US Army Corps
of Engineers
Baltimore District

DRAFT INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL ASSESSMENT

ADAMS COUNTY, PENNSYLVANIA

PLUM CREEK RESTORATION PROJECT

DECEMBER 2024

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FINDING OF NO SIGNIFICANT IMPACT

Plum Creek Restoration Project
Adams County, Pennsylvania

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the U.S. Army Corps of Engineers, Baltimore District (USACE) has assessed the environmental effects of the proposed Plum Creek stream restoration project, located in Adams County, Pennsylvania. The project is necessary to restore Plum Creek's degraded stream system to a more natural hydrologic condition, reduce erosion, create aquatic and terrestrial wildlife habitat, and ultimately reduce sediment and nutrient loads to the South Branch Conewago River, the Susquehanna River, and eventually the Chesapeake Bay. This project will directly contribute to Chesapeake Bay restoration goals.

The project would daylight Plum Creek by removing approximately 1,700 linear feet of defunct pipes that are failing structurally and causing erosion, flooding, degraded aquatic habitat and increased concerns for human health and safety. The project would incorporate in-stream features to decrease flow velocities, reduce erosion and sediment accumulation, as well as expand floodplain functions, create 1.05 acres of wetlands, and restore native vegetation. Plum Creek is a headwater stream that ties into the South Branch-Conewago Creek, Conewago River, the Susquehanna River, and eventually the Chesapeake Bay. Restoration of headwater streams are vital to the health of the Chesapeake Bay. The impacts of degraded headwater streams are felt throughout the entire downstream area; therefore, it is fundamental to the health of the watershed that headwater streams are as healthy and natural as possible. Note that the length (linear feet) of stream restoration is anticipated to be between a minimum of 1,500 linear feet and a maximum of 2,000 linear feet.

The non-federal sponsor, Conewago Township, requested assistance from USACE Baltimore District for the restoration project on 19 October 2019 through the Section 510 Chesapeake Bay Environmental Restoration and Protection Program (CBERPP). The CBERPP directs the Secretary of the Army, acting through the USACE, to provide design and construction assistance to non-Federal entities to benefit the Chesapeake Bay. CBERPP was authorized by Section 510 of Water Resources Development Act (WRDA) 1996, as amended by Section 5020 of WRDA 2007, Section 4010(a) of Water Resources Reform and Development Act 2014, Section 306 of WRDA 2020, and Section 8376(b)(1) of WRDA 2022. The program offers design and construction for water-related environmental infrastructure, resource protection, and development projects affecting the Chesapeake Bay estuary, including sediment and erosion control projects. USACE Baltimore District completed a Project Scoping Report was approved on 22 July 2020 for inclusion in the Section 510 Program, and funding for the feasibility study was received in (July 2020). All proposed activities would occur within the Plum Creek study area in Adams County, Pennsylvania.

The integrated feasibility report/environmental assessment (IFR/EA) was prepared in compliance with NEPA and supporting regulations promulgated by the Council on Environmental Quality and

USACE. Two alternatives were considered and evaluated for this project, in addition to a No Action Alternative: Alternative 1 – stream restoration only, and Alternative 2 – stream restoration with constructed wetlands. The alternatives will also provide riparian buffer restoration with native vegetation.

Adverse, short-term, minor impacts from the proposed action (Alternative 2 – Stream Restoration with constructed wetlands) may occur to the following resources: wildlife, vegetation, soil, air quality, transportation, aesthetics, recreation, and noise from construction activities. The construction of the proposed alternative would enhance the stream system, thereby contributing to long-term reduced erosion and sediment, and increased aquatic habitat. Appropriate steps to minimize potential adverse impacts, including the implementation of best management practices (BMPs), will be incorporated into the project. The BMPs will include pollution controls, general safety and security, and applicable time of year restrictions.

The proposed project will not have an adverse effect on any threatened or endangered species or their critical habitat. No impacts to cultural or tribal resources or National Register of Historic Places properties are expected.

The IFR/EA is being made available for a 30-day public review starting 09 December 2024 supporting the conclusion that the project does not constitute a major federal action significantly affecting the quality of the human or natural environment. Therefore, an environmental impact statement is not necessary to perform the proposed stream restoration.

_____ _____

Date

Francis B. Pera
Colonel, U.S. Army
Commander and District Engineer

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List of Acronyms

BCC	Bird of Conservation Concern
BMPs	Best Management Practices
CBCP	Chesapeake Bay Comprehensive Water Resources and Restoration Plan
CBERPP	Chesapeake Bay Environmental Restoration and Protection Program
CE/ICA	Cost Estimate/ Incremental Cost Analysis
CEQ	Council of Environmental Quality
CWA	Clean Water Act
dBA	Decibels
EO	Executive Order
ER	Engineering Report
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FWOP	Future Without Project
IFR/EA	Integrated Feasibility Report/ Environmental Assessment
IPaC (USFWS)	Information for Planning and Consultation
LOD	Limit of Disturbance
MARISA	Mid Atlantic Regional Integrated Sciences and Assessments
NAD	North Atlantic Division
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFS	Non-Federal Sponsor
NPS	National Park Service
NRCS	National Resource Conservation Service
NWR	National Wildlife Refuge
PA DEP	Pennsylvania Department of Environmental Protection
PA SHPO	Pennsylvania State Historic Preservation Office

PNDI	Pennsylvania Natural Diversity Inventory
PNHP	Pennsylvania Natural Heritage Program
PPA	Project Partnership Agreement
RAIL	Rapid Avian Information Locator
TOY	Time of Year (Restrictions)
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
WRDA	Water Resources Development Act

1 INTRODUCTION

1.1 Study Authority

Section 510 of Water Resources Development Act (WRDA) 1996, as amended by Section 5020 of WRDA 2007, Section 4010(a) of Water Resources Reform and Development Act 2014, Section 306 of WRDA 2020, and Section 8376(b)(1) of WRDA 2022, authorizes the U.S. Army Corps of Engineers (USACE) to provide assistance to non-federal entities for water-related resource protection and restoration projects affecting the Chesapeake Bay estuary. Specifically, this assistance shall be in the form of design and construction assistance including sediment and erosion control projects. This Integrated Feasibility Report and Environmental Assessment (IFR/EA) was prepared by USACE pursuant to the National Environmental Policy Act (NEPA), Engineering Regulation (ER) 200-2-2, and the Council on Environmental Quality's 20 May 2022 updates to 40 Code of Federal Regulations (CFR) Parts 1500-1508. The sections of this report that satisfy the NEPA requirements, as outlined in 40 CFR 1501.5(c), are marked with an asterisk (*). This IFR/EA evaluates the potential impacts from the stream and wetland restoration to the human and natural environment, as well as the potential environmental and socioeconomic impacts from the restoration. The scope of work for the planning phase of the project includes the development of project alternatives, an examination of the impacts and benefits of each alternative, and the recommendation of an alternative for design and construction. This study process is documented in the IFR/EA and, if appropriate, will result in the signing of a Finding of No Significant Impact (FONSI). A PSR was completed by USACE Baltimore District and approved by USACE North Atlantic Division on 22 July 2020 (Appendix A).

1.2 Project Location and Background

Plum Creek is located within the Conewago Township, Adams County, Pennsylvania. The Township is also the non-federal sponsor (NFS). Conewago Township is in the 13th Congressional District of Pennsylvania, located approximately seven miles west of Codorus State Park, nine miles north of the Maryland/Pennsylvania state border and 15 miles east of Gettysburg.

Plum Creek is located within the following basins and watersheds:

- Basin and Subbasin: Lower Susquehanna
    - Watershed: West Conewago Creek
        - Subwatershed: Plum Creek-South Branch Conewago Creek

The study area shown in Figure 1 provides a conceptual project extent from approximately 300-feet north of Airport Road, to the tree line and parcel boundary in the south. Currently, Plum Creek Community Park is a 99-acre property, formerly the Hanover Airport (or "Gebhart Regional Airport"), centrally located in Conewago Township. Plum Creek has a drainage area of roughly 4,000 acres and receives runoff from residential areas, forests, and agricultural land. The project site contains three 500-foot-long segments of pipe that had previously diverted the stream underneath the airport runway. The airport is no longer in use and the pipes are no longer necessary. Additionally, the pipes are failing structurally, which is causing erosion in areas within

the stream channel in addition to increased sediment transport within the creek. The downstream traffic crossing has three 50-foot pipes to transport water under the roadway (Airport Road). The current culvert/pipes are in poor condition and can act as a large debris jam, which further clogs and degrades the aquatic and terrestrial ecosystem in the area. All proposed activities would occur within the Plum Creek Community Park, which is owned by the NFS, Conewago Township.

1.3 Purpose and Need*

The purpose of the project is to daylight Plum Creek by removing approximately 1,500 linear feet of defunct pipes that are failing structurally and causing erosion, flooding, degraded aquatic habitat and increased concerns for human health and safety. Plum Creek is a headwater stream that ties into the South Branch-Conewago Creek, Conewago River, the Susquehanna River, and eventually the Chesapeake Bay. Restoration of headwater streams are vital to the health of the Chesapeake Bay. The impacts of degraded headwater streams are felt throughout the entire downstream area; therefore, it is fundamental to the health of the watershed that headwater streams are as healthy and natural as possible. Note that the length (linear feet) of stream restoration is anticipated to be between a minimum of 1,500 linear feet and a maximum of 2,000 linear feet. The extent would include the removal of the existing, failing pipes, and daylighting the stream.

The need for the project is to restore a degraded section of Plum Creek. The restoration would allow the stream to better handle high water events in a natural and sustainable manner by adding sinuosity to the channel. The project would also include the planting and maintenance of a riparian buffer, altering the existing stream bed to a linear wetland and adding two constructed wetlands which would provide many co-benefits that are important to the Chesapeake Bay, such as stream bank stabilization, flood risk management, and increased and improved aquatic habitat. The stream restoration of Plum Creek would add benefits to a greater master plan that is being developed by the NFS to upgrade and enhance Plum Creek Community Park and would contribute to the Chesapeake Bay goals of providing a balanced ecosystem network, reducing nutrient pollution, increasing resiliency in the face of climate change, and increasing public awareness in Bay-wide stewardship (Bay Agreement, 2014).

Figure 1 – Plum Creek Study Area Boundary

1.4 Public and Agency Coordination*

In compliance with NEPA, coordination was conducted with federal, state, and local resource agencies (Appendix B). A public notice of availability will be posted by the NFS in a local newspaper, which will be published for general circulation in Adams County. The public will have 30 days to provide comments after the public notice is posted. The USACE will also post a public notice on the USACE Baltimore District website.

USACE submitted a draft online project review request through the Pennsylvania Department of Environmental Protection (PA DEP) – Pennsylvania Natural Diversity Inventory (PNDI) on 31 May 2023. An updated request was submitted on 30 April 2024. The online request gathers data from various State and Federal agencies including the Pennsylvania Game Commission, Pennsylvania Department of Natural Resources, Pennsylvania Fish and Boat Commission, and U.S. Fish and Wildlife Service (USFWS) (Appendix B). Additionally, USACE submitted an online request for project review through the USFWS Information and Planning Consultation (IPaC) website on 15 April 2024. Results can be found in Appendix B.

Further coordination included correspondence with the PA State Historic Preservation Office (SHPO) to ensure compliance with Section 106 of the National Historic Preservation Act (Appendix B). A letter was submitted through Pennsylvania's Historic and Archaeological Resource Exchange site (aka, PA SHARE) on 25 May 2023. Recognizing the Tribal Trust responsibility and our Government-to-Government consultation requirements in accordance with Section 106, letters were electronically mailed on 17 May 2023 to Federally-recognized tribal nations with interests within the region of the project area. A list of the contacted tribes includes the Absentee-Shawnee Tribe of Indians of Oklahoma, Delaware Nation, Delaware Tribe of Indians, Eastern Shawnee Tribe of Indians, Seneca-Cayuga Tribe, Shawnee Tribe, and St. Regis Mohawk Tribe. Responses were not received from any of the Tribal communities.

2 PROBLEMS AND OPPORTUNITIES

The USACE planning process requires identification of specific water and related land resources problems and opportunities in the study area. The problems and opportunities form the basis for formulation of the study's objectives and constraints.

2.1 Problems

The parcel currently owned by Conewago Township was once a small, local airport, formerly the Hanover Airport (or "Gebhart Regional Airport"). In an effort to elongate the runway, three steel boilers (used as makeshift culverts) were used to convey Plum Creek beneath the now decommissioned airport. The three "pipes" measure approximately 500 linear feet and are each 6-feet in diameter. The pipes are rusted through and allowing the adjacent bedding soils and sediments to be transported into Plum Creek. This further exacerbates the sediment loading that is currently conveyed by the stream. Additionally, sink holes are beginning to form in the ground surface above the boilers causing potential risks to human health and safety.

Photo 1: Plum Creek boilers/pipes facing northeast under the abandoned runway. Photo Source: USACE- Baltimore, January 2023

2.2 Opportunities

The Plum Creek stream restoration project would reduce erosion, reduce sediment transport and nutrient loads, and create aquatic habitat in the West Conewago Creek Watershed. USACE and Conewago Township would restore the existing stream channel and groundwater hydrology to return the degraded stream and surrounding areas to a more natural state. The restoration would also create aquatic habitat by establishing native vegetation and creating wetlands. The project would aid in improving the headwaters that enter the Conewago River and ultimately, the Chesapeake Bay, from the project site by reducing erosion and sediment loads through stream and wetland restoration.

Additionally, the stream restoration would be one component of beautifying the proposed Plum Creek Community Park. In the Fall of 2015, the Conewago Township Board of Supervisors settled on the purchase of the 99-acre property to develop it into a large-scale community park. The park plans to incorporate environmental programs such as educational kiosks, walking paths, a linear trail system, playgrounds, picnic pavilions, an amphitheater, county sponsored riparian buffer planting, and expansion of the surrounding forests. Restoration of the stream is a key factor to the construction of the park, as the stream bisects the park and is a central focal point (Figure 2) (Plum Creek Flyer, 2021).

Figure 2: Plum Creek Community Park Master Plan. (Source: C.S. Davidson and Conewago Township, April 2022)

2.3 Objectives and Constraints

The goal of the project is to restore ecological function, structure, and health in the selected stream reach and riparian zones, in addition to areas downstream affected by restoration actions.

2.3.1 Objectives

Planning objectives are summarized in statements that describe the desired results from solving or alleviating problems and/or realizing opportunities. Planning objectives for this study include:

1. Prioritize restoration activities on public lands to the greatest extent possible.
2. To the extent possible, focus restoration activities on headwater streams.
3. Restore in-stream habitat and associated ecosystem function in Plum Creek.
4. Re-establish hydrologic connection of the streams to the floodplain to the maximum practicable extent along stream restoration reaches.
5. Create a functional and safe environment.
6. Replace box culverts within the stream channel at Airport Road.
7. Plant native riparian vegetation.

2.3.2 Constraints

A potential pre-contact archaeological and/or cultural site was identified during background investigations; however, no record was identified through field surveys performed by USACE Baltimore archaeologists. More information can be found in Section 4.2.8 and Appendix C. Additionally, portions of Airport Road between Water Drive and Mt. Pleasant Road are closed for public use. The road is not currently paved as of April 2024. Complaints were received by the Township from the adjacent residential areas about excess dust from vehicular traffic who would not abide by the speed limit. Access for the project should only occur through Water Drive. See the Real Estate Plan in Appendix F for more details. Other project constraints include:

1. Minimize impacts to forests during construction because of high value of mature native woody vegetation.
2. Minimize impacts to actively used recreational space.
3. Avoid impacts to underground infrastructure.

2.3.3 Federal Significance

The Chesapeake Bay Comprehensive Water Resources and Restoration Plan – Final Commonwealth of Pennsylvania Annex (CBCP, 2019), evaluated individual *Opportunity Assessments,* or optimum locations, to implement various strategies and actions to efficiently meet the 2014 Chesapeake Bay Agreement goals and outcomes. Some of the *Opportunity Assessments* identified in Pennsylvania's subwatersheds include, stream restoration, fish passage, riparian forest buffers, nontidal wetlands restoration, and wetlands restoration to benefit avian wildlife. Plum Creek is a tributary to the South Branch Conewago Creek subwatershed, which was identified as having significant potential for nontidal wetland restoration. The subwatershed has 'Presence of Audubon Important Birds Areas' and 'Opportunities for Wetland Restoration that Would Benefit Avian Wildlife' (CBCP, 2019). With

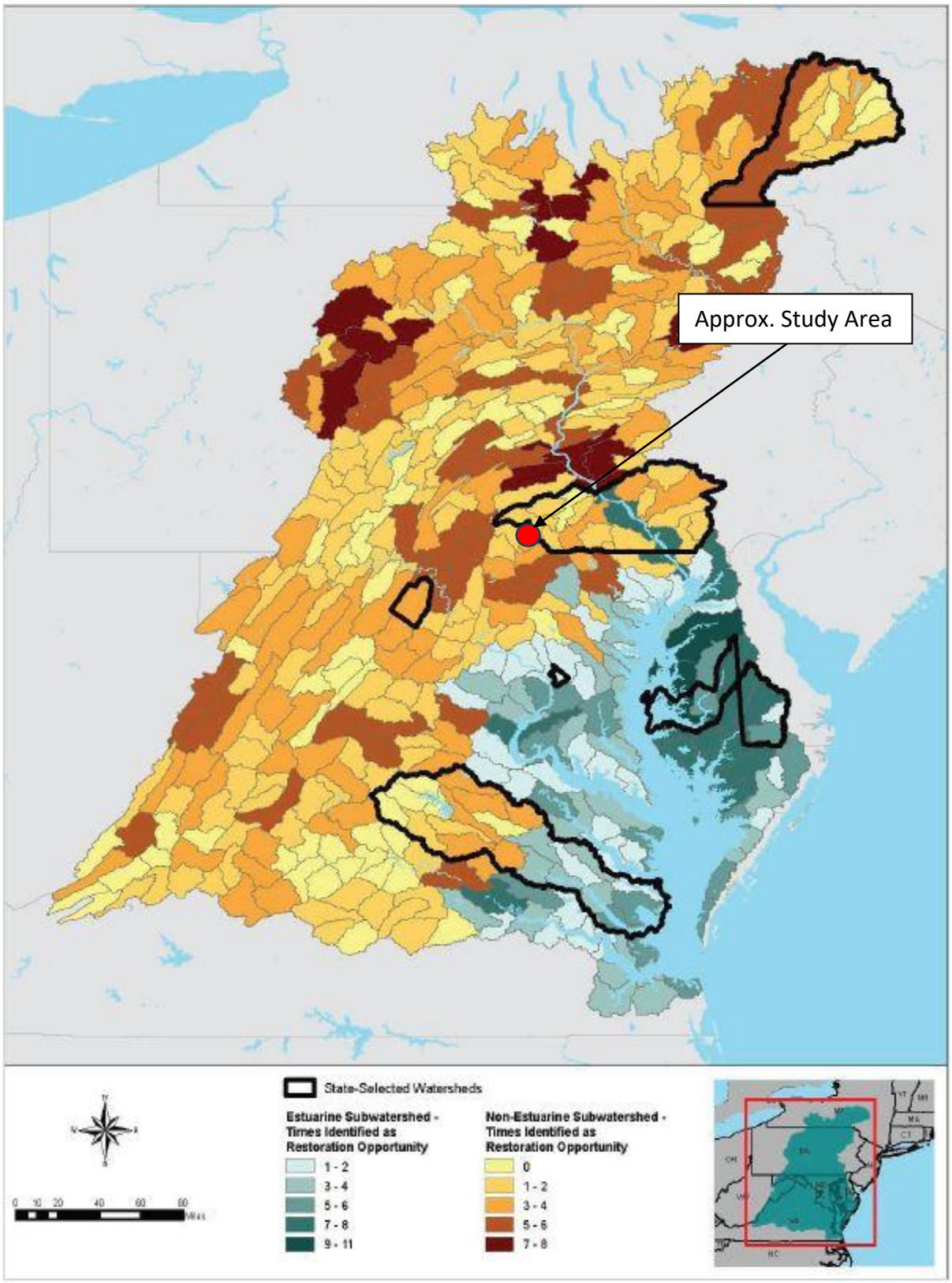
restoration of Plum Creek and riparian areas surrounding the stream, the project would achieve several goals cited in the 2014 Chesapeake Bay Agreement including stream restoration, fish passage, riparian forest buffers, nontidal wetlands restoration, and wetlands restoration to benefit avian wildlife.

2.4 Future Without Project Conditions

The Future Without Project (FWOP) condition is assessed through a determination of how relevant elements of the existing condition are likely to change over time in the absence of a federal alternative. It is also the No Action Alternative for NEPA purposes throughout this report. Under the FWOP condition, a stream restoration to Plum Creek would not occur. The FWOP condition would most likely be characterized by the following:

Photo 2: Plum Creek boilers/pipes facing west showing erosion in channel. Photo Source: USACE- Baltimore, January 2023

- Plum Creek, and the tributaries that it flows into, would continue to be negatively affected by eroded streambanks, sediment accumulation and degraded water quality.
- Erosion within and adjacent to Plum Creek would continue causing increased risks to public health and safety during major flooding events with the potential to cause indirect impacts to property owners downstream of the site or debris jams under frequently traveled roadways (Mt. Pleasant Road and Hanover Road [PA 116]). Additionally, wildlife and aquatic species may continue to decline with increased debris and sediment loading disturbing natural cycles within and downstream of the system.
- The development of Plum Creek Community Park would be delayed until the Township reallocated funds through another agency or source of funding.



Source: CBCP, 2014

Figure 3: Chesapeake Bay Restoration Roadmap

3 ARRAY OF ALTERNATIVES*

This section presents an evaluation of alternatives and the potential environmental consequences of implementing the Proposed Action and No Action Alternative. The potential impacts to the human and natural environment were evaluated relative to the existing environment. For each environmental resource or issue, anticipated direct and indirect impacts were assessed, considering both short- and long-term project impacts.

Potential impacts are described in terms of type (beneficial or adverse); duration (short- or long-term); and intensity (minor, moderate, or major). Explanations of these terms are as follows:

- Type: The impact type refers to whether it is adverse (negative) or beneficial (positive). Adverse impacts would potentially harm resources, while beneficial impacts would improve resource conditions. Within the analysis, impacts are assumed to be adverse unless identified as beneficial.
- Duration: Impacts resulting from construction are considered short-term and would occur during construction or site improvements. Long-term impacts would persist during the operation of properties and facilities.
- Intensity: The intensity of an impact describes the magnitude of change that the impact generates. The intensity thresholds are as follows:
    - Minor (not significant): The impact would be slight, but detectable, resulting in a small but measurable change in the resource.
    - Moderate (not significant): The impact would be readily apparent and/or easily detectable but would not substantially alter the resource or exceed regulatory thresholds.
    - Major (significant): The impact would be widespread and would substantially alter the resource or exceed regulatory thresholds. A major, adverse impact would be considered significant under NEPA.

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, or foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Evaluations of cumulative impacts include consideration of the proposed action with known past and present actions, as well as reasonably foreseeable future actions.

3.1 No Action Alternative (FWOP)*

The No Action Alternative would allow the stream channel and culverts to remain in its current state with repairs made on an as-needed basis.

3.2 Alternative 1: Stream restoration with no constructed wetlands*

Alternative 1 allows for removal of the existing pipes, replacement of one (existing) traffic crossing, expanding the floodplain, improving the quantity and quality of aquatic and riparian habitat, increasing stream sinuosity, and adding stream features such as constructed riffle

features. A riparian buffer (25 feet wide on either side of the stream channel) would be installed with native grasses, shrubs, and trees during restoration. This alternative is a viable solution to improve the impaired stream channel and aquatic habitat. Approximately 1,700 lf (10,200 sq ft/0.23 ac) of stream channel would be constructed in the 'dry', creating a new stream channel and reconnecting with the existing stream channel at either end. The existing, downstream portion of the channel would be generally untouched outside of minor grading. The existing channel would not be backfilled so that natural regeneration of wetland vegetation can occur through groundwater and surface water runoff. The existing channel will become a linear wetland of approximately 10,000 sq ft/ 0.23 ac in size.

3.3 Alternative 2: Stream Restoration with constructed wetlands*

Alternative 2 incorporates all the same features as Alternative 1; however, Alternative 2 would implement constructed wetlands in an area adjacent to the stream channel after the stream has been reconnected to the new, constructed channel. Adding two wetland complexes (34,150 sq ft/ 0.78 ac) and (1,560 sq ft/0.04 ac) adjacent to the channel would increase habitat suitability for riparian and aquatic species while avoiding an existing sanitary sewer line that intersects the property. Additionally, Alternative 2 would include allowing the old channel to become a linear wetland (10,000 sq ft, 0.23 ac) through groundwater recharge and surface runoff to the area (See design plans located in Appendix D). The wetlands could be easily viewed by the public for educational purposes and a proposed walking trail would be installed adjacent to the wetlands. The additional wetlands would be constructed adjacent to the existing Airport Road and receive groundwater via the existing stream channel and through a high-density polyethylene (HDPE) pipe that will convey flow underneath Airport Road. Adding the wetlands would provide several functions and values to the area such as flood-flow attenuation, aquatic habitat, sediment retention, and nutrient removal.

3.4 Evaluation of Alternatives*

Based upon the alternatives considered above, Alternative 2 – Stream Restoration with two constructed wetlands has been determined to be the most desirable and preferred alternative for the overall Plum Creek restoration project. The No Action Alternative leaves the degraded pipes in place and would continue to obstruct the natural flow of Plum Creek. Trash and debris would continue to accumulate on either end of the culverts, disrupting habitat and diminishing water quality. Human health and safety are also an important factor to consider in the No Action Alternative as degradation of the channel and culverts can lead to an unsafe environment for communities downstream or adjacent to the study area. The No Action Alternative would not enhance the overall proposed Plum Creek Community Park aesthetics.

Alternative 1 is expected to provide beneficial functions and values throughout the studied reach of Plum Creek and its surrounding areas. Alternative 1 allows for a basic restoration of Plum Creek and would supply the necessary in-stream structures and characteristics to enhance Plum Creek and restore it to a more natural flow. Alternative 1 also allows for a portion of the existing channel (approximately 10,000 sq ft/ 0.23 ac) to become a linear wetland. Alternative 1 is expected to

improve the quantity and quality of aquatic habitat, and overall aesthetic to the proposed Plum Creek Community Park, while also removing degraded structures that currently exist within the channel. Alternative 1 would be constructed in the 'dry' as a new and improved channel, and reconnecting to the existing Plum Creek channel at either end of the restoration. In turn, the abandoned channel would be graded to a degree to continually allow groundwater recharge and vegetative habitat to take hold through riparian plantings.

Alternative 2 builds off Alternative 1 and would add additional value and co-benefits to this segment of Plum Creek as it enlarges its vegetated floodplain, adds wetlands to slow-down runoff and trap sediment, as well as introduce various forms of habitat for aquatic species, wildlife, and macroinvertebrates. Both Alternative 1 and 2 provide valuable characteristics to the stream restoration and meet the intent and goals of the Section 510 Program. Further information regarding the 30%-level design of the stream and wetland restoration can be found in the Plum Creek Engineering Report (Appendix D), Cost Estimate / Incremental Cost Analysis (CE/ICA) and Habitat Suitability Index (HSI) (Appendix E). Construction is estimated to take approximately 6-9 months. This habitat/stream restoration will not be satisfying any wetland or stream mitigation obligations of other projects.

Table 3-1: Resources and Benefits

Resource	Benefit of Plum Creek Restoration
Wetlands	Removes and traps sediment, nitrogen and phosphorous from agricultural runoff.
Floodplains	Provides flood control and sediment retention.
Vegetation and Terrestrial Resources	Provides food and shelter for wildlife (birds, mammals, benthics, reptiles, amphibians)
Waterways	Uplift of waterway and protection of stream banks.
Water Quality	Removes sediment, nitrogen and phosphorous from agricultural runoff.
Environmental Justice	Accessibility to green space.
Recreation and Aesthetics	Walking trails through/adjacent to wetlands (provided by NFS). Wildlife observations, native plant identification.
Education	Complies with Township's overall Master Plan for the Plum Creek Community Park.

3.5 Habitat Suitability Analysis and Cost-Effective Incremental Cost Analysis

USACE performed a habitat suitability analysis using the USACE Ecosystem Restoration Planning Center of Expertise (ECO-PCX) Model Library and the ECO-PCX-approved HSI Model for American bullfrog (*Lithobates catesbeianus*). The model, most commonly referred to as the 'USFWS Blue Book Model', was established by the USFWS National Wetlands Research Center (U.S. Interior, 1987). The suitability model for American bullfrog identifies 11 different variables, broken into four categories: food, winter cover, reproduction, and interspersion. Based on the model, these

four requirements must be integrated into an aquatic ecosystem restoration to provide optimal habitat conditions for the bullfrog (Appendix E).

Alternatives 1 and 2 were analyzed through the HSI model, including the No Action Alternative (FWOP). Each alternative produced an HSI score based on the requirements described in the USFWS Blue Book bullfrog model. Alternative 2 yielded the most beneficial result to the bullfrog and wildlife in general. The difference in costs between Alternative 1 (stream restoration only) and Alternative 2 (stream restoration with constructed wetlands) is approximately $176,000. The HSI for the FWOP (No Action) is 0.40, Alternative 1 is 0.82, whereas Alternative 2 is 0.85. The American bullfrog will not be the only species that benefits from the restoration. Other species native to southern Pennsylvania would benefit from the expanded floodplain, native wetland vegetation, and improved stream channel with in-stream structures for habitat and food.

Currently, the conditions at Plum Creek do not provide adequate habitat for bullfrog, or much aquatic life in general. The HSI for FWOP gave an overall score of 0.4. Bullfrogs are ambush predators and will eat most anything from insects to small reptiles and even small mammals and birds (National Aquarium, 2023). There are currently minimal food sources and no vegetative buffer along the proposed project area of Plum Creek. Of the sections of exposed stream along Plum Creek, the slopes from the top of the bank to the wetted width are steep, unvegetated, and would not provide optimal habitat. Bullfrogs can lay around 12,000-20,000 eggs and usually spend two winters as tadpoles (NPS, 2021). A FWOP would not provide winter cover, nor would it be suitable for reproduction.

Photo 3: American Bullfrog. Source: National Aquarium in Baltimore. January 2024

Alternatives 1 and 2 provide uplift to a degraded system. With each alternative, the project benefits increase with a generally low-cost increase between Alternative 1 and Alternative 2. According to the CE/ICA, the best buy for the NFS would be Alternative 2 (stream restoration with constructed wetlands). The addition of the two constructed wetlands provides additional value in the form of sediment retention, aesthetics, and aquatic habitat based on its proposed location adjacent to Plum Creek and creates additional wildlife habitat and aesthetics without costs increasing significantly.

4 EXISTING CONDITIONS*

This section describes the existing conditions and the potential project impacts on the natural and socioeconomic resources categories that are applicable to the project area. Each environmental, cultural, and social resource category was reviewed for its applicability to the project.

For the purpose of describing existing conditions and environmental effects, the project area is defined as the parcel owned by Conewago Township. However, for cultural, tribal, and natural resource agency coordination, the study area was expanded to other adjacent property parcels owned by the Township in an effort to retrieve relevant background data. The project area is located between Pennsylvania State Road 116 and Mount Pleasant Road. Online environmental resource information, Google Earth Pro and Google Maps imagery were used to assess existing conditions.

4.1 Natural Environment*

4.1.1 Wetlands

Executive Order number 11990 requires federal agencies to evaluate potential impacts to wetlands, consider alternatives to wetland sites and limit damage to wetlands if impacts cannot be avoided. Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. USACE identified approximately 2.50 acres of high-quality wetlands within the area through the USFWS Wetland Mapper (USFWS, 2023) and can be found on Figure 3 below. The current parcel has no wetlands located within the open field. A wetland and waterway investigation was conducted in September 2019 by Gannett Fleming. Results are described in Appendix G *Plum Creek Community Park Stream Improvements – Wetland and Waterway Presence/Absence Memorandum* (Oct 2019). Coordination and authorization through the Section 401/404 of the Clean Water Act (CWA) would be necessary. The NFS would obtain the necessary state regulatory approvals for impacts to any non-tidal wetlands prior to construction through PA DEP.

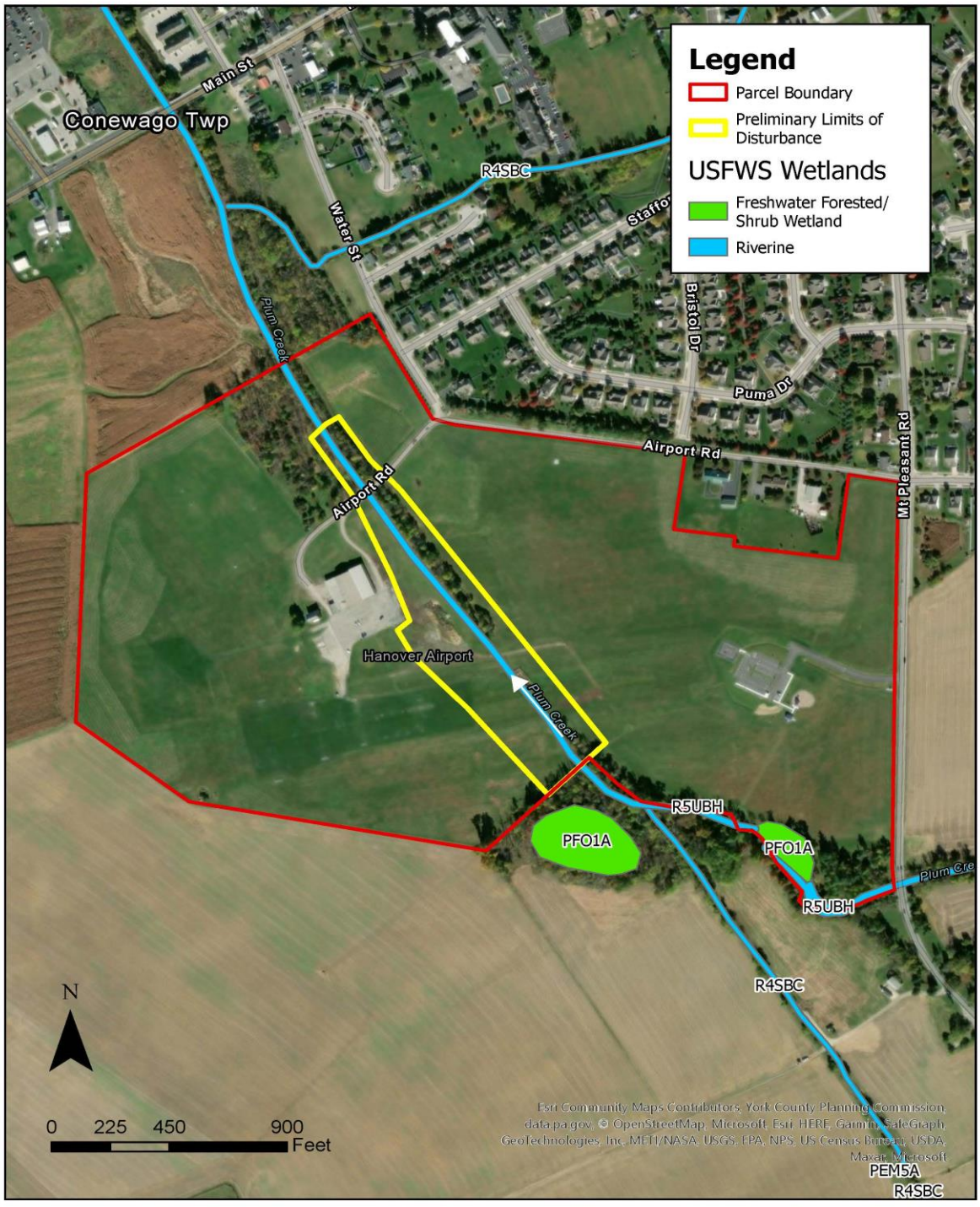


Figure 4: USFWS Mapped Wetland Extents

4.1.1.1 No Action

Without restoration of Plum Creek, aquatic habitat would continue to degrade along its banks and continue to create sink holes through flooding events throughout the parcel, causing public

safety concerns. The wetlands southeast of the project area would expect to stay the same given that they are upstream of the proposed project area.

4.1.1.2 Alternative 1

Alternative 1 would not impact existing wetlands. Conversely, channel relocation would allow for the existing section of Plum Creek to become a linear wetland, approximately 10,000 sq ft/ 0.23 ac) creating a long-term, beneficial effect for wetland and aquatic habitat.

4.1.1.3 Alternative 2 (Proposed Action)

Alternative 2 would not impact existing wetlands. Conversely, Alternative 2 would provide beneficial, long-term impacts as implementation of this alternative would provide two newly constructed wetlands. The wetlands would contain several strata of plant species (herbaceous, shrubs, and trees), as well as provide habitat for wildlife and aquatic species, educational value, flood flow alteration, sediment retention, and nutrient reduction. Although the wetlands in the southeast portion of the parcel will not directly connect to the newly constructed wetlands, they will continue to provide essential habitat for aquatic species.

4.1.2 Floodplains

Issued in 1977, E.O. 11988 – Floodplain Management, requires the Federal government to take into consideration the effects that its actions will have on floodplains. To determine the potential floodplain impact, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were reviewed for portions of the proposed project that would be located within the floodplain. According to the Federal Emergency Management System's Flood Map Service Center, the project area is located within the 100-year floodplain (FEMA, 2009) FIRM # 42001C0292D (Figure 4).

Photo 4: Plum Creek facing east during Tropical Storm Ida, Sept 2021. Photo Source: Conewago Township

Floodplains are typically flat or gently rolling lands adjacent to streams and rivers that receive floodwaters once the waterway has overtopped the bank of the main channel. Overtopping is usually a result of a higher-than-normal influx of precipitation caused by intense meteorological events, tropical storms, and hurricanes. Overtopping can also be a result of excessive water moving from higher elevations to lower elevations, normally seen during flash flood events. Floodplains can often become vulnerable due to development directly adjacent to or within a designated floodplain area and is most

commonly seen in densely populated cities. Due to increased development, floodplains lose their proper functions and values of flood storage, nutrient reduction, and aquatic and riparian habitat, among other values.

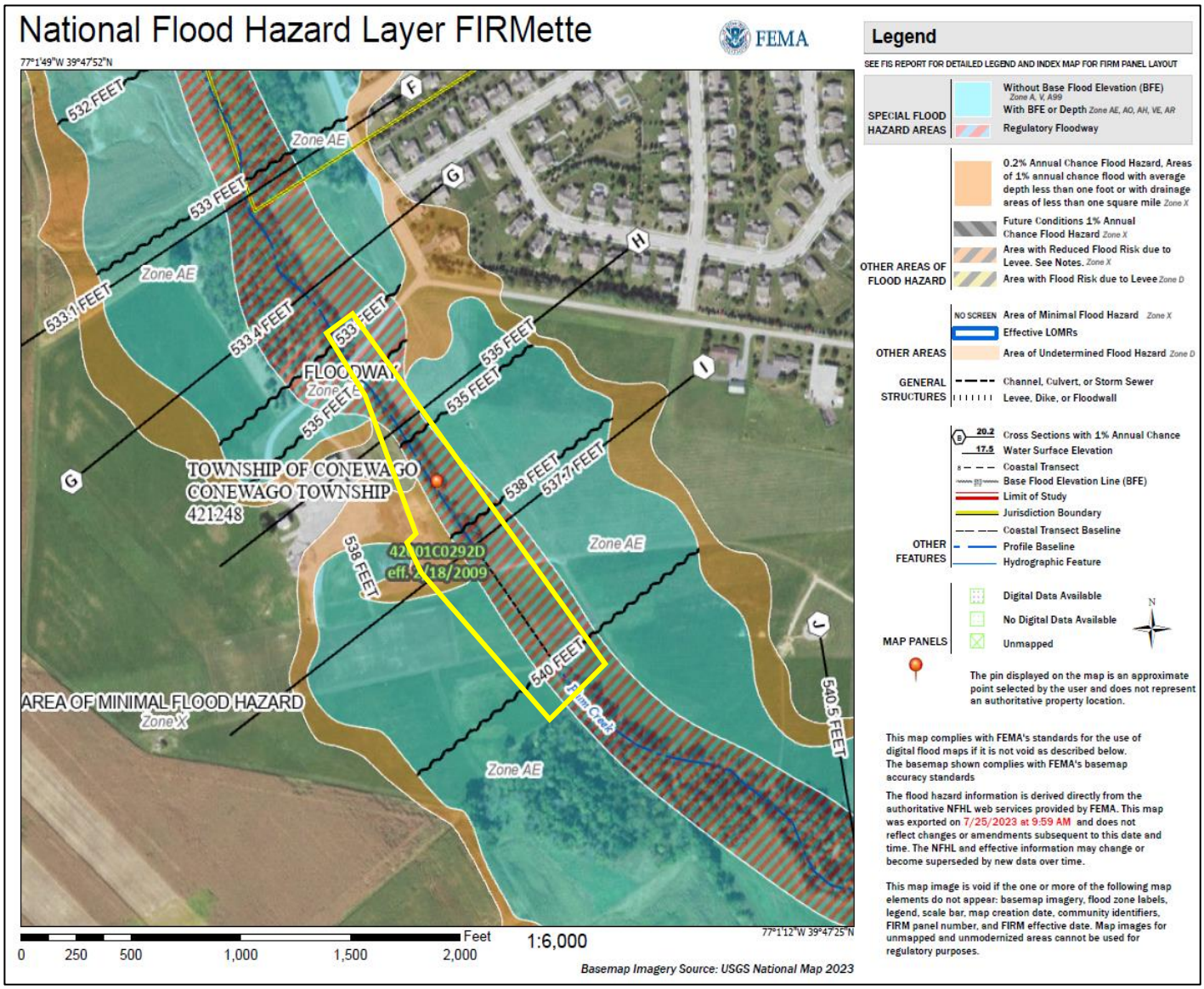


Figure 5 – Plum Creek National Flood Hazard Layer FIRMette (#42001C0292D)

4.1.2.1 No Action

The current study area is within the FEMA 100-year floodplain FIRM # 2001C0292D. Under the No Action Alternative, the floodplain would continue to lack function. Additionally, without restoring the floodplain with a native riparian buffer, flood waters would continue to flow across the land as a sheet flow, accumulating more sediment and debris to be conveyed downstream.

4.1.2.2 Alternative 1

Alternative 1 would provide long-term, beneficial effects to the 100-year floodplain. Restoring the stream channel would allow for flows to be more controlled through the newly constructed segment of Plum Creek. With proposed improvements the flooding potential would be minimized, and the assumed velocities would range from 1/2 feet per second (fps) (base flow) to 6 fps (flooding events), approximately.

4.1.2.3 Alternative 2 (Proposed Action)

Alternative 2 would provide long-term, beneficial effects to the 100-year floodplain. The addition of two constructed wetlands would help to reduce flood flow during large rain events. Additionally, the planted riparian buffer would help to reduce flood waters and minimize sediment and debris migrating downstream. Newly planted trees are not expected to create an additional flooding issue as Conewago Township continually maintains the property and would monitor any debris jams as trees begin to mature through the years. Although the floodplain would be changing in elevation due to implementation of the constructed wetlands, the changes would not pose a negative impact to the 100-year floodplain.

4.1.3 Wild and Scenic Rivers

The National Park Service's (NPS) National Wild and Scenic Rivers Systems was used to assess the presence of wild and scenic rivers within the project area. There are no federally designated Wild and Scenic Rivers within the project area (NPS, 2023). No impacts to Wild and Scenic Rivers are anticipated under any of the alternatives evaluated.

Photo 5: Northeastern bulrush (Scirpus ancistrochaetus). Source: USFWS, 2006

4.1.4 Rare, Threatened and Endangered Species

In compliance with NEPA of 1969, as amended, coordination was conducted with Federal, State and local resource agencies. Draft coordination was conducted with the Pennsylvania Natural Heritage Program (PNHP) through the PNDI Environmental Review online process on 31 May 2023 (PNDI Receipt No. 788581). A final copy of the coordination with PA DEP, dated 30 April 2024 can be found in Appendix B. A request was submitted 15 April 2024 by USACE through the USFWS Information for Planning and Consultation (IPaC) online web service to determine the presence of protected resources and species (under jurisdiction of the USFWS) within the project's study areas. Three species were identified as endangered, one species proposed endangered, and one candidate species was identified in the evaluation (Appendix B). Table 4-1 shows federally listed species within the project area.

Table 4-1: Federal Listing Status of Species within the Region		
Common Name	**Scientific Name**	**Federal Listing Status**
Northern Long-eared Bat	*Myotis septentrionalis*	Endangered*
Indiana Bat	*Myotis sodalist*	Endangered*
Tricolored Bat	*Perimyotis subflavus*	Proposed Endangered**
Northeastern Bulrush	*Scirpus ancistrochaetus*	Endangered*
Monarch Butterfly	*Danaus plexippus plexippus*	Candidate***

Source: USFWS IPaC (2023)

*Endangered species are any species in danger of extinction throughout all or a significant portion of its range.

**Proposed Endangered consists of any species that USFWS has determined is in danger of extinction throughout all or a significant portion of its range and USFWS has proposed a draft rule to list as endangered.

*** Candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

Northern Long-eared Bat hibernates in caves and mines during the winter months and swarms in surrounding wooded areas in the autumn. The Northern Long-eared Bat roosts behind loose pieces of bark within cavities and crevices of live and dead trees during the warmer months (USFWS, 2024). No critical habitat has been designated for this species.

Indiana Bat is found in a wide range of habitats, including deciduous forests, mixed forests, and agricultural lands. It is mostly found in areas with large, mature trees that provide suitable roosting sites (USFWS, 2024). There is final critical habitat for this species, but the project location does not overlap the critical habitat.

Tricolored Bat hibernates in caves and mines during the winter months and primarily roosts among leaves of live or recently dead deciduous hardwood trees during the summer months. They may also be found roosting in pine trees and occasionally human structures (USFWS, 2024).

Northeastern Bulrush grows in wet areas – small wetlands, sinkhole ponds or wet depressions with seasonally fluctuating water levels. It may be found at the water's edge, in deep water or in just a few inches of water, and during dry spells there may be no water visible where the plant is growing (USFWS, 2006).

Monarch Butterfly are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant, and larvae emerge after two to five days. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living

approximately two to five weeks; overwintering adults enter into reproductive dormancy and live six to nine months (USFWS, 2024).

4.1.4.1 No Action

No known impacts to threatened or endangered and/or species of special concern and resources within the project area would occur under the No Action Alternative.

4.1.4.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

No known impacts to threatened or endangered and/or species of special concern within the project area were identified by PNDI Environmental Review. As reported through the USFWS IPaC Resource List, there are no critical habitats, fish hatcheries or National Wildlife Refuge (NWR) lands within the study area. Based on the information provided in the IPaC online project review website, the project reached the determination of No Effect for any of the listed species in Table 4-1, and no further consultation or coordination would be required for this undertaking (Appendix B). A Biological Assessment was not performed for this project because this project is not considered to be a Federal action significantly affecting the quality of the human environment as defined in NEPA (42 U.S.C. 4332(2) (c)). Hibernacula for the listed bat species were not found to occur within the project area and no trees are expected to be removed during construction of Alternatives 1 or 2. Construction would occur in an open field and previously disturbed areas, and no trees are expected to be removed.

4.1.5 Migratory Birds

USFWS works with partners to protect, restore and conserve bird populations and their habitats for the benefit of future generations. The following databases were used to gather information on migratory birds within the project area, including data from the USFWS IPaC.

A polygon of the project area was mapped in IPaC (Appendix B). From this data a list of migratory birds as well as Birds of Conservation Concern (BCC) was created (Table 4-2). IPaC identified five migratory bird species for this site. The relevant species of conservation concern are presented below and are the subset of birds identified in IPaC that relate to the 1988 Fish and Wildlife Coordination Act mandating the Service to, “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973.”

There are also particular Time of Year (TOY) restrictions that need to be considered. TOY restrictions provide general guidance for the protection of wildlife; they focus on the time of year that species may be more sensitive to human activities such as during the breeding season (USFWS, 2023). Construction is expected to take approximately 6-9 months. A majority of the work will be performed outside of the existing Plum Creek stream channel. The contractor would abide by any TOY restrictions or permitting obligations identified through the regulatory permitting process (occurring after feasibility) relayed from the Commonwealth of Pennsylvania, PA DEP, PA Fish and Game Commission, USFWS or any other regulatory body.

Table 4-2: Birds of Conservation Concern Known to Occur in the Project Area		
Common Name	**Scientific Name**	**Breeding Season**
Bald Eagle	*Haliaeetus leucocephalus*	Sept 1 to Jul 31
Chimney Swift	*Chaetura pelagica*	Mar 15 to Aug 25
Red-headed Woodpecker	*Melanerpes erythrocephalus*	May 10 to Sep 10
Rusty Blackbird	*Euphagus carolinus*	Breeds elsewhere
Wood Thrush	*Hylocichla mustelina*	May 10 to Aug 31

Source: USFWS IPaC, 2023

Another resource used to examine wildlife presence is the Rapid Avian Information Locator (RAIL) tool, which pulls graphics and information from multiple data sources. The results indicate that a species has been observed within 10 kilometers of the project area within the last 10 years and therefore is a starting point for identifying birds that have potential to be found within the project area with the best available information from several credible resources (RAIL - Rapid Avian Information Locator, n.d.); results in Appendix B. The results listed over 160 species, many of these are not expected to be nesting within the project area but have a potential to use the project area (RAIL, 2023).

4.1.5.1 No Action

Migratory birds or birds of conservation concern that are known to exist within the study area would continue to utilize and exist within the area.

4.1.5.2 Alternative 1

Alternative 1 may cause adverse, short-term, minor impacts due to temporary construction noises; however, species should return to normal activity after construction is complete. Additionally, Alternative 1 allows for long-term benefits by constructing a new stream channel which allows for habitat development and plant growth along the riparian buffer and within the existing channel.

4.1.5.3 Alternative 2 (Proposed Action)

Alternative 2 may cause adverse, short-term, minor adverse impacts due to temporary construction noises; however, species should return to normal activity after construction is complete. Alternative 2 would also create long-term benefits to avian species in the study area through implementation of constructed wetlands. The new wetlands would provide habitat for avian species, promote feeding and foraging habits, and provide shelter. No tree clearing is proposed for any of the alternatives.

4.1.6 Vegetation and Terrestrial Resources

According to the Pennsylvania Game Commission and Pennsylvania Mammal Atlas, the principal species of game in Adams County are white-tailed deer, turkey, racoon, Eastern cottontail, American black bear, opossum, coyote, and eastern fox squirrel (PAGC, 2023). Areas surrounding the project area include open fields and low-density residential. The vegetation that exists within

the project area is predominantly meadow species – grass and other herbaceous vegetation, shrubs, and small trees.

4.1.6.1 No Action

Vegetation and terrestrial resources would remain relatively unchanged under the No Action Alternative. The area would continue to be maintained through the Township.

4.1.6.2 Alternative 1

Alternative 1 may cause adverse, short-term, minor impacts to the study area. Impacts to vegetation would occur through excavation; although, most of the excavation and construction would occur in the open, grassy field. Alternative 1 may also cause adverse, short-term, and minor adverse impacts to wildlife through construction activity; however, it is expected that wildlife would return after construction is complete. A wetland-meadow seed mix would be implemented post-construction for both Alternatives 1 and 2. Alternative 1 would create long-term benefits by introducing plant diversity and/or aquatic, riparian wildlife habitat and creating wetland habitats in the abandoned channel.

4.1.6.3 Alternative 2 (Proposed Action)

Alternative 2 may cause adverse, short-term, minor impacts to the study area. Impacts to vegetation would occur through excavation; although, most of the excavating and construction would occur in the open, grassy field. Alternative 2 would create beneficial and long-term effects to the study area through implementation of constructed wetlands. The new wetlands would be planted with native grass, shrub, and tree species. The newly constructed stream channel and wetlands would promote native vegetation growth and provide shelter and breeding areas for aquatic and riparian species. Alternative 2 may also cause adverse, short-term, minor impacts to wildlife through construction activity; however, it is expected that wildlife would return after construction is complete.

4.1.7 Soils

According to the United States Department of Agriculture (USDA) National Resources Conservation Service (NRCS) Web Soil Survey, the proposed project area's primary soil types include Clarksburg silt loam (CkA), 0 to 3 percent slopes, Conestoga silt loam (CnA), 0 to 3 percent slopes, Conestoga silt loam (CnB), 3 to 8 percent slopes, Dunning silty clay loam (Dy), Lindside silt loam (Lw), Penlaw silt loam (Pa), and Urban land (Uc) (Figure 5).

4.1.7.1 Prime and Unique Farmlands, Hydric and K-Factor Ratings

The USDA NRCS Soil Data Access (SDA) Prime and Other Important Farmlands list for Adams County, Pennsylvania describes four of the project area's soil types as "All areas are Prime Farmland," and three soil types as "Not Prime Farmland". Please see Table 4-3 for hydric and k-factor ratings. According to the NRCS, Prime Farmlands are described as,

> "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land

could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods" (USDA-NRCS, 2020).

Table 4-3: Soil Characteristics

Soil Name	Soil Description	Hydric Rating	K-Factor Rating	Farmland Classification
CkA	Clarksburg silt loam, 0 to 3 percent slopes	5	0.37	All areas are prime farmland
CnA	Conestoga silt loam, 0 to 3 percent slopes	0	0.37	All areas are prime farmland
CnB	Conestoga silt loam, 3 to 8 percent slopes	0	0.37	All areas are prime farmland
Dy	Dunning silty clay loam	85	0.28	Not prime farmland
Lw	Lindside silt loam	12	0.32	All areas are prime farmland
Pa	Penlaw silt loam	0	0.37	Not prime farmland

Source: USDA, NRCS, 2020.

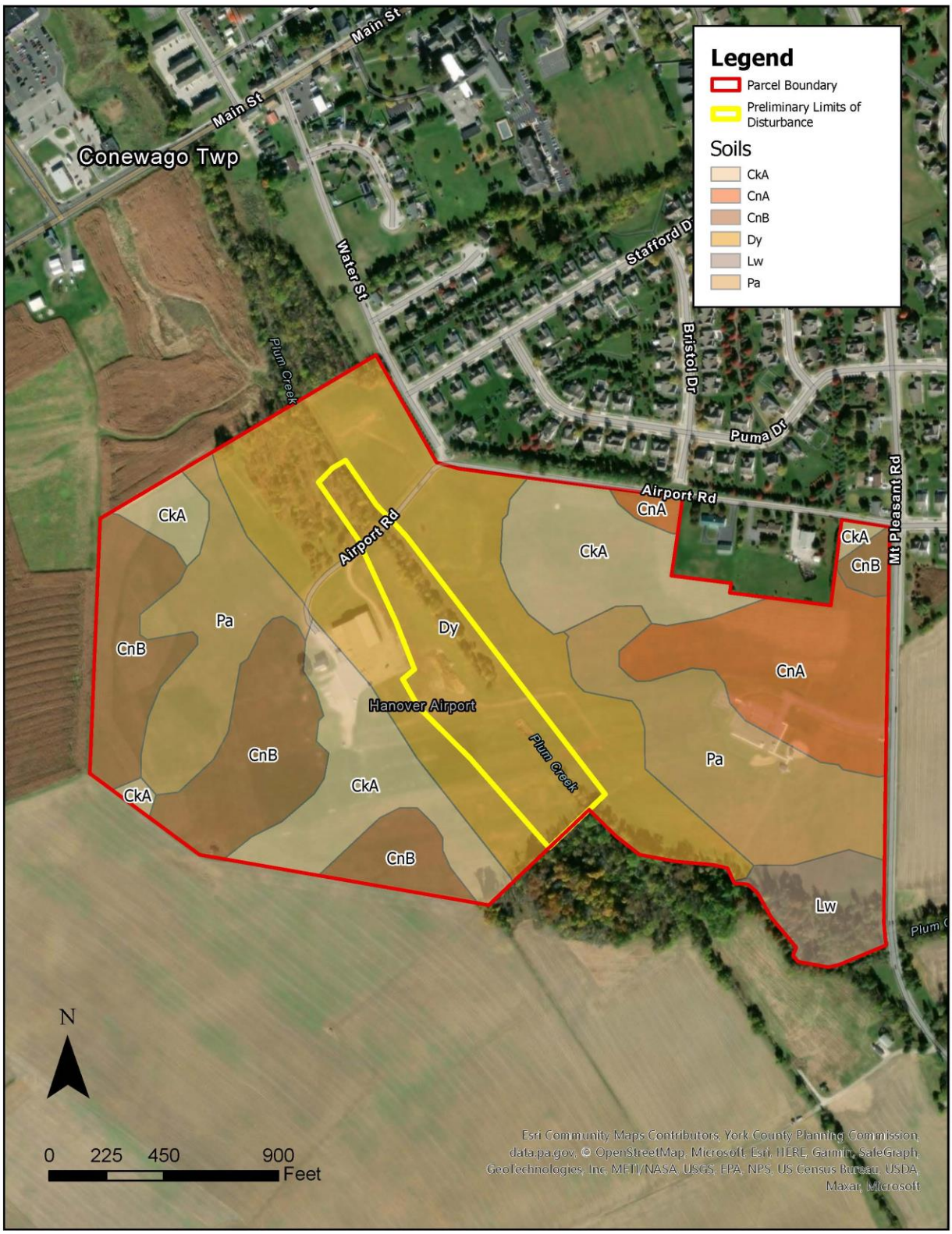


Figure 6 – USDA NRCS Soil Survey

4.1.7.2 No Action

Soil resources would continue to degrade within the Plum Creek stream channel under a No Action Alternative. The channel is quickly becoming incised and eroding, as well as creating a large sink hole and/or scour hole around the existing culverts, which would further cause increased sedimentation.

4.1.7.3 Alternative 1

Alternative 1 may cause adverse, short-term, minor impacts and long-term, beneficial impacts to soils. Construction activities including excavation of the existing pipes, stockpiling soil and creation of the new stream channel, would impact soils. An erosion and sediment control plan will be developed in accordance with the Commonwealth of Pennsylvania Standards, which will include best management practices such as silt fences and other sediment and erosion control measures as needed. The proposed limits of disturbance (LOD) is located within the Dunning silty clay loam (Dy) complex, which is not considered prime farmland; and conversely, is considered hydric soils that is optimal for wetland habitat/construction.

4.1.7.4 Alternative 2 (Proposed Action)

Alternative 2 may cause adverse, short-term, minor impacts and long-term, beneficial effects to soils. Construction activities including excavation of the existing pipes, stockpiling soil and creation the new stream channel, would impact soils. Alternative 2 has slightly more negative impacts as compared to Alternative 1, as more earth moving would be required for wetland creation. Soils within the constructed wetland areas would begin to develop hydric soil characteristics (over time) due to consistent inundation of the proposed wetland areas. An erosion and sediment control plan will be developed in accordance with the Commonwealth of Pennsylvania Standards, which will include best management practices such as silt fences and other sediment and erosion control measures as needed. The proposed LOD is located within the Dunning silty clay loam (Dy) complex, which is not considered prime farmland; and conversely, is considered hydric soil that is optimal for wetland habitat/construction.

4.2 Physical Environment*

4.2.1 Climate and Climate Change

Climate

The climate in Adams County, PA is similar to other parts of the southern Susquehanna River Valley, which is quite variable. Figure 6 below presents the average climate data for the Borough of Hanover, PA, located three miles east of the project site. The average annual temperature is approximately 64 degrees Fahrenheit. Average annual precipitation is approximately 40-inches. Temperatures can occasionally reach sub-zero conditions in the winter and may reach more than 100 degrees Fahrenheit in the summer months.

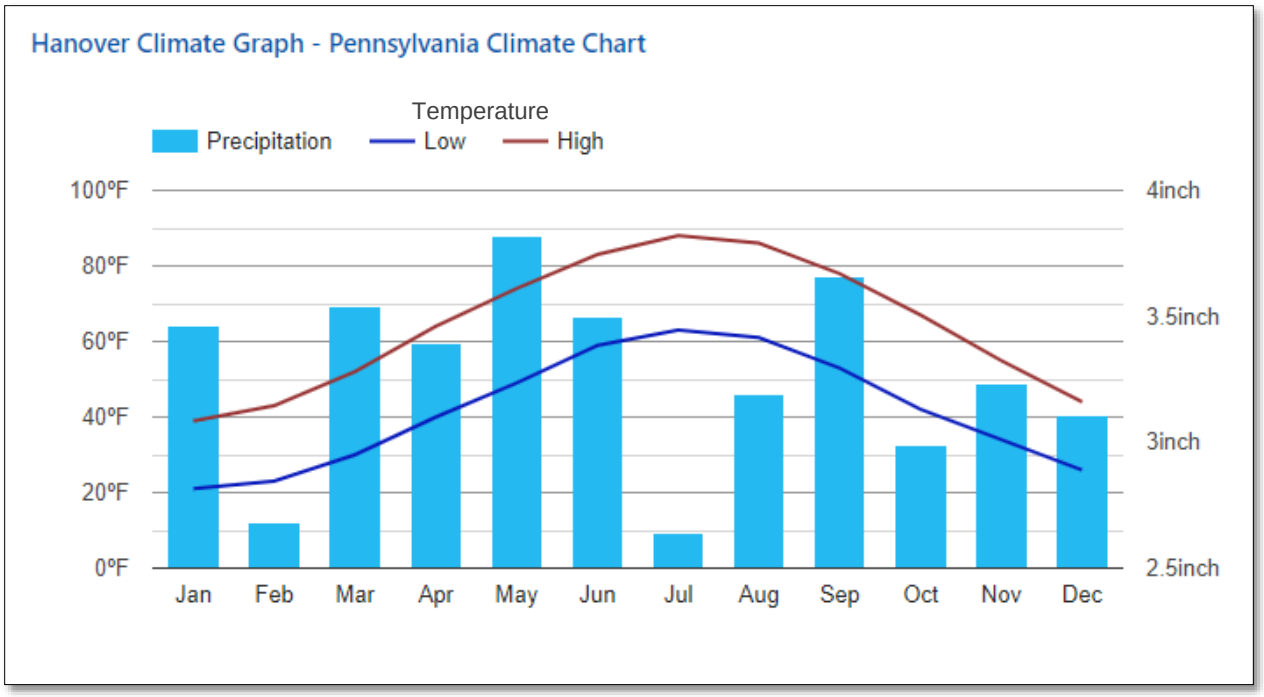


Figure 7 – Hanover, PA Climate Graph, U.S Climate Data, 2023.

Climate Change

According to Pennsylvania State University and Mid-Atlantic Regional Integrated Sciences and Assessments (MARISA) Community Climate Outlooks, Adams County, PA will face increasingly severe weather and climate related hazards such as heat waves, flooding, and shifting seasons. Within the next 50 years (by 2070), the frost-free period will average four to six weeks longer in Adams County. Additionally, Adams County is expected to see rainfall increase by an average of two to three inches by 2050 (MARISA, 2022).

4.2.1.1 No Action

Climate would not be affected under a No Action Alternative. Climate change patterns would continue to progress with local and national trends.

4.2.1.2 Alternative 1

Alternative 1 would provide long-term, beneficial effects as the climate continues to change. Restoring Plum Creek would help to minimize impacts from the intensity and frequency of storms and rainfall events that could lead to habitat degradation, streambank erosion, sediment transport and flashfloods.

4.2.1.3 Alternative 2 (Proposed Action)

Similar to Alternative 1, Alternative 2 would provide long-term, beneficial effects to accommodate for climate change. The additional wetlands would continue to help alleviate floodwaters during flash flood events and continually enhance aquatic habitat for areas

downstream. As severe weather and climate related hazards are expected to increase in southern PA, stream restoration projects that include constructed wetlands would help to curb environmental, social, and economic damages from flood or storm related events. Flood waters would have areas to disperse energy while being contained by native vegetation for natural infiltration.

4.2.2 Land Use

The proposed stream restoration is zoned as Agricultural District and has neighboring Residential District to the north. The parcel is owned by Conewago Township and was once used as a small, local airport, formerly the Hanover Airport (or "Gebhart Regional Airport"). The parcel is currently being used as an open space with one small playground; however, it is one of the largest open space/recreation areas within Conewago Township. The parcel is an important aspect to the town's future development and recreational plans and the current degradation of the stream channel inhibits the future growth of the park and has potential safety issues. Additionally, Conewago Township is proposing a large community park to be incorporated either during or after the proposed restoration.

4.2.2.1 No Action

Under a No Action Alternative, land use would change and have a long-term, beneficial effects by providing an area for a community park. The Conewago Township would continue to move forward with the Plum Creek Community Park, changing the land use from its current zoned status of 'Agricultural District'.

4.2.2.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

Land use is projected to change with or without implementation of Alternatives 1 and 2, by creating the Plum Creek Community Park. The stream restoration is one part of the overall master plan to upgrade the existing parcel to Plum Creek Community Park.

4.2.3 Geology and Topography

The project area lies within the U.S. Environmental Protection Agency's (USEPA) Region IV Northern Piedmont Ecoregion – Piedmont Limestone/Dolomite Lowlands (USEPA Ecoregions, 2022). The Piedmont Limestone/Dolomite Lowlands are comprised of very fertile and intensively farmed areas underlined by mostly limestone and dolomite. The carbonates have weathered over time to form a rolling terrain that contains subterranean streams, sinkholes, and caverns. The fertile soil and landscape provide optimal conditions for farming operations; therefore, large wetland complexes tend to not exist as frequently throughout the region as most of the habitable areas have been man-altered. Plum Creek also lies within the Gettysburg-Newark Lowland Section of the Piedmont Province which is known for rolling lowlands, shallow valleys, and flat uplands.

4.2.3.1 No Action

No impacts would occur to geology or topography under the No Action Alternative.

4.2.3.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

Alternatives 1 and 2 would not impact geology. Alternatives 1 and 2 would provide long-term, beneficial effects to topography by changing the elevation of the existing channel to a higher elevation (approximately 10-foot elevation rise) to relate to the surrounding floodplain and incorporate wetlands in existing low areas of the parcel.

4.2.4 Waterways and Water Quality

Plum Creek is a tributary of the Conewago Creek, the Susquehanna River, and eventually drains into the Chesapeake Bay. The waterway lies within the South Branch Conewago Creek Federal Hydrologic Unit Code (HUC # 0205030601). Plum Creek is a headwater stream and receives hydrology through groundwater and overland runoff from adjacent agricultural fields and impervious surfaces. The Pennsylvania Code, Chapter 93, Drainage List "O" - Water Quality Standards lists Plum Creek as a warm water fishery with migratory fish (WWF, MF) (Commonwealth, 2020). The Pennsylvania Fish & Boat Commission (PFBC) does not stock Plum Creek with fish species. The PFBC does not recognize Plum Creek as a wild trout water with natural reproduction. Therefore, no in-stream work restrictions are anticipated.

Photo 5: Plum Creek facing south. Source: USACE Baltimore, Photo taken January 2023.

The USEPA Office of Wetlands, Oceans, and Watersheds lists Conewago Creek as a 'good' waterway; conversely, Plum Creek is listed as an 'impaired' waterway as defined by USEPA as waters/waterbodies not fully supporting their designated uses under the Clean Water Act (USEPA, 2022). PA DEP defines Plum Creek as a warm-water fish stream as described in Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality, (PA DEP, 2023).

The unstable stream banks are a considerable source of sediment and habitat degradation to Plum Creek, which is impaired by excess sediment and bacteria from agricultural and urban runoff, leading to an impaired stream designation on the state's impaired and threatened waters list (Clean Water Act 303(d) list & PA DEP 2018 Integrated Water Quality Report). Plum Creek is on Pennsylvania's list of impaired waters and the restoration proposed in the Section 510 project

will not only address the impairment that placed the water on the 303(d) list, but it will also provide the other benefits listed above (i.e., wildlife habitat, restoration of wetlands, etc.).

4.2.4.1 No Action

The segment of Plum Creek proposed for restoration would continue to degrade under a No Action Alternative. Aquatic habitat would remain impaired, with no in-stream structures to alleviate flooding and with the existing culverts/boilers continuing to cause blockages of sediment and debris within the waterway. Plum Creek would continue to degrade and erode causing less habitat availability which would cause wildlife to look elsewhere for habitat.

4.2.4.2 Alternative 1

Alternative 1 would provide a long-term, beneficial effects to Plum Creek and aquatic habitat. Alternative 1 would implement riffle grade controls within the stream channel. These controls would to be adequately resistant to design shear stresses. They can be designed as an alluvial riffle, meaning the riffle material will mobilize through the system and there is enough sediment supply to reform the riffle after storm events; or, they can be designed as a threshold riffle, meaning the material is sized to not mobilize. The structures will allow for wildlife to seek shelter and forage for food. Additionally, Alternative 1 allows for a portion of the existing channel (approximately 10,000 sq ft/ 0.23 ac) to become a linear wetland after the new channel has been created. Describe what its benefiting and how.

4.2.4.3 Alternative 2 (Proposed Action)

In addition to the benefits described in 4.2.4.2, Alternative 2 would provide additional long-term, beneficial effects. The two constructed wetlands would contain a variety of emergent, scrub-shrub, and/or forested vegetation. The wetlands would be intermittently recharged through groundwater or during high flow events. During flooding or high rain/storm events, once vegetation is established, it would assist in sediment trapping and retention and flood flow attenuation to aid in improving water quality and resultant aquatic habitat. The proposed wetlands would provide wildlife habitat, as well as educational value once the Plum Creek Community Park is established. The wetlands will contain native herbaceous, shrub, and tree species to attract native wildlife to forage and reside. The NFS will be responsible for maintenance and monitoring of the project after construction is complete. The timeframe for the maintenance and monitoring will be determined in the Project Partnership Agreement (PPA) which will be developed after feasibility is complete (signed FONSI).

4.2.5 Air Quality and Greenhouse Gas Emissions

The USEPA Green Book National Area and County-Level Multi-Pollutant Information List (USEPA, 2023) describes Adams County, PA as in attainment for all criteria pollutants. The County received a redesignation to maintenance in February 2008 and has continued to comply; therefore, an air conformity analysis is not needed for this undertaking because the area is compliant with National Ambient Air Quality Standards (NAAQS). The USEPA regulates greenhouse gas emissions

(GHGs) through mobile source emission standards and permitting requirements under the Title V Operating Permits program. These regulations include fuel efficiency and renewable fuel standards on light-duty, medium-duty, and heavy-duty vehicles. The heating effect from these gases is considered the probable cause of the global warming observed over the past 50 years (USEPA 2009). However, localized incremental emissions from construction vehicles and equipment emissions are unlikely to have a measurable effect on climate change. The only permanent emission sources currently present within the project area include residential homes, farming equipment, and small businesses. Motor vehicles are the predominant mobile sources.

4.2.5.1 No Action

Under the No Action Alternative, no construction would occur, and air quality and greenhouse gas emissions would not be impacted.

4.2.5.2 Alternative 1

Alternative 1 would provide adverse, short-term, minor impacts to air quality and greenhouse gas emissions. Implementation of Alternative 1 may result in a localized temporary, minor adverse impact to air quality due to construction vehicle emissions and displacement of particulate matter during excavation of the stream, as well as placement of material such as gravel, large boulders, logs, and other fill.

4.2.5.3 Alternative 2 (Proposed Action)

Alternative 2 would cause adverse, short-term, minor impacts to air quality and greenhouse gas emissions. Implementation of Alternatives 2 may result in a localized, short-term, adverse, minor impacts to air quality due to construction vehicle emissions and displacement of particulate matter during excavation of the stream, as well as placement of material such as gravel, large boulders and logs, and other fill. Conversely, once vegetation is established within the wetland cells and riparian buffer area, local air quality may be improved slightly due to intake of carbon by the constructed wetlands.

4.2.6 Hazardous, Toxic, and Radioactive Waste

USEPA maintains and operates the web-based Envirofacts database. The database allows users to research topics related to air quality, water quality, radiation, toxics, compliance, and others. Based upon a review of the USEPA Envirofacts database, no hazardous materials or reports exist within the project area limits (USEPA Envirofacts, 2023). Additionally, the existing pipes conveying hydrology through the parcel are steel and do not pose a human or health hazard. They are proposed to be hauled off-site during construction to an appropriate facility to be scrapped.

4.2.6.1 No Action, Alternatives 1 and 2 (Alternative 2 – Proposed Action)

Hazardous, toxic, and radioactive substances are not present at the site and are not anticipated to be impacted under the No Action Alternative, or from Alternatives 1 or 2.

4.2.7 Socioeconomics, Environmental Justice, and Protection of Children

Environmental Justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, income, and educational levels with respect to the development, implementation, and enforcement of protective environmental laws, regulations, and policies. EO 12898, Federal Actions to Address EJ in Minority and Low-Income Populations, requires federal agencies to consider whether their actions will result in disproportionate adverse impacts to minority and low-income populations. EO 14096, Revitalizing our Nation's Commitment to Environmental Justice for All, expands on EO 12898 to also include Tribal affiliation and disability in the definition of EJ. EJ analyses are performed to identify potential disproportionate adverse effects from proposed actions and to identify alternatives that might mitigate these effects (CEQ, 1997a).

According to the United States Census Bureau's (USCB) 2021 American Community Survey (ACS) 5-year estimates, Adams County, Pennsylvania has a population of 103,782. The median age of Adams County residents is 44, with 4.9% percent of the population under 5 years old, and 20.6% of the population over 65 years old. The minority population in Adams County is 6.8% of the total, compared to Pennsylvania minority population of 20.9% (USCB, 2021: Table DP05).

Adams County residents have a median household income of $72,985, which is more than Pennsylvania median household income of $68,957, and Adams County has a lower proportion of residents living below the poverty line (7.8%) than does Pennsylvania (11.8%). Adams County high school graduation rate of 92.5%, is slightly higher than average graduation rate in the Commonwealth (88.1%) (USCB, 2021: Tables B19013, B19301, S1901, S1501).

Adams County has a higher percentage of persons with a disability (17.1%) compared to the Commonwealth of Pennsylvania (13.8%) according to the 2021 ACS 5-year estimates (USCB, 2021: Table S1810).

Under EO 14008, *Tackling the Climate Crisis at Home and Abroad*, CEQ was tasked with developing the Climate and Economic Justice Screening Tool (CEJST). CEJST evaluates USCB demographic datasets and environmental datasets to identify disadvantaged communities that are experiencing burdens in eight categories: climate change; energy; health; housing; legacy pollution; transportation; water and wastewater; and workforce development. The tool uses this information to identify communities that are experiencing these burdens and determines if they are disadvantaged because they are overburdened and underserved.

CEJST identified three tract areas adjacent and *outside* of the parcel proposed for restoration. The identified tract areas are located in York County, rather than Adams County; however, the tract areas are included due to their close proximity to the study area and to Adams County. Table 4-4 describes the CEQ CEJST tool's thresholds and burdens.

Table 4-4: CEQ Climate and Environmental Screening Tool		
York County, PA. Tract Area # 42133022300 Population: 3,999		
Burden Thresholds		
Water and Wastewater	**Percentile**	**Thresholds**
Underground storage tanks and releases	**95th**	Above 90th Percentile
Formula of the density of leaking underground storage tanks and number of all active underground storage tanks within 1500 feet of the census tract boundaries		
Socioeconomic Threshold		
Low Income	**67th**	Above the 65th percentile
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed		
York County, PA. Tract Area # 42133022100 Population: 3,254		
Burden Thresholds		
Health		
Low Life Expectancy	**93rd**	Above 90th Percentile
Average number of years a person can expect to live.		
Housing		
Lack of Green Space	**90th**	Above the 90th Percentile
Amount of land, not including crop land, that is covered with artificial materials like concrete or pavement.		
Lead Paint	**95th**	Above the 90th Percentile
Share of homes that are likely to have lead paint.		
Socioeconomic Threshold		
Low Income	**80th**	Above the 65th percentile
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed		
York County, PA. Tract Area # 42133022000 Population: 3,681		
Burden Thresholds		
Housing		
Lead Paint	**94th**	Above 90th Percentile
Share of homes that are likely to have lead paint.		
Socioeconomic Threshold		
Low Income	**67th**	Above the 65th percentile
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed		

Executive Order 13045 – Protection of Children from Environmental Health Risks and Safety Risks requires each Federal agency "to identify and assess environmental risks and safety risks that may disproportionately affect children" and "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. An existing playground does exist west of Mt. Pleasant Road on the

existing property. There is currently orange construction fencing around areas of severe erosion or exposed pipes to deter patrons. However, the degraded stream channel and exposed pipes still pose a safety risk for children/adolescents were they to venture to this area of the property.

4.2.7.1 No Action

Socioeconomics, environmental justice, and children would not be impacted under the No Action Alternative. The Plum Creek Community Park would move forward but the NFS would likely have to pursue other funding mechanisms outside of the Section 510 program.

4.2.7.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

The project is not expected to have negative social, quality of life, or economic impacts. Rather, implementation of the proposed project would contribute to long-term, beneficial effects to the overall Plum Creek Community Park development and enhancement. The proposed project is not expected to result in disproportionately high and adverse human health or environmental effects on minority or low-income populations and will benefit all populations in the area.

4.2.8 Cultural Resources

USACE consulted several tribal nations including the Delaware Tribe of Indians, Delaware Nation, Eastern Shawnee Tribe of Oklahoma, Seneca-Cayuga Tribe, Shawnee Tribe, St. Regis Mohawk Tribe, and Absentee-Shawnee Tribe of Indians of Oklahoma, as well as the Pennsylvania State Historic Preservation Office (PA SHPO). Letters were electronically mailed to the corresponding parties and were dated 23 May 2023 and 25 May 2023, respectively. The correspondence were in accordance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 CFR 800 regarding the study and its area of potential effect (APE). USACE is required by Section 106 of the National Historic Preservation Act and E.O. 11593 – Protection and Enhancement of the Cultural Environment to identify all archaeological resources and historic properties within a project's area of potential effect that are eligible for listing in the National Register of Historic Places, and to assess the project's effect on those properties (Appendix B).

Coordination was initiated with Pennsylvania's Historical & Museum Commission to identify potential cultural resource issues of the proposed project. A letter from the Environmental Review Division Manager, received on 7 June 2023, indicated that there are no concerns for historic above ground resources including historic buildings, districts, structures, and/or objects. However, it was recommended by PA SHPO that a Phase I archeological survey be conducted to determine if a previously recorded archeological site is located within or adjacent to the project area. USACE performed a site visit and archeological survey in July 2023; a subsequent report was developed in December 2023 to document findings (Appendix C). A total of 82 soil test pits were excavated within the APE. The previously documented Site 36AD0063 was not re-located, nor were any other archaeological sites identified within the APE. No additional work is recommended within the APE. The PA SHPO Negative Survey Form can be found in Appendix C.

4.2.8.1 No Action

Cultural, historical, and archeological resources would not be impacted under the No Action Alternative.

4.2.8.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

A response letter was received from PA SHPO on 07 June 2023 (Appendix B). Based on PA SHPO's data, there will be No Effect on above ground historic properties, including historic buildings, districts, structures, and/or objects, should they exist.

4.2.9 Aesthetics and Recreation

Mt. Pleasant Road is constructed over Plum Creek and connects PA State Road 116 and PA State Road 194. Plum Creek Community Park is located west of Mt. Pleasant Road and plans are being developed for the new Plum Creek Community Park. Currently, the parcel is an empty field that contains an abandoned airport hangar. The parcel currently contains one small playground west of Mt. Pleasant Road. The plan for the new community park will include the following:

- Sidewalk to connect nearby developments to the park for pedestrian access.
- Improve Airport Road onto Mt. Pleasant Road, permitting safe vehicular access to and from the park.
- Parking Facilities to allow residents arriving by vehicle a safe, secure location to park their vehicles.
- Amphitheater to host shows, concerts, educational seminars, etc.
- Linear trail system allowing residents an opportunity to run, walk or bike the perimeter of the park property (eventually accessing other park facilities). The trail could also become the future home of local 5K races.
- Playground allowing a safe place for children to play.
- Picnic Pavilions allowing residents to host parties, picnics, or team events, along with numerous park benches throughout (Plum Creek Flyer, 2021).

4.2.9.1 No Action

Aesthetics and recreation would have a long term, negative impact to the aesthetics and recreation of the existing park under the no action alternative. The Plum Creek stream segment would continue to degrade, which would diminish the appearance of the overall park and also contribute to public health and safety concerns.

4.2.9.2 Alternatives 1 – 2 (Alternative 2 – Proposed Action)

Adverse, short-term, minor impacts to aesthetics would occur during construction. Conversely, long term, beneficial effects to the stream and surrounding areas are anticipated as design will increase the width, sinuosity, and flood zone of Plum Creek. The proposed stream restoration and removal of the existing culverts will enhance the park's viewshed along with presenting a stable habitat for native plants and wildlife to thrive. The Plum Creek Community Park would provide education and recreational benefits and the NFS could decide to include signage around the restored stream and wetland areas to discuss native plants and animals.

4.2.10 Noise

Noise levels are measured in decibels (dBA) for regulatory purposes. The threshold of human hearing is 0 dBA, with values above 85-90 dBA considered loud and potentially harmful to hearing depending on length of exposure. Noise levels above 140 dBA can cause damage to hearing after a single exposure (OSHA, n.d). The project area is subject to noise from traffic traveling on nearby single lane roadways adjacent to the proposed project area (Google Earth 2019).

Construction activities, including operation of construction vehicles, will result in a temporary increase in noise levels. There will be no permanent changes to the noise levels in the project area. Due to the relatively close proximity of the project to residential areas, prior notification of the hours/dates of construction would be given and measures to minimize noise, such as equipment mufflers, will be used. The rise in noise levels will be minor and temporary and are primarily expected to occur during daylight hours of construction. Protective equipment will be recommended to protect workers from excessive noise levels during construction.

4.2.10.1 No Action

Noise levels would not be impacted under the No Action Alternative since no construction would occur.

4.2.10.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

Adverse, short-term, minor impacts to noise would occur during pre-construction mobilization and construction of Alternative 1 or 2. Mitigation measures will be incorporated into the construction contract.

4.3 Built Environment*

4.3.1 Transportation

The project location is bounded by roadways on all sides; Hanover Pike (PA-194) to the south-southeast of the project, Mt. Pleasant Road north-northeast, Airport Road and Water Drive to the north, Hanover Road (PA-116) to the west, and Race Horse Road to the southwest. In late 2022, the community north of Airport Road had concerns of heavy dust coming from Airport Road being caused by vehicles – the roadway is not paved and is currently a gravel road. Airport Road is permanently closed (starting summer 2023) between Mt. Pleasant Road and Water Drive. The main access point for the proposed project will come from Hanover Road (Main St) through Water Drive.

4.3.1.1 No Action

Transportation would not be impacted under the No Action Alternative.

4.3.1.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

Short-term, minor and adverse impacts to transportation may occur during pre-construction mobilization and construction of Alternatives 1 and 2. More frequent construction vehicles and equipment may cause delays or road closures of adjacent roadways to residents and temporary increases in dust and/or decreased air quality. Initial construction mobilization may temporarily

impact local traffic, which may cause minor delays for local residents or school bus traffic if work occurs during the school year. Once equipment is mobilized, transportation should not be affected by the proposed action.

4.3.2 Utilities

Public utilities are minimal within the parcel. An existing sanitary sewer line flows adjacent and northeast of Plum Creek. The sewer line originates outside of the parcel, travels adjacent to Plum Creek, and exits the parcel in the southeast corner. The sanitary sewer line will not be affected by the proposed action. There is one public, buried, electric line that previously supplied electricity to the existing airport hangar. The electric line will need to be relocated prior to completion of construction.

4.3.2.1 No Action

Utilities would not be impacted under the No Action Alternative.

4.3.2.2 Alternatives 1 and 2 (Alternative 2 – Proposed Action)

Short-term, adverse, and minor impacts to utilities are expected to occur during construction of Alternatives 1 or 2. The existing electric line would need to be moved before construction begins. Electric service will be reconnected upon the Townships discretion after restoration. No impacts will occur to the existing sanitary sewer line, as no proposed construction will occur on top of or adjacent to the existing sewer line.

5 SUMMARY AND CUMULATIVE EFFECTS*

Table 5-1 summarizes the level of compliance of the Alternatives 1 and 2 with environmental protection statutes and other environmental regulations. Based on the evaluation of project impacts described in Section 4 there are no significant impacts from the proposed action. Alternative 2, the preferred alternative, would contribute to overall safety within the Plum Creek Community Park, as well as provide improved waterway health, habitat, and overall aesthetics to the area. Alternative 2 would restore 1,700 lf of Plum Creek (10,200 sq ft or 0.23 acres) in addition to the construction of 35,710 sq ft (0.82 acres) of newly constructed wetlands.

The restoration will play one part in the overall improvements to the Plum Creek Community Park, providing visually aesthetic scenery and educational resources through the proposed riparian buffers. There are no known projects occurring within the proximity of Plum Creek Community Park currently, or in the near future, other than updates to the overall park outside of the Section 510 stream restoration. Plum Creek is within the West Conewago Creek watershed, and it is very likely that USACE, along with other State and local agencies, would continue stream restoration efforts within the watershed. Additionally, Adams County has partnered with Adams County Trout Unlimited on a $14,000 stream restoration/educational project on the Conewago Creek, a tributary to Plum Creek. According to the Conewago Township Comprehensive Plan (Amendment - March 4, 2022), the Plum Creek floodplain limits new construction in the industrial

and agricultural district along Blettner Avenue, which is approximately 125 acres. Therefore, no new construction should be occurring in this area of Plum Creek in the foreseeable future, which could be detrimental to sediment loading in the stream channel (Conewago, 2022).

Table 5-1 Summary of Project Impacts		
Resource	**Alternative**	**Impact**
Wetlands	Alternative 1	No Impacts
	Alternative 2	Long term, beneficial
Floodplains	Alternatives 1 and 2	Long term, beneficial
Wild and Scenic Rivers	N/A	N/A
Rare, Threatened and Endangered Species	Alternatives 1 and 2	No Impacts/No Effects
Migratory Birds	Alternative 1	Adverse, short-term, minor
	Alternative 2	Adverse, short-term, minor and long-term, beneficial
Vegetation and Terrestrial Resources	Alternative 1	Adverse, short-term, minor
	Alternative 2	Long-term, beneficial
Soils	Alternative 1	Adverse, short-term, minor and long-term, beneficial
	Alternative 2	Adverse, short-term, minor, and long-term, beneficial
Climate and Climate Change	Alternatives 1 and 2	Long-term, beneficial
Land Use	Alternative 2	Long-term, beneficial
Geology and Topography	Alternatives 1 and 2	No Impacts to Geology. Long-term, beneficial to topography.
Waterways and Water Quality	Alternatives 1 and 2	Long-term, beneficial
Air Quality and Greenhouse Gas Emissions	Alternatives 1 and 2	Adverse, short-term, minor
HTRW	Alternatives 1 and 2	No Impacts
Socioeconomics, Environmental Justice, Protection of Children	Alternatives 1 and 2	Long-term, beneficial
Cultural Resources	Alternatives 1 and 2	No Effect
Aesthetics and Recreation	Alternatives 1 and 2	Adverse, short-term, minor, and long-term, beneficial

Table 5-1 Summary of Project Impacts		
Noise	Alternatives 1 and 2	Adverse, short-term, minor
Transportation	Alternatives 1 and 2	Adverse, short-term, minor
Utilities	Alternatives 1 and 2	Adverse, short-term, minor

Table 5-2: Compliance of the Proposed Action with Environmental Protection Statutes and Other Environmental Requirements	
Federal Statutes, Executive Orders (EOs), and Memoranda	**Level of Compliance**
Archeological and Historic Preservation Act	Full
Bald and Golden Eagle Protection Act	Full
Clean Air Act	Full
Clean Water Act	Full**
Coastal Barrier Resources Act	N/A
Coastal Zone Management Act	N/A
Comprehensive Environmental Response, Compensation and Liability Act	Full
Consultation and Coordination with Indian Tribal Governments (EO 13175)	Full
Endangered Species Act	Full
Environmental Justice in Minority and Low-Income Populations (EO 12898)	Full
Federal Water Project Recreation Act	N/A
Fish and Wildlife Coordination Act	Full
Floodplain Management (EO 11988)	Full
Invasive Species (EO 13112)	Full
Magnuson-Stevens Act	N/A
Migratory Bird Treaty Act	Full
National Historic Preservation Act	Full
National Environmental Policy Act	Partial*
Prime and Unique Farmlands (Memorandum, CEQ, 11 August 1980)	Full
Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (EO 13990)	Full
Protection of Wetlands (EO 11990)	Full
Revitalizing our Nation's Commitment to Environmental Justice for All (EO 14096)	Full
River and Harbors Act	N/A
Tackling the Climate Crisis at Home and Abroad (EO 14008)	Full
Watershed Protection and Flood Prevention Act	Full
Wild and Scenic Rivers Act	N/A

*Partial until FONSI is signed.

** Full when permits are obtained by NFS prior to construction.

6 RECOMMENDATION*

The Baltimore District endorses the Recommended Plan consisting of stream and habitat restoration in and around Plum Creek. The project would daylight Plum Creek by removing approximately 1,700 lf of defunct pipes that are failing structurally and causing degraded habitat, erosion, flooding, and increased concerns for human health and safety. The Recommended Plan addresses a deteriorating headwater stream with little to no habitat for aquatic wildlife. The plan includes restoring 1,700 lf of stream channel, reconnecting the floodplain, adding 0.82 acres of two constructed wetlands, altering 0.23 acres of old stream channel into wetland habitat and a vegetative buffer (25 feet wide on either side of the stream channel) of native wetland plant mix. Total project cost for the Recommended Plan is $3,800,000, cost shared at 75 percent federal, 25 percent non-Federal under the Section 510 authority. After the project is complete, the NFS (Conewago Township) will closely monitor and maintain the completed project.

This Draft IFR/EA consists of all planning and design activities that demonstrate that federal participation is warranted at this time. The proposed action will have no significant adverse impact to the environment and will not constitute a major federal action affecting the quality of the human environment. Therefore, Finding of No Significant Impact (FONSI) is anticipated, and an Environmental Impact Statement will not be prepared. A signed copy of the FONSI will be made available on the USACE website upon completion of public and agency review.

The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. They do not reflect program, and budgeting priorities inherent in the formulation of a national Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to higher authority as proposals for authorization and implementation funding. However, prior to transmittal to higher authority, the sponsor, the Commonwealth of Pennsylvania, interested agencies, and other parties will be advised of any modifications and will be afforded an opportunity to comment further.

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- *Disability Characteristics Table S1810*
- *General Demographics Table DP05*
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