

*Atlantic Sunrise Project – PA DEP Chapter 105 Joint Permit Application  
Transcontinental Gas Pipe Line Company, LLC  
Lancaster County*

**ATTACHMENT Q -1**  
**LANCASTER COUNTY MITIGATION MASTER PLAN**  
***(UNDER SEPARATE COVER)***

*Revised April 2017*

# Permittee-Responsible Mitigation Master Plan for the Atlantic Sunrise Project – Lancaster County

Lancaster County, Pennsylvania  
Transcontinental Gas Pipe Line Company, LLC.



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## 1. Introduction

First Pennsylvania Resource, LLC. (FPR), a wholly-owned subsidiary of Resource Environmental Solutions (“RES”), has prepared this Permittee-Responsible Mitigation (PRM) Master Plan for the Atlantic Sunrise Project (Project) on behalf of Transcontinental Gas Pipe Line Company, LLC. (Permittee or Transco). The purpose of this plan is to compensate for unavoidable impacts to waters of the United States (U.S.) associated with Project activities in Lancaster County, Pennsylvania (PA). This PRM Master Plan includes one site-specific PRM Plan as Appendix C: Hibred Farms PRM Plan, which provides additional detail for the PRM Site (Hibred Farms) where mitigation will occur to offset the proposed wetland impacts within Lancaster County. Appendix A, Figure 1: Project Location Map provides an overview of the proposed Project and associated PRM Site. Required biological and cultural concurrences have been obtained for the PRM Site. The approved Erosion and Sediment Control Plan (ESCP) will be on-hand prior to commencement of construction activities.

## 2. Objectives

The objectives of the PRM Plan are to restore, enhance, and preserve wetland and riparian resources to replace the functions and values lost in association with unavoidable temporary (construction) and permanent (operational) impacts to exceptional value (EV) and non-EV Palustrine Forested (PFO) wetlands associated with the Project. As described in this PRM Master Plan for Lancaster County, and in the individual PRM Plan prepared for the PRM Site (Appendix C: Hibred Farms PRM Plan), the proposed mitigation approach employs a functional based, watershed scale approach to provide optimal replacement of PFO functions and values lost as a result of the Project. This PRM Master Plan for Lancaster County also uses ratio based replacement requirements to ensure that the functional replacement being provided adequately replaces the physical acreage of the functional areas being impacted in Lancaster County. Additionally, while the PRM Site will mitigate for impacts that occur across two counties as a result of the Project, the PRM Plan (Attachment C: Hibred Farms PRM Plan) addresses impacts that occur only in Lancaster County.

### *Overarching Approach and Mitigation Site*

Developing multiple smaller mitigation projects along the entire length of the Project closer to the individual impact locations will result in a piecemeal mitigation approach and diminished overall functional uplift and watershed benefit, while also having a lower probability of long-term success for each individual PRM location. Therefore, the proposed approach concentrates on a smaller number of sites strategically located in the headwaters and floodplains of watersheds that will benefit from the mitigation efforts while ensuring optimal replacement of functions and values lost as a result of the Project.

Mitigation for Project impacts in Lancaster County will be offset within one PRM Site as shown in Table 1: Proposed PRM Site for the Atlantic Sunrise Project (Lancaster County).

<b>PRM Site</b>	<b>Watershed</b>	<b>County</b>	<b>PRM Plan Appendix</b>
Hibred Farms	7	Lancaster	C

The PRM Site contains EV wetlands which will be restored and permanently protected. Hibred Farms is contiguous to known bog turtle habitat, and contains habitat for bog turtles, a state endangered and federally threatened species. Mitigation of these resources will optimize ecological uplift to replace the functions and values that will be lost as a result of the Project.

The mitigation efforts proposed at the PRM Site listed above will replace the primary functions and values impacted at the impact site, which include wildlife habitat, flood flow alteration, nutrient removal and retention, and sediment/toxicant reduction. Additional information on the evaluated functions and values at the impact locations as well as the proposed mitigation site is provided in Section 6.0: Determination of Mitigation Needs.

### **3. Site Selection**

The General Compensatory Mitigation Requirements of the Compensatory Mitigation Final Rule ("Final Rule," (33 CFR 332.3(b)(2))) establishes mitigation credits as the preferred method of compensatory mitigation for impacts to aquatic resources of the U.S., followed by In-Lieu Fee credits (ILF), and finally on-site or off-site mitigation. Transco investigated each of these options through the site selection process, as described below.

#### *Mitigation Banking*

Transco first sought to purchase approved mitigation credits from the Upper Susquehanna River Mitigation Bank – Phase I (USRMB I) within the Upper Susquehanna River Subbasin (State Water Plan Watershed 4) for impacts to PSS and PFO wetlands resulting from the Project. There are not enough available credits from USRMB I to compensate for the proposed impacts and credits are needed to offset Project impacts in other Watersheds. There are no other available banks from which to purchase credits in other impact watersheds, and therefore mitigation banking is not a viable option.

#### *In-Lieu Fee*

ILF crediting is not an option for this project because no active ILF programs are available.

#### *On-Site Mitigation*

To minimize impacts to aquatic features and habitat areas, the Permittee has limited the width of the proposed construction limits of disturbance (LOD) and permanent easements to the greatest extent practicable. This narrowed easement does allow room for on-site restoration, and not all homeowners are interested in providing larger easements which would provide space for on-site restoration. Lastly, even with larger easements which would allow for on-site restoration, not all the sites have land suitable for restoration. Restoration could be done outside of an area with a permanent easement, however this would not be acceptable mitigation as there is no guarantee this area would be preserved into perpetuity. The avoidance measure of using a narrow LOD thereby narrows the potential area available for resource restoration. Even if possible, small on-site restorations would provide minimal benefit to the local watersheds relative to the impacts proposed within the LOD.

Completing on-site mitigation would create multiple, small, spatially separate PRM projects. These smaller isolated projects have been shown to be less ecologically beneficial, have a lower likelihood for long-term success, are more susceptible to invasive species due to increased edge effect. They also create an increased number of maintenance plans to be reviewed, increasing the long-term regulatory burden on the state by requiring reviews and field visits to multiple small restoration sites.

The Permittee therefore has determined that the on-site mitigation opportunities are less conducive to complying with the "no net loss" and/or "watershed approach" policy(s) commensurate with the Final Rule.

### *Off-Site Permittee-Responsible Mitigation*

Due to the ecological demands of the PRM, Transco concluded that using a restoration approach which combines construction and operational impacts from multiple locations into a few larger restoration sites will provide the best ecological uplift, long-term sustainability, and functional replacement of the impacted wetland resources. In making that determination, Transco decided that entrusting the legal, logistical, and environmental aspects of compensatory mitigation to FPR will ensure the greatest chance of success for this Project and most effectively address watershed needs. The proposed PRM Site capitalizes on many of the critical components of the Final Rule including the likelihood for success and sustainability, the significance of the restored water body within the watershed, and the proximity of the impact and mitigation sites from a watershed perspective. The likelihood of success was the most important factor that the Permittee considered while evaluating the following mitigation options. By selecting primarily exceptional value riparian and headwaters mitigation sites, the restoration approach will provide watershed-scale benefits and functional uplift well suited to replace functions and values lost as a result of the Project.

FPR will act as the mitigation services agent (Agent) on behalf of Transco. FPR on behalf of Transco, will be responsible for implementation of the PRM plan in addition to meeting performance standards, monitoring, and long-term management of the property as described in 33 CFR §332.3(I). The Permittee will remain responsible for legal duties and responsibilities associated with wetland mitigation as necessary in accordance with PADEP Chapter 105 Rules and Regulations regarding wetland replacement criteria guidelines and 33 CFR § 332.3.

## **4. Site Protection Instrument(s)**

The PRM Site will be permanently protected by a declaration of restrictive covenant or conservation easement in advance of the proposed activities outlined in the mitigation plan, ensuring the long-term protection of the PRM Site. The site protection instrument will be recorded in the county courthouse within 60 days following the U.S. Army Corps of Engineers (USACE) and PA Department of Environmental Protection (PADEP) (“Agencies”) approvals. A copy of the site protection instrument to be filed upon permit approval is included in the PRM Plan (Appendix C: Hibred Farms PRM Plan). The site protection instrument restricts activities that are incompatible with the objectives of the PRM Plan.

FPR will act as the initial long-term steward unless another qualified, watershed-focused, entity is willing to assume long-term stewardship responsibilities. FPR’s heirs, assigns, or purchasers will be responsible for protecting lands contained within the PRM Site in perpetuity in accordance with the terms of the PRM Plan, unless the lands are transferred or sold to a local, state, or federal resource agency or non-profit conservation organization.

Should a trustworthy, willing third-party conservation easement holder wish to protect the PRM Site in perpetuity, they will have the option to switch the declaration of restrictive covenant to a conservation easement. Entrusting the PRM Site to a third-party conservation easement holder may commence only when FPR, the Permittee, and the Agencies have mutually concluded that the PRM Site has achieved all its objectives and sufficiently satisfied performance standards.

## **5. Baseline Data**

Baseline site investigations were conducted to develop an appropriate mitigation plan for the PRM Site. These baseline site investigations yielded a significant amount of existing condition project information including, but not limited to:

- Waters of the U.S. delineation and Global Positioning System (GPS) location of the boundary;
- USACE Jurisdictional Determination of wetland boundaries and nexuses;
- Surface soil borings;
- Flora community composition data;
- Informal terrestrial and aquatic fauna community composition data;
- Topographic survey (up to 6-inch accuracy) throughout the proposed conservation area;
- Land steward interviews relative to historical and present site conditions including land use practices;
- Extensive photo and field note documentation;
- Cultural Resources Geographic Information System (CRGIS) searches,
- Pennsylvania Natural Diversity Inventory (PNDI) searches,
- General documentation of site conditions including constraints, access, potential staging areas, and a resulting plan for probable construction sequencing.

Specific baseline data collected for the PRM Site is provided in Section 5.0: Baseline Data of the PRM Plan (Appendix C: Hibred Farms PRM Plan). The following table provides a summary of existing resources at the PRM Site. The PRM Plan contains further detail regarding the existing PRM Site resources based upon the wetland delineations and other environmental surveys.

<b>Resource Type</b>		<b>PRM Site Pre-Mitigation Resources</b>
Total Acres		27.80
Uplands		15.73
<b>Wetlands (Acres)</b>	PEM <sup>1</sup>	11.80
	PEM/PSS <sup>1</sup>	-
	PEM/PSS/PFO <sup>1</sup>	-
	PSS	-
	PFO	-
	PUB <sup>1</sup>	0.27
	<b>TOTAL</b>	<b>12.07</b>
<b>Streams (Linear Feet)</b>	Perennial	1,555.32
	Intermittent	89.00
	Ephemeral	-
	<b>TOTAL</b>	<b>1,644.32</b>

Notes:

1. PEM – Palustrine Emergent; PSS – Palustrine Scrub Shrub; PFO – Palustrine Forested; PUB – Palustrine Unconsolidated Bottom

The following table provides a summary of clearances and approvals received for the PRM Site. Further detail regarding the status and history of these clearances, including copies of individual approvals, is provided within the PRM Plan (Appendix C: Hibred Farms PRM Plan).

Table 3: Summary of PRM Site Clearances and Approvals		
PRM Site	Approval Type	Approval Status
Hibred Farms	USACE Section 404/401 WQC	Under Review
	Cultural Resources (PHMC Consultation)	Clearance received 5/18/2016
	Rare, Threatened, and Endangered Species (PNDI Consultations)	USFWS clearance received 9/15/2016 PFBC clearance received 9/23/2016
	E&S Control (PADEP Chapter 102)	<b><i>ESCP Adequacy letters received 3/1/2017</i></b>

## 6. Determination of Mitigation Needs

### Project Impacts

The Project will result in 0.51 acres of impacts to EV and non-EV PFO wetlands in Lancaster County (excluding temporary PSS wetland impacts). Of the 0.51 wetland impact acres, 0.33 are non-EV PFO impacts, and 0.18 are EV PFO impacts. No non-EV or EV PSS impacts are anticipated in Lancaster County. Mitigation will be required for the 0.51-acre of wetland impacts within Lancaster County.

The PADEP defines EV wetlands under PA Code Title 25 § 105.17, and has requested separate mitigation ratios for EV and non-EV PSS and PFO wetlands. Project impacts in Lancaster County are proposed within PA State Water Plan Watershed 7 (Lower Susquehanna River Subbasin). Appendix A, Figure 2: Mitigation Site/Impact Reference Location Map depicts the locations of the proposed mitigation in relation to the Project.

No permanent fill of any wetland resources will occur as a result of the Project. All long-term impacts are expected to be a result of conversion from PFO to PEM or PSS wetlands. The temporary (construction) impacts will occur in the areas where construction will take place and existing wetlands will be allowed to revert to their previous state following construction in these areas. The permanent (operational) impacts will occur within the maintained ROW, where annual operational maintenance is required by Federal Energy Regulatory Commission (FERC) Wetland and Waterbody Construction and Mitigation Procedures. These permanent impacts will not involve dredging or filling of wetlands, but will involve annual mowing of PSS wetlands.

All temporary PFO impacts resulting from the Project are proposed to be mitigated for at the PRM Site. The PFO construction impacts will however be seeded following construction, under the site restoration requirements of the Erosion and Sediment Control Plan. Replanting of woody vegetation or wetland replacement species in the construction right-of-ways (ROWS) is not proposed because these areas are not protected under any easement and could be impacted by future landowner activities. Accounting for these areas at the PRM Site will provide greater functional replacement, and ensure the long-term success of mitigation for these temporary impacts.

For the Project PRM Site, the following wetland mitigation ratios are being used: 2.5:1 for EV PFO wetlands, 2:1 for non-EV PFO wetlands, 1.75:1 for EV PSS wetlands, and 1.5:1 for non-EV PSS wetlands. No PSS (EV or non-EV) wetlands are anticipated to be impacted in Lancaster County. Impact ratios were discussed with both the PADEP and USACE during multiple meetings prior to and during permit submittal and review, and are based on previous ratios used for similar projects. Impact locations and proposed mitigation site locations are depicted by watershed in Appendix A, Figure 2: Mitigation Site/Impact Location Reference Map. As discussed in Section 2.0:

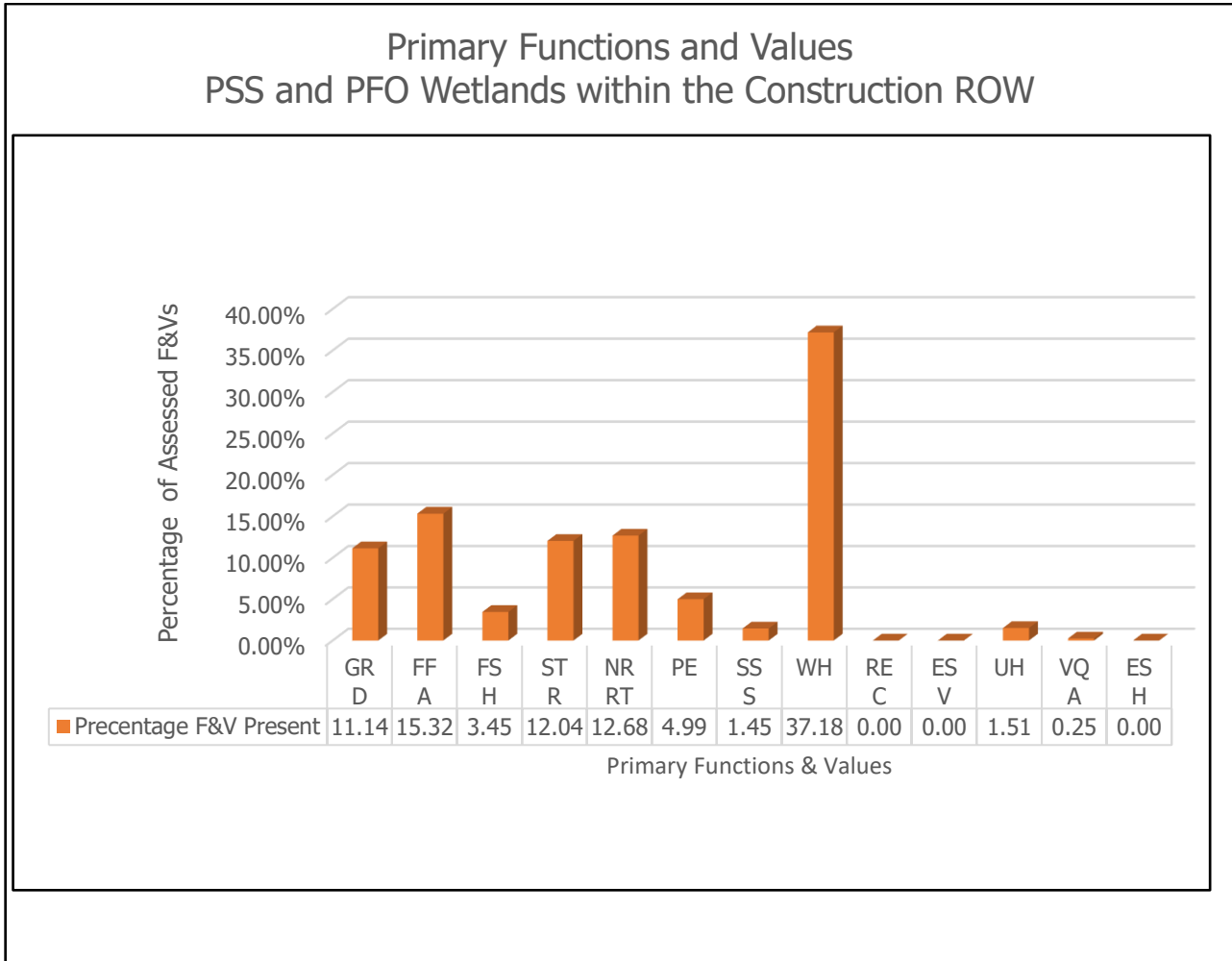
Objectives, the PRM Site will provide a total of 7.03 acres of wetland mitigation which will be used to offset Project impacts across two counties, of which **1.11** wetland mitigation acres are required for impacts occurring in Lancaster County. Table 4: Summary of Impacts in Lancaster County and Required Mitigation provides a summary of mitigation needs and physical impacts.

<b>Table 4: Summary of Impacts in Lancaster County and Required Mitigation</b>				
<b>Wetland Type</b>	<b>PFO Wetland Impacts (Acres)</b>	<b>Proposed Mitigation Ratio</b>	<b>Mitigation Needed</b>	<b>Total Mitigation Available (Acres)</b>
EV PFO	0.18	2.5	0.45	<b>7.03</b>
Non-EV PFO	0.33	2.0	0.66	
EV PSS	0.00	1.75	0.00	
Non-EV PSS	0.00	1.5	0.00	
<b>Total</b>	<b>0.51</b>	<b>-</b>	<b>1.11</b>	

### *Functional Impacts*

The USACE *Highway Methodology Workbook Supplement: Wetland Functions and Values* (Supplement, 1993) was used to evaluate the functions and values of the wetlands at the impact site and the PRM Site. The Supplement is a qualitative approach to describing the physical characteristics of and identifying the functions and values exhibited by a wetland. The approach to applying functions and values to the impacted wetlands and the mitigation wetlands was agreed upon between the PADEP, USACE, and Transco during a pre-application meeting on March 17, 2015. A bar graph showing the primary functional impacts associated with the Project is provided below.

**Bar Graph 1. Summary of Impacted Wetland Functions and Values for All Wetlands within the Construction and Operational ROW in Lancaster County**



**Key:**

- **GRD** - Groundwater Recharge/Discharge
- **FFA** - Floodflow Alteration
- **FSH** - Fish and Shellfish Habitat
- **STR** - Sediment/Toxicant Retention
- **NRRT** - Nutrient Removal and Retention
- **PE** - Production Export
- **SSS** - Sediment/Shoreline Stabilization

- **WH** - Wildlife Habitat
- **REC** - Recreation
- **ESV** - Educational/Scientific Value
- **UH** - Uniqueness/Heritage
- **VQA** - Visual Quality and Aesthetics
- **ESH** - Endangered Species Habitat

Based on an assessment of any potential impacts to the functions and values of PEM wetlands in association with construction and operational of the Project, it was deemed no mitigation will be required. Impacts to PEM wetlands will be temporary, and all areas will be returned to grade, and reseeded following construction.

Although no permanent conversion impacts to PSS wetlands are anticipated within Lancaster County, mitigation will be required in other counties where permanent conversion impacts to PSS wetlands are anticipated within the operational footprint of the Project. Construction (temporary) impacts to PSS wetlands will be temporary; these areas outside the 10-foot wide operational ROW will be seeded with a native seed mix, and will naturally revert to PSS. A 10-foot-wide operational ROW will be maintained in PSS wetlands no

more frequently than on an annual basis in accordance with FERC Wetland and Waterbody Construction and Mitigation Procedures and the Transco plan.

### *Proposed Functional Uplift*

The *Wetland Function-Value Evaluation Form* from the USACE Highway Supplement was used to document the existing functions and values that will be impacted as part of the Project. They were also used to determine the baseline and anticipated ecological lift the PRM Site will experience as a result of the proposed mitigation. The baseline field forms are included within the PRM Plan (Appendix C: Hibred Farms PRM Plan). These improvements to the wetland functions and values after restoration combined with the additional upland acreage restored as part of the PRM Site will more than offset the overall functions and values lost as a result of the Project. The following table summarizes proposed functional uplift for the PRM Site.

<b>Table 5: Summary of Functional Uplift</b>			
<b>Site Location</b>	<b>Functions and Values</b>	<b>Pre-Project Principal Function</b>	<b>Post-Project Principal Function</b>
Project Impact Locations	Flood Flow Alteration	Yes	No
	Nutrient Removal	Yes	No
	Wildlife Habitat	Yes	No
Hibred Farms	Flood flow alteration	No	Yes
	Fish and Shellfish Habitat	No	Yes
	Nutrient Removal	No	Yes
	Sediment/Toxicant Retention	No	Yes
	Wildlife Habitat	Yes	Yes
	Endangered Species Habitat	Yes	Yes
	Sediment/Shoreline Stabilization	No	Yes
Production Export	No	Yes	

### *Proposed Mitigation Acreage*

The mitigation ratios used to allocate mitigation acreage for each restoration activity at the PRM Site is based on previously used mitigation ratios. The mitigation ratios, in combination with the previous discussed impact ratios ensures that the functions and values being replaced at the mitigation sites provide an adequate physical replacement of those functions and values impacted as a result of the Project, while also taking into account temporal losses. The proposed mitigation for the Project will include wetland enhancement and upland restoration in the amounts indicated in Table 6: Wetland Mitigation Summary, which includes the mitigation approach, wetland resources, applicable mitigation ratios and mitigation acreage provided by the PRM site. Appendix A, Figure 3 presents the resource development map for the proposed restoration activities at the PRM Site as summarized below.

<b>Table 6: Wetland Mitigation Summary</b>					
<b>PRM Site</b>	<b>Mitigation Approach</b>	<b>Wetland Type</b>	<b>Site Acreage</b>	<b>Mitigation Ratio</b>	<b>Mitigation Acreage</b>
<b>Hibred Farms</b>	Re-establishment		-	1:1	-
	Rehabilitation	PEM	5.96	1.5:1	3.97
	Enhancement	PEM/PUB	6.11	2:1	3.06
<b>Totals</b>			<b>12.07</b>		<b>7.03</b>

In addition to providing sufficient acreage to compensate for impacts to PFO resources as a result of the Project, mitigation at the PRM Site will additionally include upland restoration and preservation providing additional ecological benefits beyond the required mitigation. Construction of the Project will not result in any permanent impacts to streams or other waterbodies. As such, none of the proposed stream restoration or enhancement work is being used for mitigation on this Project.

## **7. Mitigation Work Plan**

The Mitigation Work Plan is included within the Mitigation Work Plan section of the PRM Plan (Appendix C: Hibred Farms PRM Plan). This work plan discusses how the specific physical characteristics of the site (e.g. topography, hydrology, soils, past land use) factored into the mitigation design, and the proposed actions that will be undertaken to attain ecological uplift.

## **8. Maintenance Plan**

The PRM Site will be monitored and maintained by FPR, as described in the Monitoring Requirements section of the PRM Plan. FPR will act as the willing agent to perform all duties associated with satisfying compensatory mitigation requirements. Through contractual agreement with the Permittee, FPR will commit to restoring, enhancing, and preserving wetland functions and maintain wetland habitats in accordance with the provisions in the PRM Plan.

Yearly maintenance will be documented in the annual monitoring report along with a discussion of any anticipated maintenance events that will be needed the following year. In general, two to three site visits will be conducted annually during the first 3 years to monitor the sites for invasive species and adapt the yearly maintenance plans as needed based upon these observations.

In general, maintenance will be heaviest during the first 3 years of establishment, and will usually entail mechanical weed control events, along with two to three chemical control events, all targeting invasive species. Maintenance will focus on controlling any pockets of invasive species that might still be present on-site and monitoring for the establishment of any new stands of invasive species. Control methods will be targeted to deal with the individual species as they are found and will include both mechanical and chemical control. The Agent projects that by the 4<sup>th</sup> and 5<sup>th</sup> years, the intensity of management efforts required will drop off significantly as the native plant community will be relatively well established and resilient against the establishment and encroachment of invasive species.

## **9. Performance Standards**

The Permittee will monitor the PRM Site to demonstrate compliance with the Performance Standards as detailed in Section 9.0: Performance Standards within the PRM Plan.

## 10. Monitoring Requirements

In accordance with the provisions detailed in the Monitoring Plan of the PRM Plan (Appendix C: Hibred Farms PRM Plan), an as-built report will be submitted to the PADEP and USACE within 60 days following completion of all work outlined in the PRM Plan. The Permittee will monitor the PRM Site for 5 years to demonstrate compliance with the Performance Standards. A 5-year monitoring period is appropriate because the mitigation provided by the PRM Site will not be used to offset permanent fill impacts, and the majority of the restoration is enhancement and rehabilitation of existing wetlands. The monitoring provisions are detailed in Section 10.0: Monitoring Plan of the PRM Plan (Appendix C: Hibred Farms PRM Plan). FPR will submit a monitoring report to the PADEP and USACE by December 31<sup>st</sup> of the year monitoring occurs. The monitoring report will include data sufficient for comparison to the Performance Standards described in the Hibred Farms PRM Plan (Appendix C). FPR will also include a discussion of all activities that took place at the PRM Site. At a minimum, the monitoring report will include the monitoring program components detailed in Section 10.0: Monitoring Plan of the Hibred Farms PRM Plan (Appendix C).

## 11. Long-Term Management Plan

The following long-term management plan will apply to the PRM Site. Site-specific details are provided within the long-term management plan included in the PRM Plan.

To ensure the long-term sustainability of the restoration project, FPR will initially perform maintenance and long-term management. The Permittee anticipates that these activities will be minimal as the project is designed to be self-sustaining with limited management activities. After performance standards have been successfully attained, annual visual inspections will be conducted after each growing season to identify any need for invasive species control, additional signage, or boundary maintenance. The USACE and PADEP will be notified if any remedial action is necessary to ensure compliance with the original performance standards detailed in the PRM Plan. Specific items required as part of a Long-Term Management Plan are listed below.

### *Annual Patrols*

Walk-through surveys will be conducted annually to qualitatively monitor the general condition of the habitats on the site. Notes to be made may include observations of species encountered, water quality, general extent of wetlands and streams, and any occurrences of erosion, structure failure, or invasive or non-native species establishment. If there are any noted items that require maintenance, this should be recorded and submitted in a report to the Agencies.

### *Invasive Species Monitoring*

The walk-through survey will include a qualitative assessment (e.g. visual estimate of cover) of invasive species. If there is a continuous area exceeding 1/8 of an acre containing invasive species, the Long-Term steward should note this in a report to the agencies and conduct invasive species control to remove the noted species. Follow up monitoring should be conducted the following year, with follow up maintenance if needed.

### *Forestry Management Practices*

Any practices to reduce diseased or dead vegetation will be allowed if the vegetation compromises the long-term viability of the PRM Site.

### *Trash and Trespass*

If needed, trash will be removed and any necessary measures to prevent or repair damage from vandalism and trespass impacts should be taken.

### *Enforcement*

The Long-term Steward will be responsible for the enforcement of the conservation easement.

FPR will be the initial designated Long-term Steward charged with long-term management and maintenance responsibility once performance standards as described in the PRM Plan are attained. FPR may appoint a third-party Long-term Steward in accordance with 33 CFR 332.7(d)(1) to take over as the long-term easement holder for the PRM Site into perpetuity. At that time the new easement holder may if they wish transfer the Deed of Restrictive Covenant into a Conservation Easement. The long-term stewardship funding will transfer to the appointed long-term easement holder upon transfer of legal responsibility, to provide funding for the long-term maintenance and monitoring of the property. The appointment of such an entity will be approved by the PADEP and/or USACE.

## **12. Adaptive Management Plan**

An adaptive management plan including contingency, and remedial responsibilities will be implemented in the event monitoring reveals that certain Success Criteria have not been met. In the event of a deficiency, FPR will provide notice to the PADEP and USACE. The notice will include an explanation for the deficiency and will outline specific practices and measures that will guide decisions for revising the compensatory mitigation plan if needed. An individual adaptive management plan based on project-specific performance standards is provided within the PRM Plan.

## **13. Financial Assurances**

FPR will establish a performance bond to ensure that PRM Site construction is completed and all success criteria are met. A sample performance bond is provided in the PRM Plan (Appendix C). The financial assurance mechanism will be a surety bond for the PRM Site that will cover construction, maintenance and monitoring costs associated with the PRM Site, proof that the surety bond has been executed will be provided to the agencies 60 days after approval of the joint permit. The performance bond utilized by FPR is underwritten by a Surety with a rating of A+ (A.M. Best Ratings, 2010).

Once the restoration activities (planting) at the PRM Site are completed and the as built plans are approved by the PADEP and USACE, as a proportionately larger percentage of the projects costs is long term maintenance and monitoring. The bond will be closed once all performance standards are met, and final sign-off on the PRM Site has been provided by the USACE and PADEP.

### *Long-term Stewardship Funding*

Prior to construction of the Project, the Permittee will deposit funds into an escrow account to cover long-term stewardship of the PRM Sites. These funds are anticipated to be sufficient to cover the full cost of long-term stewardship activities for the entire PRM Site. The total sum for the PRM Site escrow amount includes all expenses for long-term management and allocates funds for invasive species management contingency funds, and is provided in the PRM Plan.

## 14. References

- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. Technical Report Y-87-1. 207 p.
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- U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, C. V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- United States Army Corps of Engineers, New England District. 1993. Highway Methodology Workbook Supplement: Wetland Functions and Values – A Descriptive Approach. <http://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement.pdf>.

# **APPENDIX A**

## **Figures**

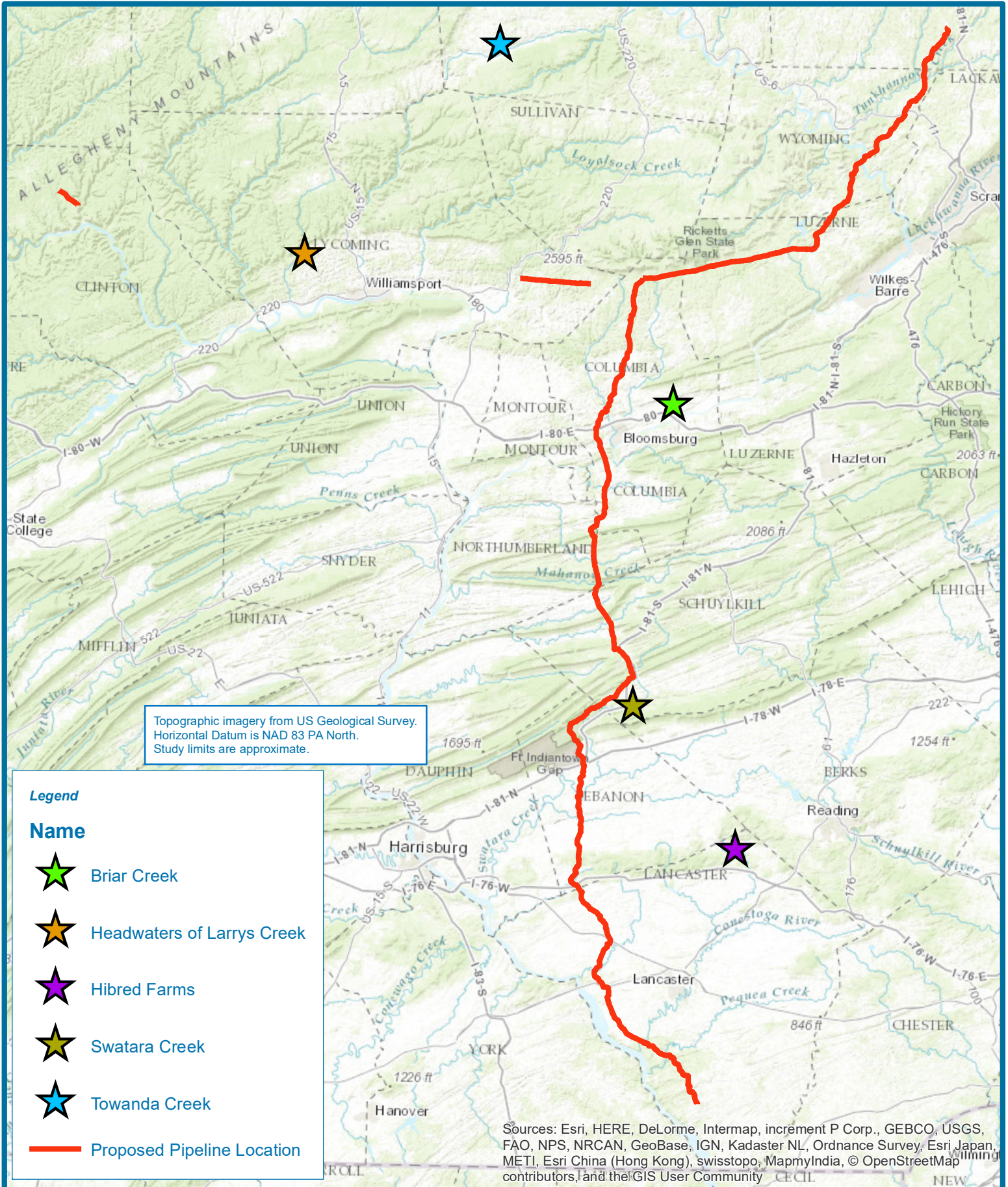
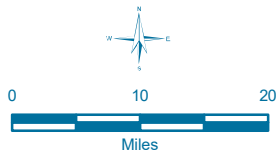


FIGURE 1

ATLANTIC SUNRISE PROJECT  
PROJECT LOCATION MAP

PENNSYLVANIA



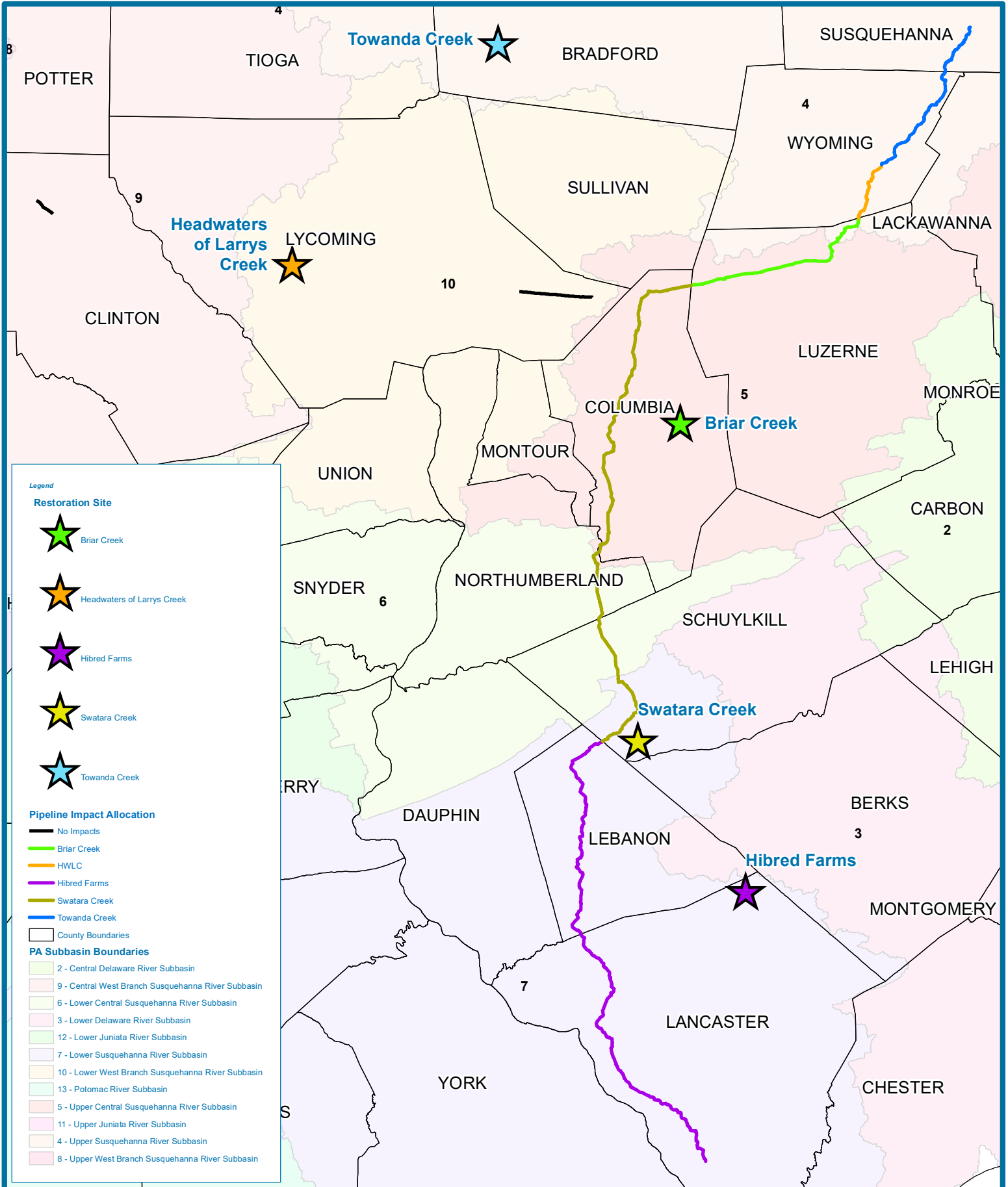
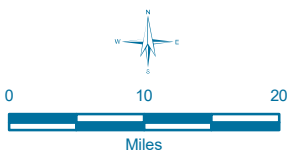
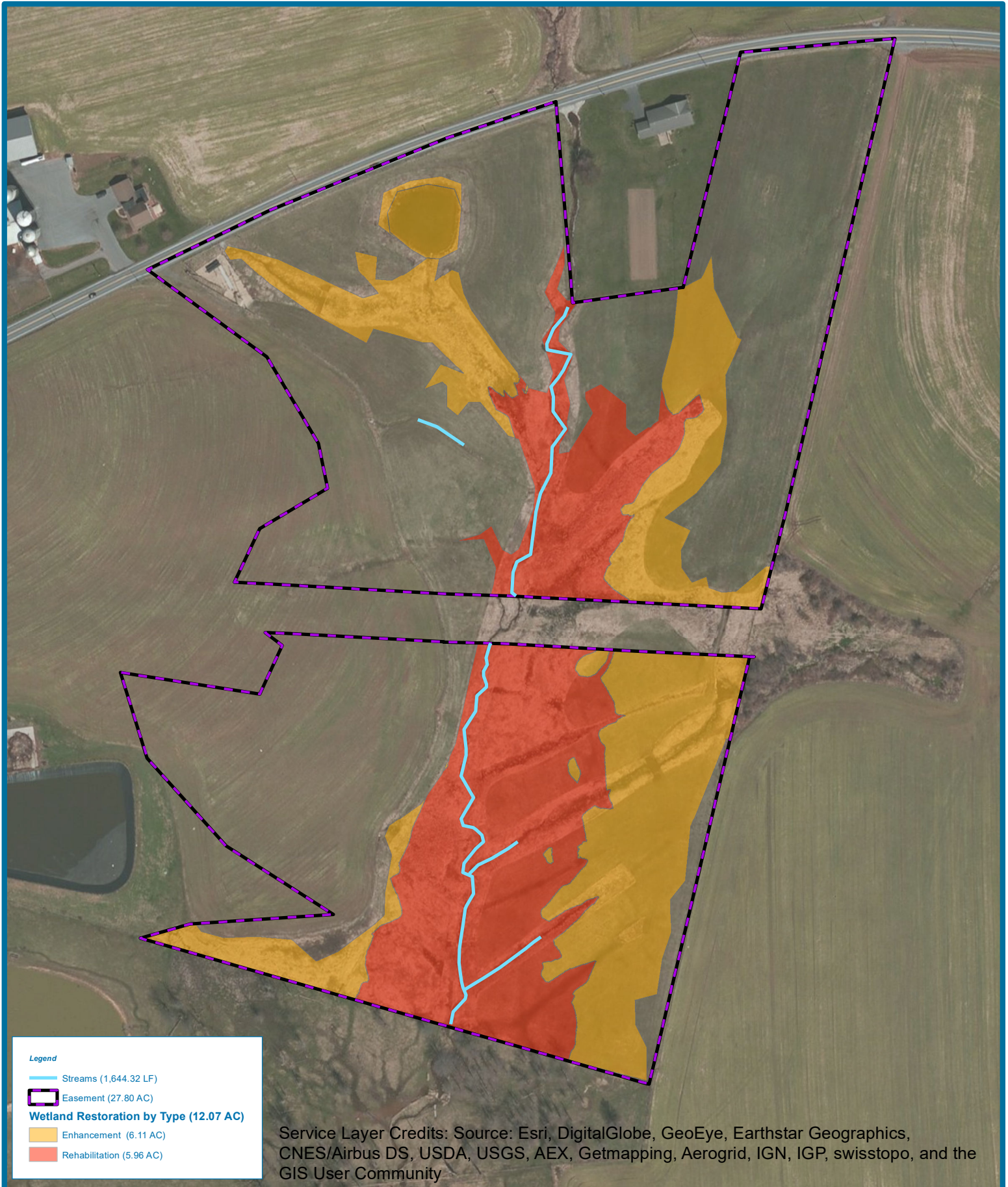


FIGURE 2

ATLANTIC SUNRISE PROJECT  
MITIGATION SITE/IMPACT LOCATION  
REFERENCE MAP

PENNSYLVANIA





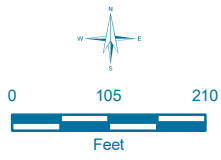
**Legend**

- Streams (1,644.32 LF)
- Easement (27.80 AC)

**Wetland Restoration by Type (12.07 AC)**

- Enhancement (6.11 AC)
- Rehabilitation (5.96 AC)

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**FIGURE 3**

**ATLANTIC SUNRISE PROJECT  
HIBRED FARMS MITIGATION SITE  
RESOURCE DEVELOPMENT MAP**

**LANCASTER COUNTY, PENNSYLVANIA**



# **APPENDIX B**

## **Impact Site Wetland Function-Value Evaluation Forms**

## Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_  
 Adjacent land use pasture lands, camp area Distance to nearest roadway or other development \_\_\_\_\_  
 Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_  
 Is the wetland a separate hydraulic system? \_\_\_\_\_ If not, where does the wetland lie in the drainage basin? \_\_\_\_\_  
 How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland I.D. WJ-T10-001  
 Latitude 39 25 24.28 Longitude 41 10 15.95  
 Prepared by: NH Date 7/3/14  
 Wetland Impact:  
 Type PEM Area \_\_\_\_\_  
 Evaluation based on:  
 Office \_\_\_\_\_ Field   
 Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		X	2,4,5,7,13		
Floodflow Alteration	X		5,6,8,9,10,13,18	X	
Fish and Shellfish Habitat	X	X	8,9,10,12,14,16,17		
Sediment/Toxicant Retention		X	2,3,10,14,16		
Nutrient Removal		X	3,4,8,9,10,		
Production Export	X		1,4,6,7,8,12		
Sediment/Shoreline Stabilization		X	1,2,3,12		
Wildlife Habitat		X	7,8,13,		
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X	22		
Visual Quality/Aesthetics		X			
<b>ES</b> Endangered Species Habitat					
Other					

Notes:

\* Refer to backup list of numbered considerations

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use agriculture, transmission lines Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM & PSS Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? \_\_\_\_\_ If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-131-001 9001A

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Prepared by: \_\_\_\_\_ Date 10/31/2017

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office \_\_\_\_\_ Field X

Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>		7, 13, 15		
Floodflow Alteration	<input checked="" type="checkbox"/>		3, 6, 9, 10, 13, 18		
Fish and Shellfish Habitat	<input checked="" type="checkbox"/>		4, 7, 8, 10, 12, 14, 16	X	
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		1, 2*, 4, 10, 14, 15	X	* Ag runoff
Nutrient Removal	<input checked="" type="checkbox"/>		4, 6, 8, 9, 10, 11, 12		
Production Export	<input checked="" type="checkbox"/>		1, 2, 7, 8, 12		
Sediment/Shoreline Stabilization	<input checked="" type="checkbox"/>		3, 4, 6, 12, 13		* ag runoff
Wildlife Habitat	<input checked="" type="checkbox"/>		5, 7, 8, 9, 13		
Recreation		<input checked="" type="checkbox"/>	—		
Educational/Scientific Value		<input checked="" type="checkbox"/>	—		
Uniqueness/Heritage		<input checked="" type="checkbox"/>	—		
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>	—		
ES Endangered Species Habitat		<input checked="" type="checkbox"/>	—		
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? NO Is wetland part of a wildlife corridor? Yes or a "habitat island"? \_\_\_\_\_

Adjacent land use pasture Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present ppo Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? \_\_\_\_\_ If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-710-003













Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Prepared by: pskarp Date 7-14-03

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office \_\_\_\_\_ Field \_\_\_\_\_

Corps manual wetland delineation completed? Y \_\_\_\_\_ N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
 Groundwater Recharge/Discharge		X	2,4,7		
 Floodflow Alteration	X		5,8,9,10,13		
 Fish and Shellfish Habitat	X		1,8,14,17		
 Sediment/Toxicant Retention	X		1,2,5,10,14		livestock pasture
 Nutrient Removal		X	3,10		
 Production Export		X	1,4		deer & racoon tracks deer scat
 Sediment/Shoreline Stabilization	X		1,2,3,4,6,7,9		
 Wildlife Habitat	X		5,6,7,8,17,19		deer racoon
 Recreation		X			
 Educational/Scientific Value		X			
 Uniqueness/Heritage		X			
 Visual Quality/Aesthetics		X			
<b>ES</b> Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

W-T10-101

Total area of wetland \_\_\_\_\_ Human made? UNK Is wetland part of a wildlife corridor? Y or a "habitat island"? \_\_\_\_\_

Adjacent land use Residential, utility corridor, road Distance to nearest roadway or other development ~20 ft

Dominant wetland systems present PEM / PFD Contiguous undeveloped buffer zone present on one side

Is the wetland a separate hydraulic system? \_\_\_\_\_ If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? 0 ~~(outside PFD)~~ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T10-101 ~~W-T10-6000~~ As 2/24/14

Latitude 388176.12 Longitude 4418764.27

Prepared by: EP Date 7/12/2014

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function/Value	Suitability Y N		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	X		1, 12, 15	X	multiple springs discharging to wetland
Floodflow Alteration	X		3, 5, 7, 8, 9, 18	X	
Fish and Shellfish Habitat		X	N/A		
Sediment/Toxicant Retention		Y	N/A		
Nutrient Removal		X	2, 3, 5, 10 <del>(fundamental)</del>		2 (pond currently drained to remove Phragmites)
Production Export		X	1, 2, 4		
Sediment/Shoreline Stabilization		X	2		
Wildlife Habitat		X	7, 10, 8, 13,		
Recreation		X	7*, 9*		* prior to pond drain being drained
Educational/Scientific Value		X	N/A		
Uniqueness/Heritage		X	N/A		
Visual Quality/Aesthetics		X	N/A		
<b>ES</b> Endangered Species Habitat		X	N/A		
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

W-710-100

Wetland I.D. ~~W-710-1005~~ PS 7/24/14

Latitude 38°12'8.41" Longitude 76°18'26.59"

Prepared by: JCP Date 7/10/2014

Wetland Impact:  
Type PFO Area \_\_\_\_\_

Evaluation based on:

Office  Field

Corps manual wetland delineation completed?  Y  N

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"?

Adjacent land use Residential and utility corridor Distance to nearest roadway or other development 500 ft ~ 20 ft

Dominant wetland systems present PFO Contiguous undeveloped buffer zone present partially

Is the wetland a separate hydraulic system? \_\_\_\_\_ If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		X	7		
Floodflow Alteration	Y		3, 5, 6, 9, 10, 18	X	
Fish and Shellfish Habitat	Y		8, 9, 10, 11, 12, 14, 17	X	
Sediment/Toxicant Retention		X	4, 10		
Nutrient Removal	Y		3, 8, 9, 10, 12	X	
Production Export		X	1, 6, 7		
Sediment/Shoreline Stabilization		X	2, 7, 5 (on one side)		
Wildlife Habitat		X	7, 8		
Recreation		X	N/A		
Educational/Scientific Value		X	N/A		
Uniqueness/Heritage		X	N/A		
Visual Quality/Aesthetics		X	N/A		
<b>ES</b> Endangered Species Habitat		X	N/A		
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_  
 Adjacent land use AGRICULTURE Distance to nearest roadway or other development \_\_\_\_\_  
 Dominant wetland systems present PSS Contiguous undeveloped buffer zone present \_\_\_\_\_  
 Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? CONNECTED TO WW-T20-002  
 How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T20-002 (002A3002B)  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by B. SMOCK Date 7/14/14  
 Wetland Impact:  
 Type \_\_\_\_\_ Area \_\_\_\_\_  
 Evaluation based on:  
 Office \_\_\_\_\_ Field \_\_\_\_\_  
 Corps manual wetland delineation completed? Y \_\_\_\_\_ N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	-	N	7, 12	7	
Floodflow Alteration	Y	-	5, 8, 9, 18	8	HIGH ABILITY TO RETAIN WATER DURING HIGH FLOW EVENTS
Fish and Shellfish Habitat	Y	-	2, 7, 8, 11, 12, 15, 17	11	RESTORED STREAM CHANNEL ASSOCIATED WITH WETLAND
Sediment/Toxicant Retention	Y	-	1, 2, 3, 9, 10, 13	1	AGRICULTURAL SEDIMENTS PRESENT UPGRAIENT
Nutrient Removal	Y	-	3, 4, 8, 10, 11, 13	3	FERTILIZERS FROM AG. UPGRAIENT
Production Export	Y	-	1, 2, 7, 9, 12	12	
Sediment/Shoreline Stabilization	Y	-	3, 4, 12, 15	4	
Wildlife Habitat	Y	-	1, 3, 7, 9, 15	7	
Recreation	-	N	6	6	
Educational/Scientific Value	-	N	2, 5	5	LOCATED ON PRIVATE PROPERTY
Uniqueness/Heritage	-	N	16	16	
Visual Quality/Aesthetics	Y	-	3, 5, 10, 11	3	
ES Endangered Species Habitat	-	N	N/A	-	
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use \_\_\_\_\_ Distance to nearest roadway or other development \_\_\_\_\_













Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland I.D. W-T213-001  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by: JS Date 5/9/2015  
 Wetland Impact:  
 Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
 Office \_\_\_\_\_ Field X  
 Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
 Groundwater Recharge/Discharge	X		3, 4, 9, 10		
 Floodflow Alteration	X		2, 5, 7, 9, 13		
 Fish and Shellfish Habitat		X			
 Sediment/Toxicant Retention	X		1, 2, 4, 10		
 Nutrient Removal	<del>X</del>	X			
 Production Export		X			
 Sediment/Shoreline Stabilization		X			
 Wildlife Habitat		X			
 Recreation		X			
 Educational/Scientific Value		X			
 Uniqueness/Heritage		X			
 Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? Y or a "habitat island"? \_\_\_\_\_

Adjacent land use Ag Distance to nearest roadway or other development 300 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland I.D. W-T35-1001

Latitude 38°52'15" N Longitude 44°21'57.00" W

Prepared by: MMC Date 11/21/2014

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>		2, 7		
Floodflow Alteration		<input checked="" type="checkbox"/>			
Fish and Shellfish Habitat	<input checked="" type="checkbox"/>		4, 15, 17, 12		Abuts WW-T35-1001 in which fish were observed.
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		2, 4, 9, 10, 5, 13		
Nutrient Removal			3, 4, 5, 7, 9		
Production Export		<input checked="" type="checkbox"/>			
Sediment/Shoreline Stabilization		<input checked="" type="checkbox"/>			
Wildlife Habitat	<input checked="" type="checkbox"/>		7, 8		
Recreation		<input checked="" type="checkbox"/>			
Educational/Scientific Value		<input checked="" type="checkbox"/>			
Uniqueness/Heritage		<input checked="" type="checkbox"/>			
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>			
<b>ES</b> Endangered Species Habitat		<input checked="" type="checkbox"/>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use Corn Production Distance to nearest roadway or other development 300'

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T20-1002

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Prepared by: B. SWYDE Date 7/16/14

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:

Office \_\_\_\_\_ Field

Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>		10,13,	13	Wetland hydrology is supplied by minor hills de seep
Floodflow Alteration	<input checked="" type="checkbox"/>		2,5,	5	wetland contains hydric soils that can detain water
Fish and Shellfish Habitat		<input checked="" type="checkbox"/>			
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		1,2,4	2	Adjacent corn field is likely treated with herbicides
Nutrient Removal			4,5,	4	Adjacent corn field is potential source for excess nutrients
Production Export		<input checked="" type="checkbox"/>			
Sediment/Shoreline Stabilization	<input checked="" type="checkbox"/>		1,2,3,	3	Adjacent corn field is likely source for potential sedimentation
Wildlife Habitat		<input checked="" type="checkbox"/>			
Recreation		<input checked="" type="checkbox"/>			
Educational/Scientific Value		<input checked="" type="checkbox"/>			
Uniqueness/Heritage		<input checked="" type="checkbox"/>			
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>			
ES Endangered Species Habitat		<input checked="" type="checkbox"/>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"?

Adjacent land use RESIDENTIAL AGRICULTURE, FORESTED / UNDEVELOPED Distance to nearest roadway or other development ~ 200-350'

Dominant wetland systems present PEN Contiguous undeveloped buffer zone present YES

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? SLOPE ABOVE TRIBUTARY TO WETLAND RUN

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 13-136-1001

Latitude 380511.9 Longitude 4423142.5

Prepared by: ZSF Date 12/16/14

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed?  Y  N

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>		1, 2, 3, 4, 7, 13	<input checked="" type="checkbox"/>	SEVERAL SMALL SLOPES ON HILLSLOPE. APPEARS A SPONGE BOX IS WITHIN WETLAND. WASH ON HILLSLOPE RUNS THROUGH WETLAND TO STREAM.
Floodflow Alteration	<input checked="" type="checkbox"/>		3, 5, 8, 9, 10, 13, 15		MUCH OF THIS WETLAND IS ON A SLOPE. ONLY A RELATIVELY SMALL CONCAVE & FLAT AREA RETAINS WATER.
Fish and Shellfish Habitat		<input checked="" type="checkbox"/>	1, 4, 8, 14, 16, 17		MOST OF THE WETLAND IS ON A SLOPE
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		1, 2, 4, 6, 9, 10		FARMING OCCURS UPSLOPE. BUT MINIMAL EFFECT ON RETENTION RE TO SMALL SIZE & POSITION ON SLOPE
Nutrient Removal	<input checked="" type="checkbox"/>		3, 4, 5, 6, 9, 10		MINIMAL EFFECT ON REMOVAL.
Production Export	<input checked="" type="checkbox"/>		1, 2, 4, 10		TWO DIRECT & UNOBSTRUCTED OUTLETS TO ASSOCIATED STREAM
Sediment/Shoreline Stabilization		<input checked="" type="checkbox"/>	1, 2, 3, 4		MOST OF WETLAND IS ON A SLOPE
Wildlife Habitat	<input checked="" type="checkbox"/>		3, 4, 5, 6, 7, 8, 10, 17, 19	<input checked="" type="checkbox"/>	DEER, FOX. ALSO APPEARS GOOD FOR AMPHIBIANS, BIRDS.
Recreation	<input checked="" type="checkbox"/>		3		HUNTING ONLY
Educational/Scientific Value		<input checked="" type="checkbox"/>			POOR
Uniqueness/Heritage		<input checked="" type="checkbox"/>	7, 19, 32		POOR
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>			POOR, NOT EASILY VIEWED.
ES Endangered Species Habitat		<input checked="" type="checkbox"/>			NOT KNOWN
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made?  Is wetland part of a wildlife corridor?  or a "habitat island"?

Adjacent land use FOREST/UNDEVELOPED, AGRICULTURE Distance to nearest roadway or other development ~ 600'

Dominant wetland systems present PCM Contiguous undeveloped buffer zone present YES

Is the wetland a separate hydraulic system? YES If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? Zero Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-136-1002

Latitude 38097.49 Longitude 4433371.2

Prepared by: DSF Date 12/17/2004

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed?  Y  N

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>		6, 8, 3		SMALL SLOPE NEARBY. RESTRICTIVE LAYER IN DEPT. ROADWAY. MUCH OF THIS WETLAND IS A DEPT. ROAD ON A SLOPE. FEW RETURNS TO GW, NO APPARENT OUTFLET.
Floodflow Alteration		<input checked="" type="checkbox"/>	2, 3, 5, 8		
Fish and Shellfish Habitat		<input checked="" type="checkbox"/>			None
Sediment/Toxicant Retention		<input checked="" type="checkbox"/>	1, 2, 4,		Farming operations up slope.
Nutrient Removal		<input checked="" type="checkbox"/>	3, 4, 6, 9		SLOPE, ROAD
Production Export		<input checked="" type="checkbox"/>			
Sediment/Shoreline Stabilization		<input checked="" type="checkbox"/>			NO ASSOCIATED WATER COURSE
Wildlife Habitat	<input checked="" type="checkbox"/>		4, 7, 8, 12,		Pool
Recreation	<input checked="" type="checkbox"/>		3		Pool, Hunting only
Educational/Scientific Value		<input checked="" type="checkbox"/>			
Uniqueness/Heritage		<input checked="" type="checkbox"/>			
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>	5, 8, 12		
ES Endangered Species Habitat		<input checked="" type="checkbox"/>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? Y or a "habitat island"? \_\_\_\_\_

Adjacent land use CARDUPELLUM/FOREST Distance to nearest roadway or other development ~ 100'

Dominant wetland systems present POM Contiguous undeveloped buffer zone present YES  
~ 800' SOUTH OF AN

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? NHD STRADY & ABUTING SMALL TRIBS

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-136-1003

Latitude 379923.2 Longitude 4423446.

Prepared by: JH Date 12/17/14

Wetland Impact:  
 Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
 Office ✓ Field ✓

Corps manual wetland delineation completed? Y N

Function/Value	Suitability Y N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>	3, 7, 13, 15	<input checked="" type="checkbox"/>	
Floodflow Alteration	<input checked="" type="checkbox"/>	3, 5, 7, 9, 10, 13,		WETLAND IS PERCHED ABOVE SMALL WATER COURSES
Fish and Shellfish Habitat	<input checked="" type="checkbox"/>	1, 4, 8, 14, 15, 16, 17		SMALL SEEP FED STREAMS ARE ASSOCIATED W/ WETLAND & THESE DON'T SEEM PEAK DRAINING. NOT DAUGHT WATER.
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>	1, 2, 4, 10, 12,		WETLAND IS IN A RELATIVELY LARGE FORESTED AREA & IS A SMALL FORTING. SED/TOXICANT SOURCES FROM UPSLOPE ARE FILTERED LATERLY DOW THE WETLAND.
Nutrient Removal	<input checked="" type="checkbox"/>	2, 4, 5, 7, 10,		
Production Export	<input checked="" type="checkbox"/>	12, 4, 10		
Sediment/Shoreline Stabilization	<input checked="" type="checkbox"/>	1, 2, 3, 4, 6, 9, 14, 15,		VERY SMALL & PERCHED ABOVE SMALL STREAMS.
Wildlife Habitat	<input checked="" type="checkbox"/>	3, 4, 5, 6, 7, 8, 9, 30,	<input checked="" type="checkbox"/>	
Recreation	<input checked="" type="checkbox"/>	3, 4,		
Educational/Scientific Value	<input checked="" type="checkbox"/>			
Uniqueness/Heritage	<input checked="" type="checkbox"/>	7, 17, 19, 32, 6		
Visual Quality/Aesthetics	<input checked="" type="checkbox"/>	5, 9, 10, 11, 12		
ES Endangered Species Habitat	<input checked="" type="checkbox"/>			
Other	<input checked="" type="checkbox"/>			

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made?  Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"?

Adjacent land use RESIDENTIAL / AGRICULTURE Distance to nearest roadway or other development 0'

Dominant wetland systems present PSM Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? YES If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-TSC-1004

Latitude 379077.4 Longitude 4432914.6

Prepared by: [Signature] Date 11/18/2024

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed? Y N

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		<input checked="" type="checkbox"/>	5, 15		
Floodflow Alteration	<input checked="" type="checkbox"/>		5, 6, 7, 8, 9, 15		STORMWATER REDUCED FROM SURROUNDING GRASS & IMPERVIOUS SURFACES. TRAPS CUPROUND STREET TRENCH, FAR FROM A WATER COURSE
Fish and Shellfish Habitat		<input checked="" type="checkbox"/>			
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		12, 4, 5, 7		ADJUSTING ROADWAYS & AG FIELDS.
Nutrient Removal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3, 4, 7, 8, 9, 10, 11	<input checked="" type="checkbox"/>	
Production Export		<input checked="" type="checkbox"/>	7		
Sediment/Shoreline Stabilization		<input checked="" type="checkbox"/>	3, 15		NOT ASSOCIATED WITH A WATER COURSE
Wildlife Habitat		<input checked="" type="checkbox"/>	13		
Recreation		<input checked="" type="checkbox"/>	11		
Educational/Scientific Value		<input checked="" type="checkbox"/>	17,		
Uniqueness/Heritage		<input checked="" type="checkbox"/>			
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>			
ES Endangered Species Habitat		<input checked="" type="checkbox"/>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor?  or a "habitat island"?

Adjacent land use PASTURE/HAY, AGRICULTURE Distance to nearest roadway or other development ~500'

Dominant wetland systems present PBM Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? FEEDBACK OF TRIBUTARY TO INDIAN RUN, 0.25 MILES FROM INDIAN RUN

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-TR-1005

Latitude 37°27.7 Longitude 44°40'22.4

Prepared by: [Signature] Date 12/18/14

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed?  Y  N

Function/Value	Suitability Y N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>	2, 5, 7, 13, 15		A SEEP APPEARS TO BE FEEDING THE WETLAND / WATER TABLE
Floodflow Alteration	<input checked="" type="checkbox"/>	5, 6, 7, 8, 9, 10, 13, 16, 18	<input checked="" type="checkbox"/>	
Fish and Shellfish Habitat	<input checked="" type="checkbox"/>	4, 14, 16		SEEP / SWELL STATION, NOT SUITABLE FOR FISH
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>	1, 2, 3, 4, 7, 10, 11, 14, 16		
Nutrient Removal	<input checked="" type="checkbox"/>	3, 4, 5, 7, 8, 9, 10, 11, 12, 14	<input checked="" type="checkbox"/>	
Production Export	<input checked="" type="checkbox"/>	1, 2, 4, 7, 10		
Sediment/Shoreline Stabilization	<input checked="" type="checkbox"/>	1, 2, 3, 4, 5, 7, 9, 13, 15		
Wildlife Habitat	<input checked="" type="checkbox"/>	5, 6, 7, 8, 13, 17, 19, 20		
Recreation	<input checked="" type="checkbox"/>			
Educational/Scientific Value	<input checked="" type="checkbox"/>	11, 12, 13, 14		
Uniqueness/Heritage	<input checked="" type="checkbox"/>	17, 19, 22		
Visual Quality/Aesthetics	<input checked="" type="checkbox"/>	6, 9, 10, 11, 13		
ES Endangered Species Habitat				
Other				

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N  
 Adjacent land use Agriculture Distance to nearest roadway or other development \_\_\_\_\_  
 Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_  
 Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? \_\_\_\_\_  
 How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T32-2004  
 Latitude 37°55'00.77" Longitude 44°31'52.61"  
 Prepared by: LRB Date 11/10/14  
 Wetland Impact:  
 Type PEM Area \_\_\_\_\_

Evaluation based on:  
 Office \_\_\_\_\_ Field 2  
 Corps manual wetland delineation completed? Y 2 N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<u>Y</u>		<u>1, 5</u>	<u>N</u>	
Floodflow Alteration		<u>N</u>			
Fish and Shellfish Habitat		<u>N</u>			
Sediment/Toxicant Retention		<u>N</u>			
Nutrient Removal	<u>Y</u>		<u>3, 11</u>		
Production Export	<u>Y</u>		<u>1, 2, 4</u>		
Sediment/Shoreline Stabilization	<u>N</u>	<u>→</u>			
Wildlife Habitat	<u>Y</u>		<u>1, 3, 4, 5, 7, 8, 17</u>	<u>Y</u>	
Recreation	<u>N</u>	<u>→</u>			
Educational/Scientific Value	<u>N</u>	<u>→</u>			
Uniqueness/Heritage	<u>N</u>	<u>→</u>			
Visual Quality/Aesthetics	<u>N</u>	<u>→</u>			
ES Endangered Species Habitat	<u>N</u>	<u>→</u>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Agriculture Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-TSZ-2003  
 Latitude 37°55'4.20" Longitude 44°31'6.59.78"

Prepared by: U2B Date 11/10/14

Wetland Impact:  
 Type PEM Area \_\_\_\_\_

Evaluation based on:  
 Office \_\_\_\_\_ Field 2

Corps manual wetland delineation completed? Y 2 N

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		<u>N</u>			
Floodflow Alteration					
Fish and Shellfish Habitat	<u>Y</u>		<u>5, 6, 8, 9, 16, 13,</u>	<u>2</u>	
Sediment/Toxicant Retention		<u>N</u>			
Nutrient Removal	<u>Y</u>		<u>1, 3, 9, 10, 13,</u>		
Production Export		<u>N</u>			
Sediment/Shoreline Stabilization					
Wildlife Habitat	<u>Y</u>		<u>1, 2, 3, 15,</u>		
Recreation		<u>N</u>			
Educational/Scientific Value	<u>Y</u>		<u>1, 3, 4, 5, 7, 8, 16, 17,</u>	<u>Y4</u>	
Uniqueness/Heritage		<u>N</u>			
Visual Quality/Aesthetics		<u>N</u>			
ES Endangered Species Habitat		<u>N</u>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use Agriculture Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland I.D. W-732-2001  
 Latitude 374831.4 Longitude 4432901.71

Prepared by: LB Date 11/16/14

Wetland Impact:  
 Type PEM Area \_\_\_\_\_

Evaluation based on:  
 Office \_\_\_\_\_ Field X

Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		<u>N</u>	<u>2, 5, 7</u>		
Floodflow Alteration		<u>N</u>	<u>5, 6, 13</u>		
Fish and Shellfish Habitat		<u>N</u>	<u>15, 16, 17</u>		
Sediment/Toxicant Retention	<u>Y</u>		<u>1, 3, 9, 10</u>		
Nutrient Removal		<u>N</u>	<u>3</u>		
Production Export			<u>1, 7</u>		
Sediment/Shoreline Stabilization		<u>N</u>			
Wildlife Habitat	<u>Y</u>		<u>1, 3, 5, 7, 8, 16, 17</u>	<u>Yes</u>	
Recreation		<u>N</u>			
Educational/Scientific Value		<u>N</u>			
Uniqueness/Heritage		<u>N</u>			
Visual Quality/Aesthetics		<u>N</u>			
ES Endangered Species Habitat		<u>N</u>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? N Is wetland part of a wildlife corridor? N or a "habitat island"? N  
 Adjacent land use Agriculture Distance to nearest roadway or other development \_\_\_\_\_  
 Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_  
 Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? \_\_\_\_\_  
 How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland ID: W-732-2002  
 Latitude 37°46'07" Longitude 114°32'05" W  
 Prepared by: CRB Date 11/10/14  
 Wetland Impact:  
 Type PEM Area \_\_\_\_\_  
 Evaluation based on:  
 Office \_\_\_\_\_ Field Y  
 Corps manual wetland delineation completed? Y Y N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		<u>N</u>			
Floodflow Alteration	<u>Y</u>		<u>5, 6, 8, 9, 10, 13</u>		
Fish and Shellfish Habitat		<u>N</u>			
Sediment/Toxicant Retention		<u>N</u>			
Nutrient Removal	<u>Y</u>		<u>3, 4, 7</u>		
Production Export	<u>Y</u>		<u>1, 2, 4, 5</u>		
Sediment/Shoreline Stabilization	<u>Y</u>		<u>1, 2, 4</u>		
Wildlife Habitat	<u>Y</u>		<u>3, 8, 10, 12</u>		
Recreation		<u>N</u>			
Educational/Scientific Value		<u>N</u>			
Uniqueness/Heritage		<u>N</u>			
Visual Quality/Aesthetics		<u>N</u>			
<b>ES</b> Endangered Species Habitat		<u>N</u>			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland 0.04 Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? Yes

Adjacent land use lawn, mowed area Distance to nearest roadway or other development 11 ft

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T10-2001













Latitude 40.054097 Longitude -76.48747

Prepared by: K. DesJard Date 7/13/15

Wetland Impact:  
Type \_\_\_\_\_ Area 0.04

Evaluation based on:  
Office  Field

Corps manual wetland delineation completed? Y  N

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
 Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2, 7		
 Floodflow Alteration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5, 7, 8, 9, 10, 13, 18	<input checked="" type="checkbox"/>	
 Fish and Shellfish Habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
 Sediment/Toxicant Retention	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2, 4, 5, 6, 10, 12, 16	<input checked="" type="checkbox"/>	
 Nutrient Removal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3, 4, 7, 8, 11, 13, 14	<input checked="" type="checkbox"/>	
 Production Export	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 4, 7, 10,		
 Sediment/Shoreline Stabilization	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2, 3, 6, 9, 12, 15		
 Wildlife Habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5, 8, 13, 19.		
 Recreation	<input type="checkbox"/>	<input checked="" type="checkbox"/>			private property
 Educational/Scientific Value	<input type="checkbox"/>	<input checked="" type="checkbox"/>			private property
 Uniqueness/Heritage	<input type="checkbox"/>	<input checked="" type="checkbox"/>			private property
 Visual Quality/Aesthetics	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<b>ES</b> Endangered Species Habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>			none observed
Other	<input type="checkbox"/>	<input type="checkbox"/>			

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island" \_\_\_\_\_

Adjacent land use Crop land, forest Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? high

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity abundance (see attached list) \_\_\_\_\_

Wetland ID: W-T31-3001  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by: ELS Date: 11/5/14  
 Wetland Insect \_\_\_\_\_  
 Type: PEM Area \_\_\_\_\_  
 Evaluation based on:  
 Office \_\_\_\_\_ Field   
 Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s) Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>		<u>7</u>		
Floodflow Alteration	<input checked="" type="checkbox"/>		<u>2, 9, 10, 11</u>		
Fish and Shellfish Habitat		<input checked="" type="checkbox"/>			
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		<u>1, 2, 4, 9, 10, 11</u>	<input checked="" type="checkbox"/>	
Nutrient Removal	<input checked="" type="checkbox"/>		<u>3, 4, 8, 9, 10</u>		
Production Export		<input checked="" type="checkbox"/>			
Sediment/Shoreline Stabilization		<input checked="" type="checkbox"/>			
Wildlife Habitat		<input checked="" type="checkbox"/>			
Recreation		<input checked="" type="checkbox"/>			
Educational/Scientific Value		<input checked="" type="checkbox"/>			
Uniqueness/Heritage		<input checked="" type="checkbox"/>			
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>			
ES Endangered Species Habitat		<input checked="" type="checkbox"/>			
Other		<input checked="" type="checkbox"/>			

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use Cropland Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? high

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T31-3006

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Prepared by: ECS Date 11/7/14

Wetland Impact Type PEM Area \_\_\_\_\_

Evaluation based on:

Office \_\_\_\_\_ Field X

Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	X		7, 9		
Floodflow Alteration	X		2, 9, 10, 13	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1, 2, 4, 9, 10, 13		
Nutrient Removal	X		3, 4, 7, 9, 10		
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X				
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Hectares made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"?

Adjacent land use pasture/cropland Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydrologic system? N If not, where does the wetland lie in the drainage basin? high

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland ID W-T31-3005  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by 11/7/14 Date ECS  
 Wetland Inventory Type PEM Area \_\_\_\_\_  
 Evaluation based on:  
 Office \_\_\_\_\_ Field   
 Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function Value	Sustainability		Rationale (Reference #)*	Principal Function(s) Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		<input checked="" type="checkbox"/>			
Floodflow Alteration	<input checked="" type="checkbox"/>		<u>2, 9, 10, 13</u>		
Fish and Shellfish Habitat					
Sediment/Turbidity Retention	<input checked="" type="checkbox"/>		<u>1, 2, 9, 10, 13</u>	<input checked="" type="checkbox"/>	
Nutrient Retention	<input checked="" type="checkbox"/>		<u>3, 4, 7, 8, 10</u>		
Production Export		<input checked="" type="checkbox"/>			
Sediment Shoreline Stabilization		<input checked="" type="checkbox"/>			
Wildlife Habitat		<input checked="" type="checkbox"/>			
Recreation		<input checked="" type="checkbox"/>			
Educational/Scientific Value		<input checked="" type="checkbox"/>			
Cultural Heritage		<input checked="" type="checkbox"/>			
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>			
Endangered Species Habitat		<input checked="" type="checkbox"/>			
Other		<input checked="" type="checkbox"/>			

Notes

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? N or a "habitat island"? N

Adjacent land use PASTURE Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? upper

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-731-3001

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Prepared by: ECS G. Sheppard #11/7/14

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office \_\_\_\_\_ Field X

Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	X		<u>7, 10, 13,</u>		
Floodflow Alteration		X			
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		<u>1, 2, 4, 7, 10, 13, 14, 16,</u>	X	
Nutrient Removal	X		<u>3, 4, 5, 7, 10</u>		
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X		<u>5, 8,</u>		
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use cow pasture Distance to nearest roadway or other development unknown

Dominant wetland systems present PBM Contiguous undeveloped buffer zone present yes

Is the wetland a separate hydraulic system? \_\_\_\_\_ If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T24-3001

Latitude 370780.3 Longitude 4449213.3

Prepared by: P. Sharp Date 8-26-14

Wetland Impact:  
Type \_\_\_\_\_ Area \_\_\_\_\_

Evaluation based on:  
Office \_\_\_\_\_ Field \_\_\_\_\_

Corps manual wetland delineation completed? Y \_\_\_\_\_ N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge		X	2,4,7		W-T24-3001 (abuts)
Floodflow Alteration	X		3,5,6,8,9,10,		
Fish and Shellfish Habitat		X	12,14		small darters
Sediment/Toxicant Retention		X	2,10,16		cow pasture, agi field
Nutrient Removal		X	8,10		
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other		X			

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use pasture/cropland Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? high

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T31-3002  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by: ECS Date 11/4/14  
 Wetland Impact:  
 Type PEM Area \_\_\_\_\_  
 Evaluation based on:  
 Office \_\_\_\_\_ Field X  
 Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	X		7		
Floodflow Alteration	X		2, 9, 10, 13		
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1, 2, 4, 9, 10, 13	X	
Nutrient Removal	X		3, 4, 7, 9, 10		
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? N

Adjacent land use pasture/cropland Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? high

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-731-3001  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by: E. Slagter Date 11/4/14  
 Wetland Impact:  
 Type PEM Area \_\_\_\_\_

Evaluation based on:  
 Office \_\_\_\_\_ Field X  
 Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	X		7		
Floodflow Alteration	X		2, 9, 10, 13		
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1, 2, 4, 9, 10, 13	X	
Nutrient Removal	X		3, 4, 8, 7, 9, 10		
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use ag and forest Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present P&M Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? High

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) \_\_\_\_\_

Wetland I.D. W-743-3001

Latitude 371308.2 Longitude 444902900

Prepared by: JS Date 4/29/15

Wetland Impact:  
Type P&M<sup>JS</sup> Area \_\_\_\_\_

Evaluation based on:  
Office \_\_\_\_\_ Field X

Corps manual wetland delineation completed? Y X N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	X		7, 8, 10, 12		
Floodflow Alteration		X			
Fish and Shellfish Habitat	<del>X</del> <sup>JS</sup>	X	3, 4, 10, 12, 16, 17 <sup>JS</sup>		
Sediment/Toxicant Retention	X		4, 10, 13, 16 <sup>JS</sup>		
Nutrient Removal	X		3, 5, 14		
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X		3, 5, 17,		
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

\* Refer to backup list of numbered considerations.

# Wetland Function-Value Evaluation Form

Total area of wetland \_\_\_\_\_ Human made? \_\_\_\_\_ Is wetland part of a wildlife corridor? \_\_\_\_\_ or a "habitat island"? \_\_\_\_\_

Adjacent land use pasture Distance to nearest roadway or other development \_\_\_\_\_

Dominant wetland systems present P&M Contiguous undeveloped buffer zone present \_\_\_\_\_

Is the wetland a separate hydraulic system? N If not, where does the wetland lie in the drainage basin? \_\_\_\_\_

How many tributaries contribute to the wetland? \_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-T 30-700

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Prepared by: EP Date 10/24/2014

Wetland Impact: Type  Area \_\_\_\_\_

Evaluation based on:

Office \_\_\_\_\_ Field

Corps manual wetland delineation completed? Y  N \_\_\_\_\_

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6,7		
Floodflow Alteration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5,6,9,10,13		
Fish and Shellfish Habitat	<input checked="" type="checkbox"/>		8,9,17		
Sediment/Toxicant Retention	<input checked="" type="checkbox"/>		11,2,4,10,11,14,16	<input checked="" type="checkbox"/>	
Nutrient Removal	<input checked="" type="checkbox"/>		4,7,9,10		
Production Export		<input checked="" type="checkbox"/>	7		
Sediment/Shoreline Stabilization	<input checked="" type="checkbox"/>		1,2,3,9,7,10	<input checked="" type="checkbox"/>	upstream sed. from sources from ag
Wildlife Habitat		<input checked="" type="checkbox"/>	3,8		
Recreation		<input checked="" type="checkbox"/>	-		
Educational/Scientific Value		<input checked="" type="checkbox"/>	-		
Uniqueness/Heritage		<input checked="" type="checkbox"/>	-		
Visual Quality/Aesthetics		<input checked="" type="checkbox"/>	-		
ES Endangered Species Habitat		<input checked="" type="checkbox"/>	-		
Other					

Notes:

\* Refer to backup list of numbered considerations.

# **APPENDIX C**

## **Hibred Farms Permittee-Responsible Mitigation Plan**