# Permittee-Responsible Mitigation Plan for the FM100 Pipeline Project

## **Wildcat Hollow PRM Site**

Hamlin Township, McKean County, Pennsylvania National Fuel Gas Supply Corporation



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Revised December 2020



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#### 1.0 Introduction

First Pennsylvania Resource, LLC. (FPR), a wholly-owned subsidiary of Resource Environmental Solutions (RES), is proposing this Permittee-Responsible Mitigation (PRM) Plan on behalf of National Fuel Gas Supply Corporation (NFGSC or Permittee) to compensate for unavoidable impacts to waters of the United States (U.S.) associated with the FM100 Pipeline Project (Project). FPR has prepared this PRM Plan in accordance with the *Compensatory Mitigation for Losses of Aquatic Resources Final Rule* issued on April 10, 2008 as detailed in 33 CFR §332.4(c) of the Federal Register (Volume 73, Number 70). This document addresses the required mitigation that will be provided at FPR's Wildcat Hollow PRM (Wildcat Hollow or PRM). The proposed mitigation will offset temporary and permanent conversion impacts to Exceptional Value (EV) and non-EV Palustrine Scrub-Shrub (PSS) and Palustrine Forested (PFO) wetlands occurring in McKean and Potter Counties, Pennsylvania (PA) through vegetative enhancement of existing EV wetlands associated with a Naturally Reproducing Trout Stream (Marvin Creek). Subsequent to the original September submittal, the PRM Plan and proposed boundary has been revised to compensate for additional mitigation needs.

The PRM, located in Hamlin Township, McKean County PA, is approximately 1.5 miles northeast of Hazel Hurst and 8.5 miles southwest of Smethport, PA. A site location map that shows the location of the PRM is provided as Figure 1: Site Location Map (Appendix A: Figures). Figure 1: Site Location Map also depicts the approximate distance of the proposed PRM Site in relation to the Project. Figure 2: PRM Area Map, shows the location of the PRM Site.

The physical address and approximate center coordinates of the PRM Site are provided in Table 1 below.

Table 1: PRM Site Location Information					
Physical Address:	13207 US-6, Mt Jewett, PA 16740				
Coordinates:	41°43'7.158"N 78°33'29.619"W				

Driving directions from Mansfield PA are as follows:

- 1. Head west on US-6 W/E Wellsboro St toward S Main St (12.7 miles);
- 2. Turn left onto Main St (0.5 miles);
- Continue onto PA-660 W/West Ave (2.6 miles);
- 4. Continue onto PA-362 W (5.3 miles);
- 5. Turn left onto US-6 W (34.2 miles);
- Turn left onto N Main St (0.3 miles);
- 7. Turn right onto Chestnut St Pass by Dollar General (on the right) (0.2 miles);
- 8. Continue onto US-6 W/Eulalia St Continue to follow US-6 W Pass by Fox's Pizza Den (16.8 miles);
- 9. Turn left to stay on US-6 W (9.4 miles);
- 10. Turn left onto US-6 W/Marvin St Continue to follow US-6 W (8.7 miles);
- 11. Destination will be on the right

FPR and the Permittee request to be contacted prior to visiting the PRM Site, as landowner coordination is required.

FPR will act as the mitigation services agent (Agent) on behalf of the Permittee. On behalf of the Permittee, FPR 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 PA Department of Environmental Protection (DEP) Chapter 105 Rules and Regulations regarding wetland replacement criteria guidelines and 33 CFR § 332.3.

## 2.0 Objectives

Construction of the Project will result in temporary and permanent conversion impacts to EV and non-EV PSS and PFO wetlands. Mitigation will be required for the wetland impacts occurring in McKean and Potter Counties, PA. Table 2: Objectives Summary Table provides a summary of pre-and post-restoration resources for the PRM Site in addition to the mitigation requirements.

Table 2: Objectives Summary Table								
PRM Site Pre- and Post-Resources				Mitigation Needs Summary				
Resource		Existing Acres*	Proposed Acres	Resource	Resource Impact Area (Acres)		Mitigation Need (Acres)	
	DEM	M 4.59	0.00	EV PSS	1.85	1.75 :1	3.24	
Wetland	PEM			Non-EV PSS	0.00	1.5 :1	0.00	
(Acres)	PSS	1.36	0.00	EV PFO	0.97	2.5 :1	2.42	
	PFO	0.00	5.95	Non-EV PFO	0.14	2.0 :1	0.28	
Totals		5.95	5.95		2.96		5.94	

<sup>\*</sup>Existing wetlands at the PRM Site are all considered EV due to their connection to Marvin Creek, a Naturally Reproducing and Stocked Trout Stream

To ensure that an overall loss of wetland functionality does not occur, and to address potential temporal losses of the impacted wetland functions, a 1.5:1 mitigation ratio for permanent and temporary impacts to PSS wetland will be applied. A 2:1 mitigation ratio for permanent and temporary impacts to PFO wetlands will be applied. A 1.75:1 mitigation ratio will be applied for permanent and temporary impacts to EV PSS wetlands. A 2.5:1 mitigation ratio will be applied for permanent and temporary impacts to EV PFO wetlands. Calculations are shown in Table 2: Objectives Summary Table, above.

Existing PEM and PSS wetlands onsite are proposed for enhancement as part of the mitigation requirements. Native wetland herbaceous and woody plantings, coupled with invasive species control, will re-establish a healthy vegetative community that will contribute to the restorative success of the PRM Site. The proposed restoration activities will enhance the functions and values that the PRM Site wetlands already perform, while also meeting the mitigation needs for the impacted functions and values as a result of the proposed Project. Permanent protection of the PRM Site will maximize the long-term potential for successful and sustainable mitigation.

#### 3.0 Site Selection

#### 3.1 Mitigation Banking

Consistent with the Compensatory Mitigation Final Rule ("Final Rule"), which establishes mitigation bank credits as the preferred method of compensatory mitigation for impacts to aquatic resources of the U.S. (332.3(b)(2)), the Permittee first sought to purchase approved mitigation credits from a mitigation bank within the Upper Allegheny River Subbasin (Watershed 16) to compensate for the anticipated EV and non-EV PSS and PFO wetland impacts resulting from the Project. Although RES has proposed the Conneauttee Creek Mitigation Bank within Watershed 16, RES does not anticipate that bank credits in this watershed will be available within the Project's permitting timeframe.

#### 3.2 In-Lieu Fee

In-Lieu fee crediting was not an option for the Project because no active In-Lieu fee programs were or are available.

#### 3.3 On-Site Mitigation

To minimize impacts to aquatic features and habitat areas, the Permittee limited the width of the proposed construction limits of disturbance (LOD) and permanent easements to the greatest extent practicable. The narrowed easement does not allow room for on-site restoration, and not all property owners are interested in providing larger easements that would provide space for effective on-site restoration. Even with larger easements, which could 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 also 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 and 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 agencies 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.

#### 3.4 Local Watershed Restoration

The Project is linear, extending 29.5 miles and crossing 9 HUC 12 subwatersheds. It would not be feasible or ecologically beneficial to distribute the mitigation locally across small piecemeal sites in all of the impacted watersheds. The selected mitigation site is located in the same HUC 08 watershed (Subbasin 16) as the impacts, and portions of the Project fall within the same HUC 12 watershed (Marvin Creek, 050100010103) as the selected mitigation site.

#### 3.5 Selected Mitigation Site

The selected PRM site is strategically located in the floodplains of a watershed that will benefit from the wetland enhancement efforts while ensuring optimal replacement of functions and values lost as a result of the Project. The existing conditions of the PRM Site wetland area make this an attractive site from a mitigation perspective. The PRM Site has been degraded through anthropogenic alterations including historic agricultural activities, pasture use, construction of roads, utilities, and a since-abandoned railroad. Surrounding land uses consist of residential homes, with large tracts of agricultural land and supporting infrastructure (livestock buildings such as farms and sheds). The adjacent Marvin Creek and unnamed tributaries (UNT) to Marvin Creek are designated as a cold water fishery (CWF) according to Section 93.9: Designated Water Uses and Water Quality Criteria of the PA Code Chapter 93: Water Quality Standards. Marvin Creek is also a Naturally Reproducing Trout Stream and is stocked in portions by the Pennsylvania Fish and Boat Commission. As a result, all wetlands along Marvin Creek area designated as EV and their restoration will replace EV wetland impacts associated with the Project.

Currently, the PRM Site is characteristic of a degraded PEM/PSS wetland/upland complex. The PRM Site was historically subjected to active livestock grazing, resulting in a heavily degraded ecological system. The construction of overhead utility lines and roads have also contributed to physical and hydrological alternations, as well as the dominance of invasive and non-native plant species, including multiflora rose (*Rosa multiflora*), reed canary grass (*Phalaris arundinacea*), and narrow-leaf cattail (*Typha angustifolia*).

The PRM Site will build upon many of the critical components of the Final Rule including the likelihood for success and sustainability, potential to maximize ecological uplift, the significance of the restored resources within the watershed, and the proximity of the impact and mitigation sites from a watershed perspective (both sites are in the Upper Allegheny Subbasin (Watershed 16). Providing functional benefits such as improvements to wildlife habitat, flood flow conveyance and alteration, nutrient removal/retention, invasive species removal, and long-term land protection will support healthy flora and fauna and aquatic resources

within the watershed. The likelihood of success and long-term ecological uplift were the most important factors that the Permittee considered.

The Permittee concluded that due to the ecological demands of the Project, entrusting the logistical and environmental aspects of compensatory mitigation to FPR would ensure the greatest likelihood of success and most effectively address watershed needs through off-site mitigation.

#### 3.6 Congruence with Watershed Needs

Marvin Run is a tributary of Potato Creek within the larger Cole Creek watershed of northcentral PA. The mainstem of Potato Creek is a trout-stocked fishery (TSF) from it's source to Cole Creek. From Cole Creek to the mouth, it is designated as a Warm Water Fishery (WWF). The tributaries that join Potato Creek vary between CWF and HQ-CWF except for the South Branch of Cole Creek, which is designated as an Exceptional Value (EV) waterway. These waters are included in the Allegheny River Headwaters Conservation Plan, which was developed by the Western Pennsylvania Conservancy and the Allegheny Regional office of the PADCNR (PADCNR, WPC, 2011). Several of the management recommendation goals outlined in the plans strongly align with the goals of the Wildcat Hollow PRM, including: "Promoting the benefits of watershed protection and the use of best management practices," "Protecting ecologically sensitive lands," "Protecting area waterways while increasing wildlife habitat opportunities," "Enhance aquatic habitats," and "Reduce impacts caused by invasive and nuisance species." The PRM objectives also support the McKean County Conservation District's 2019 Annual Report, which presented a goal of "Protecting, Maintaining, and Improving Water Resources" (McKean County Conservation District, 2019).

The Allegheny River headwaters region includes 18.5 square miles of wetlands, 94 percent of which are woody wetlands. Forested wetland areas provide critical habitat for species of waterfowl, turtles, and an assortment of other wildlife, and play a critical role in improving water quality, controlling flood waters, groundwater recharge, and providing recreational opportunities. Forested wetlands in this region are threatened by deforestation, and hydrologic alterations such as draining and damming.

The Allegheny River headwaters region provides habitat for 80 species of concern (including 23 plants, 18 dragonflies or damselflies, nine butterflies, eight fish, seven birds, five mammals, five reptile and five mussels), one geologic feature, and four natural communities. Primary sources of impairment identified in the Plan include agriculture, development of dirt and gravel roadways, oil and gas infrastructure, and habitat destruction/decreased wildlife populations. The proposed enhancement measures will help to offset local impairments and further the goals outlined by the PADCNR, WPC, and McKean County Conservation District.

A site protection instrument (SPI) on the PRM Site will provide protection in perpetuity from development and/or other potentially degradative land use types. Additionally, the PRM Site is currently overgrown with invasive species, namely reed canary grass, and the scrub-shrub areas are dominated by monocultures of silky willow. The PRM Site enhancement activities will employ an intensive invasive species management plan to halt the spread of invasive species. Non-native vegetation will be removed from the PRM Site through chemical and mechanical control methods. Invasive species treatment areas will then be replanted with additional native shrubs and a native wetland herbaceous seed mix. Monocultures of willow will be thinned and replanted with a more diverse mix of wetland tree and shrub species.

As shown in Figure 3: Ecological Inventory Map (Attachment 1, Figures), the PRM Site is located several miles from three PA Natural Heritage Program (PNHP) County Natural Heritage Inventory (CNHI) identified Core Habitat areas and their Supporting Landscapes. The PRM is also centrally located to the Allegheny National Forest, State Game Lands Number 62, and the Elk State Forest/State Park Complex.

The enhancement of the degraded wetlands on-site represents an opportunity to improve and protect this resource and its larger watershed. Conservation measures in this area are more important now than ever as ownership fragmentation, potential future development, and continued agricultural land use present challenges to land conservation.

## **4.0 Site Protection Instrument(s)**

The PRM Site will be protected by an SPI (in the form of a deed of restrictive covenant) in advance of the proposed activities outlined in this mitigation plan, ensuring the long-term protection of the site. The SPI will be recorded with the county courthouse after USACE/PADEP permit approval and with subsequent approval from the Permittee to move forward with mitigation. A sample of an SPI that would be filed upon permit approval is included as Appendix B: Site Protection Instrument. The SPI 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 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.

Entrusting the PRM to a third-party SPI 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, as described in Section 8.0: Performance Standards.

#### 5.0 Baseline Data

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

- Waters of the U.S. delineation and GPS location of the preliminary boundary;
- Pennsylvania Wetland Condition Level 2 Rapid Assessment;
- Flora community composition data;
- Land-owner interviews relative to historical and present site conditions including land use practices;
- Pennsylvania Natural Diversity Inventory (PNDI) review (no hits);
- Extensive photo and field note documentation; and
- General documentation of site conditions

#### 5.1 Land Use

Since approximately 1980, the PRM Site has been maintained as an open emergent dominated pasture with sections of scrub-shrub habitat throughout. Before then, the Site was utilized as farmland and heavy disturbance to the hydrology, vegetation, and soils were prominent. As depicted in Figure 4A: 1940 Historic Aerial (Appendix A, Figures) the PRM Site, and surrounding land, is characterized as agricultural farmland with a potential downstream wetland system including forested, scrub-shrub, and emergent vegetation surrounding Marvin Creek and its tributaries. This farming trend continued to at least, 1968 (Appendix A: Figures, Figure 4B: 1951 Historic Aerial & Figure 4C: 1968 Historic Aerial); but efforts appeared to have ceased at some point before 1990 (Appendix A: Figures, Figure 4D: 1990 Historic Aerial). As a result, existing habitat at the PRM Site has been actively altered, preventing succession to a forested wetland system.

The ecological resources have been and continue to be degraded through anthropogenic alterations including historic agricultural activities (i.e., land manipulation, road and drainage installation, and selective cutting), the construction and abandonment of a railroad, the installation and maintenance of utility lines, and the planting and maintenance of non-native pasture grasses.

#### 5.2 Soils

Based on the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey, the PRM Site is underlain by the Buchanan silt loam (BuC) and Philo silt loam (Ph) silt loams. These soil types are found on 0 to 3, 8 to 15, and 8 to 25 percent slopes landscapes. BuC soils are categorized as farmlands of statewide importance, found mostly on hillslopes, and are poorly and very

poorly drained. Ph soils are categorized as prime farmlands, poorly drained, and found mostly in floodplain locations. Figure 5: Hydric Soils Map is provided in Appendix A: Figures. The identified soils are typically documented in areas of depressions on till plains and are classified as hydric per the USDA-NRCS.

Field analysis indicated that partially hydric soils are dominant within the limits of the PRM Site. The soils documented across the PRM Site are generally comprised of a silt loam and consistently met the criteria for hydric soil indicator Depleted Matrix (F12).

#### 5.3 Wetlands & Waterways

The PRM was delineated by FPR in September 2020. The Wetland and Waterbody Delineation Report, depicting the identified resources, is provided as Appendix C: Wetland Report. Appendix A, Figure 6: Topographic Map shows the topographic contours and elevations at the PRM Site. The PRM Site, which has a contributing drainage of approximately 13.92 square miles, drains to Marvin Creek, a CWF per Section 93.9: Designated Water Uses and Water Quality Criteria of the PA Code Chapter 93: Water Quality Standards. Marvin Creek is listed as attaining its designated use for aquatic life. A drainage area map is provided in Appendix A: Figures, as Figure 7: Drainage Area Map.

Portions of the site occur within a Federal Emergency Management Agency (FEMA) 100-year floodplain. One wetland categorized by the National Wetland Inventory (NWI) wetlands as a Freshwater Emergent Wetland (PEMC) is documented within the PRM Site. Natural Hydrography Dataset (NHD) data indicates that one blue-line stream (Marvin Creek) travels through the PRM Site.

#### 5.4 Wetlands

The PRM Site consists of a relatively flat, floodplain upland/wetland mosaic, with both PEM and PSS wetlands bisected by Brites Road (Appendix A: Figures, Figure 8: Existing Conditions Map). Marvin Creek flows centrally through the wetland complex and all wetlands would have likely been one complex prior to the construction Brites Road. As Marvin Creek is a Naturally Reproducing and a Stocked Trout Stream, all hydrologically connected wetlands are considered to be EV according to 25 Pa. Code § 105.17. The wetlands are bordered by County Route 6 to the southeast and an abandoned railroad berm to the northwest. An overhead electrical ROW was installed within the wetland complex on both sides of Marvin Creek. Past construction of infrastructure, and a long history of agricultural use has resulted in degraded wetland communities that have been timbered, selectively cleared and grazed, and both physically and hydrologically impacted. Roadway and ROW runoff results in sedimentation and nutrient inputs resulting in the proliferation of invasive species.

The primary source of hydrology for on-site wetlands is groundwater augmented by surface runoff from adjacent streams and upland areas. In the PEM wetlands, dominant vegetation includes soft rush (*Juncus effusus*), grass-leaved goldenrod (*Euthamia graminifolia*), fox sedge (*Carex vulpinoidea*), and invasive reed canary grass in the herbaceous layer; occasional shrub pockets within the PEM wetlands include silky dogwood (*Cornus amomum*) and silky willow (*Salix sericea*). Within the PSS wetlands, the shrub layer is dominated by monocultures of either silky dogwood or silky willow; the dominants in the herbaceous layer include grass-leaved goldenrod, sensitive fern (*Onoclea sensibilis*), fringed loosestrife (*Lysimachia ciliata*), woolgrass (*Scirpus cyperinus*) and reed canary grass. Reed canary grass is dispersed throughout the complexes in smaller amounts but also localized in pockets which are complete monocultures. Wetland soils met the criteria for the Depleted Matrix (F3) and/or Redox Dark Surface (F6) hydric soil indicators.

#### 5.5 PA Wetland Level 2 Rapid Assessment

The PA Wetland Condition Level 2 Rapid Assessment Protocol (PADEP, 2017) was used to evaluate the existing and post-restoration wetland conditions at the PRM Site. The results from the data were then used to ensure that the wetlands being impacted as a result of the proposed Project are adequately offset via the restoration of the PRM Site. The existing and post-restoration worksheets for the PRM Site are provided as Appendix D: PA Wetland Condition Level 2 Rapid Assessment Forms. A discussion of the results of the data are provided in Section 6.1 Functional Impacts and Proposed Functional Uplift below.

#### 5.6 Rare, Threatened and/or Endangered Species Consultation

A Pennsylvania Natural Diversity Index (PNDI) Environmental Review was completed on September 1, 2020. The PNDI review indicated that no known impacts to threatened and endangered and/or special concern species and resources are anticipated within the Wildcat Hollow PRM Site. Therefore, no further coordination is required with the jurisdictional agencies. The most recent PNDI receipt is provided in Appendix E: PNDI Receipt.

## **6.0 Determination of Mitigation Needs**

#### 6.1 Functional Impacts and Proposed Functional Uplift

As previously mentioned, the PA Wetland Condition Level 2 Rapid Assessment Protocol (PADEP, 2017) was used to evaluate the existing and post-restoration wetland conditions at the PRM Site. The results from the data were then used to ensure that the wetlands being impacted as a result of the proposed Project are adequately offset by the restoration of the PRM Site. The existing and post-restoration worksheets for the PRM Site are provided as Appendix D: PA Wetland Condition Level 2 Rapid Assessment Forms.

The PRM Site post-restoration overall condition score was compared to a weighted average overall condition score of the Project impacted wetlands to ensure that the restoration site and activities adequately compensate for the Project impacts. As shown in Table 3: Summary of Project and PRM Site Wetland Condition Level 2 Rapid Assessment Overall Condition Index (CI) Scores below, given the significant uplift the proposed restoration will provide, the PRM Site provides mitigation above and beyond the mitigation needs of the Project.

Table 3: Summary of Project and PRM Site Wetland Condition Level 2 Rapid Assessment Overall Condition Index (CI) Scores					
Project Weighted Average CI	0.78				
PRM Pre-Restoration CI	0.55				
PRM Post-Restoration CI	0.78*				

\*Note: The proposed restoration will result in significant uplift of functions and values at the PRM Site.

As demonstrated in Table 3: Summary of Project and PRM Site Wetland Condition Level 2 Rapid Assessment Overall Condition Index (CI) Scores, the expected functional ecological uplift within the restored wetland will, in addition to the acreage calculations as described in Table 4: Mitigation Summary Table, meet the required mitigation offsets to the functions and values that will be lost as a result of the Project.

The impacted wetlands coincide with pipeline ROWs, well pads, and access roads, some agricultural and residential areas, and activities resulting from maintenance of these areas. Existing impacted wetlands exhibit stressors from vegetative alterations including compaction from ATV usage, ROW clearing, clear cutting or brush cutting (mechanized removal of shrubs and saplings) as well as hydrologic modifications in the form of culvert installation, ditching, draining, filling/grading, spring box/PVC pipe installation, microtopographic alterations and adjacent stream alterations. Sediment stressors include ATV use, rutting associated with access roads and maintenance of oil and gas infrastructure, and active grazing in agricultural areas. Additionally, some roadbed presence was noted within the wetland zone of influence. Wetlands that are anticipated to be permanently impacted may experience a net decrease in the following functions and values: wildlife habitat, production (nutrient) export, and floodflow alterations. The loss of wetland functions at the impact project will be offset accordingly at the PRM Site.

As demonstrated in the PRM Site PA Wetland Condition Level 2 Rapid Assessment post-restoration forms, removing invasive and non-native vegetation and re-planting the PRM Site with a diverse native-community will increase the community structure as well as the vegetative diversity and density of the PRM Site. Restoration of the PRM Site will improve the overall wetland zone of influence, as well as the vegetation condition indices. Plantings and seedings proposed across the PRM Site will improve the effectiveness of the wetland in reducing flood damage by increasing water retentions for prolonged periods following precipitations events and the gradual release of floodwaters. This improved functionality will help deal with

any sediment stressors that may be present within the immediate surrounding landscape. Furthermore, because sources of excess sediment exist within the surrounding landscape, the restored PRM Site wetland will be better capable of reducing or preventing degradation of water quality as it will act as a trap for sediments, toxicants and/or pathogens in runoff water. Increased vegetative diversity, including plant community structure, and density will be able to retain higher volumes of water than under normal or average rainfall conditions, supporting additional stability of the wetland ecological system and its buffering characteristics, and thereby providing social and economic value related to erosion and flood prone areas. Restoration activities proposed for the PRM Site will also enhance the quality and quantity of wildlife habitat available within the PRM Site.

The post-restoration wetland system will exhibit a diverse plant community structure and will offer a greater and wider range of usable products for wildlife. This will improve the value and functionality of the habitat for various types and populations of animals typically associated with wetlands. Native vegetation will encourage a greater opportunity for a diverse vegetative community to develop. Furthermore, appropriate native vegetation will improve the ecological integrity of the enhanced wetland, as the wetland will build resilience and become self-sustaining and able to accommodate stress and change. The PRM Site therefore plays an important role in the larger ecological system and encompassing watershed.

Current functionality is expected to improve considerably because of restoration efforts. The expected functional ecological uplift the wetland will exhibit as a result of restoration efforts, in addition to the acreage calculations as described in Section 7.0 Determination of Mitigation Needs, will both meet the required mitigation ratio and offset the functions and values that will be lost at the impact site.

#### 6.2 Project Impacts

Construction of the Project will result in temporary and permanent conversion impacts to EV and non-EV PSS and PFO wetlands in McKean and Potter Counties, PA. Table 4: Mitigation Summary Table provided below presents the impacts and mitigation needs of the Project. A ratio-based method is employed to ensure that the PRM Site provides a sufficient acreage of mitigation to meet the functional replacement needs of the Project. Additionally, Section 5.5 PA Wetland Level 2 Rapid Assessments provides a discussion of the how the conditions at the PRM Site will be improved and will provide offset for those lost as a result of the Project.

As shown in Table 4: Mitigation Summary Table below, mitigation ratios based on impact type (temporary or permanent) and by wetland Cowardian classification type (EV and non-EV PSS or PFO) are being used to determine final mitigation requirements.

Table 4: Mitigation Summary Table							
Resource	Impact Type	Impact Area (Acres)	Mitigation Ratio (X:X)	Mitigation Need (Acres)			
PSS	Perm	0.0000	1.5:1	0.0000			
P33	Temp	0.0000	1.5.1	0.0000			
EV PSS	Perm	0.2565	1.75:1	0.4489			
EV P33	Temp	1.5977	1./5:1	2.7959			
PFO	Perm	0.0000	2:1	0.0000			
PFO	Temp	0.1431	2.1	0.2861			
EV DEO	Perm	0.0211	2.5.1	0.0528			
EV PFO	Temp	0.9467	2.5:1	2.3668			
	Totals	2.9651 <sup>1</sup>		5.9506 <sup>1</sup>			
1. Numbers in this table differ slightly from table 2 based off of difference in rounding.							

#### 6.3 Proposed Mitigation

In order to offset impacts to PSS and PFO wetland as a result of the Project, FPR will implement enhancement across **5.95** acres of PEM/PSS wetlands at the PRM Site. Wetland enhancement activities will focus on the removal of non-native and invasive species, which will be replaced with planted native wetland shrubs and trees, and supplemental plantings as detailed in Appendix A, Figure 9: Planting Plan Map. Over time, the trees and shrubs planted in formerly PEM wetland areas will undergo natural vegetative succession, developing into a dynamic PSS mosaic condition before ultimately maturing into a predominantly forested (PFO) condition across the site. Within the existing PSS wetlands, minor thinning and shrub/tree planting will assist this process and increase woody diversity above the existing monocultures. This natural process of forest succession captures both PSS and PFO impacts as the PRM Site approaches its final mature PFO state.

Although there are overhead electric utilities abutting the proposed restoration wetlands, no work is proposed within these areas, and no credit is requested and no performance standards will apply. The primary invasive species that will be targeted are *P. arundinacea*, *Typha angustifolia*, and *R. multiflora*. Clearing the understory of invasive herbaceous plants will open up the understory for the application of the native seed mix; which in the enhancement areas will be a mixed facultative-obligate seed mix to include species which will more adequately respond to the micro-topographic variations and associated hydrology noted onsite (Appendix A. Figure 9: Planting Plan Map).

No restoration is proposed for the abutting Marvin Creek stream channel but because this stream is hydrologically connected to the PRM Site wetlands, the benefits of the proposed mitigation will serve to buffer the downstream high-quality aquatic resources on-site, downstream, and in the larger watershed.

## 7.0 Mitigation Work Plan

#### 7.1 Wetland Enhancement Approach

Restoration activities will include vegetative enhancement and protection of the wetland resources within the bounds of the PRM Site. Appendix A: Figures, Figure 9: Planting Plan Map shows the proposed restoration activities and proposed planting/seeding lists for the PRM Site. Ecological lift will be achieved by protecting the area from anthropogenic activities, restoring historic habitat conditions, planting and seeding of native plant species to restore the native plant community, and controlling invasive species.

The restoration work will focus on the establishment of a forested wetland complex throughout the enhancement areas. The proposed PFO wetland system is anticipated to exhibit a PFO dominated wetland mosaic at maturity and include pockets of PEM and PSS enclosed or surrounded by a forested canopy, adding to habitat heterogeneity and complexity. Based upon the noted hydrology on-site, trees and shrubs will be planted per their hydrologic needs and adaptability, with trees and shrubs that are able to tolerate wetter conditions installed in and around inundated and/or fully saturated areas.

Within the PEM areas, a high density of shrubs is proposed to encourage natural successional trends, aid in the shading out of invasive species as tree species grow and establish, and help establish woody stands in wetter conditions. Within existing PSS wetland areas, existing largely as a monoculture of silky willow (*Salix sericea*), minor thinning of the thickets will be performed strategically to allow invasive species management and planting of a more diverse assortment of tree species.

A floodplain seed mix (Ernst Mix #154) will be applied to all wetlands, focusing on areas in which diversity is low, and in all areas in which invasive species control is implemented to ensure native vegetation replaces the invasives. Woody enhancement plantings and wetland seed mixes as shown in Figure 9. Planting Plan Map, were chosen strategically to reflect species native to the physiographic region.

#### 7.2 Wetland Enhancement Sequence

The wetland enhancement process will involve diligent invasive species management and replanting efforts. Initial restoration work, specifically during Year 1, will involve the application of an aquatic approved chemical herbicide to the invasive species within the PRM Site. Conservation area signage will able be

installed to demarcate the PRM Site boundaries. The PRM Site will be controlled either early or late in the growing season while native species are dormant to avoid adverse impacts to native vegetation present within the PRM Site. Following initial weed control efforts, and depending on the time of year and season, the initial seeding and planting will be conducted. If the time of year is late summer or fall, planting will be postponed until the appropriate planting window. During the appropriate planting window, native herbaceous plants will be installed following a weed control event. Weed control activities will require follow-up monitoring to ensure effectiveness of the control method(s).

After the initial weed control efforts, the site will be prepared for planting, which may include some selective mowing to allow for the installation of native plant seed and selective brush cutting within the PSS wetlands. A variety of native trees and shrubs will be planted at the PRM Site, as summarized in Figure 9. Planting Plan Map. Please note that the specific list may change slightly based on time of year that planting occurs and stock availability.

The initial planting will be conducted in a manner that will allow for continued mechanical weed control of the newly seeded enhancement area during the first three years of establishment. This is to prevent weedy species from becoming established within the PRM Site while the native seeds germinate and grow, and to ensure enough light gets through to the establishing seeds, trees, and shrubs. Selective trimming may be used as needed to ensure enough light is getting through to developing tree seedlings.

As described above, a facultative floodplain seed mix (Ernst Mix #154) will be applied to all wetlands, focusing on areas in which diversity is low due to the presence of invasive species to ensure native vegetation replaces the invasive at an approximate rate of 20 lbs/acre). Woody planting material will consist of a mix of wetland tree and shrub species (1-gallon containerized material) at a rate of 400 stems/acre in the PEM wetlands and 150 stems/acre within the PSS wetlands will be used across the PRM Site.

All planted woody vegetation is subject to a 75 percent survivorship performance standard for the monitoring period beginning Year 2, with Year 1 results providing a baseline, as detailed in Section 8.0 Performance Standards. Tree tubes will be used as needed in order to minimize mortality due to herbivory; however, it is anticipated that some of the smaller sized tree material will be lost to herbivory and other natural causes. This will be documented during the yearly monitoring periods. After the first year, the mortality from smaller trees and shrubs that have been installed will be used to determine replanting needs for the PRM Site's second year of establishment. The replanting will occur in a random pattern within the original gridded matrix to eliminate the appearance of planted "rows" and return the area to its natural condition. If during the 5 Year monitoring period of the PRM Site, the planted woody plant survivorship falls below 75 percent, supplemental plantings may be required to bring the PRM Site back into compliance with that success criterion.

#### 7.3 Maintenance Plan

The PRM Site will be monitored and maintained by FPR, as described in Section 10: Monitoring Requirements. 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 this PRM Plan.

Yearly maintenance will be documented in the annual monitoring reports 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 PRM Site for invasive species and adapt the yearly maintenance plan as needed based upon these observations.

In general, maintenance will be heaviest during the first 3 years of establishment, and will entail mechanical weed control events, along with two or 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.

In locations where wetland areas are too wet to allow mechanical access, manual chemical and mechanical weed control will be necessary. These areas can be threatened by more persistent perennial invasive species, specifically reed canary grass. Target weed control applied through spot application, coupled with mechanical weed control to stop any re-seeding will be the primary weed control techniques used in the wetter wetland areas.

#### 8.0 Performance Standards

The PADEP and USACE will use the best professional judgment, visual observations, and monitoring reports to evaluate attainment of performance standards and to determine whether part or the entire PRM Site has successfully met the conditions of the permit. The following criteria will be used to assess project success:

In the vegetated wetland enhancement areas, success will be evaluated by:

- a. Invasive herbaceous plant coverage will not exceed 20 percent during Year 1 monitoring and 10 percent each year thereafter.
- b. Native herbaceous plant coverage will be at least 60 percent by the end of the first full monitoring year, 80 percent by the end of the second full monitoring year, and at least 85 percent each monitoring year thereafter.
- c. Planted woody plant survivorship will be 75 percent following Year 1 monitoring. Plant survivorship will be determined from data collected through sampling at post-restoration monitoring locations.
- d. Each year during the monitoring period of the PRM Site, all planted woody vegetation shall exhibit an average increase in height from the previous year.
- e. By the fifth monitoring year (Year 5 following construction), trees will exhibit an average height of 8 feet and planted woody shrubs exhibit an average height of 5 feet or a density of 300 healthy stems per acre including volunteers, will be achieved.

## 9.0 Monitoring Requirements

On behalf of the Permittee, FPR will monitor the PRM Site to demonstrate compliance with the Performance Standards detailed in Section 8.0: Performance Standards. The representative monitoring plots are illustrated in Figure 10: Monitoring Map (Appendix A. Figures). Monitoring will follow the guidelines established below:

- 1. <u>Visual Description</u>. Visual descriptions will be provided for the entire site. Visual observations will also be used to evaluate the percentage of invasive species present. Photos will be taken at the wetland monitoring plot and included with each monitoring report. Photos will be taken at ground level, facing north, south, east and west. The same photo location points at the monitoring plot will be used to allow for pre and post restoration comparisons.
- 2. Vegetation. Immediately following initial planting, FPR will establish permanent monitoring plots for wetlands within the mitigation area. Plots will be marked using 8-foot PVC pipe anchored with a metal T-post at plot center and GPS coordinates will be recorded. At each monitoring plot, herbaceous vegetation will be monitored in a 5-foot radius plot and woody vegetation will be monitored in a 20-foot radius plot. Monitoring plots may be adjusted as necessary to accommodate PRM Site boundary limits, whereby adjustments will occur such that the same square footage is accounted for. One monitoring plot will be stationed per acre for this PRM Site, for a total of 6 monitoring plots encompassing both PEM and PSS community types. Permanent monitoring plot will provide data to evaluate the survival rate of planted vegetation including number, species, and survivorship. Reports will also reflect information regarding herbaceous plant species including the facultative wetland plant status [obligate (OBL) to upland (UPL)] per the USACE regional plant list

(Lichvar 2016) of each plant, the percent of each species, and whether the species is native, introduced, or invasive.

Monitoring activities will occur over a five-year period. During the first two years, monitoring will occur two times per year, once during the spring growing season (typically between April and June) and once during the fall growing season, typically between September and October. Monitoring will occur once annually during the fall growing season for the remaining three years for which monitoring is required. If all Performance Standards (Section 8.0: Performance Standards) have not been met in the fifth year, then a monitoring report will be required for each consecutive year until all standards have been successfully satisfied. Submittal of a final monitoring report (typically prepared the fifth growing season following completion of restoration activities, including planting) will be required.

Please note that additional site visits will occur as part of the maintenance activities at the PRM Site. Maintenance activities, as discussed in Section 7.3 Maintenance Plan, involve invasive species control, deer deterrent application, mowing and supplemental planting if necessary. These site visits serve as monitoring assessment opportunities that aid in determining both the effectiveness of earlier management activities and determine management techniques to be employed throughout the future establishment of the PRM Site.

### 9.1 Monitoring Reports

On behalf of the Permittee, FPR will submit monitoring reports to the PADEP and USACE following each formal monitoring event during the five-year monitoring period. As such, two monitoring reports will be submitted for the first two years monitoring occurs, and one monitoring report will be submitted for the remaining three years for which monitoring is required. Monitoring reports following a spring monitoring event will be submitted within 90 days of when monitoring occurs. Monitoring reports following a fall monitoring event will be submitted by December 31st of that year.

Monitoring reports will include all data collected from the year's monitoring events, which will be used for comparison to the PRM Site's progress towards the performance standards found in Section 8.0: Performance Standards. If the PRM Site achieves all its performance standards prior to year 5, an early release may be requested from the USACE and PADEP. Additionally, reports will include the following discussions: success to date; maintenance and management activities conducted during that year; the proposed maintenance schedule for the following year based upon the results of the yearly monitoring; and any problems which have been or are being encountered. At a minimum, monitoring reports should also include the following:

- Photos taken from ground level at the monitoring plot to document overall conditions;
- A description of the general condition of the seedlings, including survival and mortality, and if applicable, a discussion of likely causes for mortality;
- A description of vegetative communities developing at each monitoring plot;
- A description of the generalized degree and distribution of exotic/invasive species and whether they are seed bearing trees or seedlings;
- Identification of measures used to eradicate exotic/invasive species and document results of these efforts;
- A corrective action or redial action plan to address deficiencies in Performance Standards, if applicable.

#### 9.2 As-Built Planting Plan

Following initial restoration activities, FPR will complete an as-built planting plan to show the general locations and quantities of the vegetative material that was planted. On behalf of the Permittee, FPR will submit the as-built planting plan as part of the first monitoring report to the regulating agencies following completion of the planting and first monitoring event for the PRM Site.

## 10.0 Long-Term Management Plan

To ensure the long-term sustainability of the project, FPR will 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. Long-term stewardship activities will include inspections, controlling invasive species, and boundary maintenance. Given the strong financial standing of the Permittee, no financial assurances are deemed necessary at this time.

PRM Site boundaries shall be marked with a metal post which reads "Conservation Area" to prevent casual trespass while allowing necessary access. During each site visit, notes will be made as to the condition of signs, crossings, and property boundaries. Recommendations to repair or replace signage, crossings, or property boundary markers will be made, if applicable.

FPR will be the initial designated Long-term Steward charged with long-term management and maintenance responsibilities. Once the site has met the Performance Standards detailed in Section 8.0 Performance Standards, FPR will continue to carry out the long-term management responsibilities at least every other year for ten years. Long-term management and maintenance responsibilities will then cease, and the site will remain protected into perpetuity by the terms of the site protection instrument. FPR may submit a request to the agencies to cease long-term management and maintenance responsibilities prior to the end of the ten-year period.

## 11.0 Adaptive Management Plan

An adaptive management plan including contingency, and remedial responsibilities will be implemented in the event monitoring reveals that certain performance standards 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, potential remedial actions that could be undertaken, an assessment of risks, and an assessment of any adjustments that must be made to the maintenance and monitoring regime.

Ecological restoration is in its essence the practice of adaptive management. Due to the multitude of factors that affect a restoration project in a given year, the practitioner needs to be constantly assessing the site, and reacting to changing conditions as the site develops and matures. Usually, yearly variations are relatively minor and within the parameters of a given project's performance standards. These normal variations are noted through regular site visits, yearly monitoring reports, and yearly maintenance activities. Occasionally, rare instances arise which bring a project far outside of the defined range of its performance standards and more intensive remedial action is required. This adaptive management plan forecasts a few potential situations that could cause the proposed PRM Site to be well outside the range of its defined performance standards and how those instances would be addressed.

#### Wetland Vegetation

As the PRM Site is currently designed as a wetland enhancement site, all wetland areas have been delineated in accordance with the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont (Version 2.0) (USACE, 2012). Restoration activities at the PRM Site are not anticipated to result in changes that will negatively affect the hydrology; therefore, risk of hydrology changing is not expected. As such, risk of the seeding or planting failing due to hydrology is not anticipated, unless there is an unexpected and extreme drought. In that instance, any failure would be noted in the monitoring report, and replanting or reseeding would be conducted based on the results of the monitoring report.

Also of risk to wetland areas is a large-scale aggressive break out of invasive species. This risk is usually highest if grading is conducted in a restoration, as the exposed soil and lack of vegetative competition allows for easy succession by fast growing and aggressive invasive species such as reed canary grass. Since this PRM Project is using an enhancement approach, there is little to no risk of this happening. The existing native vegetation will be largely undisturbed and will be enhanced by supplemental plantings and seeding. Invasive species will be controlled on a yearly basis.

#### Invasive Species and Native Dominance

If at any point there was an intensive colonization of upland or wetland invasive species, which brought the total percent of invasive species well above the allowed performance standards, remedial action will be needed. The management technique used will be dependent on the type of invasive species colonizing the site (i.e. annual, or perennial, primary reproduction through vegetative spread or through seed). If the species are annual they can be managed via maintenance mowing and mechanical weed control methods to stop them from re-seeding into the site. After the seed bank is depleted, they drop out of the vegetative matrix. If they are perennial in nature, chemical herbicides need to be used; mechanical weed control is still used to stop further spreading through seed if they are a species that has high germination rates.

Once the invasive species control has begun, additional seeding or planting will need to be conducted to re-introduce a native plant community into the area of concern. Depending on the type of invasive species (i.e. broad leaf or monocot), replanting and reseeding strategies can be used to allow for continued chemical control of the invasive species in the area while still allowing the native species to germinate and develop.

The likelihood of this scenario is low; once established, native plant communities are actually quite resilient to invasion by invasive species as long as they are not disturbed or impacted. Invasive species issues on a restoration site tend to be most problematic during the first 2 years, because there is bare soil immediately available for germination and colonization immediately following construction, and there may be invasive species in the existing seed bank to germinate and establish. As previously stated, the primary restoration technique being used on this site is enhancement and therefore, the risk of this happening is extremely low.

In the event that the site is not meeting its performance standards for native herbaceous cover, additional seeding will be conducted. Again, the most important factor for establishing a healthy stand of upland herbaceous species is proper maintenance during the first 2 to 3 years of establishment, specifically mowing in upland areas. This ensures enough light is reaching the developing seedlings, while also eliminating competition from annual weedy species that may be trying to colonize the site. In the wetland areas, mowing cannot be conducted, but mechanical weed control with weed whips can be used.

#### 12.0 References

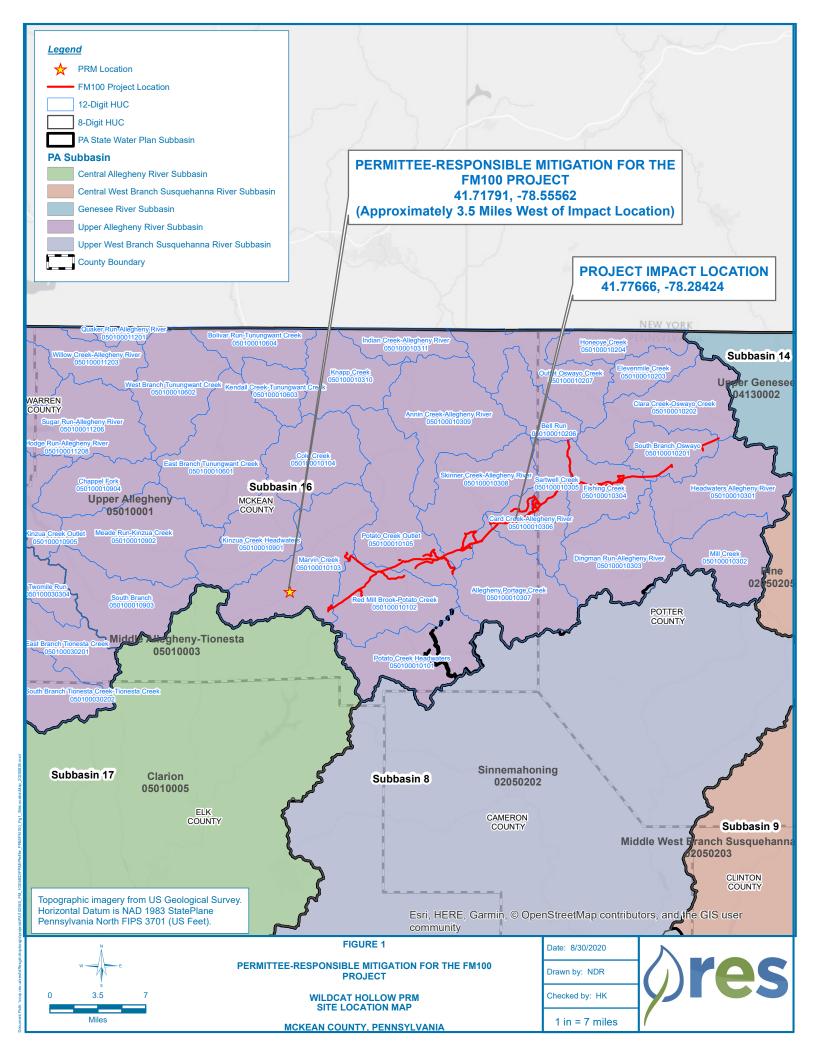
- Cowardin, D. M., Carter, V., Golet, F. C., and La Roe, E. T. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Publication No. FWS/OBS 79/31. United States Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. United States Department of the Army, United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Lichvar, R. W. and Kartesz, J. T. 2014. North American Digital Flora: National Wetland Plant List, Version 3.2. United States Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire, and BONAP, Chapel Hill, North Carolina.
- Federal Register (2008) Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. 33 CFR Parts 325 and 332. (Volume 73, Number 70). Rules and Regulations. http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008\_04\_10\_wetlands\_wetlands mitigation final rule 4 10 08.pdf
- McKean County Conservation District, 2019. 2019 Annual Report.

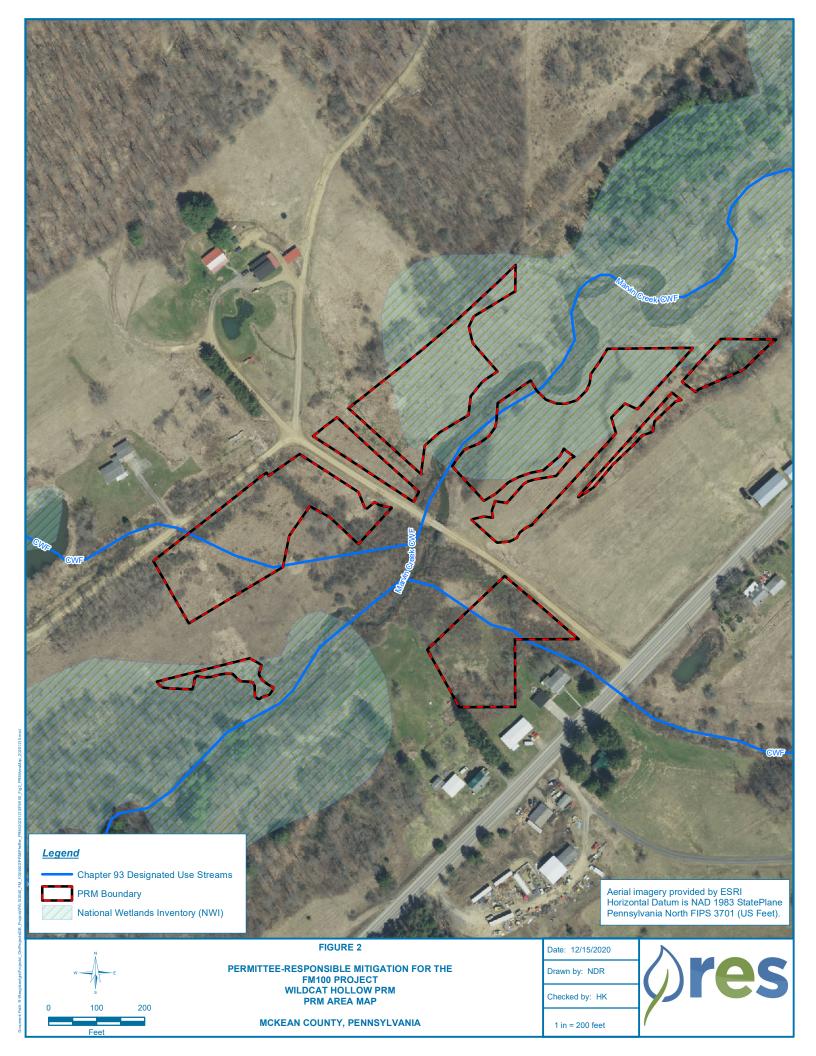
  <a href="https://www.mckeanconservation.com/uploads/6/7/8/8/67888663/annual report 2019.final.pdf">https://www.mckeanconservation.com/uploads/6/7/8/8/67888663/annual report 2019.final.pdf</a>.

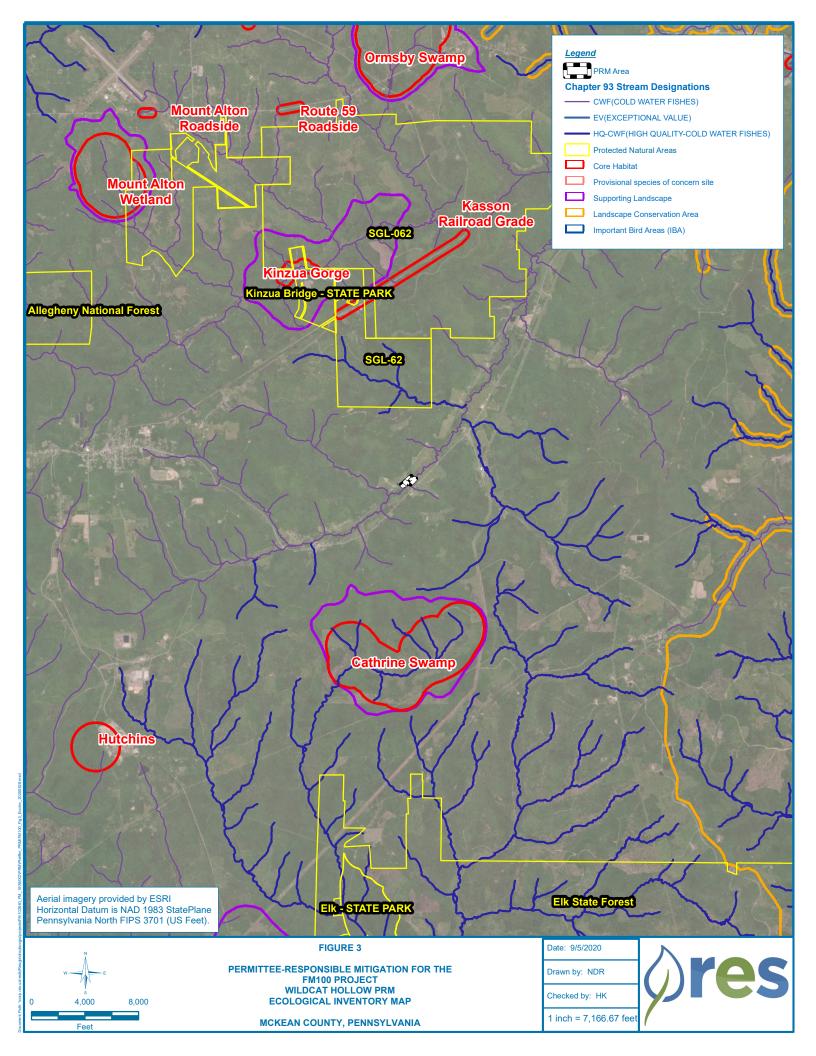
  Accessed September 4, 2020.
- PA Department of Conservation and Natural Resources, Western Pennsylvania Conservancy , Allegheny River Headwaters Conservation Plan, 2011. <a href="http://waterlandlife.org/assets/Allegheny%20Headwaters%20WCP%20Plan%20Final.pdf">http://waterlandlife.org/assets/Allegheny%20Headwaters%20WCP%20Plan%20Final.pdf</a>. Accessed September 4, 2020.
- PA Department of Environmental Protection Bureau of Waterways Engineering and Wetlands. 2017. PA Wetland Condition Level 2 Rapid Assessment Protocol. Available at: http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-13327.
- PA Natural Heritage Program. 2008. McKean County Natural Heritage Inventory. http://www.naturalheritage.state.pa.us/CNAI\_PDFs/McKean%20County%20NHI%202008%20WE B.pdf
- United States Department of Agriculture Natural Resources Conservation Service. Soil Survey for McKean County. <a href="http://soils.usda.gov/">http://soils.usda.gov/</a>.
- United States Department of Agriculture Natural Resources Conservation Service. The PLANTS Database.

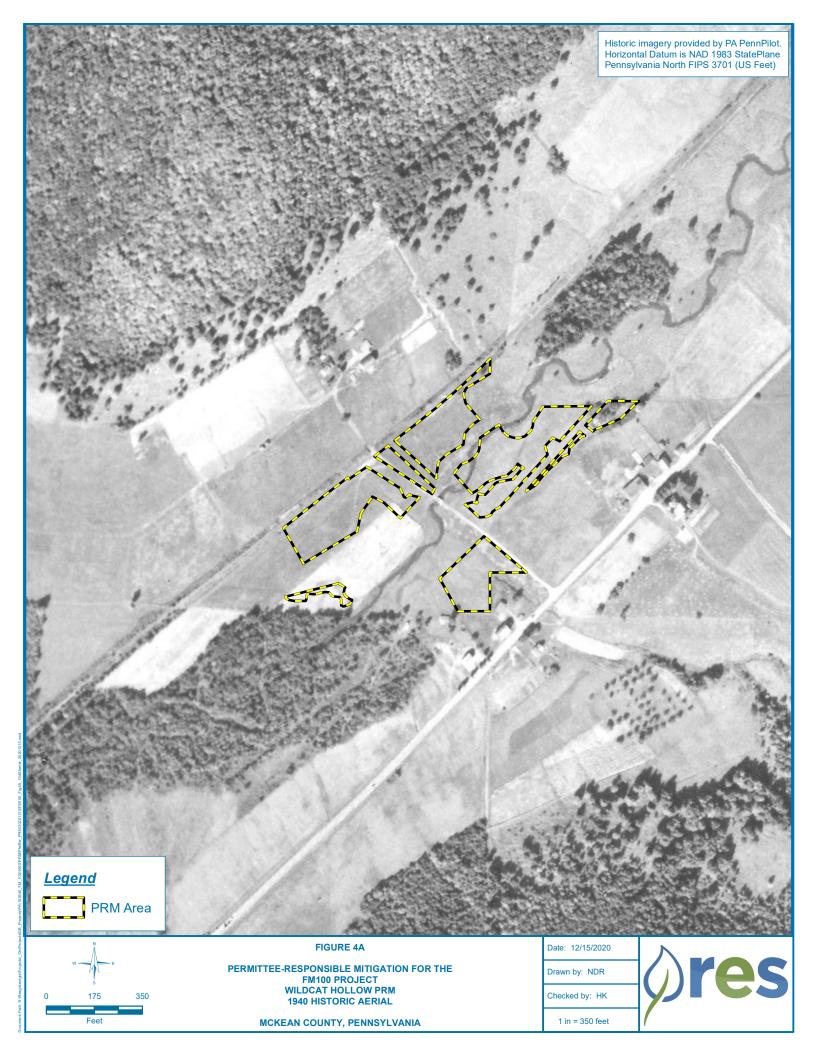
  National Plant Data Center. http://plants.usda.gov.
- United States Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region. (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, C. V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

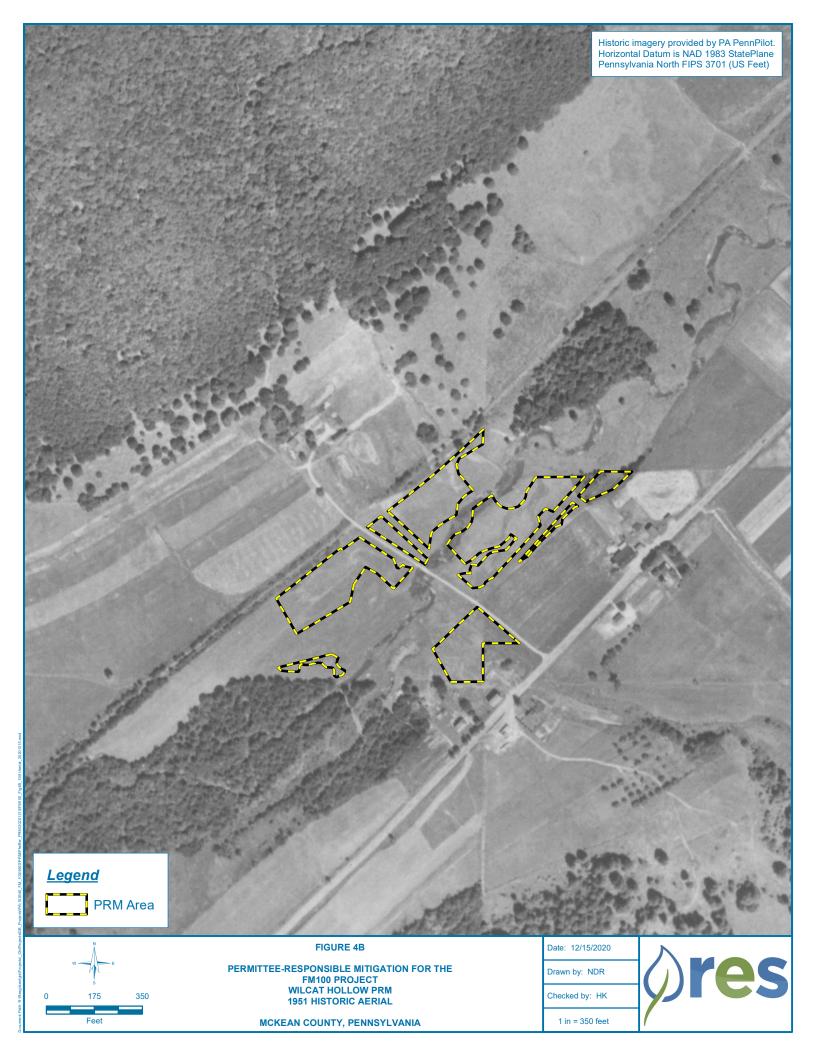
## APPENDIX A FIGURES

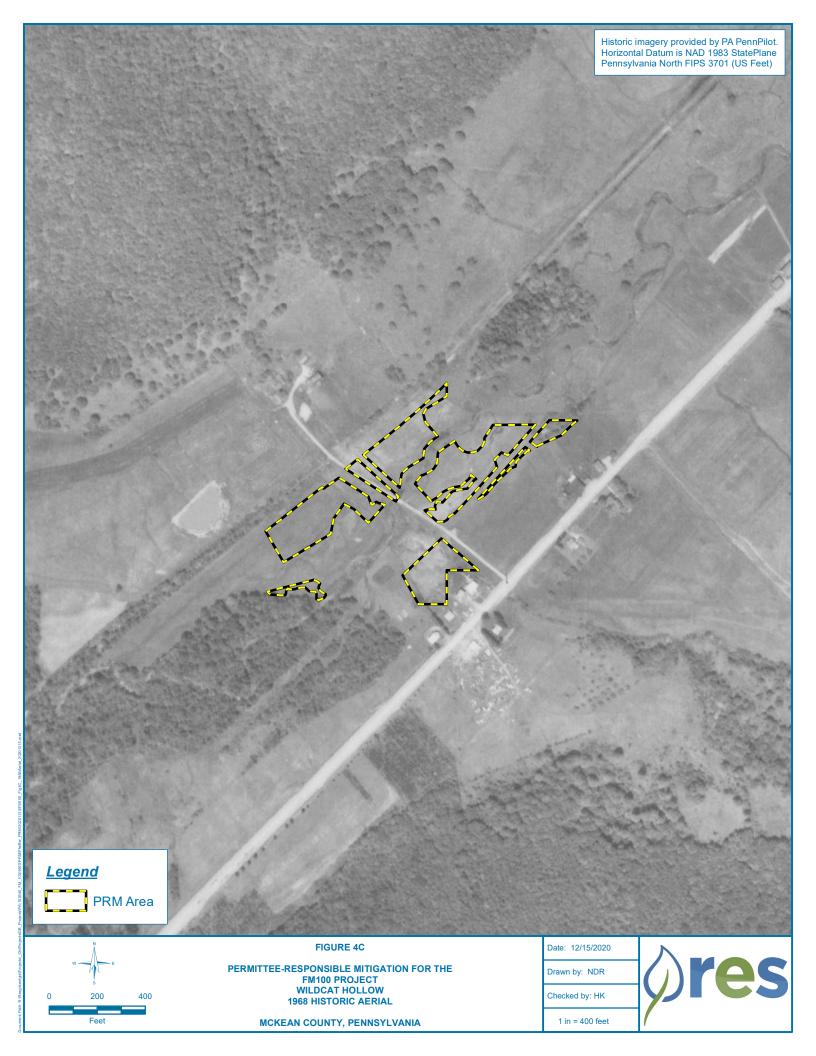


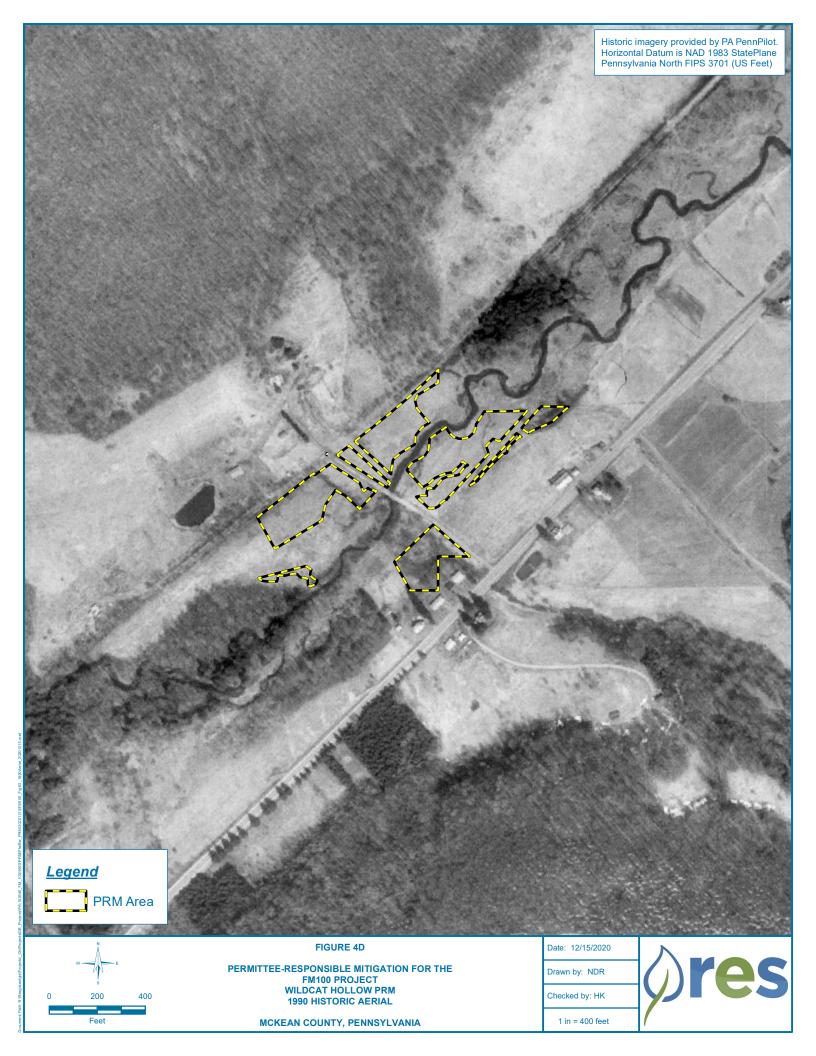


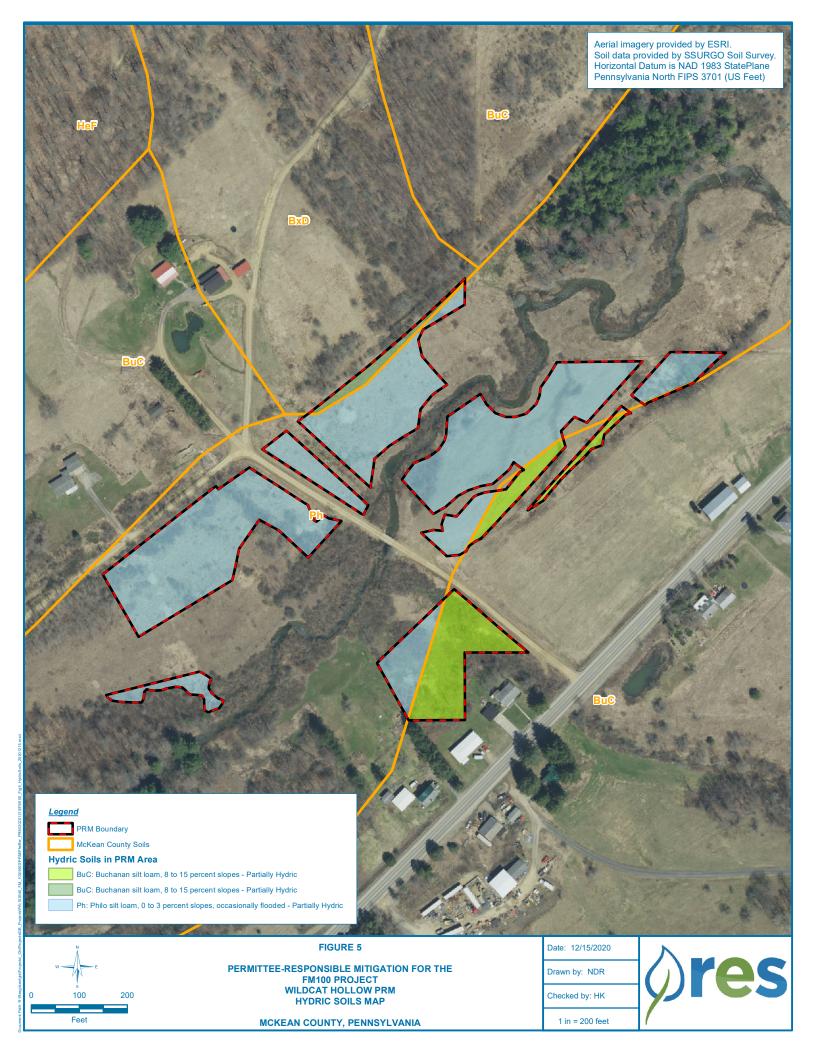


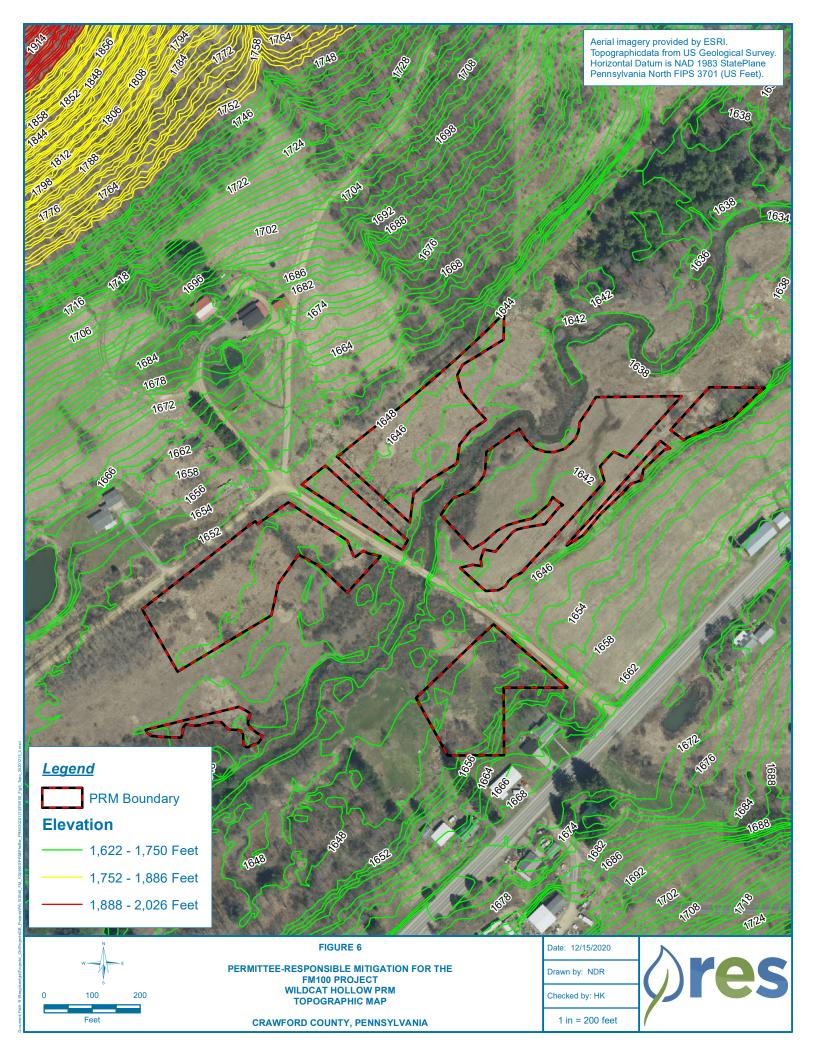


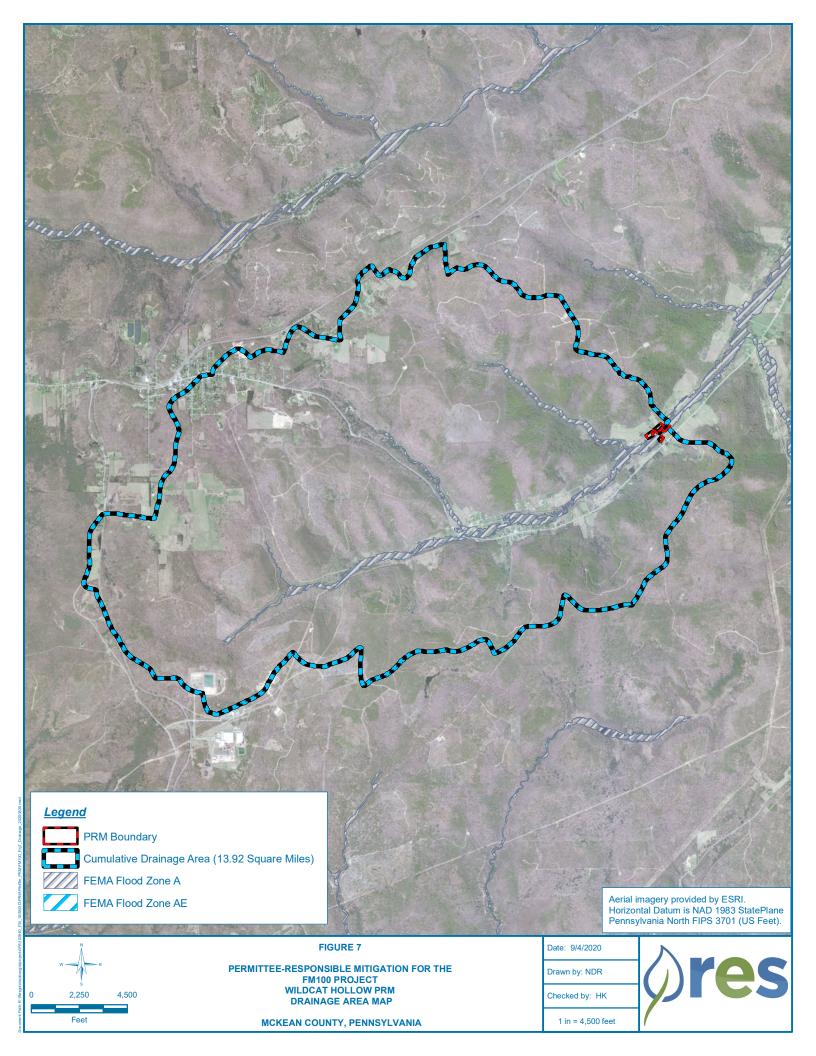




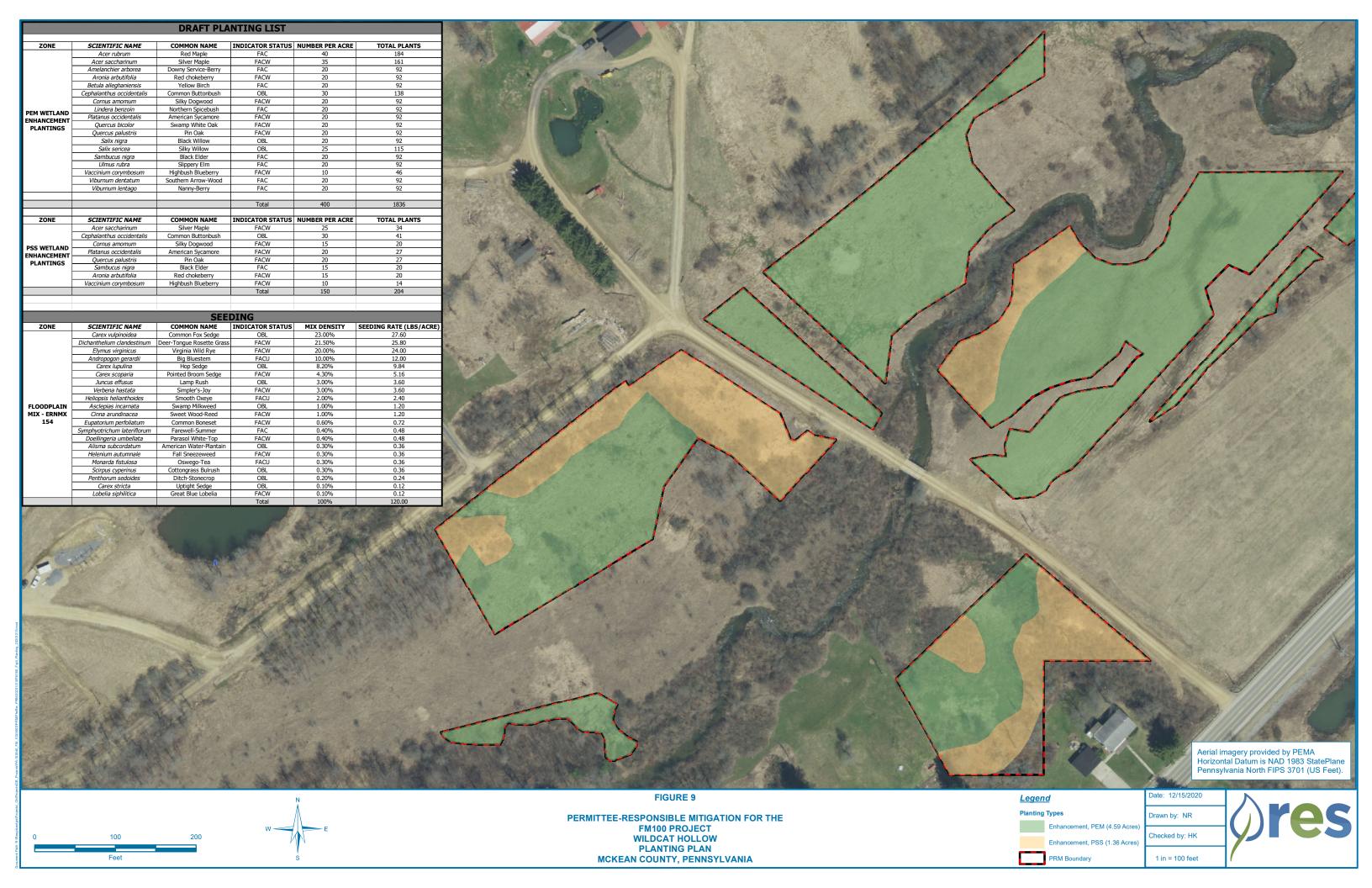


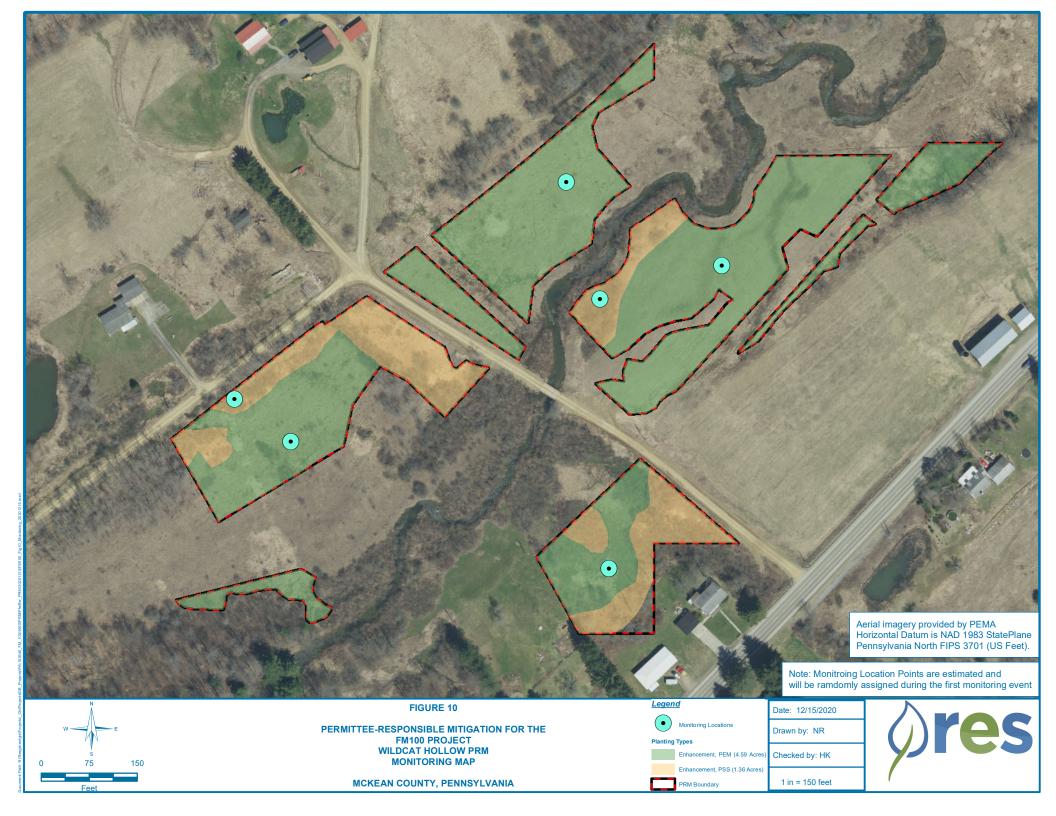












## APPENDIX B SITE PROTECTION INSTRUMENT

#### DECLARATION OF RESTRICTIVE COVENANT FOR CONSERVATION

This DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION
("Declaration") is made and entered into as of [date] by and between FIRST PENNSYLVANIA
RESOURCE, L.L.C., a Pennsylvania limited liability company, with a business address at 33
Terminal Way, Pittsburgh, PA 15219 ("Grantee") and, an [individual/
corporation/other organization] with a mailing address at [] ("Grantor").
RECITALS
WHEREAS, Grantor owns certain real estate located in County(ies),
Pennsylvania, consisting of acres, more or less, as described more specifically in
Exhibit A hereto (the "Property"); and
WHEREAS, Grantee is a Pennsylvania company in the business of stream and wetland
mitigation in the Commonwealth of Pennsylvania; and
WHEREAS, the Grantor has agreed to make a acre portion of the Property,
delineated in <b>Exhibit B</b> , where certain [stream and/or] wetland resources exist or may be created
and/or enhanced (the "Conservation Area"), subject to this Declaration; and
WHEREAS, the Grantor agrees to the creation of the Conservation Area described herein

WHEREAS, the Grantor agrees to the creation of the Conservation Area described herein and intends that the Conservation Area shall be preserved and maintained in perpetuity in an enhanced or natural condition, which will include functioning [streams and/or] wetlands; and

WHEREAS, the Conservation Area, or a portion thereof, is intended to be used in the future as mitigation for impacts to waters of the United States and/or waters of the Commonwealth of Pennsylvania authorized under U.S. Army Corps of Engineers ("Corps" to include any successor agency) or Pennsylvania Department of Environmental Protection ("PADEP" to include any successor agency) permit(s). Before, or at the time a Corps or PADEP permit or verification or a Mitigation Banking Instrument approves using this Conservation Area as mitigation: (1) the Mitigation Plan approved/required by such permit or Banking Instrument must contain a legal description of the portion of the Conservation Area to be used as mitigation or a Mitigation Bank; and (2) Grantee must record an addendum to this Declaration containing a legal description of the portion of the Conservation Area associated with each permit or Mitigation Bank, which references the applicable Corps and/or PADEP permit/verification number(s) or Mitigation Bank Site Name and any associated Corps/PADEP authorization/approval number(s). A form of the addendum to be used is attached to this Declaration as **Exhibit C**; and

WHEREAS, in recognition of the continuing benefit to the Property, and for the protection of waters of the United States and scenic, resource, environmental, and general property values, the Grantor and Grantee have agreed to place certain restrictive covenants on the Property, in order that the Conservation Area shall remain substantially in its natural condition forever; and

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WHI	EREAS,	the Grantor	and C	irantee agi	ree ar	id acknov	wledge that	this Declara	tıon,
including the	e rights a	uthorized to G	rantee	herein, sha	ıll be a	assignable	and transfer	rrable to Gran	tee's
subsequent	heirs,	successors,	and	assigns,	[if	Holder	known:	including	the
_		]; and			_			_	
[If Holder known: WHEREAS, the, a 501(c)(3) tax-exempentity registered with the Bureau of Charitable Organizations of the Pennsylvania Department of State, is a holder of this Declaration] and									

WHEREAS, this Declaration is constructed and covenanted to meet the requirements for conservation easements under the Pennsylvania Conservation and Preservation Easements Act, Act 29 of 2001, and as amended thereafter; and

NOW, THEREFORE, for good and valuable consideration and in consideration of the mutually held interests in enhancement and preservation of the environment, as well as the terms, conditions, and restrictions contained herein, and pursuant to the laws of the Commonwealth of Pennsylvania, Grantor does agree to the following terms and conditions:

#### A. **PURPOSE**

The purpose of this Declaration is:

- (1) To preserve, protect, and enhance the native flora, fauna, soils, water table, aquifer, drainage patterns, wetland resources and other related environmental functions and values of the Conservation Area;
- (2) To maintain the natural view shed of the Conservation Area in its native, enhanced, scenic and open condition;
- (3) To assure that the Conservation Area, including its air space, streams and other aquatic resources on or beneath the Conservation Area, and including, but not limited to, subsurface aquifers, springs, and the water table, will be maintained in perpetuity in its natural condition, as that may be enhanced, as provided herein; and
- (4) To prevent any use of the Conservation Area that threatens to or will impair, interfere with, or otherwise negatively affect its natural resource functions and values.

Grantor and Grantee [If known: and Holder] intend and agree that this Declaration will confine the use of the Conservation Area to such activities as are consistent with the purposes set forth herein.

#### B. ACCESS

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In order to achieve the purposes of this Declaration, the following rights are created in accordance with Pennsylvania law:

- (1) The Grantee shall have the right and Grantor acknowledges the right of [the holder(s) of this Declaration,] the Corps, the PADEP, and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration, to inspect the Conservation Area at reasonable times to monitor compliance with this Declaration. Except in cases of a threat of a physical or public safety emergency, such entry shall, when practicable, be upon reasonable prior notice to Grantor or its successors and assigns, and such entry shall not unreasonably interfere with the Grantor's or its successors' and assigns' use and quiet enjoyment of the Property.
- (2) The Grantor, Grantee, [holder(s) of this Conservation Declaration,] the Corps, the PADEP and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration, each shall have the right to enter upon the Property to access the Conservation Area at reasonable times and upon prior notice to the Grantor; and upon notice and written approval by the Corps may take appropriate environmental or conservation management measures within the Conservation Area consistent with the terms and purposes of this Declaration, including, but not limited to:
  - (a) planting of native vegetation (i.e. trees, shrubs, grasses, and forbs); and
  - (b) restoring, altering or maintaining the topography, hydrology, drainage, structural integrity, streambed(s), streambank(s), water quantity, water quality, any relevant feature of a stream, wetland, water body, or vegetative buffer within the Conservation Area.
- (3) The Grantor and Grantee, [holder(s) of this Declaration], the Corps, PADEP, and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration, shall each have the right to enforce the terms of this Declaration by appropriate legal proceedings in accordance with applicable law so as to prevent any activity on or use of the Property that is inconsistent with the purposes of this Declaration and to require the restoration of such areas or features of the Conservation Area that may be impaired or damaged by an inconsistent activity or use.

#### C. **DURATION**

This Declaration shall remain in effect in perpetuity, shall run with the land regardless of ownership or use, and is binding upon and shall inure to the benefit of the Grantor and Grantee's [if known – and holder's] heirs, executors, administrators, successors, representatives, devisees, and assigns, as the case may be, as long as said party shall have any interest in any portion(s) of the Conservation Area.

#### D. **RESTRICTIONS**

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Any activity in or use of the Conservation Area that is inconsistent with the purposes of this Declaration by the Grantor; subsequent property owner(s); and the personal representatives, heirs, successors, and assigns of either the Grantor or subsequent property owner(s), is prohibited. Without limiting the generality of the foregoing, and except when an approved purpose under B.(2) above, or as necessary to accomplish mitigation approved under the any permit(s) reliant upon this Declaration, the following activities and uses are expressly prohibited in, on, over, or under the Conservation Area, subject to the express terms and conditions below:

- (1) **Structures**. The construction of man-made structures including, but not limited to, the construction, removal, placement, preservation, maintenance or alteration of any buildings, roads, utility lines, billboards, or other advertising. This restriction does not include deer stands, bat boxes, bird nesting boxes, bird feeders, duck blinds, and the placement of signs for safety purposes or boundary demarcation.
- (2) **Demolition**. The demolition of fencing structures constructed by the Grantee for the purpose of demarcation of the Conservation Area or for public safety.
- (3) **Soils**. The removal, excavation, disturbance, or dredging of soil, sand, peat, gravel, or aggregate material of any kind; or any change in the topography of the land, including any discharges of dredged or fill material, ditching, extraction, drilling, driving of piles, mining or excavation of any kind.
- (4) **Drainage**. The drainage or disturbance of any aquifer, the surface water level or the water table.
- (5) **Waste or Debris**. The storage, dumping, depositing, abandoning, discharging, or releasing of any gaseous, liquid, solid, or hazardous waste substance, materials or debris of whatever nature on, in, over, or underground or into surface or ground water.
- (6) **Non-Native Species**. The planting or introduction of non-native or invasive species.
- (7) **Herbicides, Insecticides, and Pesticides**. The use of herbicides, insecticides, or pesticides, or other chemicals, except for as may be necessary to control invasive species that threaten the natural character of the Conservation Area. State-approved municipal application programs necessary to protect public health and welfare are not included in this prohibition.
- (8) **Removal of Vegetation**. The mowing, cutting, pruning, removal; disturbance, destruction, or collection of any trees, shrubs, or other vegetation, except for pruning, cutting or removal for:
  - a) safety; or
  - b) control in accordance with accepted scientific forestry management practices for diseased or dead vegetation; or
  - c) control of non-native species and noxious weeds; or
  - d) scientific nature study.

- (9) **Agricultural Activities**. Unless currently used for agricultural or similarly related purposes, the conversion of, or expansion into, any portion of the Conservation Area for use of agricultural, horticultural, aquacultural, silvicultural, livestock production or grazing activities. This prohibition also includes conversion from one type of these activities to another (e.g. from agricultural to silvicultural).
- (10) **Subdivision of Conservation Area**. Subdivision of real property within the Conservation Area into multiple parcels.
- (11) **Other**. Other acts, uses, excavation, or discharges, which adversely affect fish or wildlife habitat or the preservation of lands, waterways, or other aquatic resources mentioned herein and located within the Conservation Area.

### E. INSPECTION, ENFORCEMENT AND ACCESS RIGHTS

As set forth in Section B, above, the Grantee, holder(s) of this Declaration, the Corps, PADEP and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration have the right to enter the Property to observe the Conservation Area and to take actions necessary to verify compliance with and to enforce this Declaration. When practicable, such entry shall be upon prior reasonable notice to the property owner. No violation of this Declaration shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as other authorized judicial remedies such as civil penalties. Nothing herein shall be interpreted to limit the right of the Corps to modify, suspend, or revoke any permit issued or authorized by Corps.

### F. RECORDING AND EXECUTION BY PARTIES

Within thirty (30) calendar days of execution of this Agreement, the Grantee shall record this Declaration in the County office where land records are retained and shall provide proof of recordation to Grantor, the Corps, and PADEP within ten (10) business days of execution. Further, if anticipated activities in the Conservation Area are agreed upon for future phases of the site, as set forth in Section H (Reserved Rights) herein, the Grantee must submit plans to the Corps and PADEP for review and approval prior to any work in the Conservation Area.

### G. NOTICE OF TRANSFER OF PROPERTY INTERESTS

No transfer of the rights set forth in this Declaration, or action to void or modify this Declaration, including transfer of title to or establishment of any other legal claims over the Conservation Area or the underlying Property it occupies, shall occur without sixty (60) calendar days' prior written notice to the Corps and the PADEP.

### H. RESERVED RIGHTS

- (1) This Declaration will not prevent the Grantor, or any subsequent owner of the Property and/or portions of the Property, from making use of the area(s) outside of the Conservation Area or from uses that are consistent with the purposes of this Declaration, including, but not limited to the following:
- (a) **Existing Agreements**. Uses that Grantor is required to allow under valid, existing, recorded agreements are permitted, to the extent they do not interfere with, threaten, or degrade the Conservation Area and only to the extent they are consistent with the purposes of this Declaration. The Grantor[, holder(s) hereof,] and any holders of easements or other property rights for the operation and maintenance of pre-existing or project-related structures or infrastructure, such as roads, utilities, drainage ditches, or stormwater facilities that are present on, over, or under the Conservation Area, reserve the right, within the terms and conditions of their permits, agreements, and the law, to continue with such operation and maintenance. All pre-existing or approved project-related structures or infrastructure, if any, shall be shown on the accompanying plat map or approved plan and attached to this Declaration as **Exhibit D**.
- (b) Subsequent Agreements Allowing Subsurface Activity. Subject to review by Grantee [if holder known and holder of this Declaration], and only to the extent they are consistent with the purposes of this Declaration, agreements for the extraction of natural gas (regardless of source) or oil, and injection or release of water and other substances to facilitate such extraction, but excluding injection wells subject to state or federal underground injection control programs. The activities subject to such agreement may only occur at subterranean depths at which there can be no impairment of or detectable impact to water quality or quantity, native flora, fauna, soils, water table, aquifer, drainage patterns, and other related environmental functions and values of the Property, or on other resources described in this Declaration. No surface activities or uses, incident to such extraction are permitted in the Conservation Area. Grantor and Grantee shall provide the Corps and PADEP notice of Grantor's intent to enter into an agreement allowing subsurface activities at least sixty (60) days prior to executing the agreement.
- by the Corps and PADEP requires any related or unanticipated infrastructure modifications, utility relocation, drainage ditches, or stormwater controls within the identified Conservation Area, or if a situation requires measures to remove threat to life or property within the identified Conservation Area, said activities must be approved in writing by the Corps and PADEP subject to terms and conditions set forth in the written approval. Approval is subject to the Corps's and PADEP's discretion. If approved, said activities must be identified on an amended **Exhibit D** and must be recorded and specifically noted as an "amendment" and copies of the recorded **Amended Exhibit D** must be provided to the Corps and PADEP within sixty (60) days of Corps approval. Approval of said activity by the Corps is in addition to any Clean Water Act, Section 404 permit, or other authorization, which may be required in order to legally implement said activity. The Grantor and Grantee accept the obligation to place any other and/or subsequent responsible party on reasonable prior notice of their need to request such Corps approval.
- (3) Enhancements, Maintenance and Repair. This Declaration is not intended to prohibit future necessary or desired maintenance, repair, or enhancements to the

Property, where such actions are approved by the Corps and PADEP as appropriate, either through an approved mitigation plan (Section K below) or by a separate permit.

[I. The Grantor has mortgaged the Property subject to this Declaration. The lender has executed Subordination of Mortgage instruments related to the parcels subject of this Declaration for the sole purpose of subordinating their respective liens, dignity and priority interests to this Declaration. The executed Subordination of Mortgage instruments are attached hereto as **Exhibit** E: Mortgage Subordination Documents, and incorporated fully herein.]

### J. SEVERABILITY

If any portion of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this instrument, or application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

### K. MITIGATION

If the work required by a mitigation plan approved by the Corps and PADEP, including maintenance or remedial work, occurs within the Conservation Area, then the Grantee is allowed to construct and undertake the mitigation work in accordance with an authorized mitigation plan.

### L. ASSIGNMENT

The Grantee [If Holder exists: and/or Holder each] is authorized to assign or transfer its rights and obligations under this Declaration to an organization that is a qualified organization under Section 170(h) of the Internal Revenue Code at the time of transfer.

### M. COAL RIGHTS NOTICE

The following notice is given to and accepted by Grantor for the purpose and with the intention of compliance with the requirements of the Pennsylvania Conservation and Preservation Easements Act. Nothing herein shall imply the presence or absence of workable coal seams or the severance of coal interests from the Property.

### **NOTICE:**

THIS DECLARATION may impair the development of coal interests including workable coal seams or coal interests which have been severed from the Property.

IN WITNESS WHEREOF, intending to be legally bound, the Parties have executed this Declaration the day and year first above written.

GRANTOR:	GRANTEE:						
	First Pennsylvania Resource, L.L.C. a Pennsylvania limited liability company						
	By: Resource Environmental Solutions LLC, its sole manager						
David L. Specht	By: Name: Title:						
WITNESS:	WITNESS:						
HOLDER:	WITNESS:						
By:							

COMMONWEALTH OF PENNSYLVANIA  COUNTY OF	: : SS :
On, before me, a No personally appeared, known to whose name is subscribed to the within instrumer for the purposes therein contained.  IN WITNESS WHEREOF, I have set my leader to the purpose therein contained.	
	Notary Public My commission expires:
[SEAL]	
COMMONWEALTH OF PENNSYLVANIA COUNTY OF	: : SS :
On, before me, a No, whose name is subscribed to the executed the same for the purposes therein contains	known to me or satisfactorily prover within instrument, and acknowledged that he
IN WITNESS WHEREOF, I have set my	hand and official seal.
	Notary Public My commission expires:
[SEAL]	

COMMONWEALTH OF PENNSYLVANIA	:
COUNTY OF	: SS :
personally appeared, wh	otary Public for the Commonwealth aforesaid, no acknowledged himself/herself to be the Solutions, LLC, as manager of First Pennsylvania
Resource, L.L.C., a Pennsylvania limited liability above, on behalf of the Grantee, being authorized Declaration for the purposes herein contained.	company, and that s/he, in the capacity set forth
IN WITNESS WHEREOF, I have set my	hand and official seal.
	Notary Public My commission expires:

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[SEAL]

## APPENDIX C WETLAND REPORT



Date: September 6, 2020

**Subject:** Wildcat Hollow PRM Site Wetland Delineation Investigation

The following report details wetland delineation findings within a 14.4-acre Study Area of the Wildcat Hollow PRM Site.

On September 1, 2020, Resource Environmental Solutions (RES) biologists performed aquatic resource investigations within a 14.4-acre Study Area of the Wildcat Hollow PRM Site. The wetland investigation was performed in accordance with the *USACE Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region v 2.0* (USACE 2012). The United States Fish and Wildlife Service (USFWS) wetland classification system described by Cowardin, et al. (1979) was used to classify wetlands that were identified during the environmental survey.

This report summarizes the Study Area and delineation findings within the Study Area. The Study Area is located in Hamlin Township, McKean County, Pennsylvania (Attachment 1: Figure 1: Site Location Map). A National Wetlands Inventory (NWI), Hydric Soils, and Chapter 93 designation Map is included in Attachment 1: Figure 2: NWI, Hydric Soils and Chapter 93 Designation Map. Delineation findings are summarized in Table 1: Delineation Summary. A visual depiction of delineation findings is presented in Attachment 1: Figure 3: Wetland Delineation Map. The Study Area can be characterized as a fallow agricultural field containing upland fingers within a largely palustrine emergent (PEM)/palustrine scrub shrub (PSS) wetland complex.

### General Site Characteristics

Since 1940, the PRM Site has been cleared and intensively used for agricultural and forestry purposes. Land surrounding the wetlands has been and continues to be used for agricultural purposes. The environmental resources on-site have been and continue to be degraded through anthropogenic alterations including historic agricultural activities (i.e., direct livestock access, grazing and hay production), tree clearing, and the planting and maintenance of non-native pasture grasses. In addition, the complex has been impacted by the construction of roads, overhead electrical right-of-ways (ROWs), and an abandoned rail line. Adjacent land use includes residential homes, agricultural properties with associated infrastructure, forestry, and partially undeveloped forested corridors.

The primary source of hydrology for on-site wetlands is groundwater augmented by surface runoff from adjacent streams and upland areas. In the PEM wetlands, dominant vegetation includes soft rush (*Juncus effusus*), grass-leaved goldenrod (Euthamia *graminifolia*), fox sedge (*Carex vulpinoidea*), and invasive reed canary grass (Phalaris arundinacea) in the herbaceous layer; occasional shrub pockets within the PEM wetlands include silky dogwood (*Cornus amomum*) and silky willow (*Salix sericea*). Within the PSS wetlands, the shrub layer is dominated by monocultures of either silky dogwood or silky willow; the dominants in the herbaceous layer include grass-leaved goldenrod, sensitive fern (*Onoclea sensibilis*), fringed loosestrife (*Lysimachia ciliata*), woolgrass (*Scirpus cyperinus*) and reed canary grass. Reed canary grass is dispersed

throughout the complexes in smaller amounts but also localized in pockets which are complete monocultures. Wetland soils met the criteria for the Depleted Matrix (F3) and/or Redox Dark Surface (F6) hydric soil indicators. Figure 2: NWI, Hydric Soils and Chapter 93 Designation Map.

### **Findings**

The PRM Site, which has a contributing drainage of approximately 13.92 square miles, drains to Marvin Creek, a CWF per Section 93.9: Designated Water Uses and Water Quality Criteria of the PA Code Chapter 93: Water Quality Standards. Pennsylvania Fish and Boat Commission has listed Marvin Creek as a Naturally Reproducing Trout Stream and stocks portions of it. As such, the wetlands associated with Marvin Creek should all considered to be Exceptional Value (EV).

Marvin Creek is listed as attaining its designated use for aquatic life. Portions of the site occur within a Federal Emergency Management Agency (FEMA) 100-year floodplain. Two wetlands categorized by the National Wetland Inventory (NWI) wetlands as a Freshwater Emergent Wetlands (PEMC) are documented within the PRM Site. Natural Hydrography Dataset (NHD) data indicates that one blue-line stream (Marvin Creek) travels through the PRM Site.

Based on the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey, the PRM Site is underlain by the Buchanan silt loam (BuC) and Philo silt loam (Ph) silt loams. These soil types are found on 0 to 3, 8 to 15, and 8 to 25 percent slopes landscapes. BuC soils are categorized as farmlands of statewide importance, found mostly on hillslopes, and are poorly and very poorly drained. Ph soils are categorized as prime farmlands, poorly drained, and found mostly in floodplain locations. The mapped locations of the hydric soils are shown in Appendix A, Figure 2: NWI, Hydric Soils and Chapter 93 Designation Map. The identified soils are typically documented in areas of depressions on till plains and are classified as hydric per the USDA-NRCS.

Field analysis indicated that hydric soils are dominant within the limits of the PRM Site. The soils documented across the Site are comprised of largely silt loam with depths ranging from 0-16 inches meeting the Depleted Matrix (F3) criteria for hydric soils. Within portions of the site, a heavy clay layer was observed within the lower soil layers. Soils within the upland portions of the Site were comprised of silt loam to sand up to 16 inches and did not meet any of the hydric soil indicator criteria.

The Study Area includes a 9.28-acre PEM/PSS wetland complex, consisting of 5 separate wetlands which would historically have been historically one complex prior to construction of roads and railroads. Wetlands 1-4 consist of both PEM and PSS vegetative classes and Wetland 5 is a PEM-reed canary dominated depression, likely receiving runoff hydrology from Wetland 3. Table 1. Delineation Summary summarizes the identified wetland features and existing classifications, see below.

A figure depicting the Project location is provided as Attachment 1, Figure 1: Location Map. Attachment 1, Figure 2 includes an NWI, Hydric Soils and Chapter 93 Designation Map. The locations of the identified resources are summarized in Attachment 1, Figure 3: Wetland Delineation Map. Wetland and upland photographs are provided as Attachment 2: Photographs. Wetland and upland data forms are provided as Attachment 3: Wetland and Upland Data Forms.

	Table 1. Delineation Summary										
Feature Designation	Vegetative Classification	HGM Classification	Designated Water Uses and Water Quality Criteria	Latitude	Longitude	Acreage					
Wetland 1	PEM			41.71925°	-78.55703°	2.29					
wettand i	PSS		EV	41.71917°	-78.55784°	0.46					
Wetland 2	PEM			41.71944°	-78.55831°	2.25					
Wettand 2	PSS	Floodploip		41.71931°	-78.55797°	0.04					
Wetland 3	PEM	Floodplain		41.71851°	-78.55966°	1.05					
wettand 3	PSS			41.71860°	-78.55909°	1.44					
Wetland 4	PEM			41.71808°	-78.55794°	0.62					
wettand 4	PSS			41.71815°	-78.55790°	0.82					
Wetland 5	PEM	Depression		41.71786°	-78.55985°	0.31					
		Total We	tland Acreage = 9.28	•							

### Closing

FPR appreciates the opportunity to provide this report. Should you have any questions, please contact me hkalk@res.us or at 412.249.2435.

Respectfully submitted,

Hannah Kalk

Hannah Kalk Regulatory Specialist III Resource Environmental Solutions, LLC

Attachments:

Attachment 1 – Figures

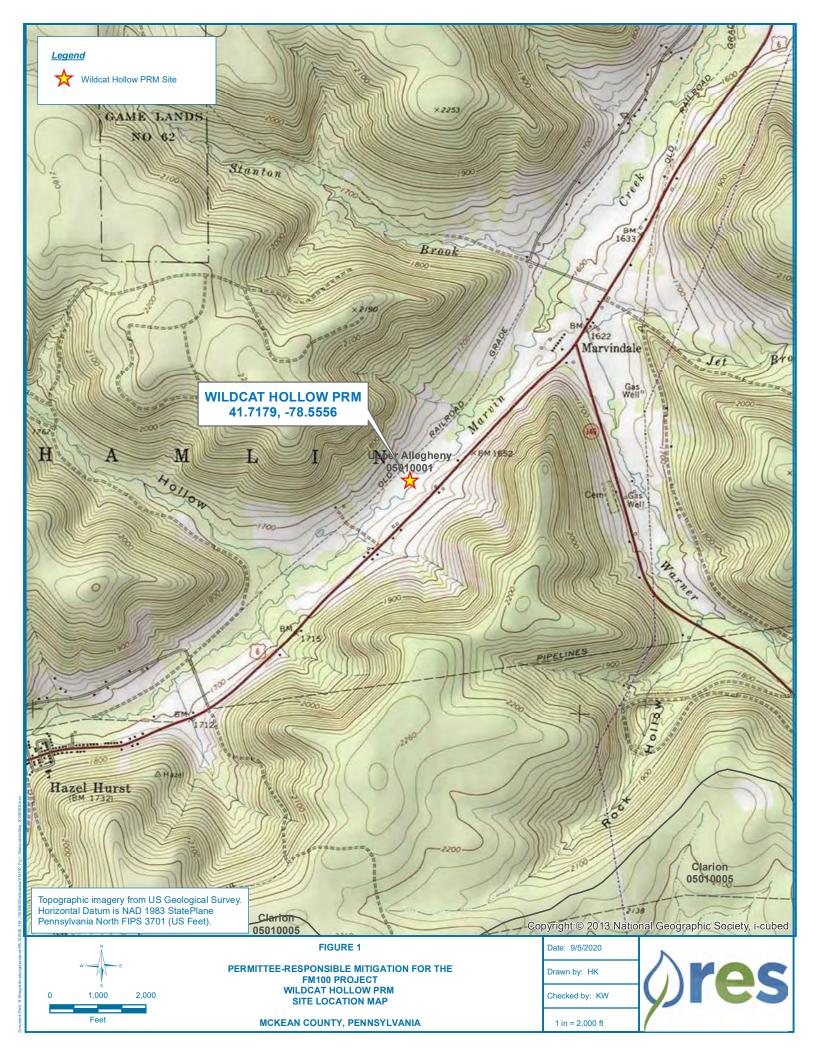
Attachment 2 – Photographs

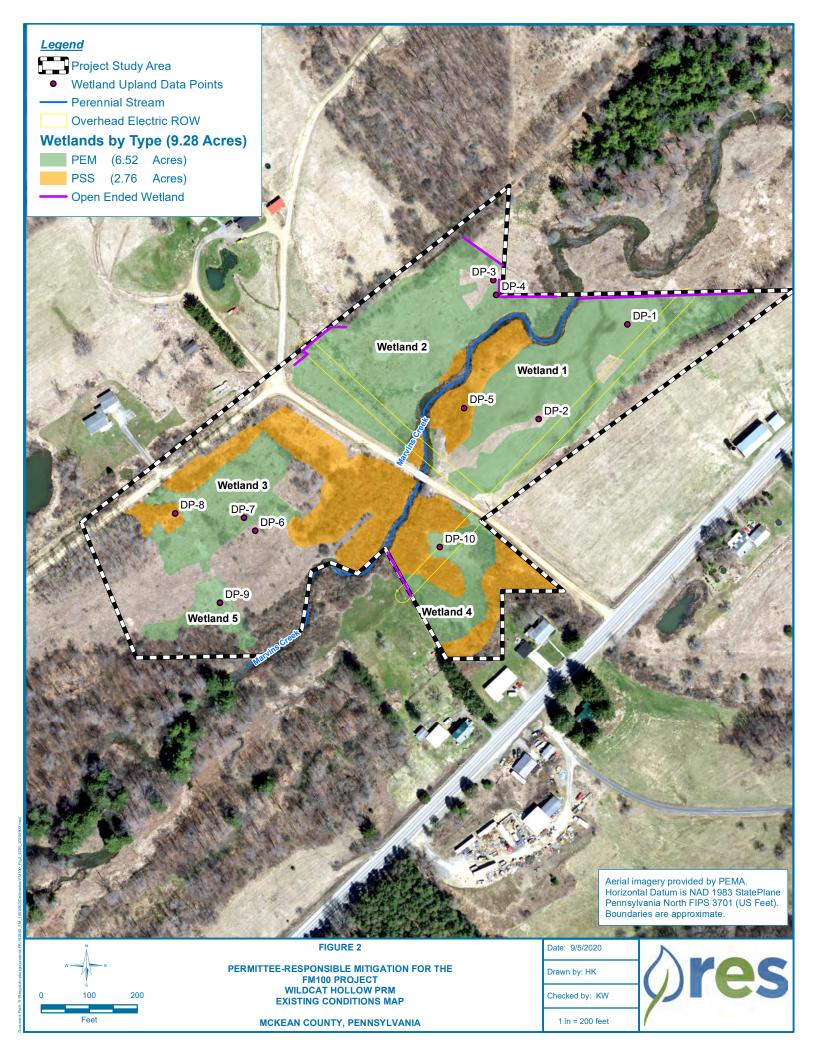
Attachment 3 – Wetland and Upland Delineation Data Sheets

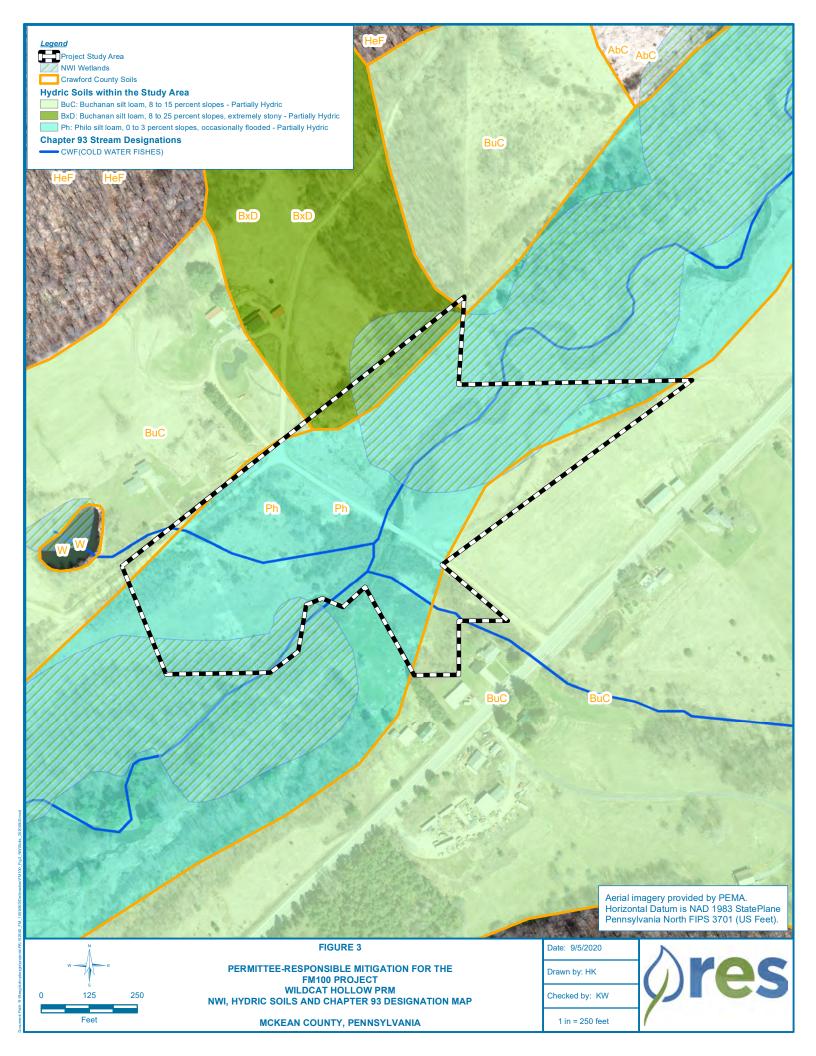
### References

- Commonwealth of Pennsylvania. 2015. The Pennsylvania Code, Title 25: Environmental Protection. Chapter 93: Water Quality Standards, Section 93.9, Designated Water Uses and Water Quality Criteria. Accessed at http://www.pacode.com/secure/browse.asp in March 2020.
- Commonwealth of Pennsylvania. 2015. The Pennsylvania Code, Title 25: Environmental Protection. Chapter 93: Water Quality Standards, Section 105.17, Wetlands. Accessed at https://www.epa.gov/sites/production/files/2014-12/documents/pawqs-chapter105.pdf on March 20, 2020.
- Cowardin, D. M., Carter, V., Golet, F. C., and La Roe, E. T. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Publication No. FWS/OBS 79/31. United States Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1.* United States Department of the Army, United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings.* Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Pennsylvania Fish and Boat Commission (PFBC). 2020. Trout Water Classifications. Accessed at <a href="https://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Pages/TroutWaterClassifications.aspx">https://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Pages/TroutWaterClassifications.aspx</a> on March 18, 2020.
- PFBC. 2020. Wild Trout Waters (Naturally Reproducing) Updated February 2020. Accessed at http://fishandboat.com/trout\_repro.pdf on March 18, 2020.
- United States Department of Agriculture Natural Resources Conservation Service. Soil Survey for Franklin County. http://soils.usda.gov/. United States Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont.* (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.

# ATTACHMENT 1 FIGURES







# ATTACHMENT 2 PHOTOGRAPHS



Photo 1: Wetland 1, Data Point 1 (DP-1), PEM, Facing SE



Photo 3: Wetland 1, Representative view of reed canary grass infestation, Facing NE



Photo 2: Wetland 1, DP-1, PEM, Facing NW



Photo 4: Upland Data Point DP-2, associated with Wetland 1, facing SE



Photo 5: Wetland 1, DP-5, PSS, Facing SE



Photo 7: Wetland 2, Representative view of PSS willow monocultures, Facing W



Photo 6: Wetland 1, DP-5, PSS, Facing NW



Photo 8: Upland DP-3, associated with Wetland 2, facing NW



Photo 9: Wetland 2, DP-4, PEM, Facing NW



Photo 11: Upland DP-6, associated with Wetland 3 and 4, Facing E



Photo 10: Wetland 2, DP-4, PEM, Facing SW



Photo 12: Wetland 3, DP-7, PEM facing E



Photo 13: Wetland 3, DP-7, PEM facing SW

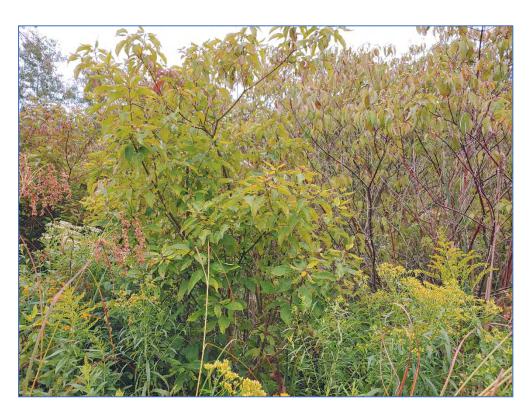


Photo 15: Wetland 3, DP-8,PSS, dogwood thicket, Facing E



Photo 14: Wetland 3, DP-8,PSS, Facing SW



Photo 16: Wetland 3, Representative reed canary grass infestation, facing NW



Photo 17: Wetland 3, Reed canary infestation, facing NE



Photo 19: Wetland 5, DP-9, PEM, Reed canary grass wetland, Facing SW



Photo 18: Wetland 5, DP-9, PEM, Reed canary grass wetland, Facing NE



Photo 20: Wetland 4,DP-10, PEM, View of PSS component, facing SE



Photo 21: Wetland 4, DP-10, PEM, underneath electric ROW, facing NE

## ATTACHMENT 3 WETLAND AND UPLAND DATA FORMS

### WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:		Wildcat Hollow		City/County:	McKea	an	Sampling Date:	9/1//2	9/1//2020	
Applicant/Owner:	First Pennsy	/Ivania Resource			State:	PA	Sampling P		DP1	
Investigator(s):	Н.	.Kalk/Z.Stephens		Section, Townsh	hip, Range:					
Landform (hillslope	e, terrace, etc.):	Floodplain Cor	mplex	Local relief (co	oncave, conve	ex, none):	Concave	Slope (%):	00-05	
Subregion (LRR o	or MLRA)	LRR N, MLRA 126	Lat.:	41.71955	Long:	-78	3.55666 Da	atum: NA	AD 83	
Soil Map Unit Nam	ne:	Philo	o silt loar	m (Ph)		NWI CI	assification:	PEMC		
Are climatic/hydro	ologic conditions c	of the site typical for this	s time of	f the year?	Yes (If no	o, explair	n in Remarks.)			
Are vegetation	No , soil	No , or hydrology	у	No significantly d	listurbed?	Are "no	ormal circumstanc	es" present?	Yes	
Are vegetation	No , soil	No , or hydrology	у	No naturally prob	lematic?	(If nee	eded, explain any	answers in re	marks)	
SUMMARY OF FI	NDINGS - Attach	h site map showing sa	ampling	point locations, tr	ansects, imp	ortant fe	atures, etc.			
Hydrophytic veget	tation present?	Yes	;							
Hydric soil present	it?	Yes	;	Is the sampled	area within a	a wetland	<u>.</u>	Yes		
Indicators of wetla	and hydrology pre	esent? Yes	;							
Remarks:										
Wetland Datapoint	t for Wetland 1 (P	PEM). Wetland 1 is a PE	EM/PSS	complex in a fallow	field between	⊦an overh	nead electric ROV	V and Marvin	Creek.	
HYDROLOGY										
Wetland Hydrolog	gy Indicators:				<u>s</u>	econdary	/ Indicators (minir	num of two re	quired)	
Primary Indicators	s (minimum of one	e is required; check all t	that app	ıly)		Surface	Soil Cracks (B6)			
Surface Wate	er (A1)	True Aquatic	; Plants (	(B14)		Sparsely	Vegetated Conc	ave Surface (	B8)	
High Water Ta	able (A2)	Hydrogen Su	ılfide Od	lor (C1)		Drainage	e Patterns (B10)			
Saturation (A	3)	X Oxidized Rhi	zospher	res on Living Roots (	(C3)	Moss Tri	m Lines (B16)			
Water Marks	(B1)	Presence of	Reduce	d Iron (C4)	d Iron (C4) Dry-Season Water Table (C2)					
Sediment Dep	posits (B2)	Recent Iron F	Reductic	on in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits	s (B3)	Thin Muck St	urface ((	C7)	X	X Saturation Visible on Aerial Imagery (C9)				
Algal Mat or C	Crust (B4)	Other (Explai	in in Rer	marks)		Stunted	or Stressed Plant	is (D1)		
Iron Deposits	(B5)				X	Geomor	phic Position (D2)	)		
Inundation Vis	sible on Aerial Im	agery (B7)				Shallow	Aquitard (D3)			
Water-Stainer	d Leaves (B9)					Microtop	ographic Relief ([	D4)		
Aquatic Fauna	a (B13)					FAC-Net	utral Test (D5)			
Field Observation	ns:			_		.				
Surface water pres	sent? Y	res No	Х	Depth (inches):						
Water table preser	nt? Y	res No	Х	Depth (inches):						
Saturation present	t? Y	res No	Х	Depth (inches):		w	etland Hydrolog	y Present?	Yes	
(includes capillary	rfringe)									
Describe recorded	data (stream ga	uge, monitoring well, a	erial pho	otos, previous inspec	ctions), if avai	lable:	_			
Remarks:										

0

0.0

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

= Total Cover

20 % of total cover:

0.0

### WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:		Wildcat H	lollow		City/County:	McKea	n S	Sampling Date:		9/1//2020	
Applicant/Owner	First Pennsylv	ania Resou	urce			State:	PA	Sampling	Point:	DF	2
Investigator(s):	H	∃.Kalk/Z.St	ephens		Section, Towns	ship, Range:					
Landform (hillslope	e, terrace, etc.):		Terrace		Local relief (d	concave, conve	x, none):	None	Slop	e (%):	00-05
Subregion (LRR o	r MLRA)	LRR N, N	MLRA 126	Lat.:	41.719	Long.:	-78.5	5733	Datum:	NAC	83
Soil Map Unit Nam	ne:		Phile	o silt loa	am (Ph)		NWI Class	sification:	•	PEMC	
Are climatic/hydro	logic conditions	of the site	typical for thi	s time c	of the year?	Yes (If no	, explain in	Remarks.)			
Are vegetation	No , soil	No	, or hydrolog	ıy	No significantly	disturbed?	Are "norm	al circumsta	inces" pr	esent?	Yes
Are vegetation	No , soil	No	, or hydrolog	ıy	No naturally pro	blematic?	(If neede	d, explain a	ny answe	ers in ren	narks)
SUMMARY OF FI	NDINGS - Attac	ch site ma	p showing s	amplin	g point locations, t	ransects, impo	ortant featu	ures, etc.			
Hydrophytic veget	ation present?		No								
Hydric soil present	t?		No	,	Is the sample	d area within a	wetland?			No	
Indicators of wetla	and hydrology pr	esent?	No	,							
Remarks:				•							
	for Wetland 1 (F	PEM). Upla	nd is a raised	l area in	a fallow field betwe	en an overhead	d electric R0	OW and Ma	rvin Cree	k.	
HYDROLOGY											
Wetland Hydrolog							-	<u>dicators (mi</u>		two req	<u>uired)</u>
Primary Indicators	,	ne is requir			• •			il Cracks (Be	,		
Surface Wate	` ,	(B14)		-	egetated Co		ırface (B	8)			
High Water Ta	able (A2)		Hydrogen Su				_	atterns (B10	))		
					res on Living Roots			Lines (B16)			
Water Marks			Presence of		` ,		-	n Water Tab	le (C2)		
Sediment Dep			-		ion in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits			Thin Muck S							)	
Algal Mat or C	` ,		Other (Expla	in in Re	emarks) Stunted or Stressed Plants (D1)						
Iron Deposits	(B5)				Geomorphic Position (D2)						
	sible on Aerial Ir	magery (B7	7)		Shallow Aquitard (D3)						
	d Leaves (B9)							raphic Relie	f (D4)		
Aquatic Fauna							FAC-Neutra	al Test (D5)			
Field Observation											
Surface water pres		Yes	No	X	Depth (inches):						
Water table preser		Yes	No	X	Depth (inches):						
Saturation present		Yes	No	X	Depth (inches):		Wetl	land Hydrol	ogy Pre	sent?	<u>No</u>
(includes capillary	0 /										
Describe recorded	d data (stream g	auge, mon	itoring well, a	erial ph	otos, previous inspe	ections), if availa	able:				
Remarks:											

50 % of total cover:

0

0.0

= Total Cover

20 % of total cover:

0.0

SOIL Sampling Point: DP2

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	r confirm th	e absence of i	ndicators.)
Depth	Matrix Redox Features								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	exture	Remarks
0-10	10YR 4/3	100			71		SiSa		
10-16	10YR 5/6	75					Sa		
	10YR 4/2	25					SiSa		
	1011111/2	20					Olou		
± <b>T</b> 0.0								444 (1	
	ncentration, D=De	pletion, F	RM=Reduced Mati	1x, MS=M	lasked Sa	and Grain	IS		PL=Pore Lining, M=Matrix
Hydric Soil I									or Problematic Hydric Soils***:
Histisol (	A1)			k Surface	` '				ICK (A10) (MLRA 147)
Histic Ep	ipedon (A2)		Poly	yvalue Bel	low Surfa	ce (S8) <sub>(м</sub>	LRA 147,148)	Coast Pi	rairie Redox (A16) (MLRA 147,148)
Black Hi	stic (A3)		Thir	n Dark Su	ırface (S9	) (MLRA 147	,148)	Piedmor	nt Floodplain Soils (F19) (MLRA 136,147)
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Very Sha	allow Dark Surface (TF12)
Stratified	l Layers (A5)		Dep	oleted Ma	trix (F3)			Other (E	xplain in Remarks)
2 cm Mu	ck (A10) (LRR N)		Red	dox Dark S	Surface (l	F6)			
Depleted	l Below Dark Sufa	ce (A11)	Dep	oleted Dar	rk Surface	e (F7)			
Thick Da	rk Surface (A12)		Red	dox Depre	ssions (F	8)			
Sandy M	lucky Mineral (S1)	(LRR N, MLR	(A 147,148) Iron	ı-Mangan	ese Mass	es (F12)	(LRR N, MLRA 13	6)	
Sandy G	leyed Matrix (S4)		Um	bric Surfa	ice (F13)	(MLRA 136, 1	22)	*** 1' '	
Sandy R	edox (S5)		Pie	dmont Flo	odplain S	Soils (F19	) (MLRA 148)		of hydrophytic vegetation and ology must be present, unless
Stripped	Matrix (S6)		Red	d Parent N	//aterial (F	=21) (MLRA	127, 147)	disturbed or	
Restrictive L	ayer (if observed	l):							
Type:									
Depth (inch	es):						Ну	dric soil prese	ent? <u>No</u>
Remarks:									

### WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:	Wildcat Hollow	City/County:	McKean	Sampling Date:	9/1//2020				
Applicant/Owner:	First Pennsylvania Res	source	State: P.	A Sampling P	oint: DP3				
Investigator(s):	H.Kalk/Z.Stephens	Section, Townsl	hip, Range:						
Landform (hillslope, terrace, etc	c.): Slope	Local relief (c	oncave, convex, no	one): Convex	Slope (%): 10-15				
Subregion (LRR or MLRA)		at.: 41.71979	Long.:	-78.55768 Da	tum: NAD 83				
Soil Map Unit Name:	Philo silt	loam (Ph)	NV	VI Classification:	PEMC				
Are climatic/hydrologic condition	ns of the site typical for this time	e of the year?	Yes (If no, ex	rplain in Remarks.)					
Are vegetation No , soil	No , or hydrology	No significantly d	listurbed? Are	e "normal circumstanc	es" present? Yes				
Are vegetation No, soil	No , or hydrology	No naturally prob	elematic? (I	f needed, explain any	answers in remarks)				
SUMMARY OF FINDINGS - Att	tach site map showing sampli	ing point locations, tr	ansects, importa	nt features, etc.					
Hydrophytic vegetation present	? No								
Hydric soil present?	No	Is the sampled	area within a wet	tland?	No				
Indicators of wetland hydrology	present? No								
Remarks:		,							
·	. Upland is a hillslope within an	fallow field between a r	ailroad berm and N	Marvin Creek.					
HYDROLOGY									
Wetland Hydrology Indicators				ndary Indicators (minin	num of two requirea)				
· ·	f one is required; check all that a			face Soil Cracks (B6)					
Surface Water (A1)	True Aquatic Plan	` ,		rsely Vegetated Conc	ave Surface (B8)				
High Water Table (A2)	Hydrogen Sulfide			inage Patterns (B10)					
		heres on Living Roots (		ss Trim Lines (B16)					
Water Marks (B1)	Presence of Redu	` ,		-Season Water Table (	(C2)				
Sediment Deposits (B2)		uction in Tilled Soils (C6	<del>_</del>						
Drift Deposits (B3)	Thin Muck Surfac	,		Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)	Other (Explain in	Remarks)		nted or Stressed Plant	` ,				
Iron Deposits (B5)			Geo	emorphic Position (D2)					
Inundation Visible on Aeria				llow Aquitard (D3)					
Water-Stained Leaves (B9)	)			rotopographic Relief (I	04)				
Aquatic Fauna (B13)			FAC	C-Neutral Test (D5)					
Field Observations:									
Surface water present?	Yes No	X Depth (inches):							
Water table present?	Yes No )	X Depth (inches):							
Saturation present?	Yes No	X Depth (inches):		Wetland Hydrolog	y Present? <u>No</u>				
(includes capillary fringe)									
Describe recorded data (stream	ո gauge, monitoring well, aerial բ	photos, previous inspec	ctions), if available	c					
Remarks:									
Nomano.									

Remarks: (Include photo numbers here or on a separate sheet.) Rubus sp. could not be identified due to seasonality. Estimated to be a minimum of FAC due to geomorphic position and lack of wetland hydrology.

= Total Cover

20 % of total cover:

0.0

0

0.0

50 % of total cover:

3

SOIL Sampling Point: DP3

Profile Desc	ription: (Describ	e to the	depth needed to	docume	nt the inc	licator o	r confirm th	e absence of i	ndicators.)		
Depth	Depth Matrix Redox Features										
(Inches)	Color (moist)	%	Color (moist) %		Type*	Loc**	Te	exture	Remarks		
0-8	10YR 4/3	100	,				SiL		Roots		
8+									Rock		
									Trook		
*Type: C=Co	ncentration, D=De	pletion, F	RM=Reduced Mat	rix, MS=N	lasked Sa	and Grain	IS	**Location:	PL=Pore Lining, M=Matrix		
Hydric Soil	Indicators:							Indicators fo	r Problematic Hydric Soils*	**:	
Histisol	(A1)		Da	rk Surface	e (S7)			2 cm Mu	ck (A10) (mlra 147)		
Histic E <sub>l</sub>	oipedon (A2)		Po	yvalue Be	low Surfa	се (S8) (м	LRA 147,148)	Coast Pr	airie Redox (A16) (MLRA 147,148)		
Black Histic (A3) Thin Dark Surface (S							,148)	Piedmon	t Floodplain Soils (F19) (MLRA 1	136,147)	
Hydrogen Sulfide (A4) Loamy Gleyed Matri								Very Sha	allow Dark Surface (TF12)		
	d Layers (A5)			pleted Ma		. ,			xplain in Remarks)		
	ick (A10) (LRR N)			dox Dark∜	` '	F6)		`	,		
	d Below Dark Sufa	ce (A11)		pleted Da	-						
	ark Surface (A12)	()		Redox Depressions (F8)							
	Mucky Mineral (S1)	/LDD N MLD			-	•	(LRR N, MLRA 130	2)			
	Gleyed Matrix (S4)	(LKK N, WILF		bric Surfa				9)			
	Redox (S5)			dmont Flo					of hydrophytic vegetation and		
	Matrix (S6)			d Parent N			ology must be present, unless problematic	i			
		IV-	110	u i aleili i	viateriai (i	ZI) (MLKA	1127, 147)	disturbed or p	TODIETTIALIC		
	_ayer (if observed	1):									
Type:	Rock								10		
Depth (incl Remarks:	nes):	8					Ну	dric soil prese	nt? <u>No</u>		

SOIL Sampling Point: DP1

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	confirm th	e absence of i	ndicators.)	
Depth	Matrix		Re	dox Featı	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	exture	Remarks	
0-3	10YR 4/4	100					SaSi			
3-16	10YR 4/1	65	10YR 4/6	30	С	М	SiL			
				5	С	PL				
*Type: C=Co	ncentration, D=De	pletion, F	RM=Reduced Matr	ix, MS=M	lasked Sa	and Grain	s	**Location:	PL=Pore Lining, M=Matrix	
Hydric Soil I	ndicators:							Indicators fo	or Problematic Hydric Soils***:	
Histisol (	(A1)		Dar	k Surface	e (S7)			2 cm Mu	ck (A10) (mlra 147)	
Histic Ep	pipedon (A2)		Poly	∕value Bel	low Surfa	ce (S8) <sub>(м</sub>	LRA 147,148)	Coast Pr	airie Redox (A16) (MLRA 147,148)	
Black Hi	stic (A3)		Thir	n Dark Su	ırface (S9	) (MLRA 147	148)	Piedmor	nt Floodplain Soils (F19) (MLRA 136,147)	
	n Sulfide (A4)			my Gleye	•	•			allow Dark Surface (TF12)	
	Layers (A5)					(- –)			xplain in Remarks)	
Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  X Depleted Matrix (F3)  X Redox Dark Surface (F6)										
	Below Dark Sufa	co (A11)			-					
		ce (ATT)		leted Dar						
	ark Surface (A12)			lox Depre	-					
	lucky Mineral (S1)	(LRR N, MLR		_			(LRR N, MLRA 13	6)		
	leyed Matrix (S4)			bric Surfa				***Indicators	of hydrophytic vegetation and	
	edox (S5)			Piedmont Floodplain Soils (F19) (MLRA 148) weltand hydrology must be prese Red Parent Material (F21) (MLRA 127, 147) disturbed or problematic					ology must be present, unless	
	Matrix (S6)		Red	Parent N	/laterial (F	=21) (MLRA	127, 147)	disturbed or p	problematic	
Restrictive L	ayer (if observed	l):	_							
Type:										
Depth (inch Remarks:	ies):						Ну	dric soil prese	ent? <u>Yes</u>	

### WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:		Wildcat H	lollow		City/County:	McK	ean	Sampling Date:		9/1//2020	
Applicant/Owner:		First	Pennsylvania	Resou	_	State:	PA	Sampling Poin		DF	P4
Investigator(s):	_	H.Kalk/Z.St			Section, Towns	–                     ship, Range:		<u> </u>	_		
Landform (hillslop	oe, terrace, etc.):	F	-loodplain Co	mplex	Local relief (	concave, con	vex, none):	Conca	e Slop	e (%):	00-05
Subregion (LRR o	or MLRA)	LRR N, N	/ILRA 126	Lat.:	41.71971	Long:	-78	3.55766	Datum:	NAE	83
Soil Map Unit Nar	me:		Phile	- o silt loa	nm (Ph)		NWI CI	assification:		PEMC	
Are climatic/hydro	ologic conditions	of the site	typical for thi	s time o	f the year?	Yes (If	– no, explain	in Remarks.)			
Are vegetation	No , soil	No	, or hydrolog	y	No significantly	disturbed?	Are "no	rmal circumst	ances" p	resent?	Yes
Are vegetation	No , soil	No	, or hydrolog	у	No naturally pro	blematic?	(If nee	ded, explain a	any answ	ers in ren	narks)
SUMMARY OF F	INDINGS - Attac	ch site ma	p showing s	ampling	g point locations, t	transects, im	portant fe	atures, etc.			
Hydrophytic vege	tation present?		Yes	3							
Hydric soil preser	nt?		Yes	5	Is the sample	d area withir	a wetland	1?		Yes	
Indicators of wetla	and hydrology pr	esent?	Yes	3				•			
Remarks:											
Wetland Datapoir	nt for Wetland 2	(PEM). We	tland 2 is a F	PEM/PS	S complex in a fallo	ow field betwe	een a railroa	ad berm and I	Marvin Cı	reek.	
	ouv Indicators:						Secondary	Indicators (m	inimum (	of two rea	uired)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)										<u>uncu</u>	
	,	ic is requir	• •			Vegetated Co	,	urfood (P	0)		
Surface Water T	` ,		True Aquation Hydrogen Si	,			Patterns (B1		unace (D	0)	
Saturation (A	` ,	Y			res on Living Roots	(C3)	_	m Lines (B16)	-		
Water Marks	•		Presence of		_		_	` ′			
Sediment De	• •		•		ed Iron (C4)  Dry-Season Water Table (C2)  tion in Tilled Soils (C6)  Crayfish Burrows (C8)						
Drift Deposits			Thin Muck S							١	
Algal Mat or 0	` ,		Other (Expla		` '	7.		or Stressed Pl			,
Iron Deposits	` ,		Othor (Explo		manto)	×		ohic Position (	`	,	
	isible on Aerial I	magery (B7	<b>'</b> )				<u> </u>	Aquitard (D3)	,		
	ed Leaves (B9)		,					ographic Relie	ef (D4)		
Aquatic Faun							_	ıtral Test (D5)			
Field Observatio											
Surface water pre	esent?	Yes	No	Х	Depth (inches):						
Water table prese	ent?	Yes	No	Х	Depth (inches):						
Saturation presen	nt?	Yes	No	Х	Depth (inches):		w	etland Hydro	logy Pre	sent?	Yes
(includes capillary	y fringe)				<u> </u>		_				
Describe recorded	d data (stream g	auge, mon	itoring well, a	erial ph	otos, previous inspe	ections), if av	ailable:				
Remarks:											

0

0.0

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

= Total Cover

20 % of total cover:

3

height.

0.0

Depth (Inches) Color (moist) Sh. Color (moist) Sh. Type* Loc** Texture Remarks	Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	r confirm th	e absence of i	ndicators.)	
Color (moist)	Denth	Matrix		Re	dox Featı	ıres					
#Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains  **Location: PL=Pore Lining, M=Matrix  **Indicators for Problematic Hydric Soils***:  2 cm Muck (A10) (MLRA 147)  2 cm Muck (A10) (MLRA 147)  4 polyvalue Below Surface (S8) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 146,148)  Piedmont Floodplain Soils (F19) (MLRA 146,148)  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S6)  Redox Depressions (F8)  Iron-Manganese Masses (F12) (MLRA 148, 129)  Iron-Manganese Masses (F12) (MLRA 148, 129)  Stripped Matrix (S6)  Redox Depressions (F8)  Iron-Manganese Masses (F12) (MLRA 148, 129)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic	•	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks	
*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains  **Location: PL=Pore Lining, M=Matrix  Hydric Soil Indicators:  Histisol (A1)  Black Histic Epipedon (A2)  Black Histic (A3)  Thin Dark Surface (S9) (MLRA 147,148)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Z cm Muck (A10) (MLRA 147,148)  Loamy Gleyed Matrix (F2)  Very Shallow Dark Surface (F19) (MLRA 158,141)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (F3)  Peledmont Floodplain Soils (F19) (MLRA 158,141)  Sandy Gleyed Matrix (F3)  Sandy Gleyed Matrix (F3)  Peletro Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Gleyed Matrix (F3)  Peletro Dark Surface (F13) (MLRA 148, 122)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 148, 127,147)  Peletro Day (MLRA 127,147)  Peletro Day (MLRA 127,147)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic	0-16	10YR 4/1	85	10 YR 4/6	10		М	SiL			
*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains  **Location: PL=Pore Lining, M=Matrix  Hydric Soil Indicators:  Histisol (A1)  Black Histic Epipedon (A2)  Black Histic (A3)  Thin Dark Surface (S9) (MLRA 147,148)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Z cm Muck (A10) (MLRA 147,148)  Loamy Gleyed Matrix (F2)  Very Shallow Dark Surface (F19) (MLRA 158,141)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (F3)  Peledmont Floodplain Soils (F19) (MLRA 158,141)  Sandy Gleyed Matrix (F3)  Sandy Gleyed Matrix (F3)  Peletro Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Gleyed Matrix (F3)  Peletro Dark Surface (F13) (MLRA 148, 122)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 148, 127,147)  Peletro Day (MLRA 127,147)  Peletro Day (MLRA 127,147)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic					5	С	PL				
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Depleted Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 136, 122)  Type:  Depth (inches):  Hydric soil present?  Indicators for Problematic Hydric Soils***:  a com Muck (A10) (MLRA 147)  Coast Prairie Redox (A16) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of problematic Hydric Soil present?  Yes											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Stripped Matrix (S6)  Rederate Material (F21) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators for Problematic Hydric Soils***:  1											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Depleted Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 136, 122)  Type:  Depth (inches):  Hydric soil present?  Indicators for Problematic Hydric Soils***:  a com Muck (A10) (MLRA 147)  Coast Prairie Redox (A16) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of problematic Hydric Soil present?  Yes											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Depleted Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 136, 122)  Type:  Depth (inches):  Hydric soil present?  Indicators for Problematic Hydric Soils***:  a com Muck (A10) (MLRA 147)  Coast Prairie Redox (A16) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of problematic Hydric Soil present?  Yes											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Stripped Matrix (S6)  Rederate Material (F21) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators for Problematic Hydric Soils***:  1											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Stripped Matrix (S6)  Rederate Material (F21) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators for Problematic Hydric Soils***:  1											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Stripped Matrix (S6)  Rederate Material (F21) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators for Problematic Hydric Soils***:  1											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Stripped Matrix (S6)  Rederate Material (F21) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators for Problematic Hydric Soils***:  1											
Hydric Soil Indicators:  Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Zem Muck (A10) (MLRA 147,148)  Depleted Below Dark Surface (S9) (MLRA 147,148)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S4)  Stripped Matrix (S6)  Rederate Material (F21) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  ***Indicators for Problematic Hydric Soils***:  1											
Histisol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147,148)  Black Histic (A3)  Thin Dark Surface (S9) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 136,141)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Z cm Muck (A10) (LRR N)  Peledmont Floodplain Soils (F19) (MLRA 136,141)  Peledmont Floodplain Soils (F19) (MLRA 136,141)  Piedmont Floodplain Soils (F19) (MLRA 136,141)  Polyvalue Below Surface (S9) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 136,141)  Piedmont Floodplain in Remarks)  Other (Explain in Remarks)  Other (Explain in Remarks)  Piedmont Floodplain Soils (F19) (LRR N, MLRA 136)  Loamy Gleyed Matrix (F2)  Pepleted Below Dark Surface (A11)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  Hydric soil present?  Yes	*Type: C=Co	ncentration, D=De	pletion, F	RM=Reduced Mati	ix, MS=M	lasked Sa	and Grain	IS	**Location:	PL=Pore Lining, M=Matrix	
Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 136, 142; Type:  Depth (inches):  Polyvalue Below Surface (S8) (MLRA 147,148)  Piedmont Floodplain Soils (F19) (MLRA 136,147)  Piedmont Floodplain Soils (F19) (MLRA 136,147)  Piedmont Floodplain Soils (F19) (MLRA 136)  Coast Prairie Redox (A16) (MLRA 136,147)  Piedmont Floodplain Soils (F2)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Other (Explain in Remarks)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148; Melland hydrology must be present, unless disturbed or problematic  Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes	Hydric Soil I	ndicators:								=	
Black Histic (A3) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Very Shallow Dark Surface (TF12) Stratified Layers (A5) Z om Muck (A10) (LRR N) Redox Dark Surface (F6) Depleted Below Dark Suface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Redox Dark Surface (F13) (MLRA 136,122) Sandy Redox (S5) Stripped Matrix (S6) Redox Dark Surface (F13) (MLRA 136,122) Fiedmont Floodplain Soils (F19) (MLRA 136,122) ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic	Histisol (	(A1)		Dar	k Surface	e (S7)			2 cm Mu	ICK (A10) (MLRA 147)	
Hydrogen Sulfide (A4)  Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Matrix (F3)  Depleted Dark Surface (F6)  Depleted Below Dark Suface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Redox Depressions (F12) (LRR N, MLRA 148, 122)  Piedmont Floodplain Soils (F19) (MLRA 148, 127, 147)  Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes	Histic Ep	pipedon (A2)		Poly	∕value Bel	low Surfa	ce (S8) <sub>(М</sub>	LRA 147,148)	Coast Pi	rairie Redox (A16) (MLRA 147,148)	
Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Below Dark Suface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Redox Depressions (F8)  Umbric Surface (F12) (LRR N, MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)  Redox Depressions (F8)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes	Black Hi	stic (A3)		Thi	n Dark Su	ırface (S9	) (MLRA 147	,148)	Piedmor	nt Floodplain Soils (F19) (MLRA 136,147)	
2 cm Muck (A10) (LRR N)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Redox Depressions (F8)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes	Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Very Sha	allow Dark Surface (TF12)	
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 127, 147)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic	Stratified	I Layers (A5)		X Dep	leted Ma	trix (F3)			Other (E	xplain in Remarks)	
Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Redox Depressions (F8)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes	2 cm Mu	ck (A10) (LRR N)		Red	lox Dark S	Surface (I	F6)				
Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Restrictive Layer (if observed):  Type:  Depth (inches):  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic	Depleted	l Below Dark Sufa	ce (A11)	Dep	leted Dar	rk Surface	e (F7)				
Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Restrictive Layer (if observed):  Type:  Depth (inches):  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic	Thick Da	ark Surface (A12)		Red	lox Depre	ssions (F	8)				
Sandy Gleyed Matrix (S4)  Sandy Redox (S5) Stripped Matrix (S6)  Restrictive Layer (if observed):  Type:  Depth (inches):  Umbric Surface (F13) (MLRA 136, 122)  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ***Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  Hydric soil present?  Yes			(LRR N, MLR			-		(LRR N, MLRA 130	5)		
Sandy Redox (S5) Stripped Matrix (S6)  Restrictive Layer (if observed):  Type: Depth (inches):  Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147)  Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147)  ##*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  ###Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic			•		_						
Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 127, 147)  Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes	-				***Indicators of hydrophytic veg						
Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil present?  Yes											
Type:			D:						<u> </u>		
Depth (inches): Hydric soil present? Yes			.,-								
		166).						Ни	dric soil nrose	ant? Vae	
		163).						119	unc son prese	<u>165</u>	

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:		Wildcat Hollo	DW .		City/County:	ean	Sampling Date: 9/1//2020			20	
Applicant/Owner:	First Penns	ylvania Resou	rce			State:	PA	Samplin	g Point:	DF	P5
Investigator(s):	H	H.Kalk/Z.Steph	nens		Section, Towns	hip, Range:					
Landform (hillslop	e, terrace, etc.):	Floo	odplain Con	nplex	Local relief (c	oncave, con	vex, none)	: Conca	ve Slope	e (%):	00-05
Subregion (LRR o	or MLRA)	LRR N, MLF	RA 126	Lat.:		Long:			Datum:	NAC	83
Soil Map Unit Nar	me:		Philo	silt loa	ım (Ph)		NWI CI	lassification:		PEMC	
Are climatic/hydro	ologic conditions	of the site typ	ical for this	time o	f the year?	Yes (If	<del>–</del> no, explair	n in Remarks.)		_	
Are vegetation	No , soil	No , o	r hydrology	/	No significantly of	listurbed?	Are "no	ormal circumst	ances" pr	esent?	Yes
Are vegetation	No , soil	No , o	r hydrology	/	No naturally prob	olematic?	(If nee	eded, explain a	any answe	ers in rem	narks)
SUMMARY OF F	INDINGS - Attac	ch site map s	howing sa	mpling	g point locations, tr	ansects, im	portant fe	eatures, etc.			
Hydrophytic veget	tation present?		Yes								
Hydric soil presen	nt?		Yes		Is the sampled	area within	a wetland	d?	•	Yes	
Indicators of wetla	and hydrology pr	esent?	Yes								
Remarks:											
Wetland Datapoin	nt for Wetland 1 (	(PSS). Wetlan	d 1 is a PE	EM/PSS	complex in a fallow	field between	en an overl	head electric F	≀OW and	Marvin C	Creek.
Wetland Hydrolo	ay Indicators:						Secondari	/ Indicators (m	inimum o	f two rea	uired)
Primary Indicators		no is roquirod:	chock all t	hat an	alv)			•		i two req	uireu)
	•				• •		_	Soil Cracks (E	•	f (D	0)
Surface Water T	` '		ue Aquatic					Vegetated Co		лпасе (в	8)
High Water T		-	drogen Su				_	e Patterns (B1	•		
Saturation (A	•				moss Trim Lines (B16)  Moss Trim Lines (B16)  Dry-Season Water Table (C2)						
Water Marks Sediment De	` '				ed Iron (C4)  Dry-Season Water Table (C2)  ion in Tilled Soils (C6)  Crayfish Burrows (C8)						
Drift Deposits	. ,		in Muck Su		on in Tilled Soils (C6		_ ′	on Visible on A	orial Imag	aony (C0)	
Algal Mat or (	` '		her (Explai		,	^		or Stressed P	`	, ,	,
Iron Deposits	, ,		пет (Ехріаі	II III KE	illarks)		_		, ,		
•	` ,	magany (P7)				^	<u> </u>	phic Position (	D2)		
X Water-Staine	isible on Aerial II ad Leaves (R9)	nagery (br)						Aquitard (D3) ographic Relie	of (D4)		
Aquatic Faun							_	utral Test (D5)			
Field Observatio	, ,						1 AC-NE	uliai Test (D3)			
Surface water pre		Yes	No	Х	Depth (inches):						
Water table prese		Yes	No	X	Depth (inches):						
Saturation presen		Yes	No	X	Depth (inches):		- I w	etland Hydro	loav Pre	sent?	Yes
(includes capillary					_ ' ' '		-		3,		
	-	auge, monitor	ing well, ae	erial pho	otos, previous inspe	ctions), if ava	ailable:				
	( 3					,,					
Remarks:											

0

0.0

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

= Total Cover

20 % of total cover:

0.0

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	confirm the absence of	of indicators.)	
Depth	Matrix		Red	Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0-16	10YR 5/1		7.5YR 4/4	10	С	М	SiL		
				20	С	PL			
*Type: C=Co	ncentration, D=De	pletion, F	RM=Reduced Matr	ix, MS=M	lasked Sa	and Grain	s **Locatio	n: PL=Pore Lining, M=Matrix	
Hydric Soil I	ndicators:	-					Indicators	for Problematic Hydric Soils***:	
Histisol (			Dar	k Surface	(S7)			Muck (A10) (mlra 147)	
	pipedon (A2)				ow Surfa	ce (S8) <sub>(М</sub>		Prairie Redox (A16) (MLRA 147,148)	
Black Hi					ırface (S9			iont Floodplain Soils (F19) (MLRA 136,147)	
	n Sulfide (A4)				ed Matrix	•		Shallow Dark Surface (TF12)	
	Layers (A5)		X Dep	-		,		(Explain in Remarks)	
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)									
	l Below Dark Sufa	ce (A11)			rk Surface				
	rk Surface (A12)	, ,			ssions (F				
	lucky Mineral (S1)	(LRR N, MLR			-		(LRR N, MLRA 136)		
	leyed Matrix (S4)			_	ice (F13)		22)		
	edox (S5)		Pied	dmont Flo	odplain S	Soils (F19		rs of hydrophytic vegetation and drology must be present, unless	
Stripped	Matrix (S6)		Red	Parent Material (F21) (MLRA 127, 147) disturbed or problematic					
Restrictive L	ayer (if observed	l):							
Type:									
Depth (inch	es):						Hydric soil pro	esent? <u>Yes</u>	
Remarks:						-			
1									

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:	V	Wildcat Hollow		City/County:	City/County: McKean			Sampling Date: 9/1//2020		
Applicant/Owner:	First Pennsyl	Ivania Resource			State:	PA	Sampling P	oint:	DP6	
Investigator(s):	H.I	Kalk/Z.Stephens		Section, Townsl	hip, Range:					
Landform (hillslope, t	terrace, etc.):	Terrace	)	Local relief (co	oncave, conve	x, none):	Convex	Slope (%)	):/	5-10
Subregion (LRR or M	ЛLRA)	LRR N, MLRA 126	Lat.:	41.71835	Long.:	<b>-78</b> .	55948 Da	atum: I	NAD 8	33
Soil Map Unit Name:	:	Phil	lo silt loa	am (Ph)		NWI Cla	ssification:	N/A	4	
Are climatic/hydro <u>lo</u> ς	gic conditions of	f the site typical for thi	is time o	of the year?	Yes (If no	, explain i	in Remarks.)			
Are vegetation	No , soil	No , or hydrolog	ју <u> </u>	No significantly of	disturbed?	Are "norr	mal circumstand	ces" presen	t?	Yes
Are vegetation	No , soil	No , or hydrolog	ay	No naturally prob	olematic?	(If need	led, explain any	answers in	rema	rks)
SUMMARY OF FINE	DINGS - Attach	site map showing s	amplinç	g point locations, tr	ansects, impo	ortant fea	tures, etc.			
Hydrophytic vegetati	on present?	No	,							
Hydric soil present?		No	,	Is the sampled	area within a	wetland?	?	No		
Indicators of wetland	l hydrology pres	sent? No	)				<u>-</u>			
Remarks:	<del></del>						<del></del>			
Upland Datapoint for	r Wetland 3. Up	oland is within a fallow	field bet	tween Wetland 3 and	d Marvin Creek	i	_			
HYDROLOGY										
Wetland Hydrology	Indicators:				<u>Se</u>	condary I	Indicators (minir	num of two	requir	red)
Primary Indicators (n	ninimum of one	e is required; check all	that app	ρly)		Surface S	oil Cracks (B6)			
Surface Water (	(A1)	True Aquation	c Plants	(B14)		Sparsely \	Vegetated Conc	ave Surface	e (B8)	
High Water Tab	le (A2)	Hydrogen Si	ulfide Or	dor (C1)		Drainage I	Patterns (B10)			
		Oxidized Rh	ıizosphe	eres on Living Roots (	(C3)	Moss Trim	n Lines (B16)			
Water Marks (B	1)	Presence of	Reduce	ed Iron (C4)	[	Dry-Seaso	on Water Table	(C2)		
Sediment Depos	sits (B2)	Recent Iron	Reducti	on in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits (B	33)	Thin Muck S	3urface (	(C7)	C7) Saturation Visible on Aerial Imagery					
Algal Mat or Cru	ıst (B4)	Other (Expla	ain in Re	emarks)		Stunted or	r Stressed Plant	is (D1)		
Iron Deposits (B	35)	<del></del>				Geomorph	nic Position (D2)	)		
Inundation Visib	ole on Aerial Ima	agery (B7)				Shallow A	quitard (D3)			
Water-Stained L	_eaves (B9)				1	Microtopo	graphic Relief ([	D4)		
Aquatic Fauna (	(B13)				F	FAC-Neut	ral Test (D5)			
Field Observations	:									
Surface water preser	nt? Ye	es No	Х	Depth (inches):						
Water table present?	? Ye	es No	Х	Depth (inches):						
Saturation present?	Ye	es No	X	Depth (inches):		We	etland Hydrolog	gy Present	?	<u>No</u>
(includes capillary fri	inge)	<del></del>								
Describe recorded da	ata (stream gau	uge, monitoring well, a	erial pho	otos, previous insped	ctions), if availa	able:				
Remarks:								<del>_</del>		

Rubus sp. could not be identified due to seasonality. Estimated to be a minimum of FAC due to geomorphic position and lack of wetland hydrology.

= Total Cover

20 % of total cover:

0

0.0

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

3

Woody vine - All woody vines, regardless of

height.

0.0

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	r confirm th	e absence of i	ndicators.)	
Depth	Matrix		Re	dox Featı	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	exture	Remarks	
0-16	10YR 3/3	95	10YR 5/6	5	C	М	SiL		Roots and rock	
*T C-C-	nantustian D-Da	nlatian F	NA-Daduard Mat	iv MC-M	la alva di Co	and Cusin	-	**! +:	DI - Dana Liminar M-Mahriy	
	ncentration, D=De	pletion, F	KM=Reduced Mati	1X, IVIS=IVI	iasked Sa	and Grain	ıs		PL=Pore Lining, M=Matrix	
Hydric Soil I									r Problematic Hydric Soils***:	
Histisol (	-			k Surface	` ,				ck (A10) (MLRA 147)	
	pipedon (A2)			yvalue Bel		. ,			airie Redox (A16) (MLRA 147,148)	
Black Hi				n Dark Su	-		,148)		t Floodplain Soils (F19) (MLRA 136,147)	
	n Sulfide (A4)			my Gleye		(F2)			allow Dark Surface (TF12)	
	Layers (A5)			oleted Ma				Other (E	xplain in Remarks)	
	ck (A10) (LRR N)			dox Dark \$	-	•				
	l Below Dark Sufa	ce (A11)		oleted Dar						
	rk Surface (A12)			dox Depre	-	•				
	lucky Mineral (S1)	(LRR N, MLR		_			(LRR N, MLRA 130	5)		
	leyed Matrix (S4)			bric Surfa				***Indicators	of hydrophytic vegetation and	
	edox (S5)			Piedmont Floodplain Soils (F19) (MLRA 148) weltand hydrology must be present,						
	Matrix (S6)		Red	d Parent N	//aterial (F	-21) (MLRA	127, 147)	disturbed or p	problematic	
	ayer (if observed	l):								
Type:										
Depth (inch	es):						Ну	dric soil prese	ent? <u>No</u>	
Remarks:										

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:	V	Wildcat Hollow		City/County:	McKe	an	Sampling Date:	9/1//20	)20
Applicant/Owner:	First Pennsylv	vania Resource			State:	PA	Sampling Po	oint: D	P7
Investigator(s):	H.F	Kalk/Z.Stephens		Section, Towr	nship, Range:				
Landform (hillslope, t	terrace, etc.):	Floodplain C	omplex	Local relief	(concave, conv	ex, none)	): Concave	Slope (%):	00-05
Subregion (LRR or M	/ILRA) L	LRR N, MLRA 126	Lat	t.: 41.71842	Long:	-78	8.55957 Dat	tum: NA	D 83
Soil Map Unit Name:		Ph	ilo silt lo	oam (Ph)		NWI C	lassification:	N/A	
Are climatic/hydro <u>log</u>	gic conditions of	the site typical for the	nis time	of the year?	Yes (If r	- no, explair	n in Remarks.)		
Are vegetation	No , soil	No , or hydrolo	gy	No significantly	y disturbed?	Are "no	ormal circumstance	es" present?	Yes
Are vegetation	No , soil	No , or hydrolo	gy	No naturally pr	oblematic?	(If nea	eded, explain any a	answers in re	marks)
SUMMARY OF FIND	DINGS - Attach	site map showing	samplir	ng point locations,	transects, im	portant fe	eatures, etc.		
Hydrophytic vegetation	on present?	Ye	es						
Hydric soil present?		Ye	es	Is the sample	ed area within	a wetlan	d?	Yes	
Indicators of wetland	l hydrology pres	ent? Ye	es						
Remarks:									
Wetland Datapoint fo	or Wetland 3 (Pl	EM). Wetland 3 is a	PEM/P\$	SS complex in a fall	ow field betwee	n an aba	ndoned railroad be	rm and Marvi	in Creek.
HYDROLOGY									
Wetland Hydrology	Indicators:				2	<u>Secondar</u>	y Indicators (minim	um of two red	<u>quired)</u>
Primary Indicators (n	ninimum of one	is required; check a	II that ar	pply)		Surface	Soil Cracks (B6)		
Surface Water (	A1)	True Aquat	ic Plant	ıs (B14)		Sparsely	y Vegetated Conca	ive Surface (F	38)
High Water Tabl	le (A2)	Hydrogen S	Sulfide (	Odor (C1)		Drainage	e Patterns (B10)		
Saturation (A3)		X Oxidized R	hizosph	neres on Living Root	s (C3)	Moss Tr	rim Lines (B16)		
Water Marks (B	1)	Presence of	of Reduc	ced Iron (C4)	ed Iron (C4) Dry-Season Water Table (C2)				
Sediment Depos	sits (B2)	Recent Iron	n Reduc	ion in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B	33)	Thin Muck	Surface	e (C7)					
Algal Mat or Cru	ıst (B4)	Other (Expl	lain in F	Remarks)		Stunted	or Stressed Plants	s (D1)	
Iron Deposits (B	55)	<u>—</u>			X	Geomor	phic Position (D2)		
Inundation Visib	le on Aerial Ima	agery (B7)				Shallow	Aquitard (D3)		
Water-Stained L	eaves (B9)					Microtop	oographic Relief (D	14)	
Aquatic Fauna (	B13)				X	FAC-Ne	eutral Test (D5)		
Field Observations:	:								
Surface water preser	nt? Ye	es No	X	Depth (inches):					
Water table present?	? Ye	es No	X	Depth (inches):					
Saturation present?	Ye	es No	X	Depth (inches):		v	Vetland Hydrology	y Present?	Yes
(includes capillary fri	nge)					• L			
Describe recorded da	ata (stream gau	ige, monitoring well,	aerial p	hotos, previous insp	ections), if ava	ilable:			
Remarks:									

0

0.0

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

= Total Cover

20 % of total cover:

3

height.

0.0

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	r confirm th	e absence of i	ndicators.)		
Depth	Matrix		Re	dox Featı	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	exture	Remarks		
0-16	10YR 51	80	10YR 3/6	10	С	PL	SiL				
				10	С	М					
*Type: C=Co	ncentration D=De	pletion F	I RM=Reduced Matr	ix MS=M	l lasked Sa	and Grain	s	**I ocation:	PL=Pore Lining, M=Matrix		
*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains **Location: PL=Pore Lining, M=Matrix  Hydric Soil Indicators: Indicators for Problematic Hydric Soils**											
Histisol (			Dar	k Surface	(97)				ck (A10) (MLRA 147)		
	-		_	∧ Suriace ⁄value Bel	` ,	oo (S9)			airie Redox (A16) (MLRA 147,148)		
Black Hi	otic (A2)			n Dark Su					t Floodplain Soils (F19) (MLRA 136,147)		
	n Sulfide (A4)			my Gleye	•		,140)		allow Dark Surface (TF12)		
	I Layers (A5)			oleted Ma		(Г2)			xplain in Remarks)		
					` '	Te)		Other (E	xpiairi iri Kerriaiks)		
	ck (A10) (LRRN)	00 (411)		dox Dark S	-	•					
	I Below Dark Sufa	ce (ATT)	-	oleted Dar							
	rk Surface (A12)			lox Depre	-	•					
	lucky Mineral (S1)	(LRR N, MLR		bric Surfa			(LRR N, MLRA 13	5)			
	leyed Matrix (S4)						22) )) (MLRA 148)		of hydrophytic vegetation and		
	edox (S5) Matrix (S6)			d Parent N		-		weltand hydro disturbed or p	plogy must be present, unless		
		1.	Nec	raieiii i	viateriai (i	ZI) (MLRA	127, 147)	disturbed or p	Dioblemano		
	ayer (if observed	1).									
Type:	2001						U.	dria a ail mraaa			
Depth (inch Remarks:	les):						ну	dric soil prese	ent? <u>Yes</u>		

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:	Wildcat Hollow	City/County:	McKear	n San	mpling Date:	9/1//202	20		
Applicant/Owner:	First Pennsylvania Res	ource	State:	PA	Sampling Point:	DP	'8		
Investigator(s):	H.Kalk/Z.Stephens	Section, Townsh	nip, Range:						
Landform (hillslope, terrace, etc.	:.): Floodplain Comple	Local relief (co	oncave, convex	(, none):	Concave Slop	pe (%):	00-05		
Subregion (LRR or MLRA)	LRR N, MLRA 126 La	at.: 41.71845	Long:	-78.560	09 Datum:	NAD	83		
Soil Map Unit Name:	Philo silt	loam (Ph)		NWI Classifi	ication:	N/A			
Are climatic/hydrologic condition	ns of the site typical for this time	e of the year?	Yes (If no,	, explain in R	emarks.)				
Are vegetation No , soil	No , or hydrology	No significantly d	listurbed?	Are "normal	circumstances" p	resent?	Yes		
Are vegetation No, soil	No , or hydrology	No naturally prob	lematic?	(If needed,	explain any answ	ers in rem	arks)		
SUMMARY OF FINDINGS - Atta	ach site map showing sampl	ing point locations, tr	ansects, impo	rtant feature	es, etc.				
Hydrophytic vegetation present?	? Yes			-					
Hydric soil present?	Yes	Is the sampled	area within a	wetland?		Yes			
Indicators of wetland hydrology p	present? Yes								
Remarks:					<del></del>				
Wetland Datapoint for Wetland3 Culverts drain hydrology from th			v field between	an abandone	ed railroad berm a	and Marvin	ı Creek.		
HYDROLOGY									
Wetland Hydrology Indicators	:		<u>Se</u>	condary Indic	cators (minimum	of two requ	<u>uired)</u>		
Primary Indicators (minimum of	one is required; check all that a	apply)	s	Surface Soil C	Cracks (B6)				
Surface Water (A1)	True Aquatic Plan	nts (B14)	S	Sparsely Veg	etated Concave S	Surface (B8	3)		
High Water Table (A2)	Hydrogen Sulfide	Odor (C1)		Orainage Patt	erns (B10)		ļ		
Saturation (A3)	X Oxidized Rhizosp	heres on Living Roots (	(C3)	∕loss Trim Lir	nes (B16)				
Water Marks (B1)	Presence of Redu	uced Iron (C4)		)ry-Season V	Vater Table (C2)				
Sediment Deposits (B2)	Recent Iron Redu	uction in Tilled Soils (C6	(i)	Crayfish Burro	ows (C8)		ļ		
Drift Deposits (B3)	Thin Muck Surfac	e (C7)	S	Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)	Other (Explain in	Remarks)	8	Stunted or Str	ressed Plants (D1	)			
Iron Deposits (B5)			X	Geomorphic F	osition (D2)				
Inundation Visible on Aerial	Imagery (B7)		S	Shallow Aquit	ard (D3)				
Water-Stained Leaves (B9)	ı		N	/licrotopograp	phic Relief (D4)				
Aquatic Fauna (B13)			XF	AC-Neutral	Test (D5)				
Field Observations:									
Surface water present?	Yes No	X Depth (inches):							
Water table present?	Yes No >	X Depth (inches):							
Saturation present?	Yes No >	X Depth (inches):		Wetlar	nd Hydrology Pre	esent?	Yes		
(includes capillary fringe)							<u> </u>		
Describe recorded data (stream	gauge, monitoring well, aerial	photos, previous inspec	ctions), if availa	ble:					
Remarks:									

0

0.0

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

= Total Cover

20 % of total cover:

0.0

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	confirm the absence	of indicators.)		
Depth	Matrix		Red	Redox Features						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks		
0-16	10YR 4/1	80	10 YR 3/6	5	С	М	SiL			
				15	С	PL				
*Tuno: C=Co	naantration D=Da	plation F	M=Daduard Matr	iv MC-M	lookod Cr	and Crain	**!	ion: DI = Doro Lining M=Metrix		
	ncentration, D=De	pietion, F	RIVI-Reduced Mati	IX, IVIS-IV	iaskeu Sa	and Grain		ion: PL=Pore Lining, M=Matrix		
Hydric Soil I								rs for Problematic Hydric Soils***:		
Histisol (	•			k Surface				n Muck (A10) (mlra 147)		
Histic Ep	ipedon (A2)				low Surfa			st Prairie Redox (A16) (MLRA 147,148)		
Black Hi					ırface (S9	•		lmont Floodplain Soils (F19) (MLRA 136,147)		
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)	Ver	/ Shallow Dark Surface (TF12)		
Stratified	Layers (A5)		X Dep	leted Ma	trix (F3)		Oth	er (Explain in Remarks)		
2 cm Mu	ck (A10) (LRR N)		Red	ox Dark S	Surface (l	F6)				
Depleted	l Below Dark Sufa	ce (A11)	Dep	leted Dar	rk Surface	e (F7)				
Thick Da	rk Surface (A12)		Red	ox Depre	essions (F	8)				
Sandy M	lucky Mineral (S1)	(LRR N, MLR	A 147,148) Iron	-Mangan	ese Mass	es (F12)	(LRR N, MLRA 136)			
Sandy G	leyed Matrix (S4)		Uml	oric Surfa	ace (F13)	(MLRA 136, 1	22)	Acres of headers had been made the second		
Sandy R	edox (S5)		Pied	dmont Flo	odplain S	Soils (F19	) (MLRA 148) weltand	tors of hydrophytic vegetation and hydrology must be present, unless		
Stripped	Matrix (S6)		Red	Parent N	Material (F	l (F21) (MLRA 127, 147) disturbed or problematic				
Restrictive L	ayer (if observed	l):								
Type:										
Depth (inch	es):						Hydric soil p	oresent? <u>Yes</u>		
Remarks:										

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:	Wildcat Hollow	City/County:	McKean	Sampling Date:	9/1//2020						
Applicant/Owner:	First Pennsylvania Res	ource	State: I	PA Sampling P	oint: DP9						
Investigator(s):	H.Kalk/Z.Stephens	Section, Towns	nip, Range:								
Landform (hillslope, terrace, etc	c.): Depressional	Local relief (co	oncave, convex, i	none): Concave	Slope (%): 00-05						
Subregion (LRR or MLRA)	LRR N, MLRA 126 La	at.: 41.71794	Long:	-78.55975 Da	tum: NAD 83						
Soil Map Unit Name:	Philo silt	loam (Ph)	N	WI Classification:	PEMC						
Are climatic/hydrologic conditio	ns of the site typical for this time	e of the year?	Yes (If no, e	explain in Remarks.)							
Are vegetation No, so	No , or hydrology	No significantly of	listurbed? A	re "normal circumstanc	es" present? Yes						
Are vegetation No , so	No , or hydrology	No naturally prob	lematic? (	(If needed, explain any	answers in remarks)						
SUMMARY OF FINDINGS - At	tach site map showing sampl	ing point locations, tr	ansects, import	ant features, etc.							
Hydrophytic vegetation present	? Yes										
Hydric soil present?	Yes	Is the sampled	area within a w	etland?	Yes						
Indicators of wetland hydrology	present? Yes										
Remarks:		-									
Wetland Datapoint for Wetland Wetland 3 to the north.  HYDROLOGY	5 (PEM). Wetland 5 is a PEM	depression in a fallow	field abutting Mar	vin Creek. Hydrology lil	xely drains from						
Wetland Hydrology Indicators	 S:		Seco	ondary Indicators (minin	num of two required)						
Wetland Hydrology Indicators:       Secondary Indicators (minimum of two required)         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)											
Surface Water (A1)	True Aquatic Plar			arsely Vegetated Conc	ave Surface (B8)						
High Water Table (A2)	Hydrogen Sulfide	` ,		ainage Patterns (B10)	ave duriace (Bo)						
Saturation (A3)		heres on Living Roots (		ess Trim Lines (B16)							
Water Marks (B1)	Presence of Redu	_		/-Season Water Table (	C2)						
Sediment Deposits (B2)		iction in Tilled Soils (C6		Crayfish Burrows (C8)							
Drift Deposits (B3)	Thin Muck Surface	•	<i>'</i>	Saturation Visible on Aerial Imagery (C9)							
Algal Mat or Crust (B4)	Other (Explain in	• •		inted or Stressed Plants	• • • •						
Iron Deposits (B5)	(	, , , , , , , , , , , , , , , , , , , ,		omorphic Position (D2)	` '						
Inundation Visible on Aeria	ıl Imagery (B7)			allow Aquitard (D3)							
Water-Stained Leaves (B9				crotopographic Relief (D	04)						
Aquatic Fauna (B13)	,			C-Neutral Test (D5)	,						
Field Observations:											
Surface water present?	Yes No 2	X Depth (inches):									
Water table present?	Yes No 2	X Depth (inches):									
Saturation present?	Yes No 2	X Depth (inches):		Wetland Hydrolog	y Present? Yes						
(includes capillary fringe)			<u>.</u>								
Describe recorded data (stream	n gauge, monitoring well, aerial	photos, previous inspec	ctions), if available	e:							
Remarks:											
iveillaiks.											

Remarks: (Include photo numbers here or on a separate sheet.)

Profile Desc	ription: (Describ	e to the	depth needed to	documer	nt the inc	licator o	confirm the absence	e of indicators.)
Depth	Matrix		Red	Redox Features				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-16	10YR 4/1	80	10 YR 3/6	10	С	М	SiL	
				10	С	PL		
*Type: C=Co	ncentration, D=De	pletion, F	RM=Reduced Matr	ix, MS=M	lasked Sa	and Grain	s **Loca	tion: PL=Pore Lining, M=Matrix
Hydric Soil I	ndicators:						Indicato	ors for Problematic Hydric Soils***:
Histisol (	(A1)		Dar	k Surface	e (S7)		2 ci	n Muck (A10) (MLRA 147)
Histic Ep	pipedon (A2)		Poly	value Bel	low Surfa	ce (S8) <sub>(м</sub>	LRA 147,148) CO	ıst Prairie Redox (A16) (MLRA 147,148)
Black Hi	stic (A3)		Thir	n Dark Su	ırface (S9	) (MLRA 147	,148) Pie	dmont Floodplain Soils (F19) (MLRA 136,147)
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)	Ver	y Shallow Dark Surface (TF12)
Stratified	I Layers (A5)		X Dep	leted Ma	trix (F3)		Oth	er (Explain in Remarks)
2 cm Mu	ck (A10) (LRR N)		Red	ox Dark	Surface (I	F6)		
Depleted	l Below Dark Sufa	ce (A11)	Dep	leted Dar	rk Surface	e (F7)		
Thick Da	ark Surface (A12)		Red	ox Depre	essions (F	<sup>-</sup> 8)		
Sandy M	lucky Mineral (S1)	(LRR N, MLR	A 147,148) Iron	-Mangan	ese Mass	ses (F12)	(LRR N, MLRA 136)	
Sandy G	leyed Matrix (S4)		Uml	oric Surfa	ace (F13)	(MLRA 136, 1	22)	
Sandy R	edox (S5)		Pied	dmont Flo	odplain S	Soils (F19	^^^Indica (MLRA 148) weltand	tors of hydrophytic vegetation and hydrology must be present, unless
Stripped	Matrix (S6)		Red	Parent N	d or problematic			
Restrictive L	ayer (if observed	l):						
Type:								
Depth (inch	ies):						Hydric soil	present? <u>Yes</u>
Remarks:								

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site:	Wildcat Hollow	City/County:	McKean		Sampling Date:	9/1//2020	
Applicant/Owner:	First Pennsylvania Res	ource	State:	PA	Sampling Poin	nt: DF	P10
Investigator(s):	H.Kalk/Z.Stephens	Section, Townsl	nip, Range:				
Landform (hillslope, terrace, etc.):	: Floodplain Comple	Local relief (c	oncave, conve	x, none):	Concave S	Slope (%):	00-05
Subregion (LRR or MLRA)	LRR N, MLRA 126 La	at.: 41.71827	Long:	-78.5	55807 Datun	m: NAI	D 83
Soil Map Unit Name:	Philo silt	loam (Ph)		NWI Clas	ssification:	N/A	
Are climatic/hydrologic conditions	of the site typical for this time	e of the year?	Yes (If no	o, explain ir	n Remarks.)		
Are vegetation No, soil	No , or hydrology	No significantly d	isturbed?	Are "norn	mal circumstances'	" present?	Yes
Are vegetation No, soil	No , or hydrology	No naturally prob	lematic?	(If need	led, explain any ans	swers in rer	narks)
SUMMARY OF FINDINGS - Attac	ch site map showing sampl	ing point locations, tr	ansects, impo	ortant feat	tures, etc.		
Hydrophytic vegetation present?	Yes						
Hydric soil present?	Yes	Is the sampled	area within a	wetland?	<u> </u>	Yes	
Indicators of wetland hydrology pr	resent? Yes						
Remarks:							
Wetland Datapoint for Wetland 4 cuts through the complex. There i						ead electric	ROW
HYDROLOGY							
Wetland Hydrology Indicators:			<u>S</u> e	<u>∍condary Ir</u>	ndicators (minimur	m of two rea	uired)
Primary Indicators (minimum of o	ne is required; check all that a	apply)		Surface So	oil Cracks (B6)		
Surface Water (A1)	True Aquatic Plan	ıts (B14)		Sparsely V	egetated Concave	e Surface (B	(8)
High Water Table (A2)	Hydrogen Sulfide	Odor (C1)		Drainage F	Patterns (B10)		
Saturation (A3)	X Oxidized Rhizosp	heres on Living Roots (	(C3)	Moss Trim	Lines (B16)		
Water Marks (B1)	Presence of Redu	uced Iron (C4)	ļ	Dry-Seaso	on Water Table (C2	2)	
Sediment Deposits (B2)	Recent Iron Redu	uction in Tilled Soils (C6	(	Crayfish B	Surrows (C8)		
Drift Deposits (B3)	Thin Muck Surfac	;e (C7)	X	Saturation	Visible on Aerial I	magery (C9	)
Algal Mat or Crust (B4)	Other (Explain in	Remarks)		Stunted or	Stressed Plants (I	D1)	
Iron Deposits (B5)			X	Geomorph	nic Position (D2)		
Inundation Visible on Aerial I	magery (B7)			Shallow Ad	quitard (D3)		
Water-Stained Leaves (B9)				Microtopoç	graphic Relief (D4)	)	
Aquatic Fauna (B13)			X	FAC-Neutr	ral Test (D5)		
Field Observations:							
Surface water present?	Yes No	Depth (inches):					
Water table present?	Yes No >	X Depth (inches):					
Saturation present?	Yes No >	X Depth (inches):		We	tland Hydrology F	Present?	Yes
(includes capillary fringe)							
Describe recorded data (stream g	gauge, monitoring well, aerial	photos, previous inspec	tions), if avail	able:			
Remarks:							

50 % of total cover:

Remarks: (Include photo numbers here or on a separate sheet.)

0.0

20 % of total cover:

0.0

Profile Desc	ription: (Describ	e to the	depth needed to	docume	nt the inc	licator o	confirm th	ne absence of i	ndicators.)				
Depth	Matrix		Re	dox Featu	ıres								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	T	exture	Remarks				
0-4	10YR 5/1	80	10 YR 4/6	10	С	М	SiL						
				10	С	PL							
4-16	10YR 5/1	75	10YR 4/6	25	С	М	SiC						
*Type: C=Co	ncentration, D=De	pletion, F	RM=Reduced Mat	rix, MS=N	lasked Sa	and Grain	S	**Location: I	PL=Pore Lining, M=Matrix				
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:				
Histisol (	(A1)		Dai	rk Surface	e (S7)			2 cm Mu	ck (A10) (mlra 147)				
Histic Ep	pipedon (A2)		Pol	yvalue Be	low Surfa	ce (S8) (м	LRA 147,148)	Coast Pr	airie Redox (A16) <sub>(MLRA 147,148)</sub>				
Black Hi	stic (A3)		Thi	n Dark Su	ırface (S9	) (MLRA 147	,148)	Piedmon	t Floodplain Soils (F19) (MLRA 136,147)				
Hydroge	n Sulfide (A4)		Loa	amy Gleye	ed Matrix	(F2)		Very Sha	illow Dark Surface (TF12)				
Stratified	I Layers (A5)		X De	pleted Ma	trix (F3)			Other (Ex	xplain in Remarks)				
2 cm Mu	ck (A10) (LRR N)		Red	dox Dark	Surface (I	F6)							
Depleted	l Below Dark Sufa	ce (A11)	De	Depleted Dark Surface (F7)									
Thick Da	ark Surface (A12)		Red	dox Depre	ssions (F	·8)							
Sandy M	lucky Mineral (S1)	(LRR N, MLR	RA 147,148) Iron	n-Mangan	ese Mass	ses (F12)	(LRR N, MLRA 13	36)					
Sandy G	leyed Matrix (S4)		Um	ıbric Surfa	ice (F13)	(MLRA 136, 1	22)	***Indicators	of hydrophytic vegetation and				
	edox (S5)		Pie	dmont Flo	odplain S	Soils (F19	) (MLRA 148)	weltand hydrology must be present, unless					
Stripped	Matrix (S6)		Re	d Parent N	/laterial (F	-21) (MLRA	. 127, 147)	disturbed or p	problematic				
Restrictive L	ayer (if observed	l):											
Type:													
Depth (inch Remarks:	ies):						H	ydric soil prese	nt? <u>Yes</u>				

APPENDIX D
MENT FORMS
MEINT TORWIS

Wildcat Hollow Permittee-Responsible Mitigation Plan

#### **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/04/17	0.71	W004, W004B	1.00	
Name(s) of Evaluat	tor(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M. G	roomer	41.703887	-78.496159	WD058A	TMM, PEM v	vetland	

General Comments: PEM wetland located on hilltop depression. Multiple access roads cross the wetland channelizing it with culverts. PEM wetland adjacent to access roads, crosses well pad, and extends into maintained pipeline ROW (0.71 acres in ECL). PEM wetland upslope of existing ROW (4.32 acres delineated). PEM and PFO wetlands beyond existing ROW, downslope of Project (5.16 acres delineated) beyond ECL. Impacts occur only to the PEM wetland area. AA includes 0.71 acres of PEM and 0.29 acres of PEM upslope of Project area.

1. Wetland Zone of Influence Condition Index													
	Condition Category												
Wetland Zone	Op	otimal	Sub	optimal		Marginal		Poor					
of Influence (300 foot area around AA perimeter)	stratum present (dia (dbh) > 3 inches) wit to 60% tree canopy of stream channels, classification or cor resources ≥ 10 acres	on consists of a tree ameter at breast height the greater than or equal cover. Areas comprised wetlands (regardless of ndition) and lacustrine is are scored as optimal.	ZOI area vegetation consists of a tree stratum (dhb > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	to 30% and less than 60% tree canopy cover with a maintained understory.	High Marginal: ZOI area vegetation consists of non- maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.	Low Marginal: ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.	High Poor: ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.	Low Poor: ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	CI = Total Score/20				
SCORE		18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1					
2. Estimate the	% area within each co ZOI Area in decimal fo	tegory areas within the wondition category. Calcur (0.00) and Score for	lators are provided fo	or you below.	s above.	Total Score	e = SUM(%Areas*Sc	ores)					
	Condition Category:												
	% ZOI Area:	0%	0%	60%	0%	40%	0%	Total Score:					
Scoring:	Score:	0	0	12	0	4	0		0.44				
	Total Sub-score:	0.00	0.00	7.20	0.00	1.60	0.00	8.80	0.44				
Comments: Are	ea includes maintaine	ed pipeline ROW with a	ccess roads and ga	s well pad. Adjacent for	rest has maintained	understory.	_						

2	2. Roadbed Pre	adbed Presence Index															
		Condition Categories															
6	a. Roadbed	0	ptimal	Suboptimal					Marginal					Poor			
F	Presence	High Optimal: No	Low Optimal:	High Suboptimal:	Low S	uboptin	nal:	High Marginal:	L	_ow Margi	nal: R	loadbed	High Poo	<u>r</u> :	Low Po	or: Road	dbed
(	within 0 - 100	roadbeds present	Roadbed presence	Roadbed presence	Roadb	ed pres	ence	Roadbed presen	ce p	resence s	core w	ithin 0-100	Roadbed	presence	presend	e score v	vithin 0-
		within 100 feet of	score within 0-100 feet	score within 0-100	score v	within 0-	100 foot	score within 0-10	0 f	oot distand	e of th	ie AA	score with	nin 0-100	100 foo	t distance	of the
Z	ZOI distance)	the AA boundary	of the AA boundary				foot distance of t	he b	oundary is	great	er than to 8	foot dista	nce of the	AA bou	ndary is g	greater	
			equal to or less than 2. AA bound									AA bound	lary is	than 12			
				greater than to 2	than to	4 but le	ss than	greater than to 6					greater th	an 10 but			
				but equal to or less	or equ	al to 6.		but less than or					less than	or equal			
				than 4.				equal to 8.					to 12.				
Γ	SCORE	20 19	18 17 16	15 14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting. Gravel access road to gas well pad.

											Cond	ition C	ategori	es											
b.	Roadbed			Optima	ı			Su	boptima	al		1	atogoni		Margin	nal					Poor			1	
(w 30 W	resence vithin 100 - 00 foot /etland ZOI istance)		ne AA	Road score feet bour	Optimal dbed prese e within 1 of the AA ndary equ than 2.	sence 100 - 300 \ ual to or	Roadbe score w 300 fee bounda than to	uboptimal: d presence ithin 100 - t of the AA ry is greate 2 but equal is than 4.	Road score feet A	AA boun er than t	sence 100 - 300 dary is to 4 but	Road score 300 fo bound than t	eet of th	sence 100 - le AA greater less	300 fee greater	ce score et of the than to	e withi AA bo 8 but	in 100 - oundary is t less than	score wi 300 feet boundar than to	d presence thin 100 -	presonate 100 bour 12.	ence se - 300 fe	Roadbed core within eet of the A s greater tha	A an	CI = Total Score/20
	SCORE	20	19	18	17	16	15	14	13	12	11		10	9	8	7	7	6	5	4	3	2	. 1		
																Conditi	ion Sc	core	We	ighting		Sub-	Scores	_	
												a. R	oadbed	0-100:			14		*	(0.67)			9		
										b. Roadbed 100-300: 14				14		*	(0.33)			5		0.70			
																Tota	I Score:			14		0.70			

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting. Gravel access road to gas well pad.

## **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

#### Pennsylvania Department of Environmental Protection

	Pennsylvania Department of Environmental Protection													
For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.  3. Vegetation Condition Index														
					dition Category									
<ul><li>a. Invasive</li><li>Species</li></ul>	High Optimal: No	ptimal Low Optimal: <5% of	Sub-	Low Suboptimal:	High Marginal:	Marginal Low Marginal: >30% but less	> 50% of	Poor	contains invasive					
Presence	invasives present.	the total AA contains invasive species.	>5% but less than 10% of the total AA contains invasive	>10% but less than	>20% but less than 30% of the total AA contains invasive	than 50% of the total AA	2 30 70 01	specie						
SCORE	20 19	18 17 16	species.	species. 13 12 11	species.	8 7 6	5 4	4 3	2 1					
		entified in wetland AA.	15 14	13 12 11	10 9	0 1 0	, .	+ 3	2 1					
	•													
					dition Category									
b. Vegetation Stressor	High Optimal: No	ptimal   Low Optimal: One	High Suboptimal:	Low Suboptimal:	High Marginal:	Marginal Low Marginal: Five vegetation	Greater than	Poor	<b>r</b> ion stressors present					
Presence	vegetation stressors	vegetation stressor	Two vegetation	Three vegetation	Four vegetation	stressors present within the AA		thin the AA I		CI = Total Score/40				
	present within the AA boundary.	present within the AA boundary.	stressors present within the AA	stressors present within the AA	stressors present within the AA	boundary.								
	·	_	boundary.	boundary.	boundary.									
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	4 3	2 1					
Comments:						a. Invasive Sub-Score:		20	Total Score	0.80				
Maintained pip	eline ROW and main	tenance road/ATV trail.	<u> </u>			b. Vegetation Sub-Score:		12	32					
4. Hydrologic N	Modification Index													
					dition Category									
	High Optimal: No	ptimal Low Optimal: One	Sub-	Low Suboptimal:	High Marginal:	Marginal Low Marginal: Five hydrologic	Creater then	Poor	r gic stressors present					
Hydrologic Modification	hydrologic stressors	hydrologic stressor	Two hydrologic	Three hydrologic	Four hydrologic	stressors present within the AA		thin the AA I		CI = Total Score/20				
Stressor	present within the	present within the AA	stressors present	stressors present	stressors present	boundary.								
Presence	AA boundary.	boundary.	within the AA boundary.	within the AA boundary.	within the AA boundary.									
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	4 3	2 1					
				use. Ditch and culverts			Score	-	12	0.60				
							00010		12					
5. Sediment St	ressor Index	5 Sadiment Straces Index												
	5. Sediment Stressor Index													
	Condition Category													
		ptimal	+	optimal		Marginal	On the three	Poor						
Sediment	High Optimal: No sediment stressors	ptimal Low Optimal: One sediment stressor	Substitution Subst		dition Category  High Marginal: Four sediment	Marginal  Low Marginal: Five sediment stressors present within the AA			ent stressors present	CI = Total Score/20				
Sediment Stressor Presence	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present	Low Suboptimal: Three sediment stressors present	High Marginal: Four sediment stressors present	Low Marginal: Five sediment		five sedime	ent stressors present	CI = Total Score/20				
Stressor	High Optimal: No sediment stressors	Low Optimal: One sediment stressor	High Suboptimal: Two sediment	Doptimal  Low Suboptimal: Three sediment	High Marginal: Four sediment	Low Marginal: Five sediment stressors present within the AA		five sedime	ent stressors present	CI = Total Score/20				
Stressor	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present within the AA	Low Suboptimal: Three sediment stressors present within the AA	High Marginal: Four sediment stressors present within the AA	Low Marginal: Five sediment stressors present within the AA	. wi	five sedime	ent stressors present					
Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	Low Suboptimal: Three sediment stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.	. wi	n five sedime ithin the AA	ent stressors present boundary.	CI = Total Score/20 0.70				
Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.	. wi	n five sedime ithin the AA	ent stressors present boundary.					
Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.	. wi	n five sedime ithin the AA	ent stressors present boundary.					
Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 vo stressors identifie	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.	. wi	n five sedime ithin the AA	ent stressors present boundary.					
Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.	. wi	n five sedime ithin the AA	ent stressors present boundary.					
Stressor Presence  SCORE  Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 vo stressors identifie	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6	. wi	n five sedime	ent stressors present boundary.  2 1  14					
SCORE Comments: Tw  6. Water Qualit  a. Eutrophication	High Optimal: No sediment stressors present within the AA boundary.  20 19 vo stressors identifie	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.	Low Marginal: Five sediment stressors present within the AA boundary.	Score	n five sedime thin the AA I	ent stressors present boundary.  2 1  14					
SCORE Comments: Tw  6. Water Qualit  a. Eutrophication Stressor	High Optimal: No sediment stressors present within the AA boundary.  20 19 vo stressors identified by Stressor Index  No eutrophication:	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we  Con optimal	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal	Score	n five sedime thin the AA I	ent stressors present boundary.  2 1 14  ressors present within					
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.  20 19 vo stressors identified by Stressor Index  No eutrophication: the AA	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal  stressors present within to boundary.	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we  Con- coptimal stressors present within a boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 III pad.	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.	Score Three eutrop	n five sedime thin the AA I	ent stressors present boundary.  2 1 14  ressors present within undary.					
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Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 vo stressors identified by Stressor Index  No eutrophication: the AA	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we  Con- coptimal stressors present within a boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 III pad.	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.	Score Three eutrop	n five sedime thin the AA I	ent stressors present boundary.  2 1 14  ressors present within undary.					
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 wo stressors identified by Stressor Index  No eutrophication the AA  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we  Con- coptimal stressors present within a boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 III pad.	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.	Score Three eutrop	n five sedime thin the AA I	ent stressors present boundary.  2 1 14  ressors present within undary.					
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 wo stressors identified by Stressor Index  No eutrophication the AA  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 cleared area for gas we  Con- coptimal stressors present within a boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 III pad.	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.	Score Three eutrop	n five sedime thin the AA I	ent stressors present boundary.  2 1 14  ressors present within undary.					
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Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE  Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  vo stressors identified by Stressor Index  No eutrophication the AA  20 19  o stressors identified by Stressors identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten or the control of the contro	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  Cone contaminant /	Low Suboptimal:     Low Suboptimal:     Three sediment     Stressors present     Within the AA     boundary.     13	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.  8 7 6  Marginal toxicity stressors present within the AA	Score Three eutrop	Pool minant / toxic	r sessors present within andary.	0.70				
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro-phication Stressor Presence  SCORE  Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  vo stressors identified by Stressor Index  No eutrophication the AA  20 19  o stressors identified by Stressors identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  Cone contaminant /	Concoptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  Concoptimal stressors present within a boundary.  Concoptimal stressors present within a boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal estressors present within the AA boundary.  8 7 6  Marginal estressors present within the AA boundary.	Score Three eutrop	Pool  Pool	r sessors present within andary.					
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutrophication Stressor Presence  SCORE  Comments: No  b. Contaminant / Toxicity Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.  20 19 wo stressors identified by Stressor Index  No eutrophication the AA  20 19 o stressors identified by Stressors identified b	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16 d due to ROW mainten due to ROW	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  One contaminant / within the	Low Suboptimal:	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.  8 7 6  Marginal toxicity stressors present within e AA boundary.	Score Three eutrop	Pool Pool Pool Pool A 3	r essors present within andary.  2 1 14  r essors present within andary.  2 1 r city stressors present boundary.	0.70				
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE  Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 wo stressors identified by Stressor Index  O No eutrophication the AA  20 19 o stressors identified by Stressors identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within to boundary.  18 17 16 .  ptimal coxicity stressors present AA boundary.	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  Cone contaminant /	Low Suboptimal:     Low Suboptimal:     Three sediment     Stressors present     Within the AA     boundary.     13	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.  8 7 6  Marginal toxicity stressors present within e AA boundary.	Three contain wi	Pool Pool Pool Pool A 3	r essors present boundary.  2 1 14  r essors present within andary.  2 1  r city stressors present boundary.  2 1	0.70				
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Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE  Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 wo stressors identified by Stressor Index  O No eutrophication the AA  20 19 o stressors identified by Stressors identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within to boundary.  18 17 16 .  ptimal coxicity stressors present AA boundary.	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  One contaminant / within the	Low Suboptimal:	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.  8 7 6  Marginal toxicity stressors present within e AA boundary.	Three contain wi	Pool Pool Pool Pool A 3	r essors present boundary.  2 1 14  r essors present within andary.  2 1  r city stressors present boundary.  2 1	0.70  CI = Total Score/40				
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE  Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 wo stressors identified by Stressor Index  O No eutrophication the AA  20 19 o stressors identified by Stressors identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within to boundary.  18 17 16 .  ptimal coxicity stressors present AA boundary.	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  One contaminant / within the	Low Suboptimal:	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.  8 7 6  Marginal toxicity stressors present within e AA boundary.  8 7 6  a. Eutrophication Score	Three eutrop	Pool Pool Pool Pool A 3	r essors present within andary.  2 1 14  r essors present within andary.  2 1  r city stressors present boundary.  2 1  Total Score:	0.70  CI = Total Score/40				
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutrophication Stressor Presence  SCORE  Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE  Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  vo stressors identified by Stressor Index  O No eutrophication the AA  20 19  o stressors identified by Stressors identifi	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16 .  18 17 16 .	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  Sub One contaminant / within the	Contimal  tressors present within the AA boundary.  Continual  stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9  dition Category  Two contaminant / th	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal  1 stressors present within the AA boundary.  8 7 6  Marginal  toxicity stressors present within e AA boundary.  8 7 6  a. Eutrophication Score  b. Contaminant Score	Three eutrop	Pool Pool Pool Pool A 3	r essors present within andary.  2 1 14  r essors present within andary.  2 1  r city stressors present boundary.  2 1  Total Score:	0.70  CI = Total Score/40				
Stressor Presence  SCORE  Comments: Tw  6. Water Qualit  a. Eutrophication Stressor Presence  SCORE  Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE  Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  vo stressors identified by Stressor Index  O No eutrophication the AA  20 19  o stressors identified by Stressors identifi	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 d due to ROW mainten  ptimal stressors present within a boundary.  18 17 16 .  18 17 16 .	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ance, ATV use, and One eutrophication the AA  15 14  Sub One contaminant / within the	Contimal  tressors present within the AA boundary.  Continual  stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9 Ill pad.  dition Category  Two eutrophication  10 9  dition Category  Two contaminant / th	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Marginal stressors present within the AA boundary.  8 7 6  Marginal toxicity stressors present within e AA boundary.  8 7 6  a. Eutrophication Score	Three eutrop  Three contan wi  20 20	Pool hication stre the AA lou  Pool minant / toxic thin the AA l	r essors present within andary.  2 1 14  r essors present within andary.  2 1  r city stressors present boundary.  2 1  Total Score:	0.70  CI = Total Score/40				

## Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

### **Roadbed Worksheet**

Project Name / Ide	entifier		Date	Name(s) of Evaluator(s)
NFG F	M100 Proj	ect	10/04/17	T. Malecki, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD058ATMM	W004, W0	41.703887	-78.496159	Pipeline access roads and gas well pad

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.	1	1	1	100-300 ft.	1	1	1
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		3		100-300 ft.		3	

Road Comments: Dirt access road/atv trail used for pipeline inspection and maintenance. Gravel access road to gas well pad.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	1	0/04/1	7
(Document No. 310-2137-002)		Oc	currer	nce
Pennsylvania Department of Environmental Protection	i		in AA	
STRESSOR WORKSHEET	<u> </u>	Υ	#'s	N
Vegetation Alteration		- 1		
Mowing	X			
Moderate livestock grazing (within one year)				Х
Crops (annual row crops, within one year)				Х
Selective tree harvesting/cutting (>50% removal, within 5 years)				Х
Right-of-way clearing (mechanical or chemical)	X	(	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X	(		
Removal of woody debris				Х
Aquatic weed control (mechanical or herbicide)				Х
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Х
Plantation (conversion from typical natural tree species, including orchards)				Х
Other:				Х
	Total Number:		3	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods	X			
Dike/weir/dam				Х
Filling/grading				Х
Dredging/excavation				X
Stormwater inputs (culvert or similar concentrated urban runoff)	X	(		
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X	(		
Dead or dying trees (trunks still standing) *				Х
Stream alteration (channelization or incision)				Х
Other:				Х
	Total Number:		3	
Sedimentation				
Sediment deposits/plumes				Χ
Eroding banks/slopes				Х
Active construction (earth disturbance for development)	X	(		
Active plowing (plowing for crop planting in past year)				Χ
Intensive livestock grazing (in one year, ground is >50% bare)				Х
Active selective forestry harvesting (within one year)				Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)	X			
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)			Χ
Other:				X
	Total Number:		2	
Eutrophication				
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
Heavy or moderately heavy formation of algal mats				Х
Other:				Χ
	Total Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				Χ
Obvious spills, discharges, plumes, odors, etc.				Χ
Acidic drainages (mined sites, quarries, road cuts)				Χ
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				Χ
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				Χ
<u> </u>				Х
Fish or wildlife kills or obvious disease or abnormalities observed				
				X
Fish or wildlife kills or obvious disease or abnormalities observed				X X

### Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002)
Pennsylvania Department of Environmental Protection

#### **Invasive Species Presence Worksheet**

 Are invasive species (from list) present at the site in any layer? YES NO

 If listed species present, enter the percent areal coverage for each species below:

 Species Code
 <5%</td>
 ≥ 5-20%
 ≥ 20 - 50%
 ≥ 50%
 Species Code
 <5%</td>
 ≥ 5-20%
 ≥ 20 - 50%
 ≥ 50%

.0 70	_ 0 _ 0 / 0	 _ ~ ~ ~ ~ ~		.070	_ 0 _ 0 / 0	 
 		 	•			

Total % relative cover of all invasives, collectively on site:	0	%
--	---	---

Comments:

		Comn	non Inva	sives/	Aggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

### **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/9/17	1.02	W007, W007A, W007B	1.02	
Name(s) of Eval	luator(s)	Lat (dd)	Long (dd)	Notes:			
J. Miner, C. M	laier, M. Groomer	41.709785	-78.483244	WD083JLM. P	EM and PFO v	vetlands	

General Comments: Wetland includes approximately 15-20 percent upland. Hummocky ground where the larger hummocks are upland, primarily around bases of maple trees, wetland in depressions between hummocks. Wetland drains to stream. PEM and PFO wetlands in maintained pipeline ROW (1.02 acres in ECL). PEM and PFO wetland beyond existing ROW, upslope and downslope of Project (2.35 acres delineated) beyond ECL. Impacts occur only to the PEM and PFO wetland area in the disturbed ROW. AA includes 0.82 acres of PEM (W007) and 0.20 acres of PFO (W007A and W007B) within the Project area.

1. Wetland Zone	of Influence Condit	ion Index									
						Condi	tion Category				
Wetland Zone	Op	otimal		Sul	boptimal			Marginal		Poor	
of Influence		ion consists of a tree		optimal:			High Marginal:	Low Marginal: ZOI area	High Poor: ZOI area	Low Poor: ZOI area	
(300 foot area		ameter at breast heig		vegetation			ZOI area vegetation	vegetation consists of non-	vegetation consists of	vegetation consists of	
around AA		th greater than or eq		of a tree	of a tree stra		consists of non-	maintained, dense	lawns, mowed, and	impervious surfaces;	
perimeter)	to 60% tree canopy			(dbh > 3	3 inches) pre		maintained, dense	herbaceous vegetation,	maintained areas,	mine spoil lands,	
	of stream channels,				greater than		herbaceous	riparian areas lacking	nurseries; no-till	denuded surfaces, row	
		ndition) and lacustrir		er than or	30% and les		vegetation with	shrub and tree stratum,	cropland; actively	crops, active feed lots,	
	resources ≥ 10 acres	s are scored as optin		30% and 60% tree			either a shrub layer	areas of hay production,	grazed pasture,	impervious trails, or other	r
				over and	maintained u	inderstory.	or a tree stratum (dbh > 3 inches)	and ponds or open water areas (< 10 acres). If	sparsely vegetated non-maintained area,	comparable conditions.	
				ing both			present, with less	trees are present, tree	pervious trails, recently		
				ous and			than 30% tree	stratum (dbh > 3 inches)	seeded and stabilized		
				vers or a			canopy cover.	present, with less than	or other comparable		CI =
			non-ma				carropy cover.	30% tree canopy cover	condition.		Total
				story.				with maintained			Score/20
				,-				understory.			
								,			
SCORE	20 19	18 17 16	15	14	13 12	11	10 9	8 7 6	5 4	3 2 1	
<ol> <li>Identify all app</li> </ol>	plicable Condition Car	tegory areas within the	e wetland zon	e of influe	nce using the	descriptors	above.				
<ol><li>Estimate the <sup>9</sup></li></ol>	% area within each co	ndition category. Ca	lculators are p	rovided fo	r you below.			Total S	Score = SUM(%Areas*S	cores)	
<ol><li>Enter the % Z</li></ol>	Ol Area in decimal fo	rm (0.00) and Score	for each categ	ory in the I	blocks below.						
	Condition Category:										
	% ZOI Area:	0%	0	%	60	1%	10%	30%	0%	Total Score:	
Scoring:	Score:	0		0	1	3	7	4	0		0.49
	Total Sub-score:	0.00	0	00	7.8	80	0.70	1.20	0.00	9.70	0.49

2. Roadbed Pre	sence Index																		
									Condit	ion Categor	ies								
a. Roadbed	(	Optimal				Su	boptima	ıl				Marginal					Poor		
resence	High Optimal: No	Low 0	Optimal:		High Sub	optimal:	Low S	uboptim	al:	High Marg	nal:	Low Ma	rginal:	Roadbed	High Poo	r: Roadbed	Low	Poor: F	loadbed
within 0 - 100	roadbeds present	Roadl	bed presenc	e	Roadbed	presence	Roadb	ed prese	nce	Roadbed p	resence	presenc	e score v	within 0-	presence	score within	pres	ence sco	re within 0-
oot Wetland	within 100 feet of	score	within 0-100	) feet	score with	in 0-100	score v	vithin 0-1	00 foot	score within	n 0-100	100 foot	t distance	e of the	0-100 foo	t distance o	100	foot dista	nce of the
OI distance)	the AA boundary	of the	AA bounda	ry	foot distar	nce of the	distand	e of the	AA	foot distance	e of the	AA bour	ndary is o	reater	the AA bo	oundary is	AA b	oundary	is greater
	1	egual	to or less th	an 2.	AA bound	ary is	bound	ary is gre	ater than	AA bounda	ry is	than to	8 but less	s than or	greater th	nan 10 but	than	12.	Ü
		•			greater th	an to 2	to 4 bu	it less tha	an or	greater tha	n to 6	equal to	10.		less than	or equal to			
					but equal	to or less	egual t	to 6.		but less that	in or	•			12.	•			
					than 4.					equal to 8.									
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

									Condi	tion Categorie	es									
b. Roadbed		0	ptimal			Su	boptim	nal				Margina	l				Poor			
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optima roadbeds pre within 100 - 3 feet of the A/ boundary	esent 300	Low Optim Roadbed p score within feet of the a boundary e less than 2	resence n 100 - 300 AA qual to or	score wit 300 feet boundar	I presence hin 100 - of the AA y is greater but equal	Road score feet A greate	Suboptim bed prese within 10 AA bounda er than to han or equ	ence 0 - 300 ary is 4 but	Roadbed pre score within 300 feet of the boundary is than to 6 but than or equal	esence 100 - he AA greater t less	presen 300 fee bounda	ce score et of the A ary is grea	within 100 AA ater than	- presence 100 - 300		prese		e within of the AA	CI = Total Score/2
SCORE	20 1	19	18 17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	1
												C	ondition	Score	We	ighting		Sub-Sc	ores	
										a. Roadbed	1 0-100:		17		*	(0.67)		11		
										b. Roadbed 1	00-300:		17		*	(0.33)		6		0.05
															Tota	al Score:		17		0.85

omments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

**Overall Condition Index:** 

0.81

## **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

Variable			For use i	in all v	Per wetland classifica				of Enviro: dania excep				s of a	watercours	se.			
Species   Comment   Comm	3. Vegetation C	Condition Index						Cond	ition Catego	rv								
	a. Invasive		Optimal			Subopt	imal	Cond	lion Catego		Marginal					Poor		
Score   Secretary   Secretar	Species		•	% of				mal: >10%	High Marg	nal:	Low Mar	rginal: >30%	6 but	> 50% of	the total A	A contai	ns invasive species.	
Container No.   Container No	Presence	invasives present.		ins														
## Special Process   Second			invasive species.									ains invasive						
Controller   Con							doive opeo	,ico.		rasivo	эрсоюз.							
20 Migration   19 M	SCORE	20 19	18 17	16	15 14	13	12	11	10	9	8	7	6	5	4	3	2 1	
Special Companies   Special Companies   Subjective   High Subsoptimal   Tree   High Marginal   Low Application Stressor   Processor   Special Companies   High Subsoptimal   Tree   High Marginal   Low Application Stressor   Processor   Special Companies   Low Application Stressor   Special Companies   Low Application Stressor   Low Applicatio	Comments: No	Invasive Species id	lentified in wetland	AA.														
Special   Spec																		
Special   Spec								Cond	tion Catogo	n,								
Second   S	b. Vegetation		Optimal			Subopt	imal	Cond	lion catego		Marginal					Poor		
Proceedings   Processing   Pr														Greater t				CI=
According	Presence														within th	e AA bo	oundary.	
SOCIET   20 19 18 17 18 15 14 13 12 11 1 0 9 8 7 6 5 4 3 2 1				AA				i the AA					4					Score/4
A   Invasive Sub-Score    20   Total Score		·	Ţ		boundary.				boundary.									
Individual political form index   Individual political form individual political politic		20 19	18 17	16	15 14	13	12	11	10	9						_		
Hydrologic Modification Index    Continue																		0.80
Condition Category	Maintained pipe	eline ROW and mair	ntenance road/ATV	trail.							b. Veget	tation Sub-	core:			12	32	
Physiologic   High Optimals   No   Cow Optimals   Company   Common   Physiologic steesance   Physiol																		
Physiologic   High Optimals   No   Cow Optimals   Company   Comp																		
Physiologic   High Optimals   No   Cow Optimals   Company   Comp	4. Hydrologic N	Modification Index																
Comments: Within ROW alteration caused by pipeline maintenance and ATV use.   Condition Category	, u. o.o.g.o							Cond	tion Catego	ry								
Modification   Presence   Prese			Optimal			Subopt	imal									Poor		
Score 2 9 9 18 17 18 19 19 18 17 18 19 19 18 17 18 19 19 18 17 18 19 19 18 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19														Greater t				
Score   20 9 9 16 17 16   15 14 13 12 11   10 9 8 7 6 5 4 3 2 1   0.85													Α.		within th	ie aa bo	oundary.	
Sediment Stressor Index					within the AA					A	boundary	y.						
Sediment Stressor Index    Condition Category   Con					boundary.				boundary.									
Sediment Stressor Index    Sediment Stressor Index   Condition Category   Condition Category	SCORE	20 19	18 17	16	15 14	13	12	11	10	9	8	7	6	5	4	3	2 1	0.05
Sediment Stressor Presence Presence Presence Condition Category    High Optimal   No Suboptimal   No Suboptima	- 0 !!																	
Sediment stressor present within the Ab boundary.  Water Quality Stressor Index  Water Quality Stressor Index  Comments: No stressors Identified.  Condition Category  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors pres	s. Sealment Sti	ressor index						Cond	tion Catego	rv								
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Stressor Presence of Presence	Sediment													Greater				
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Water Quality Stressor Index    Condition Category					boundary.													
A Eutrophication stressor present within the AA boundary.  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Contaminant / Toxicity Stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  Contaminant / Toxicity Stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  Contaminant / Toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  Contaminant / Toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contam						13	12	11	10	9	8	7	6	5	4	3	2 1	0.85
a. Eutrophication Stressor present within the AA boundary.  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Condition Category  AA boundary.  Foor In the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Condition Category  Condition Category  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Condition Category  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Conditio	Comments: On	e stressor identified	d due to ROW main	itenan	ce and ATV use.									Sc	ore:		17	0.00
a. Eutrophication Stressor present within the AA boundary.  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Condition Category  AA boundary.  Foor In the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Condition Category  Condition Category  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Condition Category  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Conditio																		
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a. Eutrophication stressors present within the AA boundary.  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors by the AA boundary.  Condition Category  No contaminant / Toxicity Stressor Presence  Condition Category  No contaminant / Toxicity Stressor present within the AA boundary.  Condition Category  No contaminant / Toxicity Stressor present within the AA boundary.  Condition Category  No contaminant / Toxicity Stressors present within the AA boundary.  Condition Category  No contaminant / Toxicity Stressors present within the AA boundary.  Condition Category  No contaminant / Toxicity Stressors present within the AA boundary.  Condition Category  No contaminant / Toxicity Stressors present within the AA boundary.  Condition Category  No contaminant / Toxicity stressors present within the AA boundary.  Condition Category  No contaminant / Toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  No contaminant / toxicity stressors present within the AA boundary.  Condition Category  Toxicity AA to the AB to the	o. water Quality	y Stressor index						Cond	tion Catego	rv								
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SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Two contaminant / toxicity stressors present within the AA boundary.  Condition Category  Toxicity Stressors present within the AA boundary.  Condition Category  Three contaminant / toxicity stressors present within the AA boundary.  Condition Category  Toxicity Stressors present within the AA boundary.  Condition Category  Toxicity Stressors present within the AA boundary.  Condition Category  Three contaminant / toxicity stressors present within the AA boundary.  Condition Category  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Toxicity Stressors present within the AA boundary.  Contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present withi		the A	A boundary.		the	AA bo	undary.			AA	boundary	<i>/</i> .			AA	bounda	ary.	
Condition Category  Octimal Suboptimal Marginal Poor  I Toxicity Stressors present within the AA boundary.  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  Comments: No stressors identified.	1 10001100																	
Condition Category  Octimal  Optimal  No contaminant / toxicity stressors present within the AA boundary.  Suboptimal  One contaminant / toxicity stressors present within the AA boundary.  Stressor  Presence  SCORE  20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  Condition Category  Marginal  Foor  Within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Total Score/A  Score/A  Score/A  Score/A  Total Score:  1.00				16	15 14	13	12	11	10	9	8	7	6	5	4	3	2 1	
Contaminant / Toxicity Stressor Presence  SCORE  20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  Suboptimal  Marginal  Poor  CI =  Two contaminant / toxicity stressors present within the AA boundary.  Within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Total Score:  a. Eutrophication Score  20 Total Score:	Comments: No	stressors identified	l.															
Contaminant / Toxicity Stressor Presence  Suboptimal  Suboptimal  Suboptimal  Suboptimal  Marginal  Poor  CI =  Total Score/4  SCORE  S																		
Contaminant / Toxicity Stressor Presence  SCORE  20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  Suboptimal  Marginal  Poor  CI =  Two contaminant / toxicity stressors present within the AA boundary.  Within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Total Score:  a. Eutrophication Score  20 Total Score:																		
Contaminant / Toxicity Stressor Presence  SCORE  20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  Suboptimal  Marginal  Poor  CI =  Two contaminant / toxicity stressors present within the AA boundary.  Within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  Total Score:  a. Eutrophication Score  20 Total Score:								Cond	tion Catego	n/								
Toxicity Stressor Presence  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  No contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  SCORE  20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.  20 Total Score:  100 contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.  CI = Total Score/4  SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  Comments: No stressors identified.	b. Contaminant		Optimal			Subopt	imal	Cond	lion Catego	-	Marginal					Poor		
Presence         Score/4           SCORE         20         19         18         17         16         15         14         13         12         11         10         9         8         7         6         5         4         3         2         1           comments: No stressors identified.         a. Eutrophication Score         20         Total Score:         1.00	/ Toxicity		•	esent				rs present	Two con			tressors pre	sent	Three co	ntaminant		y stressors present	CI=
SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  comments: No stressors identified.  a. Eutrophication Score 20 Total Score:		within the	e AA boundary.		within	the AA	boundary.			within th	ne AA boui	ndary.			within th	e AA bo	oundary.	
comments: No stressors identified.  a. Eutrophication Score 20 Total Score:	Presence				[													Score/4
comments: No stressors identified.  a. Eutrophication Score 20 Total Score:	SCORE	20 19	18 17	16	15 14	13	12	11	10	9	8	7	6	5	4	3	2 1	
1.00			-								-							
-1-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-																		1.00

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition

score.

## Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

### **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/9/17	J. Miner, C. Maier, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD083JLM	W007, W007A, W007B	41.709785	-78.483244	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		2	

Road Comments: Unimproved access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	10/9	/17
(Document No. 310-2137-002)		Occuri	rence
Pennsylvania Department of Environmental Protection		in A	ΔΔ
STRESSOR WORKSHEET		Y #'s	
Vegetation Alteration			
Mowing	X		
Moderate livestock grazing (within one year)		_	X
Crops (annual row crops, within one year)		_	X
Selective tree harvesting/cutting (>50% removal, within 5 years)		_	X
Right-of-way clearing (mechanical or chemical)	X		1
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X		
Removal of woody debris		_	X
Aquatic weed control (mechanical or herbicide)		_	X
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)			X
Plantation (conversion from typical natural tree species, including orchards)			X
Other:			X
	Total Number:	3	
Hydrologic Modification			
Ditching, tile draining, or other dewatering methods			X
Dike/weir/dam			X
Filling/grading			X
Dredging/excavation			X
Stormwater inputs (culvert or similar concentrated urban runoff)			X
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X		
Dead or dying trees (trunks still standing) *		_	X
Stream alteration (channelization or incision)			X
Other:		_	X
	Total Number:	1	
Sedimentation			
Sediment deposits/plumes			X
Eroding banks/slopes			X
Active construction (earth disturbance for development)			X
Active plowing (plowing for crop planting in past year)			X
Intensive livestock grazing (in one year, ground is >50% bare)			X
Active selective forestry harvesting (within one year)			X
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)			X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)		X
Other:	X		
	Total Number:	1	
Eutrophication			
Direct discharges from agricultural feedlots, manure pits, etc.			Х
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.			Х
Heavy or moderately heavy formation of algal mats			Х
Other:			X
	Total Number:	0	
Contaminant/Toxicity			
Severe vegetation stress (source unknown or suspected)			Х
Obvious spills, discharges, plumes, odors, etc.			Х
Acidic drainages (mined sites, quarries, road cuts)			Х
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites			Х
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)			X
Fish or wildlife kills or obvious disease or abnormalities observed			X
Excessive garbage/dumping			X
Exocosive garbage/damping			
Other:			X

### Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

#### **Invasive Species Presence Worksheet**

Total % relative cover of all invasives, collectively on site: \_\_\_\_\_%

Comments:

	Common Invasives/Aggressives List    Code   Common Name   Scientific   Status   Code   Cod													
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status							
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW							
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW							
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW							
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW							
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC							
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW							
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW							
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW							
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW							
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW							
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-							
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-							
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-							
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?							
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-							
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU							
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW							
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW							
lota	Tartarian honeysuckle	Lonicera tatarica												

# **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/9/17	1.27	W009, W009A, W009B, Pond 03	1.28	
Name(s) of Eval	uator(s)	Lat (dd)	Long (dd)	Notes:			
J. Miner, C. M	aier, M. Groomer	41.7115590	-78,4800720	RW081JLM, P	EM and PFO w	vetlands	

General Comments: Perennial stream runs through wetlands and connects to two ponds. Wetlands drain to stream. Wetlands and pond in maintained pipeline ROW (1.28 acres in ECL). PEM and PFO wetland beyond existing ROW, upslope and downslope of Project (2.52 acres delineated) beyond ECL. Impacts occur only to the PEM and PFO wetland area in the disturbed ROW. AA includes 1.09 acres of PEM (W009), 0.17 acres of PFO (W009A and W009B), and 0.02 acres of Pond 03 within the Project area.

1. Wetland Zone	e of Influence Conditi	on Index							
				Cond	ition Category				
Wetland Zone of	ηO	otimal	Sub	poptimal		Marginal	F	Poor	
Influence (300	•	consists of a tree stratum	High Suboptimal:	Low Suboptimal: ZOI	High Marginal:	Low Marginal: ZOI area	High Poor: ZOI area	Low Poor: ZOI area	
foot area around	• `	t breast height (dbh) > 3	. ~	area vegetation consists		vegetation consists of non-	vegetation consists of	vegetation consists of	
AA perimeter)	, ,	han or equal to 60% tree		of a tree stratum (dbh > 3		maintained, dense	lawns, mowed, and	impervious surfaces; mine	
		as comprised of stream	stratum (dbh > 3	inches) present, with	maintained, dense	herbaceous vegetation,	maintained areas,	spoil lands, denuded	
	The state of the s	ands (regardless of	,	greater than or equal to	herbaceous	riparian areas lacking shrub	•	surfaces, row crops,	
		ndition) and lacustrine	, ·	30% and less than 60%	vegetation with	and tree stratum, areas of	cropland; actively	active feed lots,	
	resources ≥ 10 acre	s are scored as optimal.		tree canopy cover with a	•	hay production, and ponds	grazed pasture,	impervious trails, or other	
			60% tree canopy	maintained understory.	or a tree stratum	or open water areas (< 10	sparsely vegetated non	comparable conditions.	
			cover and containing		(dbh > 3 inches)	acres). If trees are present,	maintained area,		
			both herbaceous		present, with less	tree stratum (dbh > 3	pervious trails, recently		
			and shrub layers or a non-maintained		than 30% tree	inches) present, with less than 30% tree canopy	seeded and stabilized, or other comparable		
			understory.		canopy cover.	cover with maintained	condition.		CI = Total
			understory.			understory.	Condition.		Score/20
						understory.			
SCORE		18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	
1. Identify all app	olicable Condition Cate	egory areas within the wet	land zone of influence	using the descriptors abo	ve.				
2. Estimate the 9	% area within each cor	ndition category. Calculate	ors are provided for yo	ou below.		Total S	Score = SUM(%Areas*Se	cores)	
3. Enter the % Z	Ol Area in decimal for	m (0.00) and Score for ea	ch category in the blo	cks below.					
	Condition Category:								
	% ZOI Area:	0%	0%	60%	10%	30%	0%	Total Score:	
Scoring:	Score:	0	0	13	7	4	0		0.40
	Total Sub-score:	0.00	0.00	7.80	0.70	1.20	0.00	9.70	0.49

Comments: Area includes maintained pipeline ROW with access road/ATV trail, other wetlands, and streams. Adjacent forest has maintained understory.

Ĺ	2. Roadbed Pres	sence Index								
					Conditi	on Categories				
ć	a. Roadbed	0	ptimal	Sul	poptimal		Marginal	i i	Poor	
	Presence (within	High Optimal: No	Low Optimal:	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: Roadbed	High Poor: Roadbed	Low Poor: Roadbed	
(	0 - 100 foot	roadbeds present	Roadbed presence	Roadbed presence	Roadbed presence score	Roadbed presence	presence score within 0-	presence score within 0	- presence score within	า 0-
١	Wetland ZOI	within 100 feet of the	score within 0-100 feet	score within 0-100	within 0-100 foot	score within 0-100	100 foot distance of the AA	100 foot distance of the	100 foot distance of the	ne
(	distance)	AA boundary	of the AA boundary	foot distance of the	distance of the AA	foot distance of the	boundary is greater than to	AA boundary is greater	AA boundary is greate	er
			equal to or less than 2.	AA boundary is	boundary is greater than	AA boundary is	8 but less than or equal to	than 10 but less than or	than 12.	- 1
				greater than to 2 but	to 4 but less than or	greater than to 6 but	10.	equal to 12.		- 1
				equal to or less than	equal to 6.	less than or equal to				
				4.		8.				- 1
ľ	CCODE	20 40	40 47 46	45 44	42 42 44	10 0	9 7 6	5 4	2 2 4	

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

										Condit	ion Categor	ies										
b. Roadbed		0	ptimal				Su	boptin	nal				Margina	ıl					Poor			
Presence (within				<u>Optimal</u>		High Sub			Subopti		High Margi			larginal: F		High Po					Roadbed	
100 - 300 foot Wetland ZOI	roadbeds p			ed pres		Roadbed p			•		Roadbed pr		•	ce score w		1.			-		ore within 100	
	within 100 of the AA b		feet of	the AA	00 - 300 boundary s than 2.	score with 300 feet of boundary	the AA	boun		eater than	score within 300 feet of t boundary is	he AA	is grea	et of the AA ter than to equal to 1	8 but less	bounda	ry is g		boun		reater than	CI = Total
			equal	to or les	ss than 2.	than to 2 b	ut equal t			iaii Oi	than to 6 buthan or equa	t less	tilali Oi	equal to 1	0.	or equa			1 12.			Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5		4	3	2	1	
													С	ondition S	Score	V	Veigh	ting		Sub-S	cores	
											a. Roadbe	ed 0-100	:	17			* (0.6	57)		1	1	
											b. Roadbed	100-300		17			* (0.3	33)		6	6	0.05
																To	tal So	core:		1	7	0.85

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

3. Vegetation Co	ondition Index							
				Condi	tion Category			
a. Invasive	C	ptimal	Sul	poptimal	-	<b>Marginal</b>	Poor	
Species	High Optimal: No	Low Optimal: <5% of	High Suboptimal:	Low Suboptimal: >10%	High Marginal:	Low Marginal: >30% but	> 50% of the total AA contains invasive species.	
Presence	invasives present.	the total AA contains	>5% but less than	but less than 20% of the	>20% but less than	less than 50% of the total		
		invasive species.	10% of the total AA	total AA contains	30% of the total AA	AA contains invasive		
			contains invasive	invasive species.	contains invasive	species.		
			species.		species.			

0.85

# **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

**SCORE** 20 19 18 17 16 15 14 13 12 11 10 6 4 3 2

Comments: No Invasive Species identified in wetland AA.

										Condi	tion Categor	У									
b. Vegetation		0	ptimal				Sı	uboptim	al				Margina	al				Pod	or		
Stressor Presence	High Opt vegetatio present w AA bound	n stressors vithin the	vegeta	nt within	ssor	High Sub Two vege stressors within the boundary.	tation present AA	veget	ation stre nt within t	ssors the AA	High Margir vegetation si present withi AA boundary	ressors n the	vegeta	ation stre	essors	Greater		_	ation stresso A boundary.	rs present	CI = Tota Score/40
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments:													a.	Invasive	Sub-Score:			20	Total S	Score	0.80
Maintained pipe	eline ROW	and maint	tenance	road/A	TV trail.								b. Ve	getation	n Sub-Score:			12	32	2	0.80

4. Hydrologic Modification Index **Condition Category Optimal** Suboptimal Marginal Poor Low Optimal: One Low Suboptimal: Three High Marginal: Four Low Marginal: Five Greater than five hydrologic stressors present High Optimal: No High Suboptimal: Hydrologic CI = Total hydrologic stressor hydrologic stressors within the AA boundary. hydrologic stressors Two hydrologic hydrologic stressors hydrologic stressors Modification Score/20 present within the AA present within the AA present within the stressors present present within the present within the AA Stressor AA boundary. AA boundary. boundary. within the AA boundary. boundary. Presence boundary.

**SCORE** 20 19 18 17 16 15 14 13 12 11 10 9 7 6 5 3 2 8 Comments: Within ROW alteration caused by pipeline maintenance and ATV use. 17 Score:

5. Sediment Stressor Index

										Cond	ition Catego	У									
		C	ptimal				Su	boptima	al				Margina	ıl				Poor			
Sediment Stressor Presence	High Opt sediment present w AA bound	stressors ithin the	sedin	Optimal: nent stres nt within dary.	sor	High Sub Two sedir stressors within the boundary.	nent present AA	sedime	ent stress nt within t	sors	High Margin sediment str present with AA boundar	essors in the	sedime		ors present	Greater that	an five sec	liment str AA bound	essors pr dary.	esent within	CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.05
Comments: On	e stressor	identified	due to	ROW m	aintenan	ce and AT	/ use.									Sc	core:		17	,	0.85

6. Water Quality Stressor Index

										Condi	ion Catego	ry								
a. Eutro-			Optimal				S	uboptim	nal				Margina	I				Poor		
phication Stressor Presence	No eutrop		stressors \ bounda	•	within the	One eutro	•	n stressor A bounda	•	nt within the	Two eutro	•	stressor A bounda	•	t within the	Three eut	•	on stresso A bounda	•	nt within the
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: No stressors identified.

											Condi	ion Catego	ry									
b. Contaminar	nt /			Optima	l			S	uboptim	al				Marginal					Po	or		
Toxicity Stress Presence		No cont			stressors oundary.	present	One co		t / toxicity the AA bo		s present	Two con		/ toxicity s ne AA bou		present	Three			cicity stress A boundary	ors present	CI = Total Score/40
SCORE		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments: N	No str	essors	identifie	d.										a. Eu	trophica	tion Score		20		Total	Score:	1.00
														b. (	Contamir	ant Score		20			40	1.00

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition

Overall Condition Index:

0.81

## Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002)
Pennsylvania Department of Environmental Protection

### **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/9/17	J. Miner, C. Maier, M. Groomer
Resource Identifier	AA#		Long (dd)	Notes:
RW081JLM	W009, W009A, W009B, Pond 03	41.7115590	-78.4800720	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		2	

Road Comments: Unimproved access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessment		10/9/17	,
(Document No. 310-2137-002)	0	ccurren	ice
Pennsylvania Department of Environmental Protection	I I	in AA	
STRESSOR WORKSHEET			
	Y	#'s	N
Vegetation Alteration	V		
Moderate livesteek grazing (within one year)	X	4	V
Moderate livestock grazing (within one year)  Crops (annual row crops, within one year)		-	X
Selective tree harvesting/cutting (>50% removal, within 5 years)	_	-	^
Right-of-way clearing (mechanical or chemical)	X	1	^
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X	1	
Removal of woody debris	^	-	Y
Aquatic weed control (mechanical or herbicide)	_	1	Λ Y
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)	_	1	Λ Y
Plantation (conversion from typical natural tree species, including orchards)	_	1	X
Other:	_	-	X
Total Numbe	r:	3	Λ
Hydrologic Modification			
Ditching, tile draining, or other dewatering methods			Х
Dike/weir/dam			X
Filling/grading		-	X
Dredging/excavation		1	X
Stormwater inputs (culvert or similar concentrated urban runoff)			X
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X		
Dead or dying trees (trunks still standing) *		1	Χ
Stream alteration (channelization or incision)		1	X
Other:			Χ
Total Numbe	r:	1	
Sedimentation			
Sediment deposits/plumes			Χ
Eroding banks/slopes			Χ
Active construction (earth disturbance for development)			Χ
Active plowing (plowing for crop planting in past year)			Χ
Intensive livestock grazing (in one year, ground is >50% bare)			Χ
Active selective forestry harvesting (within one year)			Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)			Χ
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment discharges)			Χ
Other:	X		
Total Numbe	r:	1	
Eutrophication			
Direct discharges from agricultural feedlots, manure pits, etc.			X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.			X
Heavy or moderately heavy formation of algal mats			X
Other:			X
Total Numbe	r:	0	
Contaminant/Toxicity			
			X
Severe vegetation stress (source unknown or suspected)	1		X
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc.			Χ
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc. Acidic drainages (mined sites, quarries, road cuts)			
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc. Acidic drainages (mined sites, quarries, road cuts) Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites			X
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc. Acidic drainages (mined sites, quarries, road cuts) Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites Chemical defoliation (majority of herbaceous and woody plants affected, within one year)			
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc. Acidic drainages (mined sites, quarries, road cuts) Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites Chemical defoliation (majority of herbaceous and woody plants affected, within one year) Fish or wildlife kills or obvious disease or abnormalities observed			
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc. Acidic drainages (mined sites, quarries, road cuts) Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites Chemical defoliation (majority of herbaceous and woody plants affected, within one year) Fish or wildlife kills or obvious disease or abnormalities observed Excessive garbage/dumping		-	
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc. Acidic drainages (mined sites, quarries, road cuts) Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites Chemical defoliation (majority of herbaceous and woody plants affected, within one year) Fish or wildlife kills or obvious disease or abnormalities observed		0	

presence of these conditions.

## Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection
Invasive Species Presence Worksheet

Are invasive species (from list) present at the site in any layer? YES NO

If listed species present, enter the percent areal coverage for each species below:

Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total % relative cover of all invasives, collectively on site: \_\_\_\_0\_\_%

Comments:

			Commo	on Inva	sives/Aggressives L	ist	
Code	Common Name	Scientific	Status	Code		Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

#### **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/09/17	1.44	W010, W010A, W010B	1.44	
Name(s) of Evaluato	or(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M. Gre	oomer	41.713516	-78.476277	WD089TMM,	PEM and PF	O wetlands	

General Comments: PEM wetland located on hillside and extends into valley bottom draining into stream. PEM wetland adjacent to forest and occurs within maintained pipeline ROW (1.22 acres in ECL). PEM wetland continues downslope of existing ROW (0.91 acres delineated). PFO wetlands beyond existing ROW, upslope of Project (3.39 acres delineated) beyond ECL. Impacts mainly occur to the PEM wetland area, but also include a small portion of the PFO wetland area. AA includes 1.22 acres of PEM (W010) and 0.22 acres of PFO (W010A and W010B) upslope of Project area.

1. Wetland Zone	e of Influence Condi	tion Index												
				Cond	dition Category									
Wetland Zone	Ol	ptimal	Sub	optimal		Marginal								
of Influence (300 foot area around AA perimeter)	ZOI area vegetat stratum present (di- (dbh) > 3 inches) wi to 60% tree canopy of stream channels, classification or co	ion consists of a tree ameter at breast height th greater than or equal cover. Areas comprised wetlands (regardless of ndition) and lacustrine s are scored as optimal.	High Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or	Low Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than	High Marginal: ZOI area vegetation consists of non- maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.	Low Marginal: ZOI area	High Poor: ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.	Low Poor: ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	CI = Total Score/20					
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1						
2. Estimate the	1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above. 2. Estimate the % area within each condition category. Calculators are provided for you below.  Total Score = SUM(%Areas*Scores)													
	Condition Category:													
	% ZOI Area:	0%	0%	80%	0%	20%	0%	Total Score:						
Scoring:	Score:	0	0	12	0	4	0							
	Total Sub-score:	0.00	0.00	9.60	0.00	0.80	0.00	10.40	0.52					
Comments: Are	a includes maintain	ed pipeline ROW with a	ccess road/ATV trail	. Adjacent forest has n	naintained understo	ry.		•						

2. Roadbed Pre	sence Index																		
		Condition Categories																	
a. Roadbed	0	ptimal			Sub	al				Margina		Poor							
Presence	High Optimal: No	Low Opt	imal:_	High Su	boptimal:	Low	Suboptima	al:_	High Marginal:		Low Mar	ginal: Ro	adbed	High Po	or:	Low P	oor: Ro	adbed	
(within 0 - 100	roadbeds present	Roadbed	presence	Roadbe	d presence	Road	bed prese	nce	Roadbed prese	nce	presence	score with	nin 0-100	Roadbed	d presence	preser	nce score	within 0-	
foot Wetland	within 100 feet of	rithin 100 feet of score within 0-100 feet sc				score within 0-100 score within 0-100 foot s				ore within 0-100 foot distance of the AA					score within 0-100 100 foot distance of the				
ZOI distance)	the AA boundary	foot distance of the distance of the AA f			foot distance of the boundary is greater than to 8					foot distance of the AA boundary is greater				greater					
	equal to or less than 2. AA boundary is boundary is greater							AA boundary is	AA boundary is than 12.										
				greater t	greater than to 2 than to 4 but less than greater than to 6								greater than 10 but						
				but equa	al to or less	or eq	ual to 6.		but less than or				less than or equal						
				than 4.					equal to 8.					to 12.					
SCORE	20 19	18 '	17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

										Cond	ition Catego	ories										
b. Roadbed	Optimal						Sı	boptima				Poor										
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optimal: No roadbeds present within 100 - 300 feet of the AA boundary		Road score feet bour	Low Optimal: Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.				Road score feet A	Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.		300 feet of the AA boundary is greater		presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than			score w 300 fee bounda than to	d presence ithin 100 -	pres 100 bour r 12.	ence sco - 300 fee	Roadbed ore within et of the AA greater thar		
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7		6	5	4	3	2	1	
	•	Condition Score						re	Weighting		Sub-Scores		cores									
											a. Roadbed 0-100:			17			* (0.67)		11		1	
										l	b. Roadbed		17			* (0.33)		6		3	0.05	
																	Tota	al Score:		1	7	0.85
C							***															

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection  For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.																					
3. Vegetation C	Condition	Index								Cond	lition Categor	v									
a. Invasive Species Presence		timal: No		Optimal:			boptimal:		Suboptim	al:	High Margina	ıl:_	Marginal			> 50°	% of the to		contains inv	asive	
resence	invasive	s present.		tal AA cor ve specie		10% of t	less than he total A/ invasive	A 20% (	but less to f the total ins invasives.	I AA	>20% but less 30% of the to contains invas species.	tal AA	than 50% o contains in					species	5.		
SCORE Comments: No	20 Invasive	19 Species id	18 entified	17 In wetla	16 nd AA.	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
b. Vegetation		0	ptimal				Sı	ıboptima	al	Cond	lition Categor	у	Marginal					Poor			
Stressor Presence		timal: No	Low C	Optimal:			boptimal:	Low	Suboptim		High Margina		Low Margi		vegetation			vegetatio	on stressors	present	
rieselice		on stressors within the dary.		ation stres nt within t lary.		Two veg stressors within the boundar	s present e AA	stress	e vegetatio sors prese the AA		Four vegetation stressors present within the AA boundary.	sent	boundary.	resent wi	ithin the AA		within t	ne AA b	oundary.		CI = Total Score/40
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments: Maintained pip	eline ROV	V and main	tenanc	e road/A	ΓV trail.										Sub-Score: Sub-Score:			20 12	Total Sco	re	0.80
4. Hydrologic N	Modificatio	on Index																			
		0	ptimal				Sı.	ıboptima	al	Cond	dition Categor	у	Marginal					Poor			
Hydrologic Modification Stressor Presence	hydrolog	timal: No ic stressors within the	Low C	Optimal: logic stres nt within t lary.	ssor	Two hyd	boptimal: rologic s present e AA	Low S Three stress	Suboptime hydrologi sors prese the AA	ic	High Margina Four hydrolog stressors pres within the AA boundary.	jic sent	Low Margi		hydrologic ithin the AA			hydrolog	ic stressors oundary.	present	CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.85
5. Sediment St	tressor Inc	lex																			
		0	ptimal				Sı	ıboptima	al	Cond	lition Categor	у	Marginal					Poor			
Sediment Stressor Presence	sedimen	timal: No t stressors within the	Low C	Optimal: ent stress nt within t lary.	sor	Two sed	boptimal: iment s present e AA	Low S Three stress	Suboptime sediment sors present the AA	t	High Margina Four sedimen stressors pres within the AA boundary.	t sent	Low Margi		sediment ithin the AA	Greater		sedimer	nt stressors oundary.	present	CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.85
Comments: Or			due to	ROW ma	aintenar	nce and A	ATV use.									S	core:		17		0.00
6. Water Qualit	ty Stresso	r Index								Cond	dition Categor	у									
a. Eutro- phication Stressor	No eutr	ophication :	ptimal stressor		within	One eut	rophicatio	iboptima n stresso A bound	ors presen	t within	Two eutrophi	ication	Marginal stressors pro boundary.	esent wit	hin the AA	Three e		Poor tion stres AA bour	ssors preser	nt within	
Presence SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments: No																					
b. Contaminant	t	0	ptimal				Sı	ıboptima	al	Cond	dition Categor	у	Marginal					Poor			
/ Toxicity Stressor Presence		taminant / to within the	oxicity s		present	One cor		/ toxicitys	stressors p	oresent	Two contami				sent within	Three co		nt / toxici	ty stressors oundary.	present	CI = Total Score/40
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7 -tranbias	6	5	4	3	2	1	
Comments: No	suessor	s identifiéd	•												ntion Score		20		Total Sco	re:	1.00
																ı					
Overall Wetla	and Lev	el 2 Cond	ition S	core: S	um all	six of t	he Cond	ition In	idexes a	nd div	ide by 6 to d	calcul	ate the ov	erall co	ndition	0	verall (	Condit	ion Inde	x:	0.81

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

## **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/09/17	T. Malecki, M. Groomer
Resource Identifier	AA #	Lat (dd)	Long (dd)	Notes:
WD089TMM	W010, W010A, W010B	41.713516	-78.476277	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score	
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0	
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0	
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0	
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0	
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2	
Railroad	0-100 ft.		2	0	100-300 ft.		2	0	
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0	
Total Scores:	0-100 ft.		2		100-300 ft.	ft. 2			

Road Comments: Dirt access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessment			0/09/17	7
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· · · · · · · · · · · · · · · · · · ·		0.		
Pennsylvania Department of Environmental Protection	<u> </u>		in AA	1
STRESSOR WORKSHEET		Y	#'s	N
Vegetation Alteration				
Mowing		X		
Moderate livestock grazing (within one year)				X
Crops (annual row crops, within one year)				X
Selective tree harvesting/cutting (>50% removal, within 5 years)				X
Right-of-way clearing (mechanical or chemical)		X	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)		X		
Removal of woody debris				Χ
Aquatic weed control (mechanical or herbicide)				Χ
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Χ
Plantation (conversion from typical natural tree species, including orchards)				Χ
Other:				Χ
	Total Number:		3	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				X
Filling/grading				^ Y
				^
Dredging/excavation				X
Stormwater inputs (culvert or similar concentrated urban runoff)		.,		X
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)		X		
Dead or dying trees (trunks still standing) *				Х
Stream alteration (channelization or incision)				X
Other:				X
	Total Number:		1	
Sedimentation				
Sediment deposits/plumes				Χ
Eroding banks/slopes				Χ
Active construction (earth disturbance for development)				Χ
Active plowing (plowing for crop planting in past year)				Χ
Intensive livestock grazing (in one year, ground is >50% bare)			1	Χ
Active selective forestry harvesting (within one year)				Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment dischar	rges)			X
Other:	900)	X		^
	Total Number:		1	
Eutrophication			•	
Direct discharges from agricultural feedlots, manure pits, etc.				Х
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				X
Heavy or moderately heavy formation of algal mats				
Other:				X
	Tatal Namelani			X
	Total Number:		0	
Contaminant/Toxicity				\ <u>'</u>
Severe vegetation stress (source unknown or suspected)				X
Obvious spills, discharges, plumes, odors, etc.				X
Acidic drainages (mined sites, quarries, road cuts)				X
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				X
Fish or wildlife kills or obvious disease or abnormalities observed				Х
				Y
Excessive garbage/dumping				^
				X

## **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? YES NO         If listed species present, enter the percent areal coverage for each species below:         Species Code       <5%										
	Are invasive sp	ecies (from	list) prese	nt at the site	in any l	ayer? YES N	0		·	
Species Code         <5%	If listed species	s present, e	nter the pe	rcent areal o	coverage	for each species	below:			
	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total % relative cover of all invasives, collectively on site: 0 \_%

		Comm	on Invas	ives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ject	10/08/17	0.41	W016, W016A, W016B	1.00	
Name(s) of Eval	uator(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M	Groomer	41.720256	-78.465447	WD081TMM	, PEM and PFC	wetlands	

General Comments: PEM wetland located in valley bottom. Multiple man-made ponds and intermittent streams within wetland boundary. PEM wetland occurs within maintained pipeline ROW (0.40 acres in ECL) and is adjacent to forest. PEM wetland continues downslope of Project (0.12 acres delineated) beyond ECL. PFO wetland occurs partially within pipeline ROW (0.01 acres in ECL) and extends upslope of Project (0.97 acres delineated) beyond ECL. AA includes 0.52 acres of the PEM wetlands (W016A and W016B) and 0.48 acres of the PFO wetland.

1. Wetland Zone of Influence Condition Index												
					ondition Category							
Wetland Zone	Ol	otimal	Sub	optimal		Marginal	Po	oor				
of Influence		on consists of a tree		Low Suboptimal:	High Marginal:	Low Marginal: ZOI area	High Poor: ZOI area	Low Poor: ZOI area				
(300 foot area		ameter at breast height		ZOI area vegetation	ZOI area vegetation		vegetation consists of	vegetation consists of				
around AA perimeter)		th greater than or equal		consists of a tree	consists of non-	maintained, dense herbaceous		impervious surfaces;				
perimeter)		cover. Areas comprised wetlands (regardless of		stratum (dbh > 3 inches) present, with	maintained, dense herbaceous	vegetation, riparian areas lacking shrub and tree stratum,	maintained areas, nurseries: no-till	mine spoil lands, denuded surfaces, row				
		ndition) and lacustrine		greater than or equal	vegetation with	areas of hay production, and	cropland; actively	crops, active feed lots,				
		s are scored as optimal.			either a shrub layer	ponds or open water areas (<	grazed pasture, sparsely					
				60% tree canopy	or a tree stratum	10 acres). If trees are present,		other comparable				
			canopy cover and	cover with a	(dbh > 3 inches)	tree stratum (dbh > 3 inches)	maintained area,	conditions.				
			containing both	maintained understory.	present, with less	present, with less than 30%	pervious trails, recently					
			herbaceous and		than 30% tree	tree canopy cover with	seeded and stabilized,					
			shrub layers or a		canopy cover.	maintained understory.	or other comparable		CI = Total Score/20			
			non-maintained understory.				condition.		OI - Total Scole/20			
			understory.									
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4 :	3 2 1				
1. Identify all ap	oplicable Condition Ca	tegory areas within the	wetland zone of influe	ence using the descriptor	rs above.							
2. Estimate the	imate the % area within each condition category. Calculators are provided for you below.  Total Score = SUM(%Areas*Scores)											
3. Enter the %	ZOI Area in decimal fo	orm (0.00) and Score for	each category in the	blocks below.								
	Condition Category:											
	% ZOI Area:	0%	0%	80%	0%	20%	0%	Total Score:				
Scoring:	Score:	0	0	12	0	4	0		0.52			
	Total Sub-score:	0.00	0.00	9.60	0.00	0.80	0.00	10.40	0.52			
Comments: Are	ea includes maintain	ed pipeline ROW with a	ccess road/ATV trai	I. Streams and ponds of	ccur within ZOI. Adi	ecent forest has maintained un	derstory.					

2. Roadbed Pr	esence Index																				
									Coi	ndition Categorie	es										
a. Roadbed	C	ptimal				Sul	ooptima	al				Marginal						Poor			
Presence	High Optimal: No	Low	Optimal:	_	High Sul	optimal:	Low	Suboptin	nal:_	High Marginal:	<u> </u>	ow Marg	inal: R	oadbed	High P	oor: Ro	adbed	Lov	v Poor: R	oadbed	
(within 0 - 100	roadbeds present	Road	bed pres	ence	Roadbed	presence	Road	bed prese	ence	Roadbed preser	nce p	oresence	score w	ithin 0-100	presen	ce scor	e within	0- pres	sence sco	e within 0-	
foot Wetland	within 100 feet of	score	within 0-	-100 feet	score wit	hin 0-100	score	within 0-	100 foot	score within 0-1	00 f	oot distar	nce of th	ie AA	100 foc	t distar	nce of th	ie 100	foot dista	nce of the	
ZOI distance)	the AA boundary	of the	AA bour	ndary	foot dista	nce of the	distar	ice of the	AA	foot distance of	the b	ooundary	is greate							is greater	
		equa	I to or les	s than 2.	AA boun	dary is		dary is gre		AA boundary is		out less th	nan or ed	qual to 10.	than 10	but les	s than	or thar	ո 12.		
					greater th	nan to 2	than t	o 4 but le	ss than	greater than to	3				equal to	12.					
					but equa	to or less	or eq	ual to 6.		but less than or											
					than 4.					equal to 8.											
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6	5		4	3	2	1	
o , p:	I. DOM		- 1 -			*** ***				·											

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

										Co	ndition Catego	ories											
b. Roadbed		0	ptimal				Sul	boptima	al				Marginal						Poor				
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optimal: No roadbeds present within 100 - 300 feet of the AA boundary equal to or less than 2.  High Optimal: No Adobed presence within 100 - 300 feet of the AA boundary equal to or less than 2.  High Suboptimal: Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 4 but too r less than 4.		300 feet of the	sence 100 - le AA greater less	greater th	score wi f the AA an to 8 b		pres 100 bour to 10	ence so - 300 fe ndary is	greater the ss than or	pre A 10	esence so 0 - 300 fe undary is	Roadbed fore within et of the AA greater tha		re/20								
SCORE	20 1	9	18	17	16	15	14	13	12	11	10	9	8	7	6		5	4	3	2	1		
													Co	ndition	Score		Wei	ghting		Sub-9	Scores		
											a. Roadbed	0-100:		17			* (	0.67)		1	11		
									b. Roadbed 10	00-300:		17			* (	0.33)			6	0.85			
																	Total	Score:		1	17	0.05	
Commonte: Dir	olino DOW m	ninton	noo ro	ad two	track vo	gotatod	with ruttin	~															

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Pennsylvania Department of Environmental Protection  For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.																					
3. Vegetation C	Condition	Index									•										
a. Invasive			Optimal				Sul.	ooptimal		Cor	ndition Catego	ry	Marginal					Poor			
Species Presence		timal: No s present.	Low 0	Optimal: tal AA co ve speci	ontains	>5% but	ooptimal: less than ne total AA	>10% b 20% of	ut less than the total AAs invasive	Ą	High Marginal: >20% but less to 30% of the total contains invasivals	than II AA		of the to		> 50% of	the total		ins invasive sp	pecies.	
SCORE	20	19	18	17	16	15	14	13		11	10	9	8	7	6	5	4	3	2	1	
Comments: No	Invasive	Species id	dentified	l in wetla	and AA.																
b. Vegetation			Optimal				Sul.	ooptimal		Cor	ndition Catego	ry	Marginal					Poor			
Stressor	High Op	timal: No		Optimal:	One	Hiah Sul	ooptimal:		boptimal:		High Marginal:			inal: Fiv	ve vegetation	Greater	than five		n stressors pr	esent	
Presence	present of AA boun		rs vegeta prese bound	ation stre nt within dary.	essor the AA	Two vego stressors within the boundary	etation present e AA	Three v stressor within the bounda	egetation rs present ne AA ry.		Four vegetation stressors prese within the AA boundary.	n ent	stressors p boundary.	oresent	within the AA			the AA bo		_	CI = Total Score/40
SCORE	20	19	18	17	16	15	14	13	12 1	11	10	9	8	7	6	5	4	3		1	
Comments: Area includes r	maintaina	d ninalina	DOW a	nd main	<b>.</b>	rood/ATV	tuall								Sub-Score:			20 12	Total Sco	re	0.80
4. Hydrologic N	Modification									Coi	ndition Catego	ry						•			
			Optimal		_			ooptimal					Marginal					Poor			
Hydrologic Modification Stressor Presence	hydrolog	timal: No ic stressor within the dary.	shydro	Optimal: logic stre nt within dary.	essor	High Sul Two hydi stressors within the boundary	present AA	Three h			High Marginal: Four hydrologic stressors prese within the AA boundary.	5			ve hydrologic within the AA	Greater		hydrologi the AA bo	c stressors pro oundary.	esent	CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12 1	11	10	9	8	7	6	5	4	3	2	1	0.70
5. Sediment St	Sediment Stressor Index Condition Category																				
			Optimal				Sul.	ooptimal		Cor	ndition Catego	ry	Marginal					Poor			
Sediment Stressor Presence	sedimen	timal: No t stressors within the	Low 0	Optimal: ent stres nt within dary.	ssor	High Sul Two sedi stressors within the boundary	ment present AA	Low Su Three s			High Marginal: Four sediment stressors prese within the AA boundary.	_	Low Margi		ve sediment within the AA	Greater			t stressors pre oundary.	esent	CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12 1	11	10	9	8	7	6	5	4	3	2	1	• • •
Comments: On  6. Water Qualit			d due to	ROW m	naintenai	nce and A	TV use.									s	core:		17		0.85
										Cor	ndition Catego	ry									
a. Eutro- phication Stressor Presence	No eutr	ophication	optimal stressor A bound		nt within	One eutr	ophication	ooptimal stressors boundar	present wi	ithin	Two eutrophic	ation	Marginal stressors pr boundary.	resent v	within the AA	Three eut		Poor on stresso A bounda	ors present wit ary.	thin the	
SCORE	20	19	18	17	16	15	14	13	12 1	11	10	9	8	7	6	5	4	3	2	1	
Comments: No	stressors	s identified	d.																		
b. Contaminant	t	(	Optimal				Sul	ooptimal		COI	ndition Catego	ry	Marginal					Poor			
/ Toxicity Stressor Presence		taminant / t within the	e AA bou	undary.			within the	AA boun			Two contamin	the	toxicity stres	ary.			within	the AA bo			CI = Total Score/40
SCORE Comments: No	20	19	18	17	16	15	14	13	12 1	11	10	9	8	7	6	5	4	3		1	
Comments: No	stressor:	s ruentine	u.												cation Score		20		Total Scor	e:	1.00
													IJ.	Jonan	ant ocole		20		40		
Overall Wetla	and Leve	el 2 Conc	dition S	Score:	Sum all	six of th	ne Condi	tion Ind	exes and	divi	ide by 6 to ca	alcul	ate the ov	erall o	condition	0	verall (	Conditi	on Index:		0.79

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

## **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/08/17	T. Malecki, M. Groomer
Resource Identifier	AA #	Lat (dd)	Long (dd)	Notes:
WD081TMM	W016, W016A, W016B	41.720256	-78.465447	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		2	

Road Comments: Dirt access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessment		10/08/1	7
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Pennsylvania Department of Environmental Protection	i	in AA	
STRESSOR WORKSHEET	Y		N
Vegetation Alteration	'	# 5	14
Mowing	X		
Moderate livestock grazing (within one year)	^		X
Crops (annual row crops, within one year)			X
Selective tree harvesting/cutting (>50% removal, within 5 years)			X
Right-of-way clearing (mechanical or chemical)	X	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X		
Removal of woody debris			X
Aquatic weed control (mechanical or herbicide)			X
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)			X
Plantation (conversion from typical natural tree species, including orchards)			X
Other:			X
Total N	lumber:	3	<u></u>
Hydrologic Modification	a.moor.	J	
Ditching, tile draining, or other dewatering methods			X
Dike/weir/dam			X
Filling/grading			×
Dredging/excavation		_	X
Stormwater inputs (culvert or similar concentrated urban runoff)	V	4	
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X	4	•
	۸	_	V
Dead or dying trees (trunks still standing) *			X
Stream alteration (channelization or incision)			X
Other:	le comp la me	2	Х
Total N Sedimentation	umber.		
Sediment deposits/plumes			Ιν
Eroding banks/slopes			<u>~</u>
Active construction (earth disturbance for development)			<u>~</u>
Active construction (cartiful distribution for development)  Active plowing (plowing for crop planting in past year)		_	<del>-</del>
Intensive livestock grazing (in one year, ground is >50% bare)		_	<del>-</del>
Active selective forestry harvesting (within one year)		_	<u>~</u>
			X
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)		_	<u>~</u>
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment discharges)  Other:	V	_	<u> </u>
	lumber:	1	
Eutrophication	uniber.		
Direct discharges from agricultural feedlots, manure pits, etc.			x
			+
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.			X
Heavy or moderately heavy formation of algal mats			X
Other:	le considera de		X
	lumber:	0	
Contaminant/Toxicity Severe vegetation stress (source unknown or suspected)			lv
Severe vegetation stress (source unknown or suspected) Obvious spills, discharges, plumes, odors, etc.			X
Acidic drainages (mined sites, quarries, road cuts)			X
			-
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites			X
Chamical defaliation (majority of barbaccus and wards plants offected within an array)			X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)			
Fish or wildlife kills or obvious disease or abnormalities observed			X
Fish or wildlife kills or obvious disease or abnormalities observed Excessive garbage/dumping			X
Fish or wildlife kills or obvious disease or abnormalities observed  Excessive garbage/dumping  Other:	lumber:	0	X X

## **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? YES NO

If listed species present, enter the percent areal coverage for each species below:												
Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%			
					1			i				

Total % relative cover of	all invasives,	collectively on s	ite:	0 '	%

		Comn	non Inva	sives/	Aggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ject	10/10/17	0.72	W020, W020A	1.00	
Name(s) of Eval	luator(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M	. Groomer	41.729827	-78.447915	WD092TMN	I, PFO and PEI	/I wetland	

General Comments: Large PEM and PFO wetland complex with streams throughout. PFO wetland located in valley bottom in existing pipeline ROW (0.23 acres in ECL) and forested hillside. PFO wetland continues upslope of Project (0.45 acres delineated) beyond ECL. PEM wetland occurs within maintained pipeline ROW (0.49 acres in ECL) and continues downslope of Project (0.70 acres delineated) beyond ECL. Impacts occur within both the PEM and PFO wetland. AA includes 0.72 acres of the proposed impacted area to PEM and PFO wetland, and 0.28 acres of the wetland complex that will not be impacted.

1. Wetland Zone	e of Influence Condi	ion Index							
				Co	ndition Category				
Wetland Zone	Oį	otimal	Sub	optimal		Marginal	Po	or	
of Influence (300 foot area around AA	ZOI area vegetati stratum present (dia (dbh) > 3 inches) wi to 60% tree canopy of stream channels, classification or coi	on consists of a tree ameter at breast height the greater than or equal cover. Areas comprised wetlands (regardless of ndition) and lacustrine is are scored as optimal.	High Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree	Low Suboptimal:  ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal	High Marginal: ZOI area vegetation consists of non- maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.	Low Marginal: ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.	High Poor: ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely	Low Poor: ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots,	Ci = Total Score/20
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4 3	3 2 1	
2. Estimate the	% area within each co ZOI Area in decimal fo	tegory areas within the vondition category. Calcurum (0.00) and Score for	ulators are provided fo		s above.	Total Sc	ore = SUM(%Areas*Scor	es)	
	Condition Category:								
	% ZOI Area:	0%	0%	90%	0%	10%	0%	Total Score:	
Scoring:	Score:	0	0	12	0	4	0		0.56
	Total Sub-score:	0.00	0.00	10.80	0.00	0.40	0.00	11.20	0.56
Commente: Are	a includes maintain	d nineline POW with a	ccose road/ATV trai	Stroams and other w	otlande occur within	ZOL Adjecent forest has maint	ained understone	•	

Comments: Area includes maintained pipeline ROW with access road/ATV trail. Streams and other wetlands occur within ZOI. Adjecent forest has maintained understory.

2. Roadbed Pre	sence Index																			
									Co	ndition Categori	ies									
a. Roadbed		Optima	al			Su	boptim	al				Margina						Poor		
Presence	High Optimal: No	Lov	v Optimal	<u>l:_</u>	High Su	boptimal:	Low	Suboptir	nal:	High Marginal:	:	Low Mar	ginal: R	Roadbed	High P	oor: R	oadbed	Low	Poor: R	Roadbed
(within 0 - 100	roadbeds present	Roa	adbed pre	sence	Roadbe	d presence	Road	lbed pres	ence	Roadbed prese	ence	presence	score w	ithin 0-100	presen	ce scoi	e within (	0- pres	ence sco	re within 0-
	within 100 feet of	sco	re within (	0-100 feet	score wi	thin 0-100	score	within 0-	-100 foot	score within 0-1	100	foot dista	nce of th	ne AA	100 foc	t dista	nce of the	e 100	foot dista	ince of the
ZOI distance)	the AA boundary	of t	ne AA bou	undary	foot dist	ance of the	dista	nce of the	e AA	foot distance of	f the	boundary	is great	er than to 8	AA bou	ndary	is greater	r AA I	ooundary	is greater
		equ	al to or le	ss than 2.	AA bour	dary is	boun	dary is gr	eater	AA boundary is	3	but less t	han or e	qual to 10.	than 10	but le	ss than o	r thar	12.	
					9	han to 2			ess than	greater than to	6				equal to	12.				
					but equa	I to or less	or eq	ual to 6.		but less than or	r									
					than 4.					equal to 8.										
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6	5		4	3	2	1
o , p:	II DOM : /																			

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

										Co	ndition Catego	ries											
b. Roadbed		0	ptimal				Sul	ooptima	al				Marginal						Poor				
Presence (within 100 - 300 foot Wetland ZOI distance)	High Op roadbeds within 10 feet of th boundary	0 - 300 ie AA	Road score feet d boun	Optimal libed prese within 1 of the AA dary equal than 2.	sence 00 - 300 ( )	Roadbed score with 300 feet boundar	boptimal: I presence thin 100 - of the AA y is greater but equal s than 4.	Roadt score feet A greate	A bounda	ence 00 - 300 ary is 4 but	High Margina Roadbed pres score within 1 300 feet of the boundary is g than to 6 but I than or equal	ence 00 - e AA reater ess	300 feet of greater th	score w of the AA an to 8	rithin 100 - A boundary is but less than	pres 100 bour to 10	sence so - 300 fe ndary is	greater tha	pre 4 100	undary i	score feet o	within f the AA	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6		5	4	3	2		1	
													Co	ndition	Score		Wei	ghting		Sub	-Scor	res	
											a. Roadbed	0-100:		17			* (	0.67)			11		
											b. Roadbed 10	0-300:		17			* (	0.33)			6		0.05
																	Total	Score:			17		0.85
Commonto: Dir	olina BO	M maintan		and true	trook w	antotod.	unith muttin	~															

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

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		For us	se in all wetland clas	-		onmental Protection pt those found within the bank	s of a watercourse		
3. Vegetation C	ondition Index	101 4	se in an wedana clas	Sinculons found with	n i cinisy viania exec	premose round within the bunk	o or a watercourse.		
			1		ondition Category				
a. Invasive Species	High Optimal: No	timal Low Optimal: <5% of	High Suboptimal:	optimal Low Suboptimal:	High Marginal:	Marginal Low Marginal: >30% but less	> 50% of the total	Poor  AA contains invasive species.	
Presence	invasives present.	the total AA contains invasive species.	>5% but less than 10% of the total AA	>10% but less than 20% of the total AA	>20% but less than 30% of the total AA	than 50% of the total AA contains invasive species.			
		ilivasive species.	contains invasive	contains invasive	contains invasive	contains invasive species.			
SCORE	20 19	18 17 16	species.	species. 13 12 11	species.	8 7 6	5 4	3 2 1	
		entified in wetland AA.				• • •		·	
				Co	ondition Category				
b. Vegetation Stressor	O <sub>l</sub> High Optimal: No	Low Optimal: One	Sub High Suboptimal:	optimal Low Suboptimal:	High Marginal:	Marginal Low Marginal: Five vegetation	Creater than five	Poor	
Presence	vegetation stressors	vegetation stressor	Two vegetation	Three vegetation	Four vegetation	stressors present within the AA		vegetation stressors present the AA boundary.	CI = Total Score/40
	present within the AA boundary.	present within the AA boundary.	stressors present within the AA	stressors present within the AA	stressors present within the AA	boundary.			
	·	-	boundary.	boundary.	boundary.	<u> </u>			
SCORE Comments:	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6 a. Invasive Sub-Score:	5 4	3 2 1 20 Total Score	
	naintained pipeline F	ROW and maintenance	road/ATV trail.			b. Vegetation Sub-Score:		20 Total Score 12 32	0.80
						b. vegetation oub-ocore.		12 32	
4. Hydrologic M	lodification Index								
		otimal	Çb	Coptimal	ondition Category	Marginal		Poor	
Hydrologic	High Optimal: No	Low Optimal: One	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: Five hydrologic	Greater than five	hydrologic stressors present	
Modification	hydrologic stressors present within the	hydrologic stressor present within the AA	Two hydrologic stressors present	Three hydrologic stressors present	Four hydrologic stressors present	stressors present within the AA boundary.	within	the AA boundary.	CI = Total Score/20
Stressor Presence	AA boundary.	boundary.	within the AA	within the AA	within the AA	boundary.			
			boundary.	boundary.	boundary.				
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	0.85
Comments: On	e stressor identified	due to ROW alteration	caused by pipeline i	maintenance and AI v	use.		Score:	17	
5. Sediment Str	essor Index								
			_		ondition Category		_		
	O <sub>l</sub> High Optimal: No	timal Low Optimal: One	Sub High Suboptimal:	optimal Low Suboptimal:	High Marginal:	Marginal Low Marginal: Five sediment	Greater than five	Poor sediment stressors present	
Sediment Stressor	sediment stressors	sediment stressor	Two sediment	Three sediment	Four sediment	stressors present within the AA		the AA boundary.	CI = Total Score/20
Presence	present within the AA boundary.	present within the AA boundary.	stressors present within the AA	stressors present within the AA	stressors present within the AA	boundary.			
	•		boundary.	boundary.	boundary.				
SCORE	20 19	18 17 16 due to ROW maintena	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	0.85
Comments. On	e stressor identilied	due to ROW maintena	nice and ATV use.				Score:	17	
6. Water Quality	Stressor Index								
a. Eutro-	Oi	otimal	Sub	optimal	ondition Category	Marginal		Poor	
phication	No eutrophication s	tressors present within	One eutrophication	stressors present within	Two eutrophication	stressors present within the AA		on stressors present within the	
Stressor Presence	the AA	boundary.	the AA	boundary.		boundary.	A	A boundary.	
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	
	stressors identified.							<u> </u>	
	1								
b. Contaminant	Oı	otimal	Sub	optimal	ondition Category	Marginal		Poor	
/ Toxicity Stressor		xicity stressors present		oxicitystressors present		toxicity stressors present within		nt / toxicity stressors present	
Presence	within the	AA boundary.	within the	AA boundary.	the	e AA boundary.	within	the AA boundary.	CI = Total Score/40
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	
Comments: No	stressors identified.					a. Eutrophication Score		Total Score:	1.00
					Ц	b. Contaminant Score	20	40	
Overall Wetla	and Level 2 Condi	tion Score: Sum all	six of the Condit	ion Indexes and div	ride by 6 to calcul	ate the overall condition	<u> </u>	O a maliki a 11-	2.00
score.					,		Overall	Condition Index:	0.82

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

## **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/10/17	T. Malecki, M. Groomer
Resource Identifier	AA #	Lat (dd)	Long (dd)	Notes:
WD092TMM	W020, W020A	41.729827	-78.447915	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		2	

Road Comments: Dirt access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	10	0/10/1	7
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Pennsylvania Department of Environmental Protection	j		in AA	
STRESSOR WORKSHEET		Υ	#'s	N
Vegetation Alteration				
Mowing	X			
Moderate livestock grazing (within one year)				Х
Crops (annual row crops, within one year)				Х
Selective tree harvesting/cutting (>50% removal, within 5 years)				Х
Right-of-way clearing (mechanical or chemical)	X		1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X			
Removal of woody debris				Х
Aquatic weed control (mechanical or herbicide)				Х
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Х
Plantation (conversion from typical natural tree species, including orchards)				Х
Other:				X
	Total Number:		3	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				Χ
Filling/grading				X
Dredging/excavation				Х
Stormwater inputs (culvert or similar concentrated urban runoff)				Χ
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X			
Dead or dying trees (trunks still standing) *				Χ
Stream alteration (channelization or incision)				Х
Other:				Х
	Total Number:		1	
Sedimentation				
Sediment deposits/plumes				Χ
Eroding banks/slopes				Χ
Active construction (earth disturbance for development)				Χ
Active plowing (plowing for crop planting in past year)				Χ
Intensive livestock grazing (in one year, ground is >50% bare)				Х
Active selective forestry harvesting (within one year)				Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				Х
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)			Х
Other:	X			
	Total Number:		1	
Eutrophication				
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
Heavy or moderately heavy formation of algal mats				Χ
Other:				Χ
	Total Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				Х
Obvious spills, discharges, plumes, odors, etc.				Х
Acidic drainages (mined sites, quarries, road cuts)				Х
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				Х
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				Х
Fish or wildlife kills or obvious disease or abnormalities observed				Х
				Х
Excessive garbage/dumping				
Excessive garbage/dumping Other:				Х

#### **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? If listed species present, enter the percent areal coverage for each species below:

Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%
									_

Total % relative cover of all invasives, collectively on site: 0
--

		Comn	non Inva	sives/	Aggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
Iomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/10/17	0.55	W026, W026A	1.00	
Name(s) of Eval	uator(s)	Lat (dd)	Long (dd)	Notes:			
J. Miner, C. M	laier, M. Groomer	41.733336	-78.443875	WD079JLM and WD09	1JLM, PEM ar	nd PSS wetland	s

General Comments: Site mowed routinely across ROW. Willow community present. Distinct elevation/slope break at edge of floodplain. Large wetland complex, W079 is PSS/PEM and W091 is PSS. PSS/PEM wetlands in maintained pipeline ROW (0.55 acres in ECL). Wetland continues beyond existing ROW, upslope and downslope of Project (3.10 acres delineated) beyond ECL. Impacts occur only to the PSS/PEM wetland area in the disturbed ROW. AA includes 0.55 acres of PSS/PEM within and 0.45 acres beyond the Project area.

1. Wetland Zone	e of Influence Condit	ion Index			<del></del>				
				Condi	tion Category				
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetati stratum present (dia (dbh) > 3 inches) wi to 60% tree canopy of stream channels, classification or cor	on consists of a tree immeter at breast height in greater than or equal cover. Areas comprised wetlands (regardless of idition) and lacustrine is are scored as optimal.	High Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or	Low Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a	High Marginal: ZOI area vegetation consists of non- maintained, dense herbaceous vegetation with	Marginal  Low Marginal: ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.	High Poor: ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.	Low Poor: ZOI area vegetation consists of impervious surfaces; mine spoil lands, deunded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	CI = Total Score/20
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	
2. Estimate the	% area within each co	tegory areas within the wondition category. Calcul rm (0.00) and Score for e	ators are provided for		above.	Total S	core = SUM(%Areas*So	cores)	
	Condition Category:								
	% ZOI Area:	0%	0%	60%	10%	30%	0%	Total Score:	
Scoring:	Score:	0	0	13	7	4	0		0.46
-	Total Sub-score:	0.00	0.00	7.80	0.70	1.20	0.00	9.70	0.49

2. Roadbed Pre	sence Index																	
								Condit	ion Categor	ies								
a. Roadbed		ptimal			Sul	boptima	ı				Marginal					Poor		
Presence	High Optimal: No	Low Optima	<u>l:</u>	High Subo	ptimal:	Low St	uboptima	al:	High Margi	nal:	Low Mar	ginal:	Roadbed	High Poo	r: Roadbed	Low	Poor: Ro	adbed
within 0 - 100	roadbeds present	Roadbed pre	esence	Roadbed p	resence	Roadbe	ed presei	nce	Roadbed p	resence	presence	score	within 0-	presence	score within	prese	nce score	within 0-
oot Wetland	within 100 feet of	score within	0-100 feet	score within	n 0-100	score v	vithin 0-1	00 foot	score within	n 0-100	100 foot	distan	ce of the	0-100 foo	t distance of	100 f	oot distand	ce of the
Ol distance)	the AA boundary	of the AA bo	undary	foot distance	e of the	distanc	e of the	AA	foot distance	e of the	AA boun	dary is	greater	the AA bo	undary is	AA bo	oundary is	greater
	•	equal to or le	ess than 2.	AA bounda	ry is	bounda	ary is grea	ater than	AA bounda	ry is	than to 8	but le	ss than or	greater th	an 10 but	than	12.	
				greater than	n to 2	to 4 but	t less tha	n or	greater tha	n to 6	equal to	10.		less than	or equal to			
				but equal to	or less	equal to	o 6.		but less that	in or				12.				
				than 4.					equal to 8.									
SCORE	20 19	18 17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

									Condi	tion Categories	s									
b. Roadbed		O	otimal			Su	boptim	nal				Margina	l				Poor			
Presence (within 100 - 300 foot Wetland ZOI distance)		ch Optimal: No adbeds present hin 100 - 300 score within 100 - 300 sore within 100 - 4 feet of the AA boundary equal to less than 2.				boptimal: d presence thin 100 - of the AA y is greater but equal s than 4.	Road score feet A great	Suboptim bed prese within 10 AA bounda er than to han or eq	ence 0 - 300 ary is 4 but	High Margina Roadbed prescore within 1 300 feet of th boundary is g than to 6 but than or equal	sence 100 - le AA greater less	presen 300 fee bounda	ce score et of the A ary is grea	within 100 A ater than	- presence 100 - 300 AA bound than to 10	or: Roadbed score within feet of the dary is great but less qual to 12.	prese		e within of the AA	CI = Total Score/20
SCORE	20 1	9	18 17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
												C	ondition	Score	We	ighting		Sub-Sc	ores	
										a. Roadbed	0-100:		17		*	(0.67)		11		
										b. Roadbed 10	00-300:		17		*	(0.33)		6		0.85
															Tota	al Score:		17		0.00

omments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

0.80

Total Score

32

12

## **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

		For use in all	wetland classificatio	ns found within Pennsyv	lania except those f	ound within the banks of a	watercourse.		
. Vegetation C	ondition Index								
				Condi	tion Category				
a. Invasive	C	Optimal	Su	boptimal		Marginal	Po	oor	
Species Presence	High Optimal: No invasives present.	Low Optimal: <5% of the total AA contains invasive species.	High Suboptimal: >5% but less than 10% of the total AA contains invasive species.	Low Suboptimal: >10% but less than 20% of the total AA contains invasive species.	>20% but less than	Low Marginal: >30% but less than 50% of the total AA contains invasive species.	> 50% of the total AA co	ontains invasive species.	
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4 3	3 2 1	
omments: No	Invasive Species id	entified in wetland AA.		Condi	tion Category				_
o. Vegetation	C	Optimal	Su	boptimal		Marginal	Po	oor	1
Stressor Presence	High Optimal: No vegetation stressors present within the AA boundary.	Low Optimal: One vegetation stressor present within the AA boundary.	High Suboptimal: Two vegetation stressors present within the AA	Low Suboptimal: Three vegetation stressors present within the AA boundary.	High Marginal: Four vegetation stressors present within the AA	Low Marginal: Five vegetation stressors present within the AA boundary.		tation stressors present A boundary.	CI To Scor

SCORE

Maintained pipeline ROW and maintenance road/ATV trail.

4. H	ydrologic M	lodificat	ion Index							-												
											Condi	tion Cate	gory									
			0	ptimal	1			Su	boptima	al				Marginal					Poor			
Н	lydrologic	High O	otimal: No	Low	Optimal:	One	High Su	boptimal:	Low S	uboptim	nal: Three	High Mar	ginal:	Low Ma	arginal:	Five	Greate	r than five h	ydrologi	c stressor	s present	CI =
Mo	odification	hydrolo	gic stressors	hydro	ologic stre	ssor	Two hyd	rologic				Four hyd	rologic					within th	e AA bo	undary.		Total
	Cucoooi		logic stressors hydrologic stressor hydrologic stressor present within the AA boundary.  Two hydrologic hydrologic stressors present within the AA boundary.  Stressors present within the AA boundary.  Two hydrologic stressors present within the AA boundary.  Stressors present within the AA boundary.  Within the AA boundary.																Score/20			
F	Presence	AA bou	ndary.	boun	dary.				bound	ary.				bounda	ıry.							
							boundar	у.				boundary	<b>'</b> .									
S	CORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.70
Con	nments: Wit	hin ROV	V alteration	cause	d by pipe	line mair	ntenance	and ATV us	se. One	culvert	in AA.							Score:		14		0.70

a. Invasive Sub-Score

b. Vegetation Sub-Score

ŀ																						
Ľ	5. Sediment Str	essor in	aex																			
Ш											Condi	tion Categoi	у									
ı			C	ptima	ıl			Su	boptim	al				Margina	I				Poor			
	Stressor Presence	sedimei present	High Optimal: No sediment stressors present within the AA boundary.					uboptimal: diment rs present ne AA ry.	sedim	nent stress nt within t	sors	High Marging Four sediments of stressors properties within the Aboundary.	ent esent	sedime	arginal: ent stress t within thary.	ors	Greate	er than five se within the			present	CI = Total Score/20
L	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	۸ ۵۰
9	Comments: One	e stress	or identified	l due t	to ROW m	aintenar	nce and A	ATV use.										Score:		17		0.85

6. Water Quality	/ Stress	or Index																			
										Condi	tion Catego	ry									
a. Eutro-		Optimal         Suboptimal         Marginal         Poor           No eutrophication stressors present within         One eutrophication stressors present within         Two eutrophication stressors present within the         Three eutrophication stressors present within the																			
phication Stressor Presence	No eu		on stresso AA boun		nt within	One eu		on stress AA boun		ent within	Two eutro		stressor A bounda		t within the	Three eut		on stresso A bounda		t within the	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Commonto: No	-4	- 1-1																			

										Condit	tion Catego	ory									
b. Contaminant			Optimal	l			;	Suboptin	nal				Marginal					Poor	'		
/ Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.  One contaminant / toxicity stressors present within the AA boundary.  Two contaminant / toxicity stressors present within the AA boundary.  Three contaminant / toxicity stressors present within the AA boundary.													rs present	CI = Total Score/40						
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments: No	stressor	s identifie	ed.										a. Eu	trophicat	ion Score		20		Total S	core:	1.00
													b. 0	Contamin	ant Score		20		40	)	1.00

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition	Overall Condition Index:	0.78
score.	Overall Collution Index.	0.76

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

## **Roadbed Worksheet**

Project Name / Identifier			Date	Name(s) of Evaluator(s)
NF	G FM100 Project		10/10/17	J. Miner, C. Maier, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD079JLM, WD091JLM	W026, W026A	41.733336	-78.443875	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		2	

Road Comments: Unimproved access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	1	0/10/1	7		
(Document No. 310-2137-002)		Occurrence				
Pennsylvania Department of Environmental Protection	į		in AA			
STRESSOR WORKSHEET	_	Υ	#'s	N		
Vegetation Alteration						
Mowing	X	(				
Moderate livestock grazing (within one year)				Х		
Crops (annual row crops, within one year)				Х		
Selective tree harvesting/cutting (>50% removal, within 5 years)				X		
Right-of-way clearing (mechanical or chemical)	X	(	1			
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X	(				
Removal of woody debris				Х		
Aquatic weed control (mechanical or herbicide)				Х		
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Х		
Plantation (conversion from typical natural tree species, including orchards)				X		
Other:				Х		
	Total Number:		3			
Hydrologic Modification						
Ditching, tile draining, or other dewatering methods				Х		
Dike/weir/dam				Х		
Filling/grading				Х		
Dredging/excavation				X		
Stormwater inputs (culvert or similar concentrated urban runoff)	X	(	1			
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X	(				
Dead or dying trees (trunks still standing) *				Х		
Stream alteration (channelization or incision)				Х		
Other:				Х		
	Total Number:		2			
Sedimentation						
Sediment deposits/plumes				Χ		
Eroding banks/slopes				Х		
Active construction (earth disturbance for development)				Χ		
Active plowing (plowing for crop planting in past year)				Χ		
Intensive livestock grazing (in one year, ground is >50% bare)				Χ		
Active selective forestry harvesting (within one year)				Х		
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				Х		
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)			Х		
Other:	X	(				
	Total Number:		1			
Eutrophication						
Direct discharges from agricultural feedlots, manure pits, etc.				Χ		
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ		
Heavy or moderately heavy formation of algal mats				Х		
Other:				Χ		
	Total Number:		0			
Contaminant/Toxicity						
Severe vegetation stress (source unknown or suspected)				Χ		
Obvious spills, discharges, plumes, odors, etc.				Χ		
Acidic drainages (mined sites, quarries, road cuts)				Χ		
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				Χ		
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				Χ		
Chemical defonation (majority of herbaceda and weddy plante anotted, within one year)				Χ		
Fish or wildlife kills or obvious disease or abnormalities observed						
				X		
Fish or wildlife kills or obvious disease or abnormalities observed				X X		

## **Invasive Species Presence Worksheet**

If listed species present, enter the percent areal coverage for each species below:

Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total 9	% relat	ive cover	of all	invasives,	collectively on	site:	<u> </u> %	6
---------	---------	-----------	--------	------------	-----------------	-------	------------	---

Are invasive species (from list) present at the site in any layer?

	Common Invasives/Aggressives List													
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status							
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW							
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW							
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW							
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW							
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC							
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW							
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW							
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW							
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW							
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW							
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-							
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-							
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-							
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?							
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-							
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU							
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW							
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW							
lota	Tartarian honeysuckle	Lonicera tatarica												

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/07/17	0.33	W031, W031A	1.00	
Name(s) of Eval	luator(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M	. Groomer	41.74408	-78.426119	WD078TMN	I, PFO and PE	/I wetland	

General Comments: Large PEM and PFO wetland complex. Two ephemeral streams occur within the PEM wetland. PFO wetland located on forested hilltop and is fed by multiple seeps that drain into stream at headwaters. PFO wetland occurs in existing pipeline ROW (0.15 acres in ECL) and continues upslope of Project (1.98 acres delineated) beyond ECL. PEM wetland occurs within maintained pipeline ROW (0.18 acres in ECL) and continues downslope of Project (0.10 acres delineated) beyond ECL. Impacts occur within both the PEM and PFO wetland. AA includes 0.33 acres of the proposed impacted area to PEM and PFO wetland, and 0.67 acres of the wetland complex that will not be impacted.

Condition Category  Influence Influence Oto tarea vegetation consists of a tree stratum present (diameter at breast height Cohn 2 area vegetation consists of a tree stratum present (dishere at breast height Cohn 2 area vegetation consists of a tree or stratum present (dishere at breast height Cohn 2 area vegetation consists of a tree or stratum present (dishere at breast height Cohn 2 area vegetation consists of a tree or stratum present (dishere at breast height Cohn 2 area vegetation consists of normaintained, dense herbaceous maintained, dense herbaceous maintained dense vegetation fination areas maintained areas mine spoil lands mine spoil lands
Influence Office area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal consists of a tree or consists of non-maintained, dense herbaceous or co
of fool afea bound AA   Stratum present (diameter at breast height   ZOI area vegetation   ZOI area vegetation
trimeter) to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.  Solvand less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.  The provided in the process of the canopy cover and shrub layers or a non-maintained understory.  The provided in the process of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.  Stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.  The provided inches present, with less than 10% tree canopy cover with naintained understory.  The provided inches present, with greater than or equal to 30% and less than 60% tree canopy cover with a containing both herbaceous and shrub layers or a non-maintained understory.  The provided inches present, with greater than or equal to 30% and less than 60% tree canopy cover with a containing both herbaceous and shrub layers or a non-maintained understory.  The provided inches present, with less than 30% tree canopy cover with maintained understory.  The provided inches present, with less tratum (abh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.  The provided inches present, with less than 30% tree canopy cover with maintained understory.  The provided inches present, with less than 30% tree canopy cover with maintained understory.  The provided inches present, with less than 30% tree canopy cover with maintained understory.  The provided inches present, with less than 30% tree canopy cover with maintained understory.  The provided inches provided inches provided inches provided in the provided inches provided
SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
entify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.  stimate the % area within each condition category. Calculators are provided for you below.  Total Score = SUM(%Areas*Scores)  nter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.
Condition Category:
% ZOI Area:         0%         0%         0%         20%         0%         Total Score:
coring: Score: 0 0 12 0 4 0
Total Sub-score: 0.00 0.00 9.60 0.00 0.80 0.00 10.40 0.52

Comments: Area includes maintained pipeline ROW with access road/ATV trail. Streams and other wetlands occur within ZOI. Adjecent forest has maintained understory

2. Roadbed Pre	esence Index																				
		Condition Categories																			
a. Roadbed	0	ptimal				Sub	optima	ıl			N	/larginal						Poor			
Presence	High Optimal: No							Suboptin	nal:	High Marginal:	L	ow Margi	nal: Ro	oadbed	High Poor: Roadbed Low Poor: Roadbed						
(within 0 - 100	roadbeds present	Road	bed preser	nce	Roadbed	presence	Road	oed pres	ence	Roadbed preser	се р	resence s	core wit	thin 0-100	presenc	e score	within	0- prese	nce scor	e within 0-	
	within 100 feet of	score	within 0-1	00 feet	score with	nin 0-100	score	within 0-	-100 foot	score within 0-10	00 fc	ot distand	ce of the	e AA	100 foo	t distan	ce of the	e 100 f	oot distar	nce of the	
ZOI distance)	the AA boundary	AA bound	dary	foot dista	distan	ce of the	e AA	foot distance of the boundary is greater than to 8								s greater					
		equal to or less than 2. AA boundary is								AA boundary is		ut less tha	an or eq	ual to 10.	than 10	but les	s than c	or than	12.		
					greater th	an to 2	than t	o 4 but le	ess than	greater than to 6					equal to	12.					
					but equal	to or less	or equ	ıal to 6.		but less than or											
					than 4.					equal to 8.											
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6	5		4	3	2	1	
Commonto: Din	alina DOW maintan		ad tue to	rook wa	actoted :	rith writting															

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

									Co	ndition Catego	ries										
b. Roadbed		Opti	mal			Sul	boptima	al				Marginal						Poor			
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optimal: N roadbeds preser within 100 - 300 feet of the AA boundary	vithin 100 - 300 score within 100 - 300 feet of the AA		300 feet of the AA feet AA bo boundary is greater greater that			lbed pres within 10 AA bound er than to	d presence thin 100 - 300 boundary is Roadbed presence score within 100 - 300 feet of the AA		presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.			pres 100 bour to 1				esence s 0 - 300 fe	Roadbed core within eet of the AA greater than			
SCORE	20 19	18	3 17	16	15	14	13	12	11	10	9	8	7	6		5	4	3	2	1	
												Co	nditior	n Score		We	ighting		Sub-	Scores	
										a. Roadbed (	)-100:		17	7		* (	(0.67)			11	
										b. Roadbed 100	)-300:		16	3		* (	(0.33)			5	0.83
																Tota	l Score:			17	0.03
Communitation Dis	Um - DOW/ ind		4	41			- T		lint		41		2014								

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting. Temporary dirt access road connecting to pipeline ROW.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

		For	use in all wetland clas	Pennsylvania Dep				s of a watero	course.			
3. Vegetation C	ondition Index											
					ondition Category					_		
a. Invasive Species		ptimal		ooptimal	High Marginal	Marginal	J. > 200/ but loss	> 50% of th		Poor	ocivo enocioe	
Presence	High Optimal: No invasives present.	Low Optimal: <5% of the total AA contains	>5% but less than	>10% but less than 20% of the total AA	High Marginal: >20% but less than	than 50% of the contains invas		> 50% OF U	ne total AA	contains inva	asive species.	
		invasive species.	10% of the total AA contains invasive	contains invasive	30% of the total AA contains invasive	contains invas	sive species.					
SCORE	20 19	18 17 16	species.	species. 13 12 11	species.	8	7 6	5	4	3 2	1	
Comments: No	Invasive Species id	entified in wetland AA										
				C	ondition Category							
b. Vegetation	0	ptimal	Sub	poptimal	Jilulion Category	Marginal				Poor		
Stressor	High Optimal: No	Low Optimal: One	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Margina	I: Five vegetation	Greater th	nan five veg	getation stres	sors present	
Presence	vegetation stressors		Two vegetation	Three vegetation	Four vegetation		sent within the AA		within the	AA boundar	y.	CI = Total Score/40
	present within the AA boundary.	present within the AA boundary.	stressors present within the AA	stressors present within the AA	stressors present within the AA	boundary.						
	22 12	10 17 10	boundary.	boundary.	boundary.			-		2 2		
SCORE Comments:	20 19	18 17 16	15 14	13 12 11	10 9		7 6	5	4	3 2	1	
	maintained nineline	ROW and maintenanc	road/ATV/ trail				asive Sub-Score:				al Score	0.80
Area includes in	namamed pipeline	KOW and maintenant	e road/Ar v trail.			b. vegeta	ation Sub-Score:		1	12	32	
4. Hydrologic M	Modification Index											
			_		ondition Category							
		ptimal		poptimal		Marginal				Poor		
Hydrologic Modification	High Optimal: No hydrologic stressors	Low Optimal: One hydrologic stressor	High Suboptimal: Two hydrologic	Low Suboptimal: Three hydrologic	High Marginal: Four hydrologic		II: Five hydrologic sent within the AA			drologic stres AA boundar		CI = Total Score/20
	present within the	present within the AA		stressors present	stressors present	boundary.	Serie William the 70 t		widini dio	70 ( Douridai	,.	CI = Total Score/20
Presence	AA boundary.	boundary.	within the AA	within the AA	within the AA							
			boundary.	boundary.	boundary.							
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8	7 6	5	4	3 2	1	0.70
Comments: Two	o stressors identifie	d due to culvets, and	ROW alteration cause	ed by pipeline maintena	ance and ATV use.			Sc	ore:		14	0.70
5. Sediment Str	ressor Index											
5. Sediment Str					ondition Category							
	0	optimal One		ooptimal		Marginal	II. Five sediment	Greater t		Poor	sors present	
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	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present	Low Suboptimal: Three sediment stressors present	High Marginal: Four sediment stressors present	Low Margina		Greater t	han five se	diment stress		CI = Total Score/20
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(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

## **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/07/17	T. Malecki, M. Groomer
Resource Identifier	AA #	Lat (dd)	Long (dd)	Notes:
WD078TMM	W031, W031A	41.74408	-78.426119	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	2	2	4
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		4	

Road Comments: Dirt access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading. Temporary dirt access road connecting to pipeline ROW.

Pennsylvania Wetland Condition Level 2 Rapid Assessment		1	0/07/17	7
(Document No. 310-2137-002)		Oc	curren	ce
Pennsylvania Department of Environmental Protection	i		in AA	
STRESSOR WORKSHEET	<u> </u>	Υ	#'s	N
Vegetation Alteration			πэ	14
Mowing	<u> </u>	<u> </u>		
Moderate livestock grazing (within one year)		`		X
Crops (annual row crops, within one year)				X
Selective tree harvesting/cutting (>50% removal, within 5 years)				X
Right-of-way clearing (mechanical or chemical)	>	<u> </u>	1	,,
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)		<u>`                                      </u>		
Removal of woody debris		`		X
Aquatic weed control (mechanical or herbicide)				X
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				X
Plantation (conversion from typical natural tree species, including orchards)				Λ Υ
Other:				^ V
	otal Number:		3	^
Hydrologic Modification	otal Namber.		-	
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				X
Filling/grading				Λ Y
Dredging/excavation				X
Stormwater inputs (culvert or similar concentrated urban runoff)		/	2	۸
	) )		2	
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	<b>&gt;</b>	·		V
Dead or dying trees (trunks still standing) *				X
Stream alteration (channelization or incision)				X
Other:	atal Namaham			Х
Sedimentation	otal Number:		2	
Sediment deposits/plumes				<b>v</b>
Eroding banks/slopes				^
Active construction (earth disturbance for development)				^
. ,				Λ
Active plowing (plowing for crop planting in past year)				X
Intensive livestock grazing (in one year, ground is >50% bare)				X
Active selective forestry harvesting (within one year)				X
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment discharge		,		Х
Other:		(		
	otal Number:		1	
Eutrophication  Direct discharge from a misultural facillate many mite at a				V
Direct discharges from agricultural feedlots, manure pits, etc.				X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				X
Heavy or moderately heavy formation of algal mats				X
Other:				X
	otal Number:		0	
Contaminant/Toxicity				V
Severe vegetation stress (source unknown or suspected)				X
Obvious spills, discharges, plumes, odors, etc.				X
Acidic drainages (mined sites, quarries, road cuts)				X
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				X
Fish or wildlife kills or obvious disease or abnormalities observed				X
Excessive garbage/dumping				X
				V
Other:	otal Number:		0	^

## **Invasive Species Presence Worksheet**

Are inv	asive sp	ecies (from	list) prese	nt at the site	in any l	ayer? YES N	0			
If liste	d species	present, e	nter the pe	rcent areal o	coverage	for each species	below:			
Specie	es Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total % relative cover of all invasives, collectively on site:		%
--	--	---

		Comm	on Invas	sives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/06/17	0.04	W034	0.35	
Name(s) of Evaluate	or(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M. Gr	roomer	41.752795	-78.396898	WD07	1TMM. PSS we	tland	

General Comments: PSS wetland located in relic slough within floodplain of stream. Wetland occurs in maintained pipeline ROW (0.04 acres in ECL) and continues downslope of Project (0.31 acres delineated) beyond ECL. AA includes entire 0.35 acres of the PEM wetland.

. Wetland Zone of Influence Condition Index	
Condition Category	
Wetland Zone Optimal Suboptimal Marginal Poor	
of Influence (300 foot area around AA perimeter)    Apperimeter	CI = Total Score/20
SCORE 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	
1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above. 2. Estimate the % area within each condition category. Calculators are provided for you below. 3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.  Total Score = SUM(%Areas*Scores)	
Condition Category:	
% ZOI Area:         0%         0%         30%         20%         30%         20%         Total Score:	
Scoring:         Score:         0         0         12         7         4         2	0.33
Total Sub-score: 0.00 0.00 3.60 1.40 1.20 0.40 <b>6.60</b>	0.33

2	Roadbed Pre	sence Ind	ex																				
											Coi	ndition Catego	ries										
a	. Roadbed		0	ptimal				Sul	poptim	al				Marginal			Poor						
Р	resence	High Opti	mal: No	Low C	ptimal:		High Sub	optimal:	Low	Suboptin	nal:	High Margina	<u>l</u> :	Low Marg	inal: Ro	adbed	High F	<u>oor</u> : F	Roadbed	Lov	v Poor: R	oadbed	
		roadbeds	present	Roadb	ed prese	nce	Roadbed	presence	Road	bed prese	ence	Roadbed pres	ence	presence	score wit	hin 0-100	preser	ice sco	ore within	0- pres	sence sco	re within 0-	
		within 100	feet of	score	within 0-1	100 feet	score with	nin 0-100	score	within 0-	100 foot	score within 0-	-100	foot distan	ce of the	e AA	100 fo	ot dista	ance of the	ne 100	foot dista	nce of the	
Z	OI distance)	the AA bo	undary		AA boun		foot dista		distar	nce of the	AA	foot distance of	of the	boundary	is greate							is greater	
				equal	to or less		AA bound	,		dary is gre		AA boundary i		but less th	an or eq	ual to 10.			ess than	or thar	า 12.		
							greater th					greater than to					equal t	to 12.					
							but equal	to or less	or eq	ual to 6.		but less than o	or										
							than 4.					equal to 8.											
	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	į	5	4	3	2	1	
С	omments: Pip	eline ROW	/ mainten	ance ro	ad. two-t	rack, ve	getated, v	with ruttin	a.												·		

									Co	ndition Catego	ries										
b. Roadbed		Op	timal			Sul	poptima	al				Marginal						Poor			
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optimal: roadbeds prese within 100 - 300 feet of the AA boundary	nt	score wit feet of th	I presence hin 100 - 300 e AA y equal to or	Roadbe score wi 300 feet boundar	boptimal: d presence thin 100 - of the AA y is greater but equal s than 4.	Road score feet A greate	AA bound er than to	ence 00 - 300 lary is o 4 but	High Margina Roadbed pres score within 1 300 feet of the boundary is g than to 6 but I than or equal	sence 00 - e AA reater less	300 feet of greater th	score v f the A an to 8	Roadbed within 100 - A boundary is but less than	pres 100 bou to 1	sence s - 300 f indary is	s greater that ess than or	pre A 10	esence so 0 - 300 fe undary is	Roadbed core within eet of the AA greater than	
SCORE	20 19	•	18 1	17 16	15	14	13	12	11	10	9	8	7	6		5	4	3	2	1	
	•				•							Co	nditior	n Score		We	ighting		Sub-	Scores	
										a. Roadbed	0-100:		17	7		* (	(0.67)			11	
										b. Roadbed 10	0-300:		14	1		* (	(0.33)			5	0.00
																Tota	l Score:			16	0.80
Commonto: Dir	aslina BOW main	tono		two trook v	o mototo d	saith muttin	a Tam		list cocc		otine :	anuad raad	to nin	alina DOW							

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

				- i II Al d - l	=	-	onmental Protection				
2 Vagatation C	andition Indov		or use	e in all wetland clas	ssifications found wit	hin Pennsyvlania exce	ept those found within the bank	s of a waterco	ourse.		
3. Vegetation C	onaition index					Condition Category					
a. Invasive	C	ptimal		Sul	boptimal	Condition Category	Marginal		Po	or	
Species	High Optimal: No	Low Optimal: <5	% of <u>I</u>	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: >30% but less	> 50% of the		ntains invasive species.	
Presence	invasives present.	the total AA conta		>5% but less than	>10% but less than	>20% but less than	than 50% of the total AA				
		invasive species.		10% of the total AA contains invasive	20% of the total AA contains invasive	30% of the total AA contains invasive	contains invasive species.				
				species.	species.	species.					
SCORE	20 19	18 17	16	15 14	13 12 11		8 7 6	5	4 3	2 1	
Comments: No	Invasive Species id	entified in wetland	AA.			_		•			
						Condition Category					
b. Vegetation Stressor		ptimal			boptimal	11: 1 84	Marginal		Po	•	
Presence	High Optimal: No vegetation stressors	Low Optimal: O		High Suboptimal: Two vegetation	Low Suboptimal: Three vegetation	High Marginal: Four vegetation	Low Marginal: Five vegetation stressors present within the AA		an five vegeta within the AA	ation stressors present	
	present within the	present within the		stressors present	stressors present	stressors present	boundary.			. Doundary.	CI = Total Score/40
	AA boundary.	boundary.		within the AA	within the AA	within the AA					
22255	20 19	18 17	16	boundary. 15 14	boundary. 13 12 11	boundary.	8 7 6	5	4 3	2 1	
SCORE	20 19	10 17	10	15 14	13 12 11	10 9		5			
Comments:							a. Invasive Sub-Score	:	20	Total Score	0.73
Area includes r	maintained pipeline	ROW and mainten	ance ro	oad/ATV trail.			b. Vegetation Sub-Score	:	9	29	
Cleared area ar	nd agricultural land	occur in and arou	nd wetl	land.							
4. Hydrologic N	lodification Index					Condition Catagoria					
	-	ptimal		Qui	boptimal	Condition Category	Marginal		Po	or	
Hydrologic	High Optimal: No	Low Optimal: O	ne l	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: Five hydrologic	Greater tha		logic stressors present	
Modification	hydrologic stressors			Two hydrologic	Three hydrologic	Four hydrologic	stressors present within the AA		within the AA		CI = Total Score/20
Stressor	present within the	present within the		stressors present	stressors present	stressors present	boundary.				
Presence	AA boundary.	boundary.		within the AA	within the AA boundary.	within the AA					
			,	boundary.	boundary.	boundary.					
SCORE	20 19	18 17	16	15 14	13 12 11	10 9	8 7 6	5	4 3	2 1	0.85
Comments: On	e stressor identified	I due to ROW alter	ation c	caused by pipeline	maintenance and AT	V use.		Scor	re:	17	0.00
5. Sediment Str	ressor Index										
5. Sediment Str						Condition Category					
5. Sediment Str	C	optimal			boptimal		Marginal	Creater the	Poo		
Sediment	C High Optimal: No	Low Optimal: O		High Suboptimal:	boptimal Low Suboptimal:	High Marginal:	Low Marginal: Five sediment		an five sedim	nent stressors present	CI = Total Score/20
Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: O sediment stresso present within the	AA s	High Suboptimal: Two sediment stressors present	Low Suboptimal: Three sediment stressors present	High Marginal: Four sediment stressors present	· ·			nent stressors present	CI = Total Score/20
Sediment	C High Optimal: No sediment stressors	Low Optimal: O sediment stressor	AA s	High Suboptimal: Two sediment stressors present within the AA	Low Suboptimal: Three sediment stressors present within the AA	High Marginal: Four sediment stressors present within the AA	Low Marginal: Five sediment stressors present within the AA		an five sedim	nent stressors present	CI = Total Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.	Low Suboptimal: Three sediment stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	an five sedim within the AA	nent stressors present A boundary.	CI = Total Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.		an five sedim	nent stressors present A boundary.	
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the Adboundary.	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	an five sedim within the AA	nent stressors present A boundary.	CI = Total Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
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Sediment Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
Sediment Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
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Sediment Stressor Presence  SCORE Comments: Tw  6. Water Qualit a. Eutro-	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index	Low Optimal: O sediment stresso present within the boundary.  18 17 Indicate the due to agriculture the sediment of the sedime	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ROW alteration c	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal	5 Scoi	an five sedim within the AA	nent stressors present A boundary.  2 1  14	
Sediment Stressor Presence  SCORE  Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  C No eutrophication	Low Optimal: O sediment stresso present within the boundary.  18 17 Ind due to agriculture the series of the serie	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 IROW alteration comments and the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA	5 Scoi	an five sedim within the AA  4 3 re:  Poolinication stree	nent stressors present A boundary.  2 1  14  or essors present within the	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutrophication	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  C No eutrophication	Low Optimal: O sediment stresso present within the boundary.  18 17 Indicate the due to agriculture the sediment of the sedime	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 IROW alteration comments and the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal	5 Scoi	an five sedim within the AA	nent stressors present A boundary.  2 1  14  or essors present within the	
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Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA	Low Optimal: O sediment stresso present within the boundary.  18 17  Id due to agricultu  Interpretation of the control of the	16 re, and	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 d ROW alteration comments of the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  in Two eutrophication	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.	5 Scor	an five sedim within the AA  4 3 re:  Pool phication stre AA bou	nent stressors present A boundary.  2 1  14  or essors present within the indary.	
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(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Roadbed Worksheet**

Project Name / Ide	entifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/06/17	T. Malecki, M. Groomer
Resource Identifier	AA #	Lat (dd)	Long (dd)	Notes:
WD071TMM	W034	41.752795	-78.396898	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.	1	1	1
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		3	

Road Comments: Dirt access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading. Temporary dirt access road connecting paved road to pipeline ROW.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	1	0/06/1	7
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Pennsylvania Department of Environmental Protection	į		in AA	
STRESSOR WORKSHEET	<u> -</u>	Υ	#'s	N
Vegetation Alteration				
Mowing	X	(		
Moderate livestock grazing (within one year)				Х
Crops (annual row crops, within one year)	X	(		
Selective tree harvesting/cutting (>50% removal, within 5 years)				Х
Right-of-way clearing (mechanical or chemical)	X	(	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X	(		
Removal of woody debris				Х
Aquatic weed control (mechanical or herbicide)				Х
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Х
Plantation (conversion from typical natural tree species, including orchards)				Х
Other:				Х
	Total Number:		4	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				Х
Filling/grading				Х
Dredging/excavation				Х
Stormwater inputs (culvert or similar concentrated urban runoff)				Х
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X	(		
Dead or dying trees (trunks still standing) *				Х
Stream alteration (channelization or incision)				Х
Other:				Х
	Total Number:		1	
Sedimentation				
Sediment deposits/plumes				Χ
Eroding banks/slopes				Χ
Active construction (earth disturbance for development)				Χ
Active plowing (plowing for crop planting in past year)	X	(		
Intensive livestock grazing (in one year, ground is >50% bare)				Χ
Active selective forestry harvesting (within one year)				Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				Х
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)			Χ
Other:	X	(		
	Total Number:		2	
Eutrophication				
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
Heavy or moderately heavy formation of algal mats				Χ
Other:				Χ
	Total Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				Χ
Obvious spills, discharges, plumes, odors, etc.				Χ
Acidic drainages (mined sites, quarries, road cuts)				Χ
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				Χ
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				Χ
Figh as wildlife kills as abvious diagrap as absorbedition absorbed				Х
Fish or wildlife kills or obvious disease or abnormalities observed				
Excessive garbage/dumping				X
				X

## **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? YES NO         If listed species present, enter the percent areal coverage for each species below:         Species Code       <5%										
	Are invasive sp	ecies (from	list) prese	nt at the site	in any l	ayer? YES N	0		·	
Species Code         <5%	If listed species	s present, e	nter the pe	rcent areal o	coverage	for each species	below:			
	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total % relative cover of all invasives, collectively on site: 0 \_%

		Comm	on Invas	ives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Project		10/06/17	0.07	W035, W035A	1.00	
Name(s) of Eval	luator(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M.	. Groomer	41.754615	-78.398383	WD071TMN	I, PSS and PEI	M wetland	

General Comments: Large PEM and PSS wetland complex. Two streams occur within the wetland complex. PSS wetlands located within relic slough within floodplain of stream. The PSS wetland (W035) occurs within maintained pipeline ROW (0.05 acres in ECL) and continues upslope of Project (3.30 acres delineated) beyond ECL. The PEM wetland occurs within an access road (0.02 acres in ECL) and continues upslope of Project (1.11 acres delineated) beyond ECL. Impacts occur within both the PEM and PSS wetlands. AA includes 0.07 acres of the proposed impacted area to PEM and PSS wetlands, and 0.93 acres of the wetland complex that will not be impacted.

1. Wetland Zone of Influence Condition Index									
				Co	ndition Category				
Wetland Zone	Op	timal	Sub	optimal		Marginal	Po	or	
of Influence		on consists of a tree	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: ZOI area	High Poor: ZOI area	Low Poor: ZOI area	
(300 foot area			ZOI area vegetation			vegetation consists of non-	vegetation consists of	vegetation consists of	
around AA		n greater than or equal	consists of a tree	consists of a tree	consists of non-	maintained, dense herbaceous		impervious surfaces;	
perimeter)		over. Areas comprised	stratum (dbh > 3	stratum (dbh > 3	maintained, dense	vegetation, riparian areas	maintained areas,	mine spoil lands,	
		vetlands (regardless of	inches) present,	inches) present, with	herbaceous	lacking shrub and tree stratum,	nurseries; no-till	denuded surfaces, row	
		dition) and lacustrine			vegetation with	areas of hay production, and	cropland; actively	crops, active feed lots,	
	resources ≥ 10 acres	are scored as optimal.				ponds or open water areas (<	grazed pasture, sparsely		
				60% tree canopy cover with a	or a tree stratum (dbh > 3 inches)	10 acres). If trees are present, tree stratum (dbh > 3 inches)	vegetated non- maintained area.	other comparable conditions.	
			canopy cover and containing both		present, with less	present, with less than 30%	pervious trails, recently	conditions.	
			herbaceous and	maintained understory.	than 30% tree	tree canopy cover with	seeded and stabilized,		
			shrub layers or a		canopy cover.	maintained understory.	or other comparable		
			non-maintained				condition.		CI = Total Score/20
			understory.						
			•						
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4 3	2 1	
	policable Condition Cat		-	nce using the descriptor	s above	1			
		ndition category. Calcu			o above.	Total Sci	ore = SUM(%Areas*Score	es)	
		m (0.00) and Score for				1014.100	0.0 00(,0,72.00.0 000	30,	
O. Enter the 70	Condition Category:	in (0.00) and coole for	caon category in the	DIOCKS BOIOW.	I				
	% ZOI Area:	0%	0%	20%	20%	40%	20%	Total Score:	
Scoring:	Score:	0	0	12	7	4	2		
	Total Sub-score:	0.00	0.00	2.40	1.40	1.60	0.40	5.80	0.29

Comments: Area includes maintained pipeline ROW with access road/ATV trail. Streams, other wetlands, cleared areas and agricultural land occur within ZOI. Adjecent forest has maintained understory.

2. Roadbed Pre	sence Index																				
									Coi	ndition Categorie	s										
a. Roadbed	0	ptimal				Sub	optima	l			M	arginal						Poor			
Presence	High Optimal: No	Low O	ptimal:	Hi	igh Subo	ptimal:	Low S	uboptima	<u>l:</u>	High Marginal:	Lo	w Margina	al: Roa	adbed	High P	oor: F	loadbed	Low	Poor: Ro	adbed	
(within 0 - 100	roadbeds present	Roadbe	ed presence	Ro	oadbed p	resence	Roadb	ed presen	ice	Roadbed presen	ce pre	esence sco	ore with	in 0-100	presen	ice sco	re within (	)- prese	ence score	within 0-	
	within 100 feet of	score v	vithin 0-100 fe	et sc	core within	n 0-100	score	within 0-10	00 foot	score within 0-10	0 fo	ot distance	of the	AA	100 fo	ot dista	ince of the	100 f	oot distan	ce of the	
ZOI distance)	the AA boundary	of the A	AA boundary	fo	ot distand	ce of the	distan	ce of the A	ŀΑ	foot distance of t	he bo	oundary is	greater						oundary is	greater	
		equal to	o or less than			,		ary is grea		AA boundary is		it less than	or equ				ess than o	r than	12.		
				9	eater tha					greater than to 6					equal t	to 12.					
				bι	ut equal to	or less	or equ	al to 6.		but less than or											
				th	an 4.					equal to 8.											
SCORE	20 19	18	17 16		15	14	13	12	11	10	9	8	7	6		5	4	3	2	1	
Commonte: Din	oline DOW mainten		d true treek	1/0/0/0	totad wi	th witting															

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

Condition Categories				
b. Roadbed Optimal Suboptimal	Marginal	Po		
Presence (within 100 - 300 feet of the AA boundary equal to or less than 2.  High Optimal: No Adabed presence score within 100 - 300 feet of the AA boundary essence stan 2.  High Suboptimal: Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 4 but to or less than 4.  High Marginal: Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 4 but to or less than or equal to 6.	presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.			
SCORE 20 19 18 17 16 15 14 13 12 11 10 9	8 7 6	5 4	3 2 1	
	Condition Score	Weighting	Sub-Scores	
a. Roadbed 0-100:	17	* (0.67)	11	
b. Roadbed 100-300:	14	* (0.33)	5	0.00
		Total Score:	16	0.80

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting. Temporary dirt access road connecting paved road to pipeline ROW.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

				- i II Al d - l	=	-	onmental Protection				
2 Vagatation C	andition Indov		or use	e in all wetland clas	ssifications found wit	hin Pennsyvlania exce	ept those found within the bank	s of a waterco	ourse.		
3. Vegetation C	onaition index					Condition Category					
a. Invasive	C	ptimal		Sul	boptimal	Condition Category	Marginal		Po	or	
Species	High Optimal: No	Low Optimal: <5	% of <u>I</u>	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: >30% but less	> 50% of the		ntains invasive species.	
Presence	invasives present.	the total AA conta		>5% but less than	>10% but less than	>20% but less than	than 50% of the total AA				
		invasive species.		10% of the total AA contains invasive	20% of the total AA contains invasive	30% of the total AA contains invasive	contains invasive species.				
				species.	species.	species.					
SCORE	20 19	18 17	16	15 14	13 12 11		8 7 6	5	4 3	2 1	
Comments: No	Invasive Species id	entified in wetland	AA.			_		•			
						Condition Category					
b. Vegetation Stressor		ptimal			boptimal	11: 1 84	Marginal		Po	•	
Presence	High Optimal: No vegetation stressors	Low Optimal: O		High Suboptimal: Two vegetation	Low Suboptimal: Three vegetation	High Marginal: Four vegetation	Low Marginal: Five vegetation stressors present within the AA		an five vegeta within the AA	ation stressors present A boundary	
	present within the	present within the		stressors present	stressors present	stressors present	boundary.			. Doundary.	CI = Total Score/40
	AA boundary.	boundary.		within the AA	within the AA	within the AA					
22255	20 19	18 17	16	boundary. 15 14	boundary. 13 12 11	boundary.	8 7 6	5	4 3	2 1	
SCORE	20 19	10 17	10	15 14	13 12 11	10 9		5			
Comments:							a. Invasive Sub-Score	:	20	Total Score	0.73
Area includes r	maintained pipeline	ROW and mainten	ance ro	oad/ATV trail.			b. Vegetation Sub-Score	:	9	29	
Cleared area ar	nd agricultural land	occur in and arou	nd wetl	land.							
4. Hydrologic N	lodification Index					Condition Catagoria					
	-	ptimal		Qui	boptimal	Condition Category	Marginal		Po	or	
Hydrologic	High Optimal: No	Low Optimal: O	ne l	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: Five hydrologic	Greater tha		logic stressors present	
Modification	hydrologic stressors			Two hydrologic	Three hydrologic	Four hydrologic	stressors present within the AA		within the AA		CI = Total Score/20
Stressor	present within the	present within the		stressors present	stressors present	stressors present	boundary.				
Presence	AA boundary.	boundary.		within the AA	within the AA boundary.	within the AA					
			,	boundary.	boundary.	boundary.					
SCORE	20 19	18 17	16	15 14	13 12 11	10 9	8 7 6	5	4 3	2 1	0.85
Comments: On	e stressor identified	I due to ROW alter	ation c	caused by pipeline	maintenance and AT	V use.		Scor	re:	17	0.00
5. Sediment Str	ressor Index										
5. Sediment Str						Condition Category					
5. Sediment Str	C	optimal			boptimal		Marginal	Creater the	Poo		
Sediment	C High Optimal: No	Low Optimal: O		High Suboptimal:	boptimal Low Suboptimal:	High Marginal:	Low Marginal: Five sediment		an five sedim	nent stressors present	CI = Total Score/20
Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: O sediment stresso present within the	AA s	High Suboptimal: Two sediment stressors present	Low Suboptimal: Three sediment stressors present	High Marginal: Four sediment stressors present	· ·			nent stressors present	CI = Total Score/20
Sediment	C High Optimal: No sediment stressors	Low Optimal: O sediment stressor	AA s	High Suboptimal: Two sediment stressors present within the AA	Low Suboptimal: Three sediment stressors present within the AA	High Marginal: Four sediment stressors present within the AA	Low Marginal: Five sediment stressors present within the AA		an five sedim	nent stressors present	CI = Total Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.	Low Suboptimal: Three sediment stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	an five sedim within the AA	nent stressors present A boundary.	CI = Total Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.		an five sedim	nent stressors present A boundary.	
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the Adboundary.	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	an five sedim within the AA	nent stressors present A boundary.	CI = Total Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
Sediment Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
Sediment Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: O sediment stressor present within the boundary.	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the Adboundary.	5	an five sedim within the AA	nent stressors present A boundary.	
Sediment Stressor Presence SCORE Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor index	Low Optimal: O sediment stresso present within the boundary.  18 17 ed due to agricultu	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 dt ROW alteration c	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6	5	an five sedim within the AA  4 3 re:	nent stressors present A boundary.  2 1 14	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Qualit a. Eutro-	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index	Low Optimal: O sediment stresso present within the boundary.  18 17 Indicate the due to agriculture the sediment of the sedime	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ROW alteration c	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal	5 Scoi	an five sedim within the AA	nent stressors present A boundary.  2 1  14	
Sediment Stressor Presence  SCORE  Comments: Tw	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  C No eutrophication	Low Optimal: O sediment stresso present within the boundary.  18 17 Ind due to agriculture the series of the serie	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 IROW alteration comments and the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA	5 Scoi	an five sedim within the AA  4 3 re:  Poolinication stree	nent stressors present A boundary.  2 1  14  or essors present within the	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutrophication	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  C No eutrophication	Low Optimal: O sediment stresso present within the boundary.  18 17 Indicate the due to agriculture the sediment of the sedime	AA s	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 IROW alteration comments and the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal	5 Scoi	an five sedim within the AA	nent stressors present A boundary.  2 1  14  or essors present within the	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutrophication Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA	Low Optimal: O sediment stresso present within the boundary.  18 17  Id due to agricultu  Inptimal  Stressors present w	16 re, and	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 d ROW alteration comments of the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  in Two eutrophication	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.	5 Scor	an five sedim within the AA  4 3 re:  Pool phication stre AA bou	nent stressors present A boundary.  2 1  14  or essors present within the indary.	
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Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA	Low Optimal: O sediment stresso present within the boundary.  18 17  Id due to agricultu  Interpretation of the control of the	16 re, and	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 d ROW alteration comments of the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  in Two eutrophication	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.	5 Scor	an five sedim within the AA  4 3 re:  Pool phication stre AA bou	nent stressors present A boundary.  2 1  14  or essors present within the indary.	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA	Low Optimal: O sediment stresso present within the boundary.  18 17  Id due to agricultu  Interpretation of the control of the	16 re, and	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 d ROW alteration comments of the AA boundary.	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category in Two eutrophication  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.	5 Scor	an five sedim within the AA  4 3 re:  Pool phication stre AA bou	nent stressors present A boundary.  2 1  14  or essors present within the indary.	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE  Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified  y Stressor Index  C No eutrophication the AA  20 19 stressors identified	Low Optimal: O sediment stressor present within the boundary.  18 17 Indicate the discrete sediment of the sediment stressor present within the boundary.  18 17 Indicate the sediment of the	16 re, and	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ROW alteration c	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  in Two eutrophication	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  Se.  Marginal n stressors present within the AA boundary.  8 7 6	5 Scor	an five sedim within the AA  4 3 re:  Pool policies of the AA bound of the AA	nent stressors present A boundary.  2 1  14  or essors present within the ndary.  2 1	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutrophication Stressor Presence SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA 20 19 stressors identified by St	Low Optimal: O sediment stresso present within the boundary.  18 17 Indicate the due to agriculture of the due to agricult	AA state of the st	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14 ROW alteration c.  Sul One eutrophication the AA  15 14	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9  Condition Category	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal n Marginal n Stressors present within the AA boundary.	5 Scor	an five sedim within the AA 4 3 re:  Pool obhication stre AA bou 4 3	nent stressors present A boundary.  2 1  14  or essors present within the indary.  2 1	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE  Comments: No	y Stressor Index  No eutrophication the AA  No eutrophication  No eutrophication  The AA  No eutrophication  The AA  No No	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  One substressors Sul One contaminant /	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal a stressors present with A boundary.  13 12 11  boptimal at 12 11  boptimal toxicitystressors prese	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  Two eutrophication  10 9  Condition Category  Two contaminant of the contaminant of	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal / toxicity stressors present within the AA	5 Scor	an five sedim within the AA  4 3 re:  Pool bhication stre AA bou  4 3	nent stressors present A boundary.  2 1 14  or sessors present within the indary.  2 1  or cicity stressors present	0.70
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity	y Stressor Index  No eutrophication the AA  No eutrophication  No eutrophication  The AA  No eutrophication  The AA  No No	Low Optimal: O sediment stresso present within the boundary.  18 17 Indicate the due to agriculture of the due to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  One substressors Sul One contaminant /	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  Two eutrophication  10 9  Condition Category  Two contaminant of the contaminant of	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal n Marginal n Stressors present within the AA boundary.	5 Scor	an five sedim within the AA 4 3 re:  Pool obhication stre AA bou 4 3	nent stressors present A boundary.  2 1 14  or sessors present within the indary.  2 1  or cicity stressors present	
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA  20 19 stressors identified by S	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 did ue to agriculture to agricul	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  Under the AA  Sul  One contaminant / within the	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11  toxicitystressors prese AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9 Condition Category  10 10 9  Condition Category  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal v stressors present within the AA boundary.	5 Scor	an five sedim within the AA  4 3 re:  Poolinication stree AA bou  4 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.	0.70
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality a. Eutrophication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	y Stressor Index  No eutrophication the AA  20 19  o stressors identified  y Stressor Index  No eutrophication the AA  20 19  stressors identified  CO  No contaminant / to within the	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  One substressors Sul One contaminant /	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal a stressors present with A boundary.  13 12 11  boptimal at 12 11  boptimal toxicitystressors prese	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9 Condition Category  10 10 9  Condition Category  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal / toxicity stressors present within the AA	Three eutrop	an five sedim within the AA  4 3 re:  Poolinication stre AA bou  4 3  Poolinication the AA  4 3  AA 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.	0.70
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality a. Eutrophication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 o stressors identified by Stressor Index  No eutrophication the AA  20 19 stressors identified by S	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  Under the AA  Sul  One contaminant / within the	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11  toxicitystressors prese AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9 Condition Category  10 10 9  Condition Category  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal v stressors present within the AA boundary.	5 Scor	an five sedim within the AA  4 3 re:  Poolinication stre AA bou  4 3  Poolinication the AA  4 3  AA 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.	0.70  CI = Total Score/40
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality a. Eutrophication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	y Stressor Index  No eutrophication the AA  20 19  o stressors identified  y Stressor Index  No eutrophication the AA  20 19  stressors identified  CO  No contaminant / to within the	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  Under the AA  Sul  One contaminant / within the	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11  toxicitystressors prese AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9 Condition Category  10 10 9  Condition Category  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal / toxicity stressors present within te AA boundary.	Three eutrop  5  Three conta	an five sedim within the AA  4 3 re:  Poolinication stre AA bou  4 3  Poolinication the AA  4 3  Poolinication the AA  4 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.	0.70
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality a. Eutrophication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	y Stressor Index  No eutrophication the AA  20 19  o stressors identified  y Stressor Index  No eutrophication the AA  20 19  stressors identified  CO  No contaminant / to within the	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  Under the AA  Sul  One contaminant / within the	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11  toxicitystressors prese AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9 Condition Category  10 10 9  Condition Category  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal / toxicity stressors present within the AA boundary.  8 7 6  a. Eutrophication Score	Three eutrop  5  Three conta	an five sedim within the AA  4 3 re:  Poolinication stre AA bou  4 3  Poolinication the AA  4 3  Poolinication the AA  4 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.  2 1  Total Score:	0.70  CI = Total Score/40
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality a. Eutrophication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE	y Stressor Index  No eutrophication the AA  20 19  o stressors identified  y Stressor Index  No eutrophication the AA  20 19  stressors identified  CO  No contaminant / to within the	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  Under the AA  Sul  One contaminant / within the	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11  toxicitystressors prese AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  10 9 Condition Category  10 10 9  Condition Category  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal / toxicity stressors present within the AA boundary.  8 7 6  a. Eutrophication Score	Three eutrop  5  Three conta	an five sedim within the AA  4 3 re:  Poolinication stre AA bou  4 3  Poolinication the AA  4 3  Poolinication the AA  4 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.  2 1  Total Score:	0.70  CI = Total Score/40
Sediment Stressor Presence  SCORE Comments: Tw  6. Water Quality  a. Eutrophication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE Comments: No	y Stressor Index  No eutrophication the AA  20 19  o stressors identified  y Stressor Index  No eutrophication the AA  20 19  stressors identified  20 19  stressors identified  20 19  stressors identified  20 19  stressors identified	Low Optimal: O sediment stresso present within the boundary.  18 17  18 17  19 didue to agriculture to agricult	AA state of the st	High Suboptimal: Two sediment Stressors present within the AA boundary.  15 14 dt ROW alteration c  Sul  One eutrophication the AA  15 14  15 14  15 14  15 14  15 14	boptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 aused by pipeline ma  boptimal stressors present with A boundary.  13 12 11  boptimal toxicitystressors prese AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9 intenance and ATV us  Condition Category  Two eutrophication  10 9  Condition Category  Two contaminant at the contaminant at	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6 se.  Marginal n stressors present within the AA boundary.  8 7 6  Marginal / toxicity stressors present within the AA boundary.  8 7 6  a. Eutrophication Score	Three eutrop  5  Three contact  5  20  20	Poor AA bou Poor Aminant / tox within the AA a 3	nent stressors present A boundary.  2 1 14  or essors present within the indary.  2 1  or kicity stressors present A boundary.  2 1  Total Score:	0.70  CI = Total Score/40

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#### **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		10/06/17	T. Malecki, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD071TMM	W035, W035A	41.754615	-78.398383	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.	1	1	1
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		3	

Road Comments: Dirt access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading. Temporary dirt access road connecting paved road to pipeline ROW.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	1	0/06/1	7
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Pennsylvania Department of Environmental Protection	į		in AA	
STRESSOR WORKSHEET	<u> -</u>	Υ	#'s	N
Vegetation Alteration				
Mowing	X	(		
Moderate livestock grazing (within one year)				Х
Crops (annual row crops, within one year)	X	(		
Selective tree harvesting/cutting (>50% removal, within 5 years)				Х
Right-of-way clearing (mechanical or chemical)	X	(	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X	(		
Removal of woody debris				Х
Aquatic weed control (mechanical or herbicide)				Х
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Х
Plantation (conversion from typical natural tree species, including orchards)				Х
Other:				Х
	Total Number:		4	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				Х
Filling/grading				Х
Dredging/excavation				Х
Stormwater inputs (culvert or similar concentrated urban runoff)				Х
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X	(		
Dead or dying trees (trunks still standing) *				Х
Stream alteration (channelization or incision)				Х
Other:				Х
	Total Number:		1	
Sedimentation				
Sediment deposits/plumes				Χ
Eroding banks/slopes				Χ
Active construction (earth disturbance for development)				Χ
Active plowing (plowing for crop planting in past year)	X	(		
Intensive livestock grazing (in one year, ground is >50% bare)				Χ
Active selective forestry harvesting (within one year)				Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				Х
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)			Χ
Other:	X	(		
	Total Number:		2	
Eutrophication				
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
Heavy or moderately heavy formation of algal mats				Χ
Other:				Χ
	Total Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				Χ
Obvious spills, discharges, plumes, odors, etc.				Χ
Acidic drainages (mined sites, quarries, road cuts)				Χ
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				Χ
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				Χ
Figh as wildlife kills as abvious diagrap as absorbedition absorbed				Х
Fish or wildlife kills or obvious disease or abnormalities observed				
Excessive garbage/dumping				X
				X

## **Invasive Species Presence Worksheet**

Are invasive spe	ecies (from	list) prese	nt at the site	in any l	ayer? YES N	0			
If listed species	present, er	nter the pe	rcent areal o	overage	for each species	below:			
Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total % relative cover of all invasives, collectively on site:	0	"	0
--	---	---	---

		Comm	on Invas	ives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

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Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	10/06/17	0.17	W037B, W037C	1.00	
Name(s) of Eval	uator(s)	Lat (dd)	Long (dd)	Notes:			
J. Miner, C. M	laier, M. Groomer	41.753999	-78.394842	RW068CJLM, F	PEM and PSS	wetlands	

General Comments: Seasonal wet back channel to Potato Creek. PEM and PSS wetland in maintained pipeline ROW (0.17 acres in ECL). Wetland continues beyond existing ROW, upslope and downslope of Project (2.28 acres delineated) beyond ECL. Impacts occur only to the PEM and PSS wetland area in the disturbed ROW. AA includes 1.00 acre of PEM and PSS within and beyond the Project area.

1. Wetland Zone	e of Influence Condit	ion Index							
				Condi	tion Category				
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetat stratum present (dia (dbh) > 3 inches) wi to 60% tree canopy of stream channels, classification or con	otimal ion consists of a tree ameter at breast height th greater than or equal cover. Areas comprised wetlands (regardless of ndition) and lacustrine s are scored as optimal.	High Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and	Low Suboptimal: ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to	High Marginal: ZOI area vegetation consists of non- maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree	Marginal: ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches)	High Poor: ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized,	Low Poor: ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	CI=
SCORE	20 19	18 17 16	shrub layers or a non-maintained understory.	13 12 11	canopy cover.	present, with less than 30% tree canopy cover with maintained understory.	or other comparable condition.	3 2 1	CI = Total Score/20
						8 / 6	5 4	3 2 1	
2. Estimate the	% area within each co	tegory areas within the wondition category. Calculurm (0.00) and Score for e	ators are provided for	•	above.	Total S	core = SUM(%Areas*S	cores)	
	Condition Category:								
	% ZOI Area:	0%	0%	25%	25%	50%	5%	Total Score:	
Scoring:	Score:	0	0	13	7	4	1		0.35
	Total Sub-score:	0.00	0.00	3.25	1.75	2.00	0.05	7.05	0.35

Comments: Area includes maintained pipeline ROW with access road/ATV trail, other wetlands, a stream, agricultural pasture, and a paved road. Adjacent forest has maintained understory.

2. Roadbed Pre	sence Index																	
								Condit	ion Categor	ies								
a. Roadbed	C	ptimal			Su	boptima	al				Marginal					Poor		
Presence	High Optimal: No	Low Opt	imal:_	High Sul	optimal:	Low S	uboptim	nal:_	High Margi	nal:	Low Ma	rginal: F	Roadbed	High Poo	: Roadbed	Low F	Poor: Ro	adbed
(within 0 - 100	roadbeds present	Roadbed	presence	Roadbed	presence	Roadb	ed prese	ence	Roadbed p	resence	presenc	e score v	ithin 0-	presence	score within	prese	nce score	within 0-
oot Wetland	within 100 feet of	score wit	hin 0-100 feet	score wit	hin 0-100	score	within 0-	100 foot	score within	n 0-100	100 foot	distance	of the	0-100 foot	distance of	f 100 fo	ot distan	ce of the
ZOI distance)	the AA boundary	of the AA	boundary	foot dista	nce of the	distan	ce of the	AA	foot distance	e of the	AA bour	ndary is g	reater	the AA bo	undary is	AA bo	undary is	greater
	·	equal to	or less than 2.	AA boun	dary is	bound	ary is gre	eater than	AA bounda	ry is	than to 8	3 but less	than or	greater tha	an 10 but	than 1	12.	
				greater th	nan to 2	to 4 bu	ut less th	an or	greater tha	n to 6	equal to	10.		less than	or equal to			
				but equa	I to or less	equal	to 6.		but less tha	in or				12.				
				than 4.					equal to 8.									
SCORE	20 19	18	17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

									Condi	tion Categories	s									
b. Roadbed		O	otimal			Su	boptin	nal				Marginal					Poor			
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optima roadbeds pre within 100 - 3 feet of the AA boundary	sent 800 A	Roadbed priscore within feet of the Aboundary edless than 2.	esence 100 - 300 A	Roadbed score with 300 feet boundar	boptimal: d presence thin 100 - of the AA y is greater but equal s than 4.	Road score feet A great	Suboptim bed prese within 10 AA bounda er than to han or eq	ence 0 - 300 ary is 4 but	High Margina Roadbed prescore within 1 300 feet of th boundary is g than to 6 but than or equal	sence 100 - le AA greater less	present 300 fee bounda	ce score	within 100 A iter than	- presence 100 - 300		prese 100 -		e within of the AA	CI = Total Score/20
SCORE	20 1	9	18 17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
												C	ondition	Score	We	ighting		Sub-Sc	ores	
										a. Roadbed	0-100:		17		*	(0.67)		11		
										b. Roadbed 10	00-300:		14		*	(0.33)		5		0.80
															Tota	l Score:		16	i	0.00

line ROW maintenance road, two-track, vegetated, with rutting. Paved road within 300 feet of AA,

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3	. Vegetation C	ondition	Index																			
											Condi	tion Catego	ry									
	a. Invasive		(	Optimal				Sul	boptim	al			ı	/largina	l				Poor			
		High Op	Optimal: No Low Optimal: <5% of we present. the total AA contains   Low Suboptimal:   Low Suboptimal:   10%   High Marginal:   Low Marginal:   20% but less than   Low Marginal:   20% of the total   20% o																			
	Presence	invasives																				
				invas	ive specie	S.										asive						
							contains	invasive	invasi	ve specie	S.	contains inv	asive	species	S.							
H							species.					species.		_	_	-	_					
L	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	'ammonte: One	o Invaciv	Species	idontifi	ad in wat	and AA																

Comments: One Invasive Species identified in wetland AA.

											Condi	tion Category	/									
b. Vegetation	on			Optimal				Su	boptima	al				Margina	ıl				Poc	or		
Stressor		High Op	timal: No	Low	Optimal:	One	High Su	boptimal:	Low S	uboptir	nal: Three	High Margin	al:	Low N	larginal:	Five	Greater	than five	e vegeta	ition stresso	rs present	CI =
Presence			n stresso				Two veg	etation		ition stre		Four vegetat	ion		tion stres			within	the AA	boundary.		Total
			within the	prese	nt within	the AA		s present	1.	nt within	the AA	stressors pre		1.	t within t	he AA						Score/40
		AA boun	dary.	boun	dary.		within th		bound	ary.		within the AA	1	bound	ary.							000.07.10
							boundar	٧.				boundary.										
SCORE		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments:														a. I	nvasive	Sub-Score:			18	Total S	Score	0.75
Maintained	pipe	line ROV	V and mai	ntenan	e road/	TV trail.								b. Veg	etation	Sub-Score:			12	30	)	0.75

4. Hydrologic Modification Index

											Condi	tion Categ	ory									
			0	ptimal				S	uboptim	al				Marginal					Poor			
Modification Stressor	hydrolo	t within t	ssors he	hydro	Optimal: logic stre nt within dary.	ssor	High Su Two hyd stressors within th boundar	s present e AA	hydro	logic stre	ssors	Four hydr stressors within the boundary	ologic present AA	hydrolog	rginal: F gic stress within the y.	ors	Greater	than five h within th			s present	CI = Total Score/20
SCORE	20	19		18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.85
Comments: Wit	thin RO	N altera	tion o	caused	by pipe	line maiı	tenance	and ATV	ise.								s	core:		17		0.05

5. Sediment Stressor Index

											Condi	tion Catego	ry									
Г				ptima	I			S	uboptim	al				Margina					Poor			
	Sediment Stressor Presence	sedimen	timal: No it stressors within the idary.	sedin	Optimal: nent stresent within dary.	ssor	High Su Two sed stressors within the boundary	iment present AA	sedim	ent stres	sors	High Marg Four sedin stressors p within the a boundary.	nent resent	sedime	arginal: Fent stresson t within the ary.	ors	Greate	er than five within t		t stressor oundary.	s present	CI = Total Score/20
Г	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
C	omments: On	ne stresso	r identified	d due to	o ROW n	naintenar	ce and A	TV use.									8	Score:		17	,	0.85

6. Water Quality Stressor Index

	Condition Category																				
a. Eutro-			Optimal			Suboptimal					Marginal					Poor					
phication Stressor Presence	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

Comments: No stressors identified.

Ī			Condition Category																			
ſ	b. Contaminant			Optimal			Suboptimal															
	/ Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.					CI = Total Score/40
ſ	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Ī	Comments: No stressors identified.											a. Eutrophication Score					20			Total Score:		1.00
														b. 0	Contamin	ant Score		20		40		1.00
ı																						

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition	Overall Condition Index:	0.77
score.	Overall Collution index.	0.77

### Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Roadbed Worksheet**

Project Name / Identifier	r		Date	Name(s) of Evaluator(s)
NF(	G FM100 Project		10/06/17	J. Miner, C. Maier, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
RW068CJLM	W037B, W037C	41.753999	-78.394842	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.	1	2	2
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		4	

Road Comments: Unimproved access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading. Paved road within 300 feet of AA.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	nt		10/06/17	7
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· · · · · · · · · · · · · · · · · · ·				
Pennsylvania Department of Environmental Protection	ļ		in AA	
STRESSOR WORKSHEET		Υ	#'s	N
Vegetation Alteration				
Mowing		X	_	
Moderate livestock grazing (within one year)			_	X
Crops (annual row crops, within one year)				X
Selective tree harvesting/cutting (>50% removal, within 5 years)				X
Right-of-way clearing (mechanical or chemical)		X	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)		Χ		
Removal of woody debris				Χ
Aquatic weed control (mechanical or herbicide)				Χ
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Χ
Plantation (conversion from typical natural tree species, including orchards)				Χ
Other:				Χ
	Total Number:		3	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				X
Filling/grading			-	X
Dredging/excavation			1	X
Stormwater inputs (culvert or similar concentrated urban runoff)				X
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)		X		
Dead or dying trees (trunks still standing) *		^	-	Y
Stream alteration (channelization or incision)			1	Y
Other:			1	Λ Υ
Outer.	Total Number:		1	٨
Sedimentation	Total Number:		<u> </u>	
Sediment deposits/plumes				X
Eroding banks/slopes			1	Λ Υ
Active construction (earth disturbance for development)			-	^ _
Active plowing (plowing for crop planting in past year)			-	^
			-	^
Intensive livestock grazing (in one year, ground is >50% bare)				X
Active selective forestry harvesting (within one year)			4	X
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)	,		4	X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	narges)		4	Х
Other:		X		
	Total Number:		1	
Eutrophication			T	
Direct discharges from agricultural feedlots, manure pits, etc.				X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				X
Heavy or moderately heavy formation of algal mats			_	X
Other:				X
	Total Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				X
Obvious spills, discharges, plumes, odors, etc.				X
Acidic drainages (mined sites, quarries, road cuts)				Χ
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				X
Fish or wildlife kills or obvious disease or abnormalities observed				X
Excessive garbage/dumping				Χ
			1	V
Other:	l l			X

# Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Invasive Species Presence Worksheet**

Are invasive sp	ecies (from	list) prese	nt at the site	in any l	ayer? YES N	0			
If listed species	s present, e	nter the pe	rcent areal o	coverage	for each species	below:			
Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%
loja	1								
					1				

Total % relative cover of all invasives, collectively on site: %

Comments:

	Common Invasives/Aggressives List													
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status							
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW							
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW							
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW							
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW							
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC							
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW							
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW							
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW							
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW							
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW							
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-							
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-							
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-							
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?							
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-							
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU							
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW							
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW							
lota	Tartarian honeysuckle	Lonicera tatarica												

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project # Project Name			Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Pro	ject	10/05/17	0.80	W091	1.00	
Name(s) of Eval	luator(s)	Lat (dd)	Long (dd)	Notes:			
J. Miner, C. M	Miner, C. Maier, M. Groomer 41.795333		-78.254476	WD058.	JLM, PSS wetla	and	

General Comments: Large PSS wetland in a backwater of the Allgheny River. Forested areas occur outside of the plot. PSS located 0.80 acres in ECL and continues downslope of Project (4.2 acres delineated) beyond ECL. Impacts occur only to the PSS wetland area in the Project area. AA includes 0.80 acres of PSS within and 0.20 acres beyond the Project area.

1. Wetland Zone of Influence Condition Index											
				Cond	lition Category						
Wetland Zone	Op	otimal	Subo	ptimal	Ma	rginal	Po	oor			
of Influence	ZOI area vegetati	on consists of a tree	High Suboptimal: ZOI	Low Suboptimal: ZOI	High Marginal: ZOI	Low Marginal: ZOI area	High Poor: ZOI area	Low Poor: ZOI area			
(300 foot area	stratum present (dia	ameter at breast height	area vegetation	area vegetation consists	area vegetation	vegetation consists of non-	vegetation consists of	vegetation consists of			
around AA		h greater than or equal		of a tree stratum (dbh >		maintained, dense	lawns, mowed, and	impervious surfaces;			
perimeter)		cover. Areas comprised			maintained, dense	herbaceous vegetation,	maintained areas,	mine spoil lands,			
		wetlands (regardless of		greater than or equal to		riparian areas lacking	nurseries; no-till	denuded surfaces, row			
		ndition) and lacustrine		30% and less than 60%			cropland; actively grazed				
	resources ≥ 10 acres	s are scored as optimal.		tree canopy cover with a		areas of hay production,	pasture, sparsely	impervious trails, or other			
			tree canopy cover and containing both		3 inches) present, with less than 30% tree	and ponds or open water areas (< 10 acres). If	vegetated non- maintained area.	comparable conditions.			
			herbaceous and shrub		canopy cover.	trees are present, tree	pervious trails, recently				
			layers or a non-		canopy cover.	stratum (dbh > 3 inches)	seeded and stabilized.				
			maintained understory.			present, with less than	or other comparable		CI = Total		
			mamamou unacrotory.			30% tree canopy cover	condition.		Score/20		
						with maintained			Score/20		
						understory.					
SCORE	20 19	18 17 16	15 14 1	3 12 11	10 9	8 7 6	5 4	3 2 1			
1. Identify all ap	plicable Condition Cat	tegory areas within the w	etland zone of influence	using the descriptors above	ve.						
			ators are provided for you			Total	Score = SUM(%Areas*Sc	ores)			
3. Enter the % 2	Ol Area in decimal for	rm (0.00) and Score for e	each category in the block	ks below.			`	•			
	Condition Category:										
	% ZOI Area:	0%	40%	10%	10%	20%	20%	Total Score:			
Scoring:	Score:	0	13	9	7	4	1		0.30		
	Total Sub-score:	0.00	5.20	0.90	0.70	0.80	0.20	7.80	0.39		
			•								

Comments: Area includes maintained pipeline ROW, paved roads, development, wetlands, and streams. Adjacent forest has maintained understory.

2. Roadbed Pre	sence Index																			
								Condi	tion Categori	es										
a. Roadbed	C	ptimal			Sub	optima	l			N	larginal						Poor			
Presence	High Optimal: No	Low Op	otimal:	High Subo	ptimal:	Low	Suboptir	mal:	High Margin	<u>al</u> :	Low M	arginal:	Roadbed	High Po	or: Roa	dbed	Low	Poor: R	oadbed	
(within 0 - 100	roadbeds present	Roadbe	d presence	Roadbed p	resence	Road	bed pres	sence	Roadbed pre	sence	presen	ce score v	vithin 0-	presenc	e score	within 0	)- prese	nce scor	e within 0-	
	within 100 feet of	score w	ithin 0-100 fee	score within	n 0-100 foot	score	within 0	-100 foot	score within (	)-100 foot	100 fo	ot distance	of the	100 foo	distanc	e of the	100 f	oot dista	nce of the	
ZOI distance)	the AA boundary	of the A	A boundary	distance of	the AA	distar	nce of the	e AA	distance of th	e AA	AA bot	ındary is g	reater				AA bo	oundary i	is greater	
		equal to	or less than 2	. boundary is	s greater	bound	dary is gi	reater than	n boundary is greater than to 8 but less than or		than 10	but less	than or	than	12.					
				than to 2 b	ut equal to	to 4 b	ut less th	han or	than to 6 but	less than	equal t	o 10.		equal to	12.					
				or less that	ո 4.	equal	to 6.		or equal to 8.											
SCORE	20 19	18	17 16	15	14	13	12	11	10	9	8	7	6	5		1	3	2	1	
JUJIL										-			-				-	_	•	

Comments: Maintained pipeline ROW and dirt road to residential development within 100 feet of wetland.

	Condition Categories Condition Categories																					
b. Roadbed		(	Optima	ı			Su	ıboptim	nal			М	arginal						Poor			
(within 100 - 300 foot	Optimal High Optimal: No Cow O		ence 00 - 300	Roadbed   score with feet of the boundary than to 2 b	Roadbed presence score within 100 - 300 score within 100 - 300 feet of the AA feet AA boundary is greater than to 4 but		Roadbed pres score within 1 feet of the AA is greater than	High Marginal: Low Marginal: Roadbed Presence score within 100 - 300 300 feet of the AA feet of the AA boundary boundary is greater than is greater than to 6 but to 8 but less than or equal		High Poor: Roadbed presence score within 100 - 300 feet of the AA		pre:	Low Poor: Roadbed presence score within 100 - 300 feet of the AA boundary is greater than		CI = Total Score/20							
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5		4	3	2	1	
													С	ondition	Score	W	eight	ting		Sub-9	Scores	
											a. Roadi	ed 0-100	•	14			* (0.6	7)			9	
											b. Roadbed	100-300	:	6			* (0.3	3)			2	0.57
																То	tal Sc	core:		1	11	0.57
Commente: Ma	intoined n	inalina D	71A/ di-	* *** d **	rasidant	مماميرهام اما	mont and	navad	roode wi	thin 200 fo	at of wetlend					-						-

omments: Maintained pipeline ROW, dirt road to residential development, and paved roads within 300 feet of wetland.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

		For us		ennsylvania Departm		I Protection found within the banks of a	watercourse		
3. Vegetation C	Condition Index	101 40	se in an wettand classific			Tourid Within the banks of t	wateroourse.		
a. Invasive		ptimal	l Sub-	Conc	dition Category	arginal		Poor	
Species	High Optimal: No	Low Optimal: <5% of	High Suboptimal:	Low Suboptimal: >10%	High Marginal: >20%	Low Marginal: >30% but		contains invasive species.	
Presence	invasives present.	the total AA contains invasive species.	>5% but less than 10% of the total AA contains	but less than 20% of the total AA contains	but less than 30% of the total AA contains	less than 50% of the total AA contains invasive			
		•	invasive species.	invasive species.	invasive species.	species.			
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	
Comments: No	Invasive Species id	entified in wetland AA.	•		•		•		
				Cond	lition Category				
b. Vegetation Stressor		ptimal		optimal		arginal		Poor	
Presence	High Optimal: No vegetation stressors	Low Optimal: One vegetation stressor	High Suboptimal: Two vegetation stressors	Low Suboptimal: Three vegetation stressors	vegetation stressors	Low Marginal: Five vegetation stressors		getation stressors present AA boundary.	CI = Total
	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.			Score/40
	Ť	_		·		·			
SCORE Comments:	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6 a. Invasive Sub-Score:	5 4	3 2 1 20 Total Score	
No stressors id	lentified.					b. Vegetation Sub-Score:		20 40	1.00
4 Hydrologic N	Modification Index								
ya.o.og.o			_		lition Category		_		
Lludralagia	High Optimal: No	Low Optimal: One	High Suboptimal: Two	botimal Low Suboptimal: Three		arginal Low Marginal: Five		Poor drologic stressors present	
Hydrologic Modification	hydrologic stressors	hydrologic stressor	hydrologic stressors	hydrologic stressors	hydrologic stressors	hydrologic stressors		AA boundary.	CI = Total Score/20
Stressor Presence	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.	present within the AA boundary.			000.0/20
			·						
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	1.00
Comments: No	stressors identified	•					Score:	20	
5. Sediment Str	ressor Index			0	liting Cotons				
5. Sediment Str		ptimal	Subo	Conc	dition Category	arginal		Poor	
5. Sediment Str	O High Optimal: No	Low Optimal: One	High Suboptimal: Two	optimal Low Suboptimal: Three	M High Marginal: Four	arginal  Low Marginal: Five	Greater than five sedim	nent stressors present within	CI = Total
Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present within the AA	Low Suboptimal: Three sediment stressors present within the AA	High Marginal: Four sediment stressors present within the AA	Low Marginal: Five sediment stressors present within the AA	Greater than five sedim		CI = Total Score/20
Sediment	High Optimal: No sediment stressors	Low Optimal: One sediment stressor	High Suboptimal: Two sediment stressors	botimal Low Suboptimal: Three sediment stressors	High Marginal: Four sediment stressors	Low Marginal: Five sediment stressors	Greater than five sedim	nent stressors present within	
Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present within the AA boundary.	Low Suboptimal: Three sediment stressors present within the AA	High Marginal: Four sediment stressors present within the AA	Low Marginal: Five sediment stressors present within the AA	Greater than five sedim	nent stressors present within	Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.	botimal Low Suboptimal: Three sediment stressors present within the AA boundary.	Migh Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.	Greater than five sedim the AA	nent stressors present within A boundary.	
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.	botimal Low Suboptimal: Three sediment stressors present within the AA boundary.	Migh Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.	Greater than five sedim the AA	nent stressors present within a boundary.	Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.	botimal Low Suboptimal: Three sediment stressors present within the AA boundary.	Migh Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.	Greater than five sedim the AA	nent stressors present within a boundary.	Score/20
Sediment Stressor Presence SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.	botimal Low Suboptimal: Three sediment stressors present within the AA boundary.	Migh Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.	Greater than five sedim the AA	nent stressors present within a boundary.	Score/20
Sediment Stressor Presence SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19 stressors identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	M High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6	Greater than five sedim the AA  5 4  Score:	nent stressors present within a boundary.  3 2 1 20	Score/20
Sediment Stressor Presence  SCORE Comments: No  6. Water Qualit  a. Eutrophication	High Optimal: No sediment stressors present within the AA boundary.  20 19  stressors identified  y Stressor Index	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14  Subo	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11	M High Marginal: Four sediment stressors present within the AA boundary.  10 9	Low Marginal: Five sediment stressors present within the AA boundary.	Greater than five sedim the AA  5 4  Score:	nent stressors present within a boundary.	Score/20
Sediment Stressor Presence  SCORE Comments: No  6. Water Qualit  a. Eutro- phication Stressor	High Optimal: No sediment stressors present within the AA boundary.  20 19 stressors identified  y Stressor Index  No eutrophication	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14  Subo One eutrophication str	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11  Concoptimal	M High Marginal: Four sediment stressors present within the AA boundary.  10 9  dition Category  M Two eutrophication stre	Low Marginal; Five sediment stressors present within the AA boundary.  8 7 6	Greater than five sedim the AA  5 4  Score:	nent stressors present within boundary.  3 2 1 20  Poor	Score/20
Sediment Stressor Presence  SCORE Comments: No  6. Water Qualit  a. Eutrophication Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.  20 19 stressors identified  y Stressor Index  No eutrophication the AA	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16  primal stressors present within the AA boundary.	High Suboptimal: Two sediment stressors present within the AA boundary.  15 14  Subc.  One eutrophication str.  AA bo	Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11  Conceptimal essors present within the bundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9  Sittion Category  M Two eutrophication stre bo	Low Marginal: Five sediment stressors present within the AA boundary.  8 7 6  arginal sesors present within the AA undary.	Greater than five sediments AA	nent stressors present within boundary.  3 2 1 20  Poor stressors present within the boundary.	Score/20
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# Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

### **Roadbed Worksheet**

Project Name / Identifier			Date	Name(s) of Evaluator(s)
NF	G FM100 Project		10/05/17	J. Miner, C. Maier, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD058JLM	W091	41.795333	-78.254476	

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.	1	4	4
2 Lane Paved	0-100 ft.		2	0	100-300 ft.	1	2	2
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	2	2	4	100-300 ft.	2	2	4
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		4		100-300 ft.		10	

Road Comments: Dirt roads to residential development within 100 feet and paved roads within 300 feet of wetland.

Pennsylvania Wetland Condition Level 2 Rapid Assessmen	nt	1	0/05/1	7
(Document No. 310-2137-002)		Oc	currer	nce
Pennsylvania Department of Environmental Protection	Ì		in AA	
STRESSOR WORKSHEET	<u> </u>	Υ	#'s	N
Vegetation Alteration				
Mowing				Χ
Moderate livestock grazing (within one year)				Χ
Crops (annual row crops, within one year)				Χ
Selective tree harvesting/cutting (>50% removal, within 5 years)				Χ
Right-of-way clearing (mechanical or chemical)				Χ
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)				Χ
Removal of woody debris				Χ
Aquatic weed control (mechanical or herbicide)				Χ
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Χ
Plantation (conversion from typical natural tree species, including orchards)				Χ
Other:				Χ
	Total Number:		0	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				Х
Filling/grading				Χ
Dredging/excavation				Х
Stormwater inputs (culvert or similar concentrated urban runoff)				Х
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)				Х
Dead or dying trees (trunks still standing) *				Х
Stream alteration (channelization or incision)				X
Other:				Х
	Total Number:		0	
Sedimentation				
Sediment deposits/plumes				Х
Eroding banks/slopes				Χ
Active construction (earth disturbance for development)				Х
Active plowing (plowing for crop planting in past year)				Х
Intensive livestock grazing (in one year, ground is >50% bare)				Х
Active selective forestry harvesting (within one year)				Х
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disch	arges)			Х
Other:				Х
	Total Number:		0	
Eutrophication				
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
Heavy or moderately heavy formation of algal mats				Χ
Other:				Χ
	Total Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				Х
Obvious spills, discharges, plumes, odors, etc.				Х
Acidic drainages (mined sites, quarries, road cuts)				Х
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				Х
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				Х
Fish or wildlife kills or obvious disease or abnormalities observed				X
				V
Excessive garbage/dumping				^
Excessive garbage/dumping Other:				X

# Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

### **Invasive Species Presence Worksheet**

				•					
Are invasive spe	ecies (from	list) prese	nt at the site	in any l	ayer? YES N	0			
If listed species	present, er	nter the pe	rcent areal c	overage	for each species	below:			
Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%

Total % relative cover of all invasives, collectively on site: 0 %

Comments:

	Common Invasives/Aggressives List												
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status						
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW						
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW						
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW						
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW						
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC						
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW						
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW						
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW						
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW						
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW						
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-						
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-						
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-						
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?						
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-						
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU						
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW						
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW						
lota	Tartarian honeysuckle	Lonicera tatarica											

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Pro	ject	08/03/18	0.14	W127	1.00	
Name(s) of Eval	uator(s)	Lat (dd)	Long (dd)	Notes:			
J. Miner, M. G	iroomer	41.760453	-78.337957	WD207JLM,	<b>PFO and PEM</b>	wetland	

General Comments: Wetland/upland mosaic that includes approximately 20-30 percent uplands. Wetland depressions with upland hummocks. PFO wetland in maintained pipeline ROW (0.14 acres in ECL). Wetland continues beyond existing ROW, upslope of Project (0.22 acres delineated) beyond ECL. Connected to PEM wetland within Project area and continues downslope of the Project (0.33 acres delineated) beyond ECL. PEM wetland is connected to another PFO wetland which has no impacts and does not occur within the Project area. Impacts occur only to the PFO and PEM wetland area in the disturbed ROW. AA includes 0.59 acres of PFO and PEM within the Project area and 0.41 acres beyond the Project area.

1. Wetland Zon	e of Influence Conditi	on Index							
					lition Category				
Wetland Zone	Op	timal	Subo	ptimal	Ma	ırginal	Po	oor	
of Influence	ZOI area vegetation	on consists of a tree	High Suboptimal: ZOI	Low Suboptimal: ZOI	High Marginal: ZOI	Low Marginal: ZOI area	High Poor: ZOI area	Low Poor: ZOI area	
(300 foot area		meter at breast height		area vegetation consists		vegetation consists of non-	vegetation consists of	vegetation consists of	
around AA		h greater than or equal			consists of non-	maintained, dense	lawns, mowed, and	impervious surfaces;	
perimeter)		over. Areas comprised			maintained, dense	herbaceous vegetation,	maintained areas,	mine spoil lands,	
		wetlands (regardless of		greater than or equal to		riparian areas lacking	nurseries; no-till	denuded surfaces, row	
		dition) and lacustrine		30% and less than 60%			cropland; actively grazed	crops, active feed lots,	
	resources ≥ 10 acres	are scored as optimal.	30% and less than 60% tree canopy cover and	tree canopy cover with a		areas of hay production,	pasture, sparsely	impervious trails, or other	
			containing both	maintained understory.	3 inches) present, with less than 30% tree	and ponds or open water areas (< 10 acres). If	vegetated non- maintained area.	comparable conditions.	
			herbaceous and shrub			trees are present, tree	pervious trails, recently		
			layers or a non-		canopy cover.	stratum (dbh > 3 inches)	seeded and stabilized.		
			maintained understory.			present, with less than	or other comparable		CI = Total
			I I I I I I I I I I I I I I I I I I I			30% tree canopy cover	condition.		Score/20
						with maintained			Score/20
						understory.			
						1			
SCORE	20 19	18 17 16	15 14 1	13 12 11	10 9	8 7 6	5 4 3	3 2 1	
1. Identify all ap	plicable Condition Cat	egory areas within the w	etland zone of influence	using the descriptors abor	ve.				
2. Estimate the	% area within each co	ndition category. Calcul	ators are provided for you	u below.		Total	Score = SUM(%Areas*Sc	ores)	
3. Enter the %	ZOI Area in decimal for	m (0.00) and Score for	each category in the block	ks below.			,	,	
	Condition Category:	` '							
	% ZOI Area:	0%	60%	10%	10%	20%	0%	Total Score:	
Scoring:	Score:	0	13	9	7	4	0		0.51
	Total Sub-score:	0.00	7.80	0.90	0.70	0.80	0.00	10.20	0.51
Comments: Are	ea includes maintaine	d pipeline ROW with ac	cess road/ATV trail and	l other wetlands. Adjace	nt forest has maintained	l understory.			

2. Roadbed Pre	sence Index																			
									Condi	tion Categorie	s									
a. Roadbed	C	Optimal				Sub	optima	ıl			N	larginal					Po	oor		
Presence	High Optimal: No	Low	Optimal:		High Subo	otimal:	Low	Subop	timal:_	High Margina	<u>ıl</u> :	Low M	arginal:	Roadbed	High Po	or: Roadbe	ed	Low Po	oor: Roa	adbed
(within 0 - 100	roadbeds present	Road	bed prese	ence	Roadbed pi	esence	Road	bed pre	esence	Roadbed pres	sence	presen	ce score	within 0-	presenc	e score witl	hin 0-	presen	ce score	within 0-
foot Wetland	within 100 feet of	score	within 0-	100 feet	score within	0-100 foo	t score	within	0-100 foot	score within 0	-100 foot	100 for	ot distance	e of the	100 foot	distance o	f the	100 foo	ot distand	ce of the
ZOI distance)	the AA boundary	of the	AA boun	dary	distance of	the AA	dista	nce of t	he AA	distance of th	e AA	AA bot	undary is g	greater	AA bour	ndary is gre	ater	AA bou	undary is	greater
		equa	to or less	than 2.	boundary is	greater	boun	dary is	greater than	boundary is g	reater	than to	8 but les	s than or	than 10	but less tha	an or	than 12	2.	
					than to 2 bu				than or	than to 6 but	ess than	equal t	o 10.		equal to	12.				
					or less than	4.	equa	l to 6.		or equal to 8.										
															I					
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	3	2	1
Commonto: Din	alina BOW maintan		ad two	rook wa	antotad wit	h worthing														

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

										Cond	ition Categori	es									
b. Roadbed		0	ptimal				Su	boptim	al			N	largin	al				Poor			
Presence (within 100 - 300 foot Wetland ZOI distance)	High Opt roadbeds within 100 feet of the boundary	present 0 - 300 e AA	Road score feet o	Optimal: lbed pres within 10 of the AA dary equ han 2.	ence 00 - 300 al to or	High Subo Roadbed p score withi feet of the boundary i than to 2 b or less than	oresence n 100 - 300 AA s greater out equal to	Roa scor feet grea	AA boun	sence 100 - 300 dary is	High Margin Roadbed pre score within feet of the A is greater that less than or o	esence 100 - 300 A boundar an to 6 but	pres 300 y bou to 8	sence scor feet of the ndary is gr but less the	_ re within 100 · e AA reater than han or equal	100 - 300 f boundary i	core withing eet of the s greater to ess than or	n pre AA 10 han bo	undary is g		CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
														Conditio	n Score	We	ighting		Sub-S	Scores	
											a. Road	lbed 0-10	):	1	7	*	(0.67)		1	11	
									•		b. Roadbe	d 100-30	):	1	7	*	(0.33)		(	6	0.85
												·		·		Tota	I Score:		1	17	0.05
Commendate Dis	- II DOV	! 4		4	Ann als		41441														

Comments: Pipeline ROW maintenance road, two-track, vegetated, with rutting.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

#### Pennsylvania Department of Environmental Protection

		For	uaa in all weet		•	ania Departm und within Pen					hanka af a						
3. Vegetation 0	Condition Index	FOI	use iii aii weti	ianu ciassini	cations io	una within Fen	ilisyviailia ex	cept those	e iouiiu v	within the	Daliks Ol a	watercou	156.				
_						Cond	dition Catego										
a. Invasive Species		ptimal	Himb Cobs		optimal		Iliah Massi		Marginal		200/ ht	> E00/ ed	f the total	Poor	ina invasiva a	nasias	
Presence	High Optimal: No invasives present.	Low Optimal: <5% of the total AA contains		ss than 10%						larginal: an 50% of		2 50% OI	i trie total i	AA COIIIa	ins invasive s	pecies.	
	·	invasive species.		AA contains			the total AA			ntains inva	sive						
			invasive sp	ecies.	invasive s	species.	invasive spe	ecies.	specie	S.							
SCORE	20 19	18 17 16	15	14	13 12	2 11	10	9	8	7	6	5	4	3	2	1	
Comments: Or	ne Invasive Species i	dentified in wetland A	<i>t.</i>														
b. Vegetation	0	ptimal		Subr	optimal	Conc	dition Catego		Marginal					Poor			
Stressor	High Optimal: No	Low Optimal: One	High Subo	ptimal: Two		optimal: Three	High Margir			larginal: F	ive	Greater	than five		on stressors p	resent	
Presence	vegetation stressors		vegetation			n stressors	vegetation s			tion stress				the AA b			CI = Total
	present within the AA boundary.	present within the AA boundary.	present with boundary.	hin the AA	present w boundary	vithin the AA	present with boundary.	in the AA	bounda	nt within the arv.	e AA						Score/40
	· ·	·			·												
SCORE	20 19	18 17 16	15	14	13 12	2 11	10	9	8	7	6	5	4	3	2	1	
Comments:										nvasive S				13	Total Sco	re	0.63
Maintained pip	beline ROW and main	tenance road/ATV trail	l.						b. Veg	etation S	ub-Score:			12	25		
4 Hydrologic *	Modification Indox																
4. nyurologic i	Modification Index					Conc	dition Catego	ory								<del></del>	
	0	ptimal		Subo	optimal				Marginal					Poor			
Hydrologic	High Optimal: No	Low Optimal: One		ptimal: Two						larginal: F		Greater			ic stressors p	resent	CI = Total
Modification	hydrologic stressors present within the	hydrologic stressor present within the AA	hydrologic s present with			c stressors vithin the AA	hydrologic si present with			ogic stress			within	the AA b	oundary.		Score/20
Stressor Presence	AA boundary.	boundary.	boundary.	IIIII UIC AA	boundary		boundary.	iii tile AA	bounda								
	•																
SCORE	20 19	18 17 16	15	14	13 12	2 11	10	9	8	7	6	5	4	3	2	1	
Comments: Wi	ithin ROW alteration	caused by pipeline ma	intenance an	d ATV use.								s	core:		17		0.85
5. Sediment St	tressor Index					Conc	dition Catego	ory								_	
5. Sediment St	0	ptimal			optimal			N	Marginal					Poor			
Sediment	O High Optimal: No	Low Optimal: One		ptimal: Two	Low Sub	optimal: Three	High Margir	nal: Four	Low M	larginal: F		Greater th		diment st	tressors prese	nt within	CI = Total
Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	sediment st present with	ptimal: Two tressors	Low Sub- sediment present w	optimal: Three stressors vithin the AA	High Margir sediment str present with	Nal: Four ressors	Low M sedime presen	ent stressont within the	rs	Greater th				ent within	CI = Total Score/20
Sediment	High Optimal: No sediment stressors	Low Optimal: One sediment stressor	sediment st	ptimal: Two tressors	Low Sub- sediment	optimal: Three stressors vithin the AA	High Margir sediment str	Nal: Four ressors	Low M	ent stressont within the	rs	Greater th		diment st		ent within	
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.	sediment st present with boundary.	ptimal: Two tressors hin the AA	Low Sub- sediment present w boundary	optimal: Three stressors vithin the AA	High Margir sediment str present with boundary.	Nal: Four ressors in the AA	Low M sedime presen bounda	ent stressont within the ary.	irs e AA		the	diment st AA bour	ndary.		
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA	sediment st present with boundary.	ptimal: Two tressors hin the AA	Low Sub- sediment present w	optimal: Three stressors vithin the AA	High Margir sediment str present with	Nal: Four ressors	Low M sedime presen	ent stressont within the	rs	5	the	diment st	ndary. 2	ent within	
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	sediment st present with boundary.	ptimal: Two tressors hin the AA	Low Sub- sediment present w boundary	optimal: Three stressors vithin the AA	High Margir sediment str present with boundary.	Nal: Four ressors in the AA	Low M sedime presen bounda	ent stressont within the ary.	irs e AA	5	the	diment st AA bour	ndary.		Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	sediment st present with boundary.	ptimal: Two tressors hin the AA	Low Sub- sediment present w boundary	optimal: Three stressors vithin the AA	High Margir sediment str present with boundary.	Nal: Four ressors in the AA	Low M sedime presen bounda	ent stressont within the ary.	irs e AA	5	the	diment st AA bour	ndary. 2		Score/20
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	sediment st present with boundary.	ptimal: Two tressors hin the AA	Low Sub- sediment present w boundary	optimal: Three stressors vithin the AA	High Margir sediment str present with boundary.	Nal: Four ressors in the AA	Low M sedime presen bounda	ent stressont within the ary.	irs e AA	5	the	diment st AA bour	ndary. 2		Score/20
Sediment Stressor Presence SCORE Comments: Or	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16	sediment st present with boundary.	ptimal: Two tressors hin the AA	Low Sub- sediment present w boundary	optimal: Three stressors vithin the AA v.	High Margir sediment str present with boundary.	nal: Four ressors in the AA	Low M sedime presen bounda	ent stressont within the ary.	irs e AA	5	the	diment st AA bour	ndary. 2		Score/20
Sediment Stressor Presence SCORE Comments: Or	High Optimal: No sediment stressors present within the AA boundary.  20 19 ne stressor identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena	sediment st present with boundary.	ptimal: Two tressors hin the AA 14 ' use.	Low Sub- sediment present w boundary	optimal: Three stressors vithin the AA v.	High Margir sediment str present with boundary.	Nal: Four ressors in the AA	Low M sedime presen bounda	ent stressont within the ary.	irs e AA	5	the	diment st	ndary. 2		Score/20
Sediment Stressor Presence  SCORE  Comments: Or  6. Water Qualit  a. Eutro-	High Optimal: No sediment stressors present within the AA boundary.  20 19 ne stressor identified	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena	sediment st present with boundary.  15 ince and ATV	ptimal: Two tressors hin the AA 14 ' use.	Low Sub- sediment present w boundary 13 12	optimal: Three stressors within the AA	High Margin sediment str present with boundary.  10	Nal: Four ressors in the AA	Low M sedime presen bound:	ent stressont within the ary.	e AA	5 S	the	AA bour	2 17	1	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication Stressor	High Optimal: No sediment stressors present within the AA boundary.  20 19 ne stressor identified  ty Stressor Index  No eutrophication:	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena	sediment st present with boundary.  15 ince and ATV	ptimal: Two tressors hin the AA  14  use.  Subc phication str	Low Sub- sediment present w boundary 13 12	optimal: Three stressors vithin the AA v.	High Margir sediment str present with boundary.	Nal: Four essors in the AA	Low M sedime presen bound:	ent stressont within the ary.	e AA	5 S	the 4	AA bour	2 17	1	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication	High Optimal: No sediment stressors present within the AA boundary.  20 19 ne stressor identified  ty Stressor Index  No eutrophication:	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena	sediment st present with boundary.  15 ince and ATV	ptimal: Two tressors hin the AA  14  use.  Subc phication str	Low Sub- sediment present w boundary  13 12  optimal essors present	optimal: Three stressors within the AA	High Margin sediment str present with boundary.  10	Nal: Four essors in the AA	Low M sedime presen bounds  8	ent stressont within the ary.	e AA	5 S	the 4	Poor on stresse	2 17	1	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication Stressor	High Optimal: No sediment stressors present within the AA boundary.  20 19 ne stressor identified  ty Stressor Index  No eutrophication:	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena	sediment st present with boundary.  15 Ince and ATV	ptimal: Two tressors hin the AA  14  use.  Subc  AA bo	Low Sub- sediment present w boundary  13 12  optimal essors present	optimal: Three stressors within the AA 2 11  Conc	High Margin sediment str present with boundary.  10	Nal: Four essors in the AA	Low M sedime presen bounds  8	ent stressont within the ary.	e AA	5 S	the 4	Poor on stresse	2 17	1	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19 ne stressor identified  ty Stressor Index  No eutrophication : the AA	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena  ptimal  stressors present within A boundary.  18 17 16	sediment st present with boundary.  15 unce and ATV  One eutro	ptimal: Two tressors hin the AA  14  use.  Subc  AA bo	Low Sub- sediment present w boundary  13 12  optimal essors pres oundary.	optimal: Three stressors within the AA 2 11  Conc	High Margin sediment str present with boundary.  10  dition Catego	Nal: Four ressors in the AA  9  Pry Nhication str	8  farginal ressors proundary.	ent stressont within the ary.  7	e AA  6  in the AA	5 S	the  4 icore:	Poor on stressed bound	2 17 ors present wi	1 ithin the	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19  ne stressor identified  ty Stressor Index  No eutrophication the AA  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena  ptimal  stressors present within A boundary.  18 17 16	sediment st present with boundary.  15 unce and ATV  One eutro	ptimal: Two tressors hin the AA  14  use.  Subc  AA bo	Low Sub- sediment present w boundary  13 12  optimal essors pres oundary.	optimal: Three stressors within the AA 2 11  Conc	High Margin sediment str present with boundary.  10  dition Catego	Nal: Four ressors in the AA  9  Pry Nhication str	8  farginal ressors proundary.	ent stressont within the ary.  7	e AA  6  in the AA	5 S	the  4 icore:	Poor on stressed bound	2 17 ors present wi	1 ithin the	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19  ne stressor identified  ty Stressor Index  No eutrophication the AA  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena  ptimal  stressors present within A boundary.  18 17 16	sediment st present with boundary.  15 unce and ATV  One eutro	ptimal: Two tressors hin the AA  14  use.  Subc  AA bo	Low Sub- sediment present w boundary  13 12  optimal essors pres oundary.	optimal: Three stressors within the AA 2 11  Conc	High Margin sediment str present with boundary.  10  dition Catego	Nal: Four ressors in the AA  9  Pry Nhication str	8  farginal ressors proundary.	ent stressont within the ary.  7	e AA  6  in the AA	5 S	the  4 icore:	Poor on stressed bound	2 17 ors present wi	1 ithin the	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19  ne stressor identified  ty Stressor Index  No eutrophication the AA  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena  ptimal  stressors present within A boundary.  18 17 16	sediment st present with boundary.  15 unce and ATV  One eutro	ptimal: Two tressors hin the AA  14  use.  Subc  AA bo	Low Sub- sediment present w boundary  13 12  optimal essors pres oundary.	coptimal: Three stressors within the AA  2 11  Conc sent within the	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi	Nal: Four ressors in the AA  9  Pry Nhication str	8  farginal ressors proundary.	ent stressont within the ary.  7	e AA  6  in the AA	5 S	the  4 icore:	Poor on stressed bound	2 17 ors present wi	1 ithin the	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE Comments: No	Whigh Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication: the AA  20 19  Stressor Index  On the AA  20 19  Stressors identified by Stressors identified.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena primal stressors present within boundary.  18 17 16	sediment st present with boundary.  15 unce and ATV  One eutro	ptimal: Two tressors hin the AA  14  Vuse.  Subo phication str AA bc	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12	coptimal: Three stressors within the AA  2 11  Conc sent within the	High Margin sediment str present with boundary.  10  dition Catego	Nal: Four essors in the AA  9  Pry Nhication str	Eow M sedime presen bounds 8 8 Farginal essors proundary.	ent stressont within the ary.  7	e AA  6  in the AA	5 S	the  4 icore:	Poor on stressed bound	2 17 ors present wi	1 ithin the	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication Stressor Presence SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication in the AA  20 19  Stressors identified.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena primal stressors present within A boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro	ptimal: Two tressors him the AA  14  14  Subc  14  Subc  Sub	Low Sub- sediment present w boundary  13 12  optimal essors presoundary.  13 12	contimal: Three stressors within the AA (, )  Concessent within the A2 ( )	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10	Nal: Four ressors in the AA  9  Pory Nhication str bo 9	Regime Present bounds:  8  Interpretation of the second se	ent stressor t within the ary.  7  resent with	6 in the AA	5 S	the  4  core:  trophicatic A	Poor on stressed bound	2 17 ors present wi	ithin the	Score/20
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE Comments: No	We have a contaminant / to No contaminant / to sediment stressors present within the AA boundary.  20 19  19 19 19 19 19 19 19 19 19 19 19 19 19 1	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena primal stressors present within boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro	ptimal: Two tressors him the AA  14  14  Subc  14  Subc  Sub	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal essors presoundary.	coptimal: Three stressors within the AA ()  Concessors within the AT ()  Concessors within the AT ()	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi	Nal: Four ressors in the AA  9  Pory Nhication str	Regime Present bounds:  8  Interpretation of the second se	ent stressor within the ary.  7  resent with  7	6 in the AA	5 S	the  4  core:  trophicatic A	Poor on stressed bound	2 17 ors present wi	ithin the	Score/20  0.85  CI = Total
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No	We have a contaminant / to No contaminant / to sediment stressors present within the AA boundary.  20 19  19 19 19 19 19 19 19 19 19 19 19 19 19 1	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AB boundary.  18 17 16 due to ROW maintena stressors present within the boundary.	sediment st present with boundary.  15 Ince and ATV  One eutro	ptimal: Two tressors hin the AA  14  14  14  14  14  14  14  14  14	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal essors presoundary.	coptimal: Three stressors within the AA ()  Concessors within the AT ()  Concessors within the AT ()	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10	Nal: Four ressors in the AA  9  Pory Nhication str	Rarginal dicity stress	ent stressor within the ary.  7  resent with  7	6 in the AA	5 S	the  4  core:  trophicatic A	Poor on stressed A bound 3	2 17 ors present wi	ithin the	0.85
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualit  a. Eutro- phication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication in the AA  20 19  Stressors identified.  No contaminant / to within the	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the boundary.	sediment st present with boundary.  15 Ince and ATV  One eutro  15 Cone cor	ptimal: Two tressors hin the AA  14  14  Vuse.  Subc  Subc  AA bc  14  Subc  Subc  Vision A bc	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal oxicitystrese AA boundary	contimal: Three stressors within the AA (, )  Concessent within the Concessent within the Concessent within the Concessors present ry.	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10  dition Catego  Two contar	Nal: Four ressors in the AA  9  Pory Nhication str bo  9  Pory Nininant / tox	Resort Provided Resort Provide	resent within the ary.  7  resent within the ary.  7	6 in the AA 6	5 S Three eu	trophicatic A	Poor on stressed A bound 3	2 17 ors present wiary. 2	ithin the	Score/20  0.85  CI = Total
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication the AA boundary.  The AA boundary.  One of the AA boundary.  No contaminant / to within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro	ptimal: Two tressors hin the AA  14  14  Vuse.  Subtraction AA both tressors hin the AA  14  Subtraction AA both tressors hin the AA  within the AA	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal essors presoundary.	contimal: Three stressors within the AA (, )  Concessent within the Concessent within the Concessent within the Concessors present ry.	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10	Nal: Four ressors in the AA  9  Pory Nhication str	Resource of the second of the	resent within the ary.  7  resent within the ary.  7	e AA  6  in the AA  6	5 S	trophicatic A	Poor on stressed A bound 3	2 17 ors present wiary. 2 ty stressors proundary.	ithin the	Score/20  0.85  CI = Total
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication in the AA  20 19  Stressors identified.  No contaminant / to within the	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro  15 Cone cor	ptimal: Two tressors hin the AA  14  14  Vuse.  Subc  Subc  AA bc  14  Subc  Subc  Vision A bc	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal oxicitystrese AA boundary	contimal: Three stressors within the AA (, )  Concessent within the Concessent within the Concessent within the Concessors present ry.	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10  dition Catego  Two contar	Nal: Four ressors in the AA  9  Pory Nhication str bo  9  Pory Nininant / tox	Resource of the second of the	resent with  7  resent without hary.  7  resent with  7  resent with  7	e AA  6  in the AA  6  ent within  6  ion Score	5 S Three eu	the  4  core:  trophicatic A  4  contaminar within  4  20	Poor on stressed A bound 3	2 17 ors present wiary. 2 ty stressors proundary. 2 Total Sco	ithin the	Score/20  0.85  CI = Total
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication the AA boundary.  The AA boundary.  One of the AA boundary.  No contaminant / to within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro  15 Cone cor	ptimal: Two tressors hin the AA  14  14  Vuse.  Subc  Subc  AA bc  14  Subc  Subc  Vision A bc	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal oxicitystrese AA boundary	contimal: Three stressors within the AA (, )  Concessent within the Concessent within the Concessent within the Concessors present ry.	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10  dition Catego  Two contar	Nal: Four ressors in the AA  9  Pory Nhication str bo  9  Pory Nininant / tox	Resource of the second of the	resent with  7  resent without hary.  7  resent with  7  resent with  7	e AA  6  in the AA  6	5 S Three eu	trophicatic A	Poor on stressed A bound 3	2 17 ors present wiary. 2 ty stressors proundary.	ithin the	0.85  CI = Total Score/40
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  No eutrophication the AA boundary.  The AA boundary.  One of the AA boundary.  No contaminant / to within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro  15 Cone cor	ptimal: Two tressors hin the AA  14  14  Vuse.  Subc  Subc  AA bc  14  Subc  Subc  Vision A bc	Low Sub- sediment present w boundary  13 12  poptimal essors presoundary.  13 12  poptimal oxicitystrese AA boundary	contimal: Three stressors within the AA (, )  Concessent within the Concessent within the Concessent within the Concessors present ry.	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10  dition Catego  Two contar	Nal: Four ressors in the AA  9  Pory Nhication str bo  9  Pory Nininant / tox	Resource of the second of the	resent with  7  resent without hary.  7  resent with  7  resent with  7	e AA  6  in the AA  6  ent within  6  ion Score	5 S Three eu	the  4  core:  trophicatic A  4  contaminar within  4  20	Poor on stressed A bound 3	2 17 ors present wiary. 2 ty stressors proundary. 2 Total Sco	ithin the	0.85  CI = Total Score/40
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  One outrophication is the AA and th	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the boundary.  18 17 16 due to ROW maintena stressors present within the boundary.	sediment st present with boundary.  15 Ince and ATV  One eutro  15 Cone cor	ptimal: Two tressors hin the AA  14  14  14  14  14  14  14  14  14	Low Sub- sediment was present to be a considered with the consider	Concessors within the AA ()	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10  dition Catego  Two contar	Nal: Four ressors in the AA  9  Pory Nhication str 9  Pory N National of the AA  9  Pory N National of the AA  9  Pory N National of the AA  9	Resort From Marginal Ricity stress A boundary.	resent with  resent with  resent with  7  resent with  7  resent with  7  resent with  Contamin	e AA  6  in the AA  6  ent within  6  ion Score  ant Score	5 S Three eu	the  4  core:  trophicatic A  4  contaminar within  4  20	Poor on stressed A bound 3	2 17 ors present wiary. 2 ty stressors proundary. 2 Total Sco	ithin the	0.85  CI = Total Score/40
Sediment Stressor Presence  SCORE Comments: Or  6. Water Qualifi  a. Eutro- phication Stressor Presence  SCORE Comments: No  b. Contaminant / Toxicity Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  The stressor identified by Stressor Index  One outrophication is the AA and th	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to ROW maintena stressors present within the AA boundary.  18 17 16	sediment st present with boundary.  15 Ince and ATV  One eutro  15 Cone cor	ptimal: Two tressors hin the AA  14  14  14  14  14  14  14  14  14	Low Sub- sediment was present to be a considered with the consider	Concessors within the AA ()	High Margin sediment str present with boundary.  10  dition Catego  Two eutropi  10  dition Catego  Two contar	Nal: Four ressors in the AA  9  Pory Nhication str 9  Pory N National of the AA  9  Pory N National of the AA  9  Pory N National of the AA  9	Resort From Marginal Ricity stress A boundary.	resent with  resent with  resent with  7  resent with  7  resent with  7  resent with  Contamin	e AA  6  in the AA  6  ent within  6  ion Score  ant Score	Three eu	the  4  icore:  trophicatic A  4  20 20	Poor on stress. A bound 3  Poor nt / toxici the AA b	2 17 ors present wiary. 2 ty stressors proundary. 2 Total Sco	ithin the	0.85  CI = Total Score/40

### Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Roadbed Worksheet**

Project Name / Identifie	r		Date	Name(s) of Evaluator(s)
NF	G FM100 Project		08/03/18	J. Miner, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD207JLM	W127	41.760453	-78.337957	Pipeline access road/ATV trail

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.	1	2	2	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		2		100-300 ft.		2	

Road Comments: Unimproved access road/ATV trail used for pipeline inspection and maintenance. Not an improved road, no gravel, no grading.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002) Pennsylvania Department of Environmental Protection STRESSOR WORKSHEET  Vegetation Alteration  Mowing  Moderate livestock grazing (within one year)  Crops (annual row crops, within one year)  Selective tree harvesting/cutting (>50% removal, within 5 years)  Right-of-way clearing (mechanical or chemical)	Y	in AA #'s	
Pennsylvania Department of Environmental Protection STRESSOR WORKSHEET  Vegetation Alteration  Mowing  Moderate livestock grazing (within one year)  Crops (annual row crops, within one year)  Selective tree harvesting/cutting (>50% removal, within 5 years)	Y	in AA	
Vegetation Alteration  Mowing  Moderate livestock grazing (within one year)  Crops (annual row crops, within one year)  Selective tree harvesting/cutting (>50% removal, within 5 years)			I
Vegetation Alteration  Mowing  Moderate livestock grazing (within one year)  Crops (annual row crops, within one year)  Selective tree harvesting/cutting (>50% removal, within 5 years)		#'s	N
Mowing  Moderate livestock grazing (within one year)  Crops (annual row crops, within one year)  Selective tree harvesting/cutting (>50% removal, within 5 years)	X		
Moderate livestock grazing (within one year) Crops (annual row crops, within one year) Selective tree harvesting/cutting (>50% removal, within 5 years)	X	_	
Crops (annual row crops, within one year) Selective tree harvesting/cutting (>50% removal, within 5 years)		_	
Selective tree harvesting/cutting (>50% removal, within 5 years)			X
			X
Pight of way clearing (mechanical or chemical)			X
naght-or-way dealing (mechanical of diefilical)	X	1	
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X		
Removal of woody debris			X
Aquatic weed control (mechanical or herbicide)			X
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)		_	X
Plantation (conversion from typical natural tree species, including orchards)		_	X
Other:		_	X
	Number:	3	<u> </u>
Hydrologic Modification			
Ditching, tile draining, or other dewatering methods			Х
Dike/weir/dam			X
Filling/grading		_	^ Y
		_	^
Dredging/excavation			X
Stormwater inputs (culvert or similar concentrated urban runoff)			Х
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	Х	_	
Dead or dying trees (trunks still standing) *		_	X
Stream alteration (channelization or incision)			X
Other:			X
Total N	Number:	1	
Sedimentation			
Sediment deposits/plumes			X
Eroding banks/slopes			X
Active construction (earth disturbance for development)			X
Active plowing (plowing for crop planting in past year)			X
Intensive livestock grazing (in one year, ground is >50% bare)		_	X
Active selective forestry harvesting (within one year)		_	X
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)		_	X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment discharges)		_	X
Other:	X	_	^
	Number:	1	
	tuiliber.		
Eutrophication  Direct displaying from agricultural foodlets, manura nits, etc.			l <sub>v</sub>
Direct discharges from agricultural feedlots, manure pits, etc.			X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.			X
Heavy or moderately heavy formation of algal mats		_	Х
Other:			Х
	Number:	0	
Contaminant/Toxicity			
Severe vegetation stress (source unknown or suspected)			Х
Obvious spills, discharges, plumes, odors, etc.			Χ
Acidic drainages (mined sites, quarries, road cuts)			Χ
			Χ
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites			Х
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites  Chemical defoliation (majority of herbaceous and woody plants affected, within one year)			
			X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)			X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year) Fish or wildlife kills or obvious disease or abnormalities observed			X X

# Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

#### **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? YES NO If listed species present, enter the percent areal coverage for each species below: Species Code ≥ 5-20% | ≥ 20 - 50% | ≥ 50% <5% Species Code <5% ≥ 5-20% ≥ 20 - 50% ≥ 50% mivi 10

Total % relative cover of all invasives, collectively on site: 10 %

Comments:

		Comm	on Invas	sives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	08/01/2018	0.39	W141, W141A	1.00	
Name(s) of Evalu	uator(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M.	T. Malecki, M. Groomer 41.835692		-78.124825	WD206TMM.	PSS and PEM	wetland	

General Comments: PSS wetland parallels intermittent stream on both sides and is connected to PEM wetland (W141A). PSS Wetland has 0.10 acres in ECL and continues downslope of Project (0.72 acres delineated) beyond ECL. PEM wetland occurs in mowed agricultural field (0.29 acres in ECL) and continues downslope of Project (0.18 acres delineated) beyond ECL where it connects to W141. AA includes entire 0.47 acres of the PEM wetland and 0.53 acres of the PSS wetland.

1. Wetland Zon	e of Influence Condit	ion Index							
				Co	ondition Category				
Wetland Zone	Op	otimal	Sub	optimal		Marginal	Po	oor	
of Influence (300 foot area around AA perimeter)	stratum present (dia (dbh) > 3 inches) wit to 60% tree canopy of of stream channels, classification or cor	on consists of a tree ameter at breast height the greater than or equal cover. Areas comprised wetlands (regardless of ndition) and lacustrine is are scored as optimal.	ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and	Low Suboptimal:  ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.	High Marginal: ZOI area vegetation consists of non- maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.	Low Marginal: ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.	High Poor: ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nonmaintained area, pervious trails, recently seeded and stabilized, or other comparable condition.	Low Poor: ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	CI = Total Score/20
SCORE		18 17 16	15 14	13 12 11	10 9	8 7 6	5 4 3	3 2 1	
2. Estimate the	% area within each co	tegory areas within the vondition category. Calcuorm (0.00) and Score for	lators are provided for	or you below.	rs above.	Total Sc	ore = SUM(%Areas*Scor	es)	
	Condition Category:								
	% ZOI Area:	0%	0%	50%	0%	45%	5%	Total Score:	
Scoring:	Score:	0	0	12	0	4	1		0.39
	Total Sub-score:	0.00	0.00	6.00	0.00	1.80	0.05	7.85	0.39
Comments: Are		agricultural fields, fore				1.00	0.05	1.00	

z. Roaubeu Pre	sence Index																	
								Cor	ndition Categor	ies								
a. Roadbed	0	ptimal			Su	poptima	al				Marginal					Poo	r	
Presence	High Optimal: No	Low Optim	al:_	High Sul	optimal:	Low S	Suboptir	mal:	High Marginal	:	Low Margi	inal: Roa	adbed	High Po	or: Roadb	ed <u>I</u>	Low Poor	r: Roadbed
(within 0 - 100	roadbeds present	Roadbed pr	esence	Roadbed	presence	Road	bed pres	sence	Roadbed pres	ence	presence s	core with	in 0-100	presence	score wit	thin 0- p	oresence	score within 0-
foot Wetland	within 100 feet of	score within	0-100 feet	score wit	hin 0-100	score	within 0	-100 foot	score within 0-	100	foot distan	ce of the	AA	100 foot	distance of	of the	100 foot d	distance of the
ZOI distance)	the AA boundary	of the AA be	oundary	foot dista	nce of the	distan	nce of the	e AA	foot distance of	f the	boundary i	s greater	than to 8	AA boun	dary is gre	eater A	AA bound	lary is greater
	-	equal to or	ess than 2.	AA boun	dary is	bound	dary is gi	reater	AA boundary i	S	but less that	an or equ	al to 10.	than 10	out less th	an or t	han 12.	
				greater tl	nan to 2	than t	o 4 but I	ess than	greater than to	6				equal to	12.			
				but equa	I to or less	or equ	ual to 6.		but less than o	r								
				than 4.					equal to 8.									
SCORE	20 19	18 17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: No roadbeds present in ZOI.

										Cor	ndition Categ	ories									
b. Roadbed		C	ptima				Sı	ıboptim	al				Margina					Poo	or		
	High Op	timal: No	Low	Optimal:		High Su	boptimal:	Low	Suboptin	nal:	High Margin	al:	Low Mar	ginal: Ro	adbed	High Poo	r: Roadbe	d <u>L</u>	Low Poor:	Roadbed	
	roadbed	s present	Road	bed pres	ence	Roadbed	d presence	Road	bed prese	ence	Roadbed pre	esence	presence	score with	hin 100 -	presence	score with	in p	presence so	core within	
300 foot	within 10	0 - 300	score	e within 1	00 - 300	score wi	thin 100 -	score	within 10	00 - 300	score within	100 -	300 feet	of the AA	boundary is	100 - 300	feet of the	AA 1	100 - 300 fe	eet of the AA	
Wetland ZOI	feet of th	ie AA	feet	of the AA		300 feet	of the AA	feet A	AA bound	ary is	300 feet of the	he AA	greater th	ıan to 8 bı	ut less than	boundary	is greater	than b	boundary is	greater than	
distance)	boundar	y	bour	dary equ	al to or	boundar	y is greate	r great	er than to	4 but	boundary is	greater	or equal t	o 10.		to 10 but	less than o	r 1	12.		CI = Total
			less	than 2.		than to 2	2 but equa	l less t	than or eq	ual to 6.	than to 6 but	less				equal to 1	2.				Score/20
						to or less	s than 4.				than or equa	ıl to 8.									
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	•					•							C	ondition S	Score	· w	eighting		Sub-	Scores	
											a. Roadbed	10-100:		20			(0.67)			13	
										t	o. Roadbed 1	00-300:		20			(0.33)			7	4.00
																Tot	al Score:		:	20	1.00
Commendate No.			- 701					_													

Comments: No roadbeds present in ZOI.

**Overall Condition Index:** 

0.80

### **Wetland Condition Assessment Form**

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

								otection	_			
Condition Category	Vegetation C	Condition Index	For use i	n all wetland classifi	ications found within Pe	ennsyvlania excep	t those foun	d within the banks o	f a watercourse.			
Second	vegetation	Solidition index			Co	ondition Category						
Proposed												
Company   Comp									> 50% of the to	tal AA cor	ntains invasive species.	
Second   S		ilivasivės present.										
Score   20   19   18   17   16   15   14   13   12   11   10   10   18   7   6   5   4   3   2   1												
Condition Category   Condition   Category	SCORE	20 19	18 17 16				9 8	7 6	5 4	3	2 1	
Vogetaclor   Control   C				10 14	10 12 11	10 0	, ,	, ,	, ,		- '	
Vegetation   Committee   Com												
Vegetation   Committee   Com												
Proceedings   Proceedings   Proceedings   Procedings   Proceedings   Procedings					Co	ondition Category						
Properties   Pro	b. Vegetation				•						-	
Second												CI = Total
				•							. Doundary.	
Section   Sect		AA boundary.	boundary.									
### A Soundary - Preserve - A Soundary - Condition Category - Condition	SCORE	20 19	18 17 16				8	7 6	5 4	3	2 1	
Thydrologic Modification Index	omments:						a.	Invasive Sub-Score:		20	Total Score	
Hydrologic Modification Index    Condition Category	aintaince on a	agricultural land.					b. Ve	egetation Sub-Score:				0.85
Condition Category											-	
Condition Category												
Condition Category												
Optimal   Workprison   Planch Optimal   Marginal   Workprison   Planch Optimal   Marginal   Margi	Hydrologic N	Modification Index										
High Optimist   No Optimist   O						ondition Category						
Modification   Professional P					•	High Margin - I			Greater # - 2			
Section   Present with the Anti-present   Dresent with the Anti-present   Dresent with the Anti-present   Dresent with the Anti-present   Dresent   Dresen												CI = Total
Score   20   9   18   17   16   15   14   13   12   11   10   9   8   7   6   5   4   3   2   1	Stressor	present within the	present within the AA	stressors present	stressors present	stressors present					,	Score/20
Sediment Stressor Index	Presence	AA boundary.	boundary.									
Sediment Stressor Index  Condition Category  Sediment Stressor Index  Sediment Stressor Ind				·	1							
Sediment Stressor Index    Condition Category								7 6	5 4	3	2 1	0.70
Combaminate												
High Optimal: No stressors identified.   No contaminant Presence   No stressors identified.   No contaminant Presence   No stressors identified.   No contaminant   No stressors identified.   No contaminant   No stressors identified.   No contaminant   No cont	. Sediment Str	ressor Index										
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A boundary		0			poptimal				Greater than			CI = Total
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Water Quality Stressor Index    Condition Category	Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present	Low Suboptimal: Three sediment stressors present	High Marginal: Four sediment stressors present	Low Mar	ginal: Five sediment present within the AA		ive sedim	ent stressors present	
Water Quality Stressor Index    Condition Category	Sediment Stressor	High Optimal: No sediment stressors present within the	Low Optimal: One sediment stressor present within the AA	High Suboptimal: Two sediment stressors present within the AA	Low Suboptimal: Three sediment stressors present within the AA	High Marginal: Four sediment stressors present within the AA	Low Mar	ginal: Five sediment present within the AA		ive sedim	ent stressors present	
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omments: No stressors identified.  a. Eutrophication Score 20 Total Score: 1.00	Sediment Stressor Presence  SCORE  Omments: On  Water Quality  a. Eutrophication Stressor Presence  SCORE  Omments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  19 stressor identified  20 No eutrophication s the AA  20 19  20 stressors identified.	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to maintaince on a stressors present within the boundary.  18 17 16 due to maintaince on a stressors present within the boundary.	High Suboptimal: Two sediment: Two sediment stressors present within the AA boundary.  15 14 agricultural land and on the AA boundary.  Substitution of the AA boundary.  15 14 agricultural land and and and and and and and and and	Cooptimal  Low Suboptimal: Three sediment stressors present within the AA boundary.  13 12 11 d active cow pasture.  Cooptimal stressors present within A boundary.  13 12 11  toxicitystressors present	High Marginal: Four sediment stressors present within the AA boundary.  10 9  Indition Category Two eutrophication Two contaminant Two contaminant	Marginal on stressors boundary  Marginal on stressors boundary  Marginal to toxicity stressors in the stress	ginal: Five sediment present within the AA.  7 6  I present within the AA.  7 6	Three eutrophic	Pocinant / tox	ent stressors present to boundary.  2 1 17  or soors present within the ndary.  2 1  cor icity stressors present	Score/20  0.85
1.00	Sediment Stressor Presence  SCORE Comments: On  A. Eutro- phication Stressor Presence  SCORE Comments: No	High Optimal: No sediment stressors present within the AA boundary.  20 19  19 stressor identified  20 No eutrophication stree AA  20 19  20 19  No contaminant / to within the	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to maintaince on a stressor present within the AA boundary.  18 17 16 due to maintaince on a stressor present within boundary.  18 17 16 due to maintaince on a stressor present within boundary.	High Suboptimal: Two sediment Two sediment Stressors present within the AA boundary.  15 14 agricultural land and One eutrophication the AA  15 14  Cone contaminant / within the	Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9  andition Category  Two eutrophication  10 9  andition Category  Two contaminant t	Marginal on stressors j boundary  Marginal on stressors j boundary  Marginal / toxicity stre he AA bound	ginal: Five sediment present within the AA.  7 6  present within the AA.  7 6  1 essors present within dary.	Three eutrophic  5 4  Score:	Pocinant / tox	2 1 17  or ssors present within the ndary.  2 1  17  or icity stressors present to boundary.	Score/20  0.85
	Sediment Stressor Presence  SCORE Comments: On  A. Eutro- phication Stressor Presence  SCORE Comments: No  Contaminant / Toxicity Stressor Presence  SCORE SCORE CONTAMINANT STRESSOR STRESSOR SCORE CONTAMINANT STRESSOR SCORE SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19  19 stressor identified  20 No eutrophication sthe AA  20 19  20 stressors identified.  No contaminant / to within the  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to maintaince on a stressors present within the boundary.  18 17 16 due to maintaince on a stressors present within boundary.	High Suboptimal: Two sediment Two sediment Stressors present within the AA boundary.  15 14 agricultural land and One eutrophication the AA  15 14  Cone contaminant / within the	Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9  andition Category  Two eutrophication  10 9  andition Category  Two contaminant t	Marginal boundary  Marginal on stressors poundary  Marginal 1 / toxicity strehe AA boundary	ginal: Five sediment present within the AA.  7 6  I present within the AA.  7 6  I essors present within dary.	Three eutrophic  Three contam with	Pocinant / tox	ent stressors present aboundary.  2 1 17  or ssors present within the ndary.  2 1  cicity stressors present aboundary.	Score/20  0.85  CI = Total Score/40
	Sediment Stressor Presence  SCORE Domments: On  Water Quality  a. Eutro- phication Stressor Presence  SCORE Domments: No  Contaminant / Toxicity Stressor Presence  SCORE SCORE SCORE SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19  19 stressor identified  20 No eutrophication sthe AA  20 19  20 stressors identified.  No contaminant / to within the  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to maintaince on a stressors present within the boundary.  18 17 16 due to maintaince on a stressors present within boundary.	High Suboptimal: Two sediment Two sediment Stressors present within the AA boundary.  15 14 agricultural land and One eutrophication the AA  15 14  Cone contaminant / within the	Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9  andition Category  Two eutrophication  10 9  andition Category  Two contaminant t	Marginal on stressors poundary  Marginal on stressors poundary  Marginal 1 / toxicity stressor he AA boundary  8  8  a. E	ginal: Five sediment present within the AA.  7 6  I present within the AA.  7 6  I essors present within dary.  7 6  Eutrophication Score	Three eutrophic  Three contam with	Pocinant / tox	ent stressors present to boundary.  2 1 17  17  or ssors present within the ndary.  2 1  city stressors present to boundary.  2 1  Total Score:	Score/20  0.85  CI = Total Score/40
	Sediment Stressor Presence  SCORE omments: On  Water Quality  a. Eutro- phication Stressor Presence  SCORE omments: No  . Contaminant / Toxicity Stressor Presence  SCORE SCORE	High Optimal: No sediment stressors present within the AA boundary.  20 19  19 stressor identified  20 No eutrophication sthe AA  20 19  20 stressors identified.  No contaminant / to within the  20 19	Low Optimal: One sediment stressor present within the AA boundary.  18 17 16 due to maintaince on a stressors present within the boundary.  18 17 16 due to maintaince on a stressors present within boundary.	High Suboptimal: Two sediment Two sediment Stressors present within the AA boundary.  15 14 agricultural land and One eutrophication the AA  15 14  Cone contaminant / within the	Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.  Cooptimal  Stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.  10 9  andition Category  Two eutrophication  10 9  andition Category  Two contaminant t	Marginal on stressors poundary  Marginal on stressors poundary  Marginal 1 / toxicity stressor he AA boundary  8  8  a. E	ginal: Five sediment present within the AA.  7 6  I present within the AA.  7 6  I essors present within dary.  7 6  Eutrophication Score	Three eutrophic  Three contam with	Pocinant / tox	ent stressors present to boundary.  2 1 17  17  or ssors present within the ndary.  2 1  city stressors present to boundary.  2 1  Total Score:	Score/20  0.85  CI = Total Score/40

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition

score.

# Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		08/01/2018	T. Malecki, M. Groomer
Resource Identifier	AA #	Lat (dd)	Long (dd)	Notes:
WD206TMM	W141, W141A	41.835692	-78.124825	

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.		2	0	100-300 ft.		2	0
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		0		100-300 ft.		0	

Road Comments: No roadbeds present in ZOI.

Pennsylvania Wetland Condition Level 2 Rapid Assessme	ent	30	3/01/20	18
(Document No. 310-2137-002)		00	currer	nce
Pennsylvania Department of Environmental Protection	İ		in AA	
STRESSOR WORKSHEET	Ì	Υ	#'s	N
Vegetation Alteration				
Mowing		X		
Moderate livestock grazing (within one year)				Х
Crops (annual row crops, within one year)		X		
Selective tree harvesting/cutting (>50% removal, within 5 years)				Х
Right-of-way clearing (mechanical or chemical)				Х
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)				Χ
Removal of woody debris				Х
Aquatic weed control (mechanical or herbicide)				Х
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				Х
Plantation (conversion from typical natural tree species, including orchards)				Х
Other:				Х
	Total Number:		2	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				Х
Filling/grading				Х
Dredging/excavation				X
Stormwater inputs (culvert or similar concentrated urban runoff)		X	2	
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)		X		
Dead or dying trees (trunks still standing) *				Х
Stream alteration (channelization or incision)				X
Other:				X
	Total Number:		2	
Sedimentation				
Sediment deposits/plumes				Х
Eroding banks/slopes				Х
Active construction (earth disturbance for development)				Х
Active plowing (plowing for crop planting in past year)		X		
Intensive livestock grazing (in one year, ground is >50% bare)				Х
Active selective forestry harvesting (within one year)				Х
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				X
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment disc	charges)			X
Other:	, , , , , , , , , , , , , , , , , , ,			X
	Total Number:		1	
Eutrophication				
				Х
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from agricultural feedlots, manure pits, etc.  Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
				X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc. Heavy or moderately heavy formation of algal mats	Total Number:		0	X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc. Heavy or moderately heavy formation of algal mats	Total Number:		0	X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:	Total Number:		0	X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity	Total Number:		0	Х
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity  Severe vegetation stress (source unknown or suspected)  Obvious spills, discharges, plumes, odors, etc.	Total Number:		0	X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity  Severe vegetation stress (source unknown or suspected)	Total Number:		0	X X X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity  Severe vegetation stress (source unknown or suspected)  Obvious spills, discharges, plumes, odors, etc.  Acidic drainages (mined sites, quarries, road cuts)  Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites	Total Number:		0	X X X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity  Severe vegetation stress (source unknown or suspected)  Obvious spills, discharges, plumes, odors, etc.  Acidic drainages (mined sites, quarries, road cuts)  Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites  Chemical defoliation (majority of herbaceous and woody plants affected, within one year)	Total Number:		0	X X X X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity  Severe vegetation stress (source unknown or suspected)  Obvious spills, discharges, plumes, odors, etc.  Acidic drainages (mined sites, quarries, road cuts)  Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites  Chemical defoliation (majority of herbaceous and woody plants affected, within one year)  Fish or wildlife kills or obvious disease or abnormalities observed	Total Number:		0	X X X X
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.  Heavy or moderately heavy formation of algal mats  Other:  Contaminant/Toxicity  Severe vegetation stress (source unknown or suspected)  Obvious spills, discharges, plumes, odors, etc.  Acidic drainages (mined sites, quarries, road cuts)  Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites  Chemical defoliation (majority of herbaceous and woody plants affected, within one year)	Total Number:		0	X X X X

# Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

# **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? If listed species present, enter the percent areal coverage for each species below: Species Code ≥ 5-20% | ≥ 20 - 50% | ≥ 50% | Species Code ≥ 50% <5% <5% ≥ 5-20% ≥ 20 - 50%

Total % relative cover of all invasives, collectively on site:	0 '	%
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Comments:

		Comm	on Inva	sives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
lomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

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Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
456456	NFG FM100 Proj	ect	08/02/2018	0.31	W142	0.96	
Name(s) of Eval	luator(s)	Lat (dd)	Long (dd)	Notes:			
T. Malecki, M.	T. Malecki, M. Groomer 41.835602		-78.12785	WD207TMM	. PSS/PEM wet	land	

General Comments: PSS wetland located on stream bank and extends to agricultural field built on a terrace. Wetland is classified as PEM wetland in agricultural areas that have been mowed. Abutts perennial stream, and is adjacent to W142A, W141, and W141A. Wetland has 0.31 acres in ECL and continues downslope of Project (0.65 acres delineated) beyond ECL. AA includes entire 0.96 acres of the PSS/PEM wetland.

1. Wetland Zone	e of Influence Condition Index								
				Con	dition Category				
Wetland Zone	Optimal		Suboptimal			Marginal	Po	oor	
of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of stratum present (diameter at breas (dbh) > 3 inches) with greater than to 60% tree canopy cover. Areas c of stream channels, wetlands (rega classification or condition) and la resources ≥ 10 acres are scored as	st height or equal comprised (ardless of custrine s optimal. so that the canopy corontaining herbaceous hrub layer non-main underst	dbh > 3 stratum (d inches) pr than or greater th to 30% and 10% tree cover and g both us and ers or a tatained tory.	regetation f a tree f bh > 3 resent, with an or equal d less than canopy a d understory.	consists of non- maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.	Low Marginal: ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.	maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non- maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.	other comparable conditions.	CI = Tota Score/20
SCORE	20 19 18 17		14 13 12		10 9	8 7 6	5 4 3	3 2 1	
2. Estimate the	plicable Condition Category areas w % area within each condition catego ZOI Area in decimal form (0.00) and	ory. Calculators are pro	ovided for you below	<i>i</i> .	above.	Total Sc	ore = SUM(%Areas*Scor	es)	
•	Condition Category:								
	% ZOI Area: 0%	0%	,	0%	20%	60%	10%	Total Score:	
Scoring:	Score: 0	0		12	7	4	1		0.00
	Total Sub-score: 0.00	0.00	0	.20	1.40	2.40	0.10	5.10	0.26

Comments: Area includes stream, another wetland, agricultural fields, maintained forest, a dirt road, and residential development.

2. Roadbed Pr	esence Index							
				Co	ondition Categories			
a. Roadbed	C	ptimal	Su	ooptimal		Marginal	P	oor
Presence	High Optimal: No	Low Optimal:	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: Roadbed	High Poor: Roadbed	Low Poor: Roadbed
(within 0 - 100	roadbeds present	Roadbed presence	Roadbed presence	Roadbed presence	Roadbed presence	presence score within 0-100	presence score within 0-	presence score within 0-
foot Wetland	within 100 feet of	score within 0-100 fee	score within 0-100	score within 0-100 foo	t score within 0-100	foot distance of the AA	100 foot distance of the	100 foot distance of the
ZOI distance)	the AA boundary	of the AA boundary	foot distance of the	distance of the AA	foot distance of the	boundary is greater than to 8	AA boundary is greater	AA boundary is greater
		equal to or less than 2	. AA boundary is	boundary is greater	AA boundary is	but less than or equal to 10.	than 10 but less than or	than 12.
			greater than to 2	than to 4 but less that	greater than to 6		equal to 12.	
			but equal to or less	or equal to 6.	but less than or			
			than 4.		equal to 8.			
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1

Comments: No roadbeds present within 100 feet of AA.

									Co	ndition Cate	gories											
b. Roadbed		Optin	nal			Sı	uboptin	nal				Marg	inal					Poo	r			
Presence (within 100 - 300 foot Wetland ZOI distance)	High Optimal: No roadbeds present within 100 - 300 feet of the AA boundary	Ro sc fee	ow Optimal padbed pre- ore within 1 et of the AA undary equ ss than 2.	sence   00 - 300 	Roadbe score w 300 feet boundar		Road scor feet er grea	AA boun	sence 100 - 300 dary is to 4 but	High Marg Roadbed p score withi 300 feet of boundary is than to 6 b than or equ	resence n 100 - the AA s greater ut less	prese 300 fo greate	eet of the A er than to 8	within 100 - A boundary is	prese 100 - boun	ence s 300 f dary is but le	s greater t ess than o	n p AA 1 han b		score feet o	within f the AA	
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6		5	4	3	2		1	
					•					•			Conditio	n Score		Wei	ighting		Su	b-Scor	es	
										a. Roadb	ed 0-100:		20	)		* (	(0.67)			13		
										o. Roadbed	100-300:		17	7		* (	(0.33)			6		0.05
									·							Tota	I Score:			19		0.95

Comments: Dirt road for access to residential development within 300 feet of AA.

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3. Vegetation Condition Inde	Х
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									Co	ondition Cate	gory								
a. Invasive	(	Optimal				Su	boptim	al				Margin	al				Poor		
	High Optimal: No	Low	Optimal:	<5% of	High Su	boptimal:	Low	Subopt	imal:	High Margin	al:	Low Ma	rginal: >3	30% but less	> 50% of	the total	AA conta	ins invasiv	e species.
Presence	invasives present.	the to	otal AA co	ntains	>5% but	less than	>10%	6 but les	ss than	>20% but les	s than	than 50	% of the to	otal AA					
		invas	ive specie	s.	10% of t	he total AA	20%	of the to	otal AA	30% of the to	otal AA	contains	s invasive	species.					
					contains	invasive	conta	ains inva	asive	contains inva	sive								
					species.		speci	ies.		species.									
SCORE	20 19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: One Invasive Species identified in wetland AA.

										Co	ndition Categ	ory										
b. Vegetation		0	ptimal				Sı	uboptim	al				Margina	al				Po	or			
				ptimal:			boptimal:	Low	Suboptin	nal:	High Margina	<u>l:</u>			ve vegetation		than five				present	
Presence		n stressors				Two veg	etation	Three	e vegetati	ion	Four vegetati	on	stressors	s present	within the AA		withir	the AA	A bound	dary.		CI = Total
	P.			t within th	ne AA	stressors			sors pres	ent	stressors pres	ent	boundar	у.								Score/40
	AA boun	dary.	bound	ary.		within th			the AA		within the AA											
						boundar	٧.	boun			boundary.											
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3		2	1	
Comments:													а	. Invasiv	e Sub-Score:			11		Total So	ore	0.63
Maintaince on a	agricultur	al land.										-	b. V	egetatio	n Sub-Score:			14		25		0.00

4. Hydrologic Modification Index

										Co	ondition Cate	gory									
		C	ptimal				S	uboptim	nal				Marginal					Poor			
Hydrologic Modification Stressor Presence	hydrolo	ptimal: No gic stressors within the ndary.	hydro	nt within	ssor	Two hyd	s present e AA	Thre stres withi	Subopti e hydrolo ssors pres n the AA ndary.	gic sent	High Margi Four hydrol stressors provided in the A boundary.	ogic esent		present w	hydrologic ithin the AA				ic stressors oundary.	s present	CI = Total Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.85
Comments: Ma	intaince	on agricult	ural lar	nd.												S	core:		17		0.05

#### 5. Sediment Stressor Index

											Co	ondition Cate	gory									
				Optin	nal			S	uboptin	nal				Margina	l				Poor			
	Sediment Stressor Presence	sedim	Optimal: No ent stressorat within the undary.	s se	diment stre diment stre esent withir undary.	essor	Two sec	s present e AA	Thre stres withi	Subopting e sedimer sors present the AA andary.	nt	High Margi Four sedim- stressors pro- within the A boundary.	ent esent		present v	e sediment within the AA		r than five s within th			present	CI = Total Score/20
	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.05
Co	omments: Or	ne stres	sor identifie	ed du	e to mainta	aince on a	gricultui	al land.									8	Score:		17	•	0.85

6. Water Quality Stressor Index

											Co	ndition Categ	ory								
a. Eutro-	-			Optimal				S	uboptim	al				Margina	l				Poor		
Presence	-								on stress AA bound		ent within	Two eutroph		stressors boundary		vithin the AA	Three eut		n stresso A bounda		t within the
SCORE		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: No stressors identified.

										Co	ndition Cate	jory									
b. Contaminant			Optimal				:	Suboptim	nal				Margina	ıl				Poor			
/ Toxicity Stressor Presence	No cont	taminant / within th			oresent	One co		nt / toxicity the AA bo		s present	Two contan		oxicity str AA boun		esent within	Three			ity stressor ooundary.	s present	CI = Total Score/40
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments: No	stressors	s identifie	d.										a.	Eutrophi	cation Score		20		Total S	Score:	1.00
														o. Contan	ninant Score		20		4	0	1.00

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition	Overall Condition Index:	0.76
score.	Overall Collabor Illuex.	0.70

# Pennsylvania Wetland Condition Level 2 Rapid Assessment

(Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Roadbed Worksheet**

Project Name / Ide	ntifier		Date	Name(s) of Evaluator(s)
	NFG FM100 Project		08/02/2018	T. Malecki, M. Groomer
Resource Identifier	AA#	Lat (dd)	Long (dd)	Notes:
WD207TMM	W142	41.835602	-78.12785	

Roadbeds: Record the number of occurrences by roadbed type and distance category. Multiply the number of occurrences by the weighting factors for each roadbed type and distance category then sum the total score for each distance category. The total scores for each distance category are then compared to the condition category descriptions.

Roadbed Type	Distance	Occurrences	Weighting Factor	Score	Distance	Occurrences	Weighting Factor	Score
≥ 4 Lane Paved	0-100 ft.		4	0	100-300 ft.		4	0
2 Lane Paved	0-100 ft.		2	0	100-300 ft.		2	0
1 Lane Paved	0-100 ft.		1	0	100-300 ft.		1	0
Gravel Road	0-100 ft.		1	0	100-300 ft.		1	0
Dirt Road	0-100 ft.		2	0	100-300 ft.	1	2	2
Railroad	0-100 ft.		2	0	100-300 ft.		2	0
Other Roadbeds	0-100 ft.		1, 2 or 4	0	100-300 ft.		1, 2 or 4	0
Total Scores:	0-100 ft.		0		100-300 ft.		2	

Road Comments: Dirt road for access to residential development within 300 feet of AA.

Pennsylvania Wetland Condition Level 2 Rapid Assessment		08	/02/20	18
(Document No. 310-2137-002)		Oc	curren	ce
Pennsylvania Department of Environmental Protection	i		in AA	
STRESSOR WORKSHEET		Υ	#'s	N
Vegetation Alteration		-	•	
Mowing	X			
Moderate livestock grazing (within one year)				X
Crops (annual row crops, within one year)				X
Selective tree harvesting/cutting (>50% removal, within 5 years)				Χ
Right-of-way clearing (mechanical or chemical)				Χ
Clear cutting or Brush cutting (mechanized removal of shrubs and saplings)	X			
Removal of woody debris				Χ
Aquatic weed control (mechanical or herbicide)				Χ
Excessive herbivory (deer, muskrat, nutria, carp, insects, etc.)				X
Plantation (conversion from typical natural tree species, including orchards)				Χ
Other:				Χ
Tot	tal Number:		2	
Hydrologic Modification				
Ditching, tile draining, or other dewatering methods				Х
Dike/weir/dam				X
Filling/grading				X
Dredging/excavation				X
Stormwater inputs (culvert or similar concentrated urban runoff)				X
Microtopographic alterations (e.g., plowing, forestry bedding, skidder/ATV tracks)	X			
Dead or dying trees (trunks still standing) *				X
Stream alteration (channelization or incision)				X
Other:				X
Tot	tal Number:		1	
Sedimentation				
Sediment deposits/plumes				Χ
Eroding banks/slopes				X
Active construction (earth disturbance for development)				Χ
Active plowing (plowing for crop planting in past year)				X
Intensive livestock grazing (in one year, ground is >50% bare)				Χ
Active selective forestry harvesting (within one year)				Χ
Active forest harvesting (within two years, includes roads, borrow areas, pads, etc.)				Χ
Turbidity (moderate concentration of suspended solids in the water column, obvious sediment discharges	3)			Χ
Other:	X			
Tot	tal Number:		1	
Eutrophication				
Direct discharges from agricultural feedlots, manure pits, etc.				Χ
Direct discharges from septic or sewage treatment plants, fish hatcheries, etc.				Χ
Heavy or moderately heavy formation of algal mats				Χ
Other:				Χ
Tot	tal Number:		0	
Contaminant/Toxicity				
Severe vegetation stress (source unknown or suspected)				X
Obvious spills, discharges, plumes, odors, etc.				X
Acidic drainages (mined sites, quarries, road cuts)				X
Point discharges from adjacent industrial facilities, landfills, railroad yards, or comparable sites				X
Chemical defoliation (majority of herbaceous and woody plants affected, within one year)				X
Fish or wildlife kills or obvious disease or abnormalities observed				X
				X
Excessive garbage/dumping				
Excessive garbage/dumping Other:				X

# Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002) Pennsylvania Department of Environmental Protection

#### **Invasive Species Presence Worksheet**

Are invasive species (from list) present at the site in any layer? YES NO If listed species present, enter the percent areal coverage for each species below:

Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%	Species Code	<5%	≥ 5-20%	≥ 20 - 50%	≥ 50%
loja		20%							

	Total % relative cover of all invasives, collectively on s	ite: 20	%
--	--	---------	---

Comments:

		Comm	on Invas	ives/A	ggressives List		
Code	Common Name	Scientific	Status	Code	Common Name	Scientific	Status
aggi2	Redtop	Agrostis gigantea	FACW	luhe	Water primrose	Ludwigia hexapetala	OBLW
algl2	European Alder	Alnus glutinosa	FACW	lyvu	Garden loosestrife	Lysimachia vulgaris	OBLW
arhi3	Carpetgrass	Arthraxon hispidus	FAC-	lysa2	Purple loosestrife	Lythrum salicaria	FACW
beth	Japanese barberry	Berberis thunbergii	FACW	maqu	European waterclover	Marsilea quadrifolia	OBLW
bevu	European barberry	Berberis vulgaris	FACW	mivi	Japanese stiltgrass	Microstegium vimineum	FAC
butom	Flowering Rush	Butomus umbellatus	OBLW	nami2	Water cress	Nasturtium officinale	OBLW
calli6	Pond water-starwort	Callitriche stagnalis	OBLW	pelo	Low smartweed	Persicaria longiseta	FACW
egde	Brazilian waterweed	Egeria densa	OBLW	phar	Reed canary grass	Phalaris arundinacea	FACW
elan	Russian olive	Elaeagnus angustifolia	FACU	phau7	Common Reed	Phragmites australis	OBLW
elum	Autumn olive	Elaeagnus umbellata	FACU	potr	Rough bluegrass	Poa trivialis	FACW
ephi	Hairy willow-herb	Epilobium hirsutum	FACW	pocu6	Japanese knotweed	Polygonum (Faloia) cuspidatum	FAC-
eppa5	Willow-herb	Epilobium parviflorum	FACW	pgpf	Mile-a-minute	Polygonum perfoliatum	FAC-
fasa	Giant knotweed	Fallopia sachalinensis	OBLW	puera	Kudzu-vine	Pueraria lobata	FAC-
gldi	Mudmats	Glossostigma diandrum	OBLW	pysp1	Apple/crabapple/pear	Pyrus sp.	FAC?
hola	Velvetgrass	Holcus lanatus	FAC	rhfr	Glossy Buckthorn	Rhamnus frangula	FAC-
huja	Japanese Hops	Humulus japonicus	FACU	romu	Multiflora rose	Rosa multiflora	FACU
loja	Japanese honeysuckle	Lonicera japonica	FAC-	tyan	Cattail (hybrid)	Typha angustifolia	OBLW
Iomo	Morrow's honeysuckle	Lonicera morrowii	NI	tygl	Hybrid cattail	Typha x glauca	OBLW
lota	Tartarian honeysuckle	Lonicera tatarica					

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

# **Pennsylvania Department of Environmental Protection**

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
102640	FM100 - Wildcat Hollow - Exisi	ting Conditions	9/1/2020	0	1	6	
Name(s) of Eva	luator(s)	Lat (dd)	Long (dd)	Notes:			
Hannah Kalk	& Zachary Stephens	41.719341	-78.558201	Address: Brights I	Rd, Smethport,	PA 16749	

General Comments: Riverine Emergent/Scrub-Shrub complex alongside Marvin Creek. This level 2 assessment represents all delineated wetlands (Wetlands 1-5) since the AA contains them all, were historically connected, and because the wetlands are currently functionally similar. The wetlands are surrounded by multiple roadways: County Route 6, Brites Road, a railroad, and Railroad Grade Road. The wetlands have been historically degraded by agricultural impacts, roadway and utility right of way installation, but is starting to move towards a more recovered state.

1. Wetland Zone	e of Influence Condit	tion Index							
				Condition	n Category				
Wetland Zone	Opt	imal	Subo	ptimal	Mar	ginal	Po	oor	
of Influence	ZOI area vegetatio	n consists of a tree	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: ZOI	High Poor: ZOI	Low Poor: ZOI	
(300 foot area	stratum present (d	diameter at breast	ZOI area vegetation	ZOI area vegetation	ZOI area vegetation	area vegetation	area vegetation	area vegetation	
	height (dbh) > 3 inch	,	consists of a tree	consists of a tree	consists of non-	consists of non-	consists of lawns,	consists of	
perimeter)	•	ree canopy cover.	stratum (dbh > 3	stratum (dbh > 3	maintained, dense	maintained, dense	mowed, and	impervious	
	Areas comprised o	· ·	inches) present,	inches) present,	herbaceous	herbaceous	maintained areas,	surfaces; mine spoil	
	wetlands (regardles		with greater than or	with greater than or	vegetation with	vegetation, riparian	nurseries; no-till	lands, denuded	
	condition) and lacus		equal to 30% and	equal to 30% and	either a shrub layer	areas lacking shrub	cropland; actively	surfaces, row crops,	
	acres are scor	ed as optimal.	less than 60% tree	less than 60% tree	or a tree stratum	and tree stratum,	grazed pasture,	active feed lots,	
			canopy cover and	' '	(dbh > 3 inches)	areas of hay	sparsely vegetated	impervious trails, or	
			containing both herbaceous and	maintained	present, with less than 30% tree	production, and	non-maintained	other comparable conditions.	
			shrub layers or a	understory.		ponds or open water areas (< 10 acres).	area, pervious trails,		OL T. (.)
			non-maintained		canopy cover.	If trees are present,	recently seeded and stabilized, or		CI = Total
			understory.			tree stratum (dbh > 3	other comparable		Score/20
			understory.			inches) present, with	condition.		
						less than 30% tree	COTTUINEDTI.		
						canopy cover with			
						maintained			
						understory.			
SCORE	20 19 1	8 17 16	15 14 1	  3	10 9 8	<u> </u>	5 4	3 2 1	
						<i>l</i> 6	5 4	3 2 1	
·	plicable Condition Ca	• .			criptors above.	T. (-1.0.		0 \	
	% area within each co	• •	· · · · · · · · · · · · · · · · · · ·	•		l otal Sc	core = SUM(%Areas*	Scores)	
3. Enter the % 2	ZOI Area in decimal fo	orm (0.00) and Score	for each category in t	the blocks below.					
	Condition Category:								
	% ZOI Area:	10%	10%	20%	25%	25%	10%	Total Score:	
Scoring:	Score:	16	14	12	9	6	3		0.47
	Total Sub-score:	1.60	1.40	2.40	2.25	1.50	0.30	9.45	0.47

Comments: Sections of the zone of influence contain emergent and scrub-shrub wetland habitat, with some sections of forest. The Lower quality regions of the zone of influence contain maintained lawns, active hayfield, old field, and road/utility right of ways.

# 2. Roadbed Presence Index

						Condition	Categories									
a. Roadbed	Ор	timal		Subo	optimal			Mar	ginal				Р	oor		
Presence	High Optimal: No	Low Optimal:	High Sub	ooptimal:	Low S	Suboptimal:	High Marginal:		Low Ma	rginal:	<u> </u>	High Poor:		Low P	oor:	
(within 0 - 100	roadbeds present	Roadbed presence	Roadbed	presence	Roadb	ed presence	Roadbed preser	nce	Roadbe	d presence	F	Roadbed pr	esence	Roadb	ed prese	nce
foot Wetland	within 100 feet of	score within 0-100	score wit	hin 0-100	score	within 0-100	score within 0-10	00	score wi	thin 0-100	5	score within	0-100	score v	vithin 0-1	00
ZOI distance)	the AA boundary	feet of the AA	foot dista	ince of the	foot di	stance of the	foot distance of	the	foot dista	ance of the	f	foot distanc	e of the	foot dis	stance of	the
		boundary equal to	AA bound	dary is	AA bo	undary is	AA boundary is		AA bour	dary is	/	AA boundar	y is	AA bou	ındary is	
		or less than 2.	greater th	nan to 2	greate	r than to 4	greater than to 6	6	greater t	han to 8 bเ	ut [g	greater thar	10 but	greate	rthan 12	
			but equa	I to or less	but les	ss than or	but less than or		less than	n or equal t	o I	ess than or	equal			
			than 4.		equal	to 6.	equal to 8.		10.		t	to 12.				
SCORE	20 19	18 17 16	15	14	13	12 11	10 9		8	7 6	;	5 4		3	2	1

# Comments:

								Co	ndition	Categor	ries									
b. Roadbed		Opt	timal			Su	boptin	nal			Ma	rginal					Poor	•		
	High Optimal:		Low Optima			<u>uboptimal</u>		w Subopt		High Ma			arginal:			Poor:		ow Poor:		
	roadbeds pres		Roadbed pre			ed presenc		adbed pre			d presence		ed prese			bed presenc		oadbed pres		
	within 100 - 30	0	score within	100 -	score w	ithin 100 <b>-</b>	SCC	ore within	100 -	score w	thin 100 -	score v	vithin 10	0 -	score	within 100 -	SC	ore within 1	00 -	
	feet of the AA		300 feet of the	ne AA	300 fee	et of the AA	300	0 feet AA		300 feet	of the AA	300 fee	et of the	AA	300 f	eet of the AA	30	00 feet of the	e AA	CI = Total
distance)	boundary		boundary eq	ual to	bounda	ry is greate	er bou	undary is 🤉	greater	bounda	y is greater	bounda	ary is gre	eater	boun	dary is greate	er bo	oundary is gi	reater	Score/20
			or less than	2.	than to	2 but equa	ıl tha	n to 4 but	less	than to	6 but less	than to	8 but le	SS	than	to 10 but less	s th	an 12.		Score/20
					to or les	ss than 4.	tha	n or equa	l to 6.	than or	equal to 8.	than or	equal to	10.	than	or equal to 1	2.			
SCORE	20 19	1	8 17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
												Cond	dition So	core		Weighting		Sub-Scor	es	
										a. Roa	dbed 0-100	):	5			* (0.67)		7		
									ŀ	o. Roadb	ed 100-300	):	10			* (0.33)		3		0.50
															Т	otal Score:		10		0.52

Comments: The AA is surrounded by multiple roadways: County Route 6, Brites Road, a railroad, and Railroad Grade Road.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

**Pennsylvania Department of Environmental Protection** 

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# 3. Vegetation Condition Index

									Co	nditio	n Categor	y								
a. Invasive		0	ptimal				Sub	optima	al			Ma	argina	I				Poor		
Species	High O	<b>ptimal:</b> No	Low	Optimal:	<5%	High Su	boptimal:	Low	Subopti	mal:	High Maı	ginal:	Low	/ Marginal	<u> :</u>	> 50%	of the to	otal AA coi	ntains invas	ive
Presence	invasive	es present.	of th	e total AA	<b>\</b>	>5% but	less than	>109	% but les	s than	>20% bu	t less thar	ı  >30'	% but less	than			species.		
			cont	ains invas	sive	10% of t	he total A	4 20%	of the to	tal AA	30% of th	e total AA	A 50%	of the tot	tal AA					
			spec	cies.		contains	invasive	conta	ains inva	sive	contains	invasive	cont	tains invas	sive					
						species.		spec	ies.		species.		spec	cies.						
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Reed Canarygrass, cattail, multiflora rose, and bush honeysuckle found throughout the wetland site.

									Co	nditio	n Categor	у									
b. Vegetation		Ор	timal				Su	boptim	al				Marg	jinal				Poo	r		
Presence	vegeta	tion stressors t within the	vegeta preser	<b>Optimal:</b> Optimal: option stressort within thoundary.	sor ie	Two ve	getation rs present ne AA	Thre stre with	v Subopting the vegetate sors present the AA and ary.	ion ent	High Mar Four vego stressors within the boundary	etation presen AA	t p	Low Margina vegetation st present within AA boundary	ressors n the		ater than resent wi	-	-	stressors Indary.	CI = Total Score/40
SCORE	20	19 ·	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	. 1	
Comments:													a. I	nvasive Sub	-Score:			8	Total	l Score	0.35
												b	o. Veç	getation Sub	-Score:			6	,	14	0.35

Vegetative disturbances within the AA include: right of ways, selective cutting, roadways, and other disturbances.

# 4. Hydrologic Modification Index

									С	onditio	n Categ	ory									
		Opt	timal				Su	boptin	nal			Ma	arginal					Poo	r		
Modification Stressor	hydrolo presen	the optimal is present within the aboundary.Low Optimal: hydrologic stressor present within the AA boundary.Aboundary.Aboundary.				Two hy	drologic rs present he AA	Th stre	w Subopt ree hydrol essors pre hin the AA undary.	ogic esent	Four hy		hydr pres	Marginal: I ologic stressent within the ooundary.	sors			•	drologic stres: AA boundary		CI = Tota Score/20
SCORE	20	19 <i>′</i>	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.45
Comments: Dis	turbance	es are mostly	histo	orical in natu	ıre, b	ut currer	nt hydrolog	gic dist	urbaces c	an be a	ssociate	d with the ro	adway	s and utility	right		Score:		9		0.45
of ways <b>.</b>																		•			-

5. Sediment Stressor Index

				Conditio	n Category				
	Opt	timal	Subo	ptimal	Ma	rginal	Po	oor	1
Sediment Stressor Presence	High Optimal: No sediment stressors present within the AA boundary.	Low Optimal: One sediment stressor present within the AA boundary.	High Suboptimal: Two sediment stressors present within the AA boundary.	Low Suboptimal: Three sediment stressors present within the AA boundary.	High Marginal: Four sediment stressors present within the AA boundary.	Low Marginal: Five sediment stressors present within the AA boundary.		sediment stressors he AA boundary.	CI = Total Score/20
SCORE	20 19 1	18 17 16	15 14 1	13 12 11	10 9	8 7 6	5 4	3 2 1	0.60
	diment stressors can and forest vegetative		e roadways and rece	nt utility right of way ir	nstallation as well as	the historic removal of	Score:	12	0.60

6. Water Quality Stressor Index

									Co	onditior	ո Categ	ory								
a. Eutro-			Optimal				S	Suboptim	al				Marginal					Poor		
phication Stressor Presence	No	eutrophica within th	ation stre ne AA bo	•	sent	One	•	cation stre the AA bo	essors pre oundary.	esent	Two	•	cation stre he AA bo	essors pre undary.	sent	Three	•	ication st the AA bo	tressors pr oundary.	esent
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: No direct eutrophication stressors observed. However, roadways and railroad beds create some stress to the water quality and wetland habitat.

									C	onditior	n Catego	ry									
b. Contaminant / Toxicity Stressor Presence	No			city stress A boundaı			e contam		<b>ial</b> xicitystres A bounda					l cicity stress A boundary					<b>or</b> / toxicity stres e AA boundar		CI = Total Score/40
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments:													a. Eutro	phication	Score		18		Total Sco	re:	0.00
Roadways and ra	ailroad	beds crea	ate some	stress to	the wet	land ha	ıbitat.						b. Co	ntaminant	Score		18		36		0.90

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the	Overall Condition Index	0.55
overall condition score.	Overall Condition Index:	0.55

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

# **Pennsylvania Department of Environmental Protection**

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name		Date	Proposed Impact Size (acres)	AA#	AA Size (acres)	
102640	FM100 - Wildcat Hollow - Pos	st Restoration	9/1/2020	0	1	6	
Name(s) of Eval	uator(s)	Lat (dd)	Long (dd)	Notes:			
Hannah Kalk &	& Zachary Stephens	41.719341	-78.558201	Address: Brights I	Rd, Smethport,	PA 16749	

**General Comments:** Riverine Emergent/Scrub-Shrub complex alongside Marvin Creek. This level 2 assessment represents all delineated wetlands (Wetlands 1-5) since the AA contains them all, were historically connected, and because the wetlands are currently functionally similar. Additionally, this assessment represents the anticipated condition of the wetlands post restoration at maturity.

1. Wetland Zone	of Influence Condit	tion Index							
				Conditio	n Category				
Wetland Zone	Opti	imal	Subo	ptimal	Mar	ginal	Po	oor	
of Influence	ZOI area vegetation	n consists of a tree	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: ZOI	High Poor: ZOI	Low Poor: ZOI	
(300 foot area	•	diameter at breast		ZOI area vegetation	ZOI area vegetation	area vegetation	area vegetation	area vegetation	
	height (dbh) > 3 inch			consists of a tree	consists of non-	consists of non-	consists of lawns,	consists of	
perimeter)	•	ree canopy cover.	stratum (dbh > 3	stratum (dbh > 3	maintained, dense	maintained, dense	mowed, and	impervious	
	Areas comprised o	•	inches) present,	inches) present,	herbaceous	herbaceous	maintained areas,	surfaces; mine spoil	
	wetlands (regardles		with greater than or	with greater than or	vegetation with	vegetation, riparian	nurseries; no-till	lands, denuded	
	,	strine resources ≥ 10	equal to 30% and	equal to 30% and	either a shrub layer	areas lacking shrub	cropland; actively	surfaces, row crops,	
	acres are scor	ed as optimal.	less than 60% tree	less than 60% tree	or a tree stratum	and tree stratum,	grazed pasture,	active feed lots,	
			canopy cover and	canopy cover with a	(dbh > 3 inches)	areas of hay	sparsely vegetated	impervious trails, or	
			containing both	maintained	present, with less	production, and	non-maintained	other comparable	
			herbaceous and	understory.	than 30% tree	· ·	area, pervious trails,	conditions.	
			shrub layers or a non-maintained		canopy cover.	areas (< 10 acres).  If trees are present,	recently seeded and stabilized, or		CI = Total
			understory.			tree stratum (dbh > 3	other comparable		Score/20
			understory.			inches) present, with	condition.		
						less than 30% tree	Condition.		
						canopy cover with			
						maintained			
						understory.			
							-		
SCORE	20 19 1			13 12 11	10 9 8	7 6	5 4	3 2 1	
		• ,		fluence using the des	criptors above.				
	% area within each co					Total So	ore = SUM(%Areas*	Scores)	
3. Enter the % Z	Ol Area in decimal fo	orm (0.00) and Score	for each category in	the blocks below.					
	Condition Category:								
	% ZOI Area:	25%	20%	15%	20%	10%	5%	Total Score:	
Scoring:	Score:	19	15	13	10	8	5		0.04
	Total Sub-score:	4.75	3.00	1.95	2.00	0.80	0.25	12.75	0.64

Comments: Sections of the zone of influence contain emergent and scrub-shrub wetland habitat, with some sections of forest. The Lower quality regions of the zone of influence contain maintained lawns, active hayfield, old field, and road/utility right of ways.

# 2. Roadbed Presence Index

						Condi	tion	Categories									
a. Roadbed	Ор	otimal		Sub	optin	nal			Maı	rginal					oor		
Presence	High Optimal: No	Low Optimal:	High Su	iboptimal:	Lov	w Suboptima	al:	High Margir	<u>nal</u> :	Low Ma	arginal:		High Poo	<u>or</u> :	Low	Poor:	
(within 0 - 100	roadbeds present	Roadbed presence	Roadbe	d presence	Ro	adbed preser	nce	Roadbed pr	esence	Roadbe	ed presenc	е	Roadbed	_   presence	Roa	dbed pres	ence
foot Wetland	within 100 feet of	score within 0-100	score w	ithin 0-100	sco	ore within 0-10	00	score within	0-100	score v	vithin 0-100	)	score wit	hin 0-100	scor	e within 0-	-100
ZOI distance)	the AA boundary	feet of the AA	foot dist	ance of the	e foo	t distance of	the	foot distance	e of the	foot dis	tance of th	е	foot dista	ince of the	foot	distance d	of the
		boundary equal to	AA bour	ndary is	AA	boundary is		AA boundar	y is	AA bou	ındary is		AA boun	dary is	AA I	oundary i	S
		or less than 2.	greater	than to 2	gre	ater than to 4	1	greater than	to 6	greater	than to 8 I	out	greater th	nan 10 bu	t grea	iter than 1	2.
			but equa	al to or less	but	less than or		but less than	n or	less tha	an or equal	to	less than	or equal	_		
			than 4.		equ	ual to 6.		equal to 8.		10.	·		to 12.				
SCORE	20 10	10 17 16	15	1.1	12	12	11	10	0	0	7	6	E	1	2	2	4
SCORE	20 19	18 17 16	15	14	13	12	11	10	9	Ō	1	6	<b>J</b> D	4	3		

# Comments:

								Co	ndition	Categor	ies								
b. Roadbed		Op	timal			Sul	ooptin	nal			Ма	rginal				Poo	r		
	High Optima		Low Optima	<u>l:</u>	High S	<u>uboptimal</u> :	Lo	w Subopt	imal:	High Ma	rginal:	Low Ma	rginal:		h Poor:	_	ow Poor:		
	roadbeds pro		Roadbed pr	esence	Roadbe	ed presenc	e Ro	adbed pre	sence	Roadbe	d presence	Roadbe	d presence	Roa	adbed presenc	e R	loadbed pres	ence	
	within 100 -	300	score within	100 -	score w	ithin 100 -	sco	ore within	100 -	score w	thin 100 -	score w	ithin 100 -	sco	re within 100 -	S	core within 10	00 -	
	feet of the A	A	300 feet of t	he AA	300 fee	t of the AA	300	0 feet AA		300 feet	of the AA	300 fee	t of the AA		) feet of the AA		00 feet of the	e AA	CI = Total
distance)	boundary		boundary ed	ual to	bounda	ry is greate	er bou	undary is (	greater	bounda	y is greater	bounda	ry is greateı	bou	ındary is great	er b	oundary is gr	eater	Score/20
			or less than	2.	than to	2 but equa	ıl tha	ın to 4 but	less	than to	but less	than to	8 but less	tha	n to 10 but les	s th	nan 12.		ocore/20
					to or les	ss than 4.	tha	ın or equa	l to 6.	than or	equal to 8.	than or	equal to 10	tha	n or equal to 1	2.			
SCORE	20 19	) 1	8 17	16	15	14	13	12	11	10	9	8	7 6	5	4	3	2	1	1
												Cond	ition Score		Weighting		Sub-Scor	es	
										a. Roa	dbed 0-100	:	5		* (0.67)		7		
										b. Roadb	ed 100-300	:	10		* (0.33)		3		0.50
															Total Score:		10		0.52

Comments: The AA is surrounded by multiple roadways: County Route 6, Brites Road, a railroad, and Railroad Grade Road.

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

**Pennsylvania Department of Environmental Protection** 

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3.	Vegetation	Condition	Index
v.	Vegetation	Contaition	IIIUCA

									Cond	ditio	n Categor	/								
a. Invasive	O	ptimal				Sı	abop	otimal				M	argina	al				Poor		
	High Optimal: No	Low	Optimal:	<u>&lt;</u> 5%	High Su	uboptima	<u>l:</u>	Low Su	uboptima	<u>al:</u>	High Mar	ginal:	Lov	w Marginal:		> 50%	of the to	otal AA co	ntains inv	asive/
Presence	invasives present.	of the	total AA	Ą	>5% bu	t less tha	n :	>10% b	ut less t	han	>20% but	less than	n  >30	)% but less	than			species.		
		conta	ins invas	sive	10% of	the total A	<b>AA</b>	20% of	the total	I AA	30% of th	e total A	۶09 A	% of the tota	al AA					
		speci	es.		contains	s invasive	,	contains	s invasiv	e	contains i	nvasive	con	tains invasi	ve					
					species			species	<u>.</u>		species.		spe	cies.						
SCORE	20 19	18	17	16	15	14	13	3 1	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Invasive species have been controlled and a native vegetative regime has been implemented.

									Co	nditio	n Categor	У									
b. Vegetation		Ор	tima	ıl			Su	boptin	nal				Margi	inal				Pod	or		
Presence	vegeta	t within the	veç pre	w Optimal: getation stres esent within the boundary.	ssor he	Two ve	egetation ors present the AA	Thr stre with	w Subopting  The vegetate  The sessors presishin the AA  The sundary.	ion	High Mar Four vego stressors within the boundary	etation presentes AA	ve t p	ow Margina egetation storesent within A boundary	ressors n the		ater than f resent witl		_		CI = Total Score/40
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Comments:													a. In	nvasive Sub	-Score:			19	Total	Score	0.95
												b	. Veg	etation Sub	-Score:			19	3	8	0.95

The site has been revegetated and has been protected from outside disturbances with the exception of the utility right of way disturbances which are beyond the limits of the PRM.

# 4. Hydrologic Modification Index

				Conditio	n Category				
	Ор	timal	Subo	ptimal	Ma	rginal	Po	oor	
Hydrologic	High Optimal: No	Low Optimal: One	High Suboptimal:	Low Suboptimal:	High Marginal:	Low Marginal: Five	Greater than five h	nydrologic stressors	
Modification Stressor	hydrologic stressors present within the AA boundary.	hydrologic stressor present within the AA boundary.	Two hydrologic stressors present within the AA boundary.	Three hydrologic stressors present within the AA boundary.	Four hydrologic stressors present within the AA boundary.	hydrologic stressors present within the AA boundary.		he AA boundary.	CI = Total Score/20
SCORE	20 19	18 17 16	15 14	13 12 11	10 9	8 7 6	5 4	3 2 1	0.80
Comments: By	increasing the densit	y of vegetation, the P	RM has lowered the	influence outside dist	urbance on the hydro	ology.	Score:	16	0.00

# 5. Sediment Stressor Index

									С	onditio	n Categ	ory									
		O	otimal				Su	boptim	nal			N	largina	I				Poor			
Sediment Stressor Presence	sedime	ptimal: No nt stressors t within the indary.	sed pres	v Optimal: iment stressent within boundary.	ssor the	Two se	diment rs present ne AA	Thr stre with	w Subopt ree sedimessors prenin the AA undary.	ent esent	Four se	rs present he AA	sedi pres	v Margina iment stre sent withir boundary.	ssors the				ment stress A boundary		CI = Tota Score/20
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0.00
Comments: By	/ increasi	ng the dens	ity of ν	egetation,	the P	RM has	owered th	e influe	ence outs	ide sed	imentatio	n.					Score:		16		0.80

# 6. Water Quality Stressor Index

	Condition Category																			
a. Eutro-			Optimal			Suboptimal					Marginal					Poor				
phication Stressor Presence	No eutrophication stressors present						•	esent	Two	•	ation stre	essors pre undary.	sent	Three	•	nication st the AA bo	tressors pr oundary.	esent		
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: The PRM increased the water quality of the area due to wetland enhancement activities.

	Condition Category																		
b. Contaminant			Optimal			Suboptimal				Marginal				Poor					
/ Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.  One contaminant / toxicitystressors present within the AA boundary.						Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				CI = Total Score/40			
SCORE	20 19 18 17 16 15 14 13 12 1							11	10	9	8	7	6	5	4	3	2	1	
Comments:										a. Eutrophication Score 19					Total Score:		0.95		
Roadways and r	Roadways and railroad beds create some stress to the wetland habitat.										b. Co	ntaminant	Score		19		3	8	0.95

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the	Overall Condition Index:	0.70
overall condition score.	Overall Condition index:	0.76

# APPENDIX E PNDI RECEIPT

#### Project Search ID: PNDI-717584

### 1. PROJECT INFORMATION

Project Name: Wildcat Hollow Wetland Enhancement Site

Date of Review: 9/9/2020 02:58:56 PM

Project Category: Habitat Conservation and Restoration, Wetland Restoration, Wetland Creation, or Wetland

**Enhancement** 

Project Area: **28.33 acres** County(s): **McKean** 

Township/Municipality(s): HAMLIN

ZIP Code: 16735; 16749

Quadrangle Name(s): **HAZEL HURST** Watersheds HUC 8: **Upper Allegheny** Watersheds HUC 12: **Marvin Creek** Decimal Degrees: **41.718670**, **-78.557155** 

Degrees Minutes Seconds: 41° 43' 7.2118" N, 78° 33' 25.7573" W

#### 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

### Wildcat Hollow Wetland Enhancement Site



Project Boundary

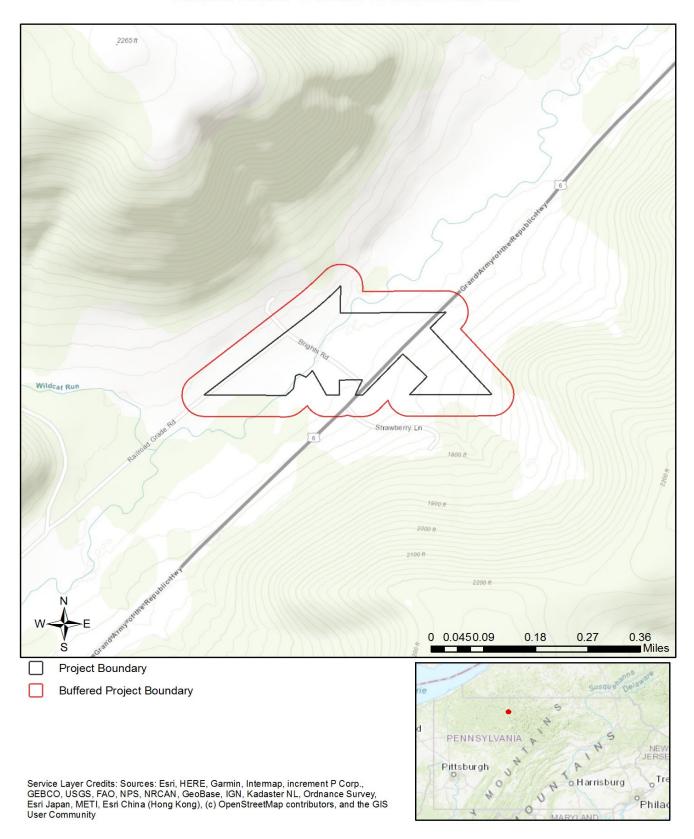
Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

PENNSYLVAN

Pittsburgh

### Wildcat Hollow Wetland Enhancement Site



### 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

# **PA Game Commission**

#### **RESPONSE:**

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

# PA Department of Conservation and Natural Resources RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

# **PA Fish and Boat Commission**

#### **RESPONSE:**

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

# U.S. Fish and Wildlife Service RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

#### 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

Project Search ID: PNDI-717584

#### Project Search ID: PNDI-717584

#### 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (<a href="www.naturalheritage.state.pa.us">www.naturalheritage.state.pa.us</a>). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

#### 6. AGENCY CONTACT INFORMATION

# PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section 400 Market Street, PO Box 8552 Harrisburg, PA 17105-8552 Email: RA-HeritageReview@pa.gov

#### **PA Fish and Boat Commission**

Name: Hannah Kalk

Hannah Kalk

Company/Business Name:

Address: 33 Terminal Way Suite W445A

applicant/project proponent signature

Division of Environmental Services 595 E. Rolling Ridge Dr., Bellefonte, PA 16823 Email: RA-FBPACENOTIFY@pa.gov

#### U.S. Fish and Wildlife Service

Pennsylvania Field Office Endangered Species Section 110 Radnor Rd; Suite 101 State College, PA 16801 Email: <u>IR1\_ESPenn@fws.gov</u> NO Faxes Please

#### **PA Game Commission**

Bureau of Wildlife Habitat Management Division of Environmental Planning and Habitat Protection

2001 Elmerton Avenue, Harrisburg, PA 17110-9797

9/9/2020

date

Email: RA-PGC PNDI@pa.gov

**NO Faxes Please** 

## 7. PROJECT CONTACT INFORMATION

**RES** 

City, State, Zip: Pittsburgh, PA 15219	/ V 26	
Phone:( 309 ) 269-6021	Fax:(	
Email: Hkalk@res.us		
8. CERTIFICATION		
I certify that ALL of the project informatio	n contained in	this receipt (including project location, project
size/configuration, project type, answers	to questions) i	is true, accurate and complete. In addition, if the project type,
location, size or configuration changes, of	or if the answe	rs to any questions that were asked during this online review
change, I agree to re-do the online enviro	onmental revie	W.