U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

FINAL ENVIRONMENTAL ASSESSMENT
and
FINDING OF NO SIGNIFICANT IMPACT

Special Permit Information:

Docket Number:	PHMSA-2019-0202[1,2]
Requested By:	Columbia Gas Transmission, LLC
Operator ID#:	2616
Original Date Requested:	October 15, 2019
Issuance Date:	March 31, 2022
Amended Date:	June 30, 2023
Code Section(s):	49 CFR 192.611(a) and (d) and 192.619(a)

I. Background

The National Environmental Policy Act (NEPA), 42 United States Code (USC) 4321 – 4375 et seq., Council on Environmental Quality Regulations, 40 CFR 1500-1508, and U.S. Department of Transportation (DOT) Order No. 5610.1C, requires the Pipeline and Hazardous Materials Safety Administration (PHMSA) Office of Pipeline Safety (OPS)[3] to analyze a proposed action to determine whether the action will have a significant impact on the human environment. PHMSA analyzes special permit requests for potential risks to public safety and the environment

[1] On June 22, 2022, TCO requested the addition of two (2) ***special permit segments 5 and 6*** to the special permit. On November 30, 2022, TCO requested the addition of one (1) ***special permit segment 7***. These segments are shown in **Table 1 – Special Permit Segments**

[2] PHMSA published the special permit request in the Federal Register (87 FR 50691) for a 30-day public comment period from August 17, 2022, through September 16, 2022, for ***special permit segments 5 and 6***. On January 5, 2023, PHMSA posted a notice of this special permit request for ***special permit segment 7***, in the Federal Register (88 FR 908) to Docket No. PHMSA-2022-0166 with a closing date of February 6, 2023. ***Special permit segments 5, 6, and 7*** have been included into special permit docket 2019-0202.

[3] Throughout this special permit the usage of "PHMSA" or "PHMSA OPS" means the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration Office of Pipeline Safety.

that could result from our decision to grant, grant with additional conditions, or deny the request. As part of this analysis, PHMSA evaluates whether a special permit will impact the likelihood or consequence of a pipeline failure as compared to the operation of the pipeline in full compliance with the Federal pipeline safety regulations. PHMSA's environmental review associated with the special permit application is limited to impacts that would result from granting or denying the special permit. PHMSA developed this assessment to determine what effects, if any, our decision would have on the environment.

Pursuant to 49 USC 60118(c) and 49 Code of Federal Regulations (CFR) 190.341, PHMSA may only grant special permit requests that are not inconsistent with pipeline safety. PHMSA will impose conditions in the special permit if we conclude they are necessary for safety, environmental protection, or are otherwise in the public interest. If PHMSA determines that a special permit would be inconsistent with pipeline safety or is not justified, the application will be denied.

The purpose of this Final Environmental Assessment (FEA) is to comply with National Environmental Policy Act (NEPA) for the Columbia Gas Transmission, LLC (TCO)[4] special permit to waive compliance from 49 CFR 192.611(a) and (d) and 192.619(a)[5] for seven (7) ***special permit segments*** and one (1) ***special permit inspection area*** along the TCO natural gas transmission pipeline system in Montgomery County, Maryland, and Loudoun County, Virginia. This FEA assesses the pipeline special permit request, in accordance with 49 CFR 190.341, and is intended to specifically analyze any environmental impact associated with the waiver of certain Federal pipeline safety regulations found in 49 CFR 192.611(a) and (d) and 192.619(a). This permit requires TCO to implement additional conditions on the operations, maintenance, and integrity management (IM) of the approximately 2.954 miles of the 30-inch diameter Line VC - Line MC Pipeline (***special permit segments***) and approximately 40.5 miles of (***special***

[4] Columbia Gas Transmission, LLC is a subsidiary of TC Energy.

[5] This special permit is for Class 1 to Class 3 location changes where the ***special permit segment*** has been pressure tested to 1.25 times MAOP or greater for eight (8) hours to meet 49 CFR 192.619(a)(2), 192.611(a), 192.517, and **Condition 1(b)**. Each ***special permit segment*** must meet the pressure test and material documentation requirements in the special permit.

permit inspection area) of the TCO natural gas transmission pipeline system located in Loudoun County, Virginia, and Montgomery and Howard Counties, Maryland.

II. Introduction

Pursuant to 49 USC 60118(b) and 49 CFR 190.341, TCO submitted an application for a special permit to PHMSA on October 15, 2019, requesting that PHMSA waive the requirements of 49 CFR 192.611(a) and (d) and 192.619(a) to permit TCO to maintain the maximum allowable operating pressure (MAOP) of seven (7) ***special permit segments*** where the class location has changed from Class 1 to Class 3 located in located in Montgomery County, Maryland, and Loudoun County, Virginia.

PHMSA is granting a special permit to waive certain regulatory requirements where it is consistent with pipeline safety. A special permit is typically conditioned on the performance of additional measures beyond minimum PHMSA pipeline safety regulations, in accordance with 49 CFR 190.341.

III. Regulatory Background

PHMSA regulations at 49 CFR 192.611(a) require that an operator confirm or revise the MAOP of a pipe segment that is in satisfactory condition when the hoop stress of the segment is no longer commensurate with class location. Under 49 CFR 192.611(a), an operator may be required to reduce the operating pressure of a pipe segment, or alternatively, may have to replace the pipe in order to maintain the MAOP. Under 49 CFR 192.619(a)(2) the special permit segments would be required to be pressure tested to 1.5 times MAOP for eight (8) hours. Below are the relevant text of 49 CFR 192.611(a) and (d) and 192.619(a):

49 CFR 192.611 Change in class location: Confirmation or revision of maximum allowable operating pressure.

(a) If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in satisfactory physical condition, the maximum allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements:

(1) If the segment involved has been previously tested in place for a period of not less than 8 hours:

(i) The maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations, 0.667 times the test pressure in Class 3 locations, or 0.555 times the test pressure in Class 4 locations. The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(ii) The alternative maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations and 0.667 times the test pressure in Class 3 locations. For pipelines operating at alternative maximum allowable pressure per §192.620, the corresponding hoop stress may not exceed 80 percent of the SMYS of the pipe in Class 2 locations and 67 percent of SMYS in Class 3 locations.

(2) The maximum allowable operating pressure of the segment involved must be reduced so that the corresponding hoop stress is not more than that allowed by this part for new segments of pipelines in the existing class location.

3) The segment involved must be tested in accordance with the applicable requirements of subpart J of this part, and its maximum allowable operating pressure must then be established according to the following criteria:

(i) The maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations, 0.667 times the test pressure for Class 3 locations, and 0.555 times the test pressure for Class 4 locations.

(ii) The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(iii) For pipeline operating at an alternative maximum allowable operating pressure per §192.620, the alternative maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations and 0.667 times the test pressure for Class 3 locations. The corresponding hoop stress may not exceed 80

percent of the SMYS of the pipe in Class 2 locations and 67 percent of SMYS in Class 3 locations.

(d) Confirmation or revision of the maximum allowable operating pressure that is required as a result of a study under §192.609 must be completed within 24 months of the change in class location. Pressure reduction under paragraph (a) (1) or (2) of this section within the 24-month period does not preclude establishing a maximum allowable operating pressure under paragraph (a)(3) of this section at a later date.

49 CFR 192.619 What is the maximum allowable operating pressure for steel or plastic pipelines?

(a)(2)(ii) For steel pipe operated at 100 p.s.i. (689 kPa) gage or more, the test pressure is divided by a factor determined in accordance with the following table:

Table 1 to Paragraph (a)(2)(ii)

Class location	Factors, [1] segment - Installed before (Nov. 12, 1970)	Installed after (Nov. 11, 1970) and before July 1, 2020	Installed on or after July 1, 2020	Converted under § 192.14
1	1.1	1.1	1.25	1.25
2	1.25	1.25	1.25	1.25
3	1.4	1.5	1.5	1.5
4	1.4	1.5	1.5	1.5

[1] For offshore pipeline segments installed, uprated or converted after July 31, 1977, that are not located on an offshore platform, the factor is 1.25. For pipeline segments installed, uprated or converted after July 31, 1977, that are located on an offshore platform or on a platform in inland navigable waters, including a pipe riser, the factor is 1.5.

(3) The highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column. This pressure restriction applies unless the segment was tested according to the requirements in paragraph (a)(2) of this section after the applicable date in the third column or the segment was uprated according to the requirements in subpart K of this part:

- Section 192.619(a) requires Class 3 location pipe to be pressure tested to 1.5 times MAOP

IV. Purpose and Need

TCO requested a special permit from the requirements of 49 CFR 192.611(a) and (d) and 192.619(a): for the ***special permit segments*** consisting of approximately 2.954 miles of natural gas transmission pipeline listed below in **Table 1 – Special Permit Segments**. Without a special permit, the cited regulations require that TCO complete pipe replacement, or pressure reduction, based on population changes in the vicinity of the segments. TCO must apply the special permit conditions to the ***special permit segments*** that are required for pipeline safety, as outlined in the special permit conditions.

The TCO system is a major interstate natural gas transmission system that serves millions of customers in the states of Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, Ohio, Kentucky, and North Carolina. The system is comprised of approximately 12,000 miles of pipelines.

V. Site Description

The ***special permit segments*** consist of 15,599 feet (approximately 2.954 miles) of the 30-inch diameter Line VC - Line MC Pipeline located in Montgomery County, Maryland, and Loudoun County, Virginia.

The ***special permit inspection area*** extends across approximately 40.5 miles of the pipeline and contains twelve high consequences areas (HCA), which are calculated by Method 2 (49 CFR 192.903). The ***special permit segments*** traverse agriculture fields and residential development, and cross open waters. There are no schools, churches, libraries, or hospitals identified within 0.5 miles of the ***special permit inspection area***.

VI. Special Permit Segments and Special Permit Inspection Area

Special Permit Segments:

This special permit applies to the ***special permit segments*** located in Montgomery County, Maryland, and Loudoun County, Virginia, where the class location changed from a Class 1 to Class 3 location in 2018. Each ***special permit segment*** is defined as follows using the TCO survey station (SS) as detailed in **Table 1 – Special Permit Segments**.

Table 1 – Special Permit Segments										
Special Permit Segment Number	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (SS)	End Survey Station (SS)	County, State	No. Dwellings	Year Installed	Seam Type	MAOP (psig)
1	30	Line MC	3,453	553+57	588+10	Montgomery, MD	20	1962	SAW	898
2	30	Line MC	2,685	596+56	623+41	Montgomery, MD	35	1962	SAW	898
3[6]	30	Line MC	4,051	281+49	322+00	Montgomery, MD	74	1962	SAW	898
4	30	Line MC	2,309	337+91	361+00	Montgomery, MD	2	1962	SAW	898
5	30	Line VC	481	361+50	366+31	Loudoun, VA	3	1962	DSAW	898
6	30	Line MC	1,170	858+09	869+79	Montgomery, MD	2	1962	DSAW	898
7	30	Line MC	1,450	244+00	258+50	Montgomery, MD	3	1962	DSAW	898

Note: SAW is submerged arc weld pipe.
DSAW is double submerged arc welded pipe.

Special Permit Inspection Area:

Special permit inspection areas are defined as the area that extends 220 yards on each side of the centerline along approximately 40.5 miles of 30-inch diameter pipelines in Loudoun County, Virginia, and Montgomery and Howard Counties, Maryland, along the VC Line and MC Line Pipeline. A summary of ***special permit inspection area*** is included in **Table 2 – Special Permit Inspection Areas**.

Table 2 – Special Permit Inspection Area						
Special Permit Inspection Area Number	Special Permit Segment(s) Included	Outside Diameter (inches)	Line Name	Start Survey Station (SS)	End Survey Station (SS)	Length[7] (miles)
1	1, 2, 3, 4, 5, 6, and 7	30	Line VC - Line MC	0+00 (Line VC)	1603+78 (Line MC)	40.5

[6] On June 28, 2022, TCO notified PHMSA that the existing ***special permit segment 3*** and ***4*** have been extended 1,697 feet through the implementation of **Condition 17**.

[7] If the ***special permit inspection area*** footage does not extend from launcher to receiver, the ***special permit inspection area*** would need to be extended.

High Consequence Areas:

The HCAs located within the ***special permit inspection area*** are detailed in **Table 3 – Special Permit Segments within High Consequence Areas**.

Table 3 – High Consequence Areas in the Special Permit Inspection Area				
Line Name	County, State	Start Survey Station (SS)	End Survey Station (SS)	Install Date
Line VC	Loudoun, VA	260+32	289+12	1962
Line VC	Loudoun, VA	298+37	348+20	1962
Line VC	Loudoun, VA	349+61	375+62	1962
Line VC	Loudoun, VA	386+94	532+08	1962
Line MC	Montgomery, MD	0+00	8+41	1962
Line MC	Montgomery, MD	159+39	185+17	1962
Line MC	Montgomery, MD	284+39	314+10	1962
Line MC	Montgomery, MD	595+72	623+41	1962
Line MC	Montgomery, MD	714+47	821+90	1962
Line MC	Montgomery, MD	958+61	1003+90	1962
Line MC	Montgomery, MD	1196+85	1226+55	1962
Line MC	Montgomery, MD	1561+33	1589+16	1962

Attachment B is a general map that includes the pipeline route map showing the ***special permit segments*** and ***special permit inspection area***. **Attachments C1 through C4** consist of more detailed maps showing the area near the ***special permit segments***.

VII. Alternatives

Alternative 1: "No Action" Alternative

Denial of the special permit would require the replacement and pressure testing of all the pipeline segments associated with this special permit request, which includes approximately 2.954 miles of mainline pipe. If TCO opted not to replace these ***special permit segments***, 49 CFR 192.611 requires a reduction in the pipeline MAOP.[8]

Alternative 2: "Selected" Alternative

PHMSA is granting the special permit with conditions, and TCO is allowed to continue to operate at the current 898 psig (pounds per square inch gauge) MAOP in the Class 3 location

[8] These regulatory options are specified in 49 CFR 192.611 Change in class location: Confirmation or revision of maximum allowable operating pressure.

without replacing pipe while complying with the special permit conditions, as described below.

VIII. Overview of the Special Permit Conditions:

To provide for pipeline safety in the absence of either lowering the pipeline operating pressure or upgrading the pipe, this special permit requires additional operations and maintenance measures which are intended to decrease the likelihood of a release of gas. These additional measures designed to prevent leaks and ruptures will ensure that the Special Permit is not inconsistent with pipeline safety. This section provides an overview of the special permit conditions. For TCO specific technical requirements, the special permit with conditions granted to TCO for Docket No. PHMSA-2019-0202 can be found the Federal Dockets Management System located on the internet at www.regulations.gov or on the PHMSA website for special permits issued at https://www.phmsa.dot.gov/pipeline/special-permits-state-waivers/special-permits-issued.

1) **Current Status of Pipe in the Ground**

   To ensure that key characteristics of the pipe currently installed in each ***special permit segment*** are known, TCO must provide records that confirm pipe specifications, successful pressure tests, and girth weld non-destructive tests. Should records be unavailable or unacceptable, additional activities as detailed in the special permit must be completed. If TCO does not complete these additional activities or should pipe be discovered that does not meet specific requirements of eligibility, the ***special permit segment*** must be replaced.

2) **Operating Conditions**

   The ***special permit inspection area*** must continue to be operated at or below the existing MAOP until a restoration or uprating plan has been approved, if allowed by the special permit. To ensure compliance with special permit conditions, TCO's Operations and Maintenance Manual (O&M), IM Program, and Damage Prevention (DP) program must be modified to implement the special permit conditions. In addition, PHMSA must approve any long-term flow reversals that would impact a ***special permit segment***.

3) **Threat Management**

   Threats are factors that can lead to the failure of a pipeline. Activities are required to identify, assess, remediate, and monitor threats to the pipeline.

a) **General activities.** TCO must perform annual data integration and identification of threats to which the ***special permit inspection area*** is susceptible. These activities must include integrity assessments with specific inline inspection tools, strict anomaly repair criteria, and appropriate environmental assessment and permitting. Additional integrity assessment methodologies may be used if allowed by the special permit. Integrity assessments must then be conducted periodically at an interval determined in the special permit for each threat identified.

b) **External corrosion control requirements.** The special permit requires additional activities to monitor and mitigate external corrosion. These activities include installation and annual monitoring of cathodic protection (CP) test stations, periodic close interval surveys (CIS), and clearing or remediating shorted casings that may impede CP effectiveness. These activities ensure the appropriate level of CP is reaching the pipeline in areas where coating loss or damage has occurred in order to prevent or mitigate external corrosion. In addition, TCO must develop and implement a plan that identifies and remediates interference from alternating or direct current (AC/DC) sources (such as high-voltage powerlines) that could adversely impact the effectiveness of CP.

c) **Internal corrosion control requirements.** The special permit includes gas quality specifications to mitigate internal corrosion because internal corrosion is highly dependent on the quality of the gas transported within the pipeline.

d) **Stress corrosion cracking (SCC) requirements.** To ensure that SCC is discovered and remediated, any time a pipe segment is exposed during an excavation, TCO must examine coating to determine type and condition. If the coating is in poor condition, TCO must conduct additional SCC analysis. If SCC is confirmed, TCO must implement additional special permit defined remediation and mitigation.

e) **Pipe seam requirements.** TCO must perform an engineering integrity analysis to determine susceptibility to seam threats. TCO must re-pressure test any ***special permit segments*** with an identified seam to ensure the issue is not systemic in nature.

f) **External pipe stress requirements.** Upon identification of any source of external stress on the pipeline (such as soil movement), TCO must develop procedures to evaluate and periodically monitor these stresses.

g) **Third-party specific requirements.** To assist in identifying the pipeline location and minimizing the chance of accidental pipeline strikes, TCO must install and maintain line-of-site markers for the pipeline. TCO must perform mitigation activities for any location where a depth-of-cover survey shows insufficient soil cover.

4) **Consequence Mitigation**

To ensure quick response and decreased adverse outcome in the event of a failure, each side (upstream and downstream) of the ***special permit segment*** must have and maintain operable automatic shutdown valves (ASV) or remote-controlled valves (RCV). TCO must monitor valves through a control room with a supervisory control and data acquisition (SCADA) system. In addition to the mainline valves, should a crossover or lateral connect between the valve locations, additional isolation valves may be required.

5) **Post Leak or Failure**

If the ***special permit inspection area*** experiences an in-service or pressure test leak/failure, TCO must conduct a root cause analysis to determine the cause. If the cause is determined to be systemic in nature, TCO must implement a remediation plan or the ***special permit segment*** must be replaced, as determined by the special permit specific conditions.

6) **Class Location Study and Potential Extension of Special Permit Segment**

TCO must conduct a class location study at an interval specified in the special permit. This allows TCO to quickly identify extended locations that must comply with the ***special permit segment*** requirements. TCO may extend a ***special permit segment*** with proper notification, update of the Final Environmental Assessment, and implementation of all requirements in the special permit.

7) **PHMSA Oversite and Management**

PHMSA maintains oversight and management of each special permit. This includes annual meetings with executive level officers on special permit implementation status, written certification of the special permit, special permit required notification of planned activities, notification of root cause analysis results, and notification prior to certain excavation activities so that PHMSA may observe.

8) **Gas Leakage Surveys and Remediation**

The ***special permit segment*** and ***special permit inspection area*** have requirements in the special permit to conduct leakage surveys more frequently than is presently required in 49 CFR 192.706. Gas leakage surveys using instrumented gas leakage detection equipment must be conducted along each ***special permit segment*** and at all valves, flanges, pipeline tie-ins with valves and flanges, and inline inspection (ILI) launcher and receiver facilities in each ***special permit inspection area***, at least twice each calendar year, not to exceed 7½ months. TCO must document the type of leak detection equipment used, survey findings, and remediation of all instrumented gas leakage surveys. The special permit will require a three-step grading process with a time interval for remediation based upon the type of leak.

9) **Documentation**

TCO must maintain documentation that supports compliance with special permit conditions for the life of the pipeline.

IX. Affected Resources and Environmental Consequences

A. Affected Resources and Environmental Consequences of the Granted Action and the No Action Alternatives

TCO is granted a special permit that waives compliance with 49 CFR 192.611(a) for seven (7) ***special permit segments*** totaling 15,599 feet (approximately 2.954 miles) located within one (1) ***special permit inspection area*** totaling approximately 40.5 miles. TCO must comply with the special permit conditions within the ***special permit segments***.

Aesthetics: The only permanent visual impact of the "Selected" Alternative will be the installation of line-of-sight markers that are placed to reduce the risk of third-party damage. Increased maintenance activities, including some temporary excavations, could cause temporary visual impacts. These impacts are expected to be significantly shorter in duration than removal and replacement of the existing pipeline. Maintenance activities and line of sight markers have a minimal impact on the visual character of the right-of-way of the ***special permit segments***. Pipe replacement under the "No Action" Alternative would require removal of the existing pipe and installation of new pipe, which would result in the use of heavy equipment and ground

disturbance. Therefore, the "Selected" Alternative will result in less aesthetic impacts to the affected ***special permit segments***.

Agricultural Resources: The right-of-way of the ***special permit segments*** is in a rural area and dominated by agricultural fields with low intensity residential development. The "Selected" Alternative could result in increased maintenance activities due to more stringent maintenance requirements than what would otherwise be required under Part 192. However, while these maintenance activities could potentially interfere with some agricultural activities, these activities will also have a significantly smaller footprint than a pipe removal and replacement and will be temporary in duration. The "Selected" Alternative will not impact any agricultural resources. The "No Action" Alterative would require pipe replacement and would cause disturbance to farm operations adjacent to the segment.

Air Quality: The "Selected" Alternative could potentially have minimal impacts on air quality in the ***special permit inspection area*** due to surveillance, assessment, and maintenance activities required by the permit. The "No Action" Alterative would require pipe replacement, which would necessitate blowing down all the pipeline between the isolation mainline valves that are located on the upstream and downstream endpoints of the ***special permit segments***, which would release unburned natural gas, a pollutant and GHG. The No Action" Alterative would have more substantial impacts on air quality because a greater length of pipeline would require blowdown and because additional emissions would be caused by equipment use during excavation, pipe removal, pipe replacement, and pipe installation.

Biological Resources: The primary wildlife habitat occurring either within or in the vicinity of the ***special permit segments*** and ***special permit inspection area*** is composed of various land cover types, including herbaceous, deciduous forest, agricultural fields, and low-density residential development. ***Special permit segments 1 and 2*** cross the open waters of Little Seneca Lake. Granting the special permit could result in increased surveillance, assessment, and maintenance activities, but will not result in significant impact or permanent modification to vegetation or land cover. Existing conditions will remain undisturbed.

According to the FWS Information for Planning and Conservation (IPaC) website,[9] the Federally listed threatened species are not expected to occur in the vicinity of the area within the ***special permit segments***.

Any activities related to the ***special permit segments*** will be conducted within the boundaries of the previously disturbed pipeline right-of-way. Pipe replacement in the ***special permit segments*** would result in increased disturbance to wildlife habitat, though that disturbance would also be temporary and limited in nature.

According to the FWS Information for Planning and Conservation (IPaC) website, the following species are potentially affected by activities in the ***special permit segment*** and/or ***special permit inspection area***:

- Northern Long-eared Bat (threatened)
- Dwarf Wedgemussel (endangered)
- Yellow Lance Clam (threatened)
- Monarch Butterfly (candidate species)

Various birds of conservation concern may be found in the ***special permit inspection area***.

There are no designated critical habitats in the ***special permit inspection area***.

There are no National Wildlife Refuge lands or fish hatcheries in the ***special permit inspection area***.

Climate Change: The activities associated with the ***special permit segments*** could cause increased monitoring and repair activities, which will result in the release of GHGs, especially through the emissions of excavation and other equipment needed to perform maintenance activities. However, with the "No Action" Alternative, pipe replacement would be required, which would necessitate blowing down the pipeline and releasing natural gas, a known GHG. Pipeline replacement would also result in increased emissions from manufacture of new pipe, transportation of materials, and construction activities related to pipeline replacement. Increased pipeline maintenance activities could result in increased emissions, but these emissions are likely

[9] Information for Planning and Conservation (IPaC). FWS website. Available at https://ecos.fws.gov/ipac/. Accessed September 2018.

substantially less than what would result from pipeline removal, manufacture, transportation, and replacement.

Cultural Resources: Any activities associated with the ***special permit segments*** will be conducted within the boundaries of the previously disturbed pipeline right-of-way. According to Maryland Historical Trust (MHT), there are 108 historic resources within one (1) mile of the ***special permit segments***; however, only four (4) of the resources in proximity to the ***special permit segments*** are eligible for listing on the National Register of Historic Places (NRHP). As no new ground disturbing activities will occur as part of the special permit, the special permit will not impact cultural resources.

Environmental Justice: The "Selected" Alternative will not have an adverse impact on the local population. The activities of the special permit are intended to maintain safety along the ***special permit segments***, reduce environmental impacts, and increase the level of the safety along the 40.5 miles of ***special permit inspection area***. The special permit is intended to maintain or increase safety overall with the implementation of safety conditions in the ***special permit segments***. Many special permit conditions also apply to the ***special permit inspections area*** and will not have a disparate impact on any minority, low income, or non-English language populations. This special permit will also reduce climate change impacts, which are understood to disproportionately affect low-income and minority communities. Therefore, consistent with DOT Order 5610.2C ("Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations") and Executive Orders 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"), 13985 ("Advancing Racial Equity and Support for Underserved Communities Through the Federal Government"), 13990 ("Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis"), 14008 ("Tackling the Climate Crisis at Home and Abroad"), 12898 and DOT Order 5610.2(a), and Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, PHMSA does not anticipate that the special permit will result in disproportionately high and adverse effects on minority or low-income populations.

Table 4 - Demographic Information for Special Permit Segments – Using EPA EJScreen						
Special Permit Segment No.	State	County	Total Population (Along Special Permit Segment)	Minority*/People of Color** Population	Low Income Population	Linguistically Isolated
1	Maryland	Montgomery	191	36%	6%	1%
2	Maryland	Montgomery	145	41%	3%	0%
3	Maryland	Montgomery	678	16%	5%	0%
4	Maryland	Montgomery	62	16%	5%	0%
5	Virginia	Loudoun	53	37%	9%	8%
6	Maryland	Montgomery	206	70%	11%	3%
7	Maryland	Montgomery	47	22%	4%	0%

Minority*: The term minority is used in the currently active DOT Environmental Justice Order 5610.2(a), available at https://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/orders/order_56102a/index.cfm
People of Color**: The term people of color is used in EPA's Environmental Justice Screening and mapping tool (EJSCREEN). An overview of demographic indicators through EJSCREEN is available at: https://www.epa.gov/ejscreen/overview-demographic-indicators-ejscreen

Geology, Soils, and Mineral Resources: The ***special permit segments*** reside in areas comprised of rock types primarily by the Ijamsville Formation and secondarily by the Marburg Schist formed during the Late Precambrian and Early Cambrian geologic period. The USGS Mineral Resources Data System (USGS 2019d)[10] information for Montgomery County identified copper, chromium, iron, and stone (crushed/broken) within two (2) miles of the ***special permit segments***. The ***special permit segments*** contain well-drained soils with moderate to excellent fertility. If the permit is granted, no construction-related activities will occur; therefore, the geologic, soil, and mineral resources in the area will not be affected.

Earthquakes are a seismic hazard within the ***special permit segments***. According to the USGS Seismic Hazards maps, there is a 2 percent probability that a seismic event with 6 to 10 percent ground acceleration would occur near the ***special permit segments*** within 50 years (USGS

[10] U.S. Geological Survey (USGS). 2013. Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). Chapter 3 of Section A, Federal Standards. Book 11 Collection and Delineation of Spatial Data. Techniques and Methods 11-A3. 4th. ed. Available at: https://pubs.usgs.gov/tm/11/a3/pdf/tm11-a3.pdf. Accessed August 2019.

2014e). Earthquakes in this region project intensities that exceed VI-VI on the Modified Mercalli Intensity Scale.

The topography across the ***special permit inspection area*** is characterized by irregular plains, rounded hills, and open valleys. For the "Selected" Alternative no construction-related activities will occur; therefore, the topography in the area will not be affected.

Indian Trust Assets: According to the U.S. Department of Interior, Bureau of Indian Affairs (2016),[11] there are no Federally recognized Indian Tribes or Tribal reservations in the Counties with pipeline segments. Any work associated with the ***special permit segments*** and ***special permit inspection area*** will have no impact to Indian Trust Assets or Federally recognized Tribal Reservations. The scope and duration of any compliance work resulting from the special permit will have little to no effect or impact on the socioeconomics in the surrounding area.

Land Use: Minimal ground disturbance or modifications to TCO system along the ***special permit segments*** and ***special permit inspection area*** will occur as part of the special permit from increased maintenance activities. The special permit will not impact land use or planning and does not require permits from local governments.

Noise: The scope and duration of any activities associated with the ***special permit segments*** and ***special permit inspection area*** will have little to no impact on noise levels in the vicinity of the pipeline. A denial of the special permit or the "No Action" Alternative would result in temporary increases in noise during the replacement of the existing pipe.

Recreation: The scope and duration of any activities associated with the ***special permit segments*** and ***special permit inspection area*** will have little to no impact on recreation in the vicinity of the pipeline. A denial of the special permit or the "No Action" Alternative would result in temporary increases in disturbances to recreational activities. during the replacement of the existing pipe.

Safety: The Federal pipeline safety regulations require pressure reduction or replacement of Class 1 location pipe in the event of certain population growth in order to better protect higher

[11] U.S. Department of Interior, Bureau of Indian Affairs. 2016. Indian Lands of the Federally Recognized Tribes of the United States. Available at https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/webteam/pdf/idc1-028635.pdf. Accessed August 2019.

populations located along the pipeline. Within the current Class 3 location areas, there are approximately 92 dwellings located within a 660 feet class unit buffer around the ***special permit segments*** that would benefit from increased safety associated with pipe replacement.

The special permit waives the requirement to reduce pressure or replace the existing pipe with stronger pipe. However, the special permit includes conditions intended to maintain safety and environmental protection. The special permit conditions include: Coating surveys and remediation, corrosion surveys and remediation, damage prevention activities, line of sight markers, ILI for threats (corrosion, third party damage, and cracking – along pipe body, and to seam and girth welds), remediation of pipe threats based upon design factor for class location, reassessments based upon the IM program, procedures, and documentation.

Monthly patrols and weather permitting are used to observe surface conditions on and adjacent to the pipeline right-of-way for indications of leaks, third party construction activity, exposed pipe, erosion, or other factors that affect the safety and operation of the pipeline.

Close interval surveys will be performed on the pipe within the ***special permit segments*** to ensure cathodic protection (CP) is acceptable. Areas of low CP potential have been or will be remediated according to the special permit conditions.

TCO will continue to perform DP measures as described in the best practices of the Common Ground Alliance (CGA) within the ***special permit inspection area***.

ILI tool inspections will be performed using high-resolution inspection at intervals as specified by 49 CFR Part 192, Subpart O reassessment intervals.

Any anomalies detected during in-line inspections will be remediated in accordance with 49 CFR Part 192, Subpart O, and the conditions of the special permit. These activities provide safety and environmental protection in the area of the ***special permit segments*** and the ***special permit inspection area***. Populations living near the ***special permit inspection areas*** will benefit from a higher level of safety. The safety risk with respect to this request for a special permit focuses on maintaining the integrity of the pipeline and on the risk, it poses to the increased population to mitigate a failure of this pipeline. Granting this special permit does not increase the potential impact radius (PIR (the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property)) of the pipeline. However, the risk from the

increased human population around the pipeline is mitigated through IM procedures. The pipeline integrity attributes (such as pipe diameter, wall thickness, grade, pipe seam type, pressure test, maximum allowable operating pressure, and anomaly findings) for the special permit segment can be reviewed in the Federal Dockets Management System (FDMS) located at www.regulations.gov under the document titled "**PHMSA-2019-0202 – TCO – Class 1 to 3 SP Amended Attachment A – Pipeline Segment Integrity Information**." Details about the pipeline's integrity and compliance history are provided in the **Special Permit Analysis and Findings (SPAF)** document, which is available in the docket (PHMSA-2019-0202) in the FDMS at www.regulations.gov. The SPAF does not identify any integrity issues (such as pipe body, seam or girth weld, operational or environmental) that would prevent the approval of the special permit or with implementation of the special permit conditions to maintain safety. PHMSA has determined that the pipeline and ***special permit segments*** are in satisfactory condition for the issuance of the special permit.

The above-described monitoring conditions associated with the special permit would not be applicable if PHMSA denied the special permit request, because the safety requirements in 49 CFR Part 192, Subpart O only applies to 10.45 miles of HCAs within the ***special permit inspection area***.

These monitoring conditions are intended to provide more information about the condition of the pipe so that any integrity issues can be remediated to avoid risk.

On the other hand, the "No Action" Alternative would require full compliance with 49 CFR 192.611(a). This provision would require the replacement of the existing pipeline with a thicker/stronger pipeline that meets the requirements of 49 CFR 192.611(a). However, the monitoring conditions associated with the special permit would not be applicable with the "No Action" Alternate, because those conditions are not mandated by the current 49 CFR Part 192. Accordingly, both alternatives are expected to lead to a similar safety result.

(a) Would operation under a special permit change the risk of rupture or failure?

Since the safety risk with respect to the special permit focuses on the integrity of the pipeline and its effect on the increased population in the event of a catastrophic failure of this pipeline, the special permit contains conditions to maintain pipeline safety in

accordance with 49 CFR Part 192 in the ***special permit inspection area***. A number of pipeline safety measures that exceed the requirements of 49 CFR Part 192 have already been implemented in the ***special permit inspection area***. The measures include conducting at least one (1) ILI per seven (7) years, repairing conditions that do not present a near-term risk to pipeline integrity in order to help ensure the integrity and safety of the pipeline, patrolling frequencies that exceed the requirements of 49 CFR 192.705, and performing annual system-wide risk assessment to identify the risk levels associated with pipeline segments, both in HCAs and non-HCAs. In addition, TCO has determined the required preventive and mitigative measures to ensure an adequate safety level for the ***special permit segments*** and the ***special permit inspection area***. These measures include but are not limited to performing a depth of cover survey during the CIS survey to confirm the presence of adequate cover in all the ***special permit segments*** and remediating them appropriately, reviewing the existing pipeline markers and signage to ensure that the presence of a buried pipeline is visible in the ***special permit segments***, continuing to investigate and remediate any identified soil instability sites within the ***special permit segments***. As a result of these measures, the pipeline is in good condition and TCO's safety record is good. The permit will allow operation at the current pressure (MAOP), creating no additional risk. Additional inspections are intended reduce the risk that an anomaly could grow to the point of rupture or failure.

(b) If a failure occurred, would consequences and spill or release volumes be different if PHMSA granted the permit? Would granting this permit increase, decrease, or have no change on the risk of failure?

The issuance of this special permit will not increase the risk of failure with implementation of the special permit conditions. The implementation of increased mitigative measures known as special permit conditions provide for pipeline safety given the waiver of of 49 CFR 192.611(a) in the ***special permit segments*** and ***special permit inspection area***.

However, if PHMSA denied the special permit, "No Action" Alternative, and TCO opted to reduce pressure instead of replacing the pipe, a failure on a reduced-pressure pipeline

could result in a smaller volume of natural gas released. TCO contends that it would not opt to reduce pressure due to ongoing contractual obligations.

(c) Would the Potential Impact Radius (PIR) of a rupture change under the Special Permit? Please calculate and provide the PIR data, if applicable. Would more people be affected by a failure if PHMSA granted the permit?

The PIR of a rupture will not change with the "Selected" Alternative. Consequently, no more people will be affected by a failure with the "Selected" Alternative. The calculated 0.14 miles (716 feet) PIR of the ***special permit segments*** is determined using the current MAOP. The PIR definition and how it is calculated are it in 49 CFR 192.903.

(d) Would operation under the Special Permit have any effect on pipeline longevity or reliability? Would there be any life cycle or maintenance issues?

The implementation of increased pipeline assessment within the ***special permit inspection area*** as required in the special permit will improve pipeline reliability and safety. Continued operation of the ***special permit segments*** will not be expected to have an effect on the pipeline longevity and reliability or cause any life cycle or maintenance issues. In addition, the pipe in the ***special permit inspection area*** has the same characteristics of the other pipelines on TCO system, including the EL 200, EL 400, ML 100, ML 200, and ML 300 Pipelines. The Line VC - Line MC and these other Pipelines operate as one system. The MAOP and other factors will not change under the special permit, so renewal of the special permit would not impact the overall pipeline longevity or reliability and would not cause any life cycle or maintenance issues.

Socioeconomics: The scope and duration of any activities associated with the ***special permit segments*** will have no impact on the socioeconomics in the vicinity of TCO system Line VC - Line MC Pipeline. According to US Census data, Montgomery County, Maryland, has an unemployment rate of 5.4 percent. Neither census block group has a low-income population. The special permit will not disproportionately impact any predominantly low-income populations.

Topography: The topography of the ***special permit segments*** is gently rolling, and the elevation decreases towards Little Seneca Lake. The overall elevation of the segments ranges from 483

feet at the highest elevation to 384 feet at the Little Seneca Lake crossing. No construction-related activities will occur with the "Selected" Alternative; therefore, the topography in the area will not be affected.

Transportation: The ***special permit segments*** will be accessed by existing roads and right-of-way crossings. No construction-related activities will occur as part of the special permit; therefore, traffic will not increase, and construction of additional roads will not be required.

Water Resources: Field surveys determined the ***special permit inspection area*** is located within the Maryland Piedmont Aquifer, which provides drinking water to the given service area. No water wells were observed within the right-of-way boundary of the ***special permit inspection area***. No exceptional waters, outstanding waters, or Federally-designated Wild Scenic Rivers were identified in the vicinity of the ***special permit inspection area***.

As a result, TCO does not anticipate any impact to any surface water, wetlands, or drinking water aquifers, since no construction-related activities will occur with the "Selected" Alternative.

B. Comparative Environmental Impacts of Alternatives

As PHMSA recognized in its June 29, 2004, Criteria for Class Location Change Waivers,[12] implementing additional preventative and mitigative measures enables a pipeline operator to improve its knowledge and understanding of the pipeline's integrity, accelerate the identification and repair of actionable anomalies, and better manage and mitigate threats to the public and environment. Implementing enhanced inspection and assessment practices throughout the ***special permit segments*** and ***special permit inspection area***, in lieu of replacing small segments of pipe experiencing the class location change, extends pipeline safety benefits to a much greater area along the pipeline. In addition, avoiding pipe excavation and replacement will minimize costs to the operator, will avoid delivery interruptions and supply shortages, and avert environmental disturbance. All of these benefits will be realized under TCO's requested ***special permit segments***.

If the "No Action" Alternative were selected, 49 CFR 192.611 would require a reduced MAOP and TCO would have to replace the pipe in order to maintain reliable transportation service.

[12] https://www.govinfo.gov/content/pkg/FR-2004-06-29/pdf/04-14725.pdf. Retrieved on 10/04/21.

However, the monitoring conditions associated with the special permit would not be enforceable. Accordingly, both alternatives are expected to lead to a similar safety result.

Because TCO contractual obligations would not allow the operating pressure of the pipe to be lowered, the mode of pipeline failure would be the same whether the pipe operates under a special permit or is replaced. Likewise, human safety will not be affected.

The natural environment would be temporarily disturbed if the pipe is replaced; a special permit will have little to no impact on the environment in the ***special permit segments***.

X. Consultation and Coordination

TCO and PHMSA personnel involved in preparation of this document include:

Personnel from parent owner and operator of TCO

Scott Currier, Director Integrity, TC Energy

Lee Romack, Director Regulatory Compliance, TC Energy

PHMSA

Amelia Samaras, PHMSA, US DOT

Steve Nanney, PHMSA, US DOT

Joshua Johnson, PHMSA, US DOT

XI. Response to Public Comments Placed on Docket PHMSA-2019-0202

PHMSA published the special permit request in the Federal Register (87 FR 50691) for a 30-day public comment period from August 17, 2022, through September 16, 2022 for ***special permit segments 5 and 6***. On January 5, 2023, PHMSA posted a notice of this special permit request for ***special permit segment 7***, in the Federal Register (88 FR 908) to Docket No. PHMSA-2022-0166 with a closing date of February 6, 2023. In both instances, PHMSA sought comments on any potential environmental impacts that could result from the selection of either alternative, including the special permit conditions. The special permit application from TCO and draft special permit conditions were available in Docket No. PHMSA-2019-0202 at: www.regulations.gov for public review.

PHMSA received one (1) public comment concerning this special permit request through February 6, 2023. PHMSA received comments from the Pipeline Safety Trust (PST) which asked PHMSA to examine several topics:

(1) **PST Comment**: TCO has been issued multiple serious enforcement actions including 15 Warning Letters, a Corrective Action Order, and two Notice of Proposed Safety Orders. This is concerning and PST requested that PHMSA consider this when issuing a special permit that would "waive critical safety regulations."

- **PHMSA Response**: PHMSA reviews and considers the enforcement history and type of enforcement actions issued pertaining to the pipeline system and operator when granting a special permit. TC Energy has been operator of TCO since 2016 and may of these infractions were issued prior to TC Energy ownership.

(2) **PST Comment**: PST is concerned with the duration of the special permit to be 10 years and strongly encourages PHMSA to limit the term to five (5) years. This concern is due to the number of HCAs in the special permit inspection area and unknown special permit inspection area integrity information.

- **PHMSA Response**: Due to the ***special permit segments*** being in an existing ***special permit inspection area***. PHMSA plans to incorporate these additional special permit segments into the existing special permit PHMSA-2019-0202. This special permit is set to expire on March 31, 2032. In accordance with 49 CFR § 190.341(j), PHMSA has the right to revoke, suspend, or modify the special permit if circumstances occur in which its continuance would be inconsistent with pipeline safety.

(3) **PST Comment**: PST states that TCO claims the permit will provide environmental and safety benefits by eliminating methane emissions that would occur from blowdowns in anticipation of hydrotesting and/or replacement. PST comments that non-emergency blowdowns should not be considered a sufficient reason to avoid strength testing and replacement of pipe segments where necessary to comply with the Federal pipeline safety regulations.

- **PHMSA Response**: PHMSA uses strict criteria when determining whether a class location special permit is appropriate, based on the condition of the pipeline. Please see the Federal Register Notice, "Pipeline Safety: Development of Class Location Change Waiver Criteria," (69 FR 38948, June 29, 2004) for a detailed description of the criteria that PHMSA evaluates when determining if granting a special permit is consistent with pipeline safety. While avoiding the release of unburned methane is beneficial, the special permit conditions focus on the safety of communities in proximity to the ***special permit segments*** by requiring additional integrity management measures. The special permit also increases safety requirements along the ***special permit inspection area*** that would not otherwise be required if the special permit were not granted. Furthermore, PHMSA imposes special permit conditions that require minimization of gas loss during blowdowns and leakage surveys along the pipeline.

(4) **PST Comment**: PST commented that TCO's application does not contain adequate justification for the need of the special permit.

- **PHMSA Response**: Section 190.341(c)(4) requires operators to provide, "an explanation of the unique circumstances that the applicant believes make the applicability of that regulation or standard (or portion thereof) unnecessary or inappropriate for its facility" with their special permit application. The Federal Register Notice, "Pipeline Safety: Development of Class Location Change Waiver Criteria," (69 FR 38948, June 29, 2004), describes the specific circumstances in which PHMSA will consider special permit applications for class location changes. The Federal Register notice includes the criteria that PHMSA evaluates to determine the suitability of granting a permit, in addition to consideration of the justification for the waiver. PHMSA finds that implementation of enhanced integrity management with enhanced monitoring and maintenance requirements within the ***special permit segments*** is consistent with pipeline safety to protect the population living near the pipeline segment to a similar degree as replacing with heavier walled or higher-grade pipe without the enhanced integrity management activities (see **Attachment A – Segment Integrity Information**).

XII. Finding of No Significant Impact

In consideration of the SPAF, the FEA, the special permit conditions explained above, PHMSA finds that no significant negative impact to human health of safety or the environment will result from the issuance and full implementation of the above-described special permit to waive the requirements of 49 CFR 192.611(a) and (d) and 192.619(a) for seven (7) ***special permit segments***, which consists of 15,599 feet (approximately 2.954 miles) of 30-inch diameter pipeline located in Montgomery County, Maryland, and Loudoun County, Virginia. This special permit will require TCO to implement additional conditions on the operations, maintenance, and integrity management of the ***special permit segments*** and ***special permit inspection area***.

The granted special permit conditions and SPAF are available in the FDMS Docket No. PHMSA-2019-0202 at: www.regulations.gov for public review.

XIII. Bibliography

Information for Planning and Conservation (IPaC). FWS website. https://ecos.fws.gov/ipac/. Accessed September 2018.

U.S. Census Bureau (USCB). 2019. American Fact Finder. Available at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml. Accessed August 2019.

U.S. Department of Agricultural (USDA). 2019. USDA Plants Database. Natural Resources Conservation Service. Available at: https://plants.sc.egov.usda.gov/java/. Accessed August 2019.

U.S. Department of Interior, Bureau of Indian Affairs. 2016. Indian Lands of the Federally Recognized Tribes of the United States. Available at https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/webteam/pdf/idc1-028635.pdf. Accessed August 2019.

U.S. Geological Survey (USGS). 2013. Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). Chapter 3 of Section A, Federal Standards. Book 11 Collection and Delineation of Spatial Data. Techniques and Methods 11-A3. 4th. ed. Available at: https://pubs.usgs.gov/tm/11/a3/pdf/tm11-a3.pdf. Accessed August 2019.

U.S. Fish and Wildlife Service (USFWS). 2007. Running Buffalo Cover (Trifolium stoloniferum) Recovery Plan Revision; Notice. Federal Register, 72(123): 35253-35154.

FERC Federal Energy Regulatory Commission. 2015. Natural Gas Pipelines. https://www.ferc.gov/industries/gas/indus-act/pipelines.asp. Accessed August 2019.

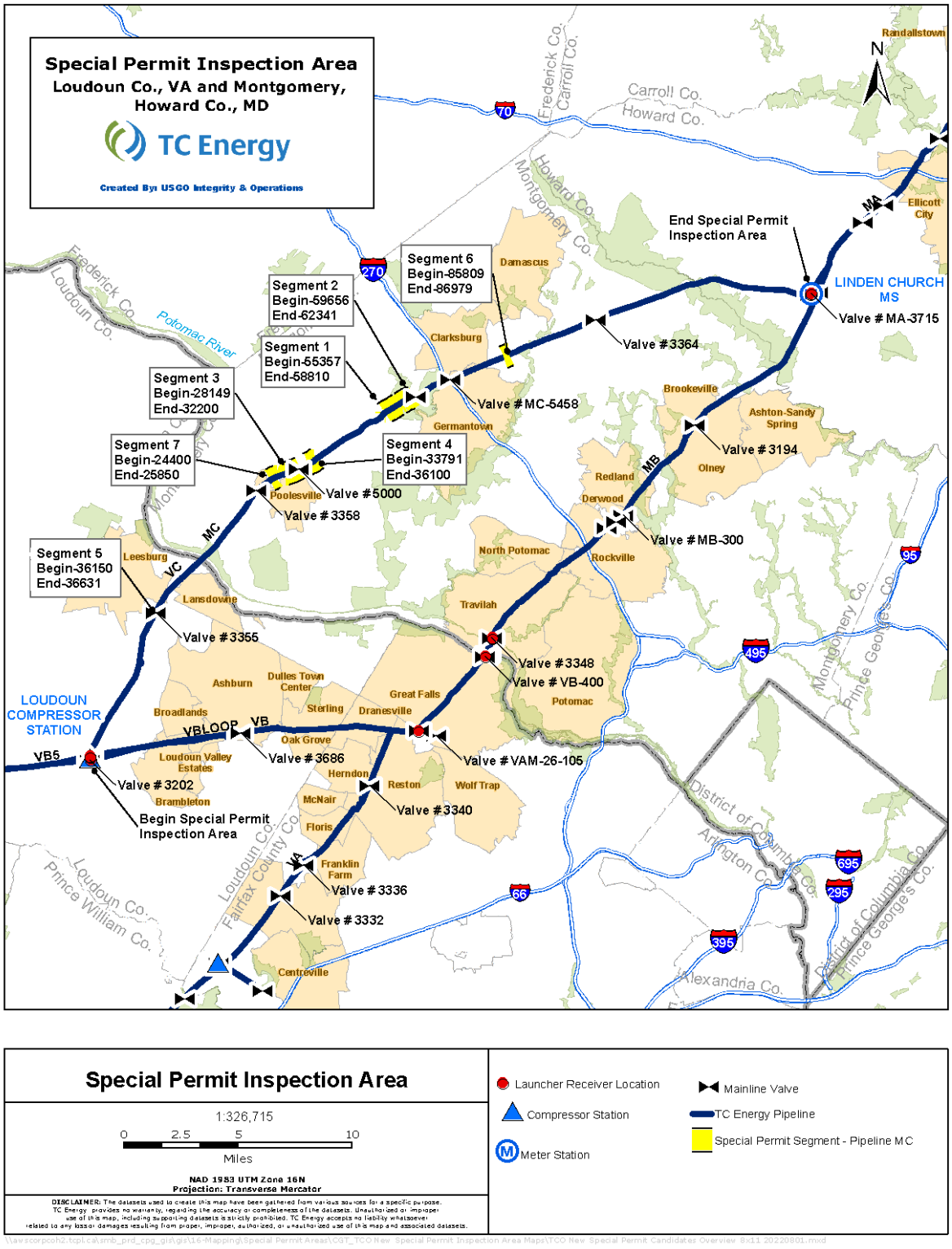
United States Environmental Protection Agency. Sole Source Aquifers for Drinking Water. https://www.epa.gov/dwssa. Accessed August 2019.

Environmental Systems Research Institute (ESRI). 2018. https://www.esri.com/en-us/home. Accessed August 2019.

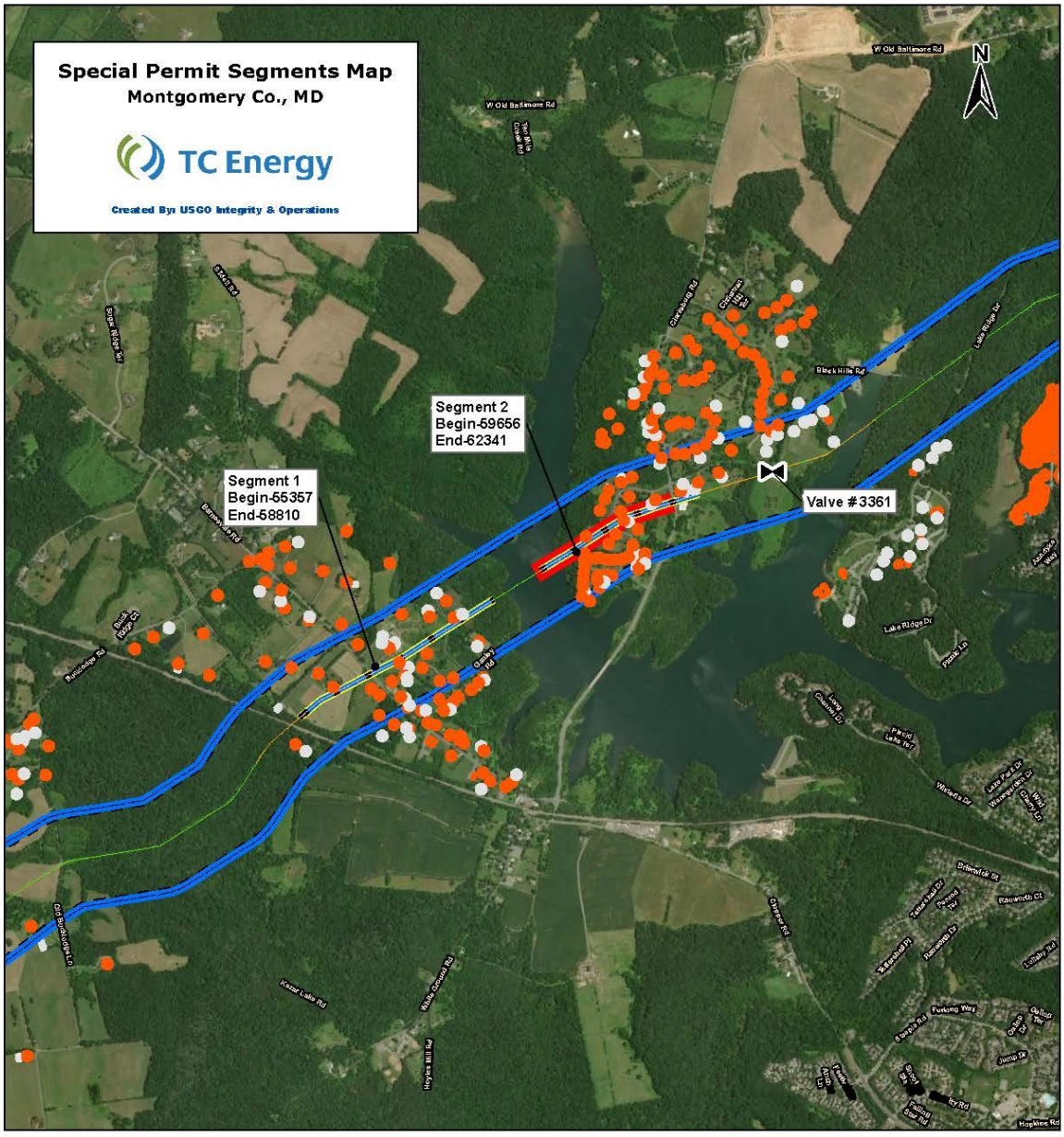
The special permit with conditions granted to TCO, SPAF, and **Attachment A – Segment Integrity Information** for Docket No. PHMSA-2019-0202 can be found the Federal Docket Management System located on the internet at www.regulations.gov or on the PHMSA website for special permits issued at https://www.phmsa.dot.gov/pipeline/special-permits-state-waivers/special-permits-issued.

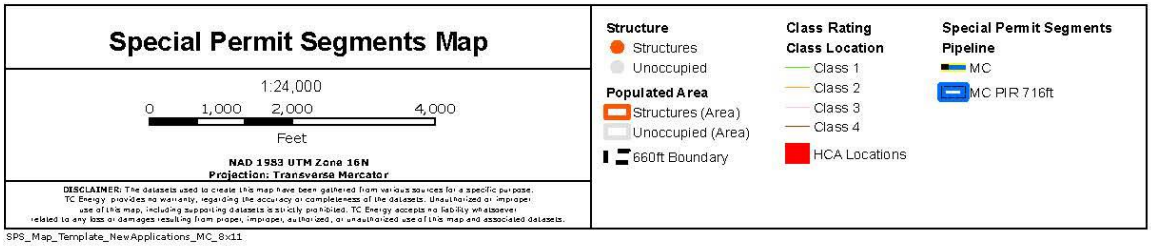
Completed by PHMSA in Washington, DC on: June 30, 2023

Attachment B – 30-inch TCO Line VC – Line MC Route Map
Special Permit Segments and Inspection Area



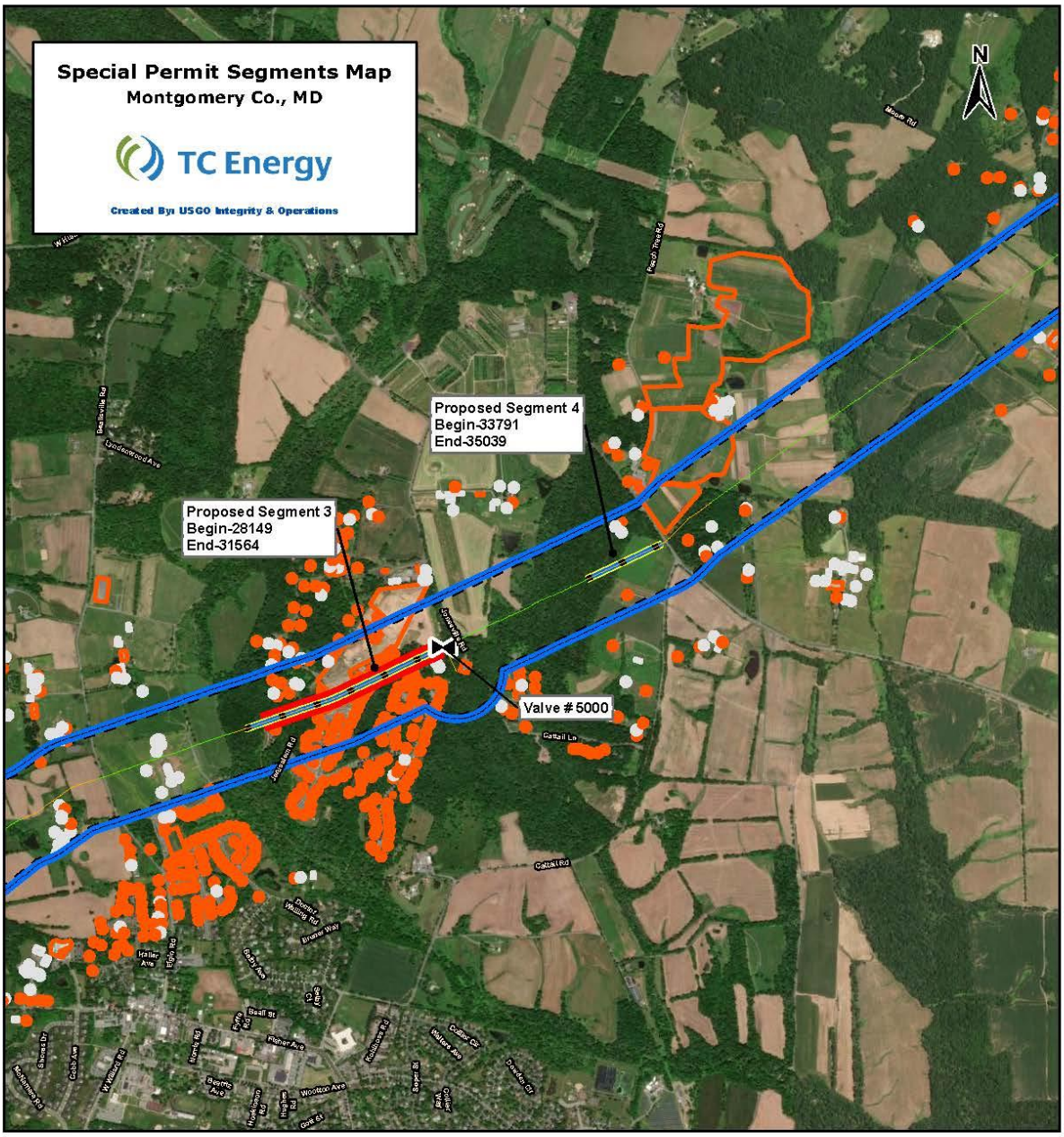
Attachment C-1 – 30-inch TCO Line VC and MC Route Map
Special Permit Segments 1 and 2





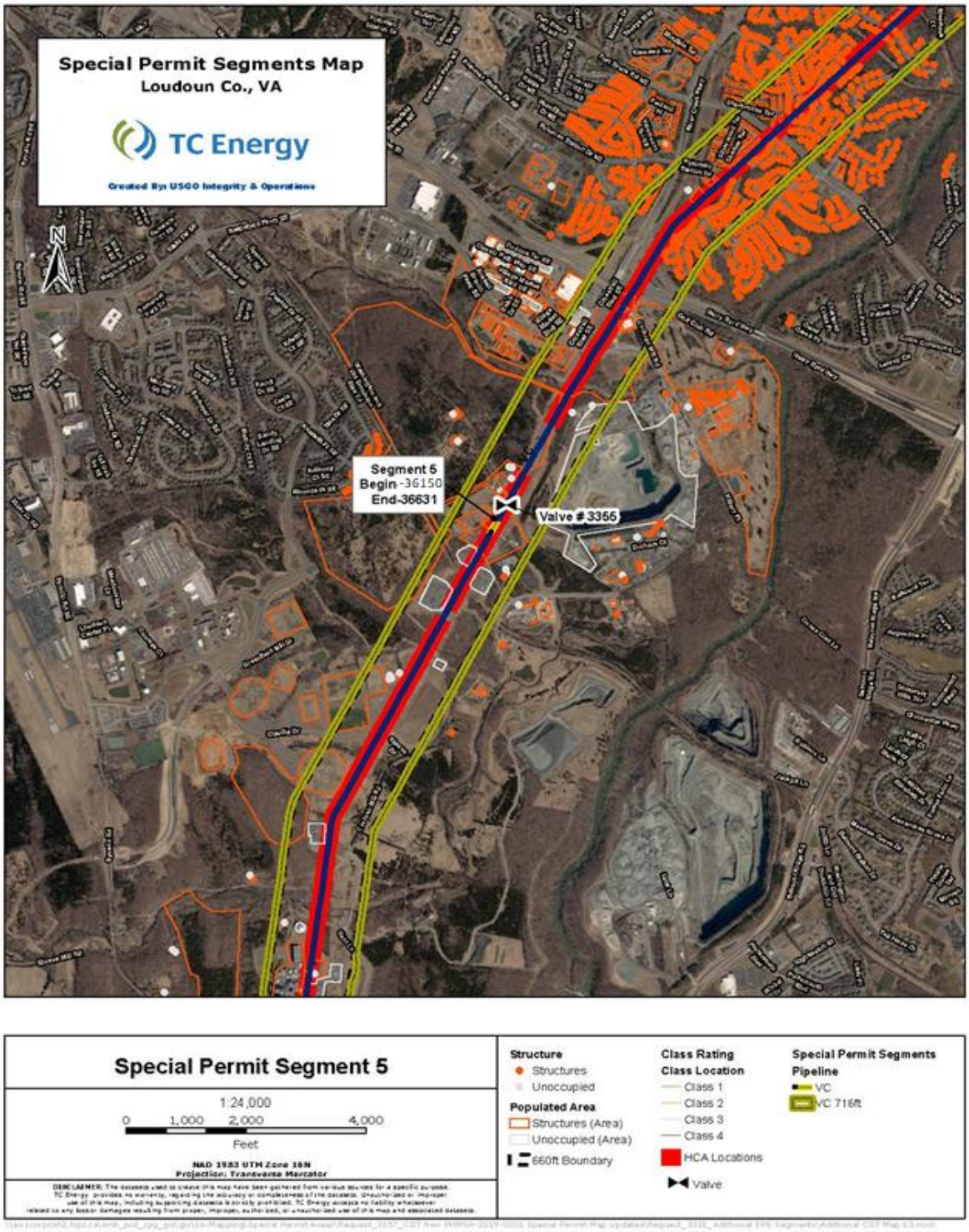
SPS_Map_Template_NewApplications_MC_8x11

Attachment C-2 – 30-inch TCO Line VC and MC Route Map
Special Permit Segments 3 and 4

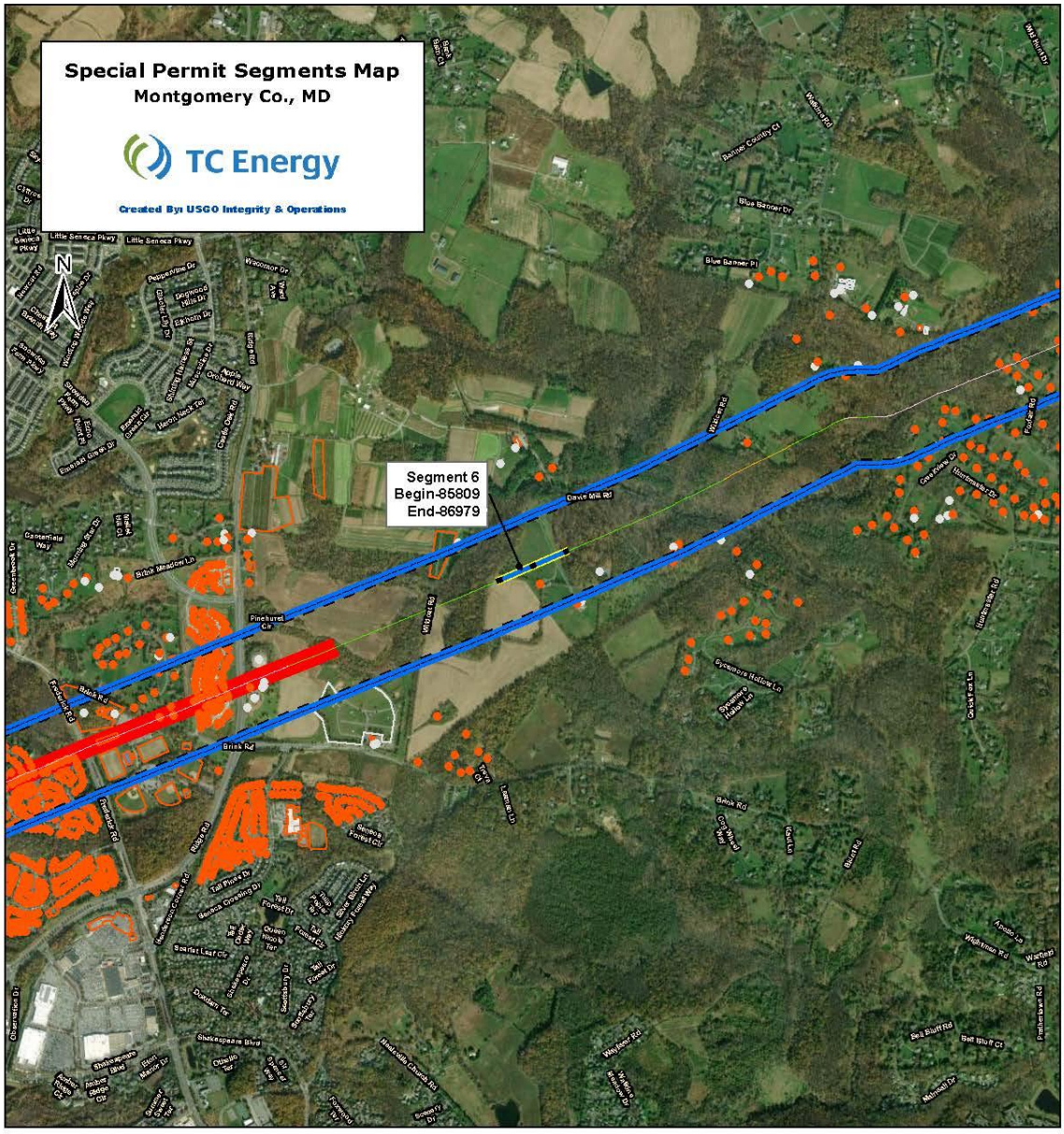


Proposed TCO New Special Permit Candidates Overview 8x11

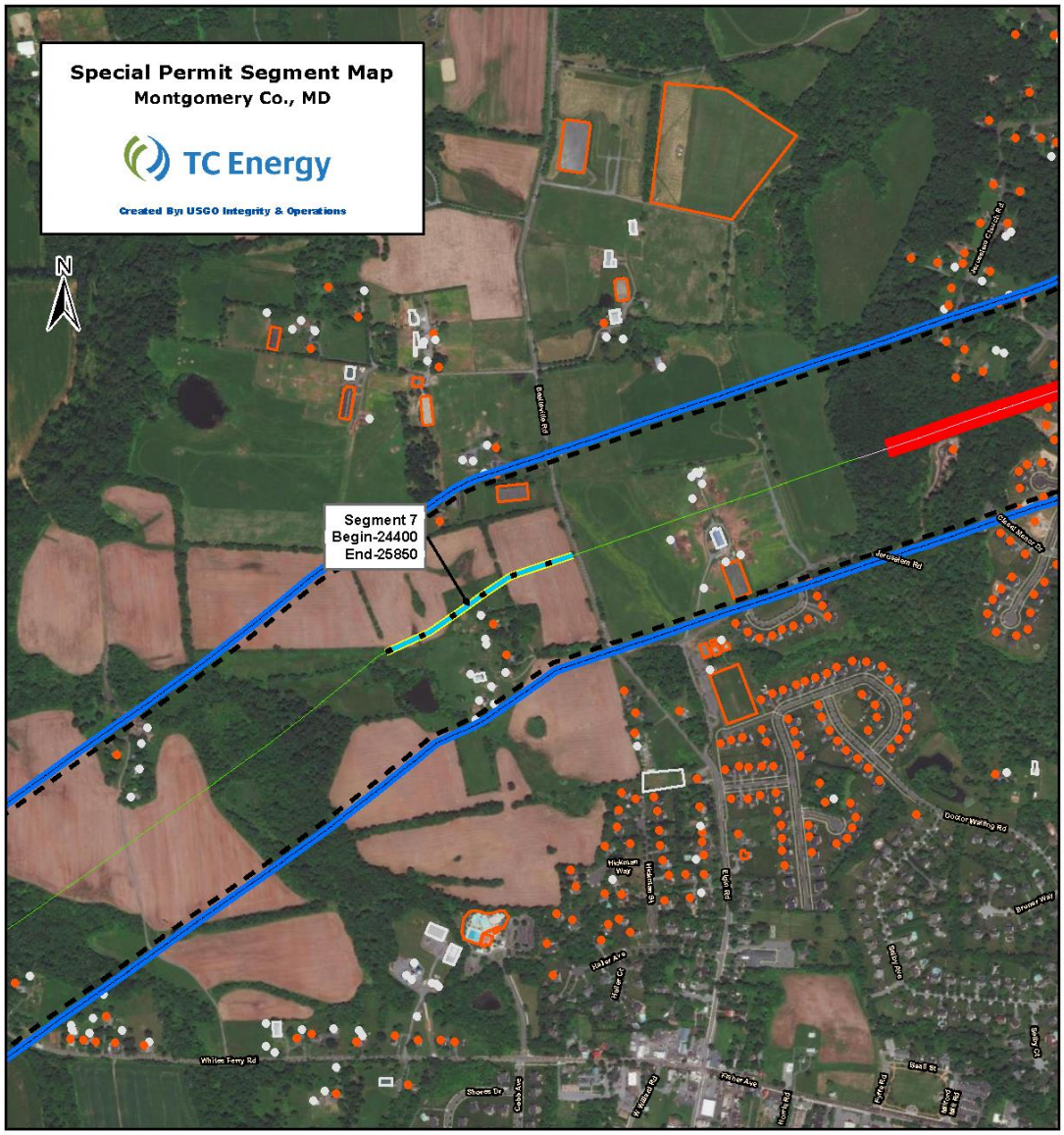
Attachment C-3 – 30-inch TCO Line VC and MC Route Map
Special Permit Segment 5



Attachment C-4 – 30-inch TCO Line VC and MC Route Map
Special Permit Segment 6



Attachment C-5 – 30-inch TCO Line VC and MC Route Map
Special Permit Segment 7



Last Page of the FEA and FONSI