

Item 5

Proposed Project Antidegradation Analysis

Section 401 Water Quality Certification Application
Item 5: Proposed Project Antidegradation Analysis
The East Ohio Gas Company
Western Access II
Tuscarawas and Harrison Counties, Ohio

Section 1: Antidegradation Analysis

1.1 Project Description

The Western Access II project involves the installation of 86,498 feet (16.4 miles) of 36-inch diameter natural gas transmission pipeline. This pipeline will be installed in existing and new utility right-of-way (ROW). The existing ROW follows Dominion's TPL 2 and TPL 3 pipelines and extends from the northern terminus of the project area (northwest of Pleasant Valley Road SE) southeast to west of Minksville Road (Item 6, Figures 1.2a-1.2xx). The new ROW is located in the southern portion of the project area from west of Minksville Road to the southeastern terminus of the project area (Item 6, Figures 1.2xx-1.2lll). In addition, three (3) proposed meter and regulation (M&R) stations are to be constructed along the proposed pipeline route. The northern station (Holmes Station) is approximately 4.5 acres and is located at the northern terminus of the project area, the central station (Plum Run Station) is approximately 4.4 acres and is located approximately 3,445 feet northwest of Plum Run Road, and the southern station (Cadiz West Station) is approximately 6.4 acres and is located at the southern terminus of the project area. Lastly, a temporary storage area is located west of Tappen Lake Park Road along McGonigal Road (Item 6, Figure 1.2mmm). This area is approximately 5 acres.

1.1.1 Preferred Design

The Preferred Design proposes a disturbance width of 115 feet along the pipeline segment to be installed. However, with the Preferred Design, impacts will be reduced through wetlands and streams to a 60 foot wide construction corridor. Installation of the pipeline segment using the Preferred Design will temporarily impact 3.915 acres of Category 1 and 2 palustrine emergent (PEM), palustrine scrub shrub (PSS), and palustrine forest (PFO) wetlands (Wetlands W-02, W-03, W-04, W-05, W-06, W-08, W-09, W-11, W-12, W-13, W-14, W-16, W-17, W-18, W-20, W-21, W-22, W-23, W-26, W-29, W-30, W-31, W-32, W-33, W-34, W-36, W-38, W-39, W-B, W-C, W-D, W-E, W-H, W-I, W-J, W-K, W-52, W-53, W-54, W-56, W-58, and W-61), 59.5 linear feet of perennial stream measured bank to bank (Brushy Fork [a and b], McFadden Run, and Streams S-14, S-20, S-30, S-36b, S-38, S-44b, S-E, and S-72), 84.5 linear feet of intermittent stream measured bank to bank (Streams S-05, S-06, S-07, S-11, S-17, S-18b, S-19, S-21b, S-22b, S-23, S-24b, S-29, S-33, S-35, S-39a, S-40b, S-41b, S-44a, S-A1, S-C, S-G, S-56b, S-58, S-59, S-69, and S-74), and 41 linear feet of ephemeral stream measured bank to bank (Streams S-4a, S-13, S-15, S-27, S-32, S-43a, S-45, S-46, S-48a, S-48b, S-B, S-D1, S-F, S-57, S-63, S-65, S-67, S-68, S-73, S-75, S-76, S-77, and S-79). In addition, the Preferred Design will permanently impact 0.284 acres of wetland (Wetlands W-01 and W-02), 95 linear feet of intermittent stream (Stream S-01), and 200 linear feet of ephemeral stream (Stream S-02) for the construction of the proposed Holmes Station.

The construction activities using the Preferred Design will cause soil disturbance within the 115 foot wide construction corridor, reduced to a 60 foot disturbance through wetland and stream, to accommodate areas for the trench excavation, side-cast spoil, temporary storage of the new pipe, and equipment/vehicular traffic. All work will be performed within these limits of disturbance. In order to complete the project, a trench will be excavated to facilitate installation of the new pipeline and to allow five (5) to eight (8) feet of cover over the new pipeline following installation and backfilling. The constructed trench will be approximately 15 feet wide by eight (8) feet deep by 86,498 feet long. The backfill material returned to the trench will consist of the same material removed from the trench, to the best extent practicable. The top 12 inches of wetland soil will be segregated and kept separate from subsoil during trenching and will be replaced on top during backfilling. Following pipeline installation, all disturbed areas will be returned to their original slope and contour and stabilized. Wetlands will be allowed to naturally revegetate with the original seed bank. All other vegetated areas that undergo project-related soil disturbance will be seeded and re-vegetated to provide a permanent herbaceous cover to stabilize the soils, and temporary erosion controls will be maintained until this permanent cover is established. Construction of the Preferred Design would include clearing of vegetation, trench excavation, re-grading, and construction of the new pipeline segment as shown in Item 6 (Figures 2.1a-2.1mmm).

1.1.2 Minimal Degradation Alternative

The pipeline will be installed within a 115 foot wide construction corridor. However, with the Minimal Degradation Alternative, impacts will be reduced through wetlands and streams to a 50 foot wide construction corridor. Installation of the pipeline segment using the Minimal Degradation Alternative will temporarily impact 3.373 acres of Category 1 and 2 PEM, PSS, and PFO wetland (Wetlands W-02, W-03, W-04, W-05, W-06, W-08, W-09, W-11, W-12, W-13, W-14, W-16, W-17, W-18, W-20, W-21, W-22, W-23, W-26, W-29, W-30, W-31, W-32, W-33, W-34, W-36, W-39, W-B, W-C, W-D, W-E, W-H, W-I, W-J, W-K, W-52, W-53, W-54, W-56, W-58, and W-61), 59.5 linear feet of perennial stream measured bank to bank (Brushy Fork [a and b], McFadden Run, Streams S-14, S-20, S-30, S-36b, S-38a, S-44b, S-E, and S-72), 81.5 linear feet of intermittent stream measured bank to bank (Streams S-05, S-06, S-07, S-11a, S-17, S-18b, S-19, S-21b, S-22b, S-23, S-24b, S-29, S-33, S-35, S-39a, S-40b, S-4, S-A1, S-C, S-G, S-56b, S-58, S-59, and S-74), and 39 linear feet of ephemeral stream measured bank to bank (Streams S-4a, S-13, S-15, S-27, S-32, S-43a, S-45, S-46, S-48b, S-B, S-D1, S-F, S-54, S-57, S-65, S-67, S-68, S-73, S-75, S-76, S-77, and S-79). In addition, the Minimal Degradation Alternative will permanently impact 0.284 acres of wetland (Wetlands W-01 and W-02), 95 linear feet of intermittent stream (Stream S-01), and 200 linear feet of ephemeral stream (Stream S-02) for the construction of the proposed Holmes Station.

The construction activities using the Minimal Degradation Alternative will cause soil disturbance within the 115 foot wide construction corridor, reduced to 50 feet wide through wetland and stream, to accommodate areas for the trench excavation, side-cast spoil, temporary storage of the new pipe, and equipment/vehicular traffic. All work will be performed within these limits of disturbance. In order to complete the project, a trench will be excavated to facilitate installation of the new pipeline and to allow five (5)

to eight (8) feet of cover over the new pipeline following installation and backfilling. The constructed trench will be approximately 15 feet wide by eight (8) feet deep by 86,498 feet long. The backfill material returned to the trench will consist of the same material removed from the trench, to the best extent practicable. The top 12 inches of wetland soil will be segregated and kept separate from subsoil during trenching and will be replaced on top during backfilling. Following pipeline installation, all disturbed areas will be returned to their original slope and contour and stabilized. Wetlands will be allowed to naturally revegetate with the original seed bank. All other vegetated areas that undergo project-related soil disturbance will be seeded and re-vegetated to provide a permanent herbaceous cover to stabilize the soils, and temporary erosion controls will be maintained until this permanent cover is established. Construction of the Minimal Degradation Alternative would include clearing of vegetation, trench excavation, re-grading, and construction of the new pipeline as shown in Item 6 (Figures 2.2a-2.2mmm).

1.1.3 Non-Degradation Alternative

The Non-Degradation Alternative proposes a disturbance width of 115 feet along the pipeline to be installed. However, unlike the Preferred Design and Minimal Degradation Alternative, the Non-Degradation Alternative involves using horizontal directional drilling (HDD) technology when crossing wetlands and streams, as shown Item 6 (Figures 2.3a-2.3mmm). No impacts to wetlands or streams would occur with this alternative. Construction of the Non-Degradation Alternative would include ground disturbance on either side of each wetland or stream crossing to allow for the HDD of the pipeline. Pipeline segments within uplands will be open cut with a 15 foot wide by eight (8) foot deep trench.

The Plum Run and Cadiz West Stations can be constructed as proposed without wetland or stream impacts. However, the footprint of the Holmes Station and the additional storage area would have to be significantly reduced or relocated to accommodate the proposed facility while avoiding wetlands and streams.

1.2 Avoidance

The proposed pipeline is being placed within an existing utility ROW that currently contains other underground utility cables and pipelines. In addition, the project area is composed of steep ridges and harsh side-slopes that make pipeline installation dangerous and, in some places, not feasible. Due to these details, the proposed pipeline must be placed in a very specific location to ensure the viability and longevity of the pipeline system. Therefore, avoiding particular wetlands and/or streams with the Preferred Design and the Minimal Degradation Alternative was not feasible for the overall plan. However, most of the wetlands and streams within the ROW are connected to larger wetland/stream systems and the proposed impacts will not affect the general quality of these systems. The Minimal Degradation Alternative avoids 0.542 acres of wetland, three (3) linear feet (measured bank to bank) of intermittent stream, and two (2) linear feet (measured bank to bank) of ephemeral stream compared to the Preferred Design. Outside of the proposed construction corridor, equipment bridges and timber mats will be used to avoid unnecessary impacts to wetlands and streams.

The Non-Degradation Alternative will avoid all wetlands and streams using HDD bore technology. Equipment bridges and timber mats will be used for all wetland and stream crossings to prevent impacts while accessing upland portions of the project. In addition, the Non-Degradation Alternative will not result in any permanent impacts to wetland and stream from the proposed Holmes Station.

Other locations for the installation of the pipeline were not considered. The most practical placement for a new pipeline is within existing ROW due to previous ground disturbance and land rights.

1.3 Minimization

The Preferred Design will minimize impacts by reducing the construction corridor to 60 foot wide when crossing through wetlands and streams. Additionally, all impacts along the proposed pipeline will be temporary and after work is completed, grades will be returned to pre-construction contours.

The Minimal Degradation Alternative will further minimize impacts by reducing the construction corridor to 50 foot wide when crossing through wetlands and streams. Additionally, overall impacts to the aquatic resources will be reduced by 0.542 acres of wetland, three (3) linear feet (measured bank to bank) of intermittent stream, and two (2) linear feet (measured bank to bank) of ephemeral stream from the Preferred Design. All impacts along the proposed pipeline will be temporary and after work is completed, grades will be returned to pre-construction contours.

The proposed permanent wetland and stream impacts necessary for the Holmes Station are the same for the Preferred Design and the Minimal Degradation Alternative. Permanent impacts to water resources have been minimized to 295 linear feet of stream and 0.284 acres of wetland. However, due to the topography and available land, there are few options regarding the placement of this proposed station. Due to the size requirements of the station, permanent impacts have been minimized as much as possible.

The Non-Degradation Alternative would eliminate impacts to wetlands and streams and no direct or indirect impacts are proposed to occur.

1.4 Magnitude of the Proposed Lowering of Water Quality

The Preferred Design proposes temporary impacts to 3.915 acres of Category 1 and 2 palustrine emergent (PEM), palustrine scrub shrub (PSS), and palustrine forest (PFO) wetlands (Wetlands W-02, W-03, W-04, W-05, W-06, W-08, W-09, W-11, W-12, W-13, W-14, W-16, W-17, W-18, W-20, W-21, W-22, W-23, W-26, W-29, W-30, W-31, W-32, W-33, W-34, W-36, W-38, W-39, W-B, W-C, W-D, W-E, W-H, W-I, W-J, W-K, W-52, W-53, W-54, W-56, W-58, and W-61), 59.5 linear feet of perennial stream measured bank to bank (Brushy Fork [a and b], McFadden Run, and Streams S-14, S-20, S-30, S-36b, S-38, S-44b, S-E, and S-72), 84.5 linear feet of intermittent stream measured bank to bank (Streams S-05, S-06, S-07, S-11, S-17, S-18b, S-19, S-21b, S-22b, S-23, S-24b, S-29, S-33, S-35, S-39a, S-40b, S-41b, S-44a, S-A1, S-C, S-G, S-56b, S-58, S-59, S-69, and S-74), and 41 linear feet of ephemeral stream measured bank to bank (Streams S-4a,

S-13, S-15, S-27, S-32, S-43a, S-45, S-46, S-48a, S-48b, S-B, S-D1, S-F, S-57, S-63, S-65, S-67, S-68, S-73, S-75, S-76, S-77, and S-79). In addition, the Preferred Design will permanently impact 0.284 acres of wetland (Wetlands W-01 and W-02), 95 linear feet of intermittent stream (Stream S-01), and 200 linear feet of ephemeral stream (Stream S-02) for the construction of the proposed Holmes Station.

The majority of the project impacts are temporary and will not result in any permanent loss of wetland acreage or stream channel. No permanent relocation of wetlands or waterbodies is planned. The proposed lowering of water quality and the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species, important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function are minimal as the construction area is relatively small and the surrounding property will remain undisturbed. Additionally, erosion and sediment control devices and Best Management Practices (BMPs) will be used during construction.

The Minimal Degradation Alternative proposes temporary impacts to 3.373 acres of Category 1 and 2 PEM, PSS, and PFO wetland (Wetlands W-02, W-03, W-04, W-05, W-06, W-08, W-09, W-11, W-12, W-13, W-14, W-16, W-17, W-18, W-20, W-21, W-22, W-23, W-26, W-29, W-30, W-31, W-32, W-33, W-34, W-36, W-39, W-B, W-C, W-D, W-E, W-H, W-I, W-J, W-K, W-52, W-53, W-54, W-56, W-58, and W-61), 59.5 linear feet of perennial stream measured bank to bank (Brushy Fork [a and b], McFadden Run, Streams S-14, S-20, S-30, S-36b, S-38a, S-44b, S-E, and S-72), 81.5 linear feet of intermittent stream measured bank to bank (Streams S-05, S-06, S-07, S-11a, S-17, S-18b, S-19, S-21b, S-22b, S-23, S-24b, S-29, S-33, S-35, S-39a, S-40b, S-4, S-A1, S-C, S-G, S-56b, S-58, S-59, and S-74), and 39 linear feet of ephemeral stream measured bank to bank (Streams S-4a, S-13, S-15, S-27, S-32, S-43a, S-45, S-46, S-48b, S-B, S-D1, S-F, S-54, S-57, S-65, S-67, S-68, S-73, S-75, S-76, S-77, and S-79). In addition, the Minimal Degradation Alternative will permanently impact 0.284 acres of wetland (Wetlands W-01 and W-02), 95 linear feet of intermittent stream (Stream S-01), and 200 linear feet of ephemeral stream (Stream S-02) for the construction of the proposed Holmes Station.

The majority of the project impacts will be temporary and will not result in any permanent loss of wetland acreage or stream channel. No permanent relocation of wetlands or waterbodies is planned. The proposed lowering of water quality and the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species, important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function are minimal as the construction area is relatively small and the surrounding property will remain undisturbed. Additionally, erosion and sediment control devices and BMPs will be used during construction.

Permanent impacts proposed for the installation of Holmes Station total 0.284 acres of wetland, 200 linear feet of ephemeral stream, and 95 linear feet of intermittent stream for both the Preferred Design and the Minimal Degradation Alternative. Permanent impacts due to the construction of the station will be to non-forested Category 2 wetlands and

Class I Primary Headwater Habitat streams. All of these water resources are small and are not high quality. In addition, the only connection to downstream waters is through Stream S-02 which will be able to maintain its ephemeral flow through a culvert placed under the proposed station access driveway.

All onsite streams were assessed using either the Ohio Environmental Protection Agency's Headwater Habitat Evaluation Index (HHEI) or the Qualitative Habitat Evaluation Index (QHEI). Streams that will be impacted that scored within the range for Class III Primary Headwater Habitat streams or Warmwater Habitat streams include Brushy Fork, McFadden Run, and Streams S-30, S-44, and S-72. In-water work waivers have been requested through the U.S. Army Corps of Engineers for each of these stream crossings. None of the onsite streams are listed as salmonoid streams, percid streams, or streams that have known occurrences of threatened or endangered species by the Ohio Department of Natural Resources (ODNR) (see Item 4). The ODNR did indicate that streams with a drainage area of ten (10) square miles or more be assessed for the presence of native mussel species. Two (2) onsite streams (Brushy Fork and McFadden Run) have drainage areas over ten (10) square miles and were assessed for native mussel species by a professional malacologist. McFadden Run did not contain any evidence of living or dead mussel species. Brushy Fork was surveyed at both crossings within the project area (Brushy Fork [a] and Brushy Fork [b]). Brushy Fork (a) contained fresh dead, weathered dead, and one (1) living white heelsplitter mussels (*Lasmigona complanata*) at the downstream end of the project area. Brushy Fork (b) contained several dead and one (1) living fatmucket mussels (*Lampsilis siliquoidea*) and several dead and one (1) living white heelsplitter mussels. The mussel survey concluded that, "McFadden Run appears to be too small to support any freshwater mussel populations and no further survey or relocation work should be required. Brushy Fork, while larger, has populations of 2 mussel species, neither of which is considered as special concern, threatened, or endangered in Ohio. However, since all mussel species are protected in Ohio, a salvage effort should be completed once the final area of direct impact positions of the Brushy Fork crossings are established."

The majority of onsite streams are small and do not have enough flow to provide habitat for stream biota. Temporary impacts to 64 streams proposed under the Preferred Design and 61 streams proposed under the Minimal Degradation Alternative will not adversely impact the aquatic community or structure of these streams. In addition, none of the onsite streams are currently being used by the public for recreation, tourism, or other activities.

All onsite wetlands have been categorized using the Ohio Rapid Assessment Method for Wetlands v.5.0 (ORAM). All wetlands assessed within the range for Category 1 and Category 2 wetlands. Onsite wetlands are composed of PEM, PSS, and PFO vegetative communities. The majority of wetland impacts will occur within non-forested wetlands. Onsite wetlands are mainly within existing utility ROW, therefore; temporary impacts to the wetlands will not result in a change in use. The ODNR and U.S. Fish and Wildlife Service (USFWS) did not indicate any threatened or endangered species within any of the

onsite wetlands. In addition, none of the onsite wetlands are currently being used by the public for recreation, tourism, or other activities.

1.5 Technical Feasibility and Cost Effectiveness

The Preferred Design is technically feasible to construct using currently available engineering practices and technology within the 115 foot wide construction corridor, with the construction width through wetlands and streams reduced to 60 feet wide. The total anticipated cost to construct the Preferred Design is \$120,000,000.

The Minimal Degradation Alternative is technically feasible to construct using currently available engineering practices and technology within the 115 foot wide ROW with the construction width through wetlands and streams reduced to 50 feet wide. The total anticipated cost to construct the Minimal Degradation Alternative is \$120,000,000.

To complete the Non-Degradation Alternative, all wetlands and streams would have to be crossed using horizontal directional drilling (HDD) technology. In order to HDD bore wetlands and streams, the equipment must have a safe way to access each end of the wetlands and streams to excavate launching and receiving pits to safely direct the pipeline under wetlands and streams. These pits typically require a disturbance area of 100 feet by 200 feet to accommodate the boring activities including excavation, equipment, and pipe. Several wetlands and streams are located directly adjacent to a roadway or at the bottom of a steeply sloped hill. This alignment would not allow enough room for the HDD equipment to operate and excavate the required pits safely. In addition, using HDD technology as a method of wetland and stream crossing does pose some environmental risk to the water resources, especially when dealing with a large diameter pipeline as proposed in this project. With HDD activity, there is a potential for an inadvertent return in which drilling mud escapes from the bore to the surface of a wetland or stream. The released drilling mud could potentially cover an undetermined area of wetland or stream bed surface, causing unintentional wetland or stream impacts, and costly and timely cleanup. Lastly, the HDD bore technology is very expensive. The total anticipated cost to construct the Non-Degradation Alternative is \$145,000,000.

1.6 Economic Considerations

In general, this project will benefit the community with the construction of a new transmission pipeline and additional natural gas M&R stations in order to keep up with the increase in natural gas production. It also allows the pipeline to continue transporting energy to customers and other networked pipeline systems. The project is not expected to have any impact on surrounding property values. Businesses that will be positively impacted by the construction of the proposed project include pipeline construction contractors, excavators, haulers, pipeline retailers, erosion control retailers, engineers, and surveyors. Local, state, and federal government would benefit by increased tax revenues and increased jobs.

The Preferred Design and Minimal Degradation Alternative will both create approximately 400 new jobs. However, all new jobs that are created will be temporary and will last through the duration of the pipeline construction. Due to the increase in new

jobs, the construction activities for these alternatives will create approximately \$3,000,000 worth of payroll in 2015. These payroll dollars will generate approximately \$1,200,000 in payroll taxes.

The Non-Degradation Alternative will create approximately 300 new jobs. However, all new jobs that are created will be temporary and will last through the duration of the pipeline construction. Due to the increase in new jobs, the construction activities for this alternative will create approximately \$2,500,000 worth of payroll in 2015. These payroll dollars will generate approximately \$1,500,000 in payroll taxes.

1.7 Cumulative Impact

The Preferred Design and Minimal Degradation Alternative will cause minor temporary and permanent impacts. Following re-grading of the pipeline trench to pre-construction contours, the impacted area will be restored to pre-existing conditions. There are no anticipated cumulative impacts considering the wetlands and streams will be restored to pre-existing conditions along the pipeline route. All of the wetlands and streams along the portion of existing ROW have been previously disturbed by other temporary pipeline projects and proposed temporary impacts will not create additional cumulative impacts to any of the onsite systems.

Permanent impacts proposed for the installation of Holmes Station total 0.284 acres of wetland, 200 linear feet of ephemeral stream, and 95 linear feet of intermittent stream for both the Preferred Design and the Minimal Degradation Alternative. These impacts will not occur in wetlands or streams that have been previously impacted. In addition, the only connection to downstream waters is through Stream S-02 which will be able to maintain its ephemeral flow through a culvert placed under the proposed station access driveway.

The majority of area that will be affected currently exists as maintained ROW and is located primarily within areas where the vegetation is routinely maintained in a typically herbaceous state. However, tree and shrub clearing will be required along the unmaintained ROW perimeter, in the area of the new stations, and along the new ROW. The project area was reviewed for trees that could provide habitat for the federally endangered Indiana bat (*Myotis sodalis*) and/or the proposed federally endangered northern long-eared bat (*Myotis septentrionalis*). Approximately 304 trees were identified within the project area that may potentially provide habitat for these bats. These potential roost trees (PRTs) for the bats are northern white oak (*Quercus alba*), northern red oak (*Quercus rubra*), shagbark hickory (*Carya ovata*), black cherry (*Prunus serotina*), American basswood (*Tilia americana*), black locust (*Robinia pseudoacacia*), black walnut (*Juglans nigra*), red maple (*Acer rubrum*), American elm (*Ulmus americana*), tuliptree (*Liriodendron tulipifera*), sugar maple (*Acer saccharum*), white pine (*Pinus strobus*), and standing dead trees with diameters at breast height (dbh) measurements ranging from six (6) to 52 inches. The PRTs have 10 to 100% solar exposure, peeling bark, holes, and/or crevices. Tree clearing is proposed between January 1, 2015 and March 31, 2015 in order to avoid impacts to the federally endangered Indiana bat and/or the federally proposed endangered northern long-eared

bat. In addition, seven (7) barn/shed structures are located within the project area. These structures are suitable habitat for the northern long-eared bat. These structures are not proposed to be impacted.

Preliminary project scoping letters were submitted to the ODNR and USFWS. Responses from both agencies were received and are included in Item C. Both agencies indicated that seasonal tree clearing (between October 1 and March 31) is an acceptable measure to avoid impacts to both listed bat species. Tree and shrub clearing will be minimized as much as possible and will be confined to the work and disturbance areas.

A desktop cultural resources review of the Western Access II project area was prepared and is included in Item F. No significant historical features were identified within the project area. Moreover, due to previous ground disturbance along the existing ROW, no further coordination is proposed for the portion of the project located in existing ROW. In addition, a Phase I Cultural Resources survey was completed for all wetland and stream crossings along the new portion of ROW. No historically significant findings were reported during the course of this survey.

1.8 Indirect Impacts

Indirect impacts along the pipeline for both the Preferred Design and the Minimal Degradation Alternative may include the temporary loss of a portion of wetland function due to the clearing of wetland vegetation, changes in hydrology for that portion of the wetland, and removal of soils. The wetlands are anticipated to regain full and proper functionality following restoration of the temporarily impacted wetlands. In addition, temporary impacts to onsite streams may cause minor indirect impacts to downstream water flow.

Indirect impacts for permanent wetland and stream impacts for both the Preferred Design and the Minimal Degradation Alternative may include loss of wetland and stream function within the Holmes Station project area. Water flow will be maintained through a culvert connecting Wetland W-02 to the un-impacted portion of Stream S-02. Due to the small size and low quality of these resources, indirect impacts are not anticipated to be significant.

1.9 Construction Stormwater Management Plans

BMPs and erosion and sediment control devices will be implemented throughout construction to minimize stormwater runoff, soil erosion and the transport of sediments from the construction area, and to protect surface waters and wetlands located in and adjacent to the project area. A project specific Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the project following the ODNR Ohio Rain Water and Land Development Manual for all alternatives discussed here.

1.10 Post-Construction Stormwater Management Plans

Following pipeline replacement, all temporarily disturbed areas will be returned to their original slope and contour and stabilized. Wetlands will be allowed to naturally revegetate with the original seed bank. All other vegetated areas along the pipeline

trench that undergo project-related soil disturbance will be seeded and re-vegetated to provide a permanent herbaceous cover to stabilize the soils, and temporary erosion controls will be maintained until this permanent cover is established.

The proposed stations will require a post-construction stormwater management plan. The plan will follow the Ohio EPA OHC000004 General Construction Stormwater Permit Guidelines and will be determined upon the final design of each facility. This will be detailed within a station specific Environmental Compliance Plan prepared and managed by Dominion.