

Commonwealth of Pennsylvania  
Department of Environmental Protection  
Waterways and Wetlands Program  
Northcentral Regional Office

**WATER OBSTRUCTION AND ENCROACHMENT PERMIT**

The Department of Environmental Protection "Department", established by the Act of December 3, 1970, P.L. 834 (71 P.S. §§510.1 et seq.) and empowered to exercise certain powers and perform certain duties under and by virtue of the Act of November 26, 1978, P.L. 1375, as amended by the Act of October 23, 1979, P.L. 204 (32 P.S. §§693.1 et seq.) known as the "Dam Safety and Encroachments Act"; Act of October 4, 1978, P.L. 851, (32 P.S. §§679.101 et seq.) known as the "Flood Plain Management Act"; Act of June 22, 1937, P.L. 1987, (35 P.S. §§691.1 et seq.), known as "The Clean Streams Law"; and the Administrative Code, Act of April 9, 1929, P.L. 177, as amended, which empowers the Department to exercise certain powers and perform certain duties by law vested in and imposed upon the Water Supply Commission of Pennsylvania and the Water and Power Resources Board, hereby issues this permit to:

**Transcontinental Gas Pipe Line Company, LLC  
2800 Post Oak Boulevard, Level 6, Houston, TX 77056**

giving its consent to:

**construct, operate and maintain approximately 28.4 miles of 42-inch diameter pipeline and appurtenant structures associated with the Lebanon County portion of the Atlantic Sunrise Pipeline Project Central Penn Line South. The proposed project impacts in Lebanon County include a total of 4629.3 linear feet of temporary stream impacts, a total of 581.5 linear feet of permanent stream impacts, 16.20 acres of temporary floodway impacts, 1.55 acres of permanent floodway impacts, 2.30 acres of temporary impacts to Palustrine Emergent (PEM), Palustrine Forested (PFO) and Palustrine Scrub-Shrub (PSS) wetlands, and 0.82 acres of permanent impacts to PEM, PFO and PSS wetlands. Specific impacts are shown in Appendix 1 – Project Impacts. The permittee is required to compensate for the proposed permanent PFO and PSS project impacts in Lebanon County by providing 2.35 acres of successful compensatory wetland mitigation through a combination of wetland creation and wetland enhancement located at the Hibred Farm Mitigation Project along State Route 0897 (Wormelsdorf, PA Quadrangle N: 40° 17' 02.38"; W: -76° 10' 34.34.03) in West Cocalico Township, Lancaster County. This mitigation site shall compensate for the proposed permanent project impacts in Lebanon and Lancaster Counties by creating a total of 7.03 acres of wetland rehabilitation and enhancement of existing wetlands. The proposed project starts at the Lebanon County Schuylkill County border Pine Grove, PA Quadrangle N: 40°, 31', 39"; W: -76°, 29', 25" and ends at the Lebanon County Lancaster County border Elizabethtown, PA Quadrangle N: 40°, 12',**

**30"; W: -76°, 31', 49" in Cold Springs, in East Hanover, North Annville, South Annville, South Londonderry, Swatara, North Lebanon, and Union Townships, Lebanon County. The proposed project impacts in this permit application are associated with a proposed transmission pipeline project extending approximately 198.7 miles in Pennsylvania between Lennox Township, Susquehanna County, PA and Drumore Township, Lancaster County, PA.**

If this work authorized by this permit is not completed on or before the **31st** day of **December** A.D. **2020**, this permit, if not previously revoked or specifically extended by the Department in writing, shall become void without further notification.

This permit is issued in response to an application filed with the Department of Environmental Protection on the **31st** day of **August** A.D. **2015**, and with the understanding that the work shall be performed in accordance with the maps, plans, profiles and specifications filed with and made a part of the application on **December 3, 2015, September 26, 2016, November 21, 2016, February 10, 2017, April 6, 2017, April 21, 2017, May 5, 2017, August 1, 2017, August 14, 2017 and August 21, 2017**, subject, however, to the provisions of the Dam Safety and Encroachments Act, the Flood Plain Management Act, the Clean Streams Law, the Administrative Code, the rules and regulations promulgated thereunder and the following conditions and restrictions:

1. The permittee shall sign the Acknowledgement of Appraisal of Permit Conditions thereby expressly certifying the permittee's acceptance of, and agreement to comply with, the terms and conditions of this permit. The permittee shall return a signed copy of the Acknowledgement of Appraisal of Permit Conditions to the Department. Unless the Acknowledgement of Appraisal of Permit Conditions for is completed and filed with the Department, this permit is void.
2. The Department, in issuing this permit, has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the Department may, in addition, institute appropriate legal proceedings.
3. This permit does not give any property rights, either in real estate or material, nor any exclusive privileges, nor shall it be construed to grant or confer any right, title, easement, or interest in, to, or over any land belonging to the Commonwealth of Pennsylvania; neither does it authorize any injury to private property or invasion of private rights, nor any infringement of Federal, State, or Local laws or regulations; nor does it obviate the necessity of obtaining Federal assent when necessary.
4. The work shall at all times be subject to supervision and inspection by representatives of the Department, and no changes in the maps, plans, profiles, and specifications as approved shall be made except with the written consent of the Department. The Department, however, reserves the right to require such changes or modifications in the maps, plans, profiles, and specifications as may be considered necessary. The Department further

reserves the right to suspend or revoke this permit if in its opinion the best interest of the Commonwealth will be subserved thereby.

5. This permit authorizes the construction, operation, maintenance and normal repair of the permitted structures conducted within the original specifications for the water obstruction or encroachment, and in accordance with the regulations of the Department and terms and conditions of this permit. Any repairs or maintenance involving modifications of the water obstruction or encroachment from its original specifications, and any repairs or reconstruction involving a substantial portion of the structure as defined by regulations of the Department shall require the prior written approval and permit of the Department.
6. All construction debris, excavated material, brush, rocks, and refuse incidental to this work shall be removed entirely from the stream channel and placed either on shore above the influence of flood waters, or at such dumping ground as may be approved by the Department.
7. There shall be no unreasonable interference with the free discharge of the river or stream or navigation during construction.
8. If future operations by the Commonwealth of Pennsylvania require modification of the structure or work, or if, in the opinion of the Department of Environmental Protection, the structure or work shall cause unreasonable obstruction to the free passage of floodwaters or navigation, the permittee shall, upon due notice remove or alter the structures, work or obstructions caused thereby, without expense to the Commonwealth of Pennsylvania, so as to increase the flood carrying capacity of the channel or render navigation reasonably free, easy, and unobstructed, in such manner as the Department may require. No claim shall be made against the Commonwealth of Pennsylvania on account of any such removal or alteration.
9. The permittee shall notify the Department, in writing, of the proposed time for commencement of work at least 15 days prior to the commencement of construction.
10. If construction work has not been completed within the time specified in this permit and the time limit specified in this permit has not been extended in writing by the Department or if this permit has been revoked for any reason, the permittee shall, at his own expense and in a manner that the Department may prescribe, remove all or any portion of the work as the Department requires and restore the watercourse and floodplain to their former condition.
11. The permittee shall fully inform the engineer or contractor, responsible for the supervision and conduct of the work, of the terms, conditions, restrictions and covenants of this permit. Prior to the commencement of construction, the permittee shall file with the Department in writing, on a form provided by the Department, a statement signed by the permittee and an individual responsible for the supervision or conduct of the work acknowledging and accepting the general and special conditions contained in this permit. Unless the acknowledgment and acceptance have been filed, this permit is void. A copy of this permit and the acknowledgment shall be available at the work site for inspection upon request by an officer or agent of the Department or another Federal, State, County or Municipal Agency.

12. The permittee shall operate and maintain the structure or work authorized herein in a safe condition in accordance with the permit terms and conditions and the approved maps, plans, profiles and specifications.
13. This permit may not be transferred without prior written approval from the Department, such approval being considered upon receipt of the properly executed "Application for Transfer of Permit" form.
14. If and when the permittee desires to discontinue use or abandon the activity authorized herein, he must remove all or part of the structure or work authorized and take other actions as are necessary to protect safety and the environment in accordance with a permit issued by the Department.
15. If the use of explosives in any waterways is required, the permittee shall secure the prior written permit from the Pennsylvania Fish and Boat Commission, pursuant to the Pennsylvania Fish and Boat Code, Act 1980-175 Title 30 Pennsylvania Consolidated Statutes, Section 2906. Requests should be directed to the Pennsylvania Fish and Boat Commission, Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620, telephone 814-359-5140.
16. Permittee shall implement and monitor an Erosion and Sedimentation Control Plan prepared in accordance with Chapter 102 so as to minimize erosion and prevent excessive sedimentation into the receiving watercourse or body of water.
17. The project site shall at all times be available for inspection by authorized officers and employees of the Pennsylvania Fish and Boat Commission. Prior to commencement and upon completion of the work authorized by this permit, the permittee shall notify the Pennsylvania Fish and Boat Commission's Southcentral Regional Office, 1704 Pine Road Newville, PA 17241, 717-486-7087.
18. The project site shall at all times be available for inspection by authorized officers and employees of the County Conservation District. Prior to commencement and upon completion of the work authorized by this permit, the permittee shall notify the Northumberland Conservation District, 2120 Cornwall Rd # 5, Lebanon, PA 17042, Telephone 717-272-3908.
19. Work may not commence until a signed copy of the Acknowledgement of Appraisal of Permit Conditions is received by the Department. Any work authorized by this permit conducted prior to the Department's receipt of a signed copy of the Acknowledgement of Appraisal of Permit Conditions is a violation of the Dam Safety and Encroachments Act and the Clean Streams Law, and you may be subject to fines and penalties pursuant to those Acts.
20. SPECIAL CONDITIONS: Permittee shall be responsible for compliance with each of the following special conditions. The Pennsylvania Department of Environmental Protection shall be referred to hereinafter as either "DEP" or the "Department."

**SPECIAL CONDITIONS**

**Water Supplies:**

- A. At least 72 hours in advance of beginning any construction activities, the permittee shall directly notify all identified public and private water supplies owners identified in Appendix A of the Well and Spring Monitoring Plan (August 2017).
- B. If the project results in a pollution event or other adverse impact to any public or private water supplies, the permittee shall immediately notify the Department and the potentially affected public or private water supplies of the pollution event, and implement the mitigation measures specified in the Well and Spring Monitoring Plan (August 2017).
- C. In the event the permittee's work causes adverse impacts to a public or private water supply source, the permittee shall address the restoration or replacement of the impacted water supply and mitigate and/or remediate any pollution resulting from the project in accordance with applicable legal requirements.
- D. At least 72 hours in advance of beginning construction activities, the permittee shall notify all owners of surface water intakes within one mile downstream from each stream crossing, including but not limited to, drinking water users and industrial and commercial users.
- E. The permittee shall immediately notify a landowner with a water supply within 450 feet of an HDD of any discharge of pollution associated with the project.
- F. If a public or private drinking water source not previously identified by the permittee is discovered by the permittee during construction, the permittee shall immediately notify the Department of the identified water source and shall notify the source owner of the permittee's construction activities.

**Historic, Cultural or Archaeological Resources:**

- G. The permittee and its agents shall visually inspect for historic, cultural, and archaeological resources that may be encountered during construction of the project and shall immediately cease earth disturbance activities in the vicinity of the archaeological artifacts upon encountering such potential artifacts.
- H. If potential historic, cultural, and archaeological resources are discovered, the permittee shall immediately notify the DEP Regional Office in the DEP region where the artifacts are found and shall concurrently notify the Pennsylvania Historical and Museum Commission (PHMC) at P.O. Box 1026, Harrisburg, PA 17120-1026, telephone 717.783.8947.

- I. The permittee shall not adversely impact any historic, cultural, and archaeological resources that are identified by the latest published version of the Pennsylvania Inventory of Historical Places and the National Register of Historical Places.
- J. The permittee shall comply with all terms and conditions of the Submerged Lands License Agreement (SLLA) entered into between the Department and the permittee for the natural gas pipeline crossing of the Swatara Creek and Quittapahilla creek Said SLLA is incorporated herein by reference.

**Temporary Road Crossings:**

- K. All temporary road crossings of streams and wetlands must meet all of the following conditions:
  - 1. The permittee shall restore and stabilize all temporary crossing sites immediately after termination of its permitted use.
  - 2. Permittee shall at all times ensure that all culverts have a waterway opening sufficient to adequately convey the normal flow of the watercourse or stream, and that culverts are of sufficient length to extend beyond the toe of the clean rock fill.
  - 3. Permittee shall ensure that culverts are installed in such manner that overtopping of the roadway will occur within the stream channel. This can be accomplished by providing a depressed roadway embankment within the stream channel.
  - 4. Permittee shall minimize excessive fill and excavation of stream banks by utilizing culverts with as large a diameter as possible. The minimum diameter size of a culvert to be used is no less than 12 inches.
  - 5. Road and causeway embankments shall be constructed of clean rock material in order to minimize stream channel sedimentation during placement, removal, and periods of overtopping.
  - 6. All temporary bridges shall be of single span construction from top of bank to top of bank and must be structurally stable.
  - 7. Approach roads to temporary road crossings shall utilize original grades. However, clean rock material or gravel to a depth of six inches above original grade can be utilized for approaches, as necessary.
  - 8. Causeways shall not extend streamward a distance greater than one-half the width of the stream channel.
  - 9. Temporary road crossings shall be kept open and functioning at all times by maintaining the crossings free of debris and other obstructions.

10. The permittee shall promptly repair any damage resulting from increased backwater caused by a temporary road crossing. The permittee shall remove temporary road crossings in the event of high waters to prevent increased backwater.
11. If permittee cannot avoid a wetland crossing, all wetland crossings shall be located at the narrowest practicable point of the wetlands.
12. All wetland crossings shall be installed in accordance with plan specifications.
13. Temporary embankments for roads across wetlands shall be installed to maintain the hydrology of the wetland.
14. The discharge of pollution to any water of the Commonwealth is prohibited.
15. Access roads should not approach the stream channel directly downslope, but should traverse the slope obliquely to prevent high velocity road drainage flows from directly entering the stream channel. Road drainage shall include proper erosion and sediment control Best Management Practices.
16. The permittee shall remove all or any portion of a temporary road crossing upon written notification from the Department in the event the project is causing an adverse impact on public health, safety or the environment or in any other manner violates the requirements of the Pennsylvania Clean Streams Law, Dam Safety and Encroachments Act 25 Pa. Code 105.1 *et seq.*, or both.
17. The permittee shall be responsible for determining and documenting which method of crossing is appropriate for each resource. This documentation shall be provided to the Department with the pre- and post-construction photographs. The permittee shall submit this documentation to the respective DEP Regional Office within ninety (90) days after completion of work under the respective permit.

**Site Field Verification, Restoration and Monitoring:**

- L. Prior to installation of all pipeline crossings, the permittee shall take new pre-construction photographs at each of the crossing areas depicting the existing conditions. The permittee shall prepare and maintain a record of pre- and post- conditions of each stream and wetland crossing. The permittee shall submit this documentation to the respective DEP Regional Office within ninety (90) days after completion of work under the respective permit.
- M. All wetlands within the project area shall be accurately field-delineated prior to the start of construction activities and until the earth disturbance activities are completed and the site has been stabilized. An acceptable means of field-identification of wetlands includes, but is not limited to, the use of an orange construction safety fence and/or flags.
- N. For a period of 5 years following construction, the permittee shall monitor for secondary impacts to hydrology, i.e., the loss of hydrology, to all watercourses with a drainage area of less than 100 acres, including those watercourses that originate within the project right-of-way (ROW). Reports

shall be submitted to DEP in the spring and fall for the first two (2) calendar years following construction and annually for three (3) years thereafter.

1. The monitoring reports shall contain information describing the presence or absence of hydrology at the time of inspection, a narrative comparison to hydrology present in the watercourse during pre-permitting field investigation(s), and photographs of the watercourse.
  2. If the monitoring identifies a diminution or complete loss of hydrology, the permittee shall evaluate whether the activities authorized by this Permit caused the loss of hydrology and submit this evaluation to the Department for review.
  3. If the Department determines that the activities authorized by this Permit are contributing to the loss of hydrology, the permittee shall prepare a written plan to correct the loss of hydrology to the watercourse (Plan). The permittee shall submit the Plan to DEP for review and approval. If DEP identifies any deficiencies with permittee's Plan, then the permittee shall provide DEP a written response to address the stated deficiencies within 15 days of receiving written notice of DEP's deficiencies, unless DEP extends that timeframe in writing.
  4. The permittee shall implement the DEP-approved Plan to address the loss of hydrology to a water course within ninety (90) days of receiving written approval from DEP, unless DEP extends that timeframe in writing.
  5. In the event that loss of hydrology from activities conducted under this Permit cannot be restored, the permittee shall submit a mitigation plan to DEP that sets forth the manner in which full loss of hydrology and associated water will be compensated for (Mitigation Plan). If DEP identifies any deficiencies with the permittee's Mitigation Plan, then the permittee shall provide DEP a written response to address the stated deficiencies within 15 days of receiving written notice of DEP's deficiencies, unless DEP extends that timeframe in writing. The permittee shall implement the DEP-approved Mitigation Plan within 90 days of receiving written approval from DEP, unless DEP extends that timeframe in writing.
  6. Monitoring may be terminated or extended in writing by DEP based upon monitoring reports submitted.
- O. For wetland excavations, the permittee shall segregate the soil horizons and replace the soil horizons to match pre-construction conditions. For areas where bore pits are proposed in or adjacent to wetlands, or if a restrictive layer, including but not limited to clay or fragipans, is encountered during the trench excavation, the permittee shall have a knowledgeable wetlands scientist on the Environmental Inspection Team that shall oversee backfilling of the trench and installation of trench plugs, in order to maintain wetland hydrology.
- P. Topsoil shall be segregated from subsoil in all wetland areas.
- Q. All disturbed areas are to be restored, stabilized and shall be replanted with indigenous plant species. Excess fill from disturbed areas and construction activities shall be located outside of the floodway, floodplain and wetlands. The permittee is responsible for stabilizing any excess materials spoiled onsite or offsite, whether the permittee owns the site or others own the site.



- R. Rock riprap shall be used in the stream bed only where a shear stress analysis has determined that scour protection is necessary to ensure stability of the resource.
- S. A trench in which the pipeline will be laid shall be backfilled in a manner that does not create the formation of a permanent ridge in a streambed or wetland.
- T. Each stream channel shall be restored by using a minimum of six (6) inches of native stream bed material. For streams where riprap is necessary to prevent scour, the riprap shall be depressed sufficiently to allow six (6) inches of native stream bed material over the riprap.
- U. All Palustrine Forested (PFO) and Palustrine Scrub-Shrub (PSS) wetlands within the temporary ROW shall be replanted with woody species present in the wetland prior to the permittee conducting construction activities. The plantings need not mirror pre-construction maturity.
- V. In accordance with the Riparian Area Replanting Plan in Attachment L, Appendix L-2 of the permit application, forested riparian areas in the temporary ROW along watercourses shall be replanted with native tree species for a minimum distance of fifty feet (50') or the Federal Emergency Management Agency (FEMA) mapped 100-year floodplain, whichever is greater, landward from the top of both banks of non-special protection streams and 150 feet (150') from HQ/EV streams, in a similar density as the trees existed prior to the permittee conducting construction activities. The density of replanted trees shall be similar to the density that existed prior to the permittee conducting construction activities but shall provide no less than sixty percent (60%) uniform canopy cover upon maturation and shall be appropriate to the geographic location. Maintenance and inspections shall ensure survival and growth of plantings and protection from competing plants and animals, including noxious weeds and invasive species, over a 5-year establishment period to ensure proper functioning of riparian forest buffers.
- W. Each stream channel shall be restored and properly stabilized upon completion of the associated stream crossing. Where riprap is proposed, the riprap shall be depressed and covered with a minimum of 6-inches of streambed material. The restored streambed elevation shall not exceed the pre-existing streambed elevation.
- X. The permittee shall avoid wetland impacts, to the extent practicable, and minimize any such impacts. The permittee shall immediately restore all disturbed wetland areas to original contours, and replant with indigenous wetland vegetation in accordance with the restoration plans as presented in the permit application. Wetland disturbances shall be minimized and stabilized with indigenous vegetation within ten (10) calendar days of final earthmoving to prevent erosion and provide cover, shading, and food source for aquatic life. Any temporary wetland crossings shall be constructed using low ground pressure machinery and wetland mats or similar devices. Excess fill shall not be deposited in any wetland, watercourse, floodway, floodplain, or other body of water.
- Y. For a period of five (5) years, the permittee shall monitor the stream and wetland plantings in the permanent ROW. Monitoring reports shall be submitted to the respective DEP Regional Office in the spring (May 15) and fall (November 15) for the first two (2) calendar years following construction and annually (November 15) for three (3) years thereafter.

1. The monitoring reports shall describe the status of the site at the time of each inspection including, but not limited to, an inventory of the surviving plant species and percent areal coverage, photographs of the replacement site with plans showing the location and orientation of each of the photographs, and a written plan to correct any deficiencies identified during the monitoring phase.
  2. Monitoring may be terminated or extended in writing by DEP based upon monitoring reports submitted.
- Z. Permittee shall ensure at least an eighty-five percent (85%) survival rate of wetland plantings during the five (5) year monitoring period. Additional wetland plantings and or reports in subsequent years beyond the initial five (5) years may be required if an eighty-five percent (85%) survivability of planted species is not achieved.
- AA. Streambank disturbance shall be minimized and stabilized with indigenous vegetation within 24 (24) hours upon completion of final earthmoving to prevent erosion and to provide cover, shading, and food source for aquatic life.

**Wetland Compensatory Mitigation and Monitoring:**

- BB. The permittee shall mitigate for PFO wetlands and PSS wetlands in accordance with their "Permittee-Responsible Compensatory Wetland Mitigation Plan" in Attachment Q of the permit application to compensate for the function and value loss associated with permanently converting 0.59 acres of PFO wetlands to Palustrine Emergent (PEM) wetlands and to account for the temporal loss of 0.45 acres of PFO wetlands temporarily impacted along the ROW during construction.
- CC. For at least five (5) years after the restoration activities are completed, the permittee shall monitor the Permittee Responsible Mitigation Sites. Within sixty (60) days of completing construction, the permittee shall submit "as-built" drawings for the mitigation sites to the DEP. Monitoring reports shall be submitted to the respective DEP Regional Office where the mitigation project(s) is(are) located at a frequency of every six (6) months for the first two (2) years after mitigation site construction and annually for at least three (3) years thereafter.
1. The monitoring reports shall contain information describing the success of the site at the time of inspection, an inventory of the surviving plant species and percent aerial coverage, photographs of each site with plans showing the location and orientation of each of the photographs, and a written plan to correct any deficiencies identified during the monitoring phase.
  2. If the Permittee Responsible Mitigation Sites have not achieved design objectives within the monitoring period, the permittee will undertake remedial work to assure establishment of functional wetland habitats.
- DD. Permittee Responsible Mitigation Sites shall be considered successful when they meet the design objectives.

- EE. Construction of the Permittee Responsible Mitigation Sites shall commence prior to or concurrently with wetland impacts requiring compensation as authorized by this permit.
- FF. Permittee Responsible Mitigation Sites shall be completed within one (1) growing season from the commencement of the activities authorized by this permit. Within thirty (30) days of completion, the permittee shall submit as-built drawings to the respective DEP Regional Office if as-built conditions vary from the original approved plans. If the DEP determines there is a significant difference from the approved plans, revised plans shall be submitted, and a permit amendment may be required.
- GG. The permittee shall provide copies of the recorded deed restrictions or conservation easements for the compensatory wetland mitigation sites within sixty (60) days after permit issuance. Time-stamped copies of the recorded instruments shall be sent to the respective DEP Regional Office.

**Horizontal Directional Drilling:**

- HH. Fifteen days before Horizontal Directional Drilling (HDD) operations start at an HDD location, the permittee will notify all landowners within 450 feet of HDD alignments, (by US Postal Service Certified Mail and First Class Mail) and offer such landowners the opportunity to have their water supplies within 450 feet of the HDD alignment sampled before, during and after the HDD operation in accordance with the parameters in the Transco Well and Spring Monitoring Plan (August 2017).
- II. The permittee shall construct and operate the HDD crossings at wetlands, streams and floodways in a manner to prevent a release of drilling fluid to “waters of the Commonwealth,” as that term is defined in the Clean Streams Law, 35 P.S. § 691.1. The permittee shall immediately notify the Department at 1-866-825-0208 in the event of an Inadvertent Return and immediately activate and implement the Horizontal Directional Drilling Contingency Plan to prevent any impacts to waters of the Commonwealth and other natural resources.
- JJ. The permittee shall take measures to avoid drilling activities in the vicinity of mine voids and utilities.
- KK. The permittee shall visually monitor the ground surface and within waters of the Commonwealth generally along the path of the HDD while drilling operations are occurring. This monitoring shall include walking, wading and use of a boat, as necessary to effectively observe and monitor for any return to the surface of materials associated with waters of the Commonwealth. If loss of circulation of drilling fluid occurs or drilling fluid pressure is lost, the permittee shall immediately investigate the drilling pathway and general surrounding area for an inadvertent return. If an inadvertent return is discovered, then drilling shall immediately cease.
  - 1. If an inadvertent return occurs, HDD can only resume after a Registered Professional Geologist or Registered Professional Engineer inspects and evaluates the site for the likelihood of another inadvertent return. Drilling will only be allowed to continue following consultation with and written approval from the DEP.

2. For those HDD sites that do not have an approved contingency crossing method, the permittee shall submit a permit modification to the DEP for review and approval prior to commencing an alternate crossing method.

LL. Inadvertent returns that impact or discharge to streams, floodways or wetlands during HDD operations shall be remediated in compliance with the Horizontal Directional Drilling Contingency Plan. If clean-up operations differ from the submitted plans, prior approval from the respective DEP Regional Office will be necessary for any modifications to the Horizontal Directional Drilling Contingency Plan.

MM. HDD additives which are certified for conformance with ANSI/NSF Standard 60 (Drinking Water Treatment Chemicals - Health Effects) are deemed acceptable to DEP, when used in strict compliance with the manner indicated in the certification of the additive. All conditions included as part of the additive's certification must be followed. A current listing of certified drilling fluids is maintained by NSF at <http://www.nsf.org/Certified/PwsChemicals/Listings.asp?ProductFunction=Drilling+Fluid&>. Use of drilling additives certified for conformance with ANSI/NSF Standard 60 does not relieve operators from the requirement to obtain the necessary permits to conduct HDD operations. Use of certified additives does not relieve the operator of liability should an inadvertent return or other pollution of waters of the Commonwealth occur as a result of drilling operations.

**Habitat Conservation Plans and Threatened and Endangered Species Protection:**

NN. The permittee shall comply with all applicable avoidance and conservation measures and other recommendations by the U.S. Fish and Wildlife Service (USFWS), PA Game Commission (PGC), PA Fish and Boat Commission (PFBC) and PA Department of Conservation and Natural Resources (DCNR) to protect federal and state listed species.

OO. The permittee shall implement all Avoidance Measures identified by the jurisdictional resource agencies for any threatened or endangered species or species of special concern.

PP. Prior to conducting any future maintenance activities on the pipeline or right of way which involve earth disturbance, the Permittee shall conduct a then-current Pennsylvania Natural Diversity Inventory search, shall obtain clearance(s) for any species or resource where a potential impact is identified, provide the avoidance and mitigation plan to the Department prior to initiating such maintenance work and shall implement and adhere to all avoidance measures outlined in such clearance(s)

**Seasonal Restrictions:**

QQ. The permittee shall not perform any in-stream work in waters listed by the PFBC as trout stocked streams and their tributaries between March 1 and June 15 without the prior written approval from the PFBC's Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620; telephone 814.359.5147.

RR. The permittee shall not perform any in-stream work in waters listed by the PFBC as Class A wild trout fishery streams and their tributaries between October 1 and April 1 without the prior written

approval of the PFBC's Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620; telephone 814.359.5147.

- SS. The permittee shall not perform any in-stream work in waters listed by the PFBC as "other wild trout streams or their tributaries" between October 1 and December 31 without the prior written approval of the PFBC's Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620; telephone 814.359.5147.
- TT. Permittee shall comply with other seasonal restrictions stated in the various Habitat Conservation Plans unless a written variance is issued by the appropriate resource agency.

**Miscellaneous:**

- UU. Herbicide spraying of wetlands is not authorized by this Permit. Additionally, with the exception of a 10-foot wide area centered over the pipeline, maintenance mowing of wetlands is not authorized by this Permit. The permittee shall place and maintain signs or other demarcation around the boundary of each wetland to clearly delineate the areas where this maintenance is not authorized. The permittee shall place the signs or other demarcations when all restoration work is completed and prior to permit termination.
- VV. This Permit does not convey any real property rights or interests or authorization to trespass on privately-owned riparian land. By accepting this Permit, the permittee certifies that he/she holds title, easement, right or other real interest in the riparian land. Any dispute over ownership of this land is solely a matter for private litigation.
- WW. Riprap and stone used throughout the project, including the construction of causeways and coffer dams, shall be free of fines and silts, or other non-erodible material.
- XX. All temporary water withdrawal intake structures and all appurtenant works shall be removed from the watercourse, body of water, floodway, and floodplains within sixty (60) days of initial placement, unless otherwise extended in writing by the Department.
- YY. Trench plugs shall be placed at each of the following locations:
1. At ten feet (10') from the top of each bank of a stream
  2. At fifty feet (50') from the top of each bank of a stream
  3. At ten feet (10') from the edge of a wetland
  4. At fifty feet (50') from the edge of a wetland
- ZZ. Place a minimum of one (1) trench plug at a maximum spacing of one hundred feet (100') between trench plugs within a wetland. Wetland crossings of less than fifty feet (50') do not require an internal trench plug.
- AAA. If during excavation a groundwater seep is encountered, a trench plug shall be placed at ten feet (10') from each side of the seep.
- BBB. All french drains associated with the project shall be removed or otherwise rendered inoperable prior to final site restoration.

- CCC. Water pumped from any construction area shall be diverted into a sediment trap, basin, or a filter bag discharging into an appropriate vegetated filter area to prevent sediment from being discharged into any waters of the Commonwealth.
- DDD. Open Trench Crossings: The permittee shall construct open trench pipeline crossings in dry conditions by constructing during periods of no water flow and/or by installing stream flow bypass systems (flumed or pumped) through the affected area.
1. Each crossing shall be conducted in an uninterrupted process as quickly as possible. Impacts to waters of the Commonwealth shall be avoided, to the extent practicable, and if not practicable, then minimized in accordance with the permittee's approved plans.
  2. The permittee may cross dry channels, swales and ephemeral streams without the use of stream flow bypass systems if the channel has no flow and the stream crossing and stabilization can be completed in dry conditions and within twenty-four (24) hours. Standby sandbag dams and pumps shall be located on-site and installed in the event of precipitation resulting in channel flow.
- EEE. The permittee shall cross intermittent and perennial streams using trenchless methods (HDD or Direct Boring DB) or through the use of stream flow bypass systems. Bypass systems must stay in use until streambeds and banks are adequately stabilized. Downstream flow must be maintained during the construction.
- FFF. Depth of Pipeline in Stream Bed: The permittee shall locate all pipelines under stream beds with a minimum of three feet (3') of cover between the top of the pipe or encasement and the lowest point in the stream bed, unless the pipeline is in rock, where a minimum cover of one foot (1') shall be provided.
- GGG. Aids to Navigation Plan: The permittee shall implement the approved Aids to Navigation (ATON) Plan as received under the Fish and Boat Code, 30 Pa. C.S. §§ 5121-5124, and 58 Pa. Code Chapter 113, 58 Pa. Code § 113.1 *et seq.*
- HHH. This Permit authorizes specific impacts to waters of the Commonwealth that were specifically described in the permit applications and revisions. Any proposed changes regarding the specific impacts will require a permit modification.
- III. Any additional impacts to waters of the Commonwealth from water obstruction or encroachment activities including, but not limited to, temporary access roads, lay-down areas, staging areas, or temporary work spaces, that have not been specifically identified in the permit application are not authorized by this Permit.
- JJJ. No deviation from the construction methodology or project design that is shown on the approved drawings is authorized under this Permit unless approved by the Department in writing.
- KKK. This Permit does not relieve the permittee of the obligation to comply with any Federal or State laws.

LLL. The permittee shall follow the measures specified in the Environmental Construction Plan (April 2017) during construction.

MMM. The permittee shall maintain a copy of the Environmental Construction Plan (April 2017) on-site at all times during construction. The permittee shall train all staff to use and implement this Plan. The permittee shall produce the Environmental Construction Plan (April 2017) to any Department representative upon request.

NNN. All synthetic erosion control features (e.g., silt fencing, netting, mats), which are intended for temporary use during construction, will be completely removed and properly disposed of in a timely manner. Only natural fiber materials which will degrade over time will be used as permanent erosion control measures, or if used temporarily, may be abandoned in place.

DEPARTMENT OF ENVIRONMENTAL PROTECTION



David W. Garg, P.E.  
Environmental Program Manager  
Waterways and Wetlands Program

August 30, 2017  
Issue Date

# Appendix 1 – Project Impacts

Stream Impact Table: Lebanon County

Impact Number <sup>a</sup>	Identification		Location				Stream Impacts				Floodway Impacts		Crossing Information		Trout Identification <sup>d</sup>	
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>		Crossing Method <sup>c</sup>
1, 2, 3, 4	WW-T64-4001	UNT to Conewago Creek	TSE, MF	40.21350	- 76.53451	South Londonderry	Elizabethtown	241.83	36.32	0.0877	0.0135	0.7849	0.1054	GAS	I	ST
5, 6, 7, 8	WW-T30-4003	UNT to Conewago Creek	TSE, MF	40.21487	- 76.53949	South Londonderry	Elizabethtown	64.87	10.00	0.0095	0.0013	0.2033	0.0230	GAS	I	ST
11, 12, 13, 14	WW-T30-4002	Conewago Creek	TSE, MF	40.21718	- 76.54416	South Londonderry	Elizabethtown	80.79	10.00	0.0594	0.0079	1.5265	0.1012	GAS	I	ST
20, 21	WW-T18-4002	Little Conewago Creek	TSE, MF	40.23151	- 76.54136	South Londonderry	Elizabethtown	0.00	0.00	0.0000	0.0000	0.1177	0.0297	GAS	IV	None
22	WW-T43-4001	UNT to Conewago Creek	TSE, MF	40.23596	- 76.53680	South Londonderry	Elizabethtown	0.00	0.00	0.0000	0.0000	0.1545	0.0000	GAS	IV	ST
23, 24, 25, 26	WW-T53-4001	UNT to Little Conewago Creek	TSE, MF	40.23945	- 76.53918	South Londonderry	Elizabethtown	69.67	10.02	0.0060	0.0009	0.1862	0.0283	GAS	I	None
29, 30	WW-T13-4002A	UNT to Little Conewago Creek	TSE, MF	40.25916	- 76.53095	South Londonderry	Palmyra	106.24	15.73	0.0087	0.0015	0.0000	0.0000	GAS	I	None



Identification		Location				Stream Impacts			Floodway Impacts		Crossing Information				
Impact Number <sup>a</sup>	Stream Identification	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	Trout Identification <sup>d</sup>
31, 32, 33, 34	WW-T13-4002 UNT to Little Conewago Creek	TSF, MF	40.25926	76.53101	South Londonderry	Palmyra	83.08	10.21	0.0088	0.0011	0.3319	0.0373	GAS	I	None
35, 36, 37, 38	WW-T13-4005 UNT to Little Conewago Creek	TSF, MF	40.26009	76.53120	South Londonderry	Palmyra	125.50	10.00	0.0240	0.0014	0.3026	0.0367	GAS	I	None
39, 40, 41, 42	WW-T13-4004 UNT to Little Conewago Creek	TSF, MF	40.26202	76.53206	South Annville	Palmyra	44.26	11.10	0.0168	0.0042	0.0976	0.0245	GAS	I	None
44, 45, 46, 47	WW-T13-4003 UNT to Gingrich Run	TSF, MF	40.27127	76.53198	South Annville	Palmyra	44.01	13.52	0.0312	0.0027	0.3462	0.0515	GAS	I	None
48, 49, 50, 51	WW-T33-4001 UNT to Gingrich Run	TSF, MF	40.27269	76.53157	South Annville	Palmyra	70.68	11.74	0.0254	0.0042	0.3093	0.0325	GAS	I	None
54, 55, 56, 57	WW-T64-5001 Gingrich Run	TSF, MF	40.28045	76.53061	South Annville	Palmyra	81.71	10.11	0.0316	0.0040	0.5017	0.0470	GAS	I	None
58, 59, 60, 61	WW-T43-5003 Quitapahilla Creek	TSF, MF	40.33221	76.53899	North Annville	Palmyra	83.55	10.00	0.1010	0.0123	0.2611	0.0294	GAS	I	ST
65, 66, 67, 68	WW-T43-5001 UNT to Quitapahilla Creek	TSF, MF	40.33421	76.53467	North Annville	Palmyra	81.09	12.68	0.0093	0.0015	0.3811	0.0281	GAS	I	None

Impact Number <sup>a</sup>	Identification		Location				Stream Impacts			Floodway Impacts		Crossing Information				
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	Trout Identification <sup>d</sup>
69, 70	WW-T14-5001	UNT to Quittapahilla Creek	TSE, MF	40.34187	- 76.53065	North Annville	Palmyra	0.00	0.00	0.0000	0.0000	0.1277	0.0172	GAS	IV	None
72	WW-T14-5002	UNT to Swatara Creek	WWF, MF	40.35075	- 76.53545	North Annville	Palmyra	0.00	0.00	0.0000	0.0000	0.0687	0.0000	GAS	IV	None
75, 76, 77, 78	WW-T14-5003	UNT to Swatara Creek	WWF, MF	40.35435	- 76.53385	North Annville	Palmyra	88.61	10.76	0.0357	0.0052	0.1954	0.0223	GAS	I	None
79, 80, 81, 82	WW-T14-5004	UNT to Swatara Creek	WWF, MF	40.36007	- 76.53322	North Annville	Palmyra	95.82	11.45	0.0323	0.0040	0.2268	0.0235	GAS	I	None
86, 87, 88, 89	WW-T14-5005	UNT to Swatara Creek	WWF, MF	40.36329	- 76.53396	North Annville	Palmyra	80.66	10.11	0.0095	0.0012	0.0989	0.0119	GAS	I	None
90, 91, 92, 93	WW-T14-5006	Swatara Creek	WWF, MF	40.36975	- 76.53528	East Hanover	Palmyra	141.67	10.16	0.5616	0.0400	1.7411	0.0870	GAS	I	None
94	WW-T14-5006A	UNT to Swatara Creek	WWF, MF	40.37003	- 76.53464	East Hanover	Palmyra	157.11	0.00	0.0072	0.0000	0.0000	0.0000	GAS	V	None
97, 98, 99, 100	WW-T14-5007	UNT to Swatara Creek	WWF, MF	40.37704	- 76.53213	East Hanover	Indiantown Gap	83.65	10.16	0.0180	0.0018	0.1526	0.0137	GAS	I	None

Impact Number <sup>a</sup>	Identification			Location				Stream Impacts				Floodway Impacts		Crossing Information		Trout Identification <sup>d</sup>
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	
101, 102, 103, 104	WW-T99-5008A	UNT to Swatara Creek	WWF, MF	40.38299	76.53235	East Hanover	Indiantown Gap	83.26	10.71	0.0264	0.0033	0.20629	0.0249	GAS	I	None
105, 106, 107, 108	WW-T14-5008	UNT to Swatara Creek	WWF, MF	40.38338	76.53276	East Hanover	Indiantown Gap	75.71	10.87	0.0218	0.0026	0.1635	0.0222	GAS	I	None
111, 112, 113, 114	WW-T14-5009A	UNT to Swatara Creek	WWF, MF	40.39121	76.52845	East Hanover	Indiantown Gap	81.41	10.06	0.0149	0.0016	0.2110	0.0239	GAS	I	None
115, 116, 117, 118	WW-T44-5001	UNT to Swatara Creek	WWF, MF	40.40131	76.53026	East Hanover	Indiantown Gap	81.98	10.00	0.0232	0.0023	0.2126	0.0243	GAS	I	None
119, 120, 121, 122	WW-T14-5010	UNT to Reeds Creek	WWF, MF	40.40864	76.52589	East Hanover	Indiantown Gap	108.51	12.84	0.0528	0.0090	0.2849	0.0341	GAS	I	None
124, 125, 126, 127	WW-T14-5011	UNT to Reeds Creek	WWF, MF	40.41044	76.52605	East Hanover	Indiantown Gap	91.52	10.76	0.0277	0.0036	0.2401	0.0243	GAS	I	None
128, 129	WW-T14-5011A	UNT to Reeds Creek	WWF, MF	40.41048	76.52601	East Hanover	Indiantown Gap	80.96	10.00	0.0140	0.0009	0.0000	0.0000	GAS	I	None
133, 134, 135, 136	WW-T14-5013	Reeds Creek	WWF, MF	40.41334	76.52426	Union	Indiantown Gap	65.82	10.14	0.0179	0.0028	0.1971	0.0224	GAS	I	None

Impact Number <sup>a</sup>		Identification		Location				Stream Impacts			Floodway Impacts		Crossing Information		Trout Identification <sup>d</sup>
Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	
137, 138	WW-T14-5013A UNT to Reeds Creek	WWF, MF	40.41343	- 76.52431	Union	Indiantown Gap	72.51	10.33	0.0194	0.0029	0.0000	0.0000	GAS	I	None
143, 144, 145, 146	WW-T10-6002 UNT to Swatara Creek	WWF, MF	40.42197	- 76.52258	Union	Indiantown Gap	80.03	10.00	0.0247	0.0024	0.4308	0.0336	GAS	I	None
154, 155, 156	WW-T40-6004 UNT to Qureg Run	WWF, MF	40.43000	- 76.52582	Union	Indiantown Gap	94.72	13.89	0.0152	0.0029	0.0208	0.0000	GAS	I	None
159, 160, 161	WW-T69-6002 UNT to Qureg Run	WWF, MF	40.43849	- 76.52953	Union	Indiantown Gap	49.70	0.00	0.0211	0.0000	0.1863	0.0234	GAS	V	None
162, 163, 164, 165	WW-T69-6001 UNT to Qureg Run	WWF, MF	40.43893	- 76.53033	Union	Indiantown Gap	90.42	11.33	0.0311	0.0044	0.2276	0.0257	GAS	I	None
166	WW-T40-6003A UNT to Qureg Run	WWF, MF	40.44122	- 76.53505	Union	Indiantown Gap	0.00	0.00	0.0000	0.0000	0.0107	0.0000	GAS	IV	None
167, 168, 169, 170	WW-T40-6003 UNT to Qureg Run	WWF, MF	40.44163	- 76.53503	Union	Indiantown Gap	84.07	10.16	0.0378	0.0046	0.2171	0.0234	GAS	I	None
173, 174, 175, 176	WW-T30-6004 UNT to Qureg Run	WWF, MF	40.44296	- 76.53664	Union	Indiantown Gap	41.90	10.00	0.0089	0.0017	0.2315	0.0257	GAS	III	None

Impact Number	Identification		Location				Stream Impacts			Floodway Impacts		Crossing Information		Trout Identification		
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)		Crossing Type	Crossing Method
177, 178, 179, 180	WW-T30-6005	UNT to Qureg Run	WWF, MF	40.44554	76.53645	Union	Indiantown Gap	84.94	11.40	0.0234	0.0036	0.2302	0.0244	GAS	I	None
183, 184, 185, 186	WW-T32-6001	Forge Creek	WWF, MF	40.45347	76.53286	Union	Indiantown Gap	65.84	10.01	0.0259	0.0042	0.3167	0.0380	GAS	I	None
189, 190, 191, 192	WW-T67-6001	UNT to Forge Creek	WWF, MF	40.45793	76.53254	Union	Indiantown Gap	26.86	13.99	0.0024	0.0011	0.1233	0.0251	GAS	I	None
201, 202, 203, 204	WW-T40-6001A	UNT to Forge Creek	WWF, MF	40.46038	76.53602	Union	Indiantown Gap	81.43	10.08	0.0437	0.0062	0.1376	0.0140	GAS	I	None
205, 206, 207, 208	WW-T40-6001	UNT to Forge Creek	WWF, MF	40.46111	76.53679	Union	Indiantown Gap	89.57	10.39	0.0683	0.0076	0.5698	0.0258	GAS	I	None
209	WW-T43-6003	UNT to Trout Run	CWF, MF	40.47783	76.55173	Union	Indiantown Gap	0.00	0.00	0.0000	0.0000	0.0118	0.0000	GAS	IV	ST, WT
210	WW-T43-6003A	UNT to Trout Run	CWF, MF	40.47804	76.55219	Union	Indiantown Gap	42.79	0.00	0.0051	0.0000	0.0000	0.0000	GAS	V	ST, WT
211, 212, 213, 214	WW-T43-6004	UNT to Trout Run	CWF, MF	40.47819	76.55243	Union	Indiantown Gap	110.69	10.42	0.0126	0.0012	0.3749	0.0468	GAS	I	ST, WT

Impact Number <sup>a</sup>	Identification			Location			Stream Impacts			Floodway Impacts		Crossing Information				
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	Trout Identification <sup>d</sup>
215, 216, 217, 218	WW-T23-6003	Trout Run	CWF, MF	40.48024	- 76.55557	Union	Indiantown Gap	85.95	10.67	0.0560	0.0076	0.2584	0.0306	GAS	I	ST, WT
224, 225, 226, 227	WW-T33-6001	UNT to Trout Run	CWF, MF	40.48746	- 76.55645	Union	Indiantown Gap	82.96	10.02	0.0254	0.0028	0.2888	0.0233	GAS	I	ST, WT
228, 229, 230, 231	WW-T43-6001	UNT to Trout Run	CWF, MF	40.48922	- 76.55573	Union	Indiantown Gap	110.20	13.81	0.0398	0.0047	0.2595	0.0297	GAS	I	WT
232	WW-T43-6002	UNT to Trout Run	CWF, MF	40.49421	- 76.55572	Union	Indiantown Gap	0.00	0.00	0.0000	0.0000	0.0114	0.0000	GAS	IV	WT
233, 234, 235, 236	WW-T44-7002	UNT to Trout Run	CWF, MF	40.49636	- 76.55132	Union	Indiantown Gap	89.46	10.91	0.0442	0.0047	0.2266	0.0258	GAS	I	WT
239, 240, 241, 242	WW-T23-6001	UNT to Swatara Creek	CWF, MF	40.49948	- 76.54253	Union	Indiantown Gap	86.59	10.77	0.0705	0.0099	0.2634	0.0203	GAS	I	WT
245, 246, 247, 248	WW-T23-6002	UNT to Swatara Creek	CWF, MF	40.50330	- 76.53522	Union	Tower City	88.20	12.04	0.0829	0.0098	0.2493	0.0332	GAS	I	WT
251, 252, 253, 254	WW-T20-7002	UNT to Swatara Creek	CWF, MF	40.50372	- 76.53450	Union	Tower City	66.95	10.30	0.0191	0.0028	0.1983	0.0207	GAS	I	WT

Impact Number	Identification		Location				Stream Impacts				Floodway Impacts		Crossing Information		Trout Identification	
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type		Crossing Method
255, 256, 257, 258	WW-T20-7001	UNT to Swatara Creek	CWF, MF	40.50540	76.53046	Union	Tower City	80.81	10.12	0.0401	0.0066	0.2089	0.0230	GAS	I	WT
259, 260, 261, 262	WW-T20-7003	UNT to Swatara Creek	CWF, MF	40.51097	76.52302	Union	Tower City	87.54	10.01	0.0168	0.0029	0.2361	0.0235	GAS	I	WT
263, 264, 265, 266	WW-T10-7004	UNT to Swatara Creek	CWF, MF	40.51676	76.51826	Union	Tower City	84.90	10.71	0.0710	0.0103	0.2314	0.0238	GAS	I	WT
267, 268, 269, 270	WW-T10-7003	UNT to Swatara Creek	CWF, MF	40.52328	76.49928	Union	Pine Grove	80.38	10.00	0.0307	0.0032	0.2179	0.0233	GAS	I	WT
271, 272, 273, 274	WW-T10-7002	UNT to Swatara Creek	CWF, MF	40.52548	76.49601	Union	Pine Grove	87.88	10.21	0.0252	0.0033	0.2075	0.0235	GAS	I	WT
275, 276, 277, 278	WW-T10-7001	UNT to Swatara Creek	CWF, MF	40.52598	76.49362	Union	Pine Grove	88.00	10.48	0.0228	0.0029	0.2157	0.0246	GAS	I	WT
279	WW-T40-6002	Forge Creek	WWF, MF	40.45851	76.54185	Union	Indiantown Gap	0.00	0.00	0.0000	0.0000	0.2375	0.0000	TEMPR D	IV	None
280	WW-T25-6001	UNT to Trout Run	CWF, MF	40.47417	76.55263	Union	Indiantown Gap	0.00	0.00	0.0000	0.0000	0.0514	0.0000	TEMPR D	IV	ST, WT

Impact Number <sup>a</sup>	Identification			Location			Stream Impacts				Floodway Impacts		Crossing Information		
	Stream Identification	Stream Name	Chapter 93 Designated Use	Latitude	Longitude	Municipality (Township)	Temporary Crossing Length (feet)	Permanent Crossing Length (feet)	Temporary Impact Area (acres)	Permanent Impact Area (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	Trout Identification <sup>d</sup>
281	WW-T33-6001 / WW-T33-6001-1	UNT to Trout Run	CWF, MF	40.48639	-76.55498	Union	0.00	0.00	0.0000	0.0000	0.1210	0.0000	TEMPRD	IV	ST, WT
Totals							4629.29	581.49	2.1665	0.2491	16.2034	1.5575			

<sup>a</sup> Impact numbers correspond to the impact numbers presented in Attachment E-2 of Transco's Chapter 105 Application.

<sup>b</sup> Gas= gas pipeline crossing or floodway impacts, TBC=temporary bridge crossing, TEMPDRD = temporary road crossing

<sup>c</sup> I=Dry Crossing Method (includes Dam & Pump, Flume, or Cofferdam); II=Trenchless Crossing Method: Horizontal Directional Drill; III = Trenchless Crossing Method: Conventional Bore; IV = Floodway Impacts Only; V=Bridge Equipment Crossing

<sup>d</sup> PAFBC Designations: ST = Stocked Trout; WT = Wild Trout; CA = Class A Trout



# Appendix 1 – Project Impacts

Wetland Impact Table: Lebanon County

Impact Number <sup>a</sup>	Wetland Identification	Location		Wetland Impacts						Crossing Information		State Wetland Classification (Other OR EV)		
		Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Impact Area (acres)		Permanent Impact Area (acres)		Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>			
						PFO	PSS	PEM	PFO	PSS	PEM			
9, 10	W-T96-4003A	40.21703	-76.54395	South Londonderry	Elizabethtown	0.0000	0.0000	0.0688	0.0000	0.0000	0.0128	GAS	I	None
15, 16	W-T11-4004	40.21982	-76.54868	South Londonderry	Elizabethtown	0.0000	0.0000	0.0352	0.0000	0.0000	0.0048	GAS	I	None
17, 18	W-T11-4003	40.22823	-76.54544	South Londonderry	Elizabethtown	0.0000	0.0000	0.0601	0.0000	0.0000	0.0177	GAS	I	None
19	W-T18-4003	40.22942	-76.54407	South Londonderry	Elizabethtown	0.0000	0.0000	0.0076	0.0000	0.0000	0.0000	GAS	IV	None
27, 28	W-T32-4001	40.23952	-76.53918	South Londonderry	Elizabethtown	0.0000	0.0000	0.0970	0.0000	0.0000	0.0101	GAS	I	None
43	W-T13-4002	40.27137	-76.53200	South Annville	Palmyra	0.0000	0.0023	0.0000	0.0000	0.0000	0.0000	GAS	IV	None

Impact Number <sup>a</sup>	Wetland Identification		Location		Wetland Impacts				Crossing Information		State Wetland Classification (Other OR EY)			
	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Impact Area (acres)	PFO	PEM	PSS	PFO	PSS		PEM	Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>
52, 53	W-T43-4001	40.27287	-76.53157	South Annville	Palmyra	0.0000	0.0000	0.0004	0.0000	0.0000	0.0009	GAS	I	None
62, 63	W-T43-5004	40.33245	-76.53849	North Annville	Palmyra	0.0000	0.0000	0.0476	0.0000	0.0000	0.0093	GAS	I	None
64	W-T43-5003	40.33402	-76.53550	North Annville	Palmyra	0.0000	0.0000	0.0023	0.0000	0.0000	0.0000	GAS	IV	None
71	W-T14-5002	40.35092	-76.53544	North Annville	Palmyra	0.0000	0.0000	0.0634	0.0000	0.0000	0.0000	GAS	IV	None
73, 74	W-T14-5003	40.35439	-76.53393	North Annville	Palmyra	0.0000	0.0000	0.0082	0.0000	0.0000	0.0016	GAS	I	None
83, 84	W-T14-5005A	40.36327	-76.53390	North Annville	Palmyra	0.0000	0.0000	0.0947	0.0000	0.0000	0.0152	GAS	I	None
85	W-T14-5005C	40.36331	-76.53408	North Annville	Palmyra	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	GAS	IV	None
95, 96	W-T14-5008A	40.37703	-76.53222	East Hanover	Indiantown Gap	0.0000	0.0000	0.0594	0.0000	0.0000	0.0099	GAS	I	None

Impact Number <sup>a</sup>	Wetland Identification	Location		Wetland Impacts						Crossing Information		State Wetland Classification (Other OR EV)		
		Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Impact Area (acres)			Permanent Impact Area (acres)				Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>
						PFO	PSS	PEM	PFO	PSS	PEM			
109, 110	W-T14-5010-1	40.38340	-76.53268	East Hanover	Indiantown Gap	0.0000	0.0000	0.0417	0.0000	0.0000	0.0073	GAS	I	None
123	W-T14-5014	40.40856	-76.52574	East Hanover	Indiantown Gap	0.0000	0.0000	0.0120	0.0000	0.0000	0.0000	GAS	IV	None
130, 131, 132	W-T14-5015	40.41341	-76.52417	Union	Indiantown Gap	0.0000	0.0372	0.0038	0.0000	0.0065	0.0000	GAS	I	None
139, 140	W-T13-6002	40.41914	-76.52390	Union	Indiantown Gap	0.0000	0.0000	0.0864	0.0000	0.0000	0.0131	GAS	I	None
141, 142	W-T10-6004	40.42059	-76.52341	Union	Indiantown Gap	0.0000	0.0000	0.0769	0.0000	0.0000	0.0103	GAS	I	None
147, 148, 149	W-T10-6003	40.42290	-76.52305	Union	Indiantown Gap	0.0000	0.0116	0.0884	0.0000	0.0000	0.0051	GAS	I	None
150, 151, 152, 153	W-T10-6002	40.42992	-76.52575	Union	Indiantown Gap	0.0937	0.0000	0.1609	0.0863	0.0000	0.0213	GAS	I	None
157, 158	W-T69-6001	40.43791	-76.52893	Union	Indiantown Gap	0.0000	0.0000	0.0539	0.0000	0.0000	0.0052	GAS	I	None

Identification		Location			Wetland Impacts						Crossing Information		State Wetland Classification (Other OR EV)
Impact Number <sup>a</sup>	Wetland Identification	Latitude	Longitude	Municipality (Township)	Temporary Impact Area (acres)			Permanent Impact Area (acres)			Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>	
					PFO	PSS	PEM	PFO	PSS	PEM			
171, 172	W-T30-6001	40.44290	-76.53658	Union	0.0115	0.0000	0.0000	0.0479	0.0000	0.0000	GAS	II	None
181, 182	W-T30-6003	40.44884	-76.53563	Union	0.0000	0.0000	0.0759	0.0000	0.0000	0.0131	GAS	I	None
187, 188	W-T32-6001	40.45352	-76.53281	Union	0.0000	0.0000	0.0368	0.0000	0.0000	0.0040	GAS	I	None
193, 194	W-T67-6001	40.45801	-76.53245	Union	0.0000	0.0000	0.0550	0.0000	0.0000	0.0001	GAS	I	None
195, 196	W-T67-6002	40.45880	-76.53346	Union	0.0000	0.0000	0.1045	0.0000	0.0000	0.0096	GAS	I	None
197, 198, 199, 200	W-T40-6001	40.45982	-76.53547	Union	0.1172	0.0000	0.3156	0.1295	0.0000	0.0460	GAS	I	None
219, 220, 221	W-T23-6002	40.48014	-76.55519	Union	0.2108	0.0000	0.0268	0.2860	0.0000	0.0000	GAS	I	EV
222, 223	W-T33-6001	40.48720	-76.55674	Union	0.0000	0.0000	0.0520	0.0000	0.0000	0.0065	GAS	I	EV

Impact Number <sup>a</sup>	Wetland Identification		Location		Wetland Impacts						Crossing Information		State Wetland Classification (Other OR BV)	
	Latitude	Longitude	Municipality (Township)	Quadrangle	Temporary Impact Area (acres)		Permanent Impact Area (acres)		Crossing Type <sup>b</sup>	Crossing Method <sup>c</sup>				
					PFO	PSS	PEM	PFO			PSS	PEM		
237, 238	40.49648	-76.55087	Union	Indiantown Gap	0.0000	0.0000	0.0617	0.0000	0.0000	0.0083	GAS	I	None	
243, 244	40.49962	-76.54245	Union	Indiantown Gap	0.0098	0.0000	0.0000	0.0229	0.0000	0.0000	GAS	I	EV	
249, 250	40.50370	-76.53446	Union	Tower City	0.0037	0.0000	0.0000	0.0115	0.0000	0.0000	GAS	I	EV	
Totals					0.4486	0.0511	1.7970	0.5841	0.0065	0.2322				

<sup>a</sup> Impact numbers correspond to the impact numbers presented in Attachment E-2 of Transco's Chapter 105 Application.

<sup>b</sup> GAS=gas pipeline, TEMPRD=temporary roadway crossing, AG=agricultural crossing

<sup>c</sup> I = Open Cut, II = Trenchless Crossing Method - Horizontal Directional Drill, III = Trenchless Crossing Method - Conventional Bore, IV=Temporary Matting

Permit No. E38-195

**ACKNOWLEDGMENT OF APPRISAL OF PERMIT CONDITIONS**

I,

\_\_\_\_\_  
(Permittee name)

and

\_\_\_\_\_  
(Name address and telephone of individual responsible for supervision of work)

acknowledge and accept the general and special conditions of Permit No. E38-195, issued to

**Transcontinental Gas Pipe Line Company, LLC  
2800 Post Oak Boulevard, Level 6, Houston, TX 77056**

which authorizes the permittee to:

**construct, operate and maintain approximately 28.4 miles of 42-inch diameter pipeline and appurtenant structures associated with the Lebanon County portion of the Atlantic Sunrise Pipeline Project Central Penn Line South. The proposed project impacts in Lebanon County include a total of 4629.3 linear feet of temporary stream impacts, a total of 581.5 linear feet of permanent stream impacts, 16.20 acres of temporary floodway impacts, 1.55 acres of permanent floodway impacts, 2.30 acres of temporary impacts to Palustrine Emergent (PEM), Palustrine Forested (PFO) and Palustrine Scrub-Shrub (PSS) wetlands, and 0.82 acres of permanent impacts to PEM, PFO and PSS wetlands. Specific impacts are shown in Appendix 1 – Project Impacts. The permittee is required to compensate for the proposed permanent PFO and PSS project impacts in Lebanon County by providing 2.35 acres of successful compensatory wetland mitigation through a combination of wetland creation and wetland enhancement located at the Hibred Farm Mitigation Project along State Route 0897 (Wormelsdorf, PA Quadrangle N: 40° 17' 02.38"; W: -76° 10' 34.34.03) in West Cocalico Township, Lancaster County. This mitigation site shall compensate for the proposed permanent project impacts in Lebanon and Lancaster Counties by creating a total of 7.03 acres of wetland rehabilitation and enhancement of existing wetlands. The proposed project starts at the Lebanon County Schuylkill County border Pine Grove, PA Quadrangle N: 40°, 31', 39"; W: -76°, 29', 25" and ends at the Lebanon County Lancaster County border Elizabethtown, PA Quadrangle N: 40°, 12', 30"; W: -76°, 31', 49" in Cold Springs, in East Hanover, North Annville, South Annville, South Londonderry, Swatara, North Lebanon, and Union Townships, Lebanon County.**

**The Lebanon County portion of the proposed Central Penn Line South project starts at the Lebanon County Schuylkill County border (Pine Grove, PA Quadrangle N: 40°, 31', 39"; W: -76°, 29', 25") and ends at the Lebanon County Lancaster County border (Elizabethtown, PA Quadrangle N: 40°, 12', 30"; W: -76°, 31', 49") in Cold Springs, in East Hanover, North Annville, South Annville, South Londonderry, Swatara, North Lebanon, and Union Townships, Lebanon County. The proposed project impacts in this permit application are associated with a proposed transmission pipeline project extending approximately 198.7 miles in Pennsylvania between Lennox Township, Susquehanna County, PA and Drumore Township, Lancaster County, PA.**

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(Permittee signature)

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(Date)

---

(Signature of individual responsible  
for supervision of work)

---

(Date)

Return To:

Department of Environmental Protection  
Northcentral Regional Office  
Waterways and Wetlands Program  
208 West Third Street Suite 101  
Williamsport, PA 17701-6448

**WATER OBSTRUCTION AND ENCROACHMENT PERMIT  
COMPLETION REPORT**

Project Location:

County Lebanon

Municipality Cold Springs, East Hanover, North Annville, South Annville, South Londonderry,  
Swatara, North Lebanon, and Union Townships.

I (We) hereby certify that the work authorized by the above referenced permit

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

was completed on \_\_\_\_\_ in accordance with the plans approved and that all  
(Date)

unauthorized obstructions have been removed.

Name: \_\_\_\_\_  
(Typed or printed)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Date: \_\_\_\_\_

Return To:

Department of Environmental Protection  
Southcentral Regional Office  
Waterways and Wetlands Program  
South-central Regional Office  
909 Elmerton Ave. Harrisburg, PA 17110