Public Notice

U.S. Army Corps of Engineers Baltimore District

In Reply to Application Numbers CENAB-OPR-M (MILL BRANCH CROSSING, LLC) 2009-63086

PN 17-52 Comment Period: November 16, 2017 to December 5, 2017

THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.

This District has received an application for a Department of the Army permit pursuant to **Section 404 of the Clean Water Act (33. U.S.C. 1344)** as described below:

APPLICANT: Mill Branch Crossing, LLC
c/o Mr. William Chesley
6041 State Route 3 North
Crofton, Maryland 21114

LOCATION OF THE PROPOSED WORK: In nontidal wetlands adjacent to Green Branch Tributary, at the intersection of Maryland 301 and Mill Branch Road, Bowie, Prince George's County, Maryland.

WORK AND PURPOSE: The applicant proposes permanent fill of approximately 1.28 acres (55,551 square feet) of forested nontidal wetlands, 1,963 square feet of nontidal emergent wetlands, and 941 square feet along 114 linear feet of perennial stream for grading and construct a mix use commercial development and widen of a merge area from Mill Branch Road onto Route 301. All work will be completed in accordance with the enclosed plan(s). If you have any questions concerning this matter, please contact Mrs. Erica Schmidt at 410-962-6029 or Erica.Schmidt@usace.army.mil**.**

As part of the planning process for the proposed project, steps were taken to ensure avoidance and minimization of impacts to aquatic resources to the maximum extent practicable. The proposed construction of a new merge area from Mill Branch Road onto Route 301 is a requirement of the county to ensure safe travel from the planned commercial development. The proposed development is proposed on an approximately 73.9 acre site.

Compensatory mitigation is proposed off-site at Governor Bridge Natural Area located at 7600 Governor Bridge Rd, Bowie, Maryland. The proposal includes a mitigation ratio of approximately 2:1 for forested nontidal wetlands and 1:1 for emergent nontidal wetlands for the creation of approximately 2.59 acres of non-wetlands adjacent to existing nontidal wetlands and open water features. The site is located within a state maintained park and would be protected within the park lands.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important

resources. The benefit, which reasonable may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Written comments concerning the work described above related to the factors listed above or other pertinent factors must be received by the District Engineer, Department of the Army, Baltimore District Corps of Engineers, Attn: Regulatory Branch, 10 S. Howard Street, Baltimore, Maryland 21201, within the comment period specified above.

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect essential fish habitat (EFH). The project site does not lie in or adjacent to EFH as described under MSFCMA. The project is unlikely to adversely affect EFH or the species of concern by alteration of spawning, nursery, forage and/or shelter habitat.

The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act from the **Maryland Department of the Environment**. Any written comments concerning the work described above which relate to water quality certification must be received by the Wetlands and Waterways Program, Maryland Department of the Environment, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland 21230-1708 within the comment period as specified above to receive consideration. The Section 401 certifying agency has a statutory limit of one year from the date of this public notice to make its decision.

The applicant must obtain any State or local government permits which may be required.

A preliminary review of this application indicates that the proposed work will not affect Federal listed threatened or endangered species or their critical habitat, pursuant to

Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

Review of the latest published version of the National Register of Historic Places indicates that the proposed project will affect properties listed as eligible for inclusion, therein, are located at the site of the proposed work. Currently unknown archeological, scientific, prehistoric, or historical data may be lost or destroyed by the work to be accomplished under the request permit.

The evaluation of the impact of this project on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 of the Clean Water Act.

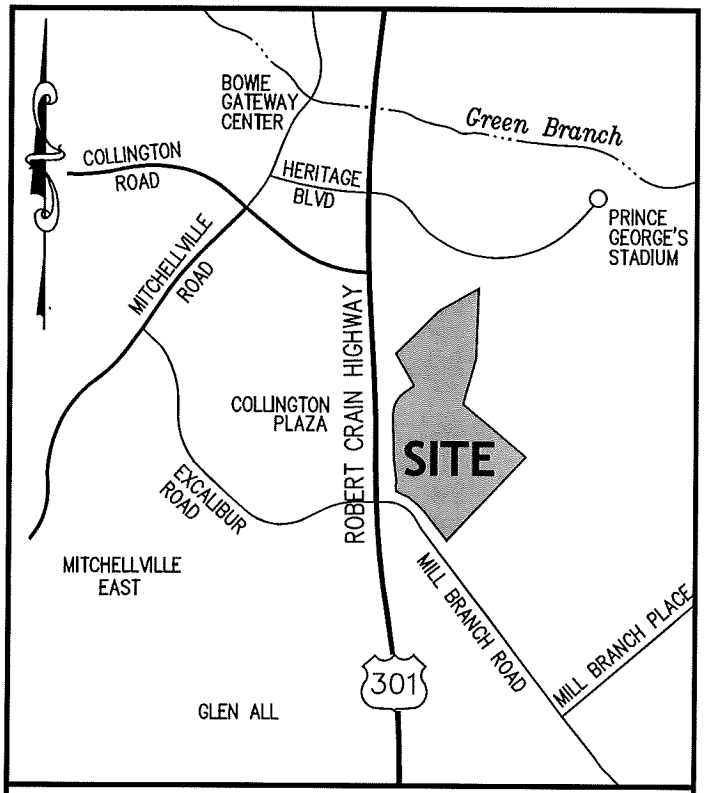
Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received by the District Engineer, Department of the Army, Baltimore District Corps of Engineers, Attn: Regulatory Branch, 10 S. Howard Street, Baltimore, Maryland 21201, within the comment period as specified above to receive consideration. Also it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected.

It is requested that you communicate this information concerning the proposed work to any persons know by you to be interested and not being known to this office, who did not receive a copy of this notice.

FOR THE DISTRICT ENGINEER:

Kathy B. Anderson

KATHY B. ANDERSON
Chief, Maryland Section Southern



VICINITY MAP

SCALE: 1" = 2000'
200' SHEET 204 NE 14 & 205 NE 14
30th ED. PRINCE GEORGE'S COUNTY STREET
MAP PAGE 5533 GRID F-1 & PAGE 5413 GRIDS F10 & G10
TAX MAP 55, GRID E4
PARCELS 20, 27, 28, 52, 57, 58, 59 and 71

SHEET INDEX

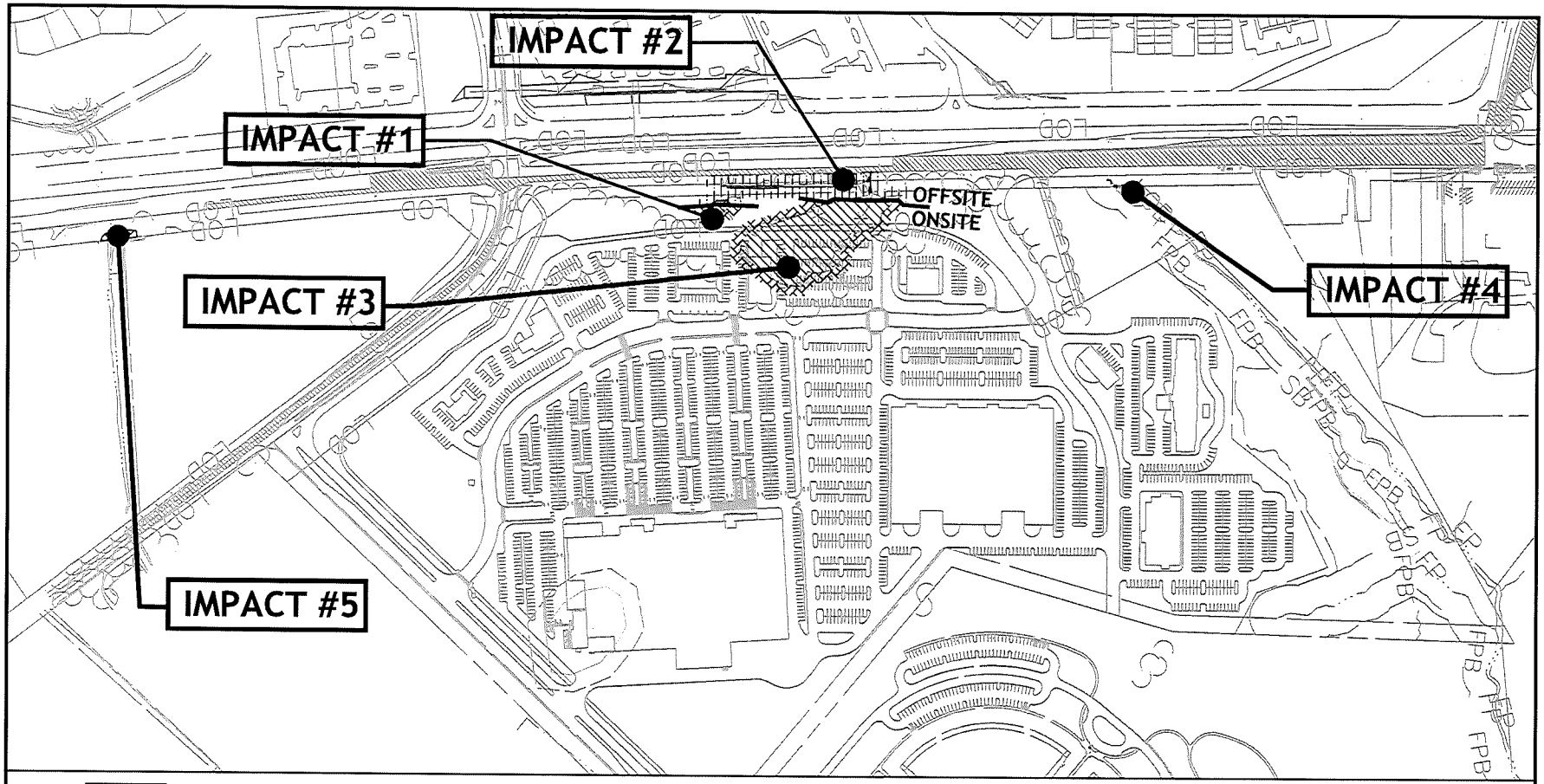
LANDTECH CORPORATION
OPERATING AS A TECH GROUP COMPANY
201 Defense Highway
Suite 200
Annapolis, MD 21401
Ph. (443) 274-3232
Fax (443) 274-3233

VICINITY MAP AND
SHEET INDEX
WETLAND AND STREAM IMPACTS

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: SEE MAP DATE: JUNE, 2017 SHEET 1 OF 16



WETLAND DISTURBANCE FOR ROUTE 301 WIDENING

WETLAND DISTURBANCE FOR SITE GRADING

WETLAND BUFFER DIST. FOR ROUTE 301 WIDENING

WETLAND BUFFER DIST. FOR SITE GRADING

STREAM DISTURBANCE FOR ROUTE 301 WIDENING

GRAPHIC SCALE

400 0 200 400 800 1600

(IN FEET)

1 inch = 400 ft.

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OVERALL PROPERTY - PLAN VIEW
IMPACT LOCATIONS
MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: 1" = 400' DATE: JUNE, 2017

REQUIRED WETLAND AND STREAM IMPACT SUMMARY:

IMPACT #1 - EMERGENT WETLAND IMPACT - ONSITE CONSTRUCTION

EMERGENT

WETLAND DISTURBANCE FOR SITE GRADING, TOTAL: 1,374 SF OR 0.03 ACRES
OFFSITE: 1,374 SF OR 0.03 ACRES

WETLAND BUFFER DIST. FOR SITE GRADING, TOTAL: 3,624 SF OR 0.08 ACRES
OFFSITE: 3,624 SF OR 0.08 ACRES

IMPACT #2 - WETLAND IMPACT - OFFSITE ROAD WIDENING

EMERGENT

WETLAND DIST. FOR RTE 301 WIDENING, TOTAL: 589 SF OR 0.01 AC
OFFSITE: 589 SF OR 0.01 AC

WETLAND BUFFER DIST. FOR RTE. 301 WIDENING, TOTAL: 2,212 SF OR 0.05 AC
OFFSITE: 2,212 SF OR 0.05 AC

FORESTED

WETLAND DIST. FOR RTE 301 WIDENING, TOTAL: 5,750 SF OR 0.13 AC
OFFSITE: 5,750 SF OR 0.13 AC

WETLAND BUFFER DIST. FOR RTE. 301 WIDENING, TOTAL: 26,209 SF OR 0.60 AC
OFFSITE: 26,209 SF OR 0.60 AC

IMPACT #3 - WETLAND IMPACT - ONSITE CONSTRUCTION

FORESTED

WETLAND DISTURBANCE FOR SITE GRADING, TOTAL: 49,801 SF OR 1.14 ACRES
OFFSITE: 13,938 SF OR 0.32 ACRES
ONSITE: 35,863 SF OR 0.82 ACRES

WETLAND BUFFER DIST. FOR SITE GRADING, TOTAL: 22,598 SF OR 0.52 ACRES
OFFSITE: 1,858 SF OR 0.04 ACRES
ONSITE: 20,740 SF OR 0.48 ACRES

IMPACT #4 - STREAM IMPACT - OFFSITE ROAD WIDENING

STREAM CENTERLINE DIST. FOR ROUTE 301 WIDENING, TOTAL: 114 LINEAR FEET
OFFSITE: 114 LINEAR FEET

STREAM IMPACT FOR RTE 301 WIDENING, TOTAL: 941 SF OR 0.02 AC
OFFISTE: 941 SF OR 0.02 AC

IMPACT #5 - WETLAND IMPACT - OFFSITE OUTFALL SEWER

FORESTED

WETLAND BUFFER DIST. FOR OUTFALL SEWER, TOTAL: 588 SF OR 0.01 ACRES

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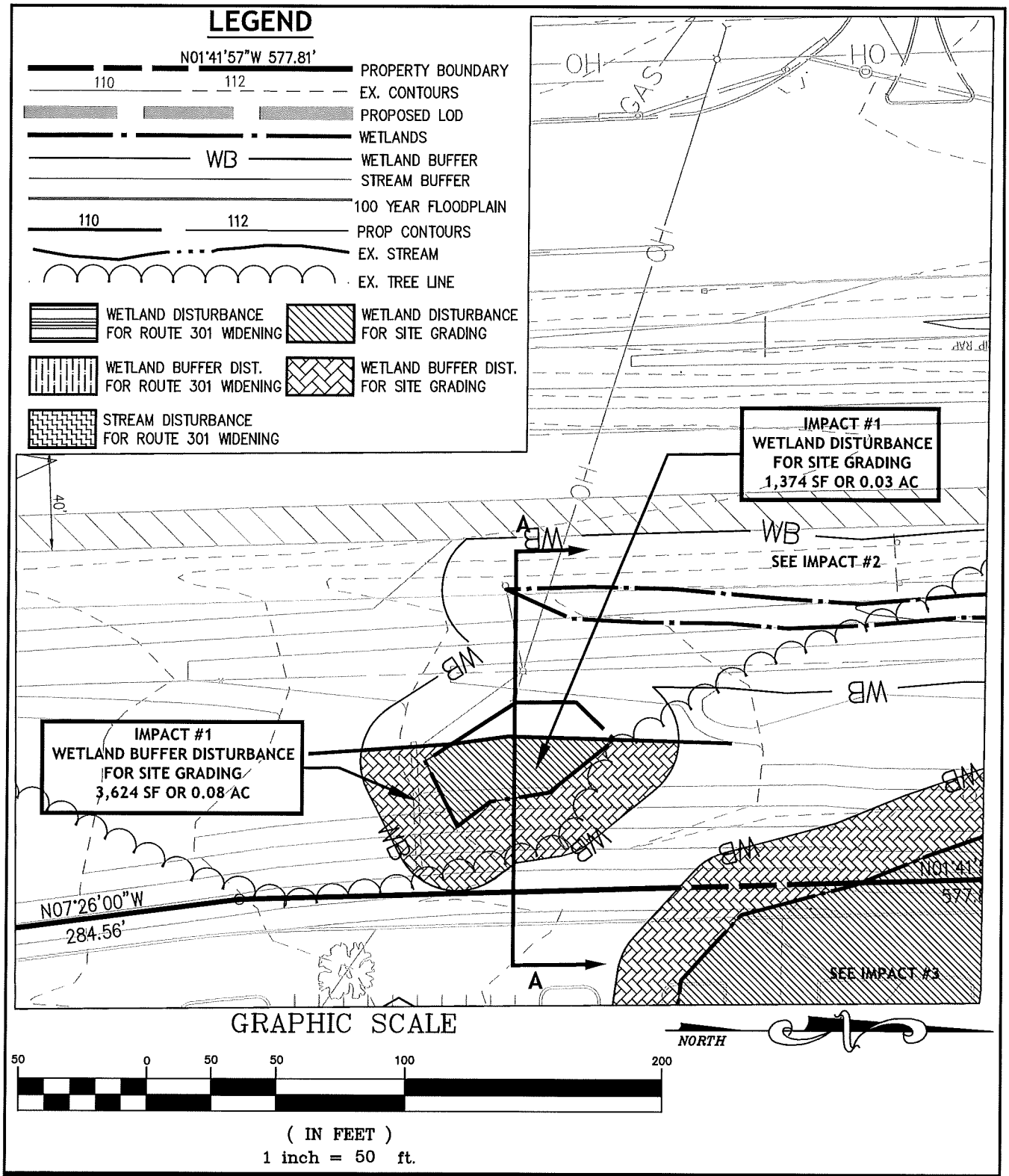
WETLAND AND STREAM IMPACTS
IMPACT SUMMARY TABLE

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: N/A DATE: JUNE, 2017



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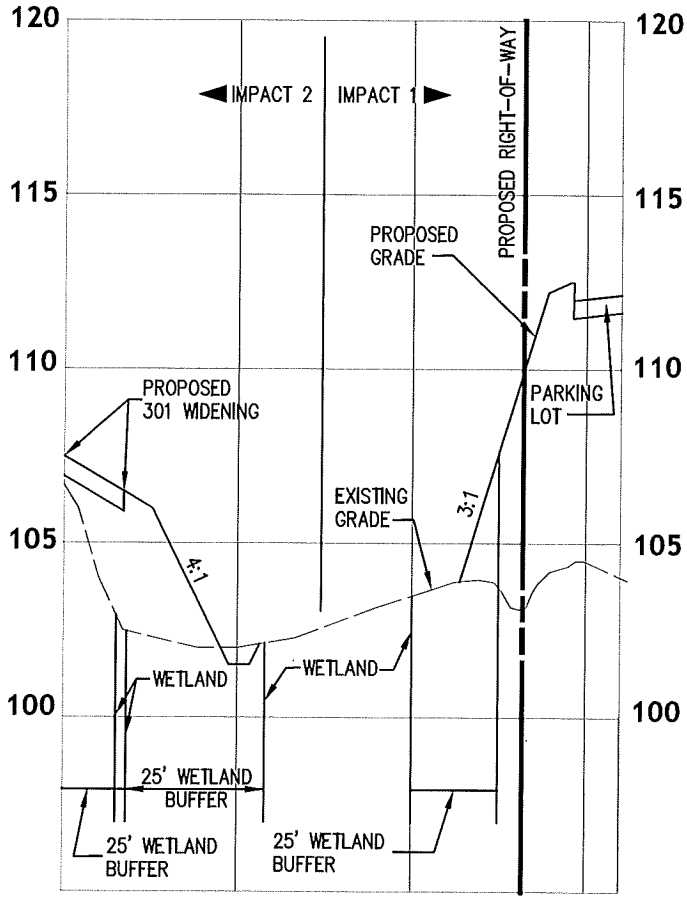
IMPACT #1 - PLAN VIEW
EMERGENT WETLAND IMPACT
FOR ONSITE GRADING

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: 1" = 50' DATE: JUNE, 2017 SHEET 4 OF 16



IMPACT #1 CROSS SECTION A-A

SCALE: HORZ 1" = 50'
VERT 1" = 5'

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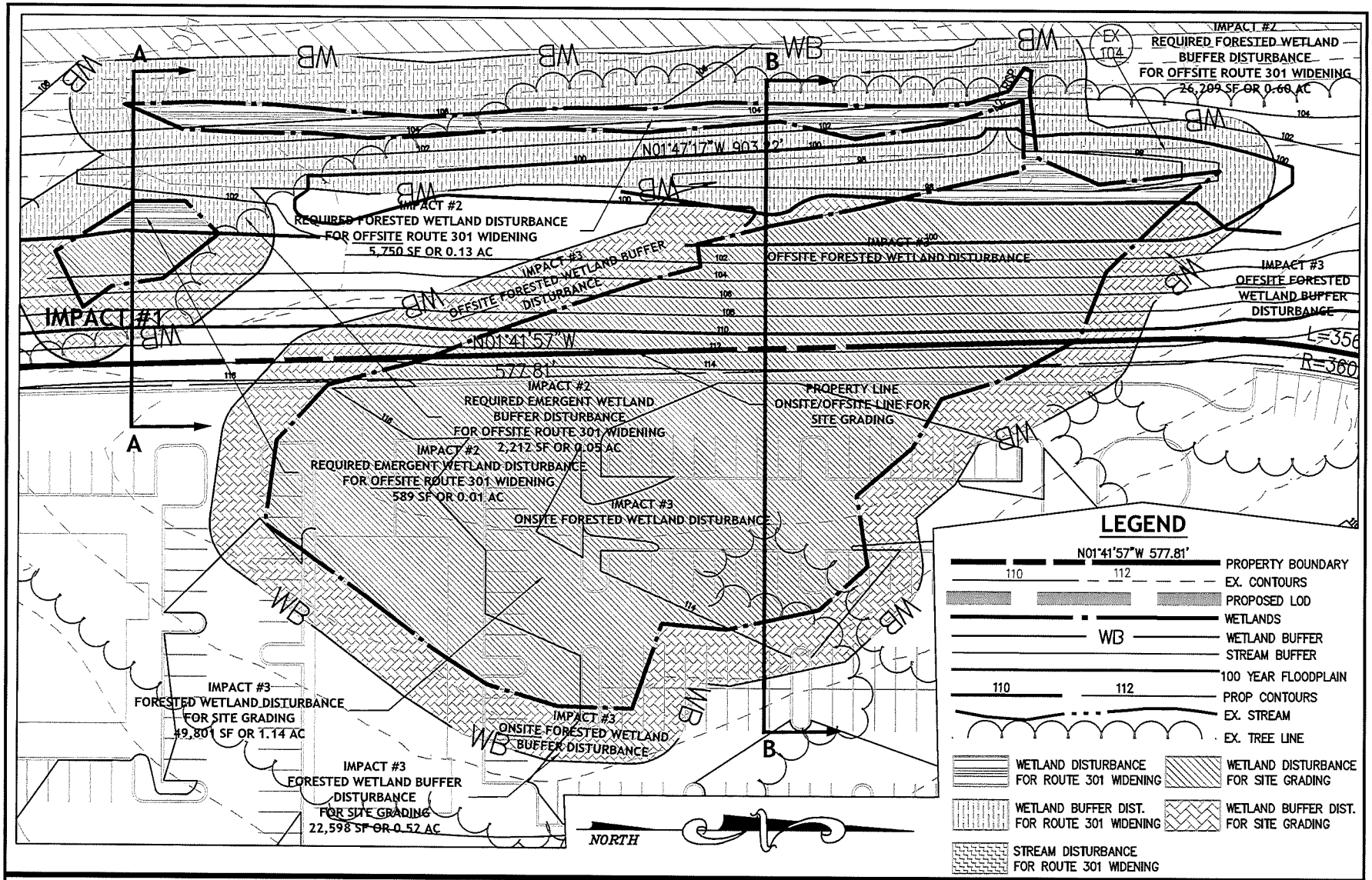
IMPACTS
CROSS SECTION A-A

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE:SEE PROFILE DATE: JUNE, 2017



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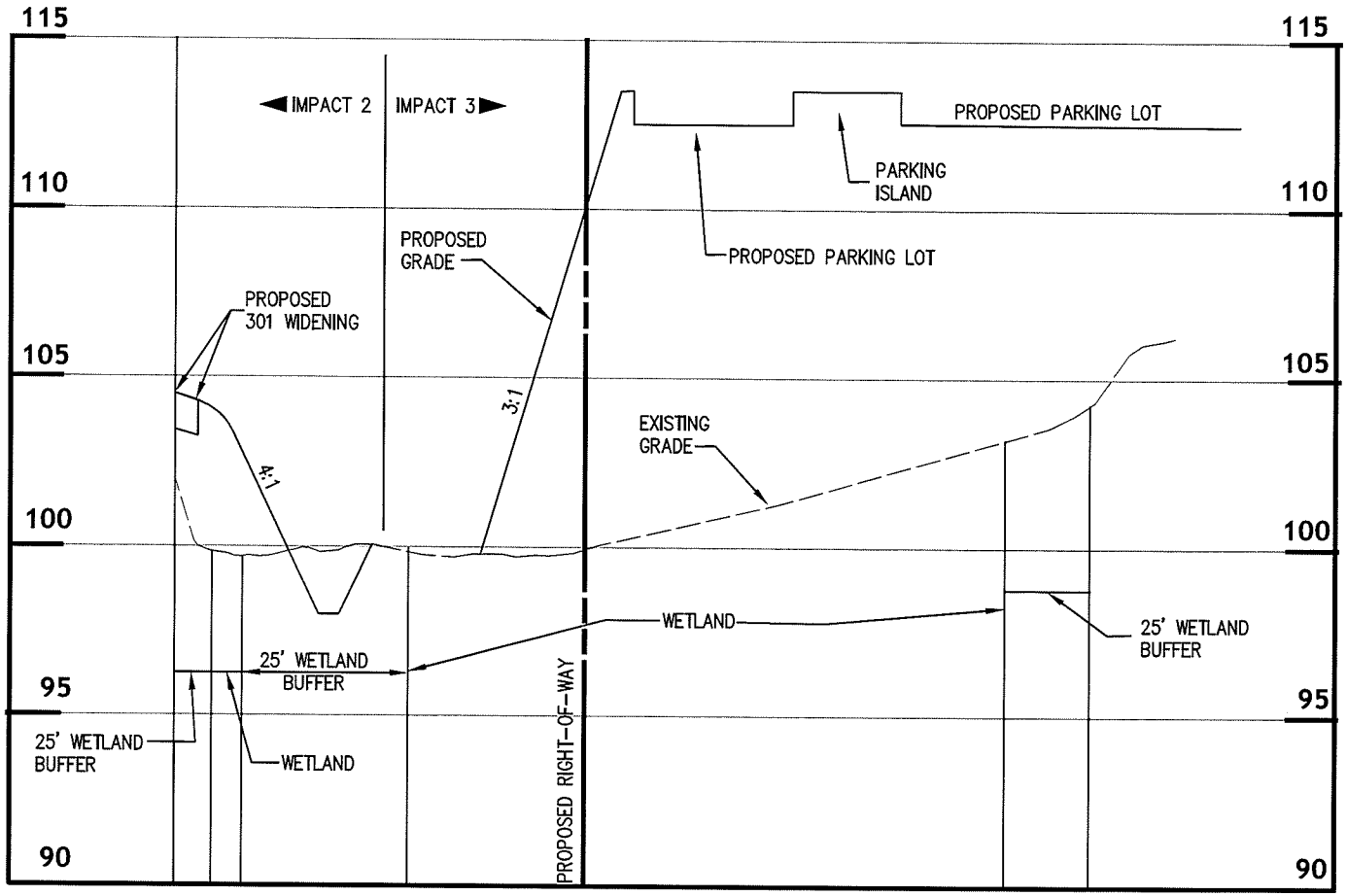
IMPACT #2 AND #3 - WETLAND DISTURBANCE
ROAD WIDENING AND SITE GRADING
ULTIMATE CONDITIONS

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: 1" = 60' DATE: JUNE, 2017 SHEET 6 OF 16



IMPACT #2 CROSS SECTION B-B

SCALE: HORZ 1" = 50'
VERT 1" = 5'

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IMPACTS
CROSS SECTION B-B
ULTIMATE CONDITIONS

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: SEE SECTIONDATE: JUNE, 2017

LEGEND

N01°41'57"W 577.81'

PROPERTY BOUNDARY

110 112 EX. CONTOURS

PROPOSED LOD

WETLANDS

WETLAND BUFFER

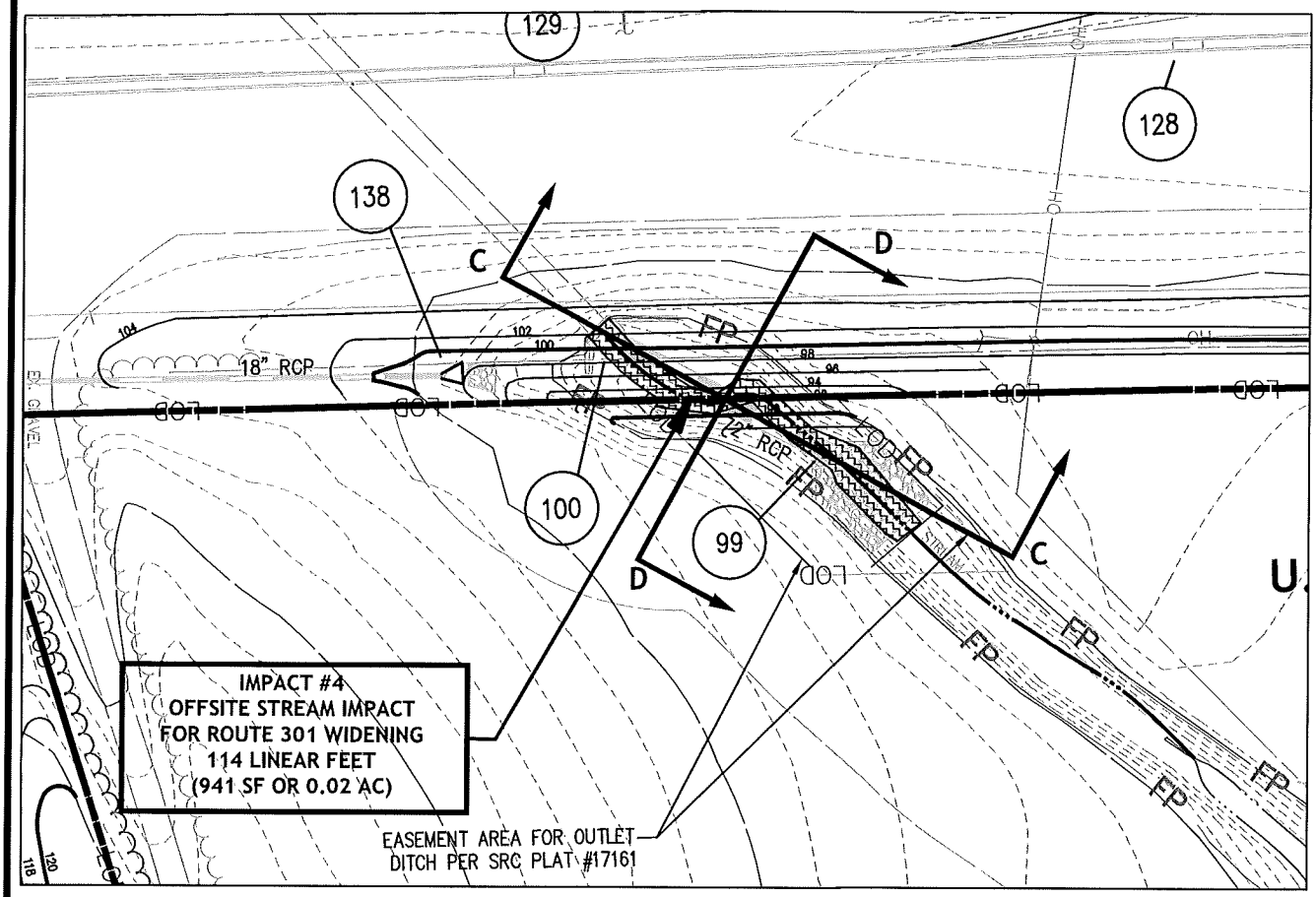
SB STREAM BUFFER

100 YEAR FLOODPLAIN

110 112 PROP CONTOURS

EX. STREAM

STREAM IMPACT FOR ROUTE 301 WIDENING



GRAPHIC SCALE

NORTH

50 0 50 50 100 200

(IN FEET)

1 inch = 50 ft.

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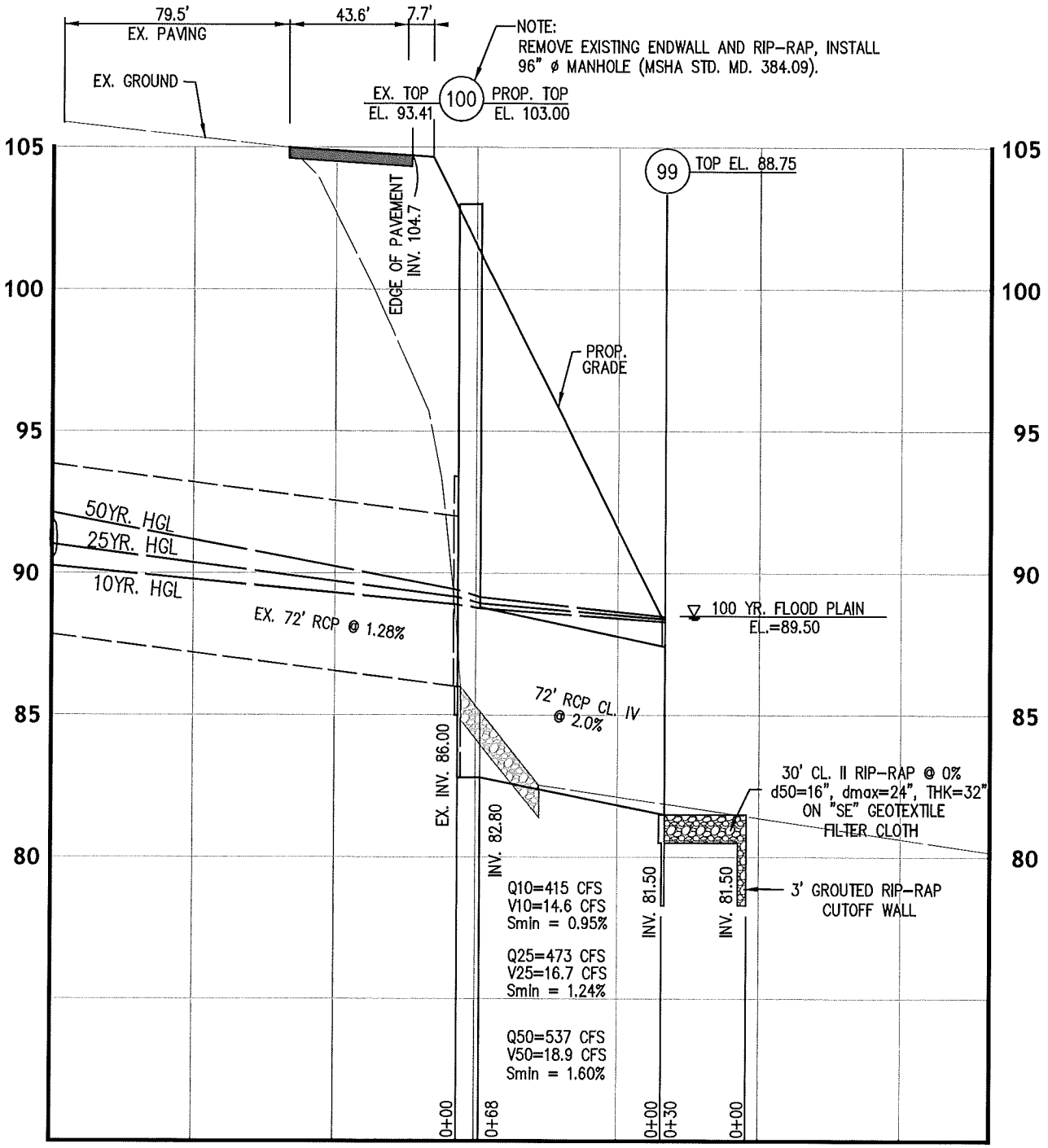
IMPACT #4 - STREAM AND STREAM BUFFER
OFFSITE STORM DRAIN CONSTRUCTION
AND ROUTE 301 WIDENING

MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: 1" = 50' DATE: JUNE, 2017



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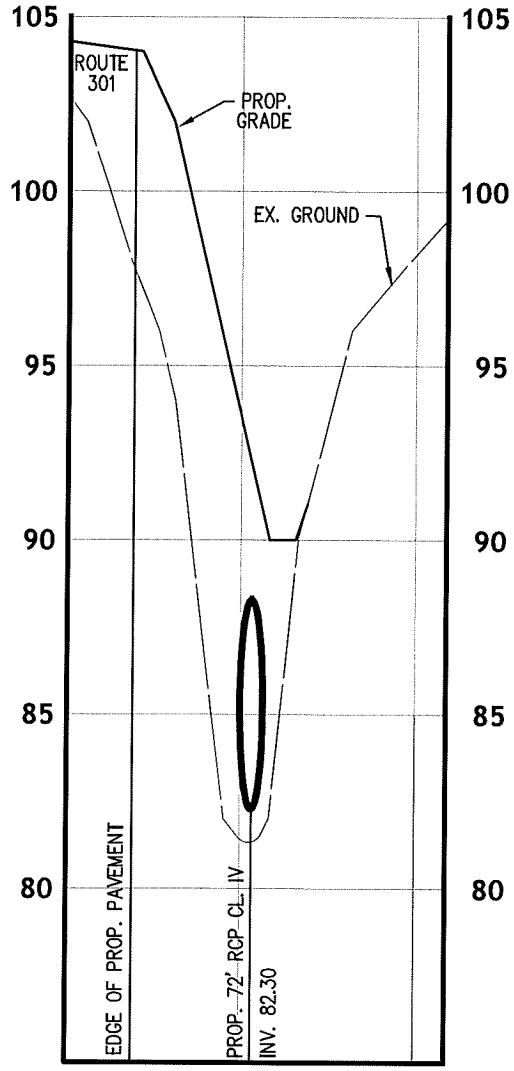
IMPACT #3
PROFILE C-C
MILL BRANCH CROSSING

TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE:SEE PROFILE DATE: JUNE, 2017



SECTION- PROPOSED 72" RCP STORM DRAIN

SCALE: HORZ 1" = 50'
VERT 1" = 5'

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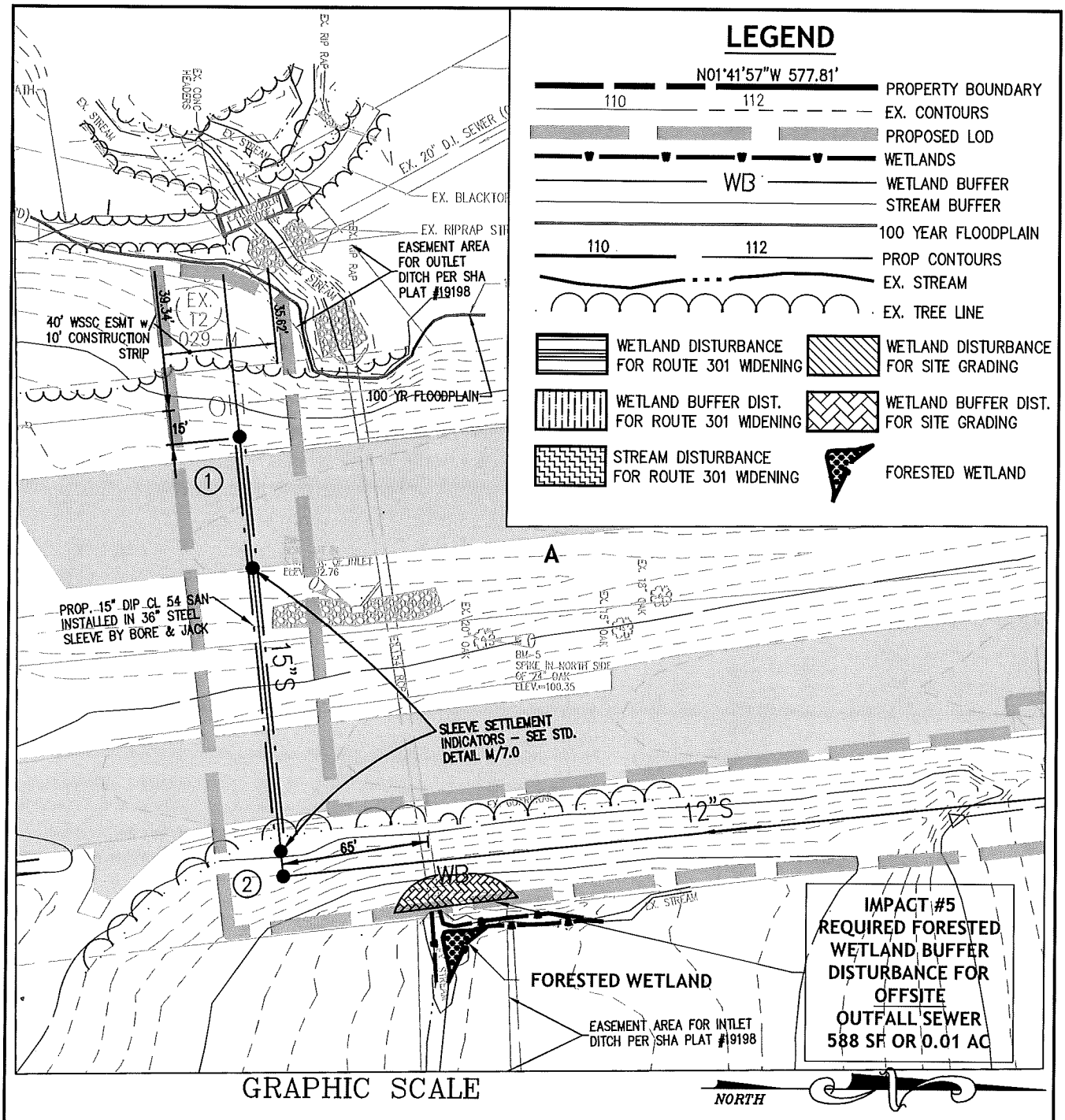
IMPACT #3
CROSS SECTION D-D
MILL BRANCH CROSSING
TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: AS NOTED DATE: JUNE, 2017



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IMPACT #5 - PLAN VIEW
FORESTED WETLAND IMPACT
FOR OFFSITE OUTFALL SEWER

MILL BRANCH CROSSING

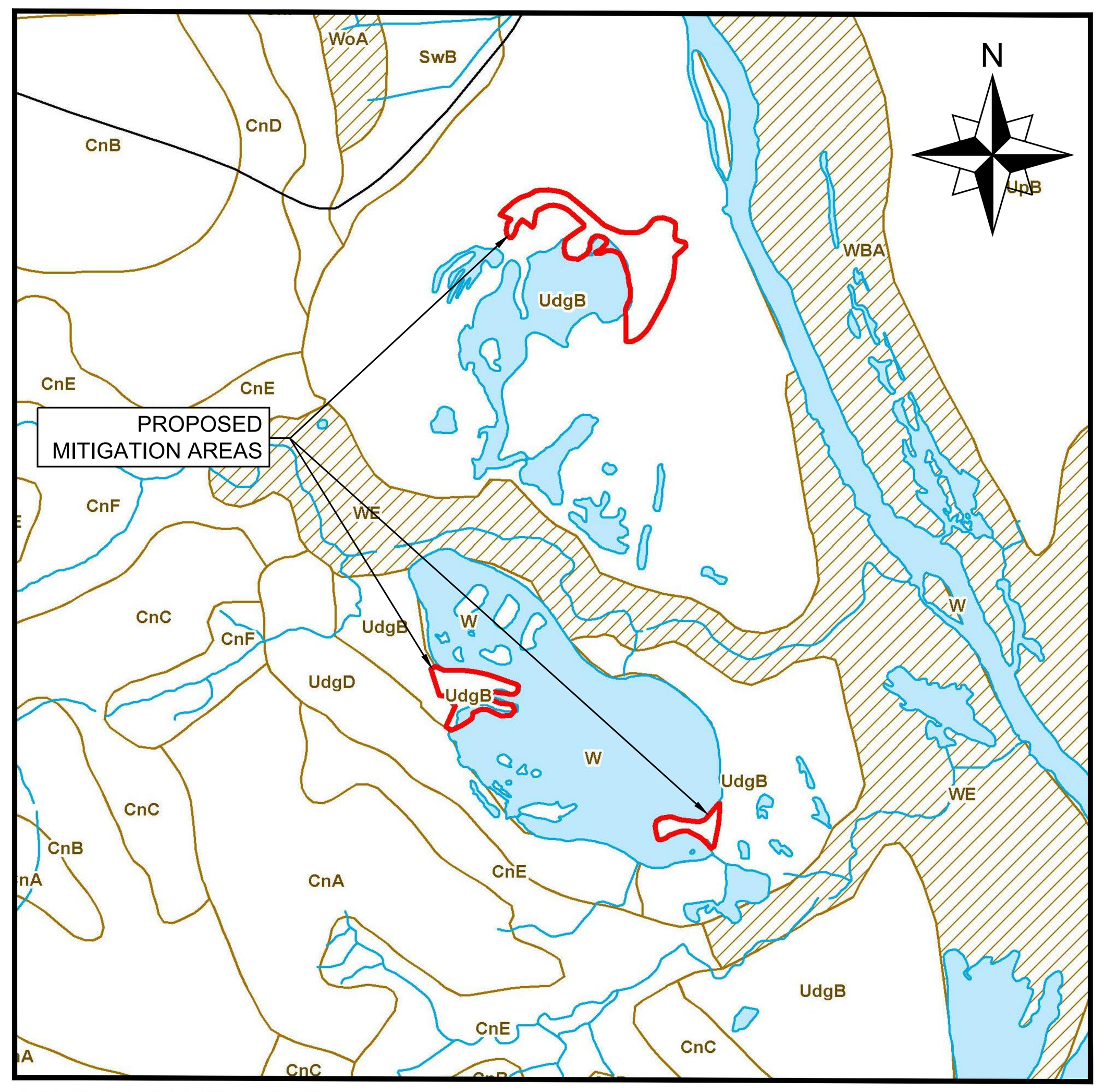
TAX MAP 55, PARCEL 58, 52, 59, 71, 28, 20 AND 57
7TH ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SCALE: 1" = 60' DATE: JUNE, 2017 SHEET 12 OF 16

MILL BRANCH CROSSING SHOPPING CENTER
PHASE I
WETLAND MITIGATION PLAN

PRINCE GEORGE'S COUNTY, MARYLAND

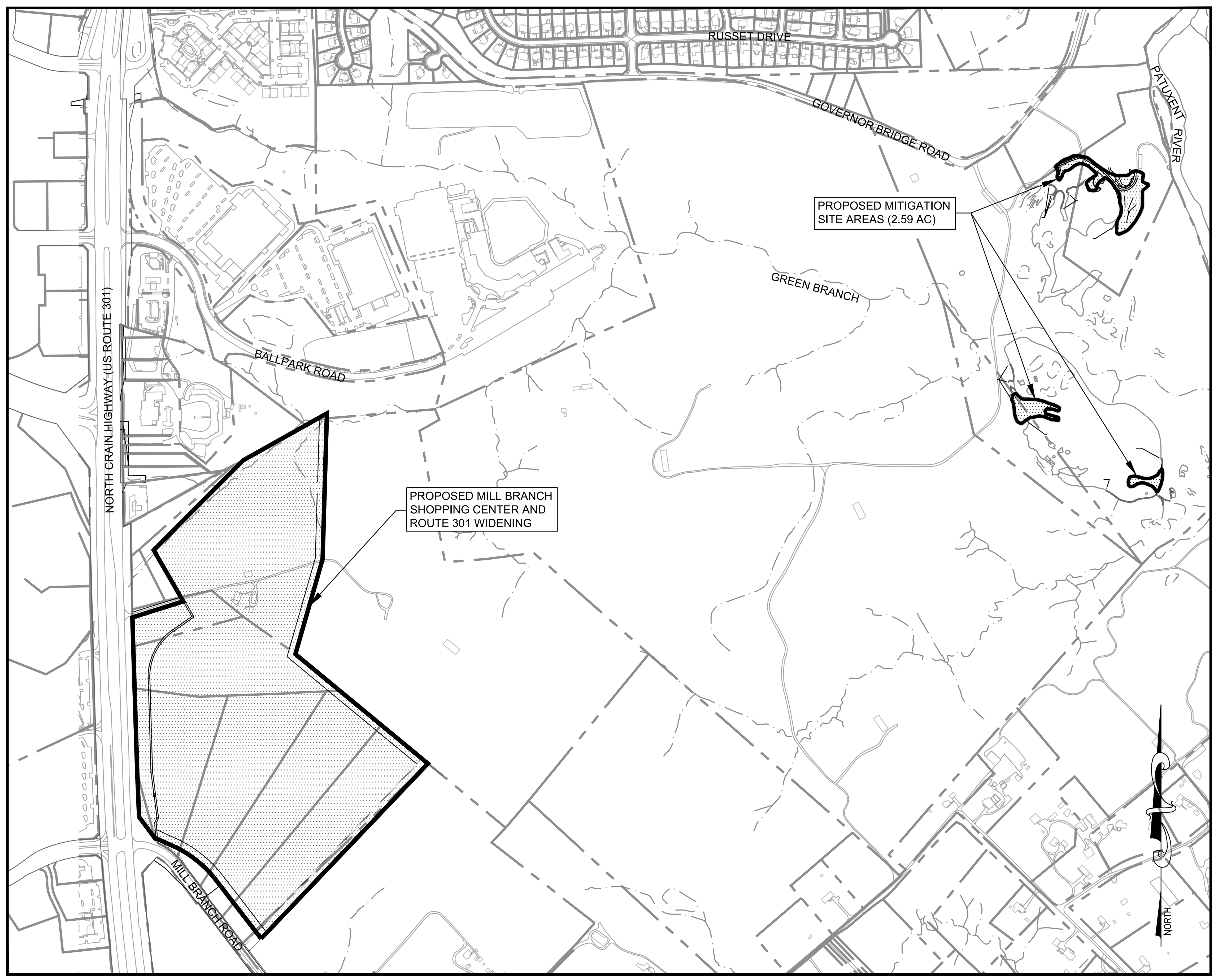
SOILS MAP
SCALE: 1" = 500'



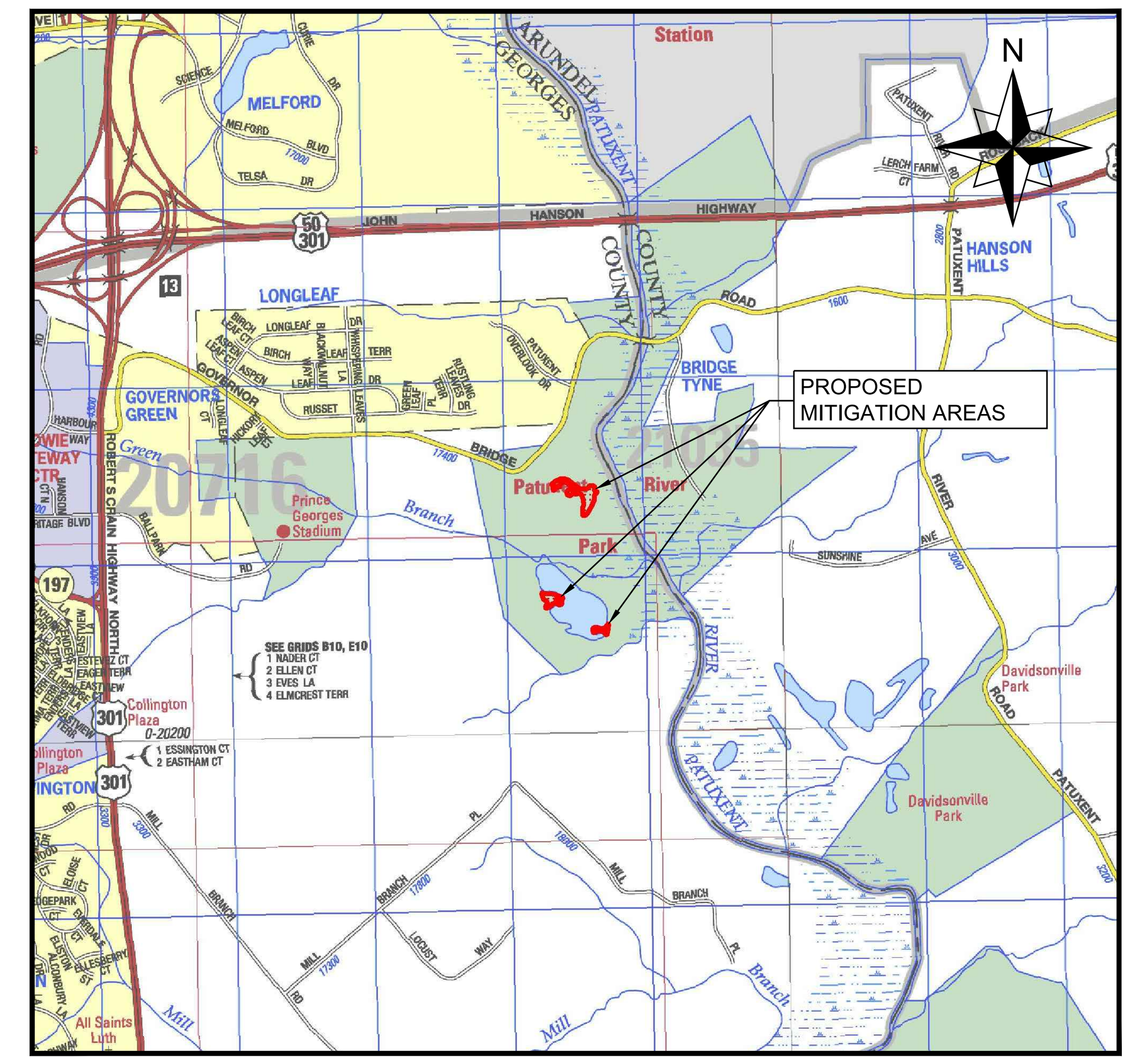
SSURGO DIGITAL DATA

SOIL ID	SOIL SERIES NAME	SOIL DRAINAGE	EROSION POTENTIAL
UgdB	Udorthents, Reclaimed Gravel Pits	GOOD	MEDIUM

WORK AREA MAP
SCALE: 1" = 500



VICINITY MAP
SCALE: 1" = 2000'



Copyright ADC The Map People
Permitted Use Number 20711184

MISS UTILITY
Call "Miss Utility" at 1-800-257-7777, 48 hours prior to the start of work. The excavator must notify all public utility companies with under ground facilities in the area of proposed excavation and have those facilities located by the utility companies prior to commencing excavation.

APPLICATION TRACKING #16-NT-0102/201660386

SHEET INDEX

Wetland Studies and Solutions, Inc. a DAVEY company
1131 Benfield Boulevard • Suite L
Millersville, Maryland 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlandstudies.com

Mill Branch Crossing Shopping Center
Phase I Mitigation Plan
Prince George's County, Maryland

Cover Sheet

Seal: STATE OF MARYLAND, SCOTT R. PETREY, 49147, PROFESSIONAL ENGINEER

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 49147, Expiration Date: 11/24/2018.

REVISIONS

No.	Date	Description	Rev. By	App. By

DATE: FEBRUARY 2017

SCALE: AS NOTED

Horizontal Datum: VCS NAD 83

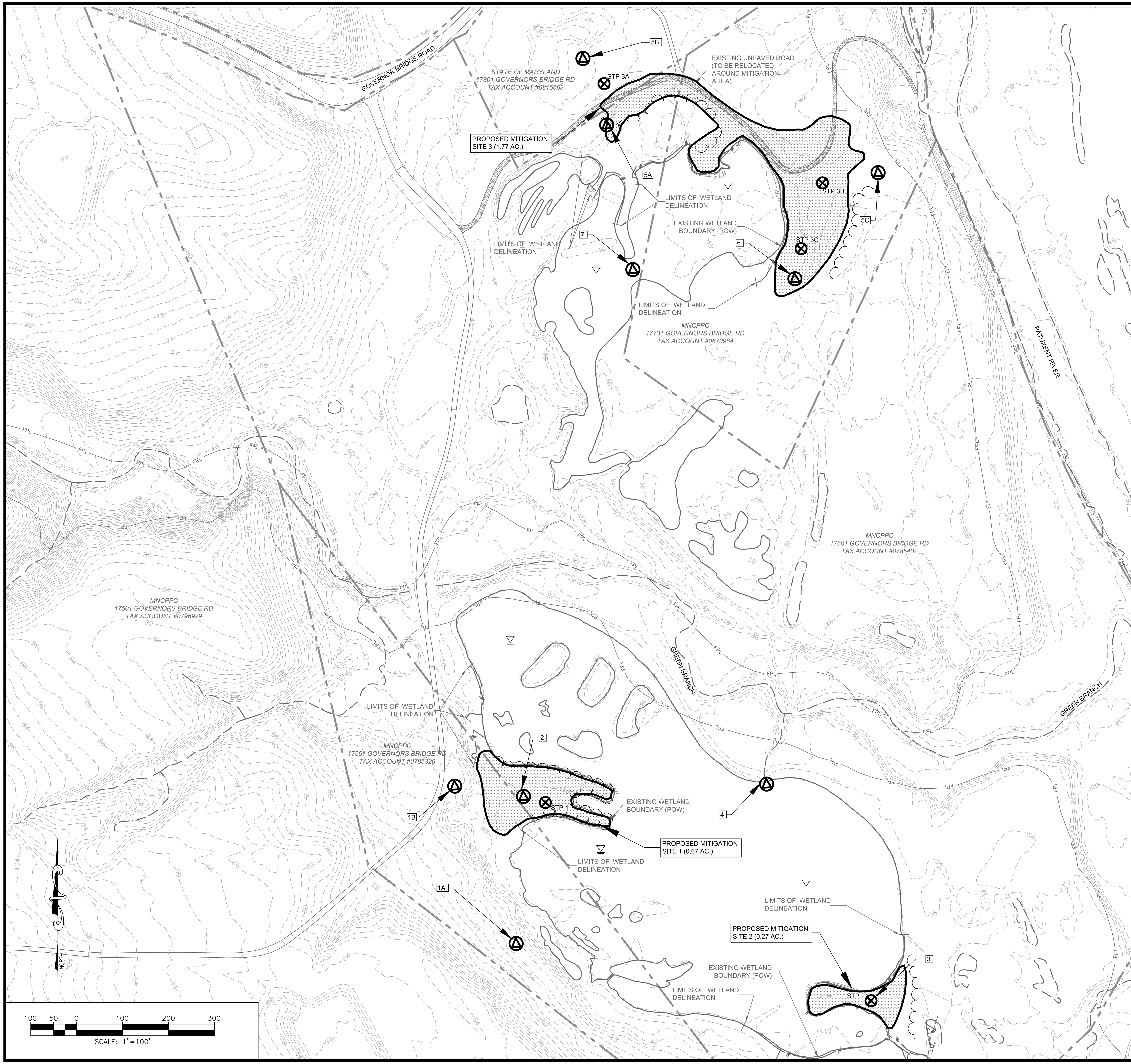
Vertical Datum: NGVD 29

Boundary and Topo Source: Prince George's County Digital Data & LandTech Resources, Inc.

Design	Draft	Approved
SRP	SIH	SRP

Sheet # 1 of 5

Computer File Name:



LEGEND

EXISTING CONTOURS (CI = 2')	SURVEYED EDGE OF WATER
PROPERTY BOUNDARY	PROPOSED WETLAND MITIGATION AREA
SURVEYED TREELINE	PROPOSED GROUNDWATER MONITORING WELL
EXISTING 100-YEAR FLOODPLAIN (GIS DATA)	APPROXIMATE SOIL BORING LOCATIONS (STP 2)
DELINEATED WETLANDS	
EXISTING STREAM (GIS DATA)	

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www.wetlandstudies.com

Mill Branch Crossing Shopping Center
Phase I Mitigation Plan
Prince George's County, Maryland

Wetland Mitigation Layout

STATE OF MARYLAND · SCOTT R. PETREY · 46147 · PROFESSIONAL ENGINEER

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 46147, Expiration Date: 11/24/2018.

REVISIONS

No.	Date	Description	Rev. By	App. By

DATE: FEBRUARY 2017
SCALE: 1" = 100'

Horizontal Datum: VCS NAD 83
Vertical Datum: NGVD 29
Boundary and Topo Source: Prince George's County Digital Data &

Design	Draft	Approved
SRP	SIH	SRP

Sheet # 2 of 5

Computer File Name:
L:_maryland\Projects\MD01000s\MD01000\MD1069.02\CADD\04-ENGR\11-phase i planset Phase 1 Mitigation Plan.dwg

PHASE I CONCEPT MITIGATION NARRATIVE

Introduction

Mill Branch Crossing, LLC is proposing to develop the Mill Branch Crossing Shopping Center (AI Number: 129367; Nontidal Wetlands and Waterways Application Number: 16-NT-0102/201660386). As a result of the development approximately 1.32 acres of wetlands will be impacted, requiring 2.61 acres of mitigation. This Phase 1 Mitigation Plan is for the proposed Mill Branch Shopping Center located in Prince George's County, MD (refer to the Work Area Map on the Cover Sheet for a location map). The following narrative details the project and required mitigation in terms of the Maryland Department of the Environment (MDE) *Phase I Mitigation Plan Requirements*, and the *12 Components of a Compensatory Mitigation Plan/Elements of the 2008 Mitigation Rule*.

1. Impact Description

The proposed Mill Branch Crossing Shopping Center is located northeast of the intersection of Mill Branch Road and Crain Highway (Route 301) (see Vicinity Map located on the Cover Sheet).

The project will impact a total 1.32 acres of non-tidal wetlands and 114 linear feet (941 sf) of waters of the U.S. associated with the Maryland State Highway Administration (SHA) widening of Route 301 and the construction of the shopping center. Specifically, the wetland impacts include 1,374 sf (0.03 ac) of emergent wetlands and 56,140 sf (1.29 ac) of forested wetlands. The dominant plant species in these wetlands are sweetgum *(Liquidambar styraciflua)* and red maple *(Acer rubrum)* trees. The existing wetlands are not Wetlands of Special State Concern. The wetlands have been impacted by man's activities during the construction of the roadways and adjacent farms. The proposed wetland impact area is a combination of an emergent wetland that is maintained by mowing, a roadside ditch along the eastern edge of Route 301 and a larger wetland pocket at the western end of the property. All three areas are directed into a culvert pipe which drains west under Route 301. Once on the west side of Route 301 the culvert pipe drains into a second stream system which drains into another culvert pipe and drains back under Route 301. This second stream channel is a highly eroded feature which is in need of restoration.

Mitigation Description

Location

The mitigation area is located in the Governor Bridge Natural Area; the site address is (see Vicinity Map located on the Cover Sheet):

7600 Governor Bridge Rd
Bowie, Maryland 20716

Mitigation Quantity

The mitigation acreage was generally determined using the replacement ratios listed in the "*Maryland Nontidal Wetland Mitigation Guide"* by the Maryland Department of the Environment (MDE). The replacement ratio for emergent wetlands is 1:1 and the replacement ratio for forested wetlands is 2:1. Using these ratios, creation of 0.03 acres of emergent and 2.58 acres of forested wetlands (a total of 2.61 mitigation acres) will be sufficient to satisfy the mitigation requirements.

Mitigation Summary

Wetland Type	Impact Area (ac)	Mitigation Area (ac)
PEM	0.03	0.03
PFO	1.29	2.58
Total	1.32	2.61

2. Mitigation Site Selection and Justification

The selection of the mitigation site followed the hierarchy (i.e. mitigation banks, then in-lieu fee programs, then permittee-responsible mitigation) established in the 2008 Wetland Mitigation Rule (*40 CFR Part 230 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule*). There are no mitigation banks located within the 8-Digit Hydrologic Unit Code (HUC) associated with this project area. Further, Maryland currently does not have a Corps approved in-lieu fee program. As such the mitigation site search focused on permittee-responsible mitigation (i.e. on-site or off-site mitigation). The project site does not offer a viable area for mitigation, so several off-site areas were considered. Ultimately a site located adjacent to the project area in the Governors Bridge Natural Area was selected because of its proximity to the impact areas, high likelihood of success (adjacent to two existing ponds), and location in an existing (protected) park.

The mitigation site, located just east of the impact site within the Governors Bridge Natural area, is in the same watershed as the impacts (see Exhibit 3). This will minimize any spatial loss of wetland area and function. Further, the proposed mitigation areas will enhance/expand a self-sustaining aquatic resource that is excellent in terms of wetland functions and values.

Regarding construction, the site is easily accessible for the necessary construction equipment - it is adjacent to an existing road and trail network which can handle the construction equipment), and the mitigation areas are currently open field. This will result in minimal impacts to forest and terrestrial associated with the construction.

3. Selected Protective Mechanisms

Legal arrangements have not been finalized however long term protection through the use of easements and a Declaration of Restrictive Covenants will be used to protect this area in the future. This proposed mitigation site is currently on Prince George's County Park Property which is already protected and will be further protected by a covenant and/or an easement once the mitigation is completed.

4. Additional Information

Rare, Threatened, or Endangered Species

A review of the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) system and a review of Maryland Department of Natural Resources (DNR) Sensitive Species Project Review Areas (Exhibit 5) indicates that the mitigation site does not contain any Rare, Threatened, or Endangered (RTE) species (Exhibit 6).

Maryland Historical Trust

As shown in Exhibit 4, there are two (2) identified Maryland Historical Trust sites that are included in the current inventory within a 1-mile radius from the center of the proposed mitigation areas. These sites were located in the proximity of the proposed shopping center, but not in the proximity of the proposed mitigation sites. There were two prehistoric archeological sites (18PR25 and 18PR26) that existed within the mitigation area but were destroyed by the gravel mining years ago.

Existing or Planned Easements

Based on a review of Prince George's County GIS information, there are no known existing easements within the mitigation sites. At this time, it is unknown whether there are planned easements.

Impacts from Mitigation (waterways, open water, floodplain)

The proposed mitigation areas are located directly adjacent to two (2) existing ponds; however, it is not expected that this project will impact these ponds.

A small portion of the proposed Mitigation Area 3 layout is located within a FEMA flood zone (refer to Exhibit 5: FEMA Flood Insurance Rate Map on the Maps and Aerials Exhibits sheet of this plan set). The impacts to the floodplain will be limited to small amounts of excavation (no fill will be placed in the floodplain) to achieve elevations that can sustain wetland hydrology.

Impacts from Mitigation (wetlands)

A wetland delineation was conducted by Kenneth R. Wallis of WSSI on October 14, 2016. The proposed mitigation areas are located immediately adjacent to two (2) existing ponds; however, it is not expected that the construction of the mitigation will impact these ponds.

Disturbance

It is expected that the construction of the mitigation areas will exceed 1 acre (the proposed mitigation totals 2.61 acres), so a Notice of Intent (NOI) Permit will be required.

Required Permits

The mitigation project will require a Prince George's County grading permit. This permit will be obtained prior to any earth disturbance.

Mitigation Timing

The Maryland State Programmatic General Permit-5 (MDSPGP-5), which authorizes work in waters of the United States, will require that the mitigation work must be completed concurrently with the site work.

Public Notice

Public notice will be required on this project. Public Notice comments must be received and considered before the Phase I Mitigation Plan can be approved.

Maryland State Programmatic General Permit

This project will qualify under the MDSPGP-5 which authorizes activities in waters of United States in the state of Maryland. MDSPGP-5 went in effect on October 1, 2016.

Draft Project Schedule

It is recommended that the mitigation site is constructed in the summer months when the water levels are down; however, scheduling is dependent on the applicant's schedule because the mitigation must be done concurrently with the proposed construction site work.

12 Components of a Compensatory Mitigation Plan

1. Objectives

The both the impact and mitigation sites are located within the Green Branch watershed. Green Branch is a tributary to the. The proposed mitigation project will create a combination of forested wetlands (2.58 acres) and emergent wetlands (0.03 acres) to mitigate for the loss of 0.03 acres of emergent wetlands and 1.29 acres of forested wetlands that are associated with the development of the Mill Branch Crossing Shopping Center and associated road improvements. This mitigation is proposed adjacent to existing ponds and wetlands area, and will provide expanded wetland function to these areas which are currently open field. The function of the mitigation areas is expected to exceed the functions and values impacted wetlands (located adjacent to Route 301).

2. Site Selection

Numerous factors were considered in the site selection process for this mitigation area. The most important is the location of this site, it is located in the same watershed as the impacted wetlands. Further, this will enhance/expand an adjacent self-sustaining aquatic resource that is excellent in terms of wetland functions and values. This site is easily accessible for the necessary construction equipment. Which means forest and additional terrestrial habitat will not have to be impacted, removed or disturbed to gain access to the mitigation site. It is accessible due to its adjacency to a road network which can handle the construction equipment. In addition, it is adjacent to the Patuxent River and Green Branch tributary so it does double duty in providing added benefits to each. In addition, the mitigation area will abut wetlands within the wetland park. This will increase the functions and values of the wetland park as a whole.

3. Site Protection Instrument

Legal arrangements have not been finalized however long term protection through the use of easements and a Declaration of Restrictive Covenants will be used to protect this area in the future. This proposed mitigation site is currently on Prince George's County Park Property which is already protected and will be further protected by a covenant and/or an easement once the mitigation is completed.

4. Baseline Information

The existing forested wetlands along Route 301 is comprised of a plant community typical of Prince George's County and the Coastal Plain of Maryland. The 56,140 square feet of forested non-tidal wetland is dominated by red maple and sweetgum and other bottomland hardwood trees. Adjacent to that is an upland road bed which diagonally cuts through the wetland. This road has not been used since the first half of the 20th century but the bed and side ditches remain. Therefore, this wetland impact area has been immediately adjacent to a road for quite some time. The emergent wetland is located at the foot of a billboard sign situated along Route 301. The emergent wetlands are continually maintained to allow a line of sight to the billboard sign from Route 301.

There are three (3) proposed mitigation areas, they are depicted on Sheet 2. Wetland Mitigation Area #1 is a 0.55-acre area located on the west side of the wetland/ponds system in the Governor Bridge Natural Area Park. Wetland Mitigation Area #2 is a 0.25-acre wetland mitigation area located at the southeastern end of the same wetland system as Area #2. The northernmost area, Wetland Mitigation Area #3, is a 1.67-acre area located on the north side of a second large wetland/pond system. The proposed mitigation areas are adjacent to a remnant pond/wetland area that was created in the 1980's as a wetland park. In the 1980's the property was converted to a wetland park and the ponds and wetland areas were created within the remaining ponds for the sand and gravel mining operation. The pond contains a wetland fringe and wetland vegetation that is typical of the area. The soils are a mixture of varying soils types within the area of the proposed mitigation. Currently, there are no non-tidal wetlands within the three proposed mitigation areas however these three areas are immediately adjacent to existing ponds and wetlands.

5. Determination of Credits

The proposed project will permanently impact 1.29 acres of forested non-tidal wetlands that will generally need to be replaced at a 2:1 ratio. The emergent wetland impact totals are 1,374 square feet (0.03 acres); these need to be mitigated for at least at a 1:1 ratio. Therefore, the wetland mitigation will need to total 2.61 acres.

6. Mitigation Work Plan

Detailed mitigation plans (including grading, limits of disturbance, erosion and sediment control, and vegetation plan) have not yet been developed. However, it can be said that the project will follow the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. The general construction sequence (following the procurement of all applicable permits) will include: (1) a pre-construction meeting, site stakeout, installation of erosion and sediment controls, site grading, site stabilization, and installation of permanent vegetation.

7. Maintenance Plan

A maintenance plan will be submitted as part of the Phase II mitigation plan. It will include a detailed description of the maintenance requirements and schedule.

8. Performance Standards

Ecologically based standards will be used to determine whether or not the proposed objectives are being met. These standards will be submitted as part of the Phase II wetland mitigation plan.

9. Monitoring Requirements

Mitigation monitoring plan will be prepared and submitted as part of the Phase II mitigation plan The mitigation area will be monitored on a regular basis to verify that it is meeting its performance standards and goals. A schedule for monitoring and reporting will be created and submitted to the agencies prior to the issuance of permits.

According to the *Maryland Nontidal Wetland Mitigation Guidance* document, annual monitoring reports must be submitted for five years after completion. The Department may shorten the monitoring period if they believe the requirements have been fulfilled earlier than five years. Monitoring reports should include information on how the mitigation is meeting its goals, photos, plant species data, hydrology data, percent soil reduction, and a description if any modifications are required.

10. Long-term Management Plan

A long-term management plan will be developed as part of the Phase II mitigation plan. The plan will ensure that the mitigation site will be meeting pre-approved benchmarks for the resource.

11. Adaptive Management Plan

An adaptive management plan will be developed and submitted as part of the Phase II mitigation plan.

12. Financial Assurances

A description of any financial assurance will also be provided to the agencies to ensure that the mitigation site is performing as required.

Soils

NRCS Soil Classification

As shown on the soils map located on the cover sheet, the mitigation site is composed of reclaimed gravel pit Udorthents (Ugdb) soils with 0-5% slopes. UdgB is a well-drained, gravelly sandy loam located in Hydrologic Soil Group C. These soils are typically found on floodplains and terraces as is the case for the proposed mitigation area. A preliminary soil investigation was performed to determine if the in-situ soil material is suitable to sustain wetland hydrology.

Soil Field Investigation

On December 9, 2016 WSSI staff (Dan Richardson, Kate Mott, and Mark Eschle) conducted a soils investigation within each of the wetland mitigation areas. For the soil investigation, soil profiles were taken from 5 different locations, one in Mitigation Area 1 (STP 1), one in Mitigation Area 2 (STP 2), and three in Mitigation Area 3 (STP 3A, STP 3B, STP 3C); approximate locations are shown on the Wetland Mitigation Layout Sheet of this plan set. Field analysis of the test pits, noted the Munsel Soil Classification (to determine if the existing soils were hydric), general soil description of each soil layer encountered, and whether or not ground water was encountered. The presence of hydric soils is an indicator of a historic wetland and that an area may be able to sustain wetland hydrology in the future. Hydric soils were encountered in Test Pit 1, 2, and 3A. In STP 1 hydric soils were noted in horizons 1, 2, and 3 (0" - 31" in depth); in STP 2 hydric soils were noted in horizons 2 and 3 (4" - 24" in depth); and in STP 3A hydric soils were found in horizon 2 (9" - 20" in depth). Excavation will be required to construct wetlands within the soils. Only minor excavation will be necessary for mitigation sites 1 and 2 where hydric soils are present at a shallower depth. Mitigation site 3 will require more excavation to reach soils that are more compatible for a wetland hydrology. The profiles also all had many fine roots located in the upper layer. See Table 2 for a detail on each of the profiles.

Soil Laboratory Investigation

Sediment from the test pits was further analyzed in a laboratory by GeoConcepts Engineering. The tests included Grain Size Analysis, Moisture Density Relationship, Liquid and Plastic Limit, and Hydrometer Analysis. The results of the soil laboratory testing can be found in Table 3. Please note that the soil found in Test Pits 1 and 2 were similar so only soil from Test Pit 2 was analyzed in the lab. GeoConcepts classified the Test Pit 2 soils as silty sand (SM), Test Pit 3A as sandy silt with gravel (ML), Test Pit 3B as fat clay with sand (CH) and Test Pit 3C as well graded gravel with sand (GW). The profile depths ranged from 43" - 68". All profiles revealed a gravelly soil composition with predominantly sandy loams. Table 4 shows the results of the Falling Head Permeability Tests. The purpose of the Falling Head Permeability Tests were to determine if these areas will hold surface runoff to support wetland hydrology. Typically, permeability rates with values in the range of $1x10^{-06}$ cm/hr to $1x10^{-07}$ cm/hr are sufficient to support wetland hydrology. Based on these results, wetland areas 1 and 2 will not hold surface water runoff. However, given the proximity to the adjacent pond, groundwater will likely be a significant component to the hydrology for these areas and the permeability will not adversely effect the hydrology in wetland areas 1 and 2. This will be verified with data collected from the Phase II groundwater monitoring wells. In wetland area 3, the permeability data is conflicting. Data at Soil Test Pit 3B indicates that the existing soils could provide a condition such that surface water runoff would provide wetland hydrology. Data at Soil Test Pit 3B indicates the infiltration rate may be too fast to hold water. The conservative design approach would be to place a clay layer beneath the planting soil. This will be confirmed during final design when the groundwater data is incorporated into the water budget model.

Hydrology and Water Budget Analysis

The proposed (likely) hydrology source for the mitigation areas is a combination of groundwater and surface flow from the adjacent ponds. A preliminary hydrologic analysis and water budget was performed using Wetbud, a wetland water budget modeling software package. Wetbud approximates the water surface elevation by summing the inputs (precipitation, direct runoff, and groundwater) and outputs (evapotranspiration, outflow through a weir, and groundwater seepage) to determine the volume of water entering and leaving the wetland. In Wetbud, the maximum water surface elevation within the wetland is the difference between the outlet elevation and the average wetland bottom elevation. For this site, the bottom elevation is the estimated average bottom elevation of the pond adjacent to each mitigation area. The water levels presented in these preliminary budgets are relative to the bottom elevation of each of the ponds within the drainage areas.

Two water budgets were completed in Wetbud, one for each pond and associated drainage area. The first water budget includes mitigation areas 1 and 2, which are located within the southern drainage area. The second water budget was developed for the northern pond, adjacent to mitigation area 3. The preliminary analysis was based on Prince George's County GIS data. The preliminary analysis utilized the curve numbers developed from the GIS Data. Results of the curve number analysis is shown on Exhibit 2 and Table 1. Currently, these models assume a constant groundwater outflow rate of 1.0 inch/month, and a 24-inch depth-to-weir in the ponds (i.e. from the pond bottom to the weir crest). Weather data used in the models came from Baltimore-Washington International Airport (BWI). Typical Wet, Normal, and Dry years were determined by evaluating weather data collected from 1961-2010. The final water budgets will include weather collected through 2016 to determine if there are more suitable Wet, Normal, and Dry years. The preliminary model did not include any inflow from groundwater; however, we hypothesize that there is groundwater flowing into the site. The groundwater flux will be quantified using data from the recently installed monitoring wells and incorporated in the revised water budgets. The preliminary analysis shows that there will be adequate hydrology to support wetland conditions in the proposed mitigation areas, if wetland areas are graded within 6 inches of the existing water surface.

Preliminary Wetbud Analysis Results (Normal Year, 1974)
Water Level Relative to Pond Bottom

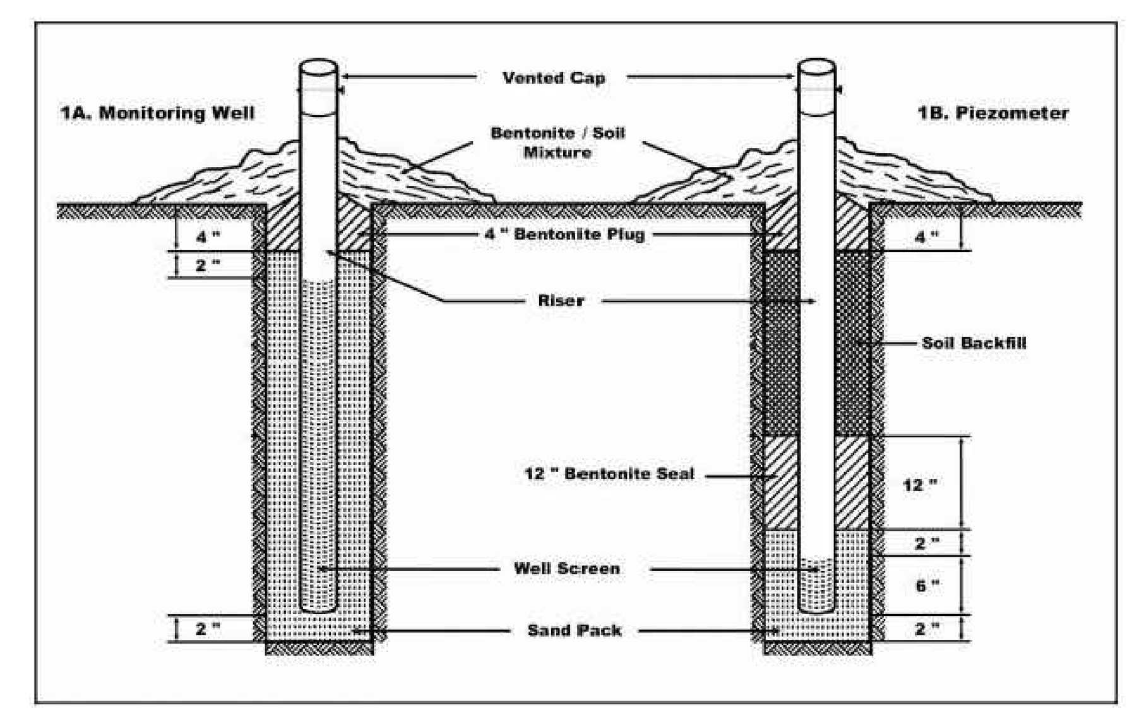
Mitigation Area	Minimum Water Level (inches)	Maximum Water Level (inches)	Average Water Level (inches)
1 & 2	17.4	24	22.6
3	12.4	24	19.4

Data from the network of groundwater monitoring wells, piezometers, and stilling wells installed February of 2017 will be used to establish the range of water table elevations observed at the site and to determine the groundwater flux into the proposed mitigation areas. In total, 12 pieces of monitoring equipment were installed. The monitoring equipment was installed February 14th and 15th of 2017, with hourly data collection beginning February 16th, 2017. Data from this monitoring equipment will also be used to calibrate an Effective Monthly Recharge Model (Wem) within Wetbud to establish a relationship between observed head, precipitation, and potential evapotranspiration. After a relatively short calibration period (9-12 months), Wetbud will be able to use the Wem model to predict groundwater levels for typical Wet, Normal, and Dry years based on the observed precipitation and potential evapotranspiration data from the BWI NOAA weather station. The predicted groundwater levels for these years will then be used to improve the preliminary water budgets by including an estimate of the groundwater flux component of the water budget for the corresponding years via Darcy's Law. Additionally, the refined water budgets will include more accurate pond depth and water surface elevation data which will be refined as part of the Phase II Mitigation Plan.

TABLE 1: TR-55 CURVE NUMBER ANALYSIS

WATERSHED	COVER TYPE	HSG	CURVE NUMBER	AREA (ACRES)	COMPOSITE
1 (Wetland Area 3)	Open Space	C	74	3.4	251
	Open Water	W	98	4.6	448
	Streets and Roads - Dirt (w/ right-of-way)	C	87	0.3	26
	Woods	C	70	8.2	573
		D	77	0.1	5
		WATERSHED TOTALS	78.9	16.5	1,302
2 (Wetland Areas 1 & 2)	Open Space	C	74	3.5	258
		D	80	0.1	11
	Open Water	W	98	11.3	1,108
	Streets and Roads - Dirt (w/ right-of-way)	B	82	0.1	4
		C	87	0.1	5
	Woods	B	55	4.8	262
		C	70	5.2	366
		D	77	0.3	25
		WATERSHED TOTALS	80.4	25.4	2,039

FIGURE 1: MONITORING WELL AND PIEZOMETER DETAIL



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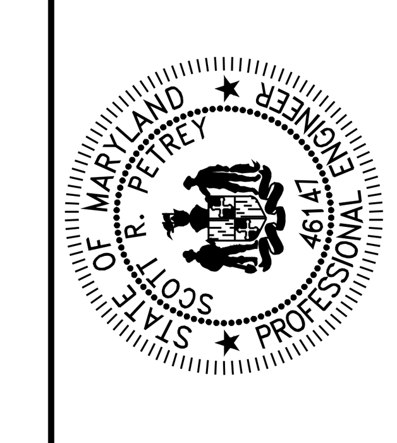
Mill Branch Crossing Shopping Center
Phase I Mitigation Plan
Prince George's County, Maryland

Narrative



Professional Certification. I hereby certify that these documents were prepared or approved by me ,and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 46147, Expiration Date: 11/24/2018.

REVISIONS

No.	Date	Description	Rev. By	App. By

DATE: FEBRUARY 2017

SCALE: N/A

Horizontal Datum: VCS NAD 83

Vertical Datum: NGVD 29

Boundary and Topo Source:
Prince George's County Digital Data & LandTech Resources, Inc.

Design	Draft	Approved
SRP	SIH	SRP

Sheet #
3 of 5

Computer File Name:
L:_maryland\Projects\MD01000s\MD01000\MD1069.02\CADD\04-ENGR\11-phase i planset MITIGATION NARRATIVE.dwg

TABLE 2: SOIL PROFILE DATA

Soil Profile 1 (STP 1)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	Percent	Color (moist)	Percent	Type[1]	Location[2]		
0" - 3"	10YR 2/2	100%					SL	many fine roots, saturated
3" - 13"	10YR 4/2	60%	7.5YR 4/4	40%	C	M	SCL	Not saturated, moderate amount of gravel
13" - 31"	2.5Y 3/1	100%					SCL	not saturated
31" - 38"	2.5Y 4/4	100%					S	
38" - 62"	5Y 4/3	100%					S	saturated

Soil Profile 2 (STP 2)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	Percent	Color (moist)	Percent	Type[1]	Location[2]		
1" - 4"	10YR 4/4	100%					SL	many fine roots, moist but not saturated
4" - 8"	10YR 5/3	90%	10YR 6/8	10%	C	M	LS	saturated and manganese observed
8" - 24"	10YR 5/2	60%	10YR 5/8	40%	RM	M	LS	medium amount of gravel
24" - 32"	5Y 3/1	100%					SL	
32" - 39"	10YR 6/3	100%					SL	very high amount of gravel
39" - 63"	5Y 4/2	100%					SC	

*Water table at 56"

Soil Profile 3A (STP 3A)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	Percent	Color (moist)	Percent	Type[1]	Location[2]		
1"-4"	2.5Y 4/4	100%					SCL	Many fine roots
4" - 9"	2.5Y 4/2	80%	10YR 4/6	20%	C		SCL	gravel and cobble
9" - 20"	5YR 5/6	80%	2.5Y 4/3	20%	D		SCL	fair amount of gravel
20" - 28"	2.5Y 4/2	95%	7.5YR 4/6	5%	C	M	SL	
28" - 32"	2.5Y 5/4	100%					SL	thick with gravel and extremely gravelly
32" - 36"	2.5Y 5/4	100%					S	very gravelly and saturated
36" - 38"	5Y 8/1							sandstone/cement
38" - 68"	5Y 5/2	85%	2.5Y 5/6	15%	C	M	SL	groundwater seeping in from walls

Soil Profile 3B (STP 3B)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	Percent	Color (moist)	Percent	Type[1]	Location[2]		
1" - 8"	10YR 5/4	90%	10.5YR 5/6	10%	C	M & PL	SC	Saturated and many fine roots
8" - 17"	10YR 5/4	90%	10YR 6/8	10%	C	M	SC	high concentration of fine gravel, not saturated and many fine roots
17" - 34"	10YR 5/6	100%					SL	medium-high amount of gravel
34" - 46"	10YR 5/6	100%					SC	medium amount of gravel
46" - 56"	10YR 5/4	100%					SC	medium-high amount of gravel
56" - 57"	10YR 5/4	85%	10YR 4/1	15%	D	M	C	

Soil Profile 3C (STP 3C)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	Percent	Color (moist)	Percent	Type[1]	Location[2]		
1" - 4"	10YR 3/4	100%					SCL	many fine roots
4" - 23"	10YR 5/6	100%					S	medium gravelly
23" - 27"	10YR 5/6	100%					SCL	medium amount of gravel
27" - 32"	7.5YR 4/6	100%					S	low gravelly
32" - 43"	10YR 5/6	100%					S	medium gravelly saturation at 32"

* Water table present at 39"

Notes:

[1] - Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Mask Sand Grains

[2] - Location: PL = Pore Lining, M = Matrix

Table from COE *Wetland Determination Data Form*

TABLE 3: GEOCONCEPTS ENGINEERING LAB RESULTS

SOIL PROFILE 2 (STP 2)

TEST RESULTS	Before Correc.		After Correc.					
Maximum Dry Density (pcf)	122		--	Color				
Optimum Moisture Content (%)	11		--	Gray				
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
SILTY SAND	SM	A-2-4	#DIV/0!	2.6	20	3	1.1	29.2

SOIL PROFILE 3A (STP 3A)

TEST RESULTS	Before Correc.		After Correc.					
Maximum Dry Density (pcf)	123		128	Color				
Optimum Moisture Content (%)	10		8	Gray				
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
sandy Silt with gravel	ML	A-4	#DIV/0!	2.6	NP	NP	16.0	58.4

SOIL PROFILE 3B (STP 3B)

TEST RESULTS	Before Correc.		After Correc.					
Maximum Dry Density (pcf)	108		--	Color				
Optimum Moisture Content (%)	20		--	Light Brown				
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
Fat Clay with sand	CH	A-7-6	#DIV/0!	2.75	53	32	2.6	72.1

SOIL PROFILE 3C (STP 3C)

TEST RESULTS	Before Correc.		After Correc.					
Maximum Dry Density (pcf)	118		141	Color				
Optimum Moisture Content (%)	9		4	Brown				
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
WELL GRADED GRAVEL with sand	GW	A-1-a	#DIV/0!	2.6	NP	NP	59.4	2.6

TABLE 4: SOIL PERMEABILITY ANALYSIS

Wetland Area	Test Pit [1,2]	Permeability[3]	
		(cm/s)	(in/month)
2	2	1.65E-05	16.82
3	3A	5.77E-05	58.85
3	3B	4.47E-08	0.05

[1] Based on the similarity in the soil profile analysis, data for Test Pit 2 was extrapolated to Test Pit 1.

[2] Based on the high gravel content of the soil profile of Test Pit 3C, the permeability test is not applicable.

[3] Conversion equation:
permeability (in/month) = cm/sec x 1in/2.54 cm x 60 sec/min x 24 hr/day x 30 day/month

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Mill Branch Crossing Shopping Center
Phase I Mitigation Plan
Prince George's County, Maryland

Narrative (Cont'd)

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 46147, Expiration Date: 11/24/2018.

REVISIONS

No.	Date	Description	Rev. By	App. By

DATE: FEBRUARY 2017

SCALE: N/A

Horizontal Datum: VCS NAD 83

Vertical Datum: NGVD 29

Boundary and Topo Source:
Prince George's County Digital Data & LandTech Resources, Inc.

Design	Draft	Approved
SRP	SIH	SRP

Computer File Name:
L:_maryland\Projects\MD01000s\MD01000\MD1069.02\CADD\04-ENGR\11-phase i planset MITIGATION NARRATIVE.dwg

EXHIBIT 1: 2015 NATURAL COLOR IMAGERY

L:_Maryland\Projects\MD01000s\MD01000\MD1069.02\GIS\ENVR\09_Pictometry2015.mxd

Spring 2015 Natural Color Imagery
Mill Branch Crossing Mitigation Banks
Original Scale: 1" = 300'

N W E S
0 300 Feet

Photo Source: Pictometry®

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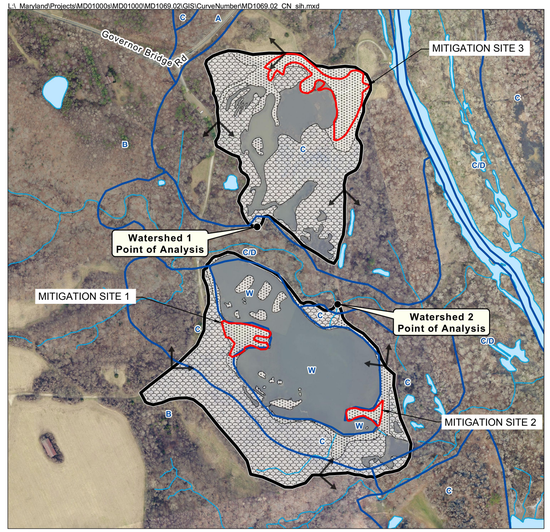
EXHIBIT 2: TR-55 COVER TYPE MAP

L:_Maryland\Projects\MD01000s\MD01000\MD1069.02\GIS\CurveNumber\MD1069.02_CN_silt.mxd



Drainage Area
Hydrologic Soils Group (HSG)*
Waterbody
Stream
TR-55 Cover Type
Open Space
Open Water
Streets and Roads - Dirt (w/ right-of-way)
Woods
Wetland Mitigation Areas

TR-55 Cover Type Map
Mill Branch Crossing
WSSI #MD1069.02
Original Scale: 1" = 400'

N W E S
0 400 Feet

Aerial Imagery: 2016 Natural Color, Pictometry®
Data Source: Prince George's County Digital Data, U.S. Department of Agriculture
*For this analysis, any HSG classifications of NULL, C/D, B/D, or A/D are reclassified as D

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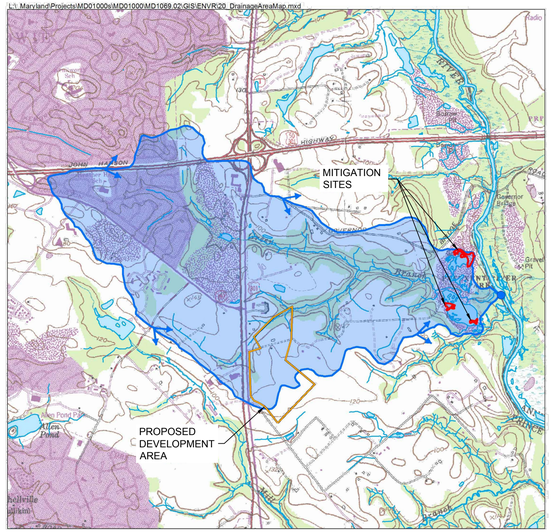
EXHIBIT 3: WORK AREA DRAINAGE AREA

L:_Maryland\Projects\MD01000s\MD01000\MD1069.02\GIS\ENVR\26_DrainageAreaMap.mxd



Drainage Area: ±1,120 acres
Proposed Impact Area
Mitigation Areas
Water

Drainage Area Map
Green Branch
Mill Branch Crossing
WSSI #MD1069.02
Original Scale: 1"=2000'

N W E S
0 2,000 Feet

Drainage area based on 2 ft contours.
USGS Quad for illustrative purposes only.

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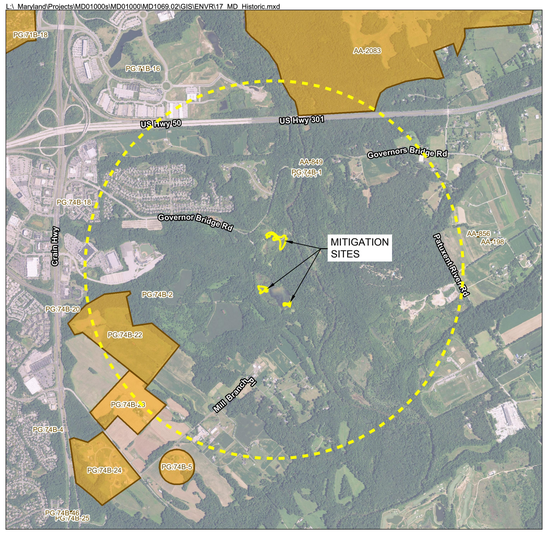
EXHIBIT 4: MARYLAND HISTORICAL TRUST EXHIBIT

L:_Maryland\Projects\MD01000s\MD01000\MD1069.02\GIS\ENVR\17_MD_Historic.mxd



Inventory of Historic Properties
Maryland Historical Trust
Mill Branch Crossing Mitigation Banks
Original Scale: 1" = 2000'

1 Mile Radius From Center of Project Area
Historical Trust Preservation Easements
Inventory of Historic Properties

N W E S
0 2,000 Feet

Summer 2015 Natural Color Imagery Source:
National Agriculture Imagery Program

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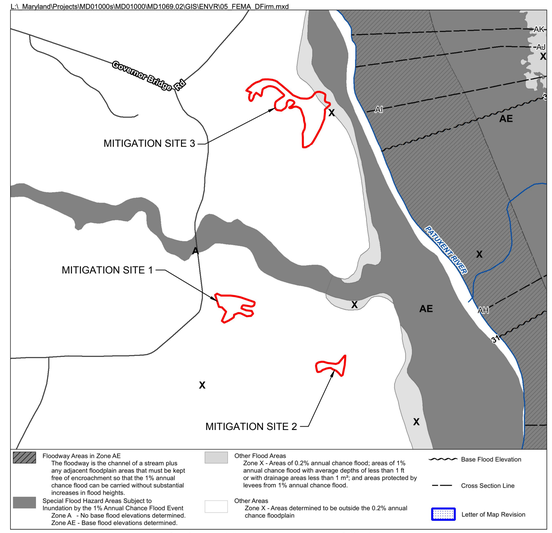
EXHIBIT 5: FEMA FLOOD INSURANCE RATE MAP

L:_Maryland\Projects\MD01000s\MD01000\MD1069.02\GIS\ENVR\05_FEMA_DFirm.mxd



Floodway Areas in Zone AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood Event
Zone A - No base flood elevations determined.
Zone AE - Base flood elevations determined.
Other Flood Areas
Zone X - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 ft or with drainage areas less than 1 mi²; and areas protected by levees from 1% annual chance flood.
Other Areas
Zone X - Areas determined to be outside the 0.2% annual chance floodplain
Base Flood Elevation
Cross Section Line
Letter of Map Revision

Digital FEMA Flood Insurance Rate Map
Panel 24003C0204E Revised 10/16/2012
Mill Branch Crossing Mitigation Banks
Original Scale: 1" = 500'

N W E S
0 500 Feet

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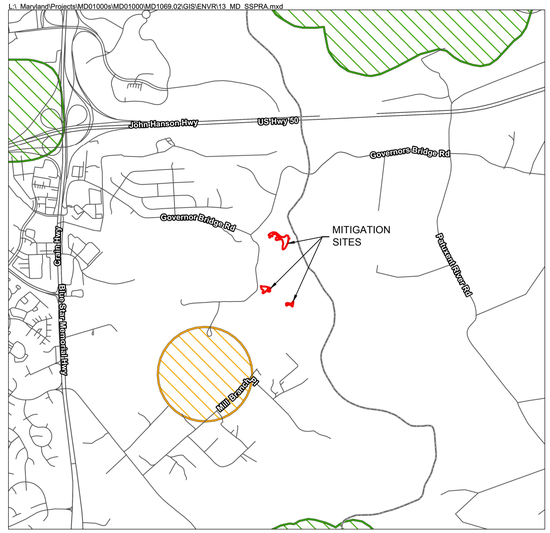
EXHIBIT 6: SENSITIVE SPECIES EXHIBIT

L:_Maryland\Projects\MD01000s\MD01000\MD1069.02\GIS\ENVR\13_MD_SSPRA.mxd



Federally-Listed Species
State-Listed Species
Species/Natural Communities of Concern with No Official Status
Bald Eagle Nests

Sensitive Species Project Review Areas
MD Department of Natural Resources (DNR)
Mill Branch Crossing Mitigation Banks
Original Scale: 1" = 2000'

N W E S
0 2,000 Feet

Wetland Studies and Solutions, Inc.
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www.wetlandstudies.com

Mill Branch Crossing Shopping Center
Phase I Mitigation Plan
Prince George's County, Maryland

Maps and Aerial Exhibits

STATE OF MARYLAND SCOTT R. PETREY 21619 PROFESSIONAL ENGINEER

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 40747, Expiration Date: 11/24/2018.

REVISIONS				
No.	Date	Description	Rev. By	App. By

SCALE: AS NOTED

DATE: FEBRUARY 2017

Horizontal Datum: VCS NAD 83

Vertical Datum: NGVD 29

Boundary and Topo Source: Prince George's County Digital Data & LandTech Resources, Inc.

Design	Draft	Approved
SRP	SIH	SRP

Sheet #
5 of 5

Computer File Name:
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