**SUB-CONSULTING AGREEMENT**

This Sub-consulting Agreement for **Engineering Services** (“Sub-consulting Agreement”) is made as of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2021(“Effective Date”) by and between **GreenVest, LLC** a New Jersey limited liability company with an office located at **4201 Northview Drive, Suite 202, Bowie, MD 20716** ("GV"), and **McCormick Taylor, Inc.**, a Pennsylvania corporation, with its primary office located at **Two Commerce Square, 2001 Market St., 10th Floor, Philadelphia, PA 19103** (“Sub-consultant”) for the work on the **PGDoE Liberty Sports Park Stream Restoration Project** (“Project”).

In consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, GV and Sub-consultant, each intending to be legally bound, hereby agree as follows:

**ARTICLE 1 SCOPE OF WORK;** **PROVISIONS INCORPORATED**

1. **Scope of Work**. Sub-consultant agrees to perform the services and to provide the materials listed in the Scope of Work in the form of ***Exhibit A***. All work done pursuant to this Scope of Work or any modifications thereto shall be governed by all the provisions of this Subcontract as if set forth herein.
2. **Provisions Incorporated**.
   1. **Licensure requirements**. Sub-consultant shall obtain and maintain all necessary licenses and/or certifications, where licensure and/or certification are required for the provision of services under the terms of this Agreement.
   2. **Compliance with laws**. Sub-consultant and/or its assigned subcontractors shall keep fully informed of all Federal, State, and local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed on the PGDoE Liberty Sports Park Stream Restoration Project (“Project”) or which in any way affect the conduct of the Project. The Sub-consultant shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees. The Sub-consultant shall protect and indemnify GV and Prince George’s County (the “County”), and their representatives against any claim or liability arising from or based on the violation of any law, ordinance, regulation, order, or decree, whether by Sub-consultant, the Sub-consultant's agents, any lower-tier subcontractor, or anyone directly or indirectly employed by Sub-consultant.
   3. **Subcontract Clause Requirements**. Sub-consultant shall include in each of its subcontracts:

i. a payment clause which obligates Sub-consultant to pay the subcontractor for satisfactory performance under its subcontract within seven (7) days out of such amounts as are paid to

Sub-consultant by GV for such work performed under such contract; and ii. an interest penalty clause which obligates Sub-consultant to pay to the subcontractor an interest penalty on amounts due (or such other percentage as identified in County Code Section 10A-153) in the case of each payment not made in accordance with the payment clause included in the subcontract

* + 1. for the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and
    2. computed at a rate of one and a half percent (1.5%) of the amount due per month for every month (or such other percentage as identified in County Code Section 10A-153).

iii. a clause in its subcontracts requiring the subcontractor to:

* + 1. include a payment clause and an interest penalty of one and a half percent (1.5%) of the amount due per month for every month (or such other percentage as identified in County Code Section 10A-153) in each of its subcontracts; and
    2. require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

**ARTICLE 2 PAYMENT**

1. **Payment Use**. Payment received by Sub-consultant shall be used to satisfy the indebtedness owed by Subconsultant to any of its Sub-consultants, suppliers or other persons furnishing labor or materials for use in performing Sub-consultant’s work on this project before it is used in any other manner. GV shall have the right at all times to contact Sub-consultant’s Sub-consultants and suppliers to ensure that the same are being paid promptly by Sub-consultant for labor or materials furnished for use in performing Sub-consultant’s work.
2. **Invoices for Payment; Taxes**. Sub-consultant’s invoice for payment shall be itemized and supported by substantiating data **billed monthly on a fixed price percentage completion basis by task as described in Subconsultant’s Scope of Work for project tasks/sub-tasks one (1) through twelve (12). Direct charges shall be billed monthly on actual amounts utilized/delivered as described in Sub-consultant’s Scope of Work**. Subconsultant’s invoices for payment for work performed in the preceding payment period shall be submitted to GV according to the terms of this Subcontract for approval of GV. Sub-consultant shall be responsible for payment of all taxes, it incurs as a result of performance of this Sub-consulting Agreement and in the normal course of its business.
3. **Retainage**. Retainage in the amount of five percent (5%) of each invoice will be withheld by GV until thirty (30) days following final acceptance of Sub-consultant’s work by GV, to cover any existing or threatened claims, liens and stop notices relating to the Scope of Work or any other amounts due to GV for uncompleted work.
4. **Lien Release**. As a prerequisite for payment, Sub-consultant shall execute a Release, Waiver of Lien and Affidavit as set forth in ***Exhibit B*** hereto. Such waivers may be made conditional upon payment.
5. **Time of Payment.** Progress payments to Sub-consultant for satisfactory performance of Sub-consultant’s work shall be made within seven (7) days out of such amounts as are paid to GV by the County for such work performed under this Subcontract. In the even that there is a good faith dispute over all or a portion of the amount due on a payment from GV to Sub-consultant, GV may withhold the disputed amount but shall pay the undisputed amount. Should Sub-consultant further subcontract work, Subcontract shall be responsible for the same requirement and interest penalties for payment to its Sub-consultants (lower tier Sub-consultants) after receiving payment as applicable to GV. GV shall pay Sub-consultant the amounts listed on the approved invoices, less any Retainage (if applicable), and less any amount which GV is otherwise entitled to withhold. Payment will be made subject to GV’s inspection that Sub-consultant’s work has been completed in a satisfactory manner that conforms to the terms of this Subcontract and the Scope of Work. Failure by GV to pay any portion of an invoice amount in dispute shall not postpone, alleviate, diminish or modify in any respect Sub-consultant’s obligation to complete the work in accordance with the Subcontract, and Sub-consultant shall not cease or slow down its performance under the Subcontract on account of such amount. No payment will be processed or owing to Sub-consultant for services or work under this Subcontract if an event of default by Sub-consultant has occurred or has been declared. In the event that any conflicting claim arises regarding the right to receive payments which may become due from GV under the terms of the Subcontract, GV may withhold any or all disputed payment amount until such dispute is resolved in a court of competent jurisdiction.
6. **Final Payment**. Final payment shall constitute a waiver of all claims for additional compensation by Subconsultant relating to Sub-consultant’s work but shall in no way relieve Sub-consultant of liability for the obligations assumed under this contract, or for faulty or defective work appearing after final payment.
7. **Interest Penalties.** Should GV violate Article 2.5 above, GV shall pay to Sub-consultant a penalty of one and a half percent (1.5%) of the amount due per month for every month (or such other percentage as identified in County Code 10A-153) that payment is not made. Interest penalties shall accrue daily beginning eight (8) calendar days after payment is received by GV and ending on, but excluding, the payment date, using the rate established in this Paragraph calculated on a monthly (30-day) basis. This requirement is enforceable in the Circuit Court Prince George’s County, and is not intended to create a private right of action against the County. Willful violations of this requirement may also result in a contractor be suspended or debarred.

**ARTICLE 3 CHANGE ORDERS AND DELAYS**

1. **Change Orders**. The total compensation paid to Sub-consultant under this Subcontract **shall not exceed**

**FOUR HUNDRED THIRTY-FOUR THOUSAND ONE HUNDRED SEVENTY-TWO DOLLARS**

**($434,172.00)** absent a Change Order signed by both parties. Tasks 1-12 shall not exceed four hundred thirty-two thousand five hundred nineteen dollars and fifty-eight cents ($432,519.58). Direct charges shall not exceed one thousand six hundred fifty-two dollars and forty-two cents ($1,652.42). If a Change Order requires an adjustment to the contract price, Sub-consultant must provide a detailed itemization and justification of such adjustments and costs to request an increase in the amount of the approved budget. All Change Orders must be signed by both parties and state their agreement upon the change in the scope of the work and price.

1. **Delay**.
   1. GV shall not be liable to Sub-consultant for any damages or additional compensation as a consequence of delays beyond GV’s control, it being understood and agreed by Sub-consultant that, apart from recovery from said person, Sub-consultant’s sole and exclusive remedy for delay shall be an extension in the time for performance of Sub-consultant’s Scope of Work. Subconsultant agrees to prosecute the work continuously and diligently and no charges or claims for damages shall be made by it for any delays, interruptions, or hindrances from any cause whatsoever during the progress of any portion of the work specified in this Agreement.
   2. Time extensions will be granted only for excusable delays that arise from unforeseeable causes beyond the control and without the fault or negligence of Sub-consultant, including but not restricted to, acts of God, acts of the public enemy, acts of the State, acts of another contractor in the performance of a contract with GV, fires, floods, epidemics, quarantine restrictions, strikes, or delays of subcontractors or supplies arising from unforeseeable causes beyond the control and without the fault or negligence of either Sub-consultant or its subcontractors or suppliers.

**ARTICLE 4 PROJECT MANAGER’S OBLIGATIONS**

1. **Authorized Representative**. GV shall designate one or more person(s) who shall be GV’s authorized representative(s) onsite and/or offsite. Such authorized representative(s) shall be the only person(s) Sub-consultant shall look to for instructions, orders, and/or directions, except in an emergency. GV may change such authorized representative(s) at any time upon notice to Sub-consultant.

**ARTICLE 5 SUB-CONSULTANT’S OBLIGATIONS**

1. **Responsibilities**. Sub-consultant shall furnish all of the labor, materials, equipment and services as are necessary for the proper performance of Sub-consultant’s work in accordance with the Subcontract. Sub-consultant shall be responsible for any damage or risk of loss to any materials and equipment.
2. **Authorized Representative**. Sub-consultant shall designate one or more person(s) who shall be Subconsultant’s authorized representative(s) on-site and off-site. Such authorized representative(s) shall be the only person(s) to whom GV shall issue instructions, orders, and/or directions, except in an emergency. Sub-consultant may change such authorized representative at any time upon prior written notice to GV.
3. **Cleanup**. Sub-consultant shall follow GV’s cleanup and safety directions, and (a) at all times keep the job site, premises and surrounding area free from debris, accumulation of waste materials or rubbish, and unsafe conditions resulting from Sub-consultant’s work; and (b) at completion of the work, unless otherwise agreed, Subconsultant must remove from and about the job site waste materials, rubbish, Sub-consultant's tools construction equipment, machinery, and surplus materials resulting from Sub-consultant’s work. If Sub-consultant fails to comply with cleanup duties after written notification from GV of non-compliance, GV may implement such cleanup measures without further notice and charge or deduct the cost thereof from any amounts due or to become due to, Sub-consultant. This section shall survive any termination of this Subcontract.
4. **Safety; Protection of the Work**. Sub-consultant shall take reasonable safety precautions with respect to performance of this Subcontract, shall comply with safety measures initiated by GV and with applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities for the safety of persons and property. Sub-consultant shall report to GV, within three days, any injury to an employee or agent of Subconsultant which occurred at the site. Should Sub-consultant cause damage to the work or property of GV or others, Sub-consultant shall promptly remedy such damage, at Sub-consultant’s sole expense, to the satisfaction of GV, or GV may so remedy and deduct the cost thereof form any amounts due or to become due Sub-consultant. Notwithstanding any other provision of this Subcontract and notwithstanding Sub-consultant’s presence at the Project site for any reason or any purpose, Subcontract shall not have control or change of, and shall not responsible for, construction means, methods, techniques, sequences or procedures, for safety precautions and programs in connection with work or activities at the Project site, for the acts or omissions of any contractor, Sub-consultants or any other persons performing any work or undertaking any activities at the Project sit, or for the failure of any of them to carry out any work or perform their activities in accordance with their contractual obligations.
5. **Permits; Compliance with Laws; Environmental Matters; Hazards**. Unless otherwise provided in the Scope of Work, permits and/or licenses necessary for Sub-consultant's work must be secured and paid for by Subconsultant. Sub-consultant shall immediately notify GV of any regulatory citations, or reportable releases of hazardous materials, substances or conditions, received or resulting from the performance of this Agreement. Subconsultant shall be responsible for any required notifications to regulatory agencies related to a reportable release of hazardous materials, substances or conditions.
6. **Subcontracting and Assignment; Independent Contractors**. Sub-consultant may not assign, transfer, or subcontract this Subcontract or any part hereof without the prior written consent of GV. The approval of GV in such cases, however, will in no way relieve Sub-consultant of full responsibility for all parts of its work hereunder or for the acts and omissions of its Sub-consultants. Any assignee or Sub-consultant of Sub-consultant must agree in writing to comply with all the terms of this Subcontract. The relation of GV to Sub-consultant is that of independent contractors. Neither party is authorized to act as the agent or representative of the other party. Additionally, neither party is authorized to bind the other by oral or written act. Employees of Sub-consultant are at all times under the direct supervision and control of Sub-consultant who is responsible for all compensation of Sub-consultant’s employees and Sub-consultants.
7. **Back Charges**. Sub-consultant agrees, except as otherwise provided in this Subcontract, that no claim for back charged services rendered or materials furnished shall be valid unless Sub-consultant provides GV notice (a) prior to furnishing of the services or materials except in an emergency affecting the safety of persons or property; and (b) in writing of such claim within three (3) days of first furnishing such services or materials; and (c) of the written charge for such services or materials no later than the fifteenth (15th) day of the calendar month following that in which the claim originated.
8. **Work Product Including Drawings.** Upon final payment of all sums due under this Subcontract, Sub-consultant grants to GV such rights of ownership in the work product, drawings, specifications, reports, etc. generated by Sub-consultant in performing its work hereunder as are necessary for GV to satisfy its contractual obligations to its Client with regard to ownership of such documents. Such rights granted to GV shall be limited to use of the documents in connection with this Project. Sub-consultant will, upon request, immediately provide such drawings, specifications, reports, etc., to GV. Notwithstanding the foregoing, Sub-consultant retains all rights to continue to use such documents and their content in its business activities. This section shall survive termination of this Subcontract.

**ARTICLE 6 SUBCONTRACT AGREEMENT PROVISIONS**

1. **Workmanship**. Every part of Sub-consultant’s work shall be executed in strict accordance with the Agreement in the degree of care and workmanlike manner customarily performed by members of the same profession currently practicing under similar circumstances at the same time and in the same or similar locality (“Standard of Care”). All materials used in Sub-consultant’s work shall be furnished in ample qualities and quantities to facilitate the proper and expeditious executions of the work. All work furnished by Sub-consultant and any of Sub-consultant’s assignees or Sub-consultants must conform to all plans, specifications, permits and/or special conditions provided by GV and/or required by law as well as the Standard of Care.
2. **Materials Furnished by Others**. In the event the scope of Sub-consultant’s work includes installations and/or planting of materials or equipment furnished by others, it shall be the responsibility of Sub-consultant to examine the items so provided and thereupon handle, store and install and/or plant the items with such skill and care as to ensure a satisfactory and proper installation and/or planting. Loss or damage due to acts of Sub-consultant shall be deducted from any amounts due or to become due to Sub-consultant.
3. **Substitutions.** No substitutions shall be made in Sub-consultant’s work or materials unless approved in writing by GV. Sub-consultant shall indemnify GV as a result of such substitutions, whether or not Sub-consultant has obtained approval thereof.
4. **Professional Standard.** Services furnished hereunder shall be rendered competently by qualified personnel. For professional services, Sub-consultant will exercise reasonable care, skill, competence and judgment consistent with the Standard of Care in performing the services and in meeting any estimate of cost or schedule set forth in the proposal or Scope of Work.

**ARTICLE 7 TERMINATION & SUSPENSION BY PROJECT MANAGER**

1. **Material Breach**. Sub-consultant shall be in material breach of this Subcontract upon the occurrence of any of the following, which breach remains uncured for three (3) days after written notification by GV, unless such period is otherwise extended by GV in writing in its sole discretion: (a) Sub-consultant refuses or fails to supply enough properly skilled workers, proper materials, or maintain the schedule of work as required under the Scope of Work; (b) Sub-consultant fails to make prompt payment for its workers, Sub-consultants or suppliers; (c) Subconsultant disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; (d) Sub-consultant files a petition under applicable bankruptcy law, becomes insolvent, is unable to pay its debts as they become due, makes an assignment for the benefit of creditors, dissolves, ceases to conduct business; (e) Subconsultant otherwise is in material breach of any provision of this Subcontract.
2. **Remedies.** Upon any such material breach, GV, without prejudice to any rights or remedies, shall have the right to any or all of the following remedies: (a) supply such number of workers and quantity of materials, equipment and other facilities as GV deems necessary for the completion of Sub-consultant’s work, or any part thereof which the Sub-consultant has failed to complete or perform after the above stated notice, and charge the cost thereof to Sub-consultant, who shall be liable for the payment of same including reasonable overhead, profit and reasonable attorneys’ fees and expenses; (b) contract with one or more additional contractors, to perform such part of the Subconsultant’s work as GV shall determine will provide the most expeditions completion of the total work and charge the cost thereof to Sub-consultant; (c) withhold payment of any moneys due to Sub-consultant pending corrective action in amounts sufficient to cover losses and compel performance to the extent required by and to the satisfaction of GV; and (d) terminate this Subcontract.
3. **Other Termination.** GV may terminate this Subcontract for any reason upon ten (10) days’ notice to Subconsultant, provided GV shall pay Sub-consultant for all work properly performed by Sub-consultant and accepted by GV prior to the termination date.
4. **Suspension.** GV may order Sub-consultant to suspend, delay or interrupt all or any part of the Subconsultant’s work for such period of time as may be determined to be appropriate for the convenience of GV. Phased or interrupted work when required shall not be deemed a suspension of work.

**ARTICLE 8 INDEMNIFICATION**

1. **Indemnification.** All risk of and liability for injury (including but not limited to death) to every person (including without limitation all Sub-consultant personnel), and any damages to or loss of use of all property and equipment, in whatever manner and by whomever and whenever occasioned, arising out of, relating to in any way, or incident to the services performed hereunder or any activities of Sub-consultant personnel or Sub-consultant’s Sub-consultant, on the premises of, or in connection with any property of, GV or its affiliates, including without limitation, failure of Sub-consultant and/or its personnel to comply with laws (including without limitation environmental and safety laws) or failure otherwise to adhere to its obligations under the Subcontract Agreement (including but not limited to obligations under any public or private permit or license for the work issued in the name of GV), shall rest upon Sub-consultant. Sub-consultant shall protect, defend at its sole cost and expense, indemnify and hold harmless GV and its affiliates, consultants, contractors, Sub-consultants, and their respective directors, partners, shareholders, officers, agents and employees (“GV Indemnified Parties”) from all such damage, liability, loss or injury to the fullest extent permitted by law, and as to all damages, claims, suits, demands or other legal proceedings, costs and expenses, including but not limited to attorneys' fees and expenses, arising under the Sub-consulting Agreement, whether instituted against the GV Indemnified Parties alone or jointly with Subconsultant or others, and whether or not negligence or liability is alleged solely against the GV Indemnified Parties, except that in the event that it is adjudicated that any liability for damages is caused by or resulting from the sole negligence of the GV Indemnified Parties then such damages shall not be indemnified by Sub-

consultant. Participation by the GV Indemnified Parties through their own counsel in Sub-consultant’s defense of any suit against the GV Indemnified Parties shall in no way dilute this indemnity. This indemnity shall survive any termination or completion of this Subcontract Agreement.

**ARTICLE 9 INSURANCE**

1. **Insurance Requirements**. Sub-consultant shall at all times during the term of this Contract obtain, maintain, comply with and keep in full force and effect for the benefit of GV, at Sub-consultant’s sole cost and expense, the insurance requirements attached as ***Exhibit C*** hereto.

**ARTICLE 10 MISCELLANEOUS**

1. **Notices.** All notices required or permitted under this Subcontract shall be in writing and shall be deemed sufficiently served if sent by Registered or Certified Mail, Return Receipt Requested, or sent by guaranteed overnight courier (e.g. FedEx). For all notices, the following addresses shall be used:

If to GV:

**GreenVest, LLC**

Attn: Doug Lashley

Address: 4201 Northview Drive, Suite 202, Bowie, MD 20716

Telephone: (410) 987-5500 with a copy emailed to: doug@greenvestus.com and dana@greenvestus.com

If to Sub-consultant:

**McCormick Taylor, Inc.**

Attention: Scott Lowe

Address: Two Commerce Square, 2001 Market St., 10th Floor, Philadelphia, PA 19103 Telephone: (410) 662-7400

with a copy emailed to: sblowe@mccormicktaylor.com

Each Party shall have the right to change the place to which notices shall be sent or delivered to

by similar notice sent or delivered in like manner to the other Party. This section shall survive any termination of this Subcontract.

1. **Governing Law.** Maryland law shall govern all disputes under this contract.
2. **Severability.** In case any one or more of the provisions or application of the provisions contained herein shall be held invalid, illegal, or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions and their application shall not in any way be affected or impaired.
3. **Dispute Resolution.** The Parties shall make a good-faith effort to amicably settle by mutual agreement any controversy or claim (dispute) which may arise between them under this Agreement. If the dispute remains unresolved forty-five (45) days after the receipt of a demand for arbitration, either Party may start binding arbitration under the Commercial Arbitration Rules of the American Arbitrator Association (AAA). The arbitration will be on a confidential basis before one arbitrator. The arbitration shall be conducted at a mutually agreeable location. No statements by or communications between the Parties during negotiations will be admissible for any purpose in arbitration. The arbitrator will have no authority to award punitive damages or any other monetary relief not measured by the prevailing Party’s actual damages (adjustments for the time value or money permitted), and will not make any decision inconsistent with the terms and conditions of this Agreement. Each Party shall bear its expenses and attorneys’ fees. Either Party may use a court of competent jurisdiction to: enforce an arbitration award; seek temporary equitable relief to protects its interests; or recover specific property, including an action in replevin.
4. **Waiver of Jury Trial.** PROJECT MANAGER AND SUB-CONSULTANT (A) WAIVE ALL RIGHTS TO TRIAL BY JURY OF ALL CLAIMS, COUNTERCLAIMS, OR DEFENSES ARISING HEREUNDER OR RELATING HERETO; (B) ACKNOWLEDGE THAT THIS IS A WAIVER OF LEGAL RIGHTS; (C) REPRESENT THAT THIS WAIVER IS MADE KNOWINGLY AND VOLUNTARILY AFTER CONSULTATION WITH COUNSEL OF THEIR CHOICE (OR THE OPPORTUNITY TO CONSULT WITH SUCH COUNSEL); AND (D) AGREE THAT ALL SUCH CLAIMS, COUNTERCLAIMS, OR DEFENSES

SHALL BE HEARD BY A JUDGE OF A COURT OF COMPETENT JURISDICTION IN MARYLAND,

WITHOUT A JURY. This section shall survive any termination of this Subcontract.

1. **Entire Agreement; Amendment.** This Subcontract, together with its Attachments*,* constitutes the entire agreement of the Parties regarding the subject matter hereof and supersedes any prior oral or written agreement of the Parties. Any legal terms and conditions contained on any invoices, proposals, purchase orders or other documents supplied by Sub-consultant after the date hereof are expressly rejected in their entirety. This Subcontract may be amended only by a written document signed by each of the Parties. Any provision declared or rendered unlawful by an applicable court of law or deemed unlawful because of a statutory change will not otherwise affect the remaining lawful obligations that arise under this Subcontract. This section shall survive any termination of this Subcontract.
2. **Publicity.** Sub-consultant shall not refer to GV, any client or company affiliated with GV, or any aspect of the work, in any press release, customer list, advertising, article or other publication without the prior written consent of GV.
3. **Time is of the Essence.** Sub-consultant acknowledges that time is of the essence and agrees to perform the work within the time specified in the Subcontract.
4. **Waiver.** Either Party’s failure or delay to insist upon strict performance of any term herein, to exercise any rights or remedies provided herein or by law, or to provide proper notice in the event of any breach hereof shall not release the other Party from any of its obligations hereunder and shall not be deemed a waiver of any such Party’s rights or remedies hereunder or at law.
5. **Counterparts.** This Subcontract may be signed in counterparts, each of which shall be deemed to be an original, and all of which taken together shall constitute one and the same instrument.
6. **Survival.** The following Articles shall survive any expiration or termination of this Subcontract: 2, 4, 5, 6, 8 and 10.
7. **Attachments Required.** 
   1. **Exhibit A – Scope of Work**
   2. **Exhibit B – Lien Releases**
   3. **Exhibit C – Insurance Requirements**

# [**Signatures on next page]**

IN WITNESS WHEREOF, each Party has caused its duly authorized representative to sign this Subcontract as of the Effective Date.

**GREENVEST, LLC MCCORMICK TAYLOR, INC.**

By: By:

Printed Name:

Printed Name:

Title:

Title:

# EXHIBIT A

Project Description

McCormick Taylor, Inc. (MT) is supporting GreenVest (GV) to provide design, TMDL/EIA crediting, permitting, construction management, and monitoring services for the Collington Branch East Tributary Option #2 which includes 250 linear feet of restoration at the downstream end of the proposed road crossing and the restoration of the mainstem and tributaries upstream of the proposed road crossing to Route 301. This Option includes the restoration and stabilization of Tributary 3 and Tributary 5 located within Prince George’s County.

Task 1 Site Overview and Existing Data Review

A detailed site reconnaissance will be required to evaluate site conditions and establish a strategy for subsequent field investigations and design issues. The effort will include observations of critical impacted reaches, associated wetlands, headcut features, adjacent development, potential construction access locations, existing utilities and infrastructure.

MT will review and synthesize available information on the watershed, including but not limited to the existing and proposed site development plans and computations for stormwater management facilities in the drainage area, Prince George’s County MS4 annual report and crediting records, and GIS data (topography, stormdrains, soils, property boundaries, roads, structures, water and sewer lines, aerial photography, resource data and historical photos). The review will for use in extracting specific information available for the project stream reaches and contributing drainage area.

Task 2 Topographic Survey Coordination

A topographic field survey of the site will be conducted by Ben Dyer Associates and GV will coordinate with the Team’s contractor. Survey will be addressed upon the decision of the scenarios selected by the County. After survey area is finalized by all Team members, the surveyor must request utility records from companies within project limits and the topography shall include a Quality Level C CADD file for all utilities (including and proposed overhead). The mapping will also include location of wetland delineation flags and tagged trees ≥6 inch DBH to be performed by others or negotiated between MT and GV. The survey performed by Ben Dyer Associated must include planimetric items such as existing and planned utilities locations including size and invert elevations; and physical site features (manholes, drainage structures, in-channel bedrock outcroppings, Marlboro clay outcrops, pipe outfalls, visible utility structures, fence lines, buildings and other permanent structures, roads, curb and gutter, sidewalks, bridges, drives, parking areas, landscaped areas, signs, mailboxes, etc.) will also be located. The mapping will show boundary lines and existing property parcels bordering the stream and will be referenced horizontally and vertically according to Prince George’s County requirements.

To accurately depict channel geometry and planform, Ben Dyer must place special attention to establishing proper break-lines at the bank toes and top-of-bank areas. This will also improve the accuracy of the digital terrain model (DTM) providing a good representation of the channel features and increasing the accuracy of cut and fill estimates. Field data will be downloaded and

processed in the Microstation environment, and a final topographic survey worksheet will be developed for the project site at one-foot contour intervals.

Task 3 Wetland Delineation and Report

3.1 Conduct Wetland Verification/Identification and Functional Assessment

MT will use existing delineation and natural resource information in digital format provided by GV. MT will conduct a field verification to confirm the presence and location of the previously identified wetlands and waterways performed for the Liberty Sports Plex and adjacent residential development.

The field verification will be performed in accordance with the Regional Supplement to the Corps of Engineers Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0 (United States Army Corps of Engineers, April 2012) to identify the upland/wetland boundaries within the study area. All identified wetlands verified in the field, the classification by cover type (forested, scrub-shrub, and emergent) will be confirmed with previously collected wetland delineation data associated with the Liberty Sports Plex and adjacent residential development. The field verification will confirm that detailed data previously collected by others meet the three parameters (vegetation, hydrology, and soils) required for an area to be considered jurisdictional under Section 404 of the Clean Water Act. MT will collect data to support a new datasheet for each wetland assessed in the field.

Wetland systems over ½ an acre will be assessed using the New England Method for functional assessment. For wetland areas less than ½ acre in size, a formal functions and values analysis will not be conducted. However, any observed functions and values will be noted on the field data sheets using best professional judgment.

If necessary, wetlands and waterway boundaries will be modified during the field verification. The modified boundaries will be located using a GNSS (SXBlue II) receiver capable of sub-meter accuracy connected to a tablet.

## ***3.2 Prepare Wetland Verification/Identification Report -***

MT will prepare a wetland verification/identification report to document the methods and results of the investigation. The report will be suitable for submittal to the U.S. Army Corps of Engineers, Baltimore District as part of the Joint Permit Application (JPA). A draft copy of the wetland report will be provided to GV and it is assumed that one round of comments will be addressed prior to finalizing the report. The report will be submitted in a format for inclusion in the 30% Design report and will contain the following:

* Brief Project Description
* Site Description
* Approach
* Verification Results
* Watercourse/Wetland Location Map(s)
* Routine Onsite Determination Data Forms
* Photographs
* Wetland Function-Value Evaluation Forms (New England Methodology), if applicable

Task 4 Agency Coordination

Letters requesting information on the presence of rare, threatened, or endangered species, as well as historic sites will be sent to MDDNR, USFWS, and MHT.

Task 5 Geomorphic Assessment and Analysis

MT will conduct a geomorphic evaluation of the site to generate a basis for the proposed restoration strategy. This effort will involve both the determination of the degree of impairment and the estimation of an appropriate stable morphology for the channel if a relatively stable reach is present at the site. The latter effort may involve locating an appropriate reference reach off-site (within the same sub-watershed) which may be used as a guide in the design efforts. The detailed assessment will involve measurements of channel geometry (plan, profile, and cross section), channel substrate (pebble counts, bulk samples), bank stability (bank height, bank slope, materials, vegetation), and in-channel and riparian habitat. Critical items to be obtained during the detailed site assessments include:

* Longitudinal profile survey (including bed surface, water surface, and indicators) – Assumed Total length approximately 4,500 linear feet (lf)
* Channel cross-sections (indicating field indicators, active channel and break lines) – Assumed ten (10) sections
* Pebble counts (at riffle features and pertinent bed facies) – Assumed seven (7) – 150 count pebble counts
* Detailed site sketch – Assumed one sketch of entire project length (4,500 lf)
* Channel plan form characteristics (radius of curvature, etc.) – Supplemented by measurements performed on aerial photography and topographic survey
* Bulk Samples (at bars and pertinent bed facies) – Assumed three (3) bulk samples
* EPA Rapid Habitat Assessment – Assumed five (4) assessments

MT will conduct a geomorphic analysis using the data collected during the fluvial geomorphic assessments. The data will be processed and evaluated using at-a-section modeling software using continuity and roughness relationships (likely Manning’s) such as Bentley FlowMaster ®, The Reference Reach Spreadsheet (Mecklenburg 2004), or created spreadsheets. Items to be evaluated include, but are not limited to:

* Slopes (bed features, water surface, and flow indicators)
* Velocity
* Tractive forces
* Hydraulic geometry values (width, depth, cross-sectional area, hydraulic radius, etc)
* Channel roughness (modified Limerinos relationship)
* Shear velocity
* Stream bed composition (surface)
* Froude number
* Critical shear stresses for bed sediments
* Bank materials, condition, and stability
* Design discharges
* Riparian vegetative communities
* Ecological uplift potential
* Geomorphic variables and ratios (plan and profile)

The geomorphic analysis will be briefly summarized in the 30% Design Memo and then fully presented in the Geomorphic Section of the Technical Report submitted at 60% Design.

Task 6 TMDL Assessments

MT will conduct additional geomorphic assessments within the project site in order to support TMDL crediting. These field efforts are necessary to support TMDL credit calculated using methods in both Protocol 1 Credit for Prevented Sediment during Storm Flow (as noted in

Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration

Projects) and Protocol 5 Alternative Prevented Sediment for Outfalls (as noted in

Recommendations for Crediting Outfall and Gully Stabilization Projects in the Chesapeake Bay Watershed). The effort involved includes:

* 1. Protocol 1

To estimate bank erosion rates at the site MT will use a modified Bank Assessment for NonPoint Source Consequences of Sediment (BANCS) model (Rosgen, 2001, 2006). The model uses two indices to estimate bank erosion, the Bank Erosion Hazard Index (BEHI), and the Near-Bank Stress (NBS).

BEHI and NBS assessment techniques will be performed at representative cross sections to correlate BEHI scores with erosion rates. The entire site will be evaluated utilizing BEHI assessment techniques. The limits of each BEHI zone will be located with GPS and erosion rates will be estimated for the entire site.

* 1. Protocol 5

MT will complete the Alternative Prevented Sediment for Outfalls (as noted in Recommendations for Crediting Outfall and Gully Stabilization Projects) for Tributary 3 and 5 which includes up to 6 equilibrium slopes modeled for generating eligible credit. Additional outfall channels are not included in this estimated and will require further investigation and additional scoping. A spreadsheet will be provided to GV outlining all the computations of the selected outfall channels. MT will prepare a brief summary documenting the analysis performed, including data input, assumptions and results for each individual reach. Computations and back up data will be provided electronically.

Task 7 30% Design Development

* 1. Hydrology

The proposed stream restoration design will be based on the ultimate development conditions hydrology. MT will perform a detailed analysis of the hydrology for the drainage area to the facilities using USDA TR-55 and TR-20. Rainfall totals will be developed using NOAA Atlas14 with the appropriate rainfall distribution. Hydrologic calculations will be developed based on ultimate land uses as shown on current County zoning maps, verified with aerial photography and confirmed in the field. Tributaries will be subdivided to provide hydrology for each contributing reach. This information, including computations, drainage area and soil maps will be included in a Stream Restoration Design Report for review by the County.

* 1. Hydraulics

MT will develop a hydraulic model for existing and proposed conditions using HEC-RAS. Cross sections will be established at approximately every 50 feet with additional cross sections located near proposed culvert crossing and prominent grade breaks in the channel. Cross sections will be based on a combination of field survey, LIDAR data, and site visits.

The HEC-RAS models will be used to establish pre- and post-construction conditions and to confirm the changes to hydraulic variables regulated by COMAR such as water surface elevation, velocity and shear stresses. The hydraulic models will also be used to demonstrate channel stability for the proposed structures and treatments and to identify impacts to the 100year floodplain. One model will be completed to support scenarios one and two.

* 1. 30% Stream Design

The 30% plans will also present the preliminary stream restoration approach. Key components of the Plans, which will be provided as plan views, sections and/or details, include proposed project limits/delineation of restoration reach, propose changes in plan form (thalweg adjustments), proposed changes in cross section (typicals for given treatments), proposed method of grade and toe control, proposed methods for streambank stabilization and approach for incorporating the Channel Protection Volume of 30,487 cuft into the stream design to address the condition stated in the Liberty Sportsplex development concept plan.

MT will prepare 30% design drawings consisting of the following items for Option #2:

* Survey baseline
* Location of utilities with Prince George’s County drawing and ID numbers (dimensions, elevations, type of pipe where possible)
* Location of property and easement lines with reference information including: name, address and deed reference
* Existing condition survey including: wetland delineation
* Location and description of semi- & permanent features including: bedrock, retaining walls, sheds, fences, planting areas and trees ≥ 24” DBH (provided by Ben Dyer Associates).
* Proposed stream planform and alignment
* Proposed extent of grading
* Proposed location of restoration techniques & structures
* Proposed access & staging areas
* Typical cross sections
* Existing profile with permanent features identified
* Structure and technique details

7.4 30% Design Report and Cost Estimate

The 30% Design Report sections will build on the Comprehensive Assessment Analysis Technical Memorandum and will highlight the following key components:

* All revisions to previous sections, comments addressed
* Hydrologic analysis: WinTR-20 and comparative analysis
* HEC-RAS (existing conditions)
* Design Q determination
* Geomorphic parameters
* Design justification for proposed restoration techniques and structures
* Wetland delineation

The preliminary Concept Plan accompanied by a Conceptual Design report section will present observed field conditions, hydrologic analysis, existing HEC-RAS, design Q determination, geomorphic analysis summary, selected restoration reaches, and a discussion of potential restoration approaches. Additional information on site specific issues such as constructability, site access, utility constraints and potential resource conflicts will be discussed.

At this stage McCormick Taylor will develop a 30% construction cost estimate. MT will coordinate with GV and EQR during their value engineering review. Work efforts under this task also include developing all structure quantities and one value engineering session.

The 30% design will be submitted to GV for one round of review and comment. Upon acceptance of the design scenario by GV, the Plans and Report will be submitted electronically to the Prince George’s County for initial concept approval. We anticipate addressing two rounds of comments from pier reviewer before receiving initial concept approval.

Task 8 Geotechnical Analysis and Report

MT will coordinate with the design team and the selected geotechnical engineering contractor to provide guidance on boring locations for the geotechnical investigation for the stream restoration design include the location of Marlboro Clay.

MT will coordinate with the selected geotechnical engineering contractor to determine the boring locations anticipated for this project to confirm a suitable fill material including the design limitations resulting from Marlboro clay present within the design limits. The project is anticipated to be reviewed by the Prince George’s County SCD and DOE, which will require a geotechnical engineering report to be submitted with the 65% design plans and meeting the County permitting requirements.

Task 9 Semi Final (65%) Design Plans and Submittals

9.1 Semi Final Stream Design

MT will prepare Semi Final (65%) Design Plans consisting of the following items:

* All revisions to Concept Deign submittal and comments addressed
* Full extent of grading with 1-foot contours existing and proposed contours labeled every 4 inches
* Specific location of restoration techniques and structures
* Typical cross-sections for each restoration measure/technique/bedform feature
* Erosion and Sediment Control notes, plan and detail sheets
* Existing and proposed longitudinal profile
* Proposed planting zones with corresponding species identified

The Semi Final Design Plans will include revisions from Concept Design Plan review, revised hydrologic and hydraulic analysis, proposed HEC-RAS, 2- and 10-year velocity and shear calculations, 100-year WSE changes and construction baseline stationing identified.

MT will prepare an updated construction cost estimate to accompany submittal of the Semi Final Design. MT will coordinate with EQR during their value engineering review. Work efforts under this task will include one value engineering session.

9.2 Protocol 2 Credit for Denitrification in the Hyporheic Box and Protocol 3 Credit for Floodplain Reconnection

MT will perform the currently approved stream protocols 2 and 3 crediting calculations as the protocols after completing the 65% Semi-Final Design. A spreadsheet will be provided to GV outlining all the computations of the applicable stream reaches. MT will prepare a brief summary documenting the analysis performed, including data input, assumptions and results for each individual reach. Computations and back up data will be provided electronically.

Task 10 Permitting

* 1. Erosion and Sediment Control

MT will prepare erosion and sediment control plans, including proposed construction access locations, maintenance of stream flow and perimeter controls, for review submittal to County SCD. The plans will be prepared in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and superseding County provisions noted in the 2013 Prince George’s County Soil Conservation District Manual. MT will prepare the Final Grading Sediment Control Plans. Submittals will be prepared based on the SCD Design Review Checklists for Site Fine Grading Plans.

* 1. JPA

MT will prepare the Joint State and Federal Permit Application (JPA) for impacts to WUS, including wetlands, 25-foot non-tidal wetland buffers, and 100-year floodplains. This effort includes preparation of the application and the assemblage of required forms that include but are not limited to: agency correspondence, permit plates, and wetland delineation report. The application will be submitted upon completion of the wetland delineation and approval of the 65% Design Plans. MT will submit application and associated impact plates to Prince George’s County for review, execution and submittal to the Maryland Department of the Environment.

* 1. Notice of Intent

MT will initiate the MDE NPDES NOI application online for the anticipated construction disturbance.

* 1. WSSC Review and Approval

MT will prepare and submit an electronic permit submission to WSSC for work involving sewer asset protection and work prosed within WSSC’s easements for their review and approval. MT coordinate with GV and Prince George’s County to schedule and attend one design review meeting with WSSC representatives. MT will address one round of comments to receive final approval letter from WSSC.

Task 11 90% Final Design Plan

Upon approval of the Semi Final Design and receipt of all GV, Prince George’s County and reviewing agency comments, MT will proceed with the preliminary Final Design Plans (90%). The 90% Design Plans will include:

* All revisions to Semi Final Design submittal and Design Report
* Existing and Proposed cross-sections (typicals and detailed with annotations) shall include sections at critical design features.
* Existing and Proposed longitudinal profile with all structures indicated
* Detailed structure tables
* Sequence of Construction
* Planting Plan with details and species tables
* Update Sediment and Erosion Control plan with details
* General Access Plans with MOT
* Updated Final Design Report Sections including:
  + - All revised items from the Semi Final Design Report with comments addressed
    - All updates to computations based on design revisions

Determination of pollutant load reductions in accordance with currently approved (as of June 2020) with IAT credits, and associated pollutant removal rates applying the 2019 MDE document entitled Accounting for Wasteload Allocations and Impervious Acres Treated.

Task 12 100% Final Design

Upon approval of the Final Design, McCormick Taylor will proceed with the final plan package (100%). MT will prepare a final cost estimate for the stream restoration project. MT will coordinate with EQR during their final value engineering review.

Task 13 Construction Oversight

MT will perform 36 weeks of construction oversight which assumes up to 12 hours per week.

The design specialist will interface with GV and the Contractor’s Foreman during construction for grading and installation of the various stream structures/features and stabilization techniques when involvement is requested by GV. The role the design specialist includes:

* Answering questions related to the design to clarify the intent of the Plans and will explain any of the details or required construction methods.
* specifying and suggesting adjustments to the geometry and grading of the proposed channels and adjacent areas at locations in question.
* Suggesting adjustments to the location and placement of stream structures in question and may suggest modifications to the configuration, alignment, elevation and orientation or each installation or component.
* During each site visit, photographs will be taken, and noted. MT will provide update emails and photographs to GV on critical construction items.
* MT will note areas or features inspected, as well as any concerns, questions or considerations to be communicated. When items of concern arise, GV will be notified immediately by phone, and the design specialist will provide an email outlining the concern within 24 hours of the issue becoming evident.
* MT will conduct a final walk-through with GV to assist with outstanding punch list items.

Task 14 As built Plan Review and Approval

MT will coordinate with the contractor to ensure the as built plans are certified and include necessary information for approval. The As-Built survey information will include a marked up version of the design plans reflecting the stream restoration features, site access, and grading for Prince George’s County record and maintenance. As-Built data survey of construction will be performed by a GV subcontractor. A set of As-Built plans will be plotted and stamped for certification by a Maryland Registered Engineer and draft as built plans will be provided to Prince George’s County within 45 days of completion for their review.

Final As-Built plans will be provided to GV along with the As-Built checklists and calculations, for final approval and acceptance within 60 days following project completion. Plans will be provided to Prince George’s County for acceptance and recordation of the as-built plans following the As-Built certification process.

Task 15 MS4 Credit Certification and Reporting

MT will finalize the MS4 stream protocol crediting based upon the final approved as built plan, the current crediting strategy prepared for this scope of services and based upon the December 2019 MDE MS4 guidance.

MT will prepare MS4 stream protocol GIS deliverable following the County’s in the County’s MS4 geodatabase format, including associated line, point and polygon files for the stream restoration, stormwater management and alternative crediting (lengths, equivalent impervious acres values, drainage area boundary and acres, water quality volume, load reduction value and credit calculations). The final geodatabase deliverable with updated records will be provided to GV and Prince George’s County for review prior to import into their master MS4 NPDES geodatabase. Once approved, MT GIS staff will import the updated records into the master geodatabase.

The final geodatabase deliverable with credit certification form and updated records will be provided to Prince George’s County for review prior to import into their master MS4 NPDES geodatabase. Once approved, MT GIS staff will import the updated records into the master geodatabase.

Task 16 Post Construction Monitoring

Post-construction monitoring will be conducted for the time period determined in the USACE permit, which is assumed to be five years. Specific efforts of the stream monitoring generally include 1) stability assessment (visual inspection, photographic documentation, and structure monitoring, 2) physical stream survey (deposition and erosion assessments, longitudinal profiles); 3) vegetation assessment; 4) storm event monitoring; and 5) reporting.

It is important for stream restoration projects to be critically evaluated for the achievement of project goals as noted in the example design documentation and the permit requirements (Table 1). Project specific design goals such as, but not limited to, channel movement, slope change, sinuosity, habitat enhancement/proportions, erosion reduction, and bed material should be outlined and monitored. It is recommended that the monitors provide as much detail as possible, and it is important to note that many of these observations will be completed in concert with other efforts in the overall monitoring plan and references to measurements performed during the monitoring effort should be noted.

16.1 Year 1 Monitoring (Success Criteria, Stability Assessment, Photographic Documentation,

Structure Monitoring, Vegetation Assessment, Storm Event Monitoring, and Reporting)

16.2 Year 2 Monitoring (Photographic Documentation, Structure Monitoring, Storm Event Monitoring, and Reporting)

16.3 Year 3 Monitoring (Success Criteria, Stability Assessment, Photographic Documentation, Structure Monitoring, Physical Stream Survey, Vegetation Assessment, Storm Event Monitoring, and Reporting)

16.4 Year 4 Monitoring (Photographic Documentation, Structure Monitoring, Storm Event Monitoring, and Reporting)

16.5 Year 5 Monitoring (Success Criteria, Stability Assessment, Photographic Documentation, Structure Monitoring, Physical Stream Survey, Vegetation Assessment, Storm Event Monitoring, and Reporting)

Table 1 Example USACE Permit Required Success Criteria

|  |  |  |
| --- | --- | --- |
| Monitoring Requirement | Monitoring Frequency | Goal to Achieve |
| Stream Bank Scour | Pre-construction  Monitoring Year 1, 3, 5 | <10% Bank Scour |
| Stream Structures | Monitoring Year 1, 3, 5 | No Significant Movement |
| Stream Bank Slope | Pre-construction  Monitoring Year 1, 3, 5 | 2:1 Average |
| Woody Vegetation Density within 25 lf of Stream | Pre-construction  Monitoring Year 1, 3, 5 | Trees: 15 lf spacing  Shrubs: 5 lf spacing  Live stakes: 2 lf spacing |
| Woody Vegetation Survival in Riparian Buffer | Monitoring Year 1, 3, 5 | 85% |
| Stream Riparian Zone Aerial Coverage | Pre-construction  Monitoring Year 1, 3, 5 | 85% |
| Invasive Species Density within Restoration Area | Pre-construction  Monitoring Year 1, 3, 5 | <10% |

If project specific design goals are not being achieved this should be noted and taken into consideration in prioritizing corrective measures.

## Stability Assessment

The MT will use the certified as built stream plans to conduct a field walk of the sites in year 1, 3, and 5 to perform the following observational tasks:

* general observations on site conditions and items of note
* delineate lengths of channel banks experiencing erosion (BEHI and NBS rankings)
* document channel and structure conditions in proximity to in-stream structures
* photo document the channel conditions

The MT will walk the channel network within the project site to verify the extents, depths and composition of the observed conditions. To establish erosion rates a modified BEHI/NBS methodology will be used which will document lengths of bank erosion and estimate bank erosion rates using previously published erosion rates as well as data collected during the physical surveys. TMDL Stream Protocol Crediting verification will be performed during the stability assessments.

Photographic Documentation

The MT will identify up to 20 locations for photo stations. Photo stations will be established throughout the project area to document the stability of the stream structures, to show changes in site conditions over time, and to document the success of design goals. Each photo station will be included on mapping. It is anticipated that 5 photographs will be taken per 1000 feet of stream restored.

During each monitoring effort (years 1, 2, 3, 4, & 5), digital photographs will be taken at designated photo stations to document the stability of structures and to show any changes in stream or floodplain morphology. In addition to the established monitoring stations, photos will be taken during all field monitoring activities if any unusual or notable conditions exist. Field sheets will be utilized to link the photo point number with the in-camera photo number and to describe the subject of the photo and any unusual condition. Photo station photographs will be downloaded at the end of each field day and presented in an appendix attached to each monitoring report or memoranda. After the initial photographs are taken at the photo station locations, a book containing each photograph will be prepared. Each photograph will be properly labeled to ensure that subsequent photographs are taken in the same direction and location.

Structure Monitoring

The MT will develop an individual structure evaluation form. The condition and functionality of channel stabilization techniques will be evaluated and noted on the stream plans. In the event issues are observed an individual evaluation form will be completed (years 1, 2, 3, 4, & 5) . Rock structures and grading will be inspected for evidence of shifting, scouring, and undercutting that compromises stability. Areas where problems are occurring or have the potential to occur will be noted, described, and photographed during each monitoring event to document changes over time. These data can be used to help identify problems and potential solutions if remedial actions are required in specific locations.

## Physical Stream Survey

The MT will conduct a longitudinal profile of the stream restoration sites in years 3 and 5. The as built survey performed by GV’s surveyor will qualify as the longitudinal survey for year 1. Longitudinal profiles will be conducted along the thalweg of the channel to delineate riffles, pools, water surface, other major channel features, and restoration structures where applicable. The profiles will provide data on stream feature lengths and slopes that will be compared with data from subsequent years to determine the change of stream feature lengths and slopes and overall channel stability.

## Vegetation Assessment

The MT will conduct vegetation surveys of the project site in years 1, 3 and 5. Vegetation sampling will be conducted by walking linear transects along both banks of the stream and providing a qualitative assessment of vegetation cover and woody plant survival. Visual assessment of vegetation will include estimates of overall success of vegetation planted for the project and notes on the establishment and percent aerial coverage of plantings (i.e. livestakes and branch layering), trees and shrubs, and overall vegetation coverage of the site. Visual assessments will include documentation of invasive species and natural recruitment/succession of woody and herbaceous vegetation. Products for this effort will include modified landscape plans with notes on each planting area and photographs of plant condition.

## Storm Event Monitoring

The MT will conduct major storm event site visits during the monitoring program (years 1, 2, 3, 4 & 5) to evaluate the level of success and any problems associated with the stream restoration project. For the purposes of the event monitoring, a major storm event will be an event which produces a discharge greater than the 2-year recurrence interval discharge identified during project design. Two major storm events are assumed per year. Event monitoring will consist of a visual inspection, photographic documentation, and structure monitoring as previously described.

## Reporting

The MT will develop and submit an annual report to GV that documents the monitoring activities for each year (years 1, 2, 3, 4 & 5). Annual reports for years 1, 3 and 5 will include detailed documentation of monitoring activities, results and discussion on project goals/function, and recommendations for corrective measures if needed. A shorter or modified report for years 2 and 4 will include monitoring activities, results and discussion for these years to supplement the detailed reporting in years 1, 3 and 5. Draft reports will be submitted by December 15th each year during the monitoring period. The MT will address one round of comments and revisions received from the County and resubmit three copies of the final report. Annual monitoring reports will provide Prince George’s County with documentation of post-construction monitoring for USACE and MDE on the goals, objectives and any potential problems with success of the project.

Assumptions and Exclusions

* Geotechnical services will be acquired and managed by GV.
* Topographical and as built survey services will be acquired and managed by GV.
* Forest Stand Delineation or Forest Conservation Plans are excluded.
* MT assumes existing wetland delineation and natural resource information from Liberty Sportsplex and South Lakes is digitally available from GV and all regulatory agencies approve of the use of this information for supporting and securing final permits from local, State and Federal permitting agencies.
* Plat and easement preparation are excluded.
* CPv requirements for the stream is assumed to be a DPIE requirement and has been previously approved in association with the Liberty Sportsplex development approvals.
* MT assumes addressing two rounds of comments from pier reviewer before receiving initial concept approval.
* MT assumes addressing up to one round of comments from the regulatory agencies and GV for all other key milestone submissions except the initial concept approval.
* MT assumes TMDL crediting is based upon the most recent MDE MS4 guidance as of December 2020. Updated MDE MS4 requirements beyond December 2020 will require a change in scope and fee.
* MT assumes that the database base schema for the MS4 NPDES file geodatabase will be provided by the County.
* Additional design services after receipt of 100% design plan approval and permit issuance will require a change in scope and fee.
* MT assumes all restored channels will require monitoring by USACE
* MT assumes the monitoring requirements referenced in the Post Construction Monitoring section are the standards being prescribed by the future USACE authorization and additional monitoring requested during design and post construction will require a change in scope and fee.
* MT assumes as built survey performed by GV’s surveyors will meet the year 1 longitudinal profile survey for USACE monitoring requirements.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name:** | Collington Branch East Trib 3  Mainstem Tributary and Tributary 3 and 5 (Option 2) | | |  |  |
| **Job #:** | TBD | | |  |  |
| **Date:** | August 14, 2020 | | |  |  |
| **By:** | Craig T. Carson | | |  | **Total** |
|  |  | | |  |  |
|  |
| **TASK** |  |  | |  |  |
| Task 1 |  | Site Overview and Existing Data Review | |  | **$ 7,830.92** |
| Task 2 |  | Topographical Survey Coordination | |  | **$ 6,396.72** |
| Task 3 |  | Wetland Delineation and Report | |  | **$ 13,003.40** |
| Task 4 |  | Agency Coordination | |  | **$ 1,164.52** |
| Task 5 |  | Geomorphic Assessment and Analysis | |  | **$ 31,949.12** |
| Task 6 |  | TMDL Assessment & Crediting | |  |  |
|  | 6.1 | Protocol 1 | |  | **$ 16,278.36** |
|  | 6.2 | Protocol 5 | |  | **$ 40,122.40** |
| Task 7 |  | 30% Design Plan | |  |  |
|  | 7.1 | Hydrology | |  | **$ 12,127.00** |
|  | 7.2 | Hydraulics | |  | **$ 18,690.08** |
|  | 7.3 | 30% Stream Design | |  | **$ 61,281.32** |
|  | 7.4 | 30% Design Report and Cost Estimate | |  | **$ 13,576.24** |
| Task 8 |  | Geotechnical Analysis and Report Coordination | |  | **$ 10,424.24** |
| Task 9 |  | Semi Final (65%) Design Plan | |  |  |
|  | 9.1 | 65% Stream Design | |  | **$ 77,892.56** |
|  | 9.2 | Protocol 2 Credit for Denitrification in the Hyporheic Box and Protocol 3 Credit for Floodplain Reconnection | |  | **$ 19,535.26** |
| Task 10 |  | Permitting | |  |  |
|  | 10.1 | Erosion and Sediment Control | |  | **$ 17,971.32** |
|  | 10.2 | Joint Permit Application | |  | **$ 17,218.72** |
|  | 10.3 | Notice of Intent | |  | **$ 5,112.60** |
|  | 10.4 | WSSC Review and Approval | |  | **$ 9,063.52** |
| Task 11 |  | 90% Stream Design | |  | **$ 33,230.00** |
| Task 12 |  | 100% Stream Design | |  | **$ 19,651.28** |
| Task 13 |  | Construction Oversight | |  | **$ 69,700.65** |
| Task 14 |  | As built Plan Review and Approval | |  | **$ 11,876.76** |
| Task 15 |  | MS4 Credit Certification and Reporting | |  | **$ 11,686.20** |
| Task 16 |  | Post Construction Monitoring | |  |  |
|  | 16.1 | Year 1 Monitoring |  |  | **$ 40,258.60** |
|  | 16.2 | Year 2 Monitoring |  |  | **$ 40,258.60** |
|  | 16.3 | Year 3 Monitoring |  |  | **$ 50,399.00** |
|  | 16.4 | Year 4 Monitoring |  |  | **$ 40,258.60** |
|  | 16.5 | Year 5 Monitoring |  |  | **$ 50,399.00** |
| **TOTAL** |  | | |  | **$ 747,356.99** |

 **Direct Charges $ 2,849.00**

### FINAL RELEASE, WAIVER OF LIEN AND AFFIDAVIT

**To: Project Name:**

**GreenVest, LLC**

**4201**

**Northview Drive, Suite 202**

**Bowie, MD 20716**

**Sub-consultant:**  **Invoice Dated/Number:**  **Address:**  **Period Ending:**   **Contract Date:**

**Contract For:**

**Owner: Address:**

The undersigned Sub-consultant, in consideration of payments previously made and final payment as set forth herein, hereby forever waives and releases all mechanic's, materialman's or other liens and, to the fullest extent permitted by law, all rights to file any such liens in the future, generally releases, and agrees to indemnify and hold harmless GreenVest, LLC and its affiliates, parents and subsidiaries and the Owner and their successors and assigns, from all causes of action, suits, debts, contracts, damages, judgments, decrees, claims, demands, liens, rights to assert liens, awards and expenses, including attorneys’ fees, in law, equity or otherwise, which Sub-consultant, its subcontractors and suppliers, their successors and assigns, and any persons claiming through them or based upon their acts or omissions ever had, now have or hereafter may have against GreenVest, LLC, its affiliates, parents and subsidiaries or the Owner, to the date of this Release, in any manner relate to or arising in connection with the above referenced contract or project. Sub-consultant represents that the amounts set forth below are correct and are accepted by Sub-consultant as full and complete payment for all amounts due to Sub-consultant in connection with the Project and that the amount of the current payment due will promptly be applied to full payment of all outstanding amounts due from Sub-consultant to others in connection with the Project.

1. Final Contract Amount Billed: $

1. Total Previously Invoiced: $
2. Amount of this Invoice: $
3. Total Retainage Previously Withheld: $

1. Total Paid to Date: $

1. Final Payment Due: (a – e) $

Signature: Date:

Name:

Title:

### PARTIAL RELEASE, WAIVER OF LIEN AND AFFIDAVIT

**To: Project Name:**

**GreenVest, LLC**

**4201**

**Northview Drive, Suite 202**

**Bowie, MD 20716**

**Sub-consultant:**  **Invoice Dated/Number:**  **Address:**  **Period Ending:**   **Contract Date:**

**Contract For:**

**Owner: Address:**

The undersigned Sub-consultant, in consideration of the payments previously made and payment for the period covered by the current invoice set forth above, hereby forever waives and releases all mechanic's, materialman's or other liens and, to the fullest extent permitted by law, all rights to file any such liens in the future, and all claims and demands against GreenVest, LLC and its affiliates, parents and subsidiaries and the Owner(s) and their respective employees, officers, directors, agents, successors and assigns, in any manner arising out of work, labor, services, equipment or materials, performed or furnished by Sub-consultant, its Sub-consultants and suppliers, in connection with the Project, through the period covered by the current invoice and all previous invoices. The release does not apply to retainage or to extra work with Sub-consultant that has been authorized by GreenVest, LLC but for which payment has not yet been approved. Sub-consultant agrees to indemnify, defend at its sole cost, and hold harmless GreenVest, LLC and its affiliates, parents and subsidiaries and the Owner(s), and their respective employees, officers, directors, agents, successors and assigns, from all causes of action, suits, debts, contracts, damages, judgments, decrees, claims, demands, liens, rights to assert liens, awards, costs and expenses, including but not limited to reasonable attorneys’ fees and expenses, arising out of work, labor, services, equipment or materials, performed or furnished by Sub-consultant, its Sub-consultants and suppliers, in connection with the Project, through the period covered by the current invoice and all previous invoices.

Sub-consultant acknowledges and represents that for the period and work covered by all previous invoices for which Sub-consultant has received payment:

1. Sub-consultant has paid in full all amounts for subcontracts, labor, materials, and equipment.
2. Sub-consultant has properly applied previous payments to pay all outstanding invoices related to the Project. Sub-consultant has no knowledge of any claims, or circumstances that could give rise to any future claims, against GreenVest, LLC and its affiliates, parents, subsidiaries employees, officers, directors, agents, successors and assigns, Owner(s), or other trade contractor on the Project.
3. All payroll, withholding, sales and other tax, union benefits, insurance premiums and any other amounts required by law, regulation, or agreement to be paid in connection with labor, materials, and equipment for the Project have been paid in full.

Sub-consultant represents that the amounts set forth below are correct and that the amount of the current payment due will be applied promptly to full payment of all outstanding amounts due from Sub-consultant to others in connection with the Project.

1. Amount of this Invoice: $
2. Retainage Relating to this Invoice (5%): $
3. Amount of this Invoice less Retainage (amount due): (a – b) $

1. Retainage Relating to this Invoice: (b) $
2. Previous Retainage Withheld: $
3. Total Retainage: (d + e) $

1. Total Previously Invoiced: $
2. Amount of this Invoice: (a) $

(f)

$

1. Total Retainage:
2. Total Invoiced Less Retainage: (g + h – i)$

1. Total Paid to Date: $

Signature: Date:

Name: Title:

1. **Insurance Requirements**. Sub-consultant shall obtain and maintain, and require its subcontractors to obtain and maintain, during the term of performance of any work hereunder, insurance coverage with limits, terms and conditions as set forth herein.

**Commercial General Liability** $1,000,000 per occurrence

$2,000,000 in the aggregate

The Commercial General liability policy shall be written on an occurrence basis and include blanket contractual liability and products and completed operations coverage. In addition to the requirement to maintain Commercial General Liability during the term of performance of any work hereunder, coverage must be kept in force for a period of two (2) years after Final Acceptance for Products and Completed Operations. The Commercial General Liability policies of Sub-consultant and its subcontractors shall be endorsed as follows:

* 1. Such insurance as afforded by this policy for the benefit of GV (including its directors,

officers, affiliates, agents and employees) whom are added as an additional insured and shall be primary as respects any claims, losses, damages, expenses, or liabilities arising out of, relating to in any way, or incident to the work for GV or any activities of Sub-consultant on the premises of, or in connection with any property of, GV or its affiliates, regardless whether instituted against GV alone or jointly with Sub-consultant Personnel or others, and whether or not negligence or liability is charged solely against General Contractor, Project Owner, and Architect; their direct and indirect parent(s), subsidiary(ies) and affiliated companies, their respective officers, directors, stockholders, employees, and agents or assigns.

* 1. Any insurance carried by GV shall be in excess of and non-contributing with insurance

afforded by this policy.

**Business Auto Liability** $1,000,000 combined single limit per accident, including coverage for all owned, non-owned, hired and leased automobiles.

The Business Auto Liability policy of Sub-consultant and its subcontractors shall be endorsed as follows:

1. Such insurance as afforded by this policy for the benefit of GV (including General Contractor, Project Owner, and Architect; their direct and indirect parent(s), subsidiary(ies) and affiliated companies, their respective officers, directors, stockholders, employees, and agents or assigns) whom are included as an additional insured and shall be primary as respects claims, losses, damages, expenses, or liabilities to the extent caused by the work for GV or any activities of Sub-consultant on the premises of, or in connection with any property of, GV or its affiliates.
2. Any insurance carried by GV shall be excess of and non-contributing with insurance afforded by

this policy.

1. Such insurance must waive the Sub-consultant’s rights of recovery against GV, General Contractor, Project Owner, and Architect; their direct and indirect parent(s), subsidiary(ies) and affiliated companies, their respective officers, directors, stockholders, employees, and agents or assigns to the fullest extent permitted by the laws of the governing jurisdiction for claims of third parties, employees or other entities for whatever reason to the extent caused by the actions, claims, damages or losses in conjunction with the policy.

**Workers’ Compensation** Coverage shall comply with any statutory obligation

imposed by workers compensation, occupational disease or similar laws.

**Professional Liability** $1,000,000 per claim and in the aggregate.

If any of the work performed by Sub-consultant or its subcontractors includes the rendering of

professional services, including, but not limited to, architectural, engineering, or design services, Sub-consultant shall maintain and/or require any subcontractor involved in the same or similar services, to maintain Professional Liability or Errors and Omissions insurance. The stated limits are to be provided in a project specific policy dedicated exclusively to the professional services provided or a dedicated project endorsement with separate limits for the project. The coverage shall not contain any restriction or exclusion for any claims arising out of environmental incidents resulting from the design of the project. If this condition cannot be complied with, it will be necessary to secure a separate pollution legal liability policy specifically for the design function.

**Excess/Umbrella Liability** $5,000,000 per occurrence and in the aggregate.

**Pollution Liability** $2,000,000 each occurrence and in the aggregate.

**Applicable if any particular work subject to these terms and conditions involves or includes construction.**

1. **Certificates / Additional Insured**. Prior to commencement of work hereunder, Sub-consultant shall provide GV with certificates of insurance as evidence of the above insurance requirements. Sub-consultant shall obtain an insurance certificate from its subcontractors with these same insurance requirements and shall provide such insurance certificates to GV upon request. Any failure of such certificates/coverages to conform to the contractual requirements specified herein shall not result in a waiver of Sub-consultant’s required insurance and indemnity obligations herein and such obligations shall continue in full force and effect. Such certificates shall:
   1. Name General Contractor, Project Owner, and Architect; their direct and indirect parent(s),

subsidiary(ies) and affiliated companies, their respective officers, directors, stockholders, employees, and agents or assigns as additional insured (except Workers’ Compensation/Employers Liability and Professional Liability);

* 1. Provide that GV shall receive thirty (30) days’ prior written notice of non-renewal, cancellation

of or modification to any of the above policies and indicate that the Commercial General Liability policy has been endorsed as described above. Ten (10) days’ notice of cancellation shall be provided for non-payment of premium, of any such coverage.

* 1. Sub-consultant shall procure and maintain no less than the insurance coverages mentioned,

with an insurance carrier rated “A-“ or better by A.M. Best and authorized to do business in the jurisdiction where the projects and job sites are located.

1. **Reservation of Rights**. If Sub-consultant fails to comply with its obligations as specified in this Exhibit C, GV shall have the right, but not the obligation to procure at Sub-consultant’s expense the required insurance coverage.
2. **Lower-tier Sub-consultants**. In the event that Sub-consultant uses lower-tier subcontractors in connection with the performance of Sub-consultant’s work, Sub-consultant shall require all such sub-subcontractors to comply with the terms herein, including but not limited to providing the insurance coverages specified herein. Sub-consultant shall obtain insurance certificates from subcontractors in accordance with requirement set forth in Exhibit C. Sub-consultant shall indemnify, defend and hold harmless General Contractor, Project Owner, and Architect; their direct and indirect parent(s), subsidiary(ies) and affiliated companies, their respective officers, directors, stockholders, employees, and agents or assigns, from any claims arising under the Agreement for acts and omissions of Sub-consultant’s lower-tier subcontractors and where such lower-tier subcontractors failed to maintain the insurance coverages set forth in this Agreement.
3. **Accident Reports**. Sub-consultant shall furnish GV with copies of any accident report(s) sent to Subconsultant’s insurance carriers covering accidents occurring in connection with or as a result of the performance of the work under this Agreement. Sub-consultant shall furnish said copies to GV concurrently with providing the reports to its insurers.
4. **Reduction of Coverage**. Sub-consultant shall notify GV in writing when coverages required herein have been reduced as a result of claim payments, expenses or both. If any of the required insurance coverages contain coverage applying to other operations of Sub-consultant outside work performed for GV pursuant hereto, and such limits are diminished by any incident, occurrence, claim, settlement, or judgment against such insurance, Subconsultant shall take immediate steps to restore such aggregate limits or shall provide other insurance protection for such aggregate limits.
5. **Sub-consultant Obligations Not Limited**. The requirements contained herein as to types, limits, or GV’s approval of insurance coverage to be maintained by Sub-consultant are not intended to, and shall not in any manner limit, qualify, or quantify the liabilities and obligations assumed by Sub-consultant hereunder, any other agreement with GV, or otherwise provided by law.
6. **Additional Requirements**. All above-mentioned insurance policies (except workers’ compensation) shall contain standard cross-liability provisions. All above-mentioned insurance policies shall provide for a waiver of all rights of subrogation that Sub-consultant’s insurance carrier might exercise against General Contractor, Project Owner, and Architect; their direct and indirect parent(s), subsidiary(ies) and affiliated companies, their respective officers, directors, stockholders, employees, and agents or assigns.