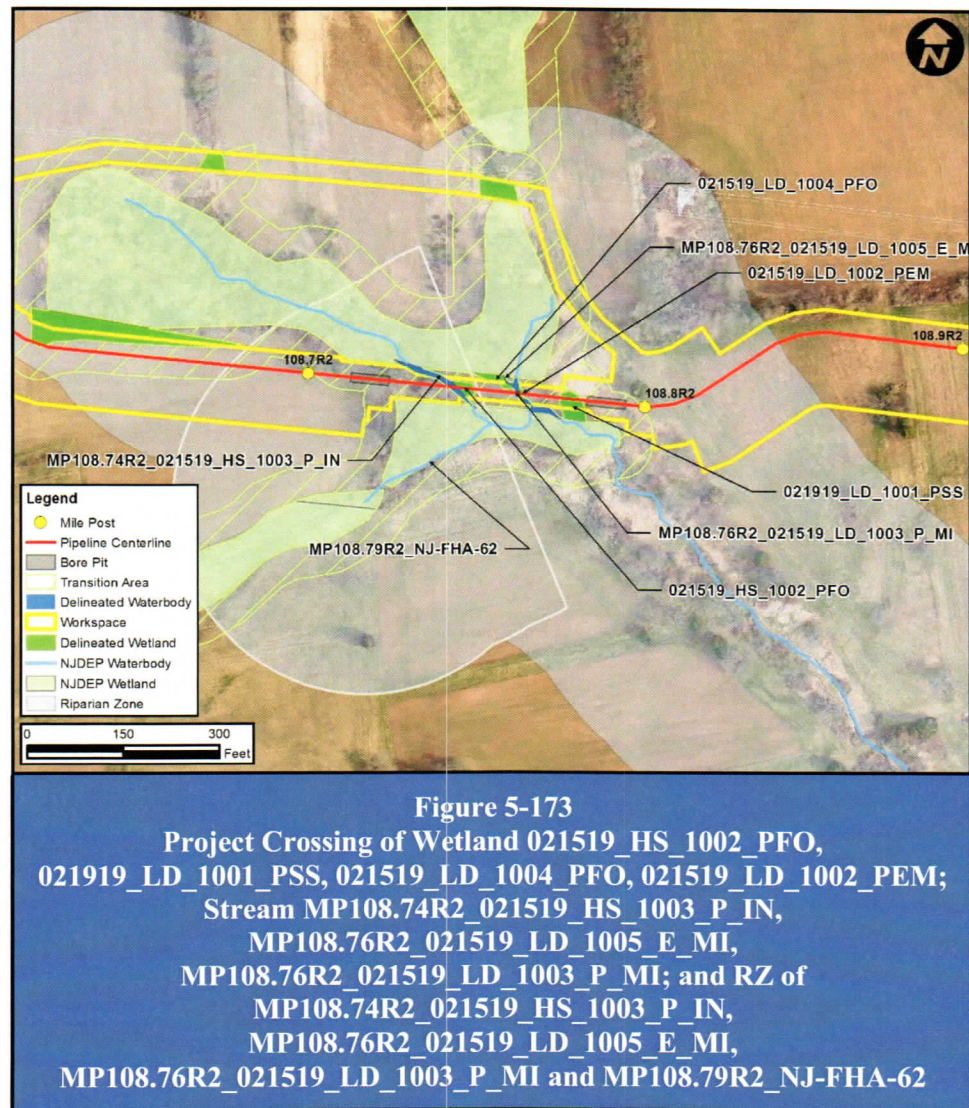


## 5.219 Regulated Crossing 173



## INVENTORY

### Wetlands

Wetland 021519\_HS\_1002\_PFO is a field-delineated palustrine forested wetland fringe occurring along an unnamed tributary of Jacobs Creek. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 021919\_LD\_1001\_PSS is a field-delineated palustrine scrub-shrub wetland. The feature drains from the edge of a field and into an unnamed perennial tributary of Jacobs Creek. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 021519\_LD\_1004\_PFO is a palustrine forested/emergent wetland that drains into two unnamed tributaries of Jacobs Creek. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 021519\_LD\_1002\_PEM is a field-delineated palustrine emergent wetland fringe occurring along an unnamed perennial tributary of Jacobs Creek. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

#### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

#### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

#### Public Lands

None of the regulated resources in this crossing are on public lands.

#### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 021519\_HS\_1002\_PFO has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 021919\_LD\_1001\_PSS has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 021519\_LD\_1004\_PFO has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 021519\_LD\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream 021519\_HS\_1003\_P\_IN has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream 021519\_LD\_1005\_E\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream 021519\_LD\_1003\_P\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

MP108.79R2\_NJ-FHA-62 has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

#### State Open Waters and Channels

Stream 021519\_HS\_1003\_P\_IN is a field-delineated, unnamed perennial tributary of Jacobs Creek. It flows east through forest.

Stream 021519\_LD\_1005\_E\_MI is a field-delineated, unnamed ephemeral tributary of Jacobs Creek. It flows southeast through an emergent wetland and drains into 021519\_LD\_1003\_P\_MI.

Stream 021519\_LD\_1003\_P\_MI is a field-delineated, unnamed minor perennial tributary of Jacobs Creek. The feature flows southeast through forest and drains into 021519\_HS\_1003\_P\_IN.

#### Riparian Zones

RZ of MP108.74R2\_021519\_HS\_1003\_P\_IN is the 300-foot riparian area associated with an unnamed tributary to Jacobs Creek. This riparian area is vegetated.

RZ of MP108.76R2\_021519\_LD\_1005\_E\_MI is the 300-foot riparian area associated with an unnamed tributary to Jacobs Creek. This riparian area is vegetated.

RZ of MP108.76R2\_021519\_LD\_1003\_P\_MI is the 300-foot riparian area associated with an unnamed tributary to Jacobs Creek. This riparian area is vegetated.

RZ of MP108.79R2\_NJ-FHA-62 is the 300-foot riparian area associated with an off-site, unnamed tributary to Jacobs Creek. This riparian area is vegetated.

#### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Jacobs Creek is classified as a non-trout Category One waterbody (FW2-NT(C1)).

### ASSESSMENT

#### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. Temporary matting will be utilized within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

#### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and

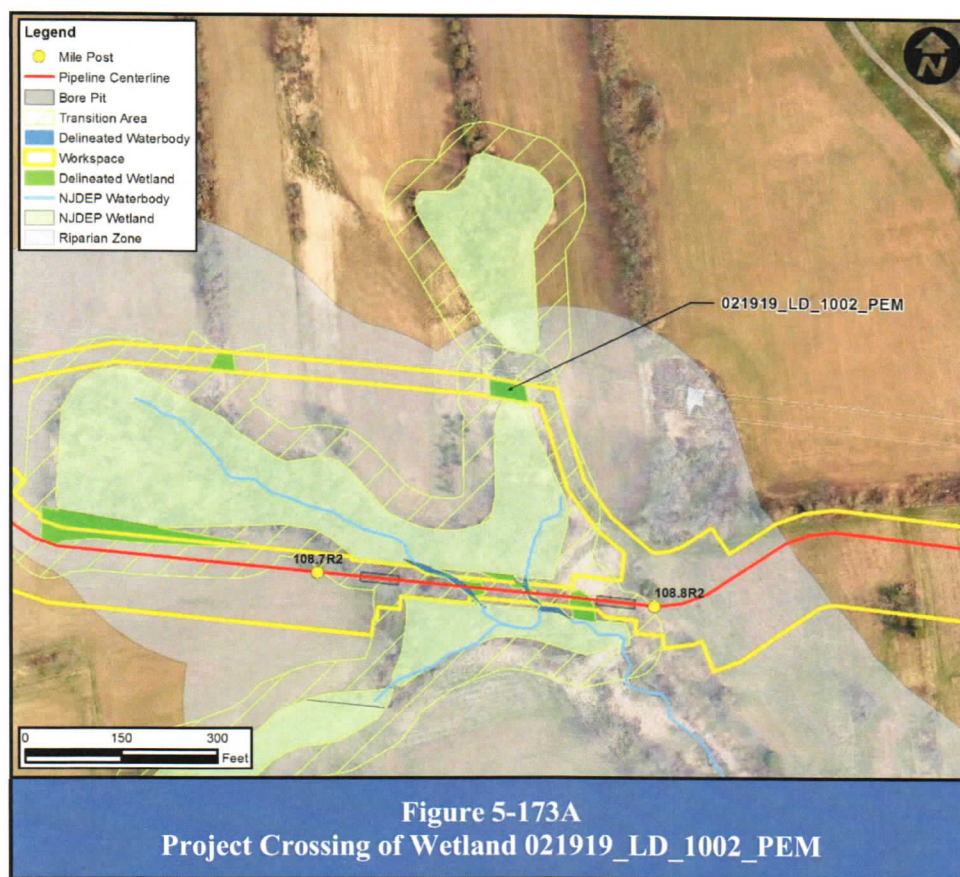
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.220 Regulated Crossing 173A



## INVENTORY

### Wetlands

Wetland 021919\_LD\_1002\_PEM is a field-delineated palustrine emergent wetland occurring within a depression between two agricultural fields. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 021919\_LD\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Access roads, HDD pullbacks, and other Project related surface disturbances not directly associated with pipeline installation are proposed at this regulated crossing. Regulated activities associated with these activities have been minimized to the maximum extent practicable as documented in the Alternatives Analysis, Attachment K. Proposed activities include temporary clearing and grading necessary for temporary construction access or workspace. Permanent impacts may include the removal of trees. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Surface disturbances not directly associated with pipeline installation could not be avoided at this regulated crossing. PennEast sought to avoid or minimize the impacts to wetlands, State Open Waters and riparian zones in these areas; discussion of these efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and

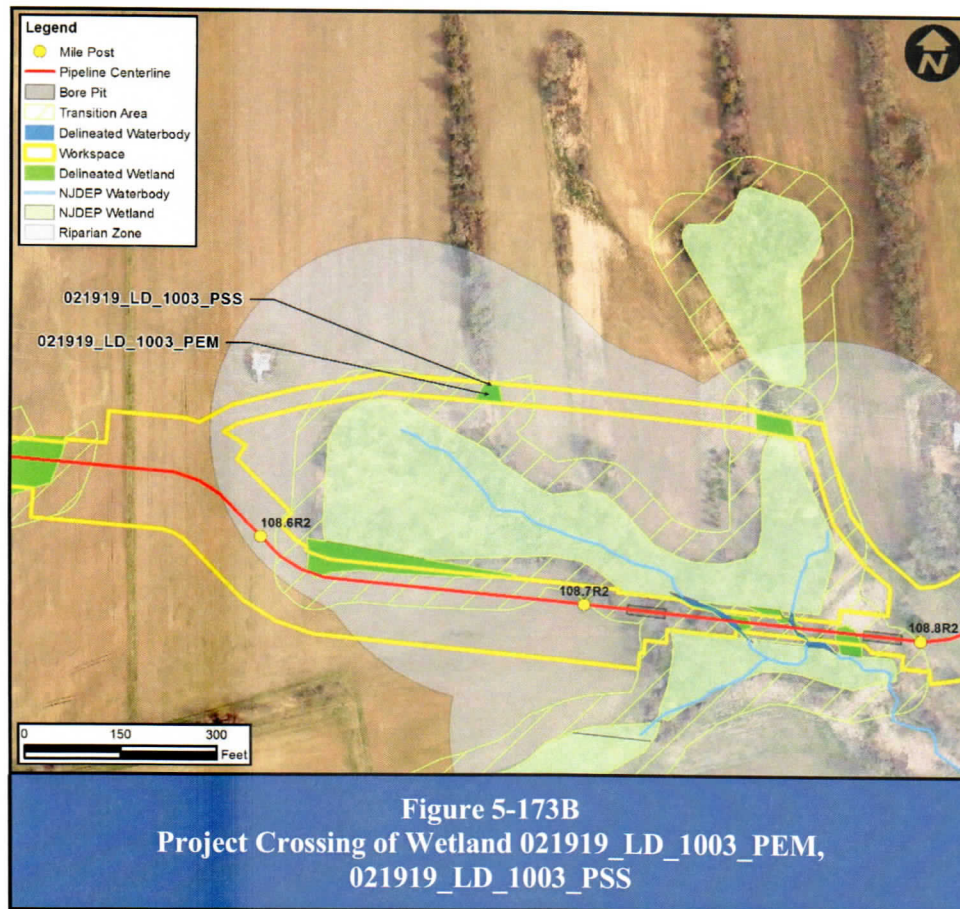


- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

## 5.221 Regulated Crossing 173B



## INVENTORY

### Wetlands

Wetland 021919\_LD\_1003\_PSS/PEM is a field-delineated palustrine scrub-shrub/emergent wetland occurring within a depression in an agricultural field. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 021919\_LD\_1003\_PSS/PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Access roads, HDD pullbacks, and other Project related surface disturbances not directly associated with pipeline installation are proposed at this regulated crossing. Regulated activities associated with these activities have been minimized to the maximum extent practicable as documented in the Alternatives Analysis, Attachment K. Proposed activities include temporary clearing and grading necessary for temporary construction access or workspace. Permanent impacts may include the removal of trees. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Surface disturbances not directly associated with pipeline installation could not be avoided at this regulated crossing. PennEast sought to avoid or minimize the impacts to wetlands, State Open Waters and riparian zones in these areas; discussion of these efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and

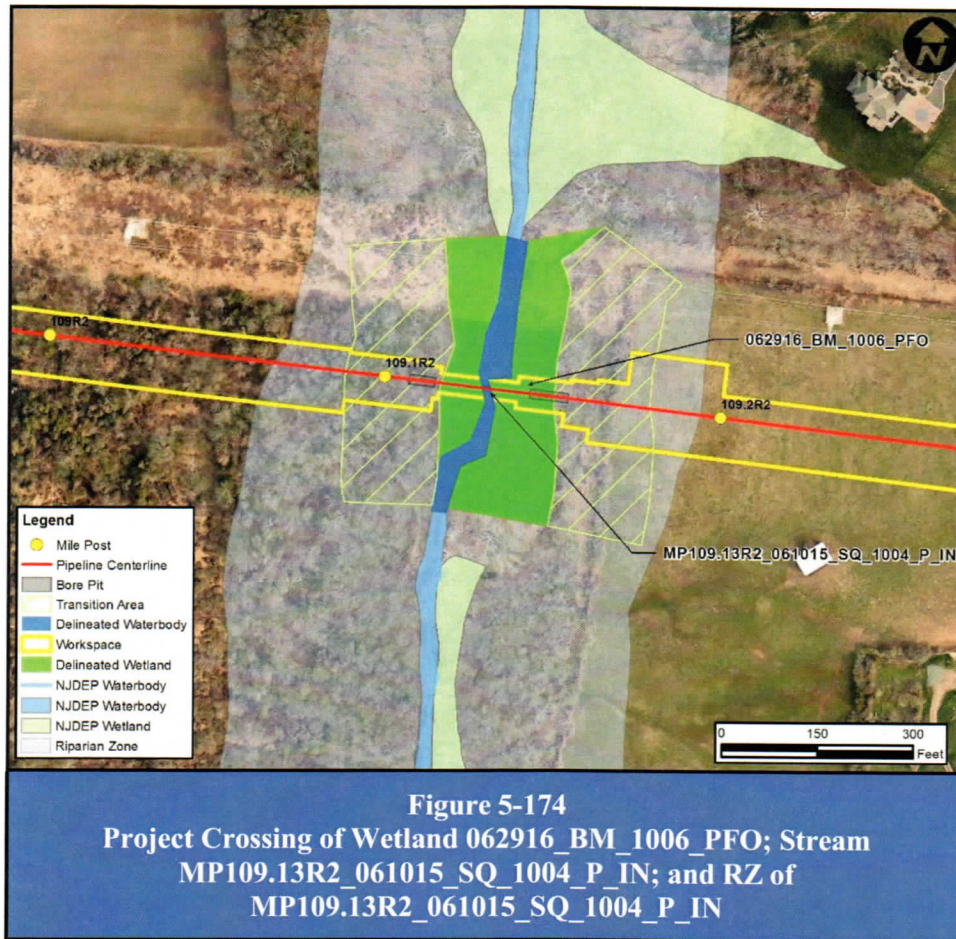
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.222 Regulated Crossing 174



### INVENTORY

#### Wetlands

Wetland 062916\_BM\_1006\_PFO is a field-delineated palustrine forested wetland. It occurs along Jacobs Creek, an intermediate perennial stream. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

#### Transition Areas

The Transition Area is assumed to be 150 feet due to the proximity of mapped Threatened or Endangered Species habitat to the wetland feature.

#### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

#### Public Lands

None of the regulated resources in this crossing are on public lands.

## Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 062916\_BM\_1006\_PFO has been identified as suitable or potentially suitable habitat for the following State-listed endangered or threatened species: bald eagle.

Stream MP109.13R2\_061015\_SQ\_1004\_P\_IN has been identified as suitable or potentially suitable habitat for the following State-listed endangered or threatened species: Missouri gooseberry, and bald eagle.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

## State Open Waters and Channels

Stream MP109.13R2\_061015\_SQ\_1004\_P\_IN is Jacobs Creek, an intermediate, perennial stream flowing southwest through forested habitat. The bank width is approximately 35 feet. The streambed substratum was made up of cobble, gravel, sand, and silt.

## Riparian Zones

RZ of MP109.13R2\_061015\_SQ\_1004\_P\_IN is the 300-foot riparian area associated with this stream. This riparian area is vegetated.

## Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Jacobs Creek is classified as a non-trout Category One waterbody (FW2-NT(C1)).

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. Temporary matting will be utilized within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the

integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;

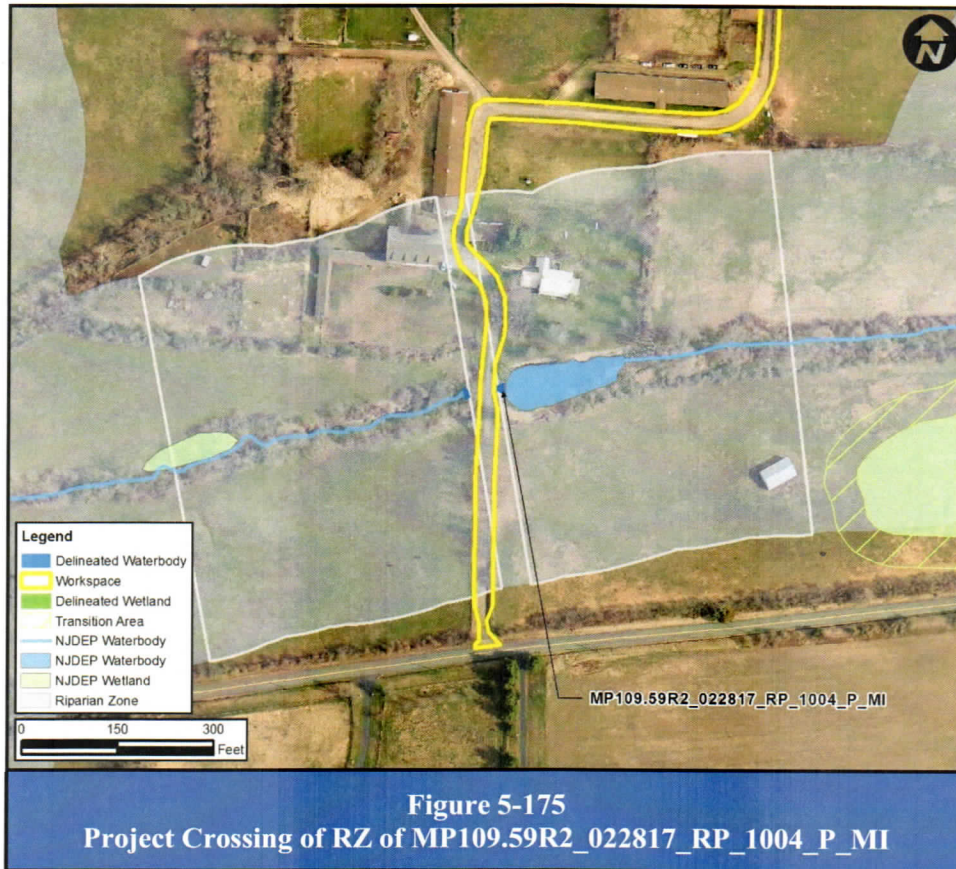


- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable; no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

### 5.223 Regulated Crossing 175



### INVENTORY

#### Wetlands

Not present.

#### Transition Areas

Not present.

#### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

#### Public Lands

None of the regulated resources in this crossing are on public lands.

#### Critical Habitat and Threatened or Endangered Species and their Habitat

RZ of MP109.59R2\_022817\_RP\_1004\_P\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.



Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

#### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

#### Riparian Zones

RZ of MP109.59R2\_022817\_RP\_1004\_P\_MI is the 300-foot riparian area associated with an off-site unnamed tributary to Jacobs Creek. This riparian area is actively disturbed.

#### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Jacobs Creek is classified as a non-trout Category One waterbody (FW2-NT(C1)).

### **ASSESSMENT**

#### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Access roads, HDD pullbacks, and other Project related surface disturbances not directly associated with pipeline installation are proposed at this regulated crossing. Regulated activities associated with these activities have been minimized to the maximum extent practicable as documented in the Alternatives Analysis, Attachment K. Proposed activities include temporary clearing and grading necessary for temporary construction access or workspace. Permanent impacts may include the removal of trees. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

#### Measures Taken to Reduce Potential Adverse Environmental Impacts

Surface disturbances not directly associated with pipeline installation could not be avoided at this regulated crossing. PennEast sought to avoid or minimize the impacts to wetlands, State Open Waters and riparian zones in these areas; discussion of these efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

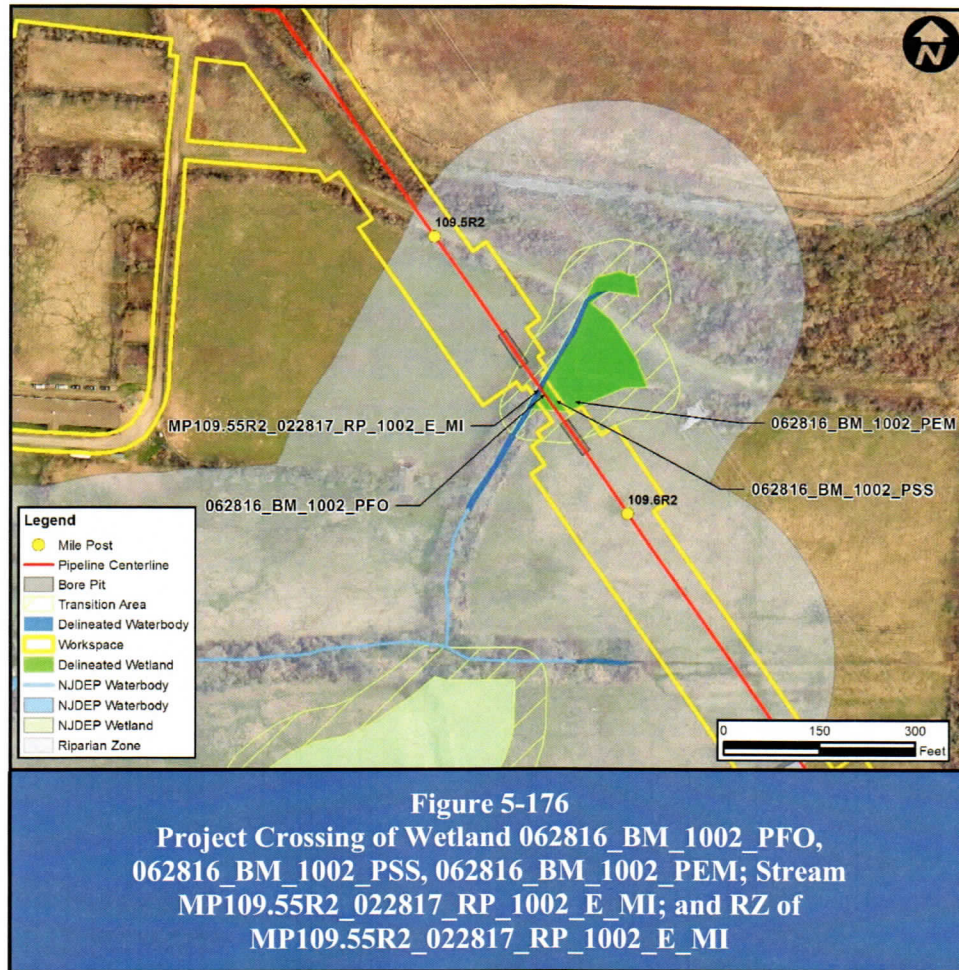
- Delineation of all wetlands in the Project area;

- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

## 5.224 Regulated Crossing 176



### Description of Resource

### INVENTORY

#### Wetlands

Wetland 062816\_BM\_1002\_PFO /062816\_BM\_1002\_PSS /062816\_BM\_1002\_PEM is a field-delineated palustrine forested/scrub-shrub/emergent wetland complex occurring along an unnamed, field-delineated minor ephemeral tributary of Jacob's Creek. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

#### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

#### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 062816\_BM\_1002\_PFO /062816\_BM\_1002\_PSS /062816\_BM\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream MP109.55R2\_022817\_RP\_1002\_E\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Stream MP109.55R2\_022817\_RP\_1002\_E\_MI is made up of a minor, southwest-flowing ephemeral stream and a minor, west-flowing ditch (022817\_RP\_1003\_E\_MI), which merge and travel west through a wooded hedgerow surrounded by agriculture pasture. The combined flow (022817\_RP\_1004\_P\_MI) forms a pond immediately east of the gravel driveway, and continues west via culvert, towards Jacobs Creek. The ephemeral ditch 022817\_RP\_1003\_E\_MI is between three and six feet wide. The streambed is mostly silt, with some gravel and shale cobble. The ephemeral stream 022817\_RP\_1003\_E\_MI is approximately three feet wide. The streambed is predominantly silt, with some gravel and cobble.

### Riparian Zones

RZ of MP109.55R2\_022817\_RP\_1002\_E\_MI is the 300-foot associated with this stream. This riparian area is vegetated within 25 feet of top-of-bank and actively disturbed beyond.

### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Jacobs Creek is classified as a non-trout Category One waterbody (FW2-NT(C1)).

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. Temporary matting will be utilized within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based



on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

#### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

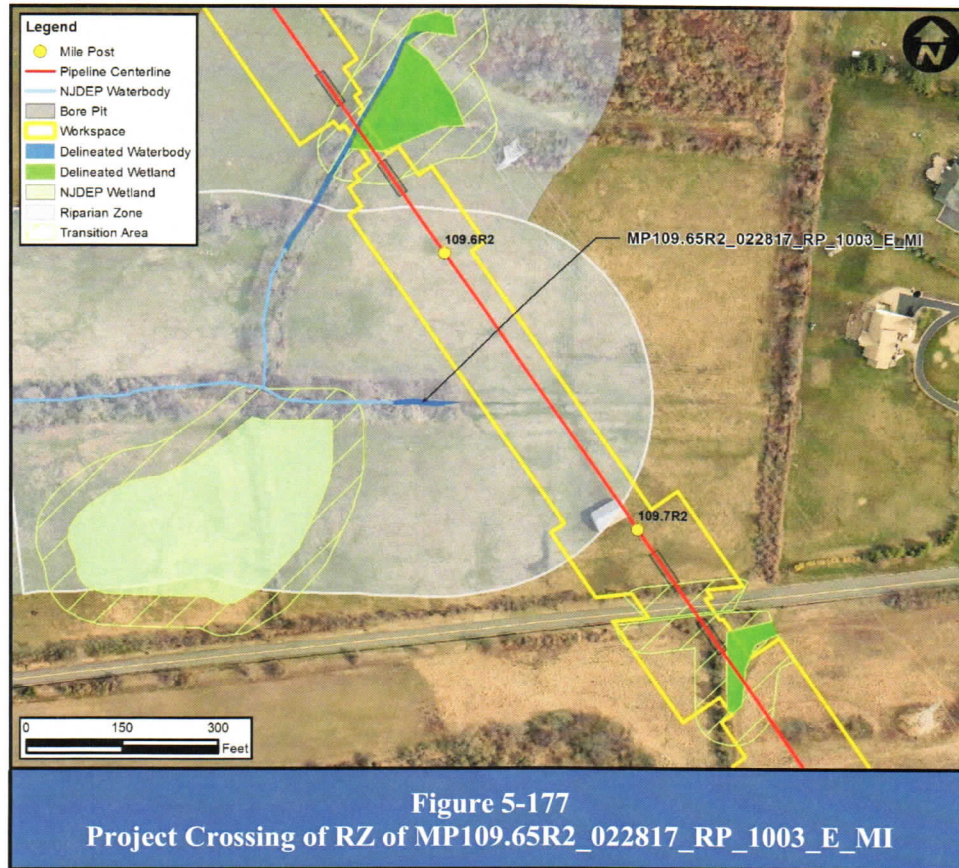
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;

- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

## 5.225 Regulated Crossing 177



### INVENTORY

#### Wetlands

Not present.

#### Transition Areas

Not present.

#### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

#### Public Lands

None of the regulated resources in this crossing are on public lands.

#### Critical Habitat and Threatened or Endangered Species and their Habitat

RZ of MP109.65R2\_022817\_RP\_1003\_E\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and

recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

#### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

#### Riparian Zones

RZ of MP109.65R2\_022817\_RP\_1003\_E\_MI is the 300-foot riparian area associated with an off-site, unnamed tributary to Jacobs Creek. This riparian area is actively disturbed.

#### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Jacobs Creek is classified as a non-trout Category One waterbody (FW2-NT(C1)).

### ASSESSMENT

#### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through riparian areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

#### Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;

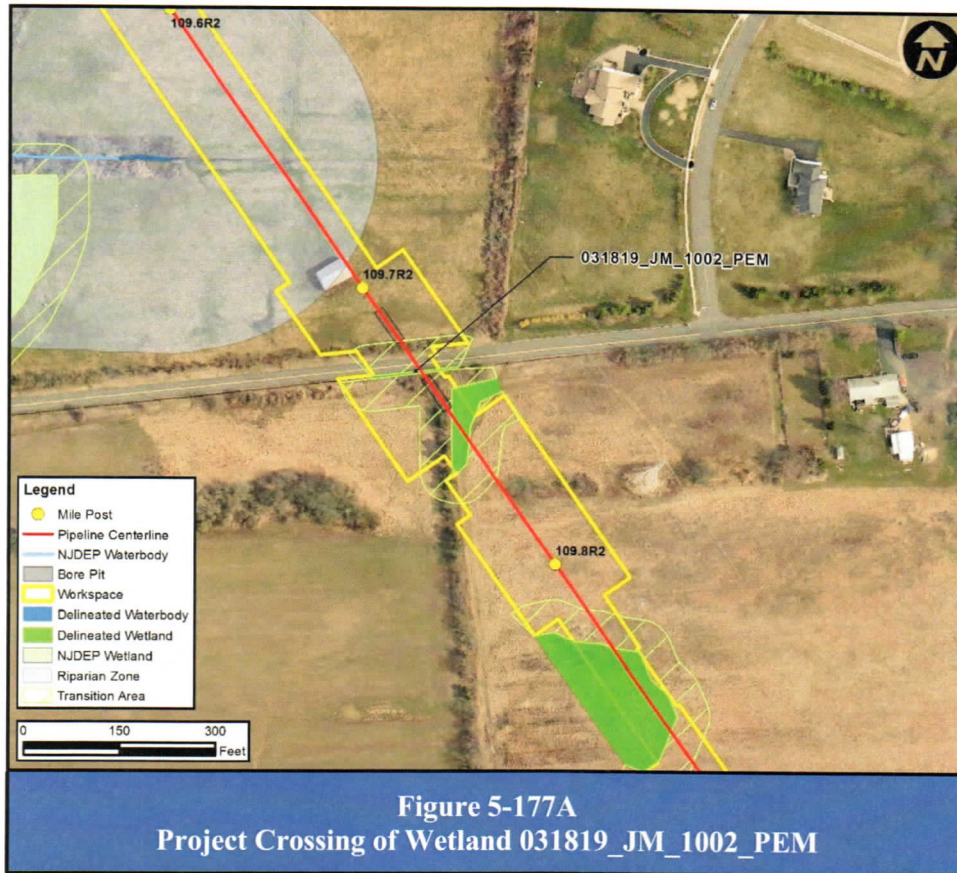
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.



## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

## 5.226 Regulated Crossing 177A



## INVENTORY

### Wetlands

Wetland 031819\_JM\_1002\_PEM is a field-delineated palustrine emergent wetland occurring within a ditch along Pennington Titusville Road. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 031819\_JM\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. Temporary matting will be utilized within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;

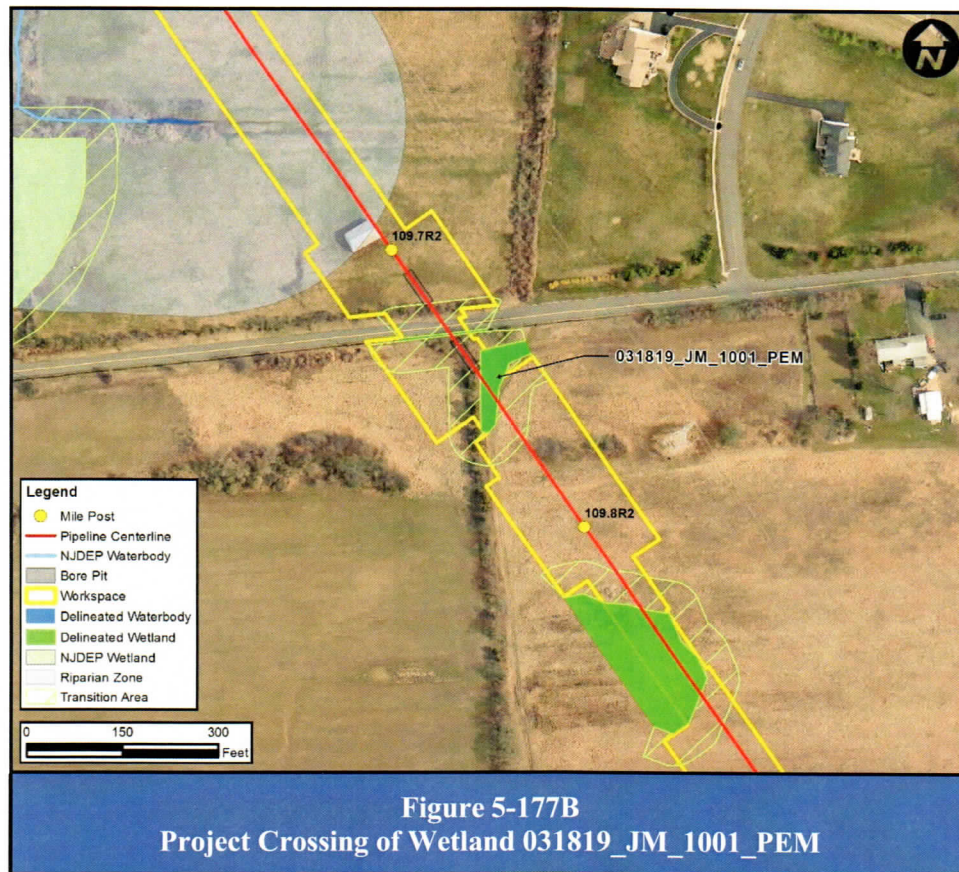
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.227 Regulated Crossing 177B



## INVENTORY

### Wetlands

Wetland 031819\_JM\_1001\_PEM is a field-delineated palustrine emergent wetland occurring at the edge of a fallow field. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

Regulated Resources 031819\_JM\_1001\_PEM is located on Block 92, Lot 2.012 in Mercer Township. This property is public land owned by the Township of Hopewell.



### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 031819\_JM\_1001\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs

and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;

- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.