

Issue Analysis Form



Date: July 6, 2020
Item: Engineering Agreement
Lead Department(s): Comm. Dev. & Code Compl.
Contact Person(s): Julie Walton

Description and Current Status

This project proposal includes services to perform a preliminary assessment and stream layout for the next project area in Birchett Estates. The stream runs behind the properties along Birchett Drive where property owners have experienced erosion, sink holes, and underground pipe failures. This stream segment, known as Reach 2, was identified as high priority in the original assessment of Birchett Estates.

The attached agreement with Timmons Group is for engineering services associated with the preliminary assessments of the stream and initial layout. This information will be used to develop project budgets, identify grant opportunities, and to determine whether to move forward to design phase. The agreement has been drafted under the County's annual contract with Timmons. Staff has reviewed the agreement and recommends approval.

Sample Motion: I move that the Board authorize the County Administrator to enter into an agreement with Timmons Group for engineering services associated with the preliminary assessment and stream layout for Reach 2, Birchett Estates.

Government Path

- | | | |
|---|---|--|
| Does this require IDA action? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does this require BZA action? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does This require Planning Commission Action? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does this require Board of Supervisors action? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Does this require a public hearing? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| If so, before what date? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Fiscal Impact Statement

The proposed agreement is funded through the Stormwater Utility Fund. No general fund tax dollars are proposed to be utilized for this project.

County Impact

The second stream restoration project continues the work of restoring channels and protecting properties from severe erosion. The project improves the County's stormwater runoff system and TMDL.

Notes

Board of Supervisors
County of Prince George, Virginia

Resolution

At a regular meeting of the Board of Supervisors of the County of Prince George held in the Boardroom, Third Floor, County Administration Building, 6602 Courts Drive, Prince George, Virginia this 14th day of July, 2020:

Present:

Donald R. Hunter, Chairman
Alan R. Carmichael, Vice Chairman
Floyd M. Brown, Jr.
Marlene J. Waymack
T. J. Webb

Vote:

A-8

On motion of _____, seconded by _____, which carried _____, the following Resolution was adopted:

RESOLUTION; AUTHORIZATION FOR THE COUNTY ADMINISTRATOR TO ENTER INTO ENGINEERING AGREEMENT WITH TIMMONS GROUP FOR PRELIMINARY ASSESSMENTS AND INITIAL STREAM LAYOUT DESIGN SERVICES FOR THE BIRCHETT ESTATES REACH 2 STREAM RESTORATION PROJECT

WHEREAS, The Prince George County Board of Supervisors has determined that it is in the best interest of the County of Prince George and its citizens to assess and determine the viability of the Reach 2 Birchett Estates Stream Restoration Project; and,

WHEREAS, The County's Stormwater Utility Fund is designed and utilized for such improvement projects; and,

WHEREAS, The associated cost for the Scope of Work as detailed by Timmons Group is \$24,150.00;

NOW THEREFORE, BE IT RESOLVED That the Board of Supervisors of the County of Prince George this 14th day of July, 2020, hereby authorizes the County Administrator to enter into agreement with Timmons Group under the annual contract for the amount of \$24,150.00 to perform preliminary assessment services and stream layout for Reach 1, Birchett Estates, and authorizes the funding for such services to be provided under the Stormwater Utility Fund project budget.

A Copy Teste:

Percy C. Ashcraft
County Administrator



ATTACHMENT "A"
FOR
BIRCHETT ESTATES – REACH 2 PRELIMINARY STREAM DESIGN
March 11, 2020

Overall Project Summary: This project will include services to perform a preliminary assessment for approximately 3,300 LF of stream channel to determine potential pollutant removal rates and provide a preliminary stream layout based on utilizing Prince George County GIS topography. The project is located within Birchett Estates – Reach 2.

Project Fees:

1. Preliminary Stream Assessment	\$6,630.00
2. Engineering	<u>\$17,520.00</u>
	Total: \$24,150.00

PRELIMINARY LAYOUT PLAN DEVELOPMENT

Work performed will be the tasks needed to develop a preliminary stream layout for the purpose of defining the Project Area as follows:

Preliminary Stream Assessment

Perform the field data collection necessary to complete a Bank Assessment for Non-Point Source Consequences of Sediment (BANCS) model to estimate sediment and nutrients load reductions. The BANCS model utilizes two commonly used bank erodibility estimation tools to predict stream bank erosion: Bank Erosion Hazard Index (BEHI) and Near Bank Stress (NBS) Methods. A BANCS analysis map will be produced indicating degrees of bank erodibility based on field analysis. This information will be used to aid in identifying appropriate stream restoration limits and design solutions.

Preliminary Engineering

Perform the following sub-tasks to establish preliminary design plans:

1. Perform hydrologic calculations for the contributing watershed to develop stormwater runoff data. This information will be utilized to determine the preliminary stream channel cross sections.



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2. Perform a geomorphology analysis to determine the preliminary channel design parameters. This analysis will be based on utilizing existing County GIS topography and spot shots collected in the field as part of Task 1 outlined above. This analysis will need to be revisited once the field survey work has been completed to update the design based on actual field conditions.
3. Prepare a preliminary design layout to illustrate the proposed stream alignment, construction access and staging areas for the purpose of defining the overall Project Area. The design plan will be based on utilizing existing County GIS topography.
4. Prepare a preliminary pollutant removal estimate.
5. Attend a meeting with County staff to discuss the preliminary design plan.

**BIRCHETT ESTATES - REACH 2
PRELIMINARY STREAM RESTORATION DESIGN
March 11, 2020**

PROJECT: Birchett Estates - Reach 2 Preliminary Stream Design
COUNTY: Prince George County Community Development & Code Compliance

DESCRIPTION: This project will include services to prepare preliminary design assessment and design plans for restoration of approximately 3,300 LF of stream channel. The project is located in Birchett Estates within Prince George County.

PART 1: PRELIMINARY LAYOUT PLAN DEVELOPMENT

PRELIMINARY STREAM ASSESSMENT

	Principal (Hours)	Project Manager (Hours)	Project Engineer II (Hours)	Task Total
I. Field Data Collection		10	10	\$2,350.00
II. BANCS Assessment	2	10	10	\$2,750.00
III. Summary of Findings	2	4	6	\$1,530.00
Rate	\$200.00	\$140.00	\$95.00	
			STREAM ASSESSMENT SUBTOTAL	\$6,630.00

PRELIMINARY ENGINEERING

	Principal (Hours)	Project Manager (Hours)	Project Engineer II (Hours)	Task Total
I. Hydrologic Calculations	1	8	24	\$3,600.00
II. Geomorphology Analysis	1	12	24	\$4,160.00
III. Preliminary Design Plans	2	30	40	\$8,400.00
IV. Meeting with County Staff	4	4		\$1,360.00
Rate	\$200.00	\$140.00	\$95.00	
			ENGINEERING SUBTOTAL	\$17,520.00
			PART 1 TOTAL	\$24,150.00

SUMMARY

PART 1: PRELIMINARY LAYOUT PLAN DEVELOPMENT

Preliminary Stream Assessment Engineering

\$6,630.00	Percent of overall total =	27%
\$17,520.00	Percent of overall total =	73%

PART 1 TOTAL: \$24,150.00



Legend

- Birchett Estates - Reach 2 (~3,304 LF)
- Prince George Streams



**BIRCHETT ESTATES - REACH 2
STREAM RESTORATION
PRELIMINARY MAP**

TIMMONS GROUP
 1000 W. HUNTERS HILL
 SUITE 100
 FARMERSVILLE, VA 22504
 703.426.1500

WWW.TIMMONS.COM

02650 100 150200 Feet