

April 11, 2019

Via Electronic Mail

Dana Drake, P.E.
Environmental Program Manager
Waterway and Wetlands Program
Pennsylvania Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745

**Re: Horizontal Directional Drill Reevaluation Report
Loyalhanna Lake Crossing (HDD No. S2-0010)
Permit No. E65-973
Loyalhanna Township, Westmoreland County**

Dear Ms. Drake:

In compliance with the Corrected Stipulated Order dated August 10, 2017 a Reevaluation Report on the above-referenced horizontal directional drill (“HDD”) was submitted to the Department on August 17, 2018. In a meeting on March 28, 2019 concerning this HDD, the Department requested additional information and analysis regarding agreements with the owner of Well No. WL-08172017-499-01; clarification of the mine subsidence/pipe stress interaction; enhanced discussion of alternative routes, and enhanced discussion of alternative construction procedures. Please accept this letter as a response to these items. These items are bolded below followed by the response.

1. Status of agreements between Sunoco Pipeline, LP (SPLP) and the owner of Well No. WL-08172017-499-01 (Mioduski).

- The landowner has insisted that reconditioning of their well will not be conducted until after the 16-inch HDD is completed;
- SPLP has agreed to take whatever steps are necessary to establish the landowner's private water supply;
- If reconditioning of the existing well is unsuccessful, SPLP will drill a new well at our expense;
- Currently a water buffalo and Culligan water service is provided to this residence at SPLP expense;
- Damages associated with home appliances have been settled, and
- A new easement amendment and Temporary Workspace extension agreement was executed April 4, 2019. A copy of the memo between SPLP and the Mioduski's is provided as Attachment 1.

2. Reference and clarify the data and conclusions between the calculated coal mine subsidence and stress to the pipeline where the pipeline profile overlies the Loyal Coal Mine.

Key information to reference regarding mine subsidence and stress analysis was provided in Attachment 2 of the Reevaluation report.

As noted in the Tetrattech mine subsidence report, 3-D Seismic data was acquired and utilized to assess current mine conditions and to support calculations of the potential subsidence. Use of 3-D seismic data adds confidence to the conclusions, compared to using other geophysical survey methods, or rock geotechnical data, solely or in combination. The LaModel Program was used to calculate the amount of potential subsidence. In an effort to be comprehensive, the Tetrattech report presents a large amount of data on mine subsidence and how the subsidence estimates are obtained, but it is the confidence levels of the results that are the important aspect of the analysis.

In the Kiefner stress analysis report; Page 2, paragraph 3 states; "*Ground subsidence estimates at about 1-foot intervals were provided to Kiefner*". These subsidence estimates were provided by Tetrattech. This subsidence data was then utilized by Kiefner to calculate the minimum and maximum strain on the pipeline should the estimated subsidence occur, with the pipeline under operational load; accounting for minimum and maximum temperatures, and locked in pipeline curvature stresses from the HDD installation, and the results were then compared to allowable stress limits ASME B31.4(5). Figures 2 – 7 on pages 5 through 7 then graphically present the results of the minimum and maximum calculated stress, if the subsidence were to occur, compared to the ASME allowable stress. In all six cases the potential stresses on the pipeline are below allowable limits if the potential subsidence occurs in the future.

3. Evaluate and discuss additional alternative routes for the pipeline installation across Loyalhanna Lake.

As requested by the Department, SPLP has performed an evaluation of additional alternative route for the crossing of Loyalhanna Lake. The Department knows and should consider that any crossing of Loyalhanna Lake or Loyalhanna Creek from below the lake dam, located 1.5 miles north of the SPLP easement to Highway 20, which in turn is located 2.9 miles south of the SPLP easement, would require the consent, a license and easement from the U.S. Army Corps of Engineers (USACE), and approval cannot be assumed. SPLP exercised existing line rights for the current planned crossing of Loyalhanna Lake. In each case below the preferred alternative construction method would be a horizontal directional drill due to the presence of regulated natural resource, extreme slope conditions adjacent to the lake, or lake depths that complicate use of conventional construction methods. The intent of this analysis, as requested by the Department, is avoidance of the Bush Recreation area, and avoidance of HDD due to the inadvertent returns that occurred during drilling and installation of the 20-inch pipeline.

Five (5) alternative routes for crossing Loyalhanna Lake or Loyalhanna Creek (Creek) were evaluated as shown on the figure in Attachment 2. The criteria for selecting the alternative crossing locations focused on areas where the crossing of the Loyalhanna Lake or Loyalhanna Creek is narrower than the crossing distance of the Mariner East (ME) right-of-way (ROW). The distances at each alternative crossing were measured perpendicular to the existing ME ROW, and the re-route distances assume easement agreements can be reached with the non-federal property owners that would be affected to deviate the pipeline route to each location.

Alternative Crossing 1 (Minimum reroute distance 2.5 miles):

- 2,671 feet south of MEII.
- Distance across lake ranges from 286 to 628 feet depending on seasonal precipitation and the US Army Corps of Engineers (USACE) control level.
- Slope of the valley west of the Lake is 56%. Slope of the valley east of the Lake is 35%.
- Land west of the lake is a combination of agricultural and mature hardwood forest. Land on the east side of the lake is freshwater Forested/Shrub Wetland habitat (classified as PFO1/USAh), and mature hardwood forest.
- An existing utility easement could be paralleled for one (1) mile of the reroute, then a greenfield corridor would be necessary. The new route would require clearing of 1.45 miles of wooded habitats, effecting a total of 12.3 acres and 1.3 acres of forested wetlands.
- A conventional open trench/pipeline push-float crossing is possible using flotation trackhoes, and drag line excavators operating within a reduced and sediment barrier lined 90 ft wide construction workspace across the lake. This work plan would affect 2.19 acres of forested wetlands and lake bottom. The receiving (west) side of the lake crossing at the location of the 56% slope would require clearing of a 125 ft wide construction corridor to allow for two-toning of the hillside for excavation of the pipeline trench, removal and relocation of excavated material to prevent loss of materials due to storm events, and the setup of a receiving workspace at the lake edge for tie-in of the pipeline after the lake crossing is completed. This slope would require permanent geo-engineered restoration to permanently stabilize the slope post construction. The timing of the lake crossing would be set to occur within normal to low lake level periods; however Loyalhanna Lake is subject to rapid extreme changes in lake level post snow melt or rain storm events. The open cut method across the lake would take a minimum of 4 weeks to complete, once staging and setup is achieved, it is highly likely the lake crossing operation would be effected by runoff elevation change of the lake pool. The risk of sediment laden downstream discharges during this construction operation is very high, and there is a high risk of losing the entire crossing during construction which would require resetting and restart of the effort.

Alternative Crossing 2 (Minimum reroute distance 7.64 miles):

- 1,500 feet north of ME ROW.
- Distance across Creek is 628 feet.
- Slope of the valley west of the lake is 13%. Slope of the valley east of the lake is 68%.

- Land west of the lake is mature hardwood forest. Land east of the lake is mature hardwood forest and residential properties in the Loyalhanna Woodlands No. 1.
- The east side high slope leading down to the lake would have to be cleared and two-toned for construction as discussed under Alternative 1, and then restored using an engineered plan. The depth of the lake in this location exceeds the mechanical excavation limits of floatation track-hoes and drag line excavators. A conventional crossing of the lake at this location would require the setup of a pipeline push-float worksite on the west side of the lake, then pushing the entire pipeline crossing segment across the lake, then using a “jet-dredge” to bury and cover the concrete coated pipeline. A “jet dredge” is an underwater sled with external jets that uses hoses connected to the water pumps on shore or on surface vessel to “hydraulically blow” the lake bottom sediments from beneath the pipeline allowing it to sink in place. Once the work site is setup and the pipeline is pushed and dragged into place across the lake bottom, jetting of the line would take 5 work days during which uncontrolled sedimentation of the waters of the lake would occur. Bottom weighted turbidity curtains could be deployed across the lake to minimize the distribution of the heavier sediments; however complete containment and control of the finer sediments is not possible without using curtains that prohibit all water flows. Complete closure curtains could not be maintained across the lake due to water flows through the lake.

Alternative Crossing 3 (Minimum reroute distance 3.5 miles):

- 4,230 feet north of ME ROW.
- Distance across lake is 254 feet.
- Slope of the valley west of the lake is 23%. Slope of the valley east of the lake is 22%.
- Land west of the lake is mature hardwood forest. Land east of the lake is mature hardwood forest, freshwater Forested/Shrub Wetland habitat (classified as PFO1/USAh), and residential properties in the Loyalhanna Woodlands No. 1.
- Due to the number and density of residential home sites, it is unlikely that an easement for the entire reroute could be obtained without the use of condemnation.
- The lake crossing construction plan would be similar to the procedure as discussed under Alternative 2.

Alternative Crossing 4 (Minimum reroute distance 4.1 miles):

- 6,030 feet north of ME ROW.
- Distance across lake is 464 feet.
- Slope of the valley west of the lake is 39%. Slope of the valley east of the lake is 16%.
- Land west and east of lake is residential properties in the Loyalhanna Woodlands No. 1 and No. 2.
- Due to the number and density of residential home sites, it is unlikely that an easement for the entire reroute could be obtained without the use of condemnation.

- The lake crossing construction plan would be similar to the procedure as discussed under Alternative 2.

Alternative Crossing 5 (Minimum reroute distance 4.9 miles):

- 8,224 feet north of ME ROW.
- Distance across Loyalhanna Creek is 164 feet,
- Slope of the valley west of the creek 31%. Slope of the valley east of the creek is 42%. However, a portion of the valley on the east side has a slope of 85%.
- Land west and east of the creek is agricultural, mature hardwood forest and residential properties.
- This route alternative avoids crossing the federal interest area held by the USACE; and would follow parallel to an existing utility corridor for approximately 1 mile; however it would require the establishment of a greenfield utility corridor for 3.9 miles and would likely require the use of condemnation to obtain a complete easement. The conventional construction crossing of Loyalhanna Creek could be accomplished using a geotube confined workspace across 2/3 of the creek channel to allow for flows around the workspace, and the trench across the enclosed portion of the creek would be excavated using a conventional track-hoe and rock hammer as necessary. A segment of concrete coated pipeline would be laid into the excavated trench and then backfilled with the native material. The geotubes would be deflated to restore normal flow conditions. This process would be repeated from the opposite bank of the creek to lay and tie-in the final length of pipeline required to complete the creek crossing.

Original Planned Crossing:

- Use of the existing SPLP easement does not require any new landowner approvals.
- Distance across Lake is 1,289 feet.
- Slope of the valley west of the Lake 51%, slope on the east side of the Lake is 8%.
- Land west of the Lake is mature hardwood forest. Land on the east side of the Lake is the Bush Recreational Area campground operated by the USACE.
- Alternative construction methodologies at this crossing point are presented and analyzed in Item 4 below.

Of all the alternatives to the original planned crossing considered and discussed above, Alternative 5 is the most feasible alternative route from a construction perspective, not accounting for easement acquisition, that would minimize the extent of impacts to Loyalhanna Lake or Loyalhanna Creek. Nevertheless, each of the alternatives above results in increased numbers of affected landowners and substantially increased temporary and permanent affects to native habitats compared to use of the existing SPLP easement.

With the implementation of the monitoring and response procedures required by the April 2018 version of the HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan, and the

enhanced IR prevention and LOC response procedures in the Re-Evaluation Report, it is SPLP's opinion that the original proposed HDD crossing of the Loyalhanna Lake for installation of the 16-inch pipeline will have the least impact to existing habitats, seasonal and year round residents, and recreational use of the Lake.

4. Evaluate and discuss alternative methods of construction to cross Loyalhanna Lake at the currently proposed crossing location and alternative locations.

Alternative construction methods for installation of the 16-inch pipeline utilizing the existing SPLP easement across Loyalhanna Lake include: Direct Pipe Bore (microtunneling); Open Trench Push/Float, and Open Trench Jetting.

The primary concern with each of the pipeline construction methods listed in the paragraph above is the land surface workspace and minimal slope needed to setup the construction operations. Therefore the workspace needed for these methods would require use of the USACE Bush Recreation area since the west shore of Loyalhanna Lake at this location is steeply sloped to the water edge.

Direct Bore

The direct bore construction method is a semi-steerable, remote-controlled, continuously supported pipe jacking method. During a direct pipe installation, operations are managed by an operator in an above ground control room alongside the installation pit. Rock and soil cutting and removal occurs through drilling fluid injection out the cutting tool face during rotation and the cuttings are forced into inlet holes in the cutting face for circulation to a recycling plant through a closed system. The entire operating system for this method of pipeline installation, including the cutting tool drive hydraulics, fluid injection, fluid returns, and operating controls are enclosed inside the bore casing being installed. At the launching point/entry pit, the bore pipe is held within a "jacking block" that hydraulically pushes the casing forward as the cutting tool cuts the pathway. The cutting tool is marginally larger than the diameter of the casing pipe, and as a result there is minimal annular space, which minimizes the potential for drilling fluid returns or groundwater returning to the entry pit. Once the bore pipe is successfully installed across the planned length of the bore, the product pipe is pushed through the casing and the tied into the conventionally installed pipeline outside the bored area. The product pipeline has spacers installed around the pipe wall prior to installation to isolate the product pipe from the casing pipe such that no cathodic protection problems result.

The high confidence of success length for a Direct Bore in any type of subsurface condition is 750 ft in length. Varying by geologic or soils conditions, longer bores are possible. The bank to bank length across Loyalhanna Lake at SPLP's easement is 1,289 ft. Adding a minimum 50 ft buffer to the lake would result in a bore length of 1,389 ft.

A minimum workspace 400 ft in length by 100 ft in width is required to setup the primary boring assembly. Additional surface space is required for preparation of additional casing pipe segments, and the fluids pump and fluids recycling plant. SPLP completed a Direct Bore at the crossing of the Juniata

River in Blair County. At that bore location, approximately 1.5 acres of surface workspace was used to support the bore during operations. This acreage effected does not include access to the workspace.

Since the SPLP easement bisects a portion of the USACE Bush Recreation Park at Loyalhanna Lake, and given the workspace requirements, and access needs to support the bore, substantial impacts to the surface and facilities at the Bush Recreation area would occur, if the USACE were to permit this construction method.

Open Trench/Push Float and Push Float/Jetted Burial

As discussed previously in this submittal, the push/float construction method requires a linear workspace near the waterbody shoreline to assemble the concrete coated pipe into a completed segment while floating trackhoes or dragline excavators create a trench for the pipeline as the pieces of pipe are assembled onshore and then pushed into the trench. The workspace required for the pipeline assembly is very similar in area needed for the Direct Bore; therefore, substantial impacts to the surface and facilities at the Bush Recreation area would occur, if the USACE were to permit this construction method.

The Jetted Burial method requires equal onshore workspace. The only difference with this method is the pipeline would be buried by jetting away the subsurface materials from below the pipeline segment allowing it to sink until sufficient depth is achieved. Substantial impacts to the surface and facilities at the Bush Recreation area would occur, if the USACE were to permit this construction method.

SPLP submits that we have been, and are, in complete compliance with the agreed terms and requirements of analysis of the Order, as agreed to by the Department, and that no further analysis is required for the Department to consent to the start of this HDD. SPLP therefore requests that the Department approve the Reevaluation Report for Loyalhanna Lake Crossing Horizontal Directional Drill (S2-0010) as soon as possible.

Sincerely,



Larry J. Gremminger, CWB
Vice-President – Environmental, Health & Safety
Energy Transfer Partners
Mariner East 2 Pipeline Project

Attachment as stated.

ATTACHMENT 1

AMENDMENT TO MEMORANDUM OF PERMANENT EASEMENT (MIODUSKI)

MARINER EAST 2_PENNSYLVANIA PIPELINE PROJECT

SEGMENT 2

PA-WM2-0066.0000

Loyalhanna Township

Westmoreland County, Pennsylvania

Tax Parcel No. 52-09-00-0-016-00-00

This instrument prepared by
SUNOCO PIPELINE L.P.
and when executed return to:
SUNOCO PIPELINE L.P.
Attn: Right-Of-Way Department
P.O. Box 2218
Altoona, PA 16603

AMENDMENT TO MEMORANDUM OF PERMANENT EASEMENT

This Amendment to Memorandum of Permanent Easement ("Amendment") is effective as of April 4, 2019 and is made to that certain Memorandum of Permanent Easement ("Memorandum"), dated October 16, 2015, between Edward E. Mioduski and Alice Marie Mioduski, his wife (hereinafter referred to as "Grantor", whether one or more) and Sunoco Pipeline L.P., a Texas limited partnership, its successors and assigns (such entity and its successors and assigns are collectively referred to as "Grantee").

WITNESSETH

WHEREAS, Grantor and Grantee entered into that certain Permanent Easement dated October 16, 2015 (the "Easement"), which was memorialized by the Memorandum, said Memorandum having been recorded on January 11, 2016 under Instrument Number 201601110000971, in the Official Public Records for Westmoreland County, Pennsylvania; and

WHEREAS, Grantor and Grantee executed an Amendment to Permanent Easement ("APE") dated April 4, 2019 that modifies certain of the terms and conditions of the Easement; and

WHEREAS, Grantor and Grantee desire to amend and supplement the Memorandum to reflect the revisions to the Easement;

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS, THAT for and in consideration of good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the Memorandum is amended as follows:

Exhibits "A" and "B" dated 07/16/15 of the Memorandum are hereby replaced with the attached Exhibits "A" and "B" dated 03/06/19, which are incorporated herein.

In addition to the replacement of Exhibits "A" and "B", the APE amends additional terms and conditions of the Easement.

All prospective assignees, mortgagees or other parties claiming some interest or acquiring some interest by, through, or under any of the above mentioned parties are put on notice of the priority of the Easement as the same may be amended from time to time.

This Amendment may be executed in counterparts, all of which, when taken together, shall constitute one and the same agreement, and shall become effective when one or more counterparts has been signed by each of the parties.

[SIGNATURE PAGES TO FOLLOW]

IN WITNESS WHEREOF, with intent to be legally bound hereby, Grantor has executed this instrument this 4 day of April, 2019.

GRANTOR:

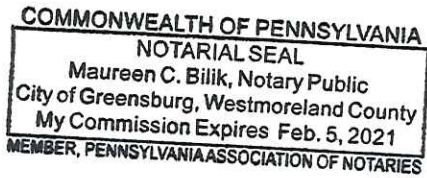
Edward E. Mioduski
Edward E. Mioduski

ACKNOWLEDGEMENT

COMMONWEALTH OF PENNSYLVANIA §
COUNTY OF Westmoreland §

BEFORE ME, the undersigned authority, on this day personally appeared Edward E. Mioduski known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 4 day of April, 2019.



Maureen C. Bilik
Notary Public in and for the Commonwealth of Pennsylvania

Maureen C. Bilik
(Print Name of Notary Public Here)

IN WITNESS WHEREOF, with intent to be legally bound hereby, Grantor has executed this instrument this 4 day of April, 2019.

GRANTOR:

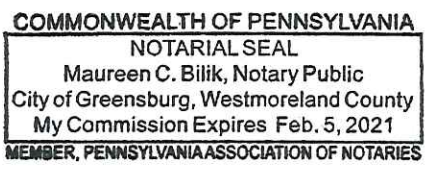
Alice Marie Mioduski
Alice Marie Mioduski

ACKNOWLEDGEMENT

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF Westmoreland

BEFORE ME, the undersigned authority, on this day personally appeared Alice Marie Mioduski known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 4 day of April, 2019.



Maureen C. Bilik
Notary Public in and for the Commonwealth of Pennsylvania

Maureen C. Bilik
(Print Name of Notary Public Here)

EXECUTED this _____ day of _____, 2019.

GRANTEE:

Sunoco Pipeline L.P.

By: Sunoco Logistics Partners Operations GP LLC,
its general partner

By: _____

Name: Robert R. Rose

Title: Vice President – Land & Right-of-Way

ACKNOWLEDGEMENT

STATE OF TEXAS

§

COUNTY OF HARRIS

§

§

On this _____ day of _____ 2019, before me, the undersigned officer, personally appeared Robert R. Rose, who acknowledged himself to be the Vice President – Land & Right-of-Way of Sunoco Logistics Partners Operations GP LLC, a Delaware limited liability company, general partner of Sunoco Pipeline L.P. and further acknowledged that he, as such Vice President – Land & Right-of-Way, being authorized to do so, executed the foregoing instrument as the act and deed of such company for the purposes therein contained by signing the name of such company.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ____ day of _____, 2019.

Notary Public in and for the State of Texas

PA-WM2-0066.0000
Westmoreland County, Pennsylvania
Pennsylvania Pipeline Project

Exhibit "A"

DESCRIPTION FOR A PERMANENT EASEMENT ACROSS THE LANDS OF EDWARD E. MIODUSKI AND ALICE MARIE MIODUSKI, HIS WIFE

BEING A CENTERLINE DESCRIPTION FOR A FIFTY FOOT (50') WIDE PERMANENT EASEMENT, BEING TWENTY FIVE FEET (25') AS MEASURED PERPENDICULAR, LEFT AND RIGHT OF SAID CENTERLINE, ACROSS THE LANDS NOW OR FORMERLY OWNED BY EDWARD E. MIODUSKI AND ALICE MARIE MIODUSKI, HIS WIFE OF LOYALHANNA TOWNSHIP, WESTMORELAND COUNTY, PENNSYLVANIA, SAID LAND BEING MORE PARTICULARLY DESCRIBED IN INSTRUMENT NUMBER 201005100015392 AS RECORDED IN THE WESTMORELAND COUNTY RECORDER OF DEEDS.

Commencing from a point, said point being an angle break along the westerly boundary line of lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife; thence South 9°25'41" West, a distance of 21.4 feet, more or less to the POINT OF BEGINNING of the easement centerline described herein; thence across the lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife, the following five (5) courses and distances: North 85°34'53" East, a distance of 30.0 feet, more or less, North 66°49'38" East, a distance of 130.2 feet, more or less, North 89°04'44" East, a distance of 138.3 feet, more or less, South 88°35'32" East, a distance of 344.2 feet, more or less, and North 89°34'18" East, a distance of 1381.2 feet, more or less to a point on the westerly boundary line of lands now or formerly owned by Alexandra Zeleznik and Kristin A. Zeleznik, as joint tenants with right of survivorship and not as tenants in common, being the POINT OF TERMINATION of the easement centerline described herein, said point being approximately three hundred fifty-five feet (355') southwest of the most easterly corner of lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife.

The above described easement across the lands now or formerly Edward E. Mioduski and Alice Marie Mioduski, his wife, containing 2.40 acres, more or less as shown on a plan prepared by Trico Surveying & Mapping, Inc. entitled "PERMANENT EASEMENT & RIGHT OF WAY CROSSING PROPERTY OF EDWARD E. MIODUSKI AND ALICE MARIE MIODUSKI, HIS WIFE".

Notes:

- 1) The purpose of this Exhibit "A" document is to fully describe the area of the proposed permanent easement across the lands of Edward E. Mioduski and Alice Marie Mioduski, his wife.
- 2) The intent of this Exhibit "A" is NOT to supersede any of the existing easements for the existing pipelines shown on the attached Exhibit "B".
- 3) Bearings shown hereon are Grid bearings of NAD83 Pennsylvania State Plane Coordinate System, South Zone, U.S. Survey Feet. Distances shown hereon are on Grid and a scale factor must be applied to convert to ground distances.
- 4) Record information shown hereon is based on the best available record information and provided to Trico Surveying & Mapping, Inc. by Rooney Engineering.
- 5) For additional information, see attached easement drawing (Exhibit "B") made in conjunction with and considered an integral part of the above described permanent easement.
- 6) This description and the attached Exhibit "B" were prepared for the purpose of creating a permanent easement and are not intended for use as a boundary survey.

TEMPORARY/ADDITIONAL TEMPORARY WORKSPACE

Being an additional twenty-five foot (25') wide strip of land to be used during construction. The 25 foot wide strip of land will be on the north side, parallel to and coincident with the above described 50 foot permanent easement. Said 25 foot wide strip of land will extend from the westerly boundary line of lands now or formerly owned Alexandra Zeleznik and Kristin A. Zeleznik, as joint tenants with right of survivorship and not as tenants in common distance of approximately one thousand nine hundred forty-seven feet (1,947') across the lands now or formerly of Edward E. Mioduski and Alice Marie Mioduski, his wife. Also, a twenty-five foot (25') wide strip of land to be used during construction. The 25 foot wide strip of land will be on the north side, parallel to and coincident with the above described 50 foot permanent easement. Said 25 foot wide strip of land will extend from the westerly boundary line of lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife, a distance of approximately one hundred twenty-nine feet (129') across the lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife. Being an additional irregular shaped area of land, being on the south side and coincident with the above described 50 foot wide permanent easement, being approximately fifty-one feet (51') by one hundred sixty-nine feet (169') by ninety-two feet (92') by one hundred twenty-nine feet (129') by forty feet (40'), and being located adjacent to the westerly boundary

line of lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife, will be required for construction purposes. Being an additional five sided area of land, being on the north side and coincident with the above mentioned variable width strip of land, being approximately forty-three feet (43') by fifty feet (50') by fifteen feet (15') by one hundred fourteen feet (114') by one hundred twenty-one feet (121'), and being located adjacent to the westerly boundary line of lands now or formerly owned by Edward E. Mioduski and Alice Marie Mioduski, his wife, will be required for construction purposes. Also, being an additional rectangular shaped area of land, being on the north side, parallel to and coincident with the above described 25 foot wide strip of land, being approximately fifty feet (50') by ninety-four feet (94'), and being located adjacent to the eastern right-of-way line of Bush Road, will be required for construction purposes.

Trico Surveying & Mapping, Inc.
441 West Gourley Pike
Bloomington, IN 47404

EXHIBIT B

LOYALHANNA TOWNSHIP WESTMORELAND COUNTY, PENNSYLVANIA

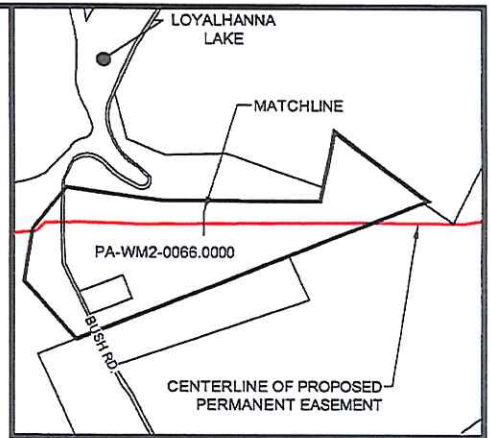


Scale: 1" = 200'

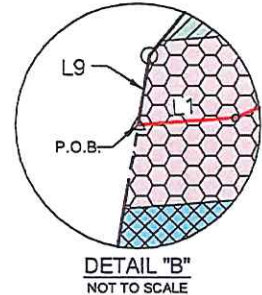
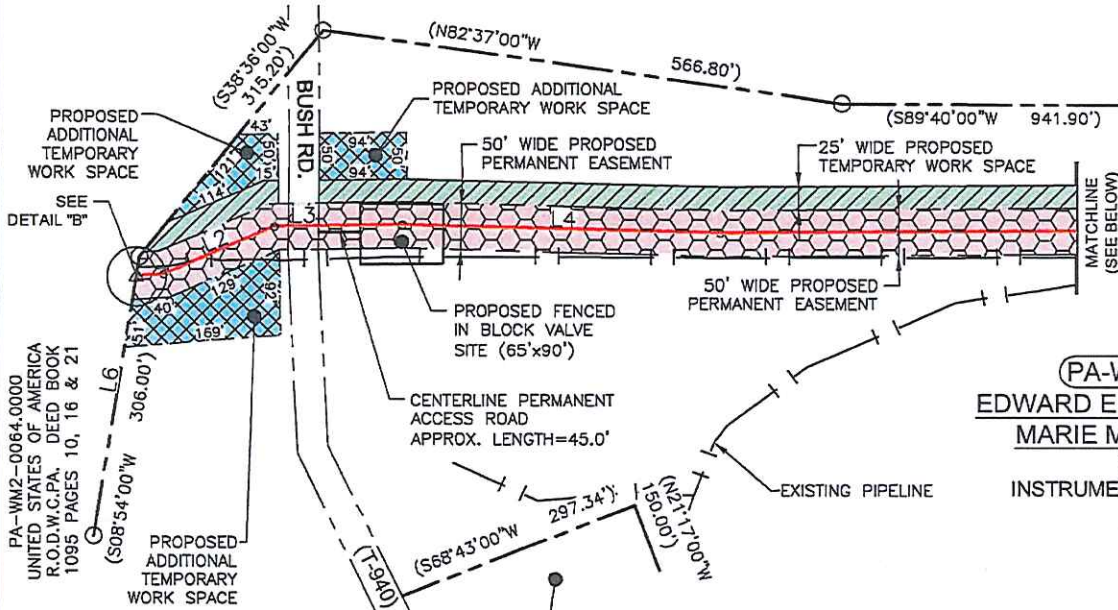


LEGEND

R.O.D.W.C.P.A.	WESTMORELAND CO. RECORDER OF DEEDS, PA.
P.O.B.	POINT OF BEGINNING
P.O.T.	POINT OF TERMINATION
()	RECORD BEARING AND DISTANCE
●	PROPERTY CORNER FOUND
○	PROPERTY CORNER NOT FOUND
△	PROPOSED PIPELINE/DEED LINE INTERSECTION
○	PROPOSED PIPELINE VERTICE
	PROPOSED PERMANENT EASEMENT
	PROPOSED TEMPORARY WORK SPACE
	PROPOSED ADDITIONAL TEMPORARY WORK SPACE

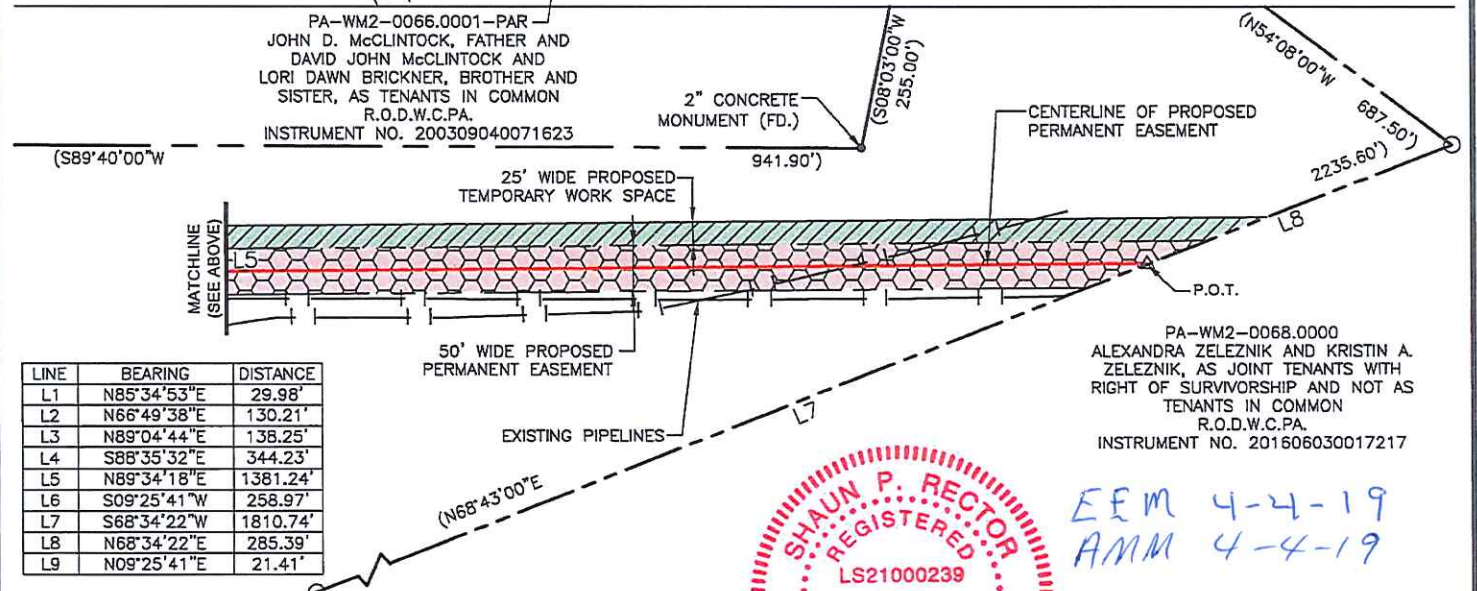


VICINITY MAP
NOT TO SCALE



DETAIL "B"
NOT TO SCALE

PA-WM2-0066.0000
EDWARD E. MIODUSKI AND ALICE
MARIE MIODUSKI, HIS WIFE
R.O.D.W.C.P.A.
INSTRUMENT NO. 201005100015392
24.66 ACRES



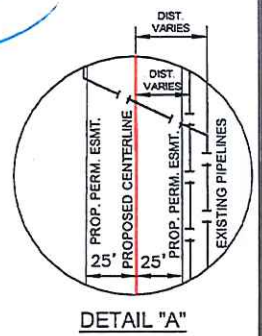
EEM 4-4-19
ANM 4-4-19

SPPA
317119

TOTAL DISTANCE ACROSS PROPERTY: 2,023.91 FT
 PROPOSED PERMANENT EASEMENT: 2.32 ACRES
 TEMPORARY WORK SPACE: 1.18 ACRES
 ADDITIONAL TEMPORARY WORK SPACE: 0.46 ACRES

NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW THE LIMITS OF THE PROPOSED PERMANENT AND TEMPORARY EASEMENTS CROSSING THE SUBJECT PROPERTY. THE PROPERTY LINES SHOWN HEREON, WERE COMPILED FROM THE BEST AVAILABLE RECORD INFORMATION AND GEO-REFERENCED TO APPARENT BOUNDARY EVIDENCE AND ARE NOT THE RESULT OF A BOUNDARY SURVEY.
- THE INFORMATION SHOWN HEREON IS AN ILLUSTRATION OF THE APPARENT PROPERTY LINES IN RELATION TO THE PROPOSED EASEMENTS. IT SHOULD NOT BE USED AS A PROPERTY BOUNDARY SURVEY.
- BEARINGS SHOWN HEREON ARE GRID BEARINGS BASED ON THE PROJECT COORDINATE SYSTEM OF NAD 83, PENNSYLVANIA STATE PLANE, SOUTH ZONE, U.S. SURVEY FEET. DISTANCES SHOWN HEREON ARE GRID DISTANCES AND A SCALE FACTOR MUST BE APPLIED TO CONVERT TO GROUND DISTANCES.
- CORNER TIES WITH "±" REFERENCE, ARE APPROXIMATE SCALED DISTANCES.
- FOR ADDITIONAL INFORMATION, SEE ATTACHED LEGAL DESCRIPTION (EXHIBIT "A") MADE IN CONJUNCTION WITH AND CONSIDERED AN INTEGRAL PART OF THE ABOVE DESCRIBED EASEMENT.
- EXISTING PIPELINE INFORMATION HAS BEEN PROVIDED BY ROONEY ENGINEERING.



DETAIL "A"

SURVEYED BY: **TRICO Surveying & Mapping, Inc.**
 441 West Gourley Pike, Bloomington, IN 47404
 Phone: 812-330-7030 Fax: 812-330-7035 Web: www.tricosurveying.com

CLIENT: **Sunoco Pipeline L.P.**

REVISIONS			
NO.	DATE	BY	DESCRIPTION
0	3/6/19	KDF	ISSUED FOR REVIEW

**PERMANENT EASEMENT & RIGHT OF WAY
CROSSING PROPERTY OF
EDWARD E. MIODUSKI AND ALICE
MARIE MIODUSKI, HIS WIFE**

DRAWN BY: KDF	DRAWN DATE: 3/6/19	CHECKED BY: SPR	PLOT DATE: 3/6/19
TRACT NO. PA-WM2-0066.0000		PAGE 1 OF 1	

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF STATE
BUREAU OF PROFESSIONAL AND OCCUPATIONAL AFFAIRS
STATE REGISTRATION BOARD FOR PROFESSIONAL ENGINEERS, LAND SURVEYORS AND GEOLOGISTS
P. O. Box 2649
Harrisburg, PA 17105-2649
www.dos.pa.gov

January 16, 2019

SHAUN PATRICK RECTOR
441 WEST GOURLEY PIKE
BLOOMINGTON IN 47404

TEMPORARY AUTHORITY TO PRACTICE

Approval has been granted pursuant to Section 37.61 of the regulations, Title 49, Chapter 37. This Temporary Authority to Practice is granted to the applicant named above. No practice related to professional land surveying may be performed prior to date of approval or after the expiration date as shown below.

**TEMPORARY AUTHORITY TO PRACTICE IS VALID
FOR AN AGGREGATE OF THIRTY (30) DAYS
IN A CALENDAR YEAR**

LICENSE TYPE:	Surveying Temp Authority to Practice
TEMPORARY LICENSE #:	TSU004335
DATE OF APPROVAL:	01/16/2019
EXPIRATION DATE:	12/31/2019



Signature – Temporary Practice Holder



Commissioner
Bureau of Professional and Occupational Affairs

SEAL

ATTACHMENT 2
ALTERNATIVE ROUTES OF ANALYSIS

Alternate Crossings of Loyalhanna Lake/Creek by HDD S2-0010-16

