

DOCUMENT 00 91 13

ADDENDA

ADDENDUM NUMBER 1

DATE: February 12, 2021

PROJECT: Emergency Watershed Protection (EWP) Stream Bank Stabilization

CONTRACT NUMBER: EWP-2021-01

OWNER: The City of Durham

ENGINEER: Kimley-Horn and Associates, Inc.

TO: Prospective Bidders

This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated January 14, 2021 with amendments and additions noted below.

Acknowledge receipt of this Addendum in the space provided in the Bid form. Failure to do so may disqualify the Bidder.

This Addendum consists of 15 pages.

CHANGES TO THE PROJECT MANUAL (2 pages)

1. Remove cover sheets 1 and 2 and replace with the cover sheets included with this addendum.

DOCUMENT 00 01 10 - TABLE OF CONTENTS (2 pages)

2. Remove the document TABLE OF CONTENTS dated January 14, 2021 and replace with the document TABLE OF CONTENTS dated February 12, 2021 included with this addendum.

DOCUMENT 00 11 16 – INVITATION TO BID (0 pages)

3. Replace the first paragraph with the following language: “The City of Durham will open sealed formal Bids submitted by Bidders at 10:00 am, Tuesday, February 23, 2021 for Contract EWP-2021-01, Project: Emergency Watershed Protection (EWP) Stream Bank Stabilization in the Public Works Department Operations Center Training Room (PWOC), 1100 Martin Luther King Jr Parkway, Durham NC 27701. As a precaution due to the COVID-19 pandemic, the Bid opening will also be held by way of a virtual meeting. Email Dana Hornkohl at Dana.Hornkohl@DurhamNC.gov no later than 5:00 pm on February 22, 2021 in order to receive a link to the Bid opening. Those that decide to attend the Bid opening in person must follow City of Durham and State requirements related to COVID-19 which require social distancing and wearing face coverings.”

DOCUMENT 00 21 15 – INSTRUCTIONS TO BIDDERS - EJCDC (0 pages)

4. Replace the paragraph 1.18.C with the following language: “Bidders may remotely join the Bid opening. Email Dana Hornkohl at Dana.Hornkohl@DurhamNC.gov no later than 5:00 pm on February 22, 2021 in order to receive a link to the Bid opening.”

DOCUMENT 5.0 - EROSION CONTROL (9 pages)

5. Remove the document 5.0 EROSION CONTROL included with the Project Manual dated January 14, 2021 and replace with the document 5.0 EROSION CONTROL dated February 12, 2021 included with this addendum.

END OF DOCUMENT

CITY OF DURHAM, NORTH CAROLINA

PROJECT MANUAL

INCLUDING

**BIDDING DOCUMENTS, CONTRACT DOCUMENTS, AND
TECHNICAL SPECIFICATIONS**

FOR



**CITY OF
DURHAM**

CONTRACT: EWP-2021-01

Issued: January 14, 2021

Revised: February 12, 2021

Project:

Emergency Watershed Protection (EWP) Stream Bank Stabilization

**Stormwater & GIS Services Division
Public Works Department
101 City Hall Plaza, Durham, North Carolina 27701**

CONTRACT: EWP-2021-01

Issued: January 14, 2020
Revised: February 12, 2021

PROJECT:
Emergency Watershed Protection (EWP)
Stream Bank Stabilization

STORMWATER & GIS SERVICES DIVISION
PUBLIC WORKS DEPARTMENT
CITY OF DURHAM, NORTH CAROLINA

DOCUMENT 00 01 10

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ADDENDA

- 00 91 13 Addendum Number 1 (February 12, 2021)

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5 EROSION CONTROL (Revised 02/12/2021)

5.01 Water Diversion/Pump Around

- Scope of Work and Description:

The work covered by this section consists of furnishing, installing, maintaining and removing all pump around systems used on this project. The Contractor shall install a pump around system in locations chosen by the Contractor and approved by the Engineer. The pump around system shall provide a passageway for the stream flow around the work site. The number of pump-around set-ups may be increased, decreased, or eliminated entirely at the direction of the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work. (See example of pump around operation detail on the construction plans.)

- Material:

Install a temporary impervious dike as shown on the detail. Pump water around work site. If the water is turbid or exposed to bare soil, pump through a silt bag. Follow detail for the pump around. Once the work is complete in an area (including all channel grading, in-stream structures and erosion control seed and matting) move the impervious dike and pump system. Stabilize area of the pump intake and outlet immediately (e.g., seed and mulch repair any matting) following removal of pump around system.

- Method of Measurement:

The quantity of water diversion shall be measured for payment as a lump sum. The payment will include all materials, labor and equipment and shall include dewatering, multiple installations and removal of system. Costs related to the stilling basins are measured separately.

- Basis of Payment:

The prices and payments will be full compensation for all work covered by this section including, but not limited to furnishing all the necessary materials, construction, maintenance and removal of the pump around system.

Payments will be made under:

Diversion/Pump Around Operation at EWP-005 (Bid Item #5.01a)..... Lump Sum (LS)
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5.02 Stilling Basins

- Scope of Work and Description:

The work covered by this section consists of furnishing, placing, and removing a special stilling basin(s). The Special Stilling Basin(s) shall be used to filter pumped water from the sediment pump during construction.

The standard stilling basin consists of a permeable filter bag atop a stone pad. The bag collects sediment as water is pumped into it while the stone pad deters erosion caused by the filtered water.

The quantity of Special Stilling Basins to be installed will be affected by the actual conditions that occur during the construction of the project. The quantity of Special Stilling Basins may be increased, decreased, or eliminated entirely at the direction of the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

If the Contractor proposes an alternate method of dewatering, the Contractor shall be responsible for the approvals from the Engineer.

- Material:

The Special Stilling Basin(s) shall be a water permeable fabric bag that traps sand, silt, and fines as sediment laden water is pumped into it. This device shall be constructed such that it is portable and can be used adjacent to each location.

All fabric materials shall meet the requirements of Class Type II Filter Fabric of the North Carolina Department of Transportation (NCDOT) Standard Specifications, Section 1056. Stone shall be Class A Stone and shall meet requirements of Section 1042 of the NCDOT Standard Specifications for Stone for Erosion Control, Class A.

- Method of Measurement:

There will be no separate measurement for Special Stilling Basins or all incidentals included.

- Basis of Payment:

No direct payment shall be made for the work of installation, maintenance, and removal of impervious dike(s) as described in this provision.

5.03 Impervious Dike

- Scope of Work and Description:

The work covered by this section consists of furnishing, installing, maintaining, and removing an Impervious Dike for diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The Impervious Dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The Impervious Dike shall be constructed of an acceptable material in the locations noted on the plans or as directed by the Engineer.

- Material:

Acceptable materials shall include but not be limited to sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious fabric.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream.

- Basis of Payment:

No direct payment shall be made for the work of installation, maintenance, and removal of impervious dike(s) as described in this provision. Payment for such work shall be included in the contract bid price for "Pump Around Operation".

5.04 Floating Silt (Turbidity) Curtain

- Scope of Work and Description:

Floating Silt Turbidity Curtains shall be installed downstream of the construction work area, maintained continuously throughout construction, and remain installed until the site is fully stabilized. Floating Silt Turbidity Curtains shall at a minimum be installed at the locations shown within the Drawings, and shall be moved as needed throughout construction.

Floating Silt Turbidity Curtains shall be installed in a "U" shape deployment, with proper anchoring for anticipated storm flows, and per the manufacturer's recommendations. The Contractor shall insure that the Floating Silt Turbidity Curtain is installed and removed by hand when a Floating Silt Turbidity Curtain is to be installed on a section of the stream channel that is not proposed to be disturbed during project construction. Similarly, any accumulated sediment and debris shall be removed in a manner that avoids disturbances beyond that shown within the Drawings, unless otherwise approved by the Engineer

- Material:

The Floating Silt Turbidity Curtain shall meet the following minimum requirements:

Parameter	Minimum Value
Skirt Depth	Design Bankfull Depth per Drawings
Flotation	6-in Marine Grade Flotation
Fabric	Reinforced Impermeable PVC Fabric 18 oz./sq. yard
Fabric Tensile Grab Strength	500 lbs/in
Fabric Tear Strength	320 lbs
Abrasion Resistance	200 lbs/in tensile strength after abrasion
Seams	Heat sealed
Section Connectors	ASTM 962 Universal Slide Aluminum Extruded Connectors with Anchor Eyebolt
Ballast Chain	Heavy 5/16" Galvanized Steel Chain
Curtain Depth	1.1 x Bankfull Depth
Curtain Width	1.2 x Channel Width

- Maintenance and Removal:

The Contractor shall maintain the Floating Silt Curtains and shall remove and dispose of silt accumulations at the silt screens when required to keep the screen functioning properly.

Unless otherwise directed by the Engineer, Floating Silt Curtains shall be removed stream work is completed and the temporary stream crossing is removed, or at such time the Engineer deems the device to be no longer useful. The actual time of removal or conversion shall be as approved by the Engineer. The Contractor shall remove the trapped sediment from the Floating Silt Curtains prior to removing or converting the device.

- Method of Measurement:

The quantity of Floating Silt Curtains to be paid for will be the actual number of linear feet of Floating Silt Curtains that have been installed and accepted by the Engineer.

- Basis of Payment:

The quantity of Floating Silt Curtains, measured as provided above, will be paid for at the contract unit price per linear foot of "Silt Curtains". The above process and payments will be full compensation for all materials, labor, equipment, and incidentals necessary to install the Floating Silt Curtains.

Payments will be made under:

Silt Curtains (Bid Item #5.04).....Linear Foot (LF)

5.05 Coir Fiber Matting

- Scope of Work and Description:

Furnish material, install and maintain Coir Fiber Mat in locations shown on the plans or in locations as directed by the Engineer. Work includes providing all materials, excavating, backfilling, placing and securing Coir Fiber Matting.

- Material:

Property	Coir Matting (700g/m ²)	Coir Matting (400g/m ²)
Matrix	100% Coconut Fiber (Coir)	100% Coconut Fiber
Matting Description	100% Biodegradable twice oven into high strength matrix	100% Biodegradable twice oven into high strength matrix
Weight (oz/SY)	17-23	10-17
Open Area (calculated)	45-65%	45-65%
Tensile Strength (dry) (lbs/ft)	1500-2000	500 min
Thickness (inch)	0.3-0.35	0.3
Longevity	36 months	36 months

(B) Stakes: Provide wooden stakes 1" X 1" thick and 1' tall or approved equivalent. Stakes used along the toe of slope/water's edge will be 1"X1" thick and 18" tall. Staples will not be permitted for this project for any matting placed on stream banks.

- Construction:

Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the matting with the soil. Place the matting immediately upon final grading. Take care to preserve the required line, grade, and cross section of the area covered.

Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Bury the top slope end of each piece of matting in a narrow trench at least 6 in (150 mm) deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6 in (150 mm) overlap. Construct check trenches at least 12 in (0.3 m) deep every 50 ft (16 m) longitudinally along the edges of the matting or as directed by the Engineer. Fold over and bury matting to the full depth of the trench, close and tamp firmly. Overlap the matting from upstream to downstream and at least 6 in (150 mm) where 2 or more widths of matting are installed side by side. Place stakes across the matting at ends, junctions, and check trenches approximately 1 foot (0.3 m) apart.

Place stakes along the outer edges and down the center of each strip of matting 3 feet (1 m) apart. Place stakes along all lapped edges 1 foot (0.3 m) apart. Refer to details in the plan sheets.

The Engineer may require adjustments in the trenching or staking requirements to fit individual site conditions.

The matting installation including toe of slope trenches shall be installed as to not change the typical section of the channel or the structure (i.e. rock toe detail, brush boulder riffle, etc.) as shown in the Construction Plans.

- Method of Measurement:

The quantity of coir fiber matting to be measured for payment will be the actual number of square yards of coir fiber matting installed and accepted by the Engineer. Matting will be field measured along the ground surface. **Only “visible” matting will be field measured. Matting that is keyed in, overlapping other matting or trenched in will not be measured for payment.**

The quantity of Coir Fiber Matting to be installed will be affected by the actual conditions that occur during the construction of the project. The quantity of Coir Fiber Matting may be increased, decreased, or eliminated entirely at the direction of the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

- Basis of Payment:

The quantity of Coir Fiber Matting, measured as provided above, will be paid for at the contract unit price per square yard of “Coir Fiber Matting”. The payment will include all installation materials such as matting, staples, labor, equipment and related expenses.

Payment will be made under:

Coir Fiber Matting – 700g (Bid Item #5.05a)	Square Yard (SY)
Coir Fiber Matting – 400g (Bid Item #5.05b)	Square Yard (SY)

5.06 Temporary Silt Fence

- Scope of Work and Description:

Furnish material, construct, maintain, and remove temporary silt fence in locations shown on the plans or in locations that require surface drainage to be filtered.

- Materials:

Refer to NCDOT Standard Specification Section 1605-2 and Construction Drawings.

- Installation:

Refer to NCDOT Standard Specification Section 1605-3 and Construction Drawings.

- Maintenance and Removal:

Refer to NCDOT Standard Specification Section 1605-3.

- Method of Measurement:

The quantity of silt fence to be measured for payment will be the actual number of linear feet of silt fence installed and accepted by the Engineer. The payment will include all related material, labor, equipment and related costs.

- Basis of Payment:

The quantity of Temporary Silt Fence, measured as provided above, will be made at the contract unit price per each linear foot of Temporary Silt Fence. The above prices and payments will be full compensation for all materials, labor, equipment, and incidentals necessary to install, maintain, and remove Temporary Silt Fence.

Payment will be made under:

Temporary Silt Fence (Bid Item #5.06).....Linear Feet (LF)

5.07 Combination Tree Protection/Silt Fence

Refer to 5.06 Silt Fence and 2.07 Temporary Tree Protection Fence

Payment will be made under:

Combo Silt Fence/Tree Protection fence (Bid Item #5.07).....Linear Feet (LF)

5.08 Temporary Seed and Mulch

- Scope of Work and Description:

Seed is to be delivered in original sealed, labeled, and undamaged containers. Seeding is to be performed during normal planting seasons for each seed type as directed in the Construction Drawings. The seed is to be fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances. The seed mixture is to be comprised of seed of specified species, variety proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated on the drawings.

The area to be seeded is to be examined prior to seeding to ensure compliance with requirements and conditions for seed establishment. The Contractor will not proceed until unsatisfactory conditions have been corrected.

Preparation: The Contractor is to limit surface preparation to areas that will be planted in the immediate future. The surface is to be loosened to a minimum depth of 5 inches, and the seeded areas are to be graded to a smooth, even surface with loose, uniformly fine texture. Areas to be seeded should receive soil amendments to achieve vigorous plant growth per the vegetation notes in the plan document. The areas to be seeded are to then be rolled and raked to remove ridges and fill depressions to meet finish grades. Fine grading will be limited to areas that can be planted in the immediate future. Prepared areas are to be moistened before seeding when soil is dry. Prior to planting, the surface is to be watered thoroughly and allowed to dry before planting with care not to create muddy soil. Prepared areas are to be restored if eroded or otherwise disturbed after fine grading and before planting.

Installation: Seed is to be sown with a spreader or a seeding machine. Seed is not to be broadcast or dropped when wind velocity exceeds 5 mph (8 km/h). Seed is to be evenly distributed by sowing in two directions at right angles to each other. Wet seed or seed that is moldy or otherwise damaged in transit or storage is not to be used.

Temporary seed is to be applied at a rate and season as specified in the plans. After being sown, the seed is to be raked into the top 1/8 inch (3 mm) of the topsoil, lightly rolled, and watered with fine spray. All seeded areas are to be protected by spreading straw mulch to form a continuous blanket over seed areas. Straw mulch is to be spread by hand, blower, or other suitable equipment, and anchored by crimping into the topsoil by suitable equipment, matting, or approved method by Engineer. Mulch is to be applied at a rate of 2000 lb/acre. Areas that are to be covered with coir fiber matting should be first seeded and straw.

- Method of Measurement:

The quantity of Temporary Seed and Mulch to be measured for payment will be the actual number of acres of area seeded and mulched and accepted by the Engineer. The cost of fertilizers, additives, and mulching will be incidental to temporary seeding. The payment will include all material, labor, equipment and related costs. The Contractor must guarantee 80% temporary seeding coverage. Supplemental treatments to achieve 80% coverage is the responsibility of the Contractor and will not be reimbursed for payment by the Owner.

- Basis of Payment:

The quantity of Temporary Seed and Mulch, measured as provided above, will be paid for at the contract unit price per acre. The above prices and payments will be full compensation for all materials, labor, equipment and incidentals necessary to install Temporary Seed and Mulch.

Payment will be made under:

Temporary Seed and Mulch (Bid Item #5.08).....Acres (AC)

5.09 Timber Mat

Scope of Work and Description:

Timber Mat Stream Crossings shall be utilized as temporary stream, ditch, wetland, and salt marsh crossings and bank reinforcement platforms at locations indicated within the Drawings.

The Contractor may utilize Timber Mat Stream Crossings in alternative locations throughout the project site to minimize disturbance to sensitive areas, or improve site access.

- Material:

Timber Mat Stream Crossings shall be constructed of sound and stable timber of the size and strength necessary to support the intended construction equipment for the work. Timber Mat Stream Crossings shall meet the minimum requirements of the "Timber Mat Stream Crossing" detail within the Drawings. Alternative designs may be used with prior approval of the Engineer.

- Basis of Payment:

The quantity of Timber Mat, measured as provided above, will be made at the contract unit price per linear foot of "Temporary Timber Mat" installed. The above prices and payments will be made in full compensation for all materials, labor, equipment, and incidentals necessary to install, maintain and remove Timber Mat and other protection measures defined above.

Payment will be made under:

Temporary Timber Mat (Bid Item #5.09).....Linear Feet (LF)