

CWA Section 401 Water Quality Certification Request

MDE/WATER AND SCIENCE ADMINISTRATION
REGULATORY SERVICES SECTION - ATTN: WQC
MONTGOMERY PARK BUSINESS CENTER – STE 430
1800 WASHINGTON BLVD
BALTIMORE, MD 21230-1708
ATTN: Heather Nelson

A. Project Title:

Jabez Branch 3 Stream Restoration, Anne Arundel County MD

Applicant: Maryland Department of Natural Resources
Contact Info: Claudia.donegan@maryland.gov; 410-260-8768
580 Taylor Ave. E2
Annapolis, MD 21401

Authorized Agent: Sara Caldes, Severn Riverkeeper
Contact info: s.caldes@severnriverkeeper.org; 410.849.2329
P.O Box 6593
Annapolis, MD 21401

B. Tracking Number: AI # 158254 (*JOINT FEDERAL/STATE APPLICATION FOR THE ALTERATION OF ANY FLOODPLAIN, WATERWAY, TIDAL OR NONTIDAL WETLAND IN MARYLAND (JPA) ATTACHED)

Maryland Department of the Environment (MDE) 19 - NT - 0023
Army Corps of Engineers (ACOE) – NAB-2019-60213

C. Site Address:

Approximately 1510 Jabez Run Road
Millersville, Maryland 21108
Lat/Long: 39.077279, -76.633213
12 Digit HUC #:021310021001
FEMA Floodplain map panel #: 24003C0184E
Watershed Name: Severn Run

D. Adjacent Property Owners:

Gayer Brothers LLC - 836 Ritchie Highway Severna Park, MD, 21146
Thomas Davenport - 1500 Jabez Run Millersville, MD, 21108
Brown Trustee - Elaine - 633 Cecil Ave N Millersville, MD, 21108
Edward L Green Sr. - 605 Cecil Ave N, Millersville, MD, 21108
Tevon J Miller - 601 Cecil Ave N Millersville, MD, 21108
Robert P Seitz & Richard L Seitz Jr Et Al - 599 Cecil Ave N Millersville, MD, 21108

E. Public Notice Billing Form

Enclosed.

F. Project Scope of Work:

*See also attached JPA and supporting documentation for more detailed discussion on the scope of work.
The goals of this project are to restore impaired hydrological, hydraulic, geomorphic, and physiochemical functions of on-site stream and wetland ecosystems. Hydrologic impairments will be addressed where possible

by slowing and infiltrating surface run-off as it flows towards the stream. Hydraulic impairments will be addressed by maximizing the width-to-depth ratio of the stream, therefore maximizing floodplain connection and by installing subsurface seepage pathways which will normalize baseflow regimes. It has been a primary objective of this proposed project to ensure that water quality standards are maintained and improved. Geomorphologic impairments will be addressed by incorporating large amounts of coarse woody material to increase habitat diversity and by filling the existing channel to resolve channelized flows leading to stream bank erosion. Physio-chemical impairments will be addressed by installed subsurface seepage pathways and the expanded hyporheic zone which will regulate water temperatures and promote nutrient processing. Restoration of these base functions is expected to result in restoration of biological functions as well since upstream and downstream reaches provide likely sources for colonization. The project will temporarily impact 2,199 linear feet (18,768 square feet) of perennial stream, and 185,852 sf (4.266 acres) of the 100-year floodplain. The project will permanently impact 78,683 square feet (1.8 acres) of nontidal wetlands, and 70,310 square feet (1.61 acres) of 25-foot nontidal wetland buffer.

G. Plan Set

*See JPA and supporting documentation with Plan Set dated 08.06.2021.

H. Discharge / Construction Impact

(i) Biological, chemical, thermal or other characteristics of the potential discharge;

In general, the goals of this project are to return hydrologic, hydraulic, geomorphologic, and physiochemical functions to the degraded stream and wetland habitat and create a resilient system that will strengthen overtime. The proposed stream restoration / floodplain reconnection restoration and resiliency project will not impact existing drainage ways as there will be zero impact to existing impervious surface. A Regenerative Stream Channel (RSC) approach was identified as the restoration plan due to its ability to recreate a system akin to the historic condition of the valley – _an integrated stream and wetland system – _without heavily impacting existing resources. The project proposes to utilize clean sand material to offer a more gradual slope towards the water for better floodplain reconnection and slow the existing sheet flow regime. The restoration site will be planted with native wetland vegetation, which will improve nutrient uptake, reduce erosion, and improve habitat for both aquatic and terrestrial organisms. The installed subsurface seam restores physiochemical functions by regulating water temperature and processing nutrients through maximization of groundwater/surface water exchange. The restoration of the base stream functions are expected to allow regeneration of biological stream functions given ample time. The only likely impact will be suspended sediments from construction activity, and this will be managed with approved sediment and erosion control practices and best management practices.

(a) A description of any other aspect associated with construction and operation of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.

The Regenerative Stream Channel (RSC) rely on cobble riffle grade controls to return the stream to the floodplain, establish a series of pools that dissipate erosive energies, and promote exchange of groundwater and surface water. The existing channel serves as the haul road which allows construction access that provides complete avoidance of all wetlands and large trees to maintain shade and promote temperature stability and habitat. The cobble riffles are installed less than 12 inches above floodplain elevation and can be installed around trees and on top of wetlands without heavily impacting these natural resources. Indirect and delayed tree loss is expected and desirable as the system reverts to the historical condition of an integrated stream and wetland complex featuring a shallowly inundated floodplain – _these losses are eventually offset by growth of wetland adapted trees that are planted after construction. Based on preliminary comments offered by regulatory bodies from the State and Federal government, the design was modified in several ways to further reduce impact to wetlands. For instance, a preliminary design configuration relied on low profile

sand berms to connect the stream to the floodplain – _to limit potential conversion of wetlands to uplands, the riffle grade controls were redesigned to eliminate the need for these sand berms in most locations.

- (b) The characteristics of the discharge Flow rate (cfs)
 - o Potential chemical, physical, biological constituents
 - o Frequency (e.g., daily, hourly,)
 - o Duration
 - o Temperature (Celsius)

In June 2019, DNR Resource Assessment Service (RAS) implemented a plan to monitor dissolved oxygen at Jabez bi-weekly using protocols similar to those used by Anne Arundel County. Dissolved oxygen spot-checks were performed in 3 pools and 3 riffles each in Jabez 3 and Jabez Branch (control) through November 18, 2019. In addition to spot checks, RAS staff also surveyed longitudinal profiles of dissolved oxygen and temperature in Jabez 3 in summer and autumn, beginning where the tributary meets Jabez Branch and continuing upstream with a reading being taken every 12 meters to the start of the proposed restoration. Dissolved oxygen levels in Jabez 3 are consistently high (>8.65 mg/L) even during late summer and early autumn months when low flows and warm air temperatures are more likely to result in lower dissolved oxygen levels.

To better describe a potential secondary biological benefit of the stream restoration, timed amphibian and reptile surveys were performed in summer and autumn 2019 in wetlands adjacent to the Jabez restoration project. Using wetland delineations by Underwood & Associates, 5 wetland study sites were established along Jabez 3 and a 6th wetland site was established along Jabez Branch as a control. 7 species were observed in the wetlands adjacent to the restoration area including a sensitive stream salamander, the Northern Red Salamander.

See attached “Jabez Branch Monitoring Report 2019 (April 2020)” for more details.

- (ii) The location or locations at which any discharge may enter navigable waters;

- (a) Latitude and longitude (dd:mm:ss) 39°04'48.6"N 76°37'56.9"W

- (b) An original or color copy/reproduction of a United States Geological Survey Quadrangle Map that clearly shows the location of the activity and all potential discharge points
Enclosed.

- (iii) Data supporting existing aquatic life use for each waterway;

See attached “Jabez Branch Monitoring Report 2019 (April 2020) for details.

- (iv) Antidegradation alternatives analysis as applicable to Tier II waters.

N/A

- (v) The existing and designated use(s) that are potentially affected by the proposed activities.
Jabez Branch 3 is a Class III waterway.

I. Managing and Monitoring Discharge during construction:

This nature-based approach utilizes clean materials such as coarse sand, stone, woodchips, coconut fiber logs and untreated oak stakes. The appropriate approved sediment erosion control measures and best management practices will be installed as deemed necessary by MDE’s Sediment and Erosion Control Division (i.e.. Silt fencing,

clean water diversion pump around, filter bags, etc.) and MDE's Wetlands and Waterways Program. The project will be constructed as quickly as possible to reduce the chances of storm events and other weather-related impacts. A responsible person will be on site everyday monitoring construction activities and discharges to determine corrections as needed.

J. Construction Dates:

The construction dates are currently unknown. Construction timeline is dependent on permit approvals (i.e. Sediment & Erosion Control, etc.). We are hoping to construct in Spring of 2022. The construction is expected to take 2 months.

K. Monitoring Discharge Post Construction

The appropriate sediment erosion control measures will be installed and remain installed until the site is determined to be stable by MDE's Compliance Program (i.e.. Silt fencing, filter bags etc.). Post construction site monitoring is planned through the development of a Jabez Branch 3 Monitoring and Adaptive Management Plan. Under this plan, it is anticipated that the permittee will be responsible for monitoring the project for a minimum of (6) years after completion of construction. Monitoring will be conducted a minimum of once per year during the years that monitoring reports are required. Certain sites may require more frequent monitoring (e.g., twice a year during spring and fall) and reporting during the early stages of development to quickly identify and address problems and/or concerns. Water Quality parameters of temperature, dissolved oxygen, and pH are planned to be monitored at each established monitoring site identified as (SEVE-102, SEVE-103 & SEVE-104) the entire summer critical period of March 1 - September 30th, every 15 minutes. The monitoring effort is planned to include documentation of temperature, turbidity, and dissolved oxygen levels in-stream above, at, and below the project area; visual field observations; photographic documentation at monumented points; vegetation viability measurements (including confirmation of the restoration of temporary wetland impacts, the relocation on-site of permanent wetland impacts, and the creation of new wetlands); and, identify any necessary corrective measures. Additionally, DNR anticipates visual monitoring for the occurrence of iron oxidizing bacteria at each established monitoring site identified as (SEVE-102, SEVE-103 & SEVE-104) as well as a proposed location immediately downstream of the project area and protocol be included in the Monitoring and Adaptive Management Plan.

Biological monitoring will occur for Monitoring Years 2, 4 and 6. For stream biological monitoring, event shall occur consistently within the index period as required by the MBSS; between March 1 and April 30 for benthos sampling and between June 1 and September 30 for fish sampling. The number and location of monitoring stations shall be determined, and approved by the MDE and the Corps, on a case specific basis and shall remain consistent throughout the monitoring period. Scientific Collection permits for conducting benthic and fish sampling will be coordinated with the Maryland Department of Natural Resources (DNR). All field sampling as well as laboratory sample processing shall be performed by or under supervision of a professional aquatic biologist.

1. Macroinvertebrate – abundance will be evaluated using a modified MBSS methodology.
2. Macroinvertebrate Tolerance – species diversity will be evaluated using a modified MBSS methodology.
3. Fish Presence - abundance will be evaluated using a modified MBSS methodology.

L. Mitigation:

Project is self-mitigating

M. Permits:

ACOE Individual Section 404 Permit (In Progress)

MDE Non-Tidal Wetlands and Waterway Construction authorization (In Progress)

MDE Approved Sediment and Erosion Control (In Progress)

AA County Grading Permit (In Progress)

NPDES General Stormwater Discharge Permit for Discharges Associated with Construction Activity (Awaiting SEC permit approval)

N. Other Information

This project was funded through the State of Maryland Chesapeake and Atlantic Coastal Bays Trust Fund to improve water quality, habitat, and overall climate resiliency of the Severn River Watershed.

O. Documentation of Pre-Filing Request (* See attached)

Prefiling meeting was requested on **December 23, 2020**.

P. The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief

Q. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.