

ATTACHMENT 8

PROJECT DESCRIPTION AND AQUATIC RESOURCE IMPACT TABLE (ARIT)

Tioga Pathway Project Description

In accordance with Document 3150-PM-BWEW0036 (Rev. 3/2022) Section III.F(h), the following sections provide a detailed project description including a statement regarding what purpose the activity will serve, an overview of National Fuel's public health and safety measures, a water dependency statement, and a summary of aquatic resource impacts in Tioga County including a completed Aquatic Resource Impact Table (ARIT).

A. Project Description

National Fuel Gas Supply Corporation (National Fuel) is proposing to construct and operate the proposed Tioga Pathway Project (Project) and to abandon certain pipeline facilities. The purpose of the Project is two-fold: (1) to provide incremental firm transportation service from the abundant Marcellus and Utica shale production area in Tioga County, Pennsylvania to various points on the interstate pipeline system grid and (2) to modernize a portion of National Fuel's existing Z20 Pipeline system in Potter County, Pennsylvania (PA) [Note: Attachment 10 of this Joint Permit Application (JPA) includes a detailed description of the Project's purpose and need].

The Project is located in Potter, Tioga, and McKean counties, PA, and consists of the construction and operation of the following facilities:

- Z20 Replacement Pipeline: Replace approximately 3.84 miles of 12-inch-diameter 1936-vintage bare steel pipeline with new 20-inch-diameter coated steel pipeline in National Fuel's existing right-of-way (ROW) in Potter County;
- YM59 Mainline Pipeline: Install approximately 19.48 miles of new 20-inch-diameter coated steel pipeline beginning at the east end of the 3.84-mile Z20 Pipeline replacement, traversing Potter and Tioga counties, and ending at the NFG Midstream Covington, LLC (Midstream) Lee Hill Interconnect;
- Auxiliary Facilities:
 - McCutcheon Hill Over-pressure Protection (OPP) Station: Construct a new OPP station at the interconnection between the eastern terminus of the Z20 Replacement Pipeline and the western terminus of the YM59 Mainline Pipeline in Potter County;
 - Measurement Equipment at Midstream's Lee Hill Interconnect: Install gas measurement, gas quality, flow control, OPP devices, a pig launcher, and associated appurtenances (Measurement Facilities) at Midstream's Lee Hill Interconnect to connect the proposed YM59 Mainline Pipeline to Midstream's facilities at the east end of the Project in Chatham Township, Tioga County;
 - Perform minor modifications at National Fuel's existing Ellisburg Compressor Station (CS) including replacing/installing measurement, OPP devices, flow control, and other associated appurtenances in Potter County;
 - Construct one new remote-control valve (RCV) setting at a location along the YM59 Pipeline in Tioga County;

- Perform modifications to an existing valve setting on the Z20 Replacement Pipeline in Potter County; and
- Install a new cathodic protection ground bed at a location along the YM59 Pipeline in Tioga County.

Project activities to be conducted in Tioga County include construction of approximately 16.68 miles of the YM59 Mainline Pipeline, installing measurement equipment at Midstream's Lee Hill Interconnect, construction of a new RCV setting on the YM59 Pipeline, and installation of a cathodic protection ground bed. The location of the proposed Project is shown on the United States Geological Survey 7.5-minute quadrangle maps in Attachment 7 of this JPA.

To support construction activities and operation of the Project, National Fuel estimates that approximately 3.96 miles of temporary access roads (TARs) and 1.76 miles of permanent access roads (PARs) will be used. In addition, three (3) previously used staging areas (Port Allegany Pipe Yard, Harrison Valley Contractor Yard, and Middlebury Contractor Yard) will be used to store materials and equipment.

Construction will involve pipeline installation via open trench excavation and horizontal directional drilling (HDD) methods, installation of new measurement equipment at the existing Lee Hill Interconnect, and the construction of the new RCV setting and cathodic protection ground bed. Tree clearing will be required for the Project and is proposed to commence in early 2026 and be completed by March 31st, 2026, provided all required permits, approvals, land access, and materials have been obtained.

Direct, indirect, and cumulative impacts from the proposed construction, operation, and maintenance activities are provided in Attachment 10 (Environmental Assessment) of this Joint Permit Application. As discussed herein, the Project will have temporary and permanent impacts to stream and wetland resources. Potential impacts will be minimized and mitigated as discussed throughout this application.

B. PNDI Coordination and Avoidance Measures

National Fuel submitted a Pennsylvania Natural Diversity Inventory (PNDI) query [Receipt-797684] and letters to the Pennsylvania Department of Conservation and Natural Resources (PADCNR), Pennsylvania Fish & Boat Commission (PAFBC), and Pennsylvania Game Commission (PGC) on December 15, 2023, requesting assistance in identifying any state-listed threatened, endangered, or other species of concern, state wildlife refuges/management areas, significant habitats, and other natural landscape features that may be directly or indirectly impacted by the proposed activity (refer to Attachment 5 of this JPA). National Fuel provided updated map information via the PNDI website on May 21, 2024, and directly to the PAFBC, and PGC on May 31, 2024.

- PADCNR provided responses on December 18, 2023, and May 23, 2024 stating that the proposed activity is not anticipated to impact any plants, terrestrial invertebrates, natural communities, or geological features of concern.
- PAFBC provided responses on December 18, 2023, and July 1, 2024 (review of updated mapping) indicating no adverse impacts are expected to the species of special concern.
- PGC provided responses on January 9, 2024, and June 3, 2024, indicating no impact to species or resources of concern is likely.

- National Fuel sent a Project-specific introduction letter to the United States Fish and Wildlife Service (USFWS) on December 27, 2023, requesting identification of potential impacts to threatened and endangered and/or special concern species and resources located within and near the Project. USFWS provided a response via email on March 13, 2024, recommending National Fuel conduct northeastern bulrush surveys. National Fuel conducted surveys for northeastern bulrush in July 2024: no northeastern bulrush or other federally listed plant species were found during the botanical survey. The complete report was submitted to USFWS on August 30, 2024 and is included in Attachment 5 of this JPA.

In response to USFWS information related to federally-protected bat species identified as possibly occurring in the area, National Fuel has scheduled tree clearing activities to be completed during winter before March 31 to avoid potential impacts to federally-protected bats and migratory birds. However, in certain areas and circumstances, there may be safety concerns related to conducting clearing activities in winter in this region, especially on particularly steep slopes in snowy/icy conditions. As such, National Fuel proactively conducted acoustic bat surveys in June 2024. The goal of the survey was to determine the presence or probable absence of the federally endangered Indiana bat (*Myotis sodalis*) and/or Northern long-eared bat (*Myotis septentrionalis*). The survey was conducted following the 2024 protocols outlined within the U. S. Fish and Wildlife Service (USFWS) *Range-Wide Indiana Bat Summer Survey Guidelines*. Qualitative (manual) review of *Myotis* species acoustic recordings determined that no recordings definitively could be classified solely as an Indiana bat. From the results of this analysis and with the limitations of acoustic monitoring, the determination of probable presence of the Indiana bat cannot be supported, and absence of the species may be assumed. Manual review of recordings can support the presence of Northern long-eared bats within the project area, and presence of this species may be assumed. The survey also identified the candidate species Tricolored bat (*Perimyotis subflavus*) within the Project Area; however, none of these passed manual review and cannot be considered present. National Fuel provided a copy of the survey report to the USFWS on October 9, 2024 and will continue to work with the USFWS to determine the prudent and necessary seasonal timing restrictions along the proposed Project as it coordinates with USFWS regarding the Endangered Species Act and the Migratory Bird Treaty Act.

Related to the USFWS information on federal-status Candidate for protection monarch butterfly that was identified as possibly occurring in the area, National Fuel has enrolled in the Nationwide Monarch Butterfly Candidate Conservation Agreement with Assurances (CCAA) for Energy and Transportation Lands. In any areas containing suitable monarch butterfly habitat that cannot be avoided, with landowner permission, National Fuel will reseed with native seed mixtures that contain milkweed and nectar plants similar to National Fuels' Monarch CCAA program mixes, in order to restore the habitat and provide increased conservation for the species. Implementation of industry-approved construction BMPs will minimize long- and short-term impacts to vegetation cover types.

C. Public Health and Safety

The Project facilities will fully adhere to regulatory requirements pertaining to pipeline safety. These safety regulations will be reinforced by the comprehensive and strictly enforced corporate practices of National Fuel.

Public Protection Measures

National Fuel is well qualified to perform both emergency and routine maintenance on its interstate pipeline facilities. National Fuel's pipeline construction contracts require compliance with all Occupational Safety and Health Administration regulations as well as all federal, state, and local laws. National Fuel maintains strict operating policies and procedures to meet or exceed current industry standards. National Fuel's Operator Qualification Program ensures that National Fuel personnel and contractors have the required knowledge and skills. Operating personnel are thoroughly trained to perform their duties in accordance with these policies and procedures. These policies provide specific directions in inspection and preventive maintenance of facilities, as well as procedures to follow in the event of an incident.

During construction, qualified National Fuel inspectors are on site at all times with explicit stop work authority if any public safety or environmental issues are observed. Daily Safety Meetings are held with construction personnel to discuss current issues and observations. National Fuel's contract specifications require operator qualification programs, traffic control, road construction warning signs, power line flagging and barriers, safety fence around open excavations near residences and places of public gathering, and signs & barricades near pressure testing operations. Blasting operations are not anticipated, but if required, will take place in a controlled manner and access points will be monitored during blasting operations. In addition, land agents will be available during construction to make landowners aware of the timing of construction on their properties and to serve as a liaison between landowners and the construction work crews to prevent/minimize conflicts between the work and landowner activities.

Periodic training sessions and review of operating and emergency procedures are conducted for affected operations employees. This training includes safe operation of pipeline valves and equipment; facilities, including meter stations and compressor stations; hazardous material handling procedures; public liaison programs; and general operating procedures. The proposed Project facilities will be operated and maintained in accordance with these procedures.

Equipment

The National Fuel pipeline system includes many equipment features that are designed to increase the overall safety of the system and protect the public from a potential failure within the system.

Cathodic protection systems are installed at various points along the pipelines to prevent corrosion of the pipeline facilities. The cathodic protection system impresses a low voltage current to the pipeline to offset corrosion potential resulting from natural soil and groundwater conditions. The functional capability of cathodic protection systems is inspected frequently to ensure proper operating conditions for corrosion prevention.

A centralized gas control center is maintained in Western New York. The gas control center monitors system pressures, flows, and customer deliveries 24 hours a day. National Fuel also operates area offices along its pipeline system whose personnel can provide the appropriate response to emergency situations and direct safety operations as necessary.

National Fuel's pipeline systems are equipped with measures that allow the valves to be operated remotely by National Fuel's gas control center in the event of an emergency. Remotely closing the valve allows sections of the pipeline to be isolated from the rest of the pipeline system. RCVs

will be implemented by modifying an existing valve setting along the Z20 Replacement Pipeline and installing a RCV at the McCutcheon Hill OPP Station in Potter County and constructing one new valve setting along the YM59 Mainline Pipeline and installing a RCV at Midstream's Lee Hill Interconnect in Tioga County.

Procedures with Local Authorities

Coordination with public authorities and local utilities is maintained in all locations along the pipeline. Key components of the program consist of:

- periodic visits with municipal safety officials to inform them of the nature of National Fuel facilities and to coordinate emergency response in the event of an accident;
- special informational meetings and training at the initiation of the municipality; and
- periodic literature distribution listing emergency telephone numbers and other pertinent data.

National Fuel has emergency response plans in place for the existing facilities that comprise this Project. Regular meetings are held with the emergency response agencies (including local fire departments) where the roles and responsibilities for responding to pipeline emergencies are discussed. The information exchanged between National Fuel and the emergency response agencies that participate in these meetings familiarizes each organization with the resources, personnel, and equipment that can be utilized in the unlikely event that an incident occurs.

National Fuel will establish the same or similar emergency response plans, meetings with emergency response agencies, and information exchange with local agencies (including local fire departments) for the new facilities proposed as part of this Project. National Fuel will incorporate the new facilities proposed by this Project into its emergency response plans and will work with first responders in the communities to develop modifications to a local community's plan as necessary. National Fuel will continue to work with the local communities to ensure that a satisfactory plan is in place.

National Fuel's training of its personnel and of first responders provides instruction on the requirement to evacuate buildings or the immediate area of citizens affected by a leak or emergency, and the need to move to a safe location. The nature of the leak or emergency would determine the radius of evacuation; the direct notification would include avoiding actions that could cause an ignition source (do not allow anyone to smoke or operate electrical switches, lights, appliances, cellular phones, etc.).

One of the natural gas transmission company's primary roles in the event of a compromised facility is to isolate the compromised facility to stop the flow of gas to the site. First responders who are not National Fuel personnel are instructed not to operate any valves on the system because operating the wrong valve could make matters worse. National Fuel's personnel with knowledge of the system will perform any operation (opening and closing) of valves. First responders' primary role is that of evacuation and creating a safe zone by cordoning off the emergency site. Roles of first responders, roles of National Fuel personnel, properties of natural gas, and "tabletop" scenarios are covered in training sessions with municipal responders. Additional equipment includes vehicles with hand tools, leak detection equipment (combustible gas indicators and flame-ionization leak detectors), air movers, pneumatic grease guns, leak

repair materials, grounding cables, and traffic control safety devices. National Fuel also has emergency pipeline construction contractors available 24 hours a day, 7 days a week, in the event of an emergency to provide crews and heavy equipment.

D. Water Dependency

A project is water dependent when the project requires access or proximity to or siting within water to fulfill the basic purposes of the project (Pennsylvania Code Chapter 105.13[e][iii][D]). Constructing and operating a buried pipeline is often a water-dependent activity. Considering Pennsylvania's abundant surface water and wetland resources, any linear project that travels substantial distances across the Commonwealth, using reasonable and practicable siting approaches (and even avoiding resources where possible and practicable), unavoidably requires the crossing beneath some waters and wetlands. The Project requires access, proximity to, and siting in, on, over, or under, streams and wetlands in order to achieve its primary purpose to transport natural gas in National Fuel's existing and proposed natural gas pipeline system to fixed-point interconnections with other commercial pipeline systems. Therefore, the linear nature of the overall Project, approximately 3.84 miles of replacement pipeline and 19.48 miles of new pipeline, in the geographic region as proposed, makes the Project water dependent.

The new 19.48-mile YM59 Pipeline (including the 16.68 miles located in Tioga County) will create a new pipeline ROW. However, the proposed construction workspaces and new permanent ROW largely avoids a greater area of streams and wetlands that were delineated within the larger 300-foot-wide (and in some areas, wider) survey corridor than it will impact. Siting decisions were made to avoid temporary and permanent impacts to sensitive aquatic resources to the extent practicable, including re-design of routes in specific areas after the results of aquatic resources surveys were known. Project siting decisions also factored in considerations related to constructability (related to natural topographic conditions), property boundary and landowner considerations, and avoidance of cultural resources sites, sensitive ecological areas, conservation easements, public lands, active mineral extraction areas, residential and other sensitive land use areas, and other similar impact issues.

As presented in detail in Attachment 10, Module S3.F (Alternatives Analysis), National Fuel conducted an analysis of potential alternatives, ranging from the broadest evaluation of no-action and system alternatives to the detailed evaluation of route variations. Pipeline routing and aboveground facility siting options were evaluated based on regional topography, potential adverse environmental impacts, population density, existing land use, and construction safety and feasibility considerations. National Fuel also considered feedback and input received from the public and affected landowners throughout the planning process. National Fuel has endeavored to locate the pipeline within, adjacent to, or parallel to existing utility corridors where practicable and feasible and to minimize environmental resource impacts as much as possible.

Avoidance of all impacts to aquatic resources is not feasible or practicable due to the linear nature of the Project between two fixed points. However, the proposed routing avoids and minimizes impacts to aquatic resources to the extent practicable, based on the intentional and deliberate siting and decision-making process implemented during Project planning, the proposed construction-phase impact minimization and restoration methods, and the post-construction monitoring of the Project areas for restoration success.

It is National Fuel's opinion that the Project is water dependent, because through siting and construction/restoration planning, no other more favorable practicable alternatives have been identified that would fulfill the purpose of the Project while avoiding all wetlands and streams, which would not have other adverse effects on the environment.

E. Aquatic Resource Summary and Impacts

A total of 31 wetland areas are located within the proposed limits of disturbance (LOD) of the proposed Project in Tioga County. Of these wetlands, three will be temporarily impacted by an access road, one will be permanently impacted by an access road, one will be temporarily impacted by a cathodic groundbed installation, and the remaining 26 will be impacted by pipeline construction. In addition, a total of 56 stream areas and 26 ditch/swale areas were identified in the Project LOD in Tioga County. Although, 15 of the streams are waived from permit requirements, per Section 105.12(a)(2), as they have a drainage area of less than 100 acres, these resources have been included in the permit application but not the fee calculations (PA Code, 2024b).

Based on PADEP's definition, the acreage of vegetation cover type that will be converted due to routine vegetation maintenance within the proposed YM59 pipeline ROW has been classified as permanent. Specifically, in accordance with the FERC Procedures, National Fuel will not conduct routine vegetation mowing or clearing over the full width of the permanent ROW within aquatic resources. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared through all emergent (PEM), scrub-shrub (PSS), and forested (PFO) wetlands at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, PFO trees within 15 feet of the pipeline (30-foot-wide corridor) with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent ROW. In addition, all streams and floodways will be restored to pre-existing conditions and there will be no long-term impact to the substrate, banks, flow, aquatic/terrestrial life, or floodway; with the exception of S73z where the corner of a small gravel pad will be placed in the floodway. However, similar to the wetland areas National Fuel will maintain a 10-foot-wide corridor centered over the pipeline in an herbaceous state and has conservatively identified stream and floodway impacts within this corridor along the proposed YM59 pipeline as permanent. All resource impacts associated with the existing Z20 pipeline ROW and wetland, stream, and floodway acreage located within the construction LOD and outside of these maintained areas along the YM59 pipeline are classified as temporary impacts.

The Project will permanently impact 0.767 acre (33,411 square feet [ft²]) of wetlands, 0.070 acre (3,049 ft²) of streams, and 1.001 acres (43,604 ft²) of floodplains in Tioga County. The Project will also temporarily impact 4.119 acres (179,424 ft²) of wetlands, 0.742 acre (32,322 ft²) of streams, and 12.757 acres (555,695 ft²) of floodplains in Tioga County.

An ARIT has been prepared in accordance with the provided instructions, including a detailed chart of each proposed impact to waters and/or wetlands as it pertains to the project's activities and is included with this Project Description. In addition, a number of resource tables are provided in Appendix B of Attachment 10 (Environmental Assessment) of this JPA that provide the following information:

- temporary and permanent direct and indirect impacts for each affected resource category (e.g. riverine, wetlands and lacustrine resources), and

- identification of all proposed water obstruction(s), encroachment activities, the subfacility code and description, resource identifier, latitude and longitude, the proposed temporary and permanent direct and indirect impacts.

National Fuel has contracted Resource Environmental Solutions (RES), to develop a Permittee-Responsible Mitigation (PRM) Plan to compensate for unavoidable impacts to waters of the United States (U.S.) associated with the Project. RES has prepared a Preliminary PRM Plan for the Project (Appendix D) in accordance with the Compensatory Mitigation for Losses of Aquatic Resources Final Rule issued on April 10, 2008 as detailed in 33 CFR §332.4(c) of the Federal Register (Volume 73, Number 70).

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF WATERWAYS ENGINEERING AND WETLANDS



Applicant's Name / Client National Fuel Gas Supply Corporation

AQUATIC RESOURCE IMPACT TABLE
FOR PENNSYLVANIA CHAPTER 105 WATER OBSTRUCTION AND ENCROACHMENT APPLICATION

Project / Site Name: <u>Tioga Pathway Project – Tioga County</u>							Date: <u>11/05/2024</u>							
DEP USE ONLY	Project Information						PA DEP / 105						Enter Only If Different from DEP Impacts Army Corps Impacts:	
PADEP Permit Number	Structure / Activity unique identifier	Aquatic Resource Type	Latitude dd nad83	Longitude dd nad83	Waters Name	PA Code Chapter 93 Designation	Work Proposed	DEP Impact Type temp / perm ^{f,g}	ACOE Impact Type temp / perm ^a	Watercourse Impact Top of Bank to Top of Bank	Floodway Impact Top of Bank Landward	Wetland Impact Dimensions	Watercourse Impact	Wetland Impact
										Length and Width in feet ^{b,d}	Length and Width in feet ^{c,d,e}	Length and Width in feet ^d	Length and Width in feet ^d	Length and Width in feet ^d
	W14	PEM	41.958172	-77.605524	Wetland W14	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	5-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	21-65		-
	W15	PEM	41.958363	-77.604067	Wetland W15	Other	Temporary Matting	Temp	Temp	n/a	n/a	13-45	n/a	-
	W16	PEM	41.961121	-77.590769	Wetland W16	Other	Temporary Matting	Temp	Temp	n/a	n/a	12-30	n/a	-
	W17	PEM/PSS	41.962623	-77.581196	Wetland W17	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	291-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	318-65	n/a	-
	W17	PFO	41.962623	-77.581196	Wetland W17	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	132-30	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	115-45	n/a	-
	W18	PSS	41.962702	-77.579489	Wetland W18	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	47-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	63-65	n/a	-
	W20	PEM	41.963814	-77.567067	Wetland W20	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	13-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	11-65		-
	W21	PEM	41.967169	-77.561953	Wetland W21	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	287-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	298-65	n/a	-
	W23	PEM	41.925353	-77.516037	Wetland W23	Other	HDD / ROW	Perm	Temp	n/a	n/a	43-2	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	8-73	n/a	-
							Temporary Access Road	Temp	Temp	n/a	n/a	36-30	n/a	-
	W24	PEM	41.924788	-77.51574	Wetland W24	Other	Temporary Matting	Temp	Temp	n/a	n/a	30-30	n/a	-
	W29	PEM	41.913929	-77.482821	Wetland W29	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	161-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	133-65	n/a	-
	W31	PSS	41.914442	-77.437616	Wetland W31	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	17-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	26-30	n/a	-
	W32	PEM	41.914179	-77.438402	Wetland W32	Other	Temporary Matting	Temp	Temp	n/a	n/a	23-40	n/a	-

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DEP USE ONLY	Project Information						PA DEP / 105						Enter Only If Different from DEP Impacts Army Corps Impacts:	
	PADEP Permit Number	Structure / Activity unique identifier	Aquatic Resource Type	Latitude dd nad83	Longitude dd nad83	Waters Name	PA Code Chapter 93 Designation	Work Proposed	DEP Impact Type temp / perm ^{f,g}	ACOE Impact Type temp / perm ^a	Watercourse Impact Top of Bank to Top of Bank Length and Width in feet ^{b,d}	Floodway Impact Top of Bank Landward Length and Width in feet ^{c,d,e}	Wetland Impact Dimensions Length and Width in feet ^d	Watercourse Impact Length and Width in feet ^d
	W34	PEM	41.911875	-77.425407	Wetland W34	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	344-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	340-65	n/a	-
	W35	PEM	41.910894	-77.422991	Wetland W35	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	61-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	60-65	n/a	-
	W36	PEM	41.910879	-77.422235	Wetland W36	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	113-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	107-65	n/a	-
	W38	PEM	41.90693	-77.409351	Wetland W38	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	13-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	18-65	n/a	-
	W39	PEM	41.903544	-77.404032	Wetland W39	Other	Temporary Matting	Temp	Temp	n/a	n/a	63-15	n/a	-
	W40	PFO	41.903838	-77.399772	Wetland W40	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	115-30	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	78-45	n/a	-
	W41	PEM	41.901814	-77.394413	Wetland W41	Other	Temporary Matting	Temp	Temp	n/a	n/a	35-11	n/a	-
	W42	PEM	41.900397	-77.381429	Wetland W42	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	222-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	222-45	n/a	-
	W42	PFO	41.900703	-77.380298	Wetland W42	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	122-15	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	220-30	n/a	-
	W43	PEM	41.90299	-77.37074	Wetland W43	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	475-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	449-65	n/a	-
	W54	PEM	41.957508	-77.593568	Wetland W54	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	48-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	15-50	n/a	-
							Temporary Road / Bridge	Temp	Temp	n/a	n/a	150-30	n/a	-
	W55	PFO	41.931374	-77.518473	Wetland W55	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	83-30	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	106-45	n/a	-
	W56	PEM	41.924483	-77.521624	Wetland W56	Other	Temporary Road / Bridge	Temp	Temp	n/a	n/a	19-30	n/a	-
	W57	PEM	41.929735	-77.517648	Wetland W57	Other	HDD / Pipeline	Temp	Temp	n/a	n/a	36-19	n/a	-

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	W58	PEM	41.928311	-77.516974	Wetland W58	Other	HDD / Pipeline	Perm	Temp	n/a	n/a	65-2	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	109-73	n/a	-
	W59	PEM	41.927243	-77.516526	Wetland W59	Other	HDD / Pipeline	Perm	Temp	n/a	n/a	108-2	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	30-73	n/a	-
	W60	PEM	41.96061	-77.59615	Wetland W60	Other	Trench Excavation / Fill	Perm	Temp	n/a	n/a	17-10	n/a	-
							Temporary Matting	Temp	Temp	n/a	n/a	60-65	n/a	-
	W61	PEM	41.915268	-77.482257	Wetland W61	Other	Permanent Access Road / Fill	Perm	Perm	n/a	n/a	6-15	n/a	-
	S19	Perennial	41.958171	-77.60553	UNT to North Fork of Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	11-20	n/a	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-20	n/a	n/a	-	n/a
							Temporary Access Road / Bridge	Temp	Temp	512-30	n/a	n/a	-	n/a
	Temporary Access Road / Bridge	Temp	Temp	n/a	n/a	-	n/a							
	S20	Perennial	41.958269	-77.604058	North Fork Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	10-25	n/a	n/a	-	n/a
							Temporary Bridge	Temp	Temp	78-25	n/a	n/a	-	n/a
	S18/ S19/S20	Floodway	41.958262	-77.604386	North Fork Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	n/a	n/a	858-10	n/a	-	n/a
							Temporary Matting	Temp	n/a	n/a	1,087-65	n/a	-	n/a
	S21	Perennial	41.960571	-77.596576	UNT to North Fork of Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	10-8	113-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	71-8	112-65	n/a	-	n/a
	S22	Perennial	41.961059	-77.590698	UNT to North Fork of Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	11-3	108-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	73-3	107-65	n/a	-	n/a
	S23	Perennial	41.96241	-77.5862	UNT to North Fork of Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	10-12	118-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	69-12	123-65	n/a	-	n/a
	S23	Perennial	41.962855	-77.585673	UNT to North Fork of Cowanesque River	Drains to CWF	Temporary Access Road / Bridge	Temp	Temp	36-12	166-30	n/a	-	n/a

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS



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										Length and Width in feet ^{b,d}	Length and Width in feet ^{c,d,e}	Length and Width in feet ^d	Length and Width in feet ^d	Length and Width in feet ^d
	S24	Perennial	41.962719	-77.585596	UNT to North Fork of Cowanesque River	Drains to CWF	Temporary Access Road / Bridge	Temp	Temp	33-8		n/a	-	n/a
	S24	Perennial	41.962622	-77.581213	UNT to North Fork of Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	38-8	374-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	223-8	378-65	n/a	-	n/a
	S25	Floodway	41.962796	-77.57982	UNT to North Fork of Cowanesque River	Drains to CWF	Temporary Matting	Temp	n/a	--	205-20	n/a	-	n/a
	S26	Perennial	41.967168	-77.561839	California Brook	WWF	Trench Excavation / Fill	Perm	Temp	11-15	204-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	78-15	219-65	n/a	-	n/a
	S28	Perennial	41.963797	-77.566758	UNT to California Brook	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-6	104-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-6	107-65	n/a	-	n/a
	S29	Ephemeral	41.965114	-77.549977	UNT to California Brook	Drains to WWF	Trench Excavation / Fill	Perm	Temp	11-4	152-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	87-4	181-65	n/a	-	n/a
	S30	Ephemeral	41.964569	-77.549209	UNT to California Brook	Drains to WWF	Trench Excavation / Fill	Perm	Temp	8-6	109-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-6	109-65	n/a	-	n/a
	S31	Perennial	41.925388	-77.516047	UNT to Cowanesque River	WWF	HDD / Pipeline	Perm	Temp	22-2	784-2 (Perm)	n/a	-	n/a
							Temporary Bridge	Temp	Temp	104-5		n/a	-	n/a
							Temporary Access Road / Bridge	Temp	Temp	30-5		n/a	-	n/a
	S32	Perennial	41.924832	-77.515902	Cowanesque River	WWF	HDD / Pipeline	Perm	Temp	65-2	1,156-73 (Temp)	n/a	-	n/a
							Temporary Matting	Temp	Temp	79-73		n/a	-	n/a
	S33	Ephemeral	41.924019	-77.515861	UNT to Cowanesque River	Drains to WWF	Temporary Matting	Temp	Temp	91-12		n/a	-	n/a
	S36	Perennial	41.913886	-77.481102	Jemison Creek	WWF	Trench Excavation / Fill	Perm	Temp	13-20	230-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	74-30	316-65	n/a	-	n/a
	S37	Floodway	41.913874	-77.482294	UNT to Jemison Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	--	22-10	n/a	-	n/a
							Temporary Matting	Temp	Temp	--	37-65	n/a	-	n/a

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS**



Applicant's Name / Client National Fuel Gas Supply Corporation

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										Length and Width in feet ^{b,d}	Length and Width in feet ^{c,d,e}	Length and Width in feet ^d	Length and Width in feet ^d	Length and Width in feet ^d
	S38	Floodway	41.91389	-77.482895	UNT to Jemison Creek	Drains to WWF	Trench Excavation / Fill	Perm	n/a	--	22-10	n/a	-	n/a
							Temporary Matting	Temp	Temp	--	39-65	n/a	-	n/a
	S39	Ephemeral	41.914324	-77.483963	UNT to Jemison Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	17-5	139-10	n/a	-	n/a
							Perm Access Road (existing)	Temp	Temp	--	50-30	n/a	-	n/a
							Temporary Bridge	Temp	Temp	104-5	167-65	n/a	-	n/a
	S39a	Perennial	41.910238	-77.447776	UNT to Boatman Brook	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-5	108-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	70-5	107-65	n/a	-	n/a
	S40	Perennial	41.914391	-77.43785	Boatman Brook	WWF	Trench Excavation / Fill	Perm	Temp	10-12	113-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	73-12	125-65	n/a	-	n/a
	S41	Ephemeral	41.913661	-77.430417	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	--	113-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-4	117-65	n/a	-	n/a
	S42	Floodway	41.911082	-77.424149	UNT to Crooked Creek	Drains to WWF	Temporary Matting	Perm	n/a	--	69-12	n/a	-	n/a
	S43	Intermittent	41.910894	-77.422985	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	22-2	122-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-2	120-65	n/a	-	n/a
	S44	Intermittent	41.907833	-77.414802	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	11-8	108-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-8	108-65	n/a	-	n/a
	S45	Intermittent	41.906929	-77.40934	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-9	108-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	63-9	110-65	n/a	-	n/a
	S46	Floodway	41.906893	-77.408563	UNT to Crooked Creek	Drains to WWF	Temporary Matting	Temp	n/a	--	81-35	n/a	-	n/a
	S47	Perennial	41.903123	-77.402116	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	9-15	117-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	67-15	129-65	n/a	-	n/a
							Temporary Access Road / Bridge	Temp	Temp	41-15	300-30	n/a	-	n/a
	S48	Perennial	41.903839	-77.399686	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-6	--	n/a	-	n/a
							Temporary Bridge	Temp	Temp	80-6	--	n/a	-	n/a

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS



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										Length and Width in feet ^{b,d}	Length and Width in feet ^{c,d,e}	Length and Width in feet ^d	Length and Width in feet ^d	Length and Width in feet ^d
	S49	Ephemeral	41.903844	-77.399343	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-4	--	n/a	-	n/a
							Temporary Bridge	Temp	Temp	87-4	--	n/a	-	n/a
	S48/S49	Floodway	41.903839	-77.399686	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	n/a	--	217-10	n/a	-	n/a
							Temporary Matting	Temp	n/a	--	237-65	n/a	-	n/a
	S50	Intermittent	41.901756	-77.394562	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-11	--	n/a	-	n/a
							Temporary Bridge	Temp	Temp	71-11	--	n/a	-	n/a
	S51	Intermittent	41.90182	-77.394441	UNT to Crooked Creek	Drains to WWF	Temporary Bridge	Perm	Temp	--	--	n/a	-	n/a
							Temporary Bridge	Temp	Temp	40-1	--	n/a	-	n/a
	S50/S51	Floodway	41.901764	-77.394576	UNT to Crooked Creek	Drains to WWF	Trench Excavation / Fill	Perm	n/a	--	122-10	n/a	-	n/a
							Temporary Matting	Temp	n/a	--	158-65	n/a	-	n/a
	S52	Perennial	41.90069	-77.380339	UNT to Crooked Creek	WWF	Trench Excavation / Fill	Perm	Temp	18-12	131-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	152-65	166-65	n/a	-	n/a
	S53	Perennial	41.902996	-77.370667	UNT to Losey Creek	WWF	Trench Excavation / Fill	Perm	Temp	10-8	109-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	65-8	90-65	n/a	-	n/a
	S54	Ephemeral	41.904183	-77.364778	UNT to Losey Creek	Drains to WWF	Trench Excavation / Fill	Perm	Temp	10-1	122-10	n/a	-	n/a
							Temporary Bridge	Temp	Temp	87-1	118-65	n/a	-	n/a
	S56	Intermittent	41.964514	-77.561691	UNT to California Brook	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	37-7	138-30	n/a	-	n/a
	S56a	Ephemeral	41.97045	-77.561435	UNT to California Brook	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	44-1	104-30	n/a	-	n/a
	S57	Intermittent	41.970564	-77.559798	UNT to California Brook	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	30-3	109-30	n/a	-	n/a
	S58	Ephemeral	41.970287	-77.559319	UNT to California Brook	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	30-3	487-30	n/a	-	n/a
	S59	Ephemeral	41.970209	-77.559236	UNT to California Brook	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	174-3		n/a	-	n/a
	S62	Perennial	41.931261	-77.518355	UNT to North Branch Cowanesque River	Drains to CWF	Trench Excavation / Fill	Perm	Temp	13-10	130-10	n/a	-	n/a
							Temporary Matting	Temp	Temp	78-10	168-65	n/a	-	n/a

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS



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	S63	Perennial	41.924073	-77.521176	UNT to North Branch Cowanesque River	Drains to CWF	Temporary Access Road / Bridge	Temp	Temp	30-6	1,565-30	n/a	-	n/a
	S68	Perennial	41.924484	-77.52163	UNT to North Fork of Cowanesque River	Drains to CWF	Temporary Access Road / Bridge	Temp	Temp	36-50		n/a	-	n/a
	S64	Perennial	41.922196	-77.517457	UNT to Cowanesque River	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	30-20	125-30	n/a	-	n/a
	S65	Ephemeral	41.929729	-77.517651	UNT to Cowanesque River	Drains to WWF	HDD /Temporary Bridge	Perm	Temp	--	22-10	n/a	-	n/a
							Temporary Matting	Temp	Temp	130-1	874-30	n/a	-	n/a
	S66	Floodway	41.958355	-77.593817	UNT to North Fork of Cowanesque River	Drains to CWF	Temporary Matting / Temporary Access Road	Temp	n/a	--	630-30	n/a	-	n/a
	S67	Perennial	41.921871	-77.515732	UNT to Cowanesque River	Drains to WWF	Temporary Access Road / Bridge	Temp	Temp	44-6	126-30	n/a	-	n/a

Footnotes:

- a Resources will be temporarily disturbed and restored to pre-construction contours and elevations.
- b Permanent wetland impact length was generated by measuring the crossing distance along the pipeline centerline. If the pipeline centerline did not cross the wetland but the construction workspace did, the length was measured at a representative location within the workspace, parallel to the centerline. Temporary wetland impact lengths were measured along the boundary between permanent and temporary workspace when the wetland occurred within the proposed temporary (or additional temporary) workspace, or at a representative location parallel to the pipeline centerline. Width calculations were determined by the overall width of the workspace if the feature was located in the entire workspace, otherwise width was calculated by dividing the total square feet of the proposed impact area by the length. Waterbody widths represent the bank-to-bank width of the feature, and the length is the length of the waterbody within the proposed workspace. Floodway lengths and widths were calculated similar to the wetland lengths and widths. Measurements for access road crossings used the center of the access road and width of the proposed access road. For aquatic resources that extended from the pipeline ROW into an access road, the additional length of the extension was added to the total length for that resource.
- c Floodways that overlap and share area have been grouped together.
- d Acreage calculations provided in other sections of this application may not equal the acreage or square footage from the lengths multiplied by widths presented in this table, as most aquatic resource features have an irregular shape. Acreage calculations elsewhere in this application were determined using GIS calculations of the total area of each aquatic resource polygon feature within the Project workspace, broken down by temporary and permanent impacts.
- e Floodways were determined using FEMA floodway mapping. Where FEMA mapping was unavailable, a 50-ft buffer extending landward from each bank of each waterbody was used. For example, a 5-ft wide waterbody would have a floodway 105 ft wide.
- f Per DEP, "Temporary Impacts are those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. This **does not include areas that will be maintained** as a result of the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into a watercourse, floodway or body of water (these are considered permanent impacts)." Accordingly, these values reflect the entire LOD through regulated wetlands minus the maintained areas described in the permanent impacts below.
- g Per DEP, "Permanent Impacts are those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result from the placement or construction of a water obstruction or encroachment and **include areas necessary for the operation and maintenance of the water obstruction** or encroachment located in, along or across, or projecting into a watercourse, floodway or body of water." Accordingly, these values represent the acreage of cover type conversion due to vegetation maintenance procedures within the 30-foot-wide portion of the permanent ROW. Specifically, in accordance with the FERC Procedures, National Fuel will not conduct routine vegetation mowing or clearing over the full width of the permanent ROW. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared through all wetlands (PEM, PSS, PFO) at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, PFO trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent ROW. National Fuel will not conduct any routine vegetation mowing or clearing in wetlands located between HDD entry

COMMONWEALTH OF PENNSYLVANIA
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and exit points (W58, W59, W23) but has included at permanent impact in these areas based on the width of the pipeline (2 feet) times the length of the wetland at centerline. All streams and floodways will be restored to pre-existing conditions and there will be no long-term impact to the substrate, banks, flow, aquatic/terrestrial life, or floodway; with the exception of S73z where the corner of a small gravel pad will be placed in the floodway. However, National Fuel will maintain a 10-foot-wide corridor centered over the pipeline in an herbaceous state and has conservatively identified stream and floodway impacts within this corridor as permanent.														