

A constructability review for this Project is not required by the LAP manual and will not be performed as part of this task order.

TASK 6 – PRECONSTRUCTION ADMINISTRATION

After all Final Construction Design Phase Submittal comments have been addressed by the Engineer of Record, the project will be prepared for advertisement and construction.

Note: To clarify coordination of JMT and BCG forces for this task, JMT (Construction Engineer) and BCG (Engineer of Record) efforts are each described below; it is noted that BCG's scope of work is also summarized in Attachment B (BCG Task 20).

6.1 Invitation for Bid

Prior to the Invitation for Bid, the Construction Engineer will coordinate with the County to complete the VDOT Form LAP-402A and obtain required County and VDOT signatures.

An updated Invitation For Bid template will be provided by Spotsylvania County for the project. All language with red font in the template will be revised as appropriate. Unless otherwise approved by the County, language in the template with black font in the template (or as otherwise designated by the County) will not be changed. The Bid Schedule will be updated by the Engineer of Record to include all applicable materials required for the project, and each material's corresponding VDOT Item Number and Specification Number will be provided. Project specific Supplemental Conditions and Specifications will be provided by the Engineer of Record as necessary to accurately describe the scope of work illustrated in the plans. All applicable current VDOT specifications and supplemental specifications will also be provided by the Engineer of Record.

The revised Invitation for Bid will be provided by the Engineer of Record to the Spotsylvania County Division of Capital Construction, Spotsylvania County Purchasing Department and VDOT for review at least four (4) weeks prior to the proposed advertisement date for the project. Any section(s) within the Invitation for Bid documents that either requires a submission with the bid, or specifies special contractor/subcontractor qualifications, designated subcontractors, no substitute products, and product, manufacturer, or subcontractor exclusions will be specifically noted with the submission.

The Spotsylvania County Purchasing Department will establish the bid opening date, time, and Invitation for Bid Number and provide them to the Engineer of Record. Any comments received during the review of the Invitation for Bid will be addressed by the Engineer of Record as appropriate.

6.2 Bid Document Distribution

Spotsylvania County Division of Capital Construction, Spotsylvania County Environmental Engineering Department and Spotsylvania County Utilities Department will each receive one (1) full size paper copy set of the final bid documents (including plans and Invitation for Bid). Spotsylvania County Division of Capital Construction and VDOT will each receive one (1) electronic copy (PDF) of the final bid documents (including plans and Invitation for Bid). Spotsylvania County Purchasing Department will receive one (1) paper copy and one (1) electronic copy of the final Invitation for Bid.

Paper copies of bid documents (including plans and Invitation for Bid) will be made available for purchase at the Engineer of Record's office within two (2) calendar days after the advertisement date for the project. If requested, paper copies of bid documents may also be mailed to contractors for an additional charge.

Paper copies of bid documents (including plans and Invitation for Bid) will be made available at the Plan Rooms designated by the Spotsylvania County Purchasing Department within two (2) calendar days after the advertisement date for the project.

6.3 Invitation for Bid Questions and Answers

Contractors may submit written questions regarding bid documents prior to the due date and time for questions that is listed in the Invitation for Bid. A draft of responses to these questions will be provided to the Spotsylvania County Division of Capital Construction and Spotsylvania County Purchasing Department for review within two (2) days from the time that the questions were received. The Spotsylvania County Division of Capital Construction and Purchasing Department must approve all responses prior to this information being provided to plan holders. Approved responses to all questions will be provided in writing to all plan holders within seven (7) days after the due date for questions that is listed in the Invitation for Bid.

The Spotsylvania County Division of Capital Construction and Purchasing Department will be notified if any questions are received after the specified due date and time. It will be the sole discretion of the Spotsylvania County Division of Capital Construction and Purchasing Department as to whether or not these questions will be answered.

6.4 Invitation for Bid Addenda

Invitation for Bid Addenda may be necessary throughout the procurement of the project to revise information that was provided in the original bid documents. In such cases, the Addenda will be developed by the Engineer of Record and provided to the Spotsylvania County Division of Capital Construction and Purchasing Department for review. Addenda that are approved by the Spotsylvania County Division of Capital Construction and Procurement Department will be provided in writing by JMT to all plan holders. The last official addendum will be provided to plan holders prior to the specified date and time that is listed for such in the Invitation for Bid.

6.5 Bid Analysis and Award Recommendation

The Construction Engineer (JMT) will attend the Bid Opening at the date, time, and location listed in the Invitation for Bid. The County will prepare the bid tabulation sheet and record the bids that were received.

A Bid Analysis will be provided by the Construction Engineer to the County within three (3) days after the Bid Opening. Among other things, the Bid Analysis will assess the degree of competition, the reasonableness of the bids received in comparison to each other and the Engineer of Record's Construction Estimate, and the presence of mathematical or material unbalancing. The Bid Analysis will include a tabulation of each individual bidder's unit prices for each item identified in their Bid Schedule on a Microsoft Excel spreadsheet. The Construction Engineer shall provide a written certification that the unit costs shown in the tabulation are the same as those submitted with the bids.

The Bid Schedule of the apparent Low Bidder will be reviewed by the Construction Engineer, and any items included in the Bid Schedule that are more than 25% higher than the Engineer of Record's Construction Estimate for the same item will be highlighted in the tabulation. The Construction Engineer will include in the Bid Analysis a recommendation to accept or reject

each of these highlighted items. Spotsylvania County Division of Capital Construction will make the final determination as to whether or not these individual prices will be accepted or rejected.

An Award Recommendation will be provided by the Construction Engineer to the County within three (3) days after the Bid Opening. Among other things, the Award Recommendation will include a review of the bid analysis, an assessment of the apparent Low Bidder's ability to perform the work, the Low Bidder's financial rating, the Low Bidder's appropriate VDOT prequalification, and the Low Bidder's past performance on similar construction contracts.

A VDOT Project Award Submittal Package will be prepared by the Construction Engineer in accordance with the applicable requirements of Section 12.6.9.2 of the VDOT LAP Manual and provided to the Spotsylvania County Division of Capital Construction for review within five (5) days after the Bid Opening. Spotsylvania County Division of Capital Construction will forward the Project Award Submittal Package to VDOT. Any comments received during the review of the VDOT Project Award Submittal Package will be addressed by the Construction Engineer, the County, or the Engineer of Record, as appropriate.

6.6 Contract Preparation

Upon issuance of the Notice of Award by the Spotsylvania County Purchasing Department, the County will prepare four (4) bound paper copies and one (1) electronic PDF of the final contract that will be executed by Spotsylvania County and the contractor. The County Purchasing Dept. will transmit the final contract to the Spotsylvania County Division of Capital Construction. The Construction Engineer and the Engineer of Record will provide assistance to the County for supporting contract documents as required, including providing the Contractor with a PDF of the plan sets (if requested by the County). The final contract will minimally include the Invitation for Bid, any Invitation for Bid Addenda that were issued, and the following documents that were completed by the contractor and returned with the bid: Bid Form, Certification of Non-Collusion and Signature Sheet, Bid Schedule, Bid Bond, and all VDOT Forms that were required for bidding on the project. Individual items identified on the Bid Schedule that were rejected by the Spotsylvania County Division of Capital Construction will be struck through.

The word "Contract" will replace "Invitation for Bid" on the coversheet of each contract. Additionally, the Agreement section will be completed with the Agreement Date at the top of the first page being the date that the contracts are delivered to the Purchasing Department. The Names and Titles on the signature page will be left blank.

6.7 Pre-Construction Meeting

The Construction Engineer will conduct the Pre-Construction Meeting for the project shortly after the project has been awarded to the contractor and prior to the Notice to Proceed date. Spotsylvania County Division of Capital Construction, Spotsylvania County Environmental Department, Spotsylvania County Utilities Department, VDOT, impacted utility owners, and the contractor will be invited and encouraged to attend the pre-construction meeting. Spotsylvania County will determine the date and secure the meeting room for the Pre-Construction Meeting.

An agenda will be prepared by the Construction Engineer for the Pre-Construction Meeting that outlines important aspects of the bid documents (contract, plans, etc.), the current status of right of way acquisitions and utility relocations, required contractor submittals, minimum material testing requirements, and the final acceptance process. A draft agenda will be provided to Spotsylvania County for review at least seven (7) days prior to the Pre-Construction Meeting.

Spotsylvania County will approve the agenda. The approved agenda will be emailed to all anticipated Pre-Construction Meeting attendees at least three (3) days prior to the Pre-Construction Meeting.

Minutes from the Pre-Construction Meeting will be prepared and provided to Spotsylvania County for review within three (3) days after the meeting is held. Spotsylvania County will approve the minutes. The approved minutes will be emailed by the Construction Engineer to all Pre-Construction Meeting attendees within seven (7) days after the meeting is held.

Task 6 Deliverables

- Coordinate signatures for VDOT Form LAP-402A
- Answers to Invitation For Bid Questions
- Invitation For Bid Addenda (if any)
- Bid Analysis
- Award Recommendation
- VDOT Project Award Submittal Package
- Contract
- Pre-Construction Meeting Agenda and Minutes

Task 6 County Responsibilities

- Signature on VDOT Form LAP-402A
- Invitation For Bid
- Make plans available at Plan Rooms
- Establish the bid opening date, time, and Invitation for Bid Number and provide to Construction Engineer
- Approve all responses to Bid Questions prior to responses being provided to plan holders
- Determine if answers will be provided for bid questions received after the specified due date and time
- Prepare bid tabulation sheet and record the bids that were received.
- Make final determination as to whether or not individual bid prices will be accepted or rejected
- Forward Project Award Submittal Package to VDOT
- Issue Notice of Award
- Furnish PDF copy of Construction Plans for Contractor
- Determine the date and secure the meeting room for the Pre-Construction Meeting
- Provide approval of Pre-Construction Meeting Agenda
- Review/approve Pre-Construction Meeting Minutes

TASK 7 – CONSTRUCTION ADMINISTRATION

Note: To clarify coordination of JMT and BCG forces for this task, JMT and BCG efforts are each described below; it is noted that BCG's scope of work is also summarized in Attachment B (BCG Task 21).

7.1 Coordination of Contractor's Submittals

The Construction Engineer will serve as the primary point of contact for the contractor throughout the duration of construction on the project. Unless otherwise directed, the contractor will send all submittals to the Construction Engineer. Upon receipt, the Construction Engineer will review the submittal for compliance with the contract documents and distribute it within two (2) business days to the appropriate entities (Engineer of Record (for design-related shop drawings), Spotsylvania County Division of Capital Construction, VDOT, Project Inspector, etc.) for review and approval. The Construction Engineer shall establish and assign "Locality Tracking" (LT) numbers for each material or product in accordance with the requirements of the VDOT LAP manual and create/maintain a summary log of submittals. Contractor submittals may include, but are not limited to: Schedule of Values, Progress Schedule(s), Plan of Operations narrative, source of materials documentation (VDOT Form C-25), shop drawings, invoices, requests for information, proposed revisions to the plans or working hours, notices of intent to file a claim, charge orders, request for final inspection, and request for final acceptance.

7.2 Construction Progress Meetings

Progress meetings will be held monthly during the construction of the project to review recently completed and upcoming work, as well as discuss any other important issues on the project. The Construction Engineer shall prepare an agenda for the Progress Meeting, attend the meeting, and prepare minutes for distribution to attendees within seven (7) days after the meeting is held. A draft of the agenda and a draft of the minutes will be provided to Spotsylvania County for review and approval at least three (3) days before either are distributed. The Construction Engineer will be responsible for scheduling all meetings, and the County will provide a venue for all meetings.

7.3 Review and Approval of Source of Material Documentation

All Source of Materials Documentation (VDOT Form C-25) submitted by the contractor will be reviewed by the Construction Engineer and coordinated with VDOT as appropriate. The Construction Engineer will determine the appropriate approval method for each material and note it in the last column of the Form C-25. The Construction Engineer will provide comments or approval of the C-25 within five (5) business days and send copies of approved source of materials documentation to VDOT and the JMT project inspector.

7.4 Review and Approval of Shop Drawings

All design-related shop drawings submitted by the contractor will be processed for review by the Construction Engineer and will be reviewed by the Engineer of Record and coordinated with VDOT as appropriate. The Engineer of Record will provide comments or approval of the shop drawing to the Construction Engineer within five (5) business days.

7.5 Review and Approval of Wetland Boundaries and Clearing Limits

Prior to beginning construction, the contractor is required to delineate wetland boundaries and flag the proposed clearing limits. The Engineer of Record (BCG) will review the wetland boundaries and clearing limits around the wetland/stream on site for conformance with the contract documents within 48 hours of notice and provide written approval to the contractor and Spotsylvania County Division of Capital Construction that the wetland boundaries and clearing limits are accurate.

7.6 Review and Recommendation for Approval of Invoices

All invoices submitted by the contractor will be reviewed and recommended for approval by the inspector and then forwarded to the Construction Engineer. The Construction Engineer will provide joint comments or recommend approval of the invoices to the Spotsylvania County Division of Capital Construction within three (3) business days. Prior to providing comments or approval to the County, the Construction Engineer will verify the comments or recommendation for approval with the Engineer of Record. The approval will list all applicable requirements of Section 13.1.5.6 of the VDOT LAP Manual and certify that each has been fulfilled.

7.7 Review and Response to Requests for Information

All Requests for Information submitted by the contractor will be reviewed by the Construction Engineer. The Construction Engineer will consult with the Spotsylvania County Division of Capital Construction and, if necessary, the Engineer of Record, and the Construction Engineer will provide a response within three (3) days after the Request for Information was submitted. Engineer of Record should verify/draft RFIs.

7.8 Review and Recommendation for Approval of Design Changes

The Engineer of Record will review, provide comments, and recommend approval or rejection of all design changes or changes to the working hours that are proposed during the construction of the project. Design changes or changes to the working hours may be proposed by the contractor, Spotsylvania County, VDOT, or the Construction Engineer. Design changes that are required due to errors, ambiguities, or omissions in the plans or contract documents will be made by the Engineer of Record without any additional compensation. All other design changes that are proposed during the construction of the project may be negotiated and added to this scope of work as a change order.

7.9 Review and Recommendation for Approval of Construction Change Orders

Whenever a Change Order is required during the construction of the project, the Construction Engineer will coordinate the scope of work, cost impacts, and schedule impacts with the contractor, Spotsylvania County Division of Capital Construction, Engineer of Record, and the JMT project inspector. Any changes to the plans that are required will be made (including signing and sealing) by the Engineer of Record. The revised plan sheet(s) will be attached to the Change Order.

Once the scope, cost and schedule are agreed upon by all parties, the Construction Engineer will:

- 1) Prepare the Change Order using the standard template,
- 2) Recommend its approval,

- 3) Obtain the contractor's acceptance, and
- 4) Forward the signed Change Order to the Spotsylvania County Division of Capital Construction for approval.
- 5) Copy the Engineer of Record on the signed Change Order.

7.10 Punch List and Final Acceptance

After the contractor requests a Final Inspection, the Construction Engineer will meet the inspector and VDOT on site and develop a punch list of items required to be completed prior to Final Acceptance of the project. The punch list will be provided to the contractor. Once the contractor has notified the Construction Engineer that the punch list is complete, the Construction Engineer will meet the inspector and VDOT on site for a final walk-through of the project. Upon receiving Final Acceptance of the project in writing from VDOT, the Construction Engineer will recommend Final Acceptance of the project to the Spotsylvania County Division of Capital Construction.

7.11 Review and Recommendation for Assessment of Liquidated Damages

If Final Acceptance occurs after the Contract Completion Date (as adjusted in accordance with the most recent Change Order), then the Construction Engineer shall provide a written recommendation to the Spotsylvania County Division of Capital Construction regarding the amount of liquidated damages that the contractor should be assessed for not delivering the project in accordance with the contract schedule.

7.12 Review and Recommendation for Claims

The contractor may submit to Spotsylvania County a written Claim for which it properly submitted an Intent to File a Claim while performing the work. This scope of services assumes that a written Claim will not be filed by the contractor for this project. If a written Claim is filed, additional work may be added as a change order to allow the Engineer to review the claim and provide a written recommendation to the Spotsylvania County Division of Capital Construction regarding its validity.

Task 7 Deliverables

- Construction Progress Meeting Agenda and Minutes
- Submittal Log
- Approved Shop Drawings
- Scheduling of Construction Progress Meetings
- Progress Meeting Agendas and Minutes
- Approved Wetland Boundaries, Clearing Limits, and Detailed Staking Plan
- Recommendation for Approval of Invoices
- Response to Requests for Information
- Recommendation for the Approval of Design Changes
- Recommendation for the Approval of Change Orders

- Final Inspection Punch List
- Final Acceptance Letter
- Recommendation for Assessment of Liquidated Damages

Task 7 County Responsibilities

- Review shop drawings as requested by Engineer
- RFI consultation to Engineer (as required)
- Review/Approval of Construction Change Orders (in consultation with Engineer)
- Provide a venue for all Construction Progress Meetings

TASK 8 – CONSTRUCTION QUALITY ASSURANCE PLAN (QAP) AND MATERIALS TESTING MATRIX

A Construction Quality Assurance Plan (QAP) and Materials Testing Matrix will be provided with the Final Construction Design Phase Submittal. The QAP will be developed using the QAP template provided in Chapter 13 of the VDOT LAP Manual. The Materials Testing Matrix will be developed using the template provided in Attachment G. The estimated quantities of materials used to develop the Engineer's Construction Estimate at Final Construction will be used to determine the approximate number of Quality Control (QC), Independent Assurance (IA) and Verification Sampling and Testing (VST) tests required for the project.

Task 8 Deliverables

- Construction Quality Assurance Plan
- Materials Testing Matrix

Task 8 County Responsibilities

- None

TASK 9 – GENERAL INSPECTION

The following inspector(s) is anticipated to be assigned to this project: TO BE DETERMINED. A resume for a VDOT-certified inspector will be provided to the County by JMT at least 30 days prior to construction. The assigned inspector(s) will not be removed from the project for any reason until approval is granted by Spotsylvania County in writing, or Spotsylvania County requests their removal.

Note: The JMT inspector will also serve as the County's "Owner's representative" for the overlot grading on the Tax Map Parcels adjacent to the proposed Industrial Road that are identified in the Project Description. The fees in Attachment A assume that the overlot grading on adjacent parcels is conducted and completed concurrently with construction of the Industrial Access Road. If JMT's inspector is required to oversee the overlot grading beyond the duration of the

Industrial Access Road, a change order may be required for additional inspector time, including travel and expenses.

An inspector will be on the project site at all times that the contractor is working to ensure that the work is performed in accordance with the plans, specifications, and other contract documents. For the purpose of this proposal, the anticipated construction duration is assumed to be between March 2020 and August 2020. It is assumed that a total of one thousand eighty-two (1,082) hours will be required for general inspection of the project as defined within this section.

If the actual number of hours required for general inspection are greater (or less) than that identified above, the contract price will be adjusted up (or down) via Change Order based on the hourly rate identified in the Fee Summary. Spotsylvania County will be notified when approximately 90% of the agreed upon hours have been used.

9.1 Inspection of Utility Relocations

The Engineer of Record will provide the inspector with a copy of each private utility company's relocation plans. Prior to construction beginning on the project, the inspector will monitor the relocation of privately-owned utilities on a weekly basis. This will include at least two visits to the project site each week to ensure that the utilities are being relocated in the correct locations and easements (if applicable). The inspector will notify the Construction Engineer and the County if 1) a utility company is not relocating their facilities in the correct location, or 2) a correctly relocated utility appears to be in conflict with the roadway plans (including proposed drainage improvements, water/ sanitary sewer improvements, traffic signal improvements, etc.). The Construction Engineer will be responsible for coordinating any issues with the utility company.

9.2 Recordkeeping and Photographs

Both paper copies and electronic copies of all project documentation will be maintained by the inspector. Prior to issuing NTP to the contractor, Spotsylvania County will provide the inspector with a Construction Binder that includes the tabs identified in Attachment F. The inspector will file paper copies of all appropriate documentation in the Construction Binder throughout the duration of the project.

The inspector will take photographs of the project on a daily basis. Among other things, the photographs will document the contractor's progress of work, discrepancies between the plans and field conditions, utility conflicts, materials storage and stockpiles, permit compliance, and the layout of the contractor's work zone. Each photo will be given a descriptive file name with the date the photo was taken so it can be easily referenced. Several photos will be included in each Daily Diary Report.

9.3 Review of Contractor's Submittals

Upon the request of the Construction Engineer, the inspector or the Engineer of Record will review and provide comments on many of the contractor's submittals. These submittals are expected to include, but may not be limited to: Schedule of Values, Progress Schedule(s), Plan of Operations narrative, source of materials documentation (VDOT Form C-25), shop drawings, requests for payment, requests for information, proposed revisions to the plans or working hours, notices of intent to file a claim, change orders, request for final inspection, and request

for acceptance. The inspector or Engineer of Record will provide comments to the Construction Engineer within 48 hours of receiving the submittal and request for review.

9.4 Materials Testing

Although the inspector will be responsible for monitoring QC testing and QA testing of materials, the inspector will not be responsible for actually performing any QC. It is assumed that QC will be included in the contractor's bid. All materials testing will be conducted as necessary by JMT subconsultants (GeoConcepts or similar). An expense allowance has been set aside for materials testing (see Attachment A – JMT Scope and Fee). This allowance is based on the assumed construction duration (5 months). Adjustments to this allowance may be required (up or down) if the construction duration is increased or decreased.

In order to appropriately monitor material testing, the inspector will possess the following active certifications:

- VDOT Asphalt Field Level 1
- VDOT Asphalt Field Level 2
- VDOT Concrete Field
- VDOT Pavement Marking
- VDOT Soils and Aggregate Compaction
- VDOT Guardrail Installation Training (GRIT)
- American Concrete Institute (ACI) Field Testing Technician

The inspector will record the date, description of the material being tested, type of test, location that the material being tested will be placed on the project, and the result of the test in the Materials Testing Log in the format outlined in Attachment G. The inspector will reject any material that does not pass its corresponding material test and document the remediation on the log.

Tickets for stone, asphalt, and concrete will be collected and filed in the Construction Binder. Material quantities will not be tracked unless required for the allowance items identified in the contract or as part of a change order.

Allowance items identified in the contract for this project will include items to be identified by Spotsylvania County prior to the start of construction. The inspector will record the quantity of each allowance item used on a daily basis in the Daily Diary. In addition, the inspector will keep a running tally of quantities for allowance items used each week and for the duration of the project. The weekly quantities and project-to-date quantities for allowance items will be kept in the Construction Engineer's Project file.

9.5 Permit Compliance

Spotsylvania County will provide a copy of all permits and environmental commitments for the project. The inspector will be familiar with all permit requirements, monitor permit compliance during construction, and notify the County and contractor if any of the commitments are not being followed by the contractor. This will include adherence to the project's erosion and sediment control plan. Project field reviews will be coordinated with the Spotsylvania County Environmental Engineering Department. Additionally, the inspector will possess the following active certifications from the Virginia Department of Environmental Quality (DEQ):

- Erosion and Sediment Control Inspector
- Stormwater Management Inspector

The inspector will verify compliance with all permit and environmental commitments when recommending approval of contractor's monthly request for payment.

Assumptions:

- At the County's request, the JMT inspector's review of erosion and sediment control permits will include the roadway and overlot grading portions of the Project.
- Contractor will prepare VDEQ Form C107 for the overlot grading; JMT will witness and sign.
- Contractor will prepare/submit all pad site certifications
- Contractor will provide construction stakeout and as-built survey

9.6 Work Zone Safety

The inspector will review the contractor's work zone and lane closures on a daily basis to ensure compliance with the project's Maintenance of Traffic (MOT) Plan and the current edition of the VDOT Work Area Protection Manual. Any issues will be immediately brought to the contractor's attention and documented in the daily diary. If the contractor does not correct a safety issue in a timely manner, the Spotsylvania County Project Manager will be notified.

The inspector will verify that VA Traffic is notified about all lane closures prior to their installation. When the contractor requests a lane closure to extend beyond the time allowed in the contract or plans, the inspector will only approve the request if field conditions at the time warrant the extended lane closure. The inspector will verify that VA Traffic is notified about all lane closure extensions and review the extension request with the Spotsylvania County Project Manager within 24 hours.

Random inspections of the flaggers hired by the contractor will be conducted to verify that all flaggers possess a current VDOT Flagging Certification.

The safety of the traveling public and all project personnel (contractor/ subcontractor, Engineer/consultant, County, VDOT) is paramount. The inspector may order the shutdown of all construction activities if there is a concern for anybody's safety. The contractor and Spotsylvania County Project Manager will be notified immediately of all safety concerns and motor vehicle accidents that occur within the project limits. The inspector will inspect the work for general conformance with the Virginia Occupational Safety and Health Standards and possess the following active certifications:

- 10 Hour OSHA Safety Training
- VDOT Intermediate Work Zone Traffic Control

9.7 Communication and Daily Diaries

The Spotsylvania County Project Manager will be made aware of all interactions with citizens and will be immediately notified if there are any inquiries from the media. The inspector will not discuss the project with anybody representing the media. Contact information for all citizens

that have concerns about the project will be provided so the Spotsylvania County Project Manager can follow up with them. Any issues regarding rejected materials, permit compliance, work zone safety, or plan errors will be brought to the attention of the Construction Engineer before the end of the day. Although this project will have VDOT oversight, personnel representing VDOT cannot direct the contractor unless there is an imminent concern for safety. The inspector will relay any other concerns that are raised by VDOT to the Construction Engineer before the end of the day. The Construction Engineer will consider all VDOT concerns and determine if any changes need to be made.

The inspector will record daily construction activities, weather conditions, allowance items, and inspection hours in a Daily Diary using the template identified in Attachment H. The Daily Diary will also include several photographs that document the progress of work and any issues that were discovered on that date. Each photo will have a caption. Photos that document work progress will include the approximate station and direction that the picture was taken in the caption. Photos that depict issues will include a description of the issue in the caption.

Electronic copies of Daily Diaries will be emailed to the Spotsylvania County Project Manager within seven (7) days after the date of the report.

9.8 Final Inspection, Punch List, and Project Acceptance

As construction of the project approaches completion (approximately 90%), the inspector will develop a preliminary punch list of work items that the contractor must complete before Spotsylvania County can issue Final Acceptance.

Once the contractor has requested Final Inspection, the inspector will provide the preliminary punch list to the Construction Engineer and Spotsylvania County Project Manager. Based on the preliminary punch list, Construction Engineer will determine if the contractor is ready for Final Inspection. The inspector will attend the Final Inspection and be able to discuss any items identified on the preliminary punch list as well as bring up any additional concerns. The Construction Engineer will provide the final punch list to the contractor and inspector.

The inspector will monitor the completion of the punch list items. Once the contractor has requested an inspection for Final Acceptance, the inspector will notify the engineer if all punch list items are complete or can be completed prior to the proposed time and date for the Final Acceptance inspection. The inspector will attend the inspection for Final Acceptance. If all punch list items have been completed, the inspector will provide written confirmation to the Construction Engineer that all contract requirements have been met and the inspector recommends Final Acceptance of the project.

9.9 Project Closeout

Within 45 days after the inspector recommends approval for the contractor's request for final payment, appropriate construction documentation in hard copy format will be provided by the Construction Engineer to Spotsylvania County along with the remainder of the construction documentation in digital copy on an appropriately sized flash drive. The digital file will include all photographs and all email correspondence for the project. Documents on the flash drive will be organized in the same folder structure identified in Attachment F that was used for the Construction Binder.

9.10 Review and Recommendation for Claims

The contractor may submit to Spotsylvania County a written Claim for which it properly submitted an Intent to File a Claim while performing the work. This scope of services assumes that a written Claim will not be filed by the contractor for this project. If a written Claim is filed, additional work may be added as a change order to allow the inspector and/or Construction Engineer and/or Engineer of Record to review the claim and provide a written recommendation to the Spotsylvania County Division of Capital Construction regarding its validity.

Task 9 Assumptions

- JMT Construction Engineering/inspector will serve as Owners Representative for overlot grading
- Access Road and overlot pad site grading will occur and be completed concurrently
- Contractor will prepare/submit all pad site certifications
- Contractor will provide construction stakeout and as-built survey
- VDEQ C107 forms will be submitted by the Contractor

Task 9 Deliverables

- Materials Testing Log
- Daily Diaries
- Preliminary Punch List
- Recommendation for Final Acceptance
- Completed Construction Binder (hard copy)
- Completed Construction Binder (balance of documents in electronic copy with all pictures)

Task 9 County Responsibilities

- Provide review/approval of proposed JMT Construction Inspector
- Provide construction inspector with Construction Binder (w/tabs per Attachment F)
- Identify allowance items and provide to construction inspector
- Provide JMT's Construction Engineer and inspector with copies of all permits
- Review/Filing of VDEQ Form C107 for the overlot grading
- Follow-up on citizen concerns or media inquiries
- Issue Final Acceptance

PROJECT SCHEDULE

Based on discussions with the County, the *planned* schedule for the **Design / Legal / Permitting** and **Construction** phases of the Project are outlined below. It is specifically noted that actual dates may vary based on review/approval timelines of third parties (permitting agencies, VDOT, etc.), construction contingencies (i.e. weather delays, unexpected conditions, etc.), and other factors beyond the control of the Engineer and County.

Design / Legal / Permitting Phase

County – VDOT Agreement Authorized	May 2019
County / Engineer Agreement Board Approval	July 2019
Archeological / Environmental Studies	July / August 2019
90% Roadway Design	July – September 2019
Final Roadway Design / Permitting	September – November 2019

Construction Phase

Draft Invitation for Bid Submittal	November 2019
Invitation for Bid Advertisement	December 2019
Award Contract / Board Approval	February/March 2020
Begin Road Construction	March/April 2020
End Road Construction	September 2020

CHANGE ORDERS

Any Change Orders to this Scope of Services and Fee Proposal will be submitted to the Spotsylvania County Division of Capital Construction for approval. These Change Orders will be provided in the format outlined in Attachment I and include:

- Description of the change(s) to the scope of services
- Proposed Fee for the additional work
- Fee Summary that details the original fee and previously approved change orders
- Cumulative percentage that change orders are over the original fee

A man-hour breakdown will be provided with each Change Order, and all Change Orders will be agreed upon in writing prior to beginning the work described therein.

BUDGET ITEMS Summary (Budget costs reflected in the Tasks above)

The anticipated quantity of each Budget Item is listed in the Scope of Services and included in the price of the Fee Summary in Attachment A. If the actual number of the Budget Item required for the Project is greater (or less) than that identified in the Scope of Services, the contract price will be adjusted up (or down) based on the following contractual hourly rates:

Task 9	Construction Manager	\$__122.84	Per Hour
Task 9	Senior Inspector RT	\$__ 78.53	Per Hour
Task 9	Senior Inspector OT	\$__93.57	Per Hour

FEES

A summary of the JMT Team's fees (including subconsultants) is provided in Attachment A, including a breakdown of JMT man-hours by task, and JMT expenses. JMT's fee is calculated on an hourly (Not To Exceed) basis.

BCG's scope and fee is included in Attachment B, with hourly rates and Lump Sum items identified on a task-by-task basis.

ATTACHMENT A – JMT TEAM FEE SUMMARY

Spotsylvania County
County Contract No. 15-03-12-01
JMT Project No. 15-0038-004
Industrial Road Construction

Rev. 6/12/2019
Fee Proposal

BASE SERVICES

Total Direct Labor Costs (Hourly NTE):	\$217,857
Total Direct Expenses (NTE):	<u>\$162,452</u>
Total Estimated Non-Binding Fee (Rounded) - Not to Exceed:	\$380,309

Spotsylvania County
County Contract No. 15-03-12-01
JMT Project No. 15-0038-004
Direct Labor Costs
Rev. 6/12/2019

[illegible]

Spotsylvania County

County Contract No. 15-03-12-01

Direct Expenses

Rev. 6/12/2019

Expense Type	Amount	Unit	Unit Cost	Total
Quality Assurance Materials Testing (LS allowance-Not to Exceed)*	1	LS	\$8,500.00	\$8,500.00
Printing, Copying, Required Plans, etc.	1	LS	\$850.00	\$850.00
Inspector Truck (\$875/Mo)	5	Monthly	\$875.00	\$4,375.00
Mileage (environmental fieldwork)	475	Miles	\$0.58	\$276.93
Subconsultant Fees (Bowman Consulting Group)	1	Varies	\$146,450.00	\$146,450.00
Subconsultant Expenses (Bowman Consulting Allowance)	1	LS	\$2,000.00	\$2,000.00

*QA Materials Testing assumes use of JMT Geotechnical Subconsultant

TOTAL	\$162,451.93
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BCG Fee Summary

Task	Description	Fee	Fee Type	Qty	Total
1	Meetings and Management Services	\$ 3,500.00	Hourly Est.	1	\$ 3,500.00
2	Topographic Survey (North Side)	\$ 4,750.00	Hourly NTE	1	\$ 4,750.00
3	Topographic Survey (South Side)	\$ 7,500.00	Hourly NTE	1	\$ 7,500.00
4	Preliminary Stormwater Mgmt	\$ 6,500.00	Hourly NTE	1	\$ 6,500.00
5	Wetland Delineation and JD	\$ 8,950.00	Hourly NTE	1	\$ 8,950.00
6	Wetlands Location Survey	\$ 8,500.00	Hourly NTE	1	\$ 8,500.00
7	Industrial Drive Construction Plan	\$ 15,000.00	Hourly NTE	1	\$ 15,000.00
8	Stormwater Management Design	\$ 12,000.00	Hourly NTE	1	\$ 12,000.00
9	Address Industrial Drive/SWM Comments	\$ 4,000.00	Hourly Est.	1	\$ 4,000.00
10	Final Construction Plan	\$ 35,000.00	Hourly NTE	1	\$ 35,000.00
11	Address Final Construction Plan Comments	\$ 8,000.00	Hourly Est.	1	\$ 8,000.00
12	General VPDES Permit and SWPPP	\$ 2,500.00	Lump Sum	1	\$ 2,500.00
13	Permit Processing	\$ 2,500.00	Hourly Est.	1	\$ 2,500.00
14	Infrastructure Bond Preparation	\$ 1,000.00	Lump Sum	1	\$ 1,000.00
15	Bond Reductions	\$ 500.00	Unit Price	3	\$ 1,500.00
16	Subdivision, ROW and Easement Ded. Plat	\$ 6,000.00	Hourly NTE	1	\$ 6,000.00
17	Easement Plat	\$ 4,000.00	Hourly NTE	1	\$ 4,000.00
18	Offsite ROW Dedication Plat (Pierson Dr)	\$ 3,750.00	Hourly NTE	1	\$ 3,750.00
19	Plat Coordination/Expediting	\$ 1,500.00	Hourly Est.	1	\$ 1,500.00
20	Pre-Construction Administration Services	\$ 5,000.00	Hourly NTE	1	\$ 5,000.00
21	Construction Administration Services	\$ 5,000.00	Hourly NTE	1	\$ 5,000.00
Total NTE =					\$ 146,450.00

ATTACHMENT B – BOWMAN CONSULTING SCOPE AND FEE

Revised June 5, 2019

Revised May 30, 2019

Revised May 6, 2019

April 11, 2019

Robert T. ("Bob") Gallagher
Johnson, Mirmiran & Thompson, Inc.
9201 Arboretum Parkway, Suite 310
Richmond, Virginia 23236

**Re: Pierson Drive Industrial Park (the "Project")
Proposal to provide Engineering, Surveying, and Environmental services (the "Proposal")**

Dear Mr. Gallagher:

We are pleased to submit this *revised* Proposal to provide engineering, surveying, and environmental services for the above referenced Project. Upon verbal or written direction to proceed with performance of the services described herein, this Proposal, along with all attachments thereto will constitute a binding agreement (the "Agreement") between Bowman Consulting Group, Ltd. ("BCG") and Johnson, Mirmiran & Thompson, Inc. (the "Client").

Bowman Consulting Group has the resources and experience to make your project a success. In addition to Engineering, Surveying, and Environmental services, BCG also provides Planning, Transportation, Landscape Architecture, 3D Laser Scanning, and Subsurface Utility Engineering services to clients across the nation.

The Project is located on Pierson Drive in Spotsylvania County, Virginia, on Tax Map Parcels 25-1-1, 25C-2-22, 25C-2-21, 25C-2-20, and 25C-2-22A. The site is zoned I-2 (Industrial) and contains approximately 46 acres.

It is our understanding that the Project consists of the final design of 1,750 feet of Industrial Drive and the mass grading of the remainder of the property, in accordance with the previously prepared Preliminary Engineering Study. Plans to be prepared in accordance with typical private development formatting. Plans and plats to be prepared with AutoCAD. Plans will not be formatted to VDOT/Public Plan Standards.

SCOPE OF SERVICES AND FEES

The scope of services (the "Scope") and associated fees shall be as follows:

1. Meetings, Coordination, and Management Services:

BCG will attend meetings and conferences required by the Client, his attorney, or his representatives. Furthermore, we will meet with Spotsylvania County, the Virginia Department of Transportation, and other public agencies that might be involved in the development of the project on an as needed basis. Since we cannot forecast the scope and nature of these special meetings and conferences, BCG will perform this work on a time basis in accordance with the attached hourly rate schedule.

FEE: Hourly Rates (Budget Estimate of \$3,500.00)

2. **Topographic Survey (Obscured Areas North Side):**

Prepare a topographic survey of the various obscured areas on Tax Map Parcel 25-1-2 between Pierson Drive and Rosser Street as identified by the engineer. This includes the area of the proposed sanitary sewer connection across Tax Map Parcel 25-1-1. Two-foot contour intervals will be established by field run survey methods. This task includes blending in the additional topography into the existing base drawing.

This survey will be in accordance with the U.S. National Map Accuracy Standards as established by the U.S. Geological Survey.

FEE: Hourly Rates (Not to exceed \$4,750.00 without Client authorization)

3. **Topographic Survey (Obscured Areas South Side):**

Prepare a topographic survey of the large obscured area between Rosser Street and the southern property line of Tax Map Parcel 25-1-2 as identified by the engineer. Two-foot contour intervals will be established by field run survey methods. This task includes blending in the additional topography into the existing base drawing.

This survey will be in accordance with the U.S. National Map Accuracy Standards as established by the U.S. Geological Survey.

FEE: Hourly Rates (Not to exceed \$7,500.00 without Client authorization)

4. **Preliminary Stormwater Management / BMP Design:**

BCG will prepare a preliminary site drainage study and sizing calculations for an on-site stormwater management (SWM) and water quality plan (BMP). This work will be used in determining if the current wet pond can be reduced in size or if it needs to be enlarged. The calculations will identify adequate outfall locations and confirm the rough sizes of the facilities.

FEE: Hourly Rates (Not to exceed \$6,500.00 without Client authorization)

5. **Wetland Delineation and Jurisdictional Determination:**

BCG shall conduct a wetland delineation for the Project based on the requirements of the Corps of Engineers' Wetlands Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0, 2010). The limits of investigation for the study shall include Tax Map Nos. 25-1-1 and 25-1-2 (approximately 75 acres) to establish the wetland boundaries for the overall Project area. BCG shall delineate and flag the boundaries of waters of the U.S. and wetlands, and will collect photographs and data points to document existing site conditions and jurisdictional areas. Using available property boundary and mapping information, BCG will then prepare and submit to the Client and the U.S. Army Corps of Engineers (USACE) a Wetland Delineation Report and Map, which summarize the results of the field investigation and identify those areas that are most likely within the regulatory purview of the USACE. BCG will also meet with the USACE for the Jurisdictional Determination (JD) site visit to review and confirm the flagged waters of the U.S. and wetland boundaries, and will update the Wetland Delineation Map as necessary to reflect any changes agreed to in the field. Please note that the flagged waters of the U.S. and wetland boundaries will be field-located under separate survey task to be included on the Wetland Delineation Map.

FEE: Hourly Rates (Not to exceed \$8,950.00 without Client authorization)

6. **Wetlands Location Survey:**

BCG will field locate those waters of the U.S. and wetland boundaries at the Project as flagged under the Wetland Delineation and Jurisdictional Determination task and generally depicted on the revised wetland/stream survey areas exhibit. The scope of the work includes establishing temporary horizontal control necessary to perform the survey, and further includes the office processing and QA/QC of the field data once the survey is complete. Upon completion of the survey, BCG shall provide the flagging locations relative to the property boundary in an AutoCAD format, to be incorporated into the Wetland Delineation Map under separate task. Note that this fee is for an 8 acre portion on the south side of the site

FEE: Hourly Rates (Not to exceed \$8,500.00 without Client authorization)

7. **Industrial Drive Construction Plan:**

Preparation of a construction plan for Industrial Drive from Pierson Drive to the end of the cul-de-sac (approximately 1,750 linear feet). This shall include a 50' wide right-of-way, typical section (2 lanes), interchange designs, erosion and sediment controls (phase I/II), general notes/narratives, tapers, pavement transitions, left and right turn lanes, striping, traffic controls, sight distance, drainage considerations, and submittal to Spotsylvania County. This task includes initial preparation and submission of the plan. Comments will be addressed under Task #9 below. Note: Roadway to run through 25-6-D.

FEE: Hourly Rates (Not to exceed \$15,000.00 without Client authorization)

8. **Stormwater Management Design:**

Remove the existing stormwater management facility and preparation of a design for a stormwater management facility and BMP device, as determined by the approved state regulations. This will utilize hydrology and hydraulic methods accepted by the County (SCS or Rational Methods). This shall include narrative, design of facility (emergency and principal spillways, embankment and pond grading or underground structure, as necessary), design of Best Management Practices (BMP) measures for water quality mitigation, and details in conformance with Spotsylvania County's Stormwater Management Ordinance and Design Manual. This task is for the initial preparation of the plan. Revisions will be prepared under Task #9 on an hourly basis.

FEE: Hourly Rates (Not to exceed \$12,000.00 without Client authorization)

9. **Address Industrial Drive/SWM Design Plans Comments:**

Comments provided by Spotsylvania County, Planning Commission, VDOT, other State or County review agencies during and after TRC will be addressed under this task.

FEE: Hourly Rates (Budget Estimate of \$4,000.00)

10. **Final Construction Plan:**

Preparation of a construction plan for the mass grading of the 46 acre site, in according to the requirements of VDOT and Spotsylvania County. Plan set to be based on the layout as shown on the preliminary concept plan prepared by the Client (dated January 2018) and will include grading plans; plans and profiles for water line, sanitary sewer and storm sewer; two phase erosion/sediment control plans; storm sewer computations; lighting plan, landscaping plan, and earthwork analysis. This task includes initial preparation and submission of the plan. Comments will be addressed under Task #11 below.

FEE: Hourly Rates (Not to exceed \$35,000.00 without Client authorization)

11. **Address Final Construction Plan Comments:**

Comments provided by Spotsylvania County, Planning Commission, VDOT, other State or County review agencies during and after TRC will be addressed under this task.

FEE: Hourly Rates (Budget Estimate of \$8,000.00)

12. **General VPDES Permit and SWPPP:**

BCG will prepare and submit an application to the County and Virginia Department of Environmental Quality (DEQ) for coverage of the Project under the General VPDES Permit for Discharges of Stormwater from Construction Activities VAR10. As required by the General VPDES Permit, BCG will also prepare a Stormwater Pollution Prevention Plan (SWPPP) for the Project, which will be developed based on available site construction plan information and general requirements outlined in the Permit's Conditions. Please note that the following fee does *not* include the required permit application fees, or any inspections and reporting required under the SWPPP.

FEE: Lump Sum of \$2,500.00

13. **Permit Processing:**

Assist Client in obtaining plan and plat approvals, bond estimates, applications to Spotsylvania County and/or VDOT, grading permits and field inspections.

FEE: Hourly Rates (Budget Estimate of \$2,500.00)

14. **Infrastructure Bond Preparation:**

Preparation of an infrastructure bond estimate.

FEE: Lump Sum of \$1,000.00

15. **Bond Reductions:**

Preparation of bond reductions for all outstanding letters of credits or bonds. This shall include field inspections, percent compete and submission to Client for processing through county.

FEE: Unit Price of \$500.00 (per reduction)

16. **Subdivision, Right-of-Way and Easement Dedication Plat:**

BCG shall prepare a subdivision plat to subdivide out an approximately 8.00 acre portion of Tax Map 25C-1-2 from the overall project limits in accordance with Spotsylvania County requirements. The plat will depict new parcel lines, right-of-way dedication and county easements such as access, and storm drain. Deed preparation, submission and recordation fees are the responsibility of the Client.

FEE: Hourly Rates (Not to exceed \$6,000.00 without Client authorization)

17. **Easement Plat:**

BCG shall prepare an onsite easement plat, in accordance with the approved site plan and Spotsylvania County standards. Deed preparation, recordation, and submission fees are the responsibilities of the Client.

FEE: Hourly Rates (Not to exceed \$4,000.00 without Client authorization)

18. **Offsite Right-of-Way Dedication Plat (Pierson Drive Connection):**

Office computations and drafting for the preparation of a Right-of-Way Dedication Plat in accordance to state and local requirements. This fee includes coordination with county reviewers and the attorney preparing the deed. Deed preparation, county submission fees and recordation will be the Client's responsibility.

FEE: Hourly Rates (Not to exceed \$3,750.00 without Client authorization)

19. **Plat Coordination/Expediting:**

Provide coordination with County review agencies, attorneys, other consultants and Clients, and perform miscellaneous tasks, such as county comments, removal of approval conditions (if possible), changes to ownership and "swapping out" plats at the County. BCG does not guarantee and cannot be held responsible for plat expedition.

FEE: Hourly Rates (Budget Estimate of \$1,500.00)

20. **Pre-Construction Administration Services:**

BCG will assist JMT during the bidding process to include bid schedule, invitations to bid, addressing comments received during the bid review process, providing invitation for Bid Addenda, and addressing comments from the review of the VDOT Project Award Submittal Package.

FEE: Hourly Rates (Not to exceed \$5,000.00 without Client authorization)

21. **Construction Administration Services:**

BCG will assist JMT during the construction process to include review of shop drawing submittals, review wetland boundaries and confirm clearing limits do not encroach outside of permitted impacts, review invoices and recommend approval, provide responses for requests for information, review requests for design changes, and review change order requests. A separate design fee will be prepared and presented to the owner for review and approval if a design request change is approved by the owner.

FEE: Hourly Rates (Not to exceed \$5,000.00 without Client authorization)

SUMMARY MATRIX

Task	Description	Fee	Fee Type	Qty	Total
1	Meetings and Management Services	\$3,500.00	Hourly Est	1	\$3,500.00
2	Topographic Survey (North Side)	\$4,750.00	Hourly NTE	1	\$4,750.00
3	Topographic Survey (South Side)	\$7,500.00	Hourly NTE	1	\$7,500.00
4	Preliminary Stormwater Management	\$6,500.00	Hourly NTE	1	\$6,500.00
5	Wetland Delineation and JD	\$8,950.00	Hourly NTE	1	\$8,950.00
6	Wetland Location Survey	\$8,500.00	Hourly NTE	1	\$8,500.00
7	Industrial Drive Construction Plan	\$15,000.00	Hourly NTE	1	\$15,000.00
8	Stormwater Management Design	\$12,000.00	Hourly NTE	1	\$12,000.00
9	Address Industrial Drive/SWM Comments	\$4,000.00	Hourly Est	1	\$4,000.00
10	Final Construction Plan	\$35,000.00	Hourly NTE	1	\$35,000.00
11	Address Final Construction Plan Comments	\$8,000.00	Hourly Est	1	\$8,000.00
12	General VPDES Permit and SWPPP	\$2,500.00	Lump Sum	1	\$2,500.00
13	Permit Processing	\$2,500.00	Hourly Est	1	\$2,500.00
14	Infrastructure Bond Preparation	\$1,000.00	Lump Sum	1	\$1,000.00
15	Bond Reductions	\$500.00	Unit Price	3	\$1,500.00
16	Subdivision, ROW and Easement Ded. Plat	\$6,000.00	Hourly NTE	1	\$6,000.00
17	Easement Plat	\$4,000.00	Hourly NTE	1	\$4,000.00
18	Offsite ROW Dedication Plat (Pierson Dr)	\$3,750.00	Hourly NTE	1	\$3,750.00
19	Plat Coordination/Expediting	\$1,500.00	Hourly Est.	1	\$1,500.00
20	Pre-Construction Administration Services	\$5,000.00	Hourly NTE	1	\$5,000.00
21	Construction Administration Services	\$5,000.00	Hourly NTE	1	\$5,000.00
Total Estimated Fee					\$146,450.00

EXCLUSIONS

The following services are specifically excluded from the scope of this agreement and may be performed as contract addendums upon request:

- Services other than described herein
- All Archaeological Survey
- All Environmental Reports and/or Permitting other than described herein
- ALTA/NSPS Land Title Survey
- As-built Survey
- Bio-Retention Filters
- Boundary Survey
- Construction Administration Services
- Color Renderings
- Final Building Location
- Geotechnical Report
- Hardscape Design and Layout
- Monitoring and/or Testing
- Off-site Design services
- Topography Survey other than described herein
- Tree Survey
- Any and all Structural Engineering or Testing Services

REIMBURSABLE EXPENSES

Reimbursable expenses shall include actual expenditures made by BCG in the interest of the Project and will be invoiced at the actual cost to BCG plus fifteen percent (15%) for handling and indirect costs.

Reimbursable expenses shall include but not be limited to costs of the following:

- Mailing, shipping, and out source delivery (i.e. DHL, FedEx) costs
- Fees and expenses of special consultants as authorized by the Client

REPROGRAPHIC, COURIER AND OTHER CHARGES

Reprographic, plotting, in-house courier, and archive retrieval services will be invoiced in accordance with Schedule A attached hereto.

CLIENT RESPONSIBILITIES

The Client shall be responsible for obtaining permission for BCG, its employees, agents and subcontractors to enter onto the subject property and any properties in the vicinity as reasonably necessary for BCG to perform the services described herein. By either countersigning this Proposal or verbally authorizing BCG to proceed, the Client warrants and represents that it has obtained such permission. The Client shall provide the following items upon request of BCG in a timely manner and at no expense to BCG:

- Submission Fees

OTHER TERMS

This proposal is based on the scope of services indicated herein and the information available at the time of the proposal preparation. If any additional services are required due to unforeseen circumstances and/or conditions, client or regulatory requested revisions, additional meetings, regulatory changes, etc, Bowman will notify the client that additional scope of work and fees are required and will obtain the client's written approval prior to proceeding with any additional work.

BCG's Standard Terms and Conditions and Hourly Rate Schedule are attached hereto and incorporated into this Proposal by reference. You should read these standard terms and conditions and assure yourself that you understand them prior to accepting this proposal or authorizing BCG to proceed with the performance of the services described herein.

In the event you wish to accept this proposal, please execute, initial all pages and return one executed original to this office. The individual executing this proposal represents and warrants that he has the authority to sign on behalf of Johnson, Mirmiran & Thompson, Inc.

Sincerely,
BOWMAN CONSULTING GROUP, LTD.



Justin R. Troidl, PE
Branch Manager

Johnson, Mirmiran & Thompson, Inc. hereby accepts all terms and conditions of this Proposal (including the Standard Terms and Conditions) and authorizes BCG to proceed with the Project.

JOHNSON, MIRMIRAN & THOMPSON, INC.

By: _____
(Signature)

Printed Name: _____

Title: _____

Date: _____

**BOWMAN CONSULTING
SCHEDULE A - FEES FOR REPROGRAPHIC,
DELIVERY, TRAVEL, AND OTHER SERVICES**

January 2019

Reprographic Services

B&W Photo Copies	\$0.35/sf, or \$0.23 for 8-1/2" x 11" sheet
Color Photo Copies	\$0.50/sf, or \$0.32 for 8-1/2" x 11" sheet
Printing (bond)	\$0.35/sf, or \$2.10 for 24" x 36" sheet
Printing (mylar)	\$3.00/sf, or \$18.00 for 24" x 36" sheet

Binding, Mounting and Folding of plan sets, reports, or drawings will be invoiced at our standard hourly rates. Copying of Plans that have been archived in storage is subject to a minimum archive retrieval fee of \$50 plus applicable reprographic fees above.

Delivery Services

In-house delivery services are invoiced at \$2.00 per mile (one way) and subject to a minimum \$20.00 charge for standard delivery during normal business hours. Rush services and times outside normal business hours are subject to a minimum \$20.00 surcharge.

Outsourced courier services (i.e. Federal Express, DHL, etc.) are invoiced at cost plus 15%.

Travel

Mileage for employee travel by car to facilitate the project, including travel to the project site and for meetings with the client, project team, contractors, or governmental agencies, will be invoiced at the current IRS standard mileage rate.

Airfare and/or lodging to facilitate the project will be coordinated with the client in advance and will be invoiced at cost plus 15%.

Miscellaneous

Other costs associated with sub-consultants, specialty equipment, laboratory testing, field testing, tolls, parking or other miscellaneous items will be invoiced at cost plus 15%.

Initials: BCG  / Client

**BOWMAN CONSULTING
SCHEDULE B - HOURLY RATE**

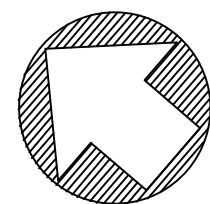
January 2019

CLASSIFICATION	HOURLY RATES
Principal	\$295.00/HR
Department Executive	\$245.00/HR
Senior Project Manager	\$200.00/HR
Project Manager	\$175.00/HR
Project Coordinator	\$143.00/HR
Senior Surveyor	\$163.00/HR
Engineer I II III	\$120.00/HR \$135.00/HR \$155.00/HR
Planner I II III	\$120.00/HR \$140.00/HR \$150.00/HR
Designer I II III	\$100.00/HR \$115.00/HR \$130.00/HR
CADD Drafter I II III	\$ 95.00/HR \$110.00/HR \$128.00/HR
Landscape Architect I II III	\$105.00/HR \$115.00/HR \$130.00/HR
Certified Arborist	\$165.00/HR
Senior Environmental Scientist	\$160.00/HR
Environmental Scientist I II III	\$120.00/HR \$140.00/HR \$150.00/HR
Right of Way Specialist I II III	\$ 95.00/HR \$110.00/HR \$125.00/HR
Survey Technician I II III	\$ 97.00/HR \$112.00/HR \$138.00/HR
Project Surveyor	\$148.00/HR
Survey Field Crew – 1 Man	\$117.00/HR
Survey Field Crew – 2 Man	\$179.00/HR
Survey Field Crew – 3 Man	\$214.00/HR
3D Scanning Crew	\$230.00/HR
Survey Field Technician	\$ 61.00/HR
3D Modeling Technician	\$122.00/HR
UAV Operation	\$179.00/HR
SUE Field Crew – 1 Man	\$117.00/HR
SUE Field Crew – 2 Man	\$179.00/HR
SUE Field Crew – 3 Man	\$214.00/HR
SUE Field Crew – 4 Man	\$249.00/HR
SUE Utility Coordinator	\$163.00/HR
SUE Technician I II III	\$ 97.00/HR \$112.00/HR \$138.00/HR
Machine Control Technician	\$128.00/HR
Administrative Professional	\$ 80.00/HR

Table 5 - DEFAULT 2019 DC Metro

Initials: BCG  / Client

ATTACHMENT C – PIERSON DRIVE INDUSTRIAL ROAD
ACCESS EXHIBIT (May 2018)



LD 160015042
TM# 25-6-C
ZONING: I1
USE: INDUSTRIAL

BATTLE PARK INDUSTRIAL COMPLEX
DB 928 PG 267
TM# 25D-1-1
ZONING: I1
USE: INDUSTRIAL

BATTLE PARK INDUSTRIAL COMPLEX
LD 050008888
TM# 25D-6-D
ZONING: I1
USE: INDUSTRIAL

PIERSON DRIVE

FBP-WAREHOUSE1 LLC
LD 040001676
TM# 25-10-1
ZONING: I1
USE: INDUSTRIAL

FREDERICKSBURG BUSINESS PARK
LD 040001675
ZONING: I1
USE: INDUSTRIAL

FUT. PARCEL #1

FUT. PARCEL #2

FUT. PARCEL #3

FUT. PARCEL #4

FUT. PARCEL #7

FUT. PARCEL #6

FUT. PARCEL #5

PROPOSED PUBLIC INDUSTRIAL ROAD
50' ROW

ROW

EXISTING SWM/BMP WET POND

FUT. SWM PARCEL

N/F
THE UNITED STATES OF AMERICA
DB 433 PG 413 (PARCEL NO. 2)
TM# 25-1-2C
ZONING: R2
USE: VACANT

N/F
THE UNITED STATES OF AMERICA
DB 433 PG 413 (PARCEL NO. 1)
TM# 25-1-2B
ZONING: I1/R2
USE: VACANT

N/F
THE UNITED STATES OF AMERICA
DB 433 PG 413 (PARCEL NO. 1)
TM# 25-1-2B
ZONING: I1/R2
USE: VACANT

CONCEPTUAL LAYOUT
PIERSON DRIVE INDUSTRIAL ROAD ACCESS EXHIBIT
SPOTSYLVANIA COUNTY, VIRGINIA



GRAPHIC SCALE
1" = 80'

MAY 2018

ATTACHMENT D – PROGRESS REPORT TEMPLATE



Spotsylvania County
County Division of Capital Construction

Progress Report

PROJECT NAME:

JOB NUMBER:

DATE:

WORK PERFORMED SINCE LAST PROGRESS REPORT:

Preconstruction Administration:

Construction Administration:

WORK SCHEDULED TO BE PERFORMED PRIOR TO NEXT PROGRESS REPORT:

Preconstruction Administration:

Construction Administration:

MAJOR ISSUES/ OUTSTANDING ITEMS CAUSING DELAYS:

INFORMATION REQUIRED FROM OUTSIDE PARTIES:

Outside Party	Information Required

CURRENT PROJECT SCHEDULE:

<u>Milestone</u>	<u>Original Completion Date</u>	<u>Current Completion Date</u>
Invitation For Bid Advertisement	[Month YEAR]	[Month YEAR]
Begin Construction	[Month YEAR]	[Month YEAR]
End Construction	[Month YEAR]	[Month YEAR]

ATTACHMENT E – INSPECTOR RESUME(S)

AVAILABLE UPON REQUEST AT TIME OF PREPARATION OF DRAFT

ADVERTISEMENT FOR BIDDERS

ATTACHMENT F – INSPECTOR BINDER TEMPLATE

Contract Documents

Executed Contract
ROW Agreements
NTP Letter
List of Subcontractors
Progress Schedules
Progress Meetings
Work Orders
Stop Work Orders
Monthly Pay Vouchers
Final Acceptance Letter
Pre-con Meeting

Inspection Documents

Emergency Contacts
Daily Diaries
Environmental Permits
Work Zone Checklists
Surveyor's Notes
Punchlist

Materials Documents

Source of Materials
Testing Matrix
Test Reports
Invoices/Delivery Tickets

[illegible]

ATTACHMENT H – DAILY DIARY TEMPLATE



Spotsylvania County
County Division of Capital Construction

Daily Diary

NAME OF INSPECTOR WRITING THIS REPORT:

PROJECT NAME:

JOB NUMBER:

DATE:

WEATHER:

PRECIPITATION AMOUNT:

HIGH TEMPERATURE:

HOURS WORKED BY CONTRACTOR:

VISITORS ON SITE (County, State, Contractor, etc.):

NAME OF CONTRACTOR SUPERINTENDENT:

LABOR ON SITE:

EQUIPMENT ON SITE:

OVERVIEW OF WORK PERFORMED TODAY:

Maintenance of Traffic:

Environmental:

Utilities:

Grade:

Drainage:

Paving:

Materials Testing and Inspection:

Issues and Resolutions:

ALLOWANCE ITEMS:

	Quantity Today
Excess Excavation	C.Y.
Borrow Excavation	C.Y.

SUMMARY OF INSPECTION SERVICES TODAY:

Name	Title	Hours Today
	Inspector	
	Senior Inspector	
	Construction Manager	

PHOTOS WITH DESCRIPTION:

ATTACHMENT I – CHANGE ORDER TEMPLATE

PO #

CHANGE ORDER # [X]

PROJECT: [Project Name]
Spotsylvania County Division of Capital
CLIENT: Construction
DATE: [date]

THE FOLLOWING CHANGES TO THE SCOPE OF SERVICES HAVE BECOME NECESSARY

DESCRIPTION OF CHANGE(S)	FEE
1.	\$
2.	\$
3.	\$
TOTAL FEE ADJUSTMENT FOR ABOVE SERVICES:-----	\$

FEE SUMMARY

	DATE APPROVED	FEE
ORIGINAL FEE	[date]	\$
CHANGE ORDER #1	[date]	\$
CHANGE ORDER #2	[date]	\$
TOTAL		\$

FOLLOWING THE PROCESSING OF CO # [X], THE CUMULATIVE CO AMOUNT IS [XX.XX]%
OF THE ORIGINAL FEE

Signed,

[Engineer's
Signature]

[Engineer's Name]
[Consulting Firm's Name]
[date]